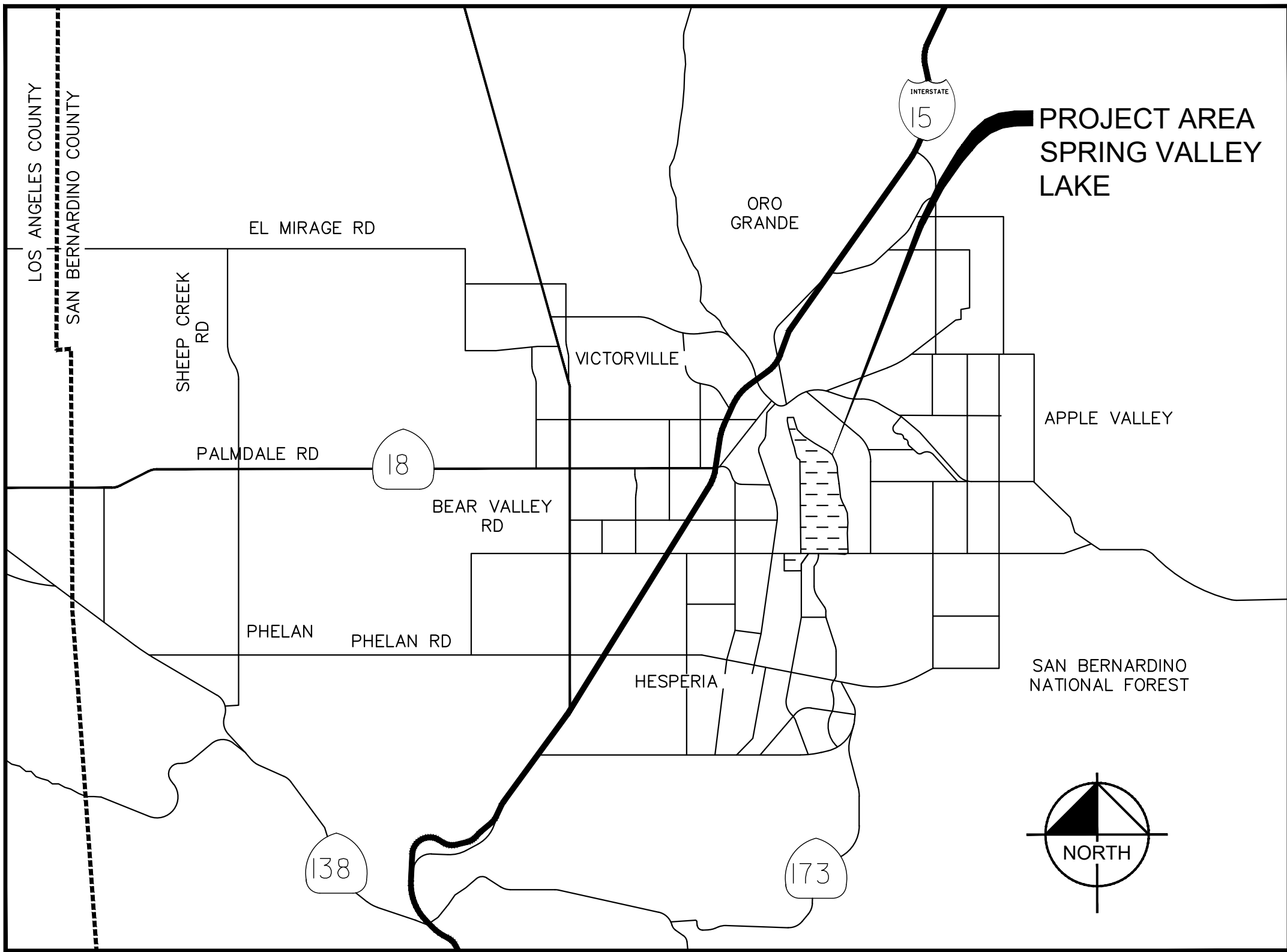


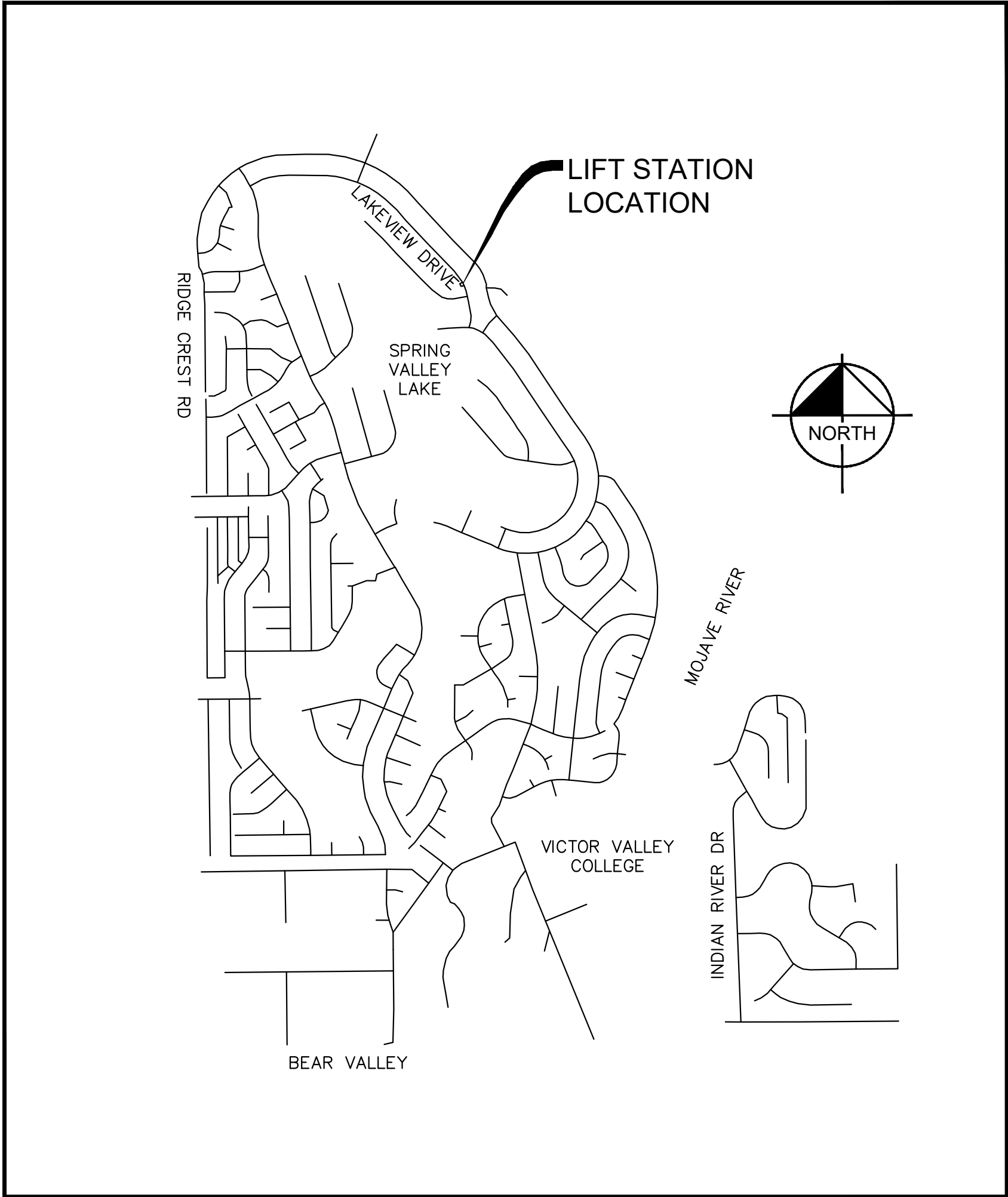
SAN BERNARDINO COUNTY
CSA 64 - SPRING VALLEY LAKE
LAKEVIEW SEWER LIFT STATION REHABILITATION
100% SUBMITTAL PLANS

JULY 2023



PROJECT VICINITY MAP
NOT TO SCALE

SHEET DESCRIPTION		
SHEET NUMBER	SHEET DESCRIPTION	SHEET TITLE
1	GN-01	COVER
2	GN-02	GENERAL NOTES
3	GN-03	QUANTITIES
4	C-01	SITE PLAN
5	C-02	DEMOLITION PLAN
6	C-03	PIPING PLAN AND SECTIONS
7	DT-01	MECHANICAL DETAILS
8	E-01	ELECTRICAL LEGEND AND NOTES
9	E-02	ELECTRICAL SITE PLAN
10	E-02	ELECTRICAL CONTROL PANEL
11	E-04	ELECTRICAL CONTROLS
12	E-05	ELECTRICAL DETAILS



PROJECT LOCATION MAP
NOT TO SCALE

SAN BERNARDINO COUNTY
COUNTY SERVICE AREA 64
DEPARTMENT OF PUBLIC WORKS - SPECIAL DISTRICTS
PROJECT MANAGEMENT DIVISION
222 W. HOSPITALITY LANE, 2ND FLOOR
SAN BERNARDINO, CA 92415-0763
(909) 386-8800



REVISIONS				DESIGNED BY: RKC DATE: 7/12/2023	SAN BERNARDINO COUNTY RECOMMENDED BY: NAME, TITLE DATE ACCEPTED BY: NAME, TITLE DATE	BENCH MARK NO. N/A ELEV. N/A LOCATION: N/A	Kimley»Horn 401 B STREET, SUITE 600, SAN DIEGO, CA 92101 PHONE: (951) 543-9868 WWW.KIMLEY-HORN.COM RENEE CHUANG 92140 7/12/2023 PROJECT ENGINEER R.C.E. ## DATE		COVER LAKEVIEW SEWER LIFT STATION REHABILITATION	SHEET 1 OF 12
MARK	DATE	BY	APPROVED/RC NO.	DRAWN BY: SDW DATE: 7/12/2023						CONTRACT
				CHECKED BY: SLM DATE: 7/12/2023						ACCOUNT
										DWG. NO. GN-01

Plotted By: Wueliner, Sam Sheet: Sat:Kha Layout: GENERAL NOTES July 25, 2023 04:59:34pm K:\SND_WATER\195068122 Lakeview Lift Station Rehab Design\Plans\Plan Sheets\195068112 - CV.dwg

GENERAL NOTES

1. EXISTING UTILITIES AND STRUCTURES (UNDERGROUND, SURFACE, AND OVERHEAD) ARE INDICATED ONLY TO THE EXTENT THAT SUCH INFORMATION WAS KNOWN BY THE ENGINEER IN PREPARING THE DRAWINGS. THE LOCATIONS, CONFIGURATIONS, AND ELEVATIONS OF SUBSURFACE UTILITIES ARE APPROXIMATE AND ALL UTILITIES MAY NOT BE SHOWN, UNLESS OTHERWISE INDICATED ON THE DRAWINGS, THE ENGINEERING INVESTIGATIONS, LOCATION, AND DESIGNATION OF SUBSURFACE UTILITIES SHOWN ON THESE PLANS HAVE BEEN PERFORMED TO QUALITY LEVEL C IN ACCORDANCE WITH GENERALLY ACCEPTED ENGINEERING PRINCIPLES AND PRACTICES AS OUTLINED IN ASCE STANDARD GUIDELINE C/ASCE 38-02. THE UNDERGROUND UTILITIES SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE. ADDITIONAL UTILITY LINES MAY BE PRESENT ON SITE. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING, IDENTIFYING BY MEANS OF EXPLORATORY POTHOLING, GROUND PENETRATING RADAR AND OTHER TYPICAL INDUSTRY METHODS, AND PROTECTING ALL BURIED UTILITIES AND UNDERGROUND STRUCTURES AT THE CONTRACTOR'S EXPENSE. EXISTING UTILITIES DAMAGED DURING CONSTRUCTION ACTIVITIES SHALL BE REPAIRED TO AS GOOD OR BETTER CONDITION AT THE CONTRACTOR'S EXPENSE. CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY CONFLICT OR UTILITIES NOT SHOWN ON THE PLANS.
2. PRIOR TO THE BEGINNING OF ANY CONSTRUCTION, CONTRACTOR SHALL VERIFY THE LOCATION, MATERIAL, SIZE, AND DEPTH OF ALL CROSSINGS AND CONNECTING UTILITIES REQUIRED TO COMPLETE THE WORK. UTILITY INVESTIGATION SHALL BE COMPLETED BY HAND OR HYDRO-VAC METHODS. CONTRACTOR TO PROVIDE SCALED, DETAILED, UTILITY CONFLICT FIELD NOTES AS CONDITION PRECEDENT TO PAYMENT FOR MOBILIZATION ACTIVITIES. PAY ITEMS FOR PIPELINE ADJUSTMENTS ARE INCLUDED IN THE BID FORMS IF REQUIRED IN THE ENGINEER'S SOLE OPINION.
3. CONTRACTOR SHALL LOCATE AND PROTECT ALL SURVEY POINTS AND POTHOLE ALL SUBSURFACE UTILITIES AND POINTS OF CONNECTION NOTED ON THE PLANS BEFORE STARTING WORK. SUBMIT A RECORD OF FIELD VERIFICATION PRIOR TO SUBMITTAL OF MAJOR EQUIPMENT SHOP DRAWINGS AND SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY DISCREPANCIES. CONTRACTOR SHALL FIELD VERIFY THE CONDITION AND DIMENSIONS OF EXISTING STRUCTURES AND UTILITIES TO BE MAINTAINED. CONTRACTOR SHALL NOTIFY ENGINEER IF THERE IS A CONFLICT BETWEEN THE CONTRACT DOCUMENTS AND EXISTING CONSTRUCTION BEFORE PROCEEDING WITH WORK.
4. ACCESS CONTROL: ALL CONTRACTOR'S PERSONNEL AND SUBCONTRACTORS ARE SUBJECT TO SAN BERNARDINO COUNTY'S SECURITY POLICY REFER TO CONTRACT GENERAL CONDITION 3.13; SEE SUPPLEMENTAL GENERAL PROVISIONS. THE CONTRACTOR SHALL COORDINATE THE LOCATION OF PARKING AND STORAGE AREAS WITH THE OWNER'S REPRESENTATIVE. CONTRACTOR PARKING AND STORAGE OF EQUIPMENT AND MATERIALS SHALL BE RESTRICTED TO AGREED UPON AREAS.
5. CONTRACTOR SHALL REESTABLISH PRE-CONSTRUCTION GROUND ELEVATIONS IN AREAS WHERE GRADING IS NOT DEFINED.
6. UNLESS OTHERWISE INDICATED ON THE DRAWINGS OR SPECIFIED, CIVIL CONSTRUCTION SHALL BE PER COUNTY STANDARD DETAILS AND SPECIFICATIONS. TYPICAL DETAILS SHALL APPLY EVEN THOUGH NOT REFERENCED AT SPECIFIC LOCATIONS ON DRAWINGS.
7. CONTRACTOR SHALL COMPLY WITH LOCAL CONSTRUCTION STORM WATER DISCHARGE REGULATIONS AND REQUIREMENTS.
8. PIPES SMALLER THAN 12" SHALL HAVE A MINIMUM COVER OF 30" UNLESS OTHERWISE NOTED. PIPES SHALL BE ROUTED AS SHOWN UNLESS ADJUSTMENTS ARE NECESSARY TO AVOID EXISTING PIPES, CONDUITS, BURIED STRUCTURES, ETC. CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING ALL FITTINGS AND ADAPTERS REQUIRED TO MAKE THE ADJUSTMENTS AND SHALL BE CONSIDERED INCLUDED WITH THE PIPELINE PAY ITEM IN THE BIDDING DOCUMENTS.
9. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONARY MEASURES NECESSARY TO PROTECT FROM DAMAGE EXISTING FACILITIES AND UTILITIES SHOWN OR NOT SHOWN THAT ARE TO REMAIN IN PLACE. ALL FACILITIES DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE EXPEDITIOUSLY REPAIRED OR RECONSTRUCTED TO THE ORIGINAL OR BETTER CONDITION AT THE CONTRACTOR'S EXPENSE WITHOUT ADDITIONAL COMPENSATION.
10. CONTRACTOR SHALL MAKE CONNECTIONS TO EXISTING PIPE, EQUIPMENT, ETC. AS REQUIRED AND SHALL PROVIDE ALL FITTINGS, ADAPTERS, AND APPURTENANCES REQUIRED TO MAKE THE CONNECTIONS. PROVIDE ALL SUPPORTS REQUIRED FOR A RIGIDLY SUPPORTED COMPLETE AND WORKING SYSTEM.
11. ADJUST ALL VALVE BOXES, VAULTS, PULL BOXES, AND MANHOLES TO FINISHED GRADE UNLESS OTHERWISE SHOWN OR DIRECTED. MANHOLES IN OPEN FIELDS SHALL BE SET TWELVE INCHES ABOVE FINISHED GRADE AND VAULTS SHALL BE SIX INCHES ABOVE FINISHED GRADE.
12. CONTRACTOR SHALL VERIFY THAT PIPING SHOWN TO BE ABANDONED OR AS ABANDONED PREVIOUSLY IS NO LONGER IN SERVICE. LINES IN SERVICE SHALL BE MAINTAINED UNTIL NO LONGER REQUIRED BY THE OWNER.
13. THE CONTRACTOR SHALL TAKE SPECIAL PRECAUTIONS IN THE VICINITY OF ANY UNDERGROUND OR OVERHEAD ELECTRIC LINES. CONTRACTOR SHALL ABIDE BY THE NATIONAL ELECTRIC CODE AND ANY REQUIREMENT BY THE OWNER OF THE ELECTRIC LINES.
14. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST ADOPTED EDITION OF

A. SAN BERNARDINO COUNTY GRADING A EXCAVATION REGULATIONS AND GRADING MANUAL

B. SAN BERNARDINO COUNTY STANDARD PLANS

C. SPECIAL REQUIREMENTS OF THE GRADING PERMIT

D. THE CALIFORNIA BUILDING CODE

E. STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (GREEN BOOK)

F. MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) 2013 CALIFORNIA SUPPLEMENT WHENEVER SPECIAL REQUIREMENTS CONFLICT ON ANY SUBJECT MATTER, THE OWNERS REPRESENTATIVE WILL DETERMINE WHICH SPECIAL REQUIREMENTS AND/OR CODE WILL GOVERN.
15. EXPORT SOIL MUST GO TO A LEGAL DUMPSITE OR TO A LEGAL PERMITTED SITE APPROVED BY THE OWNERS REPRESENTATIVE.
16. NO DIRT, ROCK OR CONSTRUCTION MATERIAL MAY BE TRACKED OR DROPPED WITHIN THE PUBLIC RIGHTS-OF-WAY DURING THE PROJECT. ANY DEBRIS IN THE PUBLIC RIGHT-OF-WAY SHALL BE REMOVED IMMEDIATELY AND/OR AS DEEMED NECESSARY BY THE GRADING INSPECTOR.
17. CONTRACTOR SHALL TAKE CARE TO PROVIDE ODOR CONTROL MEASURES AS NECESSARY THROUGHOUT CONSTRUCTION OF PROJECT TIMELINE AT THE SOLE COST OF THE CONTRACTOR.
18. CONTRACTOR SHALL PROVIDE STRUCTURAL DESIGN AND CALCULATIONS FOR THE PIPE SUPPORTS IN THE DELEGATED DESIGN SUBMITTAL AND SHALL BE CONSIDERED PART OF THE TOTAL COST OF THE CONSTRUCTION BID. REFER TO THE DELEGATED DESIGN SUBMITTAL NOTES ON SHEET 6 FOR FURTHER GUIDANCE.
19. ALL WORK IS SUBJECT TO INSPECTION BY THE COUNTY. THE CONTRACTOR SHALL GIVE NOTICE TO THE COUNTY INSPECTION DEPARTMENT AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO COMMENCING THE WORK. ANY WORK DONE WITHOUT PROPER INSPECTION WILL BE SUBJECT TO REJECTION.



