

COMMUNITY OF MILNER

WASTEWATER TREATMENT IMPROVEMENT PROJECT

FINAL DESIGN

OCTOBER 2023



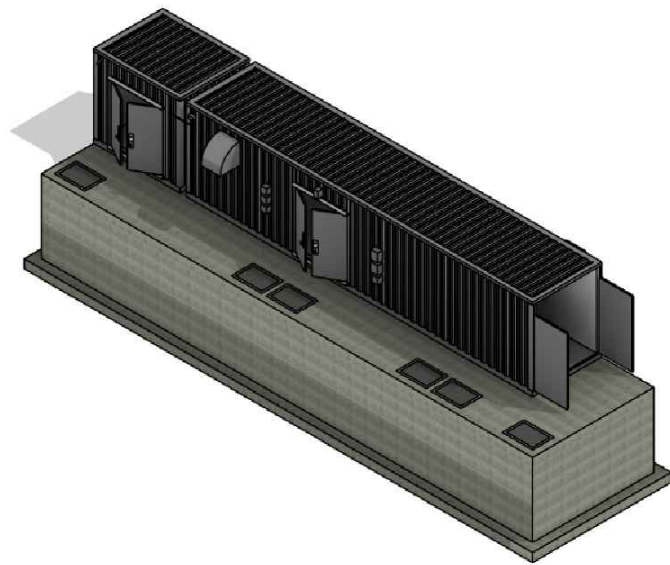
VICINITY MAP
NOT TO SCALE



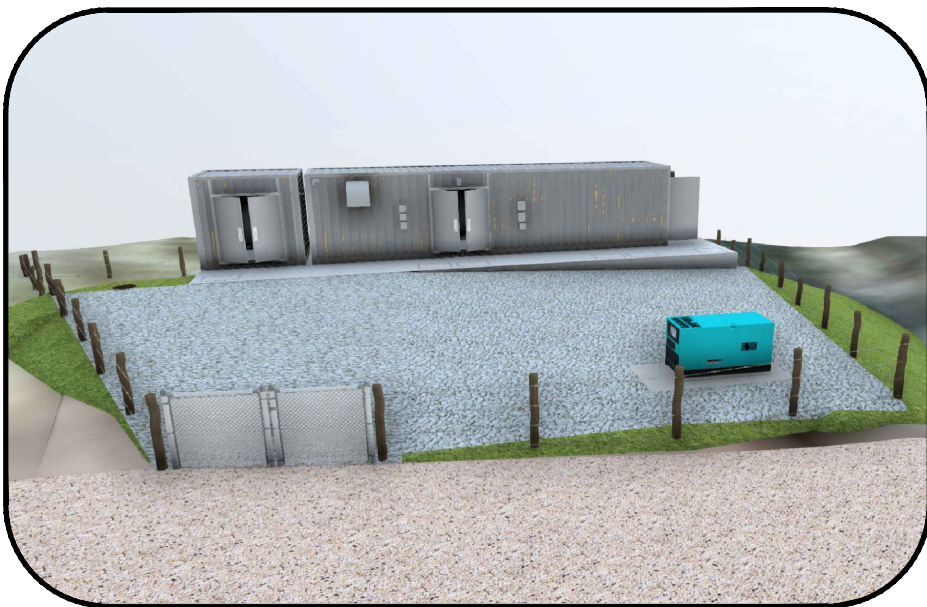
LOCATION MAP
NOT TO SCALE

SHEET INDEX	
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





















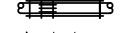

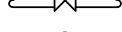



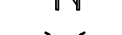
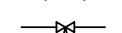
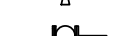


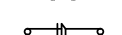
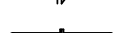
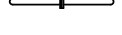


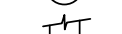































C13	EROSION CONTROL DETAILS
C14	CIVIL DETAILS
C15	CIVIL DETAILS II
C16	CIVIL DETAILS III
PROCESS	
P1	BUILDING ISOMETRICS & INSTALLATION NOTES
P2	CONCRETE TANK LID PLAN
P3	CONCRETE TANK EQUIPMENT
P4	PROCESS PLAN
P5	LIFT STATION PLAN
P6	PROCESS SECTION A
P7	PROCESS SECTION B
P8	PROCESS SECTION C
P9	PROCESS SECTIONS D
P10	PROCESS SECTION E & F
P11	P&ID LEGEND
P12	P&ID 1
P13	P&ID 2
P14	P&ID 3
P15	P&ID 4
STRUCTURAL	
S1	GENERAL STRUCTURAL NOTES
S2	STRUCTURAL OBSERVATION REQUIREMENT & ABBREVIATIONS
S3	CONCRETE TANK FOUNDATION PLAN
S4	CONCRETE TANK LID PLAN
S5	CONCRETE TANK SECTION
S6	CONCRETE TANK SECTION
S7	STRUCTURAL DETAILS
ELECTRICAL	
E1	ELECTRICAL NOTES & DETAILS
E2	ELECTRICAL LAYOUT
E3	ELECTRICAL ONE LINE & DETAILS


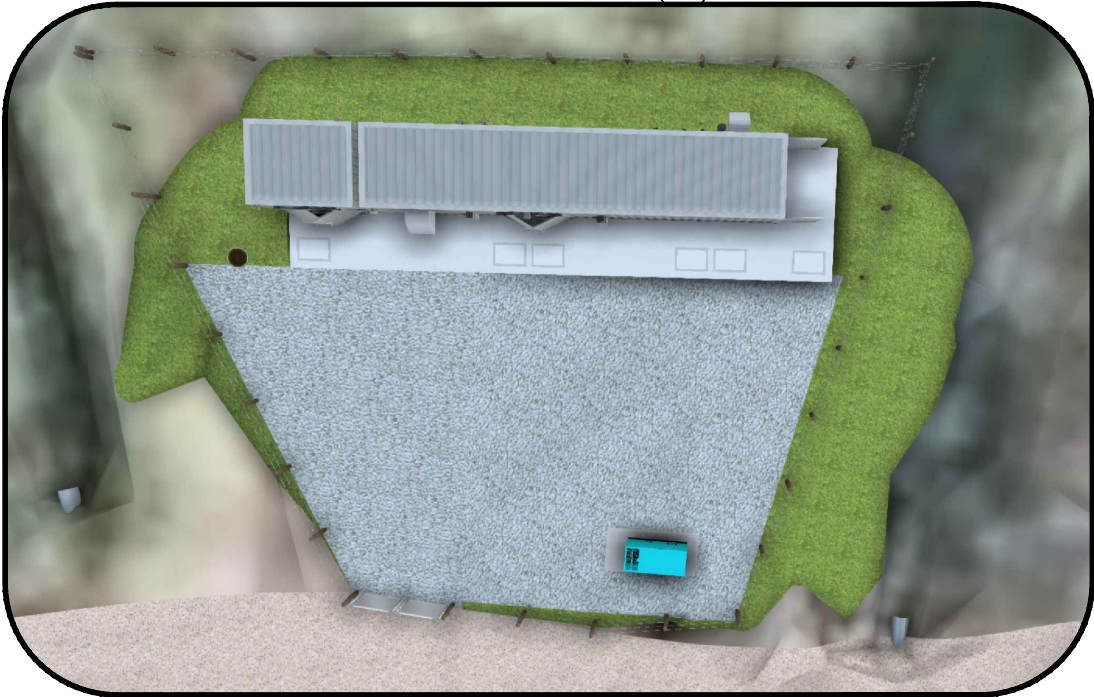
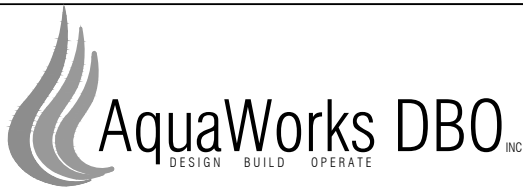


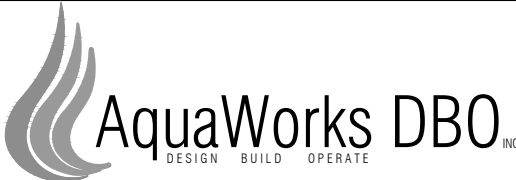
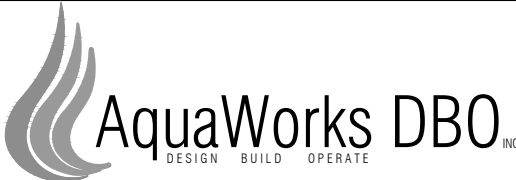
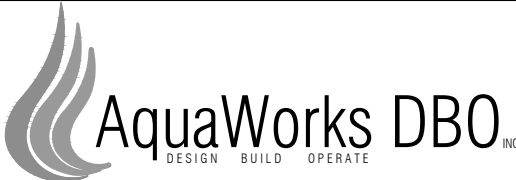
PROJECT ISOMETRIC
NTS



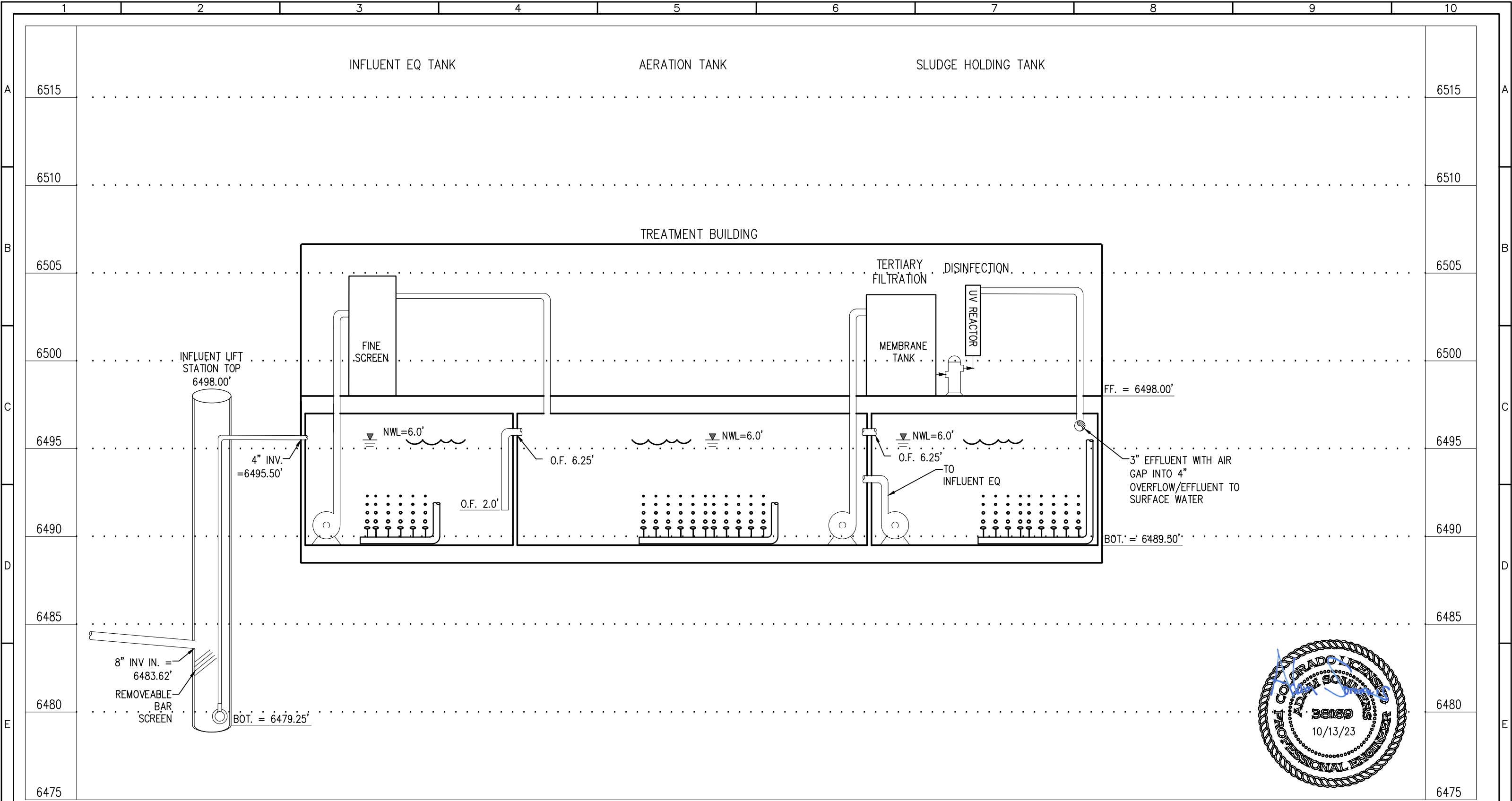
SITE PLAN
NTS

1		2		3		4		5		6		7		8		9		10	
AB ANCHOR BOLT ABC AGGREGATE BASE COURSE AC AIR CONDITIONING ACOUS ACOUSTICAL ACP ASPHALTIC CONCRETE ACTR ACTUATOR AD AREA DRAIN OR ACCESS DOOR ADDM ADDENDUM ADJ ADJUSTABLE AFF ABOVE FINISHED FLOOR AFG ABOVE FINISHED GRADE AHU AIR HANDLING UNIT AL ALUMINUM ALT ALTERNATE AMT AMOUNT APPROX APPROXIMATE ARV AIR RELIEF VALVE ASME AMERICAN SOCIETY OF MECHANICAL ENGINEERS ASTM AMERICAN SOCIETY FOR TESTING AND MATERIALS ASPH ASPHALT ASSY ASSEMBLY ATS AUTOMATIC TRANSFER SWITCH AVG AVERAGE AVS AUTOMATIC VALVE STATION		F/F FACE TO FACE FCA FLANGE COUPLING ADAPTER FD FLOOR DRAIN FDN FOUNDATION FED FEDERAL FES FLARED END SECTION FFE FINISH FLOOR ELEVATION FIN FINISH FL FLANGE FLL FLOW LINE FLR FLOOR FNC FENCE FOC FACE OF CONCRETE FPM FEET PER MINUTE FPS FEET PER SECOND FPW FIRE PROTECTION WATER SUPPLY FR FRAME FRP FIBERGLASS REINFORCED PLASTIC FSTNR FASTENER FT FEET FTG FOOTING OR FITTING FUR FURNACE		MG MILLION GALLONS OR MILLIGRAMS MGD MILLION GALLONS PER DAY MGMT MANAGEMENT MH MANHOLE MIN MINIMUM MISC MISCELLANEOUS MJ MECHANICAL JOINTS MO MASONRY OPENING MRGYB MOISTURE RESISTANT GYPSUM WALL BOARD MTG MOUNTING		N NITROGEN NA NOT APPLICABLE NAOCL SODIUM HYPOCHLORITE NF NEAR FACE NIC NOT IN CONTRACT NP NO PAINT NPL NAME PLATE NPT NATIONAL PIPE THREAD NPW NON-POTABLE WATER NRS NON-RISING STEM NS NEAR SIDE NTS NOT TO SCALE		SA SALV SAN SANITARY SB SPLASH BLOCK SCFM STANDARD CUBIC FEET PER MINUTE SCH SCHEDULE SCRN SCREEN SD STORM DRAIN SDR STANDARD DIMENSION RATIO SECT SECTION SHLDR SHOULDER SHT SHEETING SHTHG SHEATHING SIM SIMILAR SLV SLEEVE SM SMOOTH SP SPACING SPEC SPECIFICATION SQ SQUARE SQ FT SQUARE FEET SQ IN SQUARE INCH SQ YD SQUARE YARD SS SANITARY SEWER SST STAINLESS STEEL SST BT STAINLESS STEEL BOLT ST STREET STA STATION STD STANDARD STL STEEL STL JST STEEL JOIST STL PL STEEL PLATE SUPP SUPPLY SUSP CLG SUSPENDED CEILING SV SOLENOID VALVE SVC SERVICE SW SIDEWALK SWMP STORM WATER MANAGEMENT PLAN SYMM SYMMETRICAL SYS SYSTEM		WTR WATER WTRPRF WATERPROOF(ING) X-SECT CROSS SECTION YCO YARD CLEANOUT YD YARD DRAIN YH YARD HYDRANT				                      		                    		                       	
B BLOWER B&F BELL & FLANGE BB BOND BEAM BAF BAFFLE BC BACK OF CURB BE BELL END BF BOTTOM FACE BFV BUTTERFLY VALVE BLDG BUILDING BLK BLOCK BM BENCHMARK BMPS BEST MANAGEMENT PRACTICES BOD BIOCHEMICAL OXYGEN DEMAND BOT BOTTOM OR BOTTOM OF TANK BP BOOSTER PUMP BS BACKSIGHT BSMT BASEMENT BU BELL UP BV BALL VALVE BCV BUTTERFLY CHECK VALVE BWL BOTTOM WATER LEVEL		G GAS GA GAUGE GAL GALLON GALV GALVANIZED GIP GALVANIZED IRON PIPE GRND GROUND GPD GALLONS PER DAY GPM GALLONS PER MINUTE GR BM GRADE BEAM GRC GALVANIZED RIGID CONDUIT GRTG GRATING GSP GALVANIZED STEEL PIPE GV GATE VALVE GWB GYPSUM WALL BOARD		H HIGH HB HOSE BIB HDWL HEAD WALL HNDRL HAND RAIL HNDWL HANDWHEEL HORIZ HORIZONTAL HP HORSEPOWER HPT HYDRO-PNEUMATIC PRESSURE TANK HR HOUR HS HIGH STRENGTH HVAC HEATING, VENTILATION, AIR CONDITIONING HW HOT WATER HWL HIGH WATER LEVEL HWY HIGHWAY HYD HYDRANT		OC ON CENTER OD OUTSIDE DIAMETER OF OVER FLOW OPNG OPENING OPP OPPOSITE OPT OPTIONAL P PUMP PA PIPE ANCHOR PAR PARALLEL PC PORTLAND CEMENT PCO PRESSURE CLEAN OUT PCP PROGRESSING CAVITY PUMP PD PUMP DISCHARGE LINE PE PLAIN END PERM PERMANENT PERP PERPENDICULAR PG PRESSURE GAGE PL PLATE OR PROPERTY LINE PLBG PLUMBING PLYWD PLYWOOD PNT PAINT POLY POLYETHYLENE PORT PORTABLE POS POSITIVE PPM PARTS PER MILLION PRCST PRECAST PREFAB PREFABRICATED PREFIN PREFINISHED PRELIM PRELIMINARY PREP PREPARATION PROJ PROJECT PROP PROPERTY PRS PRESSURE REDUCING STATION PRTV PRESSURE / TEMPERATURE RELIEF VALVE PRV PRESSURE REDUCING VALVE PS PIPE SUPPORT PSF POUNDS PER SQUARE FOOT PSI POUNDS PER SQUARE INCH PSIA POUNDS PER SQUARE INCH ABSOLUTE PSIG POUNDS PER SQUARE INCH GAGE PV PLUG VALVE PVMT PAVEMENT PW POTABLE WATER		T TEE T&B TOP AND BOTTOM T&G TONGUE AND GROOVE T&P TEMPERATURE AND PRESSURE TB TOP OF BEAM TBM TEMPORARY BENCH MARK TE TOP ELEVATION TEMP TEMPORARY TF TOP OF FOOTING TFA TO FLOOR ABOVE TFB TO FLOOR BELOW TFF TOP OF FINISH FLOOR THD THREAD(ED) THK THICK TJ TOP OF JOIST TOB TOP OF BANK TOC TOP OF CONCRETE TOE THREADED ONE END TOF TOP OF FOOTING TOT TOTAL TP TOP OF PAVEMENT TR TOP OF RIM TSL TOP OF SLAB TST TOP OF STEEL TW TOP OF WALL TWM TOP WATER LEVEL TYP TYPICAL		SECTION LETTER IDENTIFICATION SHEET WHERE THE SECTION OR ELEVATION IS DRAWN - INDICATES SAME DRAWING SECTION OR ELEVATION MARKER ARROW INDICATES VIEWING ORIENTATION SECTION 1/4"=1'-0" A 4 SECTION OR ELEVATION TITLE DETAIL 1/4"=1'-0" 1 4 DETAIL NUMBER IDENTIFICATION SHEETS WHERE THE DETAIL IS CALLED OUT - INDICATES SAME DRAWING DETAIL TITLE DETAIL MARKER A 4 DETAIL NUMBER IDENTIFICATION SHEET WHERE THE DETAIL IS DRAWN - INDICATES SAME DRAWING									
C/C CENTER TO CENTER CB CATCH BASIN CCW COUNTER CLOCKWISE CDOT COLORADO DEPARTMENT OF TRANSPORTATION CEB CONCRETE EQUIPMENT BASE CIP CAST IRON PIPE CIMJ CAST IRON MECHANICAL JOINT CISP CAST IRON SOIL PIPE CJ CONSTRUCTION JOINT CL CENTER LINE OR CHAIN LINK CLG CEILING CLR CLEAR CMP CORRUGATED METAL PIPE CMU CONCRETE MASONRY UNIT CO CLEAN OUT CONSTR CONSTRUCTION CONT CONTINUOUS COR CORNER CP CENTRIFUGAL PUMP CPLG COUPLING CR CONCRETE REDUCER CTJ CONTROL JOINT CTR CENTER CS CAUSTIC SODA CW COLD WATER CWL CONTROL WATER LEVEL CY CUBIC YARDS		INCL INCLUDED INCR INCREASER ID INSIDE DIAMETER IF INSIDE FACE INL INLET INSTL INSTALLATION INSTR INSTRUMENT INSUL INSULATION INTR INTERIOR INV INVERT INV EL INVERT ELEVATION ISA INSTRUMENT SOCIETY OF AMERICA ISO ISOMETRIC		JST JOIST JTS JOINTS		QAVG AVERAGE DAILY FLOW QMAX MAXIMUM DAILY FLOW QPEAK PEAK HOUR FLOW QCV QUICK COUPLER VALVE QTR QUARTER QTY QUANTITY		UNIFORM BUILDING CODE UNDERGROUND ELECTRIC UNDERGROUND ULTIMATE UNION UNDERGROUND NATURAL GAS UNFINISHED UNIFORM ULTRAVIOLET		SECTION LETTER IDENTIFICATION SHEET WHERE THE SECTION OR ELEVATION IS CUT OR CALLED OUT - INDICATES SAME DRAWING SECTION OR ELEVATION MARKER ARROW INDICATES VIEWING ORIENTATION SECTION 1/4"=1'-0" A 4 SECTION OR ELEVATION TITLE DETAIL 1/4"=1'-0" 1 4 DETAIL NUMBER IDENTIFICATION SHEETS WHERE THE DETAIL IS CALLED OUT - INDICATES SAME DRAWING DETAIL TITLE DETAIL MARKER A 4 DETAIL NUMBER IDENTIFICATION SHEET WHERE THE DETAIL IS DRAWN - INDICATES SAME DRAWING									
DEMO DEMOLITION DI DEIONIZATION DIA DIAMETER DIAG DIAGONAL DIM DIMENSION DIP DUCTILE IRON PIPE DIS DISCHARGE DISP DISPENSER DL DEAD LOAD DMJ DUCTILE MECHANICAL JOINT DN DOWN DR DRAIN DWG DRAWING DWL DOWEL DWN DRAIN DWV DRAIN WASTE AND VENT		L LEFT OR LITER LAB LABORATORY LATL LATERAL LAV LAVATORY LB(S) POUND(S) LCMU LIGHTWEIGHT CONCRETE MASONRY UNIT LF LINEAR FOOT LKR LOCKER LL LIVE LOAD OR LOW LEVEL LNG LENGTH LOC LOCATION LP LOW PRESSURE OR LIGHT POLE LRG LARGE LT LIGHT LT WT LIGHT WEIGHT LWC LIGHT WEIGHT CONCRETE LWL LOW WATER LEVEL		JST JOIST JTS JOINTS		QAVG AVERAGE DAILY FLOW QMAX MAXIMUM DAILY FLOW QPEAK PEAK HOUR FLOW QCV QUICK COUPLER VALVE QTR QUARTER QTY QUANTITY		UNIFORM BUILDING CODE UNDERGROUND ELECTRIC UNDERGROUND ULTIMATE UNION UNDERGROUND NATURAL GAS UNFINISHED UNIFORM ULTRAVIOLET		SECTION LETTER IDENTIFICATION SHEET WHERE THE SECTION OR ELEVATION IS CUT OR CALLED OUT - INDICATES SAME DRAWING SECTION OR ELEVATION MARKER ARROW INDICATES VIEWING ORIENTATION SECTION 1/4"=1'-0" A 4 SECTION OR ELEVATION TITLE DETAIL 1/4"=1'-0" 1 4 DETAIL NUMBER IDENTIFICATION SHEETS WHERE THE DETAIL IS CALLED OUT - INDICATES SAME DRAWING DETAIL TITLE DETAIL MARKER A 4 DETAIL NUMBER IDENTIFICATION SHEET WHERE THE DETAIL IS DRAWN - INDICATES SAME DRAWING									
EA EACH ECC ECCENTRIC EF EACH FACE OR ELECTRICAL FAN EFF EFFLUENT EJ EXPANSION JOINT EL ELEVATION EXIST OR (E) EXISTING EXIST GR EXISTING GRADE EXT EXTERIOR EXTN EXTENSION		MAINT MAINTENANCE MAN MANUAL MATL MATERIAL MAX MAXIMUM MCC MOTOR CONTROL CENTER MECH MECHANICAL MED MEDIUM MFM MAGNETIC FLOW METER MFR MANUFACTURER		JST JOIST JTS JOINTS		QAVG AVERAGE DAILY FLOW QMAX MAXIMUM DAILY FLOW QPEAK PEAK HOUR FLOW QCV QUICK COUPLER VALVE QTR QUARTER QTY QUANTITY		UNIFORM BUILDING CODE UNDERGROUND ELECTRIC UNDERGROUND ULTIMATE UNION UNDERGROUND NATURAL GAS UNFINISHED UNIFORM ULTRAVIOLET		SECTION LETTER IDENTIFICATION SHEET WHERE THE SECTION OR ELEVATION IS CUT OR CALLED OUT - INDICATES SAME DRAWING SECTION OR ELEVATION MARKER ARROW INDICATES VIEWING ORIENTATION SECTION 1/4"=1'-0" A 4 SECTION OR ELEVATION TITLE DETAIL 1/4"=1'-0" 1 4 DETAIL NUMBER IDENTIFICATION SHEETS WHERE THE DETAIL IS CALLED OUT - INDICATES SAME DRAWING DETAIL TITLE DETAIL MARKER A 4 DETAIL NUMBER IDENTIFICATION SHEET WHERE THE DETAIL IS DRAWN - INDICATES SAME DRAWING									
REV. No:		DATE:		BY:		REVISION DESCRIPTION:		DRAWN BY: AS		PROJECT: MILNER COLORADO WWTP COMMUNITY OF MILNER ROUTT COUNTY, COLORADO		SHEET TITLE: ABBREVIATIONS & SYMBOLS		PROJECT NUMBER: 7829		SCALE: NOT TO SCALE		SHEET: G2	
								DESIGNED BY: AS		ENGINEER: AQUAWORKS DBO, INC. 3252 WILLIAMS STREET DENVER, COLORADO 80205 (303) 477-5915									
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								COPYRIGHT: AQUAWORKS DBO, INC.											
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	1	2	3	4	5	6	7	8	9	10																																									
A	GENERAL NOTES:				REQUIREMENTS:				PROJECT TEAM:																																										
	1. PROJECT ADDRESS: MAIN ST SOUTH OF U.S. 40, MILNER, CO 80487.				ALL MATERIALS FOR POTABLE WATER SERVICE SHALL BE NSF 61 CERTIFIED DISINFECTION SYSTEMS B300-04 AWWA STANDARD FOR HYPOCHLORITES				SYSTEM OWNER: COMMUNITY OF MILNER MR. SCOTT COWMAN 136 6TH STREET STEAMBOAT SPRINGS, CO 80487 ROUTT COUNTY ENVIRONMENTAL HEALTH (970) 870-5588																																										
	2. PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION, THE CONTRACTOR SHALL GIVE THE OWNER SEVENTY-TWO (72) HOURS ADVANCE NOTICE.				ELECTRICAL: 1. CONTRACTOR TO COORDINATE MODIFICATIONS TO EXISTING ELECTRICAL SERVICE WITH UTILITY AND OWNER.																																														
B	3. NO BELOW GRADE UTILITIES WERE LOCATED FOR THIS PLAN SET. CONTRACTOR IS RESPONSIBLE TO VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION AND TO COORDINATE WITH THE APPROPRIATE UTILITY COMPANY. CONTRACTOR IS RESPONSIBLE TO PROTECT UTILITIES DURING CONSTRUCTION. IF A CONFLICT EXISTS AND/OR A DESIGN MODIFICATION IS REQUIRED, OWNER AND CONTRACTOR SHALL COORDINATE WITH ENGINEER TO MODIFY THE DESIGN. DESIGN MODIFICATION(S) MUST BE APPROVED BY THE OWNER PRIOR TO BEGINNING CONSTRUCTION AFFECTED. FOR UTILITY LOCATE INFORMATION, CONTACT UNCC: (800) 922-1987.				2. REFER TO ELECTRICAL DRAWINGS.																																														
	4. ACTUAL LOCATIONS, DISTANCES, AND ELEVATIONS WILL BE GOVERNED BY ACTUAL FIELD CONDITIONS. CONTRACTOR TO FIELD VERIFY CONDITIONS AND REPORT ANY DISCREPANCIES TO THE ENGINEER.				PROCESS PIPING: 1. CONTRACTOR TO PROVIDE ALL SUPPORTS AS REQUIRED.				CIVIL PROCESS ENGINEER: AQUAWORKS DBO, INC. MR. ADAM SOMMERS, P.E. 3252 WILLIAMS STREET DENVER, CO 80205 (303) 477-5915																																										
	5 CONTRACTOR SHALL BE REQUIRED TO RESTORE THE ROUTE OF WORK AND ANY DAMAGED EXISTING LANDSCAPE, STRUCTURES, OR IMPROVEMENTS AS THE RESULT OF WORK TO ORIGINAL CONDITION OR BETTER PRIOR TO ACCEPTANCE OF WORK. CONTRACTOR RESPONSIBLE FOR RESTORING SITE TO PRE-CONSTRUCTION CONDITION.				2. ALL PVC PROCESS PIPING SHALL BE SCH 80 UNLESS OTHERWISE NOTED.																																														
C	6. NO UTILITY SERVICE MAY BE DISCONNECTED WITHOUT PRIOR APPROVAL OF THE OWNER OR OWNER'S REPRESENTATIVE.				PIPING IDENTIFICATION REQUIREMENTS: 1. INCLUDE FLOW DIRECTION ARROW TAPE ON ALL PIPING.				STRUCTURAL ENGINEER: WALLACE STRUCTURAL CONSULTANTS MR. STEVE JACOB, P.E. 9800 PYRAMID CT, #305 ENGLEWOOD, CO 80112 (918) 806-7339																																										
	7. CONTRACTOR TO PROVIDE AND MAINTAIN TEMPORARY PORTABLE RESTROOM FACILITIES FOR THE DURATION OF THE PROJECT.				2. ALL PIPING SHALL EITHER BE PAINTED OR LABELED USING THE FOLLOWING COLOR SCHEDULE (NOT ALL MAY BE INCLUDED WITH THIS PROJECT):				ELECTRICAL ENGINEER: DYNAMIC MEP CONSULTING ENGINEERS MR. MIKE BRUNGARDT, P.E. PO BOX 280782 DENVER, CO 80228 (303) 421-3208																																										
	8. CONTRACTOR SHALL EXHIBIT NECESSARY SAFETY PRECAUTIONS DURING CONSTRUCTION, WHICH INCLUDES, BUT IS NOT LIMITED TO, SIGNAGE, SECURITY, AND EXCAVATION AS SET FORTH BY OSHA, PUBLICATION 2226, "EXCAVATION AND TRENCHING OPERATIONS."				PROCESS LINES SEWAGE SLUDGE POTABLE WATER NON-POTABLE WATER RECLAIMED WATER				OPERATOR IN RESPONSIBLE CHARGE: MR. SCOTT SMITH PO BOX 1078 CLARK, CO 80428 (970) 846-9732																																										
D	9. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROCUREMENT OF ALL PERMITS NECESSARY FOR THE CONSTRUCTION OF THE IMPROVEMENTS SHOWN.				CHEMICAL LINES ALUM OR PRIMARY COAGULANT AMMONIA CARBON SLURRY CAUSTIC CHLORINE OZONE POLYMERS OR COAGULANTS POTASSIUM PERMANGANATE SODA ASH																																														
	10. CONTRACTOR SHALL VERIFY INVERT ELEVATIONS OF EXISTING MANHOLES, SEWER PIPES, STRUCTURES, AND OUTFALLS PRIOR TO CONSTRUCTION.				ORANGE WHITE BLACK YELLOW WITH GREEN BAND YELLOW YELLOW WITH ORANGE BAND ORANGE WITH GREEN BAND PURPLE WITH GREEN BAND LIGHT GREEN WITH ORANGE BAND																																														
	11. THE CONTRACTOR SHALL MAINTAIN ON SITE A FULL SET OF CONSTRUCTION DRAWINGS, RECORDING ALL INFORMATION PERTAINING TO THE CONSTRUCTION OF THE WASTEWATER TREATMENT PLANT IMPROVEMENTS. THESE RECORD DRAWINGS SHALL BE PROVIDED TO THE OWNER UPON COMPLETION OF THE PROJECT.				OTHER COMPRESSED AIR GAS																																														
E	12. HORIZONTAL AND VERTICAL DEFLECTION OF THE PIPES SHALL NOT EXCEED MANUFACTURER'S RECOMMENDATIONS FOR THE PIPE MATERIAL AND TEST PRESSURE SPECIFIED.				DARK GREEN RED																																														
	13. CONTRACTOR SHALL NOT SCALE FROM DRAWINGS FOR CONSTRUCTION PURPOSES. ANY MISSING DIMENSIONS OR DISCREPANCIES IN PLANS, FIELD STAKING, FIELD CONDITIONS OR PHYSICAL FEATURES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER. IF CONTRACTOR PROCEEDS WITH THE WORK WITHOUT NOTIFYING ENGINEER HE DOES SO AT HIS OWN RISK.																																																		
	14. IF CONFLICTS, QUESTIONS OR INTERPRETATION ARE REQUIRED CONTACT THE ENGINEER IN WRITING WITH A REQUEST FOR INFORMATION (RFI).																																																		
F	BUILDING REQUIREMENTS:																																																		
	1. CONTRACTOR TO CONFORM TO CURRENT EDITION IBC, ROUTT COUNTY BUILDING CODES, AND OTHER APPLICABLE LOCAL CODES.																																																		
	2. MAINTAIN EXISTING PORTABLE FIRE EXTINGUISHERS THROUGHOUT THE BUILDING PER IFC AND NFPA 10.																																																		
																																																			
