

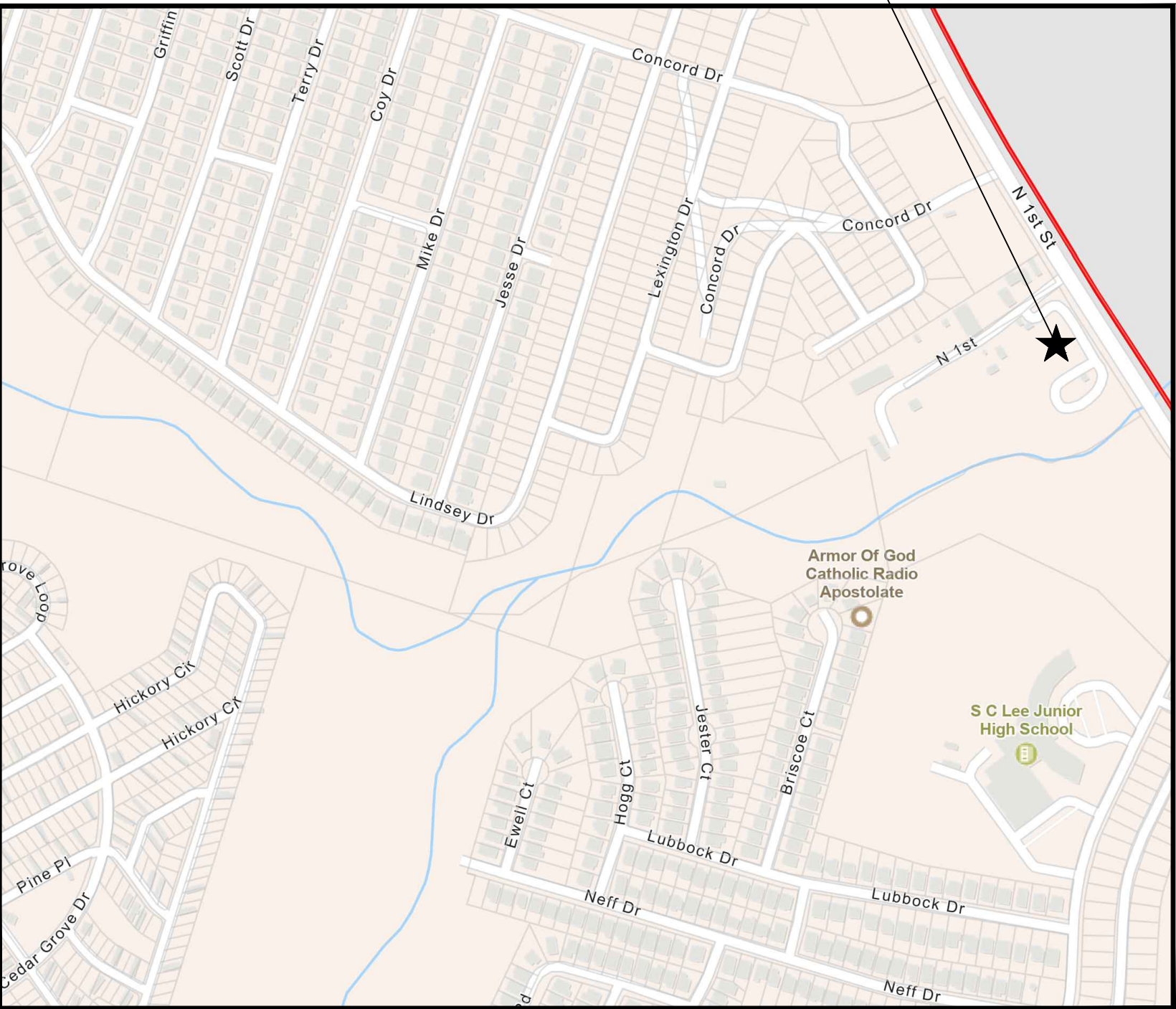
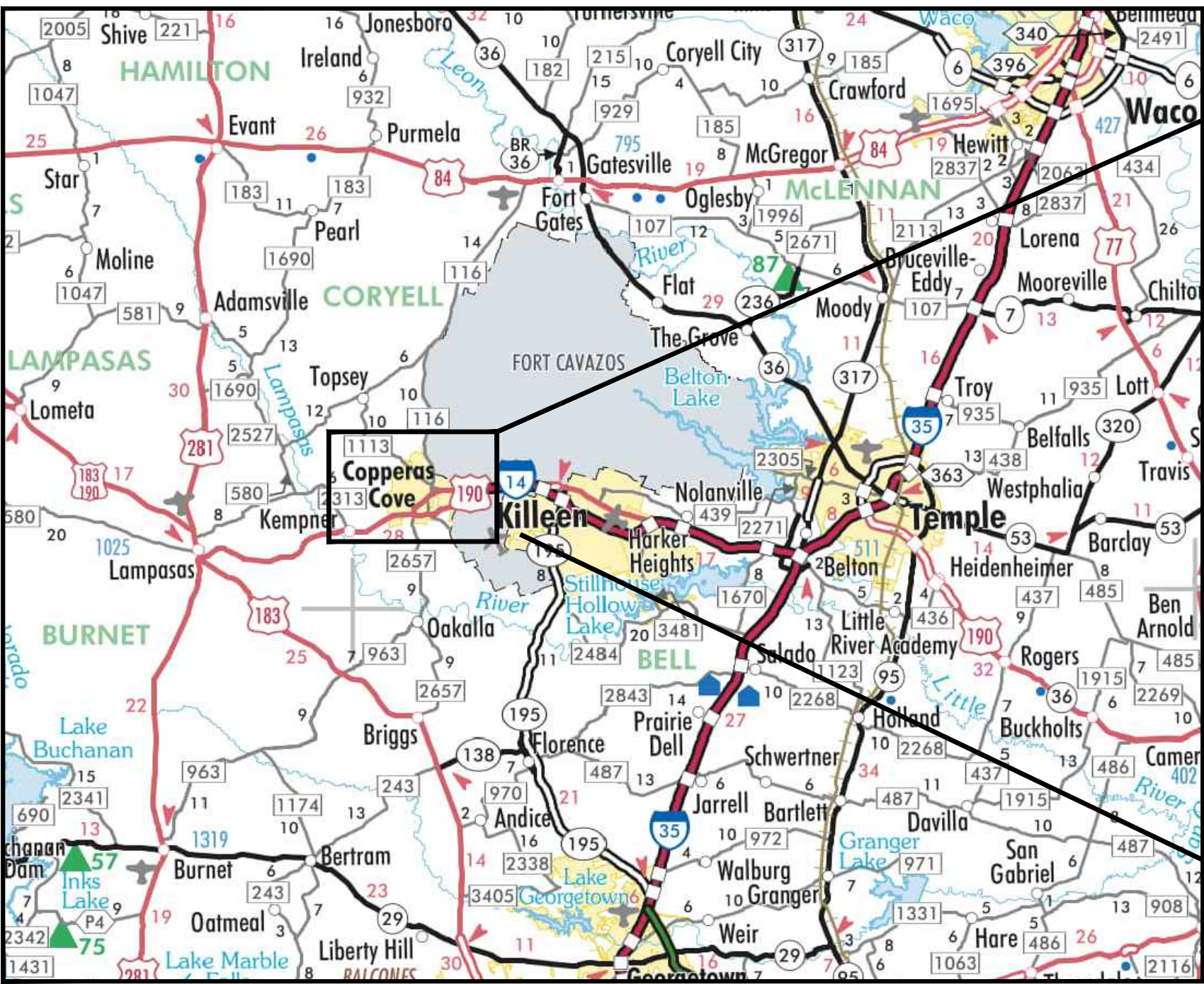
# NORTHWEST WWTP CLARIFIER REHABILITATION PROJECT

## FOR THE

# CITY OF COPPERAS COVE, TEXAS



**MAYOR: DAN D. YANCEY**  
**CITY MANAGER: RYAN D. HAVERLAH**  
**BID NO. PW 2025-03-84**



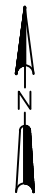
NORTHWEST WWTP  
1601 NORTH 1ST ST.  
COPPERAS COVE, TX 76522

**Strand Associates, Inc.**  
**1906 NIEBUHR ST.**  
**BRENNHAM, TX 77833**  
**979-836-7937**  
**www.strand.com**

**TBPE NO. F-8405**  
**TBPLS NO. 10030000**

**CONTRACT 1-2025**

**PROJECT LOCATION MAP**  
NO SCALE



**ISSUED FOR BID - 09/05/2025**

**SHEET**  
**1**  
**00-G0.01**



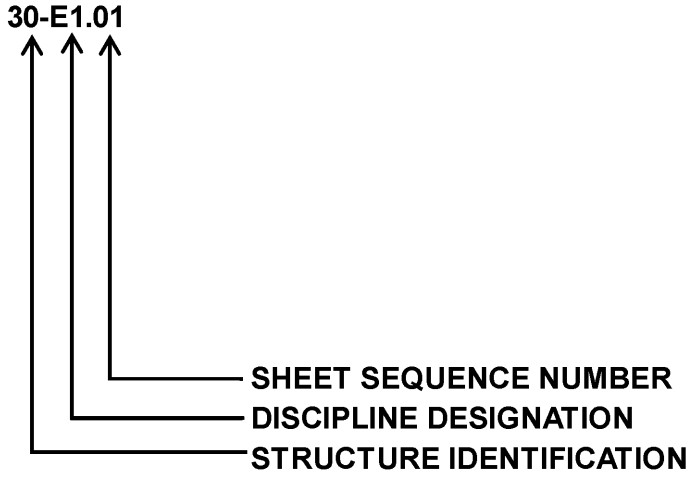
DRAWNG LIST

SHEET NO.	DRAWNG NO.	TITLE
<u>00-GENERAL</u>		
1	00-G0.01	TITLE SHEET AND PROJECT LOCATION MAPS
2	00-G0.02	LIST OF DRAWINGS AND DESIGN CRITERIA
3	00-G0.03	STANDARD SYMBOLS - 1
4	00-G0.04	STANDARD SYMBOLS - 2
5	00-G0.05	ABBREVIATIONS
6	00-G6.01	PROCESS FLOW DIAGRAM
7	00-G6.02	HYDRAULIC PROFILE
<u>05-SITE</u>		
8	05-C1.01	LOCATION PLAN
9	05-M1.01	YARD PIPING PLAN
10	05-E1.01	ELECTRICAL PLAN
<u>50-FINAL CLARIFIERS</u>		
11	40-D1.01	CLARIFIERS NO. 1 AND NO. 2 - DEMOLITION PLAN
12	40-D3.01	CLARIFIERS NO. 1 AND NO. 2 - DEMOLITION SECTION
13	40-ASM1.01	CLARIFIERS NO. 1 AND NO. 2 - PLAN
14	40-ASM1.02	CLARIFIER NO. 1 - ENLARGED PLAN
15	40-ASM1.03	CLARIFIER NO. 2 - ENLARGED PLAN
16	40-ASM3.01	CLARIFIER NO. 1 - SECTIONS
17	40-ASM3.02	CLARIFIER NO. 2 - SECTIONS
18	40-E1.01	CLARIFIERS NO. 1 AND NO. 2 - ELECTRICAL PLA N
<u>43-RASIWAS PUMPING STATION</u>		
19	43-ASM1.01	PLAN
20	43-ASM3.01	SECTIONS
21	43-E1.01	ELECTRICAL PLAN
<u>99-DETAILS</u>		
22	99-ASM5.01	ARCHITECTURAL/STRUCTURAL/MECHANICAL DETAILS - 1
23	99-ASM5.02	ARCHITECTURAL/STRUCTURAL/MECHANICAL DETAILS - 2
24	99-E5.01	ELECTRICAL DETAILS
25	99-E6.01	ELECTRICAL SCHEDULES AND MCC-A ELEVATION
26	99-E7.01	ELECTRICAL ONE-LINE DIAGRAM

DISCIPLINE DESIGNATIONS

G - GENERAL  
N - P&ID  
C - CIVIL  
S - STRUCTURAL  
A - ARCHITECTURAL  
M - PROCESS/MECHANICAL  
H - HVAC  
E - ELECTRICAL  
D - DEMOLITION  
P - PLUMBING  
F - FIRE PROTECTION

DRAWNG NUMBER DESIGNATION



Design Criteria

I. Design Flows and Loadings-2045

Design Flows (mgd):		
Average Flow (DAF)		4.00
2-Hour Peak Flow		13.20
Design Average Influent Loadings (lb/day):		
BOD <sub>5</sub>		8,300
TSS		8,300

II. Current TPDES Effluent Requirements

Receiving Waters:	House Creek of the Brazos River Basin
-------------------	---------------------------------------

Outfall 001:

CBOD <sub>5</sub> (mg/L)		
Daily Average		10
7-day Average		15
Daily Max		25
Single Grab		35
Suspended Solids (mg/L)		
Daily Average		15
7-day Average		25
Daily Max		40
Single Grab		60
NH <sub>3</sub> -N (mg/L)		
Daily Average		2
7-day Average		5
Daily Max		10
Single Grab		15
Aluminum (mg/L)		
Daily Average		0.835
Daily Max		1.766
Single Grab		2.5
<i>E. coli</i> (MPN/100 mL)		
Daily Average		126
Daily Max		399
pH (standard units)		
Single Grab (minimum)		6.0
Single Grab (maximum)		9.0

III. Unit Design Criteria

A. Preliminary Treatment and Influent Pumping

Mechanical Screening

Type	Mechanical Step Screen
Number	1 + 1 Manual Bar Rack
Capacity, (mgd)	13.20

Influent Pumping Station

Type	Centifugal
Number	5
Firm Capacity (mgd)	13.20

B. Secondary Treatment

Conventional Activated Sludge

Aeration Tanks		
Number		2
Dimensions, each (feet)		85 x 44 x 15 SWD
Volume, total (gallons)		839,250
Detention Time @ 4.00 mgd (hrs)		5.04
Detention Time @ 13.20 mgd (hrs)		1.53

Aeration Blowers

Type	High Speed Centrifugal
Number	4
Size, each (hp)	100

Final Clarification (NEW)

Type			Octagonal, Suction Header
Number			2
Diameter (ft)			85
Sidewater depth (ft)			14
Surface Area–Total (ft <sup>2</sup> )			11,350
Surface Overflow Rate @ 4.00 mgd (gpd/ft <sup>2</sup> )			352
Surface Overflow Rate @ 13.20 mgd (gpd/ft <sup>2</sup> )			1,163
Weir Loading Rate @ 4.00 mgd (gpd/LF)			7,576
Weir Loading Rate @ 13.20 mgd (gpd/LF)			25,000

RAS/WAS Pumping (NEW)

Type			Screw Centrifugal
Number			3
Capacity-Each (gpm)			1,600

Scum Pumping (NEW)

Type			Submersible
Number			2
Capacity-Each (gpm)			50

C. Disinfection

Ultraviolet (UV) Disinfection

Type			Low pressure, high output
System capacity (mgd)			13.20
No. of channels			2
No. of banks per channel			4
Average UV Transmittance @ 253.7 nm			65%

F. Biosolids Management

Sludge Pre-Thickening

Number		1
Dimensions (feet)		30 x 10 x 13.26 SWD
Volume (gallons)		29,750

Sludge Thickening

Type			Gravity Thickener
Number			1
Dimensions (feet)			30 x 30 x 13 SWD
Volume (gallons)			87,500

Aerobic Digestion

Number		1
Dimensions (feet)		50.33 x 73.33 x 15 SWD
Volume (gallons)		414,100

Biosolids Dewatering

Type			Belt Filter Press
Number			1



DATE:	09/05/2025					
NO.						
REVISIONS	ISSUED FOR BID					

**GENERAL**

**LIST OF DRAWINGS AND DESIGN CRITERIA**

CITY OF COPPERAS COVE

NORTHWEST WWTP CLARIFIER REHABILITATION PROJECT

CORYELL COUNTY, TEXAS

JOB NO.

1157.001

PROJECT MGR.

KMH



SHEET

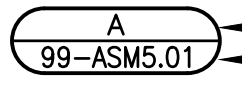
2

00-G0.02



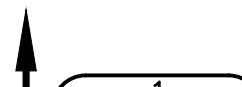
DRAFTING SYMBOLS

DETAIL NOTATION



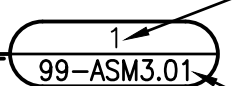
DETAIL LETTER  
DRAWING THAT DETAIL IS  
SHOWN ON

SECTION NOTATION



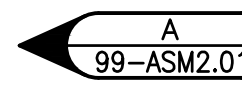
SECTION NUMBER  
DRAWING THAT SECTION  
IS SHOWN ON

SECTION  
SCALE



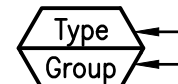
SECTION NUMBER  
DRAWING THAT SECTION  
IS SHOWN ON

ELEVATION NOTATION



ELEVATION LETTER  
DRAWING THAT ELEVATION  
IS SHOWN ON

EQUIPMENT IDENTIFICATION



TYPE OF EQUIPMENT  
EQUIPMENT GROUP

NAME

99999

ROOM IDENTIFICATION

DOOR IDENTIFICATION

101A

DOOR IDENTIFICATION

WINDOW IDENTIFICATION

999

WINDOW IDENTIFICATION

KEY/SPECIFIC NOTE CALL-OUT

1

KEY/SPECIFIC NOTE CALL-OUT

PARTITION TYPE REFERENCE

X

PARTITION TYPE REFERENCE

CENTER LINE OF BEAM-COLUMN

A

CENTER LINE OF BEAM-COLUMN  
FRAME SYSTEM

POINTS OF VIEW BEING CONSIDERED

M11

POINTS OF VIEW BEING CONSIDERED  
MATCH LINE

REVISION

3

REVISION

FINISH ELEVATION

+ EL 1000.00

FINISH ELEVATION

SPOT ELEVATION

EL 1000.00

SPOT ELEVATION

EXISTING OBJECTS ARE SCREENED

EXISTING OBJECTS ARE SCREENED

EXISTING OBJECTS TO BE ABANDONED

EXISTING OBJECTS TO BE ABANDONED

EXISTING OBJECTS TO BE DEMOLISHED

EXISTING OBJECTS TO BE DEMOLISHED

HIDDEN OBJECT

HIDDEN OBJECT

FUTURE OBJECT

FUTURE OBJECT

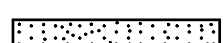
OBJECT SUPPLIED BY OWNER

OBJECT SUPPLIED BY OWNER

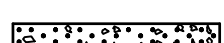
ARCHITECTURAL SYMBOLS



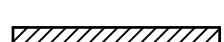
EARTH



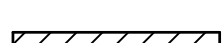
SAND, PLASTER, STUCCO



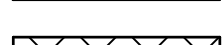
CONCRETE



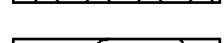
BRICK



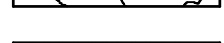
CONCRETE BLOCK



STRUCTURAL GLAZED FACING TILE



ASHLAR STONE VENEER



METAL



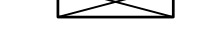
METAL LATH



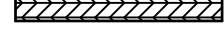
WOOD-FINISH



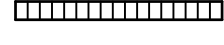
WOOD-FRAMING



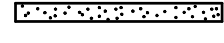
PLYWOOD



ACOUSTICAL TILE



GYPSUM BOARD



BATT INSULATION



RIGID INSULATION



CHECKERED PLATE



HANDRAIL

TOPOGRAPHICAL SYMBOLS



AREA OF THE SITE



CORPORATE LIMITS



PROPERTY LINE AND/OR RIGHT OF WAY



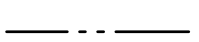
RIGHT OF WAY MARKER



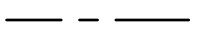
CONSTRUCTION EASEMENT  
ON SEWER AND WATER PLANS



PERMANENT EASEMENT ON  
SEWER AND WATER PLANS



SECTION LINE



CENTER LINE



BENCH MARK



SOIL BORING



PROPERTY STAKE



PRIVATE WELL



EXISTING UTILITY POLE



NEW UTILITY POLE



BURIED TELEPHONE  
CABLE PEDESTAL



SIGN



LIGHT POLE



DECIDUOUS TREE



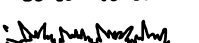
CONIFEROUS TREE



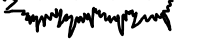
DECIDUOUS SHRUBS



CONIFEROUS SHRUBS



INTERMITTENT STREAM



STREAM OR RIVER



WETLAND AREA



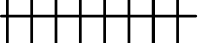
RAILROAD  
- LARGE SCALE



BRIDGE



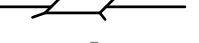
EXISTING CULVERT



SILT FENCE



FENCE



GUARD RAIL



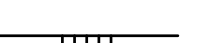
CURB, GUTTER AND INLET



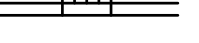
REJECT CURB



CONTOUR LINES



EXISTING DEPRESSION



TOP OF CUT OR BERM

UNDERGROUND UTILITY SYMBOLS



NEW WATER MAIN  
AND VALVE MANHOLE



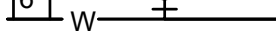
WATER MAIN AND  
VALVE IN ROAD BOX



EXISTING WATER MAIN  
AND FIRE HYDRANT



NEW WATER MAIN AND  
FIRE HYDRANT WITH  
AUXILIARY VALVE



EXISTING SANITARY SEWER  
AND MANHOLE



NEW SANITARY SEWER  
AND MANHOLE



EXISTING STORM SEWER  
AND MANHOLE (I-INLET)