20. NEITHER THE AGENCY NOR THE ENGINEER OF WORK WILL ENFORCE SAFETY MEASURES OR REGULATIONS. THE CONTRACTOR SHALL DESIGN, CONSTRUCT AND MAINTAIN ALL SAFETY DEVICES, INCLUDING SHORING, AND SHALL BE SOLELY RESPONSIBLE FOR CONFORMING TO ALL LOCAL, STATE, AND FEDERAL SAFETY AND HEALTH STANDARDS, AND REGULATIONS.
21. THE CONTRACTOR SHALL POT HOLE, MAKE EXPLORATION EXCAVATIONS AND LOCATE EXISTING UNDERGROUND FACILITIES SUFFICIENTLY AHEAD OF CONSTRUCTION TO PERMIT CHANGES TO PLANS IF REVISIONS ARE NECESSARY BECAUSE OF THE ACTUAL LOCATION OF EXISTING FACILITIES AND SHALL BE CONSIDERED PART OF THE TOTAL COST OF THE CONSTRUCTION BID. CONTRACTOR SHALL NOTIFY THE ENGINEER OF WORK OF ANY DISCREPANCIES BETWEEN THESE PLANS AND ACTUAL FIELD CONDITIONS PRIOR TO STARTING CONSTRUCTION.
22. BEFORE EXCAVATING FOR THIS CONTRACT, CONTRACTOR SHALL POTHOLE TO VERIFY LOCATION OF UNDERGROUND UTILITIES. THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY CONDUITS OR STRUCTURES SHOWN ON THESE PLANS HAVE BEEN OBTAINED FROM AVAILABLE RECORDS ONLY AND MAY NOT REFLECT ALL EXISTING UTILITIES.
23. THE CONTRACTOR IS REQUIRED TO TAKE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES SHOWN HEREON AND ANY OTHER EXISTING LINES NOT OF RECORD OR SHOWN ON THESE PLANS.
24. THE CONTRACTOR SHALL REMOVE ALL EXISTING IMPROVEMENTS IN CONFLICT WITH THE PROPOSED IMPROVEMENTS OR PROTECT EXISTING IMPROVEMENTS AS INDICATED ON PLANS. THE CONTRACTOR SHALL REPAIR OR REPLACE ALL DAMAGED IMPROVEMENTS WHICH WERE SHOWN TO BE PROTECTED IN PLACE.
25. ALL DRY UTILITIES (GAS, ELECTRICAL AND TELECOMMUNICATIONS) WILL BE RELOCATED OR MODIFIED BY THE RESPECTIVE UTILITY OWNER OR THEIR REPRESENTATIVE.
26. ALL WATER AND SEWER FACILITY WORK SHALL BE DONE IN ACCORDANCE WITH THE RESPECTIVE COUNTY STANDARDS AND SPECIFICATIONS AND BE APPROVED BY THEIR INSPECTORS.
27. EXISTING UTILITIES NOT RELOCATED BY THE OWNER SHALL BE RELOCATED BY THE CONTRACTOR AS REQUIRED TO INSTALL PROPOSED IMPROVEMENTS. THE CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANY PRIOR TO RELOCATION.
28. DURING ACTIVE CONSTRUCTION, AREAS SHALL BE WATERED TO REDUCE FUGITIVE DUST.
29. THE CONTRACTOR SHALL GIVE REASONABLE TIME OF NOTIFICATION TO OCCUPANTS OR OWNERS OF PROPERTY ADJACENT TO THE PROJECT TO PERMIT THEM. TO SALVAGE OR RELOCATE EXISTING IMPROVEMENTS ON PRIVATE PROPERTY WHICH WILL BE AFFECTED BY THE WORK.
30. THE CONTRACTOR SHALL REMOVE/REPLACE/RELOCATE ANY LANDSCAPING AND/OR HARDSCAPE WHICH CONFLICTS IN ANY WAY WITH THE INSTALLATION OR PROPER FUNCTIONING OF THE PROPOSED IMPROVEMENTS.
31. CONTRACTOR SHALL ADJUST ALL PROPOSED AND EXISTING FACILITIES TO GRADE.
32. LOCATION AND ELEVATION OF IMPROVEMENTS TO BE MET BY PROPOSED WORK SHALL BE CONFIRMED BY FIELD MEASUREMENTS PRIOR TO CONSTRUCTION OF NEW WORK.
33. "AS-BUILT" DRAWING(S) SHALL BE SUBMITTED BY THE CONTRACTOR AND APPROVED BY THE ENGINEERING INSPECTOR AS PART OF THE PROGRESS PAYMENT REQUEST AND PRIOR TO THE ACCEPTANCE OF IMPROVEMENTS BY THE COUNTY ENGINEER.
34. THE CONTRACTOR SHALL MAINTAIN THE STREETS, SIDEWALKS AND ALL OTHER PUBLIC RIGHT-OF-WAY IN A CLEAN, SAFE AND USABLE CONDITION. ALL SPILLS OF SOIL, ROCK OR CONSTRUCTION DEBRIS SHALL BE PROMPTLY REMOVED FROM THE PUBLICLY OWNED PROPERTY DURING CONSTRUCTION AND UPON COMPLETION OF THE PROJECT. ALL ADJACENT PROPERTY, PRIVATE OR PUBLIC, SHALL BE MAINTAINED IN A CLEAN, SAFE AND USABLE CONDITION.
35. SAFETY FENCES SHALL BE PROVIDED BY THE CONTRACTOR IF REQUIRED BY THE COUNTY ENGINEER TO PROTECT THE PUBLIC.
36. ALL CONSTRUCTION SHALL BE AS SHOWN ON THESE PLANS, ANY DEVIATION OR REVISIONS SHALL HAVE THE PRIOR WRITTEN APPROVAL OF THE COUNTY ENGINEER.
37. IN THE EVENT THAT ANY UNFORESEEN CONDITIONS NOT COVERED BY THESE PLANS ARE ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF WORK FOR DIRECTION.
38. ALL MATERIALS PROPOSED FOR USE SHALL BE APPROVED BY THE COUNTY PRIOR TO CONSTRUCTION AND ALL ALTERNATIVE METHODS OR MATERIALS SHALL ALSO BE APPROVED BY THE COUNTY PRIOR TO USE.
39. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO THE EXISTING UTILITIES AND RELATED EQUIPMENT, STRUCTURES, IMPROVEMENTS, AS A RESULT OF HIS OPERATIONS AND WILL BE REQUIRED TO REPAIR OR REPLACE SAME TO THE SATISFACTION OF AND AS DIRECTED BY THE COUNTY ENGINEER.
40. EXISTING WATER VALVES WILL BE OPENED AND CLOSED BY COUNTY PERSONNEL ONLY.
41. PRIOR TO PERFORMING ANY INTERCONNECTION WORK, THE CONTRACTOR SHALL SUBMIT A WORKING SCHEDULE AND WORK PROCEDURE PLAN TO THE COUNTY'S ENGINEER. THE CONTRACTOR SHALL NOT PERFORM ANY INTERCONNECTION WORK UNTIL APPROVED FOR THIS SCHEDULE AND PLAN HAS BEEN OBTAINED FROM THE COUNTY'S ENGINEER.
42. THE CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD HARMLESS THE COUNTY FROM ANY AND ALL LIABILITY, SOLE NEGLIGENCE OF THE COUNTY.

PRIVATE ENGINEER'S NOTE TO CONTRACTOR

THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY PIPES, CONDUITS, OR STRUCTURES SHOWN ON THESE PLANS ARE OBTAINED BY A SEARCH OF THE AVAILABLE RECORDS. TO THE BEST OF OUR KNOWLEDGE THERE ARE NO EXISTING UTILITIES EXCEPT AS SHOWN ON THESE PLANS. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITIES SHOWN ON THESE DRAWINGS AND TO VERIFY ALL DIMENSIONS, PIPE SIZES, PIPE MATERIALS, FLANGE SIZES, AND BOLT CONFIGURATIONS PRIOR TO ORDERING PARTS AND BEGINNING WORK. THE CONTRACTOR FURTHER ASSUMES ALL LIABILITY AND RESPONSIBILITY FOR THE UTILITY PIPES, CONDUITS OR STRUCTURES SHOWN ON THESE DRAWINGS.

CONTRACTOR AGREES THAT HE/SHE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD SAN BERNARDINO COUNTY, CSA 64 (DISTRICT), THE OWNER AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR THE ENGINEER.

LEGEND/ABBREVIATIONS

AC	ASPHALT CONCRETE	GE	GROOVE END	PIP	PROTECT IN PLACE
ARV	AIR RELEASE VALVE	GPM	GALLONS PER MINUTE	PROP	PROPOSED
BFV	BUTTERFLY VALVE	HORZ	HORIZONTAL	PRV	PRESSURE RELEASE VALVE
CL	CENTERLINE	HP	HORSEPOWER	PVC	POLYVINYL CHLORIDE
CMU	CONCRETE MASONRY UNIT	HWY	HIGHWAY	RD	ROAD
CONC	CONCRETE	I.D.	INSIDE DIAMETER	RPM	REVOLUTIONS PER MINUTE
CSA	COUNTY SERVICE AREA	INV	INVERT	SCH	SCHEDULE
DI	DUCTILE IRON	MAX	MAXIMUM	SS	STAINLESS STEEL
DIP	DUCTILE IRON PIPE	MIN	MINIMUM	STL	STEEL
EG	EXISTING	O.C.	ON CENTER	TDH	TOTAL DYNAMIC HEAD
EXIST	EXISTING	O.D.	OUTSIDE DIAMETER	V	VOLT
FG	FINISHED GRADE	PCC	PORTLAND CEMENT CONCRETE	VCP	VITRIFIED CLAY PIPE
FLG	FLANGE	PE	PLAIN END	VERT	VERTICAL

SAN BERNARDINO COUNTY

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222 W. HOSPITALITY LANE, 2ND FLOOR
SAN BERNARDINO, CA 92415-0763
(909) 386-8800

GENERAL NOTES

LAKEVIEW SEWER LIFT STATION REHABILITATION

SHEET 2 OF 12

CONTRACT _____

ACCOUNT _____

DWG. NO. GN-02

- NOT FOR CONSTRUCTION -

Plotted By: Wuellner, Sam Sheet: Sat:Kha Layout: QUANTITIES July 25, 2023 08:11:26pm K:\SND_WATER\195068122 Lakeview Lift Station Rehab Design\Plans\Plan Sheets\195068112 - CV.dwg

MASTER CONSTRUCTION NOTES AND QUANTITIES

BID ITEM NO.	CONSTRUCTION NOTE NO.	CONSTRUCTION NOTES	UNITS	TOTAL
4,5	1	FURNISH AND INSTALL FLYGT NON-CLOG SUBMERSIBLE PUMPS Q=810 GPM AT 19.7' TDH EACH PUMP. PUMP MODEL FP 3127 LT 3 ~ 491, 10 HP, 3 PHASE, 460 V, 1745 RPM.	EA	2
9	2	FURNISH AND INSTALL 6" DI 90° BEND	EA	3
9	3	FURNISH AND INSTALL 8" X 6" DI REDUCER	EA	2
26	4	FURNISH AND INSTALL 10" DIP	LF	6
25	5	FURNISH AND INSTALL 6" DIP	LF	9
19	6	FURNISH AND INSTALL USF FABRICATION HATCH SAFETY NET, OR APPROVED EQUAL. SAFETY NETS TO FIT HATCH OPENINGS PER SHEET 4.	EA	3
	7	NOT USED		
9	8	FURNISH AND INSTALL 10" DI 90° BEND	EA	1
9	9	FURNISH AND INSTALL 10" DI TEE	EA	1
9	10	FURNISH AND INSTALL 6" DI 90° BASE BEND	EA	2
9	11	FURNISH AND INSTALL 8" DI 22.5° BEND	EA	2
10	12	STAINLESS STEEL WALL MOUNTED PIPE SUPPORT.	EA	1
10	13	FURNISH AND INSTALL PIPE SUPPORT	EA	3
9	14	FURNISH AND INSTALL 6" VICTAULIC COUPLING	EA	2
	15	NOT USED		
15	16	FURNISH AND INSTALL FOUR (4) 3" ELECTRICAL CONDUITS	LS	1
23	17	FURNISH AND INSTALL CORROSION COUPON. ATTACH TO WALL WITH SS HOOK. EPOXY ANCHOR INTO WALL.	EA	2
20	18	FURNISH AND INSTALL VALVE VAULT ACCESS LADDER.	EA	1
10	19	FURNISH AND INSTALL 6" X 6" X 1/4" 316 SST WALL PLATE WITH BOLTS EMBEDDED 4" INTO WET WELL (4 BOLTS TOTAL)	EA	1
9	20	FURNISH AND INSTALL 6" SCH 40 STAINLESS STEEL GOOSENECK VENT WITH INSECT SCREEN. SPLIT BUTT STRAP WELD TO EXISTING 6" RISER. PAINT WHITE.	EA	2
16	21	FURNISH AND INSTALL LEVEL TRANSDUCER	EA	1
16	22	FURNISH AND INSTALL CABLE AND BACKUP FLOATS	EA	1
6	23	FURNISH AND INSTALL 2" X 2" X 1/4" 316 SST SQUARE TUBING. PUMP CONTROL SUPPORT ARM CENTERED BETWEEN PUMPS.	EA	1
9	24	FURNISH AND INSTALL 10" X 8" DI 90° ELBOW REDUCER	EA	2
26	25	FURNISH AND INSTALL 10" DIP (FLG X PE)	LF	3
1	26	CONTRACTOR WORK LIMITS, SITE TEMPORARY FENCING, AND STAGING AREA	LS	1
12	27	CONSTRUCT NEW CONCRETE FOUNDATION. 8' X 5' X 2' WITH #4'S @ 12" O.C. EACH WAY. SET TOP OF CONCRETE 6" ABOVE EG. EXTEND ELECTRICAL CONDUIT STUBS AS NEEDED.	EA	1
22	28	RESTORE SITE TO EXISTING CONDITIONS INCLUDING LANDSCAPING AND IRRIGATION SYSTEMS DISTURBED DURING CONSTRUCTION	LS	1
13	29	CONSTRUCT 6' X 3' X 2" CONCRETE PAD, 4" ABOVE EG WITH #4'S @ 12" O.C. EACH WAY	EA	1
21	30	FURNISH AND INSTALL SINGLE APPLICATION SPRAY-APPLIED EPOXY LINER (250 MILS) ON ALL INTERIOR WALL SURFACES	LS	1
20	31	FURNISH AND INSTALL LADDER UP SAFETY POST	EA	1
27	32	TEMPORARY PLUG. CONTRACTOR SHALL PROVIDE BYPASS OPERATION PLANS TO COUNTY AHEAD OF CONSTRUCTION.	-	-
13	33	FURNISH AND INSTALL EXPANSION JOINT	EA	1
	34	NOT USED		
	35	NOT USED		
	36	NOT USED		
	37	NOT USED		
	38	NOT USED		
4,5,6	39	FURNISH AND INSTALL 2" PUMP GUIDE RAIL ASSEMBLY PER MANUFACTURER	EA	2
9	40	FURNISH AND INSTALL 8" DI 11.25° BEND	EA	1
9	41	FURNISH AND INSTALL 8" DI 90° BEND	EA	2
8	42	FURNISH AND INSTALL 8" DIP	LF	58
9	43	FURNISH AND INSTALL 6" DI 45° BEND	EA	1
9	44	FURNISH AND INSTALL 6" DI 22.5° BEND	EA	2
9	45	FURNISH AND INSTALL PIPE CASING SPACERS	EA	8
10	46	FURNISH AND INSTALL 8" THICK GROUT FILL WITH WIRE MESH	EA	1
10	47	STAINLESS STEEL PIPE FLANGE SUPPORT.	EA	2
10	48	STAINLESS STEEL PIPE SUPPORT.	EA	2
9	49	PIPE PENETRATION	EA	1
9	50	CONSTRUCT CONCRETE SUPPORT BLOCK	CY	1

MASTER DEMOLITION NOTES AND QUANTITIES

BID ITEM NO.	DEMOLITION NOTE NO.	DEMOLITION NOTES	UNITS	TOTAL
-	P	PROTECT IN PLACE	EA/LS	9
-	R	REMOVE AND DISPOSE	EA/LS	20
-	F	FILL/PLUG	EA	5
3	1	SCREW PUMPS	EA	2
3	2	GALVANIZED STL LADDER AND WALL BRACKETS	EA	2
3	3	GALVANIZED BANDED STL GRATING AND SUPPORTS	EA	2
3	4	12" X 5" X 8" EXTRUDED ALUMINUM BRICK VENT	EA	2
2	5	SLOPED CONCRETE FILL	EA	2
3	6	3/8" COPPER TUBE ATTACHED TO CONCRETE WITH CLAMPS AND BOLTS	EA	2
-	7	48" X 48" BILCO ACCESS DOOR	EA	1
-	8	TWO (2) 72" X 48" ACCESS DOORS	EA	2
3	9	6" SCH 40 GALVANIZED STL VENT EXHAUST PIPE	EA	1
3	10	EXHAUST VENT PIPE CAP	EA	1
	11	NOT USED		
3	12	5" SCH 40 GALVANIZED STL VENT PIPE WITH WALL BRACKETS	EA	1
3	13	VENTILLATION FAN	EA	2
3	14	6" SCH 40 GALVANIZED STL VENT INLET PIPE	EA	2
3	15	FILTER	EA	2
-	16	CONCRETE CHANNEL GROUT	LS	1
-	17	CONCRETE WET WELL STRUCTURE	EA	1
3	18	EXCESS PVC PIPING IN WET WELL	LS	1
-	19	20" DI PIPE WITH TYTON JOINT INFLUENT	EA	1
-	20	21" VCP EFFLUENT	EA	1
3	21	PIPE PENETRATION	EA	3
	22	NOT USED		
3	23	WET WELL SCREW PUMP DIVIDING WALL	EA	1
-	24	STRUCTURAL BASE	EA	1

