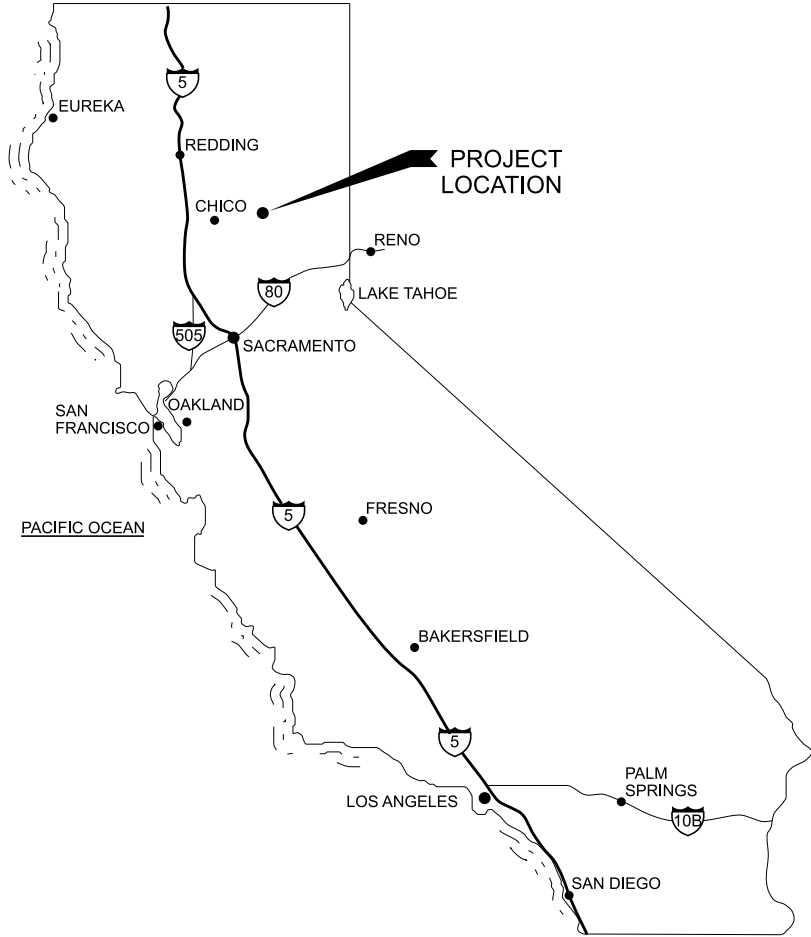


# PARADISE IRRIGATION DISTRICT

## ZONE A PUMP STATION AND TRANSMISSION MAIN PROJECT

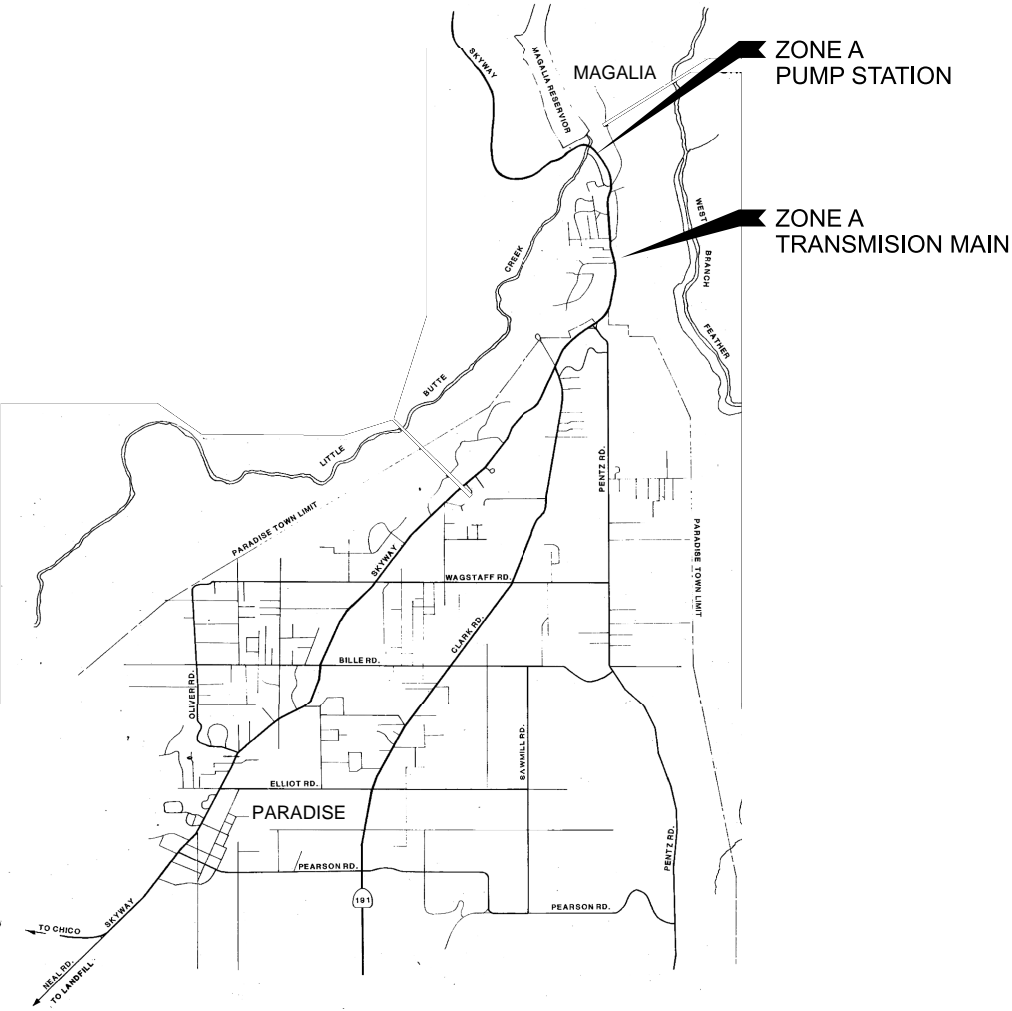
### VOLUME 2 - DRAWINGS



VICINITY MAP  
NTS



DECEMBER 2022  
BID DOCUMENTS



LOCATION MAP  
NTS



FOR INFORMATION REGARDING  
THIS PROJECT CONTACT:  
  
SAMI KADER, PE  
(530) 243-2113

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DESIGNED S MAGLADRY
DRAWN J MARTIN
CHECKED S KADER
APPROVED S KADER





PARADISE IRRIGATION DISTRICT  
ZONE A PUMP STATION  
AND TRANSMISSION MAIN PROJECT  
PARADISE, CA

GENERAL INDEX TO DRAWINGS	DATE DECEMBER 2022
	PROJECT NUMBER 17-041
	DRAWING NUMBER G-2
	SHEET NUMBER 2



ABBREVIATIONS

A	AIR	CI	CAST IRON	EWEF	EACH WAY, EACH FACE			PI	POINT OF INTERSECTION	SMP	SAMPLE
@	AT	CL	CENTERLINE	EXC	EXCAVATE	IF	INSIDE FACE, INTERMEDIATE PRESSURE	PJF	PREMOLDED JOINT FILLER	SOLN	SOLUTION
AB	ANCHOR BOLT, AGGREGATE BASE	CL2	CHLORINE	EXP	EXPOSED, EXPANSION		FEEDWATER	PL	PLATE, PROPERTY LINE	SOW	SLIP ON WELD
AC	ASPHALTIC CONCRETE, ASBESTOS CEMENT	CLDIP	CEMENT-LINED DUCTILE IRON PIPE	EXP JT	EXPANSION JOINT	IMLR	INTERNAL MIXED LIQUOR RETURN	PLC	PROGRAMMABLE LOGIC CONTROLLER	SP	SPACE OR SPACES
ACI	AMERICAN CONCRETE INSTITUTE	CLG	CEILING		EXISTING	IN	INCH	PLYWD	PLYWOOD	SPD	SUMP PUMP DRAIN
ACU	AIR CONDITIONING UNIT	CLR	CLEAR, CLEARANCE			INFL	INFLUENT	PNL	PANEL	SPEC	SPECIFICATIONS
ADD	ADDITIONAL	CLSM	CONTROLLED LOW STRENGTH MATERIAL	FB	FLAT BAR	INSTM	INSTRUMENTATION	POB	POINT OF BEGINNING	SPLY	SUPPLY
ADH AB	ADHESIVE ANCHOR BOLT	CML, CSP	CONCRETE MORTAR LINED AND COATED	FC	FLEXIBLE COUPLING	INSUL	INSULATE, INSULATION	POC	POINT OF CONNECTION	SQ	SQUARE
ADJ	ADJACENT, ADJUSTABLE		STEEL PIPE	FCA	FLANGED COUPLING ADAPTER	INV	INVERT	POE	POINT OF ENDING, PLAIN ONE END	SQ FT	SQUARE FOOT
AE	ANALYZER ELEMENT	GMLSP	CEMENT MORTAR LINED STEEL PIPE	FCO	FLOOR CLEAN OUT	IP	IRON PIPE	PP, P&P	PLAN AND PROFILE, POWER POLE	SQ IN	SQUARE INCH
AFF	ABOVE FINISH FLOOR	CMP	CORRUGATED METAL PIPE	FD	FLOOR DRAIN	IR	IRON ROD	PPM	PARTS PER MILLION	SS	SANITARY SEWER
AFG	ABOVE FINISH GRADE	CMU	CONCRETE MASONRY UNIT	FDA	FLOOR DRAIN W/INTEGRAL TRAP	IRR	IRRIGATION	PRC	POINT OF REVERSE CURVE	SSH	SAFETY SHOWER
AHP	AIR: HIGH PRESSURE	CO	CLEANOUT	FDN	FOUNDATION	IS	INTERMEDIATE PRESSURE STREAM	PRCST	PRECAST	SSMH	SANITARY SEWER MANHOLE
AIR	COMPRESSED AIR	COL	COLUMN	FES	FLARED END SECTION	IW	INJECTION WATER	PREFAB	PREFABRICATED	ST	SAMPLE TAP, STEAM TURBINE
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	COM	COMMUNICATION	FEXT	FIRE EXTINGUISHER			PRESS	PRESSURE	SST	STAINLESS STEEL
		COMB	COMBINED	FF	FINISH FLOOR	JT	JOINT	PRC	POINT OF REVERSE CURVE	STA	STATION
AIT	ANALYZER INDICATOR/TRANSMITTER	CONC	CONCRETE	FG	FINISH GRADE, FUEL GAS			PRI	PRIMARY	STD	STANDARD
AL, ALUM	ALUMINUM	CONN	CONNECTION	FHY	FIRE HYDRANT	KIP	THOUSAND POUNDS	PROP	PROPERTY	STL	STEEL, STEEL PIPE
ALP	AIR LOW PRESSURE	CONT	CONTINUOUS, CONTINUATION	FIG	FIGURE	KW	KILOWATT	PRV	PRESSURE RELEASE VALVE	STLS	STEEL PIPE (SPECIAL)
ALTN	ALTERNATE	COORD	COORDINATE	FIL	FILTRATE			PR	PRESSGATE	STR	STRAIGHT
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE	CPLG	COUPLING	FIPT	FEMALE IRON PIPE THREAD	L	LEFT, ANGLE, LENGTH	PS	PUMP STATION	STRL	STRUCTURAL
APPROX	APPROXIMATE	CTRD, CTD	CENTERED	FL	FLOOR, FLOW LINE	LAB	LABORATORY	PSF	POUNDS PER SQUARE FOOT	STRUCT	STRUCTURE
APVD	APPROVED	CTR	CENTER	FLG	FLANGE	LAT'L	LATERAL	PSI	POUNDS PER SQUARE INCH	SUBFL	SUBFLOOR
APWA	AMERICAN PUBLIC WORKS ASSOCIATION	CU	COPPER	FLH	FLAT HEAD	LB	POUNDS	PSIG	POUNDS PER SQUARE INCH, GAUGE	SUP	SUPERNATANT, SUPPLY
AR	AERATION	CU FT	CUBIC FOOT	FLL	FLOW LINE	LB/CU FT	POUNDS PER CUBIC FOOT	PT	POINT OF TANGENCY	SUSP	SUSPEND
ARCH, A	ARCHITECTURAL	CU IN	CUBIC INCH	FLTR	FILTER	LE	LEVEL ELEMENT	P.U.E.	PUBLIC UTILITY EASEMENT	SW	SOUTHWEST, SERVICE WATER
ARV	AIR RELEASE VALVE	CU YD	CUBIC YARD	FM	FLOW METER	LF	LINEAR FEET	PV	PLUG VALVE	SYMM	SYMMETRICAL
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	CULV	CULVERT	FNSH	FINISH	LG	LONG	PVC	POLYVINYL CHLORIDE PLASTIC, POINT OF		
AUTO	AUTOMATIC	CWTP	CIRCULATING WATER	FO	FUEL OIL	LIT	LEVEL INDICATOR/TRANSMITTER	PVCGS	POLYVINYL CHLORIDE PLASTIC-GRAVITY	T	TANGENT, TELEPHONE LINE, TOP
AUX	AUXILIARY	CWTP	CHAPARRAL WATER TREATMENT PLANT	FOC	FACE OF CONCRETE	LONG	LONGITUDINAL		SEWER TYPE	T&B	TOP AND BOTTOM
AV	AIR/VACUUM ASSEMBLY	CV	CHECK VALVE	FOE	FLANGED ONE END	LP	LOW POINT	PVCW	POLYVINYL CHLORIDE PLASTIC- WATER DISTRIBUTION SERVICE TYPE	T&G	TONGUE AND GROOVE
AVE	AVENUE	°C	CELSIUS	FRP	FIBERGLASS REINFORCED PLASTIC	LR	LONG RADIUS		PAVEMENT	t, T	THICKNESS
AWG	AMERICAN WIRE GAGE			FT	FOOT OR FEET	LS	LOW PRESSURE STREAM	PVMT	POINT OF VERTICAL INTERSECTION	TBG	TUBING
AWWA	AMERICAN WATER WORKS ASSOCIATION	d	PENNY	FW	FINISHED WATER	LSH	LEVEL SWITCH HIGH	PVI	POINT OF VERTICAL INTERSECTION	TCE	TEMPORARY CONST EASEMENT
		DBA	DEFORMED BAR ANCHOR	FTG	FOOTING	LSL	LEVEL SWITCH LOW	PVT	POINT OF VERTICAL TANGENCY, PRIVATE	TDH	TOTAL DYNAMIC HEAD
		DBL	DOUBLE	FWD	FORWARD	LWL	LOW WATER LEVEL	PW	POTABLE WATER, PROCESS WATER	TECH	TECHNICAL
B	BORING	DET	DETAIL					R, RAD	RADIUS	TEL	TELEPHONE
BAV	BALL VALVE	DF	DOUGLAS FIR/LARCH	G	GAS	MAX	MAXIMUM		RECLAIMED BACKWASH	TEMP	TEMPORARY, TEMPERATURE
BC	BEGIN CURVE, BOTTOM OF CURB	DI	DROP INLET, DUCTILE IRON	GA	GAGE	MCC	MOTOR CONTROL CENTER	RBW	REINFORCED CONCRETE JOINT	TF	TOP FACE
BD	BLOW DOWN	DIA	DIAMETER	GAC	GRANULAR ACTIVATED CARBON	MCJ	MASONRY CONTROL JOINT	RC	MECHANICAL	THD	THREAD
BF	BLIND FLANGE, BOTTOM FACE	DIAG	DIAGONAL	GAL	GALLON	MECH	MECHANICAL	RCP	MANUFACTURER	THK	THICK
BFD	BUTTERFLY VALVE DAMPER	DIL	DILUTE	GALV	GALVANIZED	MFR	MANUFACTURER	RD	MILLION GALLONS PER DAY	TNK	TANK
BFV	BUTTERFLY VALVE	DIM	DIMENSION	GB	GRADE BREAK	MGD	GRADE BREAK	RDCR	MANHOLE	TOC	TOP OF CURB, TOP OF CONCRETE
BLDG	BUILDING	DIMJ	DUCTILE IRON MECHANICAL JOINT	GC	GROOVED COUPLING	MH	MANHOLE	REF	MINIMUM, MINUTE	TOF	TOP OF FOOTING
BLK	BLACK	DIP	DUCTILE IRON PIPE	GCO	GRADE CLEAN OUT	MIN	MINIMUM, MINUTE	REINF	MALE IRON PIPE THREAD	TP	TURNING POINT, TEST PIT
BLM	BUREAU OF LAND MANAGEMENT	DIPPL	DUCTILE IRON PIPE, POLYETHYLENE LINED	GCF	GROOVED COUPLING FITTING	MIPT	MALE IRON PIPE THREAD	REQD	MISCELLANEOUS	TRANS	TRANSITION
BM	BENCH MARK, BEAM	DIR	DIRECTION	GD	GENERAL DRAINAGE	MISC	MISCELLANEOUS	RJ	MECHANICAL JOINT	TRANSV	TRANSVERSE
BO	BLOW OFF	DIST	DISTANCE	GE	GROOVED END	MJ	MECHANICAL JOINT	RLS	RUBBER LINED STEEL	TS	TUBE STEEL
BOC	BACK OF CURB	DN	DOWN	GL	GLASS	MPH	MILES PER HOUR	RM	ROOM	TST	TOP OF STEEL
BOG	BACK OF GUTTER	DR	DRAIN	GPD	GALLONS PER DAY	MSNRY	MASONRY	RFCA	RESTRAINED FLANGED COUPLING ADAPTER	TURB	TURBIDITY
BOO	BOTTOM OF OPENING	do	DITTO	GPH	GALLONS PER HOUR		PRACTICE	RMJ	RESTRAINED MECHANICAL JOINT	TW	TREATED GROUND WATER
BOT	BOTTOM	DPT	DIFFERENTIAL PRESSURE TRANSMITTER	GPM	GALLONS PER MINUTE	MTL	MATERIAL	RP	RADIUS POINT	TWS	TRACER WIRE STATION
BRG	BEARING	DWG	DRAWING	GRTG	GRATING	MW	MAKE UP WATER	R/R	REMOVE AND REPLACE	TYP	TYPICAL
BVC	BEGINNING OF VERTICAL CURVE			GSP	GALVANIZED STEEL PIPE	MWS	MAXIMUM WATER SURFACE	RST	REINFORCING STEEL		
BWD	BACKWASH DISPOSAL	E	EAST, ELECTRIC, ELECTRICAL	GT	GAS TURBINE			RT	RIGHT	UBC	UNIFORM BUILDING CODE
BWI	BACKWASH IN	EA	EACH	CV	GATE VALVE	N	NORTH	RTN	RETURN WATER	UD	UNDERDRAIN
BWO	BACKWASH OUT	EC	END CURVE	GVL	GRAVEL	NC	NORMALLY CLOSED	RV	ROOF VENT	UG	UNDERGROUND
BYP	BYPASS	ECC	ECCENTRIC			NE	NORTHEAST	RW	RAW WATER	USFS	UNITED STATES FOREST SERVICE
		EF	EACH FACE, EXHAUST FAN	HD	HUB DRAIN	NH	AMMONIA	R/W	RIGHT-OF-WAY		
C to C, CC	CENTER TO CENTER	EFL	EFFLUENT	HDPE	HIGH DENSITY POLYETHLENE PIPE	NO	NUMBER, NUMBERING			UNK	UNKNOWN
C	CHANNEL (BEAM)	EG	EXISTING GRADE	HDR	HEADER	NPT	NATIONAL PIPE THREAD	S	I-BEAM, SOUTH, SLOPE	UNO	UNLESS NOTED OTHERWISE
CAA/ARV	COMBINATION AIR ADMISSION/	EJ	EXPANSION JOINT	HDW	HARDWARE	NTS	NOT TO SCALE	S =	SLOPE EQUALS	V	VENT, VOLT, VALVE
CARV	AIR RELEASE VALVE	EL	ELEVATION	HF	HIGH PRESSURE FEEDWATER	NW	NORTHWEST	SA	SERVICE AIR	VAC	VACUUM
CATH	COMBINATION AIR RELEASE VALVE	ELB, ELL	ELBOW	HGL	HYDRAULIC GRADE LINE			SAT	SUSPENDED ACOUSTIC TILE	VAR	VENT ACID RESISTANT
	CATHODIC PROTECTION	ELC	ELECTRICAL LOAD CENTER	HGT	HEIGHT	OC	ON CENTER	SC	SCUM	VC	VERTICAL CURVE
CATV	CABLE TELEVISION	ELEC	ELECTRIC, ELECTRICAL	HM	HOLLOW METAL	OD	OUTSIDE DIAMETER, OVERFLOW DRAIN	SCFH	STANDARD CUBIC FEET PER HOUR	VERT	VERTICAL
CB	CATCH BASIN	EM	EMISSION MEASUREMENT	HORIZ	HORIZONTAL	OF	OUTSIDE FACE, OVERFLOW	SCFM	STANDARD CUBIC FEET PER MINUTE	VFD	VARIABLE FREQUENCY DRIVE
CCP	CONCRETE CYLINDER PIPE	EMR	EMERGENCY	HP	HORSEPOWER	OFR	OVERFLOW RETURN	SDG&E	SAN DIEGO GAS & ELECTRIC	VPI	VERTICAL POINT OF INTERSECTION
CCS	CENTRAL CONTROL SYSTEM	ENGR	ENGINEER	HPT	HIGH POINT	OG	ORIGINAL GROUND	SCH	SCHEDULE	VPS	VENEER PLASTER SYSTEM
CE	CONDENSATE	EO	EMERGENCY OVERFLOW	HR	HANDRAIL	OHE	OVERHEAD ELECTRIC	SD	STORM DRAIN	VTR	VENT THRU ROOF
CF	CUBIC FEET	EP	EDGE OF PAVEMENT	HSS	HIGH PRESSURE STREAM, HOLLOW	O TO O	OUT TO OUT	SDS	SECONDARY DIGESTED SLUDGE		
CFM	CUBIC FEET PER MINUTE	EQ	EQUALIZATION		STRUCTURE STEEL	OPNG	OPENING	SE	SOUTHEAST		
CFS	CUBIC FEET PER SECOND	EQL SP	EQUALLY SPACED	HV	HOSE VALVE	OPP	OPPOSITE	SEC	SECONDARY	W/	WITH
CHEM	CHEMICAL	EQPT	EQUIPMENT	HWL	HIGH WATER LEVEL	OSHA	OCCUPATIONAL SAFETY & HEALTH ADMIN.	SECT	SECTION	W	WIDE FLANGE (BEAM), WEST, WATER
CIGC	CAST IRON GROOVED COUPLING	ERW	EFFLUENT REUSE WATER	HWY	HIGHWAY	OZ	OUNCE	SHC	SODIUM HYPOCHLORITE	WC	WATER CLOSET
CIMJ	CAST IRON MECHANICAL JOINT	ESC	EROSION SEDIMENT CONTROL	HYD	HYDRANT			SH	SHEET	WD	WOOD
CIP	CAST IRON PIPE	ESA	ENVIRONMENTALLY SENSITIVE AREA			PA	PROCESS AIR	SIM	SIMILAR	WSP	WATER HEATER
CIRJ	CAST IRON RESTRAINED JOINT	EVC	END OF VERTICAL CURVE	IA	INSTRUMENT AIR	PC	POINT OF CURVE	SL	SLUDGE	WM	WATER METER
CISP	CAST IRON SOIL PIPE	EVMWD	ELSNORE VALLEY MWD	I&C	INSTRUMENTATION & CONTROL	PE	PLAIN END, POLYETHYLENE, PERMANENT	SLG	SLUDGE	WR	WATER RESISTANT
CJ	CONSTRUCTION JOINT, CONTRACTION JOINT	EW	EACH WAY	ID	INSIDE DIAMETER		EASEMENT	SLMH	SLUDGE MANHOLE	WS	WATER SURFACE, WATER STOP
		EQ	EQUALIZATION	HYD	HYDRANT	PENT	PENETRATION	SLG	SLUDGE	W SH ST	WEATHERING SHEET STEEL

NOTES:

1.

FOR ELECTRICAL AND INSTRUMENTATION ABBREVIATIONS, SEE ELECTRICAL AND INSTRUMENTATION DRAWINGS.
2.

CONTACT THE ENGINEER FOR ABBREVIATIONS NOT LISTED.
3.

THIS IS A STANDARD LEGEND SHEET, THEREFORE, SOME SYMBOLS OR ABBREVIATIONS MAY APPEAR ON THIS SHEET AND MAY NOT BE UTILIZED ON THIS PROJECT.

DESIGNED  
S MAGLADRY

DRAWN  
J MARTIN

CHECKED  
S KADER

APPROVED  
S KADER



Serving since 1916



Waterworks Engineers

PARADISE IRRIGATION DISTRICT

ZONE A PUMP STATION  
AND TRANSMISSION MAIN PROJECT

PARADISE, CA

GENERAL

ABBREVIATIONS

DATE  
DECEMBER 2022

PROJECT NUMBER  
17-041

DRAWING NUMBER  
G-3

SHEET NUMBER  
3

REGISTERED PROFESSIONAL ENGINEER  
No. C56653  
CIVIL  
STATE OF CALIFORNIA  
12-22-22

GENERAL NOTES:

1. ALL WORK SHALL COMPLY WITH APPLICABLE STATE, FEDERAL, AND LOCAL CODES, AND ALL NECESSARY LICENSES AND PERMITS SHALL BE OBTAINED BY THE CONTRACTOR AT ITS EXPENSE, UNLESS OTHERWISE SPECIFIED IN THE CONTRACT DOCUMENTS.
2. DEVIATION FROM THESE PLANS WITHOUT THE PRIOR WRITTEN CONSENT OF THE ENGINEER MAY BE CAUSE FOR THE WORK TO BE UNACCEPTABLE.
3. IN THE EVENT THAT ANY CONFLICT BETWEEN ANY PROVISIONS OF THE CONSTRUCTION AGREEMENT OR OF THE SPECIFICATIONS OR OF THE DRAWINGS SHALL DEVELOP, THE ENGINEER SHALL DETERMINE WHICH PROVISION SHALL PREVAIL AND HIS DECISION SHALL BE FINAL AND BINDING UPON THE PARTIES AND SHALL NOT BE SUBJECT TO ARBITRATION OR REVIEW.
4. CONTRACTOR SHALL COORDINATE ALL WORK WITH PARADISE IRRIGATION DISTRICT (DISTRICT) AND BUTTE COUNTY WHEN WORKING WITHIN PUBLIC RIGHT-OF-WAY.
5. ALL PIPE LENGTHS AND DISTANCES BETWEEN STRUCTURES ARE MEASURED FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE ALONG A HORIZONTAL PLANE.
6. ELEVATIONS FOR THE PROPOSED PIPELINE ARE TO THE INVERT OF THE PIPE.
7. MINOR CHANGES IN THE HORIZONTAL AND VERTICAL ALIGNMENT OF THE PIPELINES MAY BE PROPOSED BY THE CONTRACTOR AND SUBMITTED TO THE ENGINEER FOR APPROVAL TO FACILITATE CONSTRUCTION AND AVOID FIELD CONFLICTS.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING SURVEY MONUMENTS OR MARKERS DURING CONSTRUCTION.
9. LOCATIONS OF EXISTING SHOWN UTILITIES ARE APPROXIMATE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE SIZE, DEPTH, ORIENTATION, MATERIAL AND LOCATION OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION AND SUBMIT THIS INFORMATION TO THE ENGINEER. THE CONTRACTOR SHALL TAKE WHATEVER STEPS ARE NECESSARY TO PROVIDE FOR THE PROTECTION OF EXISTING UTILITIES. THE ENGINEER HAS ATTEMPTED TO LOCATE AND INDICATE ALL EXISTING FACILITIES ON THE PLANS; HOWEVER, THIS INFORMATION IS SHOWN FOR THE CONTRACTOR'S CONVENIENCE ONLY. THE ENGINEER OR DISTRICT ASSUMES NO RESPONSIBILITY FOR THE LOCATIONS OF UTILITIES SHOWN OR NOT SHOWN. PRIOR TO DIGGING ON AND OFF SITE, CONTRACTOR SHALL HAVE ALL UTILITIES LOCATED BY CALLING "UNDERGROUND SERVICE ALERT" ("USA") 1-800-227-2600 FOURTEEN (14) DAYS MINIMUM BEFORE BEGINNING ANY EXCAVATION. THE CONTRACTOR SHALL CONTACT ANY UTILITY COMPANY WHOSE UTILITIES ARE NOT LOCATED BY "USA" FOR EXACT LOCATION OF THEIR UTILITIES PRIOR TO STARTING CONSTRUCTION. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR AND/OR REPLACE ANY AND ALL DAMAGE MADE TO UTILITIES BY THE CONTRACTOR TO EXISTING CONDITIONS AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL COORDINATE WORK WITH CONFLICTING UTILITIES AND PROVIDE FOR REMOVAL, RELOCATION AND REPLACEMENT AS NECESSARY FOR INSTALLATION OF THE PROPOSED UTILITIES. UTILITY COORDINATION SHALL BE INCLUDED IN THE PROJECT SCHEDULE AND IT IS THE EXPLICIT RESPONSIBILITY OF THE CONTRACTOR TO ASSURE THAT THE PROJECT SCHEDULE INCLUDES THE NECESSARY RELOCATION. THE CONTRACTOR SHALL NOT BE PAID ADDITIONALLY FOR THIS COORDINATION OR ANY RELOCATION.
10. BURIED TELEPHONE, GAS AND CATV CABLES (FIBER OPTICS AND CONVENTIONAL) ARE KNOWN TO VARY IN DEPTH AND LOCATION DUE TO INSTALLATION TECHNIQUES. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR COORDINATING WITH THE UTILITY COMPANY TO DETERMINE SPECIFIC CABLE LOCATIONS AND NOTIFYING THE ENGINEER OF THE EXACT ELEVATION OF THE CABLES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH LOCATING, COORDINATION FOR RELOCATION OR REPAIRING OF BURIED CABLES AND GAS ALONG THE PIPELINE ALIGNMENT.
11. EXISTING OVERHEAD ELECTRIC AND TELEPHONE TRANSMISSION LINES IN THE PROJECT AREA MAY NOT BE SHOWN ON DRAWINGS. EXTREME CAUTION SHALL BE USED WHEN WORKING IN THE VICINITY OF OVERHEAD UTILITIES SO AS TO PREVENT INJURY TO WORKERS OR DAMAGE TO THE UTILITIES.
12. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY SHOULD ANY FIELD CONDITIONS BE ENCOUNTERED THAT VARY FROM THE INFORMATION PROVIDED IN THE CONTRACT DOCUMENTS.
13. THE CONTRACTOR SHALL NOTIFY PACIFIC GAS & ELECTRIC (PG&E) PRIOR TO EXCAVATING CLOSER THAN FIVE FEET TO AN EXISTING UTILITY POLE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ANY ADDITIONAL SUPPORT OF EXISTING POWER POLES AS REQUIRED FOR TRENCH EXCAVATION. ALL COSTS OF SUCH WORK SHALL BE PAID BY THE CONTRACTOR.
14. THE CONTRACTOR SHALL INSTALL ALL TEMPORARY AND PERMANENT SIGNS AS REQUIRED BY CALTRANS ALONG STATE ROADWAYS AND BY THE COUNTY ALONG STREETS, IN ACCORDANCE WITH THE APPROVED TRAFFIC CONTROL PLAN.
15. THE CONTRACTOR SHALL INSTALL PROJECT DESCRIPTION TEMPORARY SIGNS AS REQUIRED BY THE ENGINEER AND DISTRICT.
16. MINIMUM PIPE COVER FOR ALL UTILITIES SHALL BE 2'-6" UNLESS LESS COVER IS SPECIFICALLY APPROVED BY THE ENGINEER OR SHOWN ON PLANS.
17. LIMITS OF PAVEMENT REMOVAL AND RECONSTRUCTION SHALL BE IN ACCORDANCE WITH COUNTY STANDARDS AND AS MODIFIED HEREIN. THE ASPHALT CONCRETE ALONG THE EDGES OF THE TRENCH SHALL BE SAWCUT AND REMOVED TO A STRAIGHT LINE PRIOR TO FINAL PAVING. EXPOSED VERTICAL EDGES WHICH WILL HAVE ASPHALT CONCRETE AGAINST THEM SHALL BE TACKED WITH EMULSION PRIOR TO PLACEMENT OF ASPHALT CONCRETE. IN NO CASE SHALL THE THICKNESS OF THE NEW PAVEMENT SECTION BE LESS THAN THAT OF THE EXISTING PAVEMENT.
18. THE CONTRACTOR SHALL REMOVE AND REINSTALL ALL EXISTING FENCE AS REQUIRED FOR

FACILITIES INSTALLATION. ANY ADDITIONAL FENCE MATERIALS REQUIRED SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE PRIVATE PROPERTY OWNERS OR DISTRICT. REPLACED FENCE SHALL MATCH EXISTING FENCE TYPE.

- CARE SHALL BE TAKEN TO PROTECT EXISTING PLANTS, SHRUBS, TREES, LAWN, LANDSCAPE AREAS AND IRRIGATION SYSTEMS. ANY ITEMS REMOVED OR DAMAGED SHALL BE REPLACED. ALL ITEMS WHICH REQUIRE REMOVAL OR ARE DAMAGED BY THE CONTRACTOR'S OPERATION SHALL BE REPLACED TO ORIGINAL CONDITION AND TO THE APPROVAL OF THE ENGINEER.
20. PRIOR TO CONSTRUCTION, CONTRACTOR SHALL DEVELOP AND SUBMIT TO THE ENGINEER A SHORING PLAN. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL SHEETING, SHORING AND BRACING REQUIRED FOR THE INSTALLATION OF THE UTILITY. ALL EXCAVATIONS SHALL BE KEPT WITHIN THE DESIGNATED EASEMENT WIDTHS. EXCAVATION WITHIN PAVED AREAS SHALL BE KEPT TO A MINIMUM. SHEETING SHALL BE INSTALLED AS REQUIRED TO PROTECT EXISTING UTILITIES.
21. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL DEVELOP AND SUBMIT TO THE ENGINEER, A TRAFFIC CONTROL PLAN. THE CONTRACTOR SHALL COMPLY WITH THE APPROVED TRAFFIC CONTROL PLAN AT ALL TIMES. THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR FURNISHING, INSTALLING AND MAINTAINING ALL WARNING SIGNS AND DEVICES NECESSARY TO SAFEGUARD THE GENERAL PUBLIC AND THE WORK, AND TO PROVIDE FOR THE PROPER AND CONTINUOUS SAFE ROUTING OF VEHICULAR AND PEDESTRIAN TRAFFIC DURING THE PERFORMANCE OF THE WORK. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO WORKING HOURS. THE USE OF FLAGGERS, BARRICADES AND CONSTRUCTION SIGNING SHALL COMPLY WITH THE CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (CMUTCD), LATEST EDITION.
22. ADVISORY SIGNS SHALL BE POSTED A MINIMUM OF 21 DAYS IN ADVANCE OF CONSTRUCTION ACTIVITIES.
23. ALL NON-APPLICABLE SIGNS SHALL BE COVERED WITH BLACK PLASTIC OR REMOVED.
24. ALL MATERIAL CLEARED AND GRUBBED BY THE CONTRACTOR IN ORDER TO CONSTRUCT THE WORK, SUCH AS TREES, VEGETATION, FENCING, ETC., SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE PROPERLY DISPOSED OF OFF-SITE AT AN APPROVED DISPOSAL SITE.
25. THE CONTRACTOR SHALL MAINTAIN A MEANS FOR INGRESS/EGRESS TO EACH PROPERTY AT ALL TIMES.
26. THE CONTRACTOR SHALL PROVIDE ALL CONSTRUCTION SURVEYING. ANY EXISTING SURVEY STAKES SHALL NOT BE USED BY THE CONTRACTOR.
27. THE EXISTING VEGETATION OUTSIDE OF THE CLEARING LIMITS TO REMAIN SHALL BE PROTECTED FROM DAMAGE. THE CONTRACTOR SHALL INSTALL A 4 FOOT HIGH ORANGE BARRIER FENCE ALONG THE CLEARING LIMITS PRIOR TO CLEARING THE SITE.
28. ALL CONSTRUCTION ACTIVITY SHALL BE LIMITED TO STREET RIGHTS-OF-WAY, ON DISTRICT PROPERTY, AND THE CONSTRUCTION LIMITS AS SHOWN ON PLANS.
29. THE CONTRACTOR SHALL RESTORE ALL ACCESS ROADS AND STREETS WITHIN THE CONSTRUCTION LIMITS TO PRE-CONSTRUCTION CONDITIONS OR BETTER AND AS SHOWN ON THE CONTRACT DRAWINGS.
30. ALL TRENCHING AND BACK FILLING SHALL BE IN ACCORDANCE WITH THE DISTRICT STANDARDS AND AS MODIFIED IN THE CONSTRUCTION DETAILS ELSEWHERE IN THE PLANS AND TECHNICAL SPECIFICATIONS. TRENCH BACKFILL SHALL BE MECHANICALLY COMPACTED. TRENCHES SHALL BE CLOSED OR COVERED AT THE END OF THE WORK DAY.
31. FOR ALL TRENCHING EXCAVATIONS 5 FEET OR MORE IN DEPTH, THE CONTRACTOR SHALL OBTAIN A PERMIT FROM THE DIVISION OF INDUSTRIAL RELATIONS PRIOR TO BEGINNING ANY EXCAVATION. A COPY OF THIS PERMIT SHALL BE AVAILABLE AT THE CONSTRUCTION SITE AT ALL TIMES.
32. THE CONTRACTOR SHALL PERMANENTLY PATCH PAVEMENT FOR ALL PARALLEL PAVEMENT DISTURBANCES BY THE END OF EACH WEEK. TEMPORARY WITH STEEL PLATES OR APPROVED EQUAL PATCHES SHALL BE PROVIDED DAILY AND MAINTAINED UNTIL THE PAVEMENT PATCH IS PROVIDED.
33. THE CONTRACTOR SHALL CONDUCT ALL WORK WITHIN THE AREAS ON THE PLANS.
34. CONTRACTOR MUST ACCESS WORK AREAS THROUGH PUBLICLY OWNED RIGHT-OF-WAY (R/W) OR THROUGH ACCESS POINTS DELINEATED ON THE PLANS WHERE PUBLIC RIGHT-OF-WAY IS NOT AVAILABLE.
35. PRIOR TO ACCEPTANCE OF THE UTILITIES, THE PIPELINES SHALL BE PROPERLY CLEANED OF ALL DEBRIS, AIR TESTED, MANDRELLED WHEN APPLICABLE, AND TELEVIEWED. PROPER CLEANING TECHNIQUES AND DEVICES SHALL BE UTILIZED TO INSURE NO DEBRIS, SAND, GRAVEL OR SILT WILL ENTER THE EXISTING STORM DRAIN SYSTEM.
36. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO STARTING CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES OR INCONSISTENCIES.
37. STRUCTURES NOTED IN THE PLANS AS EXISTING SHALL BE FIELD VERIFIED BY THE CONTRACTOR AND ANY DISCREPANCIES NOTED SHALL BE REPORTED TO THE ENGINEER.
38. TYPICAL DETAILS AND SCHEDULES INDICATED MAY NOT BE SPECIFICALLY REFERENCED ON THE PLANS. THE CONTRACTOR IS RESPONSIBLE TO DETERMINE WHERE EACH TYPICAL DETAIL OR SCHEDULE APPLIES. IF LOCATIONS ARE FOUND WHERE NO TYPICAL DETAIL, TYPICAL SCHEDULE, OR SPECIFIC DETAIL APPLIES, THE ENGINEER SHALL BE NOTIFIED.
39. OBSERVATION VISITS (SITE VISITS) BY REPRESENTATIVES OF THE DISTRICT DO NOT INCLUDE INSPECTION OF CONSTRUCTION MEANS AND METHODS. SITE VISITS DURING CONSTRUCTION ARE NOT CONTINUOUS AND DETAILED INSPECTION SERVICES ARE TO BE PERFORMED BY OTHERS.

OBSERVATIONS ARE PERFORMED SOLELY FOR THE PURPOSE OF DETERMINING IF THE CONTRACTOR UNDERSTANDS DESIGN INTENT SHOWN IN THE CONTRACT DRAWINGS. OBSERVATIONS DO NOT GUARANTEE CONTRACTOR'S PERFORMANCE AND ARE NOT TO BE CONSTRUED AS SUPERVISION OR VERIFICATION OF CONSTRUCTION.

40. ALL SPECIFICATIONS AND CODES NOTED SHALL BE THE LATEST APPROVED EDITIONS AND REVISIONS BY THE AGENCY HAVING JURISDICTION OVER THIS PROJECT.
41. CONTRACTOR SHALL INVESTIGATE THE SITE DURING CLEARING AND EARTHWORK OPERATIONS FOR FILLED EXCAVATIONS OR BURIED STRUCTURES SUCH AS CESSPOOLS, CISTERNS, FOUNDATIONS, UTILITIES, ETC. IF ANY SUCH STRUCTURES ARE FOUND, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY.
42. FOLLOWING IS THE PROJECT SPECIFIC GEOTECHNICAL REPORTS FOR REVIEW AND USE:  
GEOTECHNICAL REPORT: RESERVOIR B REPLACEMENT STUDY, PARADISE IRRIGATION DISTRICT, TOWN OF PARADISE & BUTTE COUNTY, CALIFORNIA (MAY 2018)

ADDITIONAL NOTES FOR WORK ON NEW SKYWAY:

1. FOR ALL CONSTRUCTION ON NEW SKYWAY WORK HOURS ARE TO BE FROM 8:00 PM TO 6:00 AM, SUNDAY THROUGH THURSDAY.
2. TRAFFIC CONTROL PLAN TO BE PROVIDED BY CONTRACTOR AND SUBMITTED TO OWNER AND BUTTE COUNTY FOR APPROVAL. THE PLAN SHALL GENERALLY TO USE OLD SKYWAY FOR SOUTHBOUND TRAFFIC AND THE SOUTHBOUND LANE OF NEW SKYWAY FOR NORTHBOUND TRAFFIC WHILE WORK IS BEING CONDUCTED TO THE EAST SIDE OF NEW SKYWAY. SOUTHBOUND TRAFFIC DIVERSION TO OLD SKYWAY SHALL OCCUR AT COULTLENC ROAD AND SOUTHBOUND TRAFFIC TO REJOIN NEW SKYWAY AT PENTZ ROAD. NORTHBOUND TRAFFIC TRANSITION TO SOUTHBOUND LANE SHALL OCCUR AT PENTZ ROAD AND REJOIN NORTHBOUND LANE AT COULTLENC ROAD
3. FOR TEMPORARY TRENCH PLATING ON NEW SKYWAY, CONTRACTOR TO USE CLSM/CDF BACKFILL AND TEXTURED PLATES THAT ARE FLUSH WITH THE SURROUNDING PAVEMENT. PLATES WILL ONLY BE ALLOWED FOR 20-FT MAXIMUM LENGTH, TOTAL.
4. SLURRY/CLSM BACKFILL OF PIPE TRENCH WILL BE BROUGHT UP FLUSH WITH ROAD SURFACE EACH NIGHT WITH THE LAST SLURRY PLACEMENT COMPLETE 2 HOURS BEFORE THE END OF SHIFT (LAST PLACEMENT BY 3:00 AM). CLSM MIX DESIGN SHALL INCLUDE ADMIXTURES TO PROVIDE 50-PSI STRENGTH SET IN THAT 2 HOUR TIMEFRAME TO BE SAFE FOR TRAFFIC USE.
5. CONTRACTOR TO COMPLETE ALL WORK IN NEW SKYWAY, FROM STATION 23+19.30 TO 70+00 PRIOR TO JUNE 1, 2023. NO REPAVING WILL BE REQUIRED FOR THIS SEGMENT OF PIPELINE IF IT IS COMPLETED PRIOR TO JUNE 1, 2023 - SLURRY/CLSM FILL TO ROAD SURFACE MAY REMAIN FOR THE BUTTE COUNTY REPAVING PROJECT WHICH WILL OCCUR IN THIS AREA IMMEDIATELY FOLLOWING COMPLETION OF THE PIPELINE INSTALLATION.

GENERAL PIPING NOTES:

1. THRUST RESTRAINT: ALL NEW WATER LINES, FITTINGS, VALVES AND APPURTENANCES SHALL BE RESTRAINED USING THRUST BLOCKS PER PID STD DWG PID-02 OR MECHANICAL THRUST RESTRAINT MUST BE PROVIDED PER THE DRAWINGS.
2. VERTICAL AND HORIZONTAL SEPARATION: UNLESS OTHERWISE NOTED ON PLANS OR APPROVED BY DISTRICT, CONTRACTOR SHALL MAINTAIN VERTICAL AND HORIZONTAL SEPARATIONS IN ACCORDANCE WITH CALIFORNIA WATERWORKS STANDARDS AND PID STANDARD DRAWING PID-11
3. LAY PIPE TO UNIFORM GRADE BETWEEN INDICATED ELEVATION POINTS. MINIMUM COVER SHALL BE 30 INCHES UNLESS OTHERWISE SHOWN.
4. SIZE OF FITTINGS SHOWN ON DRAWINGS SHALL CORRESPOND TO ADJACENT STRAIGHT RUN OF PIPE, UNLESS OTHERWISE INDICATED. TYPE OF JOINT AND FITTING MATERIAL SHALL BE THE SAME AS SHOWN FOR ADJACENT STRAIGHT RUN OF PIPE.
5. LOCATION AND NUMBER OF PIPE HANGERS AND DPIPE SUPPORTS SHOWN IS ONLY APPROXIMATE. FINAL SUPPORT REQUIREMENTS SHALL BE DETERMINED IN THE FIELD AND APPROVED BY THE ENGINEER PRIOR TO INSTALLATION. MAXIMUM SPACING SHALL BE AS SPECIFIED.
6. APPROPRIATE STANDARD WALL PIPE DETAIL SHALL BE USED WHEREVER PIPING PASSES FROM A STRUCTURE TO BACKFILL.
7. ALL FLEXIBLE CONNECTORS OR FLANGED COUPLING ADAPTERS SHALL BE PROVIDED WITH THRUST TIES BLOCKS, OR ANCHORS, UNLESS OTHERWISE NOTED. THRUST PROTECTION SHALL BE ADEQUATE FOR TEST PRESSURES SPECIFIED.
8. SYMBOLS, LEGENDS, AND PIPE USE IDENTIFICATIONS SHALL BE FOLLOWED THROUGHOUT THE DRAWINGS, WHEREVER APPLICABLE. ALL THE VARIOUS APPLICATIONS ARE NOT NECESSARILY USED IN THE PROJECT.
9. NUMBER AND LOCATION OF UNIONS SHOWN ON DRAWINGS ARE ONLY APPROXIMATE. PROVIDE ALL UNIONS NECESSARY TO FACILITATE CONVENIENT REMOVAL OF VALVES AND MECHANICAL EQUIPMENT.
10. THE CONTRACTOR FOR THIS PROJECT IS RESPONSIBLE FOR COORDINATING AND PERFORMING THE CONNECTION OF THE PIPING AND ASSOCIATED APPURTENANCES INSTALLED UNDER THIS CONTRACT TO BOTH THE EXISTING PIPING AND FACILITIES.
11. PRIOR TO SUBMITTING PIPING DRAWINGS FOR ANY NEW PIPE THAT IS TO CONNECT TO OR CROSS AN EXISTING PIPE OR STRUCTURE TO VERIFY ITS EXACT LOCATION, SIZE, MATERIAL, AND INVERT ELEVATIONS.

S MAGLADRY
DRAWN
J MARTIN
CHECKED
S KADER
APPROVED
S KADER



**WATERWORKS**  
ENGINEERS

PARADISE IRRIGATION DISTRICT  
ZONE A PUMP STATION  
AND TRANSMISSION MAIN PROJECT  
PARADISE, CA

GENERAL

GENERAL NOTES

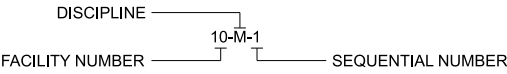
DATE	DECEMBER 2022
PROJECT NUMBER	17-041
DRAWING NUMBER	G-4
SHEET NUMBER	4



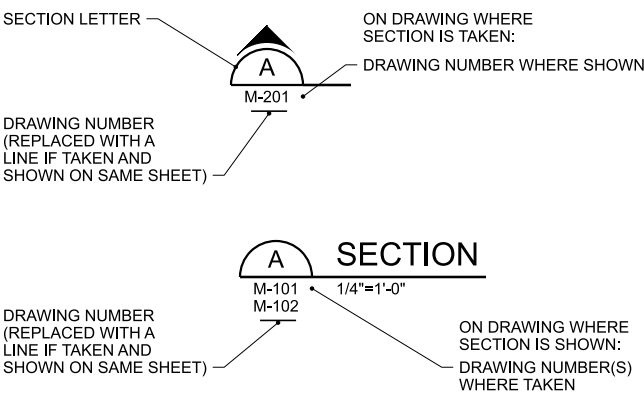
DISCIPLINE

LETTER	DISCIPLINE
G	GENERAL
C	SITE CIVIL
Y	YARD PIPING
D	DEMOLITION
A	ARCHITECTURAL / STRUCTURAL
M	MECHANICAL
H	HEATING, VENTILATION AND COOLING
P	PLUMBING
E	ELECTRICAL
I	INSTRUMENTATION

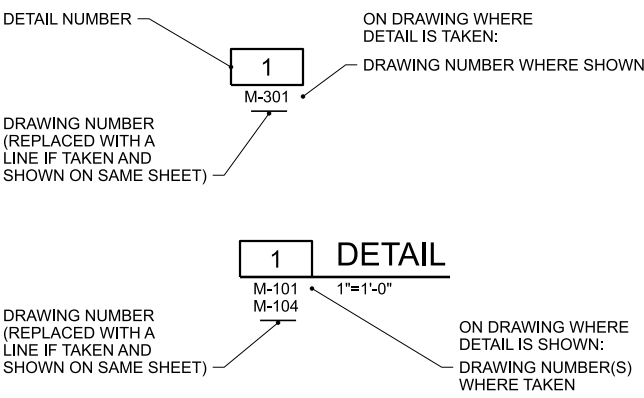
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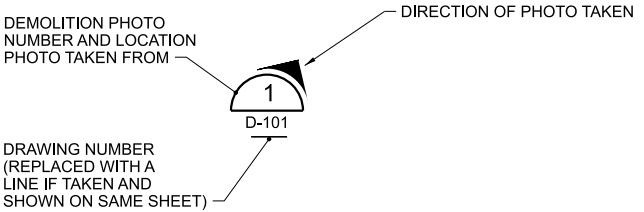
SECTION



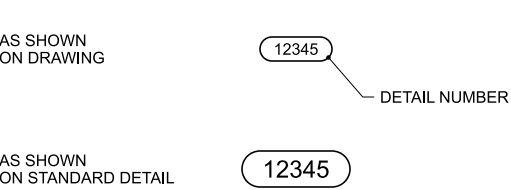
DETAIL



DEMOLITION PHOTO

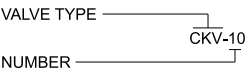


STANDARD DETAIL



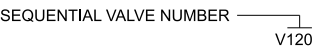
NOTES:  
1. STANDARD DETAIL CALLOUTS ARE SHOWN TO INDICATE DETAIL REQUIRED AT SPECIFIC LOCATIONS. DETAILS ARE NOT CALLED OUT AT ALL LOCATIONS. WHERE A STANDARD DETAIL CALLOUT IS NOT SHOWN, THE CONTRACTOR SHALL USE THE STANDARD DETAIL MOST APPLICABLE AND CONSISTENT WITH OTHER WORK UNDER THIS CONTRACT.

STANDARD VALVE AND OPERATOR



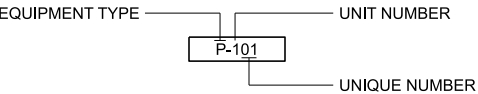
NOTES:  
1. SEE SPECIFICATION SECTION 15200.

UNIQUE VALVE AND OPERATOR



NOTES:  
1. SEE SPECIFICATION SECTION 15200 FOR VALVE SCHEDULE.

EQUIPMENT DESIGNATION



LINE TYPE APPEARANCE

—	BLACK	NEW 'ON' DISCIPLINE
—	LIGHT OR MEDIUM GRAY OR SCREENED	EXISTING 'ON' OR 'OFF' DISCIPLINE
—	DARK GRAY	NEW 'OFF' DISCIPLINE

GENERAL SYMBOLOGY

	STRUCTURE OR EQUIPMENT TO BE SALVAGED OR DEMOLISHED
	PIPE TO BE SALVAGED OR DEMOLISHED
*	EQUIPMENT COMPONENTS OR PANELS SHOWN WITH A SINGLE ASTERISK (*) ARE TO BE PROVIDED AS PART OF A PACKAGE SYSTEM.

DESIGNED  
S MAGLADRY

DRAWN  
J MARTIN

CHECKED  
S KADER

APPROVED  
S KADER

Waterworks  
ENGINEERS

PARADISE IRRIGATION DISTRICT  
ZONE A PUMP STATION  
AND TRANSMISSION MAIN PROJECT  
PARADISE, CA

GENERAL  
GENERAL DESIGNATIONS

DATE  
DECEMBER 2022  
PROJECT NUMBER  
17-041  
DRAWING NUMBER  
G-5  
SHEET NUMBER  
5

<div><div>CIVIL LEGEND</div><div><div></div><div>SPOT ELEVATION</div></div><div><div></div><div>CONTOUR LINE</div></div><div><div></div><div>CUT SLOPE (HORIZ:VERT)</div></div><div><div></div><div>EMBANKMENT - FILL SLOPE (HORIZ:VERT)</div></div><div><div></div><div>DRAINAGEWAY OR DITCH</div></div><div><div></div><div>DIRECTION OF FLOW</div></div><div><div></div><div>CENTER LINE, BUILDING, ROAD</div></div><div><div></div><div>PROPERTY LINE</div></div><div><div></div><div>RIGHT OF WAY, EASEMENT OR SETBACK</div></div><div><div></div><div>STAGING OR WORK AREA LIMITS</div></div><div><div></div><div>STRUCTURE, BUILDING OR FACILITY LOCATION POINT COORDINATES</div></div><div><div></div><div>STRUCTURE, BUILDING OR FACILITY</div></div><div><div></div><div>RETAINING WALL</div></div><div><div></div><div>CONCRETE CURB</div></div><div><div></div><div>ARCHITECTURAL FENCE</div></div><div><div></div><div>GUARD RAIL/BARRICADE</div></div><div><div></div><div>CHAIN LINK FENCE WITH 3 STRAND BARBED WIRE TOPPING</div></div><div><div></div><div>ARCHITECTURAL FENCE</div></div><div><div></div><div>CHAIN LINK FENCE</div></div><div><div></div><div>BARBED WIRE</div></div><div><div></div><div>SINGLE SWING GATE</div></div><div><div></div><div>DOUBLE SWING GATE</div></div><div><div></div><div>SLIDING GATE</div></div><div><div></div><div>CULVERT</div></div><div><div></div><div>FIRE HYDRANT</div></div><div><div></div><div>WALL</div></div><div><div></div><div>BRUSH/TREE LINE</div></div><div><div></div><div>TREE</div></div><div><div></div><div>DEMOLITION</div></div><div><div></div><div>ABANDON IN PLACE</div></div><div><div></div><div>AUTOMATIC AIR RELEASE VALVE</div></div><div><div></div><div>MANUAL AIR RELEASE VALVE</div></div><div><div></div><div>WATER SURFACE</div></div><div><div></div><div>GRADE BREAK</div></div></div>
---

ARCHITECTURAL LEGEND

ACTIVE

INACTIVE

INDICATES PAIR OF DOORS

DIRECTION SHOWN

3.

ELEVATION NUMBER

100A

ROOM DESIGNATION

101

B

DOOR DESIGNATION

L-101

LOUVER DESIGNATION

W-201

WINDOW DESIGNATION

● FEXT-1

FIRE EXTINGUISHER

HINGE SIDE

DOOR, HATCH, OR WINDOW HINGE LOCATION

A

WALL TYPE DESIGNATION

NFPA SIGN

SIGN DESIGNATION

S201

MATERIAL SYMBOLS

CONCRETE

CMU PLAN

CMU SECTION

GYPSUM WALLBOARD

RIGID INSULATION

BATT INSULATION

PLYWOOD

METAL STUD WALL

WOOD SECTION

STEEL

ACOUSTICAL TILE

CARPET

GENERAL ARCHITECTURAL NOTES:

- UNLESS OTHERWISE NOTED, PLAN DIMENSIONS ARE TO NOMINAL SURFACE OF MASONRY, FACE OF STUDS AND FACE OF CONCRETE WALLS.
- REPETITIVE FEATURES ARE NOT DRAWN IN THEIR ENTIRETY AND SHALL BE COMPLETELY PROVIDED AS IF DRAWN IN FULL.
- VERIFY ALL ROUGH-IN DIMENSIONS FOR EQUIPMENT PROVIDED IN THIS CONTRACT, OR BY OTHERS.
- REFER TO ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL AND OTHER CATEGORIES OF DRAWINGS FOR ADDITIONAL NOTES.
- VERIFY SIZE AND LOCATION OF, AND PROVIDE: ALL OPENINGS THROUGH FLOORS AND WALLS, ACCESS DOORS, FURRING, CURBS, ANCHORS AND INSERTS. PROVIDE ALL BASES, BLOCKING REQUIRED FOR ACCESSORIES, MECHANICAL, ELECTRICAL AND OTHER EQUIPMENT.

DESIGNED  
S MAGLADRY

DRAWN  
J MARTIN

CHECKED  
S KADER

APPROVED  
S KADER

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ENGINEERS

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PARADISE IRRIGATION DISTRICT

ZONE A PUMP STATION  
AND TRANSMISSION MAIN PROJECT

PARADISE, CA

GENERAL

ARCHITECTURAL LEGEND  
AND MATERIAL SYMBOLS

DATE  
DECEMBER 2022

PROJECT NUMBER  
17-041

DRAWING NUMBER  
G-7

SHEET NUMBER  
7

FILENAME: 1741D-G007.dgn PLOT DATE: 8/1/2018 8:13:05 AM

	1	2	3	4	5	6
STRUCTURAL ABBREVIATIONS						
AB	ANCHOR BOLT	IN	INCHES			
ACI	AMERICAN CONCRETE INSTITUTE	JT	JOINT			
ADDL	ADDITIONAL	L	LOW / ANGLE			
AFF	ABOVE FINISH FLOOR	LONG	LONGITUDINAL			
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	LLH	LONG LEG HORIZONTAL			
AL	ALUMINUM	LLV	LONG LEG VERTICAL			
ALT	ALTERNATE	LSH	LONG SLOTTED HOLE			
ANC	ANCHOR	MFR	MANUFACTURER			
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE	MAX	MAXIMUM			
APVD	APPROVED	MB	MACHINE BOLT			
ARCH	ARCHITECT, ARCHITECTURAL	MECH	MECHANICAL			
BC	BOTTOM CHORD	MIN	MINIMUM			
BLK	BLOCK	MTL	METAL			
BOC	BOTTOM OF CONCRETE	NDT	NON-DESTRUCTIVE TESTING			
BOS	BOTTOM OF STEEL	NIC	NOT IN CONTRACT			
BOT	BOTTOM, BOTTOM OF TRENCH	NS	NEAR SIDE			
BM	BEAM	NTS	NOT TO SCALE			
BRG	BEARING	OC	ON CENTER			
BTWN	BETWEEN	OD	OUTSIDE DIAMETER			
C	CAMBER	OF	OUTSIDE FACE			
CC	CENTER TO CENTER	O/O	OUT TO OUT			
CHKD	CHECKERED	OPNG	OPENING			
CIP	CAST IN PLACE	OPP	OPPOSITE			
CJ	CONSTRUCTION JOINT	OSH	OVERSIZED HOLE			
CL	CENTERLINE	OWJ	OPEN WEB JOIST			
CLG	CEILING	PC	PRECAST			
CLR	CLEARANCE	PLCS	PLACES			
CLSM	CONTROLLED LOW-STRENGTH MATERIAL	PJF	PREMOLDED JOINT FILLER			
CO	CLEANOUT	PL	PLATE			
COL	COLUMN	PLYWD	PLYWOOD			
CONC	CONCRETE	PP	PARTIAL PENETRATION			
CONN	CONNECTION	PROJ	PROJECTION			
CONT	CONTINUOUS	PT	PRESSURE TREATED			
CP	COMPLETE PENETRATION	PVC	POLYVINYL CHLORIDE			
CTR	CENTER	REINF	REINFORCE, REINFORCING			
DBA	DEFORMED BAR ANCHOR	REQD	REQUIRED			
DBL	DOUBLE	RTN	RETURN			
DIA Ø	DIAMETER	SC	SLIP CRITICAL			
DWG	DRAWING	SHT	SHEET			
EA	EACH	SIB	STRUCTURAL ISOLATION BREAK			
ECS	EPOXY COATED STEEL	SIM	SIMILAR			
EE	EACH END	SJ	SAWN JOINT			
EF	EACH FACE	SLV	SHORT LEG VERTICAL			
EL, ELEV	ELEVATION	SPCG, SPA	SPACING			
EMBED	EMBEDMENT	SPCS	SPACES			
EN	EDGE NAIL	SPECS	SPECIFICATIONS			
EQ, EQL, SP	EQUALLY SPACED	SQ	SQUARE			
ES	EASH SIDE	SS	STAINLESS STEEL			
EW	EACH WAY	SSH	SHORT SLOTTED HOLE			
EXP	EXPANSION	STD	STANDARD			
EXST, (E)	EXISTING	STIFF	STIFFENER			
FD	FLOOR DRAIN	STL	STEEL			
FDN	FOUNDATION	SMS	SHEET METAL SCREW			
FIN	FINISH	SW	STUD WELD			
FF	FINISHED FLOOR	SYM	SYMMETRICAL			
FLG	FLANGE	T&B	TOP & BOTTOM			
FLR	FLOOR	TC	TOP CHORD			
FOB	FACE OF BLOCK	TD	TRUSS DIAGONAL			
FOC	FACE OF CONCRETE	THK	THICK			
FOS	FACE OF STUD / STEEL	TN	TOE NAIL			
FP	FULL PENETRATION	TO	TOP OF			
FRMG	FRAMING	TOC	TOP OF CONCRETE			
FRP	FIBER REINFORCED PLASTIC	TOF	TOP OF FOOTING			
FS	FAR SIDE	TOG	TOP OF GRATING			
FTG	FOOTING	TOS	TOP OF STEEL			
GA	GAUGE, GAGE	TOT	TOTAL			
GALV	GALVANIZED	TOW	TOP OF WALL			
GLB	GLULAM BEAM	TRANS	TRANSVERSE			
GRD	GRADE	TYP	TYPICAL			
GRT	GROUT	UN	UNLESS NOTED			
GRTG	GRATING	UT	ULTRASONIC TESTING			
H	HIGH	VERT	VERTICAL			
H.A.S.	HEADED ANCHOR STUD	W/	WITH			
HCA	HEADED CONCRETE ANCHOR	W/O	WITH OUT			
HD	HOLDOWN	WP	WORK POINT			
HORIZ	HORIZONTAL	WS	WATERSTOP			
HSB	HIGH STRENGTH BOLT	WWF	WELDED WIRE FABRIC			
IF	INSIDE FACE					
DESIGN CRITERIA:						
1. APPLICABLE CODE: 2016 CALIFORNIA BUILDING CODE (2015 INTERNATIONAL BUILDING CODE (IBC), AS AMENDED BY THE STATE OF CALIFORNIA).						
2. REFER TO THE SPECIFICATIONS FOR ADDITIONAL AND SPECIFIC STRUCTURAL LOADINGS AND REQUIREMENTS.						
3. ROOF LOAD:						
• MINIMUM LIVE LOAD 20 psf						
• FLAT ROOF SNOW LOAD, P <sub>f</sub> 36 psf (TANK SITE)						
• FLAT ROOF SNOW LOAD, P <sub>f</sub> 38 psf (PUMP STATION)						
4. WIND LOAD:						
• BASIC WIND SPEED (ASCE 7-10) 115 mph						
• EXPOSURE CATEGORY C						
• DESIGN METHOD DIRECTIONAL PROCEDURE						
5. SEISMIC LOAD:						
• RISK CATEGORY IV						
• IMPORTANCE FACTOR I <sub>e</sub> 1.5						
• TANK SITE S <sub>1</sub> : 0.643 TANK SITE S <sub>DS</sub> : 0.490						
• TANK SITE S <sub>1</sub> : 0.265 TANK SITE S <sub>DS</sub> : 0.272						
• PUMP STATION S <sub>1</sub> : 0.652 PUMP STATION S <sub>DS</sub> : 0.555						
• PUMP STATION S <sub>1</sub> : 0.263 PUMP STATION S <sub>DS</sub> : 0.328						
• TANK SITE SITE CLASS: C PUMP STATION SITE CLASS: D						
• SEISMIC DESIGN CATEGORY: D						
6. LATERAL FORCE RESISTING SYSTEM:						
• FACILITY 20 BUILDING						
o SPECIAL REINFORCED MASONRY SHEAR WALLS						
o V = C <sub>1</sub> W						
o C <sub>2</sub> = 0.167						
o R = 5						
o ANALYSIS PROCEDURE = EQUIVALENT LATERAL FORCE						
GENERAL INFORMATION:						
1. ALL CONSTRUCTION SHALL CONFORM TO THE 2016 EDITION OF THE BUILDING CODE.						
2. DESIGN DETAILS ARE INTENDED TO BE TYPICAL AND SHALL APPLY TO ALL SIMILAR SITUATIONS OCCURRING THROUGHOUT THE PROJECT, WHETHER OR NOT THEY ARE KEYED IN EACH LOCATION. CONSULT THE ENGINEER FOR REVIEW PRIOR TO CONSTRUCTION.						
3. VERIFY ALL OPENING DIMENSIONS IN WALLS, SLABS, AND DECKS WITH THE ARCHITECTURAL MECHANICAL, HVAC AND ELECTRICAL DRAWINGS.						
4. FOR NUMBER, TYPE, SIZE, ARRANGEMENT, AND/OR LOCATION OF EQUIPMENT PADS AND OPENINGS SEE ARCHITECTURAL, MECHANICAL, ELECTRICAL, HVAC AND PLUMBING DRAWINGS. COORDINATE ALL OPENINGS AND EQUIPMENT PADS WITH OTHER DISCIPLINES AND EQUIPMENT SUPPLIERS PRIOR TO PLACING SLABS, WALLS AND FOUNDATIONS.						
5. NO STRUCTURAL MEMBER SHALL BE CUT FOR PIPES, DUCTS, ETC UNLESS SPECIFICALLY DETAILED OR APPROVED IN WRITING BY THE ENGINEER.						
FOUNDATIONS:						
1. IN ACCORDANCE WITH THE GEOTECHNICAL INVESTIGATION REPORT #170025 BY VERTICAL SCIENCES, INC., FOUNDATIONS HAVE BEEN DESIGNED FOR THE FOLLOWING VALUES:						
• ALLOWABLE BEARING, DEAD + LIVE LOADS 1,500 psf TANK SITE						
2,000 psf PUMP STATION						
• MINIMUM FOOTING EMBEDMENT 18 INCHES						
• LATERAL EARTH PRESSURES PUMP STATION (DRAINED)						
o FLAT ACTIVE 40 pcf						
o FLAT AT-REST 60 pcf						
o PASSIVE 350 pcf						
• SLIDING RESISTANCE (NATIVE SOIL) 0.30						
2. NO BACKFILL SHALL BE PLACED BEHIND CANTILEVERED, FREE TOP WALLS UNTIL THE CONCRETE HAS ATTAINED 100% OF ITS SPECIFIED COMPRESSIVE STRENGTH.						
3. NO BACKFILL SHALL BE PLACED BEHIND WALLS THAT ARE CONNECTED TO ELEVATED FLOOR OR ROOF SLABS OR DECKS UNTIL THE FLOOR OR ROOF SLAB HAS ATTAINED 100% OF ITS SPECIFIED COMPRESSIVE STRENGTH AND ALL ROOF AND FLOOR DECKING IS IN PLACE AND WELDED, SCREWED, OR NAILED AS APPROPRIATE.						
4. GRADE TO DRAIN AWAY FROM STRUCTURES A MINIMUM GRADE OF 5% FOR A MINIMUM OF 10'-0" FROM STRJCTURE PERIMETER.						
5. THE CONTRACTOR SHALL PROVIDE THE ENGINEER AT LEAST 48 BUSINESS HOURS NOTICE FOLLOWING EXCAVATION FOR FOUNDATIONS AND PRIOR TO THE PLACEMENT OF FORMWORK, REINFORCING STEEL AND CONCRETE.						
FORMWORK, SHORING AND BRACING:						
1. THE STRUCTURES SHOWN ON THE DRAWINGS HAVE BEEN DESIGNED FOR STABILITY UNDER FINAL CONDITIONS ONLY. THE DESIGN SHOWN DOES NOT INCLUDE THE NECESSARY COMPONENTS OR EQUIPMENT FOR THE STABILITY OF THE STRUCTURE DURING CONSTRUCTION. THE CONTACTOR IS RESPONSIBLE FOR ALL WORK RELATING TO CONSTRUCTION ERECTION METHODS, BRACING, SHORING, RIGGING, GUYS SCAFFOLDING, FORMWORK, AND OTHER WORK AIDS REQUIRED TO SAFELY PERFORM THE WORK SHOWN. CONSTRUCTION OF SHORING AND BRACING OF FORMWORK SHALL BE IN ACCORDANCE WITH ACI 347 "GUIDE TO FORMWORK FOR CONCRETE".						
CONCRETE:						
1. STRUCTURAL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS AND A SLUMP AS SPECIFIED IN SECTION 03300 - CAST-IN-PLACE CONCRETE.						
2. THE CONTRACTOR SHALL SUBMIT THE CONCRETE MIX DESIGNS TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO USE.						
3. HORIZONTAL CONSTRUCTION JOINTS SHALL BE PREPARED TO EXPOSE CLEAN, SOLIDLY EMBEDDED AGGREGATE OVER THE ENTIRE JOINT INTERFACE.						
4. PLACEMENT OF PIPES, CONDUITS OR OTHER EMBEDDED ITEMS IN THE CONCRETE SHALL BE IN ACCORDANCE WITH THESE DRAWINGS OR SHALL BE APPROVED BY THE ENGINEER.						
5. NO ALUMINUM OR ANY OTHER MATERIAL INJURIOUS TO CONCRETE SHALL BE EMBEDDED IN THE CONCRETE.						
6. CONCRETE SHALL BE MIXED AND DELIVERED IN ACCORDANCE WITH ASTM C94.						
7. THE REQUIREMENTS FOR CONCRETE MIXES, PLACING, TESTING AND CURING ARE CONTAINED IN ACI 318 CHAPTER 26 AND THE PROJECT SPECIFICATIONS.						
8. PORTLAND CEMENT SHALL CONFORM TO ASTM C150 TYPE II, AGGREGATE SHALL CONFORM TO ASTM C33.						
9. THE CONCRETE JOINTS IN SLABS AND WALLS, AS SHOWN, ARE MINIMUM REQUIREMENTS. CONTRACTOR MAY SUBMIT ALTERNATE CONSTRUCTION JOINT LAYOUT DRAWINGS, SUBJECT TO SPECIFIED REQUIREMENTS, TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.						
10. THE CONTRACTOR SHALL PROVIDE THE ENGINEER AT LEAST 48 BUSINESS HOURS NOTICE PRIOR TO THE PLACEMENT OF CONCRETE TO ALLOW SUFFICIENT TIME FOR INSPECTIONS AND SCHEDULING OF TESTING SERVICES.						
CONCRETE REINFORCING:						
1. PROVIDE LARGER SIZES AND MORE REINFORCING IN ALL SECTIONS OF CONCRETE WHERE REQUIRED BY THE DETAILS ON THE DRAWINGS OR BY THE SPECIFICATIONS.						
2. CLEARANCE FOR REINFORCEMENT BARS SHALL BE: CAST AGAINST EARTH = 3", ALL OTHER CONCRETE SURFACES: #5 BAR OR SMALLER = 1 1/2", #6 BAR OR LAGER = 2".						
3. REFER TO WALL CORNER AND WALL INTERSECTION REINFORCING DETAIL 3303. WALL CORNER REINFORCING SIZES AND SPACINGS SHALL BE AS SHOWN ON THE DRAWINGS AND REFERENCED TO THIS DETAIL. TYPICAL HORIZONTAL WALL REINFORCING SHALL LAP WITH THE CORNER HORIZONTAL REINFORCING.						
4. PROVIDE A MINIMUM OF TWO VERTICAL WALL BARS WITH MATCHING DOWELS AT WALL ENDS, CORNERS AND INTERSECTIONS WITH SIZE TO MATCH TYPICAL VERTICAL REINFORCING STEEL AS SHOWN. VERTICAL WALL BARS SHALL BE LAPPED WITH DOWELS FROM BASE SLABS AND EXTENDED INTO THE TOP FACE OF ROOF SLABS AND LAPPED WITH TOP SLAB REINFORCEMENT.						
5. ALL BENDS, UNLESS OTHERWISE SHOWN, SHALL BE 90 DEGREE ACI 318 STANDARD HOOKS.						
6. ALL REINFORCING BENDS AND LAPS, UNLESS OTHERWISE NOTED, SHALL SATISFY THE FOLLOWING MINIMUM REQUIREMENTS:						
CONCRETE DESIGN STRENGTH = 4,000 PSI # GRADE 60 REINFORCED STEEL						
BAR SIZE #4 #5 #6 #7 #8 #9 #10						
LAP SPLICE LENGTH						
TOP BAR * 2'-8" 3'-4" 4'-0" 5'-10" 6'-8" 7'-7" 8'-6"						
OTHER BAR 2'-1" 2'-7" 3'-1" 4'-6" 5'-2" 5'-10" 6'-7"						
* TOP BARS SHALL BE DEFINED AS ANY HORIZONTAL BARS PLACED SUCH THAT MORE THAN 12" OF CONCRETE IS CAST IN THE MEMBER BELOW THE BAR IN ANY SINGLE POUR. HORIZONTAL WALL BARS ARE CONSIDERED TOP BARS.						
# WHERE 3,000 PSI CONCRETE IS USED, INCREASE ABOVE LENGTHS BY 16%.						
DESIGNED J KELLOGG						
DRAWN J MARTIN						
CHECKED S KADER						
APPROVED S KADER						
Serving since 1916						
WATERWORKS ENGINEERS						
PARADISE IRRIGATION DISTRICT						
ZONE A PUMP STATION AND TRANSMISSION MAIN PROJECT						
PARADISE, CA						
GENERAL						
STRUCTURAL LEGEND ABBREVIATIONS AND NOTES						
DATE DECEMBER 2022						
PROJECT NUMBER 17-041						
DRAWING NUMBER G-8						
SHEET NUMBER 8						
12-22-22						

MASONRY:

- SOLID GROUT ALL CELLS UNLESS INDICATED OTHERWISE.
- MORTAR SHALL CONFORM TO ASTM C270, TYPE S, HYDRATED AND SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 1,900 PSI.
- GROUT SHALL CONFORM TO ASTM C476 AND SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 2,000 PSI CONTAINING NO MASONRY CEMENT.
- CONCRETE BLOCK UNITS SHALL BE MEDIUM WEIGHT AND CONFORM TO ASTM C90 AND SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 1,900 PSI. LINEAR SHRINKAGE SHALL NOT EXCEED 0.065 PERCENT.
- PLACE COURSES IN RUNNING BOND PATTERN, UNLESS SPECIFICALLY INDICATED OTHERWISE.
- REINFORCING STEEL FOR MASONRY SHALL CONFORM TO ASTM A615, GRADE 60 FOR DEFORMED BARS. LAP VERTICAL REINFORCING 48 BAR DIAMETERS WITH DOWELS AT BUILDING WALLS. LAP ALL OTHER VERTICAL BARS 72 BAR DIAMETERS. LAP VERTICAL BARS IN CANTILEVER WALLS 72 BAR DIAMETERS. STAGGER ADJACENT LAP SPLICES BY 24 INCHES, WHEN SEPARATED BY 3 INCHES OR LESS. REFERENCE STANDARD DETAIL 4002 - REINFORCED CMU WALL.
- HORIZONTAL REINFORCING BARS SHALL BE CONTINUOUS AROUND WALL CORNERS AND THROUGH WALL INTERSECTIONS AND HOOKED AT WALL ENDS AS SHOWN IN THE DETAILS.
- VERTICAL REINFORCING SHALL BE PLACED AT CORNERS, EACH SIDE OF OPENINGS, END WALLS (INCLUDING EACH SIDE OF CONTROL JOINTS), AT A MAXIMUM SPACING INDICATED IN THE DRAWINGS, AND CONTINUOUS FROM FOUNDATION TO TOP OF WALL.
- CMU REINFORCING AT WALL INTERSECTIONS AND CORNERS SHALL BE AS INDICATED IN STANDARD DETAIL 4001 - CMU WALL CORNERS, UNLESS INDICATED OTHERWISE.
- CMU REINFORCING AT ALL WALL ENDS, JAMBS AND DOOR OPENINGS, WINDOW LINTELS, LOUVERS AND PENETRATIONS SHALL BE INDICATED IN STANDARD DETAIL 4004 - CMU OPENINGS GREATER THAN 3'-0" OR STANDARD DETAIL 4003 - CMU OPENINGS LESS THAN 3'-0", UNLESS INDICATED OTHERWISE.
- CMU WALL CONTROL JOINTS SHALL BE LOCATED WHERE SHOWN ON THE DRAWINGS, AND SHALL RUN CONTINUOUS FROM THE TOP OF FOUNDATION TO TOP OF WALL OR PARAPET. ALL HORIZONTAL NON-STRUCTURAL BARS SHALL BE TERMINATED IN A STANDARD HOOK EACH SIDE OF JOINT. STRUCTURAL BARS SHALL BE CONTINUOUS THROUGH CONTROL JOINTS.