NEW STORM SEWER  
AND MANHOLE (I-INLET)



FORCE MAIN



VALVE MANHOLE ON FORCE MAIN



WYE BRANCH



RISER



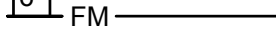
MODIFIED RISER



TELEPHONE OR TV CABLE  
AND MANHOLE



GAS MAIN



UNDERGROUND ELECTRIC CABLE



EXISTING WATER MAIN,  
SEWER MANHOLE, AND  
FORCE MAIN IN PROFILE



NEW WATER MAIN, SEWER,  
MANHOLE AND FORCE MAIN  
IN PROFILE



CULVERT IN PROFILE



NEW GRADE LINE



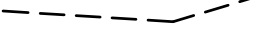
SLOPE INTERCEPT



ORIGINAL GROUND IN PROFILE



ROCK IN PROFILE



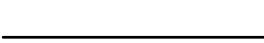
SURVEY OR REFERENCE LINE



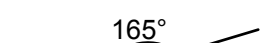
POINT OF INTERSECTION



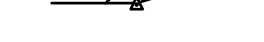
POINT ON REFERENCE LINE



BUILDING IN PROFILE



DIRECTION OF TRAFFIC

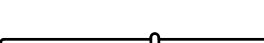


NOTATION FOR COMBUSTIBLE FLUIDS

PIPING SYMBOLS



FLANGE JOINT



GROOVED JOINT



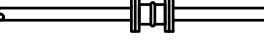
MECHANICAL JOINT



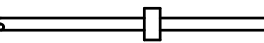
PUSH - ON JOINT



RUBBER EXPANSION JOINT



SOLVENT WELD OR THREADED JOINT



PIPE COUPLING WITH TENSION TIES



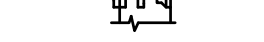
SMALL DIAMETER PIPE



WALL PIPE



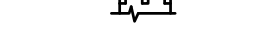
WALL SLEEVE



FABRICATED WALL SLEEVE



SHUT OFF VALVE



FLOOR STAND IN PLAN



STOP PLATE - EMBEDDED



SLIDE GATE - EMBEDDED



SLIDE GATE - SURFACE MOUNTED



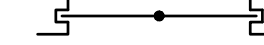
SLUICE GATE



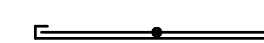
PRESSURE/VACUUM RELIEF



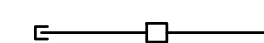
LIQUID RING COMPRESSOR



ORIFICE PLATE



MANOMETER



FLOOR DRAIN



ROOF DRAIN



HUB DRAIN



HOSE BIBB



WATER HAMMER ARRESTOR



WATER SUPPLY/DRAINAGE  
FIXTURE UNITS



THERMOMETER



TRAP PRIMER



YARD HYDRANT



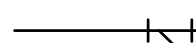
ELBOW DOWN



ELBOW UP



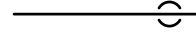
METER



STRAINER



TEE DOWN



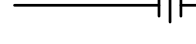
TEE UP



UNION



GAS PRESSURE REGULATOR



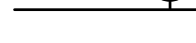
PRESSURE INDICATOR



PRESSURE TRANSMITTER



TEMPERATURE ELEMENT



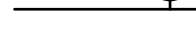
TEMPERATURE INDICATOR



TEMPERATURE TRANSMITTER



MANUAL AIR VENT



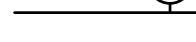
CONCENTRIC REDUCER



ECCENTRIC REDUCER



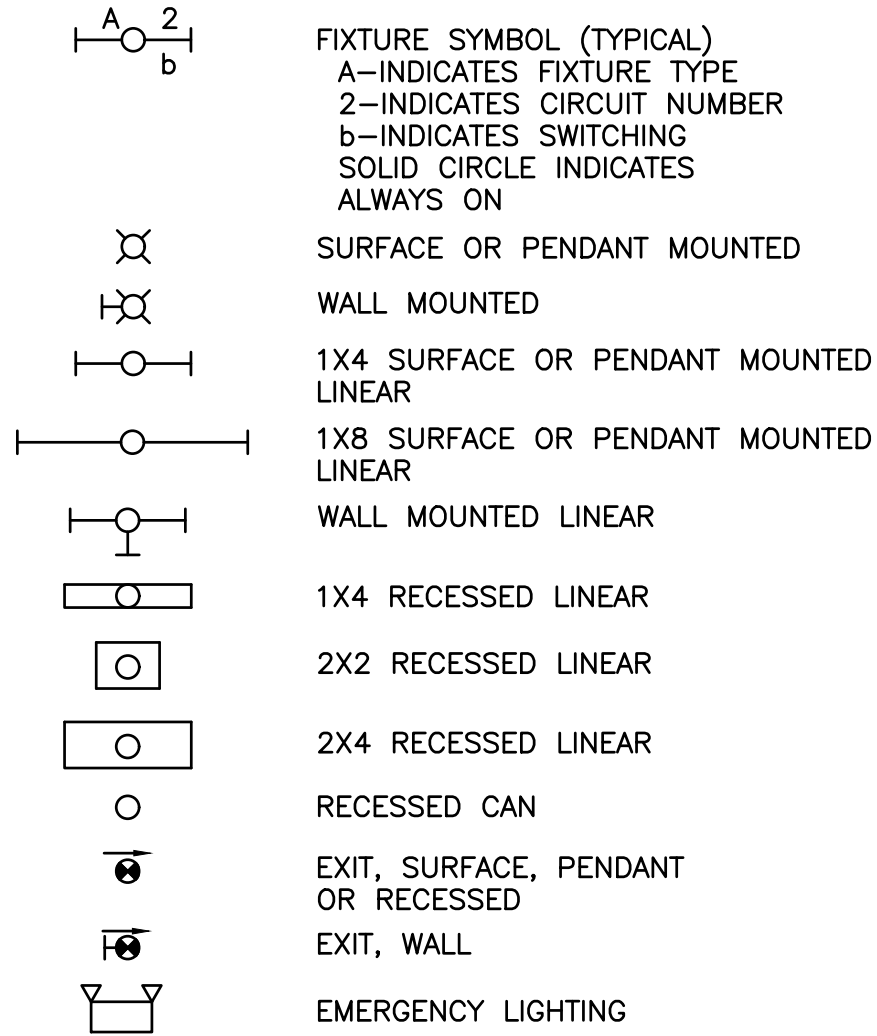
FLEXIBLE CONNECTOR





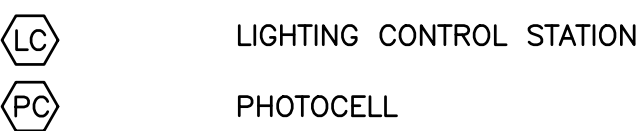
## ELECTRICAL SYMBOLS

## LIGHTING

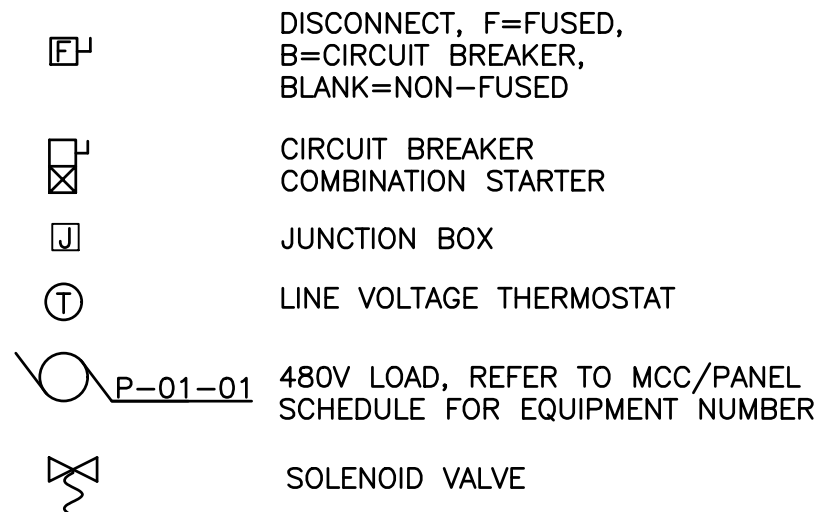


## SWITCHES

\$ #            SINGLE POLE  
# : (BLANK) = SINGLE POLE  
2 = TWO-WAY  
3 = THREE-WAY  
4 = FOUR-WAY  
K = KEYED  
D = DIMMER  
M = MANUAL MOTOR SWITCH (3 PHASE)  
P = SWITCH WITH PILOT LIGHT  
WP = WEATHERPROOF



## EQUIPMENT AND WIRING



## INSTRUMENTATION SYMBOLS

## INTERNATIONAL SOCIETY OF AUTOMATION (ISA) DEFINITION TABLE

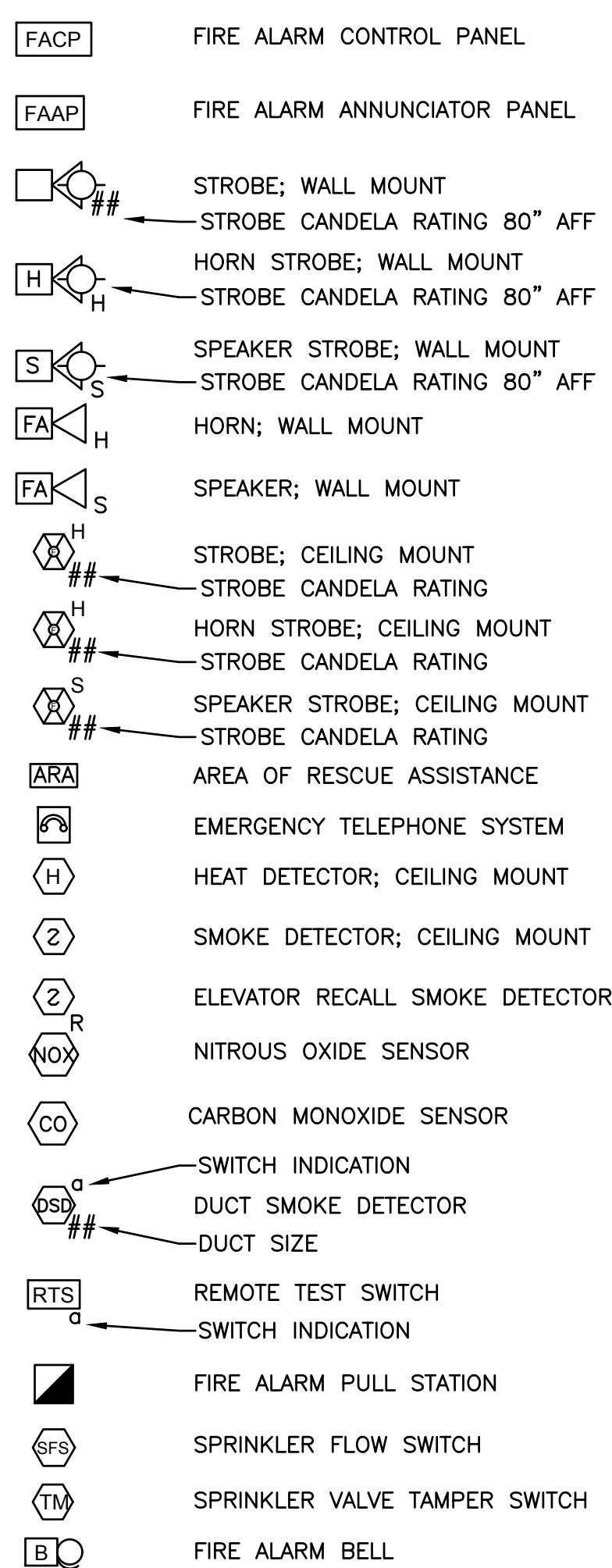
	FIRST LETTERS		SUCCEEDING LETTERS		
LETTER	PROCESS OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS (+)		ALARM		
B	BURNER, COMBUSTION		USER'S CHOICE (+)	USER'S CHOICE (+)	USER'S CHOICE (+)
C	USER'S CHOICE (+)			CONTROL	CLOSE
D	USER'S CHOICE (+)	DIFFERENTIAL			DEVIATION
E	VOLTAGE		PRIMARY ELEMENT (SENSOR)		
F	FLOW, FLOW RATE	RATIO			
G	USER'S CHOICE (+)		GLASS, GAUGE	GATE	
H	HAND (MANUAL)				HIGH
I	CURRENT		INDICATE		
J	POWER	SCAN			
K	TIME, SCHEDULE	TIME RATE		CONTROL STATION	
L	LEVEL		LIGHT (PILOT)		LOW
M	USER'S CHOICE (+)	MOMENTARY			MIDDLE
N	USER'S CHOICE (+)		USER'S CHOICE (+)	USER'S CHOICE (+)	USER'S CHOICE (+)
O	USER'S CHOICE (+)		ORIFICE, RESTRICTION		OPEN
P	PRESSURE, VACUUM		POINT (TEST CONNECTION)		
Q	QUANTITY (+)	INTEGRATE	INTEGRATE		
R	RADIATION		RECORD		
S	SPEED, FREQUENCY	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMIT	
U	MULTIVARIABLE (+)		MULTIFUNCTION (+)	MULTIFUNCTION (+)	MULTIFUNCTION (+)
V	VISCOSITY, VIBRATION			VALVE, DAMPER	
W	WEIGHT, FORCE		WELL, PROBE		
X	UNCLASSIFIED (+)	X-AXIS	UNCLASSIFIED (+)	UNCLASSIFIED (+)	UNCLASSIFIED (+)
Y	EVENT, STATE, PRESENCE (+)	Y-AXIS		RELAY, COMPUTE (+)	
Z	POSITION, DIMENSION	Z-AXIS		DRIVE, ACTUATOR OR UNCLASSIFIED FINAL CONTROL ELEMENT	

(+) WHEN USED, EXPLANATION IS SHOWN ADJACENT TO INSTRUMENT SYMBOL. SEE ABBREVIATIONS AND LETTER SYMBOLS.

## POWER AND ONE-LINE DIAGRAM SYMBOLS

	CIRCUIT NUMBER (TYPICAL)
	OTHERWISE SHOWN PANEL DESIGNATION (TYP.)
	DUPLEX, 120 VOLT, 15" AFF WP INDICATES WEATHERPROOF
	DUPLEX, 120 VOLT, 3'-6" AFF
	DOUBLE DUPLEX, 120 VOLT, 3'-6" AFF
	DOUBLE DUPLEX, 120 VOLT, 15" AFF
	SINGLE CONVENIENCE, 120 VOLT FOR ELECTRIC WATER COOLER
	EXPLOSION-PROOF, 3'-6" AFF
	EXPLOSION-PROOF, 15" AFF
	FIXED EQUIPMENT CONNECTION
	POWER OUTLET, VOLTAGE & AMPERAGE AS INDICATED
	AUTOMATIC TRANSFER SWITCH
	CIRCUIT BREAKER
	PANELBOARD
	FUSE
	METER
	DRAW-OUT TYPE CIRCUIT BREAKER
	CURRENT TRANSFORMER, X:YA INDICATES RATIO
	PROTECTIVE RELAY *: SEE LEGEND
	TRANSFORMER
	DISCONNECT SWITCH
	CIRCUIT BREAKER INTERLOCK *: K = KIRK KEY


## FIRE ALARM AND DETECTION SYMBOLS



## TECHNOLOGY SYMBOLS

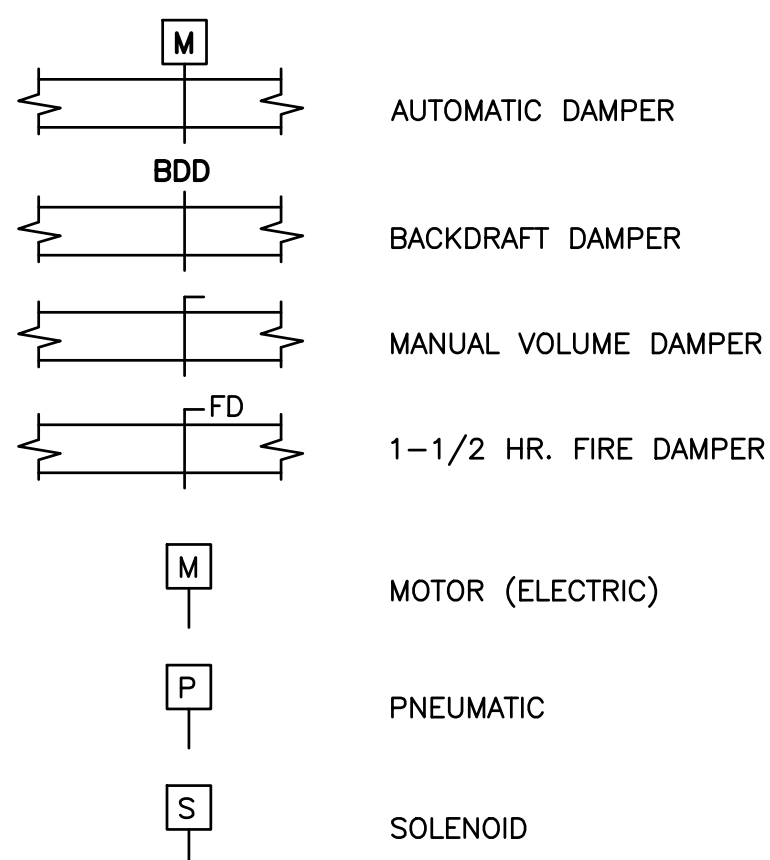
	DATA JACK; * = # OF JACKS
	POTS ANALOG PHONE JACK; * = # OF JACKS
	POTS ANALOG PHONE AND DATA JACKS; * = # OF JACKS
	WALL MOUNT VOIP PHONE JACK ABOVE FURNITURE
	WALL MOUNT POTS ANALOG PHONE JACK ABOVE FURNITURE
	SCADA NETWORK JACK
	2-POST DATA RACK
	COAX CABLE JACK
	POWER POLE
	PA SYSTEM HORN; 10'-0" AFF
	PA SYSTEM SPEAKER
	CEILING MOUNT SPEAKER A=SPEAKER TYPE
	KEY PAD
	GLASS BREAK DETECTOR
	MOTION SENSOR
	PUSH BUTTON
	ELECTRIC STRIKE
	MAGNETIC LOCK
	INTERCOM STATION
	OCCUPANCY SENSOR, CEILING, OR WALL SEE SPECIFICATION FOR SENSOR TYPE
	CARD READER
	REMOTE VOLUME CONTROL
	FIXED SECURITY CAMERA
	PAN, TILT, ZOOM SECURITY CAMERA
	PANORAMIC SECURITY CAMERA
	ALARM HORN; WALL MOUNT
	WARNING LIGHT; WALL MOUNT
	OMNI-DIRECTIONAL ANTENNA
	DIRECTIONAL (YAGI) ANTENNA

## SITE SYMBOLS

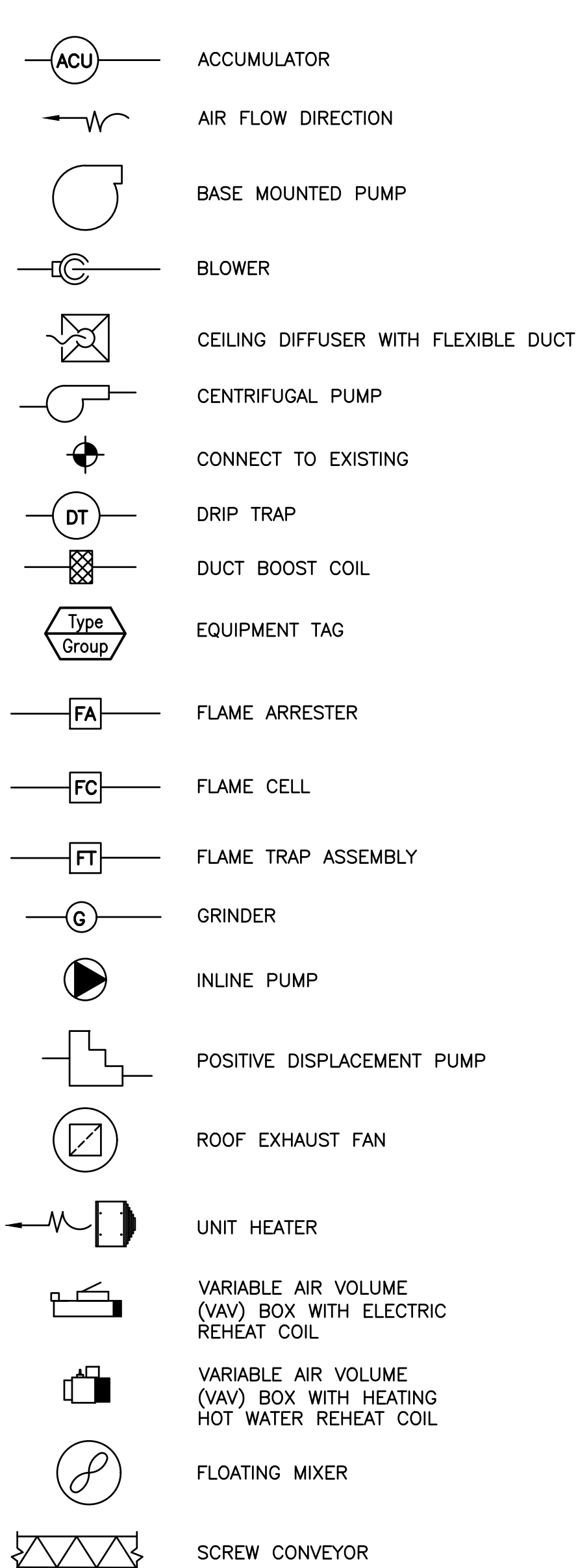
— E —	UNDERGROUND ELECTRIC
— OH —	OVERHEAD ELECTRIC
— C —	CABLE TELEVISION SERVICE
— T —	TELEPHONE SERVICE
— FO —	FIBER OPTIC CABLE
	UTILITY POLE