MASTER ELECTRICAL NOTES AND QUANTITIES

BID ITEM NO.	ELECTRICAL NOTE NO.	ELECTRICAL NOTES	UNITS	TOTAL
18	1	EXISTING 200A, 277/480V, 3P, 4W METER PEDESTAL TO REMAIN. PROTECT IN PLACE.	LS	1
11,14, 15, 16	2	FURNISH AND INSTALL NEW LIFT STATION CONTROL PANEL. DEMO OF EXISTING LIFT STATION CONTROL PANEL SHOWN ON MECHANICAL PLANS. CONTRACTOR TO LOCATE EXISTING RTU MOUNTED BESIDE EXISTING LIFT STATION CONTROL PANEL AND INSTALL INSIDE OF NEW LIFT STATION CONTROL PANEL ENCLOSURE.	LS	1
18	3	FURNISH AND INSTALL 30A, 480V, 3P, NEMA 4X PUMP DISCONNECT WITH INTERNAL TERMINAL BLOCK. CONTRACTOR TO SPLICE MANUFACTURER CABLE IN DISCONNECT ENCLOSURE, AND SEND PUMP SIGNALS TO CONTROL PANEL VIA LOCAL COMMUNICATIONS JUNCTION BOX. REFER TO CONDUIT SCHEDULE FOR ADDITIONAL DETAIL. PROVIDE EYS FITTING AT BASE OF DISCONNECT FOR ALL CONDUITS ENTERING WET WELL.	LS	1
15, 16, 18	4	FURNISH AND INSTALL 6" X 6" X 4" ABOVE GRADE NEMA 4X JUNCTION BOX WITH INTERNAL TERMINAL BLOCK FOR ULTRASONIC SENSOR CABLING. BOX TO BE MOUNTED ALONGSIDE OTHER ELECTRICAL ENCLOSURES ON UNISTRUT TYPE RACK. MAKE FINAL CONNECTION TO MANUFACTURER CABLE IN JUNCTION BOX. EXTEND MANUFACTURER CABLE FROM JUNCTION BOX INTO WELL AND HANG EXCESS CABLING FROM 316SS CABLE HANGER. PROVIDE EYS FITTING IN LINE WITH CONDUIT TO WET WELL.	LS	1
15, 16, 18	5	FURNISH AND INSTALL 6" X 6" X 4" ABOVE GRADE NEMA 4X JUNCTION BOX WITH INTERNAL TERMINAL BLOCK FOR LEVEL SWITCH CABLING. BOX TO BE MOUNTED ALONGSIDE OTHER ELECTRICAL ENCLOSURES ON UNISTRUT TYPE RACK. MAKE FINAL CONNECTION TO MANUFACTURER CABLE IN JUNCTION BOX. EXTEND MANUFACTURER CABLE FROM JUNCTION BOX INTO WELL AND HANG EXCESS CABLING FROM 316SS CABLE HANGER. PROVIDE EYS FITTING IN LINE WITH CONDUIT TO WET WELL.	LS	1
-	6	PER NFPA 820 TABLE 4.2.2 ROW A, THE WET WELL IS CLASS 1 DIV 1 GROUP D.	-	-
-	7	SEE ELEVATION VIEW FOR LEVEL SWITCH MOUNTING HEIGHTS	-	-
18	8	FURNISH AND INSTALL 2" X 1" PULL BOX WITH DIVIDER FOR DIGITAL AND ANALOG COMMUNICATION SIGNALS.	LS	1
18	9	FURNISH AND INSTALL 2" X 1" ELECTRICAL PULL BOX	LS	1
17	10	FURNISH AND INSTALL 3/4" X 10' GROUND ROD TEST ROD	LS	1
14	11	CONTRACTOR TO RE-MOUNT EXISTING ANTENNA TO NEW CONTROL PANEL AND RECONNECT TO NETWORK FOR A COMPLETE WORKING SYSTEM.	LS	1
15	12	SEE DETAIL A, SHEET 12 FOR TYPICAL CONDUIT TRENCH DETAIL. SEE CONDUIT SCHEDULE FOR CONDUIT SIZE AND LENGTH.	LS	1



REVISIONS				DESIGNED BY: RKC DATE: 7/12/2023	SAN BERNARDINO COUNTY RECOMMENDED BY: NAME, TITLE DATE ACCEPTED BY: NAME, TITLE DATE	BENCH MARK NO. N/A ELEV. N/A LOCATION: N/A	Kimley»Horn 401 B STREET, SUITE 600, SAN DIEGO, CA 92101 PHONE: (951) 543-9868 WWW.KIMLEY-HORN.COM RENEE CHUANG 92140 7/12/2023 PROJECT ENGINEER R.C.E. ## DATE		QUANTITIES LAKEVIEW SEWER LIFT STATION REHABILITATION	SHEET 3 OF 12 CONTRACT _____ ACCOUNT _____ DWG. NO. GN-03
MARK	DATE	BY	APPROVED/RCE NO.	DRAWN BY: SDW DATE: 7/12/2023						
				CHECKED BY: SLM DATE: 7/12/2023						

Plotted By: Wuellner, Sam Sheet Set: Khs Layout: SITE PLAN July 25, 2023 05:00:15pm K:\SND_WATER\195068122 Lakeview Lift Station Rehab\Design\Plans\Plan Sheets\195068112 - SP.dwg



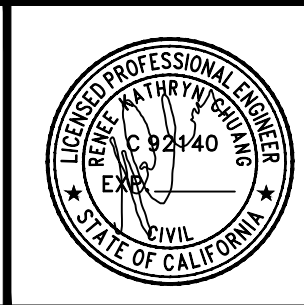
REVISIONS				
MARK	DATE	BY	APPROVED	R/C NO.

DESIGNED BY: RKC
DATE: 7/12/2023
DRAWN BY: SDW
DATE: 7/12/2023
CHECKED BY: SLM
DATE: 7/12/2023

SAN BERNARDINO COUNTY	
RECOMMENDED BY:	
NAME, TITLE	DATE
ACCEPTED BY:	
NAME, TITLE	DATE

BENCH MARK NO.	N/A	ELEV.	N/A
LOCATION: N/A			

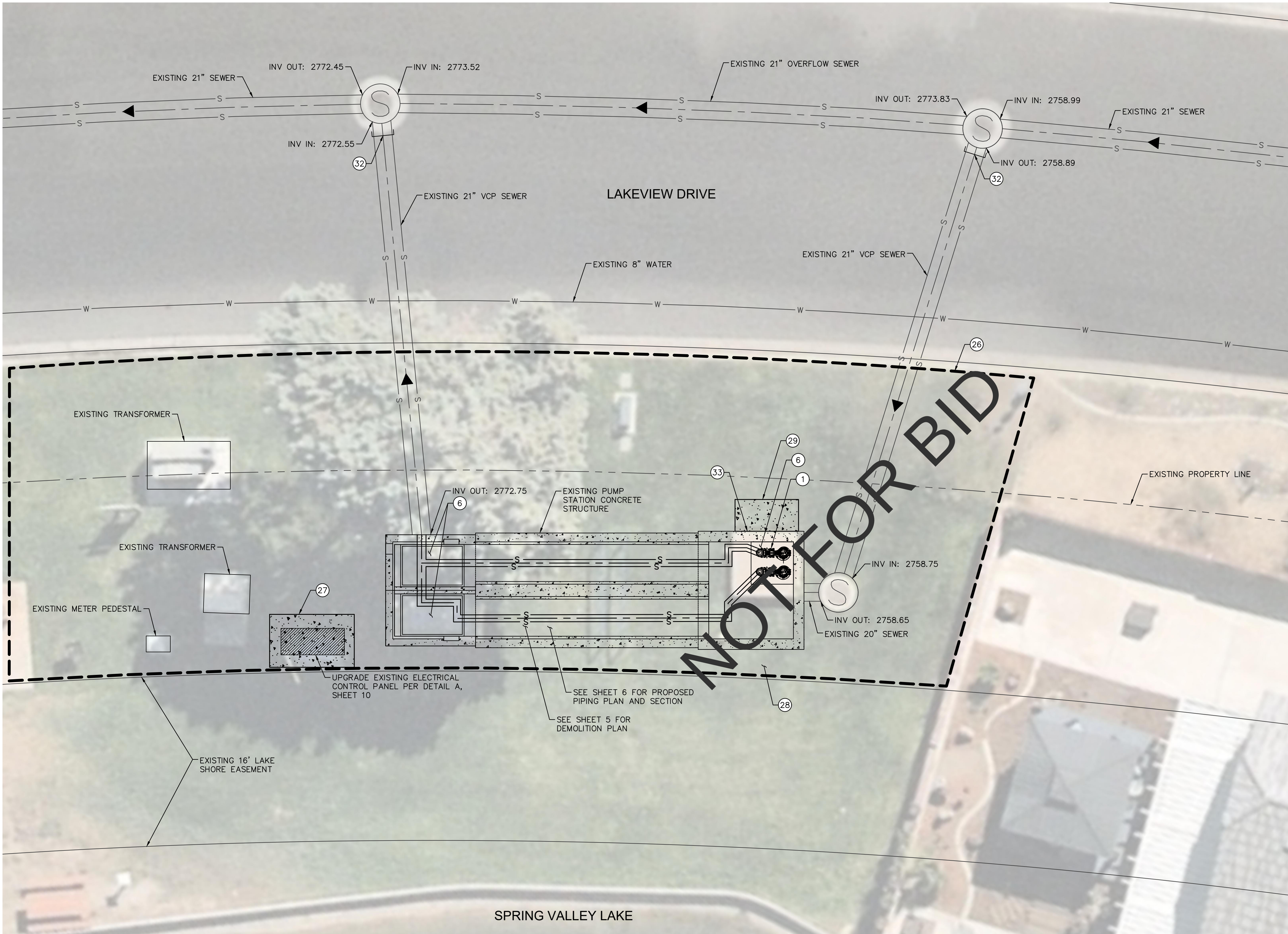
Kimley»Horn			
401 B STREET, SUITE 600, SAN DIEGO, CA 92101			
PHONE: (951) 543-9868 WWW.KIMLEY-HORN.COM			
RENEE CHUANG	92140	7/12/2023	
PROJECT ENGINEER	R.C.E. ##	DATE	



SITE PLAN	
LAKEVIEW SEWER LIFT STATION REHABILITATION	

SHEET	4	OF	12
CONTRACT			
ACCOUNT			
DWG. NO.	C-01		

- NOT FOR CONSTRUCTION -

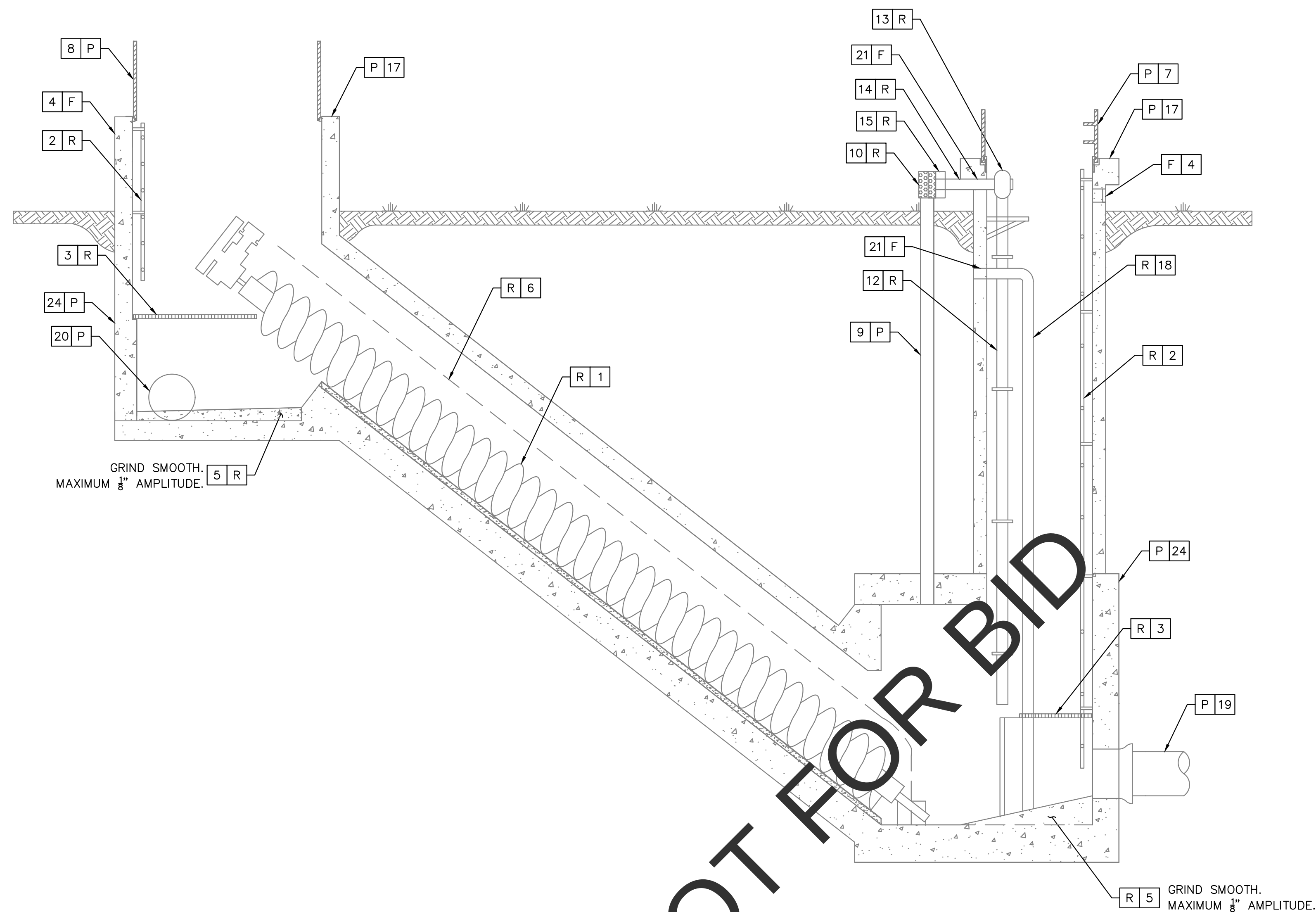


*ONLY THE CONSTRUCTION NOTES LISTED ARE APPLICABLE TO THIS SHEET

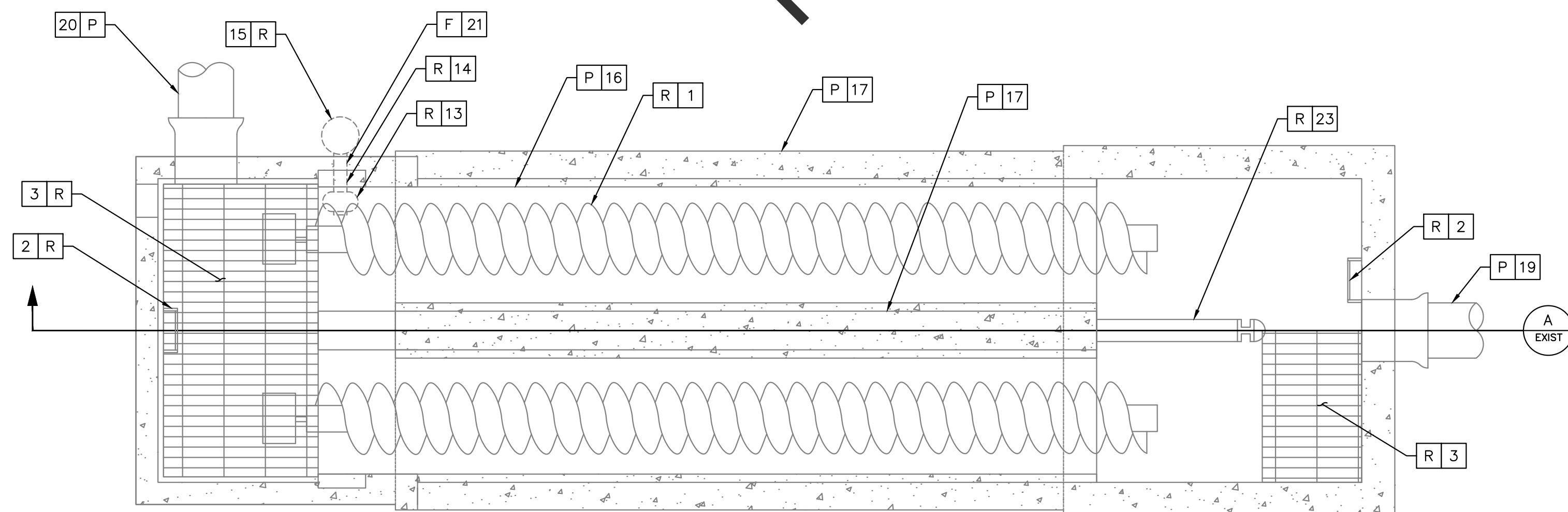
CONSTRUCTION NOTES	QUANTITY
1 FURNISH AND INSTALL FLYGT NON-CLOG SUBMERSIBLE PUMPS Q=810 GPM AT 19.7' TDH EACH PUMP. PUMP MODEL FP 3127 LT 3 ~ 491, 10 HP, 3 PHASE, 460 V, 1745 RPM. SEE DETAIL C, SHEET 7 FOR PUMP CURVE, OR APPROVED EQUAL.	2 EA
6 FURNISH AND INSTALL USF FABRICATION HATCH SAFETY NET, OR APPROVED EQUAL. SAFETY NETS TO FIT HATCH OPENINGS PER SHEET 5.	3 EA
26 CONTRACTOR WORK LIMITS, SITE TEMPORARY FENCING, AND STAGING AREA	1 LS
27 CONSTRUCT NEW CONCRETE FOUNDATION. 8' X 5' X 2' WITH #4'S @ 12\" O.C. EACH WAY. SET TOP OF CONCRETE 6\" ABOVE EG. EXTEND ELECTRICAL CONDUIT STUBS AS NEEDED.	1 EA
28 RESTORE SITE TO EXISTING CONDITIONS INCLUDING LANDSCAPING AND IRRIGATION SYSTEMS DISTURBED DURING CONSTRUCTION	1 LS
29 CONSTRUCT 6' X 3' X 2' CONCRETE PAD, 4\" ABOVE EG WITH #4'S @ 12\" O.C. EACH WAY	1 EA
32 TEMPORARY PLUG. CONTRACTOR TO PROVIDE BYPASS OPERATION PLANS TO COUNTY AHEAD OF CONSTRUCTION.	-
33 FURNISH AND INSTALL EXPANSION JOINT	1 EA