																																																			
								PROJECT VIEW NTS																																											
<table><tr><td>REV. No:</td><td>DATE:</td><td>BY:</td><td>REVISION DESCRIPTION:</td><td>DRAWN BY: AS</td></tr><tr><td></td><td></td><td></td><td></td><td>DESIGNED BY: AS</td></tr><tr><td></td><td></td><td></td><td></td><td>FILE PRINTED ON: 10/13/2023 12:50:29 PM</td></tr><tr><td></td><td></td><td></td><td></td><td>COPYRIGHT: AQUAWORKS DBO, INC.</td></tr><tr><td></td><td></td><td></td><td></td><td>0 1 IF THIS BAR DOES NOT READ 1"</td></tr><tr><td></td><td></td><td></td><td></td><td>DRAWING IS NOT LABELED TO SCALE</td></tr></table>				REV. No:	DATE:	BY:	REVISION DESCRIPTION:	DRAWN BY: AS					DESIGNED BY: AS					FILE PRINTED ON: 10/13/2023 12:50:29 PM					COPYRIGHT: AQUAWORKS DBO, INC.					0 1 IF THIS BAR DOES NOT READ 1"					DRAWING IS NOT LABELED TO SCALE					<table><tr><td colspan="2">PROJECT: MILNER COLORADO WWTP COMMUNITY OF MILNER ROUTT COUNTY, COLORADO</td><td colspan="2">SHEET TITLE: GENERAL NOTES & REQUIREMENTS</td></tr><tr><td colspan="2">ENGINEER: AQUAWORKS DBO, INC. 3252 WILLIAMS STREET DENVER, COLORADO 80205 (303) 477-5915</td><td>PROJECT NUMBER: 7829</td><td>SCALE: NOT TO SCALE</td></tr><tr><td colspan="2"></td><td colspan="2">SHEET: G3</td></tr></table>		PROJECT: MILNER COLORADO WWTP COMMUNITY OF MILNER ROUTT COUNTY, COLORADO		SHEET TITLE: GENERAL NOTES & REQUIREMENTS		ENGINEER: AQUAWORKS DBO, INC. 3252 WILLIAMS STREET DENVER, COLORADO 80205 (303) 477-5915		PROJECT NUMBER: 7829	SCALE: NOT TO SCALE			SHEET: G3	
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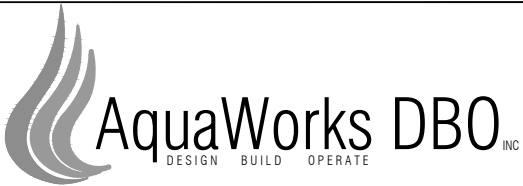
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A	DESIGN CRITERIA SUMMARY:			MAJOR EQUIPMENT SUMMARY:		MAJOR EQUIPMENT SUMMARY:		MAJOR EQUIPMENT SUMMARY:		MAJOR EQUIPMENT SUMMARY:																																																														
	DESIGN FLOWS: MAX MONTH (DESIGN) FLOW: 32,500 GPD PEAK DAILY FLOW: 54,167 GPD PEAK INSTANTANEOUS FLOW: 68 GPM			MEMBRANE BASIN BLOWERS: QUANTITY: 2 DUTY, 1 SHELF SPARE TAG NO.: B-0601 & B-0603 TYPE: REGENERATIVE MRF/MODEL: FPZ SCL R30-MD-3 MOTOR: 3.0 HP POWER: 115/208-230/1PH/60HZ SPEED CONTROL: CONSTANT SPEED DESIGN FLOW: 29.8 SCFM DESIGN PRESSURE: 6.0 PSIG		AEROBIC BASIN: QUANTITY: 1 ZONE TAG NO.: TNK-501 BASIN SIZE: 18.0 FT L X 12.0 FT W SIDE WATER DEPTH: 6.0 FT WORKING VOLUME: 9,697 GALLONS		MEMBRANE BACKPULSE PUMP: QUANTITY: 1 DUTY, 1 STANDBY TAG NO.: P-0801 & P-0802 MFR/MODEL: GOULDS 1ST2C9D4 CAPACITY: 12.5 GPM @ 18 FT MOTOR SIZE: 0.5 HP SPEED CONTROL: VFD POWER: 208-230V/460V/3P/60HZ		INFLUENT FLOW MEASUREMENT: QUANTITY: 1 TAG NO.: FIT-0201 MFR/MODEL: ENDRESS + HAUSER LTD. 5W4C40-C6DLHA0DUA120A+L4 SIZE: 1.5 INCH																																																														
	DESIGN INFLUENT CONCENTRATIONS & LOADING: AVERAGE BOD: 240 MG/L AVERAGE TSS: 240 MG/L AVERAGE TKN: 50 MG/L AVERAGE TP: 10 MG/L			COARSE BARSCREEN (LIFT STATION): QUANTITY: 1 DUTY MFR/MODEL: REE PRODUCTS INC., STATION GUARD BAR SPACING: ADJUSTABLE ½ TO 1-INCH SIZE: MOUNTS TO 8-INCH INF PIPELINE		MEMBRANE FEED PUMPS: QUANTITY: 2 DUTY, 1 SHARED SHELF SPARE TAG NO.: P-0501, P-0502 MFR/MODEL: BARNES 2SEV524L CAPACITY: 56.4 GPM @ 21 FT MOTOR SIZE: 0.75 HP SPEED CONTROL: CONSTANT SPEED POWER: 230V/1PH/60HZ		CIP SODIUM HYPOCHLORITE FEED SYSTEM: QUANTITY: 1 TAG NO.: P-6104 MFR/MODEL: SHURFLO 2088-394-144 CAPACITY: 4.5 GPH UP TO 45 PSI VOLTAGE & PHASE: 115V/1P/60HZ TANK CAPACITY: 55 GALLONS		EFFLUENT FLOW MEASUREMENT: QUANTITY: 1 TAG NO.: FIT-0702 MFR/MODEL: IFM EFECTOR SM2601 SIZE: 2 INCH																																																														
B	DESIGN EFFLUENT QUALITY/LIMITS: BOD: 5 MG/L TSS: 1 MG/L NH3-N: 50 MG/L PH: 7-9					MBR REACTOR BASIN: QUANTITY: 2 TAG NO.: TNK-601 & TNK-602 BASIN SIZE: 3.35 FT L X 5.39 FT W SIDE WATER DEPTH: 6.89 FT WORKING VOLUME: 862 GALLONS		CIP CITRIC ACID FEED SYSTEM: QUANTITY: 1 TAG NO.: P-6105 MFR/MODEL: SHURFLO 2088-394-144 CAPACITY: 4.5 GPH UP TO 45 PSI VOLTAGE & PHASE: 115V/1P/60HZ TANK CAPACITY: 55 GALLONS		PORTABLE HOIST: MFR/MODEL: HALLIDAY PRODUCTS D1A24C SIZE: W/36" REACH QUANTITY: 1																																																														
	ACTIVATED SLUDGE DESIGN CRITERIA: SITE ELEVATION: 6,520 FEET MLSS TEMPERATURE: 10 CELSIUS HYDRAULIC RETENTION TIME: 8.3 HOURS @ MMF SRT: 16.0 DAYS F:M RATIO: 0.042 (OR 0.062 FOR F:MLVSS)			INFLUENT LIFT STATION WETWELL: QUANTITY: 1 TAG NO.: TNK-101 BASIN SIZE: 6 FT DIA, 20.75 FT DEEP		MEMBRANES: MEMBRANE TYPE: ZEEWEED 500S MEMBRANE SURFACE AREA: 300 FT² (PER MODULE) MODULES/MEMBRANE TANK: 6 FLUX: 15.0 GFD		ALUMINUM SULFATE CHEMICAL FEED SYSTEM: QUANTITY: 1 TAG NO.: P-6101 MFR/MODEL: PROMINENT BT4B1602PVT2000UD010A01 CAPACITY: 0.58 GPH @ 232 PSI MAX POWER: 17 W VOLTAGE/PHASE: 100-240V/60HZ FEED TANK CAPACITY: 55 GALLONS		HOIST SOCKET: HALLIDAY PRODUCTS EMBED SOCKET QUANTITY: 3																																																														
	MAJOR EQUIPMENT SUMMARY:			INFLUENT LIFT STATION PUMPS: QUANTITY: 1 DUTY, 1 STANDBY TAG NO.: P-0101 & P-0102 TYPE: SUBMERSIBLE MFR/MODEL: ZOELLER EX611 CAPACITY: 60 GPM @ 16 FT MOTOR: 1.0 HP SPEED CONTROL: CONSTANT SPEED POWER: 230V/1PH		MBR PERMEATE PUMPS: QUANTITY: 2 DUTY, 2 STANDBY TAG NO.: P-0701 & P-0702; P-0704 & P-0705 MFR/MODEL: GOULDS 1ST1D9F4 CAPACITY: 20.9 GPM @ 48 FT MOTOR SIZE: 0.75 HP SPEED CONTROL: VFD POWER: 230/460V/3PH/60HZ		CAUSTIC SODA FEED SYSTEM: QUANTITY: 1 TAG NO.: P-6102 MFR/MODEL: PROMINENT BT4B1602PVT2000UD010A01 CAPACITY: 0.58 GPH @ 232 PSI MAX POWER: 17 W VOLTAGE/PHASE: 100-240V/60HZ FEED TANK CAPACITY: 55 GALLONS		WALL SOCKET: HALLIDAY PRODUCTS WALL SOCKET QUANTITY: 1																																																														
C	AEROBIC PROCESS BLOWERS: QUANTITY: 1 DUTY, 1 STANDBY TAG NO.: B-0501 & B-0502 TYPE: POSITIVE DISPLACEMENT MRF/MODEL: SUTORBILT 4L-RHC MOTOR: 15 HP POWER: 460V/3P/60HZ SPEED CONTROL: VFD DESIGN FLOW: 310.4 SCFM DESIGN PRESSURE: 4.2 PSI			INFLUENT EQUALIZATION BASIN: QUANTITY: 1 TAG NO.: TNK-301 BASIN SIZE: 23.42 FT L X 12.00 FT W SIDE WATER DEPTH: 6.0 FT WORKING VOLUME: 12,618 GALLONS		SLUDGE HOLDING TANK: QUANTITY: 1 TAG NO.: TNK-901 BASIN SIZE: 11.25 FT L X 12.00 FT W SIDE WATER DEPTH: 6.0 FT WORKING VOLUME: 6,061 GALLONS		MICRO-C CHEMICAL FEED SYSTEM: QUANTITY: 1 TAG NO.: P-6103 MFR/MODEL: PROMINENT BT4B1602PVT2000UD010A01 CAPACITY: 0.58 GPH @ 232 PSI MAX POWER: 17 W VOLTAGE/PHASE: 100-240V/60HZ TANK CAPACITY: 55 GALLONS		AUTODIALER/ALARMS: ETHERNET CONNECTION TO CELLULAR HOTSPOT																																																														
				INFLUENT EQUALIZATION TRANSFER PUMPS: QUANTITY: 1 DUTY, 1 STANDBY TAG NO.: P-0301 & P-0302 TYPE: SUBMERSIBLE MFR/MODEL: ZOELLER NX282 CAPACITY: 37.6 GPM @ 20.0 FT MOTOR: 0.5 HP SPEED CONTROL: CONSTANT SPEED POWER: 115V/1PH/60HZ		SLUDGE DECANT PUMP: QUANTITY: 2 DUTY TAG NO.: P-0901 & P-0902 TYPE: SUBMERSIBLE MFR/MODEL: BARNES 2SEV524L CAPACITY: 25 GPM @ 20 FT MOTOR SIZE: 0.75 HP SPEED CONTROL: CONSTANT SPEED VOLTAGE/PHASE: 230V/1PH/60HZ		UV DISINFECTION SYSTEM: QUANTITY: 1 DUTY, 1 STANDBY TAG NO.: UV-0701 & UV-0702 MFR/MODEL: UVPURE HALLETT 1000W CAPACITY: 41.8 GPM POWER: 120V/1P/60HZ		PRIMARY POWER: PRIMARY POWER: XCEL SERVICE: 240V/1PH PRIMARY SOURCE: EXISTING BURIED POWER LINES																																																														
				AUTOMATIC FINE SCREEN: QUANTITY: 1 DUTY TAG NO.: SCR-0201 MFR/MODEL: MARATHON, NEWTERRA SCR-100 SCREEN/PERFORATION SIZE: 2 MM CAPACITY: 100 GPM MOTOR SIZE: 0.5 HP POWER: 115/208-230/1PH/60HZ		MEMBRANE BACKWASH TANK: QUANTITY: 1 TAG NO.: TNK-801 TANK SIZE: 43 INCH DIA X 50 INCH TALL VOLUME: 240 GALLONS																																																																		
D	INFLUENT EQ BLOWER: QUANTITY: 1 DUTY, 1 SHARED STANDBY TAG NO.: B-0301 & B-3901 TYPE: REGENERATIVE MRF/MODEL: FPZ, SCL R30-MD-3 MOTOR: 3 HP POWER: 115/208-230/1PH/60HZ SPEED CONTROL: CONSTANT SPEED DESIGN FLOW: 26.2 SCFM DESIGN PRESSURE: 6.5 PSIG																																																																							
E	SLUDGE BLOWER: QUANTITY: 1 DUTY, 1 SHARED STANDBY TAG NO.: B-0901 & B-3901 TYPE: REGENERATIVE MRF/MODEL: FPZ, SCL R30-MD-3 MOTOR: 3 HP POWER: 115/208-230/1PH/60HZ SPEED CONTROL: CONSTANT SPEED DESIGN FLOW: 26.2 SCFM DESIGN PRESSURE: 6.5 PSIG																																																																							
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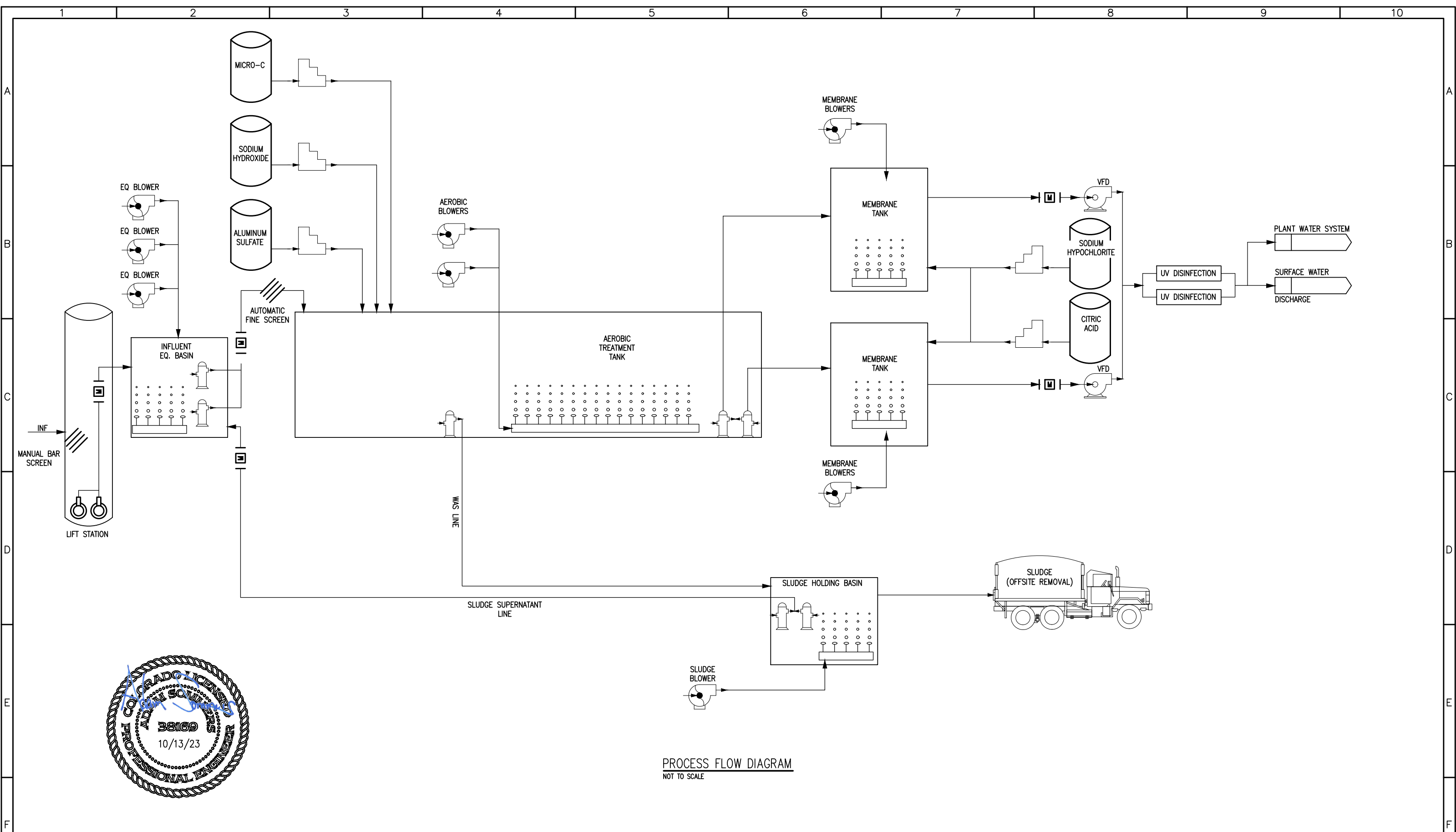


HYDRAULIC PROFILE
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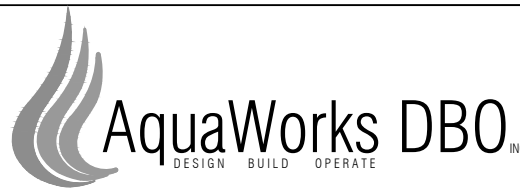

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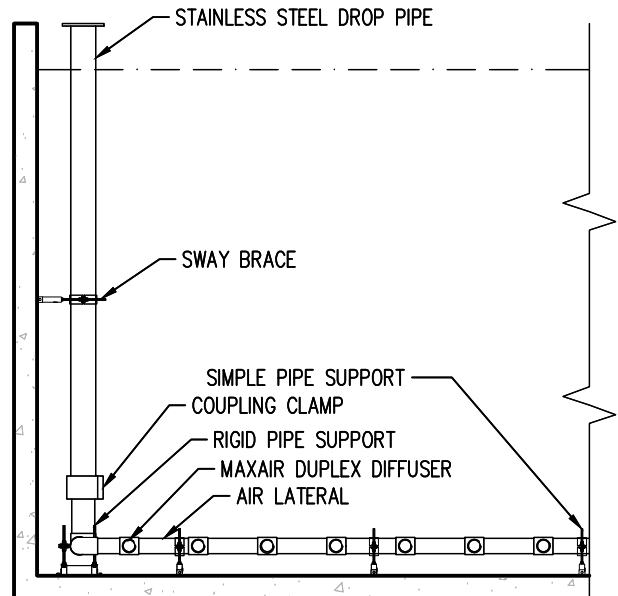


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ENGINEER: AQUAWORKS DBO, INC. 3252 WILLIAMS STREET DENVER, COLORADO 80205 (303) 477-5915			PROJECT NUMBER: 7829	SCALE: NOT TO SCALE	SHEET: G5



PROCESS FLOW DIAGRAM
NOT TO SCALE

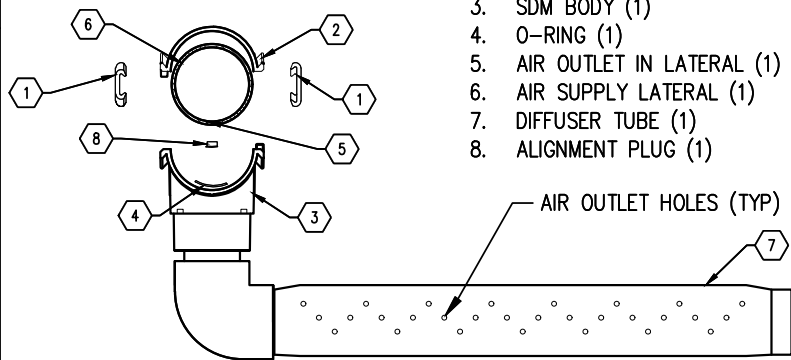
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				DESIGNED BY: AS		ENGINEER: AQUAWORKS DBO, INC. 3252 WILLIAMS STREET DENVER, COLORADO 80205 (303) 477-5915		PROJECT NUMBER:	SCALE:	SHEET:	
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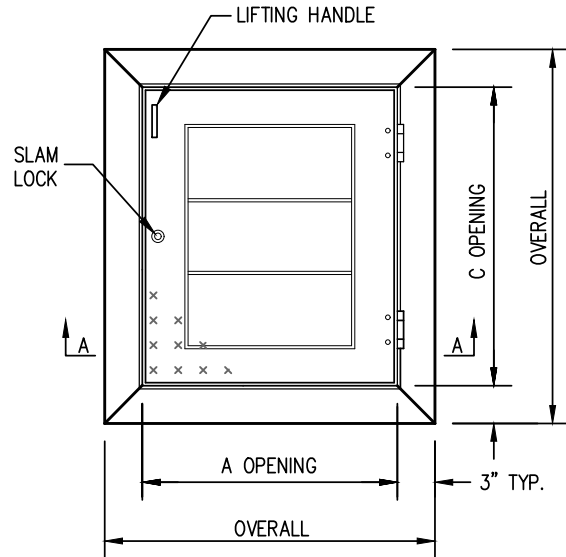
DIFFUSER ASSEMBLY DETAIL
NTS

DIFFUSER INSTALLATION LEGEND:

1. LOCKING WEDGE (2)
2. LOCKING LUG
3. SDM BODY (1)
4. O-RING (1)
5. AIR OUTLET IN LATERAL (1)
6. AIR SUPPLY LATERAL (1)
7. DIFFUSER TUBE (1)
8. ALIGNMENT PLUG (1)



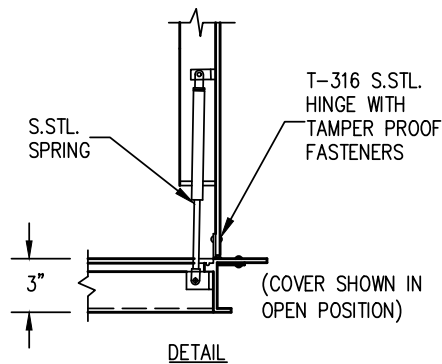
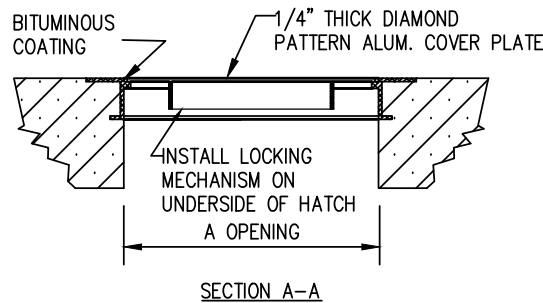
DIFFUSER INSTALLATION DETAIL
NTS



SERIES S1S ACCESS DOOR

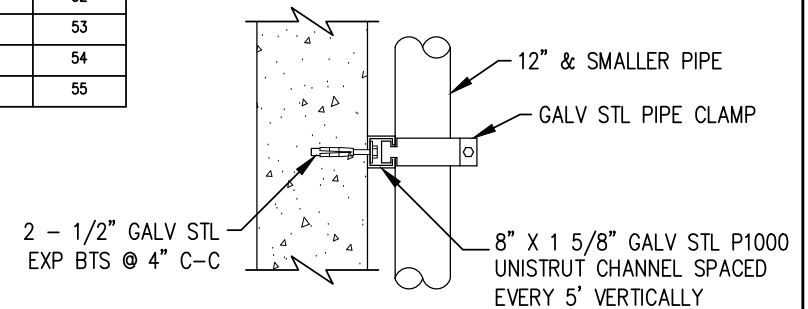
STANDARD FEATURES:

- 300 LBS. PER SQ. FT. LOAD RATING
- EXTRUDED ALUMINUM ANGLE FRAME
- SINGLE LEAF CONSTRUCTION
- AUTO-LOCK T-316 STAINLESS STEEL HOLD OPEN ARM WITH RELEASE HANDLE
- T-316 STAINLESS STEEL HINGES AND ATTACHING HARDWARE
- T-316 STAINLESS STEEL SLAM LOCK WITH REMOVABLE KEY
- STAINLESS STEEL COMPRESSION SPRING ASSIST
- BUILT-IN EPDM CUSHION/GASKET
- NON-OZONE DEPLETING BITUMINOUS COATING
- RECESSED LIFTING HANDLE
- LIFETIME GUARANTEE

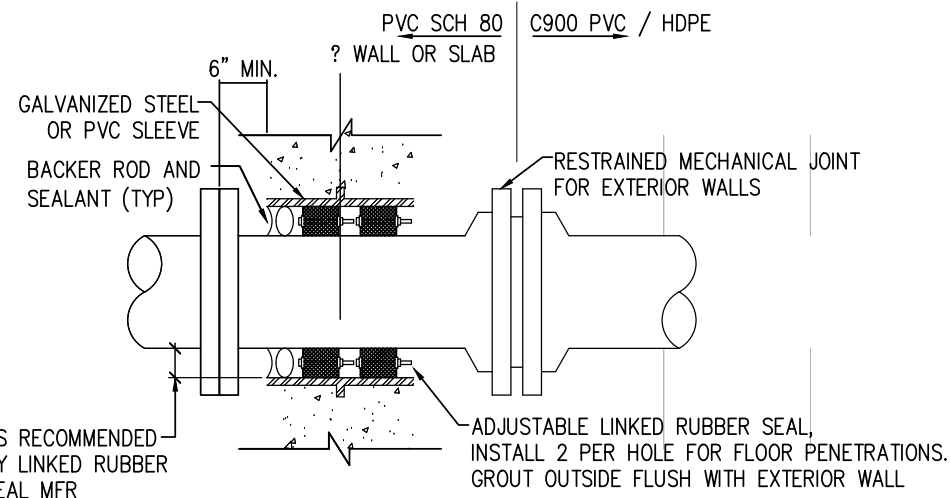


HATCH DETAIL
NTS

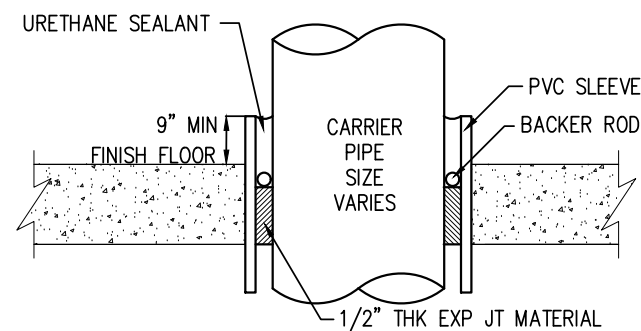
STANDARD SIZES				
QTY.	MODEL NO.	A DIM. INCHES	C DIM. INCHES	UNIT WT. LBS.
	S1S2424	24	24	37
	S1S2430	24	30	38
6	S1S2436	24	36	39
	S1S2442	24	42	40
	S1S2448	24	48	41
	S1S3030	30	30	42
	S1S3036	30	36	43
	S1S3042	30	42	44
	S1S3048	30	48	45
	S1S3054	30	54	46
	S1S3060	30	60	47
	S1S3636	36	36	48
	S1S3642	36	42	49
	S1S3648	36	48	50
	S1S3654	36	54	51
	S1S3660	36	60	52
	S1S3666	36	66	53
	S1S3672	36	72	54
	S1S4242	42	42	55



TYPICAL PIPE SUPPORT DETAIL
NTS



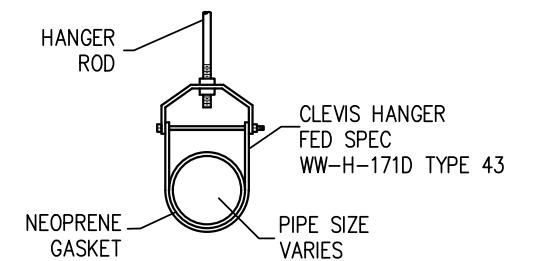
WALL PENETRATION DETAIL
NTS



NOTE:

1. FOR FOUNDATION WALL PENETRATION PROVIDE 1" ANNULAR SPACE AROUND CARRIER PIPE AND SEAL WITH URETHANE SEALANT ONLY TO PERMIT MOVEMENT

FLOOR PENETRATION DETAIL
NTS



PIPE SIZE	HANGER ROD DIA
2" & SMALLER	3/8"
2 1/2"	1/2"
3" & 4"	5/8"
6" THRU 12"	3/4"

PIPE HANGER SUPPORT DETAIL
NTS



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PROJECT: MILNER COLORADO WWTP
COMMUNITY OF MILNER
ROUTT COUNTY, COLORADO

ENGINEER: AQUAWORKS DBO, INC.
3252 WILLIAMS STREET
DENVER, COLORADO 80205
(303) 477-5915

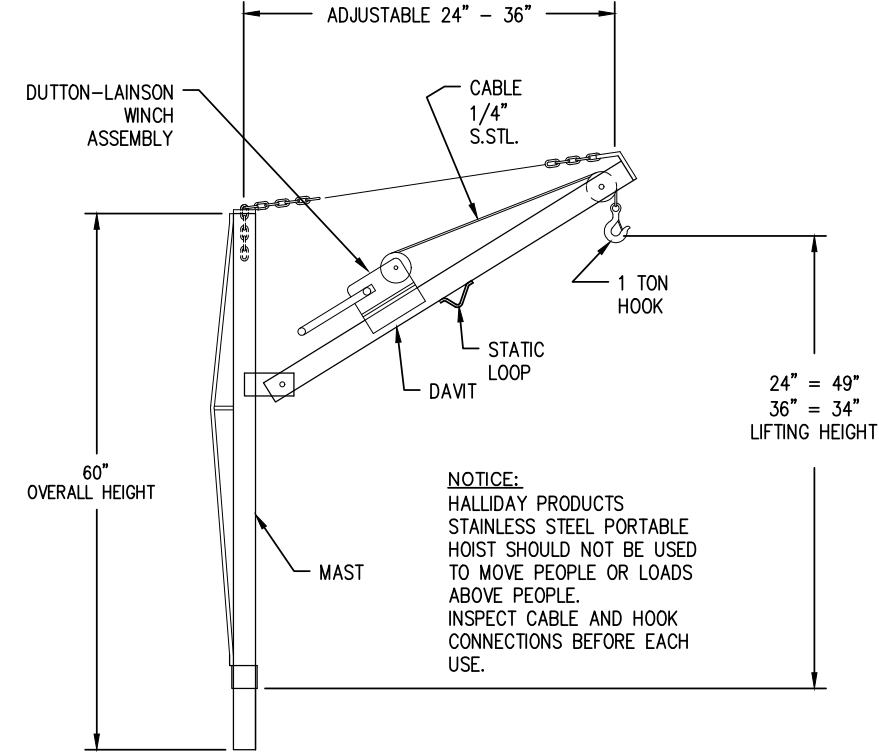
SHEET TITLE:
PROCESS DETAILS

PROJECT NUMBER:	SCALE:	SHEET:
7829	NTS	G7

SERIES DB PORTABLE HOIST

- STANDARD FEATURES:
- TYPE-304 STAINLESS STEEL CONSTRUCTION
 - 30 FEET (9 METERS) OF 1/4" (7 MM) STAINLESS STEEL CABLE
 - GALVANIZED 1 TON HOOK
 - DUTTON-LAINSON MARINE GRADE BRAKE WINCH
 - ADJUSTABLE REACH IN 1" (25 MM) INCREMENTS
 - 3 YEAR GUARANTEE

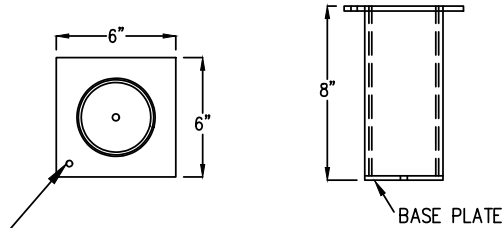
- OPTIONS:
- TYPE-316 CONSTRUCTION
 - ADDITIONAL CABLE AVAILABLE (SPECIFY LENGTH)
 - STAINLESS STEEL WINCH
 - STAINLESS STEEL HOOK
 - OTHER REACHES AVAILABLE UPON REQUEST (CONSULT FACTORY)



PORTABLE HOIST
NTS

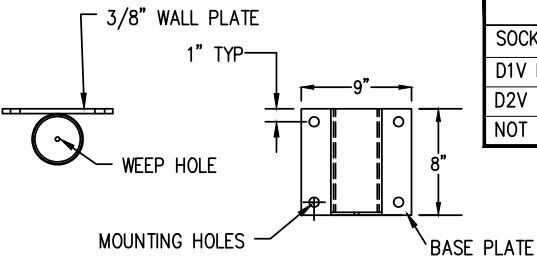


STANDARD SIZES:			
QTY.	MODEL NO.	MAX .LOAD LBS. (KG.)	UNIT WT. LBS. (KG.)
	D1B36C	300 (136)	73 (33)



EMBED STYLE HOIST SOCKETS	
SOCKET MODEL #	FOR HOIST MODELS
D1S LINED	D1A AND D1B
D2S LINED	D2A AND D2B
D3S LINED	D3A AND D3B

EMBED STYLE HOIST SOCKETS



LIFT STATION HOIST SOCKET

HOIST BASE
NTS

EMBED STYLE BASE LOCATIONS:

- 1) INFLUENT EQ PUMPS
- 2) SLUDGE TANK PUMPS
- 3) MBR FEED FORWARD PUMPS

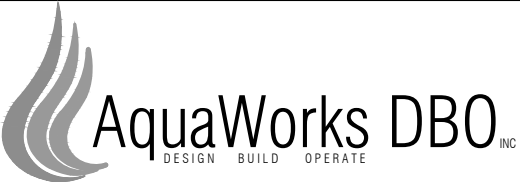
SOCKET (LIFT STATION) STYLE BASE LOCATIONS:

- 1) LIFT STATION PUMPS

WALL STYLE HOIST SOCKETS	
SOCKET MODEL #	FOR HOIST MODELS
D1V LINED	D1A AND D1B
D2V LINED	D2A AND D2B
NOT AVAILABLE	D3A AND D3B

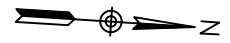


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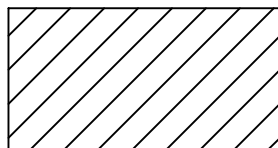
PROJECT: MILNER COLORADO WWTP COMMUNITY OF MILNER ROUTT COUNTY, COLORADO		SHEET TITLE: METALS DETAILS		
ENGINEER: AQUAWORKS DBO, INC. 3252 WILLIAMS STREET DENVER, COLORADO 80205 (303) 477-5915	PROJECT NUMBER: 7829	SCALE: NTS	SHEET: G8	





0 90 180
FEET

LEGEND

---	PARCEL BOUNDARY
SS	EXISTING SEWER LINE
OHE	EXISTING OVERHEAD ELECTRIC LINE
	TEMPORARY CONSTRUCTION EASEMENT



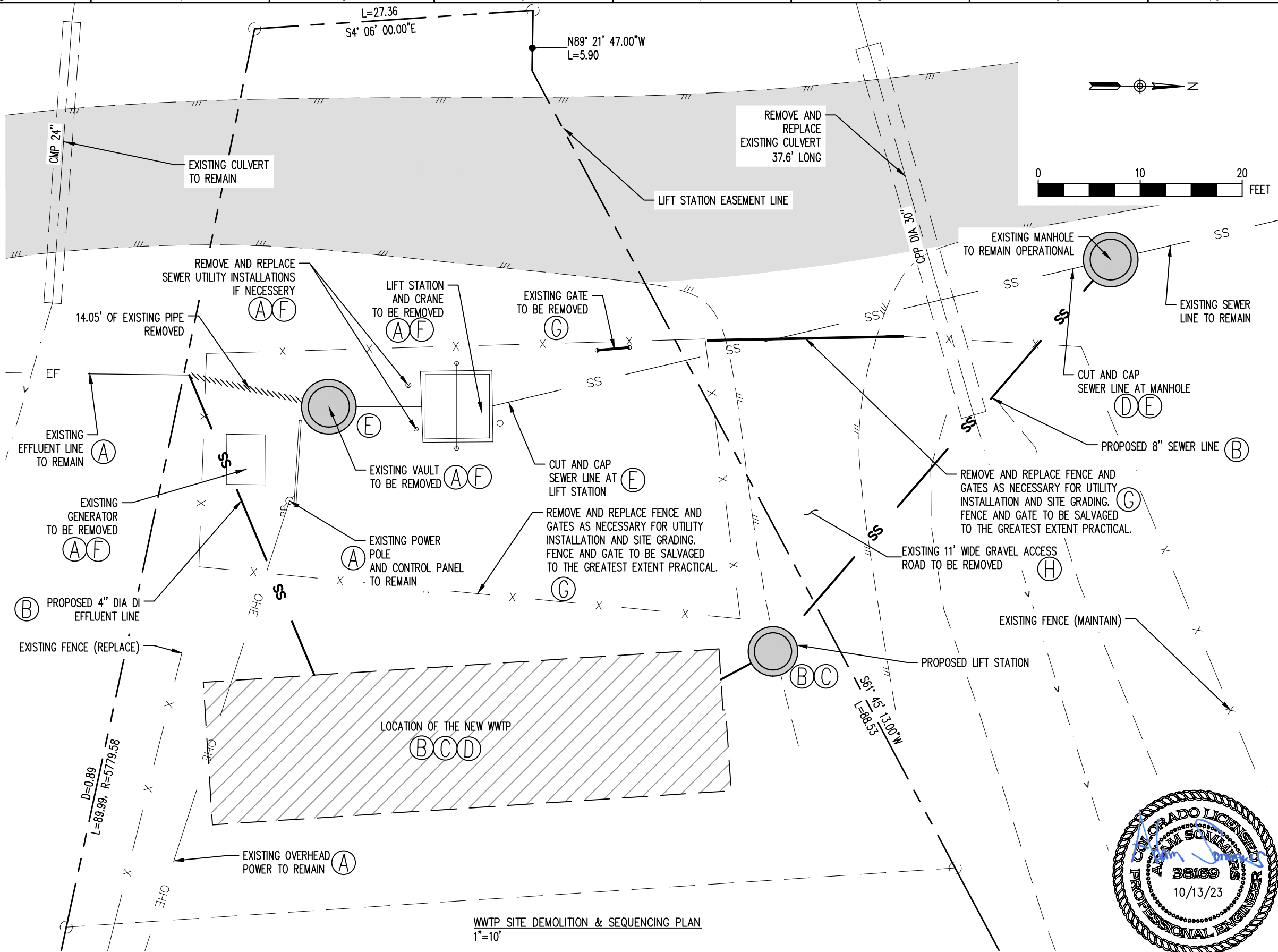
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				DESIGNED BY: AS			ENGINEER: AQUAWORKS DBO, INC. 3252 WILLIAMS STREET DENVER, COLORADO 80205 (303) 477-5915		PROJECT NUMBER: 7829	SCALE: 1"=90'	SHEET: C1	
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DEMOLITION NOTES:

1. SITE DEMOLITION TO BE COORDINATED WITH ENGINEER AND OWNER WITH RESPECT TO EQUIPMENT OR FACILITIES TO REMAIN IN SERVICE, TO BE REMOVED, OR TO BE ABANDONED IN PLACE.
2. THE CONTRACTOR IS NOT TO DAMAGE CURBS, WALKS OR PAVING WHICH IS NOT INCLUDED IN THE SITE PREPARATION OR DEMOLITION SHOWN ON THE PLANS. THE COST TO REPAIR ANY SUCH DAMAGE WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
3. REMOVE AND DISPOSE OF ALL PAVING MATERIALS PROPERLY, INCLUDING BASE COURSE AND ANY OTHER DEBRIS ENCOUNTERED.
4. CONCRETE OR ASPHALT SAWCUTS SHALL BE CRISP CLEAN CUTS THAT ARE NEAT IN APPEARANCE. LOCATE ALL SAWCUTS AS REQUIRED PER DIRECTION OF THE ENGINEER.
5. ALL EXISTING SITE TREES AND VEGETATION ARE TO BE PROTECTED IN PLACE, UNLESS SPECIFICALLY NOTED FOR REMOVAL ON THE PLANS.
6. SITE REVEGETATION SHALL COMPLY WITH THE MUNICIPAL/COUNTY STANDARDS AND THE PROJECT REVEGETATION SPECIFICATION, AND LANDSCAPE PLAN, AS APPLICABLE.
7. THE CONTRACTOR SHALL REPLACE TO ORIGINAL CONDITION OR BETTER AT HIS EXPENSE ALL VEGETATION THAT IS DAMAGED BY CONSTRUCTION OPERATIONS.
8. THE CONTRACTOR IS TO ADHERE TO SPOT ELEVATIONS AND CONTOURS AS INDICATED ON THE GRADING PLAN. SPOT ELEVATIONS TAKE PRECEDENCE OVER CONTOURS WHERE CONFLICTING INFORMATION IS SHOWN.
9. ALL GRADES ARE TO BE APPROVED BY THE ENGINEER PRIOR TO PERMANENT PLANTING, SEEDING, AND FLAT WORK.
10. ALL AREAS SHALL BE GRADED TO ACHIEVE POSITIVE DRAINAGE, AS DEFINED IN THE SPECIFICATIONS.
11. EXCAVATIONS INCLUDES ALL MATERIAL ENCOUNTERED TO THE DEPTH INDICATED ON THE PLANS. EXCAVATE TO ALLOW FOR PROPER FILL MATERIAL, SLABS, VOIDS, FORMS, AND FOUNDATIONS, AND FOR THE REMOVAL OF UNSUITABLE MATERIALS. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION REGARDING GRADING AND EXCAVATION.
12. ALL BEDDING, BACKFILL SUBGRADE CONSTRUCTION, AND EMBANKMENT SHALL BE CONSTRUCTED ACCORDING TO THE SPECIFICATIONS AND GEOTECHNICAL REPORT.
13. REFER TO GRADING PLAN FOR ALL SITE ELEVATIONS AND GRADING REQUIREMENTS.
14. REFER TO CIVIL DETAIL SHEETS FOR SITE DETAILS.
15. CONTRACTOR AND OWNER TO COORDINATE WITH UTILITY PROVIDERS FOR RELOCATION OF EXISTING INFRASTRUCTURE.

SEQUENCING NOTES (NOT INCLUSIVE OF ALL ACTIVITIES):

- A. EXISTING WWTP AND LIFT STATION TO REMAIN IN OPERATION UNTIL NEW WWTP HAS COMPLETED CLEAN WATER TESTING AND IS READY TO RECIVE INFLUENT WASTEWATER. MAINTAIN EXISTING 8" INFLUENT LINE AND 4" DISCHARGE LINE DURING CONSTRUCTION.
- B. CONSTRUCT NEW WWTP AND LIFT STATION. INSTALL SITE PIPING.
- C. CLEAN WATER TEST NEW WWTP AND LIFT STATION IN ACCORDANCE WITH CONTRACT DOCUMENTS.
- D. COMMENCE WASTEWATER TREATMENT AT NEW FACILITY.
- E. ABANDON IN PLACE EXISTING WASTEWATER LINES PLUG AND CAP.
- F. REMOVE EXISTING VAULT, EXISTING GENERATOR, EXISTING LIFT STATION, AND EXISTING CRANE.
- G. REMOVE AND REPLACE EXISTING FENCING AS SHOWN.
- H. REMOVE EXISTING GRAVEL ACCESS.
- I. LAGOON SITE TO BE DECOMMISSIONED ONCE ABOUT ACTIVITIES HAVE BEEN COMPLETED



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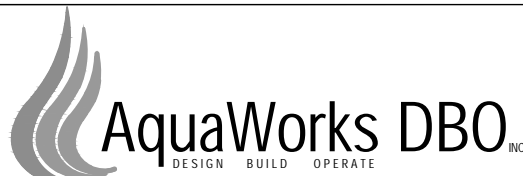
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PROJECT: MILNER COLORADO WWTP
COMMUNITY OF MILNER
ROUTT COUNTY, COLORADO
ENGINEER: AQUAWORKS DBO, INC.
3252 WILLIAMS STREET
DENVER, COLORADO 80205
(303) 477-5915

SHEET TITLE:
WWTP SITE DEMOLITION & SEQUENCING PLAN

PROJECT NUMBER:
7829

SCALE:
1"=10'

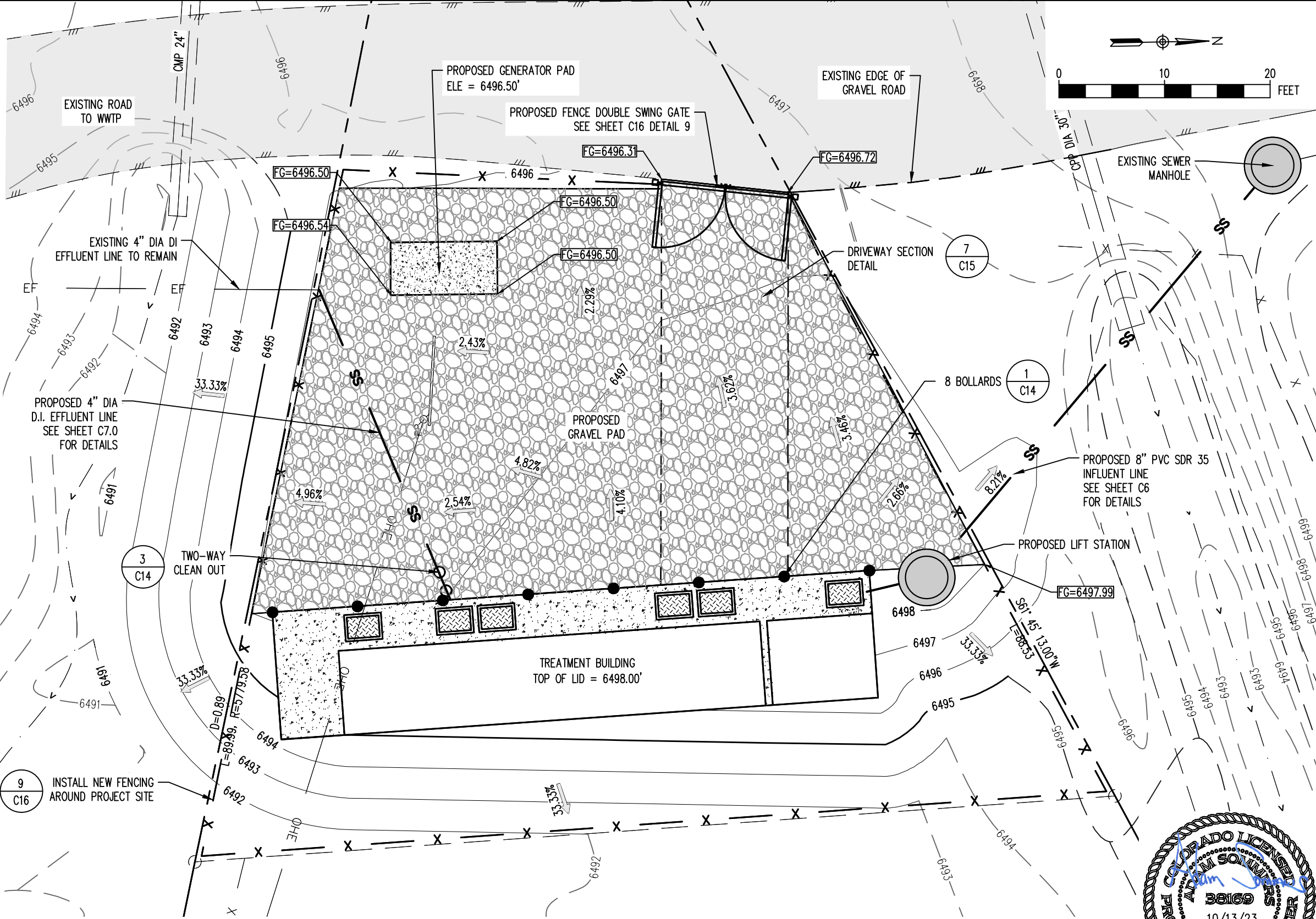
SHEET:
C2

GRADING NOTES:

1. TOPSOIL WITHIN THE DESIGNATED PROJECT LIMITS OF DISTURBANCE SHALL BE SALVAGED PRIOR TO BEGINING OF HAULING, EXCAVATING, OR FILL OPERATIONS.
2. TOPSOIL SHALL BE REPLACED TO DISTURBED AREAS AND SHALL BE PLACED DIRECTLY UPON COMPLETED CUT AND FILL SLOPES WHENEVER CONDITIONS AND THE PROGRESS OF CONSTRUCTION PERMIT.
3. CONTRACTOR TO INSTALL FINISH GRADE ACCORDING TO PLAN GRADES, SLOPES, SPOTS, NOTES AND SPECIFICATIONS. PROVIDE A SMOOTH FINISH BY RAKING IN TOPSOILED AREAS. PROVIDE SMOOTH TRANSITIONS AT TOP OF BANKS AND TOE OF SLOPES.
4. ALL EXCAVATIONS AND EMBANKMENTS SHALL BE FINISHED TO SMOOTH AND UNIFORM SURFACES CONFORMING WITH PLANS AND TYPICAL SECTIONS DETAILED AND SPECIFIED HERE.
5. WHEN EMBANKMENT IS PLACED ON BOTH SIDES OF A CONCRETE WALL OR BOX TYPE STRUCTURE, THE EMBANKMENT SHALL BE BROUGHT UP EQUALLY ON BOTH SIDES OF THE STRUCTURE UNLESS NOTED OTHERWISE ON THE PLANS.
6. EMBANKMENT SHALL BE PLACED IN HORIZONTAL LAYERS NOT TO EXCEED 8 INCHES LOOSE MEASUREMENT AND SHALL BE COMPACTED AS SPECIFIED BEFORE THE NEXT LAYER IS PLACED.
7. SURFACE WATER SHALL NOT BE ALLOWED TO POND ANYWHERE AND SHALL DRAIN AWAY FROM BUILDING AT ALL TIMES. ALL DRAINAGE IS SHOWN DRAINING AWAY FROM BUILDING ON THESE PLANS.