## MECHANICAL/HVAC SYMBOLS

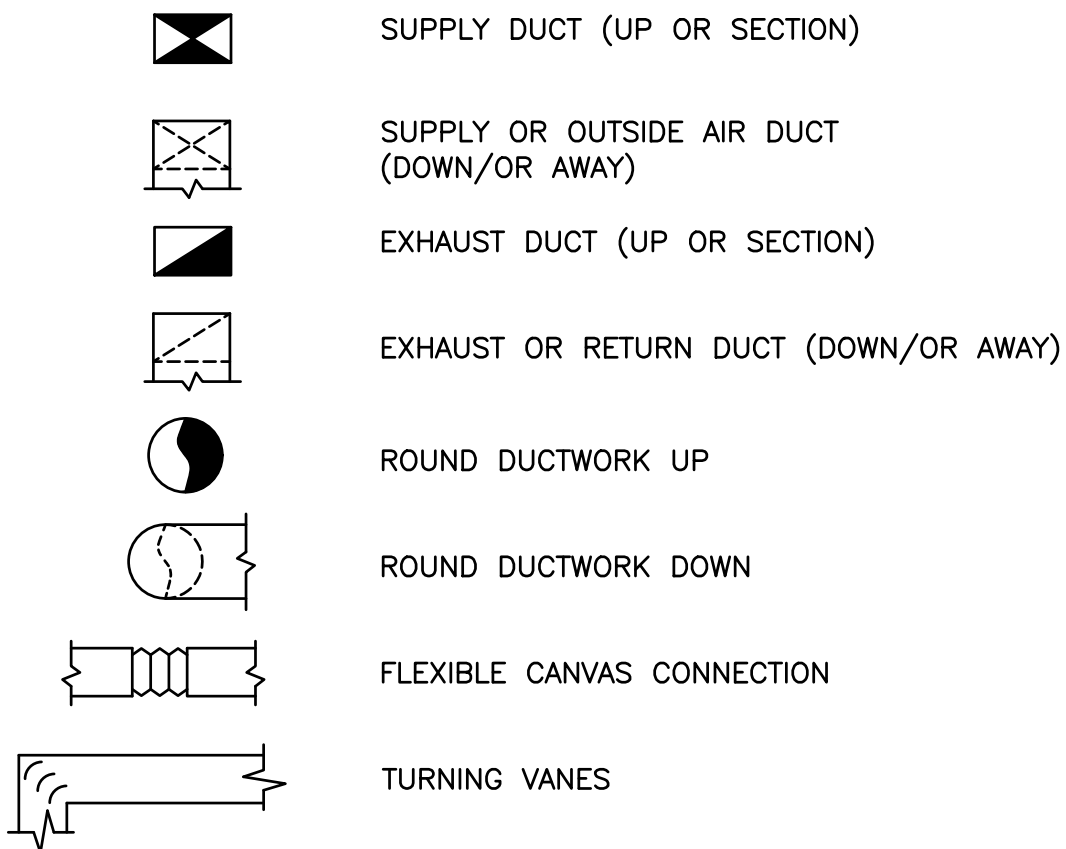
## DAMPER AND ACTUATOR SYMBOLS



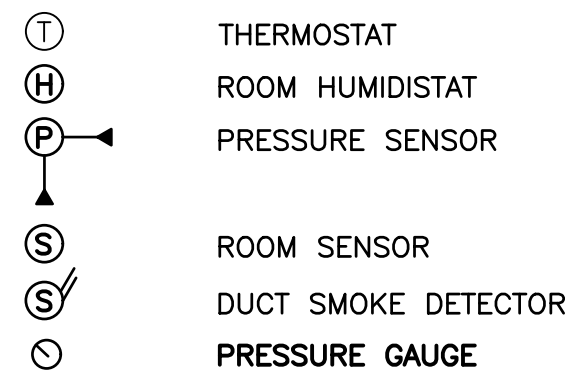
### EQUIPMENT SYMBOLS



## DUCTWORK SYMBOLS



## FIELD MOUNTED HVAC CONTROLS



<b>DATE:</b>	9/05/2025
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## REVISIONS

No.

## GENERAL STANDARD SYMBOLS - 2

**CITY OF COPPERAS COVE  
NORTHWEST WWTP CLARIFIER REHABILITATION PROJECT  
CORYELL COUNTY, TEXAS**

**JOB NO.**  
**1157.001**

**PROJECT MGR.**  
**KMH**



**SHEET**  
**4**  
**00-GO.0.**



GENERAL EQUIPMENT ABBREVIATIONS			PLUMBING ABBREVIATIONS			GENERAL ELECTRICAL ABBREVIATIONS			INSTRUMENT-SPECIFIC ELECTRICAL ABBREVIATIONS		
AC	AIR COMPRESSOR	SCMP	SCUM PUMP	AEW	APRON END WALL	FO	FAIL OPEN	NL	NIGHT LIGHT	A	AIR FLOW
ACU	ACCUMULATOR	SCW	SCREENINGS WASHER	BF	BLIND FLANGE	FPI	FINS PER INCH	NM	NONMETALLIC	ALT	ALTERNATOR
ADT	AUTOMATIC DRIP TRAP	SEJ	SEWAGE EJECTOR	CA	COMPRESSED AIR	FPM	FEET PER MINUTE	NO	NORMALLY OPEN	BF	BUILDING FLOODING
AFT	AUTOMATIC FILTER	SG	SLIDE GATE	CB	CATCH BASIN	FT	FEET	NSF	NATIONAL SANITARY FOUNDATION	C	CAPACITANCE
AOV	AIR OPERATED VALVE	SHFP	SODIUM HYPOCHLORITE FEED PUMP	CD	CONDENSATE DRAIN	GA	GAUGE	NTS	NOT TO SCALE	CA	CHLORINE ANALYZER
AM	ANOXIC MIXER	SHST	SODIUM HYPOCHLORITE STORAGE TANK	CI	CAST IRON	GPM	GALLONS PER MINUTE	OCB	OIL CIRCUIT BREAKER	CH4	METHANE
AST	AUTOMATIC STRAINER	SLG	SLUICE GATE	CO	CLEAN OUT	LAT	LEAVING AIR TEMPERATURE	OL	OVERLOAD	CON	CONDUCTANCE
BSLP	BLENDED SLUDGE PUMP	SP	SUMP PUMP	COND	CONDENSATE	LWT	LEAVING WATER TEMPERATURE	OIP	OPERATOR INTERFACE PANEL	CS-1	CONSTANT (SINGLE) SPEED
B	BLOWER	SRT	SILOXANE REMOVAL TANK	CPVC	CHLORINATED POLYVMNYL CHLORIDE	MBH	THOUSANDS OF BTU PER HOUR	OT	OVERTEMP	CS-2	CONSTANT (TWO) SPEED
BC	BRIDGE CRANE	SSC	SCREENINGS SCREW CONVEYOR	CW	COLD WATER	MC	MECHANICAL CONTRACTOR	PR	PAIR	D	DENSITY
BFP	BELT FILTER PRESS	STCP	STRUVITE CHEMICAL PUMP	D	DRAIN	NA	NOT APPLICABLE	P	POLE	DISC	DISCONNECT SWITCH
BFPPF	BFP FEED PUMP	STG	STOP GATE	DCBP	DOUBLE CHECK BACKFLOW PREVENTER	NC	NORMALLY CLOSED	PB	PULL BOX	DO	DISSOLVED OXYGEN
BFV	BUTTERFLY VALVE	STR	STRAINER	DCW	DOMESTIC COLD WATER	NO	NORMALLY OPEN	PC	PULL CORD	DOU	DOWN-OFF-UP SELECTOR SWITCH
BLP	BIOSOLIDS LOADING PUMP	SV	SOLENOID VALVE	DHW	DOMESTIC HOT WATER	NPT	NATIONAL PIPE THREAD	PH	PH SENSOR	DP	DIFFERENTIAL PRESSURE
BLR	BOILER	SWP	SCREENINGS WASHER/PRESS	DF	DRINKING FOUNTAIN	NTS	NOT TO SCALE	ø	PHASE	ESPB	EMERGENCY STOP PUSHBUTTON
BP	BOOSTER PUMP	TV	TELESCOPING VALVE	DFU	DRAINAGE FIXTURE UNIT	OA	OUTSIDE AIR	PNL	PANELBOARD	ESPC	EMERGENCY STOP PULLCORD
BSLMP	BLENDED SLUDGE MIXING PUMP	TWASP	TWAS PUMP	DI	DUCTILE IRON	OC	ON CENTER	PP	POWER PANEL	ETM	ELAPSED TIME METER
BSLP	BLENDED SLUDGE PUMP	UV	ULTRAVIOLET DISINFECTION	EEWS	EMERGENCY EYEWASH SHOWER	OV	OUTLET VELOCITY	PRI	PRIMARY	F	BALL FLOAT
BSTM	BIOSOLIDS STORAGE MIXER			EW	EYEWASH	PD	PRESSURE DROP	CCTV	CLOSED CIRCUIT TELEVISION	FL	FLANGE-MOUNTED
BTP	BIOSOLIDS TRANSFER PUMP			EWC	ELECTRIC WATER COOLER	PSI	POUNDS PER SQUARE INCH	CKT	CIRCUIT	PT	POTENTIAL TRANSFORMER
BWP	BACKWASH PUMP			FCO	FLOOR CLEAN OUT	PSIG	POUNDS PER SQUARE INCH GAUGE	CL	CENTERLINE	PTZ	PAN, TILT, ZOOM CAMERA
CENT	CENTRIFUGE			FD	FLOOR DRAIN	RA	RETURN AIR	CLG	CEILING	PVC	POLYVINYL CHLORIDE
CNTP	CENTRATE PUMP			FOR	FUEL OIL RETURN	RPM	REVOLUTIONS PER MINUTE	COL	COLUMN	PWR	POWER
CENTP	CENTRIFUGE FEED PUMP			FOS	FUEL OIL SUPPLY	SA	SUPPLY AIR	CT	CURRENT TRANSFORMER	RSC	RIGID GALVANIZED STEEL CONDUIT
CP	CHEMICAL PUMP			HB	HOSE BIBB	SP	STATIC PRESSURE	CTE	CONNECT TO EXISTING	RTS	REMOTE TEST SWITCH
COMP	COMPRESSOR			HD	HUB DRAIN			CU	COPPER	RVNR	REDUCED VOLTAGE NON-REVERSING
CON	CONVEYOR			HDPE	HIGH DENSITY POLYETHYLENE			CUH	CABINET UNIT HEATER	RVSS	REDUCED VOLTAGE SOLID STATE
DBC	DEWATERED BIOSOLIDS CONVEYOR			HHGR	HEATING HOT GLYCOL RETURN			D	DEDICATED	SC	SHORT CIRCUIT
DCP	DECANT PUMP			HGGS	HEATING HOT GLYCOL SUPPLY			DC	DIRECT CURRENT	SCADA	SUPERVISORY CONTROL AND DATA
DEWP	DISINFECTED EFFLUENT PUMP			HR	HOSE REEL			DISC	DISCONNECT	SE	SERVICE ENTRANCE
DP	DRAINAGE PUMP			HWL	HIGH WATER LEVEL			DWG	DRAWING	SEC	SECONDARY
DRLP	DIGESTER RECIRCULATION PUMP			HW	HOT WATER			E	EMERGENCY	SH	SHIELDED
DSLMP	DIGESTER MIXING PUMP			HWR	HOT WATER RETURN			ED	ELECTRICAL CONTRACTOR	SPD	SURGE PROTECTION DEVICE
DSLTP	DIGESTED SLUDGE TRANSFER PUMP			IE	INVERT ELEVATION			EDH	ELECTRIC DUCT HEATER	SS	STAINLESS STEEL
DT	DRIP TRAP			IWP	INDIRECT WASTE PIPE			EF	EXHAUST FAN	SSRV	SOLID STATE REDUCED VOLTAGE
DOW	DOWNWARD OPENING WEIR GATE			L	LAVATORY			EHH	ELECTRICAL HANDHOLE	STP	SHIELDED TWSTED PAIR
EFC	EXCESS FLOW CLARIFIER			MB	MOP BASIN			EMT	ELECTRICAL METALLIC TUBING	SV	SOLENOID VALVE
EFP	EXCESS FLOW PUMP			MH	MANHOLE			EOL	END OF LINE DEVICE	SW	SWITCH
EFSP	EXCESS FLOW SOLIDS PUMP			MV	MUD VALVE			EWC	ELECTRIC WATER COOLER	SWBD	SWITCHBOARD
EP	EFFLUENT PUMP			PHW	PROCESS HOT WATER			EX	EXISTING	TEL	TELEPHONE
FC	FINAL CLARIFIER			P	PUMP			FAAP	FIRE ALARM ANNUNCIATOR PANEL	TS2W	TWO SPEED TWO WINDING
FCD	FINAL CLARIFIER DRIVE			PLW	PLANT WATER			FACP	FIRE ALARM CONTROL PANEL	TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
FEP	FINAL EFFLUENT PUMP			POC	POINT OF CONNECTION			FCU	FAN COIL UNIT	TYP	TYPICAL
FILT	FILTER			PRV	PRESSURE REDUCING VALVE			FLA	FULL LOAD AMPERES	UG	UNDERGROUND
FM	FLOW METER			PV	PLUG VALVE			FPCP	FIRE PUMP CONTROL PANEL	UH	UNIT HEATER
FO	FERMENTER OVERFLOW			PVC	POLYVINYL CHLORIDE			FR	FIRE RETARDANT	UPS	UNINTERRUPTIBLE POWER SUPPLY
FRS	FERMENTED SLUDGE			PVR	PRESSURE VACUUM RELIEF ASSEMBLY			FT	FEET	UTP	UNSHIELDED TWSTED PAIR
FT	FLAME TRAP			QC	QUICK CONNECT			FDA	FOOD AND DRUG ADMINISTRATION	V	VOLTS
GBT	GRAVITY BELT THICKENER			RCP	REINFORCED CONCRETE PIPE			FVNR	FULL VOLTAGE NON-REVERSING	VFD	VARIABLE FREQUENCY DRIVE
GC	GRIT CLASSIFIER			RD	ROOF DRAIN			FVR	FULL VOLTAGE REVERSING	W	WIRE OR WATT
GFM	GAS FLOW METER			RL	REFRIGERANT LIQUID			G	GROUND	WD	HIGH PRESSURE WASH DOWN
GCS	GAS COMPRESSOR SKID			RS	REFRIGERANT SUCTION			GC	GENERAL CONTRACTOR	WL	WET LOCATION
GP	GRIT PUMP			RZBP	REDUCED ZONE BACKFLOW PREVENTER			GFI	GROUND FAULT INTERRUPTER	WP	WEATHERPROOF
GRN	GRINDER			S	SINK			GFP	GROUND FAULT PROTECTION (EQUIPMENT)		
GT	GRIT TRAP			SD	SHOWER DRAIN			GFCI	GROUND FAULT CKT INTERRUPTER		
GUH	GAS UNIT HEATER			SEJ	SEWAGE EJECTOR			GRS	GALVANIZED RIGID STEEL		
GW	GRIT WASHER			SHR	SHOWER			HACR	HEATING AND AIR CONDITIONING RATED		
H	HOIST			SP	SUMP PUMP			HP	HORSEPOWER		
HBT	HYDROPNEUMATIC BOOSTER TANK			SS	STAINLESS STEEL			HV	HIGH VOLTAGE		
HTX	HEAT EXCHANGER			SV	SOLENOID VALVE			HVAC	HEATING, VENTILATING, & AIR CONDITIONING		
IP	INFLUENT PUMP			SVS	SERVICE SINK			HZ	HERTZ		
MA	MOTORIZED ACTUATOR			T	TANK			IG	ISOLATED GROUND		
MBV	MOTORIZED BALL VALVE			TD	TRENCH DRAIN			IMC	INTERMEDIATE METAL CONDUIT		
MFS	MECHANICAL FINE SCREEN			TW	TEMPERED WATER			JB	JUNCTION BOX		
MIX	MIXER			U	URINAL			KCMIL	ONE THOUSAND CIRCULAR MILS		
MOV	MOTOR OPERATED VALVE			VENT	VENT			KO	KNOCKOUT		
MP	MIXING PUMP			VB	VACUUM BREAKER			KVA	KILOVOLT AMPERES		
MPE	MISCELLANEOUS PROCESS EQUIPMENT			VCP	VITRIFIED CLAY PIPE			KVAR	KILOVOLT AMPERES REACTIVE		
MST	MANUAL STRAINER			VTR	VENT THRU ROOF			KW	KILOWATT		
MT	MICROTURBINE							LP	LIGHTING PANEL		
NRP	NITRATE RECYCLE PUMP							LTG	LIGHTING		
OCD	OVERHEAD COILING DOOR							LV	LOW VOLTAGE		
OCE	ODOR CONTROL EQUIPMENT							MATV	MASTER ANTENNA TELEVISION		
ODE	OXIDATION DITCH EQUIPMENT							MC	METAL CLAD		
PC	PROGRESSING CAVITY PUMP							MCC	MOTOR CONTROL CENTER		
PCD	PRIMARY CLARIFIER DRIVE							MCB	MAIN CIRCUIT BREAKER		
PCFD	PRIMARY CLARIFIER FLOCCULATOR DRIVE							MCCB	MOLDED CASE CIRCUIT BREAKER		
PF	POLYMER FEEDER							MCM	THOUSAND CIRCULAR MILS		
PFP	POLYMER FEED PUMP							MCP	MOTOR CIRCUIT PROTECTOR		
PLWP	PLANT WATER PUMP							MDP	MAIN DISTRIBUTION PANELBOARD		
PRCP	PHOSPHORUS REMOVAL CHEMICAL PUMP							MISC	MISCELLANEOUS		
PRCT	PHOSPHORUS REMOVAL CHEMICAL TANK							MLO	MAIN LUGS ONLY		
PREP	PRIMARY EFFLUENT PUMP							MO	MOTOR OPERATED		
PRFP	PROCESS RETURN FLOW PUMP							MTD	MOUNTED		
PRSP	PRIMARY SLUDGE PUMP							MTG	MOUNTING		
PTP	POLYMER TRANSFER PUMP							MTS	MANUAL TRANSFER SWITCH		
RAD	REFRIGERATED AIR DRYER							MV	MEDIUM VOLTAGE		
RASP	RETURN ACTIVATED SLUDGE PUMP							MW	MICROWAVE OR MEGAWATT		
RDT	ROTARY DRUM THICKENER							N	NEUTRAL		
RDTP	ROTARY DRUM THICKENER FEED PUMP							NA	NOT APPLICABLE		
RM	RAPID MIXER							NC	NORMALLY CLOSED		
SA	SAMPLER							NAC	NOTIFICATION APPLIANCE CIRCUIT PANEL		
SBFP	SODIUM BISULFITE FEED PUMP							NEC	NATIONAL ELECTRIC CODE		
SBST	SODIUM BISULFITE STORAGE TANK							NIC	NOT IN CONTRACT		

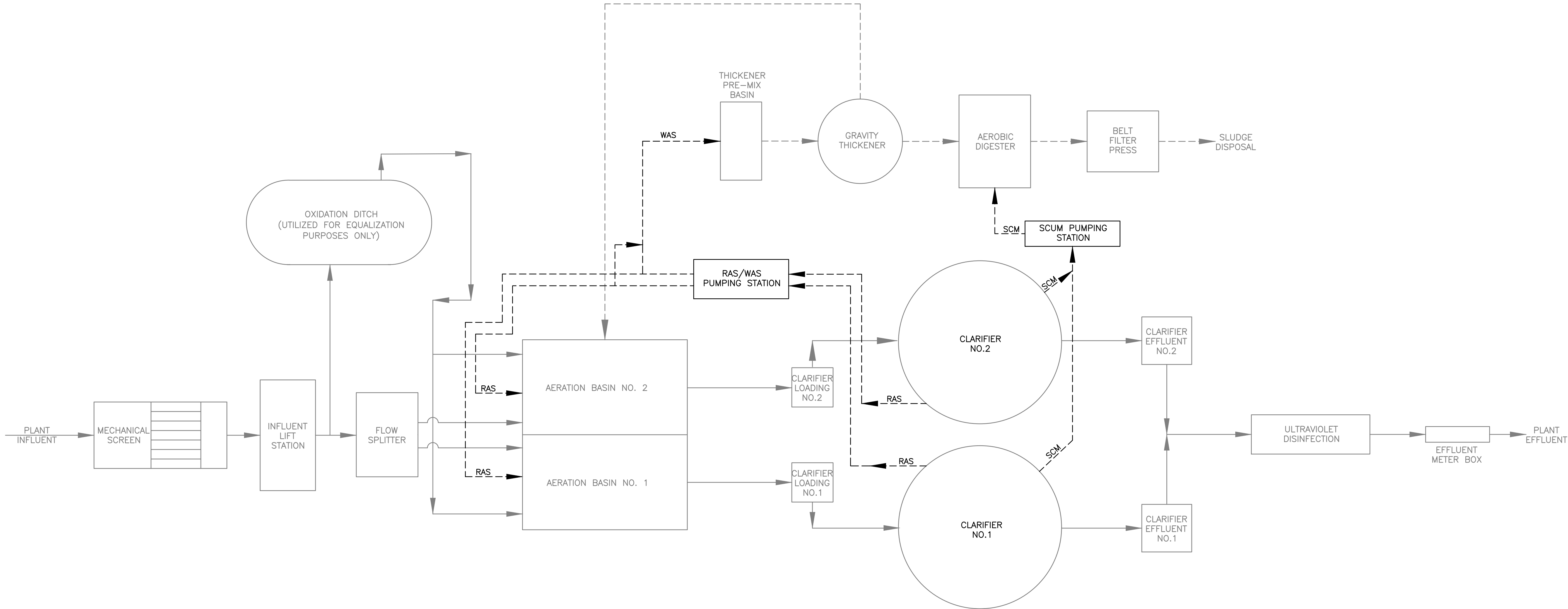
GENERAL ABBREVIATIONS		
DATE:	9/05/2025	
REVISIONS		
ISSUED FOR BID		
NO.		