*ONLY THE DEMOLITION NOTES LISTED ARE APPLICABLE TO THIS SHEET

DEMOLITION NOTES		QUANTITY
F	FILL/PLUG	9 EA/LS
P	PROTECT IN PLACE	20 EA/LS
R	REMOVE AND DISPOSE	5 EA
1	SCREW PUMPS	2 EA
2	GALVANIZED STL LADDER AND WALL BRACKETS	2 EA
3	GALVANIZED BANDED STL GRATING AND SUPPORTS	2 EA
4	12" X 5" X 8" EXTRUDED ALUMINUM BRICK VENT	2 EA
5	SLOPED CONCRETE FILL	2 EA
6	3/8" COPPER TUBE ATTACHED TO CONCRETE WITH CLAMPS AND BOLTS	2 EA
7	48" X 48" BILCO ACCESS DOOR	1 EA
8	TWO (2) 72" X 48" ACCESS DOORS	2 EA
9	6" SCH 40 GALVANIZED STL VENT EXHAUST PIPE	1 EA
10	EXHAUST VENT PIPE CAP	1 EA
12	5" SCH 40 GALVANIZED STL VENT PIPE WITH WALL BRACKETS	1 EA
13	VENTILLATION FAN	2 EA
14	6" SCH 40 GALVANIZED STL VENT INLET PIPE	2 EA
15	FILTER	2 EA
16	CONCRETE CHANNEL GROUT	1 LS
17	CONCRETE WET WELL STRUCTURE	1 EA
18	EXCESS PVC PIPING IN WET WELL	1 LS
19	20" DI PIPE WITH TYTON JOINT INFLUENT	1 EA
20	21" VCP EFFLUENT	1 EA
21	PIPE PENETRATION	3 EA
23	WET WELL SCREW PUMP DIVIDING WALL	1 EA
24	STRUCTURAL BASE	1 EA



EXISTING SECTION A
HORIZ: 1"=1'
VERT: 1"=3'



EXISTING PLAN VIEW
HORIZ: 1"=3'
VERT: 1"=3'



REVISIONS				DESIGNED BY: RKC
MARK	DATE	BY	APPROVED/RCE NO.	DATE: 7/12/2023
				DRAWN BY: SDW
				DATE: 7/12/2023
				CHECKED BY: SLM
				DATE: 7/12/2023

SAN BERNARDINO COUNTY

NAME, TITLE	DATE
ACCEPTED BY:	
NAME, TITLE	DATE

BENCH MARK NO. N/A ELEV. N/A
LOCATION: N/A

Kimley»Horn
401 B STREET, SUITE 600, SAN DIEGO, CA 92101
PHONE: (951) 543-9868 WWW.KIMLEY-HORN.COM

RENEE CHUANG 92140 7/12/2023
PROJECT ENGINEER R.C.E. ## DATE



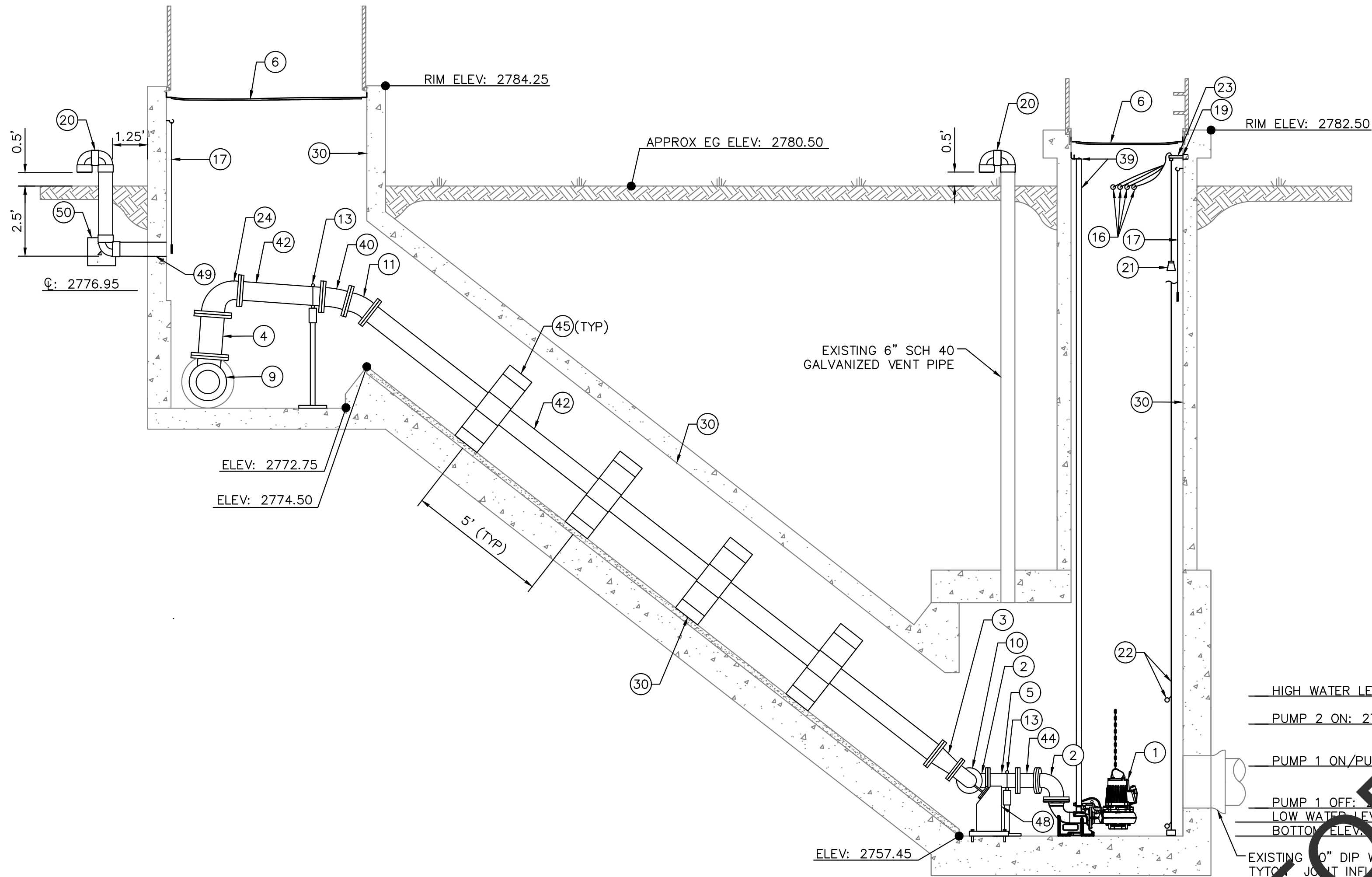
DEMOLITION PLAN

LAKEVIEW SEWER LIFT STATION REHABILITATION

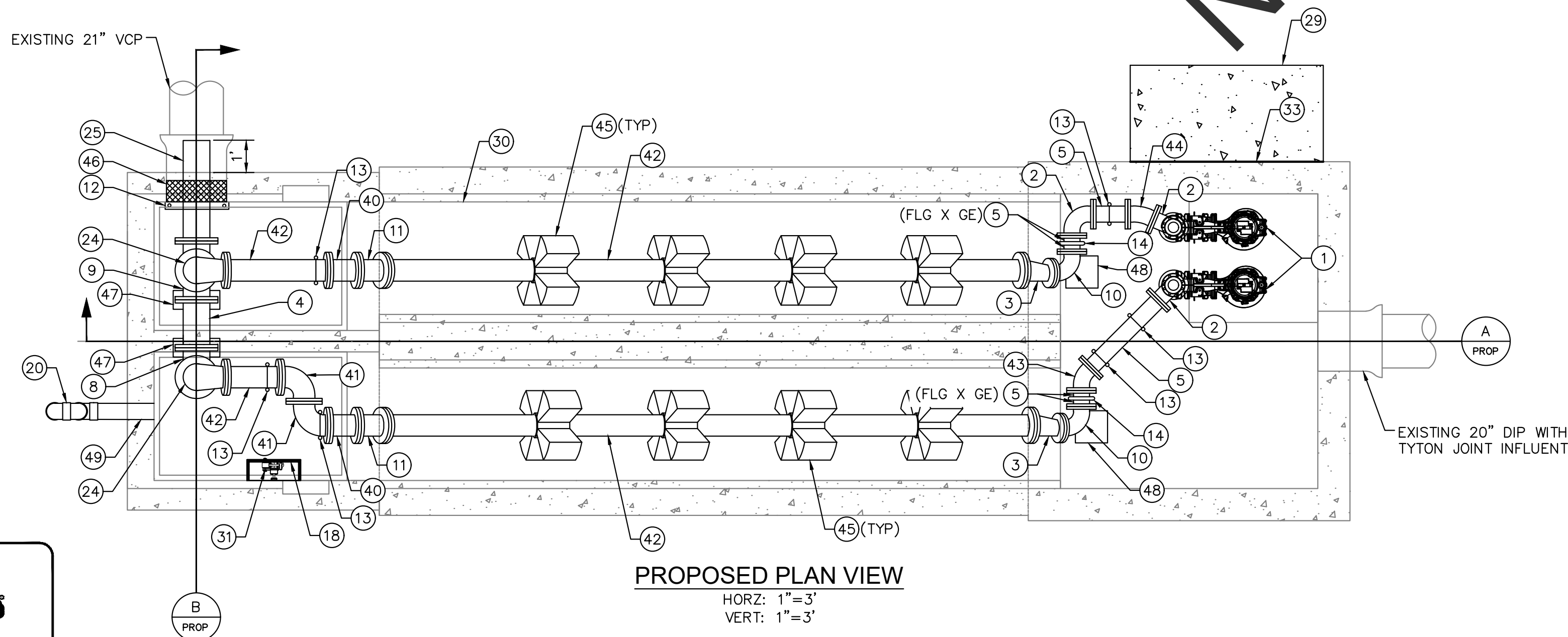
SAN BERNARDINO COUNTY
COUNTY SERVICE AREA 64
DEPARTMENT OF PUBLIC WORKS - SPECIAL DISTRICTS
PROJECT MANAGEMENT DIVISION
222 W. HOSPITALITY LANE, 2ND FLOOR
SAN BERNARDINO, CA 92415-0763
(909) 386-8800

SHEET 5 OF 12
CONTRACT _____
ACCOUNT _____
DWG. NO. C-02

Plotted By: Wueliner, Sam Sheet Set: Khs Layout: PIPING PLAN AND SECTIONS July 25, 2023 06:12:03pm K:\SND_WATER\195068122 Lakeview Lift Station Rehab\Design\Plans\Plan Sheets\195068112 - SECTIONS.dwg



PROPOSED SECTION A
HORZ: 1"=3'
VERT: 1"=3'



PROPOSED PLAN VIEW
HORZ: 1"=3'
VERT: 1"=3'

*ONLY THE CONSTRUCTION NOTES LISTED ARE APPLICABLE TO THIS SHEET

DELEGATED DESIGN SUBMITTAL

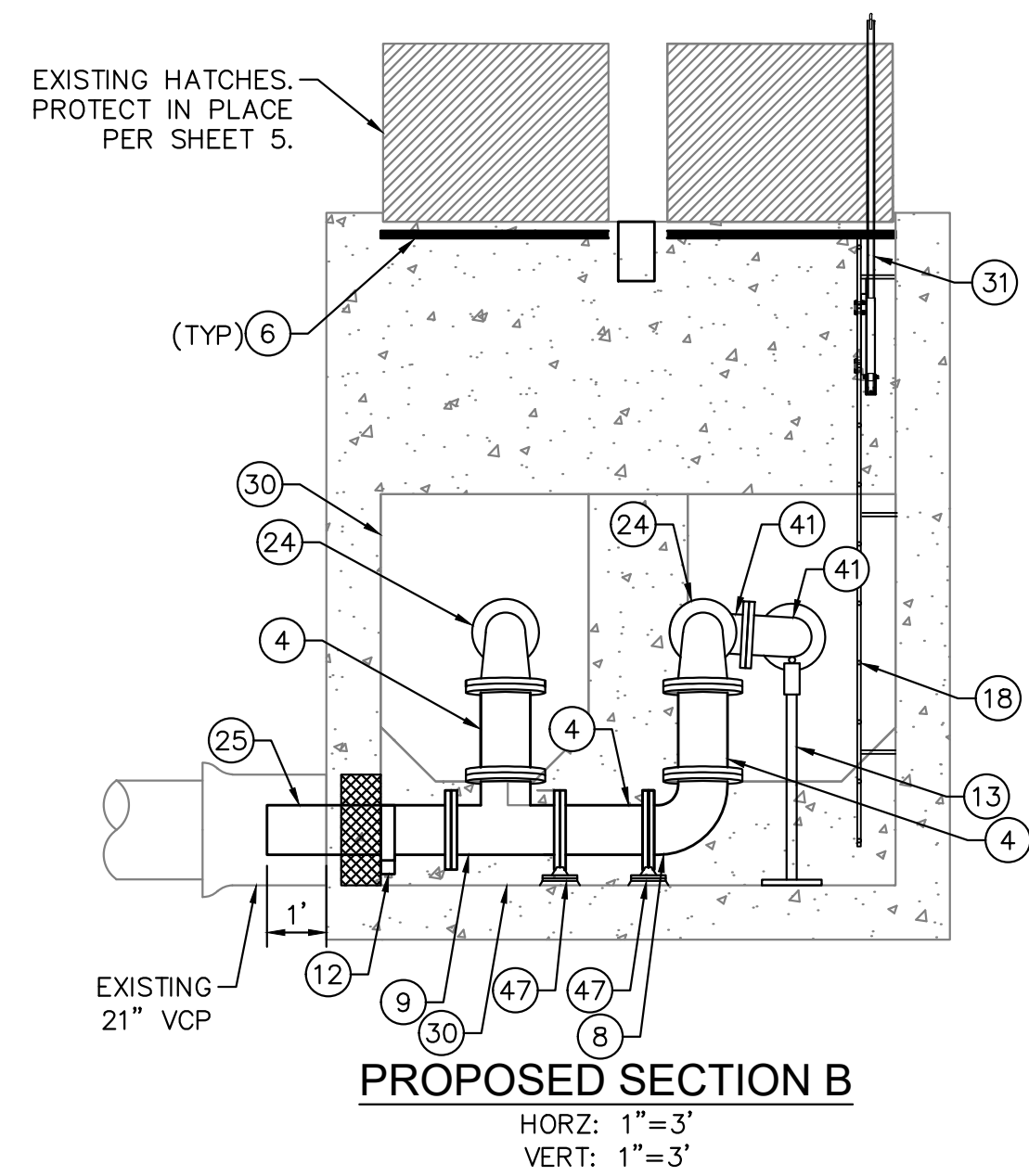
- THE FOLLOWING LIST OF ITEMS SHALL BE DELEGATED SUBMITTALS:
 - PIPE SUPPORTS AND SEISMIC BRACING (316 STAINLESS STEEL)
- CONTRACTOR'S ENGINEER RESPONSIBLE FOR THE DESIGN OF THE DELEGATED DESIGN SUBMITTALS SHALL BE A PROFESSIONAL CIVIL ENGINEER LICENSED IN THE STATE OF CALIFORNIA AND SHALL STAMP AND SIGN THE SUBMITTAL FOR WHICH THEY ARE RESPONSIBLE FOR.
- ALL DELEGATED DESIGN SUBMITTALS SHALL BE SUBMITTED TO THE ENGINEER OF RECORD FOR REVIEW.

CONSTRUCTION NOTES

- FURNISH AND INSTALL FLYGT NON-CLOG SUBMERSIBLE PUMPS Q=810 GPM AT 19.7' TDH EACH PUMP. PUMP MODEL FP 3127 LT 3 ~ 491, 10 HP, 3 PHASE, 460 V, 1745 RPM. SEE DETAIL C, SHEET 7 FOR PUMP CURVE, OR APPROVED EQUAL.
- FURNISH AND INSTALL 6" DI 90° BEND
- FURNISH AND INSTALL 8" X 6" DI REDUCER
- FURNISH AND INSTALL 10" DIP
- FURNISH AND INSTALL 6" DIP
- FURNISH AND INSTALL USF FABRICATION HATCH SAFETY NET, OR APPROVED EQUAL. SAFETY NETS TO FIT HATCH OPENINGS PER SHEET 5.
- FURNISH AND INSTALL 10" DI 90° BEND
- FURNISH AND INSTALL 10" DI TEE
- FURNISH AND INSTALL 6" DI 90° BASE BEND
- FURNISH AND INSTALL 8" DI 22.5° BEND
- STAINLESS STEEL WALL MOUNTED PIPE SUPPORT. CONTRACTOR SHALL PROVIDE STRUCTURAL DESIGN AND CALCULATIONS FOR THE PIPE SUPPORT IN THE DELEGATED DESIGN SUBMITTAL. REFER TO THE DELEGATED DESIGN SUBMITTAL NOTES ON THIS SHEET FOR FURTHER GUIDANCE.
- FURNISH AND INSTALL PIPE SUPPORT PER DETAIL A, SHEET 7
- FURNISH AND INSTALL 6" VICTAULIC COUPLING
- FURNISH AND INSTALL FOUR (4) 3" ELECTRICAL CONDUITS
- FURNISH AND INSTALL CORROSION COUPON. ATTACH TO WALL WITH SS HOOK. EPOXY ANCHOR INTO WALL.
- FURNISH AND INSTALL VALVE VAULT ACCESS LADDER.
- FURNISH AND INSTALL 6" X 6" X 1/4" 316 SST WALL PLATE WITH BOLTS EMBEDDED 4" INTO WET WELL (4 BOLTS TOTAL)
- FURNISH AND INSTALL 6" SCH 40 STAINLESS STEEL GOOSENECK VENT WITH INSECT SCREEN. SPLIT BUTT STRAP WELD TO EXISTING 6" RISER. PAINT WHITE.
- FURNISH AND INSTALL LEVEL TRANSDUCER
- FURNISH AND INSTALL CABLE AND BACKUP FLOATS
- FURNISH AND INSTALL 2" X 2" X 1/4" 316 SST SQUARE TUBING. PUMP CONTROL SUPPORT ARM CENTERED BETWEEN PUMPS.
- FURNISH AND INSTALL 10" X 8" DI 90° ELBOW REDUCER
- FURNISH AND INSTALL 10" DIP (FLG X PE)
- CONSTRUCT 6' X 3' X 2' CONCRETE PAD, 4" ABOVE EG WITH #4'S @ 12" O.C. EACH WAY
- FURNISH AND INSTALL SINGLE APPLICATION SPRAY-APPLIED EPOXY LINER (250 MILS) ON ALL INTERIOR WALL SURFACES
- FURNISH AND INSTALL LADDER UP SAFETY POST PER DETAIL B, SHEET 7.
- FURNISH AND INSTALL EXPANSION JOINT
- FURNISH AND INSTALL 2" PUMP GUIDE RAIL ASSEMBLY PER MANUFACTURER
- FURNISH AND INSTALL 8" DI 11.25° BEND
- FURNISH AND INSTALL 8" DI 90° BEND
- FURNISH AND INSTALL 8" DIP
- FURNISH AND INSTALL 6" DI 45° BEND
- FURNISH AND INSTALL 6" DI 22.5° BEND
- FURNISH AND INSTALL PIPE CASING SPACERS
- FURNISH AND INSTALL 8" THICK GROUT FILL WITH WIRE MESH
- STAINLESS STEEL PIPE FLANGE SUPPORT. CONTRACTOR SHALL PROVIDE STRUCTURAL DESIGN AND CALCULATIONS FOR THE PIPE SUPPORT IN THE DELEGATED DESIGN SUBMITTAL. REFER TO THE DELEGATED DESIGN SUBMITTAL NOTES ON THIS SHEET FOR FURTHER GUIDANCE.
- STAINLESS STEEL PIPE SUPPORT. CONTRACTOR SHALL PROVIDE STRUCTURAL DESIGN AND CALCULATIONS FOR THE PIPE SUPPORT IN THE DELEGATED DESIGN SUBMITTAL. REFER TO THE DELEGATED DESIGN SUBMITTAL NOTES ON THIS SHEET FOR FURTHER GUIDANCE.
- PIPE PENETRATION PER DETAIL D, SHEET 7
- CONSTRUCT CONCRETE SUPPORT BLOCK

QUANTITY

- | |
|-------|
| 2 EA |
| 3 EA |
| 2 EA |
| 6 LF |
| 9 LF |
| 3 EA |
| 1 EA |
| 1 EA |
| 2 EA |
| 2 EA |
| 1 EA |
| 3 EA |
| 2 EA |
| 1 LS |
| 2 EA |
| 1 EA |
| 1 EA |
| 1 EA |
| 2 EA |
| 2 EA |
| 1 EA |
| 1 EA |
| 2 EA |
| 2 EA |
| 58 LF |
| 1 EA |
| 1 EA |
| 2 EA |
| 2 EA |
| 1 EA |
| 1 CY |



PROPOSED SECTION B
HORZ: 1"=3'
VERT: 1"=3'



REVISIONS				
MARK	DATE	BY	APPROVED/RC NO.	