NOTES:

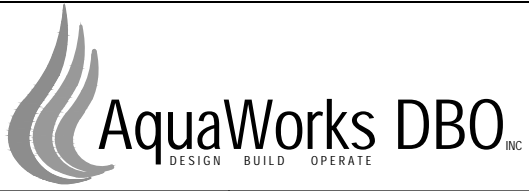
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E&F ASSOCIATES SITE SURVEY WITH TOPOGRAPHY
DATE : 6-23-22



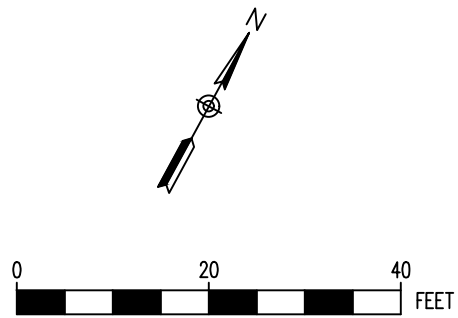
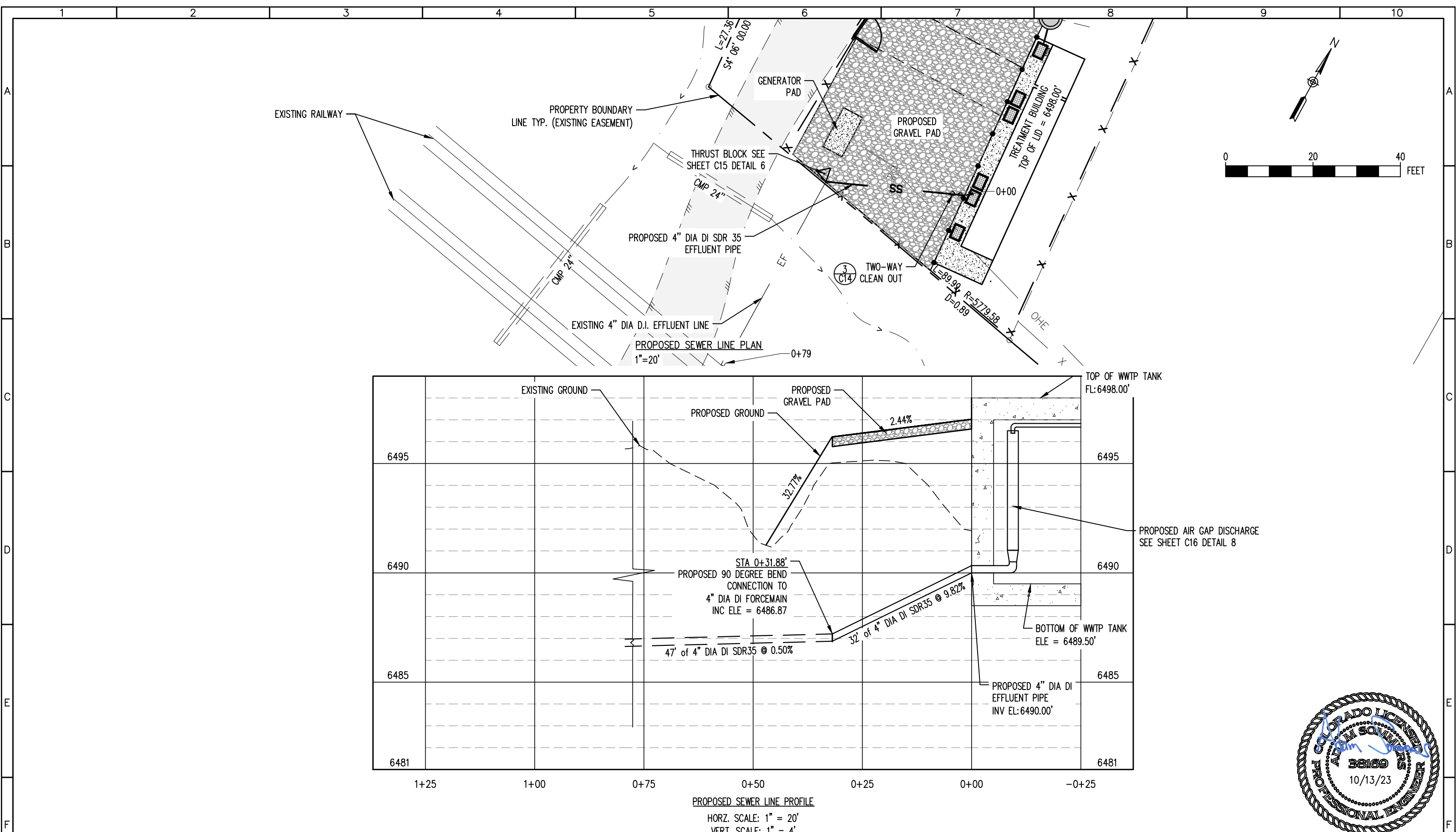
WWTP SITE GRADING PLAN
1"=10'



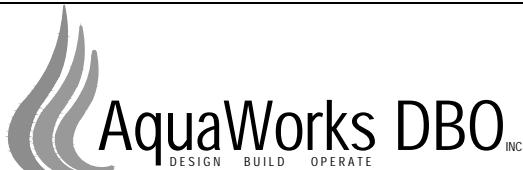
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ENGINEER: AQUAWORKS DBO, INC. 3252 WILLIAMS STREET DENVER, COLORADO 80205 (303) 477-5915		PROJECT NUMBER: 7829	SCALE: 1"=10'	SHEET: C4

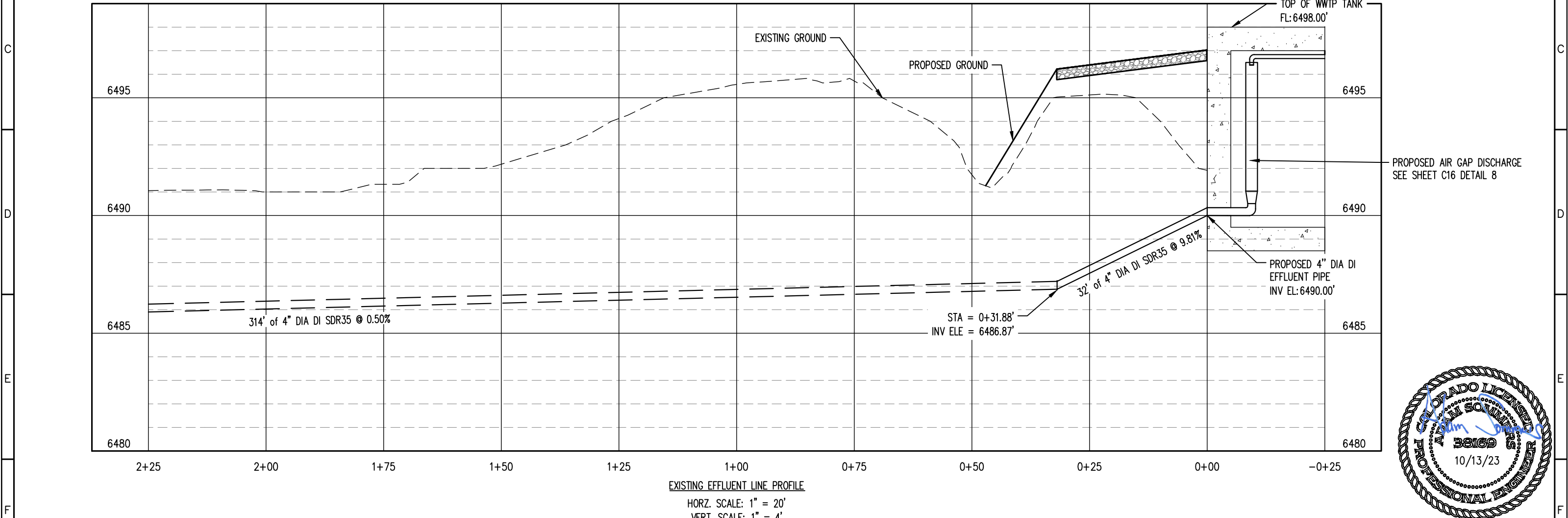
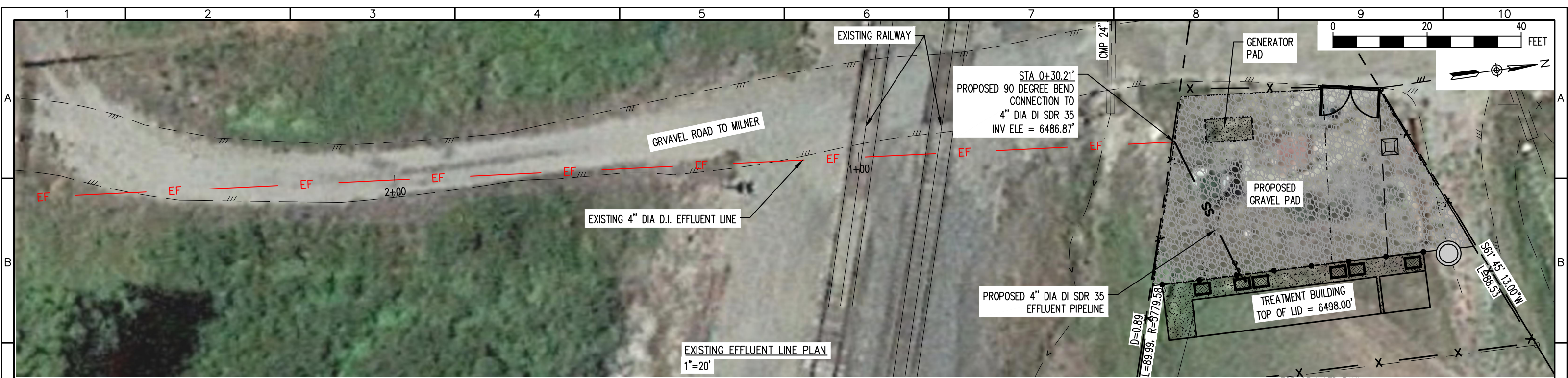


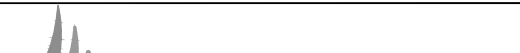

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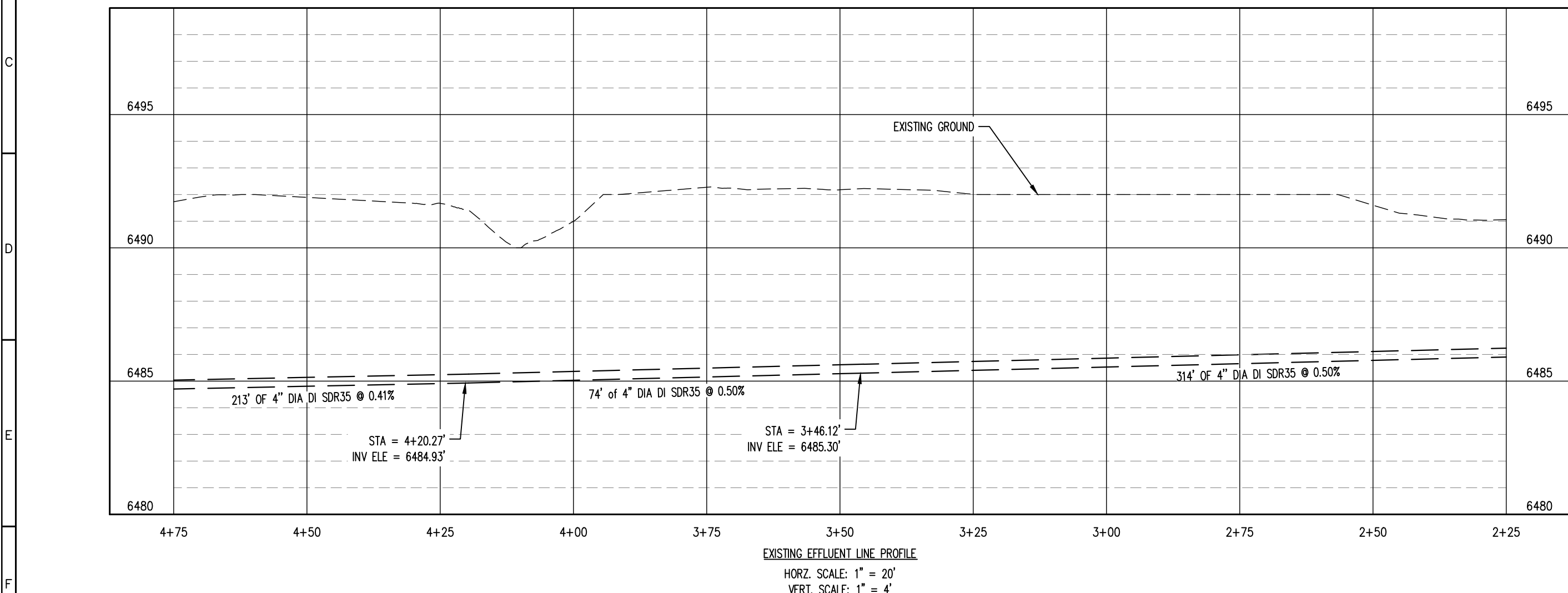
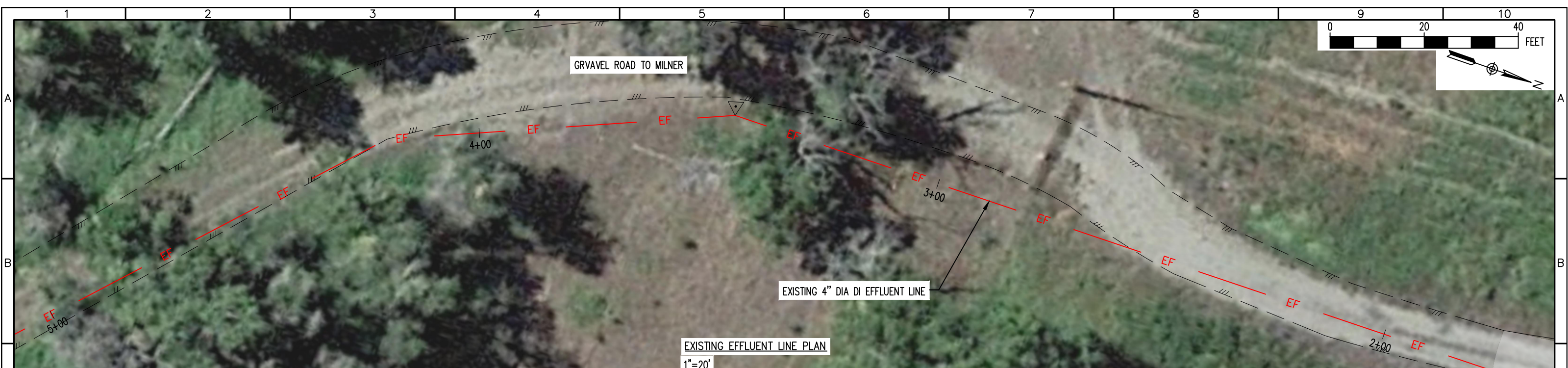


PROJECT: MILNER COLORADO WWTP
COMMUNITY OF MILNER
ROUTT COUNTY, COLORADO
ENGINEER: AQUAWORKS DBO, INC.
3252 WILLIAMS STREET
DENVER, COLORADO 80205
(303) 477-5915


SHEET TITLE:
PROPOSED SEWER LINE PLAN AND PROFILE
PROJECT NUMBER:
7829
SCALE:
H:1" = 20'
V:1" = 4'
SHEET:
C7.0



REV. No:	DATE:	BY:	REVISION DESCRIPTION:	DRAWN BY: MG		PROJECT: MILNER COLORADO WWTP COMMUNITY OF MILNER ROUTT COUNTY, COLORADO	SHEET TITLE: CONNECTION TO EXISTING EFFLUENT LINE P&P												
				DESIGNED BY: AS		ENGINEER: AQUAWORKS DBO, INC. 3252 WILLIAMS STREET DENVER, COLORADO 80205 (303) 477-5915	PROJECT NUMBER: 7829	SCALE: H:1" = 20' V:1" = 4'	SHEET: C7.1										
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PROJECT: MILNER COLORADO WWTP
COMMUNITY OF MILNER
ROUTT COUNTY, COLORADO

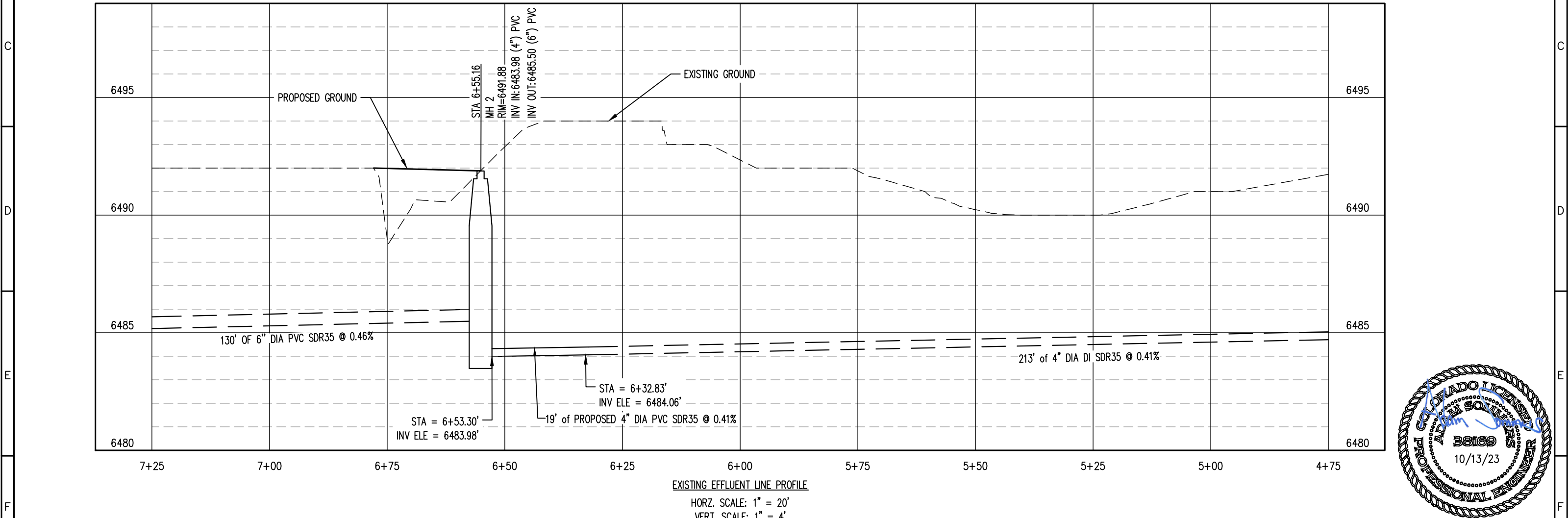
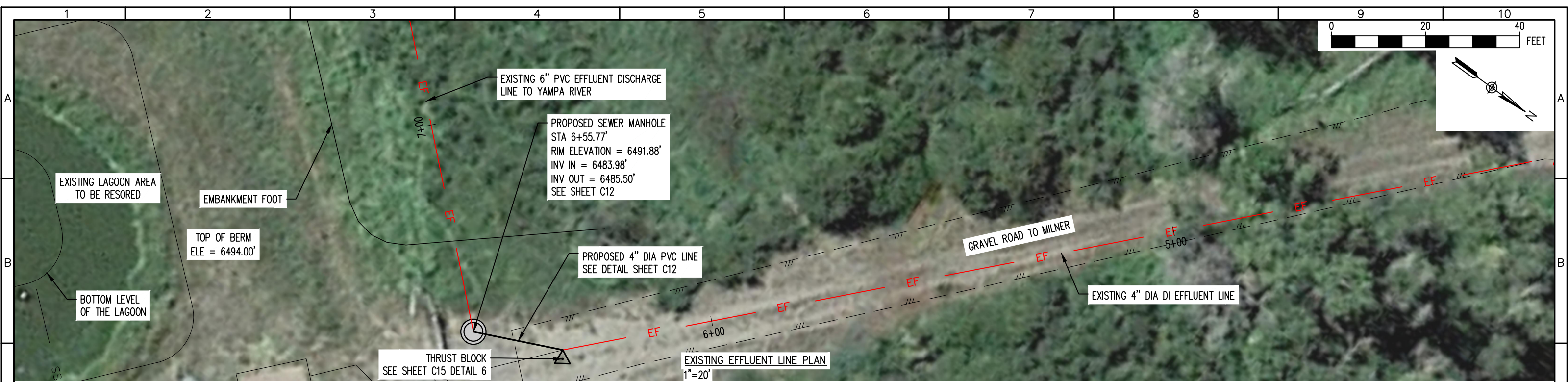
ENGINEER: AQUAWORKS DBO, INC.
3252 WILLIAMS STREET
DENVER, COLORADO 80205
(303) 477-5915

SHEET TITLE:
EXISTING EFFLUENT LINE PLAN & PROFILE

PROJECT NUMBER:
7829

SCALE:
H:1" = 20'
V:1" = 4'


SHEET:
C7.2



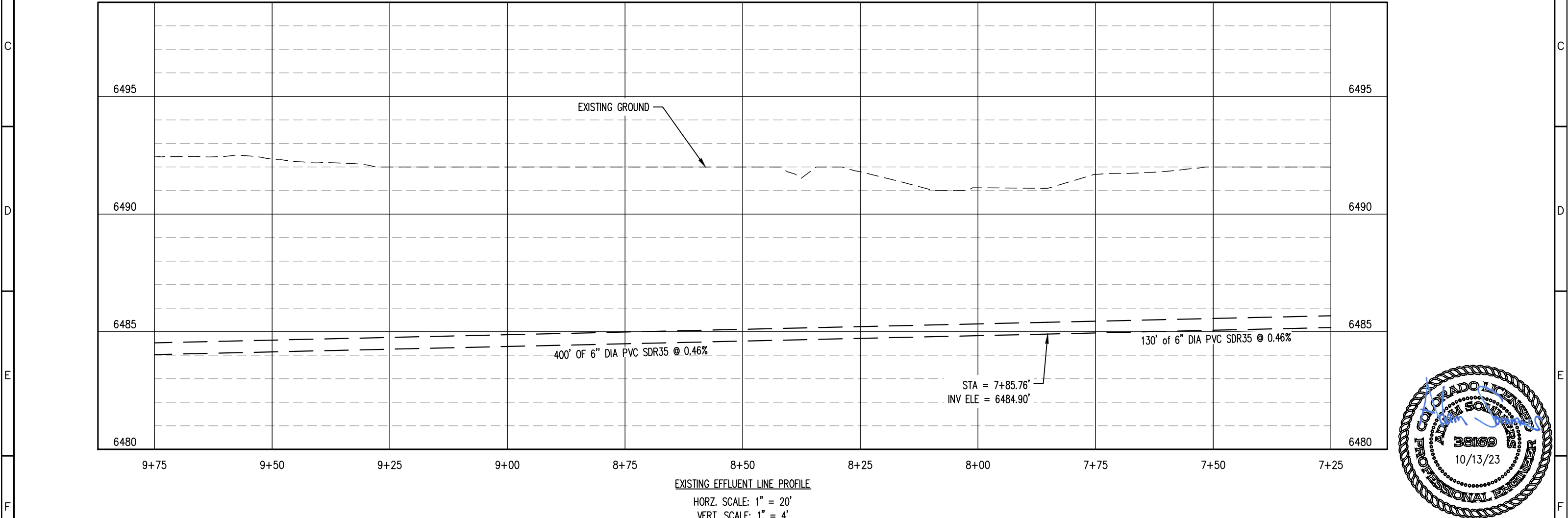
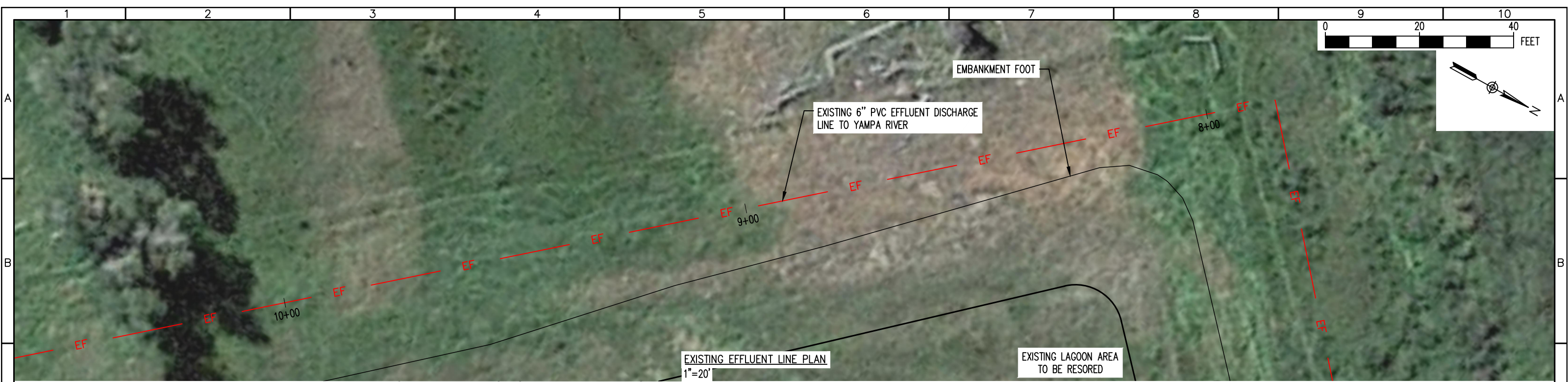
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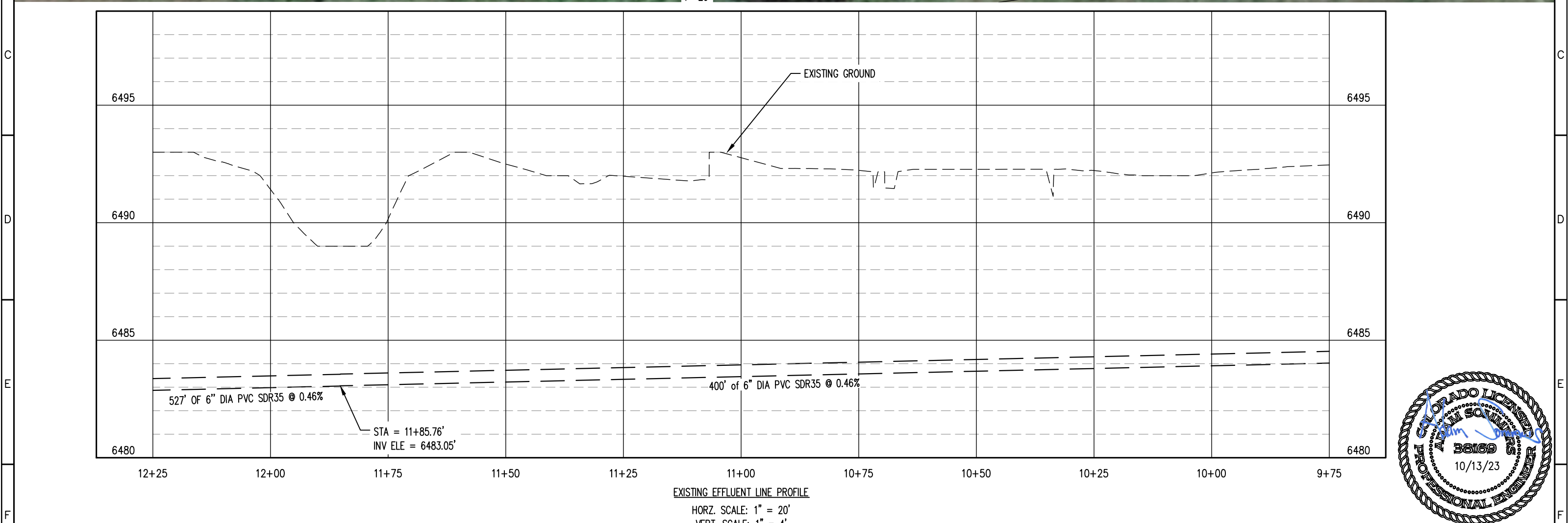
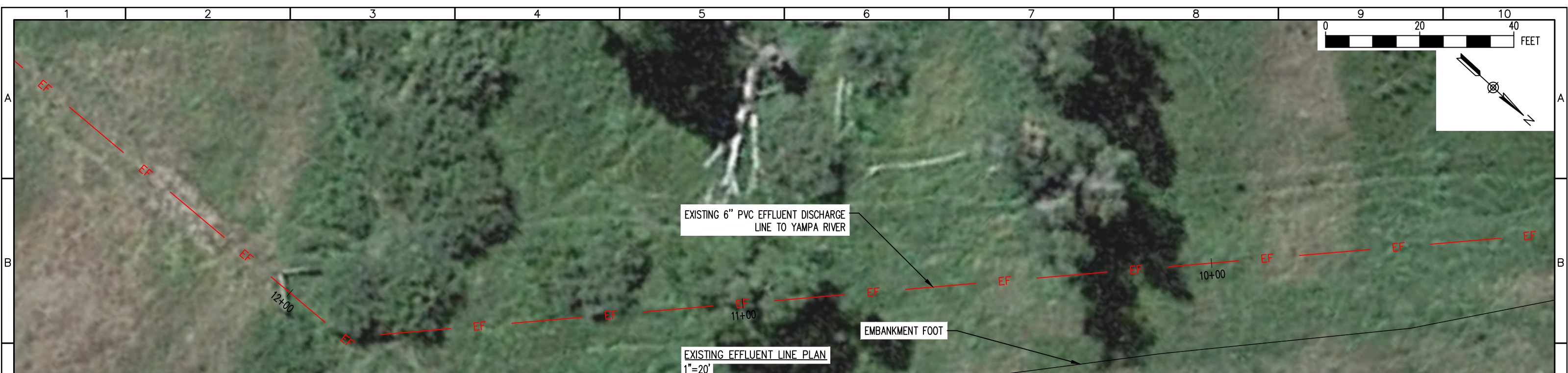
EXISTING EFFLUENT LINE PROFILE
HORZ. SCALE: 1" = 20'
VERT. SCALE: 1" = 4'

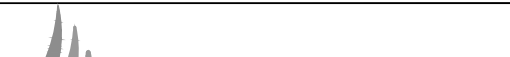



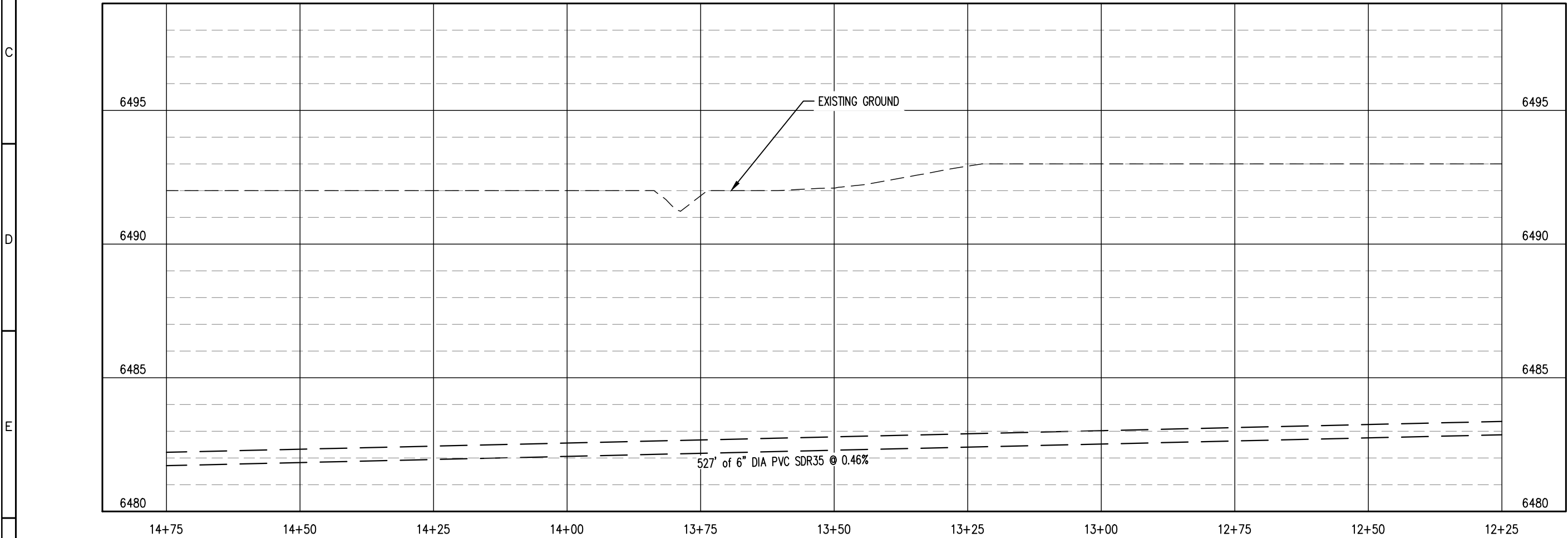
PROJECT: MILNER COLORADO WWTP COMMUNITY OF MILNER ROUTT COUNTY, COLORADO		SHEET TITLE: EXISTING EFFLUENT LINE PLAN & PROFILE	
ENGINEER: AQUAWORKS DBO, INC. 3252 WILLIAMS STREET DENVER, COLORADO 80205 (303) 477-5915		PROJECT NUMBER: 7829	SCALE: H: 1" = 20' V: 1" = 4'
			SHEET: C7.3



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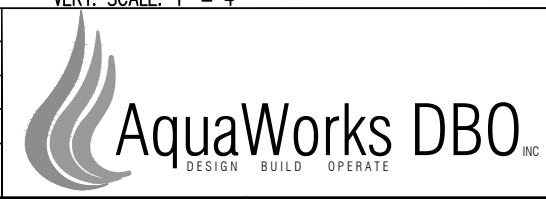
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EXISTING EFFLUENT LINE PROFILE

HORZ. SCALE: 1" = 20'
VERT. SCALE: 1" = 4'

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PROJECT: MILNER COLORADO WWTP COMMUNITY OF MILNER ROUTT COUNTY, COLORADO		SHEET TITLE: EXISTING EFFLUENT LINE PLAN & PROFILE		
ENGINEER: AQUAWORKS DBO, INC. 3252 WILLIAMS STREET DENVER, COLORADO 80205 (303) 477-5915	PROJECT NUMBER: 7829	SCALE: H:1" = 20' V:1" = 4'	SHEET: C7.6	

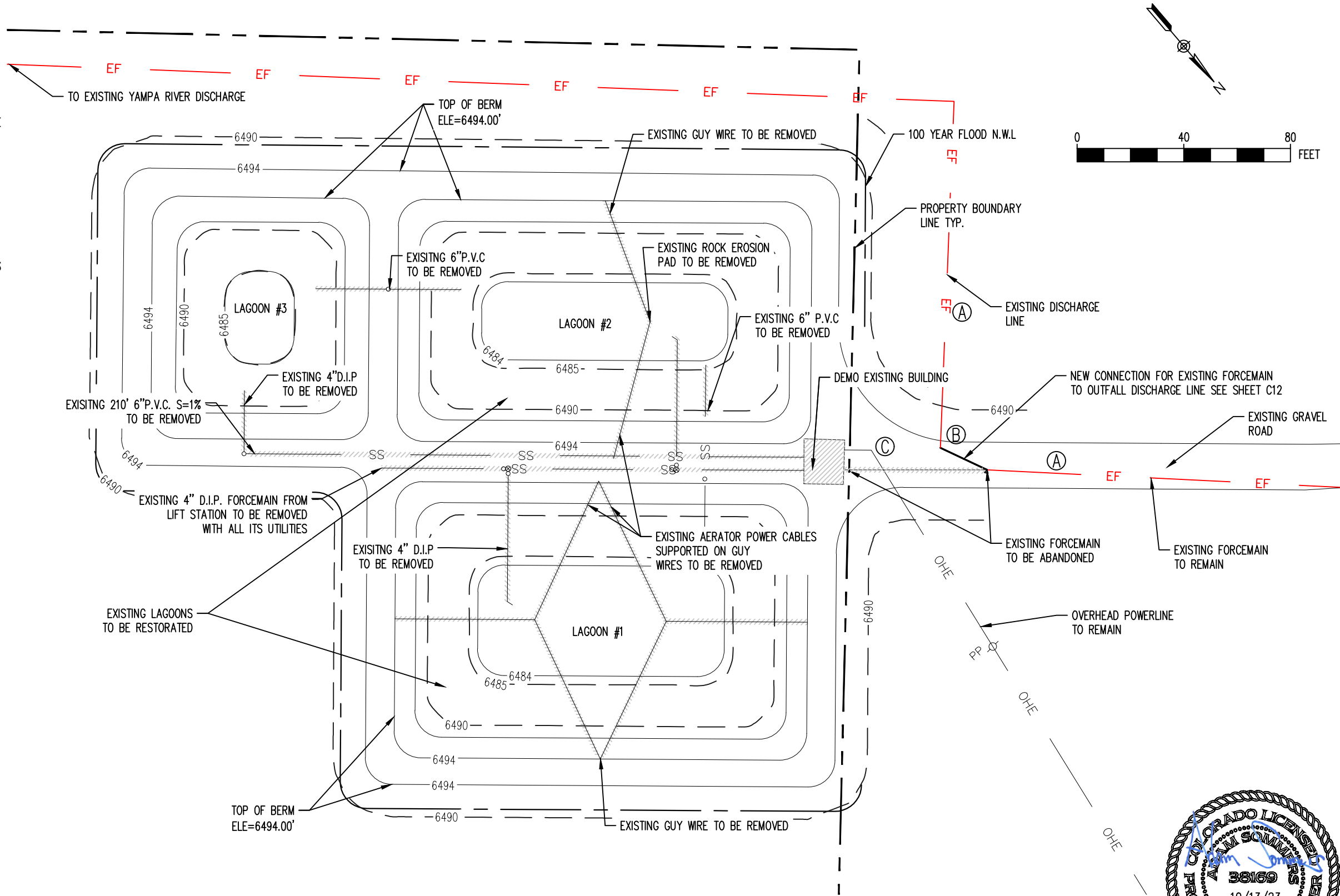


DEMOLITION NOTES:

1. SITE DEMOLITION TO BE COORDINATED WITH ENGINEER AND OWNER WITH RESPECT TO EQUIPMENT OR FACILITIES TO REMAIN IN SERVICE, TO BE REMOVED, OR TO BE ABANDONED IN PLACE.
2. THE CONTRACTOR IS NOT TO DAMAGE CURBS, WALKS OR PAVING WHICH IS NOT INCLUDED IN THE SITE PREPARATION OR DEMOLITION SHOWN ON THE PLANS. THE COST TO REPAIR ANY SUCH DAMAGE WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
3. REMOVE AND DISPOSE OF ALL PAVING MATERIALS PROPERLY, INCLUDING BASE COURSE AND ANY OTHER DEBRIS ENCOUNTERED.
4. CONCRETE OR ASPHALT SAWCUTS SHALL BE CRISP CLEAN CUTS THAT ARE NEAT IN APPEARANCE. LOCATE ALL SAWCUTS AS REQUIRED PER DIRECTION OF THE ENGINEER.
5. ALL EXISTING SITE TREES AND VEGETATION ARE TO BE PROTECTED IN PLACE, UNLESS SPECIFICALLY NOTED FOR REMOVAL ON THE PLANS.
6. SITE REVEGETATION SHALL COMPLY WITH THE MUNICIPAL/COUNTY STANDARDS AND THE PROJECT REVEGETATION SPECIFICATION, AND LANDSCAPE PLAN, AS APPLICABLE.
7. THE CONTRACTOR SHALL REPLACE TO ORIGINAL CONDITION OR BETTER AT HIS EXPENSE ALL VEGETATION THAT IS DAMAGED BY CONSTRUCTION OPERATIONS.
8. THE CONTRACTOR IS TO ADHERE TO SPOT ELEVATIONS AND CONTOURS AS INDICATED ON THE GRADING PLAN. SPOT ELEVATIONS TAKE PRECEDENCE OVER CONTOURS WHERE CONFLICTING INFORMATION IS SHOWN.
9. ALL GRADES ARE TO BE APPROVED BY THE ENGINEER PRIOR TO PERMANENT PLANTING, SEEDING, AND FLAT WORK.
10. ALL AREAS SHALL BE GRADED TO ACHIEVE POSITIVE DRAINAGE, AS DEFINED IN THE SPECIFICATIONS.
11. EXCAVATIONS INCLUDES ALL MATERIAL ENCOUNTERED TO THE DEPTH INDICATED ON THE PLANS. EXCAVATE TO ALLOW FOR PROPER FILL MATERIAL, SLABS, VOIDS, FORMS, AND FOUNDATIONS, AND FOR THE REMOVAL OF UNSUITABLE MATERIALS. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION REGARDING GRADING AND EXCAVATION.
12. ALL BEDDING, BACKFILL SUBGRADE CONSTRUCTION, AND EMBANKMENT SHALL BE CONSTRUCTED ACCORDING TO THE SPECIFICATIONS AND GEOTECHNICAL REPORT.
13. REFER TO GRADING PLAN FOR ALL SITE ELEVATIONS AND GRADING REQUIREMENTS.
14. REFER TO CIVIL DETAIL SHEETS FOR SITE DETAILS.
15. CONTRACTOR AND OWNER TO COORDINATE WITH UTILITY PROVIDERS FOR RELOCATION OF EXISTING INFRASTRUCTURE.

SEQUENCING NOTES (NOT INCLUSIVE OF ALL ACTIVITIES):

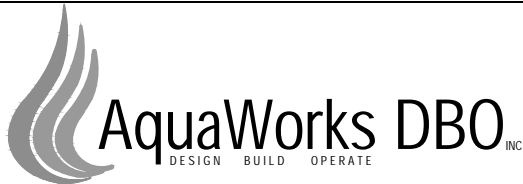
- A. MAINTAIN EXISTING 4" INFLUENT LINE AND 6" DISCHARGE LINE DURING CONSTRUCTION ON NEW WWTP. INSTALL CONNECTION FOR EXISTING FORCEMAIN TO THE EXISTING DISCHARGE 6" PVC PIPE WITH 45 DEGREE DI BENDS AND 4' PROPOSED SEWER MANHOLE.
- B. ABANDON IN PLACE EXISTING WASTEWATER LINES.
- C. PLUG AND CAP LINE.