GENERAL ABBREVIATIONS

CITY OF COPPERAS COVE  
NORTHWEST WWTP CLARIFIER REHABILITATION PROJECT  
CORYELL COUNTY, TEXAS

JOB NO. 1157.001	
PROJECT MGR. KMH	
<div>SA</div> <div>STRAND ASSOCIATES®</div>	
SHEET 5 00-G0.05	





LEGEND	
FORWARD FLOW	—————
BIOSOLIDS MANAGEMENT	- - - - -

STATE OF TEXAS

JACOB D. COLLINS

155800

LICENSED PROFESSIONAL ENGINEER

*Jacob D. Collins*

9/3/2025

DATE:

9/05/2025

REVISIONS

ISSUED FOR BID

NO.

GENERAL PROCESS FLOW DIAGRAM

CITY OF COPPERAS COVE

NORTHWEST WTP CLARIFIER REHABILITATION PROJECT

CORYELL COUNTY, TEXAS

JOB NO.

1157.001

PROJECT MGR.

KMH

SA

STRAND ASSOCIATES®

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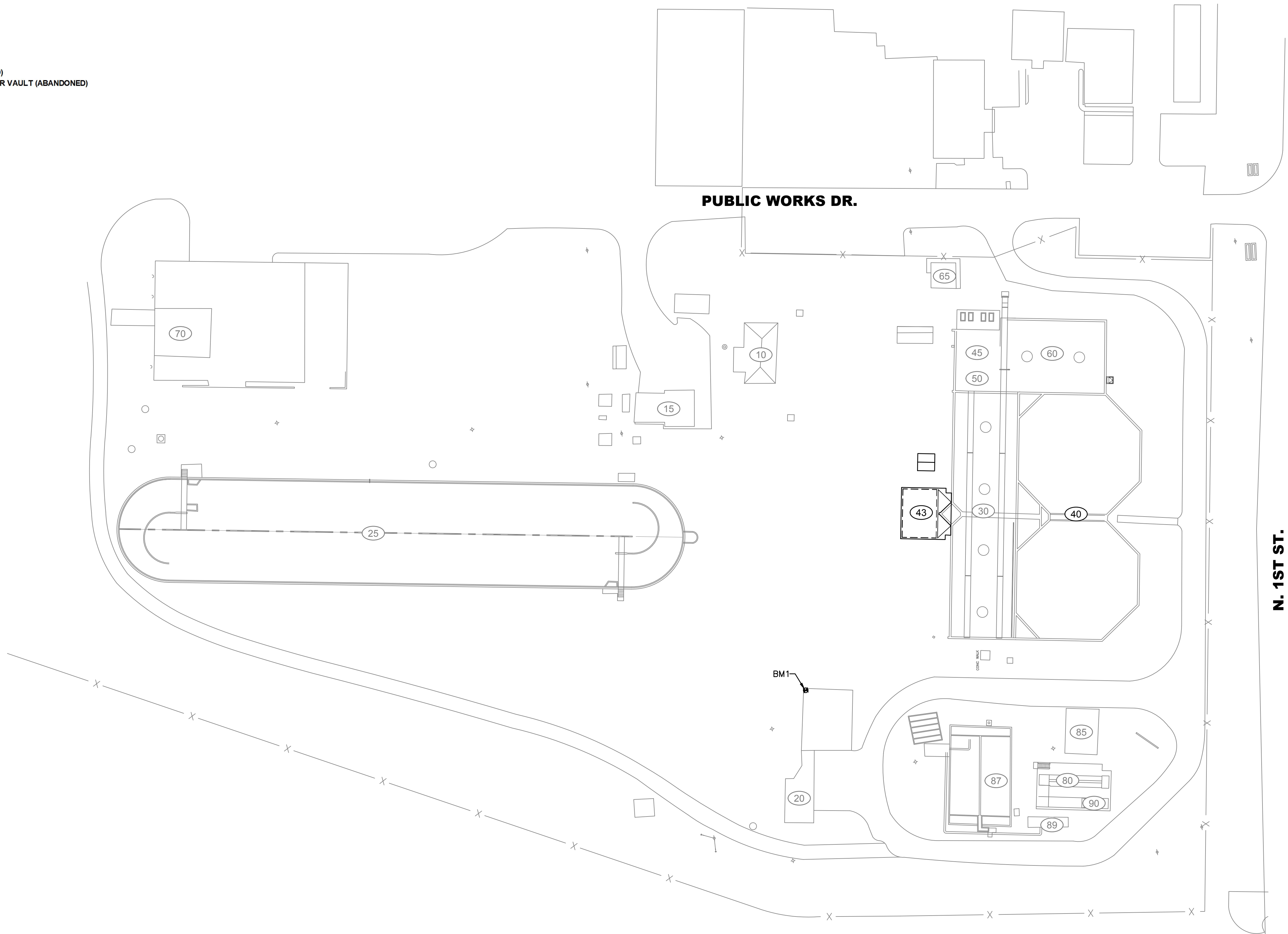
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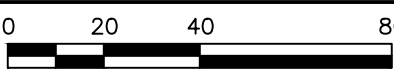


- STRUCTURE IDENTIFICATION
- 10 - LAB & OFFICE BUILDING
  - 15 - OPERATIONS BUILDING
  - 20 - INFLUENT SCREENING AND PUMPING STATION
  - 25 - OXIDATION DITCH (REPURPOSED)
  - 30 - AERATION BASINS
  - 40 - FINAL CLARIFIERS
  - 43 - RAS/WAS PUMPING STATION
  - 45 - PRE-THICKENER TANK
  - 50 - WAS THICKENER
  - 60 - AEROBIC DIGESTER
  - 65 - SLUDGE PUMPING BUILDING
  - 70 - BIOSOLIDS THICKENING BUILDING
  - 80 - UV DISINFECTION
  - 85 - CHLORINE BUILDING (ABANDONED)
  - 87 - CHLORINE CONTACT TANK (ABANDONED)
  - 89 - EFFLUENT PARSHALL FLUME AND METER VAULT (ABANDONED)
  - 90 - EFFLUENT PARSHALL FLUME



COPPERAS COVE NORTHWEST WWTP				
BENCHMARK	NORTHING	EASTING	ELEVATION	DESCRIPTION
BM1	10390124.41	3055625.70	963.09	BENCHMARK SQUARE CUT ON CONCRETE

SITE LOCATION PLAN



NO.	REVISIONS	DATE
	ISSUED FOR BID	9/05/2025

**SITE LOCATION PLAN**

CITY OF COPPERAS COVE  
NORTHWEST WWTP CLARIFIER REHABILITATION PROJECT  
CORYELL COUNTY, TEXAS

**JOB NO.**  
1157.001

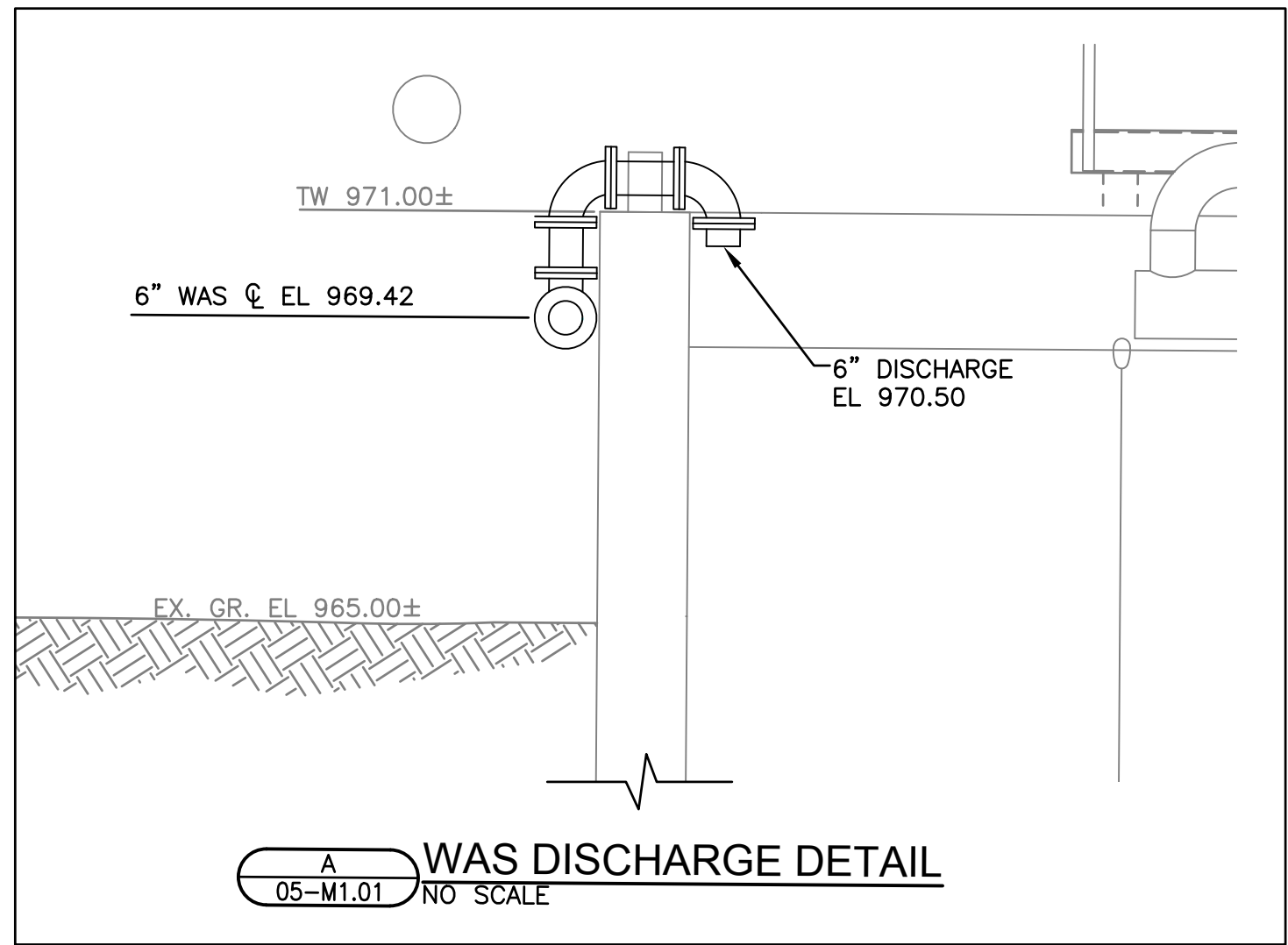
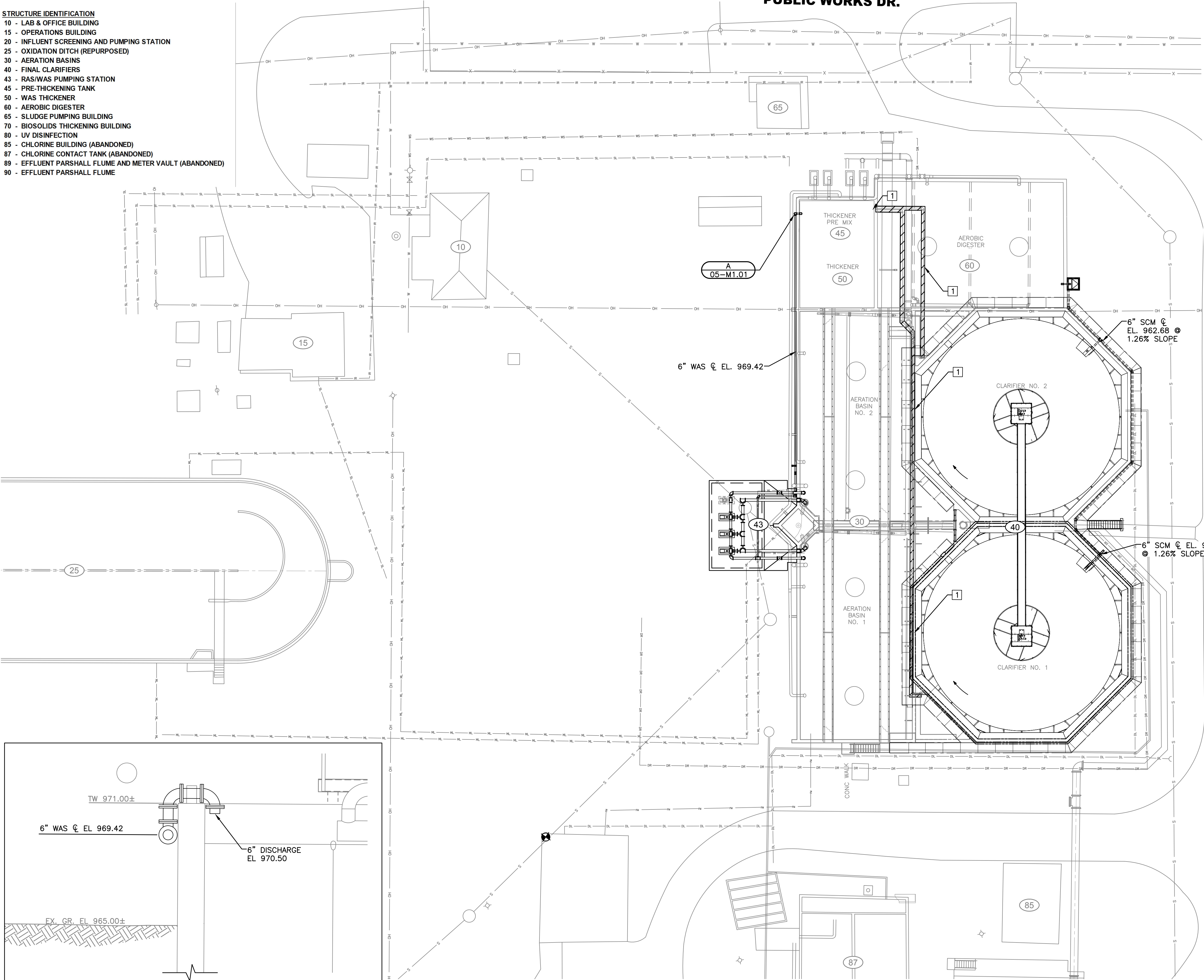
**PROJECT MGR.**  
KMH



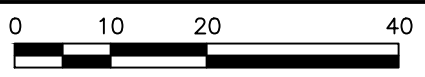
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- STRUCTURE IDENTIFICATION
- 10 - LAB & OFFICE BUILDING
  - 15 - OPERATIONS BUILDING
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  - 87 - CHLORINE CONTACT TANK (ABANDONED)
  - 89 - EFFLUENT PARSHALL FLUME AND METER VAULT (ABANDONED)
  - 90 - EFFLUENT PARSHALL FLUME



SITE LOCATION PLAN



GENERAL NOTES:

- SEE SPECIFICATION DIVISION 01 FOR CONSTRUCTION SEQUENCE REQUIREMENTS.
- CONTRACTOR SHALL CONTACT APPROPRIATE AGENCIES FOR LOCATING UTILITIES.
- ELEVATIONS OF EXISTING BURIED PIPING ARE GENERALLY UNKNOWN. CONTRACTOR SHALL FIELD VERIFY LOCATION OF EXISTING UNDERGROUND PIPING AND REROUTE AS NECESSARY FOR INSTALLATION OF NEW PIPING.
- SEE SITE LOCATION PLAN FOR BENCHMARK INFORMATION.
- THESE DRAWINGS DO NOT INDICATE ALL PIPE FITTINGS REQUIRED TO INSTALL YARD PIPING AS SHOWN. CONTRACTOR SHALL PROVIDE ALL FITTINGS, REDUCERS, AND HARDWARE NECESSARY WHEN CONNECTING NEW PIPING TO EXISTING PIPING. ALL FITTINGS SHALL BE SUITABLE FOR THE INTENDED FLUID AND PRESSURE.
- NOT ALL PIPE ELEVATIONS AT STRICTURES SHOWN FOR CLARITY. SEE STRUCTURE DRAWINGS FOR DETAILS.
- LOCATIONS OF EXISTING PIPING, BUILDINGS, ELECTRICAL SERVICES, AND OTHER SITE FEATURES ARE APPROXIMATE. CONTRACTOR SHALL COMPLY WITH GENERAL CONDITIONS AND DIVISION 01 OF THE PROJECT MANUAL. CONTRACTOR SHALL FIELD VERIFY, COORDINATE, AND BE RESPONSIBLE FOR SURFACE AND SUBSURFACE STRUCTURE LOCATIONS REQUIRED FOR EXCAVATIONS AND OTHER WORK.
- NOT ALL EXISTING YARD PIPING AND PREVIOUSLY ABANDONED PIPING MAY BE SHOWN. REFER TO EXISTING PLANT DRAWINGS.
- UNLESS OTHERWISE SHOWN, BURIED PIPING SHALL BE UNIFORMLY SLOPED BETWEEN PIPE ELEVATIONS CALLED OUT ON THE YARD PIPING DRAWINGS.

DEMOLITION NOTES:

- 1 REMOVE EXISTING 6-INCH WAS PIPING TO EXTENTS POSSIBLE AND PLUG REMAINDER WITH NONSHRINK GROUT. REMOVE TWO WAS AIRLIFT PUMPS FROM PRE-THICKENING TANK.