DESIGNED BY: RKC
DATE: 7/12/2023
DRAWN BY: SDW
DATE: 7/12/2023
CHECKED BY: SLM
DATE: 7/12/2023

SAN BERNARDINO COUNTY

RECOMMENDED BY:

NAME, TITLE	DATE
ACCEPTED BY:	
NAME, TITLE	DATE

BENCH MARK NO. N/A ELEV. N/A
LOCATION: N/A

Kimley»Horn
401 B STREET, SUITE 600, SAN DIEGO, CA 92101
PHONE: (951) 543-9868 WWW.KIMLEY-HORN.COM

RENEE CHUANG 92140 7/12/2023
PROJECT ENGINEER R.C.E. ## DATE



PIPING PLAN AND SECTIONS

LAKEVIEW SEWER LIFT STATION REHABILITATION

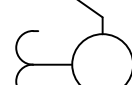
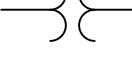
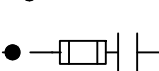
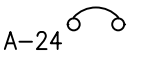
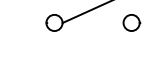
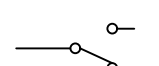
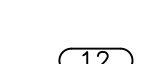
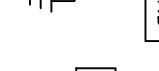
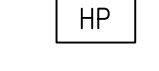
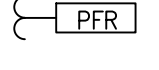
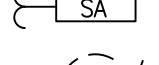
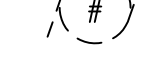
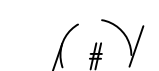
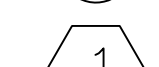
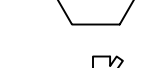
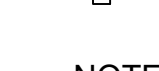
SHEET 6 OF 12
CONTRACT
ACCOUNT
DWG. NO. C-03

- NOT FOR CONSTRUCTION -



NOT FOR CONSTRUCTION -

ELECTRICAL SYMBOLS

SINGLE LINE DIAGRAMS	CONTROL WIRING DIAGRAMS	PLANS
 AMMETER  VOLTMETER  METER  KILOWATT HOUR METER  AMMETER SWITCH  VOLTMETER SWITCH  GROUND FAULT PROTECTION  CURRENT TRANSFORMER  POTENTIAL TRANSFORMER  POWER TRANSFORMER SEE NOTE 1.  CONTROL TRANSFORMER SEE NOTE 2.  DRAW OUT TYPE EQUIPMENT  DRAW OUT TYPE HIGH VOLTAGE MOTOR STARTER  PLUG-IN TYPE EQUIPMENT  CIRCUIT BREAKER, 3 POLE UNLESS OTHERWISE INDICATED  DISCONNECT SWITCH, 3 POLE UNLESS OTHERWISE INDICATED  OIL FUSE CUTOUTS  FUSE SEE NOTE 3.  TRANSFER SWITCH, AUTOMATIC  MAGNETIC MOTOR STARTER. "1" INDICATES SIZE 1. RV INDICATES REDUCED VOLTAGE. 2S INDICATES 2 SPEED. R INDICATES REVERSING.  MAGNETIC CONTACTOR  CONDUIT NUMBER 12. SEE CONDUIT AND WIRING SCHEDULE FOR SIZES AND QUANTITIES OF CONDUIT AND WIRES.  GROUND  KIRK KEY INTERLOCKING OF EQUIPMENT  EQUIPMENT FURNISHED, INSTALLED AND CONNECTED UNDER ANOTHER SECTION OF THE CONTRACT.  PHASE FAILURE RELAY  SURGE ARRESTER  EXISTING MOTOR (HP SHOWN)  NEW MOTOR (ESTIMATED HP SHOWN)  FUTURE MOTOR (ESTIMATED HP SHOWN)  MANHOLE  EYS SEAL NOTES: (ELECTRICAL SYMBOLS) 1. POWER TRANSFORMERS SHALL BE DRY TYPE 480-208Y/120 VOLTS, 3 PHASE 4 WIRE UNLESS OTHERWISE INDICATED. 2. CONTROL TRANSFORMER SHALL BE DRY TYPE 480-120 VOLTS 1 PHASE UNLESS OTHERWISE INDICATED. SEE CONTROL WIRING DIAGRAMS FOR USE OF 120 VOLT CONTROL CIRCUITS CONTROL TRANSFORMERS SHALL BE SIZED TO HANDLE THE LOADS OF ALL RELAYS, PILOT LIGHTS, ETC. CONNECTED THERE TO PLUS 50 VA EXTRA CAPACITY. 3. LOCATED IN OR ON MOTOR CONTROL CENTER UNLESS OTHERWISE INDICATED.	NORMALLY OPEN NORMALLY CLOSED DEVICE   CONTACT   LIMIT SWITCH   LIMIT SWITCH HELD CLOSED LIMIT SWITCH HELD OPEN   PRESSURE OR VACUUM SWITCH   LIQUID LEVEL SWITCH   TEMPERATURE ACTUATED SWITCH   FLOW SWITCH (AIR, WATER, ETC.)   PUSH BUTTON SINGLE CIRCUIT MOMENTARY CONTACT.   PUSH BUTTON SINGLE CIRCUIT LOCK-OUT (LOCATED AT MOTOR UNLESS OTHERWISE NOTED)   TIMED CONTACT- CONTACT ACTION RELAY ON ENERGIZATION.   TIMED CONTACT- CONTACT ACTION RELAY ON DE-ENERGIZATION.   ON-OFF SWITCH.   EMERGENCY STOP PUSH BUTTON (MAINTAINED CONTACT)   STOP - START PUSH-BUTTON STATION (MAINTAINED CONTACTS).   HAND-OFF-AUTO SELECTOR SWITCH SEE NOTE 3. (THREE POSITION).   TWO POSITION SELECTOR SWITCH SEE NOTE 3.   PILOT LIGHT, Y=YELLOW, R=RED, A=AMBER, SEE NOTE 3. B=BLUE, W=WHITE, G=GREEN.   BELL   HORN OR SIREN   CONTROL RELAY   STARTER COIL.   TIME DELAY RELAY. (0-30 SECONDS UNLESS OTHERWISE NOTED).   MOTOR STARTER OVERLOAD RELAY CONTACTS   CONTROL TRANSFORMER. SEE NOTES 2   MANUAL MOTOR STARTER   SOLENOID OPERATED CONTROL VALVE   120 VOLT, 1 PHASE, MOTOR (UNLESS OTHERWISE NOTED)   RUNNING TIME METER. (ELAPSED TIME METER)   SPACE HEATERS. (LOCATED AT MOTOR UNLESS OTHERWISE NOTED).   TERMINALS IN MOTOR CONTROL CENTER/MCP   CONTACT OR DEVICE REMOTE FROM MOTOR CONTROL CENTER/MCP   TERMINALS IN MOTOR CONTROL CENTER/MCP   CONTACT IN MOTOR CONTROL CENTER FOR CONNECTION TO REMOTE DEVICE/MCP   DEVICE SIGNAL OUTPUT   DEVICE SIGNAL INPUT	 CONDUIT RUN CONCEALED UNDER SLAB OR BELOW GRADE. (CONCEALED IN SLAB WHERE SO NOTED OR WHERE ALLOWED PER SPECIFICATIONS).  CONDUIT RUN EXPOSED UNLESS OTHERWISE NOTED  EXISTING CONDUIT RUN  GROUND WIRE  CONDUIT UP (OUT TOP OF EQUIPMENT)  CONDUIT DOWN (OUT BOTTOM OF EQUIPMENT)  CONDUIT STUBBED OUT AND CAPPED  LIGHTING FIXTURE MOUNTED ON POLE OR POST OR ABOVE PLATFORM  CEILING MOUNTED LIGHTING FIXTURE  BRACKET MOUNTED LIGHTING FIXTURE  FLOODLIGHT  FLUORESCENT LIGHTING FIXTURE  POLE MOUNTED LIGHT FIXTURE  EXIT LIGHT  RECESSED INCANDESCENT OR MERCURY VAPOR LIGHTING FIXTURE  LIGHTING FIXTURES CONNECTED TO EMERGENCY CIRCUITS  LIGHTING FIXTURE TYPE A, 100 WATTS, WITH 1 LAMP. SEE LIGHTING FIXTURE SCHEDULE  SINGLE POLE, SINGLE THROW TOGGLE SWITCH  DOUBLE POLE, SINGLE THROW TOGGLE SWITCH  THREE-WAY TOGGLE SWITCH  FOUR-WAY TOGGLE SWITCH  MANUAL MOTOR STARTER  OUTLETS SHOWN WITH SUBSCRIPT "a" ADJACENT TO THEM SHALL BE CONTROLLED BY S a  DUPLEX CONVENIENCE RECEPTACLE AT +12" OR AS NOTED  SINGLE CONVENIENCE RECEPTACLE AT +12" OR AS NOTED  SPECIAL PURPOSE RECEPTACLE AT +12" OR AS NOTED, RATING AS INDICATED  JUNCTION BOX, SIZE AS REQUIRED BY CODE  THERMOSTAT OUTLET AT +54"  CLOCK OUTLET AT +7'-6" OR AS NOTED  TELEPHONE OUTLET AT +12" OR AS NOTED  TELEPHONE FLOOR OUTLET  HORN  CONTROL DEVICE  P = PRESSURE SWITCH  ZS = LIMIT SWITCH  L = LEVEL SWITCH  V = CONTROL VALVE  CONTROL STATION: PUSH-BUTTON STATION OR SELECTOR SWITCH. SEE CONTROL WIRING DIAGRAMS FOR REQUIREMENTS.  EXISTING MOTOR  NEW MOTOR  FUTURE MOTOR  GROUND WELL  GROUND ROD  DISCONNECT SWITCH. SEE SINGLE LINE DIAGRAM FOR SIZE.  LIGHTING PANEL. SURFACE MOUNTED.  SWITCHBOARD, DISTRIBUTION PANEL OR MOTOR CONTROL CENTER  EQUIPMENT BY OTHERS  CONDUIT NUMBER 12. SEE CONDUIT AND WIRING SCHEDULE FOR SIZES AND QUANTITIES OF CONDUIT AND WIRES.  +12"  ① INDICATES TO REFER TO NOTE (1) ON DRAWING  W.P. WEATHERPROOF. PROVIDE GASKETS AS REQUIRED  C.O. CONDUIT ONLY  FE-184 INSTRUMENTATION DEVICE. SEE PROCESS AND INSTRUMENTATION DRAWINGS FOR DESCRIPTIONS.  E EXISTING PULL BOX  E PULL BOX (SIZE AS REQUIRED)  • OUTPUT TERMINAL  • INPUT TERMINAL

ABBREVIATIONS

AMP AMPERE	ELECT ELECTRICAL	LTG LIGHTING	NO. NUMBER	TEL TELEPHONE
AL ALUMINUM	ELEV ELEVATION	MAX MAXIMUM	PLC PROGRAMMABLE LOGIC CONTROLLER	TDR TIME DELAY RELAY
ATS AUTOMATIC TRANSFER SWITCH	EXIST EXISTING	MCC MOTOR CONTROL CENTER		TTB TELEPHONE TERMINAL BACKBOARD
AWG AMERICAN WIRE GAUGE	FLA FULL LOAD AMPS	MCP MAIN CONTROL PANEL	PNL PANEL	
BRK BREAKER	FUT FUTURE	MCM THOUSAND CIRCULAR MIL (AWG)	PR PAIR	TYP TYPICAL
CAT CATALOG	GFCI GROUND FAULT CIRCUIT INTERRUPTER	MFR MANUFACTURER	PVC POLYVINYL CHLORIDE	UCP UNIT CONTROL PANEL
CIRC. MIL CIRCULAR MILS (AWG)	GND GROUND	MIN MINIMUM	REC RECEPTACLE	V VOLTS
C.O. CONDUIT ONLY	HP HORSEPOWER	MIS MISCELLANEOUS	RGS RIGID GALVANIZED STEEL	WP WEATHERPROOF
CKT CIRCUIT	HPS HIGH PRESSURE SODIUM	MPZ MINI POWER ZONE	SCE SOUTHERN CALIFORNIA EDISON	XFMR TRANSFORMER
CP CONTROL PANEL	HZ HERTZ (CYCLES PER SECOND)	MTG MOUNTING	SCHED SCHEDULE	
DIA DIAMETER	IC INTERRUPTING CAPACITY	N.C. NORMALLY CLOSED	SES SERVICE ENTRANCE SECTION	
DWG DRAWING	KV KILOVOLTS	NEC NATIONAL ELECTRICAL CODE	SPECS SPECIFICATIONS	
EA EACH	LCL LONG CONTINUOUS LOAD	N.O. NORMALLY OPEN	SSS SOLID STATE STARTER	

GENERAL ELECTRICAL REQUIREMENTS

1. THE COMPLETED INSTALLATION SHALL CONFORM TO ALL APPLICABLE FEDERAL, STATE AND LOCAL CODE ORDINANCES AND REGULATIONS. CONTRACTOR SHALL OBTAIN NECESSARY PERMITS AND INSPECTIONS REQUIRED BY THE AUTHORITIES HAVING JURISDICTION. ALL WORK SHALL BE DONE IN A NEAT, WORKMANLIKE, FINISHED AND SAFE MANNER, ACCORDING TO THE LATEST PUBLISHED N.E.C.A. STANDARDS OF INSTALLATION, UNDER COMPETENT SUPERVISION. INSTALL GROUNDING AS REQUIRED BY THE CODE(S).
2. VISIT THE SITE PRIOR TO BIDDING TO BECOME FAMILIAR WITH EXISTING CONDITIONS AND ALL OTHER FACTORS WHICH MAY AFFECT THE EXECUTION OF THIS WORK. INCLUDE ALL RELATED COSTS IN THE INITIAL BID PROPOSAL.
3. ALL MATERIALS SHALL BE NEW AND OF THE BEST QUALITY, MANUFACTURED IN ACCORDANCE WITH NEMA, ANSI, U.L. OR OTHER APPLICABLE STANDARDS. THE USE OF MANUFACTURER'S NAMES, MODELS, AND NUMBERS IS INTENDED TO ESTABLISH STYLE, QUALITY, APPEARANCE, USEFULNESS AND BID PRICE. PROPOSED SUBSTITUTIONS SHALL BE SUBMITTED IN WRITING AND REVIEWED BY THE ENGINEER BEFORE ORDERING.
4. PROTECT ALL ELECTRICAL MATERIAL AND EQUIPMENT INSTALLED AGAINST DAMAGE BY OTHER TRADES, WEATHER CONDITIONS OR ANY OTHER CAUSES. EQUIPMENT FOUND DAMAGED OR IN OTHER THAN NEW CONDITION WILL BE REJECTED AS DEFECTIVE.
5. LEAVE THE SITE CLEAN, REMOVE ALL DEBRIS, EMPTY CARTONS, TOOLS, CONDUIT, WIRE SCRAPS AND ALL MISCELLANEOUS SPARE EQUIPMENT AND MATERIALS USED IN THE WORK DURING CONSTRUCTION. ALL COMPONENTS SHALL BE FREE OF DUST, GRIT AND FOREIGN MATERIALS, LEFT AS NEW BEFORE FINAL ACCEPTANCE OF WORK.
6. CIRCUIT CONDUCTORS 1/2 AWG OR SMALLER TO BE COPPER TYPE "XHHW" FOR BELOW GRADE INSTALLATION OR COPPER TYPE THHN/THWN FOR ABOVE GRADE INSTALLATIONS. #1 AWG OR LARGER SHALL BE COPPER TYPE "XHHW-2" STRANDED COPPER. MINIMUM CONDUCTOR SIZE TO BE #10 AWG WITH #10 GND.
7. UNDERGROUND CONDUITS TO BE SCHEDULE 40 PVC, MINIMUM DEPTH 30", MINIMUM SIZE 1", UNLESS OTHERWISE SHOWN ON THE PLANS. CONDUITS AS SHOWN ARE FOR INFORMATION ONLY. EXACT CONDUIT ROUTING SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR AND SHALL BE CONSIDERED PART OF THE TOTAL COST OF THE CONSTRUCTION BID.
8. OUTDOOR CONDUITS EXPOSED TO BE PVC COATED RIGID WITH PLUGS FOR WELLS, MINIMUM SIZE 3/4", UNLESS OTHERWISE NOTED ON THE PLANS. PVC COATED RIGID CONDUIT SHALL EXTEND BELOW GRADE TO THE FIRST ELBOW. ALL PVC COATED RIGID CONDUIT EXPOSED TO EARTH SHALL BE HALF LAPPED WRAPPED IN SCOTCHCRAP 50 10 MIL TAPE OR EQUAL. EXTEND WRAP TO A HEIGHT OF 12" ABOVE GRADE. INDOOR CONDUITS SHALL BE IMC OR RIGID UNLESS OTHERWISE SHOWN ON PLAN.
9. ALL SAFETY SWITCHES AND OTHER DISTRIBUTION AND CONTROL ELECTRICAL EQUIPMENT SHALL BE U.L. LISTED AND RATED FOR HEAVY DUTY SERVICE.
10. ALL WIRING DEVICES SHALL BE SPECIFICATION GRADE.
11. ALL ELECTRICAL EQUIPMENT, CONDUIT, WIRING, BOXES, ETC. SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO ORDERING. THE SUBMITTALS SHALL BE NEATLY GROUPED AND ORGANIZED. PERTINENT INFORMATION SHALL BE HIGHLIGHTED, AND THE SPECIFIC PRODUCT SHALL BE IDENTIFIED. ALL SUBMITTALS SHALL BE COMPLETE, AND PRESENTED IN ONE PACKAGE. THE SUBMITTAL SHALL INCLUDE A COMPLETE LIST OF THE EQUIPMENT AND MATERIALS, INCLUDING THE MANUFACTURER'S NAME, PRODUCT SPECIFICATION, DESCRIPTIVE DATA, TECHNICAL LITERATURE, PERFORMANCE CHARTS, CATALOG CUTS, INSTALLATION INSTRUCTIONS, AND SPARE PART RECOMMENDATIONS FOR EACH DIFFERENT ITEM OF THE EQUIPMENT SPECIFIED.
12. IT IS THE OBLIGATION AND RESPONSIBILITY OF THE CONTRACTOR TO ORGANIZE HIS WORK, SO THAT A COMPLETE ELECTRICAL, INSTRUMENTATION, AND CONTROL SYSTEM FOR THE FACILITY WILL BE PROVIDED, AND WILL BE SUPPORTED BY ACCURATE SHOP AND RECORD DRAWINGS, AND 8 & M MANUALS AND SHALL BE CONSIDERED PART OF THE TOTAL COST OF THE CONSTRUCTION BID.