PREFABRICATED OPEN WEB METAL JOISTS:

- JOISTS SHALL BE DESIGNED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS OF THE AISI AND THE STEEL JOIST INSTITUTE.
- DESIGN OPEN WEB STEEL JOISTS FOR THE FOLLOWING LOADS:
  - ROOF LIVE LOAD 20 psf
  - ROOF SNOW LOAD 38 psf
  - SUPERIMPOSED ROOF DEAD LOAD 15 psf
  - FASCIA 200 lb CONCENTRATION AT OVERHANGS
  - MECH/ELEC/PIPING 300 lb POINT LOAD AT ANY PANEL POINT (BTM CHORD)
  - NET WIND UPLIFT, TYPICAL JOIST 18 psf OUTWARD
  - ROOF OVERHANGS 27 psf OUTWARD
  - AXIAL TOP CHORD DRAG FORCE 2.1 k (ASD, TENSION AND COMPRESSION)
- LOADS INDICATED ABOVE ARE MINIMUM DESIGN LOADS AND SHALL NOT BE CONSTRUED TO BE ALL LOADS APPLICABLE TO THE DESIGN OF THE OPEN WEB METAL JOISTS. DEAD LOADS INFERRED BY THE DRAWINGS WHICH WOULD BE INCLUDED IN COMMON PRACTICE, INCLUDING EQUIPMENT LOADS AND CONSTRUCTION LOADS, SHALL BE INCLUDED IN THE DESIGN.
- VERIFY AND COORDINATE EQUIPMENT WEIGHTS, LOCATIONS, AND ATTACHMENT REQUIREMENTS PRIOR TO JOIST FABRICATION. EQUIPMENT SUPPLIER SHALL BE RESPONSIBLE FOR THE DESIGN OF THE VERTICAL AND LATERAL SUPPORT OF THEIR EQUIPMENT. JOIST MANUFACTURER SHALL PROVIDE ADDITIONAL DIAGONAL WEB MEMBERS AT CONCENTRATED LOAD LOCATIONS.
- WIND ANALYSIS FOR THE JOISTS SHALL USE THE PROVISIONS OF THE 2015 IBC AND ASCE 7-10 FOR COMPONENTS AND CLADDING.
- JOIST SIZES AND CHORD SIZES INDICATED ON THE PLANS ARE MINIMUM ONLY. DESIGN BY THE JOIST MANUFACTURER MAY RESULT IN A LARGER SIZE. JOISTS SHALL HAVE DOUBLE ANGLE CHORDS.
- PROVIDE CALCULATIONS, PRODUCT DATA, MATERIAL PROPERTIES, CONNECTION DETAILS, ETC. FOR ALL TYPES OF JOISTS. CALCULATIONS SHALL BE STAMPED AND SIGNED BY AN ENGINEER REGISTERED IN THE SAME STATE AS THE PROJECT.
- JOIST BRIDGING, BOTTOM CHORD BRACING, AND OTHER ACCESSORIES SHALL BE PER THE MANUFACTURER'S STANDARDS AND AS INDICATED ON THE DRAWINGS. BRACING SHALL EXTEND TO WALLS.
- JOIST ENDS SHALL BE DESIGNED WITH A SLOPED SEAT FOR THE LEVEL BEARING SURFACE.

ADHESIVE ANCHORS:

- THE ADHESIVE ANCHOR SYSTEM USED FOR POST-INSTALLED ANCHORAGE TO CONCRETE SHALL CONFORM TO THE REQUIREMENTS OF THE MOST RECENTLY PUBLISHED ACI 308.4, ACCEPTANCE CRITERIA FOR QUALIFICATION OF POST-INSTALLED ADHESIVE ANCHORS IN CONCRETE AND COMMENTARY. THE ANCHOR SYSTEM SHALL BE ONE OF THE FOLLOWING:
  - HILTI HIT-HY 200.
  - SIMPSON SET-XP.
- ADHESIVE ANCHORS SHALL BE SUPPLIED AS AN ENTIRE SYSTEM INCLUDING, BUT NOT LIMITED TO, THE NEW ADHESIVE CARTRIDGE, A CLEAN MIXING NOZZLE, EXTENSION TUBE, A DISPENSING GUN, AND ALL MANUFACTURER RECOMMENDED SUPPLIES FOR PROPERLY CLEANING THE DRILLED HOLE.
- ALL-THREAD ROD TO BE USED IN ADHESIVE ANCHOR ASSEMBLIES SHALL CONFORM TO ASTM A36, A193 (GR B7), A307, OR F1554. STAINLESS STEEL ANCHOR RODS SHALL BE TYPE 316. NUTS, WASHERS, AND OTHER HARDWARE USED WITH AN ALL-THREAD SHALL HAVE A MATERIAL OR ALLOY DESIGNATION THAT MATCHES THE ALL-THREAD MATERIAL / ALLOY.
- REINFORCING BARS SHALL BE ASTM A615 OR A706.
- CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2,500 PSI AT THE TIME OF ADHESIVE ANCHOR INSTALLATION. CONCRETE SHALL HAVE A MINIMUM AGE OF 21 DAYS AT THE TIME OF ADHESIVE ANCHOR INSTALLATION.
- CONCRETE TEMPERATURE AT THE TIME OF ADHESIVE ANCHOR INSTALLATION SHALL BE AT LEAST 50°F.
- EMBEDMENT DEPTH AND ANCHOR PROJECTION FROM THE CONCRETE SURFACE SHALL BE AS SHOWN ON THE DRAWINGS FOR THE PARTICULAR ANCHOR OR GROUP OF ANCHORS BEING INSTALLED. ABSENT ANY INFORMATION, THE MINIMUM EMBEDMENT DEPTH SHALL BE 12d WHERE "d" IS THE ANCHOR DIAMETER.
- ADHESIVE ANCHORS SHALL BE INSTALLED BY QUALIFIED PERSONNEL TRAINED TO INSTALL ADHESIVE ANCHORS IN ACCORDANCE WITH THE SPECIFICATIONS. POST-INSTALLED ADHESIVE ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS.
- INSTALLATION OF ADHESIVE ANCHORS HORIZONTALLY OR UPWARDLY INCLINED TO SUPPORT SUSTAINED TENSION LOADS SHALL BE PERFORMED BY PERSONNEL CERTIFIED BY ACI/CRSI ADHESIVE ANCHOR INSTALLER CERTIFICATION PROGRAM. THESE ANCHORS ARE DESIGNATED WITH A (CERT) AFTER THE ANCHOR CALL-OUT.
- THE INSTALLER'S QUALIFICATIONS SHALL BE SUBMITTED AND APPROVED IN ACCORDANCE WITH SECTION 05051 OF THE SPECIFICATIONS.
- WHEN DRILLING HOLES IN EXISTING CONCRETE, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS. MAINTAIN A REASONABLE CLEARANCE BETWEEN REINFORCEMENT AND THE DRILLED-IN ANCHOR.
- SPECIAL INSPECTION IS REQUIRED PER IBC SECTION 1705 AND THE REQUIREMENTS OF THE ICC REPORT. THE SPECIAL INSPECTOR MUST BE PERIODICALLY ON THE JOBSITE DURING ANCHOR INSTALLATION TO VERIFY ANCHOR TYPE, ANCHOR DIMENSIONS, HOLE CLEANLINESS, EMBEDMENT DEPTH, CONCRETE TYPE, DRILL BIT DIAMETER, HOLE DEPTH, EDGE DISTANCE, ANCHOR SPACING, AND CONCRETE THICKNESS.
- ADHESIVE ANCHORS INSTALLED IN HORIZONTAL OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS SHALL BE CONTINUOUSLY INSPECTED DURING INSTALLATION BY AN INSPECTOR SPECIALLY APPROVED FOR THAT PURPOSE BY THE BUILDING OFFICIAL.

EXPANSION ANCHORS:

- EXPANSION ANCHORS SHALL BE STAINLESS STEEL HILTI KWIK BOLT TZ OR SIMPSON STRONG-BOLT 2, UNLESS NOTED OTHERWISE. INSTALL ANCHORS IN CONFORMANCE WITH THE MANUFACTURER'S REQUIREMENTS AND ICC REPORT.
- SPECIAL INSPECTION IS REQUIRED PER IBC SECTION 1705 AND THE REQUIREMENTS OF THE ICC REPORT.
- CONTRACTOR SHALL VERIFY MINIMUM EDGE DISTANCES, SPACING AND THICKNESSES ARE IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS PRIOR TO INSTALLING ANCHORS.
- WHEN DRILLING HOLES IN EXISTING CONCRETE, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS. MAINTAIN A REASONABLE CLEARANCE BETWEEN REINFORCEMENT AND THE DRILLED-IN ANCHOR.
- THE SPECIAL INSPECTOR MUST BE PRESENT ON THE JOB SITE DURING ANCHOR INSTALLATION TO VERIFY ANCHOR TYPE, ANCHOR DIMENSIONS, HOLE CLEANLINESS, EMBEDMENT DEPTH, CONCRETE TYPE, DRILL BIT DIAMETER, HOLE DEPTH, EDGE DISTANCE, ANCHOR SPACING, AND CONCRETE THICKNESS.

DEFERRED SUBMITTALS:

- PER 2016 CBC 107.3.4.1 THE FOLLOWING ITEMS, DRAWINGS AND CALCULATIONS, SHALL BE STAMPED BY AN ENGINEER REGISTERED IN THE STATE OF THE PROJECT. ITEMS SHALL BE SUBMITTED TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE FOR REVIEW AND APPROVAL. THE CONTRACTOR SHALL NOT START FABRICATION OR ERECTION PRIOR TO REVIEW AND APPROVAL BY THE ENGINEER. THE CONTRACTOR SHALL INCLUDE IN HIS BID ALL TIME AND EFFORT REQUIRED TO OBTAIN THE FOLLOWING PREFABRICATED STRUCTURAL COMPONENTS:
  - PIPE SUPPORT SYSTEM
  - OPEN WEB STEEL JOISTS
  - BOLTED STEEL WATER STORAGE TANK
  - ANCHORAGE OF EQUIPMENT OVER 400 POUNDS

DESIGNED J KELLOGG	DRAWN J MARTIN	CHECKED S KADER	APPROVED S KADER
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PARADISE IRRIGATION DISTRICT ZONE A PUMP STATION AND TRANSMISSION MAIN PROJECT PARADISE, CA
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GENERAL STRUCTURAL NOTES CONTINUED	DATE DECEMBER 2022 PROJECT NUMBER 17-041 DRAWING NUMBER G-9 SHEET NUMBER 9
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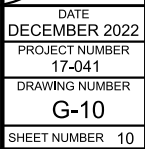
1. STRUCTURAL OBSERVATION SHALL BE IN ACCORDANCE WITH THE 2016 CBC SECTION 1704.6 TOGETHER WITH LOCAL AND STATE AMENDMENTS.
2. THE OWNER SHALL EMPLOY A REGISTERED DESIGN PROFESSIONAL TO PERFORM STRUCTURAL OBSERVATIONS FOR GENERAL CONFORMANCE TO THE APPROVED CONSTRUCTION DOCUMENTS. STRUCTURAL OBSERVATION DOES NOT WAIVE THE RESPONSIBILITY FOR ANY REQUIRED SPECIAL INSPECTIONS OR INSPECTIONS BY THE OWNER.
3. ONSITE STRUCTURAL OBSERVATION SHALL BE PERFORMED AT LEAST ONCE A MONTH, PLUS AT COMPLETION, FOR EACH SEISMIC FORCE OR WIND FORCE RESISTING SYSTEM IDENTIFIED, INCLUDING FOUNDATIONS AND CONNECTIONS.
4. AT THE CONCLUSION OF CONSTRUCTION, THE STRUCTURAL OBSERVER SHALL SUBMIT TO THE OWNER A WRITTEN STATEMENT THAT THE SITE VISITS HAVE BEEN MADE AND IDENTIFY ANY REPORTED DEFICIENCIES WHICH, TO THE BEST OF THE STRUCTURAL OBSERVER'S KNOWLEDGE, HAVE NOT BEEN RESOLVED.
5. STRUCTURAL OBSERVATION SHALL INCLUDE VISUAL OBSERVATION OF THE STRUCTURAL SYSTEM AT SIGNIFICANT CONSTRUCTION STAGES AND AT COMPLETION OF THE STRUCTURAL SYSTEM FOR EACH STRUCTURE CONTAINED IN THE WORK. THE CONTRACTOR SHALL SCHEDULE AND FACILITATE STRUCTURAL OBSERVATION INCLUDING THE FOLLOWING:
  - FOUNDATION REINFORCING STEEL, EMBEDS, AND SIMILAR ITEMS PRIOR TO CONCRETE PLACEMENT.
  - MASONRY WALL AND BEAM REINFORCING STEEL PRIOR TO GROUTING AND PRIOR TO CLOSING OF CLEANOUTS.
  - SYSTEM CONNECTION EMBEDS PRIOR TO GROUT OR CONCRETE PLACEMENTS.
  - CONCRETE WALL TO FLOOR AND ROOF CONNECTIONS PRIOR TO FORM CLOSURE OR OTHER COVER.
  - ROOF DECKING FASTENERS PRIOR TO ROOFING.
  - ALL OTHER WALL ANCHORAGE CONNECTIONS FOR MATERIALS NOT SPECIFICALLY IDENTIFIED ABOVE.

3. SPECIAL INSPECTION IS IN ADDITION TO THE INSPECTIONS REQUIRED BY SECTION 110 OF THE CBC. THE OWNER SHALL EMPLOY A SPECIAL INSPECTOR DURING CONSTRUCTION ON THE TYPES OF WORK INDICATED BELOW.
2. SPECIAL INSPECTIONS SHALL BE PERFORMED BY AN INDEPENDENT QUALIFIED PERSON WHO IS ACCEPTABLE TO THE ENGINEER AND OWNER. THE SPECIAL INSPECTOR SHALL OBSERVE THE INDICATED WORK FOR COMPLIANCE WITH THE APPROVED CONTRACT DOCUMENTS AND SUBMIT RECORDS OF INSPECTION.
3. INSPECTION RECORDS AND TESTING REPORTS SHALL BE SUBMITTED TO THE ENGINEER AND OWNER WITHIN ONE WEEK OF INSPECTION OR WITHIN ONE WEEK OF TEST COMPLETION.
4. AT THE CONCLUSION OF CONSTRUCTION, A FINAL REPORT DOCUMENTING REQUIRED SPECIAL INSPECTIONS AND CORRECTION OF DISCREPANCIES SHALL BE SUBMITTED.
5. PERIODIC SPECIAL INSPECTION IS DEFINED AS SPECIAL INSPECTION BY THE SPECIAL INSPECTOR WHO IS INTERMITTENTLY PRESENT WHERE THE WORK TO BE INSPECTED HAS BEEN OR IS BEING PERFORMED.
6. SPECIAL INSPECTION IS REQUIRED PER CHAPTER 17 OF THE IBC FOR THE FOLLOWING ITEMS:
  - SOILS (BY CONTRACTOR PER SPECIFICATION SECTION 02300)
  - CONCRETE CONSTRUCTION
  - MASONRY CONSTRUCTION
  - STEEL WELDING

REQUIRED VERIFICATION AND SPECIAL INSPECTION OF SOILS					
VERIFICATION AND INSPECTION		CONTINUOUS	PERIODIC	REFERENCED STANDARD	2016 CBC REFERENCE
1.	VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY	-	X	SECTION 02300 - EARTHWORK	1705.6, 1804
2.	VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL	-	X	SECTION 02300 - EARTHWORK	1705.6
3.	PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS	-	X	SECTION 02300 - EARTHWORK	1705.6
4.	VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL	X	-	SECTION 02300 - EARTHWORK	1705.6
5.	PRIOR TO PLACEMENT OF COMPACTED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY	-	X	SECTION 02300 - EARTHWORK	1705.6

REQUIRED SPECIAL INSPECTION OF CONCRETE CONSTRUCTION					
VERIFICATION AND INSPECTION		CONTINUOUS	PERIODIC	REFERENCED STANDARD	2016 CBC REFERENCE
1.	INSPECTION OF REINF STEEL AND PLACEMENT	-	X	ACI 318: Ch. 20, 25.2, 25.3, 26.6.1-26.6.3	1908.4
3.	INSPECTION OF ANCHORS CAST IN CONCRETE	-	X	ACI 318: 17.8.2	-
4.a.	INSPECTION OF ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS	X	-	ACI 318: 17.8.2.4	-
4.b.	INSPECTION OF MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 4.a.	-	X	ACI 318: 17.8.2	-
5.	VERIFYING USE OF REQUIRED DESIGN MIX	-	X	ACI 318: Ch. 19, 26.4.3, 26.4.4	1904.1, 1904.2, 1908.2, 1908.3
6.	PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	X	-	ASTM: C172, C31 ACI318: 26.4, 26.12	1908.10
7.	INSPECT CONCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES	X	-	ACI 318: 26.5	1908.6, 1908.7, 1908.8
8.	VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES	-	X	ACI 318: 26.5.3-26.5.5	1908.9
12.	INSPECTION FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED	-	X	ACI 318: 26.11.1.2(b)	-

REQUIRED SPECIAL INSPECTION OF MASONRY CONSTRUCTION, LEVEL C, RISK CATEGORY IV					
INSPECTION TASK		CONTINUOUS	PERIODIC	REFERENCE STANDARD: ACI 530/ASCE 5	REFERENCE STANDARD: ACI 530.1/ASCE 6
1.	VERIFY COMPLIANCE WITH THE APPROVED SUBMITTALS	-	X	-	Art. 1.5
2.	VERIFY THAT THE FOLLOWING ARE IN COMPLIANCE:				
2a.	PROPORTIONS OF SITE-PREPARED MORTAR AND GROUT	-	x	-	Art. 2.1, 2.6 A
2b.	GRADE, TYPE, AND SIZE OF REINF AND ANCHOR BOLTS	-	X	Sec. 1.16	Art. 2.4, 3.4
2c.	PLACEMENT OF MASONRY UNITS AND CONSTRUCTION OF MORTAR JOINTS	-	X	-	Art. 3.3 B
2d.	PLACEMENT OF REINF AND CONNECTORS	X	-	Sec. 1.16	Art. 3.2 E, 3.4, 3.6 A
2e.	GROUT SPACE PRIOR TO GROUTING	X	-	-	Art. 3.2 D, 3.2 F
2f.	PLACEMENT OF GROUT	X	-	-	Art. 3.5
2g.	SIZE AND LOCATION OF STRUCTURAL ELEMENTS	-	X	-	Art. 3.3 F
2h.	TYPE, SIZE AND LOCATION OF ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES OR OTHER CONSTRUCTION	X	-	Sec. 1.16.4.3, 1.17.1	-
2j.	PREPARATION, CONSTRUCTION, AND PROTECTION OF MASONRY DURING COLD WEATHER OR HOT WEATHER	-	X	-	Art. 1.8 C, 1.8 D
3.	OBSERVE PREPARATION OF GROUT SPECIMENS, MORTAR SPECIMENS, AND/OR PRISMS	X	-	-	Art. 1.4 B.2 a.3, 1.4 B.2 b.3, 1.4 B.2 c.3, 1.4 B.3, 1.4 B.4
REQUIRED MINIMUM TESTS:					
1.	VERIFICATION OF $f_m$ PRIOR TO CONSTRUCTION	-	X	-	Art. 1.4 B
2.	VERIFICATION OF PROPORTIONS OF MATERIALS IN PREMIXED OR PREBLENDED MORTAR, GROUT, AND GROUT OTHER THAN SELF-CONSOLIDATING GROUT AS DELIVERED TO THE PROJECT SITE				



1			2			3			4			5			6											
PIPE AND FITTING SYMBOLS						PIPE AND FITTING SYMBOLS (CONTINUED)						FLOW METERS						PIPING DESIGNATIONS								
DOUBLE LINE			SINGLE LINE			DOUBLE LINE			SINGLE LINE			DOUBLE LINE			SINGLE LINE			DOUBLE LINE			SINGLE LINE					

ELECTRICAL SYMBOLS

ABBREVIATIONS

	FIXTURE IDENTIFICATION (REFER TO LIGHTING FIXTURE SCHEDULE) NUMBER OF FIXTURES IN THIS GROUP
	CEILING-MOUNTED FIXTURE
	WALL-MOUNTED FIXTURE
	POLE-MOUNTED FIXTURE
	SINGLE FACE EXIT SIGN - FILLED IN PORTION OF SYMBOL REPRESENTS THE FACE OF THE EXIT SIGN - ARROW INDICATES THE DIRECTION OF EGRESS
	DOUBLE FACED EXIT SIGN - FILLED IN PORTION OF SYMBOL REPRESENTS THE FACE OF THE EXIT SIGN - ARROW INDICATES THE DIRECTION OF EGRESS
	EMERGENCY LIGHT
	LINEAR FIXTURE, LENSED
	CONTINUOUS ROW LINEAR FIXTURES, LENSED
	LINEAR FIXTURE, OPEN STRIP
	CONTINUOUS ROW LINEAR FIXTURES, OPEN STRIP
	SMALL LETTER SUBSCRIPT ON SWITCH & FIXTURE INDICATES SWITCHING
	WALL SWITCH (SINGLE POLE)
	DIMMER
	SPEED
	TWO-POLE SWITCH
	THREE-WAY SWITCH
	FOUR-WAY SWITCH
	MANUAL MOTOR STARTER
	GROUPED WALL SWITCHES, WIRING AS REQUIRED
	DUPLEX CONVENIENCE RECEPTACLE
	QUADPLEX CONVENIENCE RECEPTACLE
	CONNECTION POINT
	SPECIAL PURPOSE RECEPTACLE
	JUNCTION BOX
	FAN
	TELEPHONE OUTLET
	SAFETY SWITCH, THREE-POLE, NEMA 1 ENCLOSURE F INDICATES FUSED DISCONNECT B INDICATES CIRCUIT BREAKER
	GENERATOR
	MOTOR, HORSEPOWER INDICATED F INDICATES FRACTIONAL HORSEPOWER
	SOLENOID
	THERMOSTAT
	ROOM NUMBER

	MOTOR CONTROLLER
	COMBINATION MOTOR CONTROLLER (CIRCUIT BREAKER TYPE UNLESS NOTED OTHERWISE)
	ADJUSTABLE SPEED MOTOR CONTROLLER
	CONTROL STATION
	PULLBOX
	5-15 NEMA CONFIGURED PLUG
	SECTION OR DETAIL DESIGNATION (LETTER DESIGNATES SECTION, NUMBER DESIGNATES DETAIL) SHEET WHERE SECTION OR DETAIL IS TAKEN OR SHOWN
	CONDUIT EXPOSED
	CONDUIT EMBEDDED OR BURIED
	CONDUIT CONCEALED
	BOUNDARY LINE
	CONCRETE ENCASED DUCT BANK
	HOMERUN - DESTINATION & CIRCUIT INDICATED LEADER SHOWS CONDUIT & CONDUCTOR SIZE
	CROSSHATCHES ON CONDUIT RUNS INDICATE NUMBER OF AWG #12 WIRES
	CROSSHATCHES WITH BARS INDICATE NUMBER OF AWG #10 WIRES
	SUBSCRIPT "G" INDICATES GREEN GROUND WIRE
	CONDUIT, STUBBED & CAPPED
	CONDUIT, STUBBED UP & CAPPED
	CONDUIT, UP
	CONDUIT, DOWN
	CONDUIT UP, INTO EQUIPMENT
	WATT-HOUR METER
	SWITCH
	AMMETER
	VOLTMETER
	CURRENT TRANSFORMER
	CAPACITOR
	SURGE CAPACITOR
	GROUND
	STARTER & SIZE
	OVERLOAD E = ELECTRONIC OVERLOAD
	FUSE
	SAFETY SWITCH (DISCONNECT SWITCH)
	TRANSIENT VOLTAGE SURGE SUPPRESSOR WITH SURGE CURRENT RATING SHOWN

	TRANSFORMER (ONE-LINE)
	TRANSFORMER (CONTROL DIAGRAM)
	CIRCUIT BREAKER & SIZE, THREE-POLE UNLESS NOTED OTHERWISE /M = MAGNETIC ONLY TRIP /2 = 2 POLE [272T] = 272 AMP MAGNETIC TRIP SETTING
	CONTROL RELAY COIL
	CONTACT - NORMALLY CLOSED
	CONTACT - NORMALLY OPEN
	TIME DELAY RELAY COIL TDDO = TIME DELAY ON DROPOUT TDPU = TIME DELAY ON PICKUP
	TIME DELAY RELAY CONTACT TO = TIME OPENING TC = TIME CLOSING
	SELECTOR SWITCH MECHANICAL POSITIONS
	CONTACTS SHOWN ARE CLOSED IN POSITION NOTED
	PUSHBUTTON - NORMALLY OPEN
	PUSHBUTTON - NORMALLY CLOSED
	FLOW SWITCH, CLOSSES ON INCREASE IN FLOW
	FLOW SWITCH, OPENS ON INCREASE IN FLOW
	LIQUID LEVEL SWITCH, CLOSSES ON RISING LEVEL
	LIQUID LEVEL SWITCH, OPENS ON RISING LEVEL
	PRESSURE OR VACUUM SWITCH, CLOSSES ON RISING PRESSURE
	PRESSURE OR VACUUM SWITCH, OPENS ON RISING PRESSURE
	TEMPERATURE SWITCH, CLOSSES ON RISING TEMPERATURE
	TEMPERATURE SWITCH, OPENS ON RISING TEMPERATURE

	LIMIT SWITCH - HIGH OPEN
	LIMIT SWITCH - NORMALLY CLOSED
	LIMIT SWITCH - HIGH CLOSED
	LIMIT SWITCH - NORMALLY OPEN
	INDICATES PUSH TO TEST
	INDICATING LIGHT (COLOR INDICATED) A=AMBER B=BLUE G=GREEN R=RED W=WHITE
	EYS CONDUIT SEAL
	CORE DRILL
	PHOTOCELL
	POWER POLE
	GROUND ROD
	LAN
	ELAPSED TIME METER
	HEATER
	RESISTOR

A	AMP(S)
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AIC	AMPS INTERRUPTING CAPACITY
AL	ALUMINUM
ANN	ANNUNCIATOR
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BC	BYPASS CONTACTOR
C	CONDUIT
CB	CIRCUIT BREAKER
CBC	CALIFORNIA BUILDING CODE
CC	CONTROL CABLE
CP	CONTROL PANEL
CPB	CONCRETE PULLBOX
CR	CORROSION RESISTANT
CU	COPPER
DC	DIRECT CURRENT
EMT	ELECTRICAL METALLIC TUBING
EXST	EXISTING
G	GROUND
GFCI	GROUND FAULT CIRCUIT INTERRUPTER (PERSONNEL)
GFP	GROUND FAULT PROTECTION (EQUIPMENT)
GFR	GROUND FAULT RELAY
GRS	GALVANIZED RIGID STEEL CONDUIT
HH	HANDHOLE
HP	HORSEPOWER
HZ	HERTZ
IC	INTERRUPTING CAPACITY
IMC	INTERMEDIATE METAL CONDUIT
KCMIL	THOUSAND CIRCULAR MILS
KVA	KILOVOLT-AMPS
KW	KILOWATT
LA	LIGHTING ARRESTOR
LCP	LIGHTING CONTROL PANEL
MAN	MANUAL
MAX	MAXIMUM
MCC	MOTOR CONTROL CENTER, MULTI CONDUCTOR CABLE
MH	MANHOLE
MIN	MINIMUM
MTS	MANUAL TRANSFER SWITCH
N	NEUTRAL
NA	NONAUTOMATIC
NEC	NATIONAL ELECTRICAL CODE
NTS	NOT TO SCALE
OFE	OWNER FURNISHED EQUIPMENT
OL	OVERLOAD
PB	PULLBOX
PC	PHOTOCELL
PCMC	PUMP CONTROL MOTOR CONTROLLER
PLC	PROGRAMMABLE LOGIC CONTROLLER
PNL	PANEL, PANELBOARD
POE	POWER OVER ETHERNET
PS	PRESSURE SWITCH
PVC	POLYVINYL CHLORIDE CONDUIT
RECEPT	RECEPTACLE
SMC	SMART MOTOR CONTROLLER
SP	SPARE
SPD	SURGE PROTECTION DEVICE
SST	STAINLESS STEEL
SWGR	SWITCHGEAR
TB	TERMINAL BOARD
THHN	THERMOPLASTIC HIGH HEAT RESISTANT NYLON COATED
TJB	TERMINAL JUNCTION BOX
TL	TWISTLOCK
TS	TEMPERATURE SWITCH
TSP	TWISTED SHIELDED PAIR
TST	TWISTED SHIELDED TRIAD
TWST	TREATED WATER STORAGE TANK
TYP	TYPICAL
UBC	UNIVERSAL BUILDING CODE
UPS	UNINTERRUPTABLE POWER SUPPLY
UH	UNIT HEATER
V	VOLT(S)
WP	WEATHERPROOF
WT	WATERTIGHT (NEMA 4)
XFMR	TRANSFORMER
ZS	POSITION SWITCH (LIMIT SWITCH)

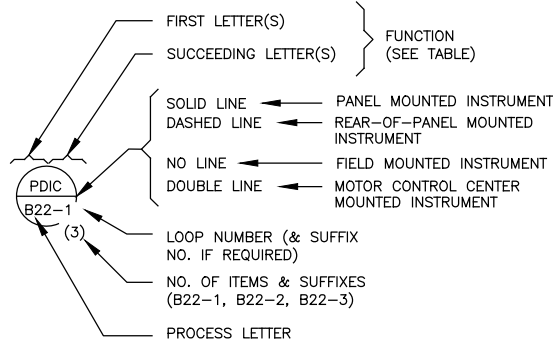
NOTES:

1. THIS IS A STANDARD LEGEND SHEET. THEREFORE, SOME SYMBOLS OR ABBREVIATIONS MAY APPEAR ON THIS SHEET AND NOT ON THE PLANS.



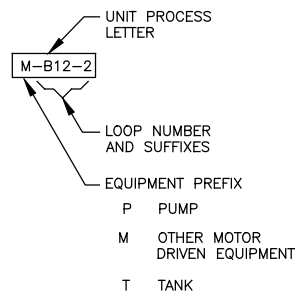
DESIGN B. REID	DRAWN R. OLIVER	CHECKED D. MC HANEY	APPROVED
<b>WATERWORKS ENGINEERS</b> 1405 Vida Avenue, Suite A • Redding, CA 96003 • 530-243-2113			
PARADISE IRRIGATION DISTRICT ZONE A PUMP STATION AND TRANSMISSION MAIN PROJECT PARADISE, CALIFORNIA			
ELECTRICAL ELECTRICAL LEGEND, ABBREVIATIONS, AND NOTES			
DATE DECEMBER 2022			
PROJECT NUMBER 17-041			
DRAWING NUMBER G-12			
SHEET NUMBER 12			

## INSTRUMENT IDENTIFICATION



TAG NO. CONSISTS OF FUNCTION IDENTIFICATION & LOOP NO. EXAMPLE: PDIC B22-3

## EQUIPMENT IDENTIFICATION



## ABBREVIATIONS

316SST TYPE 316 STAINLESS STEEL

ATM ATMOSPHERE

CP CONTROL PANEL

CS CONTROL STATION

EXST, (E) EXISTING

FP FIELD PANEL

MCC MOTOR CONTROL CENTER

O/C OPEN/CLOSE(D)

OIP OPERATOR INTERFACE PANEL

PC PHOTOCCELL

PLC PROGRAMMABLE LOGIC CONTROLLER

TWST TREATED WATER STORAGE TANK

TYP TYPICAL

VFD VARIABLE FREQUENCY DRIVE

UPS UNINTERRUPTIBLE POWER SUPPLY

## TRANSDUCER

A = ANALOG

I = CURRENT

P = PNEUMATIC

PD = PULSE DURATION

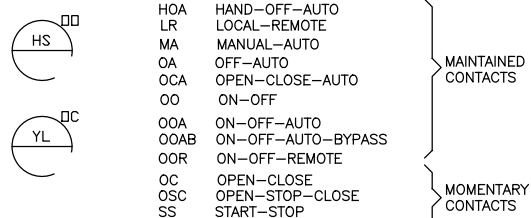
PF = PULSE FREQUENCY

V = VOLTAGE

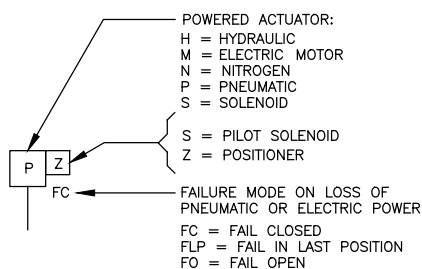
CURRENT TO PNEUMATIC TRANSDUCER (BACK OF PANEL IN A FLOW LOOP)

FY 82

## HAND SWITCHES AND INDICATING LIGHTS



## ACTUATOR



## THE INTERNATIONAL SOCIETY OF AUTOMATION

BASED ON ANSI/ISA-5.1-2009, TABLE 4.1

LETTER	SUCCEEDING LETTERS				
	MEASURED OR INITIATING VARIABLE	VARIABLE MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT OR ACTIVE FUNCTION	FUNCTION MODIFIER
A	ANALYSIS		ALARM		
B	BURNER, COMBUSTION		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
C	USER'S CHOICE			CONTROL	CLOSE
D	USER'S CHOICE	DIFFERENCE, DIFFERENTIAL			DEVIATION
E	VOLTAGE		SENSOR, PRIMARY ELEMENT		
F	FLOW, FLOW RATE	RATIO (FRAC)			
G	GAS DETECTION		GLASS, GAUGE, VIEWING DEVICE		
H	HAND (MANUAL)				HIGH
I	CURRENT (ELECTRICAL)		INDICATE		
J	POWER		SCAN		
K	TIME, SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION	
L	LEVEL		LIGHT (INDICATING)		LOW
M	USER'S CHOICE				MIDDLE, INTERMEDIATE
N	USER'S CHOICE		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
O	USER'S CHOICE		ORIFICE, RESTRICTION		OPEN
P	PRESSURE (OR VACUUM)		POINT (TEST CONNECTION)		
Q	QUANTITY	INTEGRATE, TOTALIZE	INTEGRATE, TOTALIZE		
R	RADIATION		RECORD		RUN
S	SPEED, FREQUENCY	SAFETY		SWITCH	STOP
T	TEMPERATURE			TRANSMIT	
U	MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION	
V	VIBRATION, MECHANICAL ANALYSIS			VALVE, DAMPER, LOUVER	
W	WEIGHT, FORCE		WELL, PROBE		
X	UNCLASSIFIED	X-AXIS	ACCESSORY DEVICES, UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED
Y	EVENT, STATE, OR PRESENCE	Y-AXIS		AUXILIARY DEVICES	
Z	POSITION, DIMENSION	Z-AXIS, SAFETY INSTRUMENTED SYSTEM		DRIVER, ACTUATOR, OR UNCLASSIFIED FINAL CONTROL ELEMENT	

## FLOW STREAM IDENTIFICATION

AA AGITATION AIR

AL AIR

ALS ALUM SOLUTION

BD BLOWDOWN STREAM

BIS SODIUM BISULFITE SOLUTION

BWW BACKWASH WASTE

CD CHEMICAL DRAIN

CGS COAGULANT SOLUTION

CLS CHLORINE SOLUTION

CS CIRCULATING SLUDGE

CTE CHLORINATED TERTIARY EFFLUENT

D DRAIN

DCW DOMESTIC COLD WATER

DD DIGESTED DECANT

DHW DOMESTIC HOT WATER

DR DRAIN

DS DIGESTED SLUDGE

DWS DEWATERED SLUDGE

EQE EQUALIZATION TANK EFFLUENT

FA FOUL AIR

FBW FILTER BACKWASH

FI FILTER INFLUENT

FE FILTER EFFLUENT

FW FINISHED (FILTERED) WATER

G GRIT

HPCL HYPOCHLORITE SOLUTION

IA INSTRUMENT AIR

IAS INSTRUMENT AIR SUPPLY

ML MIXED LIQUOR

OF OVERFLOW

PAS PLANT AIR SUPPLY

PD PUMPED DRAIN

PLD PLANT DRAIN

PE PRIMARY EFFLUENT

PI PRIMARY INFLUENT

POS POLYMER SOLUTION

PS PRIMARY SLUDGE

PW PROCESS WATER (PROTECTED DOMESTIC)

RAS RETURN ACTIVATED SLUDGE

RCW RECYCLED WATER

RS RAW SEWAGE

RW RECLAIMED WATER

SA SERVICE AIR

SAM SAMPLE

SC SCREENINGS

SD SANITARY DRAIN

SE SECONDARY EFFLUENT

SF SLUDGE FILTRATE

SH SODIUM HYPOCHLORITE

SS SECONDARY SCUM

SW SERVICE WATER (CHLORINATED EFFLUENT)

SWD STORM WATER DRAIN

TD TANK DRAIN

TE TERTIARY EFFLUENT (UNCHLORINATED)

TS THICKENED SLUDGE

TW TREATED WATER

UD UNDERDRAIN

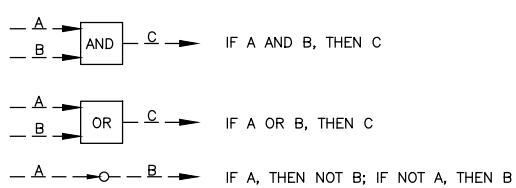
UW UTILITY WATER

VP VENT PIPE

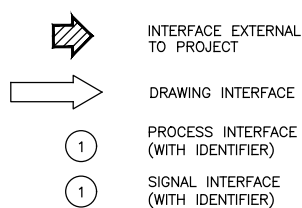
WAS WASTE ACTIVATED SLUDGE

W1 POTABLE WATER

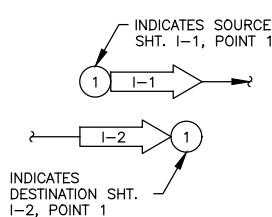
## LOGIC ELEMENTS



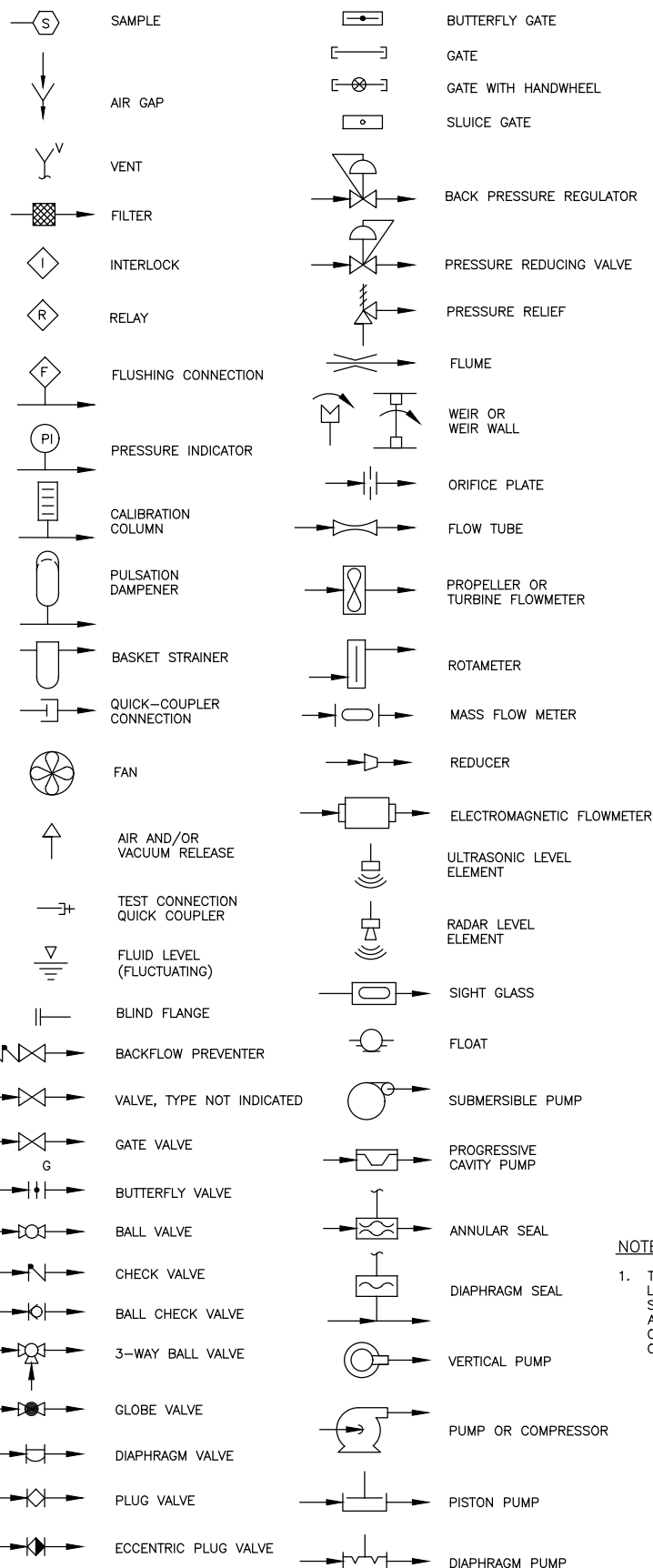
## INTERFACE SYMBOLS



## EXAMPLES:



## SYMBOLS



## NOTES:

1. THIS IS A STANDARD LEGEND. THEREFORE, SOME SYMBOLS AND ABBREVIATIONS MAY APPEAR ON THIS LEGEND AND NOT ON THE PLANS.



WATERWORKS ENGINEERS

1405 Vidar Avenue, Suite A • Redding, CA 96003 • 530-243-2113

PARADISE IRRIGATION DISTRICT

ZONE A PUMP STATION AND TRANSMISSION MAIN PROJECT

PARADISE, CALIFORNIA

INSTRUMENTATION

INSTRUMENTATION LEGEND, ABBREVIATIONS, AND NOTES

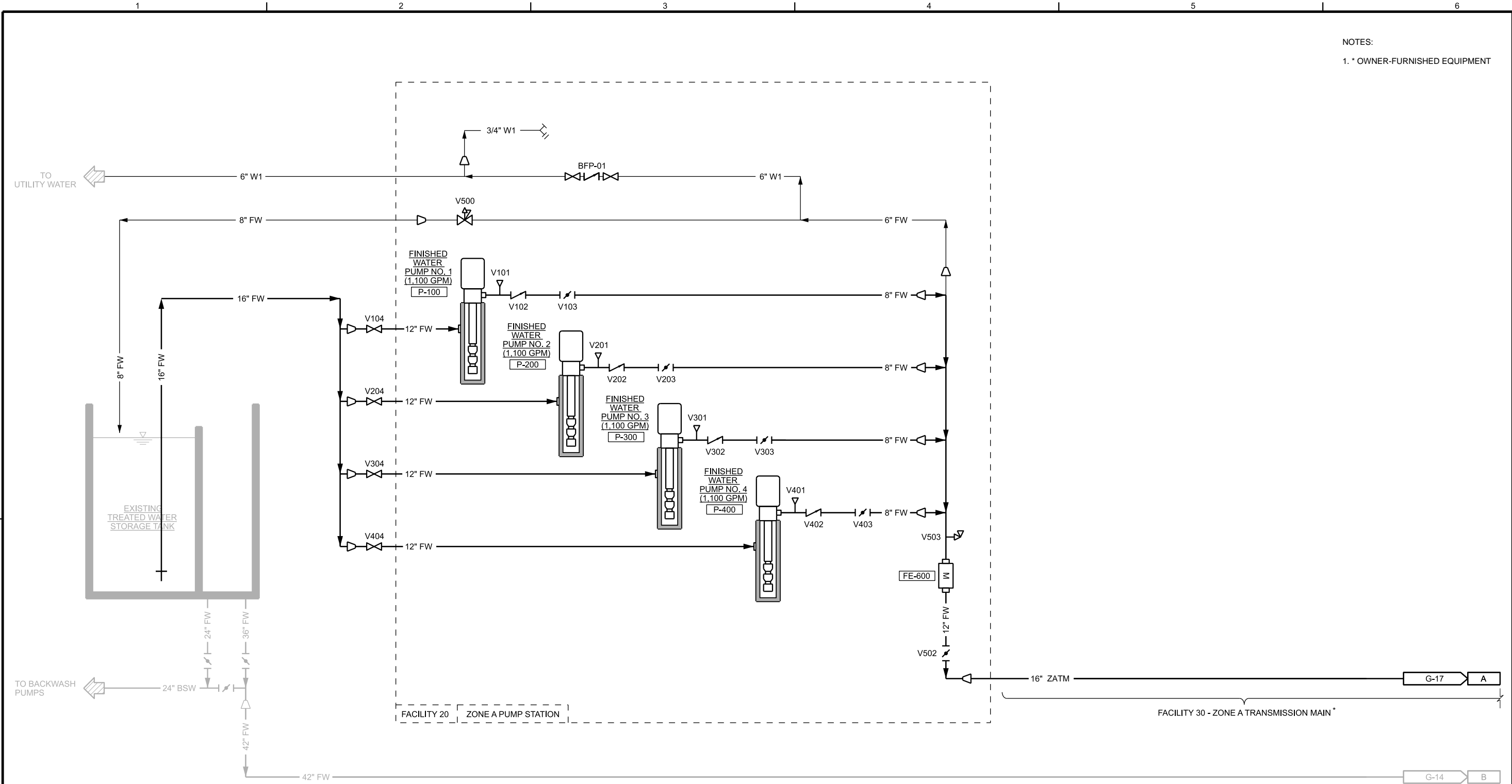
DATE DECEMBER 2022

PROJECT NUMBER 17-041

DRAWING NUMBER G-13

SHEET NUMBER 13





NOTES:  
1. \* OWNER-FURNISHED EQUIPMENT

DESIGNED	S. MAGLADRY
DRAWN	B. TROTTER
CHECKED	S. KADER
APPROVED	S. KADER



**WATERWORKS  
ENGINEERS**  
1405 Victor Avenue, Suite A • Reading, CA 96003 • 530-245-2113

PARADISE IRRIGATION DISTRICT  
ZONE A PUMP STATION  
AND TRANSMISSION MAIN PROJECT  
PARADISE, CA

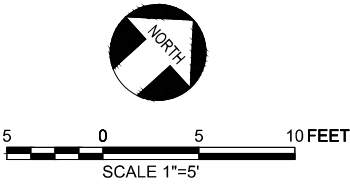
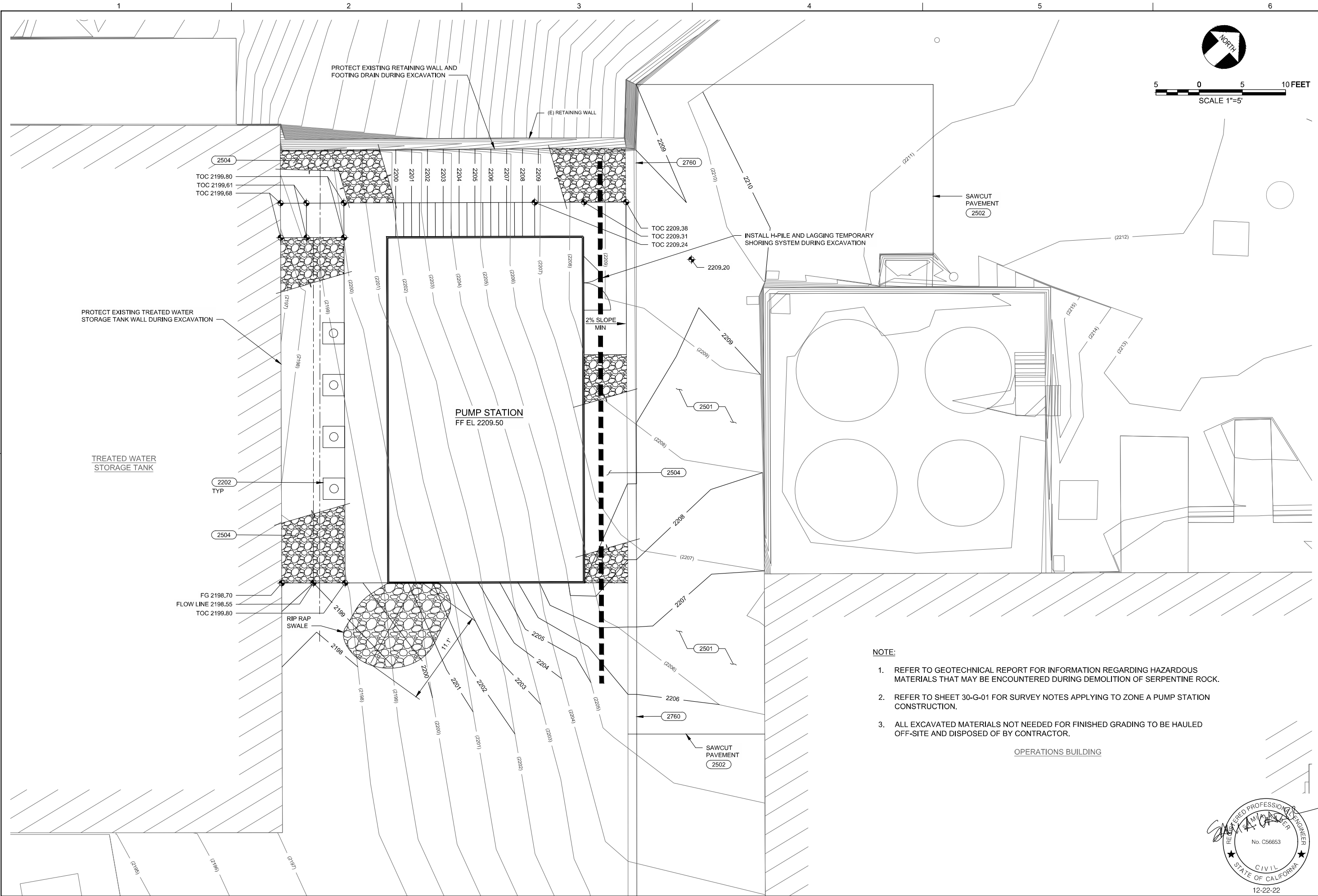
GENERAL  
PROCESS FLOW DIAGRAM  
ZONE A PUMP STATION



DATE	DECEMBER 2022
PROJECT NUMBER	17-041
DRAWING NUMBER	G-15
SHEET NUMBER	15

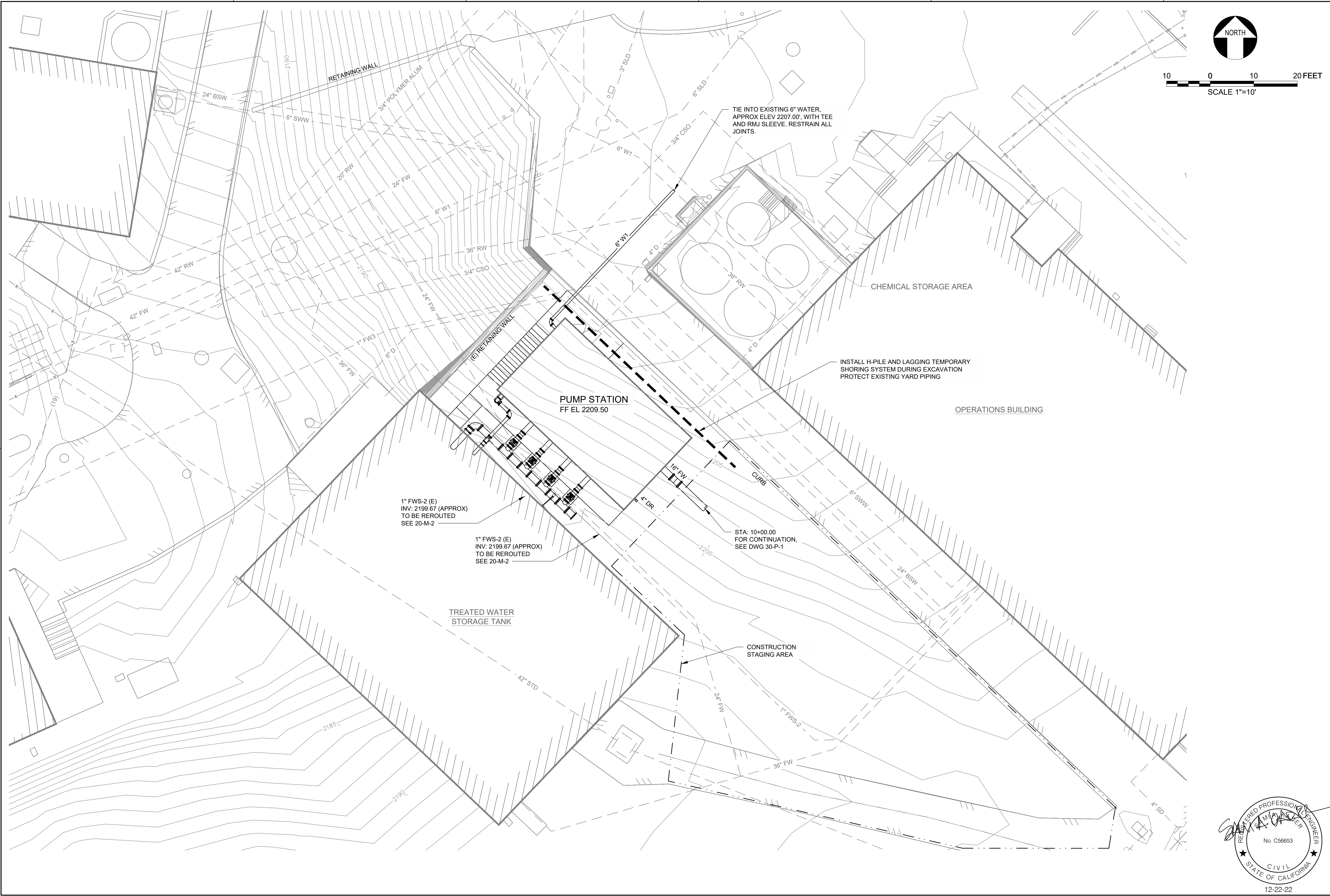



L:\CAD\PROJECTS\17-041 PARADISE ID RES B REPLACEMENT\_(S)\X\OBsolete PROJECT FILES\DELIVERABLES\1741D-20C\100.DWG



DESIGN S MAGLADRY	DRAWN B TROTTER	CHECKED S KADER	APPROVED S KADER
<b>WATERWORKS</b> ENGINEERS			
PARADISE IRRIGATION DISTRICT ZONE A PUMP STATION AND TRANSMISSION MAIN PROJECT PARADISE, CALIFORNIA			
CIVIL <b>FACILITY 20</b> <b>GRADING PLAN</b>			
DATE DECEMBER 2022			
PROJECT NUMBER 17-041			
DRAWING NUMBER 20-C-1			
SHEET NUMBER 17			

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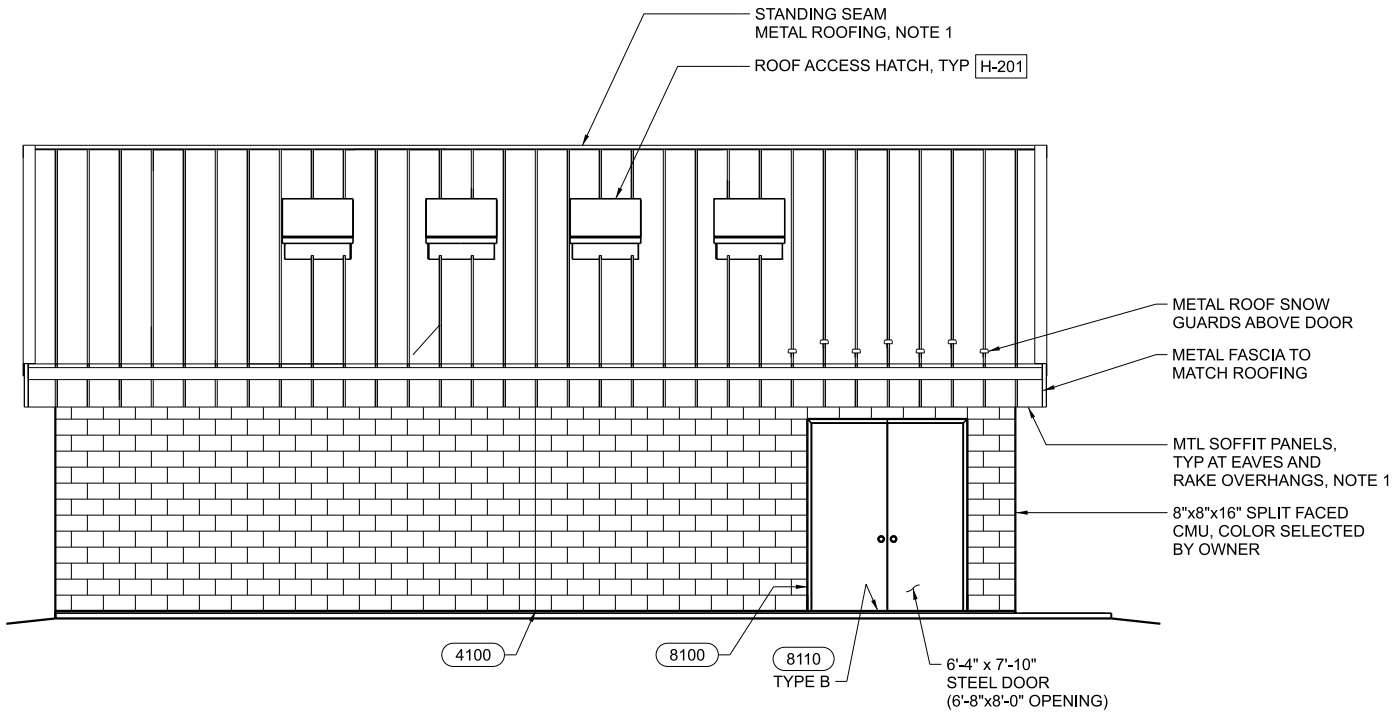


DESIGN S MAGLADRY		PARADISE IRRIGATION DISTRICT ZONE A PUMP STATION AND TRANSMISSION MAIN PROJECT PARADISE, CALIFORNIA	YARD PIPING YARD PIPING	DATE DECEMBER 2022
DRAWN B STUTCHMAN				PROJECT NUMBER 17-041
CHECKED S KADER				DRAWING NUMBER 20-Y-1
APPROVED S KADER				SHEET NUMBER 18

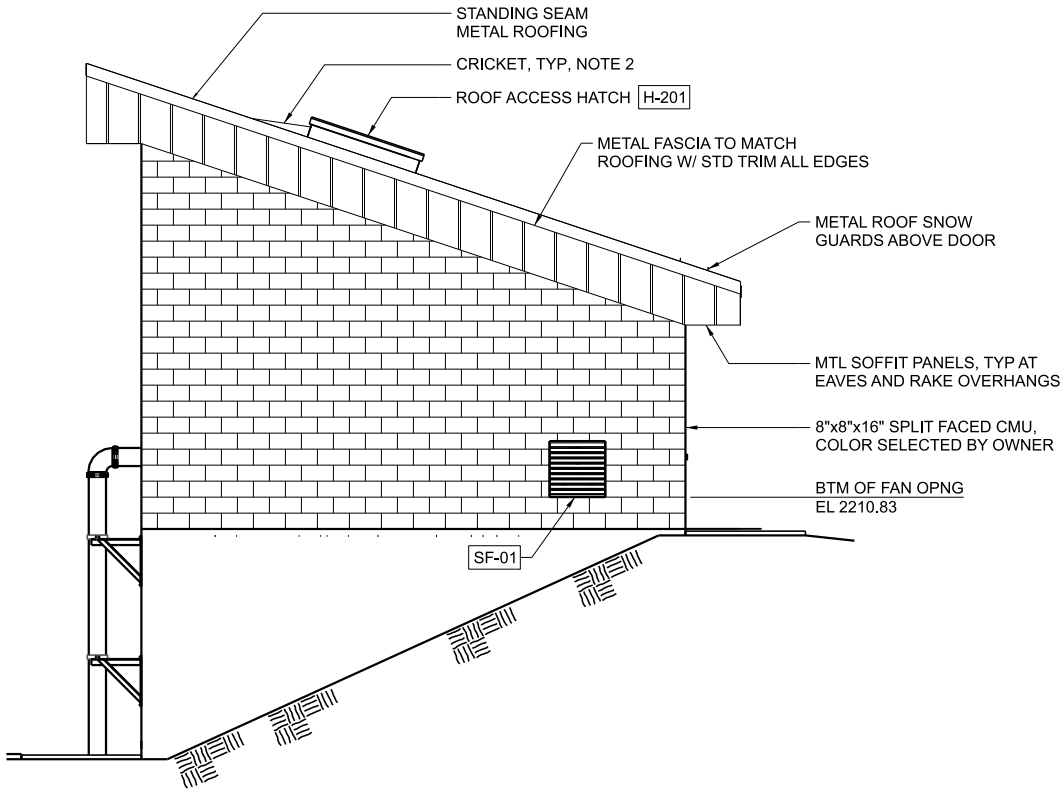
NOTES:

1. ALL DOORS, ROOFING, SOFFITS, GUTTERS AND DOWNSPOUTS SHALL BE MATCHING COLORS SELECTED BY THE OWNER.
2. FABRICATED GALVANIZED SHEET METAL CRICKET, 11-GAGE MINIMUM. COORDINATE CRICKET WITH CURB COUNTER FLASHING AND ROOFING FOR A COMPLETE WEATHER TIGHT INSTALLATION, SEE (7000) .