N. 1ST ST.



DATE:	9/05/2025
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SITE  
YARD PIPING PLAN

CITY OF COPPERAS COVE  
NORTHWEST WWTPL CLARIFIER REHABILITATION PROJECT  
CORYELL COUNTY, TEXAS

JOB NO.  
1157.001

PROJECT MGR.  
KMH

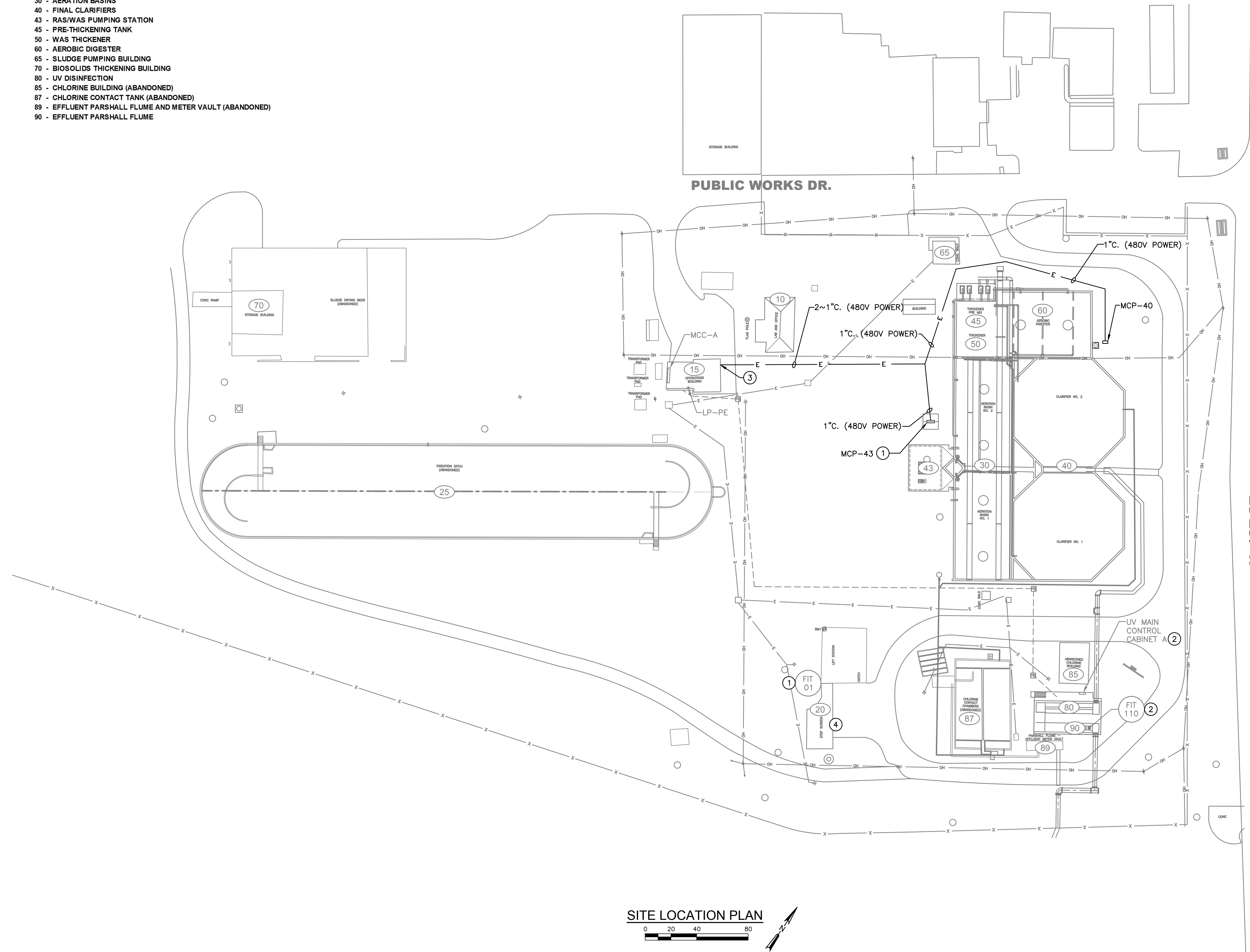
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STRUCTURE IDENTIFICATION

- 10 - LAB & OFFICE BUILDING
- 15 - OPERATIONS BUILDING
- 20 - INFLUENT SCREENING AND PUMPING STATION
- 25 - OXIDATION DITCH (REPURPOSED)
- 30 - AERATION BASINS
- 40 - FINAL CLARIFIERS
- 43 - RAS/WAS PUMPING STATION
- 45 - PRE-THICKENING TANK
- 50 - WAS THICKENER
- 60 - AEROBIC DIGESTER
- 65 - SLUDGE PUMPING BUILDING
- 70 - BIOSOLIDS THICKENING BUILDING
- 80 - UV DISINFECTION
- 85 - CHLORINE BUILDING (ABANDONED)
- 87 - CHLORINE CONTACT TANK (ABANDONED)
- 89 - EFFLUENT PARSHALL FLUME AND METER VAULT (ABANDONED)
- 90 - EFFLUENT PARSHALL FLUME

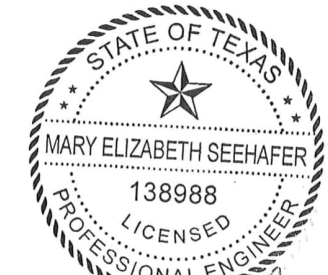


GENERAL NOTES:

1. REFER TO SPECIFICATION SECTION 01 11 00 FOR INFORMATION ON CONSTRUCTION SEQUENCING.
2. ONLY MAJOR ELECTRICAL FEEDER ROUTES ARE SHOWN ON THIS DRAWING. CONDUIT ROUTES FOR BRANCH CIRCUITS, INSTRUMENTATION, MOTOR CIRCUITS, AND CONTROL CIRCUITS ARE NOT SPECIFICALLY SHOWN. PROVIDE CONDUIT AS REQUIRED FOR ALL OTHER CIRCUITS.

KEY NOTES:

1. PROVIDE SIGNAL SPLITTER IN INFLUENT FLOW TRANSMITTER (FIT-01) TRANSMITTER ENCLOSURE TO DUPLICATE INFLUENT FLOW SIGNAL.
2. PROVIDE SIGNAL SPLITTER IN UV MAIN CONTROL CABINET A TO DUPLICATE EFFLUENT FLOW SIGNAL.
3. CONDUIT SHALL PENETRATE EXTERIOR WALL AT AN ELEVATION TO ALLOW FOR CONDUIT TO BE ROUTED ABOVE RESTROOM CEILING. COORDINATE LOCATION OF EXTERIOR WALL PENETRATION WITH OWNER.
4. ALL ELECTRICAL WORK AND EQUIPMENT WITHIN A 10 FOOT ENVELOPE AROUND EQUIPMENT AND OPEN CHANNEL SHALL BE RATED FOR A CLASS 1, DIVISION 2, GROUPS C AND D LOCATION.



Mary Elizabeth Seehafer  
9/3/25

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SITE  
ELECTRICAL PLAN

CITY OF COPPERAS COVE  
NORTHWEST WWTPL CLARIFIER REHABILITATION PROJECT  
CORYELL COUNTY, TEXAS

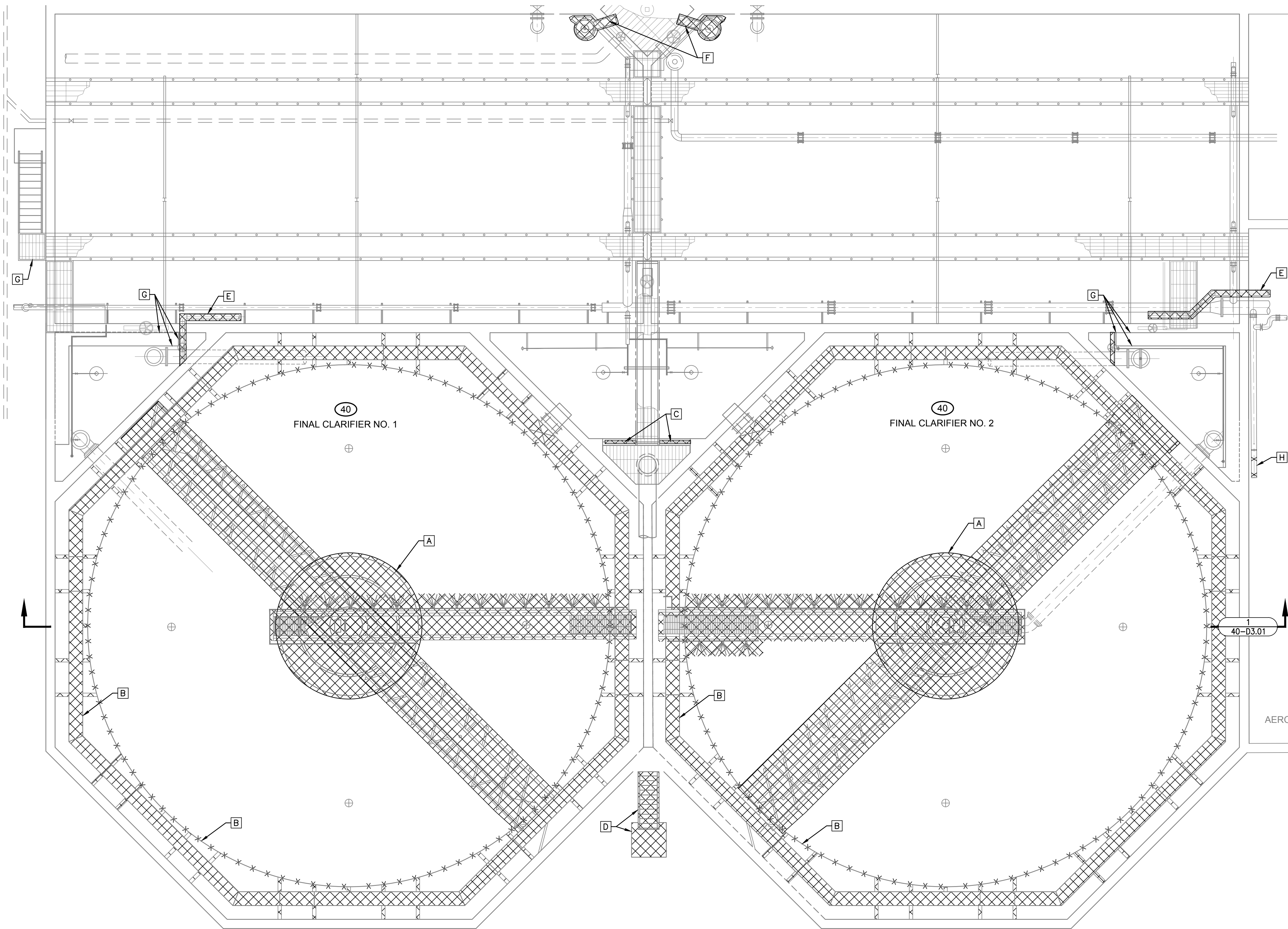
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DEMOLITION GENERAL NOTES:

1. REFER TO SPECIFICATIONS SECTION 01 11 00 FOR CONSTRUCTION SEQUENCE PRIOR TO ANY DEMOLITION.
2. DRAWINGS DO NOT NECESSARILY CALL OUT ALL ITEMS REQUIRING DEMOLITION, REMOVAL, OR PATCHING. WHERE NOT SHOWN, DEMOLITION, REMOVAL, CUTTING, PATCHING, AND OTHER WORK NECESSARY TO ACCOMMODATE NEW CONSTRUCTION SHALL BE PROVIDED AS PART OF THE CONTRACT.
3. WHERE DEMOLITION OR REMOVAL OF REINFORCED CONCRETE EXPOSES REINFORCEMENT, BARS SHALL BE BURNED BACK 2" AND PATCHED WITH NON-SHRINK GROUT.
4. ALL HOLES AND OPENINGS FROM PIPING, EQUIPMENT, PIPE HANGERS, EQUIPMENT PADS, ETC. BEING REMOVED SHALL BE PATCHED TO MATCH EXISTING SURFACES.
5. NOT ALL EQUIPMENT OR PIPING SHOWN. ALL LOCATIONS ARE APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF ALL STRUCTURES, PIPING, AND EQUIPMENT.
6. ALL EXISTING WALL PIPES NOT USED FOR NEW PIPING SHALL BE SEALED WATER TIGHT WITH BLIND FLANGES ON BOTH FACES AND FILLED WITH NON-SHRINK GROUT. EXISTING SLEEVE OPENINGS WITHOUT FLANGES SHALL BE FILLED WITH NON-SHRINK GROUT.
7. EXISTING INFORMATION SHOWN ON DRAWING WAS OBTAINED FROM EXISTING DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE ACCURACY OF EXISTING INFORMATION AS REQUIRED FOR BIDDING AND NEW CONSTRUCTION.
8. REMOVE ALL EXISTING ELECTRICAL EQUIPMENT AND MATERIALS ASSOCIATED WITH THE ITEMS BEING REMOVED AS SHOWN ON THIS DRAWING, AS WELL AS ALL EXISTING ELECTRICAL DEVICES, MATERIALS, EQUIPMENT, WIRING, AND EXPOSED CONDUITS NOT BEING REUSED. CONCEALED CONDUITS NOT BEING REUSED SHALL BE CAPPED AND ABANDONED IN PLACE.

DEMOLITION KEY NOTES:

- [A] REMOVE ALL CLARIFIER COLLECTOR EQUIPMENT, INCLUDING, BUT NOT LIMITED TO, SLUDGE SCRAPERS, TRUSS ARMS, CENTER COLUMN, FEED AND STILLING WELL, SCUM SKIMMERS, ACCESS BRIDGE, CENTER PLATFORM RAILINGS, DRIVE UNIT, AND APPURTENANCES.
- [B] REMOVE SCUM BAFFLES, WEIR EFFLUENT TROUGHS, SUPPORT BRACKETS, AND CONNECTION HARDWARE.
- [C] REMOVE EXISTING DOWNWARD OPENING WEIR GATES FROM CLARIFIER EFFLUENT BOXES.
- [D] REMOVE STAIRS, RAILING, AND CONCRETE SIDEWALK.
- [E] REMOVE EXISTING 6-INCH WAS PIPING TO EXTENTS POSSIBLE AND PLUG REMAINDER WITH NONSHRINK GROUT.
- [F] REMOVE EXISTING 16" AIRLIFT PUMPS AND ASSOCIATED RAS PIPING TO BOTTOM FLANGE IN AERATION BASINS.
- [G] REMOVE EXISTING RAILING AS NEEDED TO CONNECT TO NEW RAILING.
- [H] REMOVE AERATION PIPING TO EXTENT REQUIRED TO ALLOW FOR THE INSTALLATION OF WALKWAY AND RAILING. CAP END OF AERATION PIPING AND SEAL WELD ALL AROUND CAP.



DATE:	9/05/2025								
REVISIONS									
NO.									

FINAL CLARIFIERS  
CLARIFIERS NO. 1 AND NO. 2 - DEMOLITION PLAN

CITY OF COPPERAS COVE  
NORTHWEST WWTPL CLARIFIER REHABILITATION PROJECT  
CORYELL COUNTY, TEXAS

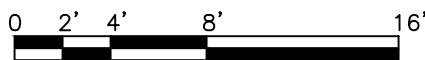
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1157.001

PROJECT MGR.  
KMH

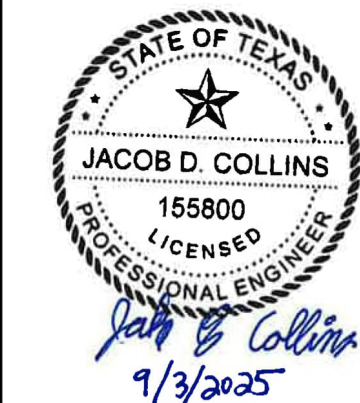
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CLARIFIERS NO. 1 AND NO. 2 - DEMOLITION PLAN





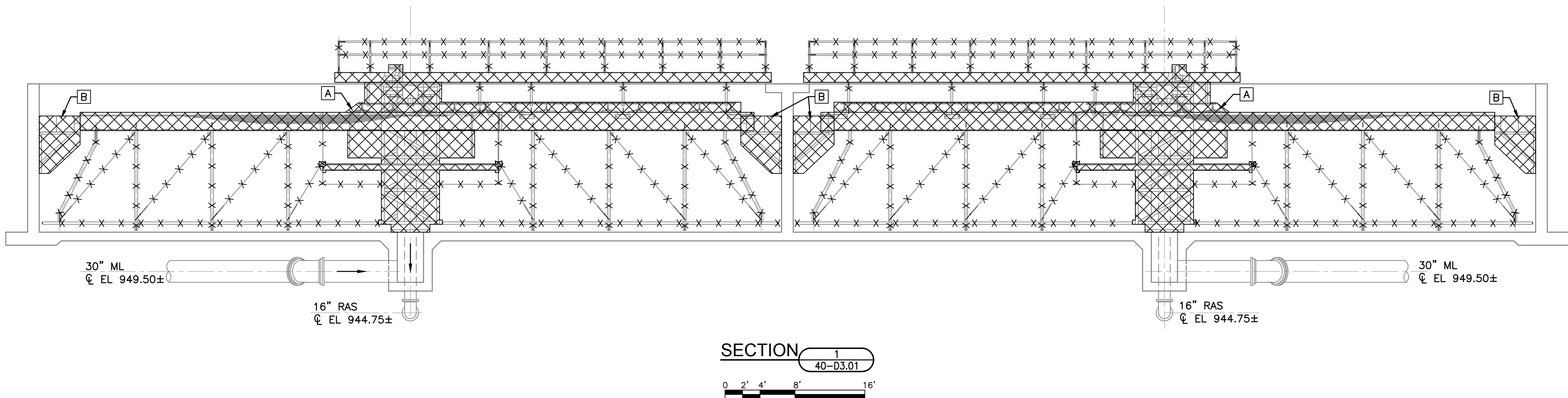


DEMOLITION GENERAL NOTES:

1. REFER TO DEMOLITION GENERAL NOTES ON SHEET 40-D1.01.

DEMOLITION KEY NOTES:

- [A] REMOVE ALL CLARIFIER COLLECTOR EQUIPMENT, INCLUDING, BUT NOT LIMITED TO, SLUDGE SCRAPERS, TRUSS ARMS, CENTER COLUMN, FEED AND STILLING WELL, SCUM SKIMMERS, ACCESS BRIDGE, CENTER PLATFORM RAILINGS, DRIVE UNIT, AND APPURTENANCES.
- [B] REMOVE SCUM BAFFLES, WEIR EFFLUENT TROUGHS, SUPPORT BRACKETS, AND CONNECTION HARDWARE.



FINAL CLARIFIERS  
CLARIFIERS NO. 1 AND NO. 2 - DEMOLITION SECTION

CITY OF COPPERAS COVE  
NORTHWEST WWTPL CLARIFIER RENOVATION PROJECT  
CORYELL COUNTY, TEXAS

JOB NO.  
1157.001  
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SHEET  
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40-D3.01



- GENERAL NOTES:
- SEE SPECIFICATION DIVISION 01 FOR CONSTRUCTION SEQUENCE REQUIREMENTS.
  - SEE SITE LOCATION PLAN FOR BENCHMARK INFORMATION.
  - CONTRACTOR TO VERIFY STAIR HEIGHTS PRIOR TO ORDERING.
  - CONCRETE SURFACE REPAIR SHALL BE COMPLETED FOLLOWING CLEANING OF FINAL CLARIFIERS. AN ALLOWANCE OF 10 CY OF CONCRETE SURFACE REPAIR IS INCLUDED IN THE CONTRACT. SEE SPECIFICATIONS FOR FURTHER CLARIFICATION.