LAGOON SITE DEMOLITION & SEQUENCING PLAN
1"=40'



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PROJECT: MILNER COLORADO WWTP COMMUNITY OF MILNER ROUTT COUNTY, COLORADO
ENGINEER: AQUAWORKS DBO, INC. 3252 WILLIAMS STREET DENVER, COLORADO 80205 (303) 477-5915

SHEET TITLE: LAGOON SITE DEMOLITION & SEQUENCING PLAN		
PROJECT NUMBER: 7829	SCALE: 1"=40'	SHEET: C8

GRADING NOTES:

1. TOPSOIL WITHIN THE DESIGNATED PROJECT LIMITS OF DISTRUBANCE SHALL BE SALVAGED PRIOR TO BEGINING OF HAULING, EXCAVATING, OR FILL OPERATIONS.
2. TOPSOIL SHALL BE REPLACED TO DISTURBED AREAS AND SHALL BE PLACED DIRECTLY UPON COMPLETED CUT AND FILL SLOPES WHENEVER CONDITIONS AND THE PROGRESS OF CONSTRUCTION PERMIT.
3. CONTRACTOR TO INSTALL FINISH GRADE ACCORDING TO PLAN GRADES, SLOPES, SPOTS, NOTES AND SPECIFICATIONS. PROVIDE A SMOOTH FINISH BY RAKING IN TOPSOILED AREAS. PROVIDE SMOOTH TRANSITIONS AT TOP OF BANKS AND TOE OF SLOPES.
4. ALL EXCAVATIONS AND EMBANKMENTS SHALL BE FINISHED TO SMOOTH AND UNIFORM SURFACES CONFORMING WITH PLANS AND TYPICAL SECTIONS DETAILED AND SPECIFIED HERE.
5. WHEN EMBANKMENT IS PLACED ON BOTH SIDES OF A CONCRETE WALL OR BOX TYPE STRUCTURE, THE EMBANKMENT SHALL BE BROUGHT UP EQUALLY ON BOTH SIDES OF THE STRUCTURE UNLESS NOTED OTHERWISE ON THE PLANS.
6. EMBANKMENT SHALL BE PLACED IN HORIZONTAL LAYERS NOT TO EXCEED 8 INCHES LOOSE MEASUREMENT AND SHALL BE COMPACTED AS SPECIFIED BEFORE THE NEXT LAYER IS PLACED.
7. SURFACE WATER SHALL NOT BE ALLOWED TO POND ANYWHERE AND SHALL DRAIN AWAY FROM BUILDINGS AT ALL TIMES. ALL DRAINAGE IS SHOWN DRAINING AWAY FROM BUILDINGS ON THESE PLANS.
8. THIS AREA IS WITHIN ZONE OF THE YAMPA RIVER FIRM PANEL NUMBER 08107C0835D. NO PROPOSED CHANGE IN NET FILL ON THIS SITE IS PROPOSED.

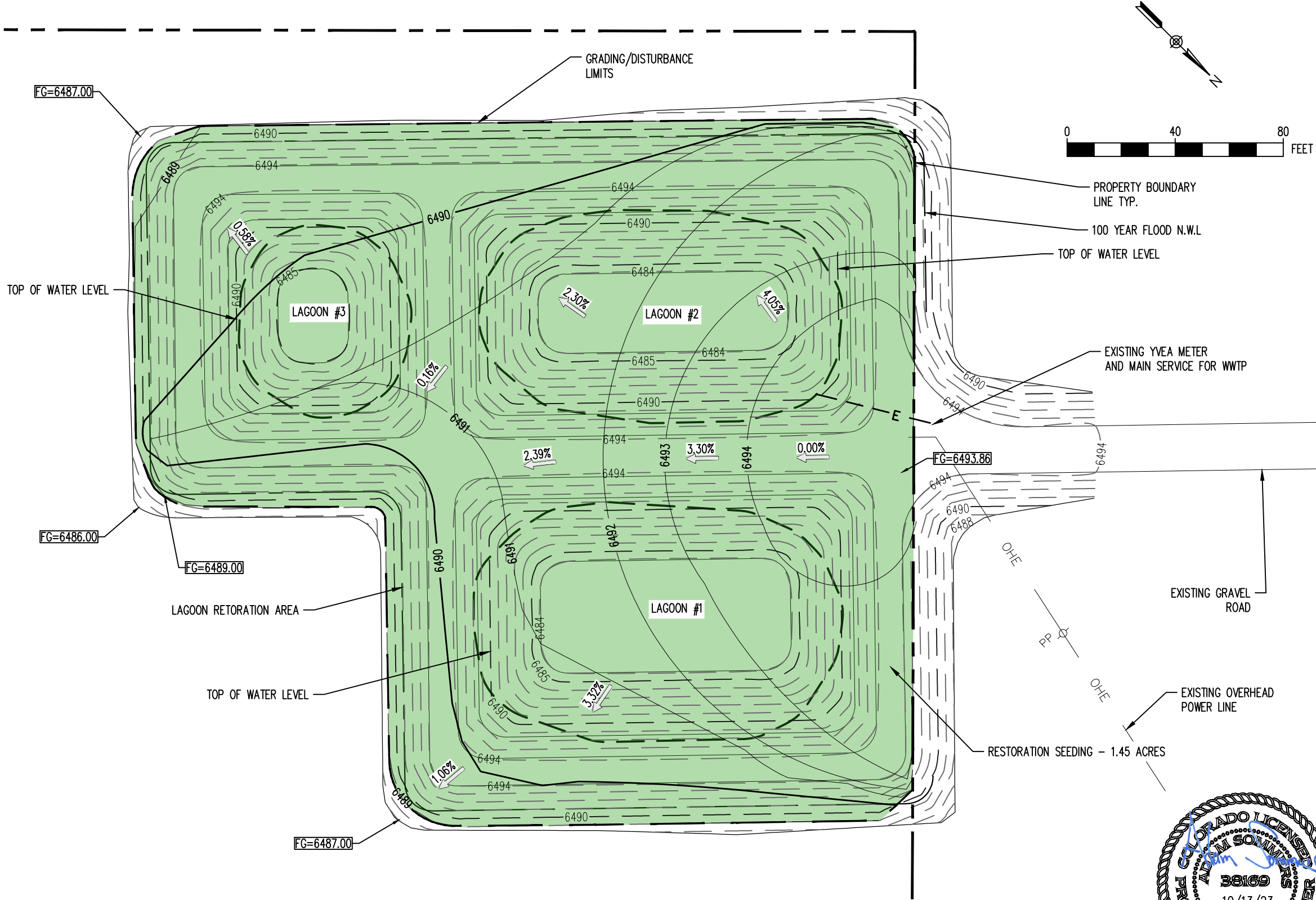
NOTES:

INFORMATION SHOWN ON THIS SHEET WAS OBTAINED FROM:
COMMUNITY OF MILNER SEWAGE TREATMENT FACILITY SITE
PLAN BY DISMUKE & DISMUKE, INC. CONSULTING ENGINEERS & SURVEYORS
DATED JUNE 1982

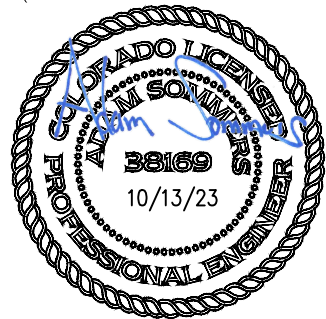
RESTORATION SEEDING SPECIFICATIONS:

REFER TO PROJECT SPECIFICATION MANUAL SECTION 32 92 00 FOR THE FOLLOWING ITEMS:

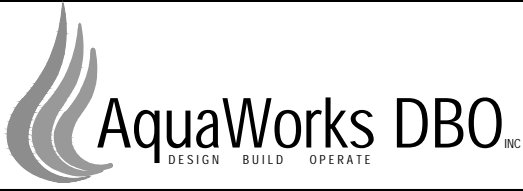
1. SOIL ANALYSIS
2. SEED AND MULCH SUBMITTALS
3. SITE PREPARATION AND PROTECTION
4. SOIL PREPARATION
5. SEEDING AND MULCHING
6. WARRANTY AND CONDITIONS



LAGOON GRADING AND RESTORATION PLAN
1" = 40'

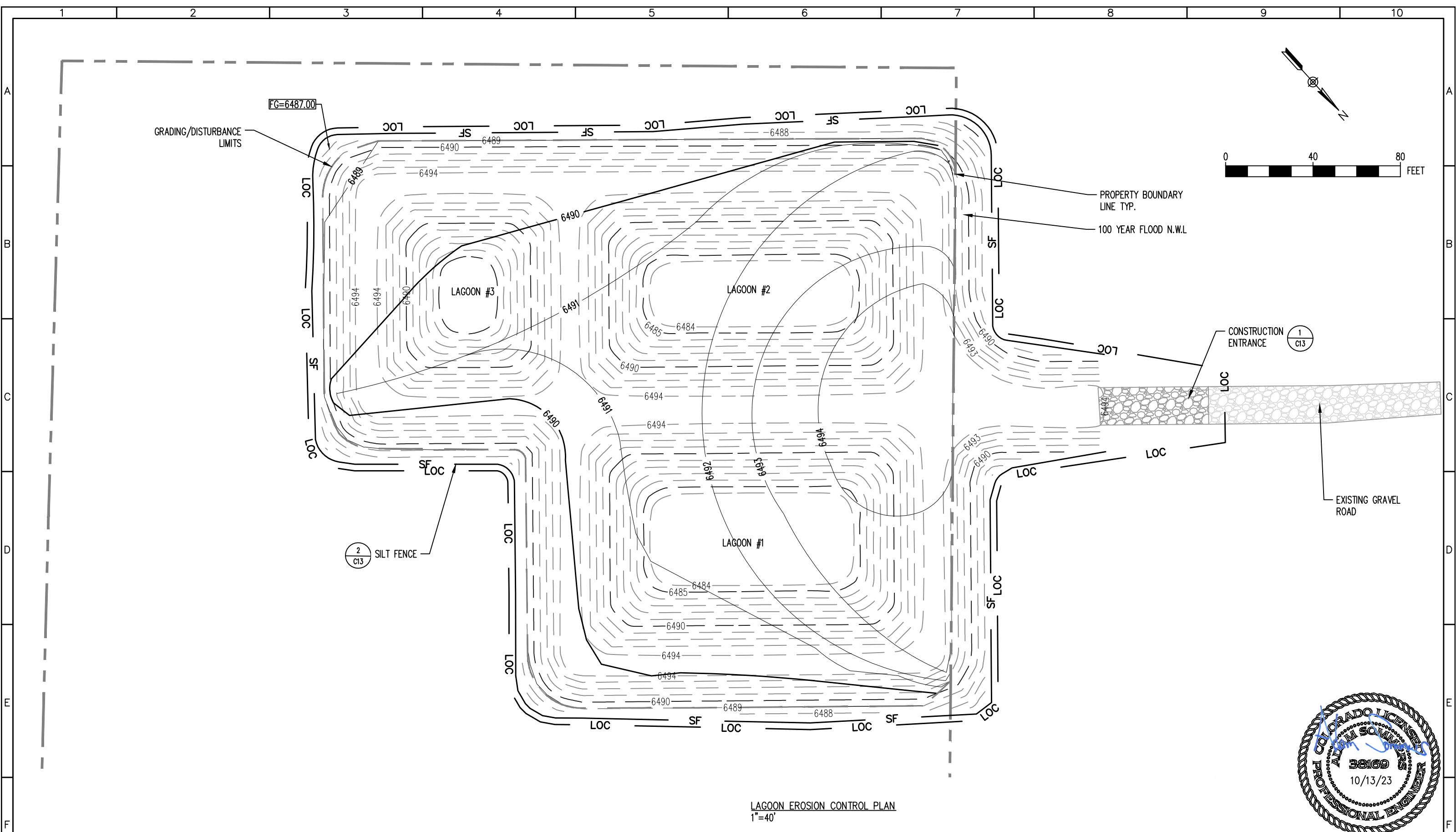


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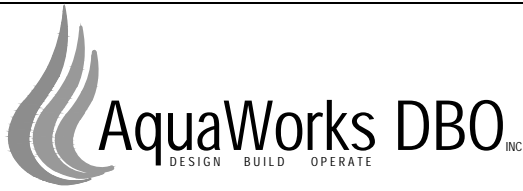


PROJECT: MILNER COLORADO WWTP
COMMUNITY OF MILNER ROUTT
COUNTY, COLORADO
ENGINEER: AQUAWORKS DBO, INC.
3252 WILLIAMS STREET
DENVER, COLORADO 80205
(303) 477-5915

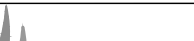

SHEET TITLE:		
LAGOON GRADING AND RESTORATION PLAN		
PROJECT NUMBER:	SCALE:	SHEET:
7829	1" = 40'	C9

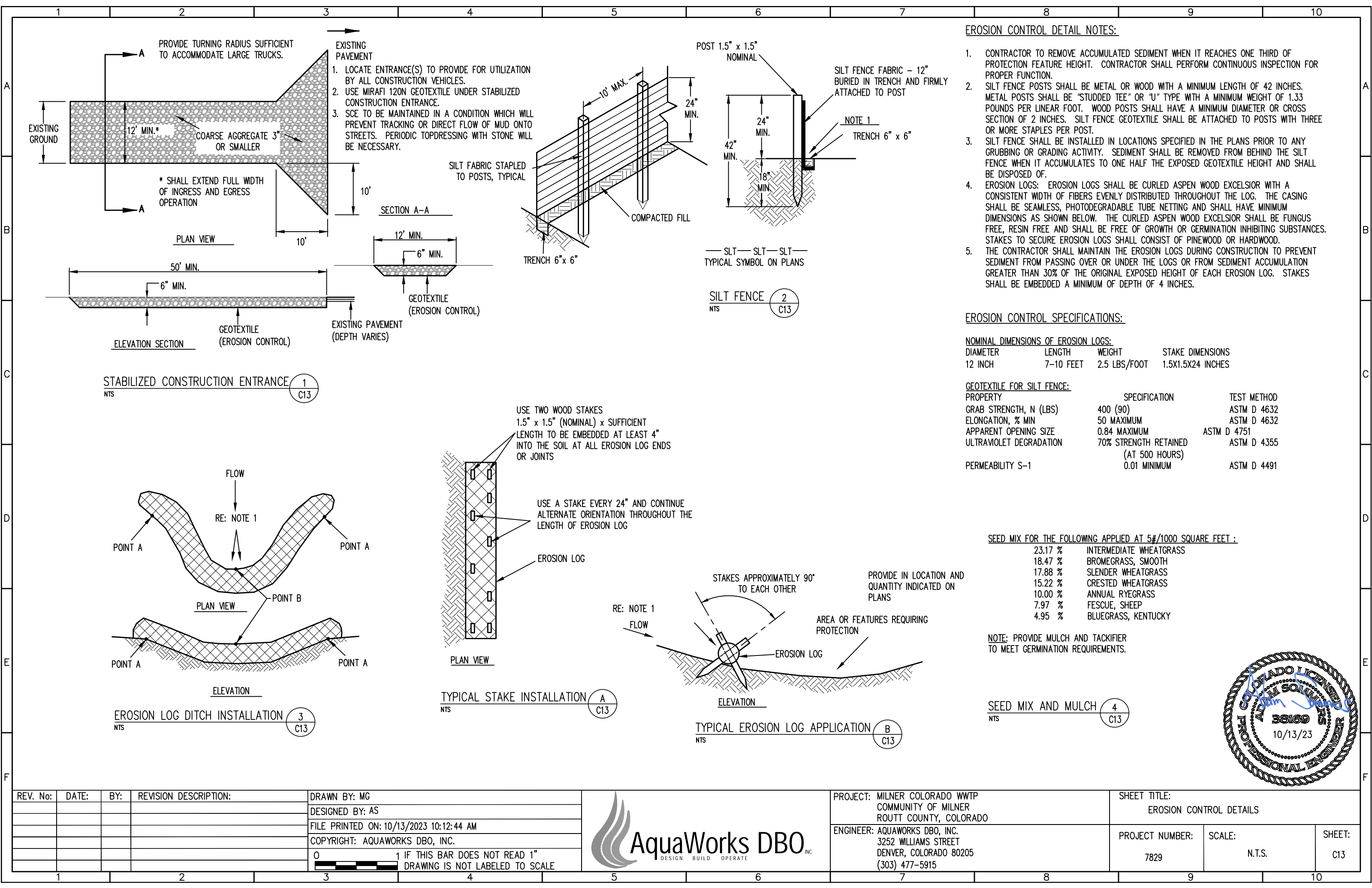


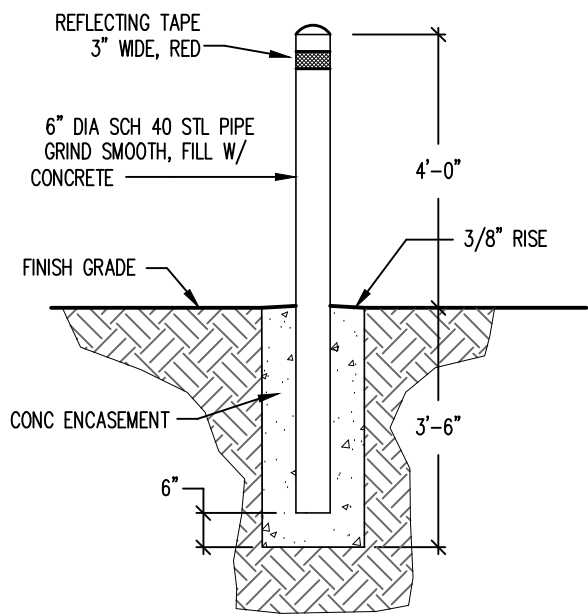
LAGOON EROSION CONTROL PLAN
1"=40'

REV. No:	DATE:	BY:	REVISION DESCRIPTION:	DRAWN BY: MG		PROJECT: MILNER COLORADO WWTP COMMUNITY OF MILNER ROUTT COUNTY, COLORADO	SHEET TITLE: LAGOON EROSION CONTROL PLAN		
				DESIGNED BY: AS					
				FILE PRINTED ON: 10/13/2023 10:12:24 AM		ENGINEER: AQUAWORKS DBO, INC. 3252 WILLIAMS STREET DENVER, COLORADO 80205 (303) 477-5915	PROJECT NUMBER: 7829	SCALE: 1"=40'	SHEET: C10
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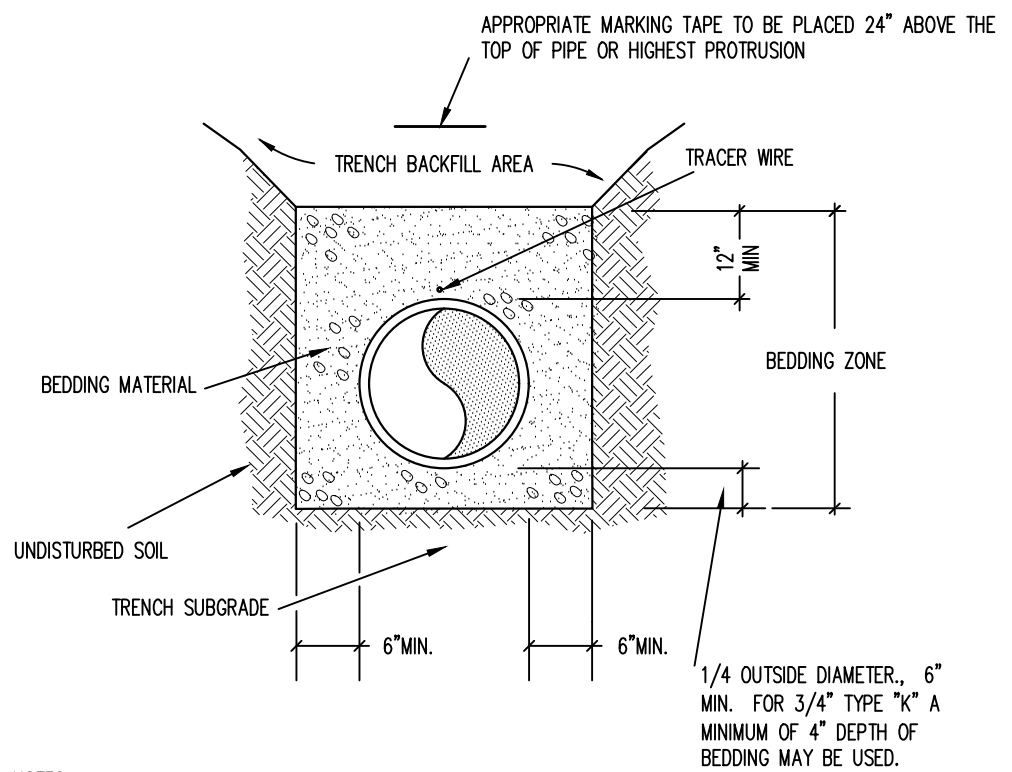
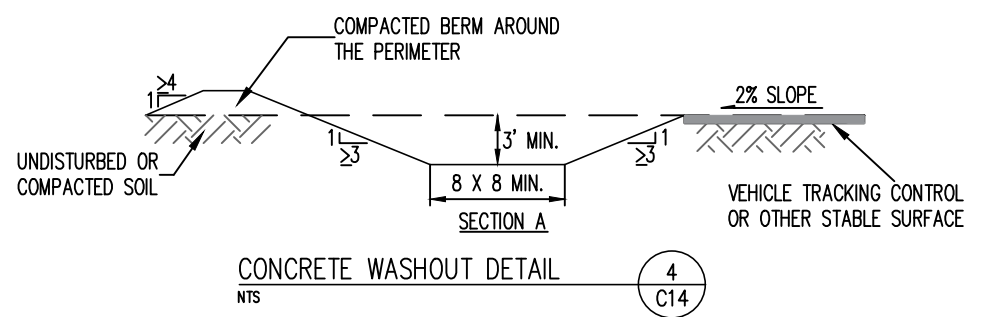
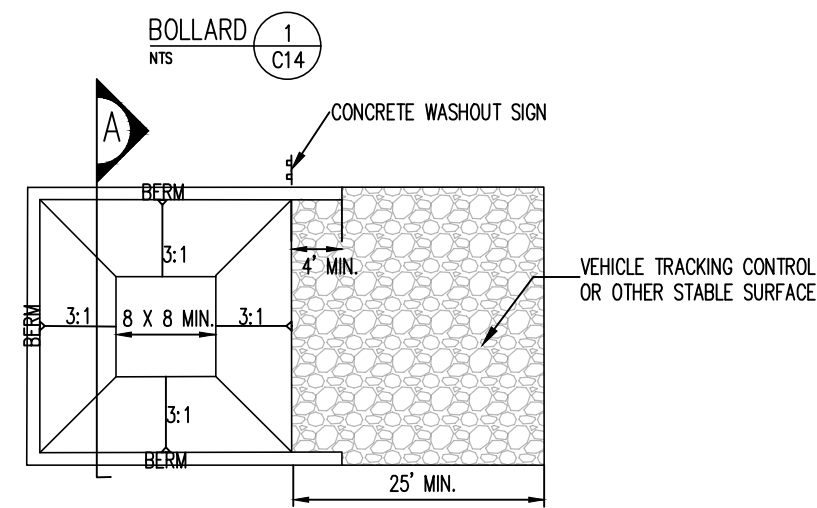


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								DESIGNED BY: AS				ENGINEER: AQUAWORKS DBO, INC. 3252 WILLIAMS STREET DENVER, COLORADO 80205 (303) 477-5915				PROJECT NUMBER: 7829		SCALE: 1"=40'		SHEET: C11	
								FILE PRINTED ON: 11/8/2023 3:28:29 PM													
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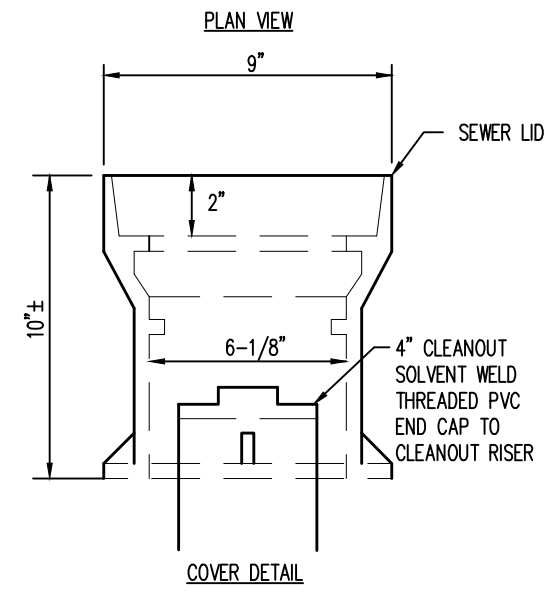
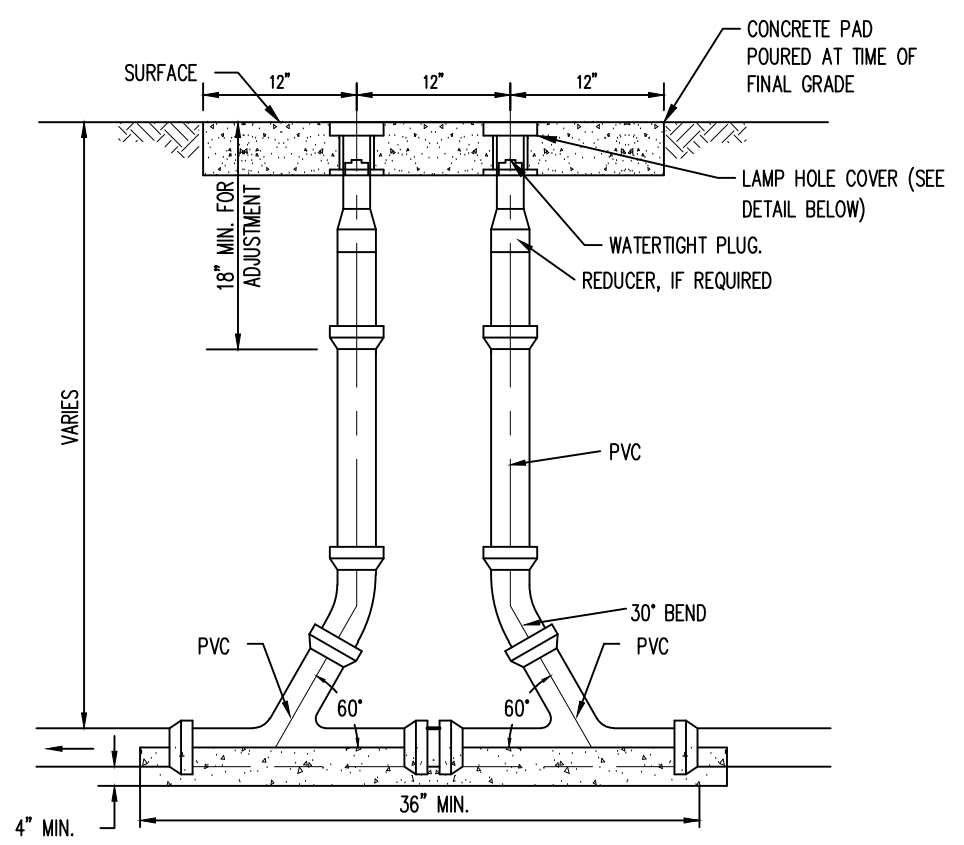
- NOTES:
1. PROVIDE SUITABLE SUBGRADE FOR STABLE INSTALLATION.
 2. ENCASE BOLLARD IN A MINIMUM OF 18" DIAMETER OF CONCRETE TO 4' BELOW GRADE.
 3. FILL PIPE WITH CONCRETE AND PROVIDE CLEAN CAP FOR TOP OF PIPE.
 4. CONCRETE: CONCRETE MIX SHALL YIELD A COMPRESSIVE STRENGTH OF NOT LESS THAN 4,000 PSI AFTER 28 DAYS. MINIMUM UNCOVERED CURING TIME TO BE 36 HOURS.
 5. PROVIDE 7' LONG STEEL PIPE.
 6. BOLLARD TO BE COATED WITH ZINC CHROMATE PRIMER PRIOR TO INSTALLATION. 7. PAINT OUTSIDE OF PIPE WITH RUST-RESISTANT PAINT COLOR PER OWNER'S SPECIFICATION.



- NOTES:
1. PIPE SHALL BE BEDDED FROM 6" BELOW THE BOTTOM OF THE PIPE TO 12" ABOVE THE TOP OF THE PIPE.
 2. SHOULD THE TRENCH BE EXCAVATED WIDER THAN ALLOWED, A CONCRETE CRADLE SHALL BE PLACED WITH 2500 P.S.I. CONCRETE FROM TRENCH BOTTOM TO PIPE SPRINGLINE.
 3. COMPACTION SHALL BE AS FOLLOWS: PIPE ZONE BEDDING 6" UNDER AND 12" OVER PIPE WILL REQUIRE 90% S.P.D. TRENCH ZONE ABOVE BEDDING MATERIALS, FULL TRENCH SECTION IN ROADWAY OR STREET R.O.W. LIMITS WILL REQUIRE 95% S.P.D. TRENCH ZONE ABOVE BEDDING MATERIALS, OUTSIDE OF STREET R.O.W. WILL REQUIRE 90% S.P.D. LIFTS SHALL NOT EXCEED 6". COMPACTION TESTING SHALL BE EVERY FOOT OR PER ROUTT COUNTY REQUIREMENTS.
 4. USE ONLY BACKFILL FOR TRENCHES WHICH IS FREE FROM ROCKS, LARGE ROOTS, OTHER VEGETATION OR ORGANIC MATTER, AND FROZEN MATERIAL. NO ROCKS GREATER THAN TWELVE (12) INCHES IN DIAMETER SHALL BE ALLOWED.

PIPE INSTALLATION DETAIL 2
NTS C14

- CONCRETE WASHOUT AREA NOTES:
1. SEE PLAN VIEW FOR CWA INSTALLATION LOCATION.
 2. DO NOT LOCATE AN UNLINED CWA WITHIN 400' OF ANY NATURAL DRAINAGE PATHWAY OR WATERBODY. DO NOT LOCATE WITHIN 1,000' OF ANY WELLS OR DRINKING WATER SOURCES. IF SITE CONSTRAINTS MAKE THIS INFEASIBLE, OR IF HIGHLY PERMEABLE SOILS EXIST ON SITE, THE CWA MUST BE INSTALLED WITH AN IMPERMEABLE LINER (16 MIL MIN. THICKNESS) OR SURFACE STORAGE ALTERNATIVES USING PREFABRICATED CONCRETE WASHOUT DEVICES OR A LINED ABOVE GROUND STORAGE ARE SHOULD BE USED.
 3. THE CWA SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE.
 4. CWA SHALL INCLUDE A FLAT SUBSURFACE PIT THAT IS AT LEAST 8' BY 8' SLOPES LEADING OUT OF THE SUBSURFACE PIT SHALL BE 3:1 OR FLATTER THE PIT SHALL BE AT LEAST 3' DEEP.
 5. BERM SURROUNDING SIDES AND BACK OF THE CWA SHALL HAVE MINIMUM HEIGHT OF 1'
 6. VEHICLE TRACKING PAD SHALL BE SLOPED 2% TOWARDS THE CWA
 7. SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE CWA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CWA TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS
 8. USE EXCAVATED MATERIAL FOR PERIMETER BERM CONSTRUCTION.

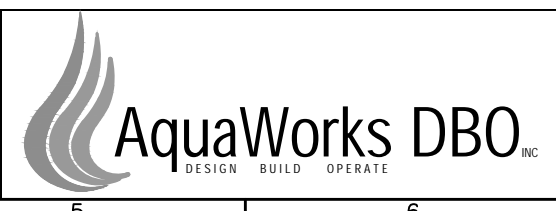


- NOTES:
1. COVER SHALL HAVE A LOCKING LID MARKED "SEWER".
 2. TYLER SERIES 6855 SLIP TYPE TOP SECTION, D & L SUPPLY SERIES M-8056 OR EQUAL.

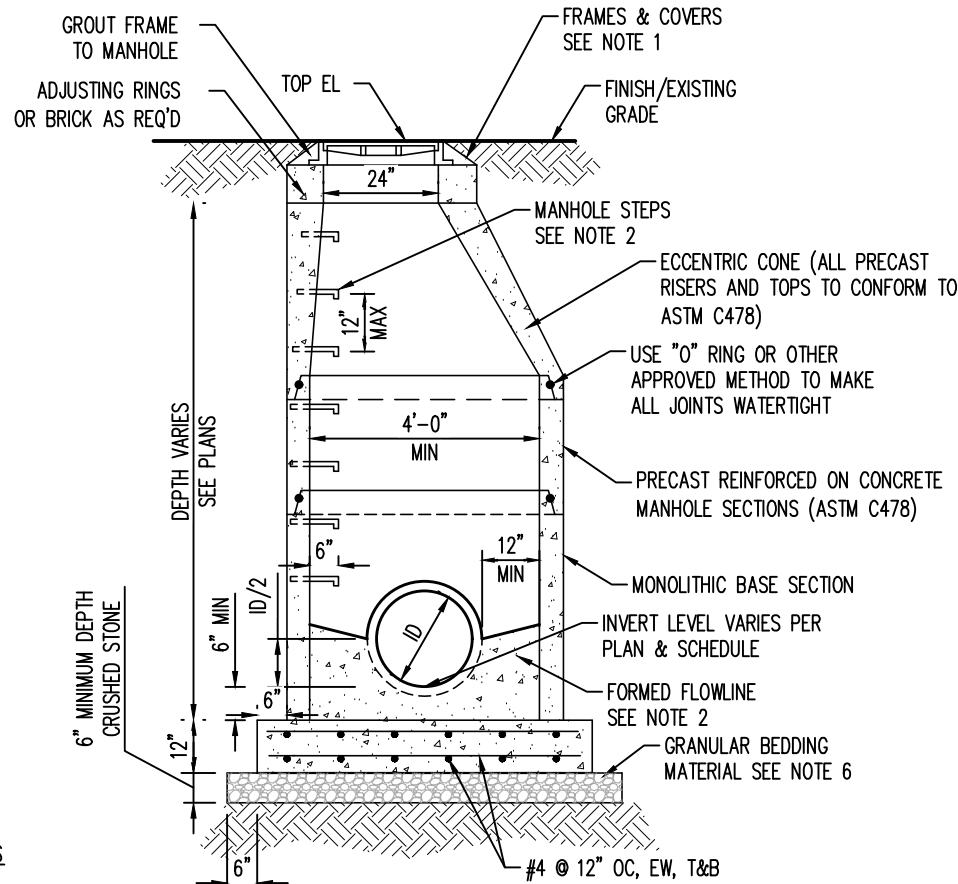
DOUBLE CLEANOUT 3
NTS C14



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ENGINEER: AQUAWORKS DBO, INC. 3252 WILLIAMS STREET DENVER, COLORADO 80205 (303) 477-5915	PROJECT NUMBER: 7829	SCALE: N.T.S.	SHEET: C14

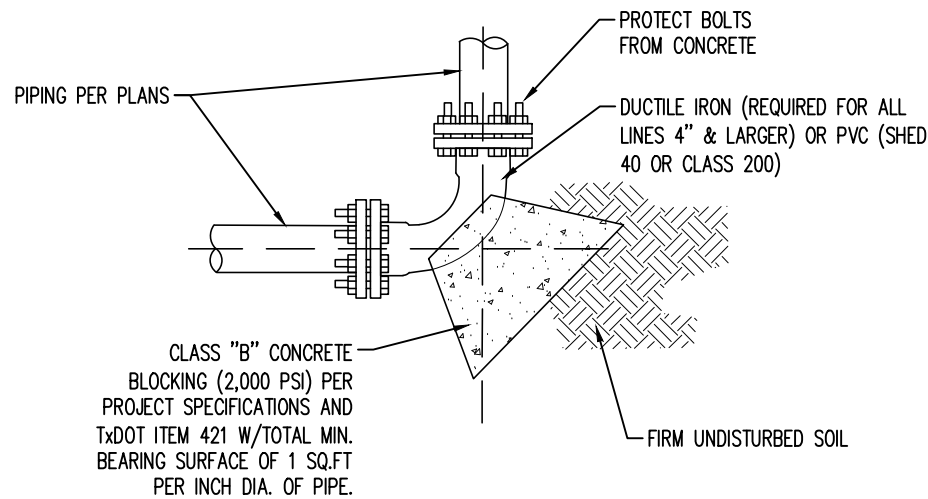


NOTES

- SANITARY MANHOLE COVERS SHALL HAVE "SANITARY SEWER" CAST ON THE COVER AND SHALL BE NEENAH R-1688 OR ENGINEER APPROVED EQUIVALENT. STORM MANHOLE COVERS SHALL HAVE "STORM SEWER" CAST ON THE COVER AND SHALL BE NEENAH R-1678 OR ENGINEER APPROVED EQUIVALENT.
- MANHOLE STEPS TO BE M.A. INDUSTRIES 004-501-DF OR ENGINEER APPROVED EQUIVALENT. PROVIDED TO WITHIN 12" OF TOP OF CONE.
- FLOWLINE OF MANHOLE MAY BE FORMED IN CONCRETE; BUILT UP WITH MORTAR; OR BY LAYING A PIPE THROUGH MANHOLE, THE TOP BEING BROKEN OUT LATER.
- GROUT ANNULAR SPACE BETWEEN WALL AND PIPE WITH NON-SHRINK MORTAR TO INSURE WATERTIGHT SEAL.
- ALL CONCRETE TO COMPLY WITH ACI 318 AND SHALL BE A MINIMUM STRENGTH OF 3000 PSI AT 28 DAY TEST.
- ALL MANHOLES AND SPECIAL STRUCTURES TO BE PLACED ON SUITABLE SUBGRADE MATERIAL. IF SUBGRADE CONDITIONS WARRANT, UNSUITABLE FOUNDATION MATERIAL WILL BE OVEREXCAVATED, AND SELECT SUBGRADE MATERIAL WILL BE PLACED AS PER SECTION 5.00 OF THE WCPM STANDARD CONSTRUCTION SPECIFICATIONS.
- GRANULAR BEDDING MATERIAL SHALL BE COMPACTED TO 90% MAXIMUM DRY DENSITY IN ACCORDANCE WITH AASHTO T-180.

CONCRETE MANHOLE DETAIL
N.T.S.

5
C15



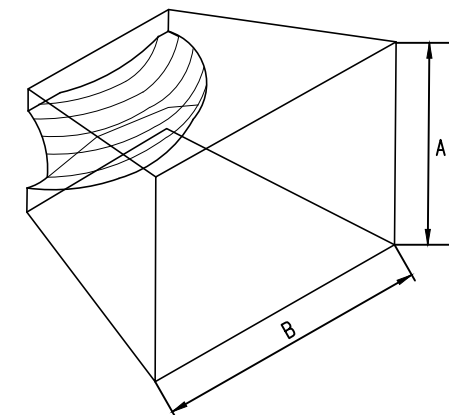
DIMENSIONS FOR CONCRETE THRUST BLOCKS

PIPE DIA. SIZE (INCHES)	MINIMUM SOIL BEARING AREA REQUIRED (SQUARE FEET)	TYPICAL DIMENSIONS OF BEARING AREA IN INCHES (A X B)	TYPICAL VOLUME OF CONC. REQUIRED (CUBIC FEET)*
2	2.0	12" X 24"	3.0
2 1/2	2.5	15" X 24"	4.0
3	3.0	16" X 27"	4.5
4	4.0	18" X 32"	6.0
6	6.0	24" X 36"	9.0
8	8.0	29" X 40"	12.0
10	10.0	30" X 48"	15.0
12	12.0	36" X 48"	18.0
14	14.0	36" X 56"	21.0
16	16.0	39" X 59"	24.0
18	18.0	42" X 62"	27.0

* VARIES CONSIDERABLY W/DISTANCE BETWEEN PIPE AND BEARING POINT

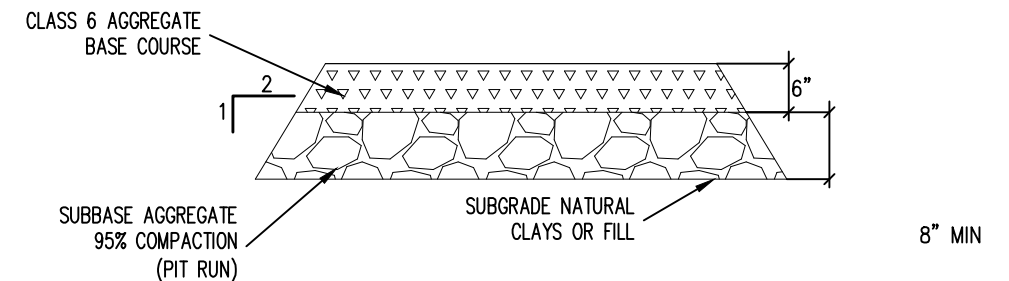
TYPICAL BLOCKING DETAILS
N.T.S.

6
C15



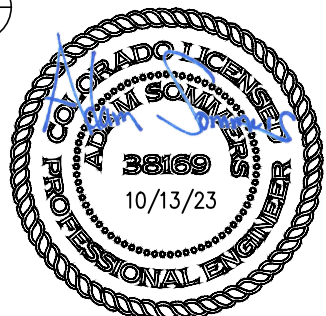
NOTES

BLOCKING REQUIRED ON ALL FITTINGS 2" & LARGER.
ALL REQUIRED BENDS & FITTINGS MAY NOT BE LABELLED ON THE PLANS.
PIPE MAY BE CURVED UP TO 75% OF MANUFACTURERS RECOMENED MAXIMUM CURVATURE WITHOUT A BEND AS APPROVED BY OWNER & ENGINEER.
PVC FITTINGS TO BE PROTECTED FROM CONCRETE WITH A WRAPPING OF 30" ROOFING FELT.