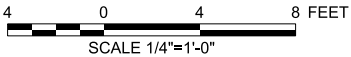
BUILDING CODE ANALYSIS	
BUILDING CODE	2016 CBC
OCCUPANCY CLASSIFICATION	F-2
HAZARDOUS MATERIALS	NONE
OCCUPANCY SEPERATION	N.A.
TYPE OF CONSTRUCION	V-B
NUMBER OF STORIES ABOVE GRADE	1 ACTUAL 2 ALLOWABLE
BUILDING HEIGHT ABOVE GRADE	28'-8" ACTUAL MAXIMUM 40'-0" ALLOWABLE
BUILDING AREA	829 SF ACTUAL FLOOR AREA 13,000 SF ALLOWABLE W/O MODIFICATIONS
FIRE SUPPRESSION	FIRE EXTINGUISHER
FIRE SEPERATION DISTANCE	12 FT TO EXISTING TWST
FIRE RESISTANCE RATING	BEARING WALLS AND STRUCTURAL FRAME: 1 HOUR REQUIRED 4 HOUR PROVIDED
OCCUPANT LOAD FACTOR	100 SF/PERSON
OCCUPANT LOAD	8 PERSONS



**NORTH ELEVATION**  
1/4" = 1'-0"  
20-AS-3



**EAST ELEVATION**  
1/4" = 1'-0"  
20-AS-3



DATE  
DECEMBER 2022  
PROJECT NUMBER  
17-041  
DRAWING NUMBER  
20-AS-1  
SHEET NUMBER 19

1

2

3

4

5

6

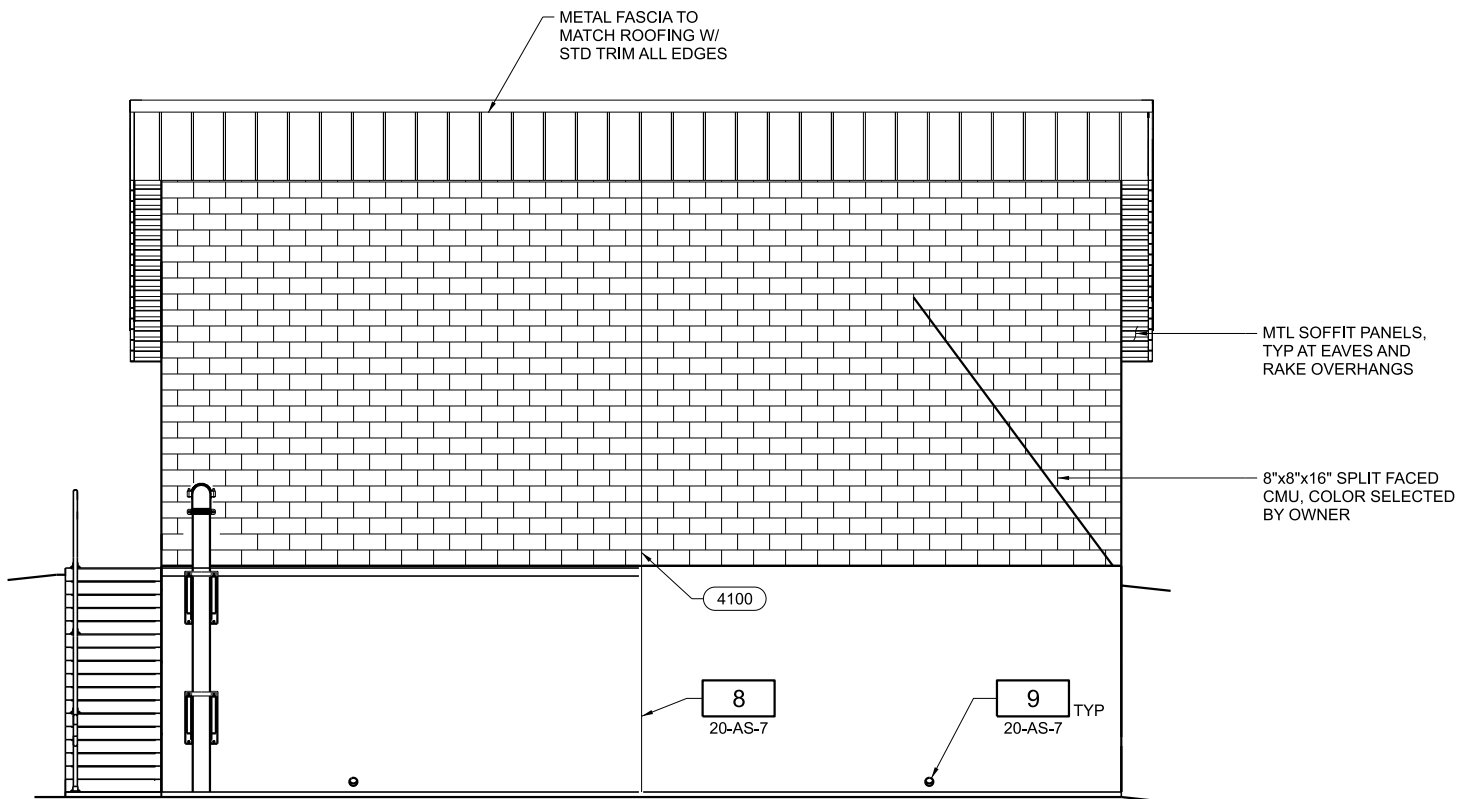
DESIGNED  
J KELLOGG  
DRAWN  
B TROTTER  
CHECKED  
S KADER  
APPROVED  
S KADER



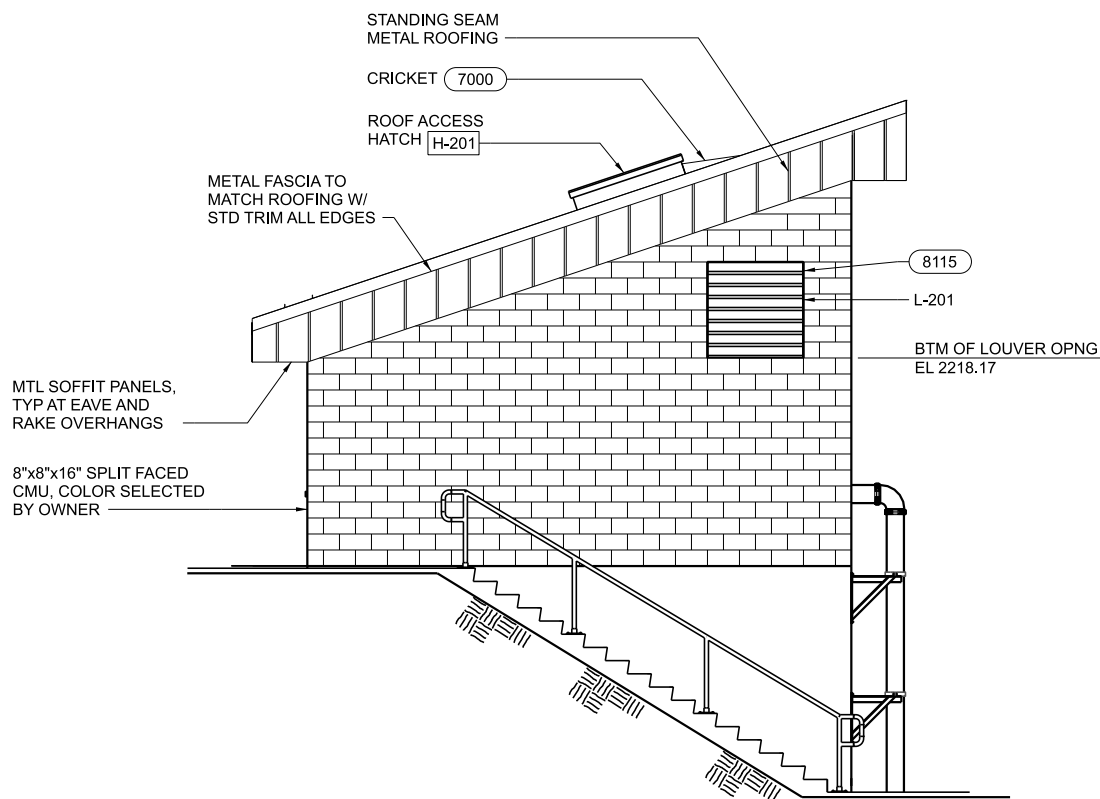
PARADISE IRRIGATION DISTRICT  
ZONE A PUMP STATION  
AND TRANSMISSION MAIN PROJECT  
PARADISE, CA

ARCHITECTURAL / STRUCTURAL  
FACILITY 20  
SOUTH / WEST ELEVATIONS

DATE  
DECEMBER 2022  
PROJECT NUMBER  
17-041  
DRAWING NUMBER  
20-AS-2  
SHEET NUMBER 20



**SOUTH ELEVATION**  
1/4" = 1'-0"  
20-AS-3



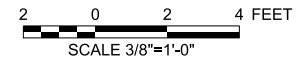
**WEST ELEVATION**  
1/4" = 1'-0"  
20-AS-3

4 0 4 8 FEET  
SCALE 1/4"=1'-0"





3/8" = 1'-0"



DATE	DECEMBER 2022
PROJECT NUMBER	17-041
DRAWING NUMBER	20-AS-3
SHEET NUMBER	21

FILENAME: 1741D-20AS100.dgn PLOT DATE: 8/1/2018 8:49:24 AM

J KELLOGG
DRAWN B TROTTER
CHECKED S KADER
APPROVED S KADER



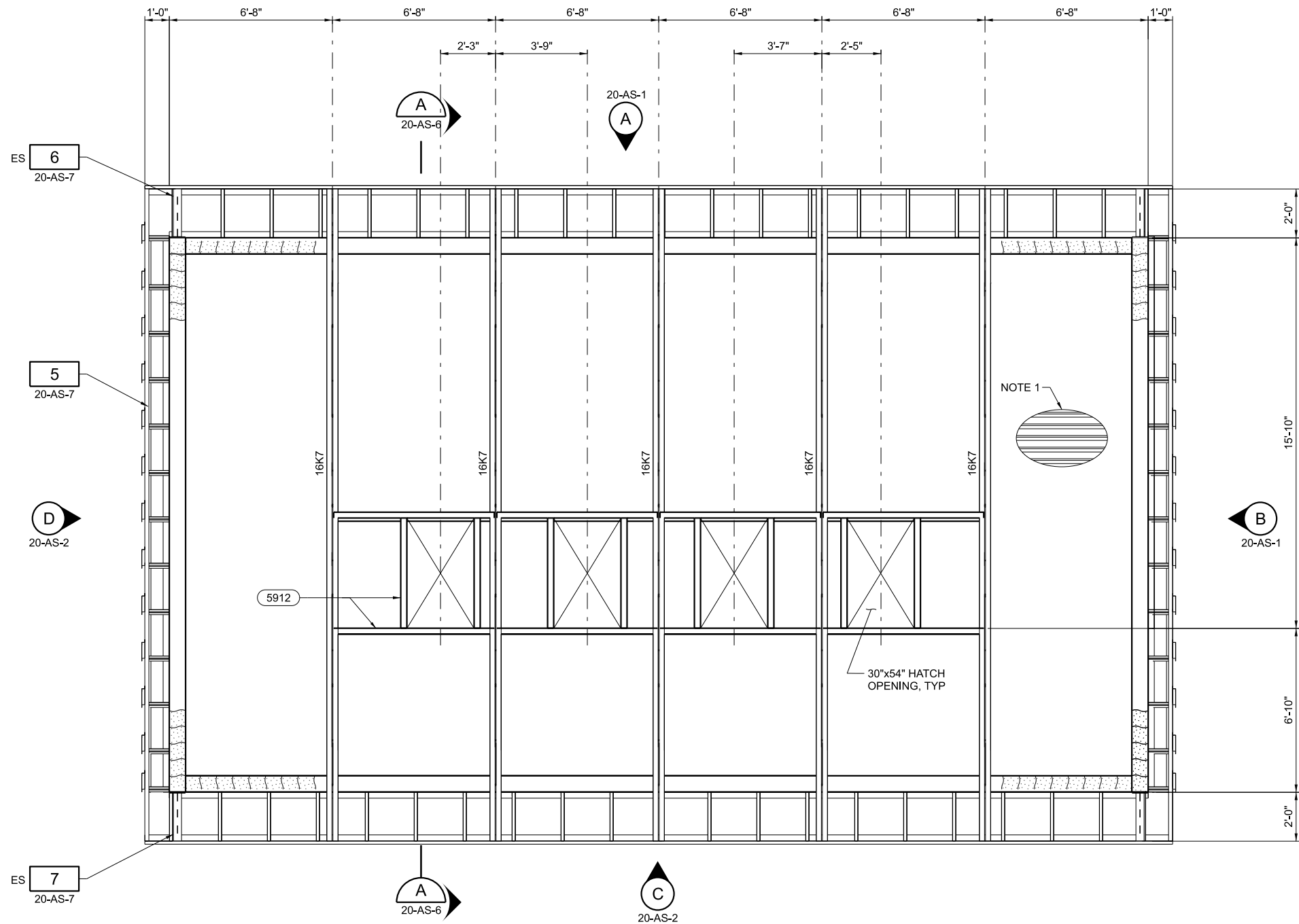
# WATERWORKS ENGINEERS



PARADISE IRRIGATION DISTRICT  
ZONE A PUMP STATION  
AND TRANSMISSION MAIN PROJECT  
PARADISE, CA

ARCHITECTURAL / STRUCTURAL  
FACILITY 20  
FOUNDATION PLAN





PLAN  
3/8" = 1'-0"

NOTES:

- 20 GA B36 MTL DECK 2 SPAN MIN. DECK SHALL BE ATTACHED TO ALL SUPPORTS PER (5914).
- JOINTS SHALL BE K SERIES OPEN WEB STEEL JOISTS.
- JOISTS SHALL BE DESIGNED FOR LOADS AS FOLLOWS: DL = 15 PSF, ROOF SL = 38 PSF, NET UPLIFT = 18 PSF, MAX AXIAL FORCE = 2.1 K APPLIED TO TOP CHORD OF JOIST (ASD).
- ENGINEER SHALL REVIEW AND APPROVE THE JOIST SUBMITTAL PRIOR TO FABRICATION.
- JOIST CALCULATIONS SHALL BE SIGNED AND SEALED BY A CA LICENSED CIVIL OR STRUCTURAL ENGINEER.
- JOIST SHALL CARRY THE DESIGNATIONS AND MEET THE REQUIREMENTS OF THE APPLICABLE STEEL JOIST INSTITUTE SPECIFICATIONS.
- BRIDGING SHALL BE DESIGNED AND SUPPLIED BY THE JOIST MANUFACTURER.

DESIGNED  
J KELLOGG  
DRAWN  
B TROTTER  
CHECKED  
S KADER  
APPROVED  
S KADER



**WATERWORKS**  
ENGINEERS

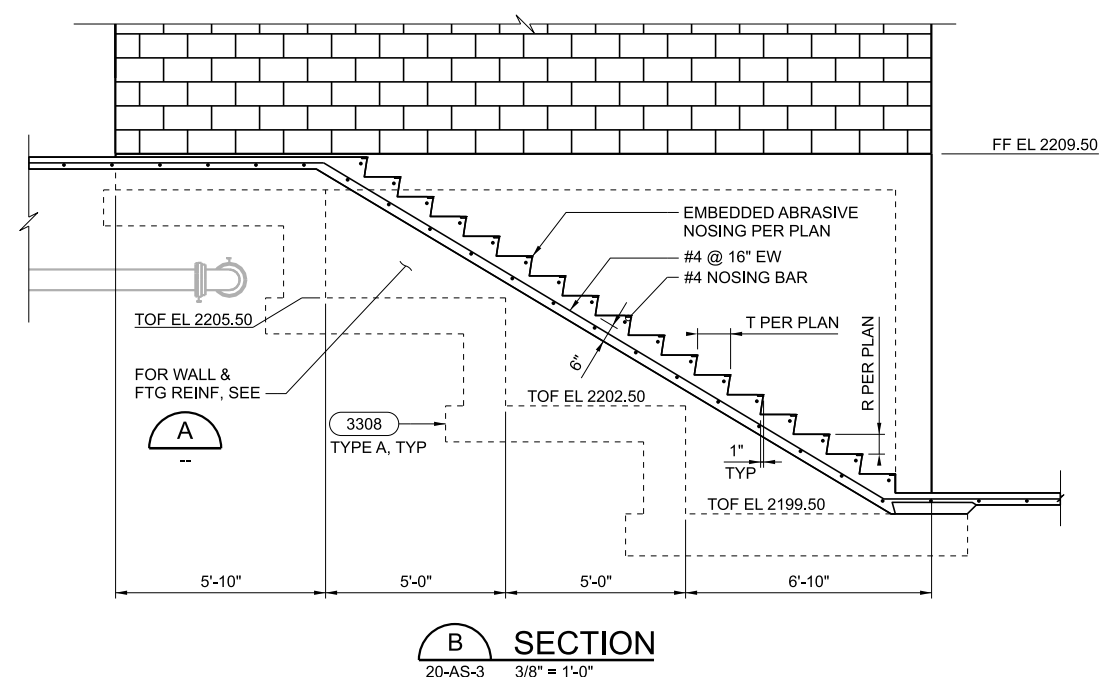
PARADISE IRRIGATION DISTRICT  
ZONE A PUMP STATION  
AND TRANSMISSION MAIN PROJECT  
PARADISE, CA

ARCHITECTURAL / STRUCTURAL  
FACILITY 20  
ROOF PLAN

DATE  
DECEMBER 2022  
PROJECT NUMBER  
17-041  
DRAWING NUMBER  
20-AS-5  
SHEET NUMBER 23

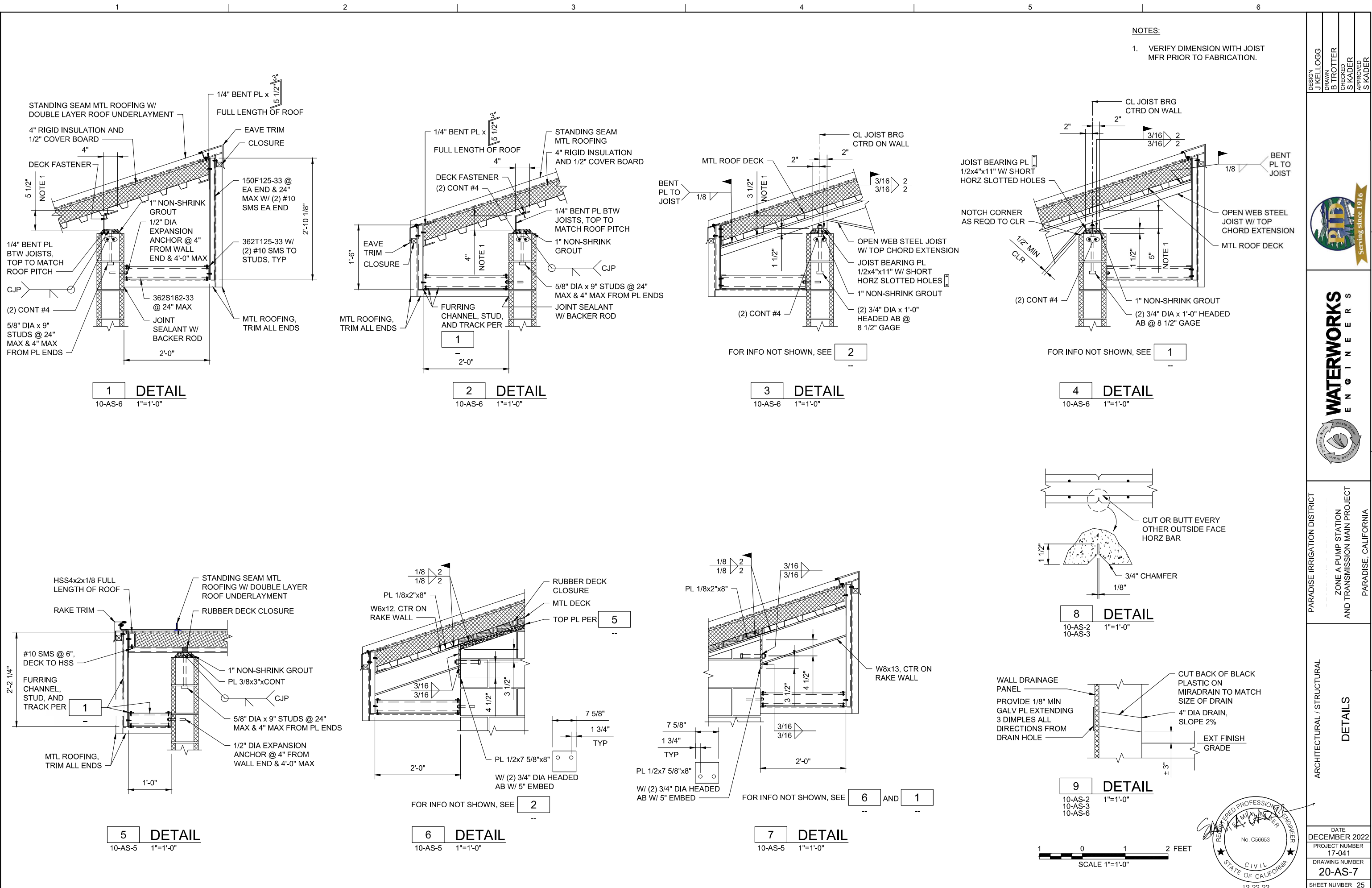


2 0 2 4 FEET  
SCALE 3/8"=1'-0"



FILENAME: 1741D-20AS200.dgn PLOT DATE: 8/1/2018 9:08:47 AM

L:\CAD\PROJECTS\17-041 PARADISE ID RES B REPLACEMENT\_S\X06SOLETE PROJECT FILES\DELIVERABLES\1741D-20AS300.DWG



NOTES:  
1. VERIFY DIMENSION WITH JOIST MFR PRIOR TO FABRICATION.

DESIGN  
J. KELLOGG  
DRAWN  
B. TROTTER  
CHECKED  
S. KADER  
APPROVED  
S. KADER



**WATERWORKS**  
ENGINEERS

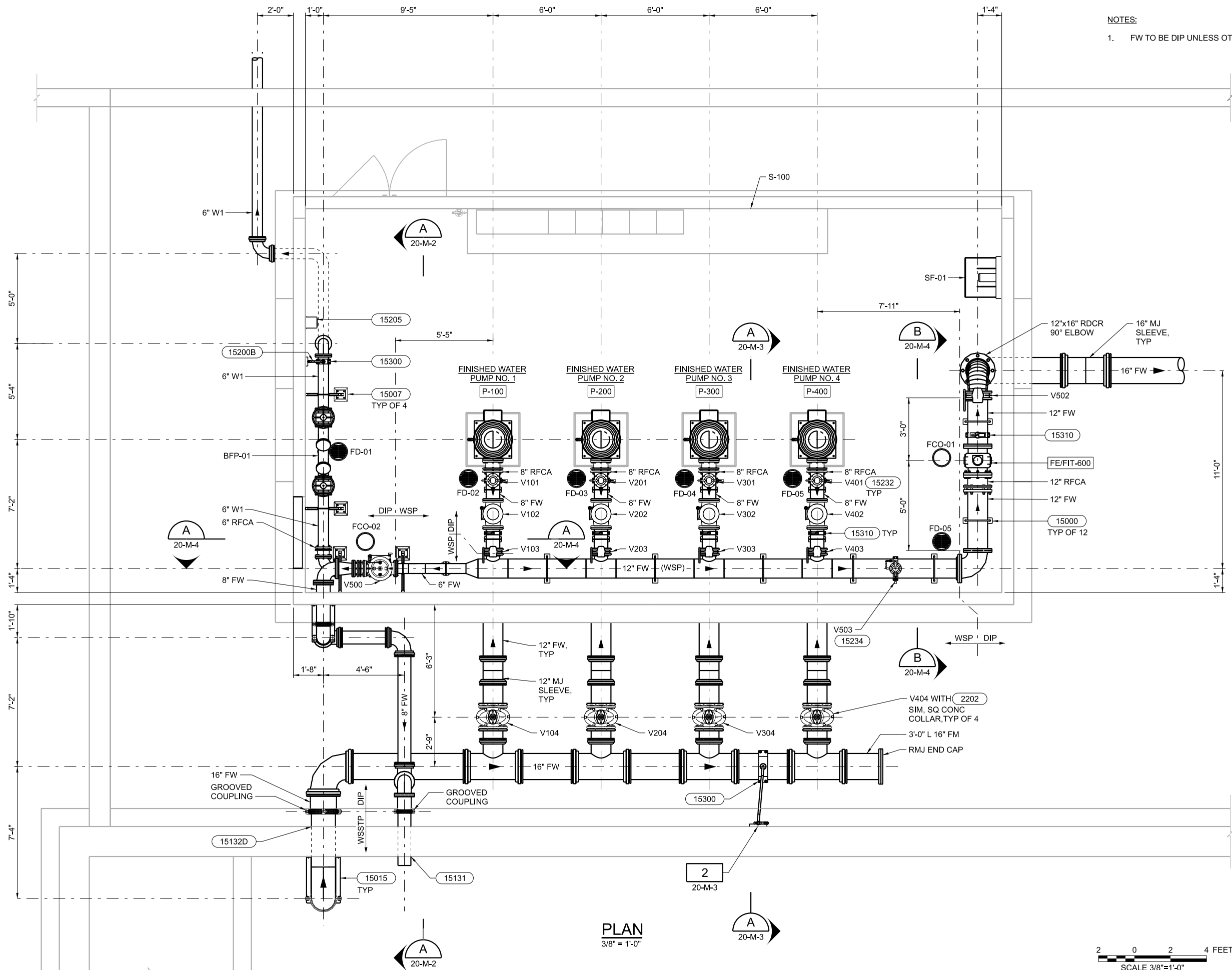
PARADISE IRRIGATION DISTRICT  
ZONE A PUMP STATION  
AND TRANSMISSION MAIN PROJECT  
PARADISE, CALIFORNIA

ARCHITECTURAL / STRUCTURAL  
DETAILS

DATE  
DECEMBER 2022  
PROJECT NUMBER  
17-041  
DRAWING NUMBER  
20-AS-7  
SHEET NUMBER 25

1 2 3 4 5 6

NOTES:  
1. FW TO BE DIP UNLESS OTHERWISE NOTED.



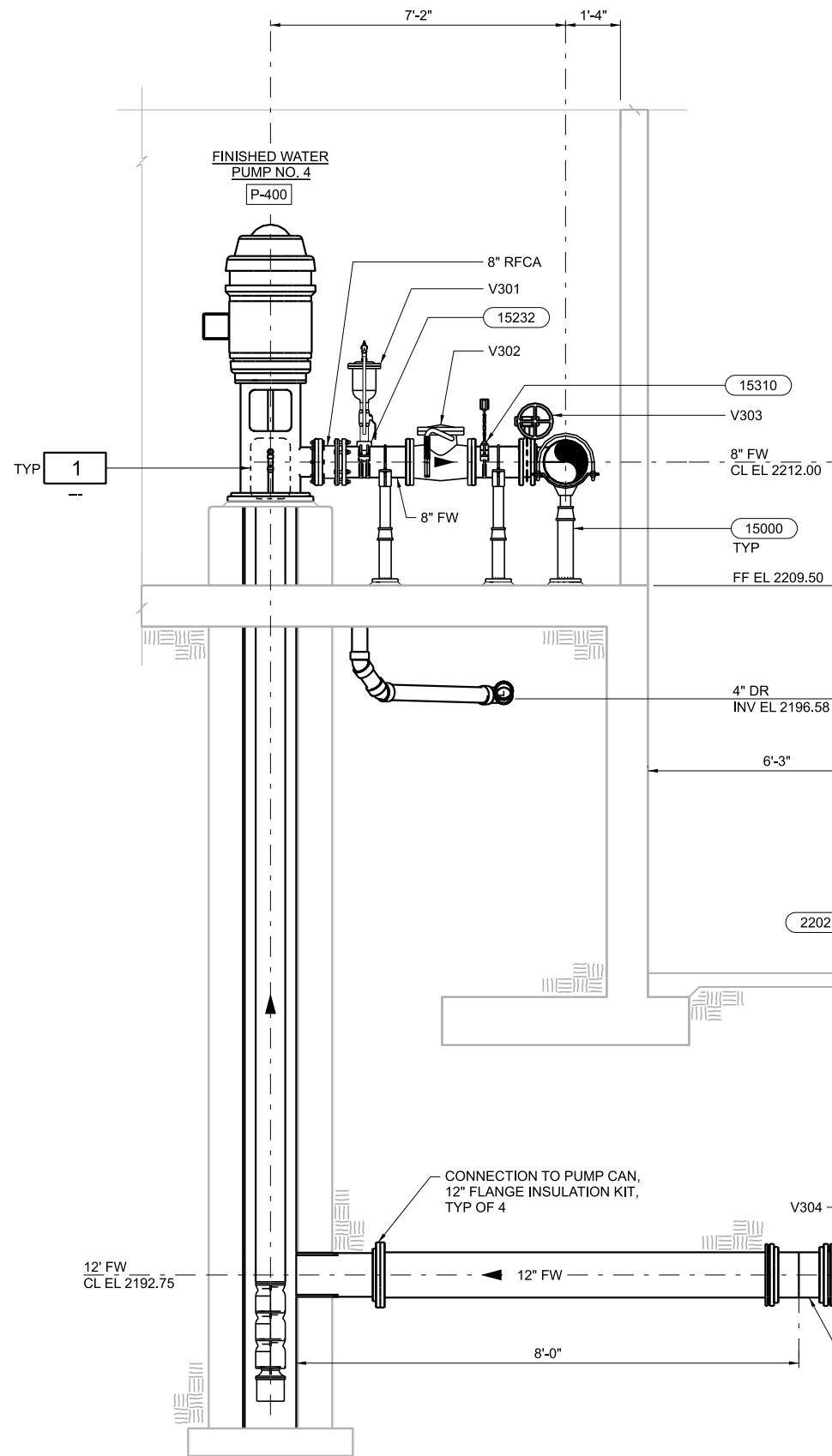
PLAN  
3/8" = 1'-0"

2 0 2 4 FEET  
SCALE 3/8"=1'-0"

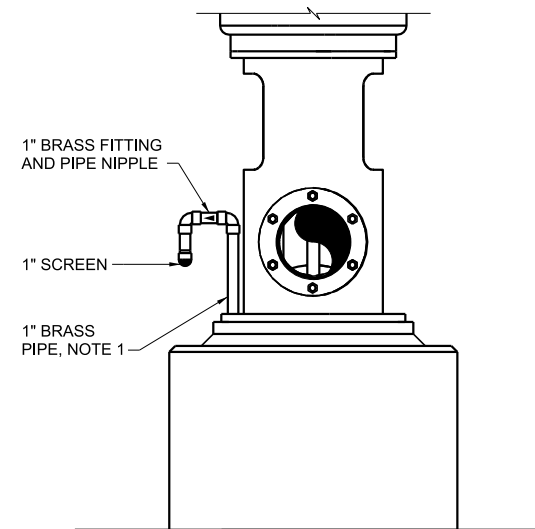


DESIGNED S. MAGLADRY	DRAWN B. TROTTER	CHECKED S. KADER	APPROVED S. KADER
 Serving since 1916			
<b>WATERWORKS ENGINEERS</b>			
PARADISE IRRIGATION DISTRICT ZONE A PUMP STATION AND TRANSMISSION MAIN PROJECT PARADISE, CA			
MECHANICAL FACILITY 20 PLAN			
DATE DECEMBER 2022			
PROJECT NUMBER 17-041			
DRAWING NUMBER 20-M-1			
SHEET NUMBER 26			



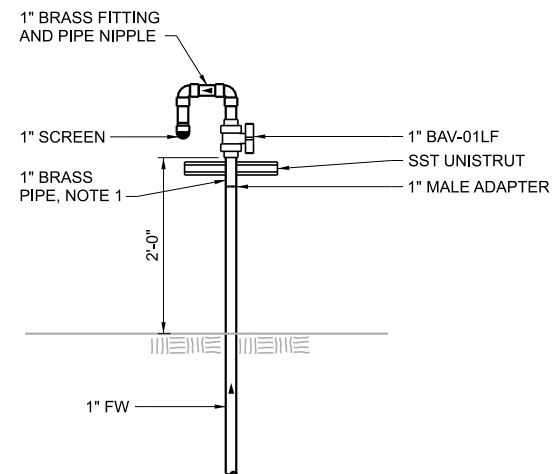


**A SECTION**  
10-M-1 1/2" = 1'-0"

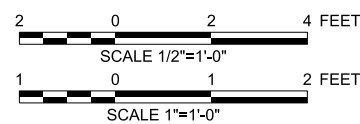


NOTE 1: 1" THREADED CONNECTION AT  
BASE PLATE TO VERTICAL CAN

**1 DETAIL**  
1" = 1'-0"

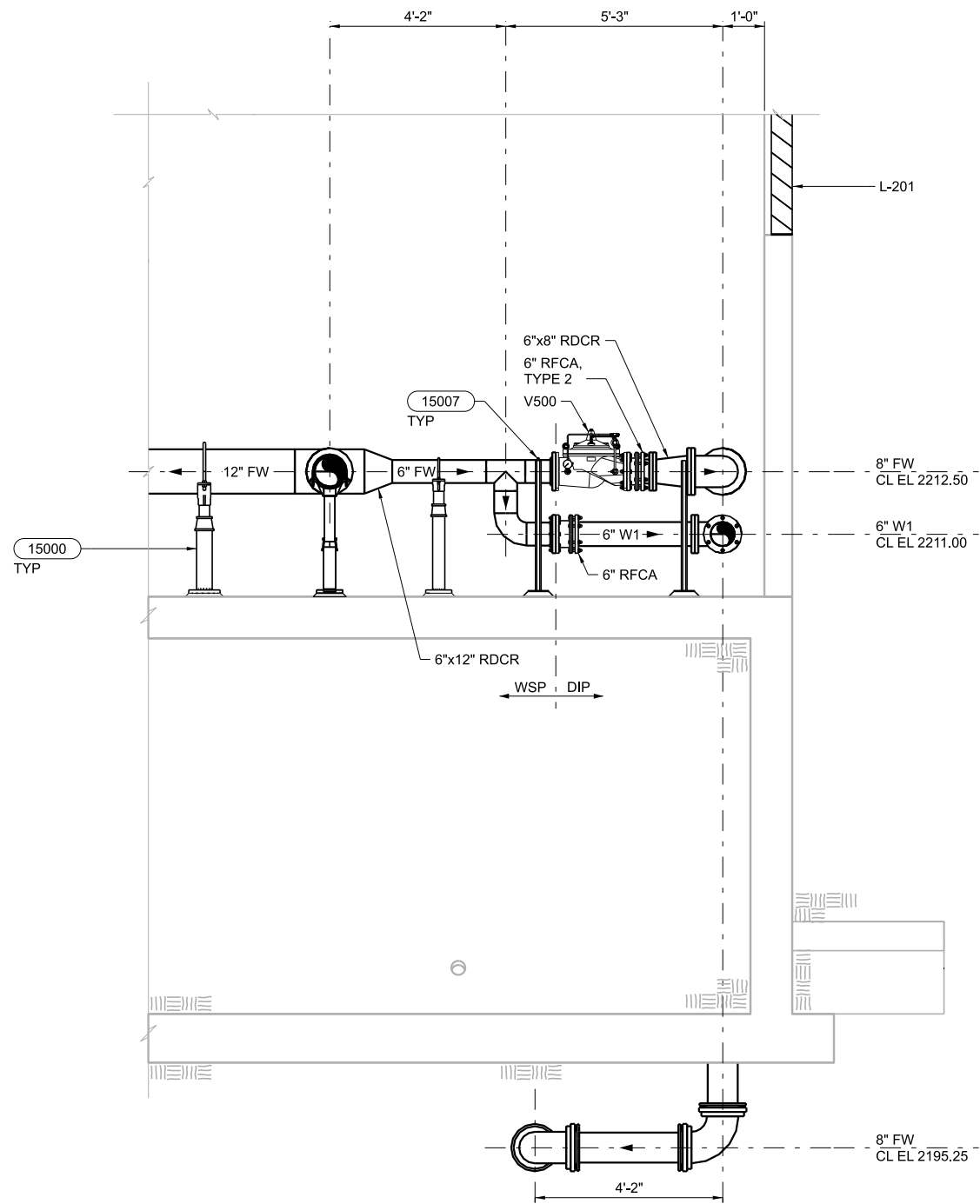


**2 DETAIL**  
1" = 1'-0"

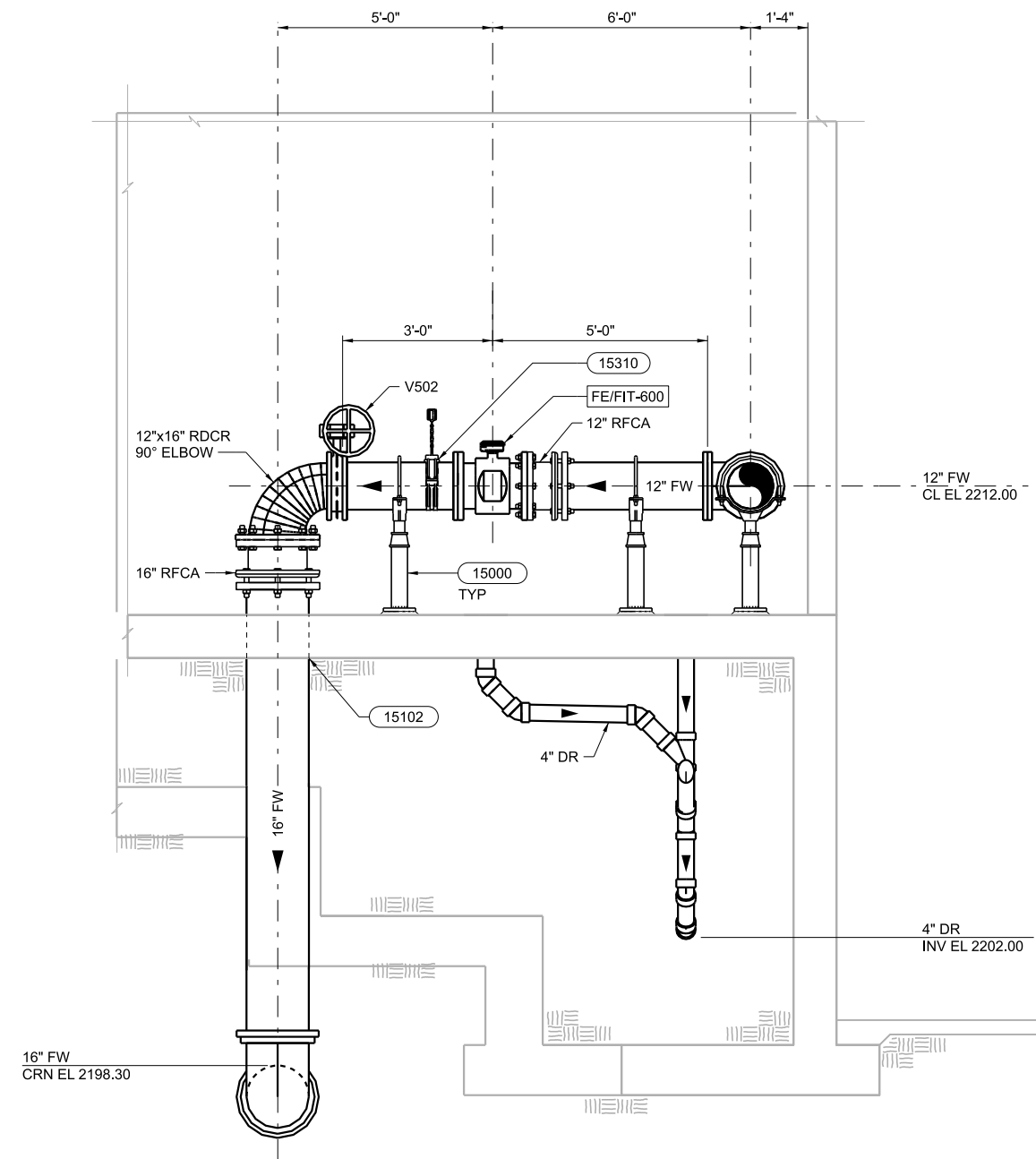


DESIGNED S. MAGLADRY	DRAWN B. TROTTER	CHECKED S. KADER	APPROVED S. KADER
<b>WATERWORKS ENGINEERS</b>			
PARADISE IRRIGATION DISTRICT ZONE A PUMP STATION AND TRANSMISSION MAIN PROJECT PARADISE, CA			
MECHANICAL <b>FACILITY 20</b> <b>SECTION AND DETAILS</b>			
DATE DECEMBER 2022 PROJECT NUMBER 17-041 DRAWING NUMBER <b>20-M-3</b> SHEET NUMBER 28			

1 2 3 4 5 6



**A SECTION**  
20-M-1 1/2" = 1'-0"



**B SECTION**  
20-M-1 1/2" = 1'-0"

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



DESIGNED	S MAGLADRY
DRAWN	B TROTTER
CHECKED	S KADER
APPROVED	S KADER

A



**WATERWORKS**  
ENGINEERS



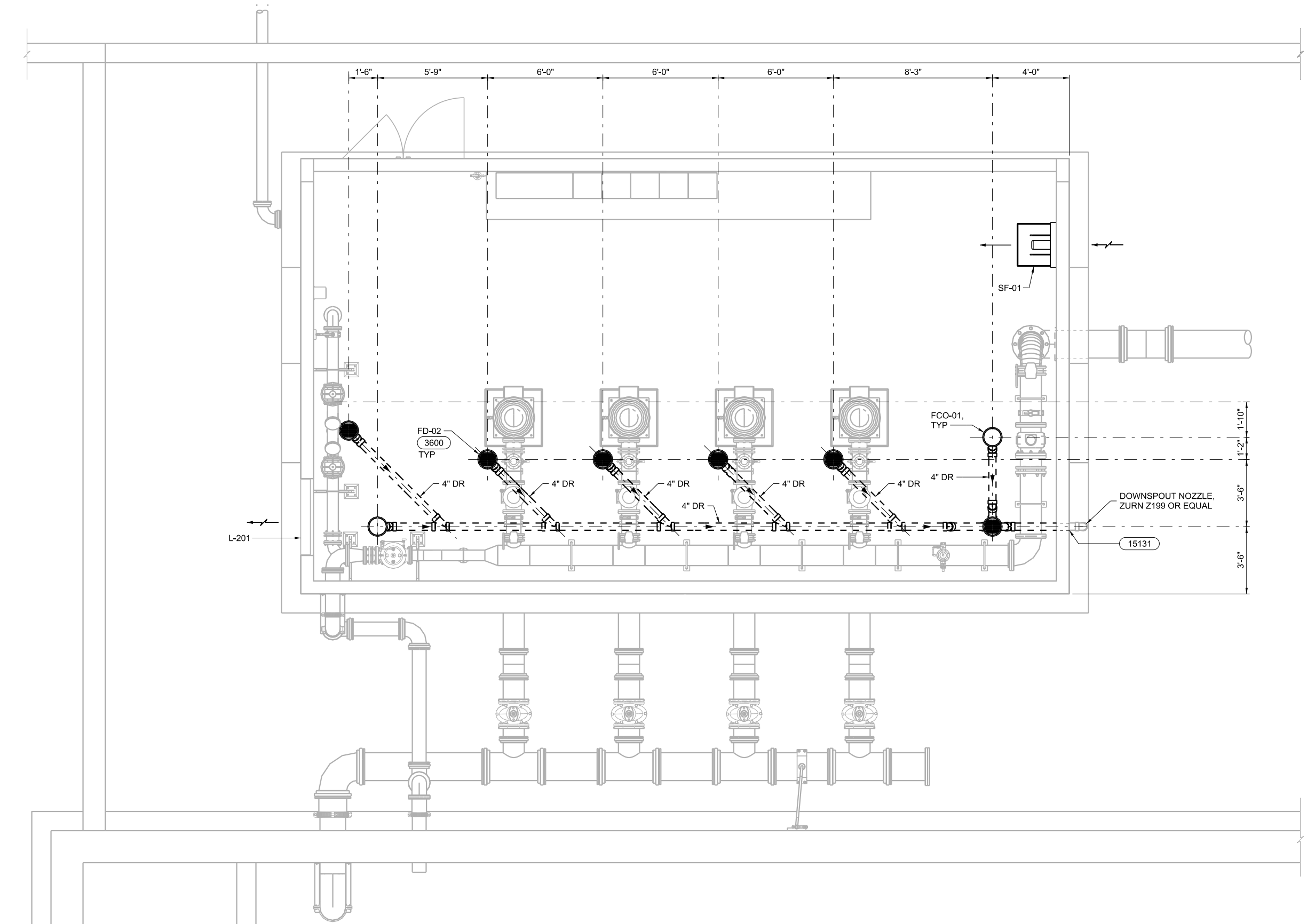
PARADISE IRRIGATION DISTRICT  
ZONE A PUMP STATION  
AND TRANSMISSION MAIN PROJECT  
PARADISE, CA

C

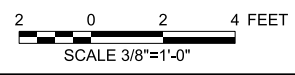
MECHANICAL  
FACILITY 20  
SECTIONS

D

DATE	DECEMBER 2022
PROJECT NUMBER	17-041
DRAWING NUMBER	20-M-4
SHEET NUMBER	29

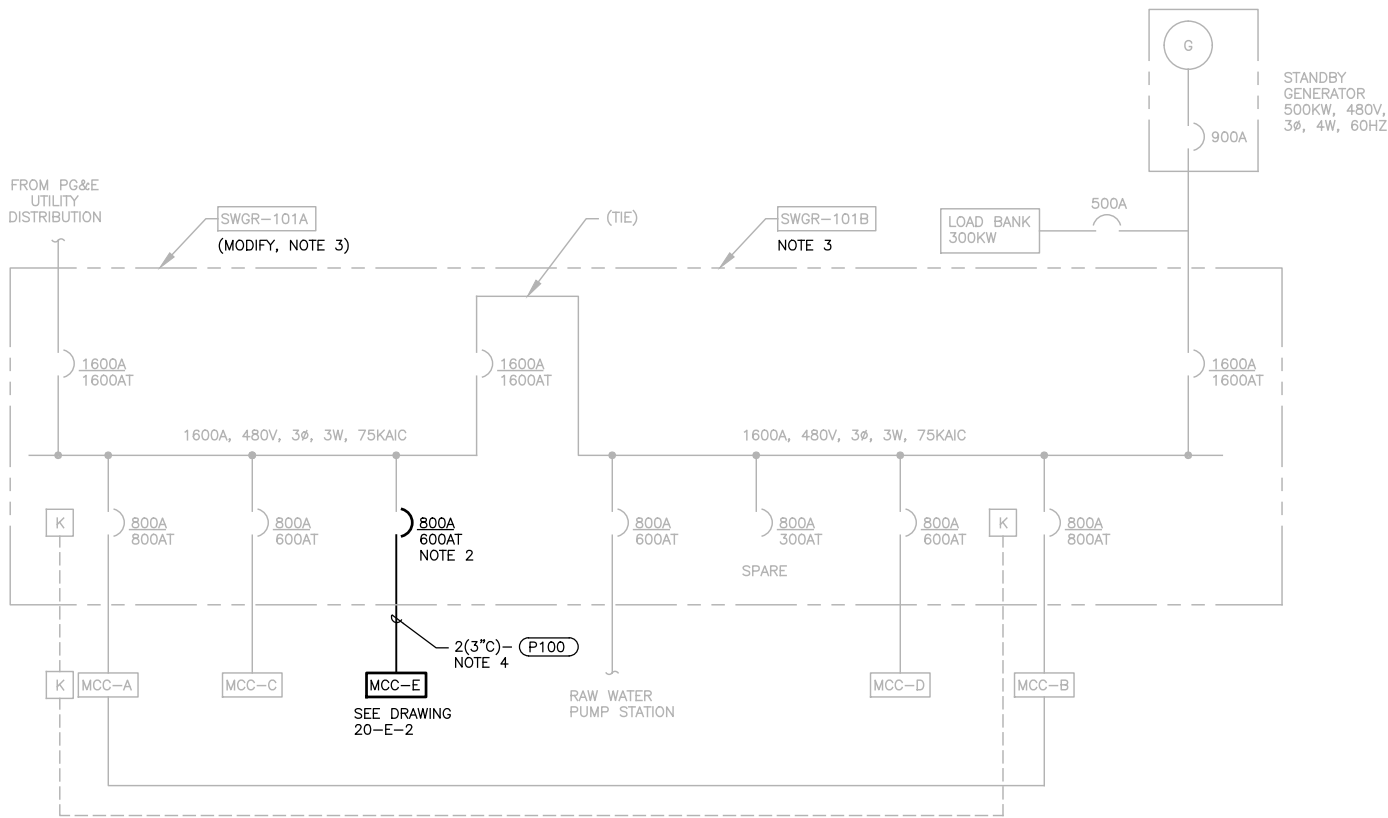


PLAN  
3/8" = 1'-0"



DESIGNED S. MAGLADRY	
DRAWN B. TROTTER	
CHECKED S. KADER	
APPROVED S. KADER	
<b>WATERWORKS</b> ENGINEERS	
PARADISE IRRIGATION DISTRICT ZONE A PUMP STATION AND TRANSMISSION MAIN PROJECT PARADISE, CA	
MECHANICAL FACILITY 20 BUILDING SERVICE PLAN	
DATE DECEMBER 2022	A
PROJECT NUMBER 17-041	B
DRAWING NUMBER 20-BS-1	C
SHEET NUMBER 30	D

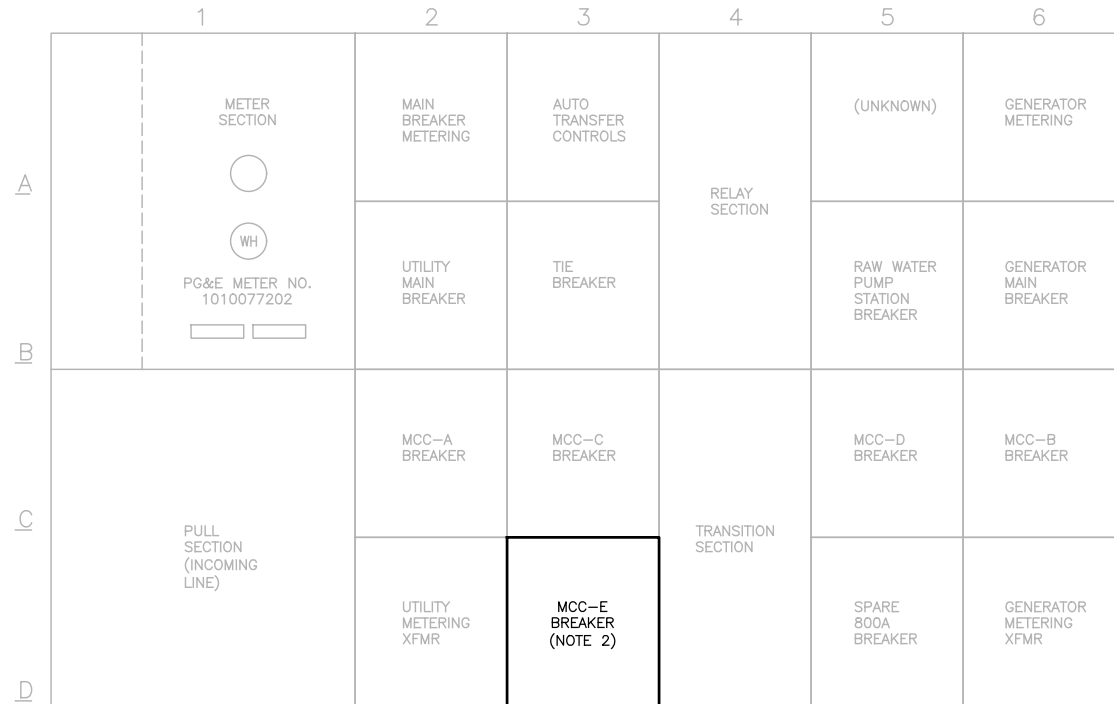
P:\1750 PARADISE IRRIGATION DISTRICT DESIGN\DRAWINGS\1750-20-E-01.DWG



1 EXISTING SWITCHGEAR 101A/101B ONE-LINE DIAGRAM  
NO SCALE

PACIFIC GAS & ELECTRIC (PG&E) DEMAND DATA FOR A 12-MONTH PERIOD ENDING JUNE 2018 INDICATED PEAK DEMAND AT SWGR-101A/101B INCOMING LINE (METER NO. 1010077202) TO BE 390KW AT 480-VOLTS, 3-PHASE, WHICH EQUATES TO 575 AMPS AT 0.85 POWER FACTOR. SWGR-101A/101B (1600 AMP BUS) HAS SUFFICIENT AMPACITY TO SUPPORT THE ADDITION OF 430 AMPS DEMAND LOAD FOR MCC-E (REFER TO DRAWING 20-E-2 FOR MCC-E LOAD CALCULATIONS).

3 SWGR-101A/101B LOAD CALCULATIONS  
NO SCALE

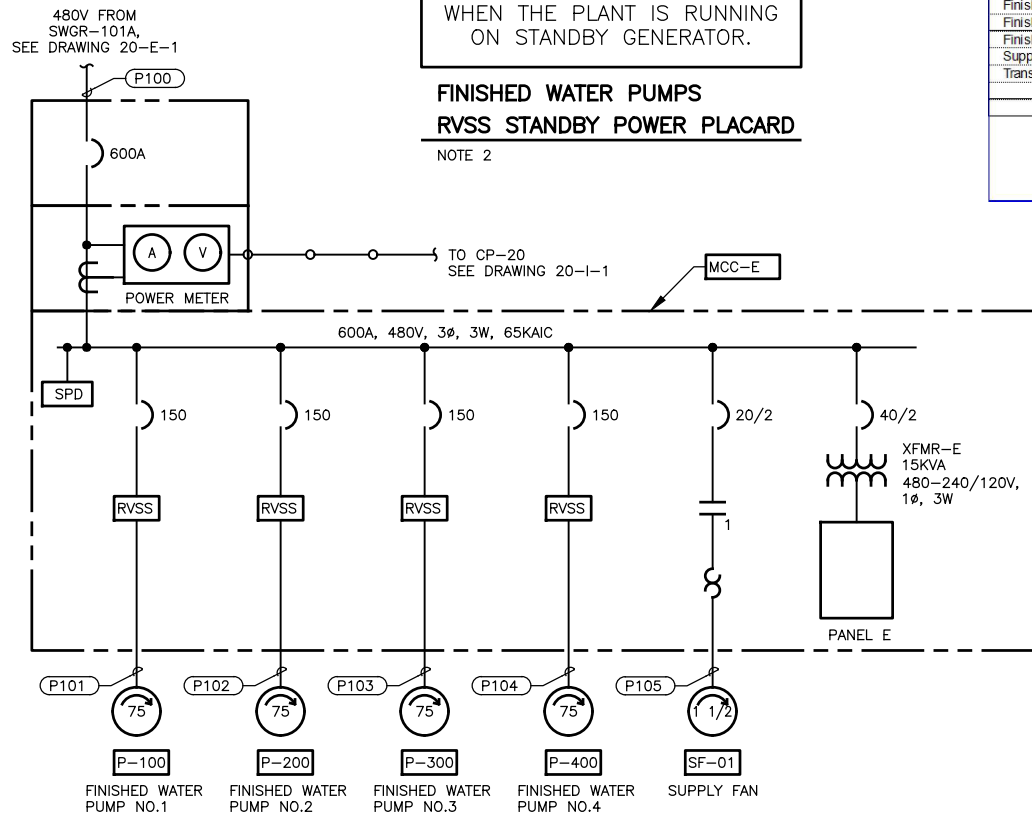


2 EXISTING SWITCHGEAR 101A/101B FRONT ELEVATION, NOTE 3  
NO SCALE

NOTES:

- UNLESS DESIGNATED OTHERWISE, ITEMS SHOWN BOLD SHALL BE FURNISHED AND INSTALLED. ITEMS SHOWN SCREENED ARE EXISTING.
- FEED MCC-E FROM SPARE BREAKER CUBICLE. FURNISH AND INSTALL 800AF BREAKER WITH 600A TRIP UNIT. SEE SPECIFICATIONS. SALVAGE WESTINGHOUSE SPD50 800A BREAKER (3D) AND TURN OVER TO DISTRICT.
- SWGR-101A/101B IS A WESTINGHOUSE POW R-M-S, DWG NO. W2372F01, G.O. NO. HUSF41566.
- CIRCUIT P100 (MCC-E FEEDER) SHALL BE ROUTED IN EXISTING CONDUITS FROM SWGR-101A TO MH-1.





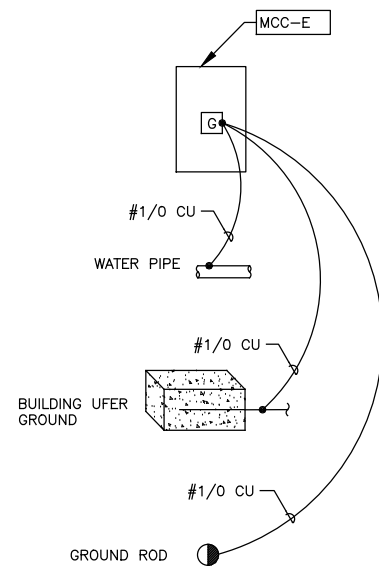
FINISHED WATER PUMPS SHALL NOT BE MANUALLY OPERATED WHEN THE PLANT IS RUNNING ON STANDBY GENERATOR.

### FINISHED WATER PUMPS RVSS STANDBY POWER PLACARD

NOTE 2

### MCC-E ONE-LINE DIAGRAM

NO SCALE

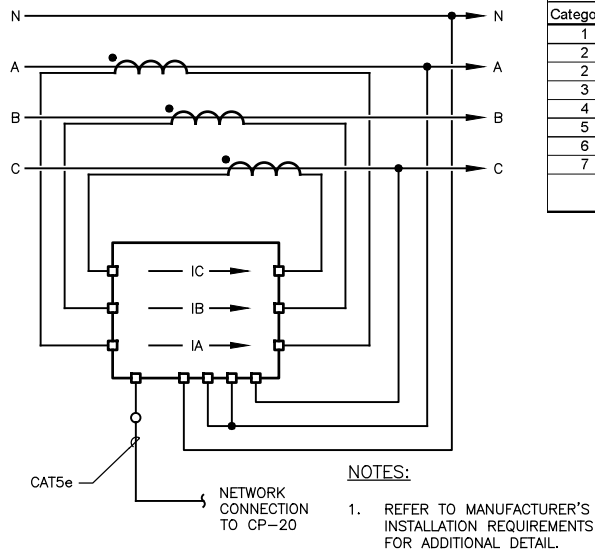


### GROUNDING DIAGRAM

NO SCALE

Description	Tag Number	Voltage	HP	FLA (NEC)	kVA
<b>Electrical Loads</b>					
Finished Water Pump No.1	P-100	460	75	96	76.5
Finished Water Pump No.2	P-200	460	75	96	76.5
Finished Water Pump No.3	P-300	460	75	96	76.5
Finished Water Pump No.4	P-400	460	75	96	76.5
Supply Fan	SF-01	460	1.5	3	2.4
Transformer E (Panel E)	XFMR-E	460	N/A	N/A	15.0
(Connected Load) Subtotal					323
25% of Largest Motor					19
Total Demand Load (kVA)					342
Total Demand Load - Amps					430
MCC bus rating - Amps					600

### MCC-E LOAD CALCULATIONS



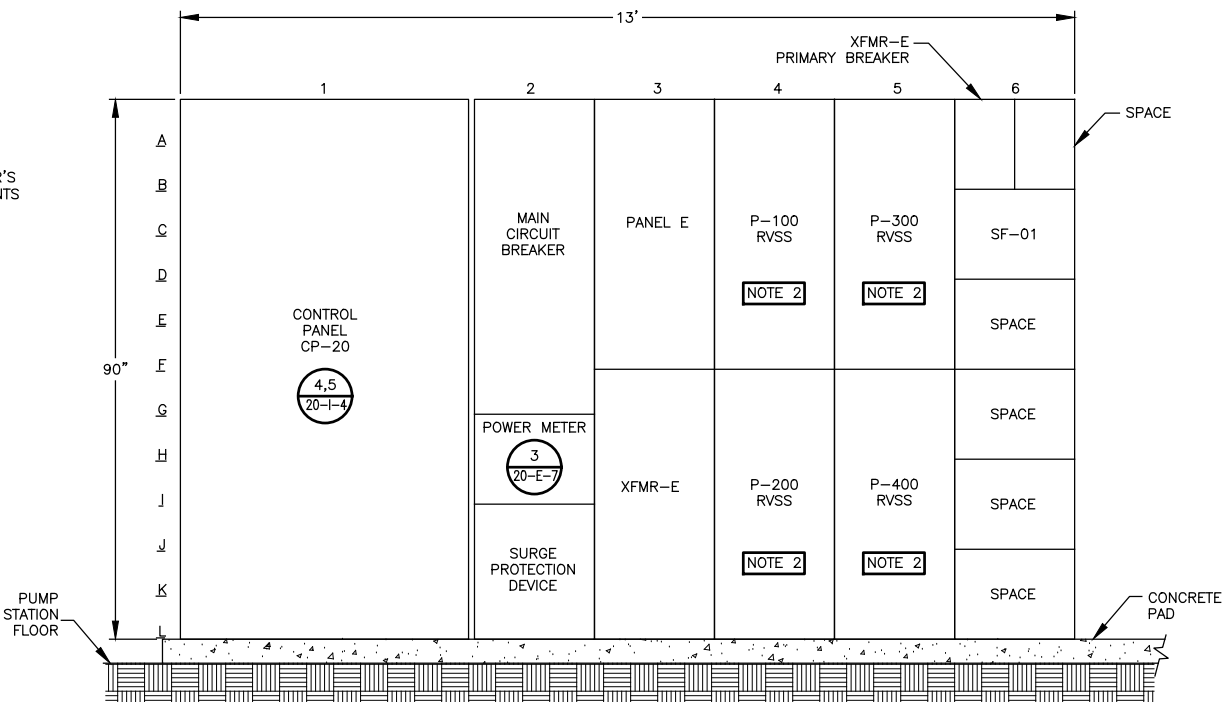
### POWER METER WIRING DIAGRAM

NTS

CIRCUIT NO.	CONDUCTORS (FILL)	SOURCE (FROM)	DESTINATION (TO)	PLAN (DWG NO.)	COMMENTS
C201	2#14 + 2#14 SP	LSLI-001	CP-20	20-E-4	
C202	CAT5e	POWER METER	CP-20	20-E-4	
C203	16#14 + 4#14 SP	RVSS-400	CP-20	20-E-4	
C204	16#14 + 4#14 SP	RVSS-300	CP-20	20-E-4	
C205	16#14 + 4#14 SP	RVSS-200	CP-20	20-E-4	
C206	16#14 + 4#14 SP	RVSS-100	CP-20	20-E-4	
C207	2#14 + 2#12 + #12 G	TSH-400, SPACE HEATER	RVSS-400	20-E-4	
C208	2#14 + 2#14 SP	PSH-400	RVSS-400	20-E-4	
C209	2#14 + 2#12 + #12 G	TSH-300, SPACE HEATER	RVSS-300	20-E-4	
C210	2#14 + 2#14 SP	PSH-300	RVSS-300	20-E-4	
C211	2#14 + 2#12 + #12 G	TSH-200, SPACE HEATER	RVSS-200	20-E-4	
C212	2#14 + 2#14 SP	PSH-200	RVSS-200	20-E-4	
C213	2#14 + 2#12 + #12 G	TSH-100, SPACE HEATER	RVSS-100	20-E-4	
C214	2#14 + 2#14 SP	PSH-100	RVSS-100	20-E-4	
C215	1 TSP + 1 TSP SP	PIT-600	CP-20	20-E-4	
C216	1 TSP + 1 TSP SP	FIT-600	CP-20	20-E-4	
C217	CAT5e + CAT5e SP	MAIN RECORDER PANEL, MRP	CP-20	20-E-4	
C218	2#12	MCC-E	THERMOSTAT	20-E-4	
C219	2#14	LCP	PHOTOCELL (PC)	20-E-4	
CIRCUIT NO.	CONDUCTORS (FILL)	SOURCE (FROM)	DESTINATION (TO)	PLAN (DWG NO.)	COMMENTS
P100	2[3#350 + #1 G]	SWGR-101A	MCC-E	20-E-3	Parallel feeders, 2-3" conduits
P101	3#1 + #6 G	MCC-E	P-100	20-E-4	
P102	3#1 + #6 G	MCC-E	P-200	20-E-4	
P103	3#1 + #6 G	MCC-E	P-300	20-E-4	
P104	3#1 + #6 G	MCC-E	P-400	20-E-4	
P105	2#12 + #12 G	MCC-E	SF-01	20-E-4	
P106	2#12 + #12 G	CP-20	FIT-600	20-E-4	
P107	4#12 + 2#12 G	PANEL E	CP-20	20-E-4	

### CIRCUIT SCHEDULE

PANEL E															
Status:	New	Line-to-neutral Voltage:		120 V		Main breaker size:		100 A		Job Name:		Zone A Pump Station			
Bus rating (A):	100	Line-to-line Voltage:		240 V		Fault rating:		22 kAIC		ArcSine number:		1750			
Mounting:	In MCC-E	NEMA rating:		NEMA-1		Location:		Facility 20		Date:		7/15/2018			
Description		Category	Line Amps	Ph-A kVA	Ph-B kVA	Bkr. Size	Ckt. No.	Phase	Ckt. No.	Bkr. Size	Ph-A kVA	Ph-B kVA	Line Amps	Category	Description
CP-20 AUXILIARIES		3	8.3	1.0		20	1	A	2	20	0.7		5.8	1	INTERIOR LIGHTS
CP-20 CONTROLS (UPS)		4	12.5		1.5	20	3	B	4	20		0.1	0.8	1	EXTERIOR LIGHTS
BUILDING RECEPTACLES		2	6.0	0.7		20	5	A	6	20	0.1		0.8	1	LCP-1 CONTROLS
SPARE						20	7	B	8	20					SPARE
SPARE						20	9	A	10	20					SPARE
SPARE						20	11	B	12	20					SPARE
SPACE						20	13	A	14	20					SPACE
						20	15	B	16	20					
						20	17	A	18	20					
Subtotal kVA				1.7	1.5	Subtotal kVA					0.8	0.1			
Subtotal Amps				14.3	12.5	Subtotal Amps					6.7	0.8			
Load Summary														Notes:	
Connected Load						Demand Load									
Category	Description		Load	Description	Factor	Load									
1	Lighting		0.9 kVA	Lighting	1.25	1.125 kVA							1.		
2	Receptacles < 10 kVA		0.72 kVA	Receptacles < 10 kVA	1.0	0.72 kVA							2.		
2	Receptacles > 10 kVA		0 kVA	Receptacles > 10 kVA	0.5	0 kVA							3.		
3	Miscellaneous non-continuous		1 kVA	Misc. non-continuous	1.0	1 kVA							4.		
4	Miscellaneous continuous		1.5 kVA	Misc. continuous	1.25	1.875 kVA							5.		
5	Largest motor		0 kVA	Largest Motor	1.25	0 kVA							6.		
6	Sub Panel Feeder		0 kVA	Sub Panel Feeder	1.0	0 kVA							7.		
7	HVAC Equipment		0 kVA	HVAC Equipment	1.0	0 kVA							8.		
Total connected kVA			4.12 kVA	Total demand kVA			4.72 kVA							9.	
Average connected Amps			17.17 A	Average demand Amps			19.67 A								



### NOTES:

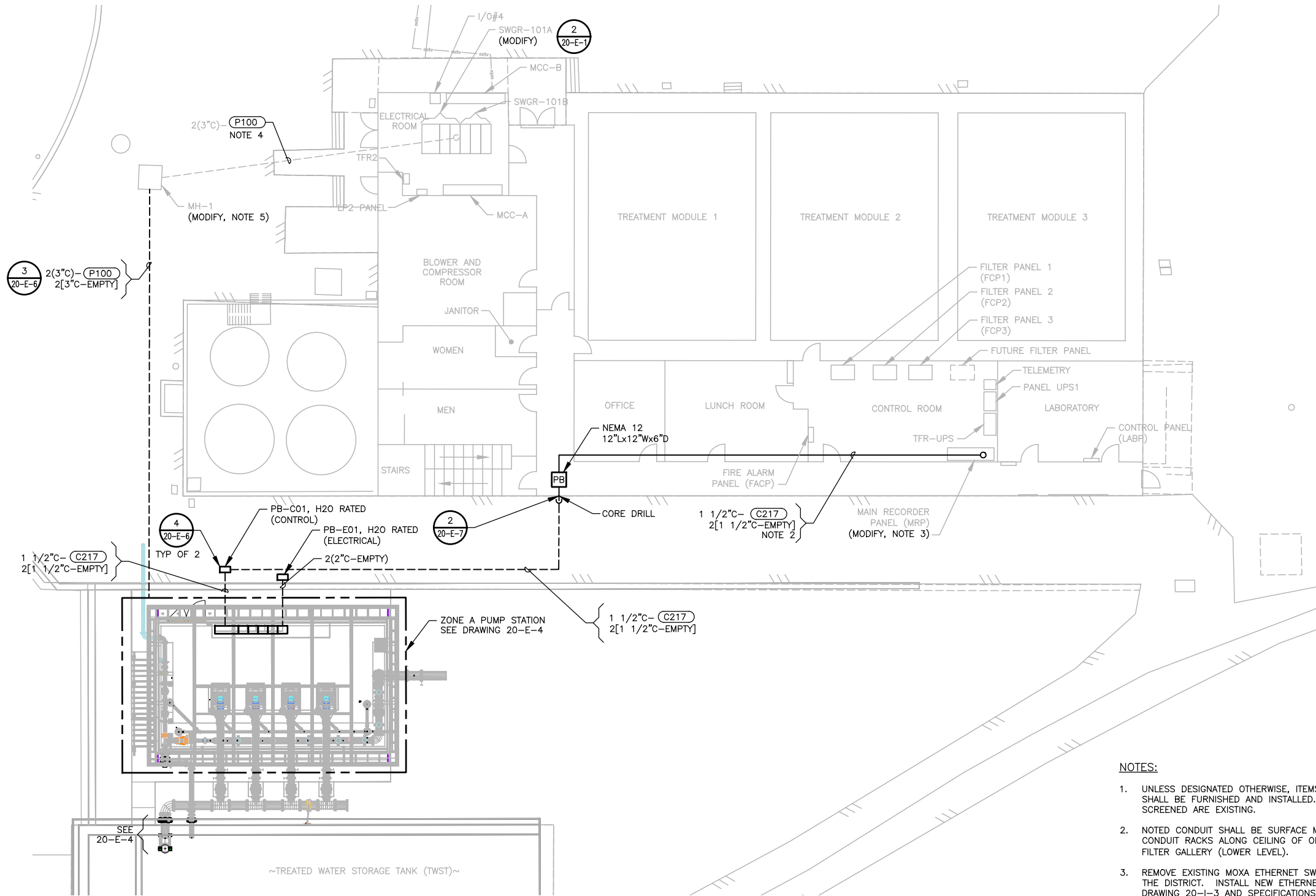
- UNLESS DESIGNATED OTHERWISE, ITEMS SHOWN BOLD SHALL BE FURNISHED AND INSTALLED. ITEMS SHOWN SCREENED ARE EXISTING.
- RVSS STANDBY POWER PLACARD SHALL BE RED PHENOLIC WITH 1/4" (MINIMUM) WHITE LETTERING AFFIXED WITH PERMANENT ADHESIVE TO THE FRONT OF EACH FINISHED WATER PUMP RVSS ENCLOSURE.