4. 1/2" OR AS NOTED, RATING

BY CODE

ED

NOTED

STATION OR SELECTOR SWITCH. SEE

REQUIREMENTS.

5. LEAVE THE SITE CLEARLY REMOVED. ALL SHALL BE FREE OF MUD, GRIT AND

6. CIRCUIT CONDUCTORS #1 AWG OR "XHHW-2" STEEL-CLAD COPPER. MINIMUM

7. UNDERGROUND CONDUITS TO BE SO DETERMINED IN THE FIELD BY THE C

8. OUTDOOR CONDUITS EXPOSED TO EMBLEM. ALL PVC COATED RIGID CONDUIT UNLESS OTHERWISE SHOWN

9. ALL SAFETY SWITCHES AND OTHER

10. ALL WIRING DEVICES SHALL BE SPEC

11. ALL ELECTRICAL EQUIPMENT, CON INFORMATION SHALL BE HIGHLIGHTED EQUIPMENT AND MATERIALS, INCLUDING SPARE PART RECOMMENDATIONS FOR

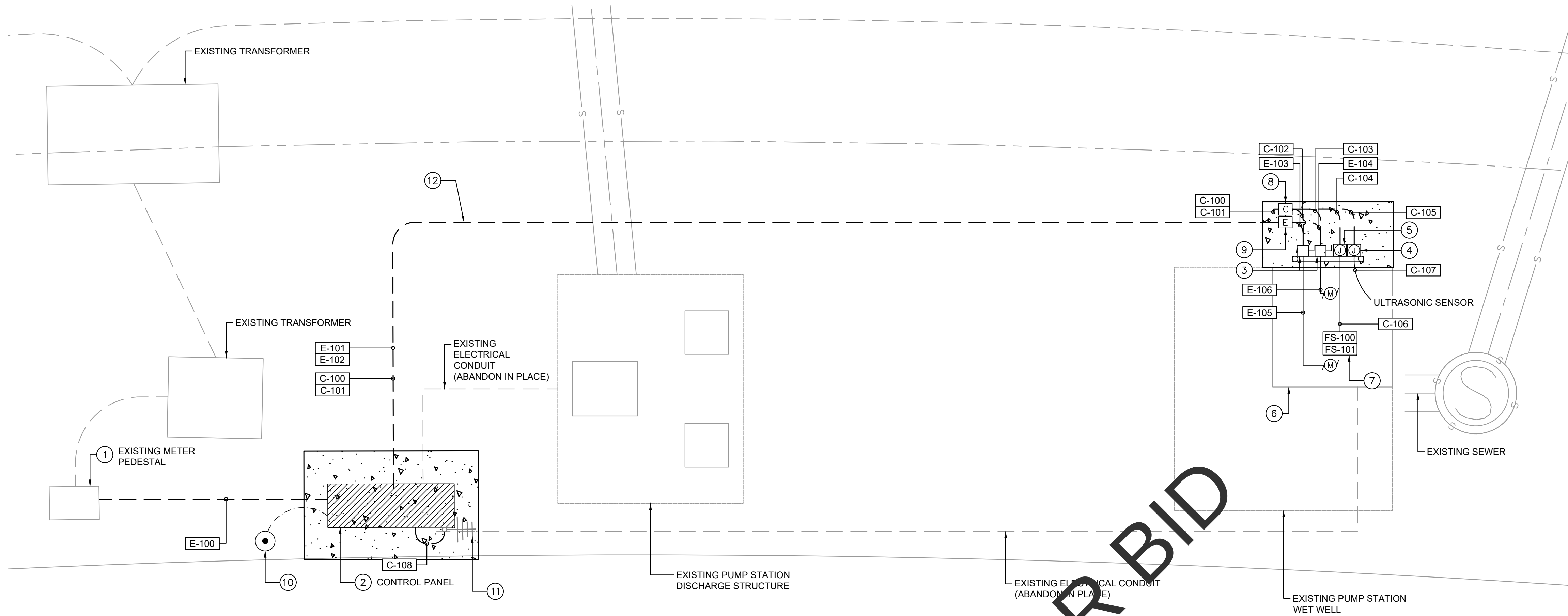
12. IT IS THE OBLIGATION AND RESPONS SUPPORTED BY ACCURATE SHOP AND



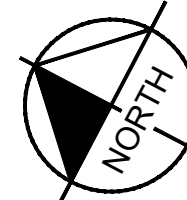
REVISIONS				DESIGNED BY: EG DATE: 7/12/2023		SAN BERNARDINO COUNTY		BENCH MARK NO. _____ N/A _____ ELEV. _____ N/A _____						ELECTRICAL LEGEND AND NOTES LAKEVIEW SEWER LIFT STATION REHABILITATION		SHEET <u>8</u> OF <u>12</u>	
MARK	DATE	BY	APPROVED/RCE NO.	DRAWN BY: EG DATE: 7/12/2023		RECOMMENDED BY:		LOCATION: N/A		401 B STREET, SUITE 600, SAN DIEGO, CA 92101 PHONE: (951) 543-9868 WWW.KIMLEY-HORN.COM						CONTRACT _____	
				CHECKED BY: MAC DATE: 7/12/2023		NAME, TITLE _____ DATE _____				MICHAEL COLOMBO 19280 7/12/2023						ACCOUNT _____	
						ACCEPTED BY:				PROJECT ENGINEER R.C.E. ## _____ DATE _____						DWG. NO. <u>E-01</u>	

- NOT FOR CONSTRUCTION -

Plotted By: Wuellner, Sam Sheet Set: Kha Layout: ELECTRICAL SITE PLAN July 25, 2023 05:01:05pm K:\SND_WATER\195068122 Lakeview Lift Station Rehab\Design\Plans\Plan Sheets\195068112 - EL.SP.dwg



ELECTRICAL SITE PLAN
SCALE: 1" = 10'



CONDUIT SCHEDULE LS-A								
CONDUIT TAG	STATUS	CONDUIT TYPE	CONDUIT SIZE	APPROXIMATE CONDUIT LENGTH	FROM	TO	CONDUCTOR (EACH CONDUIT)	CONDUCTOR (EACH CONDUIT)
E-100	NEW	UG SCHED 40 PVC	2.5"	14 LF	METER	CONTROL PANEL	(4) #3/0 AWG + (1) #6 GND	POWER
E-101	NEW	UG SCHED 40 PVC	1"	60 LF	CONTROL PANEL	POWER PULLBOX	(3) #10 AWG + (1) #10 GND	PUMP #1 POWER
E-102	NEW	UG SCHED 40 PVC	1"	60 LF	CONTROL PANEL	POWER PULLBOX	(3) #10 AWG + (1) #10 GND	PUMP #2 POWER
E-103	NEW	UG SCHED 40 PVC/PVC COATED RGS	1"	4 LF	POWER PULLBOX	DISCONNECT #1	(3) #10 AWG + (1) #10 GND	PUMP 1 POWER
E-104	NEW	UG SCHED 40 PVC/PVC COATED RGS	1"	5 LF	POWER PULLBOX	DISCONNECT #2	(3) #10 AWG + (1) #10 GND	PUMP 2 POWER
E-105	NEW	PVC COATED RGS	3"	4 LF	DISCONNECT #1	PUMP #1	MANUFACTURER CABLE	SPLICE COMMS AND POWER AT DISCONNECT
E-106	NEW	PVC COATED RGS	3"	4 LF	DISCONNECT #2	PUMP #2	MANUFACTURER CABLE	SPLICE COMMS AND POWER AT DISCONNECT
C-100	NEW	UG SCHED 40 PVC	2"	60 LF	CONTROL PANEL	COMMUNICATIONS PULLBOX (SECTION 1)	6-PAIR #16 AWG	2 - FLOATS, 2 - LEAKAGE, 2-OVERTEMP SIGNALS
C-101	NEW	UG SCHED 40 PVC	1"	60 LF	CONTROL PANEL	COMMUNICATIONS PULLBOX (SECTION 2)	MANUFACTURER CABLE	ULTRASONIC SIGNAL
C-102	NEW	UG SCHED 40 PVC/PVC COATED RGS	1"	4 LF	COMMUNICATIONS PULLBOX (SECTION 1)	DISCONNECT #1	2-PAIR #16 AWG	PUMP 1 LEAKAGE AND OVERTEMP SIGNALS. SPLICE WITH MANUFACTURER CABLE AT DISCONNECT
C-103	NEW	UG SCHED 40 PVC/PVC COATED RGS	1"	5 LF	COMMUNICATIONS PULLBOX (SECTION 1)	DISCONNECT #2	2-PAIR #16 AWG	PUMP 2 LEAKAGE AND OVERTEMP SIGNALS. SPLICE WITH MANUFACTURER CABLE AT DISCONNECT
C-104	NEW	UG SCHED 40 PVC/PVC COATED RGS	1"	5 LF	COMMUNICATIONS PULLBOX (SECTION 1)	FLOAT J-BOX	2-PAIR #16 AWG	2-FLOAT SIGNALS
C-105	NEW	UG SCHED 40 PVC/PVC COATED RGS	1"	5 LF	COMMUNICATIONS PULLBOX (SECTION 2)	ULTRASONIC SENSOR J-BOX	MANUFACTURER CABLE	ULTRASONIC SIGNAL
C-106	NEW	PVC COATED RGS	3"	5 LF	FLOAT J-BOX	FLOATS	2-PAIR #16 AWG	2-FLOAT SIGNALS
C-107	NEW	PVC COATED RGS	3"	5 LF	ULTRASONIC SENSOR J-BOX	ULTRASONIC SENSOR	MANUFACTURER CABLE	MANUFACTURER CABLE
C-108	NEW	PVC COATED RGS	1"	4 LF	CONTROL PANEL	EXISTING ANTENNA	LMR 400	LMR400

CONDUIT AND CONDUCTOR SCHEDULE

*ELECTRICAL NOTES LISTED ARE APPLICABLE TO THIS SHEET ONLY

ELECTRICAL NOTES	QUANTITY
1 EXISTING 200A, 277/480V, 3P, 4W METER PEDESTAL TO REMAIN. PROTECT IN PLACE. SEE DETAIL D ON SHEET 12 FOR SINGLE LINE DIAGRAM	1 LS
2 FURNISH AND INSTALL NEW LIFT STATION CONTROL PANEL. DEMO OF EXISTING LIFT STATION CONTROL PANEL SHOWN ON MECHANICAL PLANS. CONTRACTOR TO LOCATE EXISTING RTU MOUNTED BESIDE EXISTING LIFT STATION CONTROL PANEL AND INSTALL INSIDE OF NEW LIFT STATION CONTROL PANEL ENCLOSURE. SEE DETAIL A ON SHEET 10 FOR CONTROL PANEL ELEVATION DETAIL.	1 LS
3 FURNISH AND INSTALL 30A, 480V, 3P, NEMA 4X PUMP DISCONNECT WITH INTERNAL TERMINAL BLOCK. CONTRACTOR TO SPLICE MANUFACTURER CABLE IN DISCONNECT ENCLOSURE, AND SEND PUMP SIGNALS TO CONTROL PANEL VIA LOCAL COMMUNICATIONS JUNCTION BOX. REFER TO CONDUIT SCHEDULE FOR ADDITIONAL DETAIL. PROVIDE EYS FITTING AT BASE OF DISCONNECT FOR ALL CONDUITS ENTERING WET WELL.	1 LS
4 FURNISH AND INSTALL 6" X 6" X 4" ABOVE GRADE NEMA 4X JUNCTION BOX WITH INTERNAL TERMINAL BLOCK FOR ULTRASONIC SENSOR CABLING. BOX TO BE MOUNTED ALONGSIDE OTHER ELECTRICAL ENCLOSURES ON UNISTRUT TYPE RACK. MAKE FINAL CONNECTION TO MANUFACTURER CABLE IN JUNCTION BOX. EXTEND MANUFACTURER CABLE FROM JUNCTION BOX INTO WELL AND HANG EXCESS CABLING FROM 316SS CABLE HANGER. PROVIDE EYS FITTING IN LINE WITH CONDUIT TO WET WELL.	1 LS
5 FURNISH AND INSTALL 6" X 6" X 4" ABOVE GRADE NEMA 4X JUNCTION BOX WITH INTERNAL TERMINAL BLOCK FOR LEVEL SWITCH CABLING. BOX TO BE MOUNTED ALONGSIDE OTHER ELECTRICAL ENCLOSURES ON UNISTRUT TYPE RACK. MAKE FINAL CONNECTION TO MANUFACTURER CABLE IN JUNCTION BOX. EXTEND MANUFACTURER CABLE FROM JUNCTION BOX INTO WELL AND HANG EXCESS CABLING FROM 316SS CABLE HANGER. PROVIDE EYS FITTING IN LINE WITH CONDUIT TO WET WELL.	1 LS
6 PER NFPA 820 TABLE 4.2.2 ROW A, THE WET WELL IS CLASS 1 DIV 1 GROUP D.	-
7 SEE ELEVATION VIEW FOR LEVEL SWITCH MOUNTING HEIGHTS ON SHEET 6.	-
8 FURNISH AND INSTALL 2' X 1' PULL BOX WITH DIVIDER FOR DIGITAL AND ANALOG COMMUNICATION SIGNALS.	1 LS
9 FURNISH AND INSTALL 2' X 1' ELECTRICAL PULL BOX PER DETAIL G ON SHEET 11.	1 LS
10 FURNISH AND INSTALL 3/4" X 10' GROUND ROD TEST ROD SHOWN IN DETAIL C, SHEET 12.	1 LS
11 CONTRACTOR TO RE-MOUNT EXISTING ANTENNA TO NEW CONTROL PANEL AND RECONNECT TO NETWORK FOR A COMPLETE WORKING SYSTEM.	1 LS
12 SEE DETAIL A, SHEET 12 FOR TYPICAL CONDUIT TRENCH DETAIL. SEE CONDUIT AND CONDUCTOR SCHEDULE FOR CONDUIT SIZE AND LENGTH.	1 LS

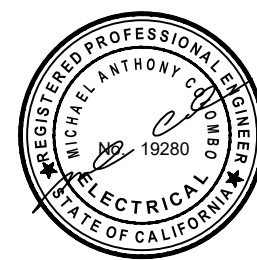
SAN BERNARDINO COUNTY
COUNTY SERVICE AREA 64
DEPARTMENT OF PUBLIC WORKS - SPECIAL DISTRICTS
PROJECT MANAGEMENT DIVISION
222 W. HOSPITALITY LANE, 2ND FLOOR
SAN BERNARDINO, CA 92415-0763
(909) 386-8800

REVISIONS					DESIGNED BY: EG
MARK	DATE	BY	APPROVED/RC NO.		DATE: 7/12/2023
					DRAWN BY: EG
					DATE: 7/12/2023
					CHECKED BY: MAC
					DATE: 7/12/2023

SAN BERNARDINO COUNTY		
RECOMMENDED BY:		
NAME, TITLE	DATE	
ACCEPTED BY:		
NAME, TITLE	DATE	

BENCH MARK NO. N/A ELEV. N/A
LOCATION: N/A

Kimley»Horn
401 B STREET, SUITE 600, SAN DIEGO, CA 92101
PHONE: (951) 543-9868 WWW.KIMLEY-HORN.COM
MICHAEL COLOMBO 19280 7/12/2023
PROJECT ENGINEER R.C.E. ## DATE