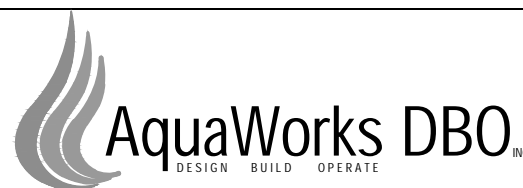


DRIVEWAY SECTION DETAIL
NTS

7
C15

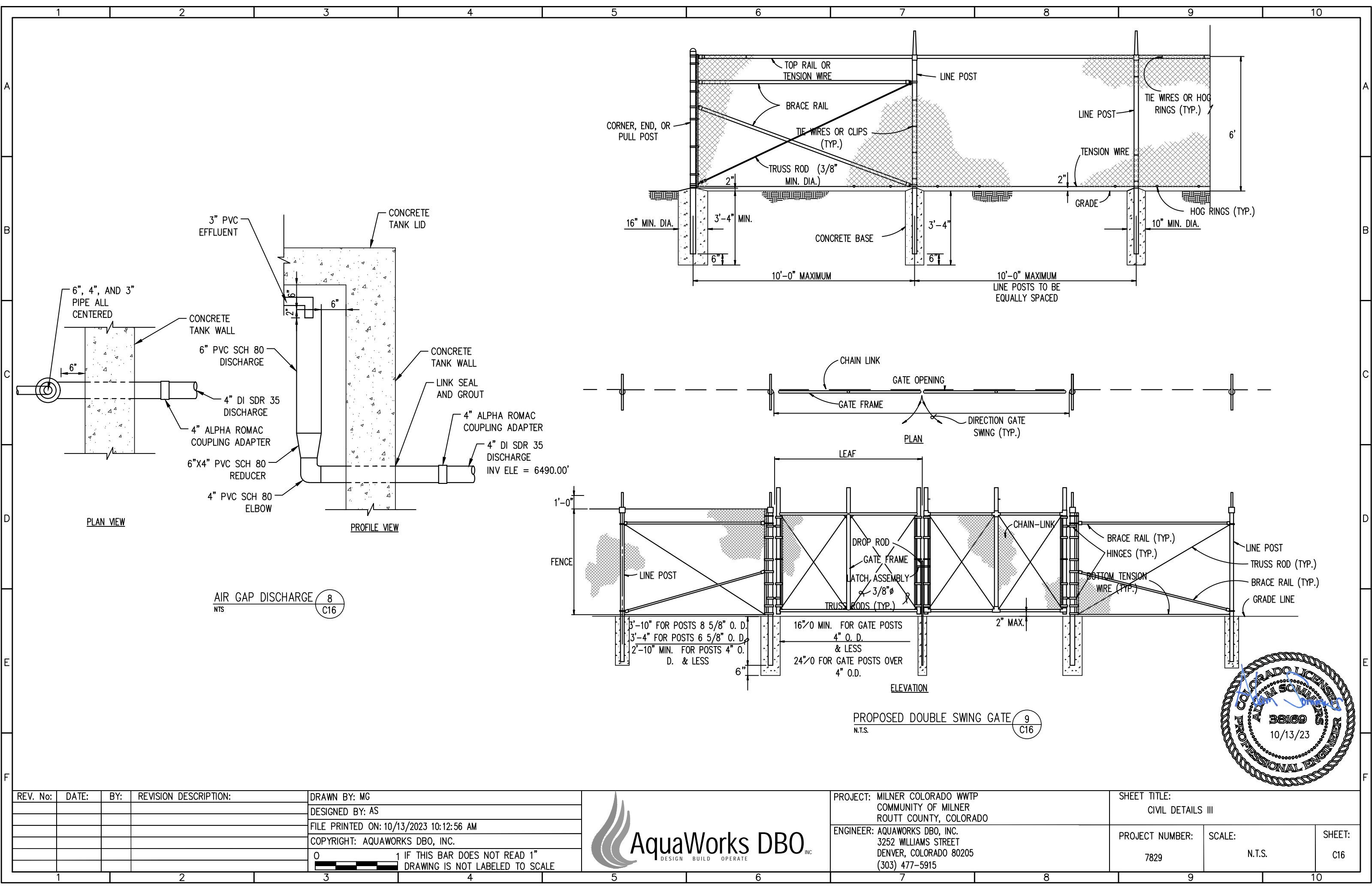


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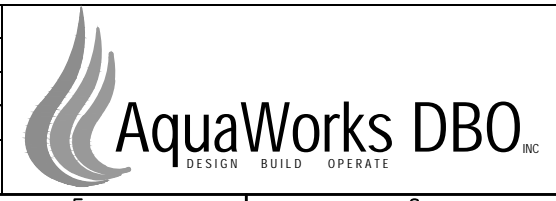


PROJECT: MILNER COLORADO WWTP
COMMUNITY OF MILNER
ROUTT COUNTY, COLORADO
ENGINEER: AQUAWORKS DBO, INC.
3252 WILLIAMS STREET
DENVER, COLORADO 80205
(303) 477-5915

SHEET TITLE:		
CIVIL DETAILS II		
PROJECT NUMBER:	SCALE:	SHEET:
7829	N.T.S.	C15

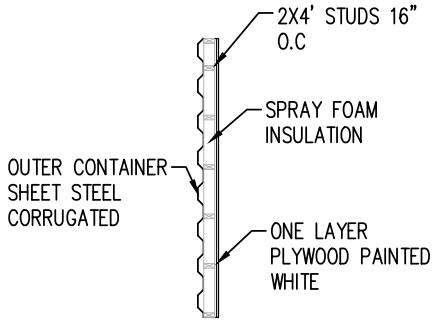
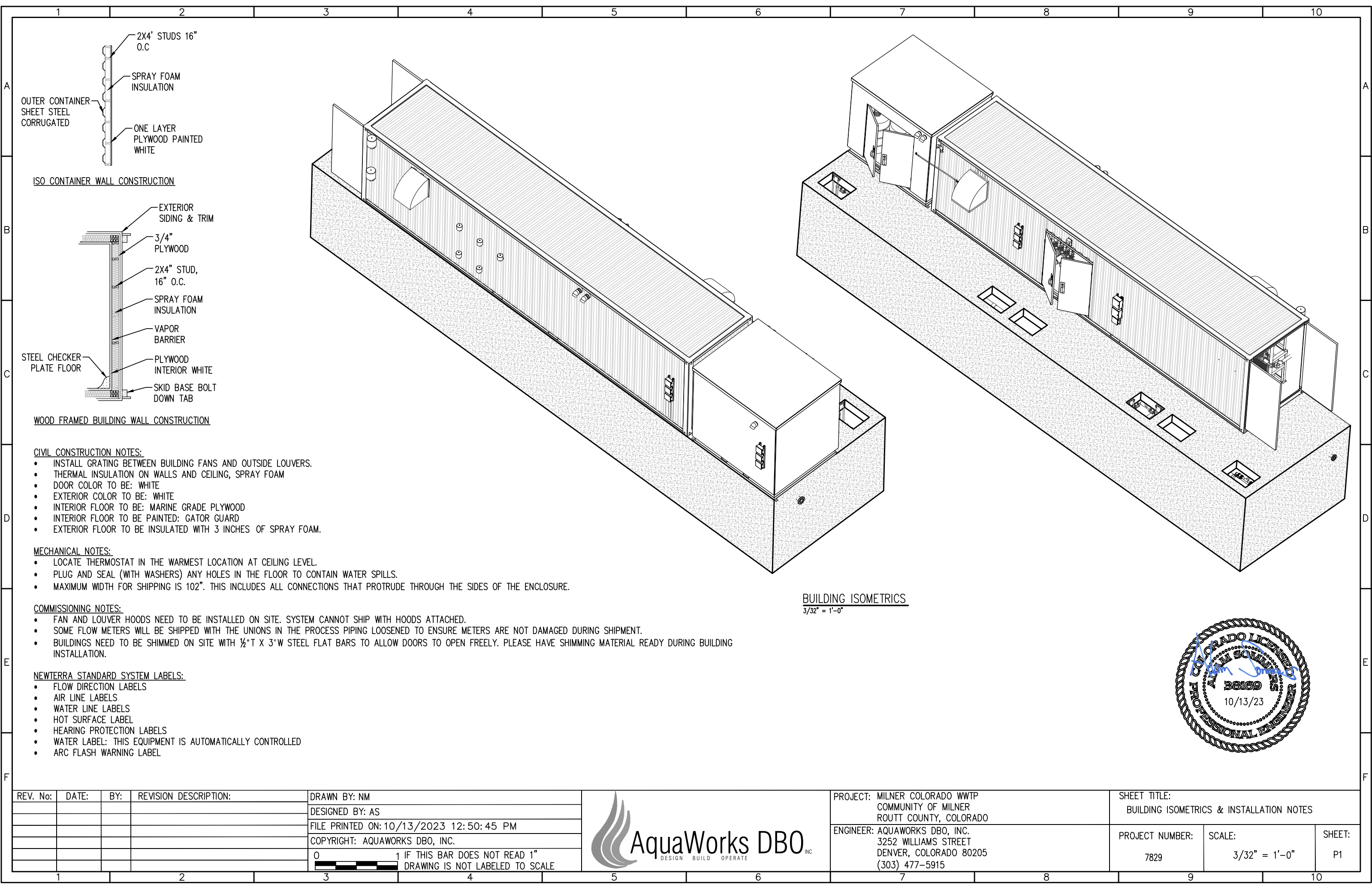


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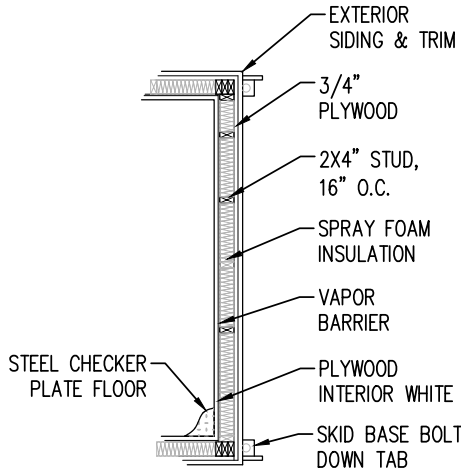


PROJECT: MILNER COLORADO WWTP COMMUNITY OF MILNER ROUTT COUNTY, COLORADO	SHEET TITLE: CIVIL DETAILS III
ENGINEER: AQUAWORKS DBO, INC. 3252 WILLIAMS STREET DENVER, COLORADO 80205 (303) 477-5915	PROJECT NUMBER: 7829 SCALE: N.T.S. SHEET: C16





ISO CONTAINER WALL CONSTRUCTION



WOOD FRAMED BUILDING WALL CONSTRUCTION

CIVIL CONSTRUCTION NOTES:

- INSTALL GRATING BETWEEN BUILDING FANS AND OUTSIDE LOUVERS.
- THERMAL INSULATION ON WALLS AND CEILING, SPRAY FOAM
- DOOR COLOR TO BE: WHITE
- EXTERIOR COLOR TO BE: WHITE
- INTERIOR FLOOR TO BE: MARINE GRADE PLYWOOD
- INTERIOR FLOOR TO BE PAINTED: GATOR GUARD
- EXTERIOR FLOOR TO BE INSULATED WITH 3 INCHES OF SPRAY FOAM.

MECHANICAL NOTES:

- LOCATE THERMOSTAT IN THE WARMEST LOCATION AT CEILING LEVEL.
- PLUG AND SEAL (WITH WASHERS) ANY HOLES IN THE FLOOR TO CONTAIN WATER SPILLS.
- MAXIMUM WIDTH FOR SHIPPING IS 102". THIS INCLUDES ALL CONNECTIONS THAT PROTRUDE THROUGH THE SIDES OF THE ENCLOSURE.

COMMISSIONING NOTES:

- FAN AND LOUVER HOODS NEED TO BE INSTALLED ON SITE. SYSTEM CANNOT SHIP WITH HOODS ATTACHED.
- SOME FLOW METERS WILL BE SHIPPED WITH THE UNIONS IN THE PROCESS PIPING LOOSENED TO ENSURE METERS ARE NOT DAMAGED DURING SHIPMENT.
- BUILDINGS NEED TO BE SHIMMED ON SITE WITH 1/2" T X 3" W STEEL FLAT BARS TO ALLOW DOORS TO OPEN FREELY. PLEASE HAVE SHIMMING MATERIAL READY DURING BUILDING INSTALLATION.

NEWTERRA STANDARD SYSTEM LABELS:

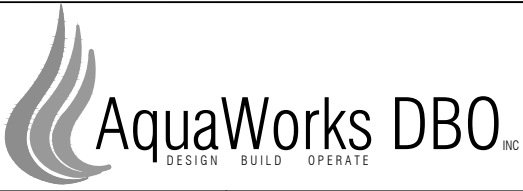
- FLOW DIRECTION LABELS
- AIR LINE LABELS
- WATER LINE LABELS
- HOT SURFACE LABEL
- HEARING PROTECTION LABELS
- WATER LABEL: THIS EQUIPMENT IS AUTOMATICALLY CONTROLLED
- ARC FLASH WARNING LABEL

BUILDING ISOMETRICS

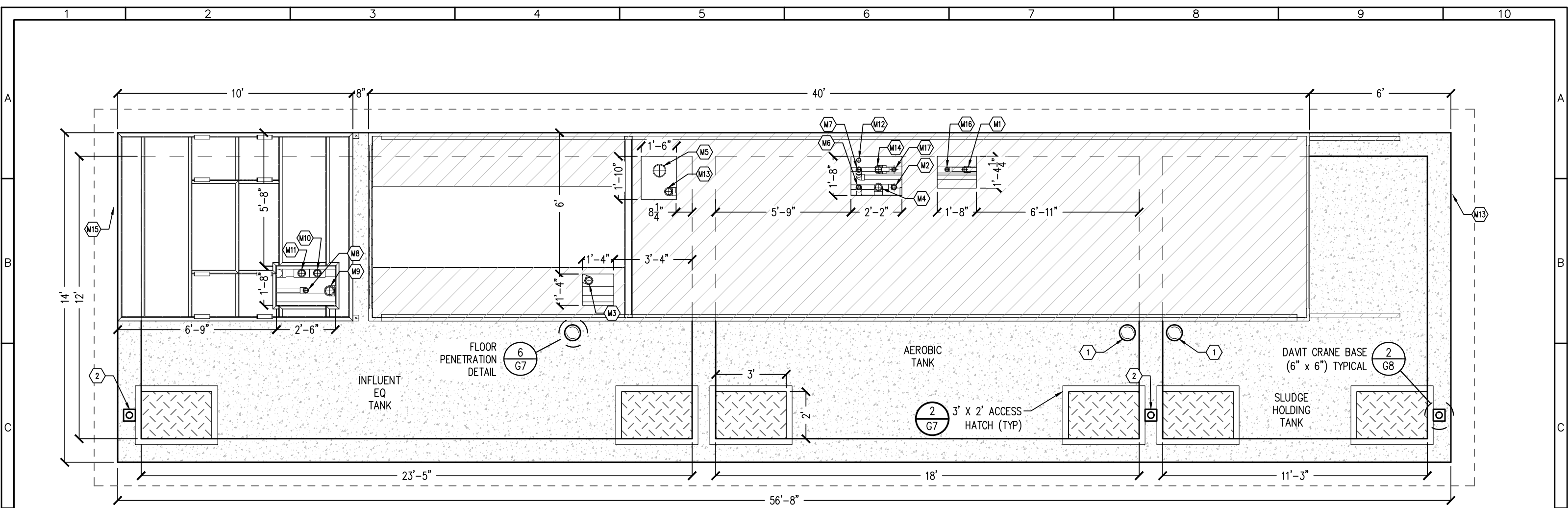
3/32" = 1'-0"



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ENGINEER: AQUAWORKS DBO, INC. 3252 WILLIAMS STREET DENVER, COLORADO 80205 (303) 477-5915			PROJECT NUMBER: 7829	SCALE: 3/32" = 1'-0"	SHEET: P1



CONCRETE TANK LID PLAN
1/4" = 1'-0"

PROCESS NOTES:

- 1 4" VENT
2 DAVIT CRANE BASE

PIPING CONNECTION NOTES:

- M1 2" AIR TO SLUDGE DIGESTION
M2 2" AIR TO INF EQ TANK
M3 3" OVERFLOW TO INF EQ TANK (FLOOR DRAIN)
M4 3" AIR TO AEROBIC TANK
M5 6" MBR TANK OVERFLOW TO INFLUENT EQ TANK
M6 2" AEROBIC TANK PUMP 1 TO MBR TANK 1
M7 2" AEROBIC TANK PUMP 2 TO MBR TANK 2
M8 2" INFLUENT EQ PUMP TO BARSCREEN
M9 4" FINE SCREEN TO AEROBIC TANK
M10 3" OVERFLOW TO INF EQ TANK (FLOOR DRAIN)
M11 3" OVERFLOW TO INF EQ TANK (SCREEN OVERFLOW)
M12 2" CHEMICAL SLEEVE PIPE TO AEROBIC TANK
M13 3" SYSTEM EFFLUENT
M14 3" OVERFLOW TO SLUDGE TANK
M15 4" INFLUENT FROM LIFT STATION
M16 1.5" SUPERNATANT SLUDGE PUMPS TO FLOW METER
M17 1.5" SUPERNATANT FLOW METER TO EQ TANK

GENERAL NOTES:

- 1) ALL PIPING SCH 80 PVC UNLESS NOTED OTHERWISE
2) INSTALL GREEN DRAIN ONE WAY VALVE OR EQUAL OVER ALL FLOOR DRAINS
3) CONTRACTOR TO FILL ALL FOUR VOIDS IN THE NEWTERRA FLOOR WITH GROUT. GROUT AROUND FLOOR DRAINS M3 & M10.

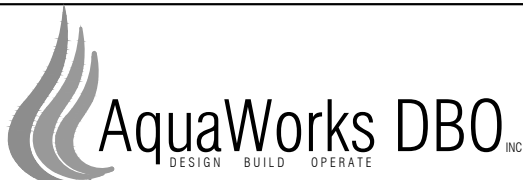
TANK COATINGS

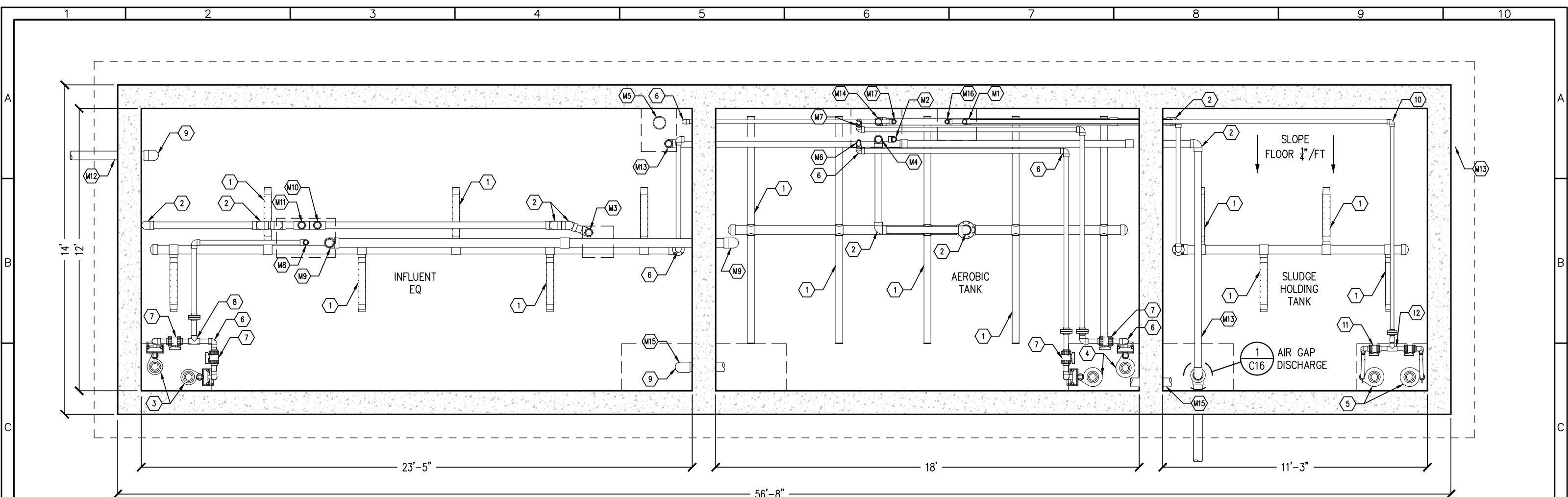
COAT INFLUENT EQUALIZATION TANK INTERIOR WALLS AND UNDERSIDE OF LID. SYSTEM TYPE: EPOXY, SHERWIN WILLIAMS OR EQUAL.

1. SURFACE PREPARATION: SSPC-SP 13/NACE 6 WITH A SURFACE PROFILE OF ICRI CSP 2 OR 3.
2. FILLER: FILL BUG HOLES, AIR POCKETS AND OTHER VOIDS WITH STEEL-SEAM FT910.
3. FINISH: DURA-PLATE 6000 REINFORCED EPOXY. DFT 60.0 TO 80.0 MILS.



REV. No:	DATE:	BY:	REVISION DESCRIPTION:	DRAWN BY: NM	PROJECT: MILNER COLORADO WWTP COMMUNITY OF MILNER ROUTT COUNTY, COLORADO	SHEET TITLE: CONCRETE TANK LID PLAN
				DESIGNED BY: AS	ENGINEER: AQUAWORKS DBO, INC. 3252 WILLIAMS STREET DENVER, COLORADO 80205 (303) 477-5915	PROJECT NUMBER: 7829
				FILE PRINTED ON: 10/13/2023 12:50:49 PM	SCALE: 1/4" = 1'-0"	SHEET: P2
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CONCRETE TANK EQUIPMENT PLAN
1/4" = 1'-0"

PROCESS NOTES:

- 1 DIFFUSER
- 2 3" 90 ELBOW
- 3 INFLUENT EQ PUMPS
- 4 MBR FEED FORWARD PUMPS
- 5 SLUDGE SUPERNATANT PUMPS
- 6 2" 90 ELBOW
- 7 2" BALL VALVE
- 8 2" TEE
- 9 4" 90 ELBOW
- 10 1.5" 90 ELBOW
- 11 1.5" BALL VALVE
- 12 1.5" TEE

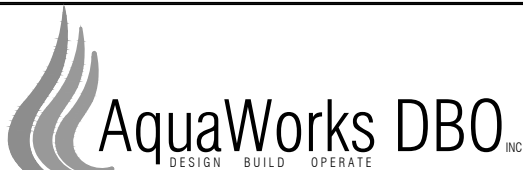
PIPING CONNECTION NOTES:

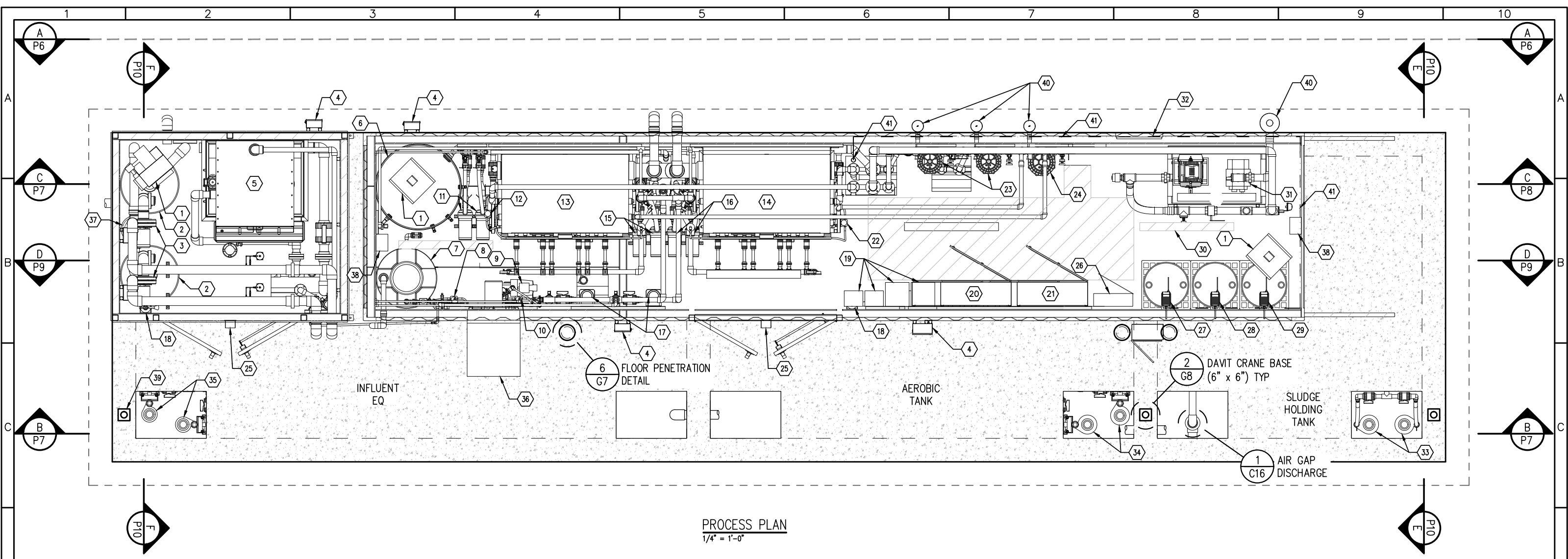
- M1 2" AIR TO SLUDGE DIGESTION
- M2 2" AIR TO INF EQ TANK
- M3 3" OVERFLOW TO INF EQ TANK (FLOOR DRAIN)
- M4 3" AIR TO AEROBIC TANK
- M5 6" MBR TANK OVERFLOW TO INFLUENT EQ TANK
- M6 2" AEROBIC TANK PUMP 1 TO MBR TANK 1
- M7 2" AEROBIC TANK PUMP 2 TO MBR TANK 2
- M8 2" INFLUENT EQ PUMP TO BARSCREEN
- M9 4" FINE SCREEN TO AEROBIC TANK
- M10 3" OVERFLOW TO INF EQ TANK (FLOOR DRAIN)
- M11 3" OVERFLOW TO INF EQ TANK (SCREEN OVERFLOW)
- M12 4" INFLUENT FROM LIFT STATION
- M13 3" SYSTEM EFFLUENT
- M14 3" OVERFLOW TO SLUDGE TANK
- M15 4" BASIN OVERFLOW
- M16 1.5" SUPERNATANT SLUDGE PUMPS TO FLOW METER
- M17 1.5" SUPERNATANT FLOW METER TO EQ TANK

GENERAL NOTES:

- 1) ALL PIPING SCH 80 PVC UNLESS NOTED OTHERWISE
 - 2) INSTALL GREEN DRAIN ONE WAY VALVE OR EQUAL OVER ALL FLOOR DRAINS
 - 3) CONTRACTOR TO FILL ALL FOUR VOIDS IN THE NEWTERRA FLOOR WITH GROUT. GROUT AROUND FLOOR DRAINS M3 & M10.
- TANK COATINGS
- COAT INFLUENT EQUALIZATION TANK INTERIOR WALLS AND UNDERSIDE OF LID. SYSTEM TYPE: EPOXY, SHERWIN WILLIAMS OR EQUAL.
- 1. SURFACE PREPARATION: SSPC-SP 13/NACE 6 WITH A SURFACE PROFILE OF ICRI CSP 2 OR 3.
 - 2. FILLER: FILL BUG HOLES, AIR POCKETS AND OTHER VOIDS WITH STEEL-SEAM FT910.
 - 3. FINISH: DURA-PLATE 6000 REINFORCED EPOXY. DFT 60.0 TO 80.0 MILS.



REV. No:	DATE:	BY:	REVISION DESCRIPTION:	DRAWN BY: NM		PROJECT: MILNER COLORADO WWTP COMMUNITY OF MILNER ROUTT COUNTY, COLORADO	SHEET TITLE: CONCRETE TANK EQUIPMENT		
				DESIGNED BY: AS			PROJECT NUMBER: 7829	SCALE: 1/4" = 1'-0"	SHEET: P3
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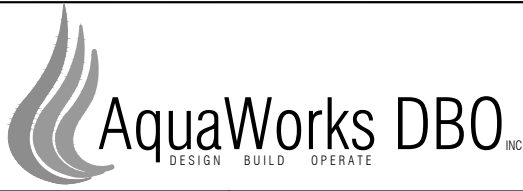
PROCESS PLAN
1/4" = 1'-0"

PROCESS NOTES:

- | | | |
|--|-------------------------------------|--|
| 1 HEATER | 15 PERMEATE PUMPS FOR MBR 1 | 29 ALUM CHEM FEED SYSTEM |
| 2 ODOR CONTROL VESSEL | 16 PERMEATE PUMPS FOR MBR 2 | 30 BUILDING INTERIOR LIGHTS (TYP 4) |
| 3 VENTILATION BLOWER | 17 UV REACTORS | 31 AERATION TANK BLOWERS |
| 4 ELECTRICAL JUNCTION BOX | 18 FIRE EXTINGUISHER | 32 24" LOUVER |
| 5 INLET FINE SCREEN (2MM) | 19 VARIABLE FREQUENCY DRIVES | 33 SUPERNATANT TRANSFER PUMPS |
| 6 BACKWASH TANK | 20 MASTER POWER PANEL | 34 MEMBRANE FEED PUMPS |
| 7 HOUSE WATER STORAGE TANK | 21 MASTER CONTROL PANEL | 35 EQ TRANSFER PUMPS |
| 8 SODIUM HYPOCHLORITE CHEM FEED SYSTEM | 22 PRIME/AIR BLEED PUMP | 36 24" FAN & HOOD |
| 9 HOUSE WATER SUPPLY PUMP | 23 EQ & SLUDGE HOLDING TANK BLOWERS | 37 LIQUID SEPERATOR |
| 10 CITRIC ACID CHEM FEED SYSTEM | 24 MBR BLOWERS | 38 EYEWASH STATION WALL MOUNT MAASTERS 8 GAL |
| 11 BACKWASH PUMPS | 25 EXTERIOR LIGHTS | 39 DAVIT CRANE BASE (TYP) |
| 12 PRIME AIR/BLEED PUMP | 26 PANELBOARD | 40 BLOWER MUFFLER |
| 13 MEMBRANE (MBR) TANK 1 | 27 MICRO-C CHEM FEED SYSTEM | 41 CHEM FEED CONDUIT (2" SCH 80 PVC) |
| 14 MEMBRANE (MBR) TANK 2 | 28 CAUSTIC CHEM FEED SYSTEM | |



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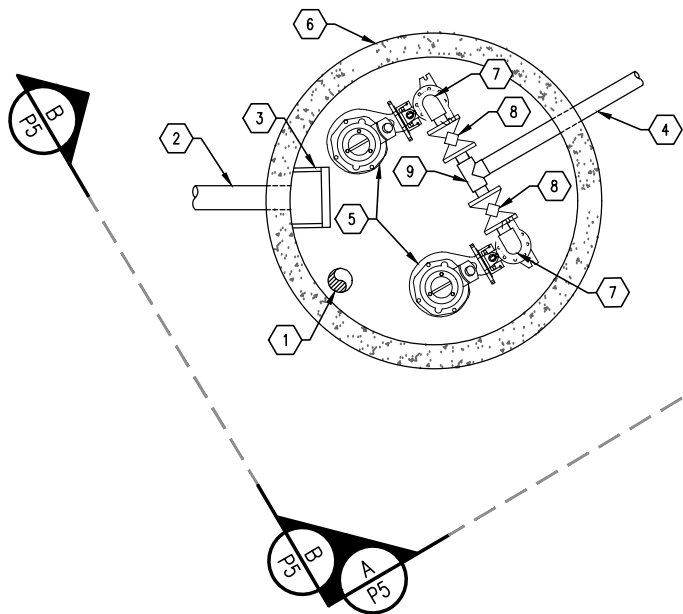
PROJECT: MILNER COLORADO WWTP COMMUNITY OF MILNER ROUTT COUNTY, COLORADO			SHEET TITLE: PROCESS PLAN		
ENGINEER: AQUAWORKS DBO, INC. 3252 WILLIAMS STREET DENVER, COLORADO 80205 (303) 477-5915			PROJECT NUMBER: 7829	SCALE: 1/4" = 1'-0"	SHEET: P4

PROCESS NOTES:

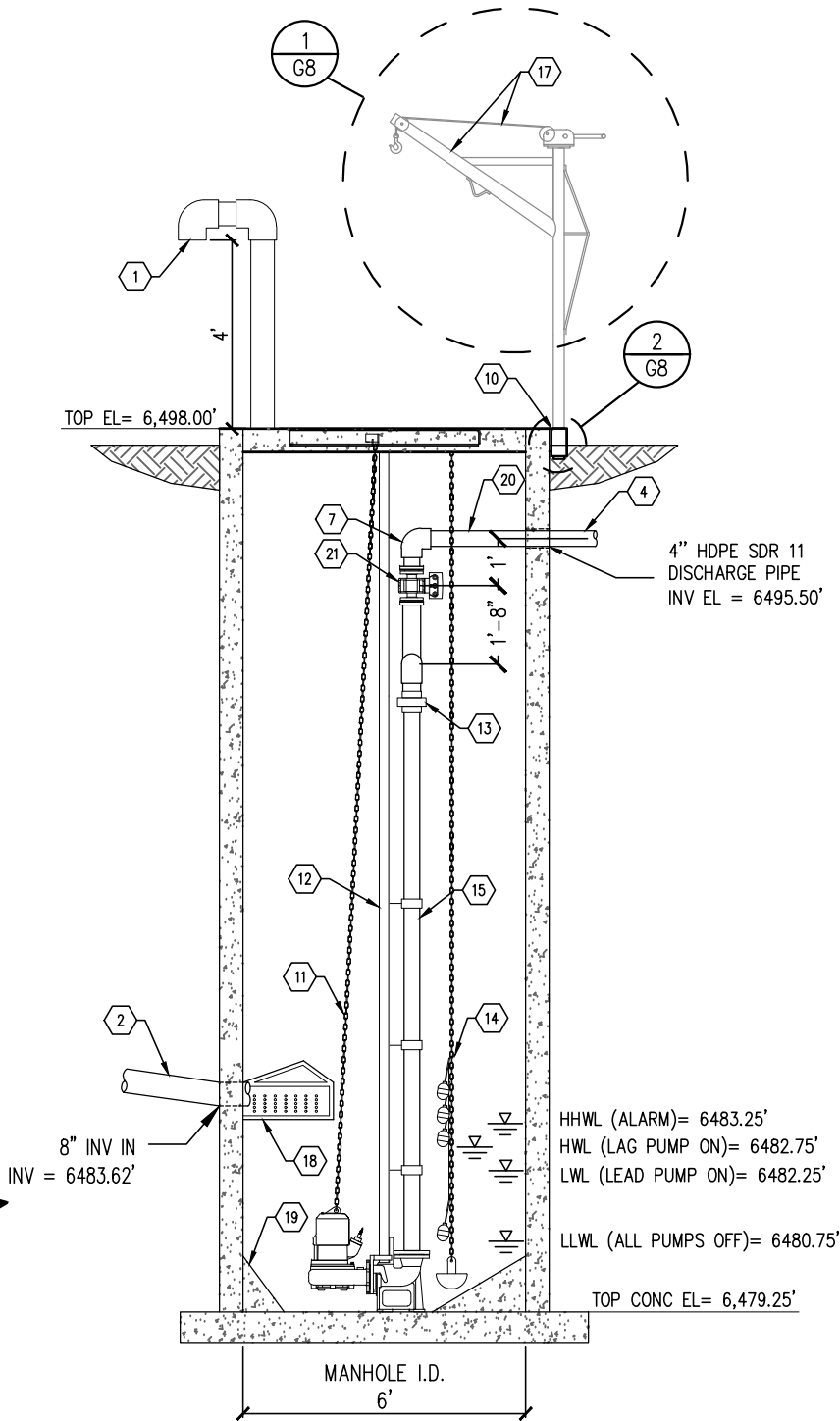
- 1 4" VENT IN LID W/#4 MESH SCREEN
2 INFLUENT 8" GRAVITY SEWER
3 LADDER RUNGS
4 4" HDPE SDR 11
5 1.0 HP SUBMERSIBLE PUMPS
6 6' I.D. CONCRETE MANHOLE
7 4" PVC 90 ELBOW
8 4" PLUG VALVE
9 4" TEE
10 WALL STYLE HOIST SOCKET (RE: DETAIL 2/G8)
11 LIFTING CHAIN
12 PUMP GUIDE RAILS
13 4" CHECK VALVE
14 MECHANICAL FLOAT SWITCHES
15 4" PVC
16 PRESSURE TRANSDUCER
17 DAVIT CRANE (STORED AT WWTP)
18 8" STATIONGUARD REMOVEABLE BAR SCREEN (REE PRODUCTS INC.)
19 CONCRETE FILLET
20 SLOPE PIPE AT 1% TOWARDS INFLUENT EQ TANK
21 4" MAGNETIC FLOW METER

NOTES:

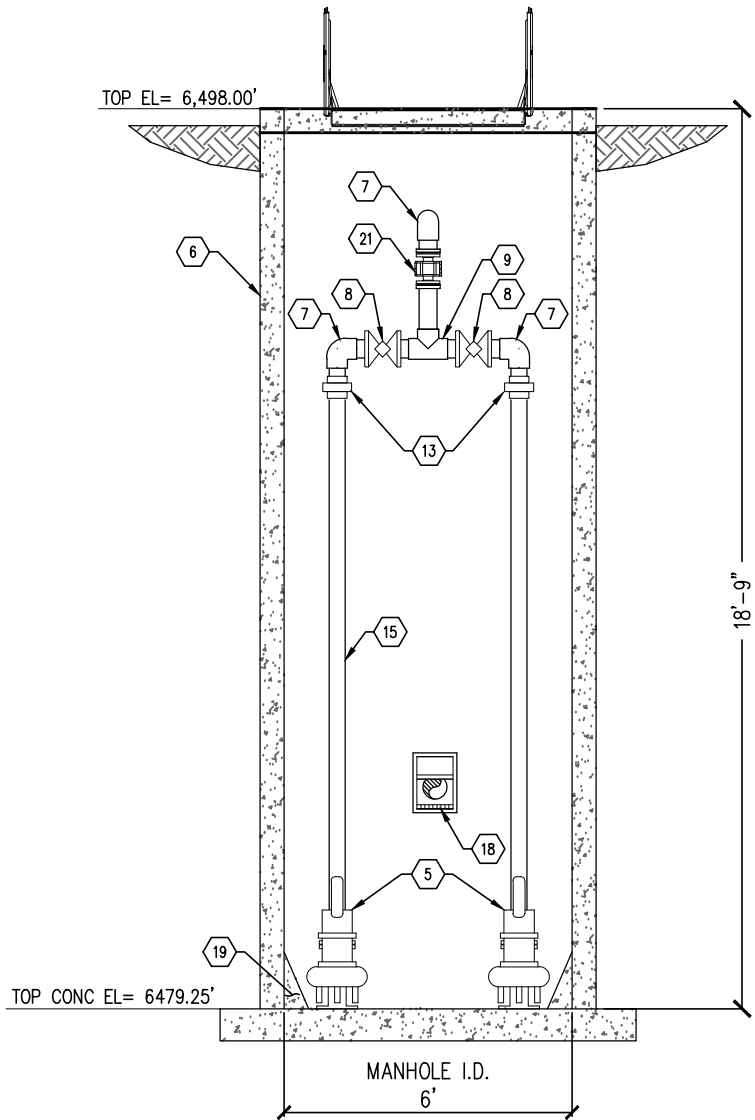
1) ALL PIPING SCH 80 PVC UNLESS NOTED OTHERWISE



LIFT STATION PLAN
1/4" = 1'-0"



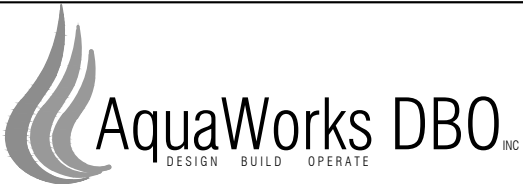
SECTION A
1/4" = 1'-0"



SECTION B
1/4" = 1'-0"

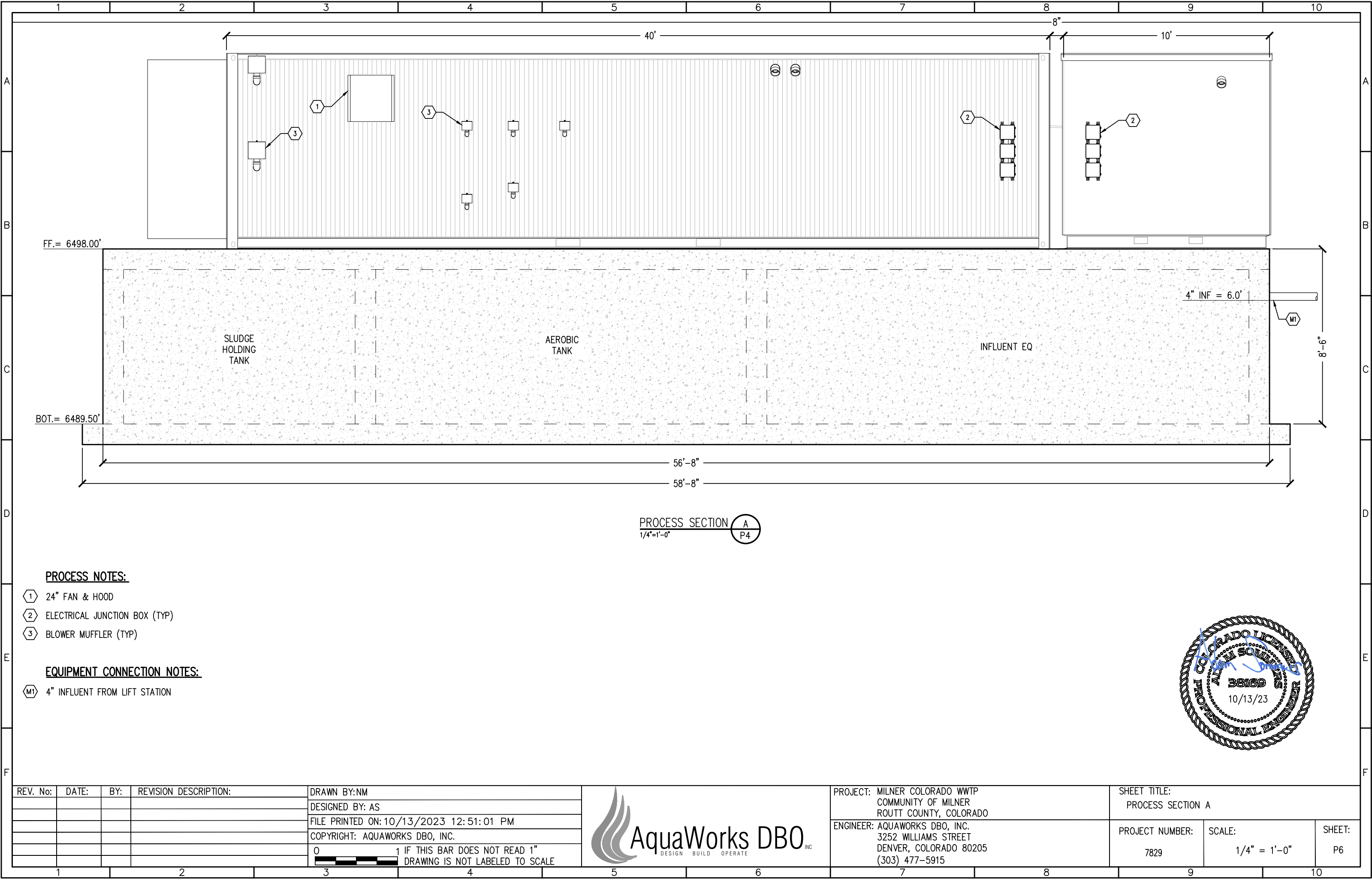


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				FILE PRINTED ON: 10/13/2023 1:03:25 PM
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PROJECT: MILNER COLORADO WWTP
COMMUNITY OF MILNER
ROUTT COUNTY, COLORADO
ENGINEER: AQUAWORKS DBO, INC.
3252 WILLIAMS STREET
DENVER, COLORADO 80205
(303) 477-5915

SHEET TITLE:		
LIFT STATION PLAN		
PROJECT NUMBER:	SCALE:	SHEET:
7829	1/4" = 1'-0"	P5



PROCESS NOTES:

- 1 24" FAN & HOOD
- 2 ELECTRICAL JUNCTION BOX (TYP)
- 3 BLOWER MUFFLER (TYP)

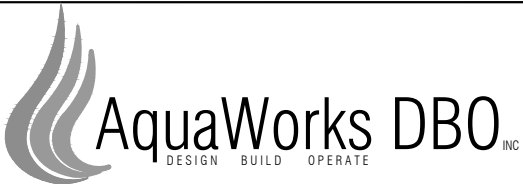
EQUIPMENT CONNECTION NOTES:

- M1 4" INFLUENT FROM LIFT STATION

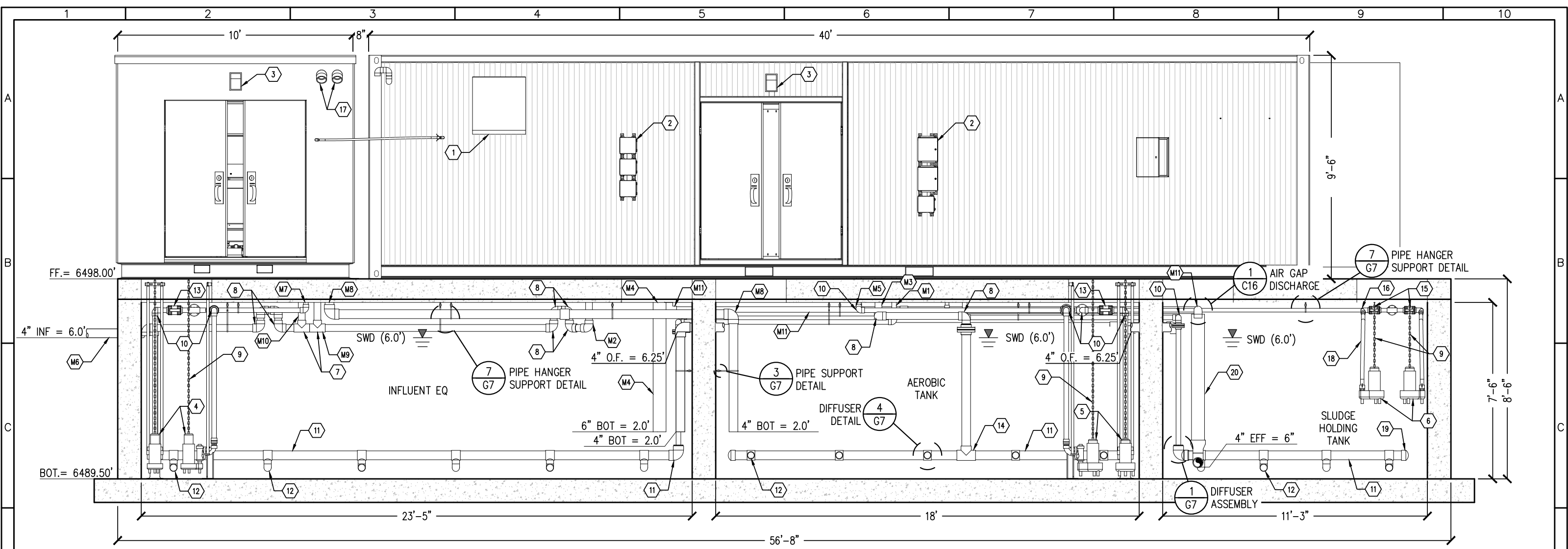
PROCESS SECTION A
1/4"=1'-0" P4



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PROJECT: MILNER COLORADO WWTP COMMUNITY OF MILNER ROUTT COUNTY, COLORADO			SHEET TITLE: PROCESS SECTION A		
ENGINEER: AQUAWORKS DBO, INC. 3252 WILLIAMS STREET DENVER, COLORADO 80205 (303) 477-5915			PROJECT NUMBER: 7829	SCALE: 1/4" = 1'-0"	SHEET: P6



PROCESS SECTION B
1/4"=1'-0"

PROCESS NOTES:

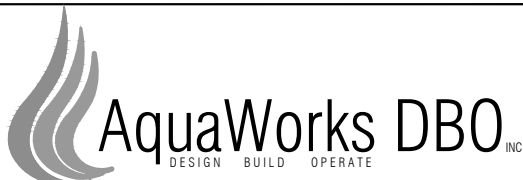
- | | |
|-----------------------------------|-----------------------------|
| (1) 24" FAN & HOOD | (11) 4" DIFFUSER HEADER |
| (2) ELECTRICAL JUNCTION BOX (TYP) | (12) DIFFUSER |
| (3) EXTERIOR LIGHT | (13) 2" BALL VALVE |
| (4) EQ TRANSFER PUMPS | (14) 4" TEE |
| (5) MEMBRANE BIOREACTOR FEED PUMP | (15) 1.5" BALL VALVE |
| (6) SUPERNATANT TRANSFER PUMP | (16) 1.5" 90 ELBOW |
| (7) 3" TEE | (17) EXTERIOR VENT |
| (8) 3" 90 ELBOW | (18) 1.5" FLEXIBLE TUBING |
| (9) LIFTING CHAIN | (19) 4" DIFFUSER HEADER CAP |
| (10) 2" 90 ELBOW | (20) 6"x4" REDUCER |

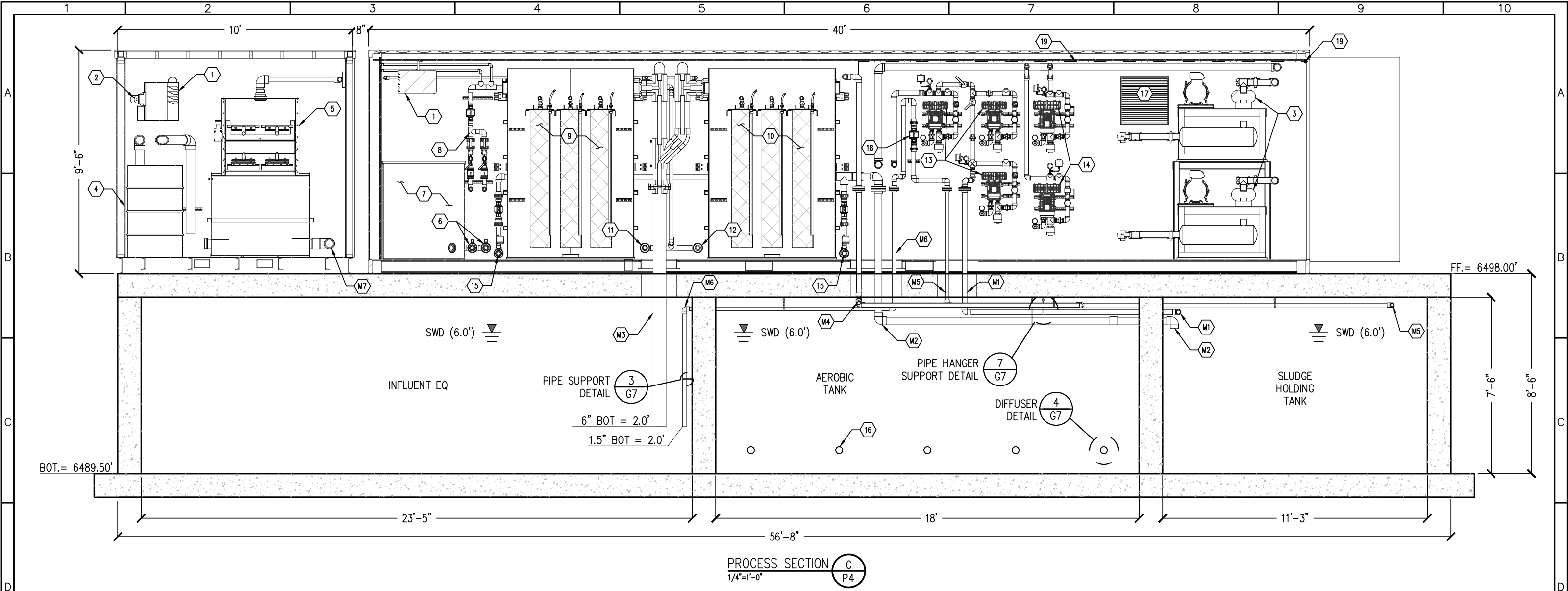
PIPING CONNECTION NOTES:

- | | |
|---|--|
| (M1) 2" AIR TO INFLUENT EQ TANK | (M9) 3" OVERFLOW TO EQ TANK (FLOOR DRAIN) |
| (M2) 3" OVERFLOW TO EQ TANK (FLOOR DRAIN) | (M10) 3" OVERFLOW TO EQ TANK (SCREEN OVERFLOW) |
| (M3) 3" AIR TO AEROBIC TANK | (M11) 3" SYSTEM EFFLUENT TO AIR GAP ASSEMBLY |
| (M4) 6" MBR TANK OVERFLOW TO INFLUENT EQ TANK | |
| (M5) 2" AEROBIC TANK PUMP 1 TO MBR TANK 1 | |
| (M6) 4" INFLUENT FROM LIFT STATION | |
| (M7) 2" INFLUENT EQ PUMP TO BARSCREEN | |
| (M8) 4" FINE SCREEN TO AEROBIC TANK | |



REV. No:	DATE:	BY:	REVISION DESCRIPTION:	DRAWN BY: NM	PROJECT: MILNER COLORADO WWTP COMMUNITY OF MILNER ROUTT COUNTY, COLORADO	SHEET TITLE: PROCESS SECTION B
				DESIGNED BY: AS	ENGINEER: AQUAWORKS DBO, INC. 3252 WILLIAMS STREET DENVER, COLORADO 80205 (303) 477-5915	PROJECT NUMBER: 7829
				FILE PRINTED ON: 10/13/2023 12:51:04 PM	SCALE: 1/4" = 1'-0"	SHEET: P7
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PROCESS NOTES:

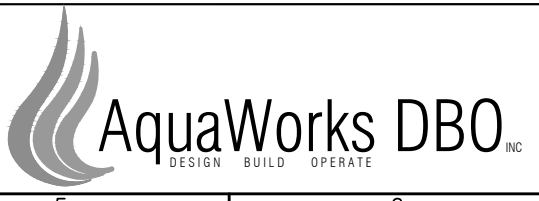
- 1 HEATER
- 2 VENTILATION BLOWER
- 3 AEROBIC TANK BLOWERS
- 4 ODOR CONTROL VESSEL
- 5 INLET FINE SCREEN (2MM)
- 6 BACKWASH PUMPS
- 7 BACKWASH TANK
- 8 PRIME AIR/BLEED SYSTEM
- 9 MEMBRANE BIOREACTOR (MBR) TANK 1
- 10 MEMBRANE BIOREACTOR (MBR) TANK 2
- 11 PERMEATE PUMPS FOR MBR 1
- 12 PERMEATE PUMPS FOR MBR 2
- 13 EQ/SLUDGE HOLDING TANK BLOWERS
- 14 MBR BLOWERS

PIPING CONNECTION NOTES:

- M1 2" AIR TO SLUDGE DIGESTION
- M2 3" AIR TO AEROBIC TANK
- M3 6" MBR TANK OVERFLOW TO INFLUENT EQ TANK
- M4 2" AEROBIC TANK PUMP 2 TO MBR TANK 2
- M5 1.5" SUPERNATANT SLUDGE PUMPS TO FLOW METER
- M6 1.5" SUPERNATANT FLOW METER TO EQ TANK
- M7 4" FINE SCREEN TO AEROBIC TANK

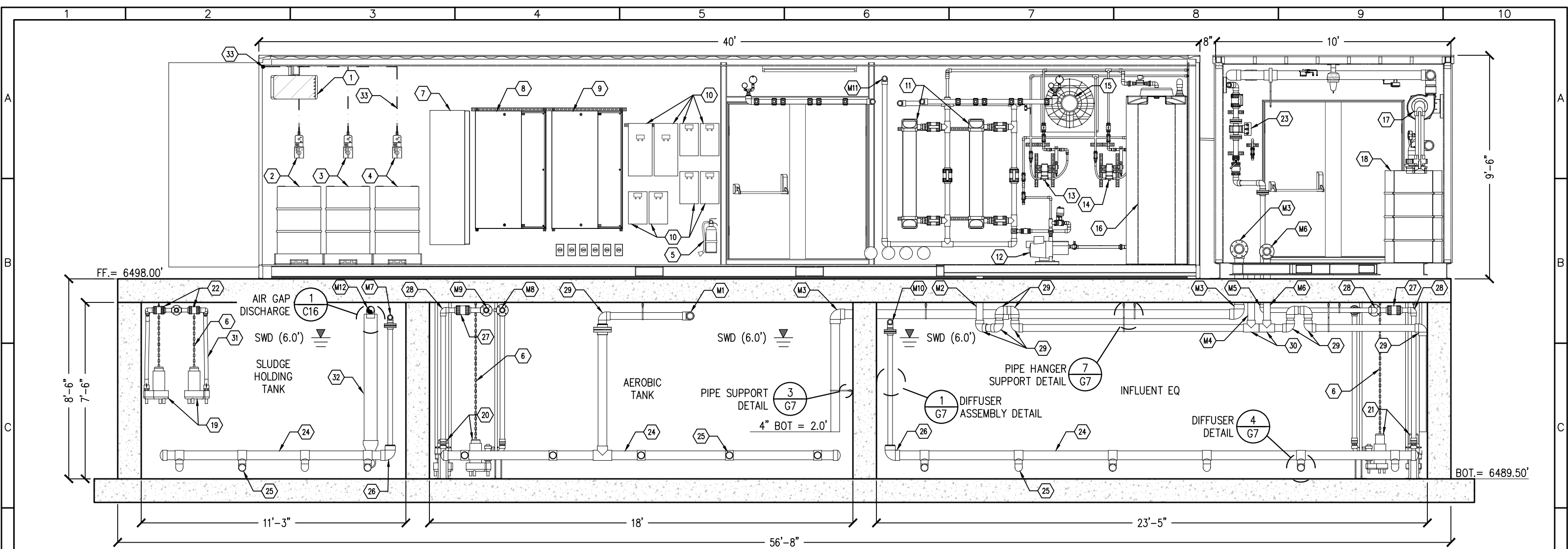
- 15 PRIME/AIR BLEED PUMP
- 16 DIFFUSER
- 17 24" LOUVER & HOOD
- 18 SUPERNATANT FLOW METER
- 19 CHEM FEED CONDUIT (2" SCH 80 PVC)

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ENGINEER: AQUAWORKS DBO, INC. 3252 WILLIAMS STREET DENVER, COLORADO 80205 (303) 477-5915	PROJECT NUMBER: 7829	SCALE: 1/4" = 1'-0"	SHEET: P8





PROCESS SECTION D
1/4"=1'-0"

PROCESS NOTES:

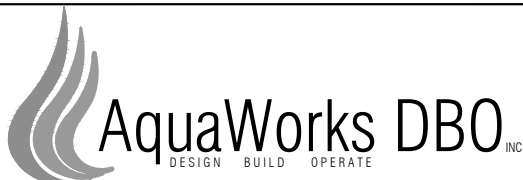
- | | | |
|---|-------------------------------------|--------------------------------------|
| 1 HEATER | 15 24" FAN & HOOD | 28 2" 90 ELBOW |
| 2 ALUM CHEM FEED SYSTEM | 16 HOUSE WATER STORAGE TANK | 29 3" 90 ELBOW |
| 3 CAUSTIC CHEM FEED SYSTEM | 17 VENTILATION BLOWER | 30 3" 90 TEE |
| 4 MICRO-C CHEM FEED SYSTEM | 18 ODOR CONTROL VESSEL | 31 1.5" FLEX TUBE |
| 5 FIRE EXTINGUISHER | 19 SUPERNATANT TRANSFER PUMPS | 32 6"X4" REDUCER |
| 6 LIFTING CHAIN | 20 MEMBRANE BIOREACTOR FEED PUMPS | 33 CHEM FEED CONDUIT (2" SCH 80 PVC) |
| 7 PANELBOARD | 21 EQ TRANSFER PUMPS | |
| 8 MASTER CONTROL PANEL | 22 1.5" BALL VALVE | |
| 9 MASTER POWER PANEL | 23 INFLUENT EQ FLOW METER TO SCREEN | |
| 10 VARIABLE FREQUENCY DRIVES (TYP 6) | 24 4" DIFFUSER HEADER | |
| 11 UV REACTORS | 25 DIFFUSER (DETAIL 4/G7) | |
| 12 HOUSE WATER SUPPLY PUMP | 26 4" 90 ELBOW | |
| 13 CITRIC ACID CHEM FEED SYSTEM | 27 2" BALL VALVE | |
| 14 SODIUM HYPOCHLORITE CHEM FEED SYSTEM | | |

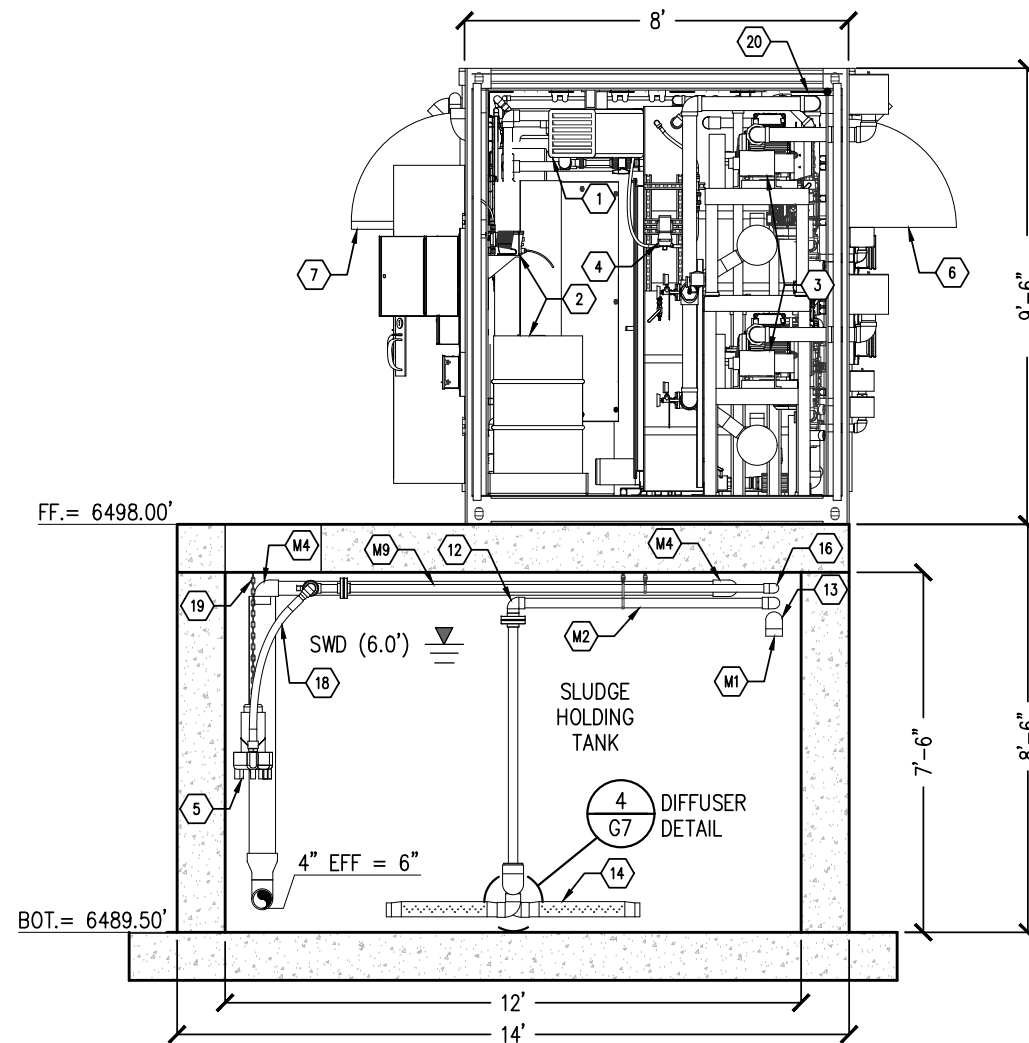
PIPING CONNECTION NOTES:

- | |
|---|
| M1 3" AIR TO AEROBIC TANK |
| M2 3" OVERFLOW TO EQ TANK (FLOOR DRAIN) |
| M3 4" FINE SCREEN TO AEROBIC TANK |
| M4 3" OVERFLOW TO EQ TANK (FLOOR DRAIN) |
| M5 2" INFLUENT EQ PUMP TO BARSCREEN |
| M6 3" OVERFLOW TO EQ TANK (SCREEN OVERFLOW) |
| M7 2" AIR TO SLUDGE DIGESTION |
| M8 2" AEROBIC TANK PUMP 1 TO MBR TANK 1 |
| M9 2" AEROBIC TANK PUMP 2 TO MBR TANK 2 |
| M10 2" AIR TO INFLUENT EQ TANK |
| M11 2" FROM PERMEATE PUMPS TO UV DISINFECTION |
| M12 3" SYSTEM EFFLUENT TO AIR GAP ASSEMBLY |

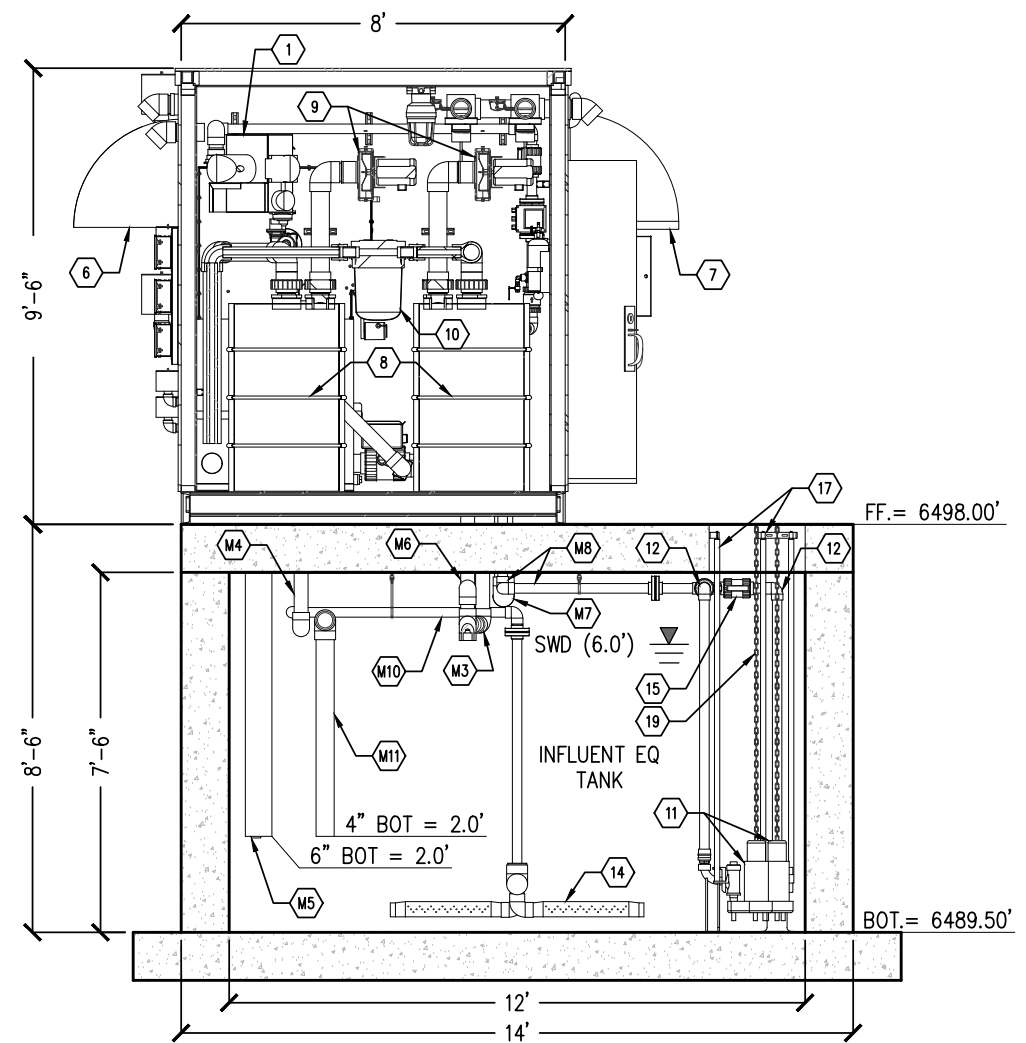


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				DESIGNED BY: AS	ENGINEER: AQUAWORKS DBO, INC. 3252 WILLIAMS STREET DENVER, COLORADO 80205 (303) 477-5915	PROJECT NUMBER: 7829
				FILE PRINTED ON: 10/13/2023 12:51:11 PM	SCALE: 1/4" = 1'-0"	SHEET: P9
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PROCESS SECTION E
1/4"=1'-0" P4



PROCESS SECTION F
1/4"=1'-0" P4

PROCESS NOTES:

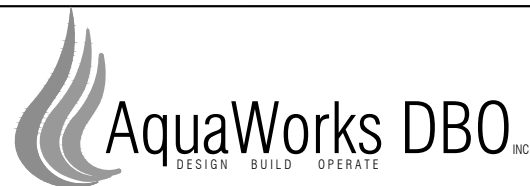
- | | |
|---------------------------|--|
| (1) HEATER | (11) EQ TRANSFER PUMPS |
| (2) ALUM CHEM FEED SYSTEM | (12) 2" 90 ELBOW |
| (3) AERATION BLOWERS | (13) 3" 90 ELBOW |
| (4) PRIME/AIR BLEED PUMP | (14) DIFFUSER |
| (5) SUPERNATANT PUMP | (15) 2" BALL VALVE |
| (6) 24" LOUVER & HOOD | (16) 1.5" 90 ELBOW |
| (7) 24" FAN & HOOD | (17) GUIDE RAILS |
| (8) ODOR CONTROL VESSELS | (18) 1.5" FLEX TUBE |
| (9) VENTILATION BLOWER | (19) LIFTING CHAIN |
| (10) LIQUID SEPARATOR | (20) CHEM FEED CONDUIT (2" SCH 80 PVC) |

PIPING CONNECTION NOTES:

- | | |
|---|--|
| (M1) 3" OVERFLOW TO SLUDGE TANK | (M9) 1.5" SUPERNATANT SLUDGE TO FLOW METER |
| (M2) 2" AIR TO SLUDGE HOLDING TANK | (M10) 2" AIR TO INFLUENT EQ TANK |
| (M3) 3" OVERFLOW TO EQ TANK (FLOOR DRAIN) | (M11) 3" OVERFLOW TO EQ TANK |
| (M4) 3" SYSTEM EFFLUENT TO AIR GAP ASSEMBLY | |
| (M5) 6" MBR TANK OVERFLOW TO INFLUENT EQ TANK | |
| (M6) 3" OVERFLOW TO EQ TANK (SCREEN OVERFLOW) | |
| (M7) 4" SCREEN TO AERATION TANK | |
| (M8) 2" INFLUENT EQ PUMP TO INLET SCREEN | |



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ENGINEER: AQUAWORKS DBO, INC. 3252 WILLIAMS STREET DENVER, COLORADO 80205 (303) 477-5915			PROJECT NUMBER: 7829	SCALE: 1/4" = 1'-0"	SHEET: P10

1

2

3

4

5

6

7

8

9

10

VALVES AND PIPING

BALL VALVE –

NO

NC

GATE VALVE –

GLOBE VALVE –

NEEDLE VALVE –

SLIDE VALVE –

SOLENOID VALVE –

BUTTERFLY VALVE –

SWING CHECK VALVE –

WAFER CHECK VALVE –

SPRING CHECK VALVE –

WYE STRAINER –

SAMPLE PORT –

PRESSURE RELIEF VALVE –

VACUUM RELIEF VALVE –

CAMLOCK CONNECTION –

FLEXIBLE CONNECTION –

FLANGED CONNECTION –

REDUCER –

UNION –

ADSORBENT FILTER –

COALESCING FILTER –

PARTICULATE FILTER –

FILTER, SILENCER –

PRESSURE REGULATOR –

REGULATOR W/ FILTER –

EQUIPMENT

AIR STRIPPER

OIL WATER SEPARATOR

SEAL FLUID SEPARATOR

BAG FILTER

CARBON VESSEL

OXIDIZER

PRODUCT STORAGE DRUM, TANK

STANDARD, CONICAL BOTTOM TANK

EQUIPMENT

CLOSED TOP TANK

OPEN TOP TANK

OPEN TOP TANK WITH LID

AIR DIFFUSER ASSEMBLY

STRAINER/FILTER

MEMBRANE CASSETTE

NO CLOG SPRAYER ASSEMBLY

ULTRA VIOLET LIGHT

ROTARY SCREEN

FILTER PRESS

EQUIPMENT

CENTRIFUGAL PUMP –

PROGRESSIVE-CAVITY PUMP –

CHEMICAL-INJECTION PUMP –

CENTRIFUGAL, REGENERATIVE BLOWER –

POSITIVE DISPLACEMENT BLOWER –

ROTARY-CLAW BLOWER –

LINEAR BLOWER –

LIQUID-RING PUMP –

ROTARY-VANE COMPRESSOR –

RECIPROCATING COMPRESSOR –

PASSIVE COOLING FINS –

EDUCTOR –

MAGNETIC FLOW METER –

VENTURI –

ROTOMETER –

AS – AIR STRIPPER
BLD – BUILDING, TRAILER, OR SKID
FLT – FILTER VELLEL
LPC – LIQUID-PHASE CARBON VESSEL
MFD – MANIFOLD
OWS – OIL/WATER SEPARATOR
OX – OXIDIZER
PST – PRODUCT STORAGE TANK
SOS – SEAL OIL SEPARATOR
SWS – SEAL WATER SEPARATOR
TNK – TANK
VLS – VAPOR/LIQUID SEPARATOR
VPC – VAPOR-PHASE CARBON VESSEL

INSTRUMENTATION IDENTIFIERS

FIRST LETTERS		SUCCEEDING LETTERS			
	MEASURED/INITIATING VARIABLE	VARIABLE MODIFIER	READOUT/PASSIVE FUNCTION	OUTPUT/ACTIVE FUNCTION	FUNCTION MODIFIER
A	ANALYSIS		ALARM		
B	BURNER, COMBUSTION				
C	CYCLE	CONTROL		CONTROL	CLOSE
D		DIFFERENCE, DIFFERENTIAL			DEVIATION
E	VOLTAGE		SENSOR, PRIMARY ELEMENT		
F	FLOW, FLOW RATE	RATIO			
G	GAS (LEL)		GLASS, GAUGE, VIEWING DEVICE		
H	HAND			HAND	HIGH
I	CURRENT		INDICATE		
J	POWER		SCAN		
K	TIME, SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION	
L	LEVEL		LIGHT		LOW
M	MONITOR			MOTORIZED	MIDDLE, INTERMED
N					
O			ORIFICE, RESTRICTION		OPEN
P	PRESSURE		TEST CONNECTION	PNEUMATIC	
Q	QUANTITY	INTEGRATE, TOTALIZE	INTEGRATE TOTALIZE		
R	RADIATION		RECORD		RUN
S	SPEED, FREQUENCY	SAFETY		SWITCH, SOLENOID	STOP
T	TEMPERATURE			TRANSMIT	
U	MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION	
V	VIBRATION, MECHANICAL ANALYSIS, VACUUM			VALVE, DAMPER, LOUVER	
W	WEIGHT, FORCE		WELL, PROBE		
X	UNCLASSIFIED	X-AXIS	ACCESSORY DEVICES, UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED
Y	EVENT, STATE, PRESENCE	Y-AXIS		AUXILIARY DEVICES	
Z	POSITION, DIMENSION	Z-AXIS, SAFETY INSTRUMENTED SYSTEM		DRIVER, ACTUATOR, UNCLASSIFIED CONTROL ELEMENT	

GENERAL NOTES:

1. WATER FLOW METERS: INSTALL AS PER MANUFACTURES' RECOMMENDATIONS. ENSURE THAT THROTTLING VALVES ARE NOT IN DIRECT LINE OF THE METER.

2. PITOT AIR FLOW METERS: PROVIDE 8 DIA. OF STRAIGHT PIPE BEFORE AND 3 DIA. OF STRAIGHT PIPE AFTER METERS. AVOID TEES AND ELBOWS BEFORE AND AFTER METERS.

3. MATERIALS OF VALVES AND PIPING IS TO BE AS SPECIFIED ON THE DIAGRAM.

4. THERE ARE NO SPECIAL PIPING REQUIREMENTS OUTSIDE OF NEWTERRA'S STANDARDS UNLESS SPECIFIED ON THE DIAGRAM.

5. FLEXIBLE HOSE IS TO BE AS SPECIFIED ON THE DIAGRAM. IF A FLEXIBLE CONNECTION IS PREFERRED PLEASE CONSULT ENGINEERING TO ENSURE SELECTED HOSE IS RATED FOR THE OPERATING CONDITIONS.

6. DO NOT USE PVC PIPE ON AIR LINES OVER 5 PSIG.

7. ALL FEMALE PVC THREADED ADAPTORS MUST BE RE-ENFORCED FEMALE ADAPTORS.

8. NO DISSIMILAR METALS ARE TO BE IN DIRECT CONTACT ON WATER LINES. FOLLOW ENG.SOP.010

9. ALL PVC MUST BE SCHEDULE 80

10. ALL STAINLESS STEEL THREADED CONNECTIONS ARE TO UTILIZE GRAY TEFLON TAPE DESIGNED FOR SS FITTINGS.

11. ALL MECHANICAL BALL FLOAT LEVEL SWITCHES ARE TO BE INSTALLED WITH THEIR CABLES TIE WRAPPED, CABLES ARE NOT TO BE SHORTENED.

INDICATING INSTRUMENT

DIGITAL INPUT TO CONTROL PANEL

DIGITAL INPUT CAUSING ALARM

DIGITAL INPUT CAUSING SYSTEM SHUTDOWN ALARM

ANALOG INPUT TO CONTROL PANEL

ANALOG OUTPUT FROM CONTROL PANEL

REV. No:

DATE:

BY:

REVISION DESCRIPTION:

DRAWN BY: AS

DESIGNED BY: AS

FILE PRINTED ON: 10/13/2023 12:51:17 PM

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01 IF THIS BAR DOES NOT READ 1" DRAWING IS NOT LABELED TO SCALE

AquaWorks DBO INC

DESIGN BUILD OPERATE

PROJECT: MILNER COLORADO WWTP
COMMUNITY OF MILNER
ROUTT COUNTY, COLORADO

ENGINEER: AQUAWORKS DBO, INC.
3252 WILLIAMS STREET
DENVER, COLORADO 80205
(303) 477-5915

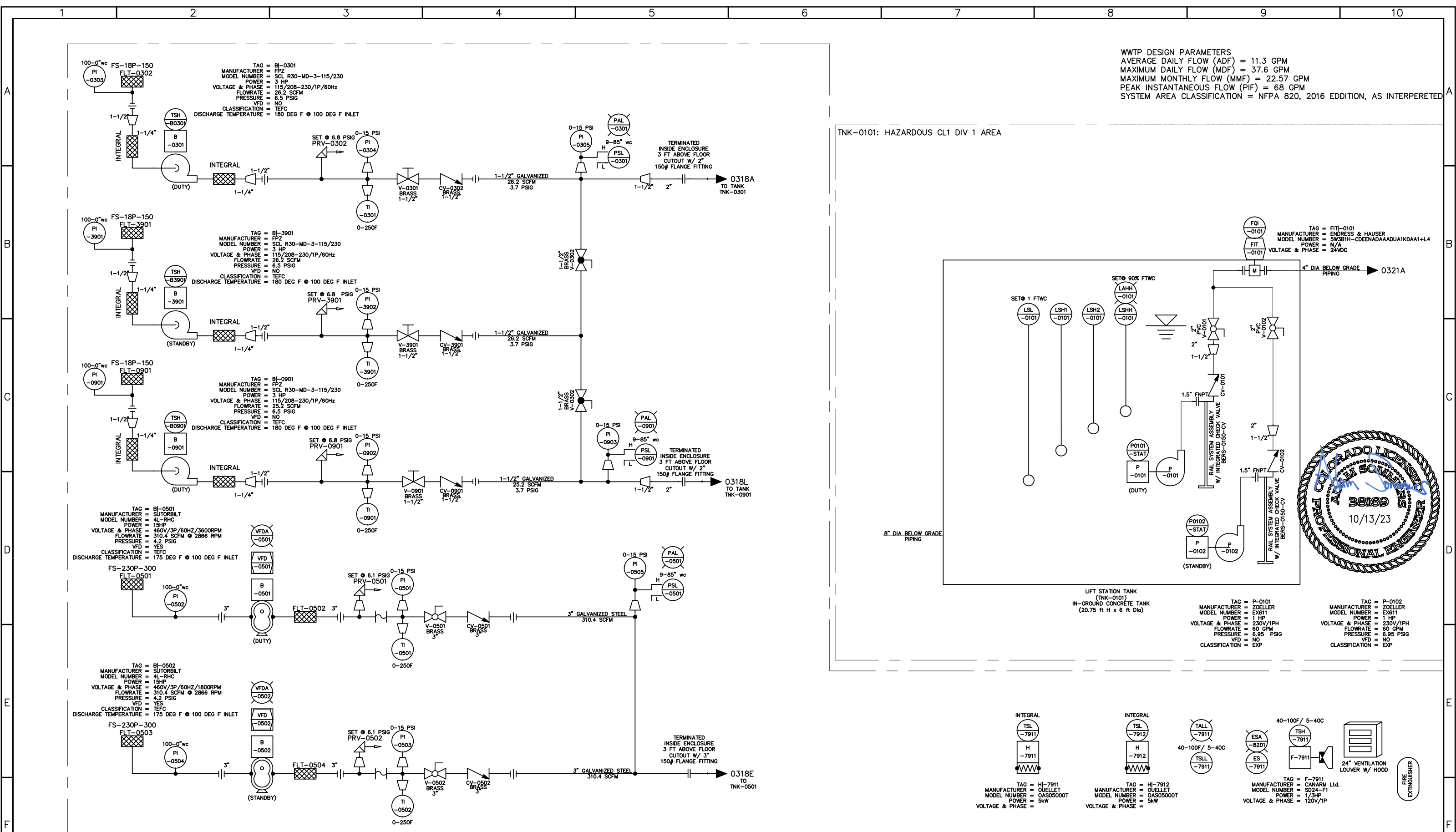
SHEET TITLE:
P&ID LEGEND

PROJECT NUMBER:
7829

SCALE:
NTS

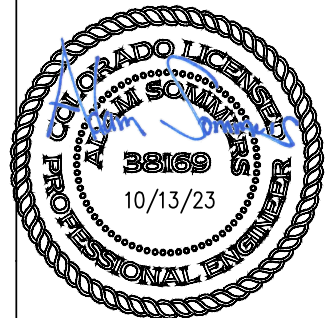
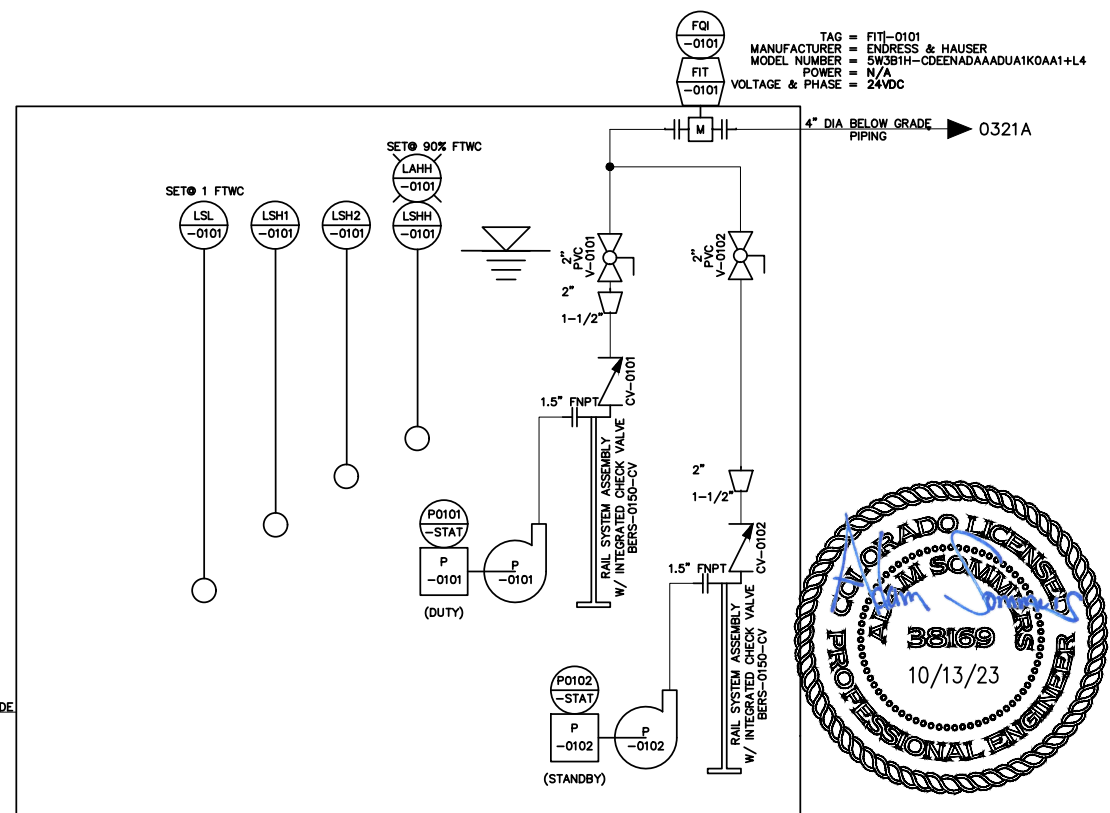
SHEET:
P11