### MCC-E ELEVATION

NO SCALE



P:\1750 PARADISE IRRIGATION DISTRICT DESIGN DRAWINGS\1750-20-E-03.DWG

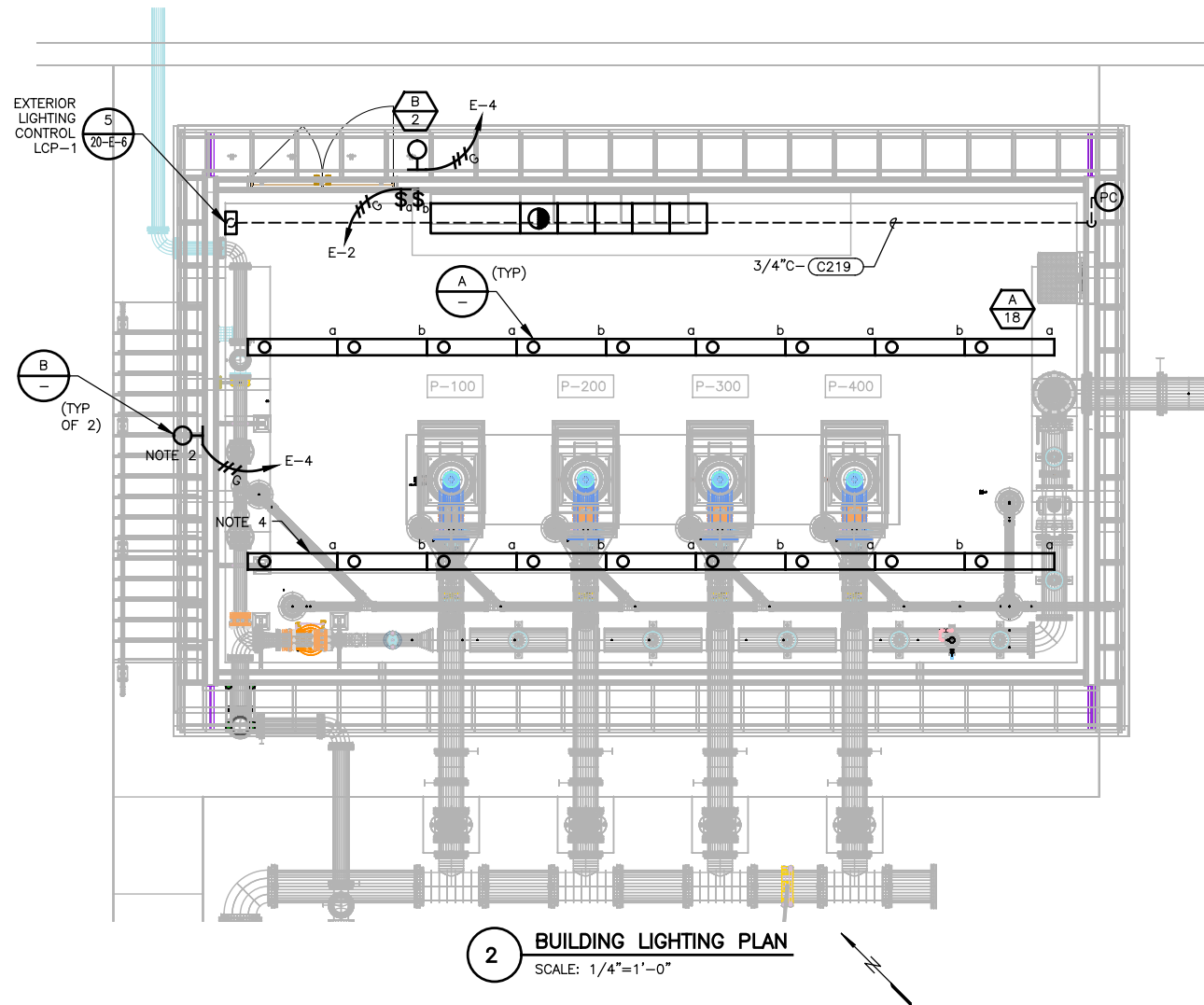


1 ZONE A PUMP STATION SITE PLAN  
SCALE: 1"=10'-0"

NOTES:

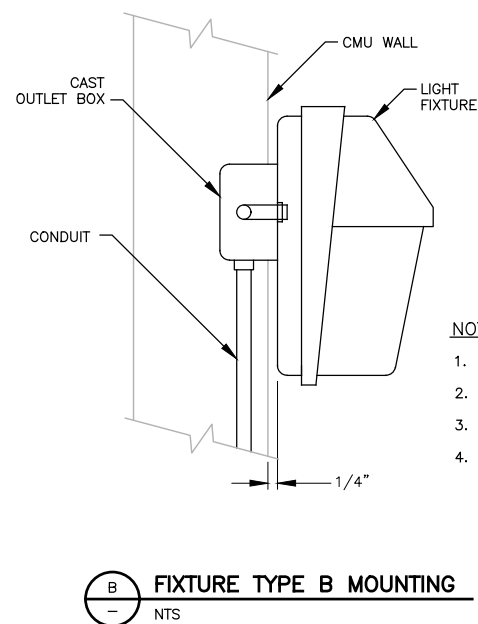
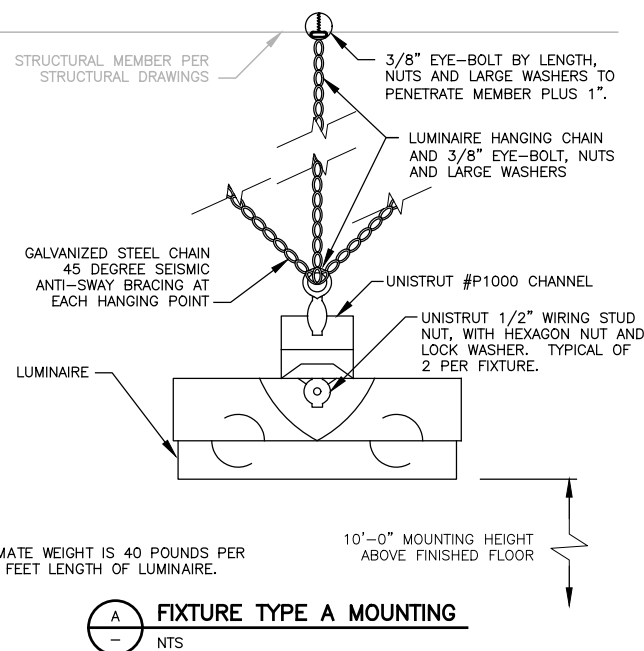
- UNLESS DESIGNATED OTHERWISE, ITEMS SHOWN BOLD SHALL BE FURNISHED AND INSTALLED. ITEMS SHOWN SCREENED ARE EXISTING.
- NOTED CONDUIT SHALL BE SURFACE MOUNTED IN EXISTING CONDUIT RACKS ALONG CEILING OF OPERATIONS BUILDING FILTER GALLERY (LOWER LEVEL).
- REMOVE EXISTING MOXA ETHERNET SWITCH; TURN OVER TO THE DISTRICT. INSTALL NEW ETHERNET SWITCH. SEE DRAWING 20-I-3 AND SPECIFICATIONS.
- CIRCUIT P100 (MCC-E FEEDER) SHALL BE ROUTED IN TWO EXISTING 3-INCH CONDUITS FROM SWGR-101A TO MH-1.
- MANHOLE MH-1 MODIFICATIONS INCLUDE CORE DRILL OR WALL CUTOUT FOR FOUR 3-INCH CONDUITS TO ZONE A PUMP STATION AND ROUTING OF MCC-E FEEDER CONDUCTORS FROM SWGR-101A. LOOP MCC-E CONDUCTORS ONCE AROUND MANHOLE PERIMETER. PROVIDE ADDITIONAL WIRE RACKS AS NECESSARY TO COMPLETELY SUPPORT CABLING. PREPARE AS-BUILT BUTTERFLY DRAWINGS. SEE SPECIFICATIONS.





### LIGHTING FIXTURE SCHEDULE

Fixture Type	Description	Location	Manufacturer	Model	Wattage	Voltage	Calculated VA (Incl. Driver)
A	LED, 4' LINEAR STRIP, 3000 LUMENS, 4000K COLOR TEMPERATURE, 80 CRI, DIFFUSE SNAP ON/SNAP OFF LENS, 0-10V DIMMING, COORDINATE WITH MANUFACTURER FOR THE REQUIRED INSTALLATION ACCESSORIES	INTERIOR	LITHONIA OR EQUAL	ZLIN-L48-SMR-3000LM-FST-MVOLT-40K-80CRI	34 WATTS	120V	40
B	LED, WALL PACK, LARGE, 3430 LUMENS, 4000K COLOR TEMPERATURE, TYPE 4 DISTRIBUTION, PHOTOCELL CONTROL, BRONZE FINISH	EXTERIOR	GARCO OR EQUAL	101L-16L-700-NW-G1-4-BZ	38 WATTS	120V	44



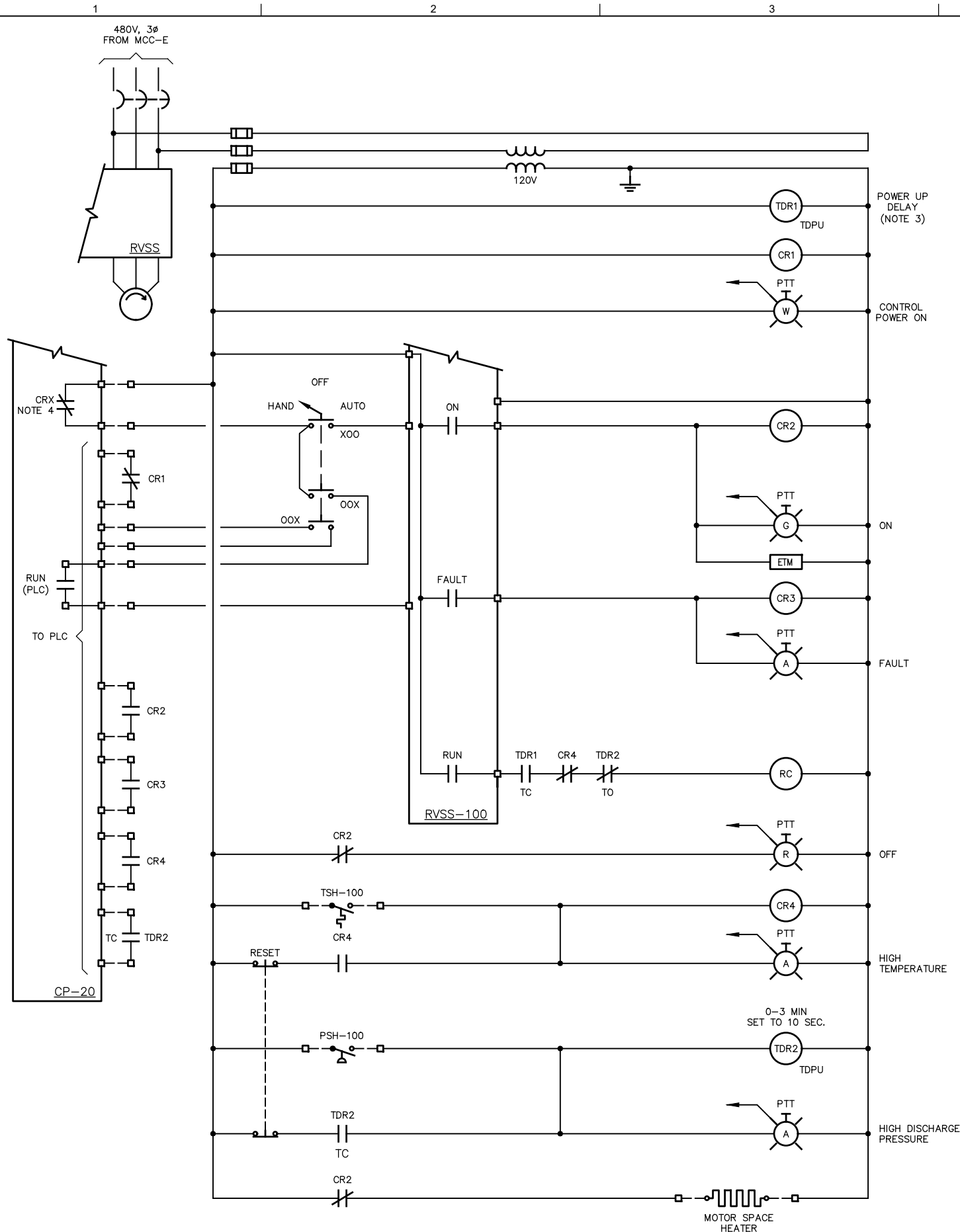
NOTES:

1. PROVIDE CAST OUTLET BOX.
2. SET BOX OUT FROM WALL AS SHOWN.
3. PROVIDE GASKET BETWEEN BOX AND FIXTURE.
4. INSTALLATION SHALL BE WATER-TIGHT.

NOTES:

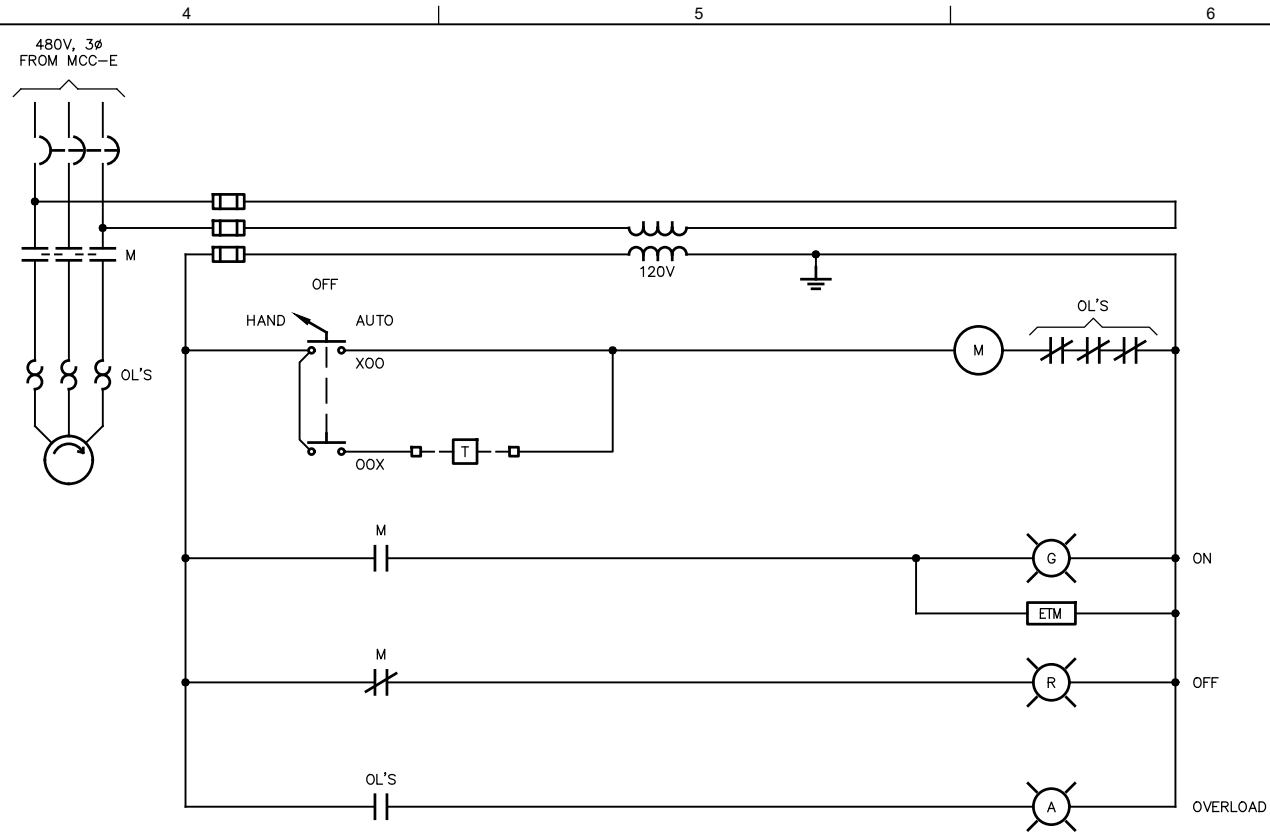
1. UNLESS DESIGNATED OTHERWISE, ITEMS SHOWN BOLD SHALL BE FURNISHED AND INSTALLED. ITEMS SHOWN SCREENED ARE EXISTING.
2. MOUNT NOTED LIGHT FIXTURE EIGHT FEET ABOVE TOP LANDING.
3. COORDINATE PLACEMENT AND MOUNTING OF LOW-LOW LEVEL SWITCH WITH DISTRICT.
4. COORDINATE FINAL LIGHTING LINEUP LOCATION WITH THE DISTRICT, WITH CONSIDERATION TO PUMPING EQUIPMENT REMOVAL.



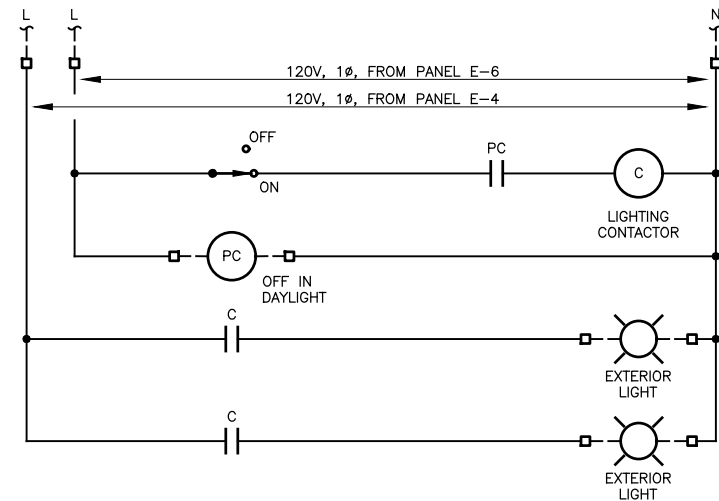


FINISHED WATER PUMP NO. 1 P-100 CONTROL DIAGRAM

TYPICAL FOR:  
FINISHED WATER PUMP NO. 2 P-200  
FINISHED WATER PUMP NO. 3 P-300  
FINISHED WATER PUMP NO. 4 P-400



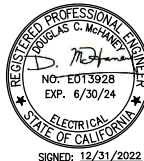
SUPPLY FAN SF-01 CONTROL DIAGRAM



EXTERIOR LIGHTING CONTROLS (LCP-1)

- NOTES:
- SEE LEGEND AND GENERAL NOTES ON SHEET G-12.
  - UNLESS DESIGNATED OTHERWISE, ITEMS SHOWN BOLD SHALL BE FURNISHED AND INSTALLED. ITEMS SHOWN SCREENED ARE EXISTING.
  - ADJUST TDR1 AS FOLLOWS:  
FINISHED WATER PUMP NO. 1 P-100 - 05 SECONDS  
FINISHED WATER PUMP NO. 2 P-200 - 10 SECONDS  
FINISHED WATER PUMP NO. 3 P-300 - 15 SECONDS  
FINISHED WATER PUMP NO. 4 P-400 - 20 SECONDS
  - TWST LOW LEVEL SHUTDOWN RELAY/CONTACT NUMBER, CRX, FROM CP-20 (REFER TO DRAWING 20-I-2):

PUMP	CRX RELAY/CONTACT
P-100	CR-2
P-200	CR-2
P-300	CR-3
P-400	CR-3



DESIGN B. REID  
DRAWN R. OLIVER  
CHECKED D. MC HANEY  
APPROVED

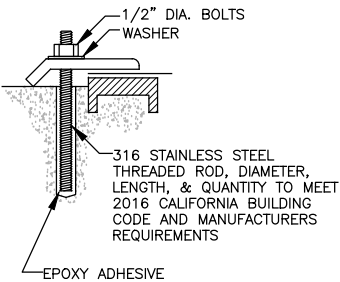
ARC SIN ENGINEERING  
Full-spectrum engineering company  
950 Executive Way, Suite 100, Redding, CA 96002  
1238 Old River Road, Suite 100, Redding, CA 96001  
www.arc-sin.com

**WATERWORKS ENGINEERS**  
1405 Vidor Avenue, Suite A • Redding, CA 96003 • 530-243-2113

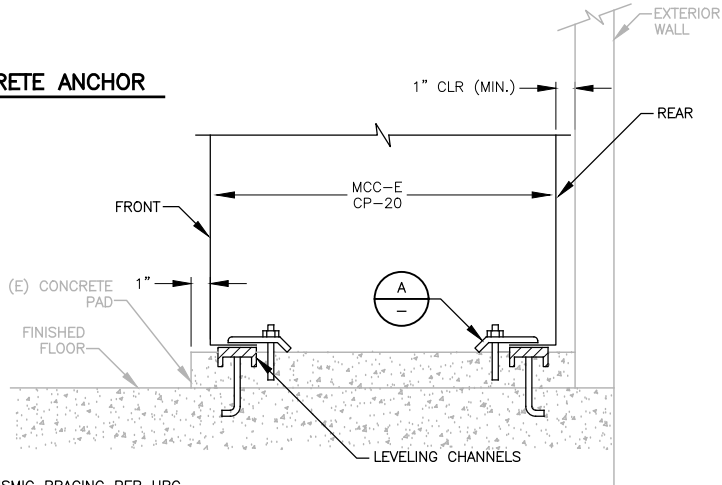
PARADISE IRRIGATION DISTRICT  
ZONE A PUMP STATION  
AND TRANSMISSION MAIN PROJECT  
PARADISE, CALIFORNIA

ELECTRICAL  
FACILITY 20  
CONTROL DIAGRAM

DATE DECEMBER 2022  
PROJECT NUMBER 17-041  
DRAWING NUMBER 20-E-5  
SHEET NUMBER 35

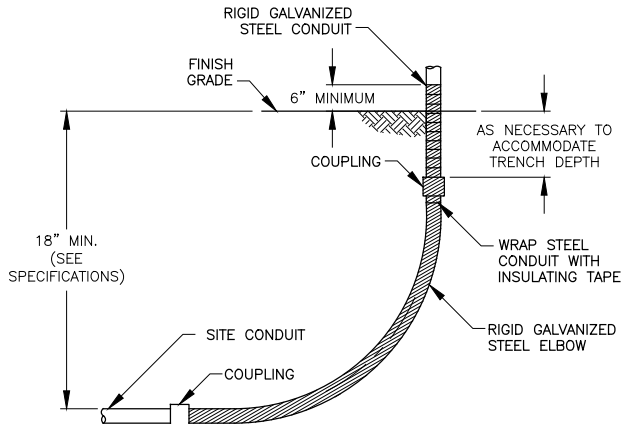


**CONCRETE ANCHOR**  
NTS

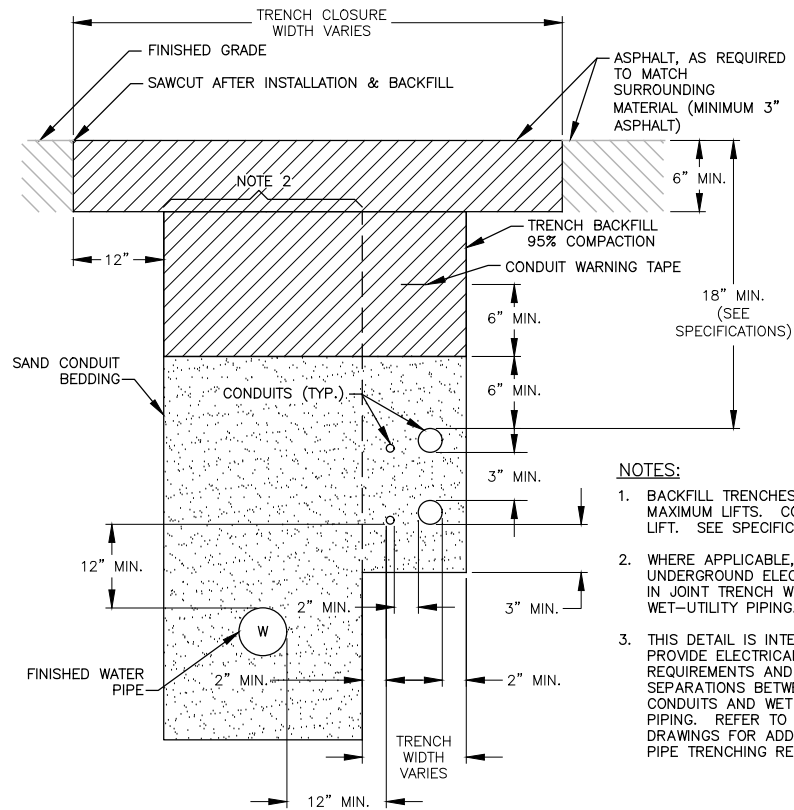


- NOTE:**
1. PROVIDE SEISMIC BRACING PER UBC.
  2. CONFORM TO MANUFACTURER'S MOUNTING AND INSTALLATION RECOMMENDATIONS.

**1 EQUIPMENT MOUNTING**  
NOT TO SCALE

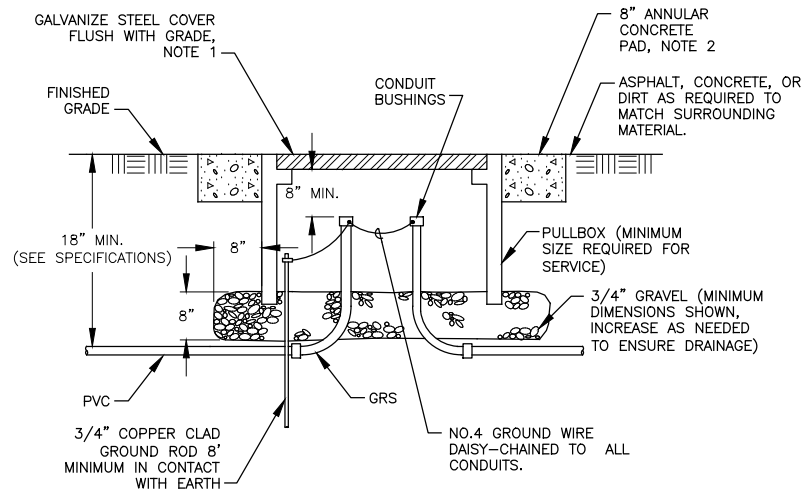


**2 CONDUIT STUB UP**  
NTS



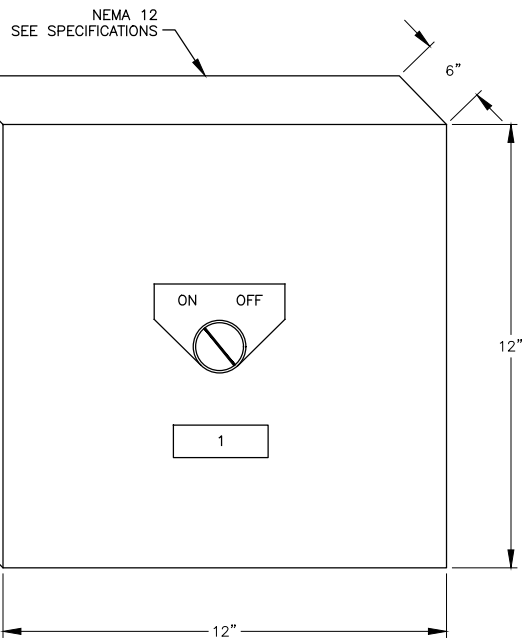
- NOTES:**
1. BACKFILL TRENCHES IN 6-INCH MAXIMUM LIFTS. COMPACT EACH LIFT. SEE SPECIFICATIONS.
  2. WHERE APPLICABLE, INSTALL UNDERGROUND ELECTRIC CONDUIT IN JOINT TRENCH WITH WET-UTILITY PIPING.
  3. THIS DETAIL IS INTENDED TO PROVIDE ELECTRICAL TRENCH REQUIREMENTS AND MINIMUM SEPARATIONS BETWEEN ELECTRIC CONDUITS AND WET UTILITY PIPING. REFER TO CIVIL DRAWINGS FOR ADDITIONAL WATER PIPE TRENCHING REQUIREMENTS.

**3 CONDUIT TRENCH THROUGH PAVED AREA**  
NTS



- NOTES:**
1. PROVIDE H-20 TRAFFIC RATED COVER.
  2. ANNULAR PAD NOT REQUIRED FOR INSTALLATIONS IN DIRT.
  3. HANDHOLE COVERS SHALL BE PERMANENTLY IDENTIFIED (NOT PAINTED) WITH THE DESIGNATOR SHOWN ON THE PLAN DRAWINGS (EX. PB-Exy) AND THE WORDS "ELECTRICAL" OR "CONTROLS" AS APPROPRIATE.

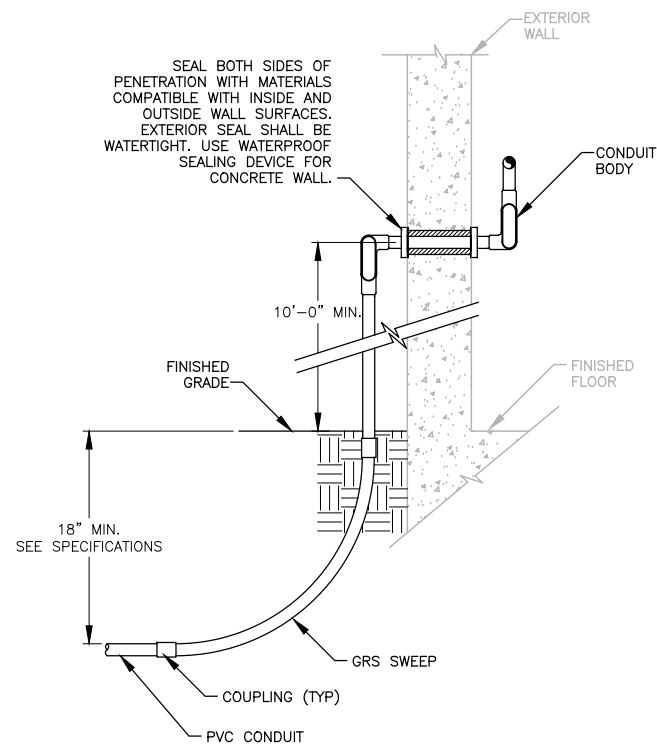
**4 CONCRETE HANDHOLE (PULLBOX)**  
NTS



ID	1ST LINE	2ND LINE	3RD LINE
1	EXTERIOR	LIGHTING CONTROLS	LCP-1

NAMEPLATE LEGEND

**5 EXTERIOR LIGHTING CONTROLS (LCP-1)**  
NTS



**6 BURIED CONDUIT TRANSITION TO BUILDING**  
NTS

DESIGN  
B. REID  
DRAWN  
R. OLIVER  
CHECKED  
D. MC HANEY  
APPROVED



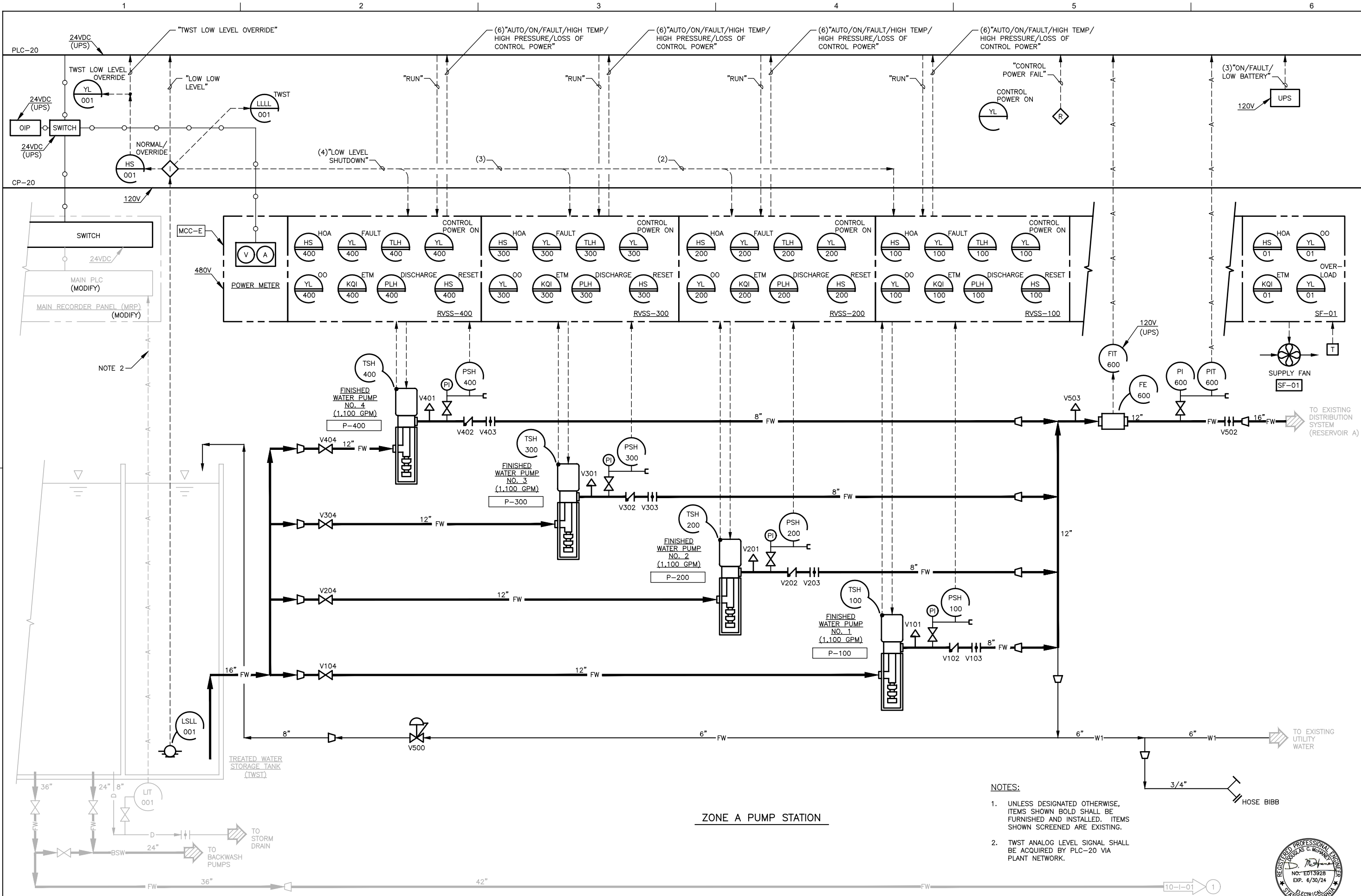
**WATERWORKS**  
ENGINEERS  
1405 Vidar Avenue, Suite A • Redding, CA 96003 • 530-243-2113



PARADISE IRRIGATION DISTRICT  
ZONE A PUMP STATION  
AND TRANSMISSION MAIN PROJECT  
PARADISE, CALIFORNIA

ELECTRICAL  
FACILITY 20  
DETAILS AND ELEVATIONS

DATE  
DECEMBER 2022  
PROJECT NUMBER  
17-041  
DRAWING NUMBER  
20-E-6  
SHEET NUMBER 36



NOTES:

- UNLESS DESIGNATED OTHERWISE, ITEMS SHOWN BOLD SHALL BE FURNISHED AND INSTALLED. ITEMS SHOWN SCREENED ARE EXISTING.
- TWST ANALOG LEVEL SIGNAL SHALL BE ACQUIRED BY PLC-20 VIA PLANT NETWORK.



**WATERWORKS**  
ENGINEERS  
1405 Vida Avenue, Suite A • Redding, CA 96003 • 530-243-2113

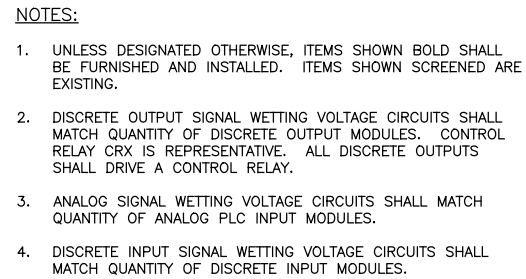
PARADISE IRRIGATION DISTRICT  
ZONE A PUMP STATION  
AND TRANSMISSION MAIN PROJECT  
PARADISE, CALIFORNIA

INSTRUMENTATION  
FACILITY 20  
PROCESS AND INSTRUMENTATION  
DIAGRAM

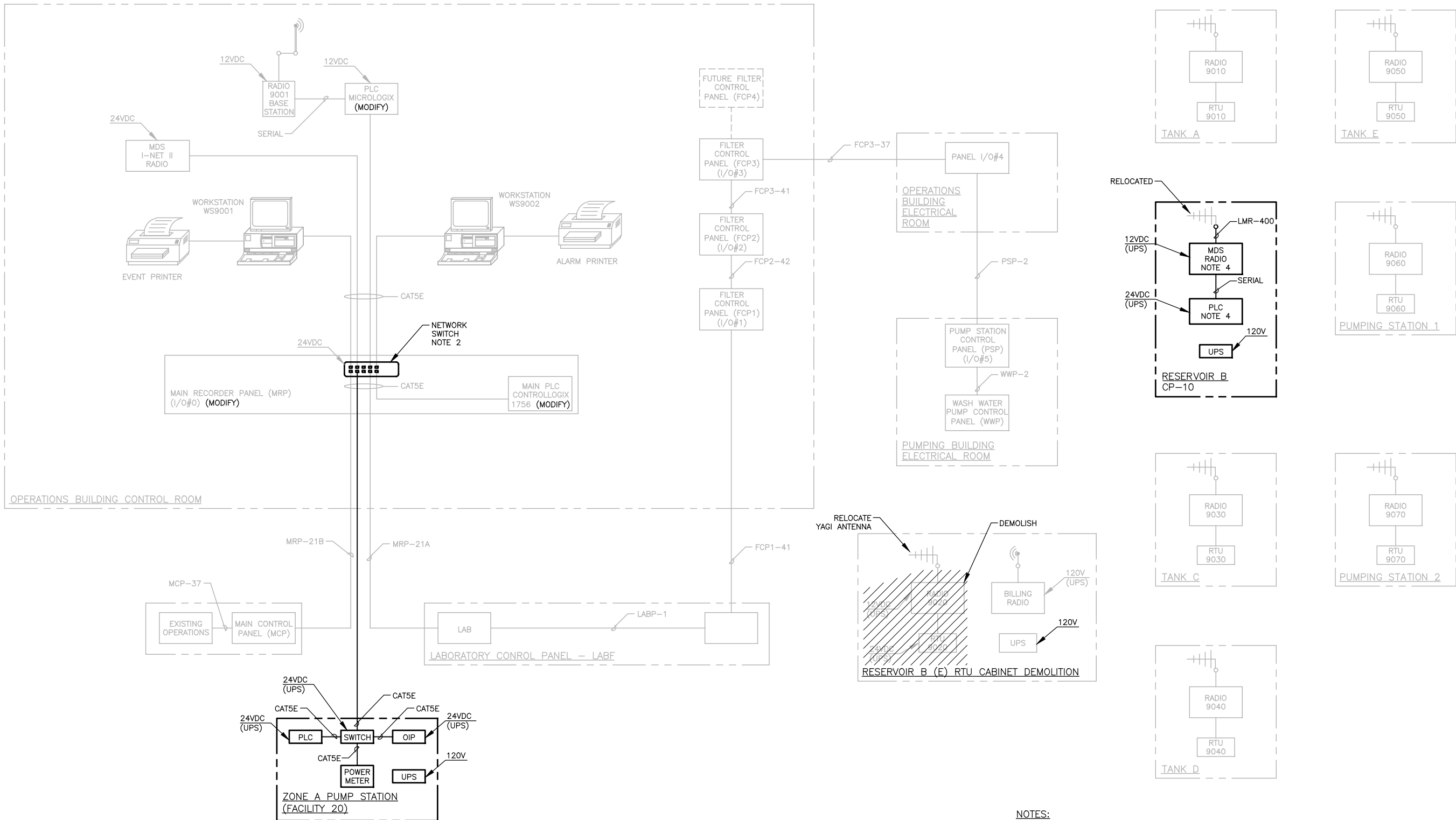
DATE  
DECEMBER 2022  
PROJECT NUMBER  
17-041  
DRAWING NUMBER  
20-I-1  
SHEET NUMBER 37

DESIGN  
B. REID  
DRAWN  
A. MARTINEZ  
CHECKED  
D. MCHANEY  
APPROVED  
www.arcsin.com  
1238 Dale Drive, Redding, Oregon 97501  
(530) 243-2113





P:\1750 PARADISE IRRIGATION DISTRICT DESIGN\DRAWINGS\1750-20-1-03.DWG



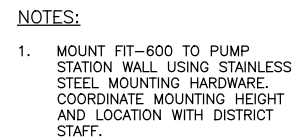
NOTES:

- UNLESS DESIGNATED OTHERWISE, ITEMS SHOWN BOLD SHALL BE FURNISHED AND INSTALLED. ITEMS SHOWN SCREENED ARE EXISTING.
- REPLACE EXISTING NETWORK SWITCH IN MRP. EXISTING SWITCH SHALL BE SALVAGED AND TURNED OVER TO THE DISTRICT. SEE SPECIFICATIONS.
- EXISTING EQUIPMENT AND INTERCONNECTION SHOWN WAS OBTAINED FROM EXISTING PLANT RECORD DRAWINGS AND WAS NOT FIELD VERIFIED BY THE 2018 ENGINEER OF RECORD.
- FOR PROGRAMMING PURPOSES, EXISTING FACILITY 10 PLC AND RADIO WERE PREVIOUSLY REFERENCED WITH "9020" SUFFIX.
- THIS DRAWING, INCLUDING ALL COMMUNICATION SYSTEM ELEMENTS LOCATED ON THE WATER TREATMENT PLANT PREMISES, SHALL BE AS-BUILT AS PART OF THIS CONTRACT. SEE SPECIFICATIONS.

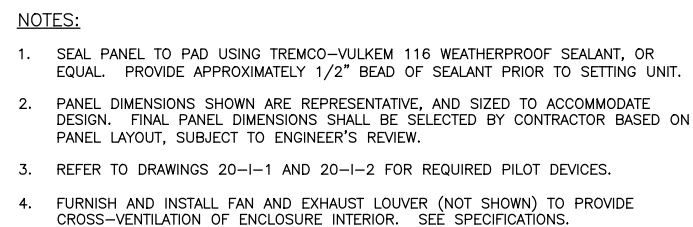


INSTRUMENTATION	DATE DECEMBER 2022
	PROJECT NUMBER 17-041
	DRAWING NUMBER 20-1-3
	SHEET NUMBER 39
COMMUNICATION BLOCK DIAGRAM	
PARADISE IRRIGATION DISTRICT ZONE A PUMP STATION AND TRANSMISSION MAIN PROJECT PARADISE, CALIFORNIA	
WATERWORKS ENGINEERS 1405 Vidar Avenue, Suite A • Redding, CA 96003 • 530-243-2113 Serving since 1916	
DESIGN: B. REID DRAWN: A. MARTINEZ CHECKED: D. McHANEY APPROVED: [Signature]	

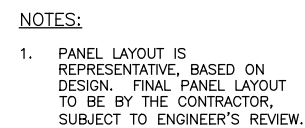
## 1 PRESSURE INSTRUMENTS



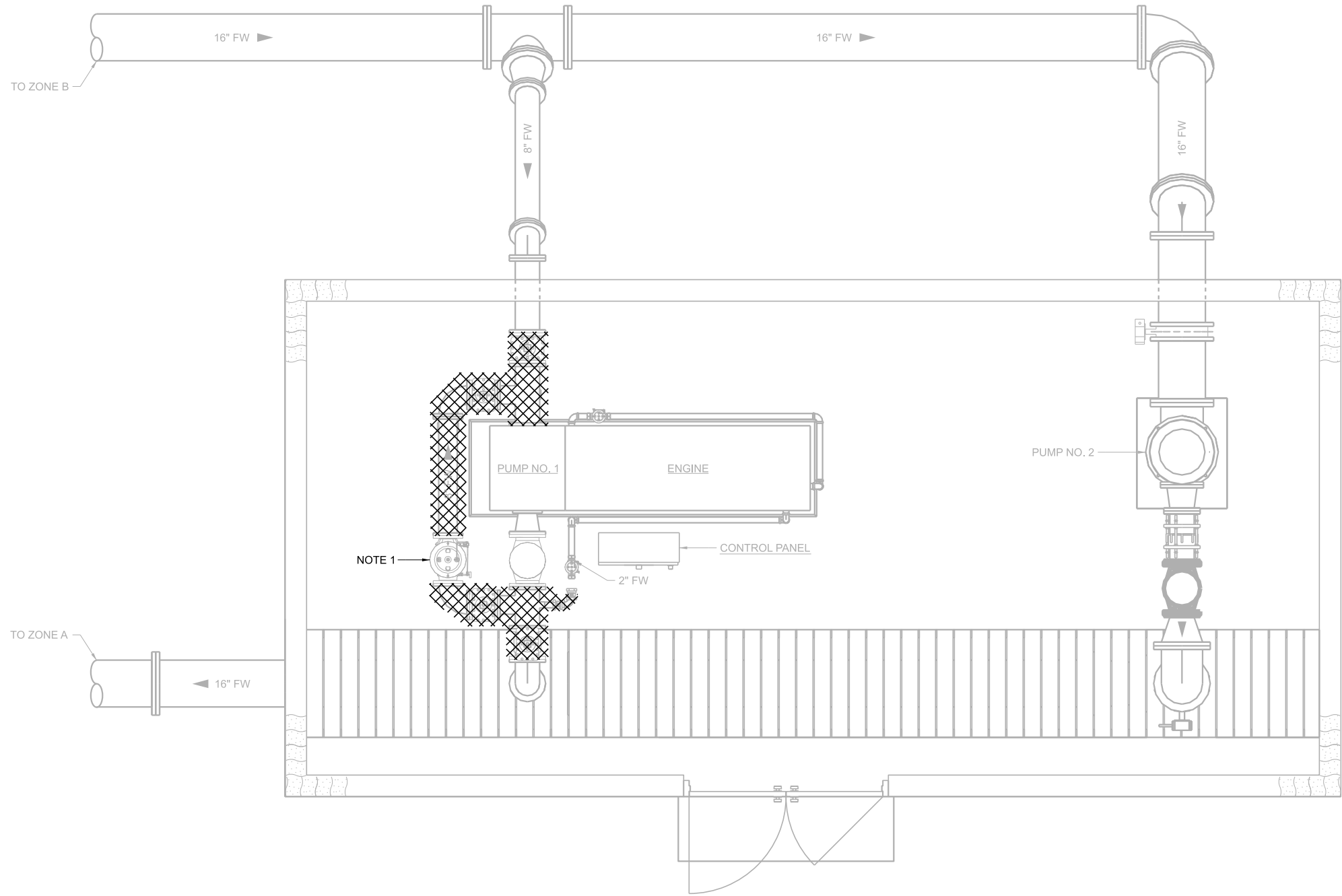
**2** MAGNETIC FLOWMETER —  
WITH REMOTE TRANSMITTER  
NTS



4 CONTROL PANEL CP-20 ENCLOSURE  
NTS



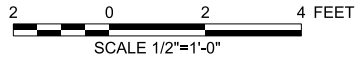
5 CONTROL PANEL CP-20 INTERIOR ELEVATION  
NTS



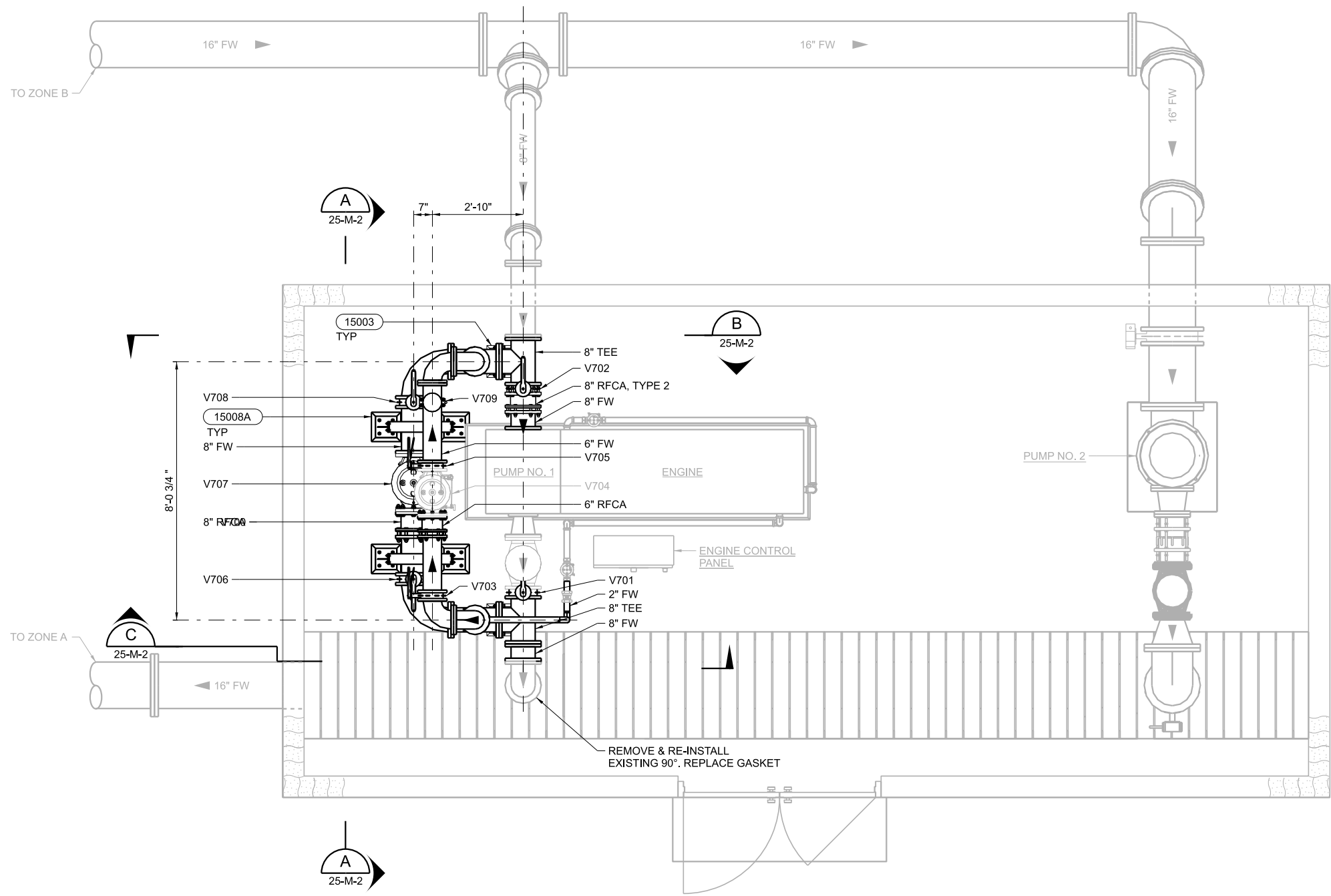
NOTES:

1. SALAVAGE EXISTING VALVE FOR REINSTALLATION PER 25-M-1 AND 25-M-2.

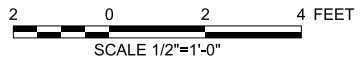
PLAN  
1/2" = 1'-0"



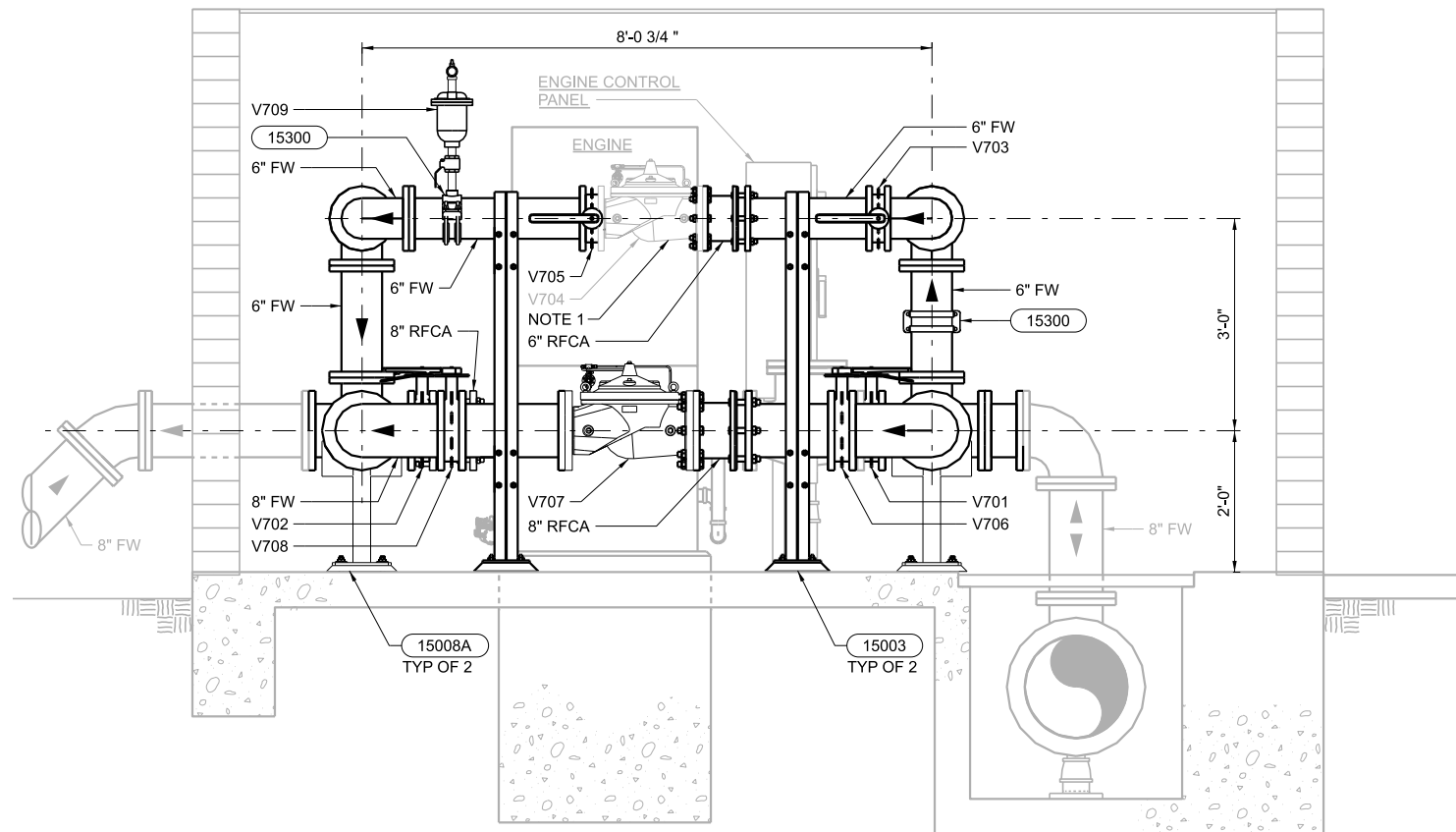
DESIGNED S MAGLADRY		PARADISE IRRIGATION DISTRICT ZONE A PUMP STATION AND TRANSMISSION MAIN PROJECT PARADISE, CA	DEMOLITION FACILITY 25 DEMOLITION PLAN	DATE DECEMBER 2022
DRAWN J MARTIN				PROJECT NUMBER 17-041
CHECKED S KADER				DRAWING NUMBER 25-D-1
APPROVED S KADER				SHEET NUMBER 41



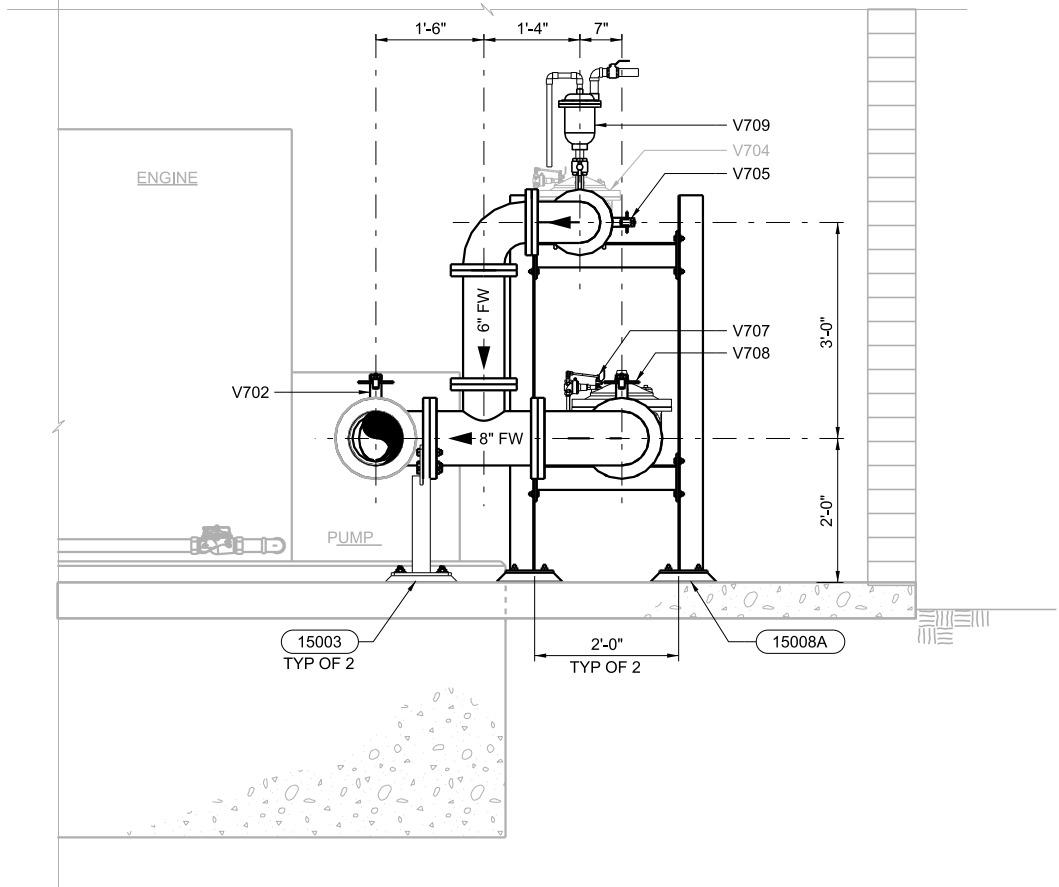
**PLAN**  
1/2" = 1'-0"



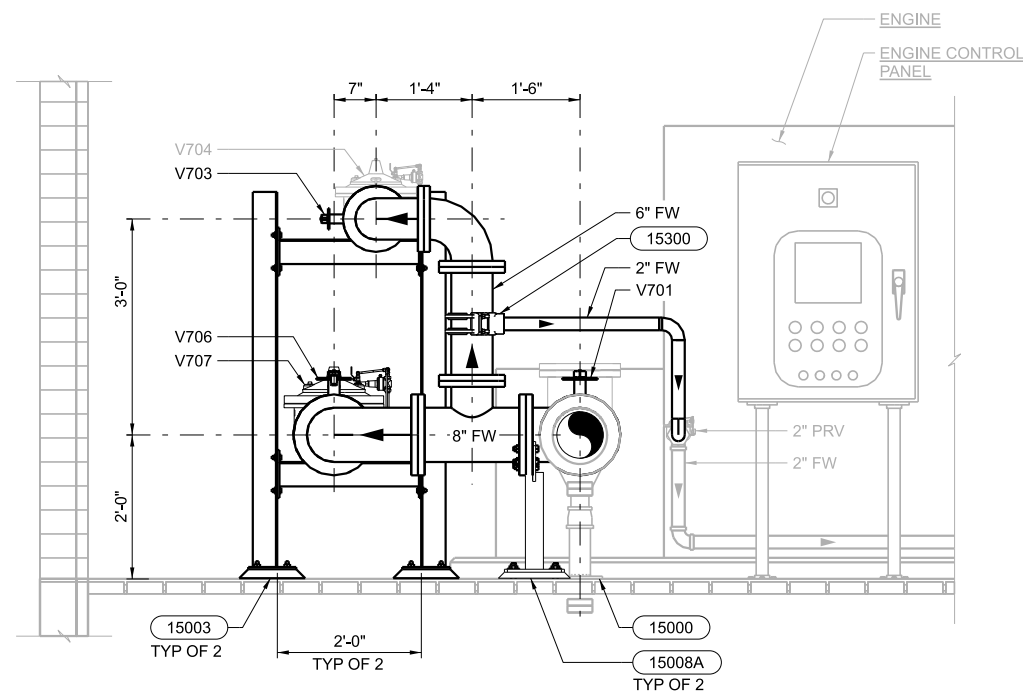
DESIGNED S. MAGLADRY	
DRAWN J. MARTIN	
CHECKED S. KADER	
APPROVED S. KADER	
<b>WATERWORKS ENGINEERS</b>	
PARADISE IRRIGATION DISTRICT ZONE A PUMP STATION AND TRANSMISSION MAIN PROJECT PARADISE, CA	
MECHANICAL FACILITY 25 FOUNDATION PLAN	
DATE DECEMBER 2022	
PROJECT NUMBER 17-041	
DRAWING NUMBER 25-M-1	
SHEET NUMBER 42	



**A SECTION**  
5-M-1 3/4" = 1'-0"



**B SECTION**  
5-M-1 3/4" = 1'-0"




**C SECTION**  
5-M-1 3/4" = 1'-0"

**NOTES:**

1. SALVAGE EXISTING PRESSURE REGULATING VALVE FOR REINSTALLATION AS SHOWN.

1 0 1 2 FEET  
SCALE 3/4"=1'-0"



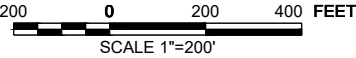
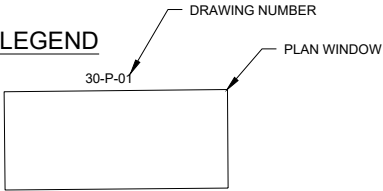
DESIGNED S. MAGLADRY	DRAWN J. MARTIN	CHECKED S. KADER	APPROVED S. KADER
			
<b>WATERWORKS</b> ENGINEERS			
PARADISE IRRIGATION DISTRICT ZONE A PUMP STATION AND TRANSMISSION MAIN PROJECT PARADISE, CA			
MECHANICAL <b>FACILITY 25</b> <b>SECTIONS</b>			
DATE <b>DECEMBER 2022</b> PROJECT NUMBER <b>17-041</b> DRAWING NUMBER <b>25-M-2</b> SHEET NUMBER <b>43</b>			

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TOPOGRAPHIC NOTES:

1. THIS COMPOSITE TOPOGRAPHIC MAP IS A COMPILATION OF THAT TOPOGRAPHIC AND RIGHT OF WAY SURVEY OF THE SKYWAY PREPARED BY GDA ENGINEERING, SURVEYING, PLANNING, DATED DECEMBER 13, 2001, JOB NO. 01-039 AND THAT TOPOGRAPHIC AND BOUNDARY SURVEY OF THE WATER TREATMENT FACILITY PREPARED BY L&L SURVEYING, DATED MARCH 2015, JOB NO. 14-10-92. THE DATA SHOWN HEREON HAS NOT BEEN VERIFIED, NOR FIELD CHECKED, AND MAY, OR MAY NOT ACCURATELY REPRESENT CURRENT SITE CONDITIONS. NO LIABILITY IS ASSUMED BY NORTHSTAR FOR THE ACCURACY OR COMPLETENESS OF THE INFORMATION REFLECTED HEREIN.
2. PHYSICAL ITEMS SHOWN ON THIS TOPOGRAPHIC SURVEY ARE LIMITED TO THOSE ITEMS VISIBLE BY SURFACE INSPECTION AS OF THE DATES OF SURVEYS NOTED ABOVE. SUBSURFACE STRUCTURES, IF ANY, MAY NOT BE SHOWN.
3. BENCHMARK: GDA POINT HV-12, L&L SURVEY POINT #18, BEING AN TARGET LOCATED AT THE SOUTHWESTERLY SIDE OF TANK IN THE WATER TREATMENT FACILITY, ELEVATION = 2209.45 (NGVD 29)

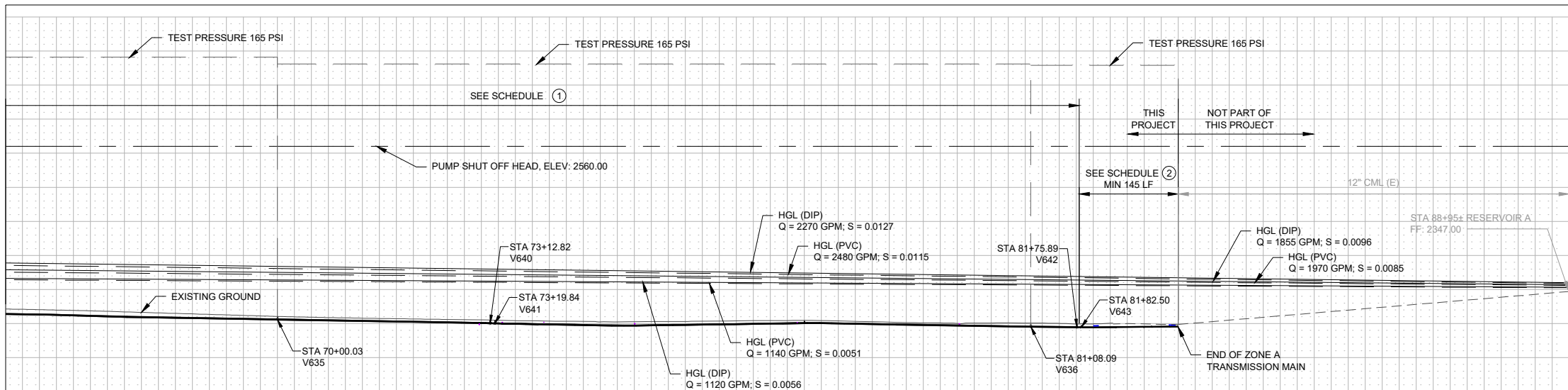
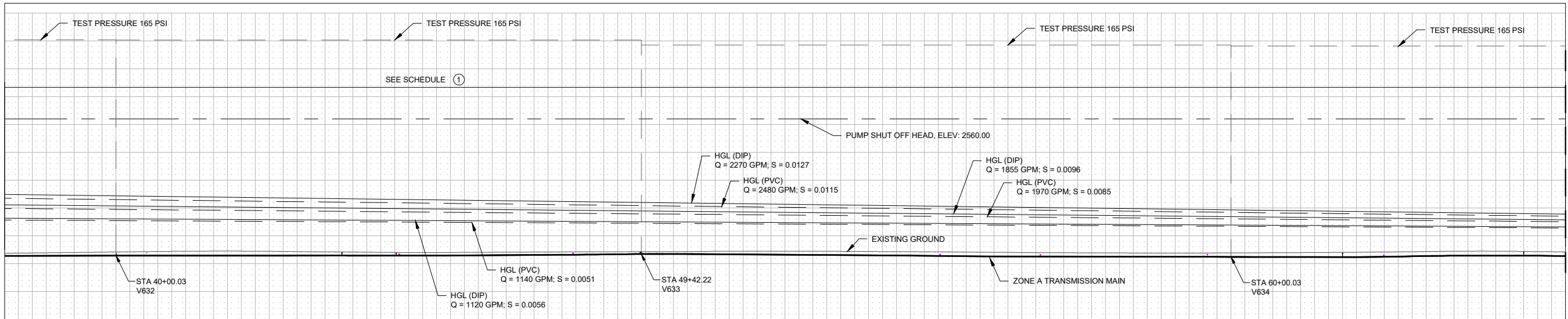
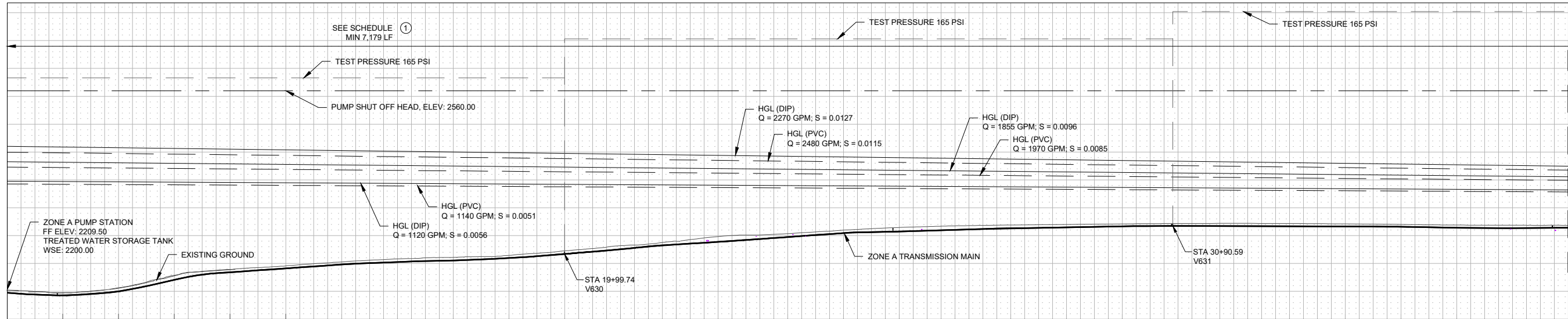


DESIGN K ALACON	DRAWN L CHAPMAN	CHECKED S KADER	APPROVED S KADER
<b>WATERWORKS</b> ENGINEERS			
PARADISE IRRIGATION DISTRICT ZONE A PUMP STATION AND TRANSMISSION MAIN PROJECT PARADISE, CALIFORNIA			
GENERAL KEY PLAN			
DATE DECEMBER 2022			
PROJECT NUMBER 17-041			
DRAWING NUMBER 30-G-01			
SHEET NUMBER 44			

L:\CAD\PROJECTS\17-041 PARADISE ID RES B REPLACEMENT\_(S)\X\OBsolete PROJECT FILES\DELIVERABLES\17-041-30-G-02.DWG

MATCHLINE - 38+00  
SEE ABOVE

MATCHLINE - 66+00  
SEE ABOVE



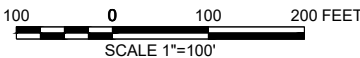
NOTES:

- THE HYDRAULIC GRADE LINES REPRESENT THE MAXIMUM STEADY-STATE HYDRAULIC GRADE LINE FOR EACH PUMPING CONDITION.
- PUMPING CONDITIONS ARE FOR 1, 2, OR 3 ACROSS-THE-LINE PUMPS OPERATING AT THE EMPTY RESERVOIR A CONDITION.