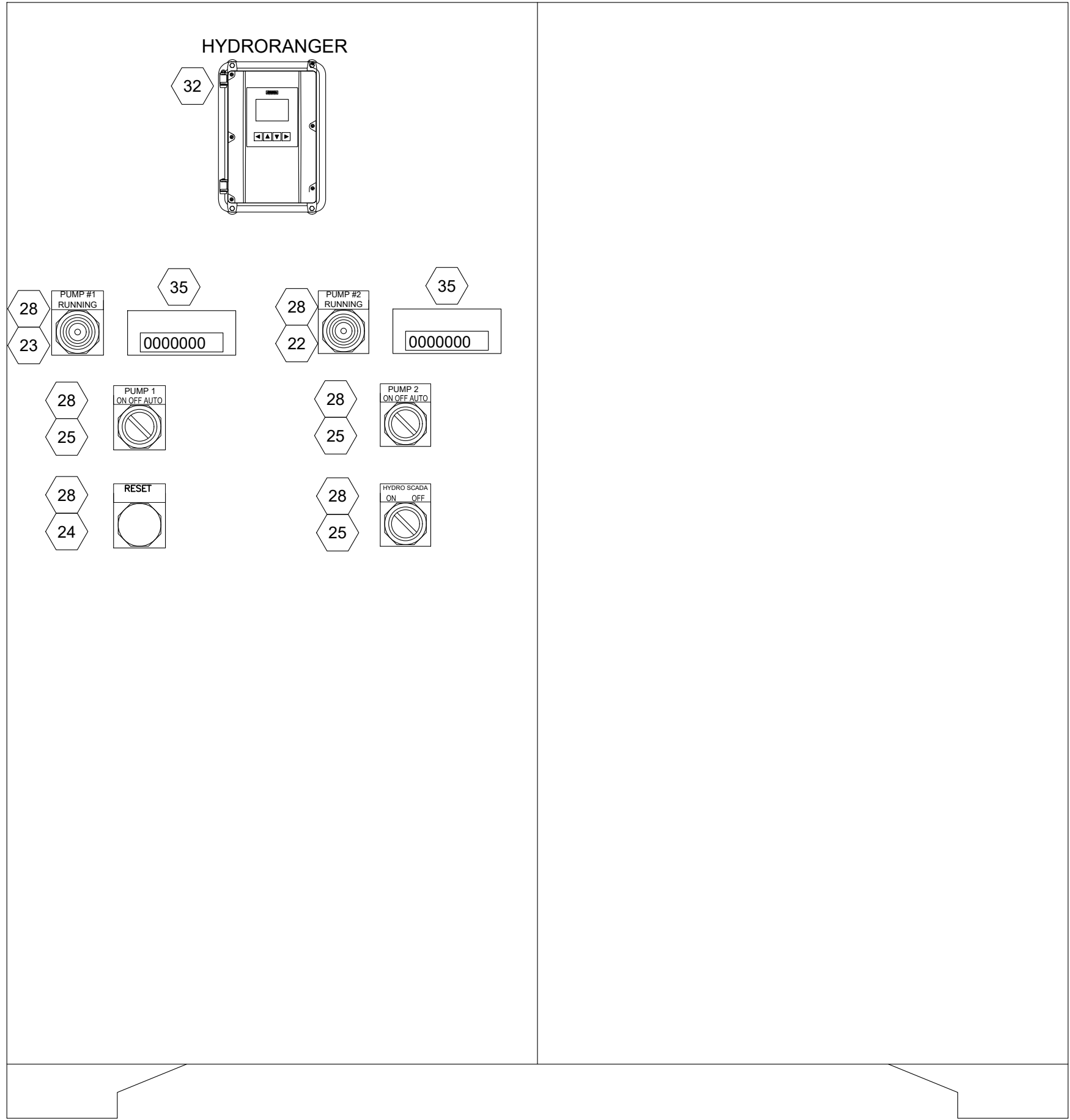
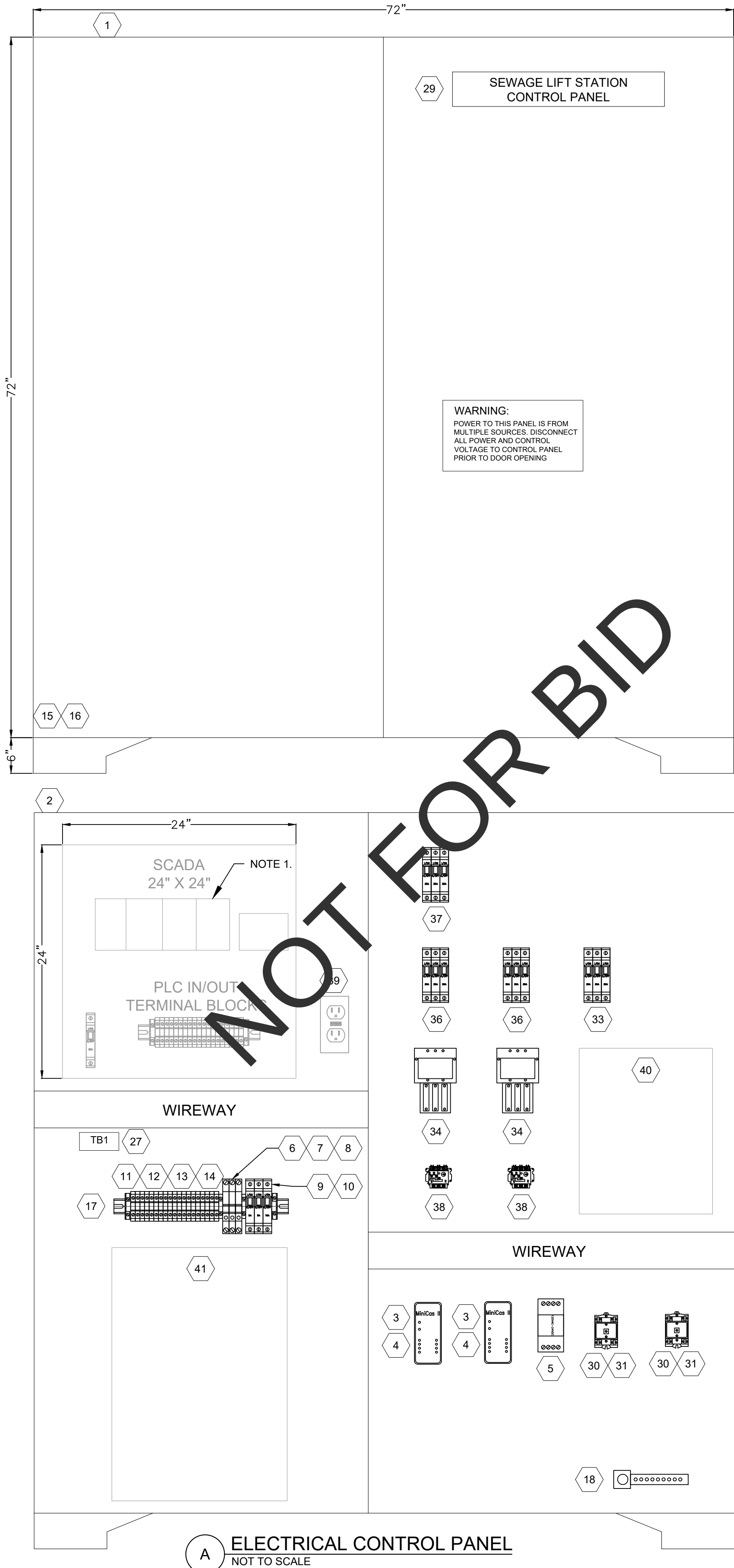


ELECTRICAL SITE PLAN
LAKEVIEW SEWER LIFT STATION REHABILITATION

SHEET 9 OF 12
CONTRACT
ACCOUNT
DWG. NO. E-02

Plotted By: Wuellner, Sam Sheet Set: Khs Layout: ELECTRICAL CONTROL PANEL July 25, 2023 05:01:15pm K:\SND_WATER\195068122 Lakeview Lift Station Rehab\Design\Plans\Plan Sheets\195068112 - ELV.dwg

BILL OF MATERIALS			
ITEM	BID ITEM NO.	QUANTITY	DESCRIPTION
1	11	1	ENCLOSURE NEMA 4X, 316 SS, 72"H. X 72"W. X 24"D., HOFFMAN
2	11	1	SUBPANEL, 33"H. X 71"W. HOFFMAN#A36P30PP
3	11	1	MINI CONTROL AND STATUS II, FLYGT# MINI-CAS II, 83 58 57
4	11	2	MINI-CAS RELAY BASE, FLYGT# MINI-CAS II, 83 58 67
5	11	1	120VAC/24VDC POWER SUPPLY 50VA, SQUARE D#9070T50D13
6	11	A/R	FUSE BLOCK, 1 POLE , DIN RAIL MOUNT, BUSSMAN#BC6031S
7	11	A/R	CLASS CC TIME DELAY FUSE 1/2 AMP, BUSSMAN#LP-CC-1/2
8	11	A/R	CLASS CC TIME DELAY FUSE 1/10 AMP, BUSSMAN#LP-CC-1/10
9	11	A/R	10 AMP, 1POLE, 120V CIRCUIT BREAKER, SQUARE D#QUO
10	11	A/R	5 AMP, 1POLE, 120V CIRCUIT BREAKER, SQUARE D#QUO
11	11	A/R	TERMINAL BLOCKS, PHOENIX CONTACT#UK10 SERIES
12	11	A/R	SEPARATING PLATE, PHOENIX CONTACT#UK10 SERIES
13	11	A/R	COVER, PHOENIX CONTACT#UK10 SERIES
14	11	A/R	UNIVERSAL END MOUNT, PHOENIX CONTACT#UK10 SERIES
15	11	A/R	1.25" WIDE WIREWAY, PANDUIT#G1X3LG6
16	11	A/R	1.25" WIDE WIREWAY COVER, PANDUIT#C1LG6
17	11	A/R	DIN RAIL, PHOENIX CONTACT#NS35
18	11	1	GROUND BAR KIT, STORM CU (CUSTOM)
19	11	1	CORROSION INHIBITOR (NOT SHOWN) HOFFMAN#AHC110E
20	11	2	INDICATING LIGHT GREEN, ALLEN-BRADLEY#800H-QPTH10G
21	11	2	INDICATING LIGHT RED, ALLEN-BRADLEY#800H-QPTH10R
22	11	3	INDICATING LIGHT AMBER, ALLEN-BRADLEY#800H-QPTH10A
23	11	1	INDICATING LIGHT WHITE, ALLEN-BRADLEY#800H-QPTH10W
24	11	4	STOP/START PUSH BUTTONS (RED/GREEN), ALLEN BRADLEY#800T-H2A
25	11	2	HAND/OFF/AUTO SELECTOR SWITCH, ALLEN-BRADLEY#800T-J2A
26	11	2	RESET PUSH BUTTON BLACK, ALLEN-BRADLEY#800T-A2
27	11	A/R	PHENOLIC PLASTIC, 1/8" THICK ENGRAVED CONDENSED BLOCK LETTERING ON WHITE BACKGROUND, SQUARE CORNERS, BEVELED FRONT EDGES, 1/4" LETTERING, ALLEN BRADLEY#800H
28	11	A/R	LARGE LEGEND PLATE, AUTOMOTIVE INDUSTRIAL TYPE, LAMINATED THERMOSET PLASTIC, ENGRAVED, BLACK ON WHITE LETTERING, 3/16" HIGH LETTERING, ALLEN-BRADLEY#800H
29	11	A/R	PHENOLIC PLASTIC, 1/8" THICK ENGRAVED CONDENSED BLOCK LETTERING ON WHITE BACKGROUND, SQUARE CORNERS, BEVELED FRONT EDGES, 1/2" LETTERING, ALLEN BRADLEY#800H
30	11	2	GENERAL PURPOSE RELAY, ALLEN BRADLEY#700-HA32Z24
31	11	2	SCREW TERMINAL TUBE BASE SOCKET, ALLEN-BRADLEY#700-HN125
32	11		HYDRORANGER, SURFACE MOUNT
33	11		15AMP, 2POLE, 480V CIRCUIT BREAKER, SQUARE D
34	11	2	FULL VOLTAGE NON REVERSING STARTER NEMA 1, SQUARE D
35	11	2	ELAPSED TIME METER CRAMER #635G 120VAC
36	11	2	30AMP, 3POLE, 480V CIRCUIT BREAKER, SQUARE D#QUO
37	11	2	ON-OFF DISCONNECT SWITCH. THROUGH THE DOOR DISCONNECT SHALL DISCONNECT ALL POWER AND CONTROL VOLTAGE TO CONTROL PANEL PRIOR TO DOOR OPENING PER NEC 404.3 AND 409.30.
38	11	2	SOLID STATE MOTOR OVERLOAD
39	11		RECEPTACLE, DUPLEX, 120VAC, 20A, COMMERCIAL GRADE MOUNTED IN HANDY BOX WITH COVER
40	11	1	5KVA, 480V-120/240V, 1 ϕ , 60HZ TRANSFORMER
41	11	1	30A, 120/240V, 1 ϕ , 22KAIC RATED, NEMA 1 DISTRIBUTION PANEL



- GENERAL NOTES
- EXISTING RTU PANEL TO REMAIN AND BE RE-CONNECTED TO NEW PUMP CONTROLS AND INSTRUMENTATION AS SHOWN. RTU RADIO, PANEL TERMINALS, SURGE PROTECTION, POWER SUPPLY AND BATTERY BACKUP TO BE CONSOLIDATED WITHIN NEW SECTION OF NEW NEW LIFT STATION CONTROL PANEL ENCLOSURE. SEE SHEET E-05 FOR MOUNTING DETAIL. ALL WORK, MATERIALS AND APPURTENANCES SHALL BE CONSIDERED PART OF THE TOTAL COST OF THE CONSTRUCTION BID.

LOAD CALCULATION		
LOAD DESCRIPTION		
PROPOSED LOADS	10HP PUMP	14.0 AMPS
	10HP PUMP	14.0 AMPS
	LP-1	4.5 AMPS
	25% (PER NEC)	3.5 AMPS
TOTAL LOAD (@480V, 3 PHASE)		36.0 AMPS
TOTAL KVA		30 KVA
SERVICE SIZE		200 AMPS
PERCENT LOADED		18 %

B CONTROL PANEL LOAD SUMMARY
NOT TO SCALE

SAN BERNARDINO COUNTY
COUNTY SERVICE AREA 64
DEPARTMENT OF PUBLIC WORKS - SPECIAL DISTRICTS
PROJECT MANAGEMENT DIVISION
222 W. HOSPITALITY LANE, 2ND FLOOR
SAN BERNARDINO, CA 92415-0763
(909) 386-8800

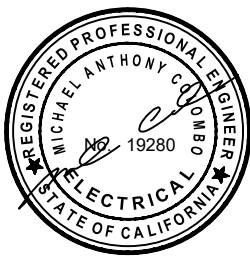
REVISIONS			
MARK	DATE	BY	APPROVED/RCR NO.

DESIGNED BY: EG	DATE: 7/12/2023
DRAWN BY: EG	DATE: 7/12/2023
CHECKED BY: MAC	DATE: 7/12/2023

SAN BERNARDINO COUNTY	
RECOMMENDED BY:	
NAME, TITLE	DATE
ACCEPTED BY:	
NAME, TITLE	DATE

BENCH MARK NO. N/A ELEV. N/A
LOCATION: N/A

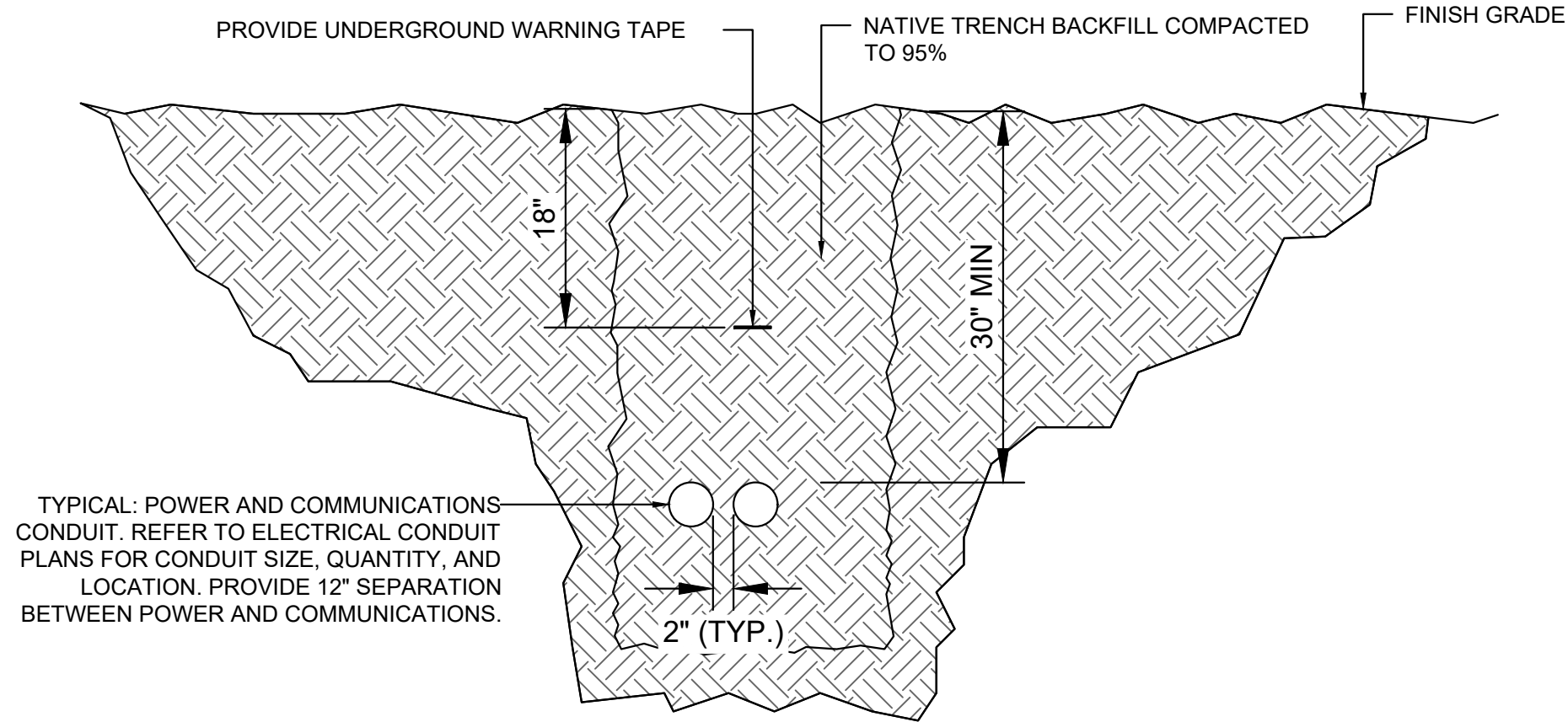
Kimley»Horn
401 B STREET, SUITE 600, SAN DIEGO, CA 92101
PHONE: (951) 543-9868 WWW.KIMLEY-HORN.COM
MICHAEL COLOMBO 19280 7/12/2023
PROJECT ENGINEER R.C.E. ## DATE