- KEY NOTES:
- INSTALL DOWNWARD OPENING WEIR SLIDE GATES IN ACCORDANCE WITH SPECIFICATIONS SECTION 40 05 59.23.
  - FURNISH AND INSTALL NEW HOT-DIPPED GALVANIZED TROUGHS, WEIRS, AND SCUM BAFFLE. SEE SPECIFICATION SECTIONS 05 50 00 AND 46 43 22.
  - FURNISH AND INSTALL NEW SCUM BEACH AND SCUM BOX. INSTALL NEW 6" SCUM PIPING AT LOCATION SHOWN. REFER TO SPECIFICATIONS SECTION 46 43 22.
  - FURNISH AND INSTALL NEW SCUM SKIMMER AND SUPPORTS IN ACCORDANCE WITH SPECIFICATIONS SECTION 46 43 22.
  - PROVIDE PIPING SUPPORTS FOR 6" SCUM PIPING AT MAXIMUM 10' INTERVALS.
  - SUPPORT SCUM PIPING AT 4" FROM OUTSIDE OF WALL TO ALLOW FOR WALKWAY ANGLE SUPPORTS.
  - STEP RAILING AS NEEDED TO TIE INTO EXISTING RAILING.
  - GRADED WALKWAY WITH SUPPORT BRACKET SEE SHEETS 40-ASM1.02 AND 40-ASM1.03 FOR LOCATION OF BRACKETS

**FINAL CLARIFIERS  
CLARIFIERS NO. 1 AND NO. 2 - PLAN**

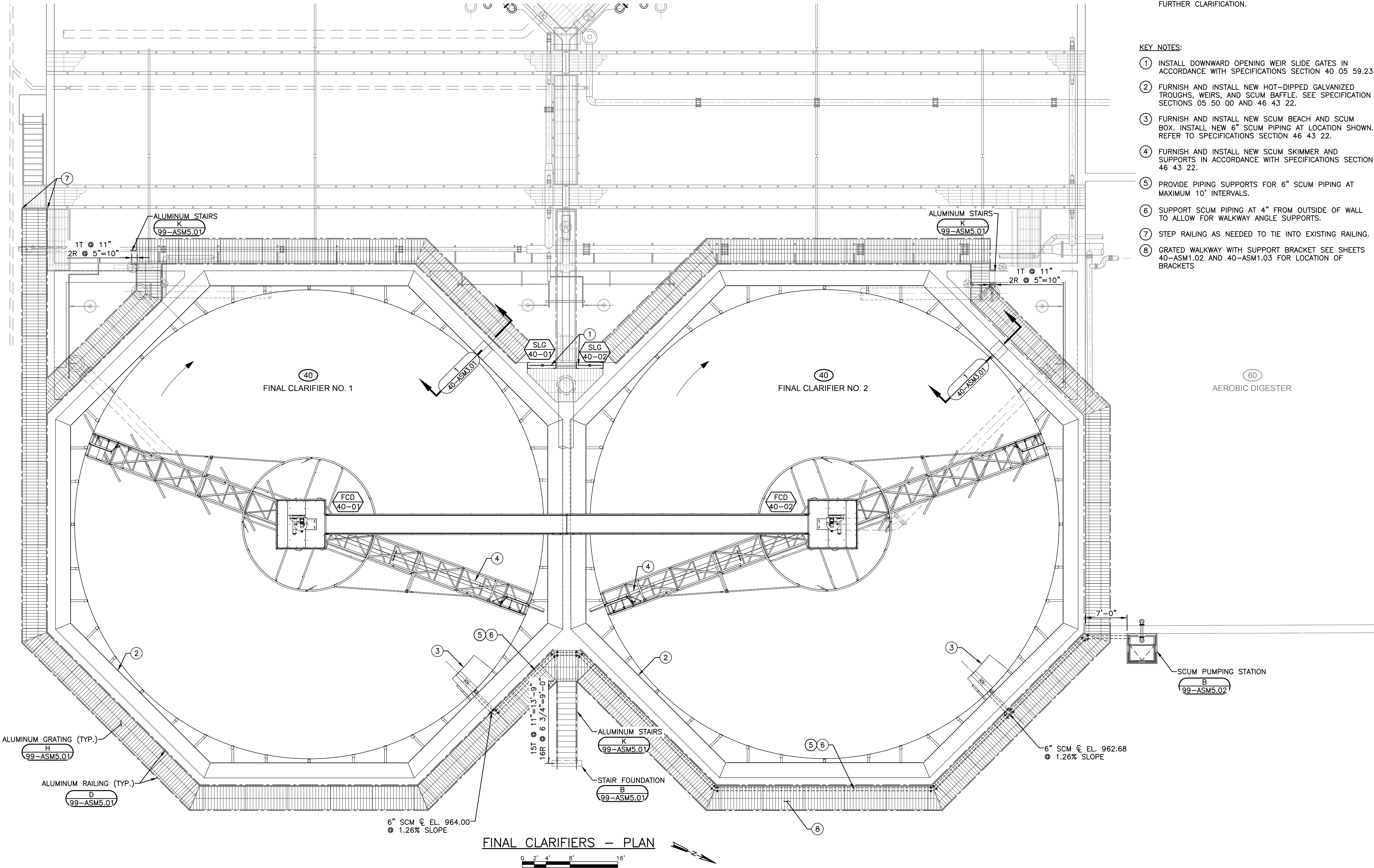
CITY OF COPPERAS COVE  
NORTHWEST WWTPL CLARIFIER REHABILITATION PROJECT  
CORYELL COUNTY, TEXAS

**JOB NO.**  
1157.001

**PROJECT MGR.**  
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**STRAND ASSOCIATES**

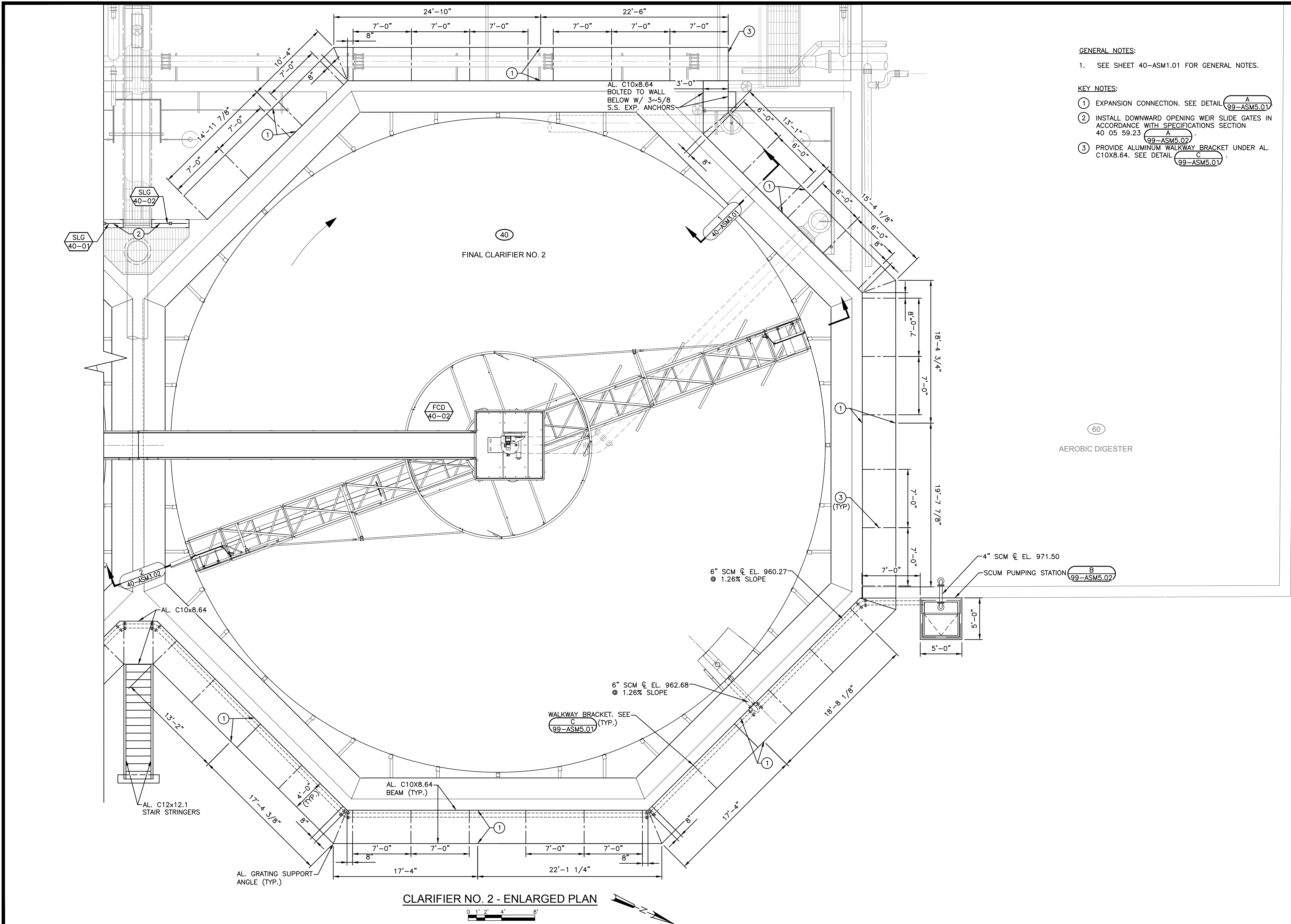
**SHEET**  
**13**  
**40-ASM1.01**











GENERAL NOTES:

1. SEE SHEET 40-ASM1.01 FOR GENERAL NOTES.

KEY NOTES:

① EXPANSION CONNECTION. SEE DETAIL A 99-ASM5.01

② INSTALL DOWNWARD OPENING WEIR SLIDE GATES IN ACCORDANCE WITH SPECIFICATIONS SECTION 40 05 59.23

③ PROVIDE ALUMINUM WALKWAY BRACKET UNDER AL. C10x8.64. SEE DETAIL C 99-ASM5.01

STATE OF TEXAS

JACOB D. COLLINS

155800

PROFESSIONAL ENGINEER

*Jacob D. Collins*

9/3/2025

DATE:  
9/05/2025

ISSUED FOR BID

NO.

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FINAL CLARIFIERS

CLARIFIER NO. 2 - ENLARGED PLAN

CITY OF COPPERAS COVE

NORTHWEST WWTPL CLARIFIER REHABILITATION PROJECT

CORYELL COUNTY, TEXAS

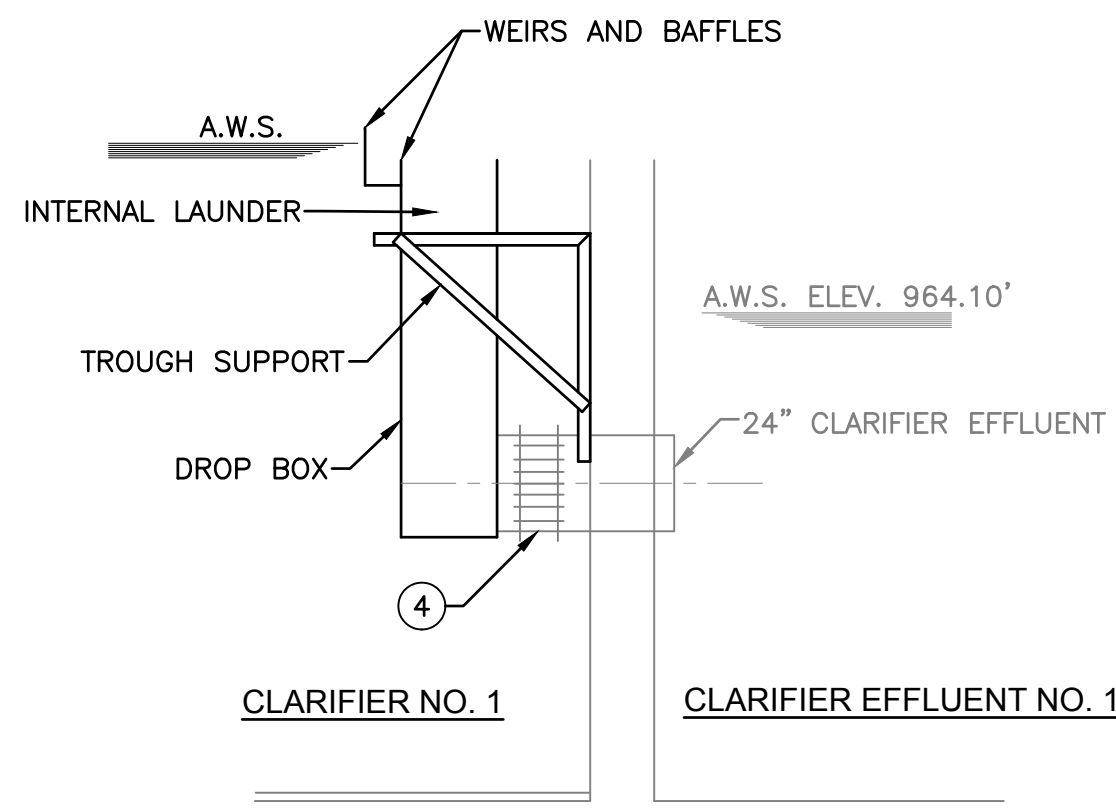
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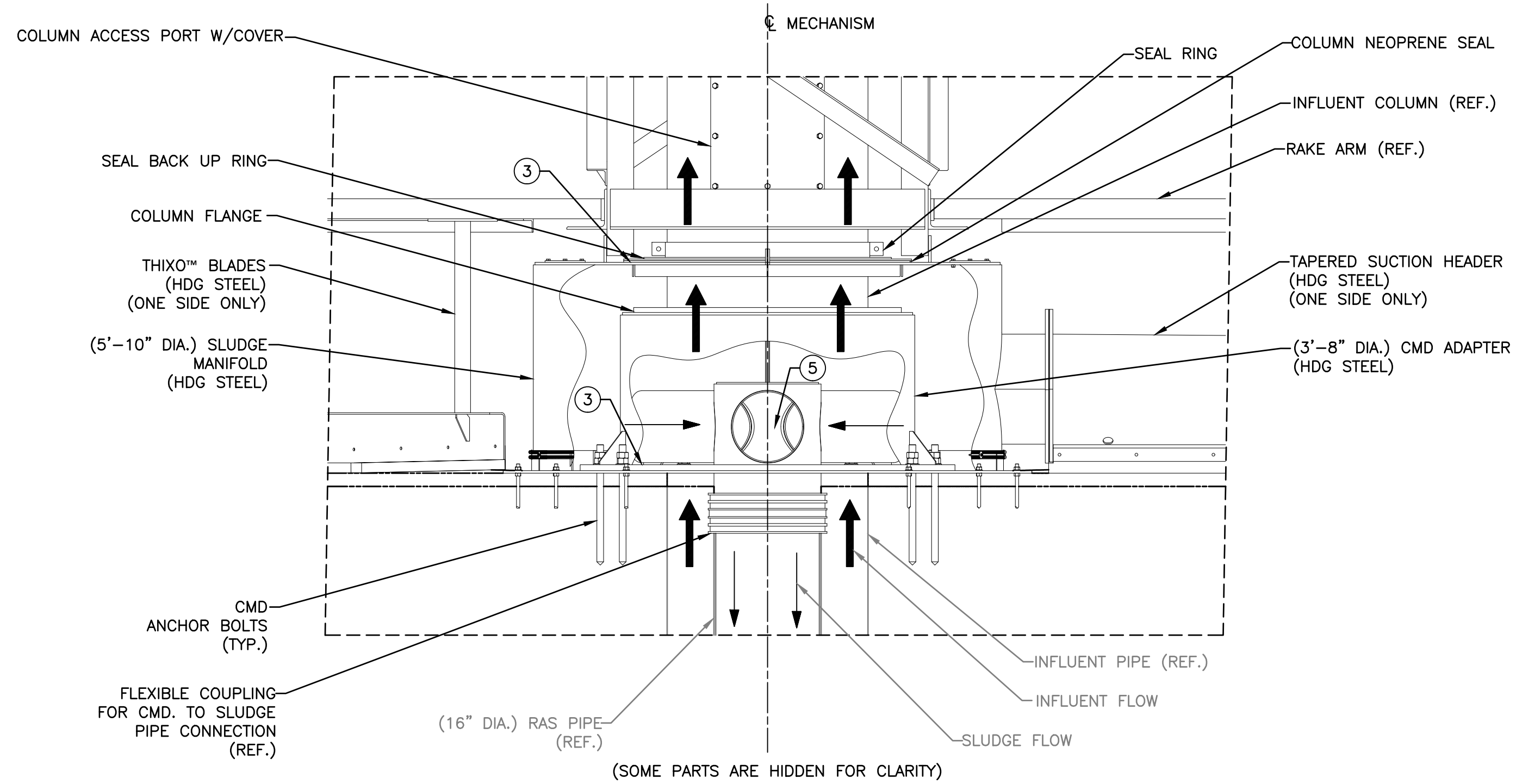
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40-ASM1.03





SECTION 1  
40-ASM3.01

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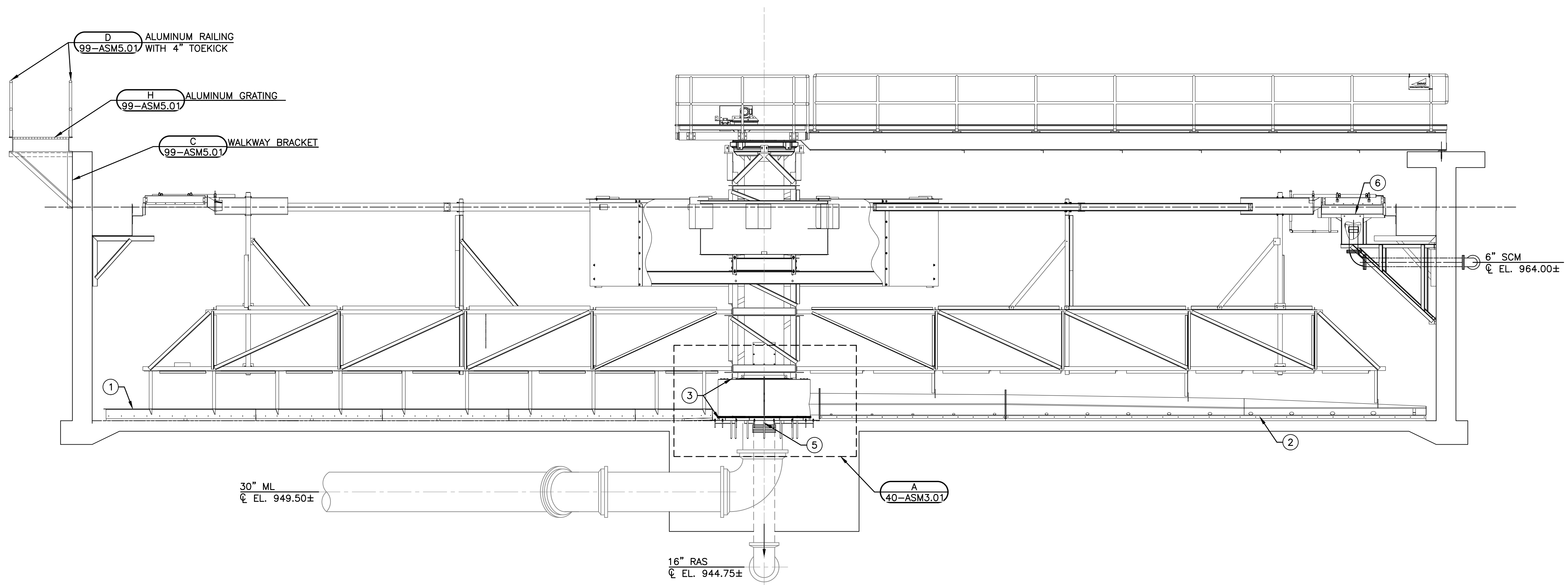
DETAIL  
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GENERAL NOTES:

- SEE SPECIFICATION DIVISION 01 FOR CONSTRUCTION SEQUENCE REQUIREMENTS.
- ALL CLARIFIER MECHANISMS AND APPURTENANCES SHALL BE HOT-DIPPED GALVANIZED STEEL, UNLESS SPECIFIED OTHERWISE.

KEY NOTES:

- FURNISH AND INSTALL NEW RAKE BLADE AND SUPPORTS IN ACCORDANCE WITH SPECIFICATIONS SECTION 46 43 22. **A** 40-ASM3.02
- FURNISH AND INSTALL NEW HOT-DIPPED GALVANIZED TAPERED SUCTION HEADER AND SUPPORTS IN ACCORDANCE WITH SPECIFICATIONS SECTION 46 43 22. **A** 40-ASM3.02
- FURNISH AND INSTALL NEW UPPER AND LOWER SEALS ON SLUDGE COLLECTION DRUM IN ACCORDANCE WITH SPECIFICATIONS SECTION 46 43 22. **A** 40-ASM3.01
- TIE NEW WEIR EFFLUENT DROP PIPE TO EXISTING 24" CLARIFIER EFFLUENT PIPE AT EXISTING MECHANICAL JOINT.
- CONTRACTOR SHALL ISOLATE EFFLUENT RAS PIPE FROM INFLUENT FLOW PIPE BY USE OF **A** CENTER MANIFOLD DEVICE (CMD) BY OVIVO, OR EQUAL. **A** 40-ASM3.01
- FURNISH AND INSTALL NEW HOT-DIPPED GALVANIZED STEEL SCUM BEACH AND SCUM BOX.



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FINAL CLARIFIERS  
CLARIFIER NO. 1 - SECTIONS

CITY OF COPPERAS COVE  
NORTHWEST WTP CLARIFIER REHABILITATION PROJECT  
CORYELL COUNTY, TEXAS

JOB NO.

1157.001

PROJECT MGR.