PIPE SCHEDULE

MIN SPECIFIED PIPE SIZE, MATERIAL, AND CLASS

- 16-INCH DIP CLASS 250 OR 16-INCH PVC DR 25
- 12-INCH DIP CLASS 250 OR 12-INCH PVC DR 25



JOB NUMBER: 17-041

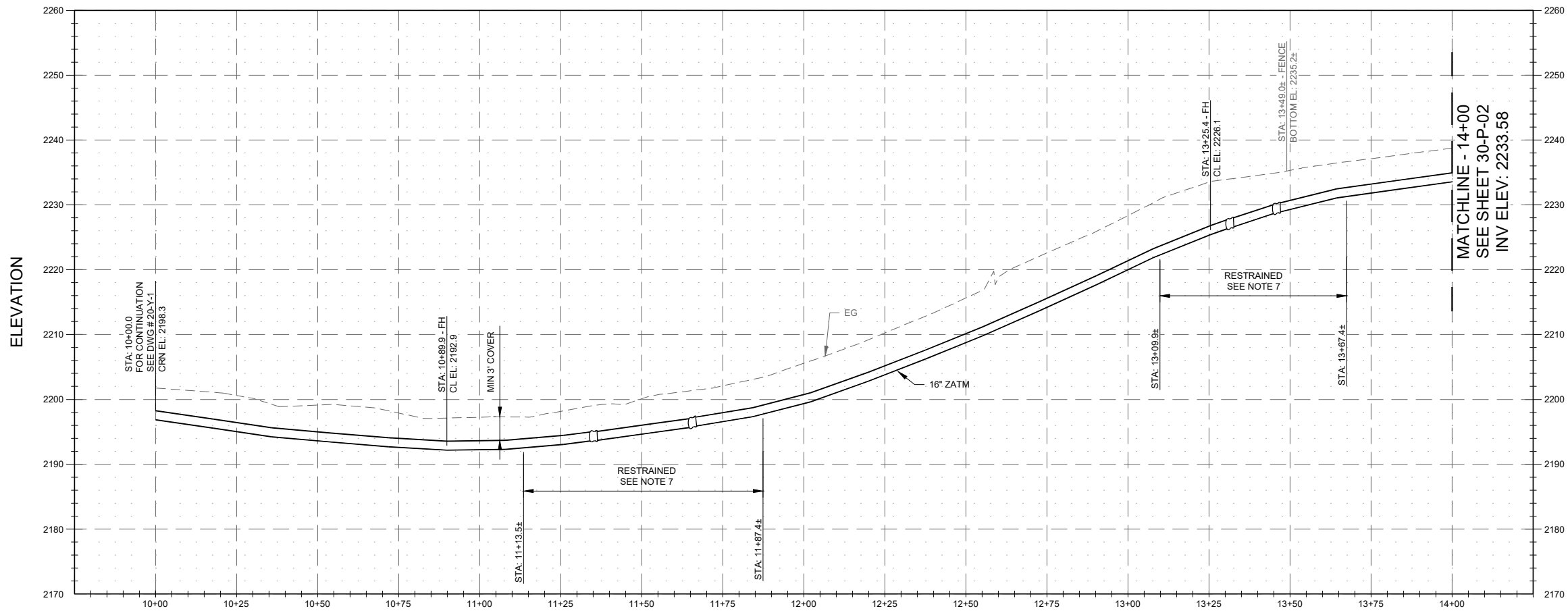
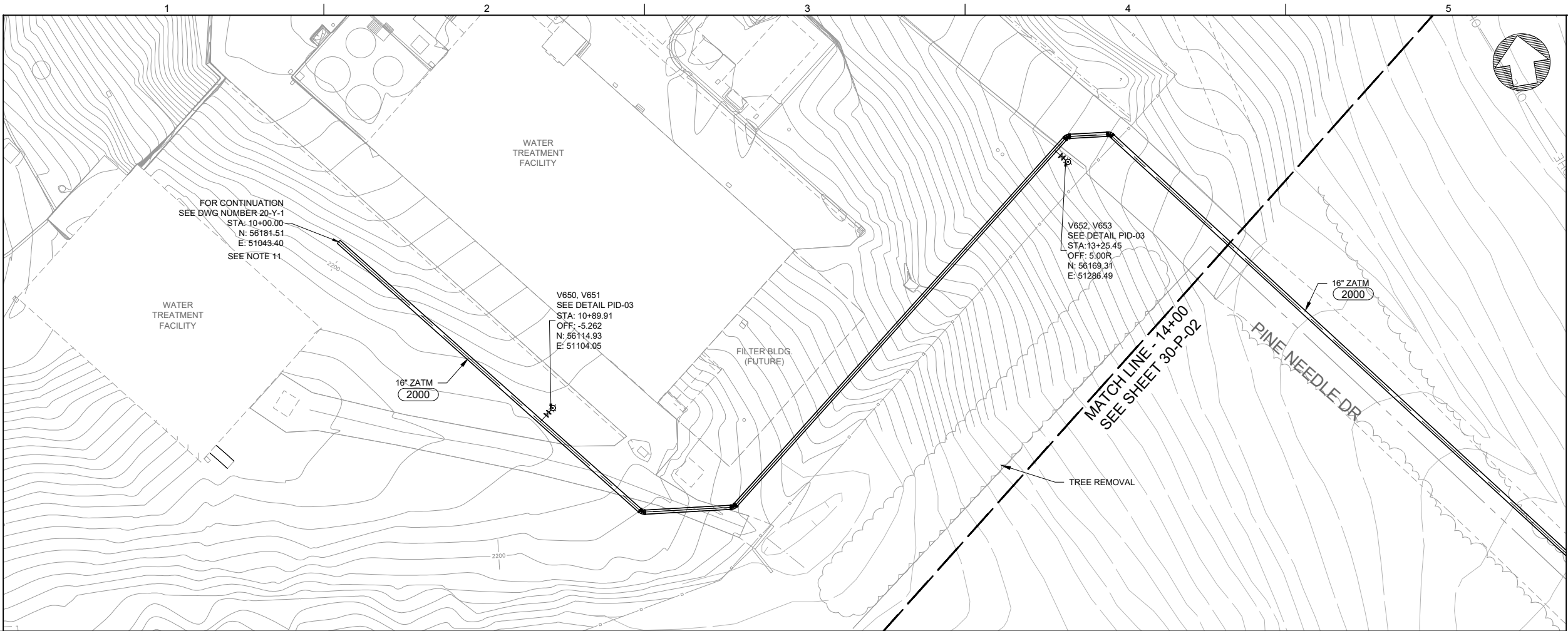
FILENAME: 17-041-30-G-02.DWG

PLOT DATE: 12/22/22

PLOT TIME: 15:46:32

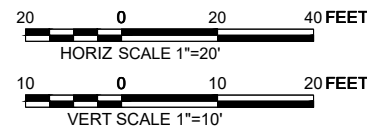
DESIGN K ALACON		A
DRAWN L CHAPMAN		
CHECKED S KADER		
APPROVED S KADER		
WATERWORKS ENGINEERS		B
PARADISE IRRIGATION DISTRICT		
ZONE A PUMP STATION AND TRANSMISSION MAIN PROJECT PARADISE, CALIFORNIA		
GENERAL		C
HYDRAULIC PROFILE AND PRESSURE TESTING		
DATE DECEMBER 2022		
PROJECT NUMBER 17-041		
DRAWING NUMBER 30-G-02		D
SHEET NUMBER 45		

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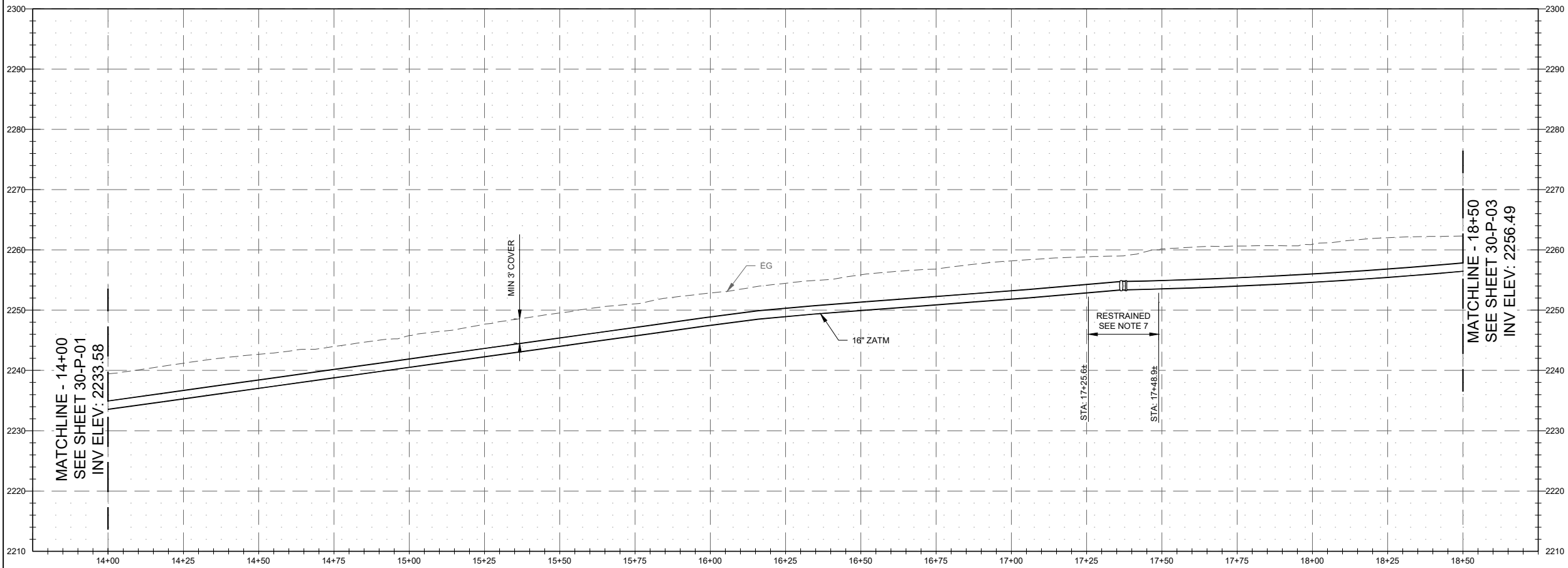
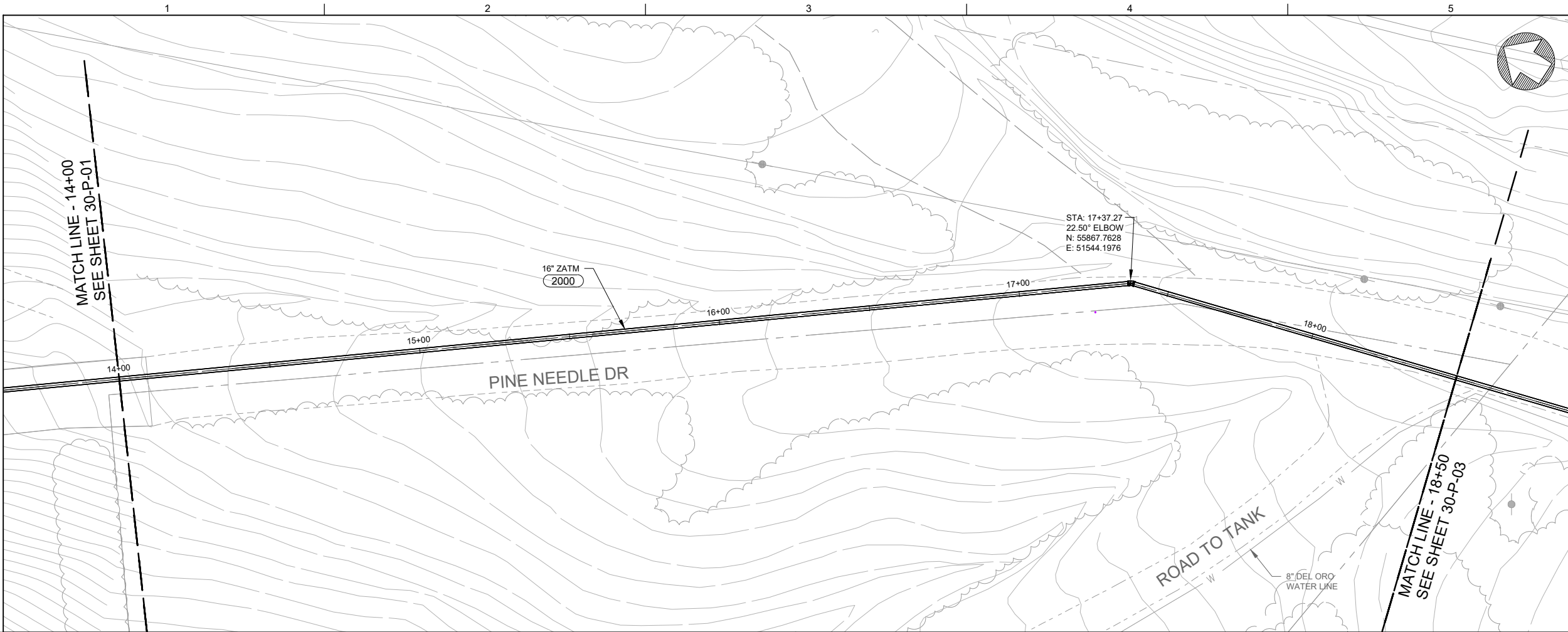
NOTES:

- COVER FOR BURIED PIPE IS 3'-0" MIN. UNLESS OTHERWISE NOTED. REPLACE TRENCH BACKFILL MATERIAL WITH CLSM IF BURIED PIPE COVER IS LESS THAN 3'-0".
- DESIGN PIPES SHOWN MINIMIZE HIGH POINTS AND MAINTAIN 3'-0" MIN. COVER. CONTRACTOR MAY DEViate PROVIDED THAT 3'-0" MIN. COVER IS MAINTAINED AND NO ADDITIONAL HIGH POINTS ARE ADDED. NO ZERO PIPE SLOPES ARE ALLOWED.
- CONTRACTOR SHALL MAINTAIN ACCESS FOR ALL LOCAL RESIDENTS AT ALL TIMES DURING CONSTRUCTION.
- CONTRACTOR SHALL MAINTAIN UTILITY SERVICES UNDISRUPTED TO HOMEOWNERS AT ALL TIMES.
- CONTRACTOR SHALL VERIFY POINT OF CONNECTION PRIOR TO CONSTRUCTION. LOCATIONS SHOWN ARE BEST REPRESENTATION BASED ON FIELD VISITS, AND AS-BUILT DRAWINGS.
- 12" MIN CLEARANCE FROM OTHER UTILITIES UNLESS OTHERWISE NOTED.
- PIPELINE SHALL BE MECHANICALLY RESTRAINED PER SPECIFICATION SECTION 15100.
- CONTRACTOR LIMIT IMPROVEMENTS ON PINE NEEDLE DRIVE TO TRENCH WORK.
- REFER TO GEOTECHNICAL REPORT FOR INFORMATION REGARDING HAZARDOUS MATERIALS THAT MAY BE ENCOUNTERED DURING DEMOLITION OF SERPENTINE ROCK.
- ALL POTHOLING, OR OTHER PROCEDURES FOR VERIFYING UTILITY LOCATION SHALL BE PERFORMED BY THE CONTRACTOR AS NECESSARY TO PREPARE FOR EXCAVATION AT LEAST TEN WORKING DAYS IN ADVANCE OF SCHEDULED EXCAVATION AND SHALL IMMEDIATELY NOTIFY THE ENGINEER AS TO ANY UTILITY LOCATED BY HIM WHICH HAS BEEN INCORRECTLY SHOWN OR OMITTED FROM THE DRAWINGS, PER SPECIFICATION SECTION 01110, 1.38.
- OWNER-FURNISHED EQUIPMENT FROM STA 10+00 TO STA 83+25. SEE SECTION 01643.



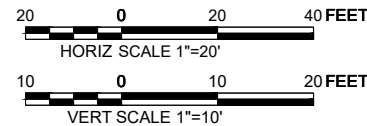
DESIGN K ALACON	DRAWN L CHAPMAN	CHECKED S KADER	APPROVED S KADER
<b>WATERWORKS</b> ENGINEERS			
PARADISE IRRIGATION DISTRICT ZONE A PUMP STATION AND TRANSMISSION MAIN PROJECT PARADISE, CALIFORNIA			
PLAN AND PROFILE STATION 10+00 TO 14+00			
DATE DECEMBER 2022			
PROJECT NUMBER 17-041			
DRAWING NUMBER 30-P-01			
SHEET NUMBER 46			

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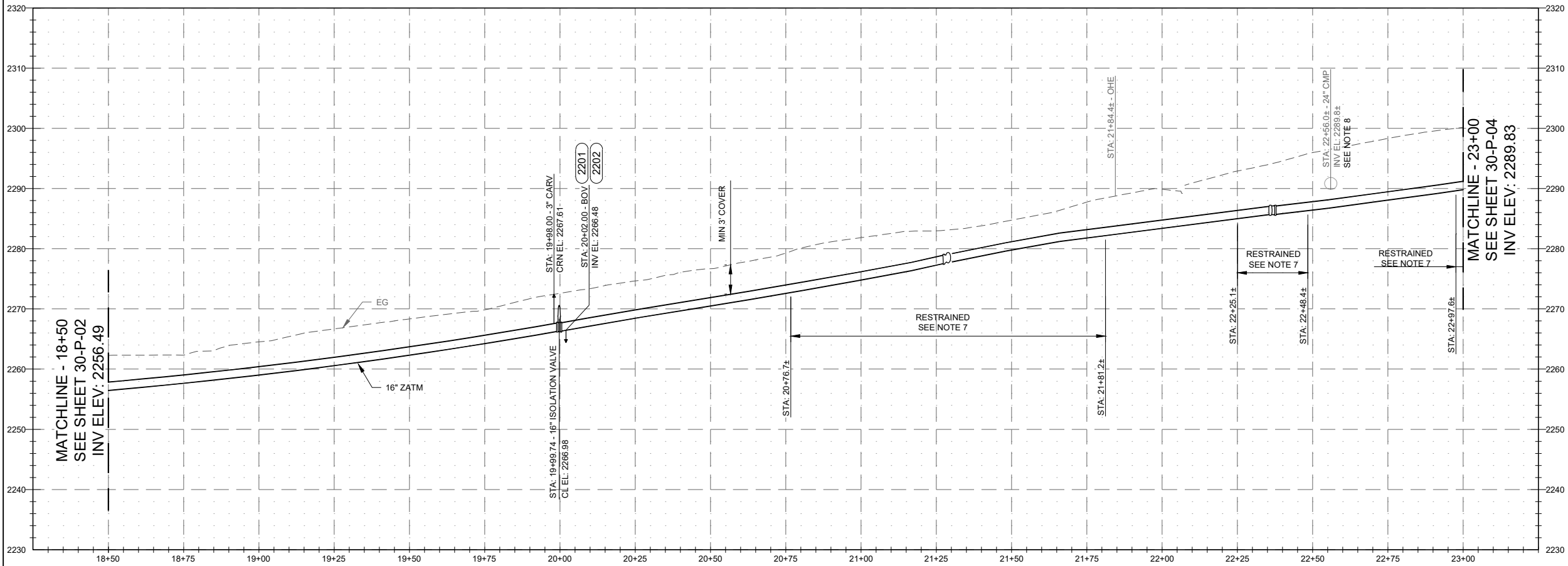
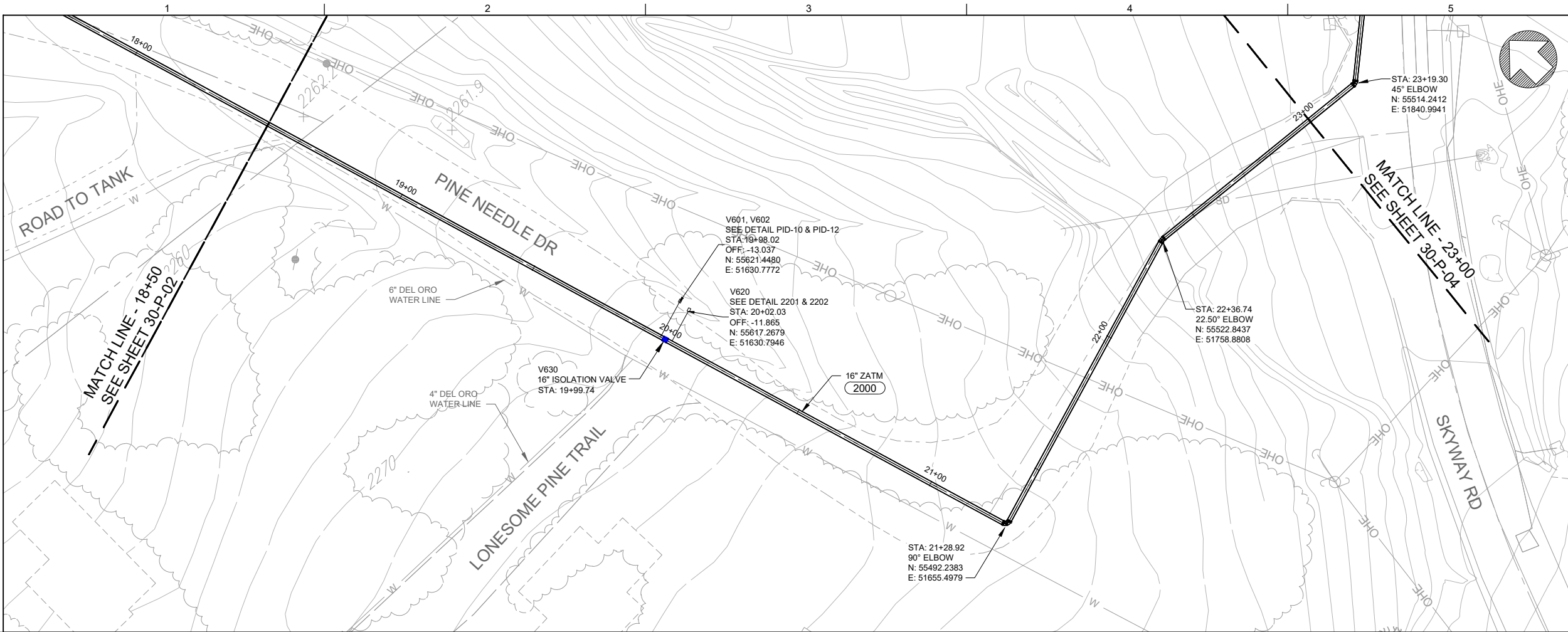
NOTES:

- COVER FOR BURIED PIPE IS 3'-0" MIN. UNLESS OTHERWISE NOTED. REPLACE TRENCH BACKFILL MATERIAL WITH CLSM IF BURIED PIPE COVER IS LESS THAN 3'-0".
- DESIGN PIPES SHOWN MINIMIZE HIGH POINTS AND MAINTAIN 3'-0" MIN. COVER. CONTRACTOR MAY DEVIATE PROVIDED THAT 3'-0" MIN. COVER IS MAINTAINED AND NO ADDITIONAL HIGH POINTS ARE ADDED. NO ZERO PIPE SLOPES ARE ALLOWED.
- CONTRACTOR SHALL MAINTAIN ACCESS FOR ALL LOCAL RESIDENTS AT ALL TIMES DURING CONSTRUCTION.
- CONTRACTOR SHALL MAINTAIN UTILITY SERVICES UNDISRUPTED TO HOMEOWNERS AT ALL TIMES.
- CONTRACTOR SHALL VERIFY POINT OF CONNECTION PRIOR TO CONSTRUCTION. LOCATIONS SHOWN ARE BEST REPRESENTATION BASED ON FIELD VISITS, AND AS-BUILT DRAWINGS.
- 12" MIN CLEARANCE FROM OTHER UTILITIES UNLESS OTHERWISE NOTED.
- PIPELINE SHALL BE MECHANICALLY RESTRAINED PER SPECIFICATION SECTION 15100.
- CONTRACTOR LIMIT IMPROVEMENTS ON PINE NEEDLE DRIVE TO TRENCH WORK.
- REFER TO GEOTECHNICAL REPORT FOR INFORMATION REGARDING HAZARDOUS MATERIALS THAT MAY BE ENCOUNTERED DURING DEMOLITION OF SERPENTINE ROCK.
- ALL POTHOLING, OR OTHER PROCEDURES FOR VERIFYING UTILITY LOCATION SHALL BE PERFORMED BY THE CONTRACTOR AS NECESSARY TO PREPARE FOR EXCAVATION AT LEAST TEN WORKING DAYS IN ADVANCE OF SCHEDULED EXCAVATION AND SHALL IMMEDIATELY NOTIFY THE ENGINEER AS TO ANY UTILITY LOCATED BY HIM WHICH HAS BEEN INCORRECTLY SHOWN OR OMITTED FROM THE DRAWINGS, PER SPECIFICATION SECTION 01110, 1.38.



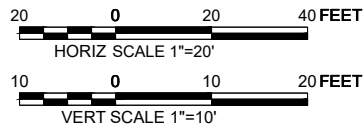
DESIGN K ALACON	DRAWN L CHAPMAN	CHECKED S KADER	APPROVED S KADER
			
<b>WATERWORKS</b> ENGINEERS			
PARADISE IRRIGATION DISTRICT ZONE A PUMP STATION AND TRANSMISSION MAIN PROJECT PARADISE, CALIFORNIA			
PLAN AND PROFILE STATION 14+00 TO 18+50			
DATE DECEMBER 2022			
PROJECT NUMBER 17-041			
DRAWING NUMBER 30-P-02			
SHEET NUMBER 47			

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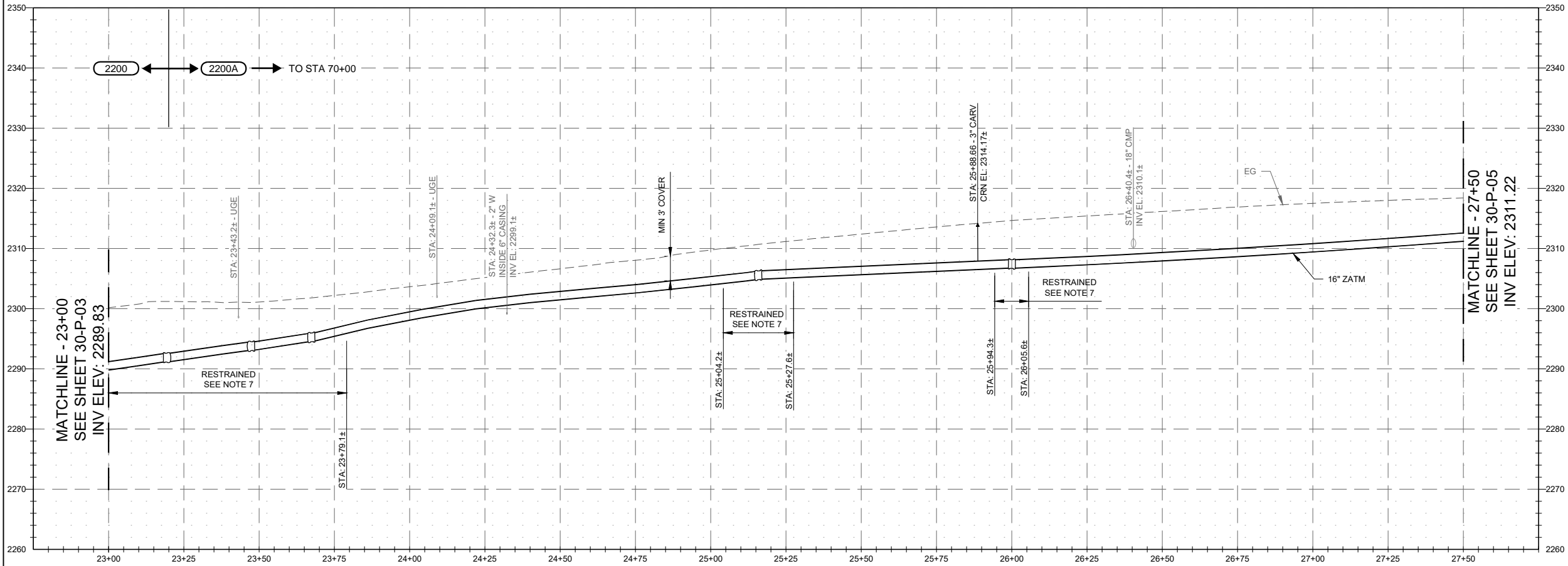
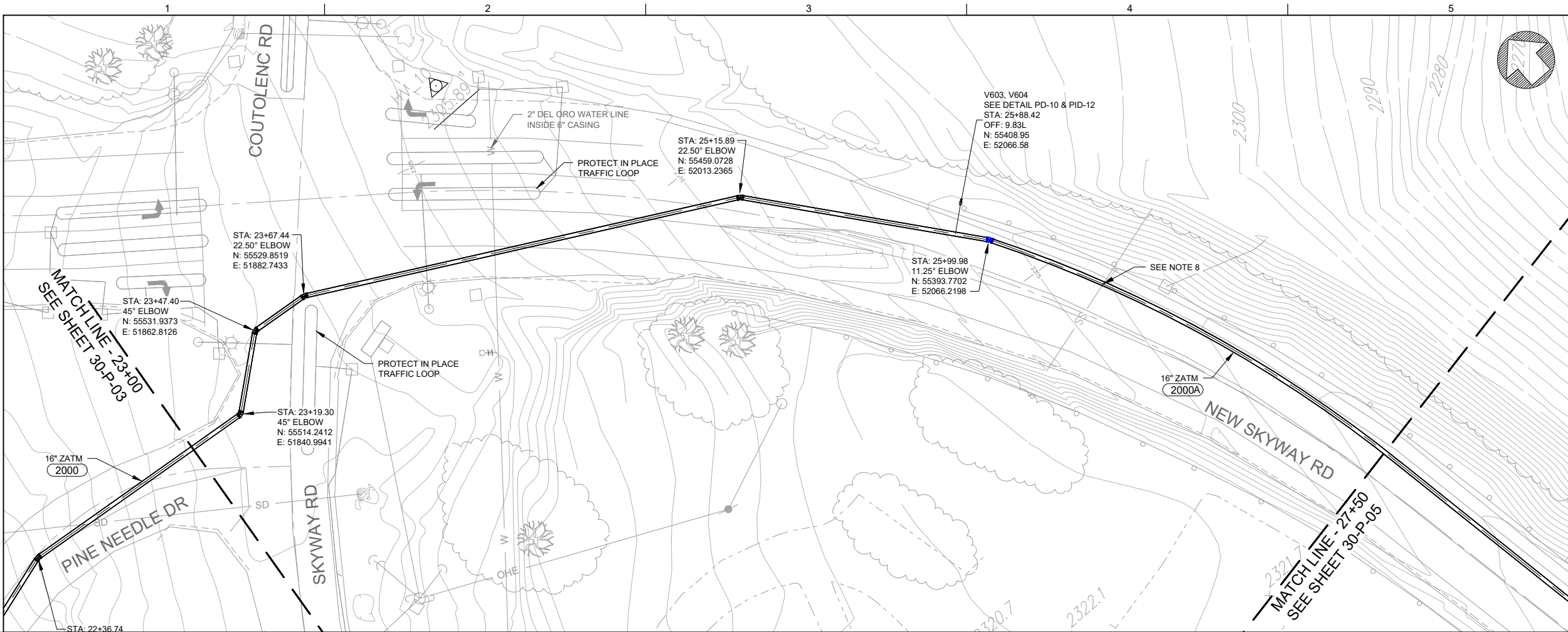
NOTES:

- COVER FOR BURIED PIPE IS 3'-0" MIN. UNLESS OTHERWISE NOTED. REPLACE TRENCH BACKFILL MATERIAL WITH CLSM IF BURIED PIPE COVER IS LESS THAN 3'-0".
- DESIGN PIPES SHOWN MINIMIZE HIGH POINTS AND MAINTAIN 3'-0" MIN. COVER. CONTRACTOR MAY DEVIATE PROVIDED THAT 3'-0" MIN. COVER IS MAINTAINED AND NO ADDITIONAL HIGH POINTS ARE ADDED. NO ZERO PIPE SLOPES ARE ALLOWED.
- CONTRACTOR SHALL MAINTAIN ACCESS FOR ALL LOCAL RESIDENTS AT ALL TIMES DURING CONSTRUCTION.
- CONTRACTOR SHALL MAINTAIN UTILITY SERVICES UNDISRUPTED TO HOMEOWNERS AT ALL TIMES.
- CONTRACTOR SHALL VERIFY POINT OF CONNECTION PRIOR TO CONSTRUCTION. LOCATIONS SHOWN ARE BEST REPRESENTATION BASED ON FIELD VISITS, AND AS-BUILT DRAWINGS.
- 12" MIN CLEARANCE FROM OTHER UTILITIES UNLESS OTHERWISE NOTED.
- PIPELINE SHALL BE MECHANICALLY RESTRAINED PER SPECIFICATION SECTION 15100.
- THE WATER MAIN SHOULD HAVE NO JOINTS WITHIN 8 FEET FROM EITHER SIDE OF A STORM DRAIN OR SANITARY SEWER AT NO LESS THAN 45-DEGREES.
- CONTRACTOR LIMIT IMPROVEMENTS ON PIE NEEDLE DRIVE TO TRENCH WORK.
- REFER TO GEOTECHNIAL REPORT FOR INFORMATION REGARDING HAZARDOUS MATERIALS THAT MAY BE ENCOUNTERED DURING DEMOLITION OF SERPENTINE ROCK.
- ALL POTHOLING, OR OTHER PROCEDURES FOR VERIFYING UTILITY LOCATION SHALL BE PERFORMED BY THE CONTRACTOR AS NECESSARY TO PREPARE FOR EXCAVATION AT LEAST TEN WORKING DAYS IN ADVANCE OF SCHEDULED EXCAVATION AND SHALL IMMEDIATELY NOTIFY THE ENGINEER AS TO ANY UTILITY LOCATED BY HIM WHICH HAS BEEN INCORRECTLY SHOWN OR OMITTED FROM THE DRAWINGS, PER SPECIFICATION SECTION 01110, 1.38.



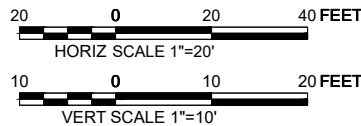
DESIGN K ALACON	DRAWN L CHAPMAN	CHECKED S KADER	APPROVED S KADER
<b>WATERWORKS</b> ENGINEERS			
PARADISE IRRIGATION DISTRICT			
ZONE A PUMP STATION AND TRANSMISSION MAIN PROJECT			
PARADISE, CALIFORNIA			
PLAN AND PROFILE			
STATION 18+50 TO 23+00			
DATE DECEMBER 2022			
PROJECT NUMBER 17-041			
DRAWING NUMBER 30-P-03			
SHEET NUMBER 48			

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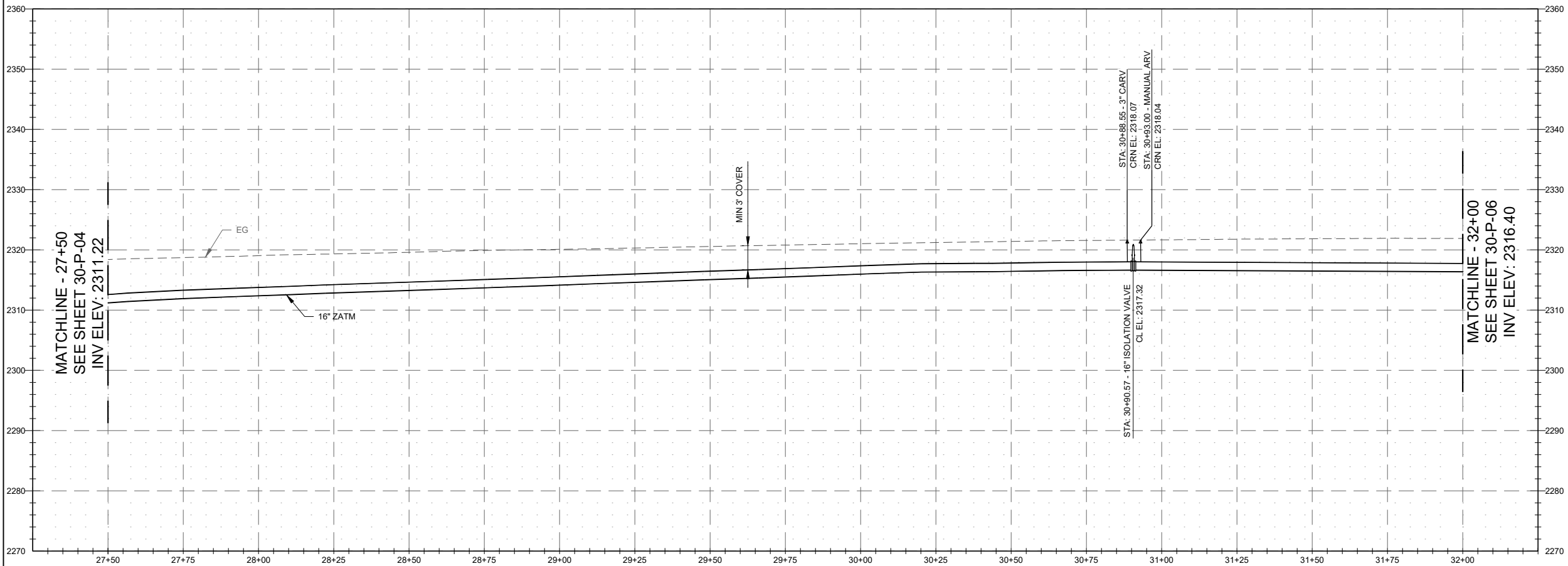
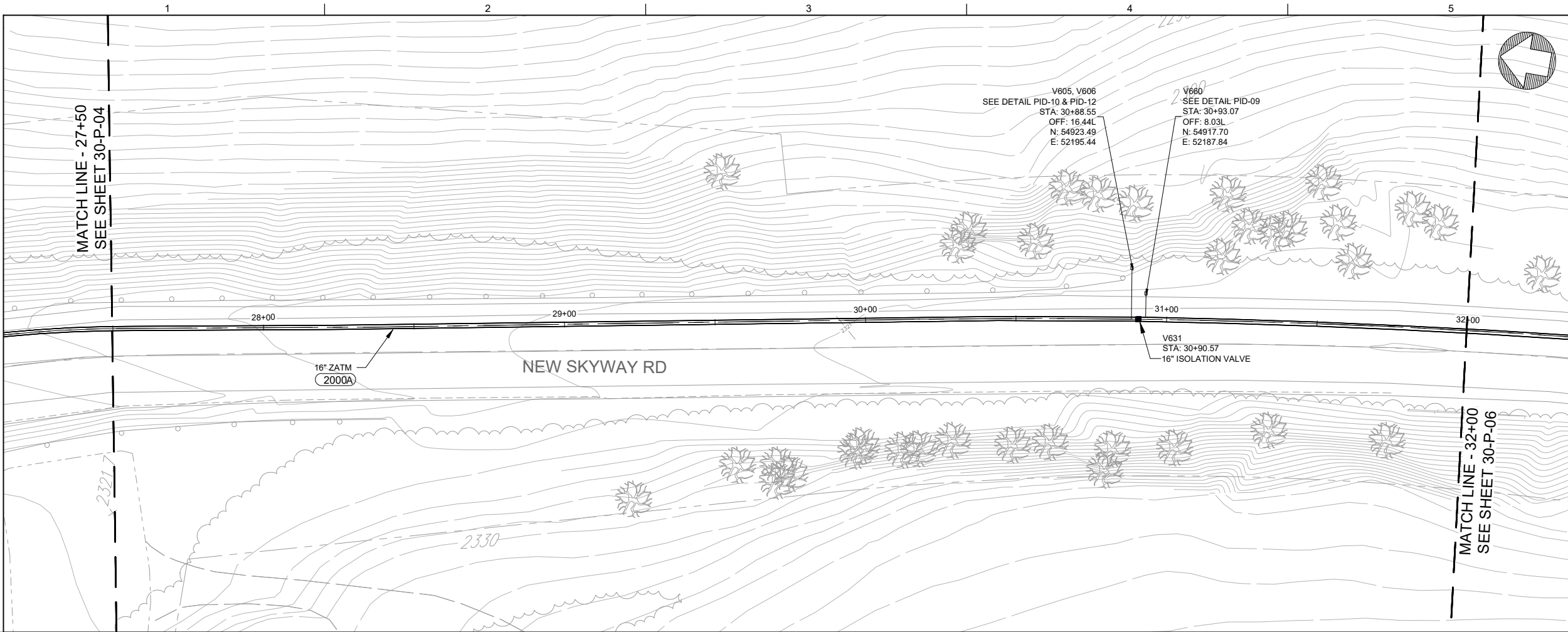
NOTES:

- COVER FOR BURIED PIPE IS 3'-0" MIN. UNLESS OTHERWISE NOTED. REPLACE TRENCH BACKFILL MATERIAL WITH CLSM IF BURIED PIPE COVER IS LESS THAN 3'-0".
- DESIGN PIPES SHOWN MINIMIZE HIGH POINTS AND MAINTAIN 3'-0" MIN. COVER. CONTRACTOR MAY DEViate PROVIDED THAT 3'-0" MIN. COVER IS MAINTAINED AND NO ADDITIONAL HIGH POINTS ARE ADDED. NO ZERO PIPE SLOPES ARE ALLOWED.
- CONTRACTOR SHALL MAINTAIN ACCESS FOR ALL LOCAL RESIDENTS AT ALL TIMES DURING CONSTRUCTION.
- CONTRACTOR SHALL MAINTAIN UTILITY SERVICES UNDISRUPTED TO HOMEOWNERS AT ALL TIMES.
- CONTRACTOR SHALL VERIFY POINT OF CONNECTION PRIOR TO CONSTRUCTION. LOCATIONS SHOWN ARE BEST REPRESENTATION BASED ON FIELD VISITS, AND AS-BUILT DRAWINGS.
- 12" MIN CLEARANCE FROM OTHER UTILITIES UNLESS OTHERWISE NOTED.
- PIPELINE SHALL BE MECHANICALLY RESTRAINED PER SPECIFICATION SECTION 15100.
- THE WATER MAIN SHOULD HAVE NO JOINTS WITHIN 8 FEET FROM EITHER SIDE OF A STORM DRAIN OR SANITARY SEWER AT NO LESS THAN 45-DEGREES.
- CONTRACTOR LIMIT IMPROVEMENTS ON PINE NEEDLE DRIVE TO TRENCH WORK.
- REFER TO GEOTECHNIAL REPORT FOR INFORMATION REGARDING HAZARDOUS MATERIALS THAT MAY BE ENCOUNTERED DURING DEMOLITION OF SERPENTINE ROCK.
- ALL POTHOLING, OR OTHER PROCEDURES FOR VERIFYING UTILITY LOCATION SHALL BE PERFORMED BY THE CONTRACTOR AS NECESSARY TO PREPARE FOR EXCAVATION AT LEAST TEN WORKING DAYS IN ADVANCE OF SCHEDULED EXCAVATION AND SHALL IMMEDIATELY NOTIFY THE ENGINEER AS TO ANY UTILITY LOCATED BY HIM WHICH HAS BEEN INCORRECTLY SHOWN OR OMITTED FROM THE DRAWINGS, PER SPECIFICATION SECTION 01110, 1.38.



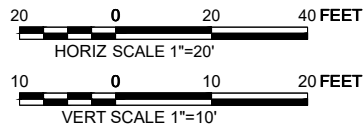
DESIGN K ALACON	DRAWN L CHAPMAN	CHECKED S KADER	APPROVED S KADER
<b>WATERWORKS</b> ENGINEERS			
PARADISE IRRIGATION DISTRICT ZONE A PUMP STATION AND TRANSMISSION MAIN PROJECT PARADISE, CALIFORNIA			
PLAN AND PROFILE STATION 23+00 TO 27+50			
DATE DECEMBER 2022			
PROJECT NUMBER 17-041			
DRAWING NUMBER 30-P-04			
SHEET NUMBER 49			


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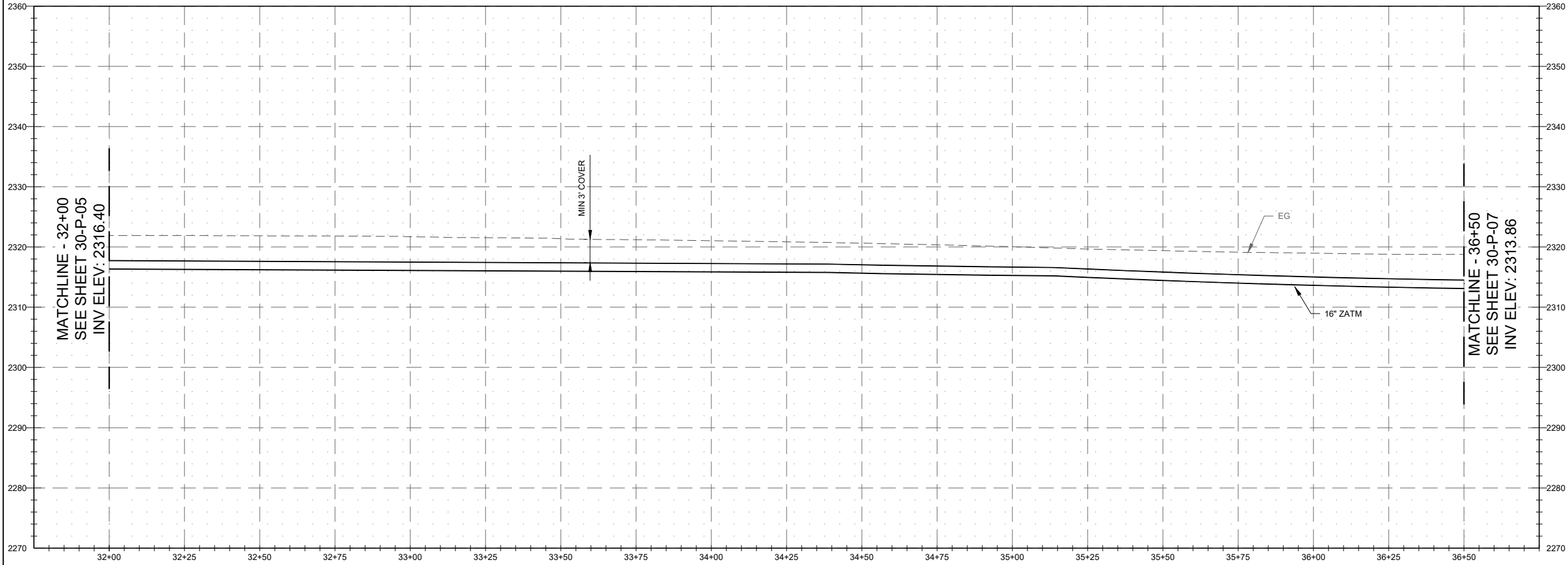
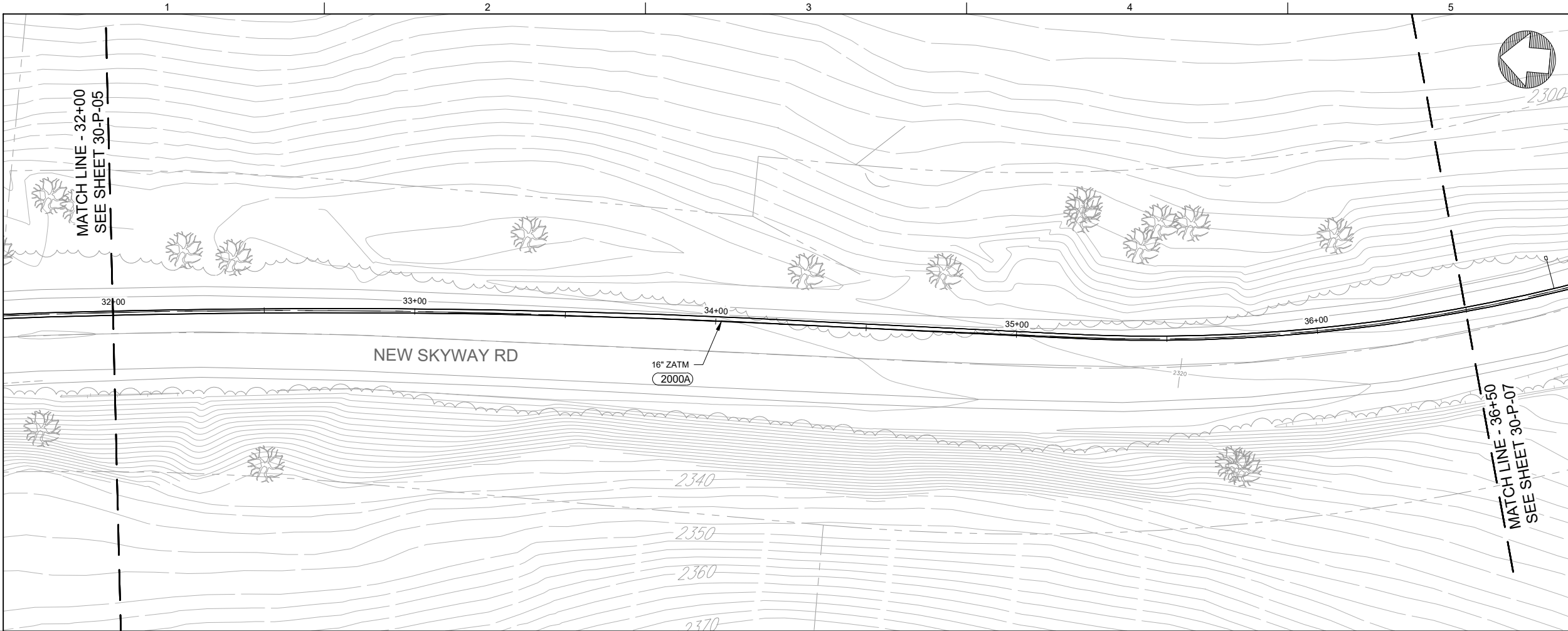
NOTES:

- COVER FOR BURIED PIPE IS 3'-0" MIN. UNLESS OTHERWISE NOTED. REPLACE TRENCH BACKFILL MATERIAL WITH CLSM IF BURIED PIPE COVER IS LESS THAN 3'-0".
- DESIGN PIPES SHOWN MINIMIZE HIGH POINTS AND MAINTAIN 3'-0" MIN. COVER. CONTRACTOR MAY DEVIATE PROVIDED THAT 3'-0" MIN. COVER IS MAINTAINED AND NO ADDITIONAL HIGH POINTS ARE ADDED. NO ZERO PIPE SLOPES ARE ALLOWED.
- CONTRACTOR SHALL MAINTAIN ACCESS FOR ALL LOCAL RESIDENTS AT ALL TIMES DURING CONSTRUCTION.
- CONTRACTOR SHALL MAINTAIN UTILITY SERVICES UNDISRUPTED TO HOMEOWNERS AT ALL TIMES.
- CONTRACTOR SHALL VERIFY POINT OF CONNECTION PRIOR TO CONSTRUCTION. LOCATIONS SHOWN ARE BEST REPRESENTATION BASED ON FIELD VISITS, AND AS-BUILT DRAWINGS.
- 12" MIN CLEARANCE FROM OTHER UTILITIES UNLESS OTHERWISE NOTED.
- PIPELINE SHALL BE MECHANICALLY RESTRAINED PER SPECIFICATION SECTION 15100.
- REFER TO GEOTECHNIAL REPORT FOR INFORMATION REGARDING HAZARDOUS MATERIALS THAT MAY BE ENCOUNTERED DURING DEMOLITION OF SERPENTINE ROCK.
- ALL POTHOLING, OR OTHER PROCEDURES FOR VERIFYING UTILITY LOCATION SHALL BE PERFORMED BY THE CONTRACTOR AS NECESSARY TO PREPARE FOR EXCAVATION AT LEAST TEN WORKING DAYS IN ADVANCE OF SCHEDULED EXCAVATION AND SHALL IMMEDIATELY NOTIFY THE ENGINEER AS TO ANY UTILITY LOCATED BY HIM WHICH HAS BEEN INCORRECTLY SHOWN OR OMITTED FROM THE DRAWINGS, PER SPECIFICATION SECTION 01110, 1.38.



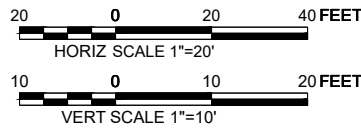
DESIGN K ALACON	DRAWN L CHAPMAN	CHECKED S KADER	APPROVED S KADER
 Serving since 1916			
<b>WATERWORKS</b> ENGINEERS			
PARADISE IRRIGATION DISTRICT ZONE A PUMP STATION AND TRANSMISSION MAIN PROJECT PARADISE, CALIFORNIA			
PLAN AND PROFILE STATION 27+50 TO 32+00			
DATE DECEMBER 2022			
PROJECT NUMBER 17-041			
DRAWING NUMBER 30-P-05			
SHEET NUMBER 50			

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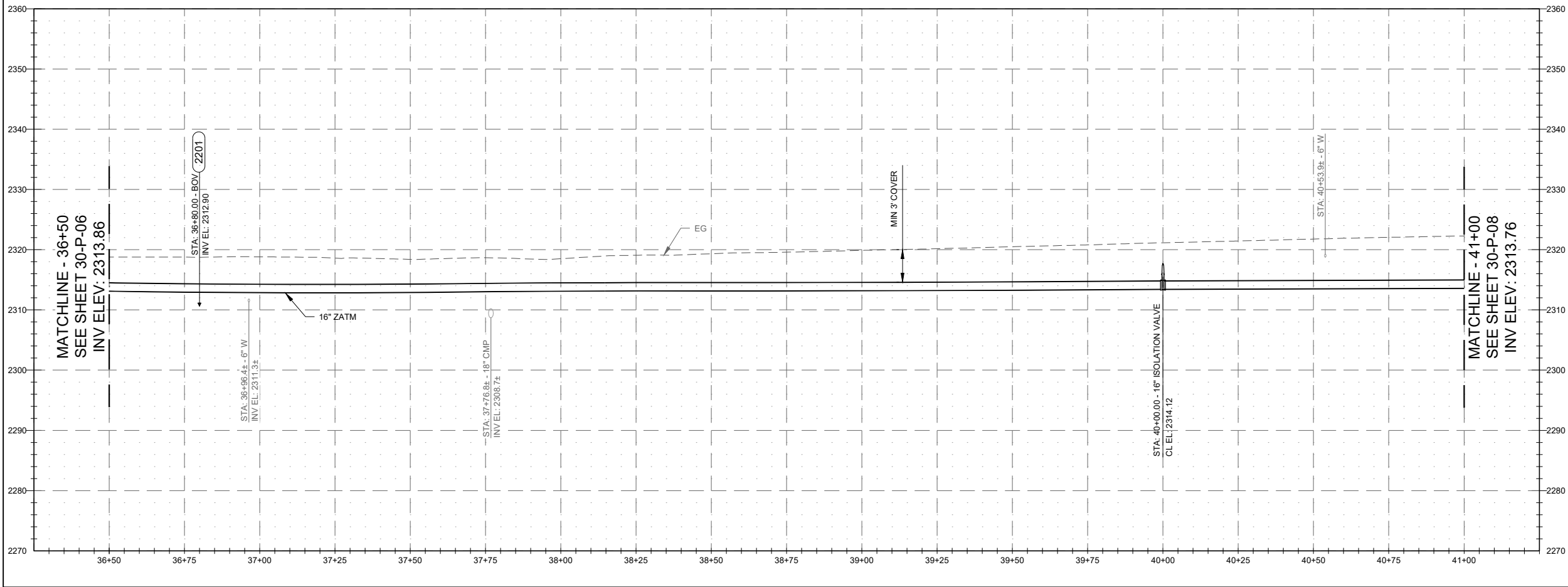
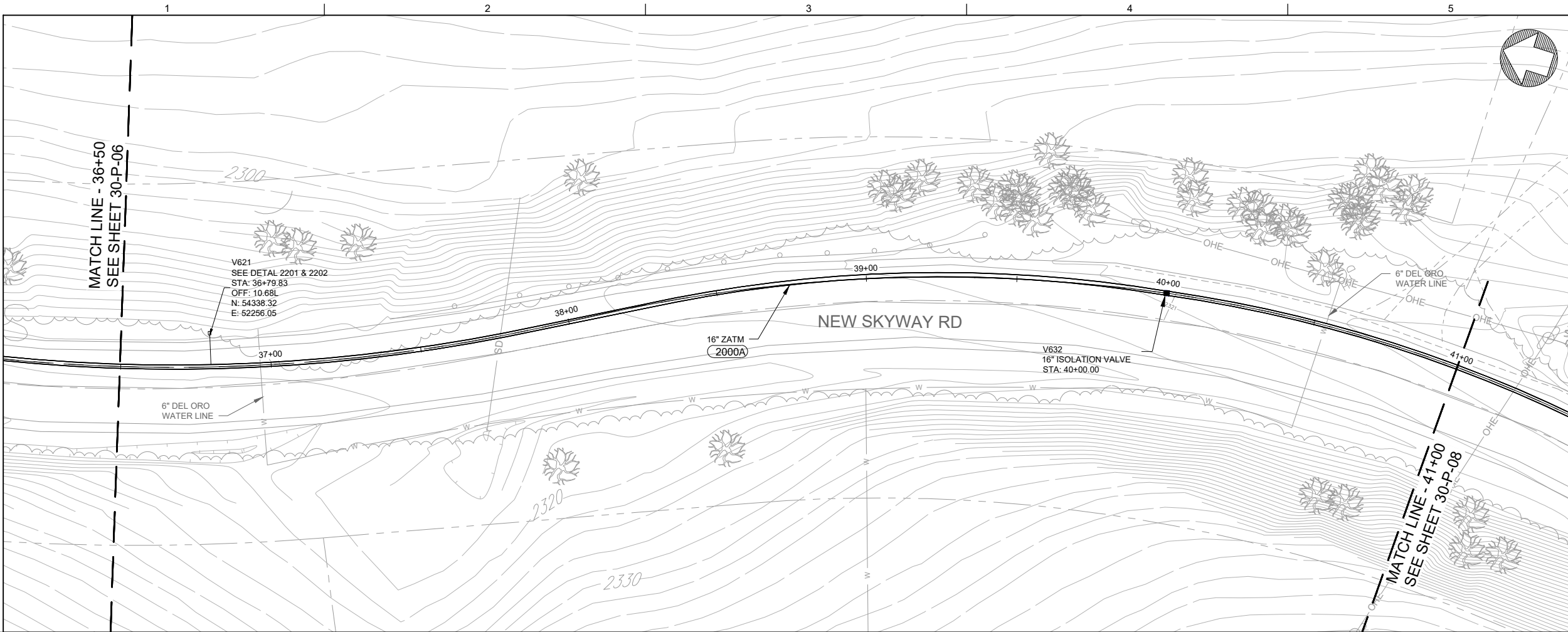
NOTES:

- COVER FOR BURIED PIPE IS 3'-0" MIN. UNLESS OTHERWISE NOTED. REPLACE TRENCH BACKFILL MATERIAL WITH CLSM IF BURIED PIPE COVER IS LESS THAN 3'-0".
- DESIGN PIPES SHOWN MINIMIZE HIGH POINTS AND MAINTAIN 3'-0" MIN. COVER. CONTRACTOR MAY DEVIATE PROVIDED THAT 3'-0" MIN. COVER IS MAINTAINED AND NO ADDITIONAL HIGH POINTS ARE ADDED. NO ZERO PIPE SLOPES ARE ALLOWED.
- CONTRACTOR SHALL MAINTAIN ACCESS FOR ALL LOCAL RESIDENTS AT ALL TIMES DURING CONSTRUCTION.
- CONTRACTOR SHALL MAINTAIN UTILITY SERVICES UNDISRUPTED TO HOMEOWNERS AT ALL TIMES.
- CONTRACTOR SHALL VERIFY POINT OF CONNECTION PRIOR TO CONSTRUCTION. LOCATIONS SHOWN ARE BEST REPRESENTATION BASED ON FIELD VISITS, AND AS-BUILT DRAWINGS.
- 12" MIN CLEARANCE FROM OTHER UTILITIES UNLESS OTHERWISE NOTED.
- PIPELINE SHALL BE MECHANICALLY RESTRAINED PER SPECIFICATION SECTION 15100.
- REFER TO GEOTECHNIAL REPORT FOR INFORMATION REGARDING HAZARDOUS MATERIALS THAT MAY BE ENCOUNTERED DURING DEMOLITION OF SERPENTINE ROCK.
- ALL POTHOLING, OR OTHER PROCEDURES FOR VERIFYING UTILITY LOCATION SHALL BE PERFORMED BY THE CONTRACTOR AS NECESSARY TO PREPARE FOR EXCAVATION AT LEAST TEN WORKING DAYS IN ADVANCE OF SCHEDULED EXCAVATION AND SHALL IMMEDIATELY NOTIFY THE ENGINEER AS TO ANY UTILITY LOCATED BY HIM WHICH HAS BEEN INCORRECTLY SHOWN OR OMITTED FROM THE DRAWINGS, PER SPECIFICATION SECTION 01110, 1.38.



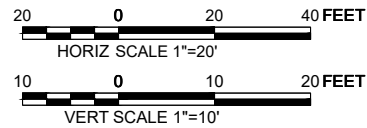
DESIGN K ALACON	DRAWN L CHAPMAN	CHECKED S KADER	APPROVED S KADER
<b>WATERWORKS</b> ENGINEERS			
PARADISE IRRIGATION DISTRICT			
ZONE A PUMP STATION AND TRANSMISSION MAIN PROJECT			
PARADISE, CALIFORNIA			
PLAN AND PROFILE			
STATION 32+00 TO 36+50			
DATE DECEMBER 2022			
PROJECT NUMBER 17-041			
DRAWING NUMBER 30-P-06			
SHEET NUMBER 51			

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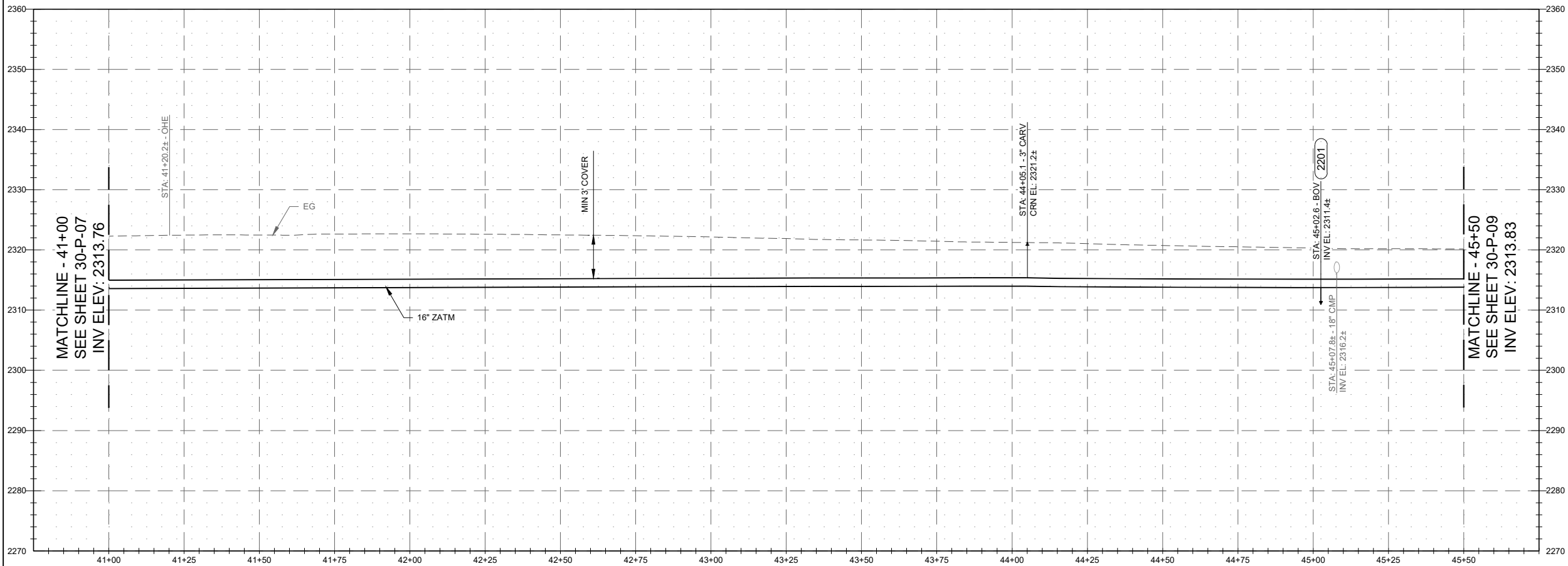
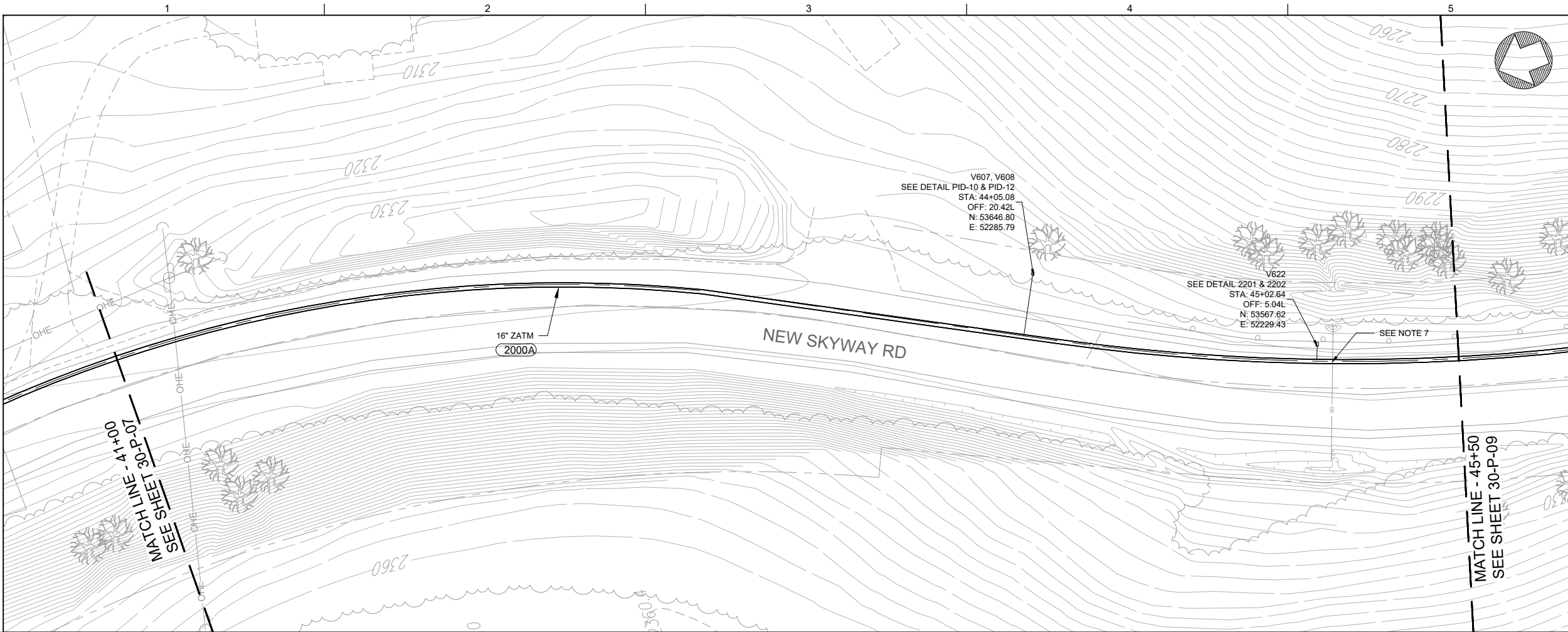
NOTES:

- COVER FOR BURIED PIPE IS 3'-0" MIN. UNLESS OTHERWISE NOTED. REPLACE TRENCH BACKFILL MATERIAL WITH CLSM IF BURIED PIPE COVER IS LESS THAN 3'-0".
- DESIGN PIPES SHOWN MINIMIZE HIGH POINTS AND MAINTAIN 3'-0" MIN. COVER. CONTRACTOR MAY DEVIATE PROVIDED THAT 3'-0" MIN. COVER IS MAINTAINED AND NO ADDITIONAL HIGH POINTS ARE ADDED. NO ZERO PIPE SLOPES ARE ALLOWED.
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- PIPELINE SHALL BE MECHANICALLY RESTRAINED PER SPECIFICATION SECTION 15100.
- REFER TO GEOTECHNIAL REPORT FOR INFORMATION REGARDING HAZARDOUS MATERIALS THAT MAY BE ENCOUNTERED DURING DEMOLITION OF SERPENTINE ROCK.
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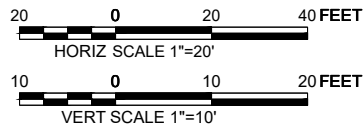
DESIGN K ALACON	DRAWN L CHAPMAN	CHECKED S KADER	APPROVED S KADER
<b>WATERWORKS</b> ENGINEERS			
PARADISE IRRIGATION DISTRICT ZONE A PUMP STATION AND TRANSMISSION MAIN PROJECT PARADISE, CALIFORNIA			
PLAN AND PROFILE STATION 36+50 TO 41+00			
DATE DECEMBER 2022			
PROJECT NUMBER 17-041			
DRAWING NUMBER 30-P-07			
SHEET NUMBER 52			

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NOTES:

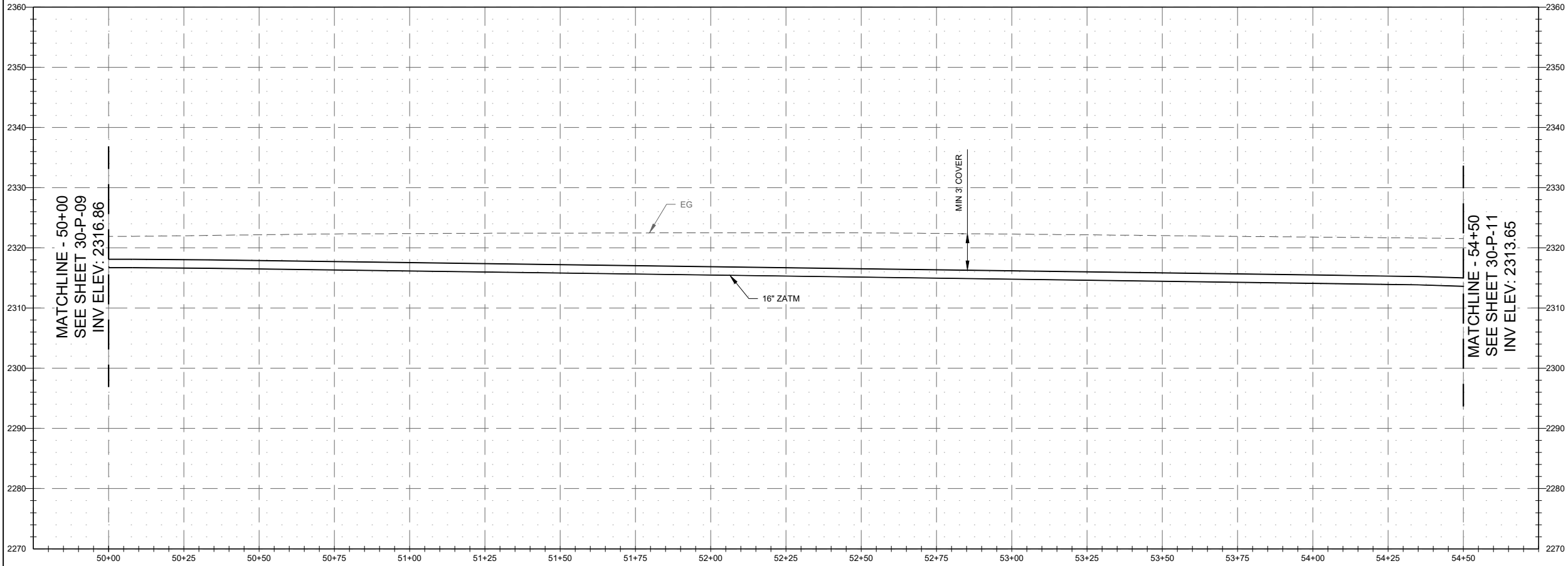
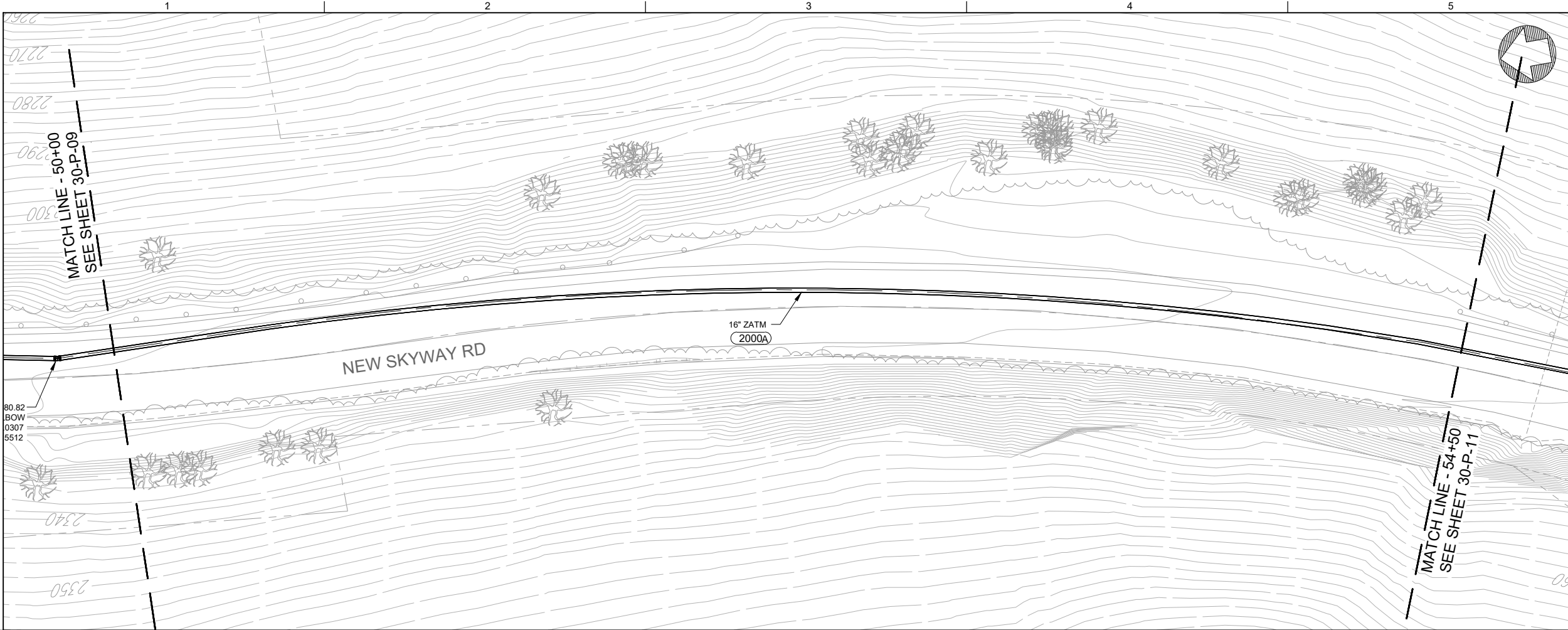
- COVER FOR BURIED PIPE IS 3'-0" MIN. UNLESS OTHERWISE NOTED. REPLACE TRENCH BACKFILL MATERIAL WITH CLSM IF BURIED PIPE COVER IS LESS THAN 3'-0".
- DESIGN PIPES SHOWN MINIMIZE HIGH POINTS AND MAINTAIN 3'-0" MIN. COVER. CONTRACTOR MAY DEVIATE PROVIDED THAT 3'-0" MIN. COVER IS MAINTAINED AND NO ADDITIONAL HIGH POINTS ARE ADDED. NO ZERO PIPE SLOPES ARE ALLOWED.
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- 12" MIN CLEARANCE FROM OTHER UTILITIES UNLESS OTHERWISE NOTED.
- PIPELINE SHALL BE MECHANICALLY RESTRAINED PER SPECIFICATION SECTION 15100.
- THE WATER MAIN SHOULD HAVE NO JOINTS WITHIN 8 FEET FROM EITHER SIDE OF A STORM DRAIN OR SANITARY SEWER AT NO LESS THAN 45-DEGREES.
- REFER TO GEOTECHNIAL REPORT FOR INFORMATION REGARDING HAZARDOUS MATERIALS THAT MAY BE ENCOUNTERED DURING DEMOLITION OF SERPENTINE ROCK.
- ALL POTHOLING, OR OTHER PROCEDURES FOR VERIFYING UTILITY LOCATION SHALL BE PERFORMED BY THE CONTRACTOR AS NECESSARY TO PREPARE FOR EXCAVATION AT LEAST TEN WORKING DAYS IN ADVANCE OF SCHEDULED EXCAVATION AND SHALL IMMEDIATELY NOTIFY THE ENGINEER AS TO ANY UTILITY LOCATED BY HIM WHICH HAS BEEN INCORRECTLY SHOWN OR OMITTED FROM THE DRAWINGS, PER SPECIFICATION SECTION 01110, 1.38.