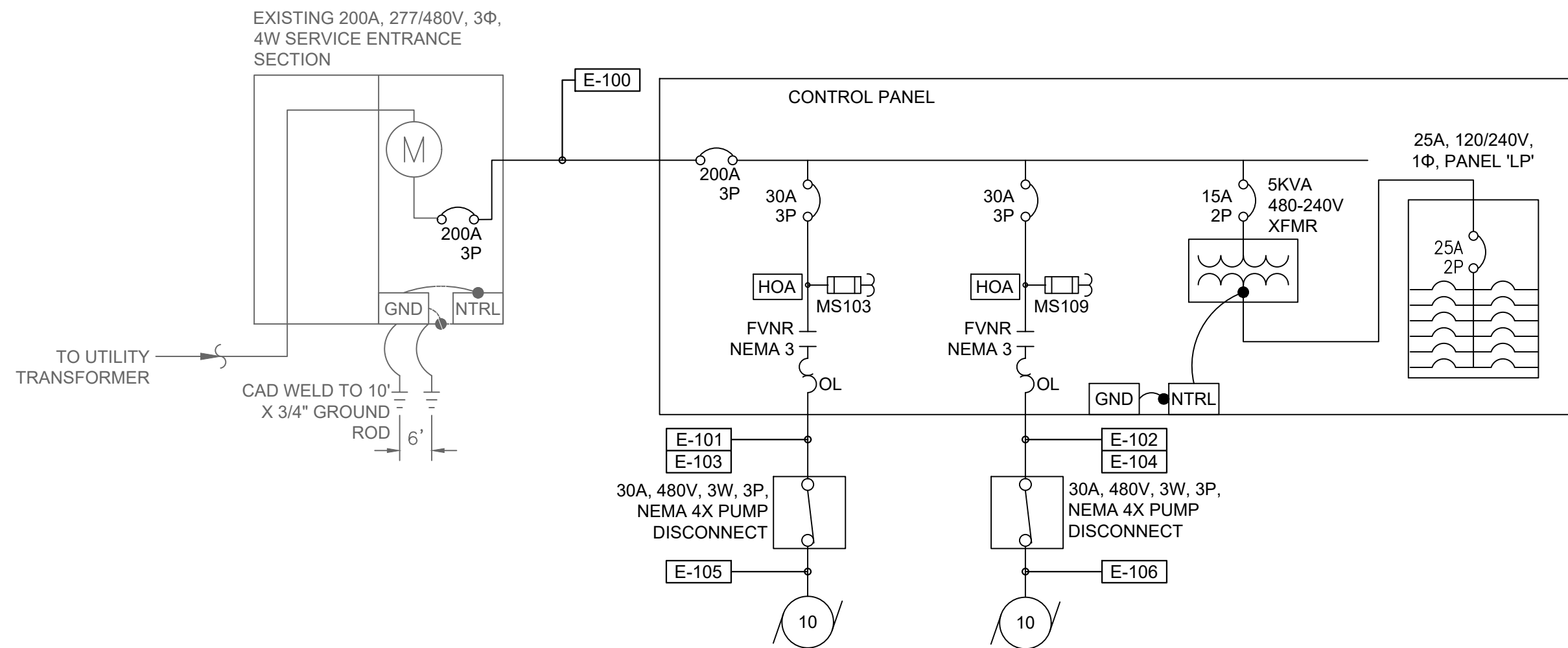
ELECTRICAL CONTROL PANEL
LAKEVIEW SEWER LIFT STATION REHABILITATION

SHEET 10 OF 12
CONTRACT
ACCOUNT
DWG. NO. E-02

Plotted By: Wuellner, Sam Sheet Set: Khs Layout: ELECTRICAL DETAILS July 25, 2023 05:01:29pm K:\SND_WATER\195068122 Lakeview Lift Station Rehab\Design\Plans\195068112 - EL DT.dwg



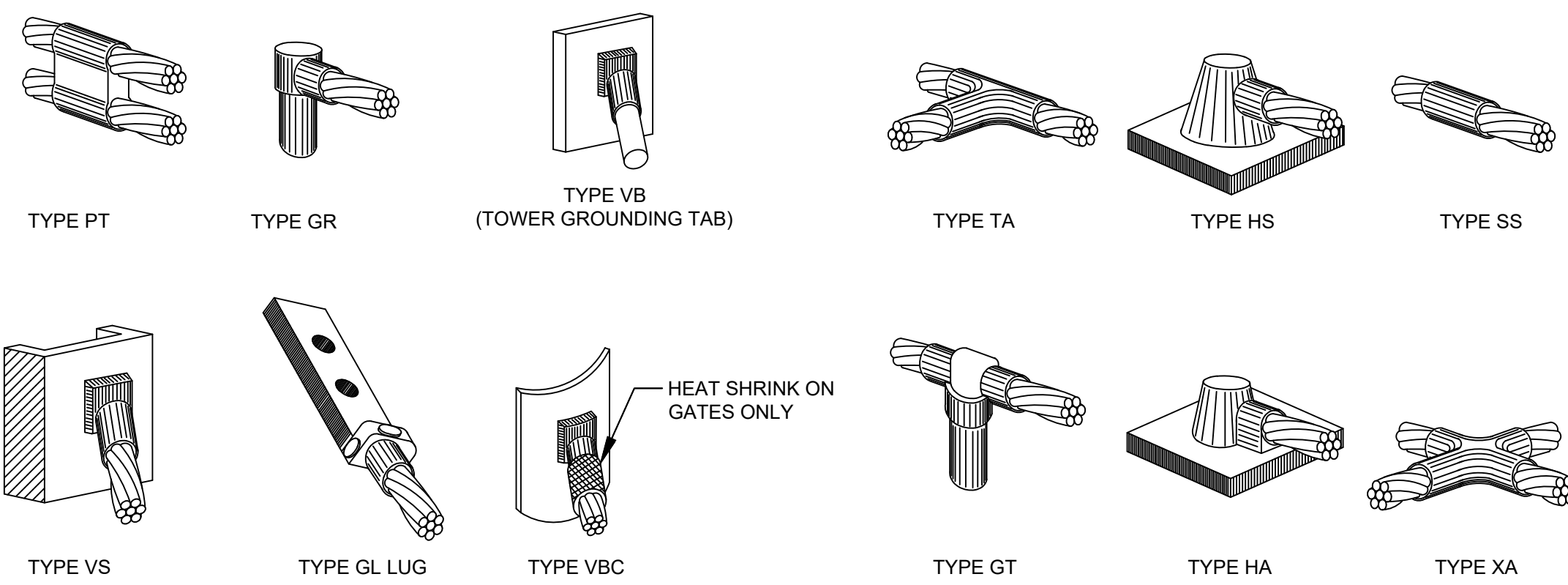
A TRENCH DETAIL
NOT TO SCALE



D SINGLE LINE DIAGRAM
NOT TO SCALE

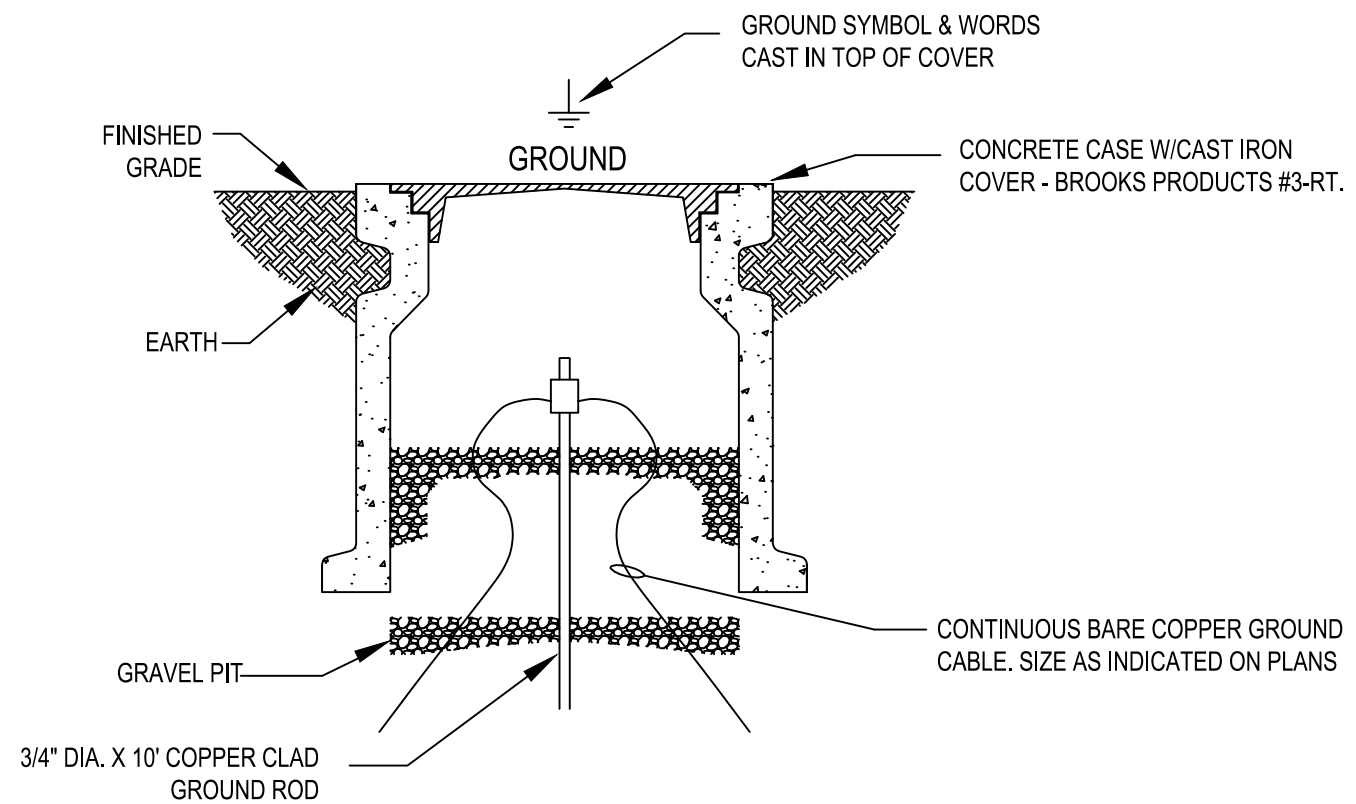
PANEL NAME: LP-1													
LOCATION: MDS				VOLTS: 120/240V				AIC RATING:		22K Fully Rated			
SUPPLY FROM: 5KVA				PHASES: 1				MAINS TYPE:		MCB			
MOUNTING: SURFACE				WIRES: 3				MAINS RATING:		30 A			
ENCLOSURE: NEMA 1								MCB RATING:		30 A			
CKT	CIRCUIT DESCRIPTION	LOAD TYPE	TRIP	POLES	A (VA)		B (VA)		POLES	TRIP	LOAD TYPE	CIRCUIT DESCRIPTION	CKT
1	PLC POWER	E	5	1	1,000	180			1	20	R	RECEPTACLE	2
3	CONTROL PANEL	E	20	1			1,000		1	20		SPARE	4
5													6
7													8
TOTAL LOAD:					1,180 VA		1,000 VA						
TOTAL AMPS:					9.8 A		8.3 A						
LOAD CLASSIFICATION				CONNECTED LOAD: (VA)		DEMAND FACTOR		EST. DEMAND (VA)		PANEL TOTALS			
LARGEST MOTOR LOAD (M)				0.0		125.00%		0.0		TOTAL CONN. LOAD (VA):		2180	
HVAC (H) & ALL OTHER MOTORS (M)				0.0		100.00%		0.0		TOTAL EST. DEMAND (VA):		2180	
RECEPTACLE (R)				180.0		100.00%		180.0		TOTAL CONN. (A):		9.1	
LIGHTING (L)				0.0		125.00%		0.0		TOTAL EST. DEMAND (A):		9.1	
EQUIPMENT (E)				2000.0		100.00%		2000.0		PERCENT LOADED:		30%	
OTHER (O) (SEE NOTES)				0.0		0.00%		0.0					

F 'LP1' PANEL SCHEDULE
NOT TO SCALE



NOTES:
1. CADWELD "TYPES" SHOWN ABOVE ARE EXAMPLES. PROVIDE APPROPRIATE TYPES AS REQUIRED.

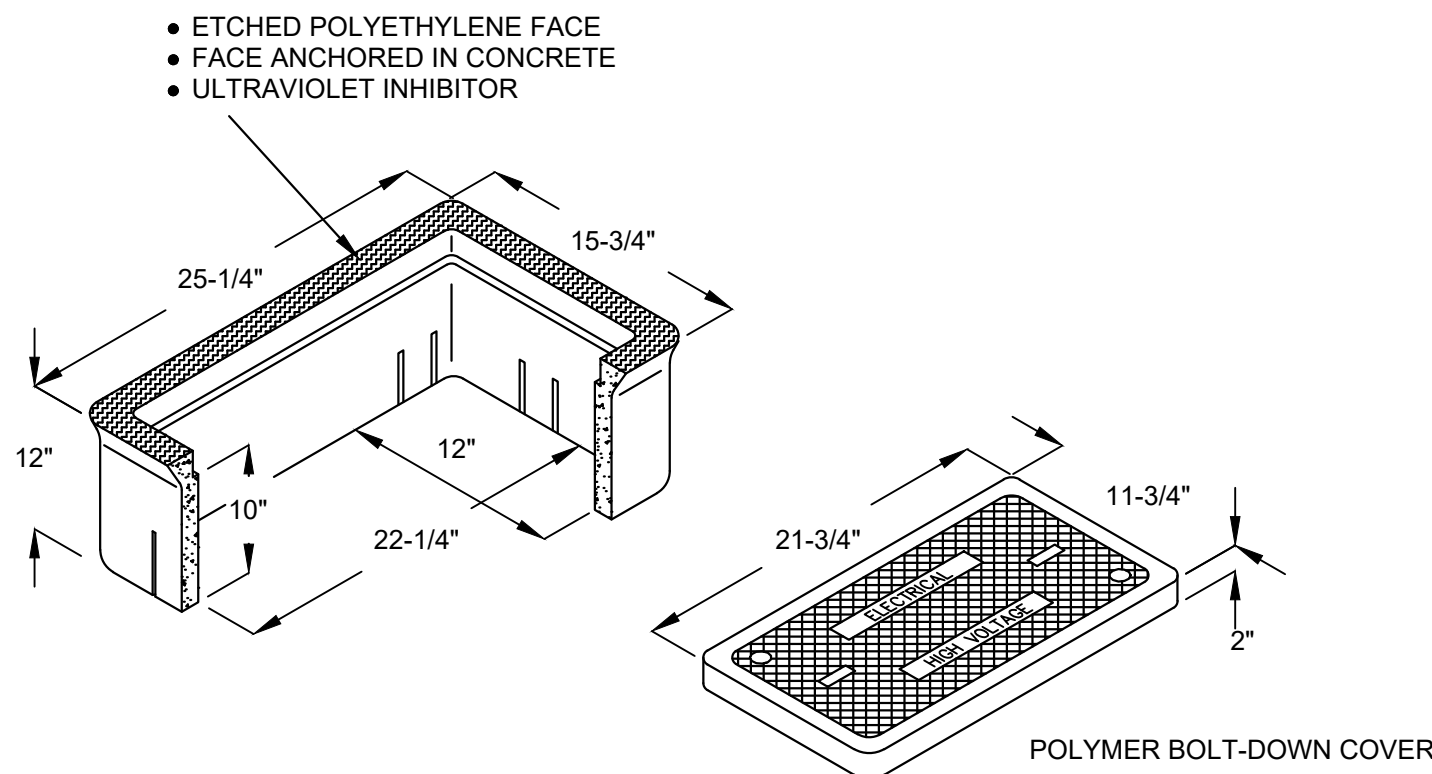
B TYPICAL CAD WELDS
NOT TO SCALE



C GROUND ROD DETAIL
NOT TO SCALE

CONDUIT SCHEDULE LS-A								
CONDUIT TAG	STATUS	CONDUIT TYPE	CONDUIT SIZE	APPROXIMATE CONDUIT LENGTH	FROM	TO	CONDUCTOR (EACH CONDUIT)	CONDUCTOR (EACH CONDUIT)
E-100	NEW	UG SCHED 40 PVC	2.5"	14 LF	METER	CONTROL PANEL	(4) #3/0 AWG + (1) #6 GND	POWER
E-101	NEW	UG SCHED 40 PVC	1"	60 LF	CONTROL PANEL	POWER PULLBOX	(3) #10 AWG + (1) #10 GND	PUMP #1 POWER
E-102	NEW	UG SCHED 40 PVC	1"	60 LF	CONTROL PANEL	POWER PULLBOX	(3) #10 AWG + (1) #10 GND	PUMP #2 POWER
E-103	NEW	UG SCHED 40 PVC/PVC COATED RGS	1"	4 LF	POWER PULLBOX	DISCONNECT #1	(3) #10 AWG + (1) #10 GND	PUMP 1 POWER
E-104	NEW	UG SCHED 40 PVC/PVC COATED RGS	1"	5 LF	POWER PULLBOX	DISCONNECT #2	(3) #10 AWG + (1) #10 GND	PUMP 2 POWER
E-105	NEW	PVC COATED RGS	3"	4 LF	DISCONNECT #1	PUMP #1	MANUFACTURER CABLE	SPLICE COMMS AND POWER AT DISCONNECT
E-106	NEW	PVC COATED RGS	3"	4 LF	DISCONNECT #2	PUMP #2	MANUFACTURER CABLE	SPLICE COMMS AND POWER AT DISCONNECT
C-100	NEW	UG SCHED 40 PVC	2"	60 LF	CONTROL PANEL	COMMUNICATIONS PULLBOX (SECTION 1)	6-PAIR #16 AWG	2 - FLOATS, 2 - LEAKAGE, 2-OVERTEMP SIGNALS
C-101	NEW	UG SCHED 40 PVC	1"	60 LF	CONTROL PANEL	COMMUNICATIONS PULLBOX (SECTION 2)	MANUFACTURER CABLE	ULTRASONIC SIGNAL
C-102	NEW	UG SCHED 40 PVC/PVC COATED RGS	1"	4 LF	COMMUNICATIONS PULLBOX (SECTION 1)	DISCONNECT #1	2-PAIR #16 AWG	PUMP 1 LEAKAGE AND OVERTEMP SIGNALS. SPLICE WITH MANUFACTURER CABLE AT DISCONNECT
C-103	NEW	UG SCHED 40 PVC/PVC COATED RGS	1"	5 LF	COMMUNICATIONS PULLBOX (SECTION 1)	DISCONNECT #2	2-PAIR #16 AWG	PUMP 2 LEAKAGE AND OVERTEMP SIGNALS. SPLICE WITH MANUFACTURER CABLE AT DISCONNECT
C-104	NEW	UG SCHED 40 PVC/PVC COATED RGS	1"	5 LF	COMMUNICATIONS PULLBOX (SECTION 1)	FLOAT J-BOX	2-PAIR #16 AWG	2-FLOAT SIGNALS
C-105	NEW	UG SCHED 40 PVC/PVC COATED RGS	1"	5 LF	COMMUNICATIONS PULLBOX (SECTION 2)	ULTRASONIC SENSOR J-BOX	MANUFACTURER CABLE	ULTRASONIC SIGNAL
C-106	NEW	PVC COATED RGS	3"	5 LF	FLOAT J-BOX	FLOATS	2-PAIR #16 AWG	2-FLOAT SIGNALS
C-107	NEW	PVC COATED RGS	3"	5 LF	ULTRASONIC SENSOR J-BOX	ULTRASONIC SENSOR	MANUFACTURER CABLE	MANUFACTURER CABLE
C-108	NEW	PVC COATED RGS	1"	4 LF	CONTROL PANEL	EXISTING ANTENNA	LMR 400	LMR400

E CONDUIT AND CONDUCTOR SCHEDULE
NOT TO SCALE



G PULL BOX DETAIL
NOT TO SCALE

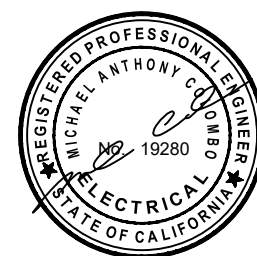


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ELECTRICAL DETAILS
LAKEVIEW SEWER LIFT STATION REHABILITATION

SHEET 12 OF 12
CONTRACT
ACCOUNT
DWG. NO. E-05