COLORADO LICENSE
38169
10/13/23
PROFESSIONAL ENGINEER

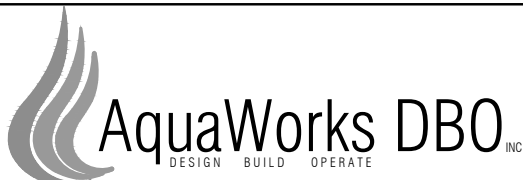


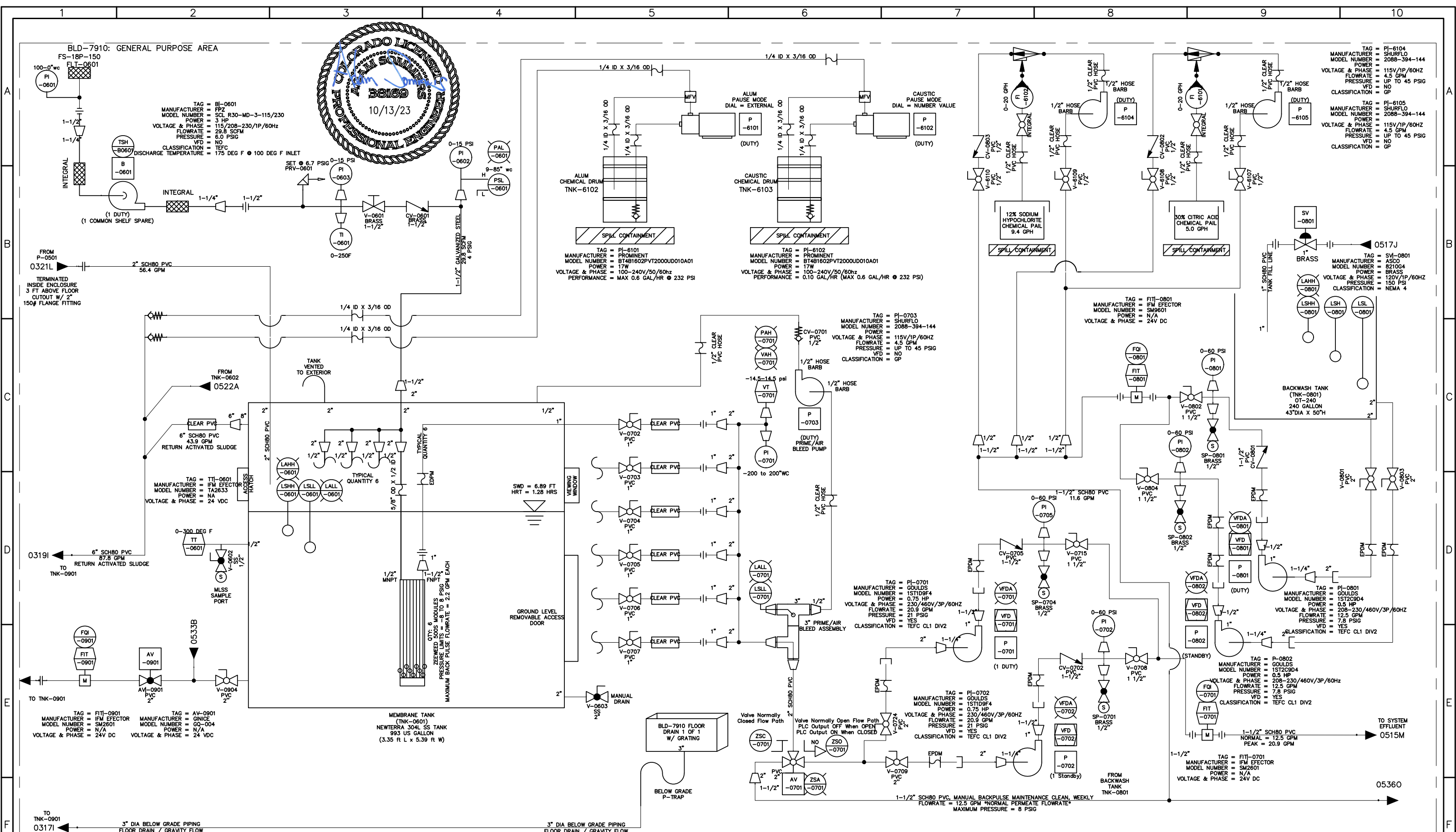
WWTP DESIGN PARAMETERS
AVERAGE DAILY FLOW (ADF) = 11.3 GPM
MAXIMUM DAILY FLOW (MDF) = 37.6 GPM
MAXIMUM MONTHLY FLOW (MMF) = 22.57 GPM
PEAK INSTANTANEOUS FLOW (PIF) = 68 GPM
SYSTEM AREA CLASSIFICATION = NFPA 820, 2016 EDITION, AS INTERPERETED

TNK-0101: HAZARDOUS CL1 DIV 1 AREA

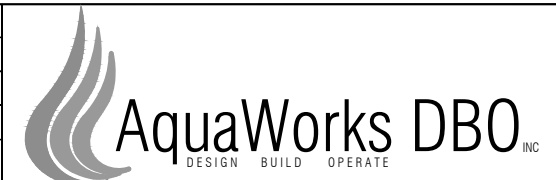


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				DESIGNED BY: AS	ENGINEER: AQUAWORKS DBO, INC. 3252 WILLIAMS STREET DENVER, COLORADO 80205 (303) 477-5915	PROJECT NUMBER: 7829
				FILE PRINTED ON: 10/13/2023 12:51:24 PM		SCALE: 1" = 20'
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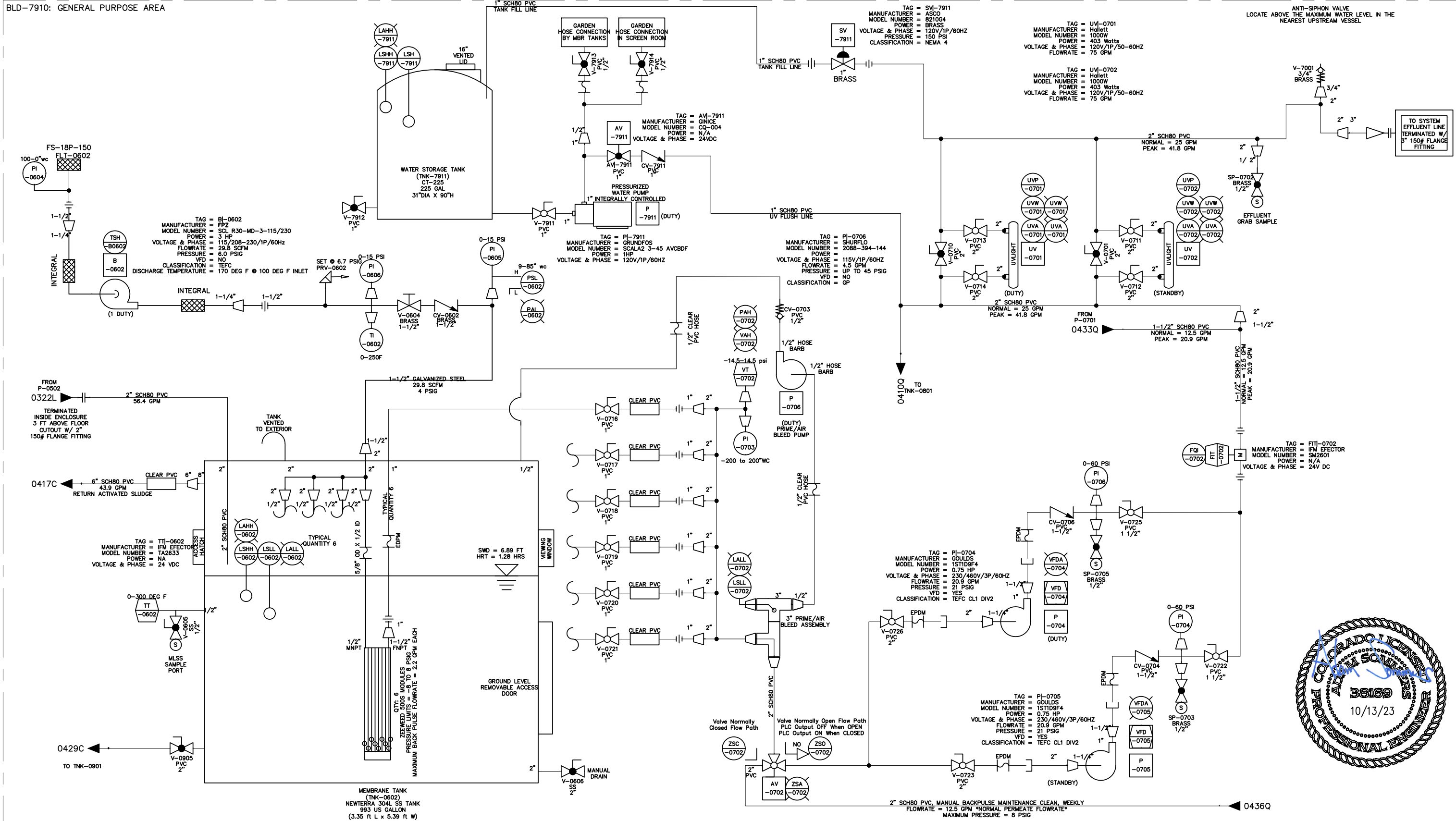




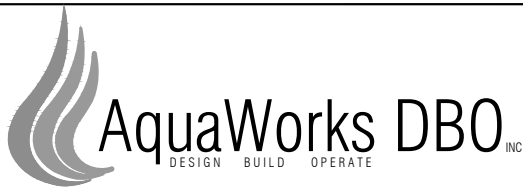
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				DESIGNED BY: AS	ENGINEER: AQUAWORKS DBO, INC. 3252 WILLIAMS STREET DENVER, COLORADO 80205 (303) 477-5915				
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BLD-7910: GENERAL PURPOSE AREA



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PROJECT: MILNER COLORADO WWTP COMMUNITY OF MILNER ROUTT COUNTY, COLORADO		SHEET TITLE: P&ID 4	
ENGINEER: AQUAWORKS DBO, INC. 3252 WILLIAMS STREET DENVER, COLORADO 80205 (303) 477-5915	PROJECT NUMBER: 7829	SCALE: 1" = 20'	SHEET: P15

	1	2	3	4	5	6	7	8	9	10
	DESIGN PARAMETERS			GENERAL NOTES						
A	1. DESIGN CODES AND STANDARDS			GENERAL			CONCRETE			
	A. BUILDING CODE: RISK CATEGORY		IBC 2018 III	1. STRUCTURAL ELEMENTS ARE NON-Self SUPPORTING AND REQUIRE INTERACTION WITH OTHER ELEMENTS FOR STABILITY AND RESISTANCE TO LATERAL FORCES. WALLS SHALL BE TEMPORARILY BRACED BY THE CONTRACTOR UNTIL PERMANENT BRACING, FLOOR AND ROOF SLABS, AND/OR WALLS HAVE BEEN INSTALLED AND CONNECTIONS BETWEEN THESE ELEMENTS HAVE BEEN MADE.			1. EXTERIOR CONCRETE AND INTERIOR CONCRETE EXPOSED TO FREEZE-THAW, AND CONCRETE SLABS AND WALLS PERMANENTLY EXPOSED TO THE EXTERIOR MINIMUM 28-DAY COMPRESSIVE STRENGTH = 4500 PSI. PROPORTIONED TO HAVE A MAXIMUM WATER/CEMENT RATIO OF 0.42. SLUMP = 3" - 5". ALL CONCRETE EXPOSED TO THE EXTERIOR SHALL BE AIR ENTRAINED WITH MINIMUM TOTAL AIR CONTENT OF 6% (+/- 1%) BY VOLUME PER ASTM C231 FOR ¾" AGGREGATE AND LARGER. REFERENCE ACI 350-06 TABLE 4.2.1, TOTAL AIR CONTENT FOR CONCRETE EXPOSED TO CYCLES OF FREEZING AND THAWING, SEVERE EXPOSURE, FOR SMALLER AGGREGATE SIZES.			
B	B. MATERIAL CODES AND STANDARDS DESIGN LOADS: ASCE/SEI 7-16 - MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES			2. THE CONTRACT DOCUMENTS REPRESENT THE FINISHED STRUCTURE AND DO NOT INDICATE THE METHOD OF CONSTRUCTION, UNLESS NOTED OTHERWISE. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES, AND OPERATION OF CONSTRUCTION AND SAFETY PRECAUTIONS AND PROGRAMS INCIDENTAL THERETO.			2. PORTLAND CEMENT SHALL CONFORM TO ASTM C-150, TYPE II			
	CONCRETE: ACI 318-14 - BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE ACI 350-06 - CODE REQUIREMENTS FOR ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES ACI 350.1-10 - SPECIFICATION FOR TIGHTNESS TESTING OF ENVIRONMENTAL ENGINEERING CONCRETE CONTAINMENT STRUCTURES			3. THE STRUCTURE HAS BEEN DESIGNED FOR THE INDICATED LOADS ONLY. USE OF HEAVY EQUIPMENT AND SCAFFOLDING, OR STORAGE OF MATERIALS THAT TRANSFER EXCESSIVE LOADS TO THE STRUCTURE SHALL BE VERIFIED BY THE CONTRACTOR. THE CONTRACTOR SHALL PROVIDE CALCULATIONS SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED TO VERIFY THE ADEQUACY OF THE STRUCTURE FOR ALL APPLIED CONSTRUCTION LOADS THAT EXCEED THE LOADS INDICATED IN THE CONSTRUCTION DOCUMENTS AND SHALL BE APPROVED BY THE ARCHITECT AND ENGINEER-OF-RECORD PRIOR TO ANY CONSTRUCTION ACTIVITY.			3. AGGREGATES FOR NORMAL WEIGHT CONCRETE SHALL CONFORM TO ASTM C-33. MAXIMUM COARSE AGGREGATE SIZE SHALL BE ¾".			
	2. GRAVITY LOADS			4. STRUCTURAL DRAWINGS ARE NOT STAND-ALONE DOCUMENTS AND ARE INTENDED TO BE USED IN CONJUNCTION WITH CIVIL, PROCESS, MECHANICAL, ELECTRICAL, PLUMBING AND DRAWINGS FROM OTHER DISCIPLINES. THE CONTRACTOR SHALL COORDINATE ALL REQUIREMENTS OF THE CONTRACT DOCUMENTS INTO SHOP DRAWINGS AND WORK.			4. MATERIALS OR ADMIXTURES SHALL NOT CONTAIN ANY CALCIUM CHLORIDE			
	A. LIVE LOADS (UNIFORM/CONCENTRATED) CONTAINER ROOF CONCRETE LID (NOT AT CONTAINERS)	20 PSF / 300 LB 60 PSF		5. ALL WELDS SHALL BE PERFORMED BY QUALIFIED WELDERS IN ACCORDANCE WITH AMERICAN WELDING SOCIETY (A.W.S) SPECIFICATIONS.			5. REINFORCING STEEL SHALL MEET THE FOLLOWING A. DEFORMED BARS ASTM SPECIFICATION A615, GRADE 60			
	B. SHIPPING CONTAINER TOTAL WEIGHT (PROVIDED BY MANUFACTURER) 1.) CONTAINER 1: "DRY" 28,954 LBS, "WET" 43,975 LBS 2.) CONTAINER 2: "DRY" 6,984 LBS, "WET" 10,781 LBS			6. THE SIZE AND LOCATION OF EQUIPMENT PADS AND PENETRATIONS THROUGH THE STRUCTURE FOR MECHANICAL, ELECTRICAL, AND PLUMBING WORK SHALL BE VERIFIED BY THE CONTRACTOR. PENETRATIONS SHALL BE SUBJECT TO APPROVAL BY THE ARCHITECT AND THE ENGINEER-OF-RECORD. REFERENCE PROCESS DRAWINGS FOR OPENING LOCATIONS NOT SHOWN ON THE STRUCTURAL DRAWINGS.			6. WHERE DOWELS ARE INDICATED BUT NOT SIZED, PROVIDE DOWELS THAT MATCH THE SIZE AND LOCATION OF MAIN REINFORCEMENT STEEL. REINFORCING BARS SHALL BE SPLICED AS NOTED IN THE REINFORCING LAP SPLICE SCHEDULE (6/S7)			
C	3. ROOF SNOW LOAD			7. USE ONLY DIMENSIONS INDICATED IN THE CONTRACT DOCUMENTS. DO NOT SCALE CONTRACT DOCUMENTS OR USE ANY DIMENSIONS TAKEN FROM ELECTRONIC DRAWING FILES. CONTRACTOR SHALL COORDINATE IN-PLACE DIMENSIONS BASED ON TOLERANCES OF THE RESPECTIVE TRADES.			7. REFER TO ACI 350-06 FOR CONCRETE COVER REQUIREMENTS, ACI 315 LATEST EDITION FOR DETAILING PRACTICES AND FABRICATION, AND ACI 301 LATEST EDITION FOR STANDARD PRACTICES FOR MIXING AND PLACING CONCRETE. REFER TO ACI 306R-10 FOR REQUIRED COLD WEATHER CONCRETING PROCEDURES. MINIMUM PROTECTION PERIOD FOR CONCRETE PLACED DURING FREEZING TEMPERATURES IS 7 DAYS			
	A. GROUND SNOW LOAD, Pg	77 PSF		8. ASSUME EQUAL SPACING IF NOT INDICATED IN CONTRACT DOCUMENTS.			8. ANCHORS INSTALLED IN HARDENED CONCRETE SHALL BE USED WHERE SPECIFIED ON THE CONTRACT DRAWINGS. CARE SHALL BE TAKEN IN PLACING POST-INSTALLED ANCHORS TO AVOID CONFLICTS WITH EXISTING REINFORCING. HOLES SHALL BE DRILLED, DRY AND CLEANED AND ANCHORS INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S PUBLISHED WRITTEN INSTRUCTIONS AND APPLICABLE ESR REPORT. REFERENCE DETAILS FOR ANCHOR SIZE AND EMBEDMENT. SUBSTITUTION REQUESTS FOR PRODUCTS OTHER THAN THOSE SPECIFIED ON THE CONTRACT DRAWINGS SHALL BE SUBMITTED BY THE CONTRACTOR TO THE ENGINEER-OF-RECORD ALONG WITH CALCULATIONS THAT ARE SIGNED AND SEALED BY THE QUALIFIED PROFESSIONAL ENGINEER RESPONSIBLE FOR THEIR PREPARATION AND LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED. THE CALCULATIONS SHALL DEMONSTRATE THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING THE PERTINENT EQUIVALENT PERFORMANCE VALUES (MINIMUM) OF THE SPECIFIED PRODUCT USING THE APPROPRIATE DESIGN PROCEDURE AND/OR STANDARD(S) AS REQUIRED BY THE BUILDING CODE. ALLOWABLE SUBSTITUTIONS FOR POST-INSTALLED ANCHORS IN CONCRETE ARE:			
	B. FLAT ROOF SNOW LOAD, Pf	84.7 PSF		9. CONTRACTOR SHALL COORDINATE ALL DIMENSIONS, OPENING, BLOCKOUTS, RECESSES, ELEVATIONS, ANCHOR RODS AND EMBED LOCATIONS PRIOR TO CONSTRUCTION.			A. HILTI HIT-RE 500-V3 EPOXY ADHESIVE (ICC-ES ESR-3814) B. HILTI HIT-HY 200 (A OR R) ADHESIVE (ICC-ES ESR-4868) C. HILTI KWIK BOLT TZ2 EXPANSION ANCHOR (ICC-ES ESR-4266) D. SIMPSON STRONG-TIE SET-XP EPOXY ADHESIVE (ICC-ES ESR-2508) E. SIMPSON STRONG-TIE AT-XP ADHESIVE (ICC-ES ESR-263) F. SIMPSON STRONG-TIE STRONGBOLT 2 WEDGE ANCHOR (ICC-ES ESR-3037)			
	C. SNOW EXPOSURE FACTOR, Ce	1.0		FOUNDATIONS			9. FOUNDATION SLAB, WALLS, AND LID SHALL BE PLACED IN A SINGLE POUR (EACH) WITHOUT CONSTRUCTION JOINTS. IF CONTRACTOR PLANS MULTIPLE POURS, CONTACT WALLACE DESIGN COLLECTIVE FOR REQUIRED COLD JOINT DETAILS			
	D. SNOW LOAD IMPORTANCE FACTOR, I	1.1		1. FOUNDATION DESIGNS AND SUBGRADE PREPARATION NOTES ARE BASED ON THE RECOMMENDATIONS PROVIDED IN THE GEOTECHNICAL REPORT NUMBER 22-12814 BY: NORTHWEST COLORADO CONSULTANTS, INC., DATED: JANUARY 19, 2023						
	E. THERMAL FACTOR, Ct	1.0		2. FOOTING DESIGNS ARE BASED ON A ALLOWABLE SOIL BEARING CAPACITY OF 3000 PSF.						
D	4. WIND DESIGN DATA (CONTAINER DESIGN BY MANUFACTURER)			3. CONTRACTOR AND TESTING LABORATORY REPRESENTATIVE SHALL READ THE GEOTECHNICAL REPORT AND BECOME THOROUGHLY FAMILIAR WITH SITE AND SUBGRADE INFORMATION GIVEN THEREIN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING EXACT QUANTITIES OF CUT AND FILL FOR ESTIMATING AND CONSTRUCTION.						
	A. ULTIMATE DESIGN WIND SPEED (3 SECOND GUST), VuIt NOMINAL DESIGN WIND SPEED (3 SECOND GUST), Vasd	115 MPH 89.1 MPH		4. A QUALIFIED AND REGISTERED GEOTECHNICAL ENGINEER, LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED AND WORKING FOR THE TESTING LABORATORY, SHALL DETERMINE CONFORMANCE OF THE FOUNDATION BEARING STRATA WITH THE FOUNDATION DESIGN CRITERIA ABOVE, AND ALL OTHER CONTRACT DOCUMENTS. TESTING LABORATORY SHALL NOTIFY CONTRACTOR, ARCHITECT AND ENGINEER-OF-RECORD OF ANY CONDITIONS NOT IN ACCORDANCE WITH FOUNDATION DESIGN CRITERIA OR CONTRACT DOCUMENTS.						
	B. WIND EXPOSURE CATEGORY	C		5. THE SUBGRADE SHALL BE PREPARED AS INDICATED IN THE GEOTECHNICAL REPORT						
	C. INTERNAL PRESSURE COEFFICIENT, GCpi	+/- 0.18		6. USE ONLY STRUCTURAL FILL MATERIAL IDENTIFIED IN THE GEOTECHNICAL REPORT FOR FILL BELOW BUILDING AND FIVE FEET BEYOND THE EDGES OF THE BUILDING AND 1 FOOT BEYOND THE EDGES OF PAVING.						
	D. WIDTH OF END ZONE	3 FT		7. PER GEOTECHNICAL REPORT, REMOVE ANY NATURAL CLAYS FROM BELOW FOUNDATION DOWN TO THE NATURAL GRAVELS OR SANDS PRIOR TO STRUCTURAL FILL OR CONCRETE PLACEMENT						
	5. EARTHQUAKE DESIGN DATA (TANK WALLS)			8. FOUNDATION WALLS SHALL HAVE ADEQUATE TEMPORARY BRACING INSTALLED BY THE CONTRACTOR BEFORE BACKFILL IS PLACED AGAINST THEM. TEMPORARY BRACING SHALL NOT BE REMOVED UNTIL WALL IS PERMANENTLY BRACED.						
	A. SEISMIC IMPORTANCE FACTOR, Ie	1.25		9. AVOID DAMAGE TO UNDERGROUND UTILITIES INCLUDING, BUT NOT LIMITED TO, WATER MAINS, SANITARY SEWERS AND BURIED CABLES WHICH MIGHT EXTEND ACROSS OR ADJOIN SITE.						
	B. MAPPED SPECTRAL RESPONSE ACCELERATION PARAMETER, Ss	30.0%								
	C. MAPPED SPECTRAL RESPONSE ACCELERATION PARAMETER, S1	5.5%								
	D. SITE CLASS	C								
	E. DESIGN SPECTRAL RESPONSE ACCELERATION PARAMETER, Sds	0.260								
	F. DESIGN SPECTRAL RESPONSE ACCELERATION PARAMETER, Sd1	0.055								
	G. SEISMIC DESIGN CATEGORY	B								
	H. STRUCTURAL SYSTEM									
	1.) VERTICAL ELEMENT TYPE	BEARING WALL SYSTEM								
	2.) BASIC SEISMIC FORCE-RESISTING SYSTEM TYPE	ORDINARY REINFORCED CONCRETE SHEAR WALLS								
	3.) RESPONSE MODIFICATION FACTOR, R	4.0								
	4.) SEISMIC RESPONSE COEFFICIENT (ASD), Cs	0.057								
	5.) DESIGN BASE SHEAR (ASD)	0.057W								
E	J. ANALYSIS PROCEDURE	EQUIVALENT LATERAL FORCE								
	 wallace design collective									
	REV. No:	DATE:	BY:							
F	 wallace design collective, pc structural · civil · landscape · survey 9800 pyramid court, suite 350 englewood, colorado 80112 303.350.1690 · 800.364.5868									
	REV. No:	DATE:	BY:	REVISION DESCRIPTION:	DRAWN BY: RM	PROJECT: MILNER COLORADO WWTP COMMUNITY OF MILNER ROUTT COUNTY, COLORADO		SHEET TITLE: GENERAL STRUCTURAL NOTES		
					DESIGNED BY: SCJ	ENGINEER: AQUAWORKS DBO, INC. 3252 WILLIAMS STREET DENVER, COLORADO 80205 (303) 477-5915		PROJECT NUMBER:	SCALE:	SHEET:
					FILE PRINTED ON: 11/14/2023 12:15:36 PM			#3857	N.T.S.	S1
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STRUCTURAL OBSERVATION REQUIREMENTS (IBC 2018 SECTION 1704.6)

1. A REPRESENTATIVE OF THE ENGINEER OF RECORD WILL PERFORM THE VISUAL OBSERVATION OF THE STRUCTURAL SYSTEM FOR GENERAL CONFORMANCE TO THE APPROVED CONSTRUCTION DOCUMENTS AT SIGNIFICANT CONSTRUCTION STAGES AND AT COMPLETION OF THE STRUCTURAL SYSTEM. STRUCTURAL OBSERVATION DOES NOT INCLUDE OR WAIVE THE RESPONSIBILITY FOR THE INSPECTION REQUIRED OF THE BUILDING OFFICIAL OR THE SPECIAL INSPECTOR.

2. A PRE-CONSTRUCTION MEETING SHALL BE HELD AND ATTENDED BY AQUAWORKS DBO, STRUCTURAL ENGINEER OF RECORD, GENERAL CONTRACTOR, SUBCONTRACTORS, AND SPECIAL INSPECTORS.

3. THE GENERAL CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD AT LEAST 48 HOURS PRIOR TO COMPLETING CONSTRUCTION OPERATIONS THAT REQUIRE STRUCTURAL OBSERVATION (BY CALLING (303) 350-1690 TO SCHEDULE A SITE VISIT.)

4. AT A MINIMUM, THE FOLLOWING SIGNIFICANT CONSTRUCTION STAGES REQUIRE A SITE VISIT AND AN OBSERVATION REPORT FROM THE STRUCTURAL OBSERVER:

A. AFTER INSTALLATION OF CONCRETE WALL DOWELS AND BEFORE FOUNDATION CONCRETE PLACEMENT.

5. AT THE CONCLUSION OF THE WORK INCLUDED IN THE PERMIT, THE STRUCTURAL OBSERVER SHALL SUBMIT TO THE BUILDING OFFICIAL A WRITTEN STATEMENT THAT THE SITE VISITS HAVE BEEN MADE AND IDENTIFY ANY REPORTED DEFICIENCIES THAT, TO THE BEST OF THE STRUCTURAL OBSERVER'S KNOWLEDGE, HAVE NOT BEEN RESOLVED.

RE: PLAN FOR REINFORCEMENT

SCHEDULE 40 (MIN.) PIPE OR CONDUIT

3" x DIA.

3/4" CLR

2" CLR

3" MAX

RE: PLAN (12" MIN)

NOTES:

1. CONDUIT/PIPE SHALL BE FABRICATED AND INSTALLED SUCH THAT CUTTING, BENDING, OR DISPLACEMENT OF REINF. WILL NOT BE REQUIRED.

2. CONDUIT/PIPE SHALL NOT BE PLACED WITHIN 9" OF CONTAINER SUPPORT

3. DO NOT STACK CONDUIT VERTICALLY IN SLAB.

4. CONDUIT/PIPE SHALL BE SUPPORTED AND SECURED TO PREVENT DISPLACEMENT DURING PLACEMENT OF CONCRETE.

5. ALUMINUM CONDUIT/PIPE NOT PERMITTED.

6. CONDUIT/PIPE SHALL BE MIN. 3/4" CLR. TO REINF.

1

S2

TYPICAL EMBEDDED CONDUIT DETAIL

SCALE: NTS

wallace design collective

wallace design collective, pc

structural - civil - landscape - survey

9800 pyramid court, suite 350

englewood, colorado 80112

303.350.1690 - 800.364.5858

2023.11.14

15:22:59-06'00'

1

2

3

4

5

6

7

8

9

10

A

B

C

D

E

F

ABBREVIATIONS

A.F.F. ABOVE FINISHED FLOOR

A.O.R. ARCHITECT OF RECORD

A.R. ANCHOR RODS

AESS ARCHITECTURALLY EXPOSED STRUCTURAL STEEL

ARCH. ARCHITECTURAL

B.L. BLOCK LINTEL

B.O.D. BOTTOM OF DECK

B.O.S. BOTTOM OF STEEL

B.P. BASE PLATE

BAL. BALANCE

BLDG. BUILDING

BRG. BEARING

C.J. CONTRACTION JOINT

C.L. CENTER LINE

CFMF COLD FORMED METAL FRAMING

CLR. CLEAR

CMU CONCRETE MASONRY UNIT

COL. COLUMN

CONC. CONCRETE

CONST. CONSTRUCTION

CONT. CONTINUOUS

D.B.A. DEFORMED BAR ANCHOR

D.B.E. DECK BEARING ELEVATION

DIA. DIAMETER

DTL. DETAIL

DWG. DRAWING

E.F. EACH FACE

E.J. EXPANSION JOINT

E.O.D. EDGE OF DECK

E.O.R. ENGINEER OF RECORD

E.O.S. EDGE OF SLAB

E.W. EACH WAY

EA. EACH

EIFS EXTERIOR INSULATION AND FINISH SYSTEM

ELEC. ELECTRICAL

ELEV. ELEVATION

EQ. EQUAL

EXIST. EXISTING

F.F.E. FINISHED FLOOR ELEVATION

F.S. FAR SIDE

F.V. FIELD VERIFY

FDN. FOUNDATION

FT. FOOT/FEET

FTG. FOOTING

G.B. GRADE BEAM

G.C. GENERAL CONTRACTOR

G.A. GAGE

GALV. GALVANIZED

H.S.A. HEADED STUD ANCHOR

HORIZ. HORIZONTAL

I.F. INSIDE FACE

IN. INCH/INCHES

INFO. INFORMATION

J.B.E. JOIST BEARING ELEVATION

JT. JOINT

K UNIT OF 1,000 POUNDS (KIP)

KSI KIPS PER SQUARE INCH

LBS. POUNDS

LLH LONG LEG HORIZONTAL

LLV LONG LEG VERTICAL

LONG. LONGITUDINAL

LSH LONG SIDE HORIZONTAL

LSL LONG SLOT

LSV LONG SIDE VERTICAL

MAX. MAXIMUM

MECH. MECHANICAL

MEP MECHANICAL/ELECTRICAL/PLUMBING

MFR. MANUFACTURER

MIN. MINIMUM

MISC. MISCELLANEOUS

MTL. METAL

N.I.C. NOT IN CONTRACT

N.S. NEAR SIDE

N.T.S. NOT TO SCALE

O.C. ON CENTER

O.D. OUTSIDE DIAMETER

O.F. OPPOSITE FACE

O.H. OPPOSITE HAND

OPP. OPPOSITE

P.A.F. POWER/POWDER ACTUATED FASTENER

PCF POUNDS PER CUBIC FOOT

PEMB PRE-ENGINEERED METAL BUILDING PLATE

PL PL

PLF POUNDS PER LINEAR FOOT

PLUMB. PLUMBING

PSF POUNDS PER SQUARE FOOT

PSI POUNDS PER SQUARE INCH

R RADIUS

R.O. ROUGH OPENING

RE: REFER

REINF. REINFORCING

REQD. REQUIRED

RTU ROOF TOP UNIT

S.D.S. SELF-DRILLING SCREWS

S.S. STAINLESS STEEL

SCHED. SCHEDULE

SIM. SIMILAR

SP. SPACE/SPACING

SPECS. SPECIFICATIONS

SSL SHORT SLOT

STD. STANDARD

STL. STEEL

T&B TOP AND BOTTOM

T.O. TOP OF

T.O.C. TOP OF CONCRETE

T.O.M. TOP OF MASONRY

T.O.P. TOP OF PIER

T.O.S. TOP OF STEEL

T.O.W. TOP OF WALL

TRANS. TRANSVERSE

TYP. TYPICAL

U.N.O. UNLESS NOTED OTHERWISE

VERT. VERTICAL

W.P. WORK POINT

W.S. WATERSTOP

W.W.R. WELDED WIRE REINFORCEMENT

WT. WEIGHT

PROJECT: MILNER COLORADO WWTP
COMMUNITY OF MILNER
ROUTT COUNTY, COLORADO

ENGINEER: AQUAWORKS DBO, INC.
3252 WILLIAMS STREET
DENVER, COLORADO 80205
(303) 477-5915

SHEET TITLE:
STRUCTURAL OBSERVATION REQUIREMENT
AND ABBREVIATIONS

PROJECT NUMBER:
#3857

SCALE:
N.T.S.

SHEET:
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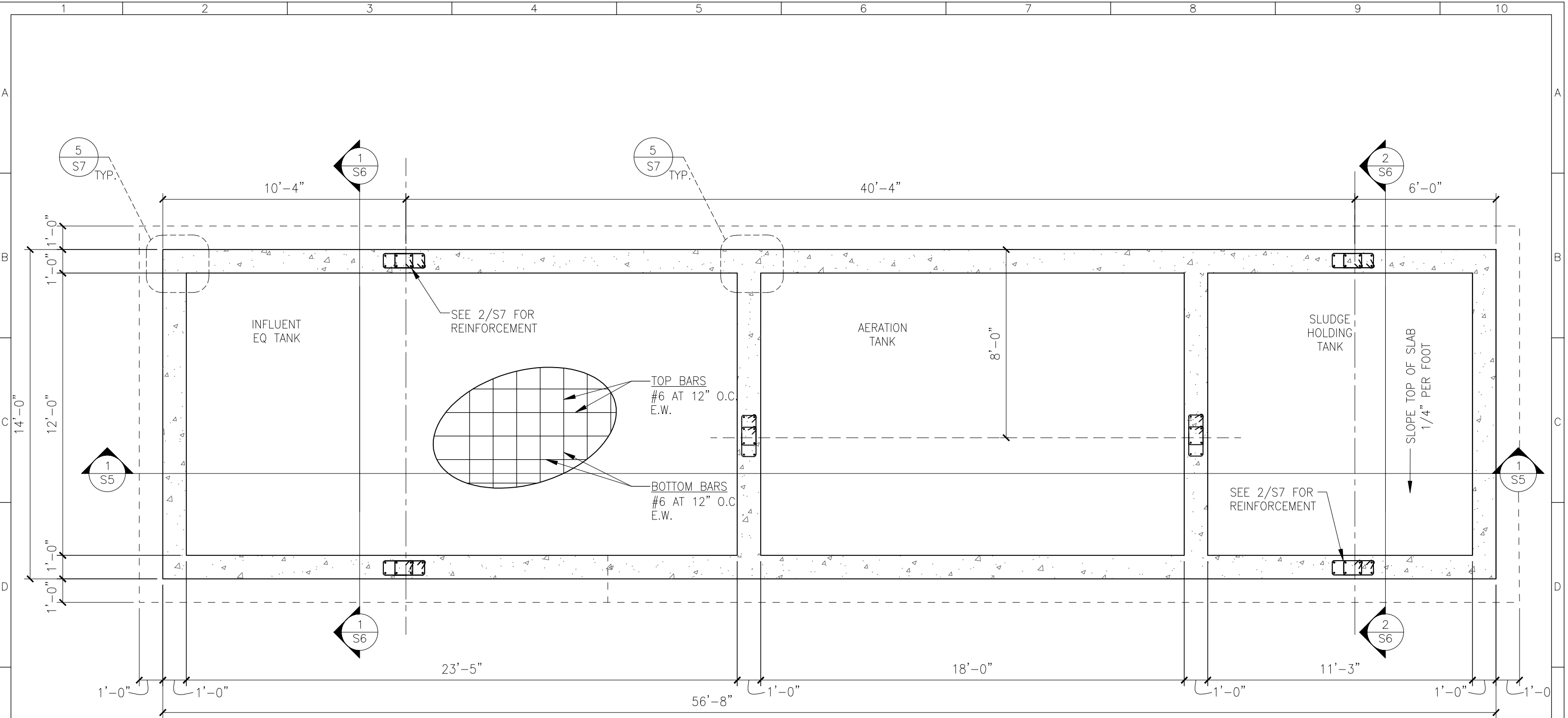
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CONCRETE TANK FOUNDATION PLAN
SCALE: 1/4" = 1'-0"

FOUNDATION PLAN NOTES:	
1.	18" CONCRETE SLAB REINFORCED AS SHOWN ON PLAN. PLACE SLAB OVER 6" BASE OF WELL GRADED GRANULAR FILL, OVER NEWLY PLACED, COMPACTED FILL (REMOVE ALL CLAYS PRIOR TO FILL PLACEMENT). PREPARE SUBGRADE PER GEOTECHNICAL RECOMMENDATIONS FROM REPORT REFERENCED ON SHEET S1.
2.	EXTERIOR GRADE ELEVATION VARIES, REF CIVIL. SLOPE BOTTOM OF FOOTING TO MAINTAIN MINIMUM BEARING DEPTH.
3.	REFERENCE PROCESS PLANS AND SECTIONS FOR SIZE AND LOCATIONS OF PENETRATIONS, TYP.