DESIGN K ALACON	DRAWN L CHAPMAN	CHECKED S KADER	APPROVED S KADER
<b>WATERWORKS</b> ENGINEERS			
PARADISE IRRIGATION DISTRICT			
ZONE A PUMP STATION AND TRANSMISSION MAIN PROJECT			
PARADISE, CALIFORNIA			
PLAN AND PROFILE			
STATION 41+00 TO 45+50			
DATE DECEMBER 2022			
PROJECT NUMBER 17-041			
DRAWING NUMBER 30-P-08			
SHEET NUMBER 53			

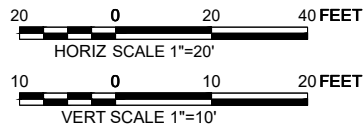


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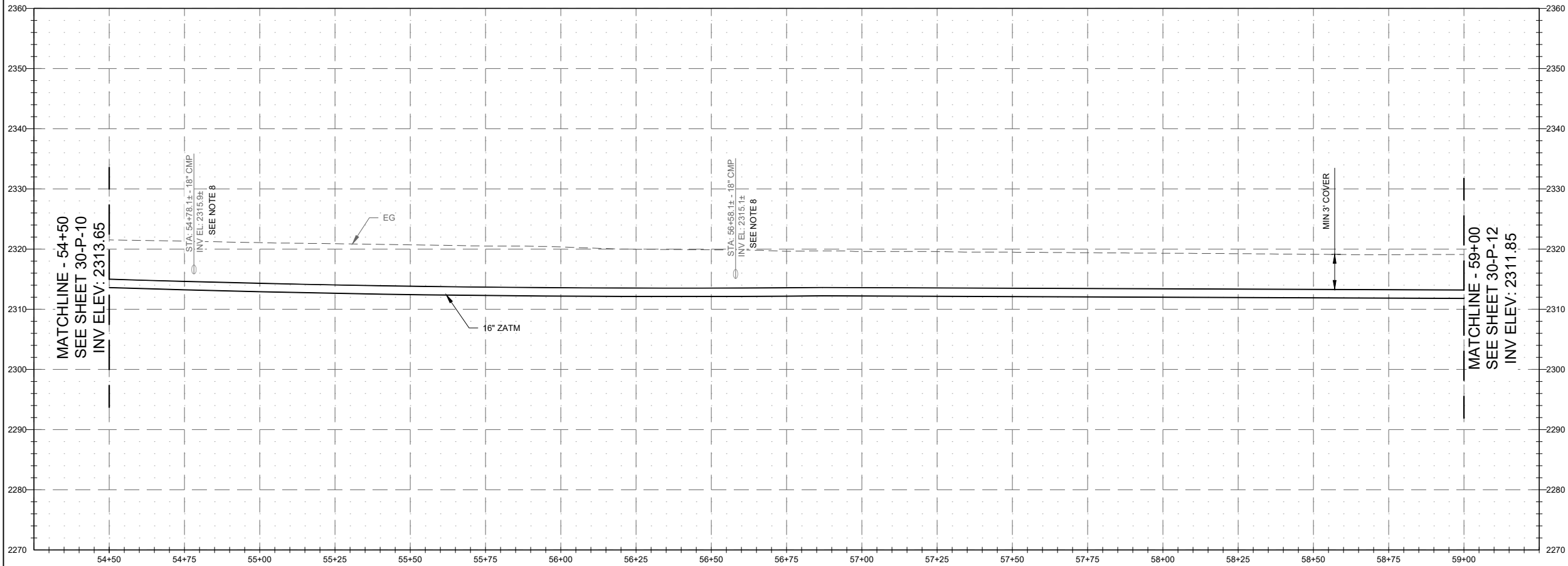
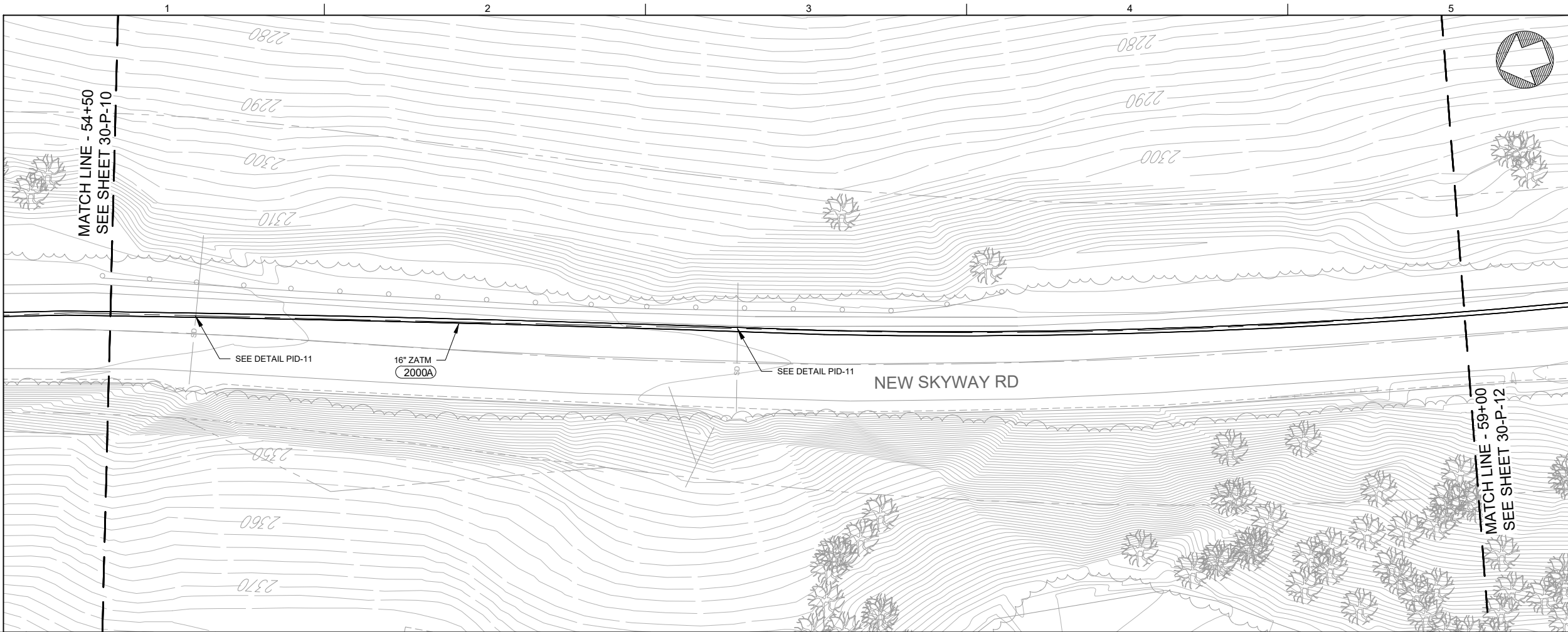
NOTES:

- COVER FOR BURIED PIPE IS 3'-0" MIN. UNLESS OTHERWISE NOTED. REPLACE TRENCH BACKFILL MATERIAL WITH CLSM IF BURIED PIPE COVER IS LESS THAN 3'-0".
- DESIGN PIPES SHOWN MINIMIZE HIGH POINTS AND MAINTAIN 3'-0" MIN. COVER. CONTRACTOR MAY DEVIATE PROVIDED THAT 3'-0" MIN. COVER IS MAINTAINED AND NO ADDITIONAL HIGH POINTS ARE ADDED. NO ZERO PIPE SLOPES ARE ALLOWED.
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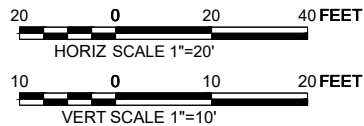
DESIGN K ALACON	DRAWN L CHAPMAN	CHECKED S KADER	APPROVED S KADER
<b>WATERWORKS</b> ENGINEERS			
PARADISE IRRIGATION DISTRICT ZONE A ZONE PUMP STATION AND TRANSMISSION MAIN PROJECT PARADISE, CALIFORNIA			
PLAN AND PROFILE STATION 50+00 TO 54+50			
DATE DECEMBER 2022			
PROJECT NUMBER 17-041			
DRAWING NUMBER 30-P-10			
SHEET NUMBER 55			


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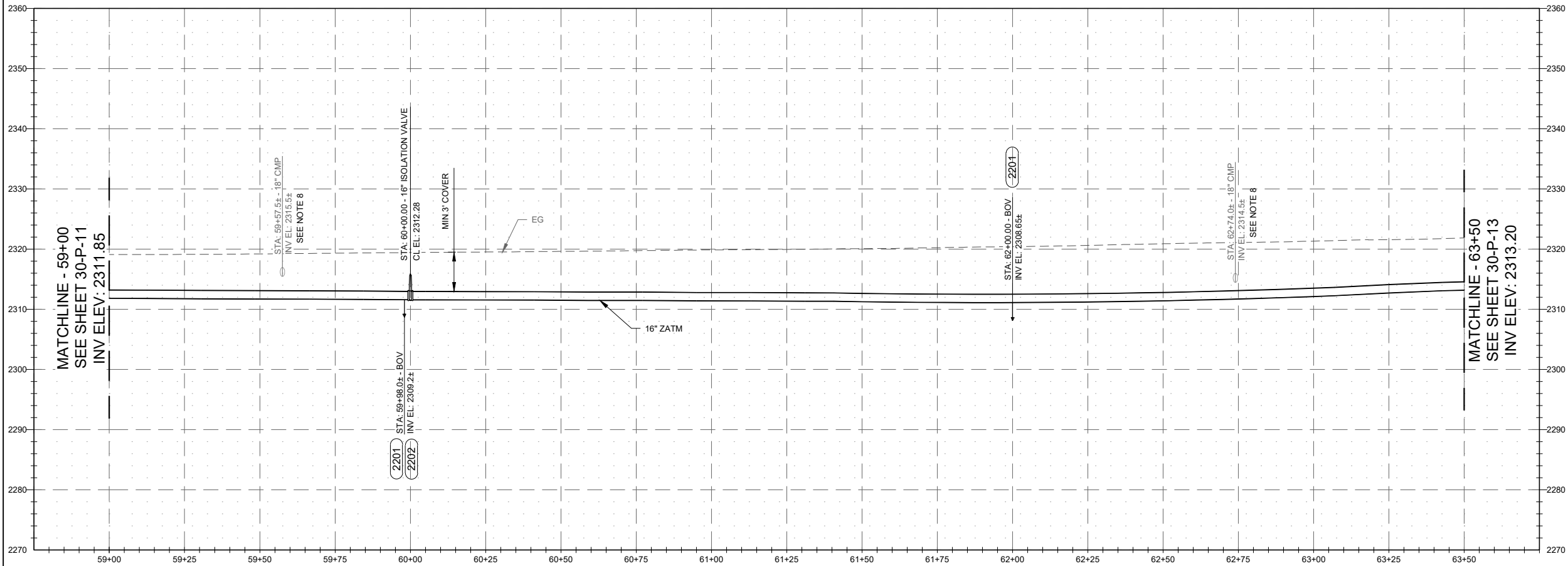
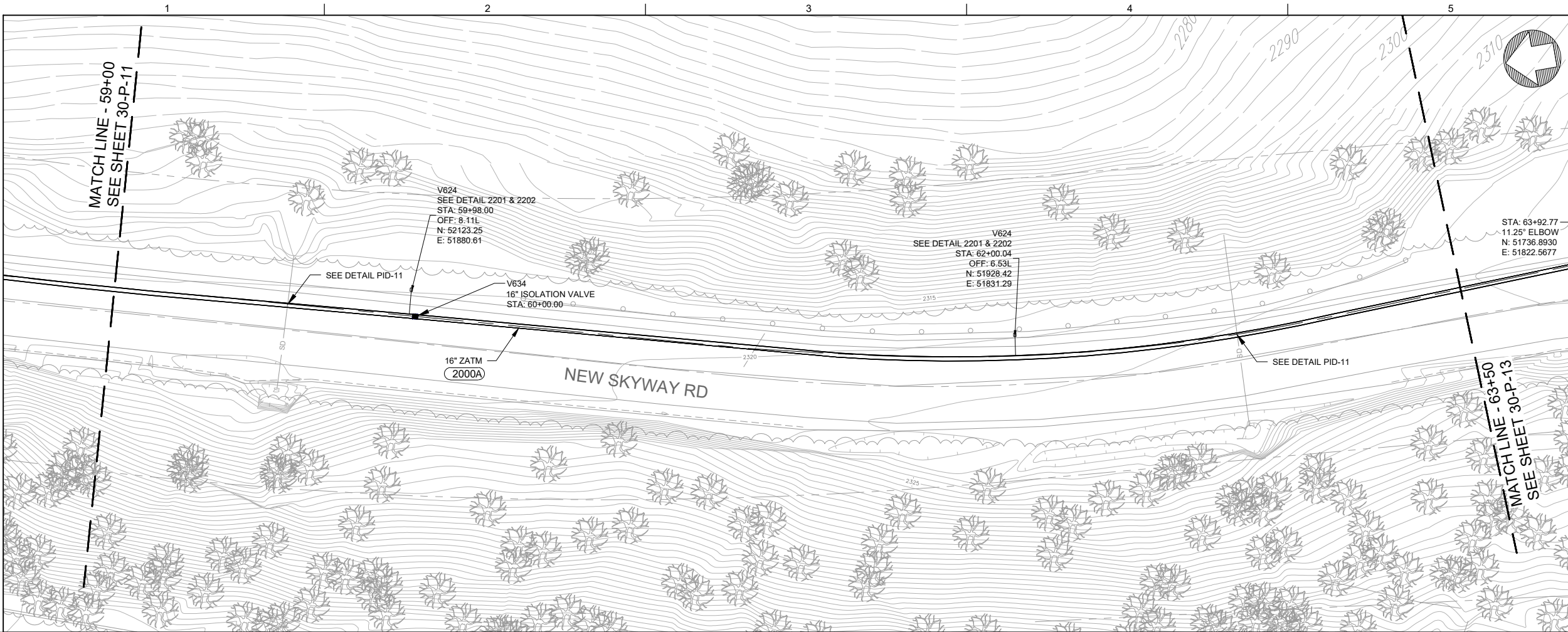
NOTES:

- COVER FOR BURIED PIPE IS 3'-0" MIN. UNLESS OTHERWISE NOTED. REPLACE TRENCH BACKFILL MATERIAL WITH CLSM IF BURIED PIPE COVER IS LESS THAN 3'-0".
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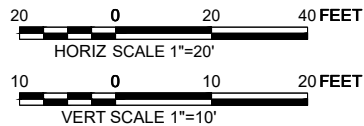
DESIGN K ALACON	DRAWN L CHAPMAN	CHECKED S KADER	APPROVED S KADER
			
<b>WATERWORKS</b> ENGINEERS			
PARADISE IRRIGATION DISTRICT ZONE A PUMP STATION AND TRANSMISSION MAIN PROJECT PARADISE, CALIFORNIA			
PLAN AND PROFILE STATION 54+50 TO 59+00			
DATE DECEMBER 2022			
PROJECT NUMBER 17-041			
DRAWING NUMBER 30-P-11			
SHEET NUMBER 56			

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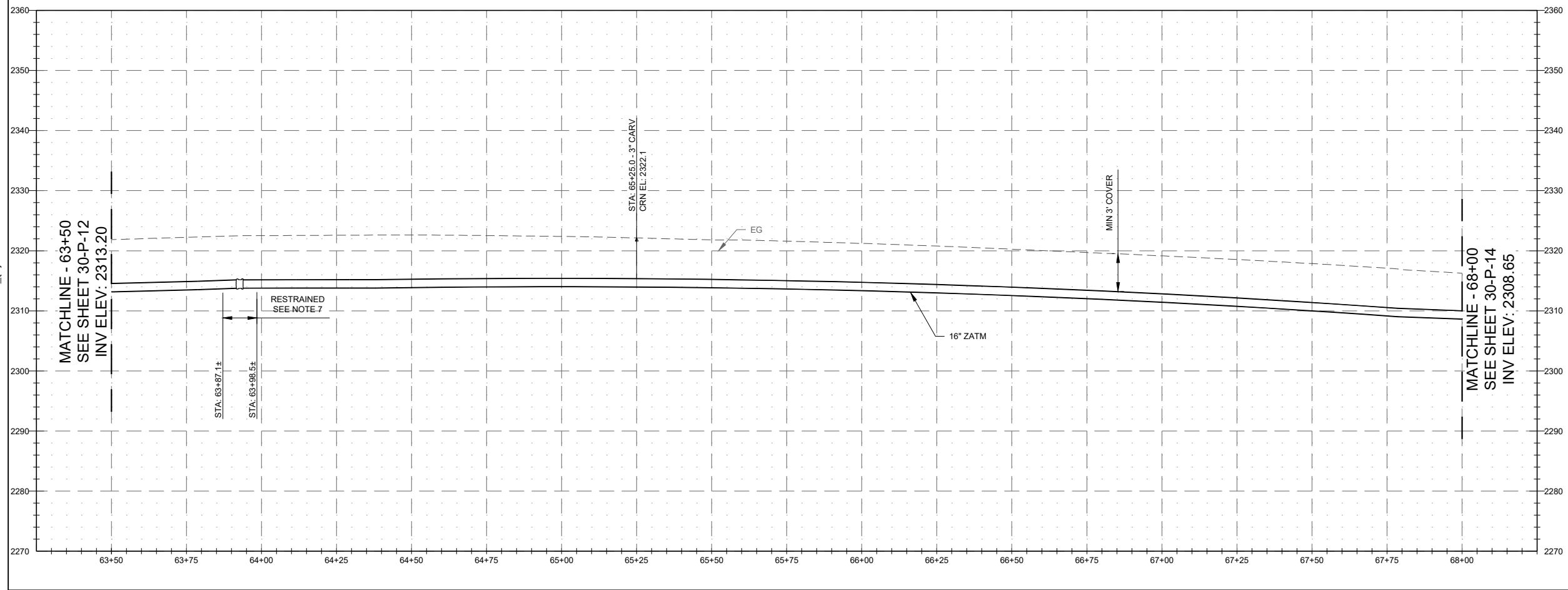
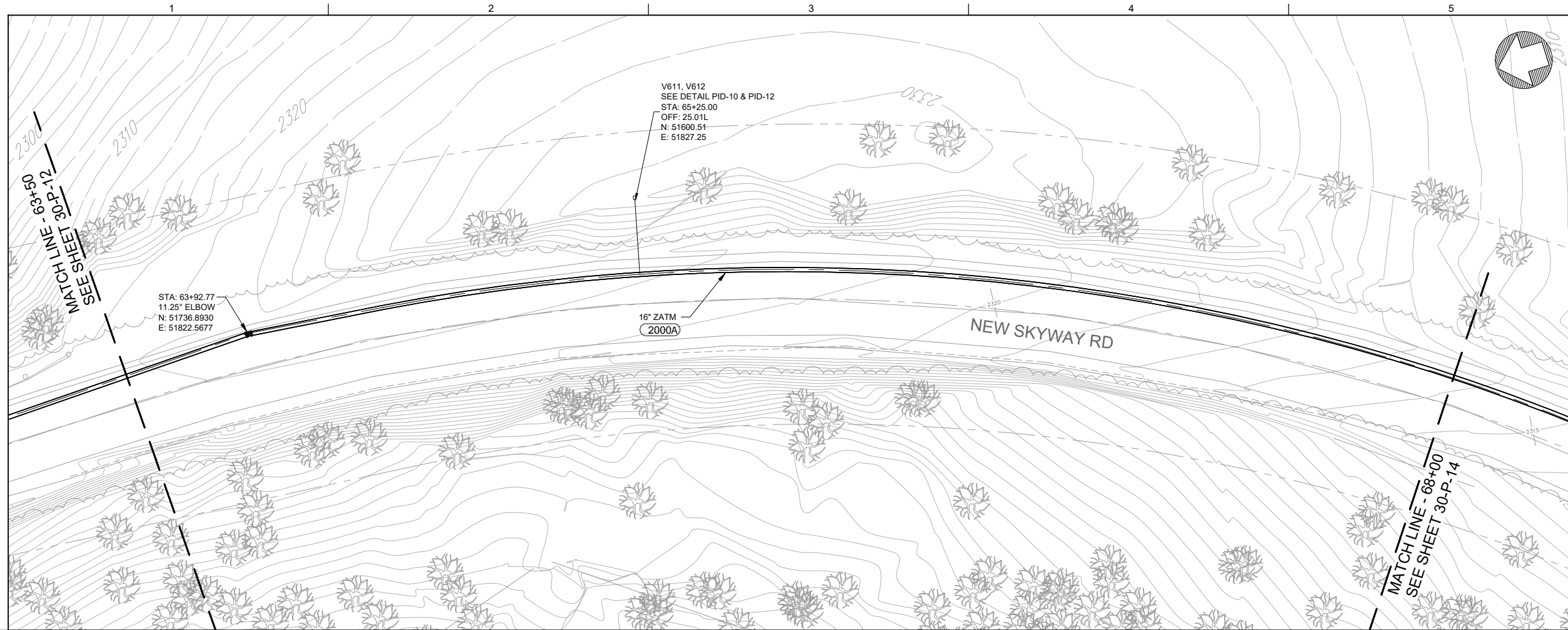
NOTES:

- COVER FOR BURIED PIPE IS 3'-0" MIN. UNLESS OTHERWISE NOTED. REPLACE TRENCH BACKFILL MATERIAL WITH CLSM IF BURIED PIPE COVER IS LESS THAN 3'-0".
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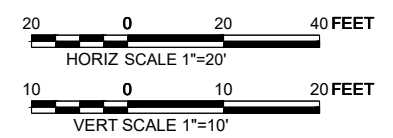


DESIGN K ALACON	DRAWN L CHAPMAN	CHECKED S KADER	APPROVED S KADER
<b>WATERWORKS</b> ENGINEERS			
PARADISE IRRIGATION DISTRICT ZONE A PUMP STATION AND TRANSMISSION MAIN PROJECT PARADISE, CALIFORNIA			
PLAN AND PROFILE STATION 59+00 TO 63+50			
DATE DECEMBER 2022			
PROJECT NUMBER 17-041			
DRAWING NUMBER 30-P-12			
SHEET NUMBER 57			

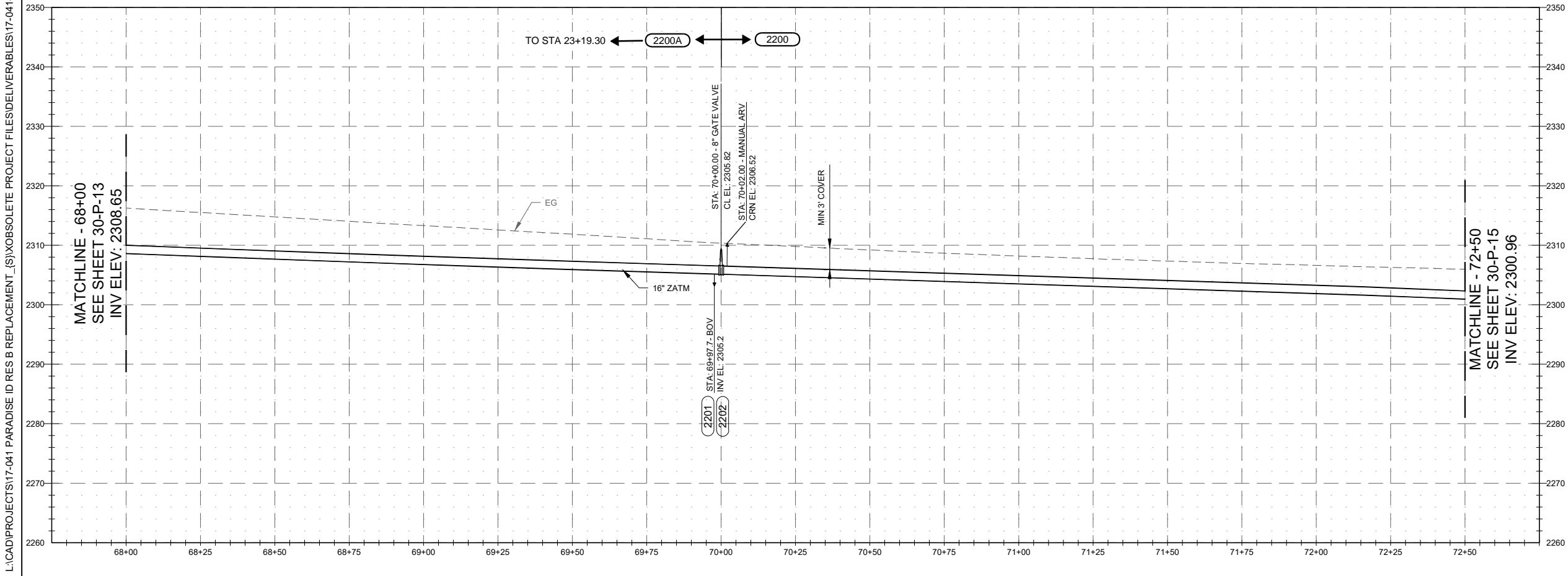
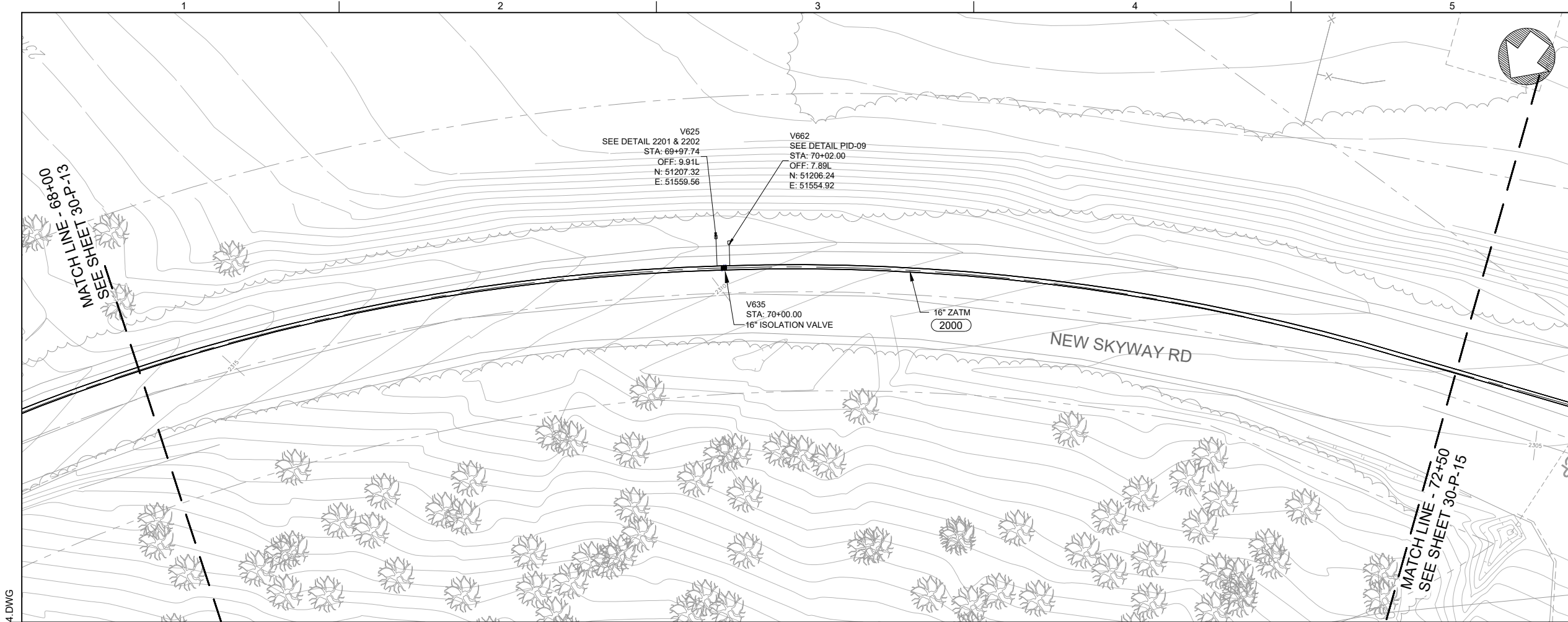
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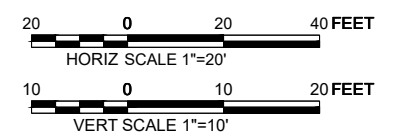
- NOTES:
- COVER FOR BURIED PIPE IS 3'-0" MIN. UNLESS OTHERWISE NOTED. REPLACE TRENCH BACKFILL MATERIAL WITH CLSM IF BURIED PIPE COVER IS LESS THAN 3'-0".
  - DESIGN PIPES SHOWN MINIMIZE HIGH POINTS AND MAINTAIN 3'-0" MIN. COVER. CONTRACTOR MAY DEViate PROVIDED THAT 3'-0" MIN. COVER IS MAINTAINED AND NO ADDITIONAL HIGH POINTS ARE ADDED. NO ZERO PIPE SLOPES ARE ALLOWED.
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  - 12" MIN CLEARANCE FROM OTHER UTILITIES UNLESS OTHERWISE NOTED.
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  - ALL POTHOLING, OR OTHER PROCEDURES FOR VERIFYING UTILITY LOCATION SHALL BE PERFORMED BY THE CONTRACTOR AS NECESSARY TO PREPARE FOR EXCAVATION AT LEAST TEN WORKING DAYS IN ADVANCE OF SCHEDULED EXCAVATION AND SHALL IMMEDIATELY NOTIFY THE ENGINEER AS TO ANY UTILITY LOCATED BY HIM WHICH HAS BEEN INCORRECTLY SHOWN OR OMITTED FROM THE DRAWINGS, PER SPECIFICATION SECTION 01110, 1.38.



DESIGN K ALACON	DRAWN L CHAPMAN	CHECKED S KADER	APPROVED S KADER
<b>WATERWORKS</b> ENGINEERS			
PARADISE IRRIGATION DISTRICT ZONE A PUMP STATION AND TRANSMISSION MAIN PROJECT PARADISE, CALIFORNIA			
PLAN AND PROFILE STATION 63+50 TO 68+00			
DATE DECEMBER 2022			
PROJECT NUMBER 17-041			
DRAWING NUMBER 30-P-13			
SHEET NUMBER 58			



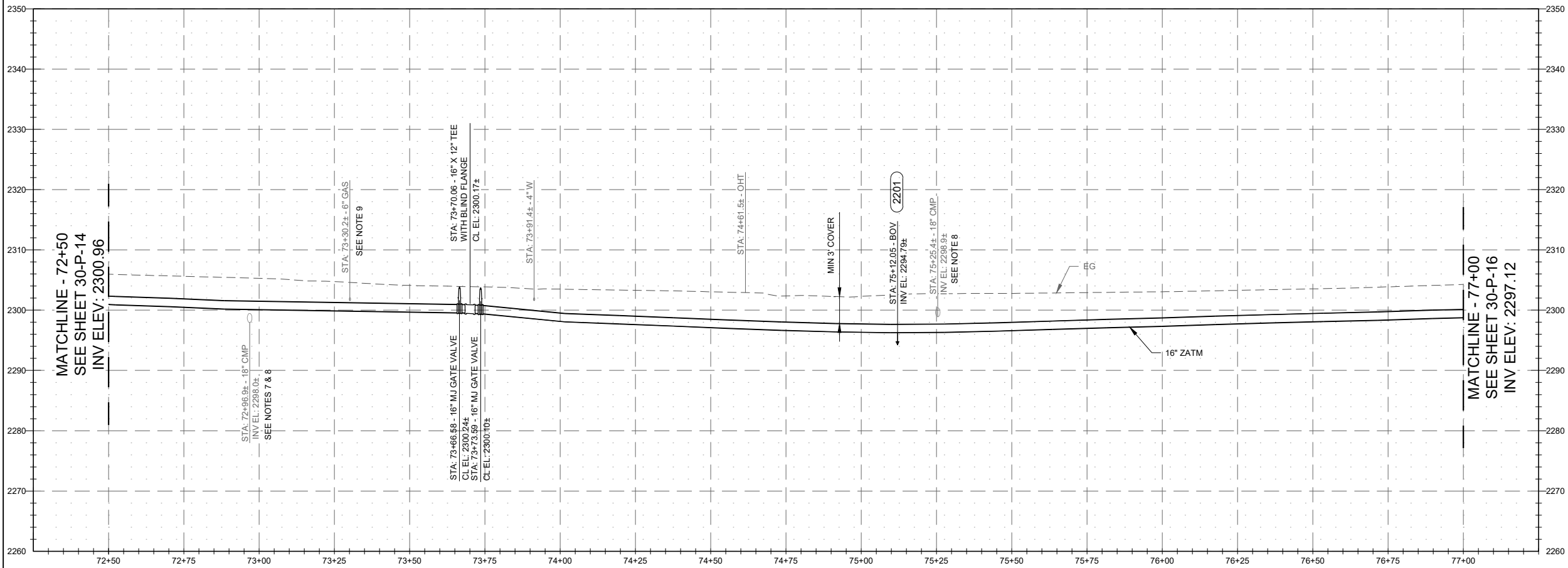
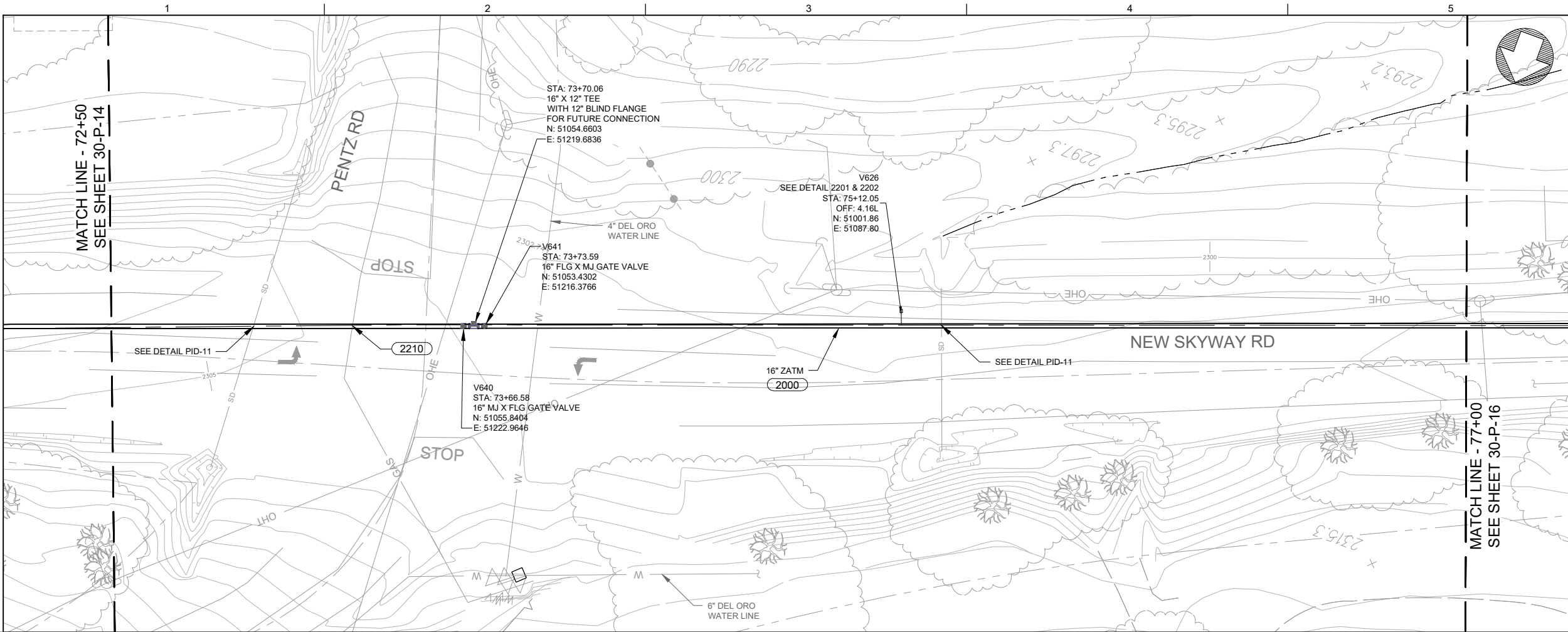
- NOTES:
- COVER FOR BURIED PIPE IS 3'-0" MIN. UNLESS OTHERWISE NOTED. REPLACE TRENCH BACKFILL MATERIAL WITH CLSM IF BURIED PIPE COVER IS LESS THAN 3'-0".
  - DESIGN PIPES SHOWN MINIMIZE HIGH POINTS AND MAINTAIN 3'-0" MIN. COVER. CONTRACTOR MAY DEViate PROVIDED THAT 3'-0" MIN. COVER IS MAINTAINED AND NO ADDITIONAL HIGH POINTS ARE ADDED. NO ZERO PIPE SLOPES ARE ALLOWED.
  - CONTRACTOR SHALL MAINTAIN ACCESS FOR ALL LOCAL RESIDENTS AT ALL TIMES DURING CONSTRUCTION.
  - CONTRACTOR SHALL MAINTAIN UTILITY SERVICES UNDISRUPTED TO HOMEOWNERS AT ALL TIMES.
  - CONTRACTOR SHALL VERIFY POINT OF CONNECTION PRIOR TO CONSTRUCTION. LOCATIONS SHOWN ARE BEST REPRESENTATION BASED ON FIELD VISITS, AND AS-BUILT DRAWINGS.
  - 12" MIN CLEARANCE FROM OTHER UTILITIES UNLESS OTHERWISE NOTED.
  - PIPELINE SHALL BE MECHANICALLY RESTRAINED PER SPECIFICATION SECTION 15100.
  - REFER TO GEOTECHNIAL REPORT FOR INFORMATION REGARDING HAZARDOUS MATERIALS THAT MAY BE ENCOUNTERED DURING DEMOLITION OF SERPENTINE ROCK.
  - ALL POTHOLING, OR OTHER PROCEDURES FOR VERIFYING UTILITY LOCATION SHALL BE PERFORMED BY THE CONTRACTOR AS NECESSARY TO PREPARE FOR EXCAVATION AT LEAST TEN WORKING DAYS IN ADVANCE OF SCHEDULED EXCAVATION AND SHALL IMMEDIATELY NOTIFY THE ENGINEER AS TO ANY UTILITY LOCATED BY HIM WHICH HAS BEEN INCORRECTLY SHOWN OR OMITTED FROM THE DRAWINGS, PER SPECIFICATION SECTION 01110, 1.38.



DESIGN K ALACON	DRAWN L CHAPMAN	CHECKED S KADER	APPROVED S KADER
<b>WATERWORKS</b> ENGINEERS			
PARADISE IRRIGATION DISTRICT ZONE A PUMP STATION AND TRANSMISSION MAIN PROJECT PARADISE, CALIFORNIA			
PLAN AND PROFILE STATION 68+00 TO 72+50			
DATE DECEMBER 2022			
PROJECT NUMBER 17-041			
DRAWING NUMBER 30-P-14			
SHEET NUMBER 59			

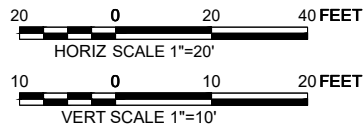
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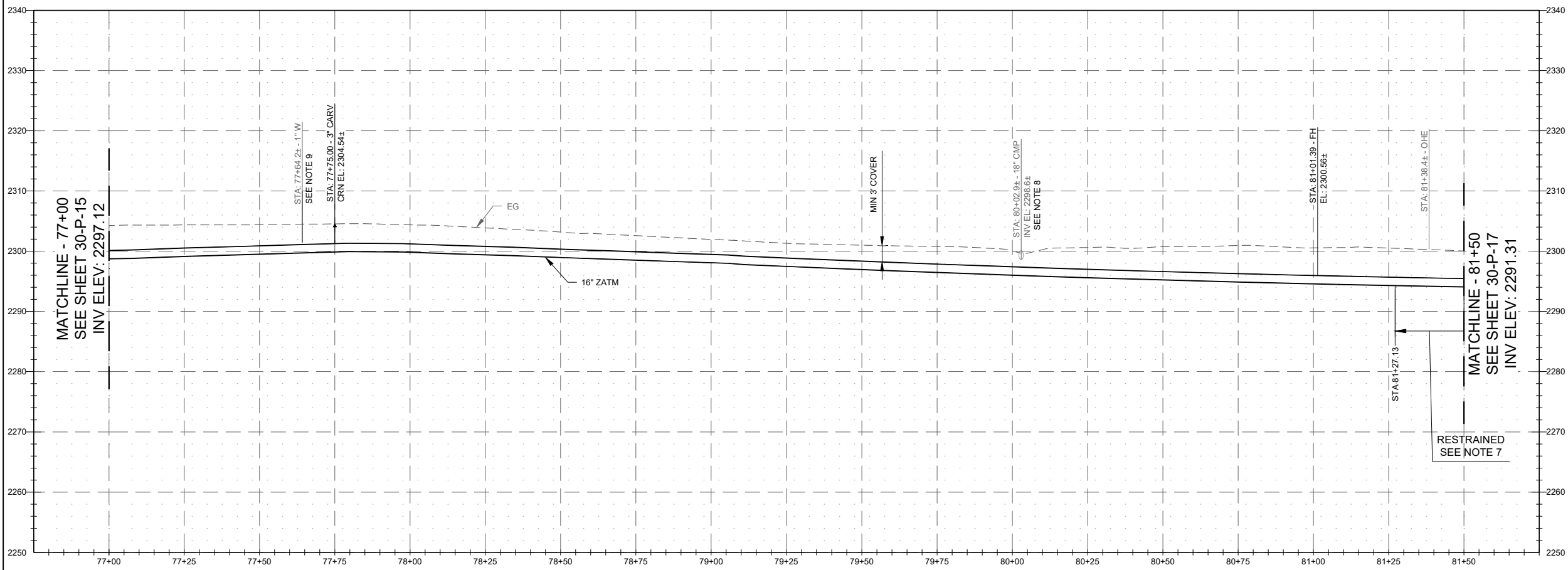
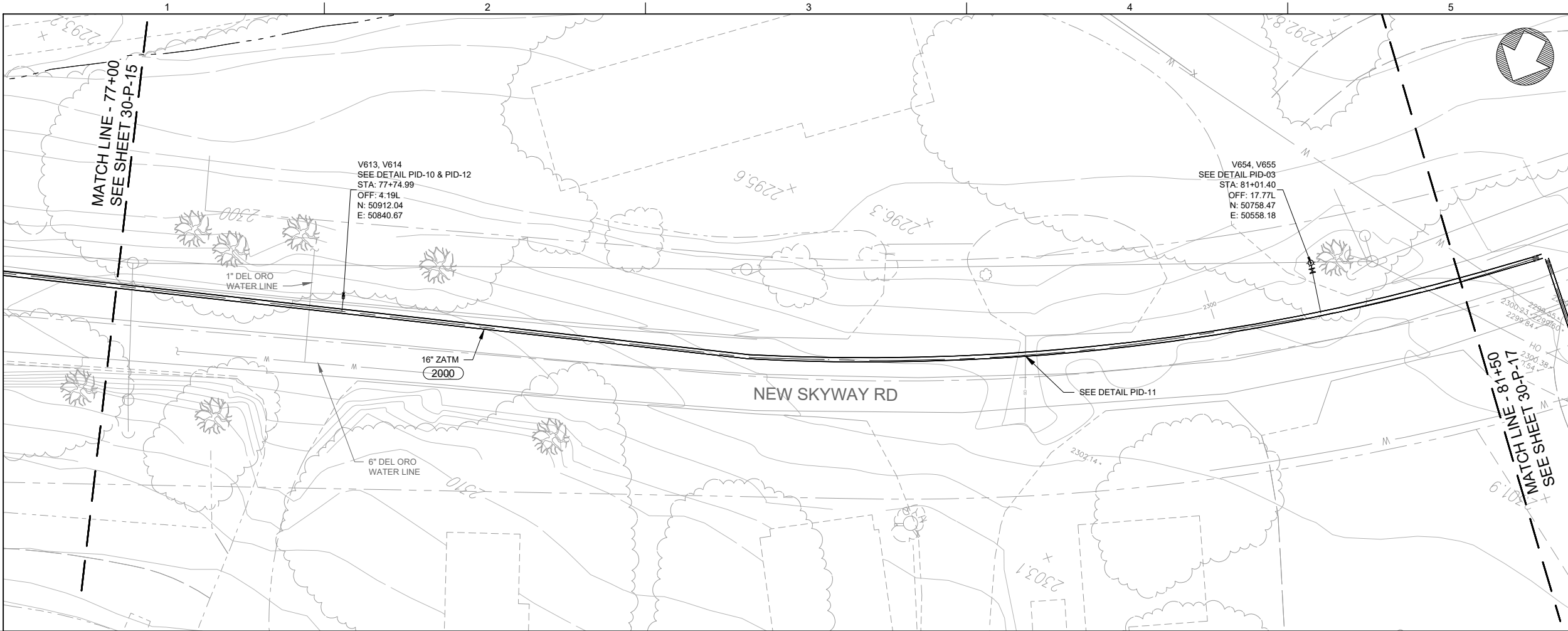
NOTES:

- COVER FOR BURIED PIPE IS 3'-0" MIN. UNLESS OTHERWISE NOTED. REPLACE TRENCH BACKFILL MATERIAL WITH CLSM IF BURIED PIPE COVER IS LESS THAN 3'-0".
- DESIGN PIPES SHOWN MINIMIZE HIGH POINTS AND MAINTAIN 3'-0" MIN. COVER. CONTRACTOR MAY DEVIATE PROVIDED THAT 3'-0" MIN. COVER IS MAINTAINED AND NO ADDITIONAL HIGH POINTS ARE ADDED. NO ZERO PIPE SLOPES ARE ALLOWED.
- CONTRACTOR SHALL MAINTAIN ACCESS FOR ALL LOCAL RESIDENTS AT ALL TIMES DURING CONSTRUCTION.
- CONTRACTOR SHALL MAINTAIN UTILITY SERVICES UNDISRUPTED TO HOMEOWNERS AT ALL TIMES.
- CONTRACTOR SHALL VERIFY POINT OF CONNECTION PRIOR TO CONSTRUCTION. LOCATIONS SHOWN ARE BEST REPRESENTATION BASED ON FIELD VISITS, AND AS-BUILT DRAWINGS.
- 12" MIN CLEARANCE FROM OTHER UTILITIES UNLESS OTHERWISE NOTED.
- PIPELINE SHALL BE MECHANICALLY RESTRAINED PER SPECIFICATION SECTION 15100.
- THE WATER MAIN SHOULD HAVE NO JOINTS WITHIN 8 FEET FROM EITHER SIDE OF A STORM DRAIN OR SANITARY SEWER AT NO LESS THAN 45-DEGREES.
- FOR CLEARANCE LESS THAN 12" SEE DETAIL 2210, DRAWING SD-4.
- REFER TO GEOTECHNIAL REPORT FOR INFORMATION REGARDING HAZARDOUS MATERIALS THAT MAY BE ENCOUNTERED DURING DEMOLITION OF SERPENTINE ROCK.
- ALL POTHOLING, OR OTHER PROCEDURES FOR VERIFYING UTILITY LOCATION SHALL BE PERFORMED BY THE CONTRACTOR AS NECESSARY TO PREPARE FOR EXCAVATION AT LEAST TEN WORKING DAYS IN ADVANCE OF SCHEDULED EXCAVATION AND SHALL IMMEDIATELY NOTIFY THE ENGINEER AS TO ANY UTILITY LOCATED BY HIM WHICH HAS BEEN INCORRECTLY SHOWN OR OMITTED FROM THE DRAWINGS, PER SPECIFICATION SECTION 01110, 1.38.



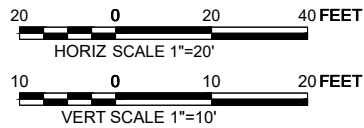
DESIGN K ALACON	DRAWN L CHAPMAN	CHECKED S KADER	APPROVED S KADER
<b>WATERWORKS</b> ENGINEERS			
PARADISE IRRIGATION DISTRICT			
ZONE A PUMP STATION AND TRANSMISSION MAIN PROJECT			
PARADISE, CALIFORNIA			
PLAN AND PROFILE			
STATION 72+50 TO 77+00			
DATE DECEMBER 2022			
PROJECT NUMBER 17-041			
DRAWING NUMBER 30-P-15			
SHEET NUMBER 60			

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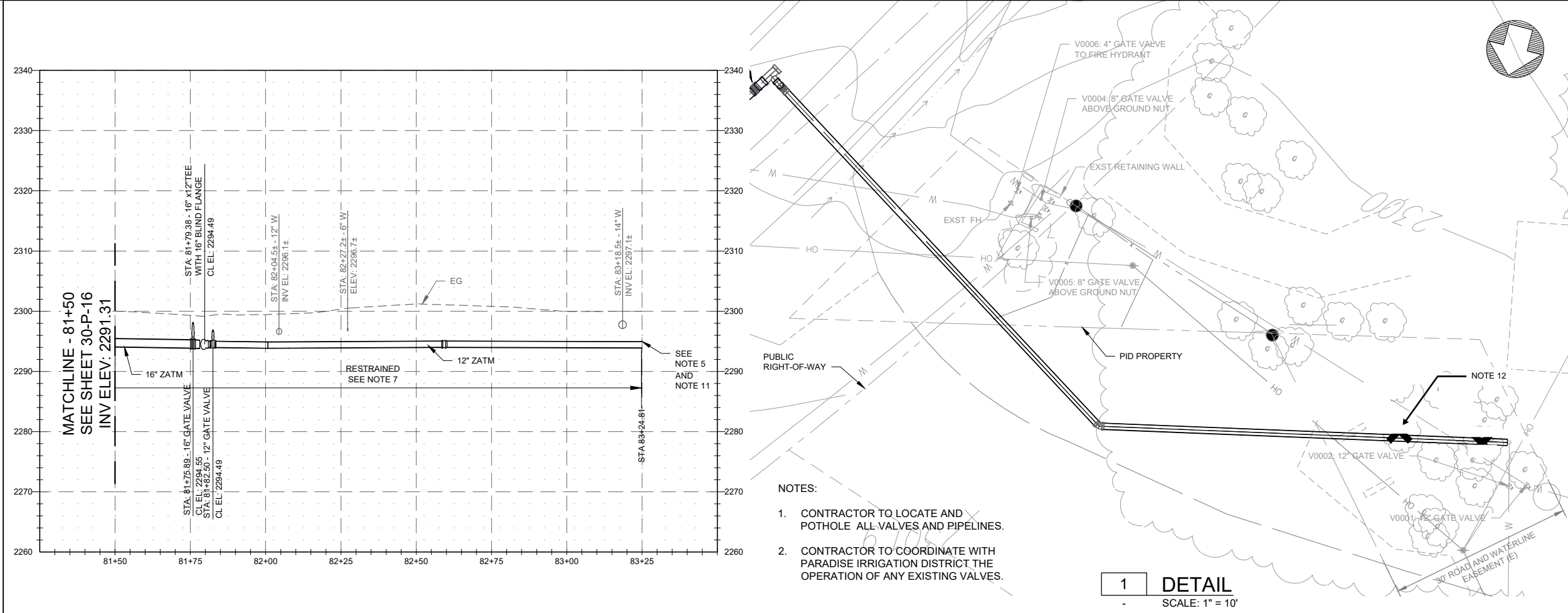
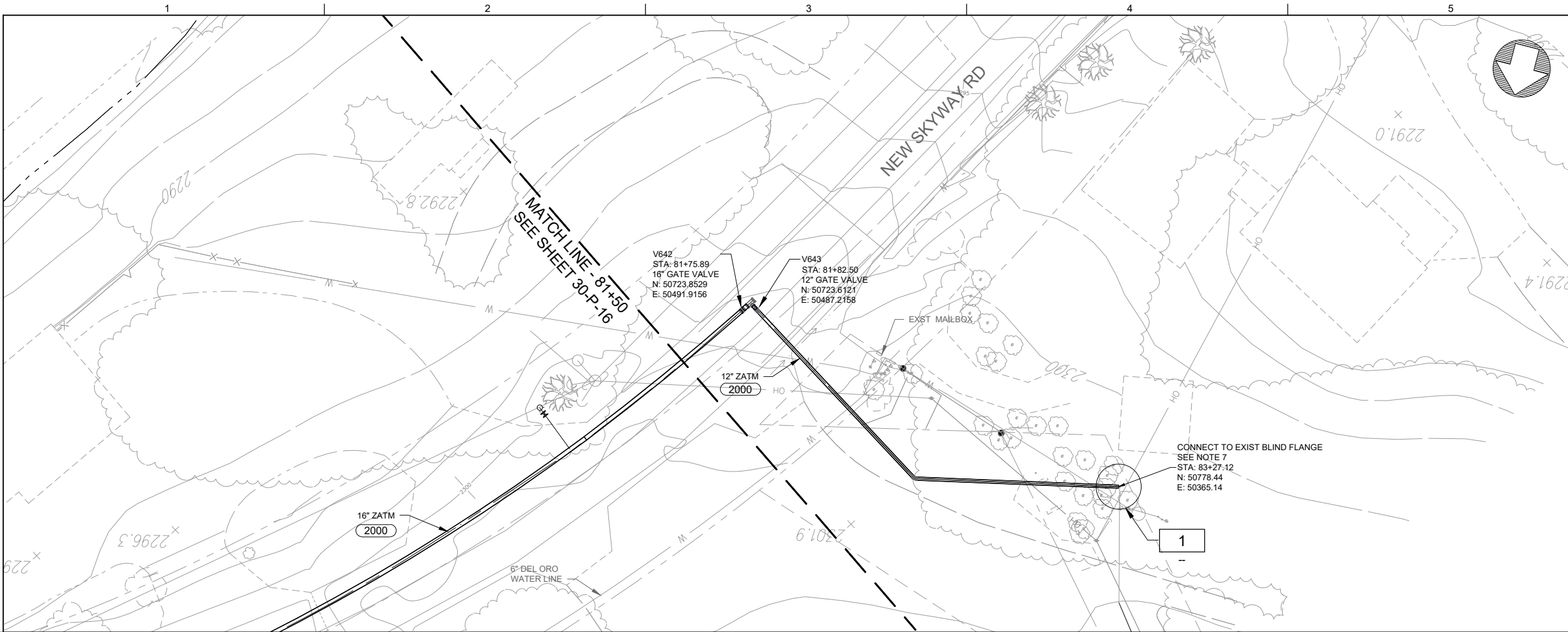
NOTES:

- COVER FOR BURIED PIPE IS 3'-0" MIN. UNLESS OTHERWISE NOTED. REPLACE TRENCH BACKFILL MATERIAL WITH CLSM IF BURIED PIPE COVER IS LESS THAN 3'-0".
- DESIGN PIPES SHOWN MINIMIZE HIGH POINTS AND MAINTAIN 3'-0" MIN. COVER. CONTRACTOR MAY DEViate PROVIDED THAT 3'-0" MIN. COVER IS MAINTAINED AND NO ADDITIONAL HIGH POINTS ARE ADDED. NO ZERO PIPE SLOPES ARE ALLOWED.
- CONTRACTOR SHALL MAINTAIN ACCESS FOR ALL LOCAL RESIDENTS AT ALL TIMES DURING CONSTRUCTION.
- CONTRACTOR SHALL MAINTAIN UTILITY SERVICES UNDISRUPTED TO HOMEOWNERS AT ALL TIMES.
- CONTRACTOR SHALL VERIFY POINT OF CONNECTION PRIOR TO CONSTRUCTION. LOCATIONS SHOWN ARE BEST REPRESENTATION BASED ON FIELD VISITS, AND AS-BUILT DRAWINGS.
- 12" MIN CLEARANCE FROM OTHER UTILITIES UNLESS OTHERWISE NOTED.
- PIPELINE SHALL BE MECHANICALLY RESTRAINED PER SPECIFICATION SECTION 15100.
- THE WATER MAIN SHOULD HAVE NO JOINTS WITHIN 8 FEET FROM EITHER SIDE OF A STORM DRAIN OR SANITARY SEWER AT NO LESS THAN 45-DEGREES.
- CONTRACTOR TO COORDINATE RELOCATION OF 1" WATER LINE WITH DEL ORO WATER.
- REFER TO GEOTECHNIAL REPORT FOR INFORMATION REGARDING HAZARDOUS MATERIALS THAT MAY BE ENCOUNTERED DURING DEMOLITION OF SERPENTINE ROCK.
- ALL POTHOLING, OR OTHER PROCEDURES FOR VERIFYING UTILITY LOCATION SHALL BE PERFORMED BY THE CONTRACTOR AS NECESSARY TO PREPARE FOR EXCAVATION AT LEAST TEN WORKING DAYS IN ADVANCE OF SCHEDULED EXCAVATION AND SHALL IMMEDIATELY NOTIFY THE ENGINEER AS TO ANY UTILITY LOCATED BY HIM WHICH HAS BEEN INCORRECTLY SHOWN OR OMITTED FROM THE DRAWINGS, PER SPECIFICATION SECTION 01110, 1.38.



DESIGN K ALACON	DRAWN L CHAPMAN	CHECKED S KADER	APPROVED S KADER
<b>WATERWORKS</b> ENGINEERS			
PARADISE IRRIGATION DISTRICT ZONE A PUMP STATION AND TRANSMISSION MAIN PROJECT PARADISE, CALIFORNIA			
PLAN AND PROFILE STATION 77+00 TO 81.50			
DATE DECEMBER 2022			
PROJECT NUMBER 17-041			
DRAWING NUMBER 30-P-16			
SHEET NUMBER 61			

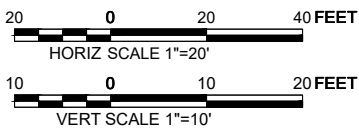
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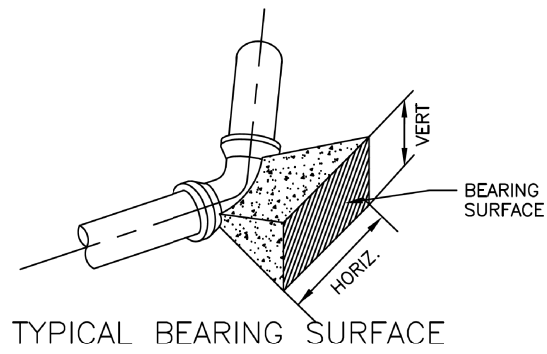
- NOTES:
- CONTRACTOR TO LOCATE AND POTHOLE ALL VALVES AND PIPELINES.
  - CONTRACTOR TO COORDINATE WITH PARADISE IRRIGATION DISTRICT THE OPERATION OF ANY EXISTING VALVES.

1  
DETAIL  
SCALE: 1" = 10'

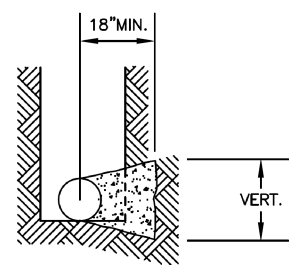
- NOTES:
- COVER FOR BURIED PIPE IS 3'-0" MIN. UNLESS OTHERWISE NOTED. REPLACE TRENCH BACKFILL MATERIAL WITH CLSM IF BURIED PIPE COVER IS LESS THAN 3'-0".
  - DESIGN PIPES SHOWN MINIMIZE HIGH POINTS AND MAINTAIN 3'-0" MIN. COVER. CONTRACTOR MAY DEVIATE PROVIDED THAT 3'-0" MIN. COVER IS MAINTAINED AND NO ADDITIONAL HIGH POINTS ARE ADDED. NO ZERO PIPE SLOPES ARE ALLOWED.
  - CONTRACTOR SHALL MAINTAIN ACCESS FOR ALL LOCAL RESIDENTS AT ALL TIMES DURING CONSTRUCTION.
  - CONTRACTOR SHALL MAINTAIN UTILITY SERVICES UNDISRUPTED TO HOMEOWNERS AT ALL TIMES.
  - CONTRACTOR SHALL VERIFY POINT OF CONNECTION PRIOR TO CONSTRUCTION. LOCATIONS SHOWN ARE BEST REPRESENTATION BASED ON FIELD VISITS, AND AS-BUILT DRAWINGS.
  - 12" MIN CLEARANCE FROM OTHER UTILITIES UNLESS OTHERWISE NOTED.
  - PIPELINE SHALL BE MECHANICALLY RESTRAINED PER SPECIFICATION SECTION 15100.
  - CONTRACTOR TO COORDINATE CONNECTION TO EXISTING PIPE WITH PID.
  - REFER TO GEOTECHNIAL REPORT FOR INFORMATION REGARDING HAZARDOUS MATERIALS THAT MAY BE ENCOUNTERED DURING DEMOLITION OF SERPENTINE ROCK.
  - ALL POTHOLING, OR OTHER PROCEDURES FOR VERIFYING UTILITY LOCATION SHALL BE PERFORMED BY THE CONTRACTOR AS NECESSARY TO PREPARE FOR EXCAVATION AT LEAST TEN WORKING DAYS IN ADVANCE OF SCHEDULED EXCAVATION AND SHALL IMMEDIATELY NOTIFY THE ENGINEER AS TO ANY UTILITY LOCATED BY HIM WHICH HAS BEEN INCORRECTLY SHOWN OR OMITTED FROM THE DRAWINGS, PER SPECIFICATION SECTION 01110, 1.38.
  - OWNER-FURNISHED EQUIPMENT FROM STA 10+00 TO STA 83+25. SEE SECTION 01643.
  - TREE SURVEY DOES NOT ACCURATELY DEPICT TREES IN THE VICINITY OF CONSTRUCTION. NO TREE REMOVAL IS REQUIRED FOR PIPELINE INSTALLATION



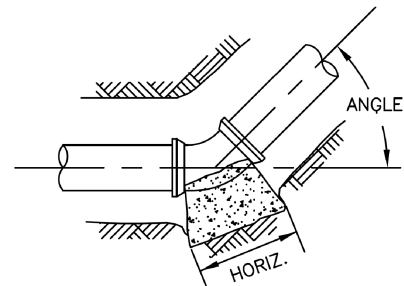
DESIGN K ALACON	DRAWN L CHAPMAN	CHECKED S KADER	APPROVED S KADER
<b>WATERWORKS</b> ENGINEERS			
PARADISE IRRIGATION DISTRICT ZONE A PUMP STATION AND TRANSMISSION MAIN PROJECT PARADISE, CALIFORNIA			
PLAN AND PROFILE STATION 81+50 TO END			
DATE DECEMBER 2022			
PROJECT NUMBER 17-041			
DRAWING NUMBER 30-P-17			
SHEET NUMBER 62			



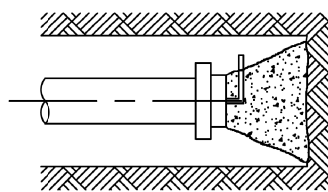
TYPICAL BEARING SURFACE



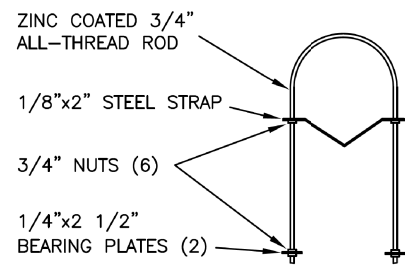
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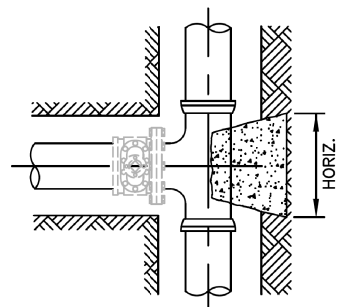
TYPICAL BEND



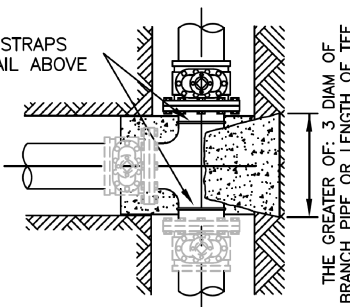
END CAP



ANCHOR STRAP



PLAN



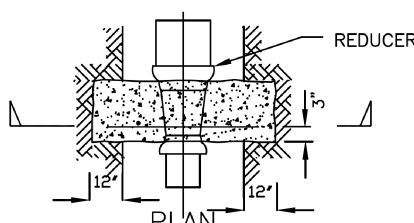
ELEVATION

TEE ONLY

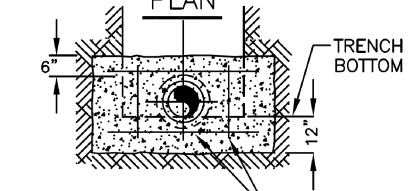
NOTES:

1. THRUST BLOCK BEARING AREA BASED ON ALLOWABLE SOIL BEARING VALUE OF 2,000 psf PRESSURE AND 225 psi LINE PRESSURE WITH 30" COVER MINIMUM.  
FOR BEARING = 1000 psf, 2.0 X AREA SHOWN  
FOR BEARING = 500 psf, 4.0 X AREA SHOWN
2. WHERE THRUST BLOCK WILL HAVE LESS THAN 12" COVER ENGINEERED DESIGN IS REQUIRED.
3. PREDESIGNED THRUST RESTRAINTS ARE SUBJECT TO SITE SPECIFIC REVIEW.
4. ALL THRUST BLOCKS SHALL BE CLASS "B" CONCRETE AND PLACED AGAINST UNDISTURBED SOIL. DESIGN ENGINEER SHALL DETERMINE SIZES NOT SHOWN.
5. REINFORCING STEEL SHALL CONFORM TO ASTM A15 AND A305 INTERMEDIATE GRADE.
6. CONCRETE SHALL NOT EXTEND ONTO FLANGE OR ADJOINING PIPE.
7. ANCHOR STRAPS SHALL EXTEND TO NO LESS THAN 3/4 THE DEPTH OF THE THRUST BLOCK. ANCHOR STRAPS SHALL BE EMBEDDED NOT LESS THAN 4" FROM EDGE OF THRUST BLOCK. ALL-THREAD STRAP SHALL BE BENT "SNUG" TO FITTING. 1/8"x2" STRAP SHALL BE TIGHTENED TO HOLD ASSY. STRAIGHT.
8. CONCRETE SHALL ACHIEVE "SET" TO PID INSPECTOR'S SATISFACTION PRIOR TO PLACING BACKFILL.