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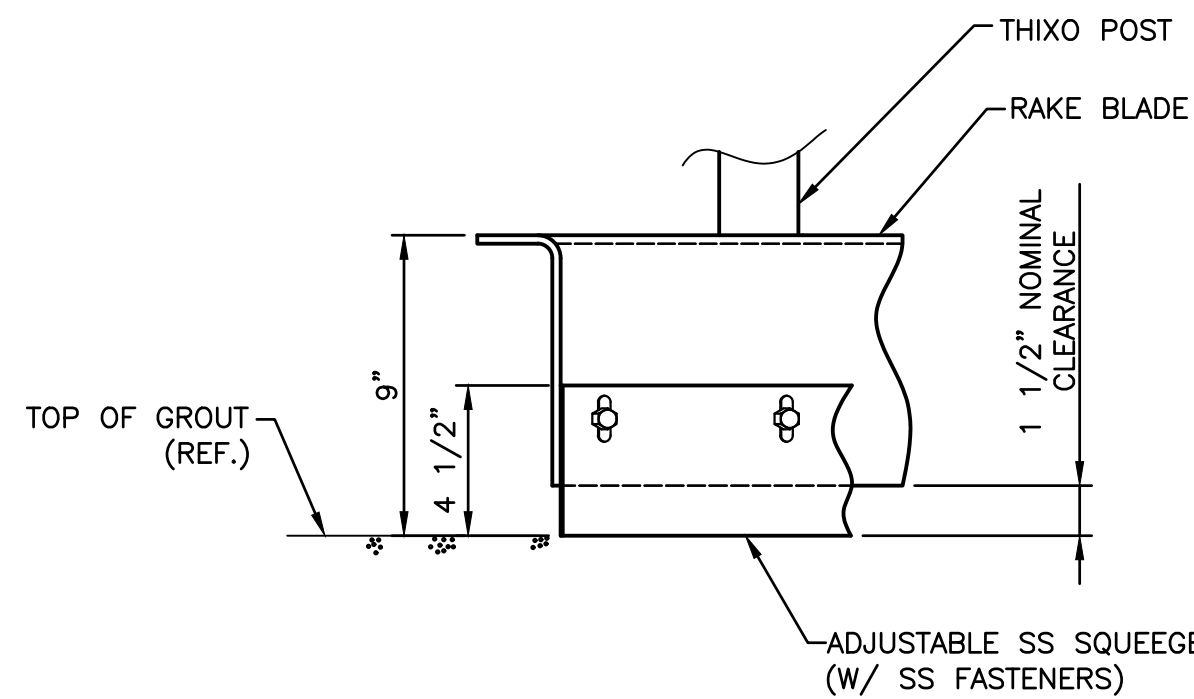


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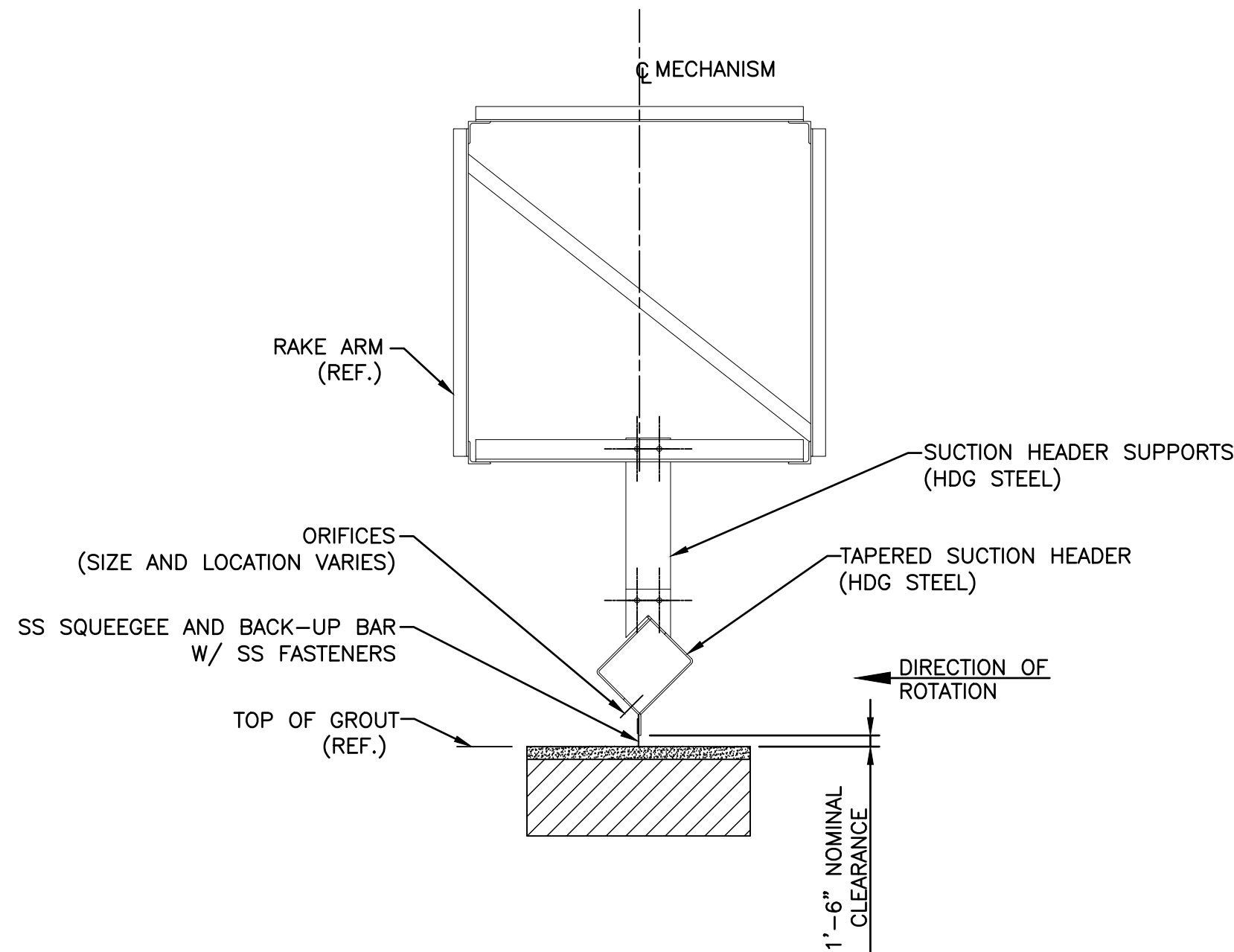
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40-ASM3.01





**DETAIL A**  
40-ASM3.02 NO SCALE



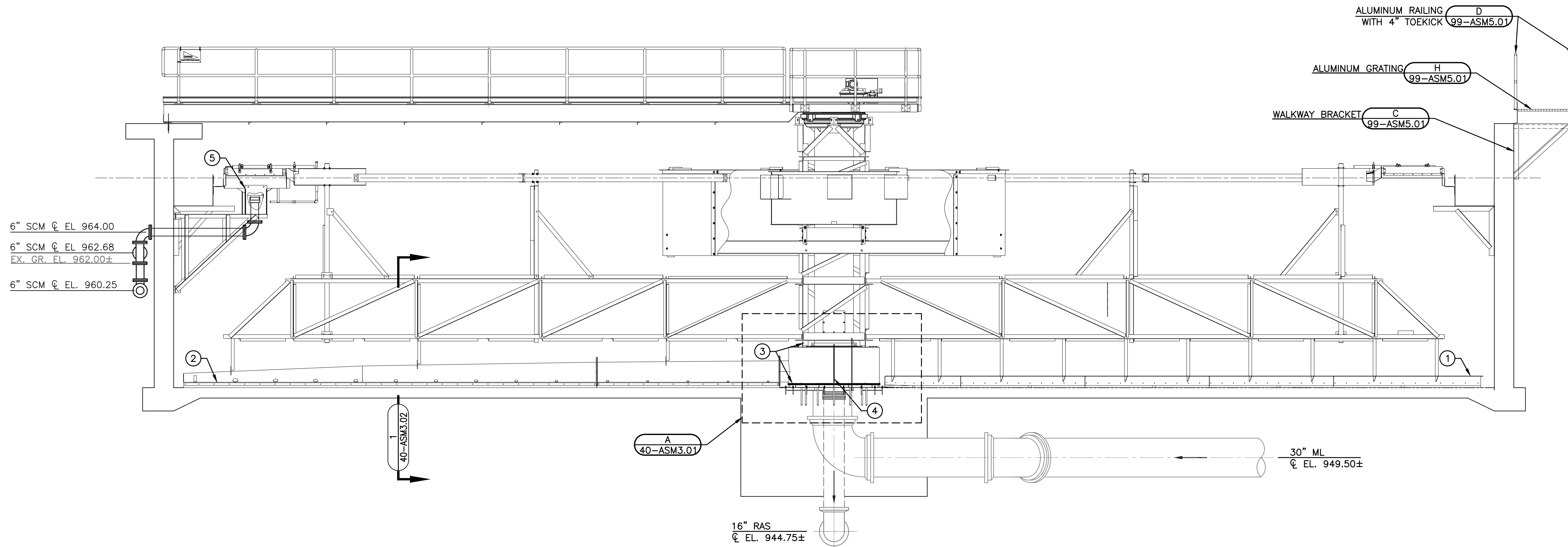
**SECTION 1**  
40-ASM3.02  
0 1' 2' 4' 8'

**GENERAL NOTES:**

- SEE SPECIFICATION DIVISION 01 FOR CONSTRUCTION SEQUENCE REQUIREMENTS.
- ALL CLARIFIER MECHANISMS AND APPURTENANCES SHALL BE HOT-DIPPED GALVANIZED STEEL, UNLESS SPECIFIED OTHERWISE.

**KEY NOTES:**

- FURNISH AND INSTALL NEW RAKE BLADE AND SUPPORTS IN ACCORDANCE WITH SPECIFICATIONS SECTION 46 43 22. **A** 40-ASM3.02
- FURNISH AND INSTALL NEW HOT-DIPPED GALVANIZED TAPERED SUCTION HEADER AND SUPPORTS IN ACCORDANCE WITH SPECIFICATIONS SECTION 46 43 22. **1** 40-ASM3.02
- FURNISH AND INSTALL NEW UPPER AND LOWER SEALS ON SLUDGE COLLECTION DRUM IN ACCORDANCE WITH SPECIFICATIONS SECTION 46 43 22.
- CONTRACTOR SHALL ISOLATE EFFLUENT RAS PIPE FROM INFLUENT FLOW PIPE BY USE OF **A** CENTER MANIFOLD DEVICE (CMD) BY OVIVO, OR EQUAL. **A** 40-ASM3.01
- FURNISH AND INSTALL NEW HOT-DIPPED GALVANIZED STEEL SCUM BEACH AND SCUM BOX.



**SECTION 2**  
40-ASM3.02  
0 1' 2' 4' 8'



**FINAL CLARIFIERS  
CLARIFIER NO. 2 - SECTIONS**  
  
CITY OF COPPERAS COVE  
NORTHWEST WWTPL CLARIFIER REHABILITATION PROJECT  
CORYELL COUNTY, TEXAS

**JOB NO.**  
1157.001  
**PROJECT MGR.**  
KMH



**SHEET**  
**17**  
**40-ASM3.02**



GENERAL NOTES:

1. ALL 480V EQUIPMENT ON THIS DRAWING SHALL BE POWERED FROM MCC-A, UNLESS OTHERWISE NOTED.
2. REFER TO SPECIFICATION SECTION 26 09 90 FOR WIRING ASSOCIATED WITH THE SCADA SYSTEM.
3. REFER TO SPECIFICATION SECTION 01 11 00 FOR INFORMATION ON CONSTRUCTION SEQUENCING.

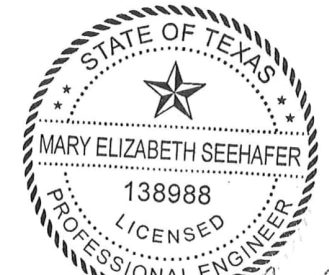
KEY NOTES:

1. ALL ELECTRICAL WORK AND EQUIPMENT IN INTERIOR OF TANK FROM THE MINIMUM OPERATING WATER SURFACE TO THE TOP OF THE TANK WALL; ENVELOPE 18" ABOVE THE TOP OF THE TANK AND EXTENDING 18" BEYOND THE EXTERIOR WALL; ENVELOPE 18" ABOVE GRADE EXTENDING 10 FEET HORIZONTALLY FROM THE EXTERIOR TANK WALLS SHALL BE RATED FOR A CLASS I, DIVISION 2, GROUPS C AND D LOCATION.
2. EQUIPMENT FURNISHED BY DIVISION 46 AND WIRED BY DIVISION 26.
3. PROVIDE A NEW 20A SINGLE-POLE CIRCUIT BREAKER IN EXISTING LIGHTING PANEL LP-PE IN THE OPERATIONS BUILDING, TO PROVIDE 120V POWER TO NEW LIGHTS AND RECEPTACLES. PROVIDE 2~#10 AND #10 GROUND IN 3/4" CONDUIT FROM CIRCUIT BREAKER TO EQUIPMENT/DEVICE. LIGHTING PANEL IS A WESTINGHOUSE DAZ6453.
4. EQUIPMENT FURNISHED BY DIVISION 22 AND INSTALLED BY DIVISION 26.
5. PROVIDE MANUFACTURER-FURNISHED CABLE IN 1" CONDUIT FROM FLOAT SWITCH TO MCP-40.
6. PROVIDE MANUFACTURER-FURNISHED CABLE IN 1" CONDUIT FROM SCUM PUMP TO MCP-40.

KEY NOTES:

7. PHOTOCELL SHALL BE MOUNTED 8'-0" AFG. PROVIDE A NEMA 4X BOX FOR TERMINATION OF PHOTOCELL CONDUCTORS. SEE DETAIL B 99-E5.01 FOR RAIL MOUNTING.
8. PROVIDE NEMA 4X, STAINLESS-STEEL JUNCTION BOX FOR WIRING TORQUE SWITCHES THROUGH INTRINSIC SAFETY BARRIERS. PROVIDE SEAL-OFF FITTING ON EACH CONDUIT BETWEEN JUNCTION BOX AND MCC-A. JUNCTION BOX SHALL BE FURNISHED BY SECTION 26 09 00 SYSTEM SUPPLIER.
9. ALL ELECTRICAL WORK AND EQUIPMENT IN THE WET WELL SHALL BE RATED FOR A CLASS I, DIVISION 1, GROUPS C AND D LOCATION. ALL ELECTRICAL WORK AND EQUIPMENT 3'-0" FROM THE ACCESS HATCH (ALL SIDES) TO 18" ABOVE GRADE SHALL BE RATED FOR A CLASS I, DIVISION 2, GROUPS C AND D LOCATION.

B  
99-E5.01



Mary Elizabeth Sehafer  
9/3/25

DATE:  
9/05/2025

REVISIONS

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NO.

FINAL CLARIFIERS  
CLARIFIERS NO. 1 AND NO. 2 - ELECTRICAL PLAN

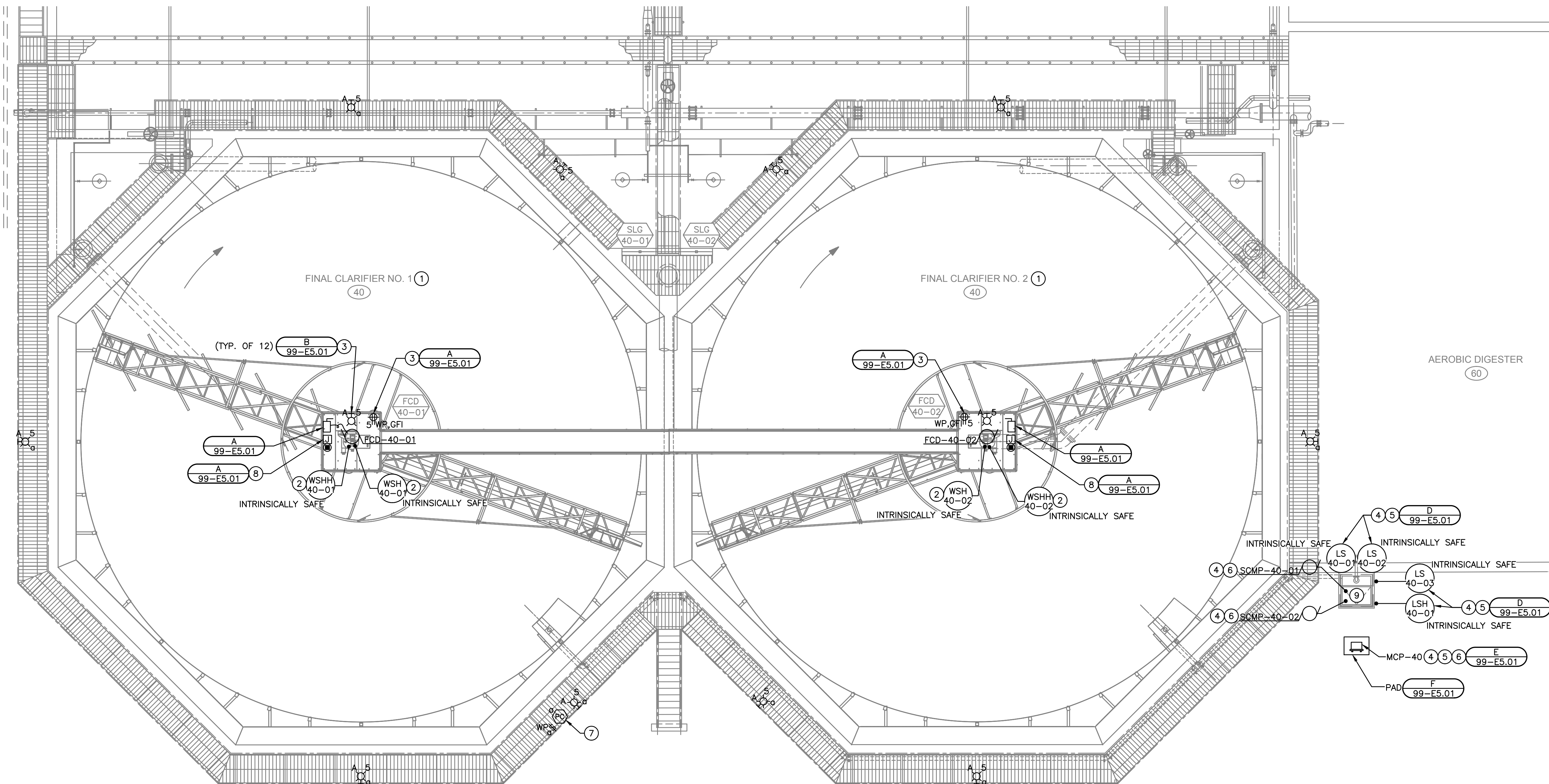
CITY OF COPPERAS COVE  
NORTHWEST WTP CLARIFIER REHABILITATION PROJECT  
CORYELL COUNTY, TEXAS

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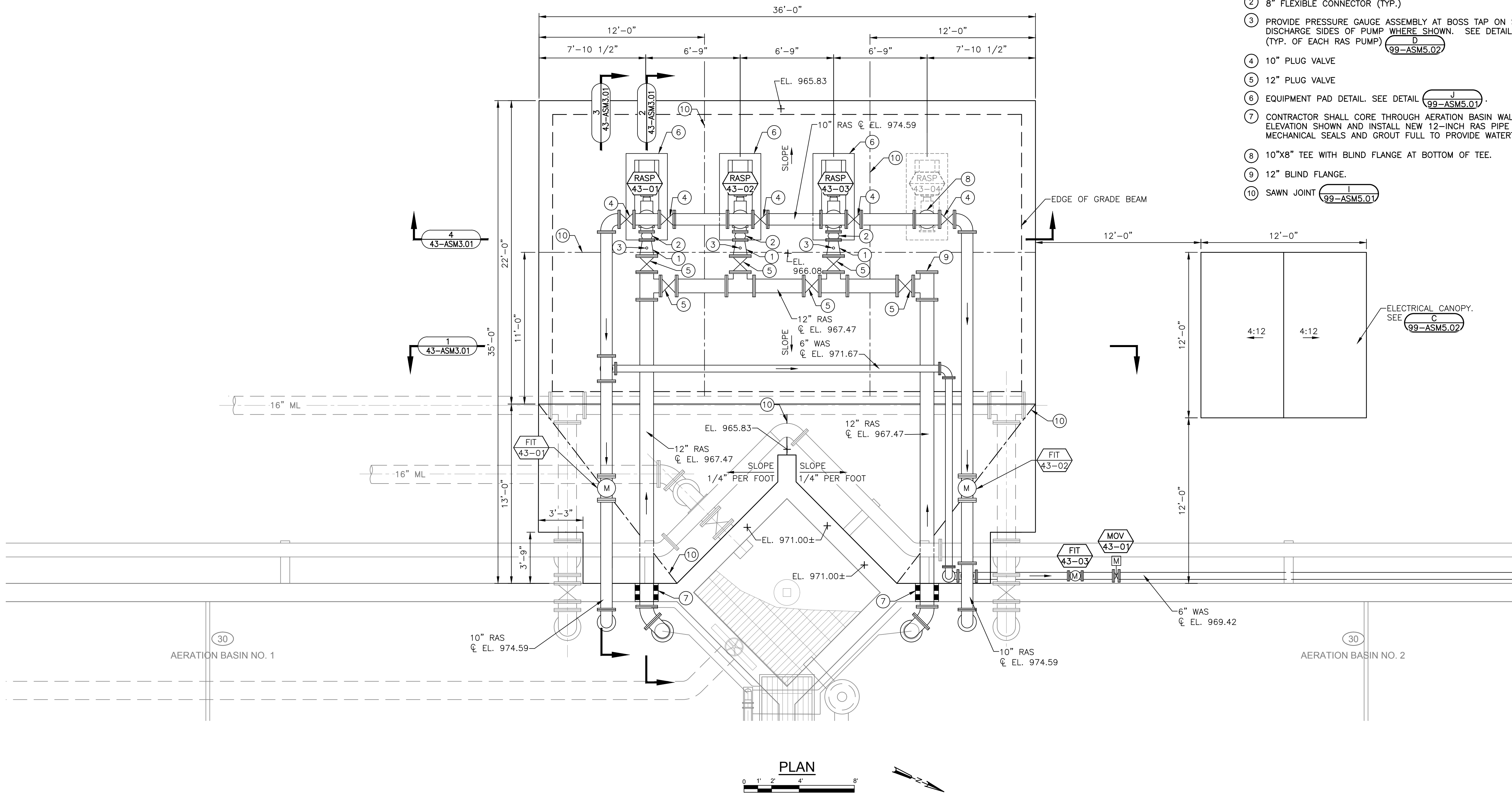
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FINAL CLARIFIERS - ELECTRICAL PLAN

0 2' 4' 8' 16'





GENERAL NOTES:

- SEE SPECIFICATION DIVISION 01 FOR CONSTRUCTION SEQUENCE REQUIREMENTS.
- ALL STR 43 PIPING AND VALVES SHALL BE DUCTILE IRON UNLESS SPECIFIED OTHERWISE.
- CONTRACTOR SHALL FURNISH AND INSTALL ALL PIPING WITH THE EXCEPTION OF PIPING PREASSEMBLED ON SKIDS.
- CONTRACTOR SHALL FIELD VERIFY CONDITIONS OF EXISTING PIPING AND APPURTENANCES PRIOR TO SHOP DRAWING REVIEW AND INSTALLATION OF EQUIPMENT.
- CONTRACTOR SHALL PROVIDE PIPE SUPPORTS AND APPURTENANCES AS SPECIFIED AND AS NECESSARY.
- CONTRACTOR SHALL VERIFY PUMP MANUFACTURERS' REQUIRED PUMP SUCTION AND DISCHARGE DIMENSIONS AND SUBMIT TO ENGINEER FOR REVIEW PRIOR TO INSTALLATION.
- CONTRACTOR SHALL PROTECT EXISTING PUMPS, PIPING, AND APPURTENANCES DURING CONSTRUCTION.
- PROVIDE 1/2" EXPANSION JOINT BETWEEN ALL SLABS AND WALLS.
- THE AREA SURROUNDING STRUCTURE 43 IS PRONE TO STANDING WATER DURING RAIN EVENTS. CONTRACTOR SHALL PROVIDE MITIGATION MEASURES TO PREVENT FLOODING OF THE SITE DURING CONSTRUCTION, AS NECESSARY.