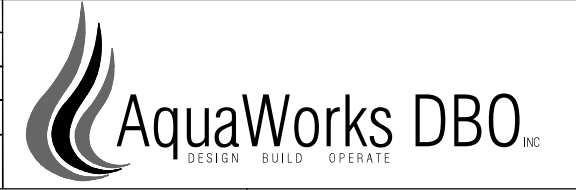
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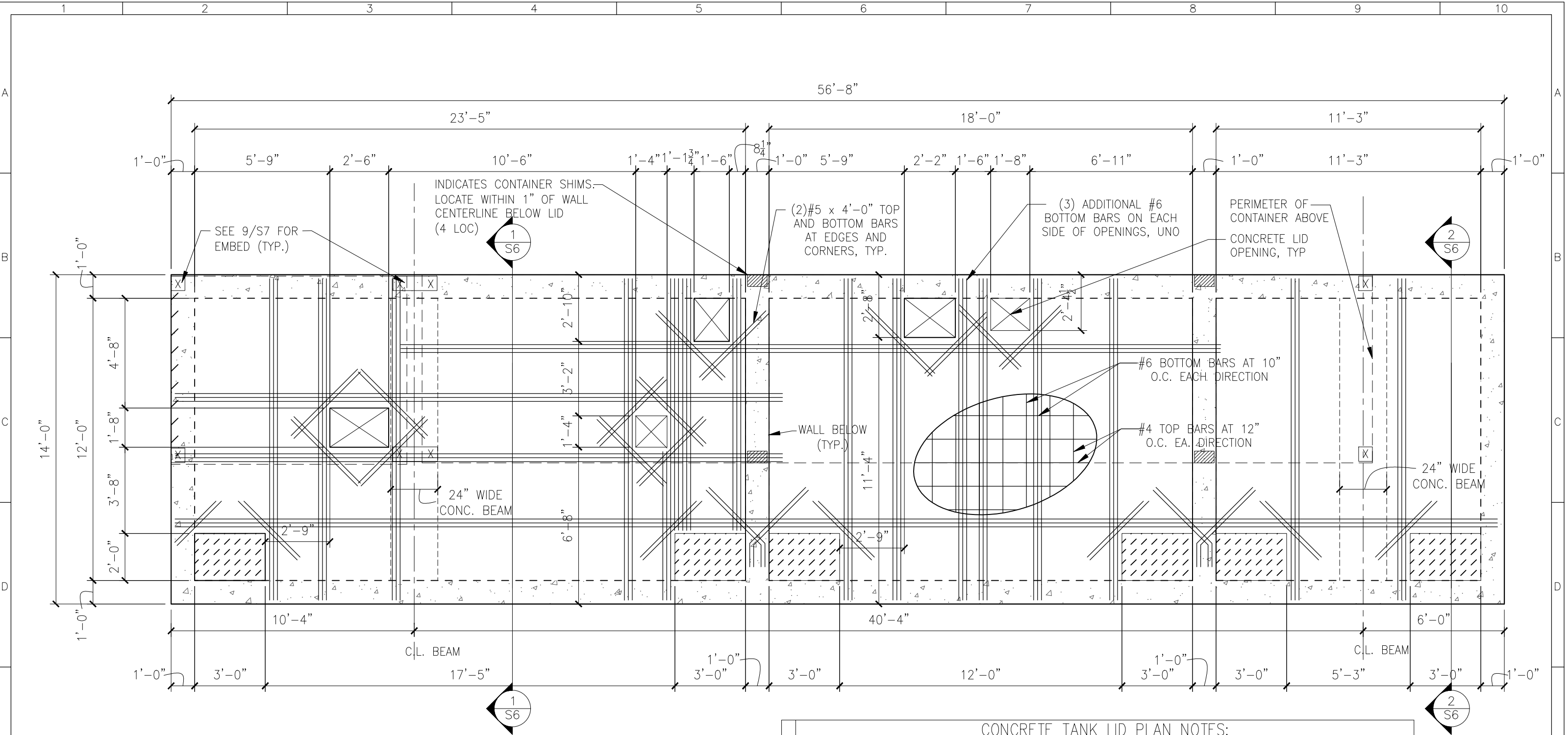


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PROJECT: MILNER COLORADO WWTP COMMUNITY OF MILNER ROUTT COUNTY, COLORADO		SHEET TITLE: CONCRETE TANK FOUNDATION PLAN		
ENGINEER: AQUAWORKS DBO, INC. 3252 WILLIAMS STREET DENVER, COLORADO 80205 (303) 477-5915		PROJECT NUMBER: #3857	SCALE: 1/4" = 1'	SHEET: S3



CONCRETE TANK LID PLAN
SCALE: 1/4" = 1'-0"



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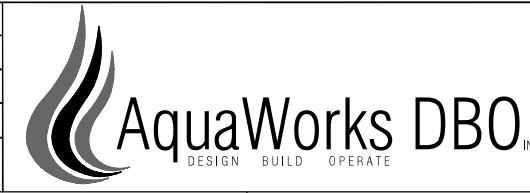
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2023.11.14
15:23:28-06'00'

CONCRETE TANK LID PLAN NOTES:	
1.	12" CONCRETE SLAB REINFORCED AS SHOWN ON PLAN.
2.	EXTERIOR GRADE ELEVATION VARIES, REF CIVIL.
3.	REFERENCE PROCESS PLANS AND SECTIONS FOR SIZE AND LOCATIONS OF PENETRATIONS, TYP.
4.	REF. 7-S7 AND 8-S7 FOR TYPICAL WALL PIPE SLEEVE OR OTHER WALL OPENING DETAILS. RE: PROCESS PLANS FOR LOCATIONS
5.	SPACING OF ADDITIONAL BARS AROUND OPENINGS SHALL BE MINIMUM OF 2".
6.	EXTEND ALL ADDITIONAL BARS TO NEXT INTERIOR WALL CL OR DEVELOPMENT LENGTH PER 6/S7 (WHICHEVER IS LONGER)
7.	PROVIDE 2" CLR FROM REINF. EA SIDE OF OPNG. PER 3/S7
8.	REF DETAIL 9/S7 FOR EMBEDS CAST INTO CONCRETE LID UNDER CONTAINER LEG LOCATIONS

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COMMUNITY OF MILNER
ROUTT COUNTY, COLORADO

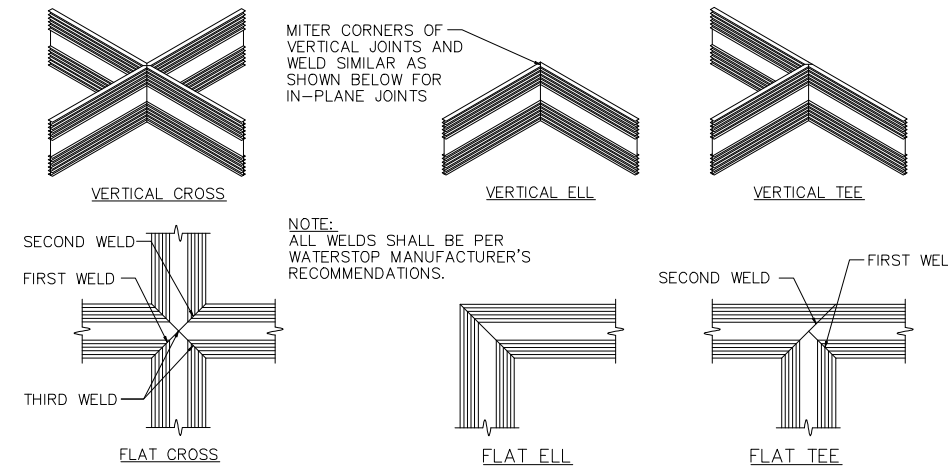
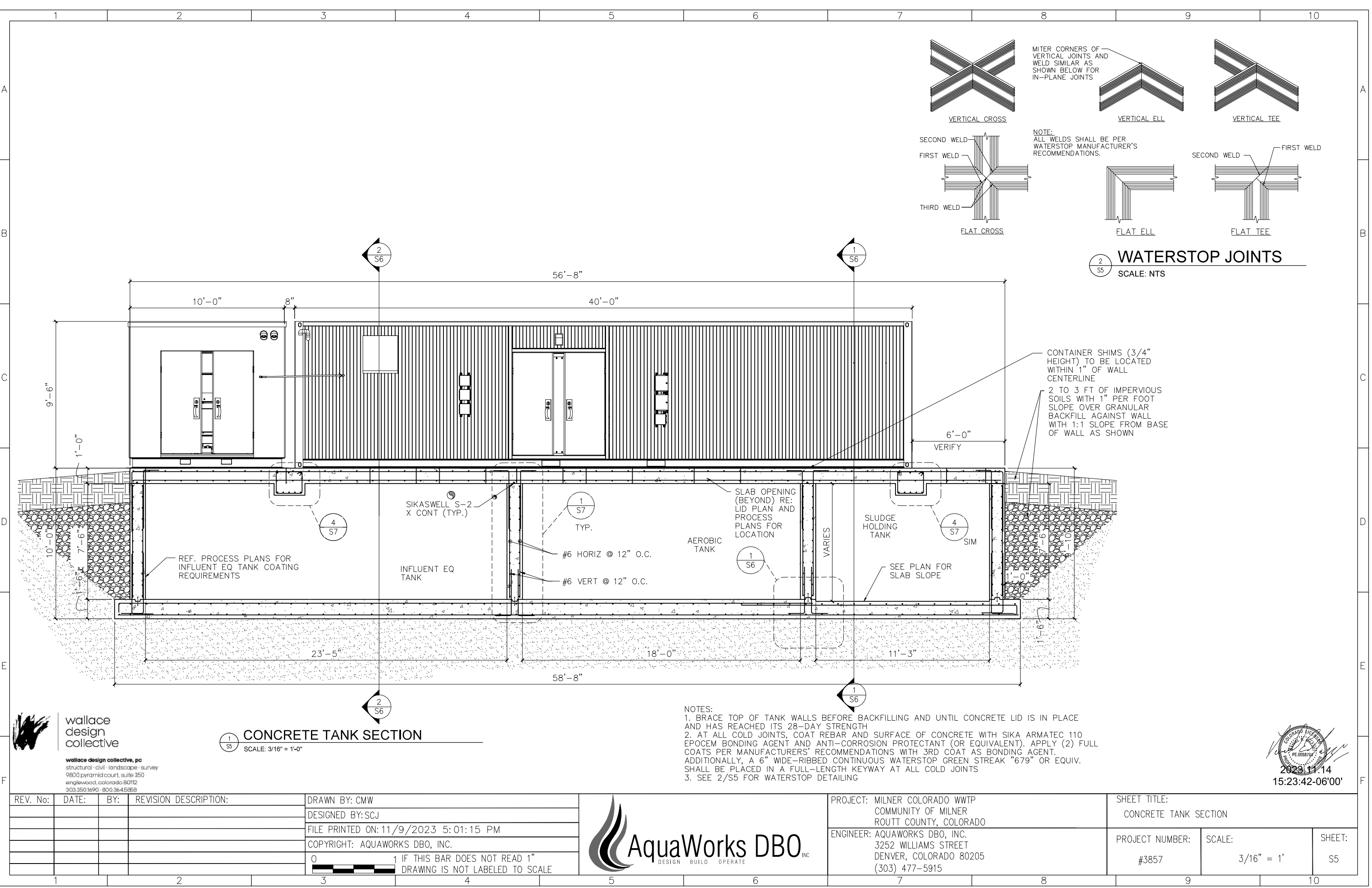
ENGINEER: AQUAWORKS DBO, INC.
3252 WILLIAMS STREET
DENVER, COLORADO 80205
(303) 477-5915

SHEET TITLE:
CONCRETE TANK LID PLAN

PROJECT NUMBER: 3857

SCALE: 1/4" = 1'

SHEET: S4



WATERSTOP JOINTS
SCALE: NTS

CONCRETE TANK SECTION
SCALE: 3/16" = 1'-0"

- NOTES:
1. BRACE TOP OF TANK WALLS BEFORE BACKFILLING AND UNTIL CONCRETE LID IS IN PLACE AND HAS REACHED ITS 28-DAY STRENGTH
 2. AT ALL COLD JOINTS, COAT REBAR AND SURFACE OF CONCRETE WITH SIKA ARMATEC 110 EPOCEM BONDING AGENT AND ANTI-CORROSION PROTECTANT (OR EQUIVALENT). APPLY (2) FULL COATS PER MANUFACTURERS' RECOMMENDATIONS WITH 3RD COAT AS BONDING AGENT. ADDITIONALLY, A 6" WIDE-RIBBED CONTINUOUS WATERSTOP GREEN STREAK "679" OR EQUIV. SHALL BE PLACED IN A FULL-LENGTH KEYWAY AT ALL COLD JOINTS
 3. SEE 2/S5 FOR WATERSTOP DETAILING

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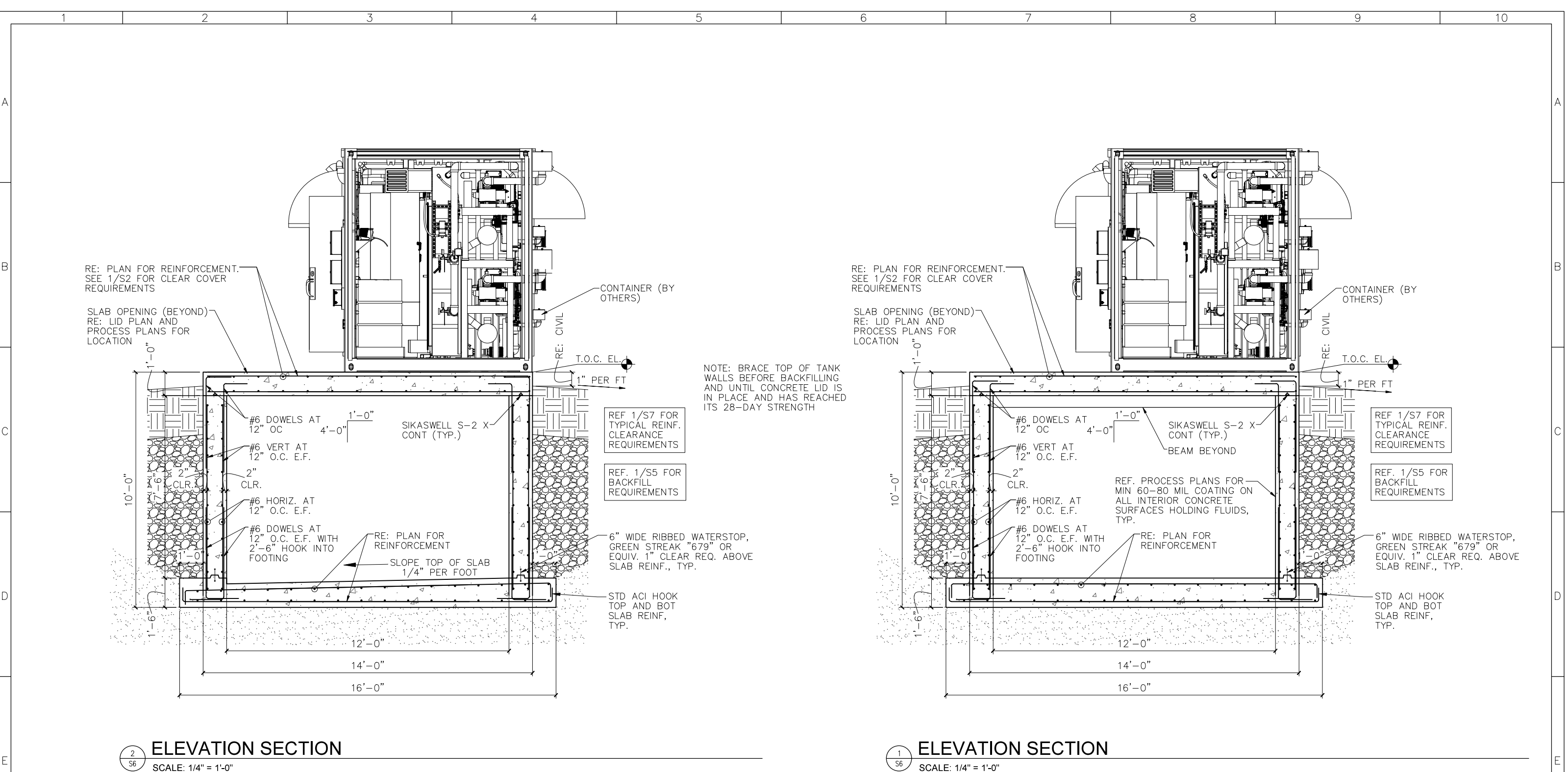
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ROUTT COUNTY, COLORADO

ENGINEER: AQUAWORKS DBO, INC.
3252 WILLIAMS STREET
DENVER, COLORADO 80205
(303) 477-5915


SHEET TITLE:
CONCRETE TANK SECTION

PROJECT NUMBER: #3857	SCALE: 3/16" = 1'	SHEET: S5
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ELEVATION SECTION
SCALE: 1/4" = 1'-0"

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



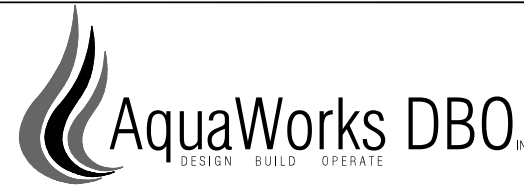
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2023.11.14
15:23:54-06'00'

SECTION NOTES:

1. AT ALL COLD JOINTS, COAT REBAR AND SURFACE OF CONCRETE WITH SIKA ARMATEC 110 EPOCEM BONDING AGENT AND ANTI-CORROSION PROTECTANT (OR EQUIVALENT). APPLY (2) FULL COATS PER MANUFACTURERS' RECOMMENDATIONS WITH 3RD COAT AS BONDING AGENT. ADDITIONALLY, A 6" WIDE-RIBBED CONTINUOUS WATERSTOP GREEN STREAK "679" OR EQUIV. SHALL BE PLACED IN A FULL-LENGTH KEYWAY AT ALL COLD JOINTS
2. REF 2/S5 FOR WATERSTOP DETAILING

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				DESIGNED BY: SCJ		ENGINEER: AQUAWORKS DBO, INC. 3252 WILLIAMS STREET DENVER, COLORADO 80205 (303) 477-5915	PROJECT NUMBER:	SCALE:	SHEET:
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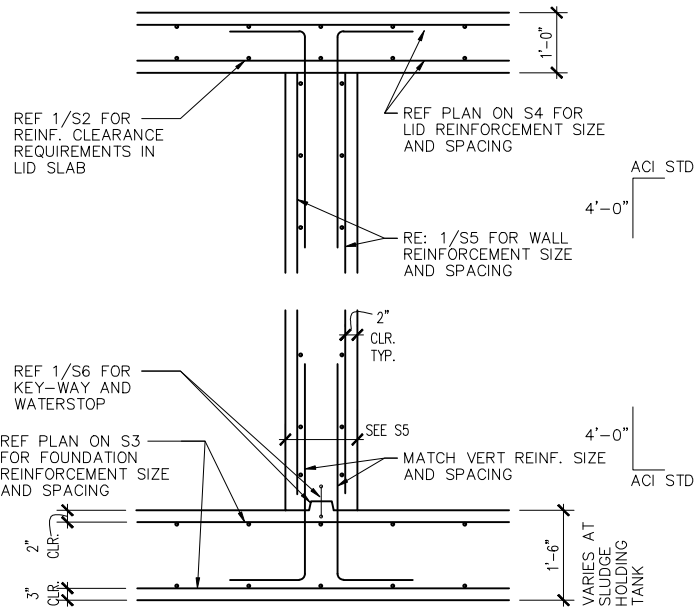
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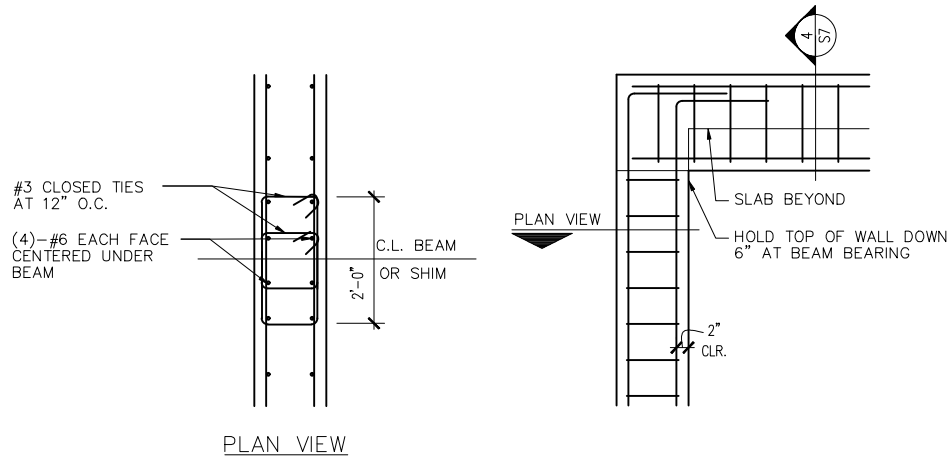
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1
S7

DETAIL (INTERIOR WALL)

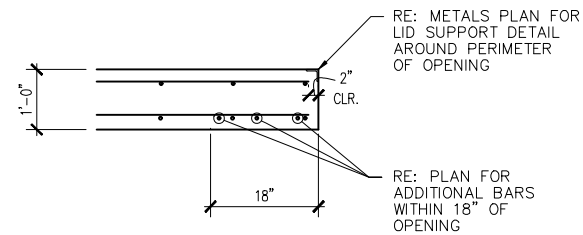
SCALE: 3/8" = 1'-0"



2
S7

DETAIL (COLUMN IN WALL)

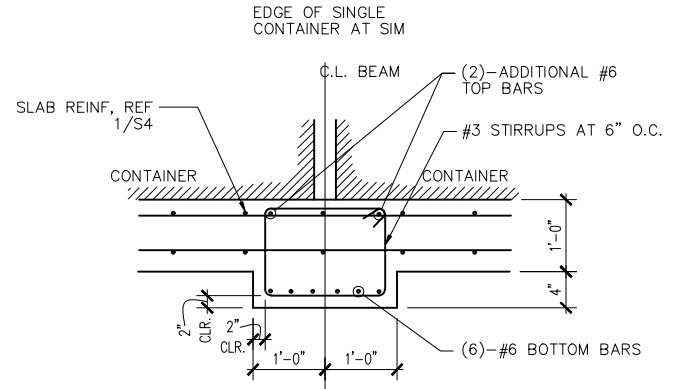
SCALE: 3/8" = 1'-0"



3
S7

DETAIL (LID OPENING)

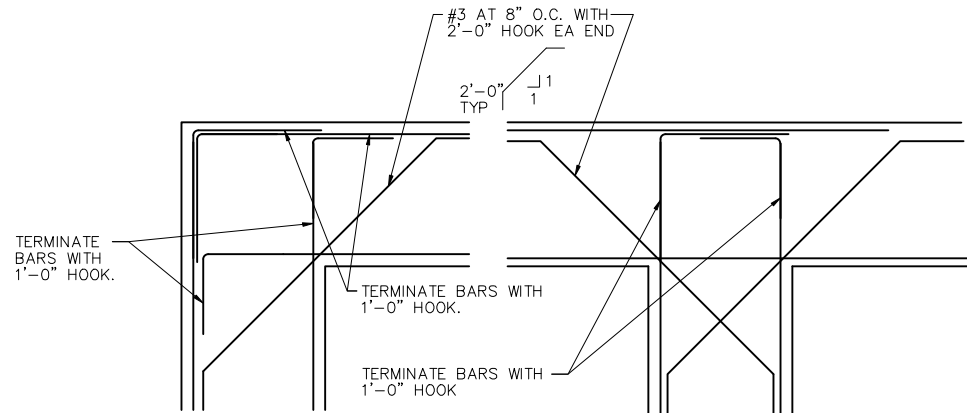
SCALE: 3/8" = 1'-0"



4
S7

DETAIL (LID BEAM)

SCALE: 3/8" = 1'-0"



5
S7

TYPICAL CONCRETE CORNER BARS

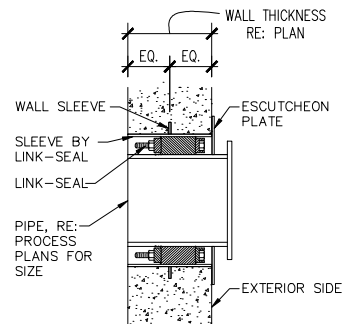
NO SCALE

STEEL REINF. LAP SCHEDULE			
BAR SIZE	CONCRETE LAP SPLICE		
	f'c = 4500psi		
	TOP	OTHER	
3	14	12	
4	19	14	
5	23	18	
6	28	21	
7	40	31	
8	46	35	
9	57	44	
10	70	54	

6
S7

STEEL REINFORCING LAP SCHEDULE

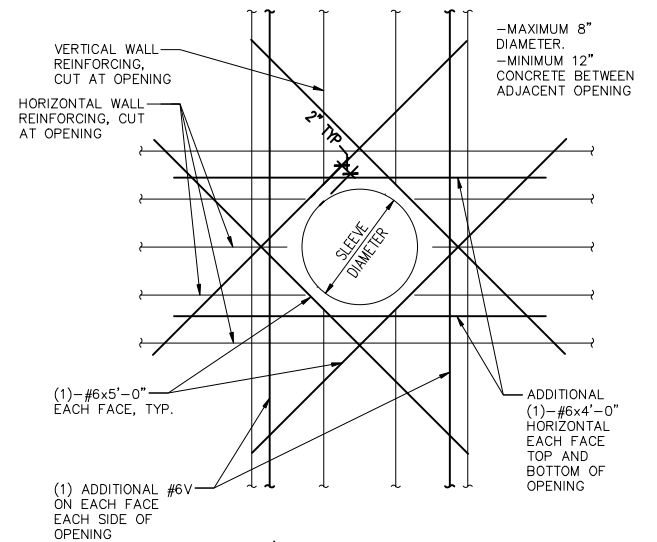
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7
S7

WALL PIPE SLEEVE

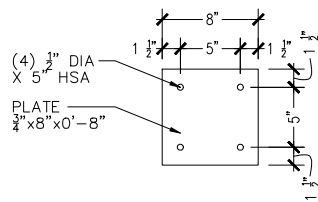
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8
S7

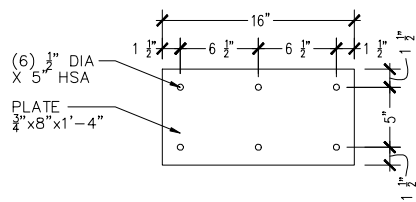
OPENING IN TANK WALL

NO SCALE



EMBED TYPE 1

(AT OUTSIDE CORNER LEGS)



EMBED TYPE 2

(AT INSIDE CORNER LEGS)

9
S7

LID EMBEDS AT CONTAINER LEGS

NO SCALE



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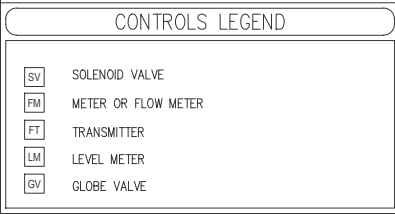
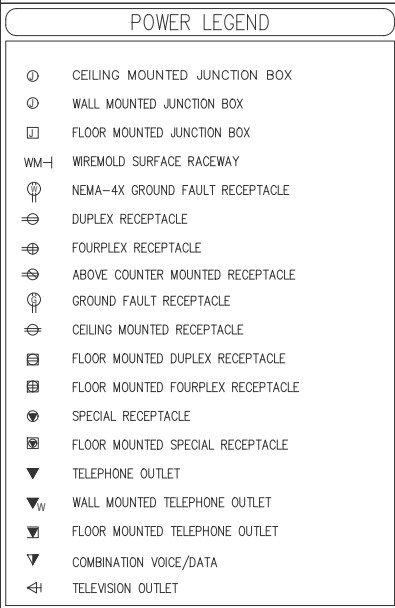
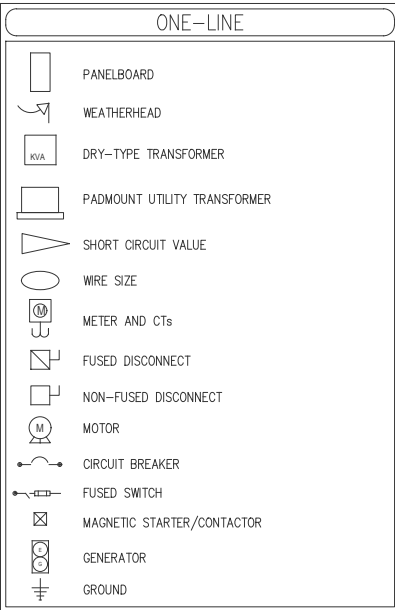


AquaWorks DBO INC
DESIGN BUILD OPERATE

PROJECT: MILNER COLORADO WWTP COMMUNITY OF MILNER ROUTT COUNTY, COLORADO
ENGINEER: AQUAWORKS DBO, INC. 3252 WILLIAMS STREET DENVER, COLORADO 80205 (303) 477-5915

SHEET TITLE: STRUCTURAL DETAILS		
PROJECT NUMBER: #3857	SCALE: PER DETAIL	SHEET: S7





PROJECT GENERAL NOTES:

1. THE PROCESS BUILDING IS FACTORY DESIGNED, BUILT, TESTED AND DELIVERED TO THE SITE FULLY ASSEMBLED BY NEWTERRA. ALL WORK INSTALLED BY NEWTERRA SHALL MEET 2023 NEC INSPECTION CODES.
2. THE CONTRACTOR SHALL WORK WITH NEWTERRA MANUFACTURING TO PROVIDE AND INSTALL ALL ELECTRICAL AND CONTROLS COMPLETE WITH ASSOCIATED CIRCUITRY NECESSARY TO PERFORM THE INTENDED FUNCTIONS OF THE CONTRACT DOCUMENTS. ANY MATERIALS, DEVICES AND CIRCUITRY NOT SPECIFICALLY INDICATED BUT NECESSARY TO PERFORM INTENDED FUNCTIONS AND CORRECT OPERATION SHALL BE PROVIDED AND INSTALLED.
3. ELECTRICAL INSTALLATION OF POWER AND CONTROLS ON EQUIPMENT SKIDS SHALL BE BY THE MANUFACTURER.
4. ALL EQUIPMENT, DEVICE AND RACEWAY DIMENSIONS, PLANS AND ELEVATIONS INDICATED ON THE DRAWINGS ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL USE SHOP DRAWINGS FOR PROPER LAYOUT, FOUNDATION AND PAD FOR FINAL INSTALLATION.
5. ALL OVERCURRENT DEVICES (CIRCUIT BREAKERS, FUSES, OVERLOADS, ETC.) SIZES INDICATED ARE ESTIMATED. THE CONTRACTOR SHALL PROVIDE AND INSTALL OVERCURRENT DEVICES SIZED AS REQUIRED BY THE NEC FOR THE CONNECTED LOAD AND ACTUAL EQUIPMENT RATING. ALL OVERCURRENT DEVICES SIZES SHALL BE APPROVED BY THE ENGINEER.

SITE WORK:

1. ALL WORK SHALL BE COORDINATED WITH OTHER UNDER GROUND UTILITIES.
2. THE CONTRACTOR SHALL FOLLOW TRENCH DETAILS FOR CONDUIT AND WIRE.

GENERATOR PAD:

1. SIZE PAD TO EXTEND A MINIMUM OF 18" PAST THE EDGE OF GENERATOR ENCLOSURE PROVIDED. COMPACT SOIL UNDER GENERATOR PADS TO 95% STANDARD PROCTOR. THE FINAL PAD THICKNESS IS A MINIMUM OF 6".
2. STEEL REINFORCING BARS: ASTM A 615/A 615M, GRADE 60 (GRADE 420), DEFORMED. ALL REINFORCING STEEL SHALL BE UNIFORMLY TIED TO REINFORCING STEEL TO PREVENT DISPLACEMENT DURING CONCRETE PLACEMENT WITH BOLSTERS, CHAIRS, OR SPACERS.
3. ALL CONCRETE SHALL BE AIR PROPORTION NORMAL-WEIGHT CONCRETE MIXTURE AS FOLLOWS:
 - a. MINIMUM COMPRESSIVE STRENGTH: 4000 PSI AT 28 DAYS.
 - b. MAXIMUM WATER-CEMENTITIOUS MATERIALS RATIO: 0.45.
 - c. SLUMP LIMIT: 5 INCHES, PLUS OR MINUS 1 INCH.
 - d. AIR CONTENT: 6 PERCENT, PLUS OR MINUS 1.5 PERCENT AT POINT OF DELIVERY FOR 3/4-INCH NOMINAL MAXIMUM AGGREGATE SIZE.
4. PROTECT FRESHLY PLACED CONCRETE FROM PREMATURE DRYING AND EXCESSIVE COLD OR HOT TEMPERATURES. COMPLY WITH ACI 306.1 FOR COLD-WEATHER PROTECTION AND ACI 301 FOR HOT-WEATHER PROTECTION DURING CURING.

SITE (POWER) TRENCH DETAIL:

1. FOR THE CONDUIT TRENCHES TO THE INSTALL SCHEDULE 40 PVC CONDUIT WITH RIGID ELBOWS. REBAR STAKE AND TIE THE CONDUIT AT 5' INTERVALS ABOVE THE BOTTOM OF THE TRENCH AND FLOW FILL 8" WITH CONCRETE SLURRY.

2. COORDINATE TRENCH WIDTH WITH OWNER AND WHERE NEEDED CONDUITS CAN BE STACKED TO MINIMIZE TRENCH WIDTH

SERVICE:

1. ALL WORK SHALL CONFORM TO 2023 NATIONAL ELECTRIC CODE ALONG WITH ANY LOCAL BUILDING CODES.
2. ALL WORK INVOLVING THE UTILITY SHALL BE REVIEWED AND CONFIRMED, PRIOR TO ANY INSTALLATION. ALL WORK TO CONFORM TO YAMPA VALLEY ELECTRIC ASSOCIATION REQUIREMENTS.
3. ALL FEEDERS ARE TO BE COPPER.
4. PANEL SCHEDULES SHALL BE UPDATED AND TYPED PRIOR TO COMPLETION OF THE PROJECT.
5. THE E.C. SHALL SUBMIT ELECTRICAL DISTRIBUTION GEAR, AND GENERATOR SHOP DRAWINGS TO THE OWNER AND ENGINEER FOR APPROVAL PRIOR TO FINAL PURCHASE.
6. THE SERVICE EQUIPMENT SHALL BE BUILT AT THE EDGE OF THE TANK PAD WITH A RACK AS SHOWN OR MOUNTED ON THE CONTAINER EXTERIOR PER OWNER PREFERENCE.

STAND-BY GENERATOR AND ATS:

1. THE GENERATOR SHALL BE INSTALLED WITH ALL CONNECTIONS, CONDUCTORS AND CONDUITS PER THE CODE.
2. REFER TO GENERATOR SPECIFICATION TABLE FOR DETAILS ON THE PROJECT SPECIFIC GENERATOR.
3. THE CONTRACTOR SHALL PROVIDE A CONCRETE HOUSEKEEPING PAD PER DETAIL.
4. SUPPLY AUTOMATIC TRANSFER SWITCH IN THE AMPERAGE AND VOLTAGE SPECIFIED. SWITCH SHALL BE (3) POLE WITH A SOLID NEUTRAL CONNECTION.
5. GROUND GENERATOR PER NEC 250-35(B) FOR A NON-SEPARATELY DERIVED SYSTEM.
6. CONTROL CONDUCTORS FROM THE GENERATOR TO THE REMOTE CONTROL PANEL AND ATS SWITCH SHALL BE VERIFIED FROM THE MANUFACTURER AND INSTALLED PER CODE.
7. THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR THE GENERATOR AND TRANSFER SWITCHES TO THE ENGINEER PRIOR TO PURCHASE.
8. THE CONTRACTOR IS RESPONSIBLE TO TEST AND SHOW PROPER OPERATION OF THE STANDBY SYSTEM TO THE OWNER.

GROUNDING:

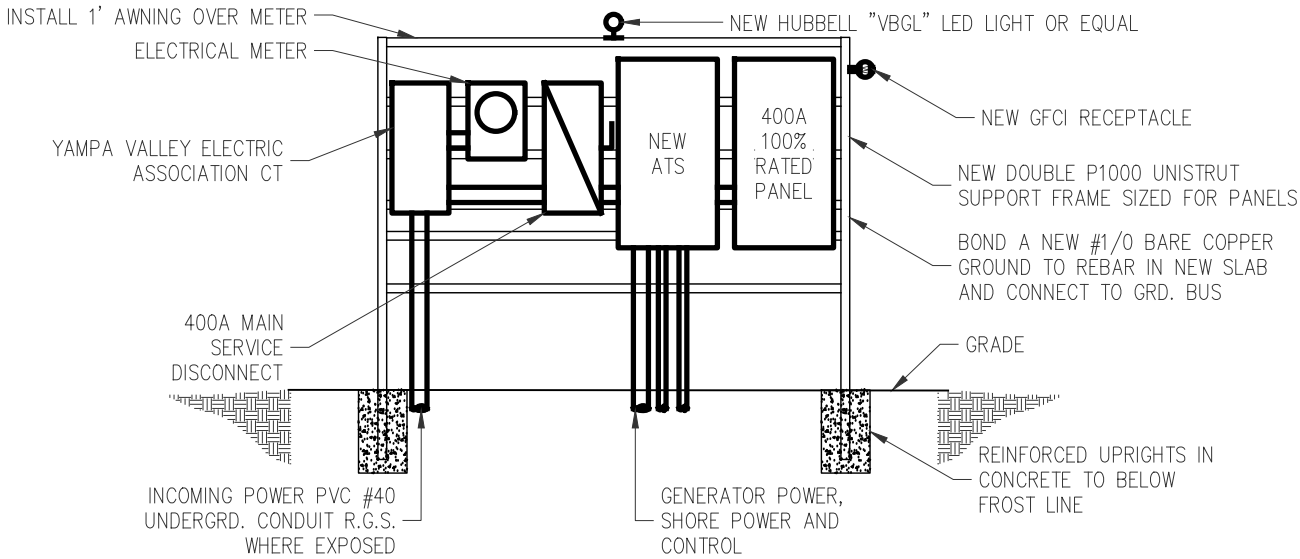
1. PROVIDE NEW MAIN SERVICE GROUNDING WITH THE FOLLOWING:
 - A WALL MOUNTED 2" X 8" X 1/4" GROUND BAR MOUNTED ON WALL BY MAIN SERVICE BOND ALL CONDUCTORS HERE.
 - 2- 5/8" GROUND RODS AT ENTRANCE PER NEC.
 - INSTALL 20' OF BARE GROUND WIRE IN THE TRENCH TO THE GENERATOR AND COVER WITH CONCRETE.
 - BOND BUILDING STEEL OF NEW CONTAINERIZED PLANT.

DETAIL NOTES ALL SHEETS:

1. THE CONTRACTOR SHALL VERIFY THE NUMBER OF CONTROL CABLES BETWEEN THE GENERATOR AND ATS SWITCH. THERE WILL BE A SET OF GENERATOR START CONTACTS ALONG WITH A COMMUNICATIONS CONNECTION FOR GENERATOR ALARM SIGNALS TO THE SCADA SYSTEM. COORDINATE WITH NEWTERRA ON CONNECTION TO SCADA.

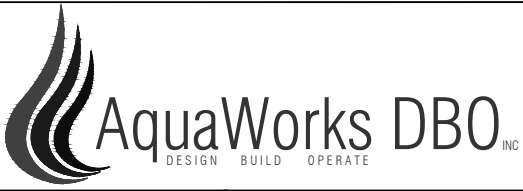
CONTROL SYSTEM WORK BY ELECTRICAL:

1. ALL CONTROL DEVICES, CABLING AND CONNECTIONS INSIDE THE BUILDING WILL BE INSTALLED BY THE MANUFACTURER.
2. ALL CONTROL DEVICES AND FACTORY SUPPLIED CABLING FOR THE TANKS SHALL BE SUPPLIED BY NEWTERRA.
3. THE ELECTRICAL CONTRACTOR SHALL INSTALL CONTROL CONDUITS BETWEEN THE INTERIOR PANELS AND THE TANKS.
4. THE E.C. SHALL SUPPLY THE CONTROL CABLING FROM THE BUILDING TO THE TANKS AS LISTED IN THE NEWTERRA SUBMITTAL AND THE SCHEDULE. EC TO PROVIDE CABLING BETWEEN CONTAINERS PER THE NEWTERRA ONE-LINE.



1 RISER DIAGRAM
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PROJECT: MILNER COLORADO WWTP COMMUNITY OF MILNER ROUTT COUNTY, COLORADO		SHEET TITLE: ELECTRICAL NOTES & DETAILS		
ENGINEER: AQUAWORKS DBO, INC. 3252 WILLIAMS STREET DENVER, COLORADO 80205 (303) 477-5915		PROJECT NUMBER: #2284	SCALE: NOT TO SCALE	SHEET: E1

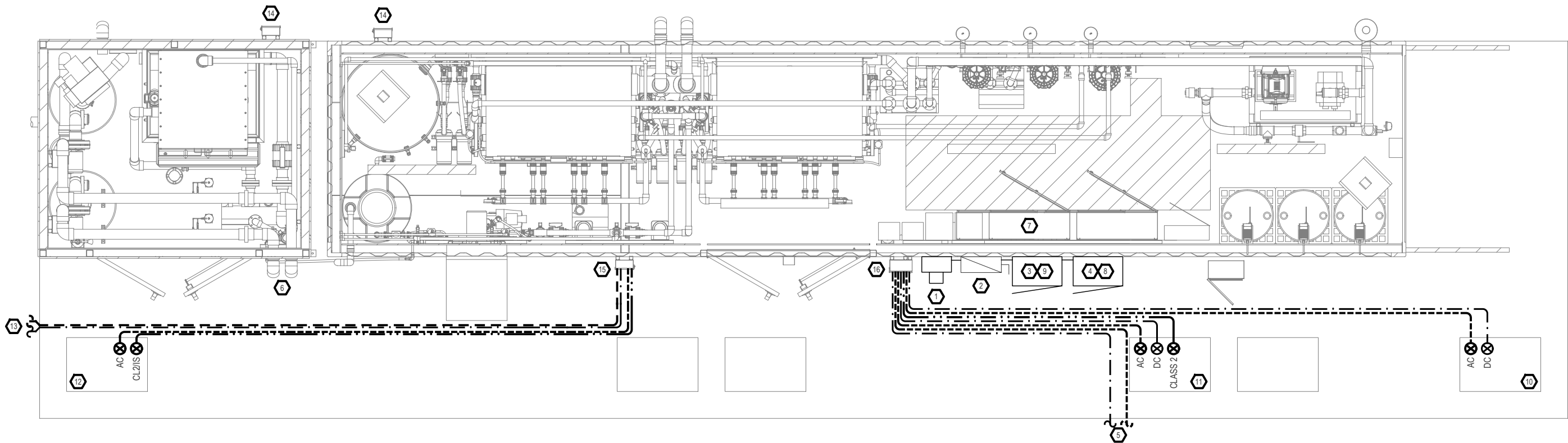


GENERAL NOTES:

- A. ALL CONDUCTORS SIZING IS BASED ON COPPER ONLY.
- B. EC TO COORDINATE WITH YAMPA VALLEY ELECTRIC ASSOCIATION TO VERIFY SIZE AND AVAILABLE FAULT CURRENT FOR THE UTILITY TRANSFORMER. IF ANY VALUES EXCEED THE ONES LISTED ON THE SHORT CIRCUIT TABLE, CONTACT ENGINEER IMMEDIATELY TO REVISE DESIGN AND CALCULATIONS.
- C. VOLTAGE DROP IS TO BE TESTED AND IF NEEDED, UPSIZED BY THE EC.
- D. SEE INSTRUMENTATION TABLE ON E3 FOR POWER CONNECTION REQUIREMENTS, COMMUNICATION CABLE TYPES, CONDUIT SIZES, JUNCTION BOX ROUTING, HAZARDOUS AREA CLASSIFICATIONS AND TERMINATION INFORMATION.
- E. ALL CONDUIT PATHWAYS SHOWN IN THIS DRAWING ARE DIAGRAMMATIC ONLY. EC TO DETERMINE THE BEST ROUTING FOLLOWING THE INSTRUMENTATION SCHEDULE ON PAGE E3.
- F. TRANSFORMER ASSUMED TO BE NO FURTHER THAN 50' AWAY. IF THERE IS A DISCREPANCY, CONTACT ENGINEER FOR RECALCULATIONS.

KEYED NOTES:

1. 320A YAMPA VALLEY ELECTRIC ASSOCIATION ASSOCIATION METER.
2. 400A YAMPA VALLEY ELECTRIC ASSOCIATION ASSOCIATION 300V NEMA 3R SERVICE DISCONNECT.
3. 400A, 120/240V, 1PHASE, 3 WIRE, NEMA 3R AUTOMATIC TRANSFER SWITCH.
4. 400A, 120/240V, 1PHASE, 3 WIRE, NEMA 3R PANEL.
5. U.G. POWER AND CONTROL CONDUITS FOR GENERATOR. SEE CIVIL PLANS FOR EXACT LOCATIONS. GENERATOR IS APPROXIMATELY 50' WEST OF THE PLANT. ATS TO RECEIVE 120V AND 24VDC CONNECTIONS.
6. EXTEND VENTILATION WHEN NEEDED TO ENSURE IT IS 3' AWAY FROM ANY ELECTRICAL EQUIPMENT.
7. PROPOSED LOCATION OF 120/240V 1PHASE PANEL. PANEL TO SUPPLY GENERATOR AND RACK'S SMALL LOADS.
8. MAINTENANCE LED LIGHT & GFI ON RACK 120V FROM NEW 120/240V PANEL.
9. COORDINATE OVERHEAD ROUTE FOR INCOMING 400A FEED FROM TRANSFER SWITCH.
10. SLUDGE HOLDING TANK TNK-0901. TANK TO RECEIVE 240V CONNECTIONS AND 24VDC CONNECTIONS. SEE E3 FOR EQUIPMENT CONNECTION SCHEDULE.
11. AERATION TANK TNK-0501. TANK TO RECEIVE 240V CONNECTIONS, CLASS 2 CONNECTIONS, AND 24VDC. SEE E3 FOR EQUIPMENT CONNECTION SCHEDULE.
12. EQUALIZATION TANK TNK-0301. TANK TO RECEIVE 120V CONNECTIONS, 24VDC, AND INTRINSICALLY SAFE. SEE E3 FOR EQUIPMENT CONNECTION SCHEDULE.
13. U.G. POWER AND CONTROL CONDUITS FOR LIFT STATION. SEE CIVIL PLANS FOR EXACT LOCATIONS.
14. PROVIDE ELECTRICAL CONNECTIONS BETWEEN THE TWO CONTAINERS PER EQUIPMENT MANUFACTURER REQUIREMENTS.
15. JUNCTION BOXES JB-TNK2-DC, JB-TNK2, AND JB-TNK2-IS.
16. JUNCTION BOXES JB-TNK1-CL2, JB-TNK1, AND KB-TNK1-DC.
17. LIFT STATION TANK TNK-0101 AND CLIENT PROVIDED PUMP CONTROLLER. CONTROLLER TO RECEIVE 20A, 240V CONNECTION, WHILE SCHEDULED DEVICES TO RECEIVE 24V CONNECTIONS. SEE E3 FOR POWER AND INSTRUMENTATION CONNECTION SCHEDULE.



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PROJECT: MILNER COLORADO WWTP COMMUNITY OF MILNER ROUTT COUNTY, COLORADO			SHEET TITLE: ELECTRICAL LAYOUT		
ENGINEER: AQUAWORKS DBO, INC. 3252 WILLIAMS STREET DENVER, COLORADO 80205 (303) 477-5915			PROJECT NUMBER: #2284	SCALE: NOT TO SCALE	SHEET: E2