TEE WITH LINE VALVE(S)

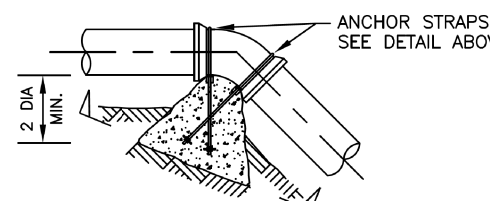


PLAN

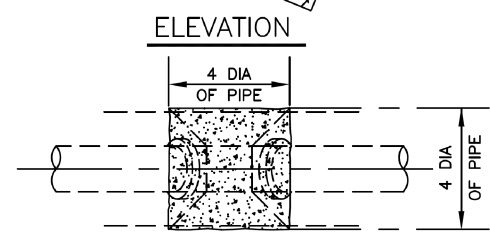


SECTION

REDUCER

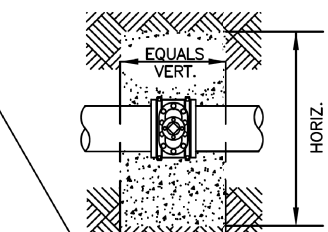


ELEVATION

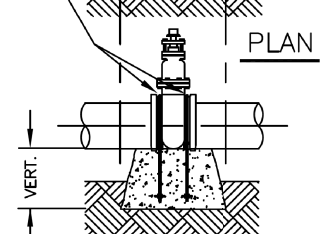


SECTION

VERTICAL BEND



PLAN



ELEVATION

LINE VALVE

MINIMUM SIZE OF THRUST BLOCK BEARING SURFACE

PIPE SIZE	11 1/4" BEND		22 1/2" BEND		45° BEND		90° BEND		LINE VALVE, TEE ONLY OR END CAP		TEE WITH LINE VALVES		
	HORIZ.	VERT.	HORIZ.	VERT.	HORIZ.	VERT.	HORIZ.	VERT.	HORIZ.	VERT.	HORIZ.	V1	V2
4"	1'-0"	1'-0"	1'-0"	1'-0"	1'-4"	1'-0"	2'-4"	1'-0"	1'-8"	1'-0"	1'-4"	1'-0"	1'-8"
6"	1'-0"	1'-0"	1'-6"	1'-0"	2'-0"	1'-6"	3'-6"	1'-6"	2'-6"	1'-6"	2'-0"	1'-6"	2'-6"
8"	1'-4"	1'-0"	2'-0"	1'-4"	2'-8"	2'-0"	4'-8"	2'-0"	3'-4"	2'-0"	2'-8"	2'-0"	3'-4"
10"	1'-8"	1'-3"	2'-6"	1'-8"	3'-4"	2'-6"	6'-0"	2'-6"	4'-2"	2'-6"	3'-4"	2'-6"	4'-2"
12"	2'-0"	1'-6"	3'-0"	2'-0"	4'-0"	3'-0"	7'-0"	3'-0"	5'-0"	3'-0"	4'-0"	3'-0"	5'-0"



PARADISE IRRIGATION DISTRICT  
STANDARD DRAWING

THRUST BLOCK DETAILS

PID-02  
SHEET 1 OF 1

DRAWN NE  
CHECKED JP  
DATE DECEMBER 2009  
NO SCALE



DATE DECEMBER 2022  
PROJECT NUMBER 17-041  
DRAWING NUMBER SD-1  
SHEET NUMBER 63

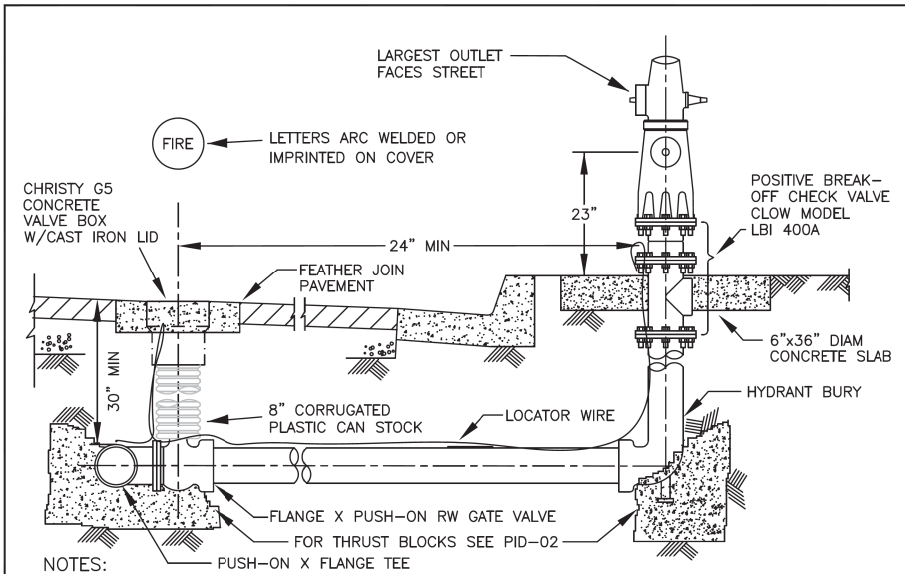


PARADISE IRRIGATION DISTRICT  
ZONE A PUMP STATION  
AND TRANSMISSION MAIN PROJECT  
PARADISE, CA

STANDARD DETAILS  
STANDARD DETAILS

DESIGNED S. MAGLADRY  
DRAWN B. TROTTER  
CHECKED S. KADER  
APPROVED S. KADER

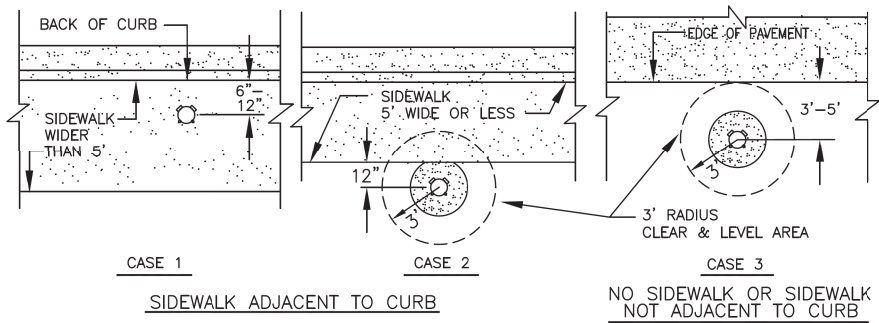




NOTES:

1. FIRE HYDRANTS SHALL BE CLOW 850 OR 860 AS REQUIRED BY PARADISE FIRE DEPARTMENT, PAINTED YELLOW PER PFD SPECIFICATION, AND EQUIPPED WITH PENTAGON NUTS ON ALL HYDRANT VALVE STEMS.
2. FOR HYDRANT LATERALS CONSTRUCTED ON EXISTING MAINS USE TAPPING SLEEVE IN PLACE OF TEE. SEE DIVISION X - CONTRACTOR CONSTRUCTED TAPS ON DISTRICT MAINS.
3. TRENCHING AND BACKFILL PER DISTRICT STANDARD. SEE SPEC DIVISION III - EARTHWORK.
4. MJ FITTINGS WITH GRIP RINGS MAY BE USED. CONCRETE REQUIRED TO STABILIZE HYDRANT ASSY.

HYDRANT LOCATION PLANS

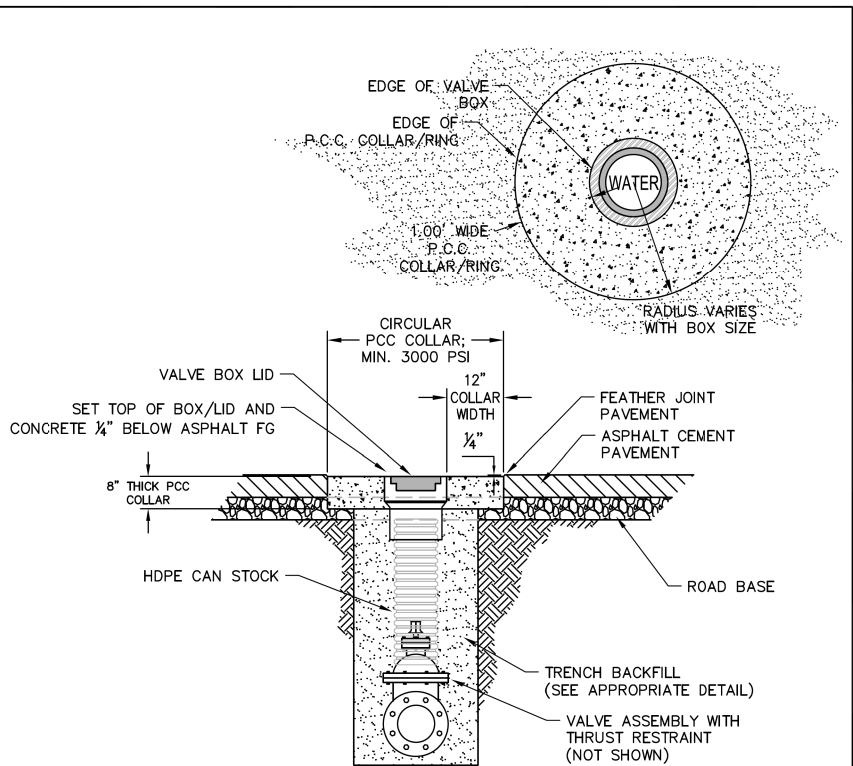


PARADISE IRRIGATION DISTRICT  
STANDARD DRAWING

FIRE HYDRANT INSTALLATION

PID-03  
SHEET 1 OF 1

DRAWN  
NE  
DATE  
DECEMBER 2009  
NO SCALE



NOTES:

1. ALL VALVE BOXES WITHIN THE SCOPE OF THE PROJECT SHALL BE SET TO THE APPROPRIATE FINISH GRADE. SURROUNDING PAVEMENT SHALL BE RESTORED TO SATISFACTORY CONDITION.
2. VALVE BOXES IN THE TRAVELED WAY (ASPHALT ROADWAY) SHALL BE SET IN A MINIMUM 3000 PSI PORTLAND CEMENT CONCRETE RING. TOP OF BOX AND CONCRETE SHOULD BE FLUSH, AND BOTH BE SET  $\frac{1}{4}$ " BELOW ADJACENT ROADWAY ASPHALT FINISH GRADE. CONCRETE COLLARS SHALL BE BROOM FINISHED.
3. VALVE BOXES SHALL BE "CHRISTY G5" CONCRETE BOX WITH CAST IRON LID OR APPROVED EQUAL, UNLESS OTHERWISE SPECIFIED ON PLANS. ANY VARIATION SHALL BE APPROVED BY PARADISE IRRIGATION DISTRICT.
4. CENTER VALVE BOX OVER OPERATING NUT TO INSURE FREE VALVE OPERATION.
5. WATER VALVE BOXES THAT DIRECTLY SERVICE A FIRE HYDRANT SHALL HAVE LIDS LABELED "FIRE"; ALL OTHER LIDS SHALL BE LABELED "WATER".
6. CAN STOCK SHALL BE 8" SINGLE-WALLED CORRUGATED HDPE PIPE.



PARADISE IRRIGATION DISTRICT  
STANDARD DRAWING

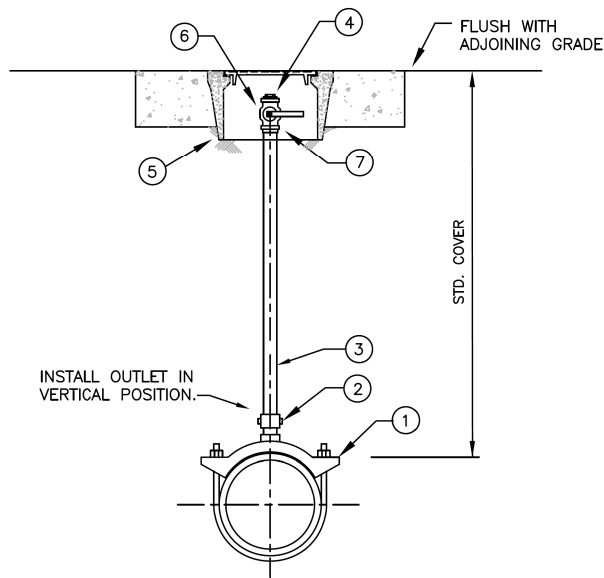
VALVE BOX DETAIL

PID-04  
SHEET 1 OF 1

DRAWN  
NE  
DATE  
JANUARY 2012  
NO SCALE



DATE  
DECEMBER 2022  
PROJECT NUMBER  
17-041  
DRAWING NUMBER  
SD-2  
SHEET NUMBER 64



- ITEM NO
- MATERIALS**
- ① DOUBLE S.S. STRAP DUCTILE IRON SERVICE SADDLE W/ I.P. OUTLET
  - ② BRONZE CORPORATION STOP, M.I.P. THREAD X COMPRESSION OR FLARE
  - ③ TYPE "K" SOFT COPPER TUBING
  - ④ BRASS M.I.P. PLUG
  - ⑤ G-12 TRAFFIC BOX W/ CAST IRON LID (USE B-16 BOX W/LID SET 2" ABOVE GRADE OUTSIDE TRAVELED WAY)
  - ⑥ BRASS FULL PORT BALL VALVE (W/ S.S. BALL) WATTS OR EQUAL
  - ⑦ ADAPTER, M.I.P. X FLARE OR COMPRESSION

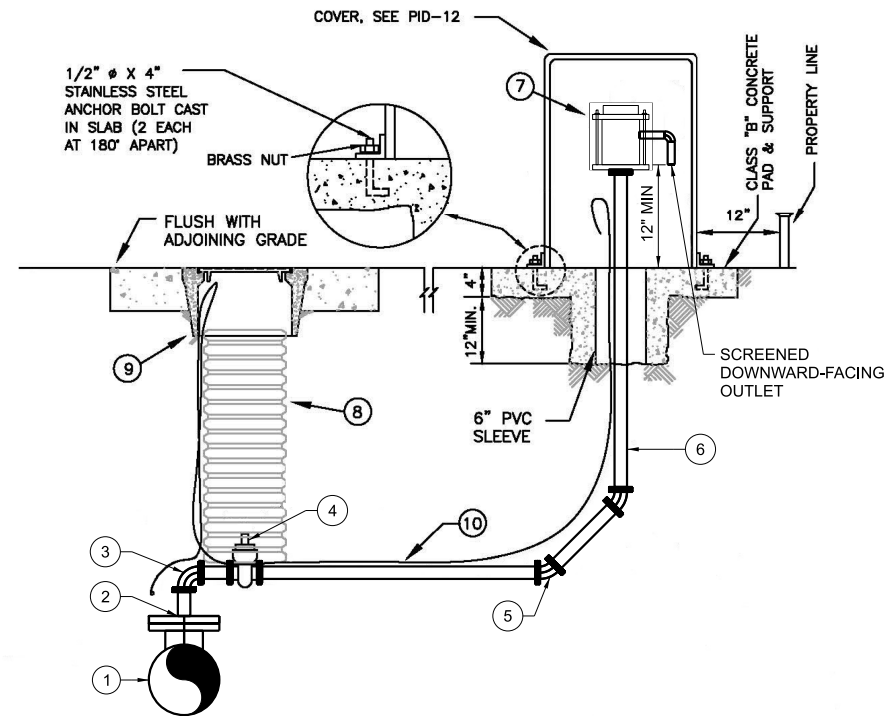


PARADISE IRRIGATION DISTRICT  
STANDARD DRAWING

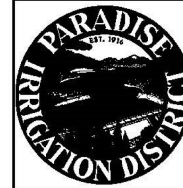
MANUAL AIR VALVE ASSEMBLY

PID-09  
SHEET 1 OF 1

DRAWN NE CHECKED JP  
DATE MARCH 2002  
NO SCALE



- ITEM NO
- MATERIALS**
- ① 16"x8" DUCTILE IRON TEE W/ BLIND FLANGE
  - ② 3" PORT ON BLIND FLANGE
  - ③ 3" DUCTILE IRON ELBOW
  - ④ 3" GAV-10
  - ⑤ 3" DIP 45° ELBOW (TYP OF 2)
  - ⑥ 3" DUCTILE IRON PIPING
  - ⑦ AIR AND VACUUM VALVE, W/ SURGE CONTROL
  - ⑧ 8-INCH CORRUGATED PLASTIC CAN STOCK
  - ⑨ CHRISTY G5 CONCTETE VALVE BOX W/ CAST IRON LID, SET IN CONCRETE COLLAR
  - ⑩ NO. 12 AWG SOLID COPPER WIRE W/ TYPE UF INSULATION



PARADISE IRRIGATION DISTRICT  
STANDARD DRAWING

AIR RELEASE & VACUUM RELIEF  
VALVE ASSEMBLY

PID-10  
SHEET 1 OF 1

DRAWN NE CHECKED JP  
DATE DECEMBER 2009  
NO SCALE



DATE DECEMBER 2022  
PROJECT NUMBER 17-041  
DRAWING NUMBER SD-3  
SHEET NUMBER 65

BASIC SEPARATION STANDARDS

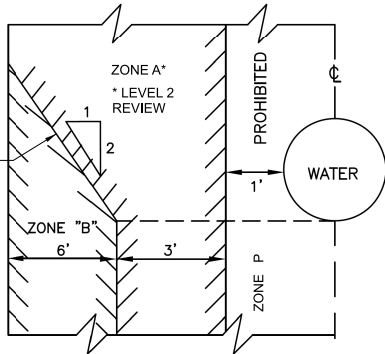
1. PARALLEL CONSTRUCTION: THE HORIZONTAL DISTANCE BETWEEN PRESSURE POTABLE WATER MAINS AND SANITARY SEWER LINES SHALL BE AT LEAST 10 FEET.
2. PERPENDICULAR CONSTRUCTION (CROSSING): PRESSURE WATER MAINS SHALL BE AT LEAST ONE FOOT ABOVE SANITARY SEWER LINES WHERE THESE LINES MUST CROSS.
3. SPECIAL PROVISIONS: ALTERNATIVE CONSTRUCTION CRITERIA WHERE THE BASIC SEPARATION STANDARDS CANNOT BE ATTAINED ARE SHOWN BELOW:

SITUATION:

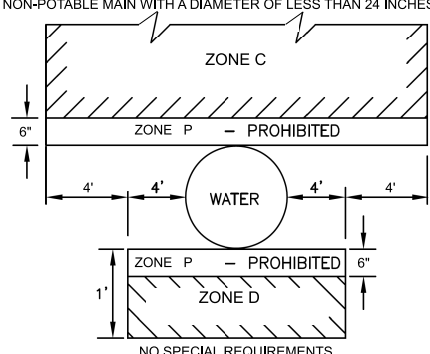
LOCATION OF NEW SEWER LINES TO EXISTING WATER LINES

NOTE: TO MAXIMIZE THE LENGTH OF THE WATER MAIN PIPE WITHOUT JOINTS, AN 18 TO 20+ FOOT PIPE CAN BE CENTERED ABOVE/BELOW A NON-POTABLE MAIN WITH A DIAMETER OF LESS THAN 24 INCHES

SOIL CONDITIONS  
MAY VARY. CONSULT  
WITH GEOTECHNICAL  
ENGINEER & FIELD  
VERIFIED SOILS REPORT



PARALLEL CONSTRUCTION



PERPENDICULAR CROSSING

IF ANY SEWER PIPELINES ARE TO BE CONSTRUCTED WITHIN ANY OF THE ABOVE INDICATED ZONES, SPECIAL CONSTRUCTION SHALL BE REQUIRED AS DESCRIBED BELOW.

ZONE	SEWER
A	DO NOT LOCATE ANY PARALLEL SEWER LINES IN THIS AREA WITHOUT STATE AND LOCAL HEALTH DEPARTMENT APPROVAL.
B	USE VCP OR DIP WITH COMPRESSION JOINTS
C	USE DIP WITH MECHANICAL JOINTS OR CLASS 200 PVC – AWWA C900
D	USE DIP OR CLASS 200 PVC – AWWA C900

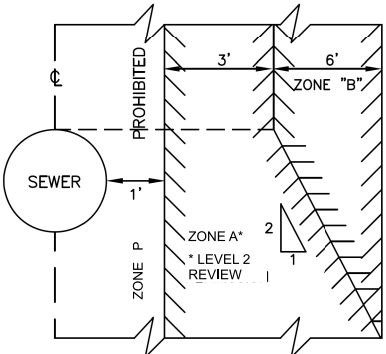
GENERAL NOTES

1. NO PIPE JOINTS SHALL BE PERMITTED WITHIN ZONE D. IT IS THE INTENT OF THESE SPECIFICATIONS THAT NO JOINTS SHALL OCCUR WITHIN ZONE C. IF THAT CANNOT BE ACCOMPLISHED, THE NEW PIPELINE SHALL BE ENCASED IN CONCRETE FOR THE FULL LENGTH OF ZONE C. ENCASEMENT SHALL BE PER PID-11 "DETAIL A".
2. ALL D.I.P. MUST HAVE HOT DIP BITUMINOUS COATING AND ALL CLASS 200 PVC MUST MEET DR-14 PER AWWA C900 OR EQUIVALENT.
3. SEWER FORCE MAINS SHALL NOT BE PERMITTED IN ZONES A THROUGH D.
4. WHERE CROSSINGS ARE NOT PERPENDICULAR, HORIZONTAL SPACING REQUIREMENTS SHALL BE MEASURED ALONG A LINE PERPENDICULAR TO THE WATER MAIN.
5. THE CONSTRUCTION CRITERIA APPLY TO HOUSE LATERALS THAT CROSS ABOVE A PRESSURE WATER MAIN BUT NOT TO THOSE HOUSE LATERALS THAT CROSS BELOW A PRESSURE WATER MAIN.
6. WATER MAINS SHALL NOT BE CONSTRUCTED LESS THAN 25 FEET HORIZONTALLY FROM SEPTIC TANKS, SEPTIC LEACH FIELDS OR GROUNDWATER RECHARGE SITES.
7. CASINGS OR TUNNELS FOR THE PASSAGE OF WATER AND SEWER LINES UNDER RAILROAD TRACKS, HIGHWAYS OR OTHER STRUCTURES, SHALL BE SPECIALLY DESIGNED TO ELIMINATE ANY HAZARD OF CONTAMINATION OF THE WATER SYSTEM.

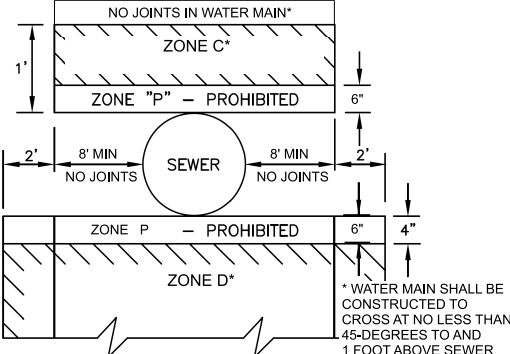
SITUATION:

LOCATION OF NEW WATER LINES TO EXISTING SEWER LINES

NOTE: TO MAXIMIZE THE LENGTH OF THE WATER MAIN PIPE WITHOUT JOINTS, AN 18 TO 20+ FOOT PIPE CAN BE CENTERED ABOVE/BELOW A NON-POTABLE MAIN WITH A DIAMETER OF LESS THAN 24 INCHES



PARALLEL CONSTRUCTION

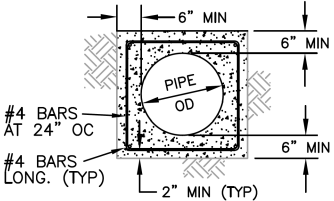


PERPENDICULAR CROSSING

IF ANY WATER PIPELINES ARE TO BE CONSTRUCTED WITHIN ANY OF THE ABOVE INDICATED ZONES, SPECIAL CONSTRUCTION SHALL BE REQUIRED AS DESCRIBED BELOW.

ZONE	POTABLE WATER
A	DO NOT LOCATE ANY PARALLEL DOMESTIC WATER MAIN IN THIS AREA WITHOUT STATE AND LOCAL HEALTH DEPARTMENT APPROVAL.
B	USE DIP OR CLASS 200 PVC – AWWA C900
C	USE DIP OR CLASS 200 PVC – AWWA C900
D	USE DIP OR CLASS 200 PVC – AWWA C900

"DETAIL A"



PARADISE IRRIGATION DISTRICT  
STANDARD DRAWING

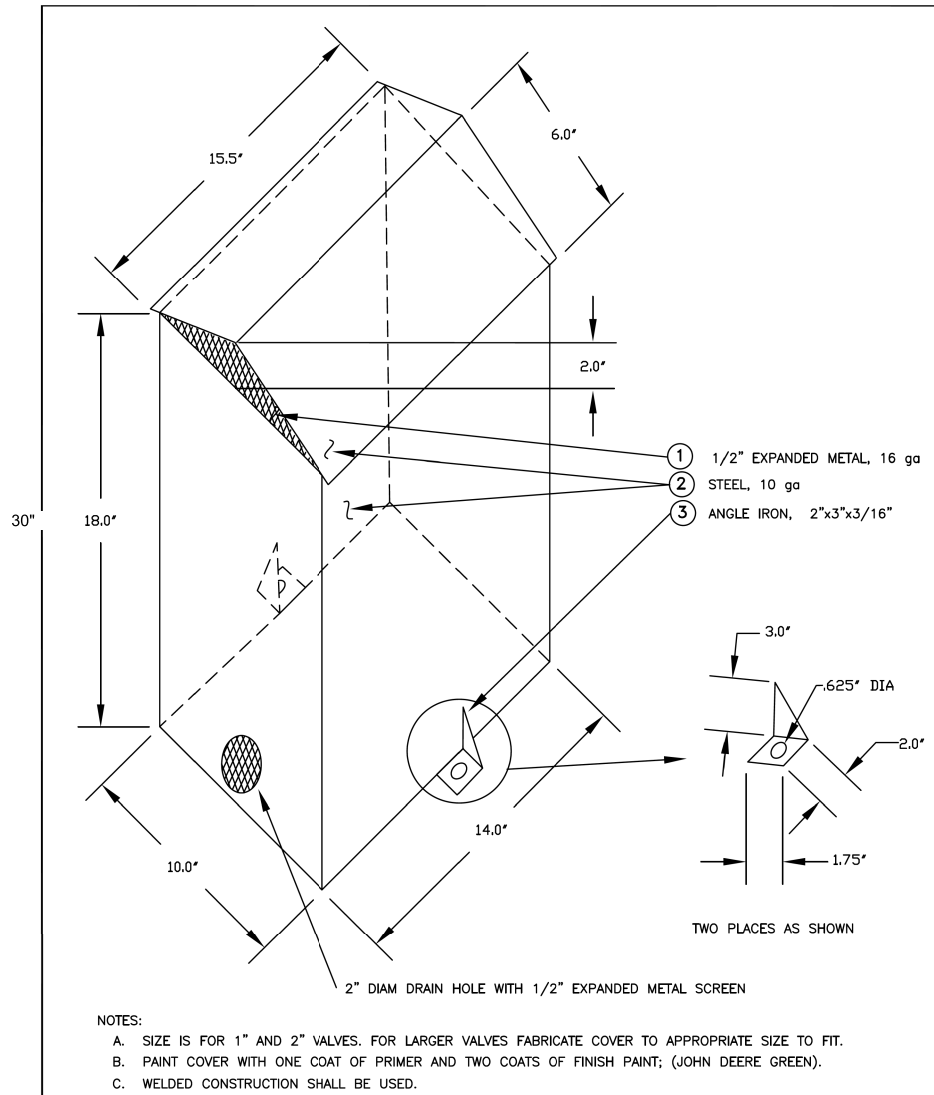
STATE HEALTH DEPT. EXCEPTIONS TO BASIC  
SEPARATION STANDARDS FOR  
POTABLE WATER AND SEWER PIPELINES

PID-11  
SHEET 1 OF 1

UPDATED PER STATE WATER  
BOARD'S WATER MAIN  
SEPARATION GUIDANCE  
MEMO DATED 12/14/17  
NO SCALE



DATE  
DECEMBER 2022  
PROJECT NUMBER  
17-041  
DRAWING NUMBER  
SD-4  
SHEET NUMBER  
66

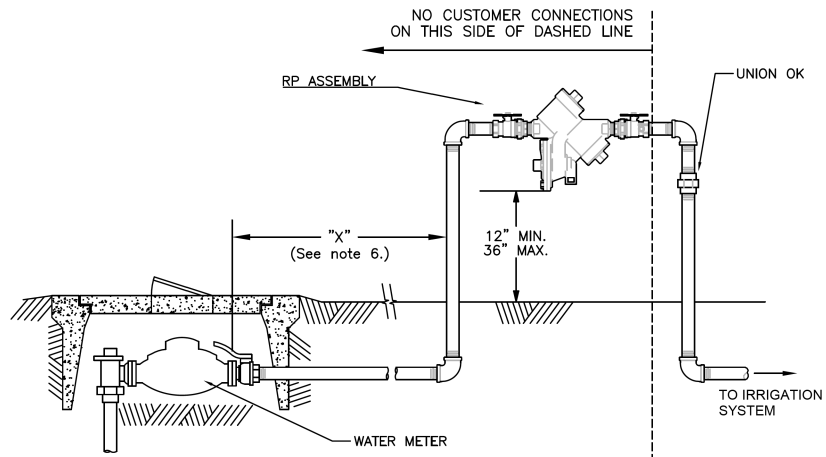


PARADISE IRRIGATION DISTRICT  
STANDARD DRAWING

COVER  
AIR & VACUUM RELEASE VALVE

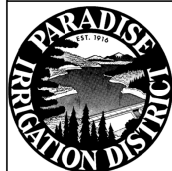
PID-12  
SHEET 1 OF 1

DRAWN NE DRAFTED DG CHECKED JP  
DATE  
JULY 2004  
NO SCALE



#### NOTES:

- BACKFLOW PREVENTION ASSEMBLY SHALL BE A REDUCED PRESSURE PRINCIPLE (RP) ASSEMBLY CERTIFIED BY USC FOUNDATION FOR CROSS CONNECTION CONTROL AND HYDRAULIC RESEARCH. ASSEMBLY SHALL BE LOW LEAD IN COMPLIANCE WITH NSF 61.
- CONTACT PID BEFORE INSTALLATION. REVIEW CLEARANCE AND ACCESSIBILITY ISSUES WITH PID INSPECTOR. PID TO INSPECT UTILITY-SIDE PLUMBING OF BACKFLOW PREVENTION ASSEMBLY PRIOR TO BACKFILL OR ENCASEMENT. ENCLOSURES AND FREEZE PROTECTION MUST BE APPROVED BY PID.
- BACKFLOW ASSEMBLY SHALL ONLY BE INSTALLED IN AN ALIGNMENT CERTIFIED BY THE MANUFACTURER.
- NO TAPS/CONNECTIONS ARE PERMITTED ON THE UTILITY SIDE OF THE BACKFLOW PREVENTION ASSEMBLY. BACKFLOW ASSEMBLY TEST COCKS SHALL ONLY BE USED FOR TESTING PURPOSES BY CERTIFIED TEST PERSONNEL.
- BACKFLOW RISER SHALL BE PLUMBED USING RIGID METALLIC PIPE. PRESSURE REDUCER OR PIPE UNION SHALL NOT BE INSTALLED ON UTILITY SIDE OF BACKFLOW ASSEMBLY.
- DISTANCE "X" SHALL BE KEPT TO A MINIMUM. IF "X" EXCEEDS 12 INCHES THE SERVICE LINE SHALL BE ENCASED IN MIN 2,000 PSI CONCRETE FROM THE METER BOX TO THE POINT WHERE THE PIPE LEAVES THE GROUND. CONCRETE ENCASEMENT SHALL BE MIN 4" THICK ON ALL SIDES OF PIPE. ANY NONMETALLIC PIPE IN ENCASEMENT SHALL BE WRAPPED TO PROTECT PIPE FROM CONTACT WITH CONCRETE.
- UPON COMPLETION OF INSTALLATION, AND PRIOR TO RECEIVING SERVICE, BACKFLOW ASSEMBLY SHALL BE TESTED BY A CERTIFIED TESTER AND THE RESULTS SUBMITTED TO PID.



PARADISE IRRIGATION DISTRICT  
STANDARD DRAWING

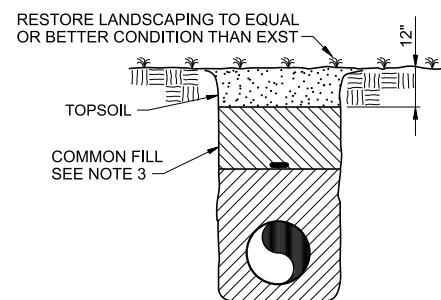
RP INSTALLATION FOR DOMESTIC  
CONNECTIONS UP TO 2"

PID-15  
SHEET 1 OF 1

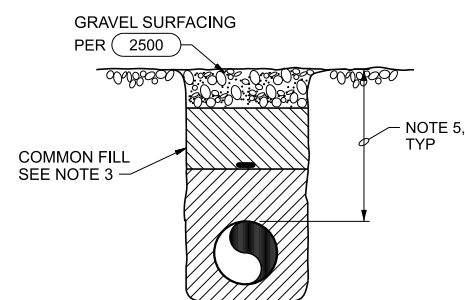
DRAWN NE CHECKED JL  
DATE  
MAY 2013  
NO SCALE



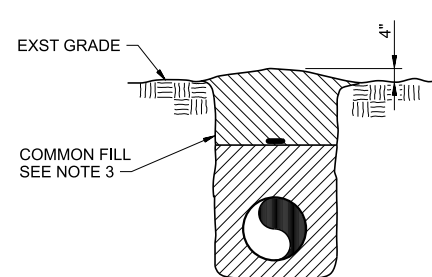
DATE  
DECEMBER 2022  
PROJECT NUMBER  
17-041  
DRAWING NUMBER  
SD-5  
SHEET NUMBER  
67



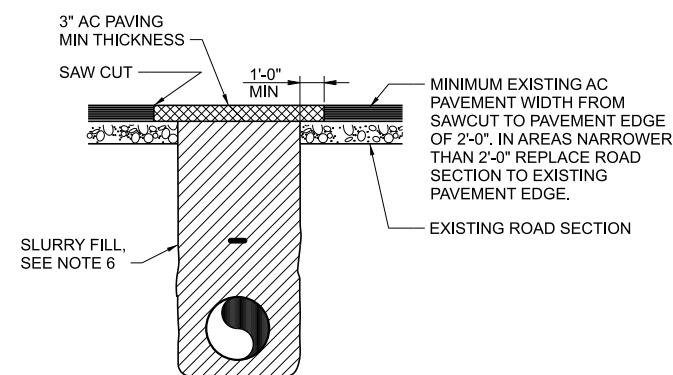
## LANDSCAPE AREAS



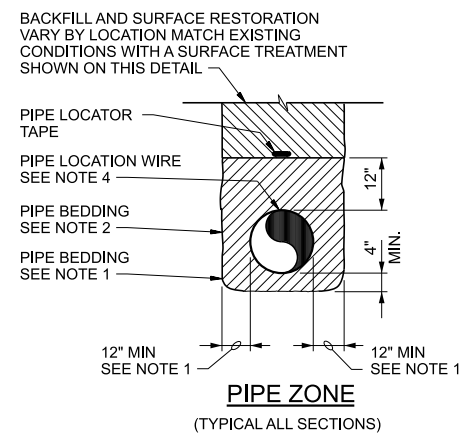
### GRAVEL SURFACE AREAS



### UN-SURFACED AREAS WITHOUT LANDSCAPING



EXISTING PAVED AREA

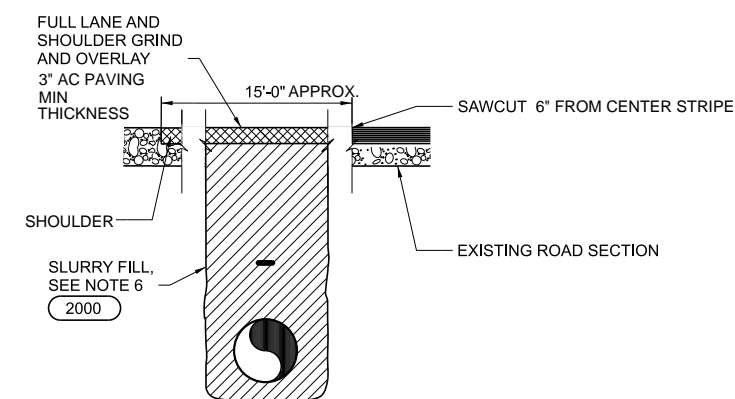


NOTES:

1. PIPE BEDDING SHALL BE SAND. ALTERNATELY, SLURRY FILL MAY BE USED FOR PIPE BEDDING. IF SLURRY FILL IS USED, TAKE PRECAUTIONS TO PREVENT PIPE FLOATING. ALSO, IF SLURRY FILL IS USED, TRENCH WIDTH CAN BE NARROWED TO 6-INCHES OUTSIDE OF PIPE WALL ON EACH SIDE.
2. PIPE BEDDING SHALL BE IMPORTED SAND:
  - A. IF COMPACTION JETTING IS USED, PIPE SHALL BE BACKFILLED WITH IMPORTED SAND TO THE TOP OF THE PIPE AND JETTED DOWN AND AROUND THE PIPE TO FILL ALL VOIDS. THEN A 12" LIFT ABOVE THE PIPE WITH WATER COMPACTION BY JETTING. FLOODING OF THE TRENCH IS NOT ALLOWABLE.
  - B. IF COMPACTION BY HAND TAMPING IS USED, THE PIPE SHALL BE BACKFILLED IN 4" LIFTS TO A LEVEL 12" ABOVE THE TOP OF THE PIPE. MECHANICAL COMPACTORS SHALL NOT BE USED ON TOP OF THE PIPE UNTIL A MIN. OF 12" OF HAND TAMPED BACKFILL ABOVE THE PIPE HAS BEEN COMPLETED. REMAINING BACKFILL SHALL BE PLACED IN LAYERS 6" THICK.
3. COMPACT ALL TRENCH BACK FILL TO 90% COMPACTION MORE THAN 2-FEET BELOW GRADE; 95% COMPACTION LESS THAN 2-FEET BELOW GRADE.
4. ALL PIPELINES AND ALL SERVICE LINES, SHALL SHALL BE PROVIDED WITH 12 AWG SOLID COPPER WIRE WITH TYPE UF INSULATION LAID ALONG THE TOP OF THE PIPE FOLLOWING COMPLETION OF SANDING AND COMPACTION TO THE TOP OF PIPE. THE WIRE SHALL BE OVER THE CENTER AND IN CONTACT WITH THE FULL LENGTH OF THE PIPE. THIS IS TO PROVIDE FOR LOCATING PIPES IN THE FUTURE. WIRES ARE TO CARRY A CONTINUOUS CIRCUIT FROM ALL EXTREMITIES OF THE PIPELINES. ENDS SHALL BE TERMINATED BY CONNECTION TO EXISTING LOCATOR WIRES OR EXISTING METAL PIPES. PORTIONS OF THE WIRE THAT HAVE BEEN EXPOSED, FOR WHATEVER REASON, SHALL BE PROTECTED FROM SOIL CONTACT BY WRAPPING THE ELECTRICAL TAPE (OR OTHER APPROVED METHOD) BEFORE PLACEMENT OF BACKFILL.
5. UNLESS NOTIFIED OTHERWISE, PROVIDE MINIMUM 3-FEET OF COVER OVER ALL BURIED PIPELINES.  
  
\* THIS DETAIL MEETS OR EXCEEDS THE REQUIREMENTS OF PARADISE IRRIGATION DISTRICT, THE TOWN OF PARADISE AND BUTTE COUNTY TRENCHING STANDARDS.
6. PROVIDE SLURRY FILL (CONTROLLED LOW STRENGTH MATERIAL, CLSM, PER SPECIFICATION SECTION 02300) FOR ALL PIPE INSTALLED IN PAVED AREAS FOR BOTH PIPE BEDDING AND TRENCH BACKFILL.

## TYPICAL TRENCH SECTIONS

2000





EXISTING PAVED AREA

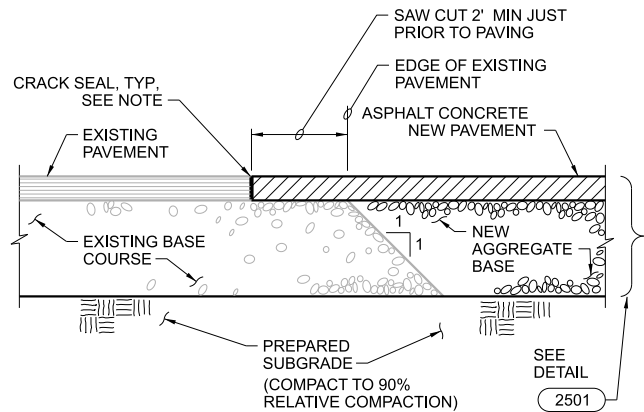
## TYPICAL TRENCH SECTIONS

2000A



STANDARD DETAILS	PARADISE IRRIGATION DISTRICT  ZONE A PUMP STATION AND TRANSMISSION MAIN PROJECT  PARADISE, CA	 <b>WATERWORKS</b> ENGINEERS		DESIGNED
				S MAGLADRY
STANDARD DETAILS				DRAWN
				B TROTTER
DATE DECEMBER 2022	PROJECT NUMBER 17-041	DRAWING NUMBER SD-6	SHEET NUMBER	CHECKED
				S KADER
				APPROVED
				S KADER

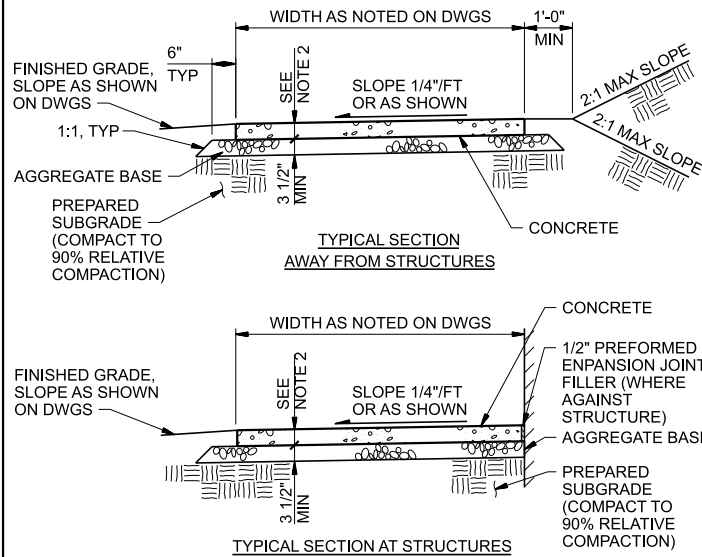




- NOTES:**
1. PAINT EDGE OF EXISTING ASPHALT WITH TACK COAT PRIOR TO PAVING. CRACK SEAL JOINT AFTER PAVING OPERATION HAS BEEN COMPLETED.

**PAVEMENT CONNECTION**  
NTS

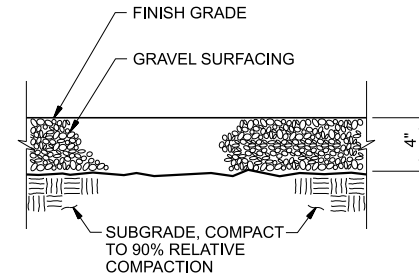
2502



- NOTES:**
1. SIDEWALKS 8 FEET AND WIDER SHALL HAVE A LONGITUDINAL CONTRACTION JOINT AT THE MIDPOINT. PROVIDE LATERAL CONTRACTION JOINTS AT EQUAL SPACING, NO MORE THAN 5'-0" BETWEEN JOINTS.
  2. CONCRETE DEPTH FOR STANDARD SIDEWALKS SHALL BE NOMINAL 3 1/2" MINIMUM, THICKNESS IN DRIVEWAY SHALL BE 5 1/2" MINIMUM.

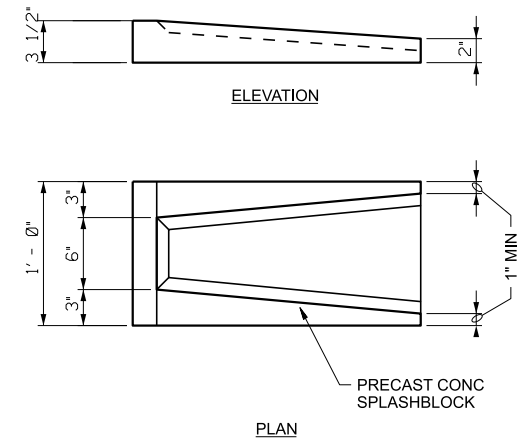
**CONCRETE SIDEWALK**  
NTS

2503



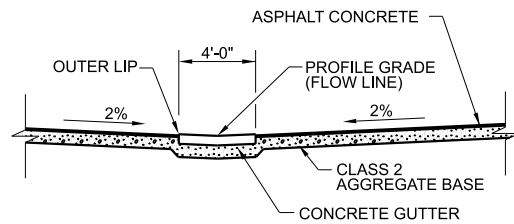
**GRAVEL SURFACING**  
NTS

2504

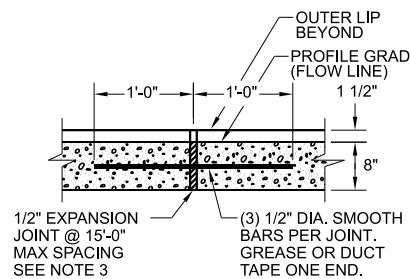


**SPLASH BLOCK**  
NTS

2601



**TYP. CROSS SECTION**

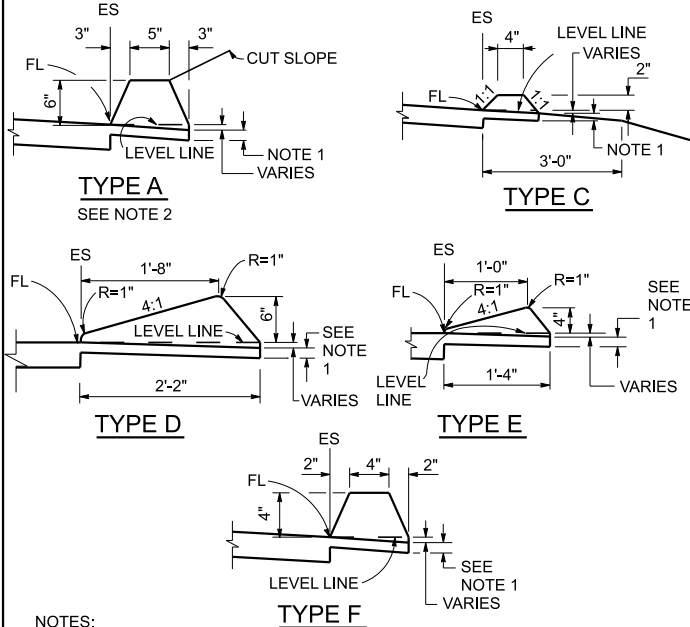


**EXPANSION JOINT DETAIL**

- NOTES:**
1. ALL WORK AND MATERIALS SHALL CONFORM TO THE PROJECT SPECIFICATIONS.
  2. SURFACING AND BASE THICKNESS SHALL BE DETERMINED IN ACCORDANCE WITH PROJECT SPECIFICATIONS OR AS DIRECTED BY THE ENGINEER.
  3. 1/2-INCH, PRE-MOLDED EXPANSION JOINT MATERIAL SHALL BE HELD FIRMLY IN PLACE PRIOR TO PLACING CONCRETE.

**TYPICAL CONCRETE SWALE**  
NTS

2720



- NOTES:**
1. FOR AC SHOULDERS ONLY, EXTEND TOP LAYER OF AC PLACED ON THE SHOULDER UNDER DIKE WITH NO JOINT AT THE ES.
  2. TYPE A DIKE ONLY TO BE USED WHERE RESTRICTIVE SLOPE CONDITIONS DO NOT PROVIDE ENOUGH WIDTH TO USE TYPE D OR TYPE E DIKE.

**DIKE QUANTITIES**

TYPE	CUBIC YARDS PER LINEAR FOOT
A	0.0135
C	0.0038
D	0.0293
E	0.0130
F	0.0066

QUANTITIES BASED ON 5% CROSS SLOPE.

**AC DIKE**  
NTS

2760

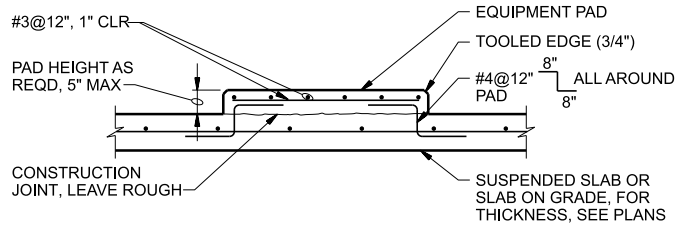


DATE  
DECEMBER 2022  
PROJECT NUMBER  
17-041  
DRAWING NUMBER  
SD-8  
SHEET NUMBER  
70

**WATERWORKS ENGINEERS**  
PARADISE IRRIGATION DISTRICT  
ZONE A PUMP STATION  
AND TRANSMISSION MAIN PROJECT  
PARADISE, CA

STANDARD DETAILS  
STANDARD DETAILS





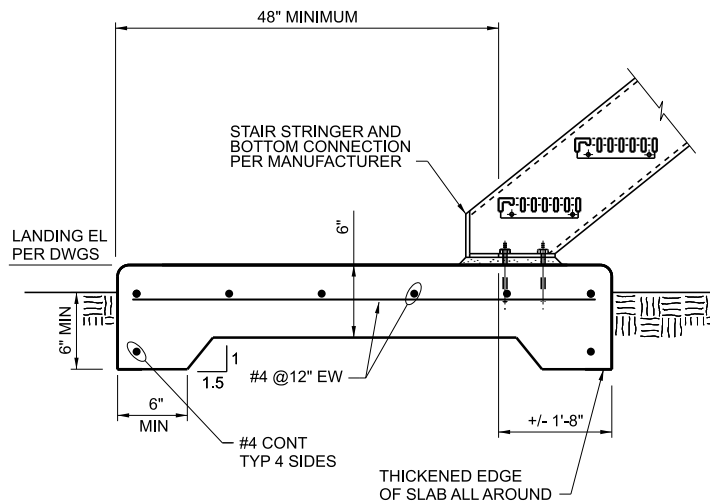
#### NOTES:

- SEE 3200 FOR GENERAL EQUIPMENT PAD NOTES.
- WHEN ANCHORAGE OF EQUIPMENT TO SLAB IS REQUIRED, USE CAST-IN-PLACE ANCHOR BOLTS IN ACCORDANCE WITH 3210 UNLESS OTHERWISE APPROVED BY THE ENGINEER.

### EQUIPMENT PAD-TYPE F

NTS

3200F



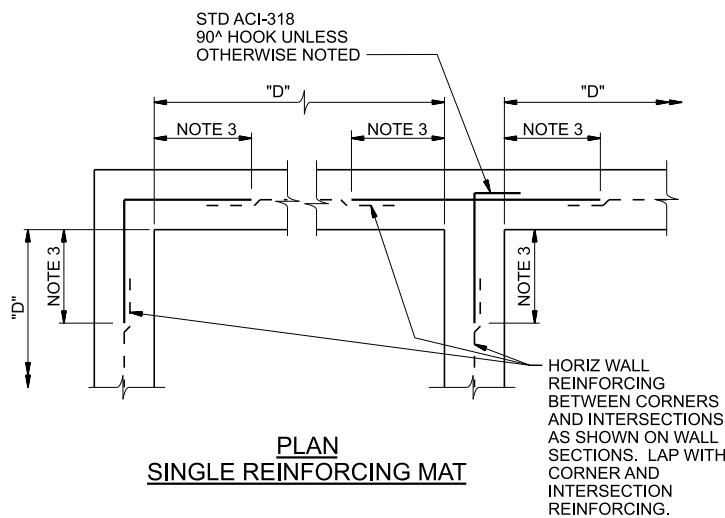
#### NOTE:

LANDING WIDTH MINIMUM OF CLEAR STAIR WIDTH PLUS 1'-0".

### CONCRETE STAIR LANDING

NTS

3203



#### PLAN SINGLE REINFORCING MAT

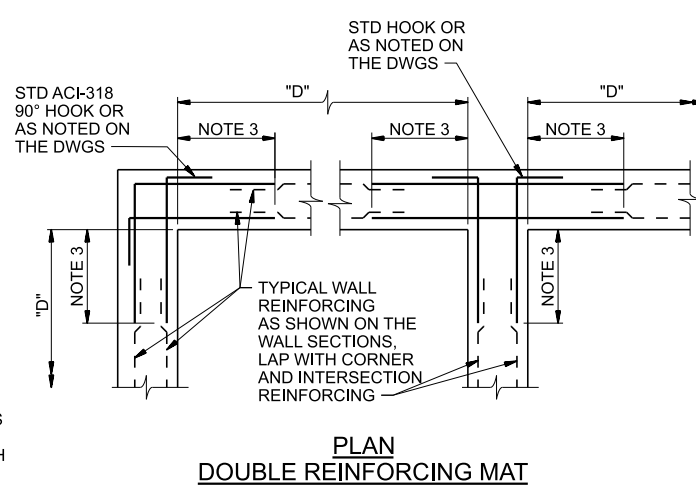
#### NOTES:

- TYPICAL HORIZONTAL WALL CORNER AND INTERSECTION REINFORCING LAYOUT IS SHOWN. FOR SIZE AND SPACING, SEE PLANS.
- WHERE THE CORNER OR INTERSECTION REINFORCING SIZE AND SPACING IS NOT SHOWN, NOTED OR TABULATED ON THE PLANS, THE SIZE AND SPACING SHALL BE THE SAME AS THE WALL HORIZONTAL REINFORCING SHOWN ON THE WALL SECTIONS OR AS NOTED FOR THE REINFORCING BETWEEN THE CORNERS OR INTERSECTIONS.

### TYPICAL WALL CORNER AND INTERSECTION REINFORCING

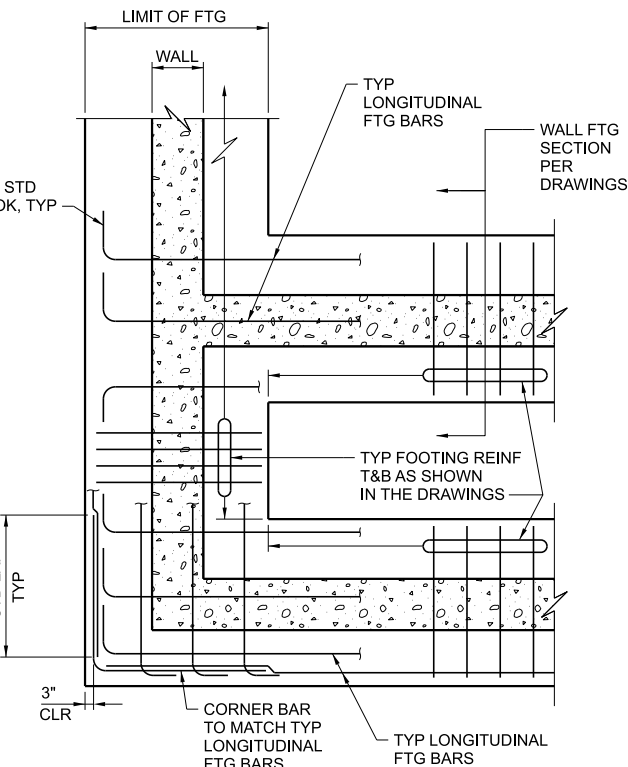
NTS

3303



#### PLAN DOUBLE REINFORCING MAT

- EXCEPT WHERE OTHERWISE SHOWN ON THE DRAWINGS, THE LENGTH INDICATED AS "NOTE 3" SHALL BE THE LESSER OF D/4, 8 FEET, OR 1.0 TIMES THE HEIGHT OF THE WALL, EXCEPT THAT IN NO CASE SHALL IT BE LESS THAN 2.0 FEET.
- D = LENGTH OF WALL PARALLEL TO THE BAR LENGTH IN QUESTION.
- USE THE LAP LENGTH AS REQUIRED FOR THE SMALLER OF THE TWO REINFORCING BARS BEING SPLICED, SEE CONCRETE REINFORCING NOTES.



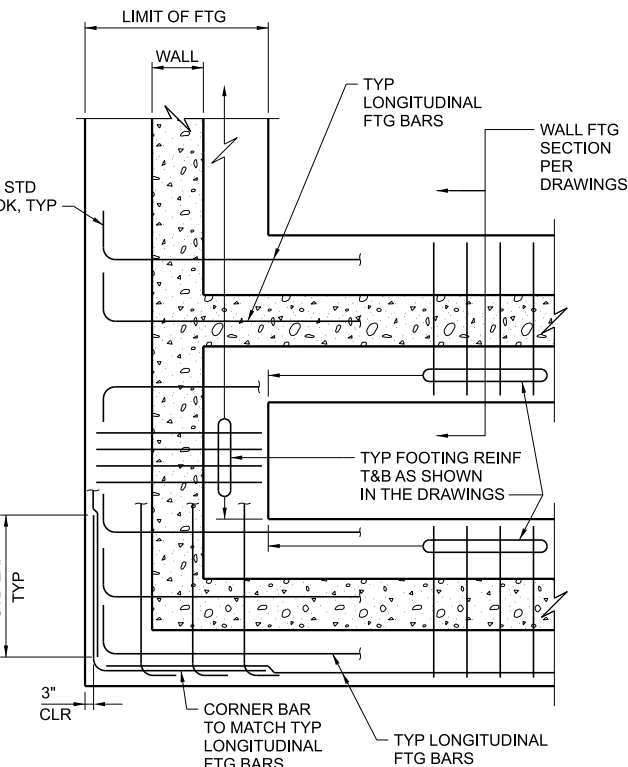
#### NOTES:

- STAGGER CENTER-TO-CENTER SPACING OF PARALLEL LAP SPLICES NOT LESS THAN ONE LAP LENGTH OR 3'-0" MINIMUM.

### TYPICAL FOOTING CORNER AND INTERSECTION REINFORCING

NTS

3304



#### MACHINERY ANCHOR BOLT DETAIL

#### ANCHOR BOLT BLOCKOUT

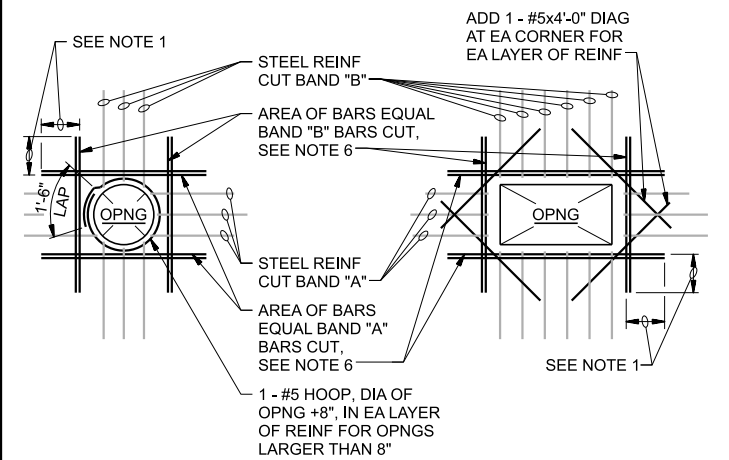
#### NOTES:

- ANCHOR BOLT SLEEVE BY THE ANCHOR BOLT SLEEVE COMPANY, SHELTON, CT, OR EQUAL.
- 3d WHERE MANUFACTURER VERIFIES NO BOLT PULLOUT RESISTANCE REQUIRED.

### ANCHOR BOLT DETAILS

NTS

3210



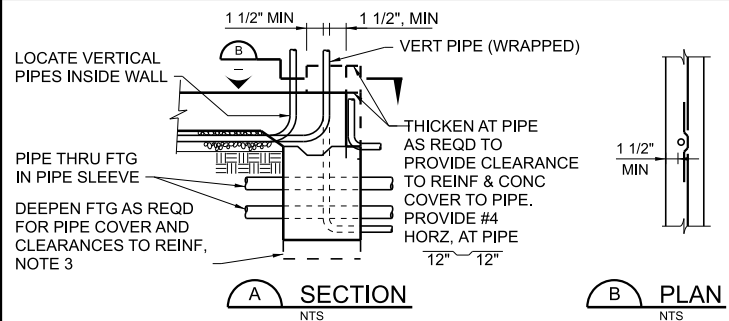
#### NOTES:

- PROVIDE MINIMUM LAP, SEE GENERAL STRUCTURAL NOTES. WHERE FULL LAP LENGTH CANNOT BE ACHIEVED DUE TO SLAB OR WALL EDGE, TERMINATE BARS WITH A STANDARD 90 DEGREE BEND 2 INCHES CLEAR OF SLAB OR WALL EDGE. ROTATE HOOKS AS REQUIRED TO MAINTAIN CONCRETE COVER.
- TYPICAL FOR ALL OPENINGS IN CONCRETE WALLS OF BELOW GRADE AND HYDRAULIC STRUCTURES AND ALL STRUCTURAL CONCRETE SLABS UNLESS INDICATED OTHERWISE ON PLANS.
- DO NOT WELD REINFORCEMENT TO PIPE SLEEVES AND INSERTS.
- PROVIDE A MINIMUM OF 2 "A" BARS AND 2 "B" BARS EACH SIDE OF OPENING (1 EACH FACE).
- FOR OPENINGS LARGER THAN 8'-0", REINFORCE SAME AS FOR 8'-0" OPENINGS.
- SPACE AT 3 BAR DIAMETERS (OR 3" MINIMUM) ON CENTER.

### OPENING REINFORCING

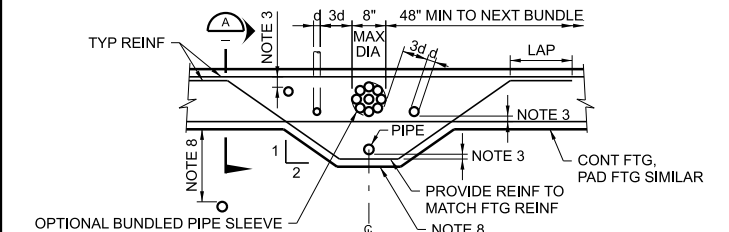
NTS

3301



#### SECTION NTS

#### PLAN NTS



#### NOTES:

- PIPE = ANY PENETRATION THRU OR EMBEDDED IN FOUNDATION.
- ALL PIPES THROUGH FOOTINGS TO BE WRAPPED OR SLEEVED AS FOLLOWS:
  - SLEEVES: PROVIDE 1" MIN CLR ALL AROUND O.D. PIPE TO I.D. SLEEVE, UNO.
  - WRAPPED VERTICAL PIPES: PROVIDE 1/8" NOMINAL SHEET FOAM WITH (3) WRAPS MINIMUM, UNO.
  - WRAPPED HORIZONTAL PIPES: PROVIDE 1/8" NOMINAL SHEET FOAM WITH (8) WRAPS MINIMUM, UNO.
  - UNDERGROUND FIRE LINES 4" AND LARGER:
    - SLEEVES: PROVIDE 2" MIN CLEAR ALL AROUND O.D. PIPE TO I.D. SLEEVE
    - WRAPPED: PROVIDE 1/8" NOMINAL SHEET FOAM WITH (16) WRAPS MIN.
- WRAPPED & SLEEVED PIPES SHALL HAVE 1 1/2" MIN CLEAR TO REINFORCING STEEL. MIN CONC COVER AT PIPES TO BE 3".
- CLEARANCE BETWEEN PIPES TO BE 3d MIN TYP. WITH A MAXIMUM OF (8) PIPES PER 48". GROUPS OF PIPES MAY BE BUNDLED AS SHOWN, EXCEPT IN PAD FOOTINGS.
- NO PIPE TO RUN PARALLEL IN FOOTINGS, STEM OR CURB.
- PVC CONDUIT (PIPE) EMBEDDED IN CURB/STEM MAY BE WIRED TIED TO HORIZ REINFORCING.
- NO HORIZONTAL PIPES ALLOWED THROUGH FOOTING WITH 2'-0" EACH SIDE OF HOLD-DOWNS OR STEEL COLUMNS. NO VERTICAL PIPES ALLOWED IN FOOTINGS AT BRACED FRAMES.
- PROVIDE 18" MIN OF COMPACTED FILL ABOVE PIPES UP TO 12" DIA, FOR LARGER PIPES INCREASE COMPACTED FILL DEPTH 1'-0" FOR EACH 6" INCREASE IN PIPE DIAMETER. OTHERWISE DEEPEN THE FOOTING AS SHOWN.

### PIPES THRU FOOTINGS

NTS

3305



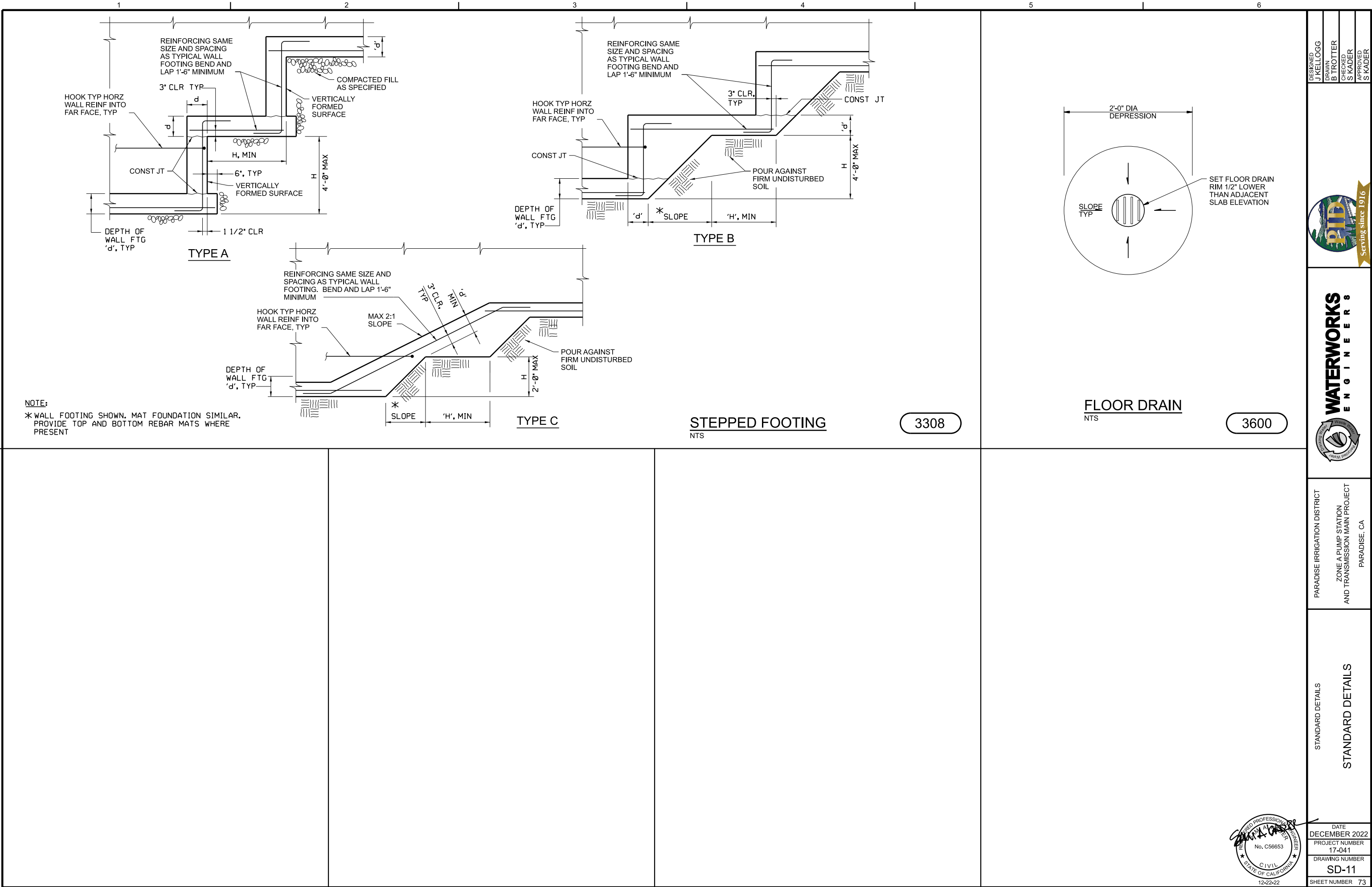
DESIGNED	J. KELLOGG
DRAWN	B. TROTTER
CHECKED	S. KADER
APPROVED	S. KADER



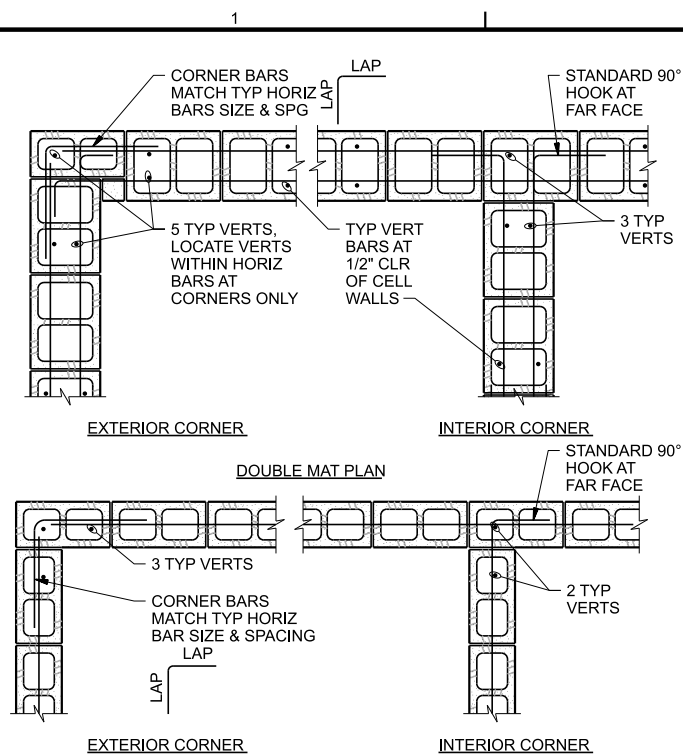
PARADISE IRRIGATION DISTRICT  
ZONE A PUMP STATION  
AND TRANSMISSION MAIN PROJECT  
PARADISE, CA

STANDARD DETAILS  
STANDARD DETAILS

DATE	DECEMBER 2022
PROJECT NUMBER	17-041
DRAWING NUMBER	SD-10
SHEET NUMBER	72

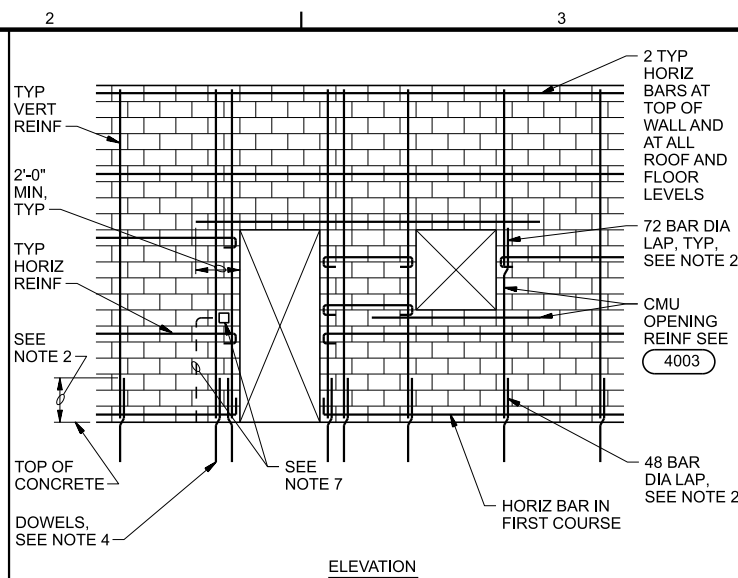


DESIGNED J KELLOGG	DRAWN B TROTTER	CHECKED S KADER	APPROVED S KADER
<b>WATERWORKS ENGINEERS</b>			
PARADISE IRRIGATION DISTRICT ZONE A PUMP STATION AND TRANSMISSION MAIN PROJECT PARADISE, CA			
STANDARD DETAILS STANDARD DETAILS			
DATE DECEMBER 2022			
PROJECT NUMBER 17-041			
DRAWING NUMBER SD-11			
SHEET NUMBER 73			



- NOTES:**
- SINGLE MAT PLAN**
- LAP=48 BAR DIAMETERS OR 2'-0" MINIMUM UNLESS OTHERWISE NOTED.
  - PROVIDE A STANDARD 90° HOOK EACH END ON ANY HORIZONTAL BAR BETWEEN OPENINGS, CONTROL JOINTS, OR CORNERS LESS THAN 6'-0" IN LENGTH.

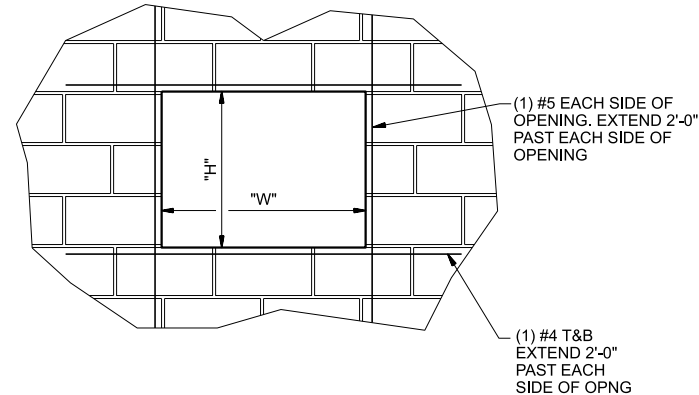
**CMU WALL CORNERS** 4001  
NTS



- NOTES:**
- FOR TYPICAL WALL REINFORCING, SEE WALL SECTIONS AND DETAILS FOR EACH FACILITY.
  - LAP VERTICAL REINFORCING WITH WALL DOWELS 48 BAR DIAMETERS (2'-0" MIN), LAP ALL OTHER VERTICAL BARS 72 BAR DIAMETERS.
  - STAGGER SPLICES IN ADJACENT HORIZONTAL BARS IN THE SAME COURSE BY 2'-0".
  - PROVIDE DOWEL BARS IN FOUNDATION TO MATCH ALL VERTICAL REINFORCING.
  - FOR ADDED REINFORCING AT WALL INTERSECTIONS AND CORNERS, SEE 4001
  - SOLID GROUT ALL CMU WALLS UNLESS NOTED OTHERWISE.
  - DO NOT PLACE VERTICAL CONDUIT IN THE SAME CELL AS VERTICAL REINFORCING.

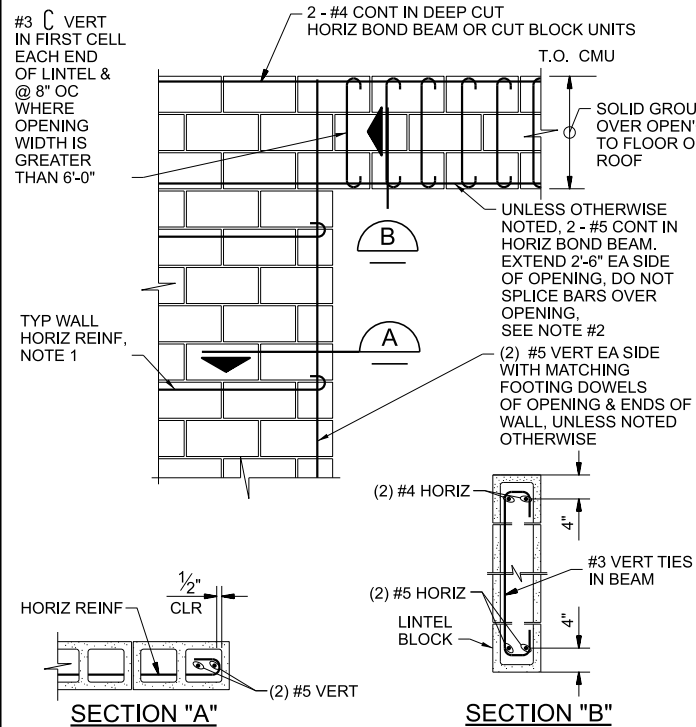
FOR SHEAR WALLS REQUIRING SHEAR REINFORCING ALL HORIZ REINFORCING SHOULD BE TERMINATED W/ STANDARD HOOK. DETAILING SHOWN IS TYPICAL FOR UBC SEISMIC ZONES 3 & 4.

**REINFORCED CMU WALL** 4002  
NTS



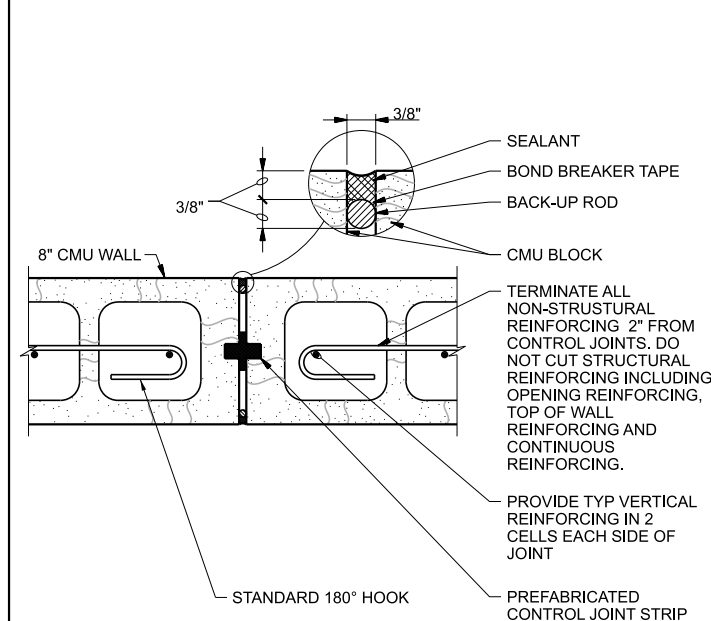
- NOTES:**
- THIS DETAIL APPLICABLE WHERE OPNG LESS THEN 3'-0" IN ANY DIMENSION. SEE DETAIL 4004 FOR LARGER OPENINGS.
  - TERMINATE HORIZ REINF WITH 180° HOOK AT WALL ENDS AND CMU CONTROL JOINTS PER DETAIL.

**CMU OPENINGS LESS THAN 3'-0"** 4003  
NTS



- NOTES:**
- TERMINATE HORIZ REINF WITH 180° HOOK AT WALL ENDS, JAMB OPENINGS AND CMU CONTROL JOINTS.
  - PLACE (2) #5 HORIZ AT WINDOW SILLS, SIM TO TOP OF OPENING.

**CMU OPENINGS GREATER THAN 3'-0"** 4004  
NTS



- NOTES:**
- 12" CMU WALL WITH 2 LAYERS OF REINFORCING IS SIMILAR.

**CMU CONTROL JOINT** 4100  
NTS



DESIGNED  
J KELLOGG  
DRAWN  
B TROTTER  
CHECKED  
S KADER  
APPROVED  
S KADER

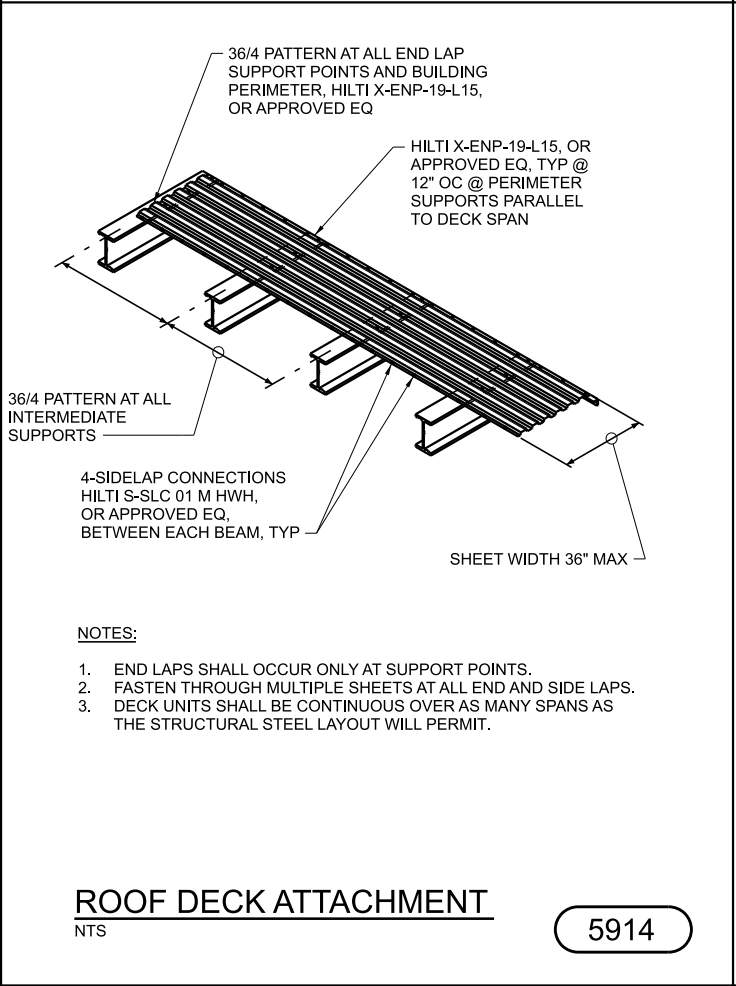
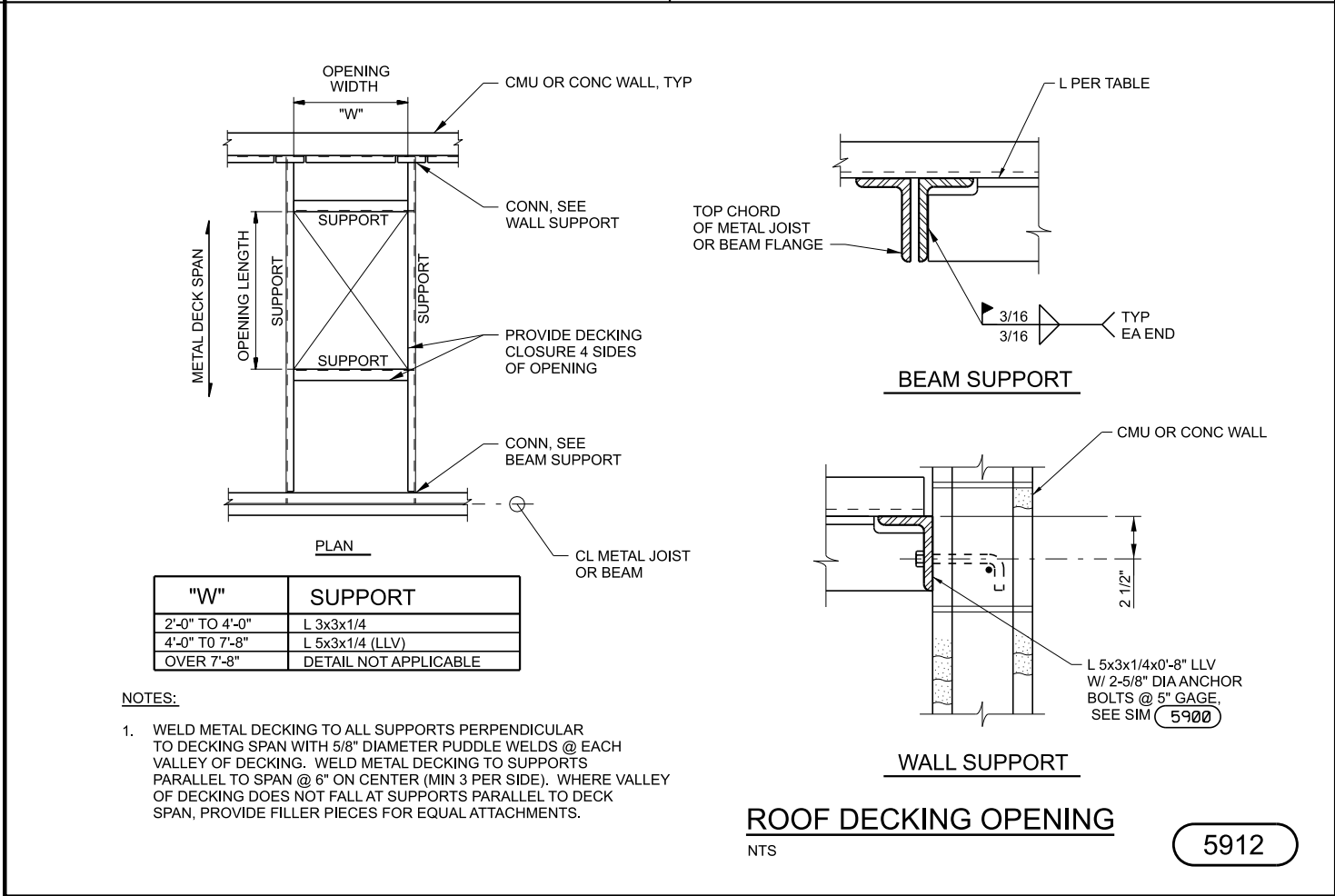
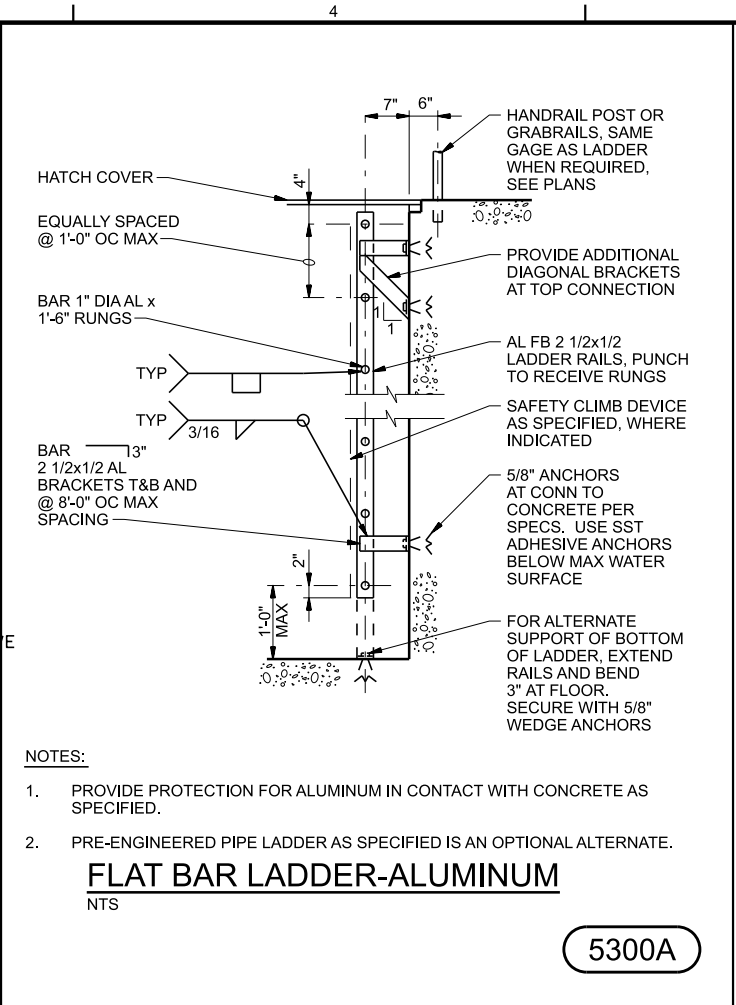
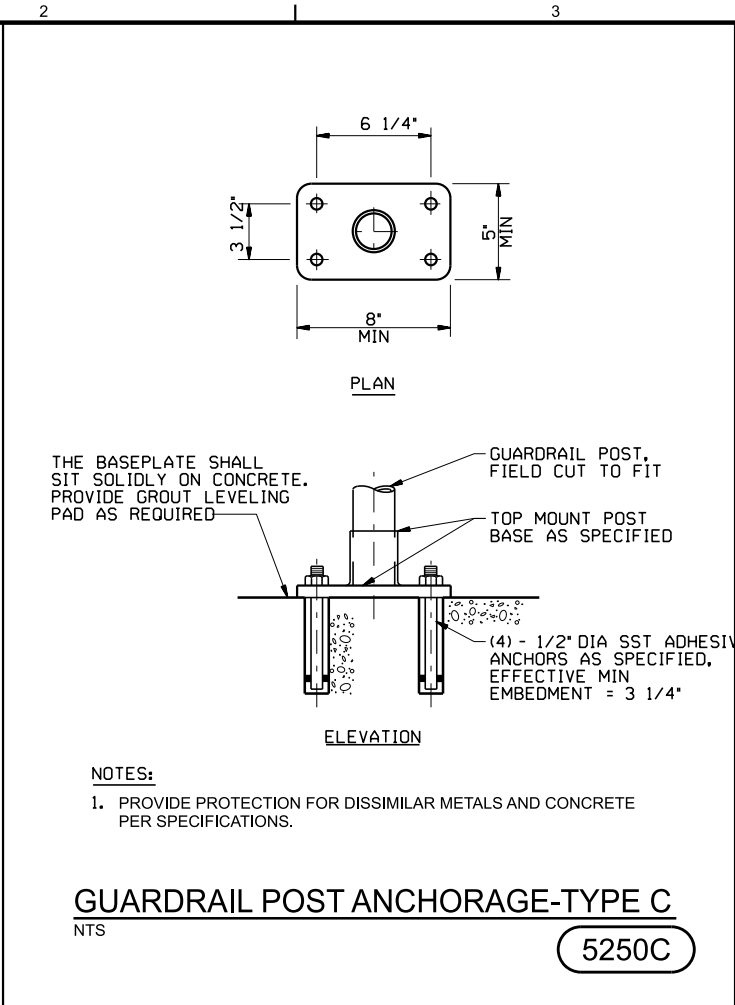
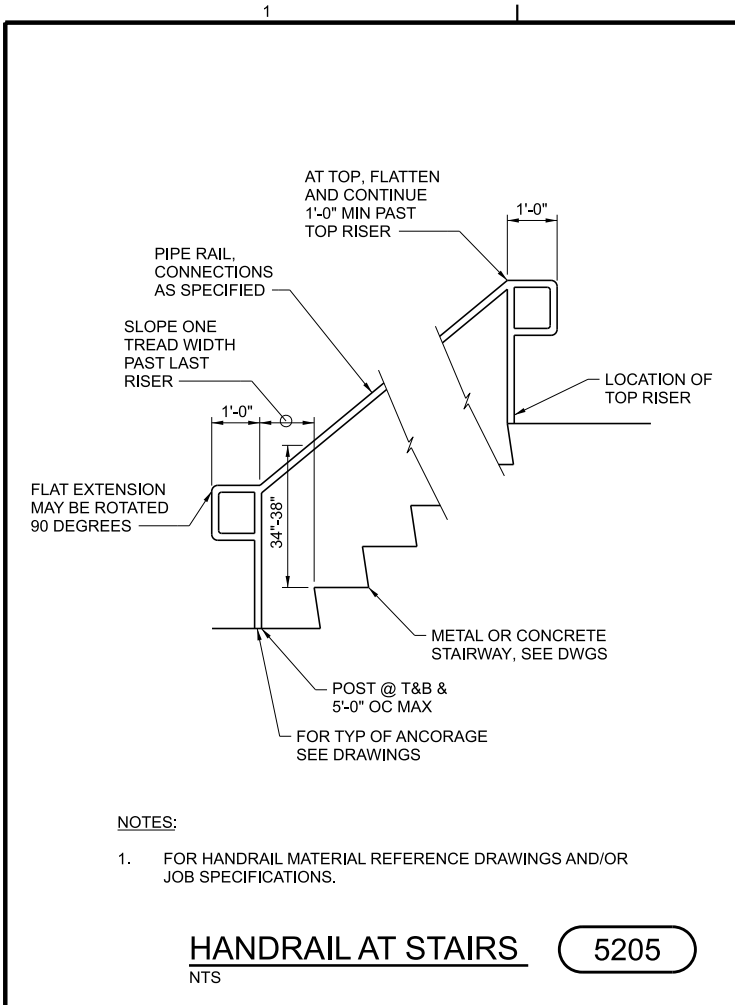


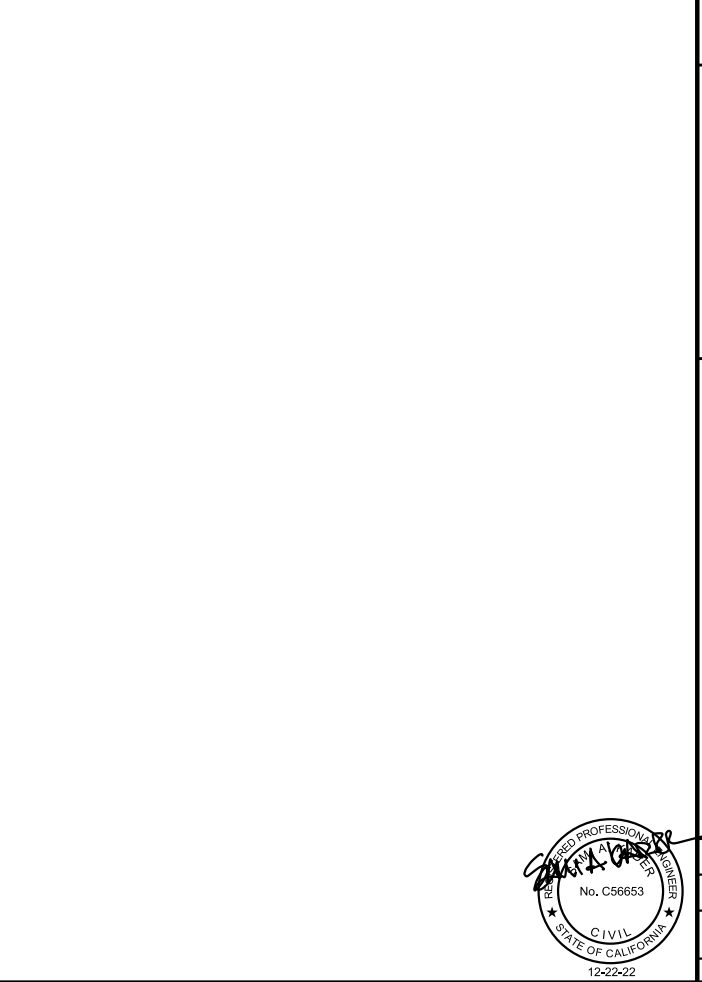
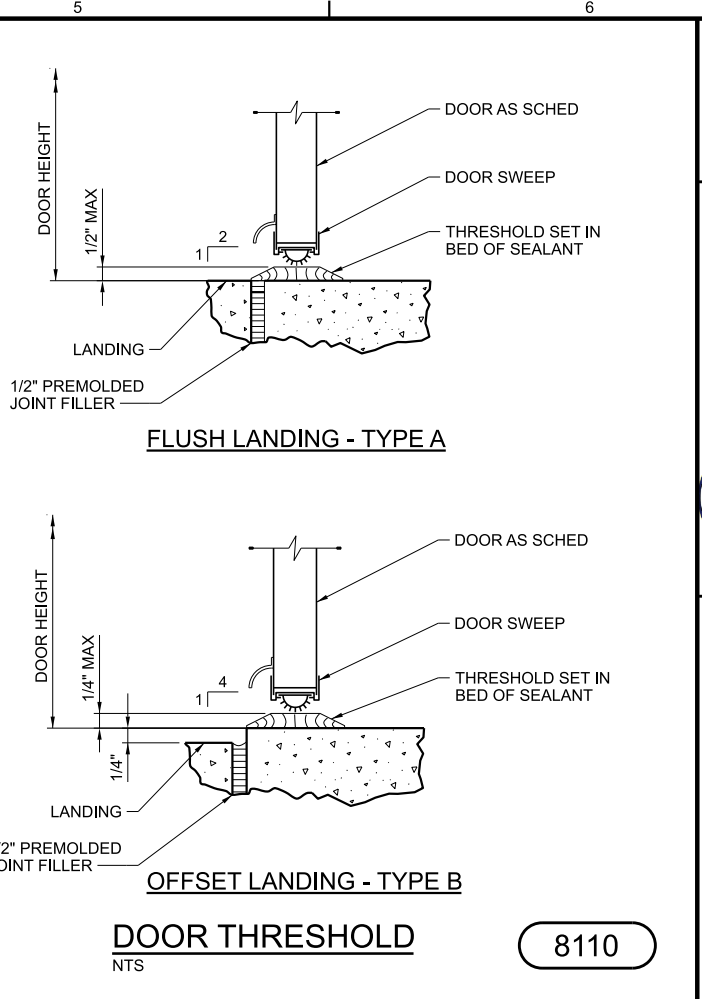
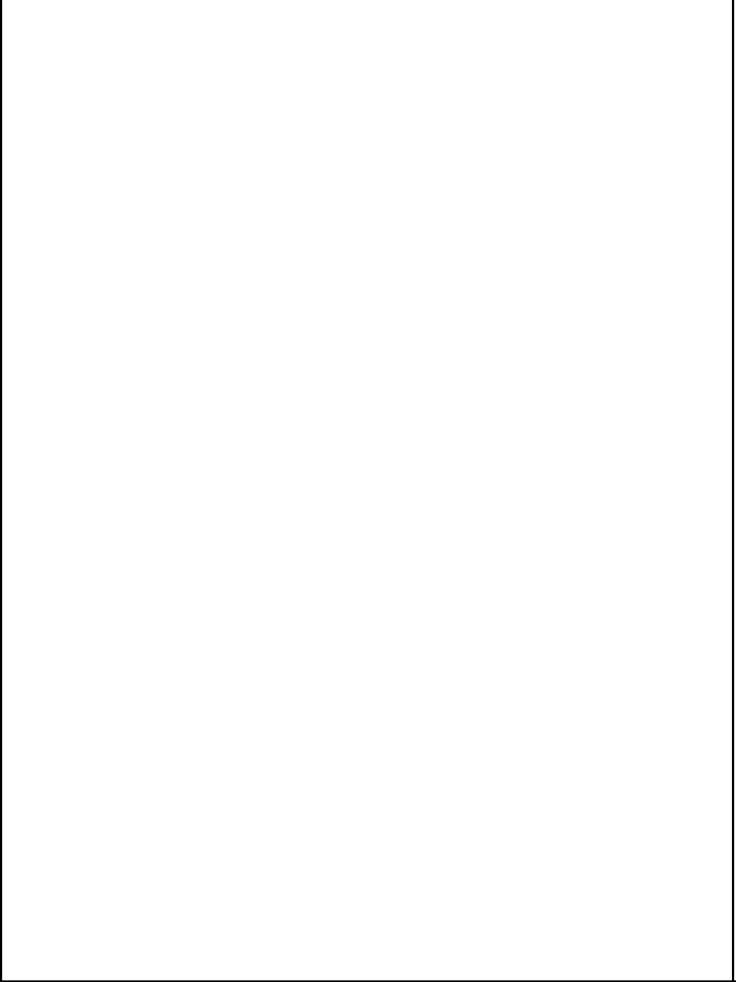
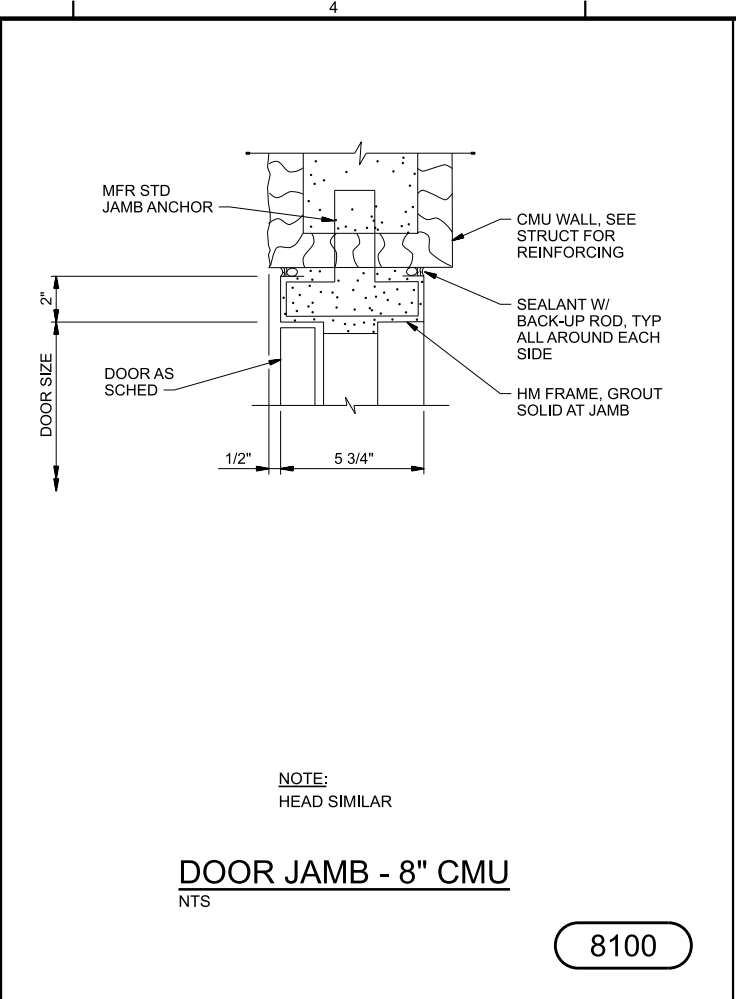
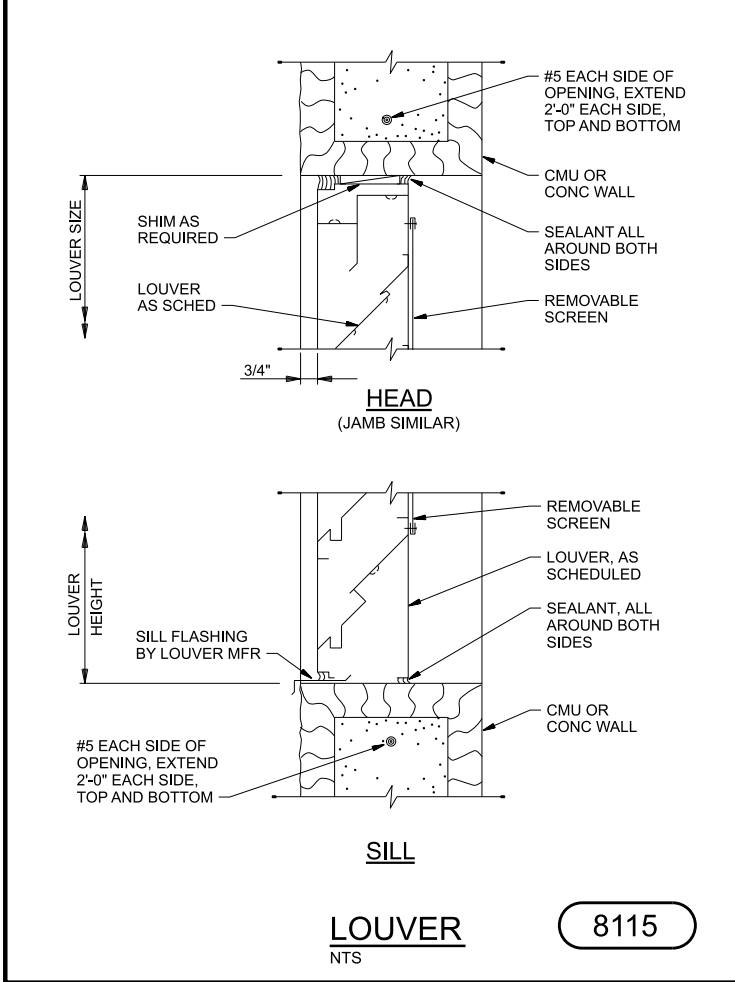
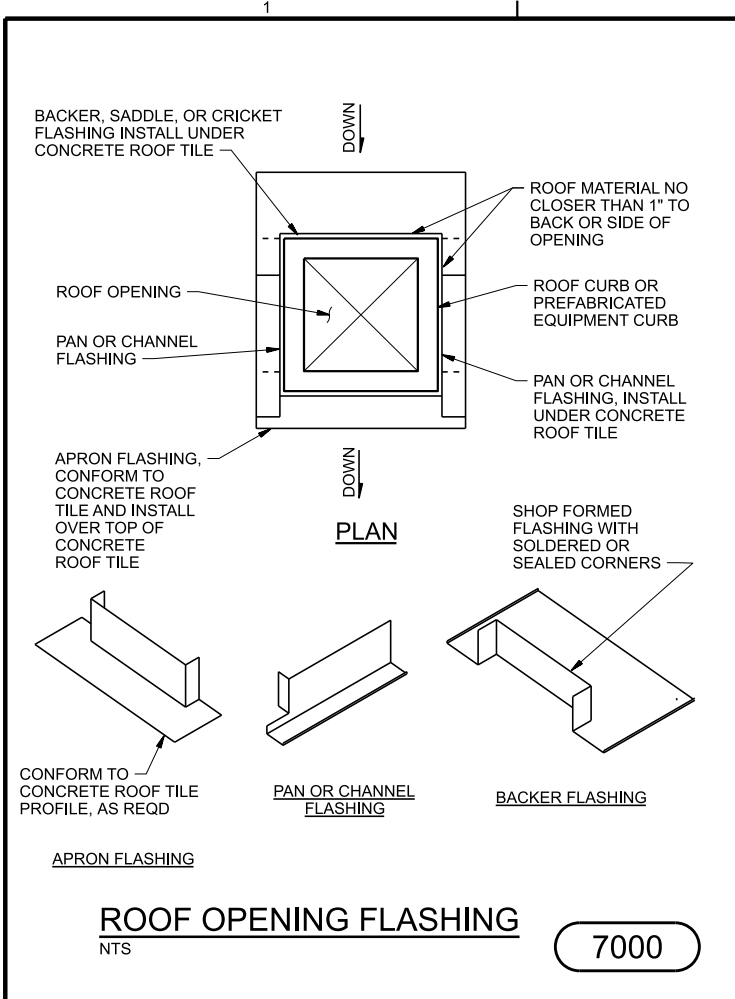
**WATERWORKS**  
ENGINEERS

PARADISE IRRIGATION DISTRICT  
ZONE A PUMP STATION  
AND TRANSMISSION MAIN PROJECT  
PARADISE, CA

STANDARD DETAILS  
STANDARD DETAILS

DATE  
DECEMBER 2022  
PROJECT NUMBER  
17-041  
DRAWING NUMBER  
SD-12  
SHEET NUMBER 74





DESIGNED  
J KELLOGG  
DRAWN  
B TROTTER  
CHECKED  
S KADER  
APPROVED  
S KADER

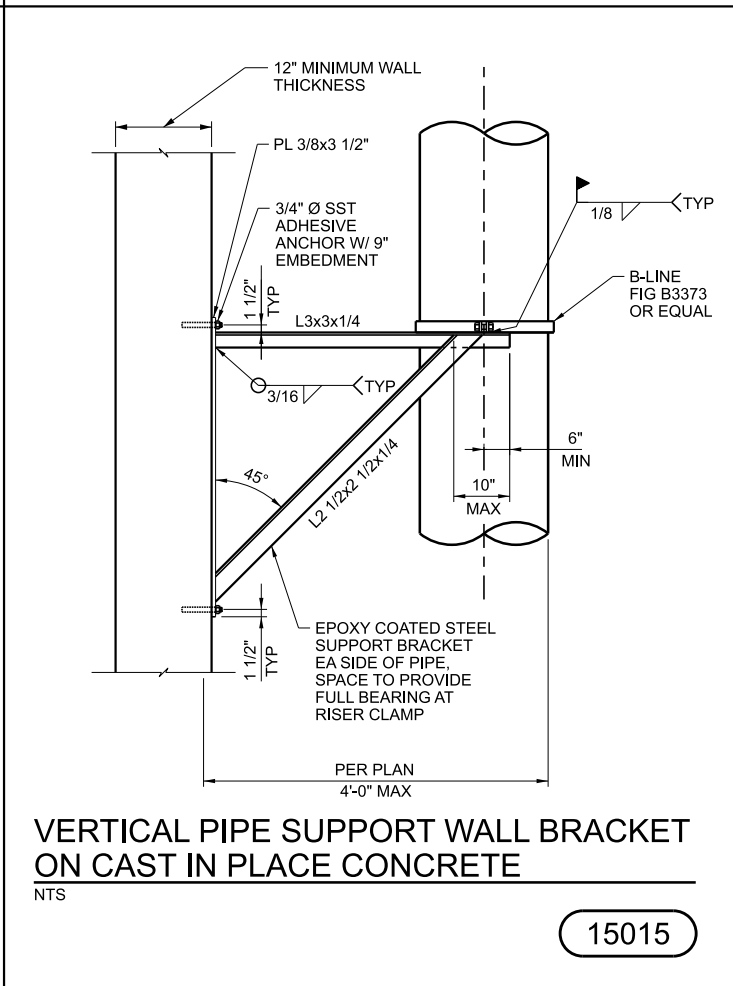
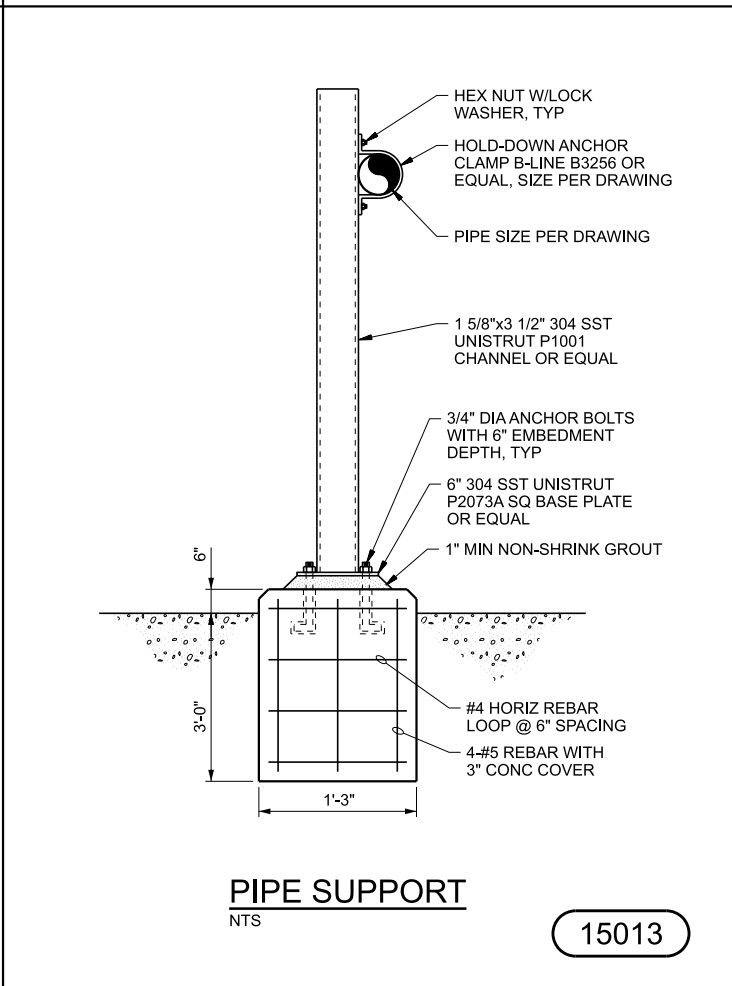
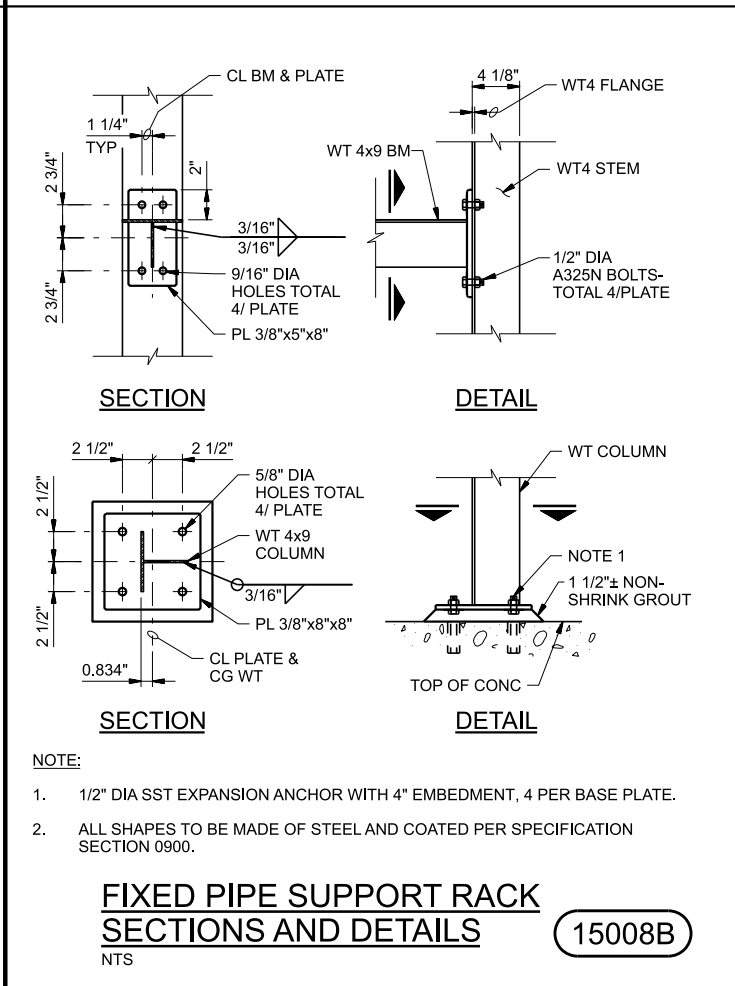
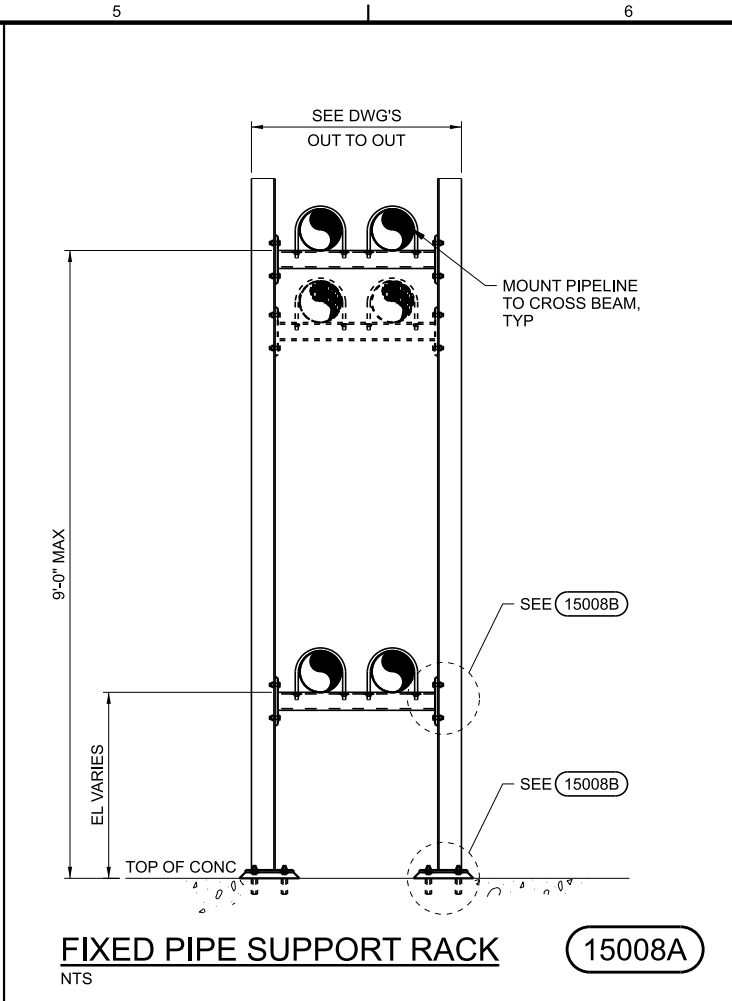
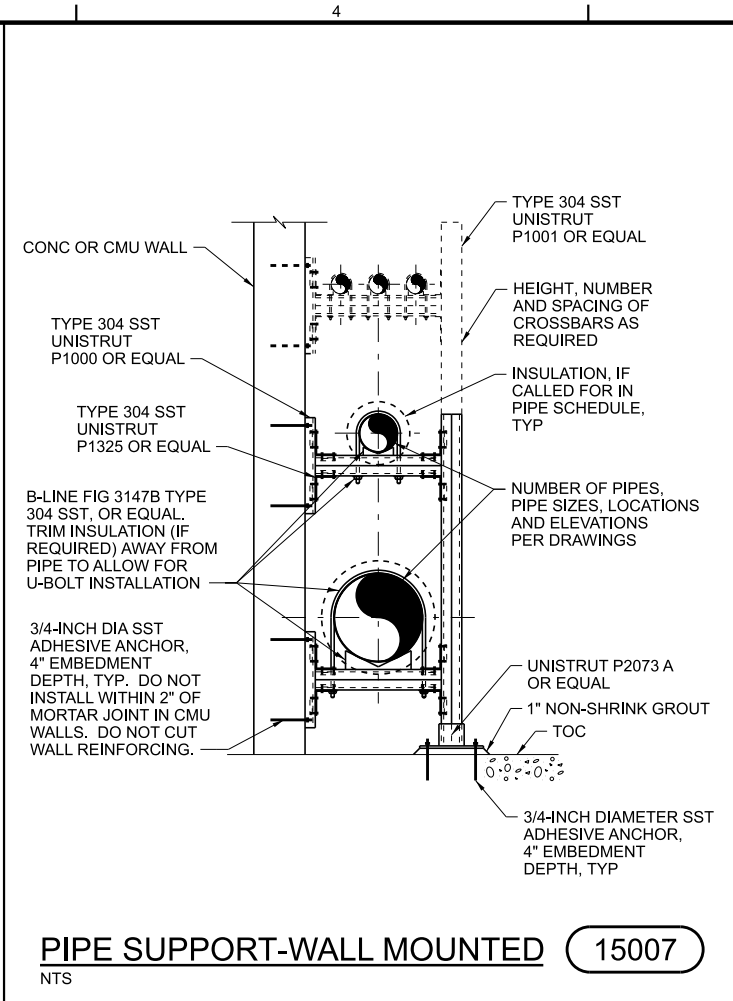
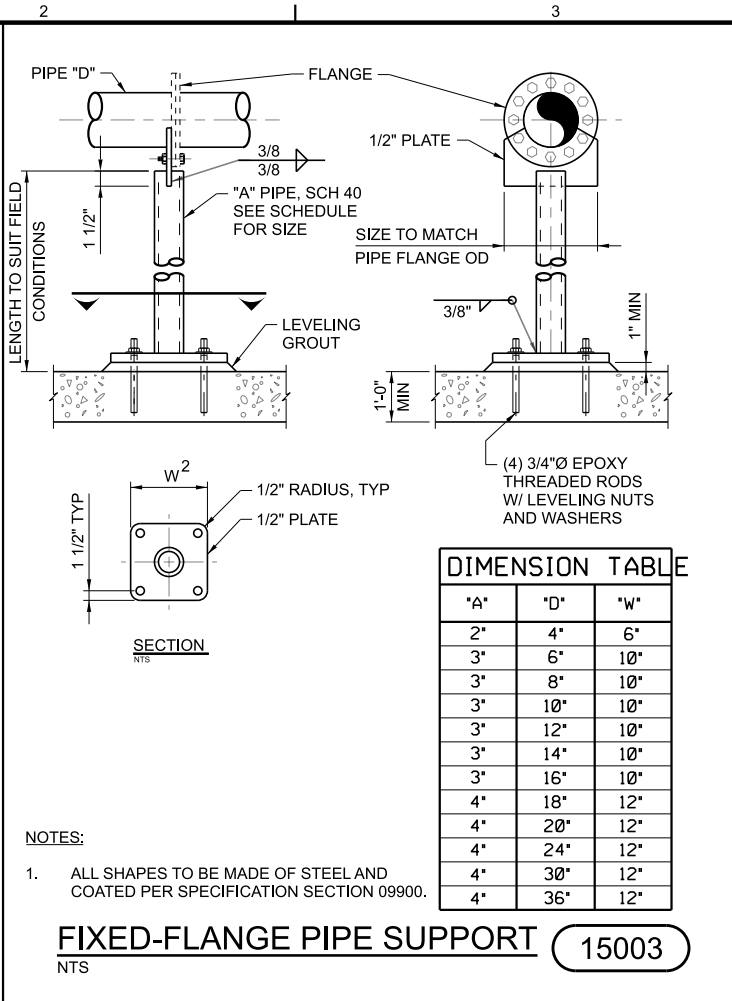
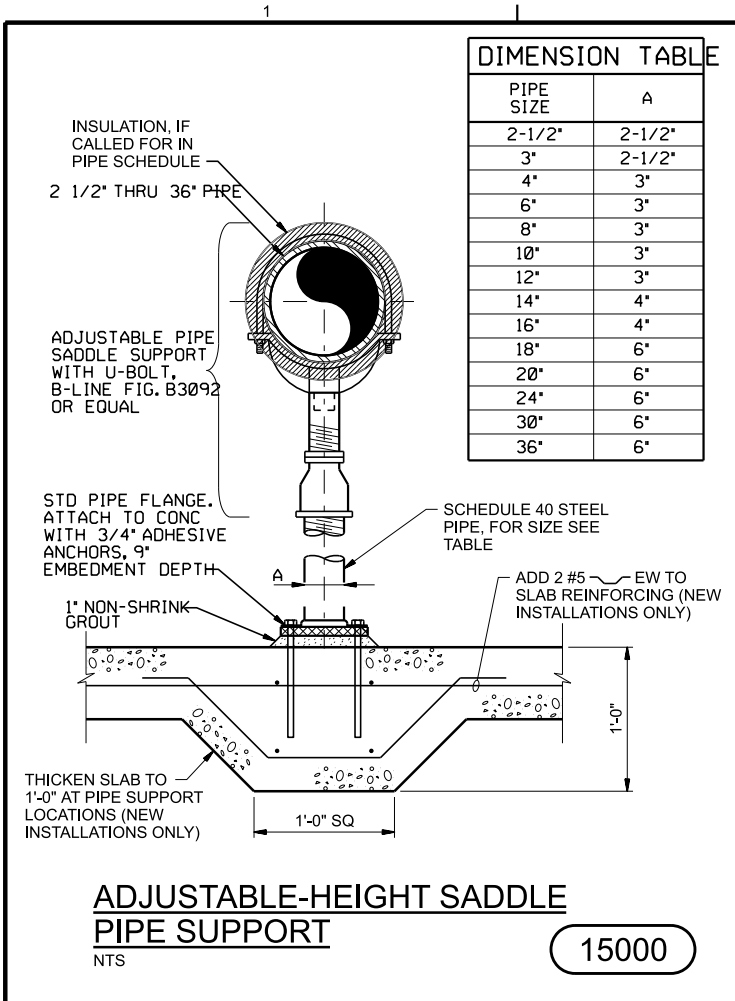
**WATERWORKS ENGINEERS**

PARADISE IRRIGATION DISTRICT  
ZONE A PUMP STATION  
AND TRANSMISSION MAIN PROJECT  
PARADISE, CA

STANDARD DETAILS  
STANDARD DETAILS

DATE  
DECEMBER 2022  
PROJECT NUMBER  
17-041  
DRAWING NUMBER  
SD-14  
SHEET NUMBER  
76

REGISTERED PROFESSIONAL ENGINEER  
No. C56653  
CIVIL  
STATE OF CALIFORNIA  
12-22-22



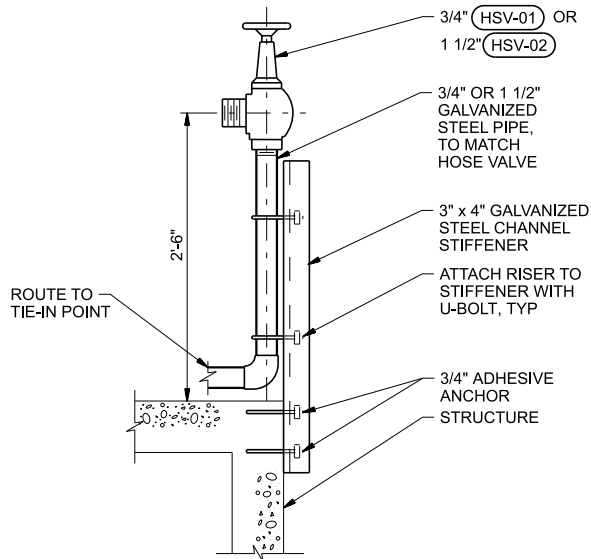
DESIGNED: S. MAGLADRY  
DRAWN: B. TROTTER  
CHECKED: S. KADER  
APPROVED: S. KADER

**WATERWORKS ENGINEERS**

PARADISE IRRIGATION DISTRICT  
ZONE A PUMP STATION  
AND TRANSMISSION MAIN PROJECT  
PARADISE, CA

STANDARD DETAILS  
STANDARD DETAILS

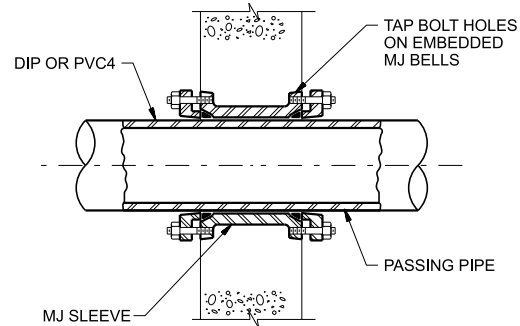
DATE: DECEMBER 2022  
PROJECT NUMBER: 17-041  
DRAWING NUMBER: SD-15  
SHEET NUMBER: 77



**NOTE:**  
WHERE HOSE VALVE IS SUPPLIED WITH NON-POTABLE WATER, INSTALL SIGN S-101 IN A CONSPICUOUS PLACE NEXT TO EACH HOSE VALVE. SEE SPEC SECTION 10400 FOR SIGN REQUIREMENTS.

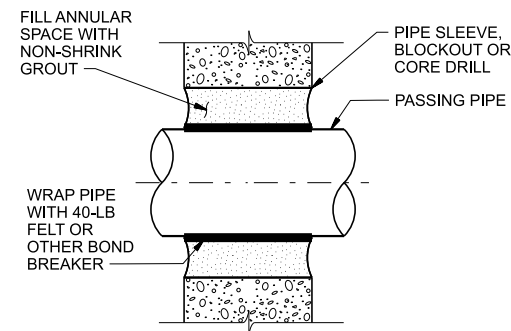
**CHANNEL SUPPORTED HOSE VALVE**  
NTS

15200B



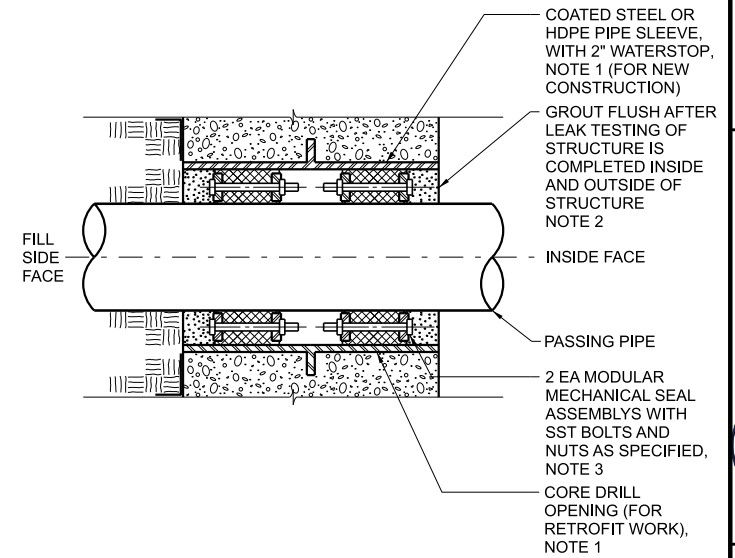
**DUCTILE IRON WALL SLEEVE**  
NTS

15122



**WALL SLEEVE WITH GROUT SEAL**  
NTS

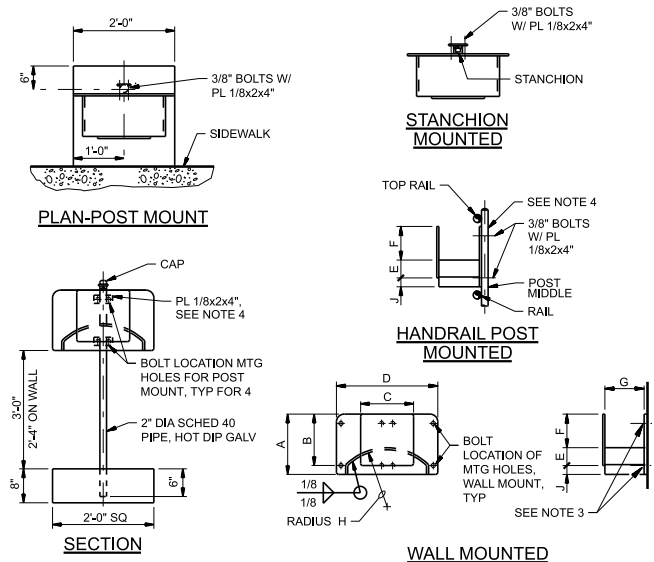
15131



- NOTES:**
- COORDINATE SIZE OF WALL SLEEVE (NEW CONSTRUCTION) OR CORE DRILL (RETROFIT WORK) WITH MODULAR MECHANICAL SEAL MANUFACTURER TO CREATE A LEAK PROOF ASSEMBLY TO 20 PSI.
  - AFTER MODULAR SEAL INSTALL AND LEAK TESTED, BUT BEFORE GROUT IS PLACED GREASE INSIDE FACE OF SEAL.
  - INSTALL PER MANUFACTURES INSTRUCTIONS.

**WALL SLEEVE WITH DOUBLE MODULAR MECHANICAL SEALS**  
NTS

15132D

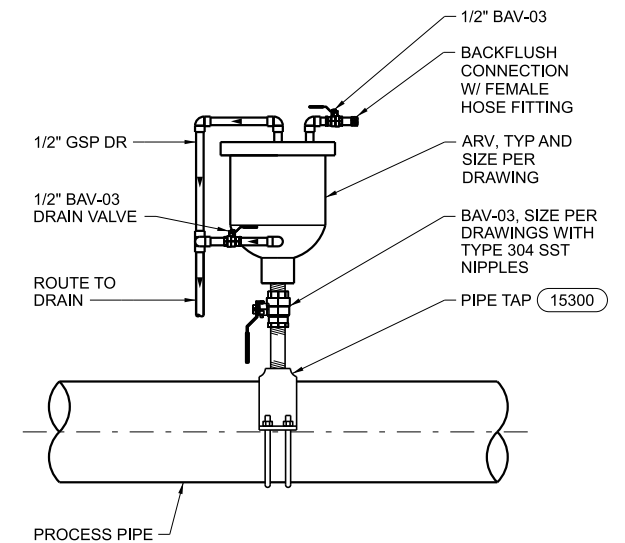


RACK TYPE	DIMENSION IN INCHES									
	A	B	C	D	E	F	G	H	J	
TYPE A-3/4" & 1" HOSE	9	7-1/2	6	9	3	4	7-1/2	9-3/4	2	
TYPE B-1 1/2" HOSE	12	10	9	12	4	6	10	13	2	

- NOTES:**
- INTERIOR UNITS SHALL BE FABRICATED FROM 1/8" A-36 STEEL PLATE AND ENTIRE UNIT SHALL BE HOT DIP GALVANIZED AFTER FABRICATION.
  - EXTERIOR UNITS SHALL BE FABRICATED FROM 3/16" 6061-T6 ALUMINUM ALLOY PLATE.
  - ATTACH TO WALL WITH SST ANCHORS. 3/8" DIAMETER MIN. COORDINATE WITH WALL CONSTRUCTION
  - ATTACH TO VERTICAL HANDRAIL OR INDIVIDUAL POST WITH PLATES AND (4) - 3/8" STAINLESS STEEL BOLTS.
  - ATTACH TO STEEL COLUMN WITH (4) - 3/8" ROUND HEAD BOLTS. ONE EACH CORNER. INSERT DOUBLE SPACER NUTS BETWEEN COLUMN AND HOSE RACK.

**HOSE RACK**  
NTS

15205



**AIR RELEASE VALVE INSTALLATION WATER SERVICE**  
NTS

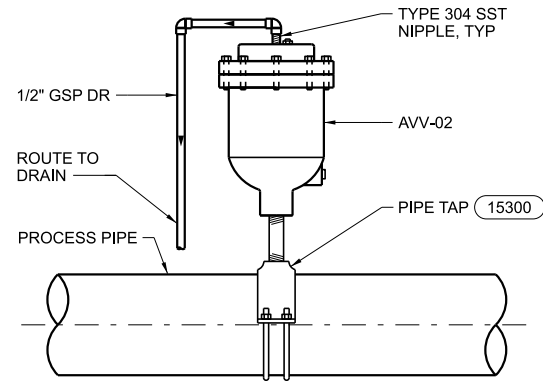
15230



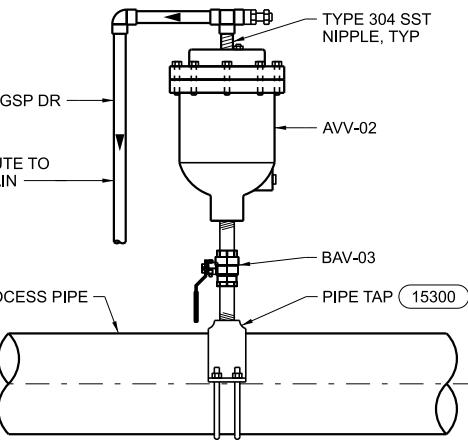
PARADISE IRRIGATION DISTRICT  
ZONE A PUMP STATION  
AND TRANSMISSION MAIN PROJECT  
PARADISE, CA

STANDARD DETAILS  
STANDARD DETAILS

DATE  
DECEMBER 2022  
PROJECT NUMBER  
17-041  
DRAWING NUMBER  
SD-16  
SHEET NUMBER 78



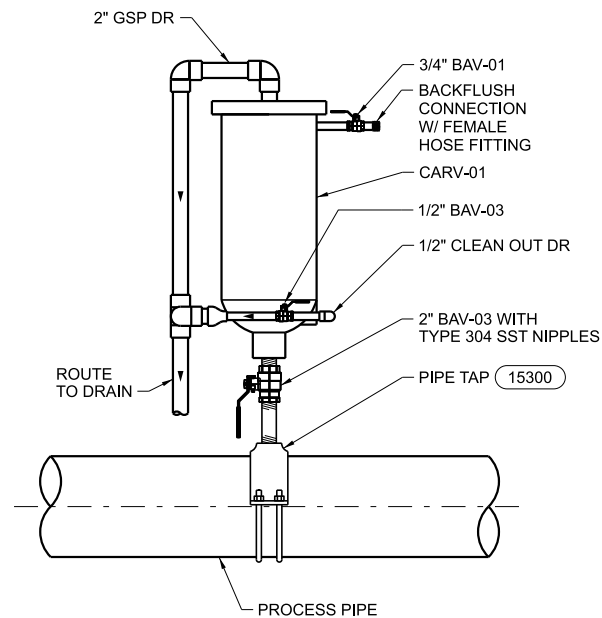
VERTICAL TURBINE PUMP  
AIR/VACUUM RELEASE  
NTS



NOTE:  
PIPING AND VALVE SIZES PER TABLE, EXCEPT  
WHERE INDICATED OTHERWISE ON DWGS.

FLOW CAPACITY (GPM)	SIZE (IN)	APCO MODEL
0 - 250	1/2"	141 DAT
250 - 700	1"	142 DAT
700 - 1450	2"	144 DAT
1450 - 3500	3"	146 DAT

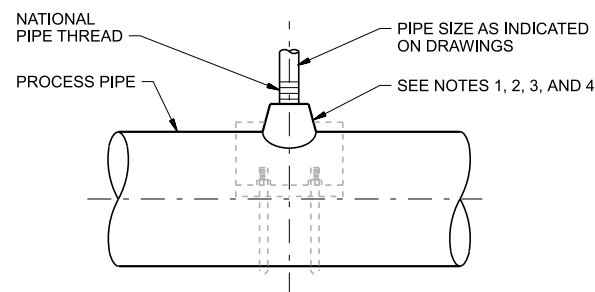
15232



NOTES:  
1. PIPING BETWEEN PIPE TAP AND ISOLATION VALVE SHALL  
BE TYPE 304 SST. ALL OTHER PIPING SHALL BE GALVANIZED STEEL.

COMBINATION AIR AND VACUUM  
RELEASE VALVE INSTALLATION  
WATER SERVICE  
NTS

15234

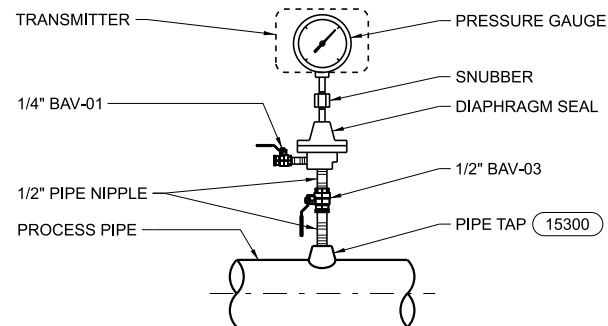


PIPE TAPS

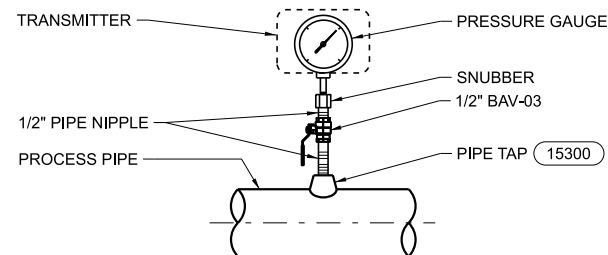
- NOTES:
- FOR STEEL, GALVANIZED STEEL, AND PVC 2 1/2" AND SMALLER USE A BUSHING IN A TEE.
  - FOR DUCTILE IRON, ALL SIZES, USE SERVICE SADDLE.
  - FOR NEW STEEL AND STAINLESS STEEL PIPES 3" AND LARGER, AND PRESSURE VESSELS, USE THRED-O-LET AS SHOWN.
  - FOR PVC, EXISTING STEEL AND STAINLESS STEEL PIPES 3" AND LARGER, USE SERVICE SADDLE.

PIPE TAPS  
NTS

15300



DIAPHRAGM SEAL INSTALLATION



DIRECT INSTALLATION

- NOTES:
- USE DIRECT INSTALLATION FOR POTABLE WATER, RAW WATER, RECLAIMED WATER AND AIR PROCESS PIPING.
  - USE DIAPHRAGM SEAL INSTALLATION FOR SEWAGE, SLUDGE, CHEMICAL AND ALL PROCESS PIPES THAT ARE NOT WATER OR AIR.
  - ALL PIPE NIPPLES TO BE TYPE 304 STAINLESS STEEL.
  - FOR MULTIPLE INSTRUMENTS, PROVIDE TEE, PIPE NIPPLES AND ELBOWS AS REQUIRED IN INSTRUMENT LOCATION.

PRESSURE GAUGE OR  
TRANSMITTER INSTALLATION  
NTS

15310



DATE  
DECEMBER 2022  
PROJECT NUMBER  
17-041  
DRAWING NUMBER  
SD-17  
SHEET NUMBER  
79

1

2

3

4

5

6

DESIGNED  
S MAGLADRY

DRAWN  
B TROTTER

CHECKED  
S KADER

APPROVED  
S KADER

PARADISE IRRIGATION DISTRICT  
ZONE A PUMP STATION  
AND TRANSMISSION MAIN PROJECT  
PARADISE, CA

STANDARD DETAILS

STANDARD DETAILS

DATE  
DECEMBER 2022

PROJECT NUMBER  
17-041

DRAWING NUMBER  
SD-18

SHEET NUMBER  
80

SHEET INTENTIONALLY LEFT BLANK