KEY NOTES:

- 12" BY 8" ECCENTRIC REDUCER (TYP.)
- 8" FLEXIBLE CONNECTOR (TYP.)
- PROVIDE PRESSURE GAUGE ASSEMBLY AT BOSS TAP ON SUCTION AND DISCHARGE SIDES OF PUMP WHERE SHOWN. SEE DETAIL (TYP. OF EACH RAS PUMP) **D** 99-ASM5.02
- 10" PLUG VALVE
- 12" PLUG VALVE
- EQUIPMENT PAD DETAIL. SEE DETAIL **J** 99-ASM5.01
- CONTRACTOR SHALL CORE THROUGH AERATION BASIN WALLS AT ELEVATION SHOWN AND INSTALL NEW 12-INCH RAS PIPE WITH DOUBLE MECHANICAL SEALS AND GROUT FULL TO PROVIDE WATERTIGHT SEAL.
- 10"x8" TEE WITH BLIND FLANGE AT BOTTOM OF TEE.
- 12" BLIND FLANGE.
- SAWN JOINT **I** 99-ASM5.01



DATE:	9/3/2025								
REVISIONS									
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RASWAS PUMPING STATION  
PLAN

CITY OF COPPERAS COVE  
NORTHWEST WWTp CLARIFIER REHABILITATION PROJECT  
CORYELL COUNTY, TEXAS

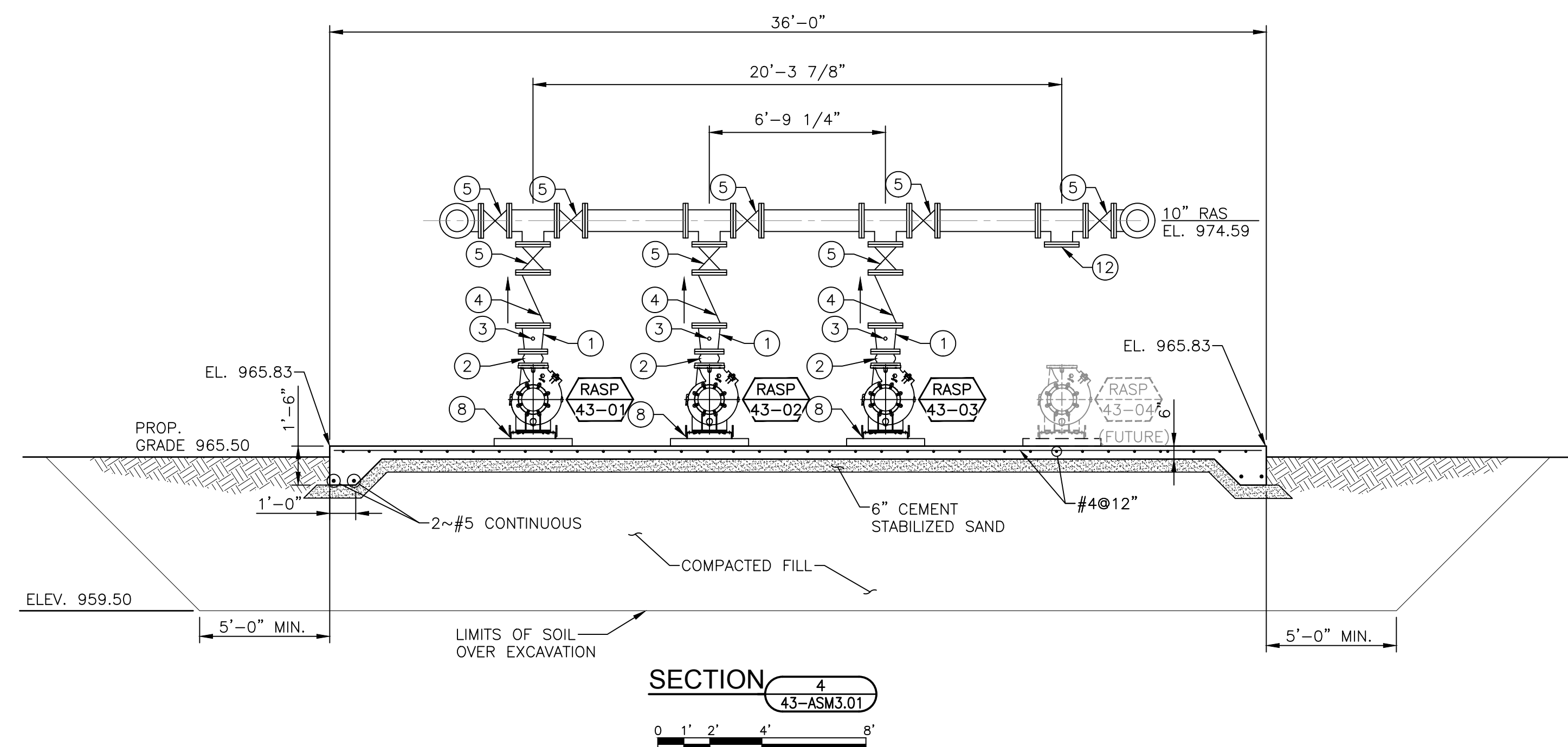
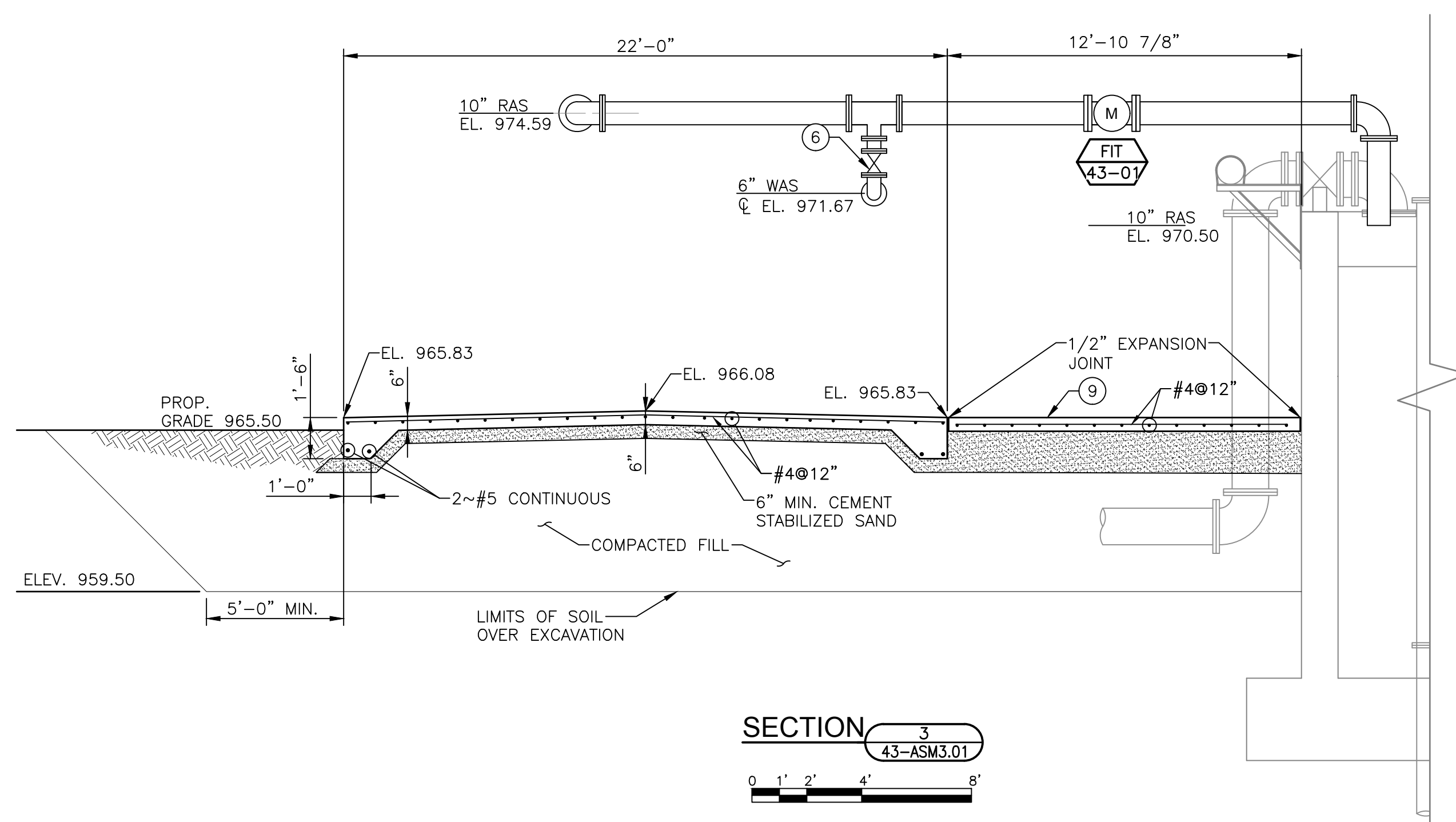
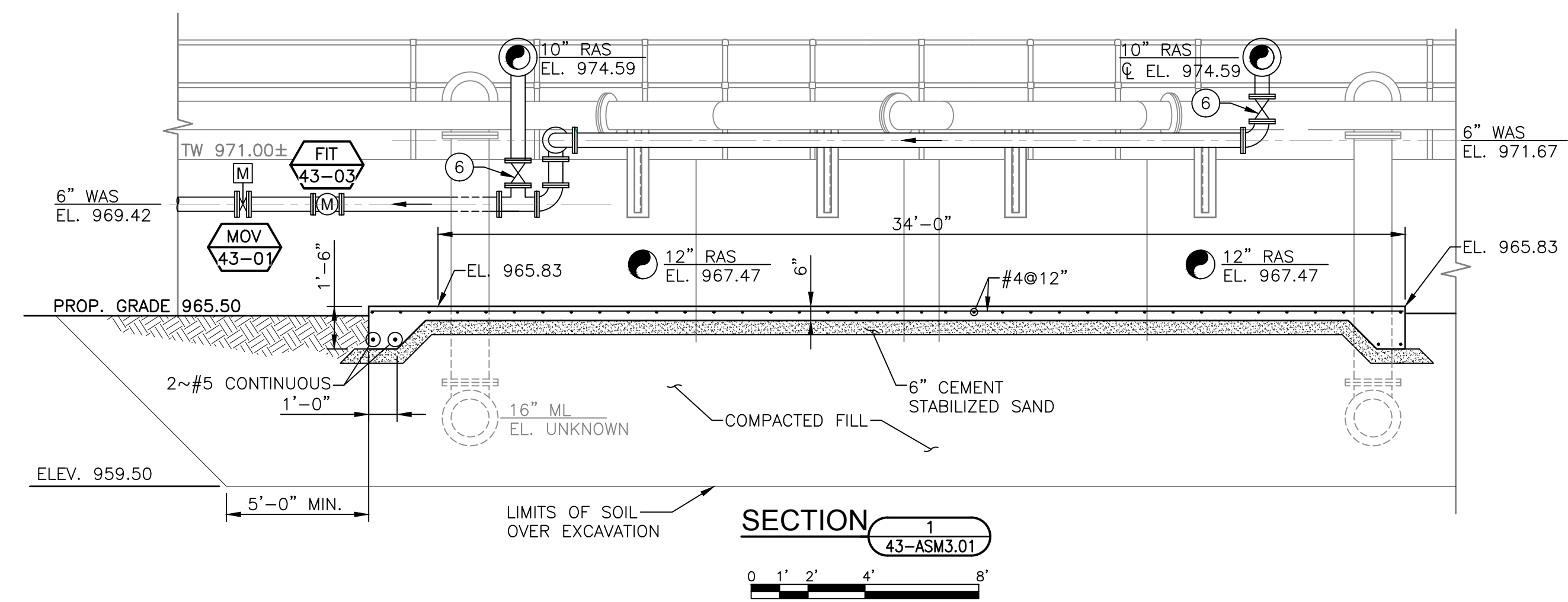
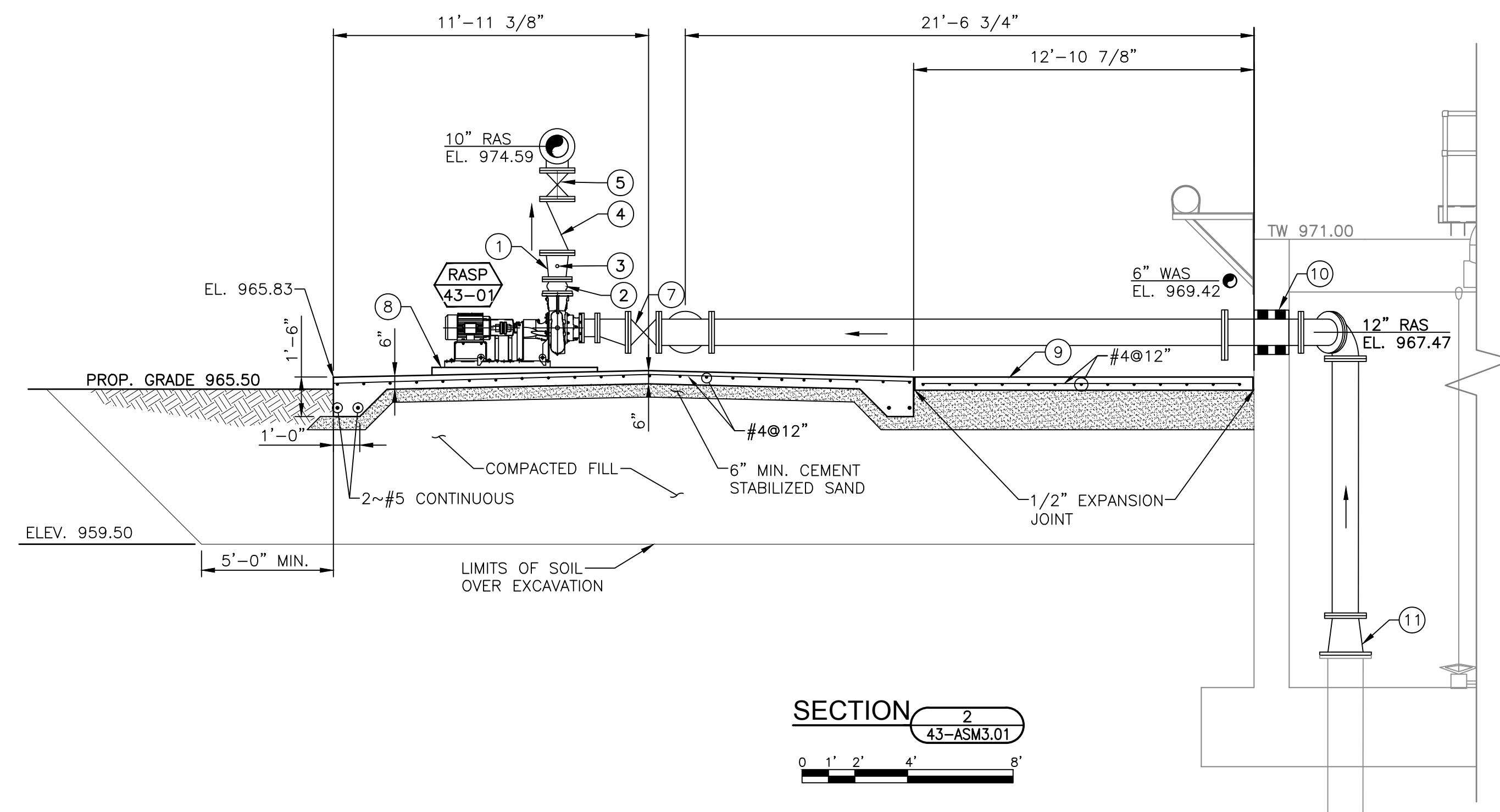
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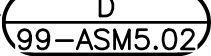
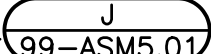




- GENERAL NOTES:

1. SEE SPECIFICATION DIVISION 01 FOR CONSTRUCTION SEQUENCE REQUIREMENTS.
2. ALL STR 43 PIPING AND VALVES SHALL BE DUCTILE IRON UNLESS SPECIFIED OTHERWISE.
3. CONTRACTOR SHALL FURNISH AND INSTALL ALL PIPING WITH THE EXCEPTION OF PIPING PREASSEMBLED ON SKIDS.
4. CONTRACTOR SHALL FIELD VERIFY CONDITIONS OF EXISTING PIPING AND APPURTENANCES PRIOR TO SHOP DRAWING REVIEW AND INSTALLATION OF EQUIPMENT.
5. CONTRACTOR SHALL PROVIDE PIPE SUPPORTS AND APPURTENANCES AS SPECIFIED AND AS NECESSARY.
6. CONTRACTOR SHALL VERIFY PUMP MANUFACTURER'S REQUIRED PUMP SUCTION AND DISCHARGE DIMENSIONS AND SUBMIT TO ENGINEER FOR REVIEW PRIOR TO INSTALLATION.
7. CONTRACTOR SHALL PROTECT EXISTING PUMPS, PIPING, AND APPURTENANCES DURING CONSTRUCTION.
8. GEOTECHNICAL ENGINEER SHALL REVIEW SUBGRADE CONDITIONS PRIOR TO PLACEMENT OF COMPACTED FILL. SEE SPECIFICATION FOR FURTHER CLARIFICATION

- KEY NOTES:

- ① 8" BY 10" CONCENTRIC REDUCER (TYP.)
- ② 8" FLEXIBLE CONNECTOR (TYP.)
- ③ PROVIDE PRESSURE GAUGE ASSEMBLY AT BOSS TAP ON SUCTION AND DISCHARGE SIDE OF PUMP WHERE SHOWN. SEE DETAIL  (TYP. OF EACH RAS PUMP.)
- ④ 10" CHECK VALVE
- ⑤ 10" PLUG VALVE
- ⑥ 6" PLUG VALVE
- ⑦ 12" PLUG VALVE
- ⑧ EQUIPMENT PAD. SEE DETAIL .
- ⑨ 6" CONCRETE SLAB ON GRADE
- ⑩ CONTRACTOR SHALL CORE THROUGH AERATION BASIN WALLS AT ELEVATION SHOWN AND INSTALL NEW 12-INCH RAS PIPE WITH DOUBLE MECHANICAL SEALS AND GROUT FULL TO PROVIDE WATERTIGHT SEAL.
- ⑪ CONNECT NEW 12-INCH RAS PIPE TO EXISTING FLANGE IN AERATION BASIN WITH 12" BY 16" CONCENTRIC REDUCER.
- ⑫ INSTALL BLIND FLANGE AT BOTTOM OF TEE.

[illegible]

## **RAS/WAS PUMPING STATION SECTIONS**

**CITY OF COPPERAS COVE  
NORTHWEST WWTP CLARIFIER REHABILITATION PROJECT  
CORYELL COUNTY, TEXAS**

**JOB NO.**  
1157.001

**PROJECT MGR.**  
KMH



**SHEET**  
**20**  
**43-ASM3.01**

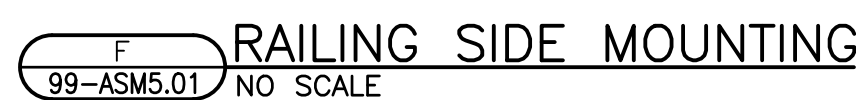








- 

[illegible]

- ALUMINUM GRATING  
NO SCALE



- PIPE SUPPORT



**DETAILS**

**ARCHITECTURAL/STRUCTURAL/MECHANICAL DETAILS - 1**

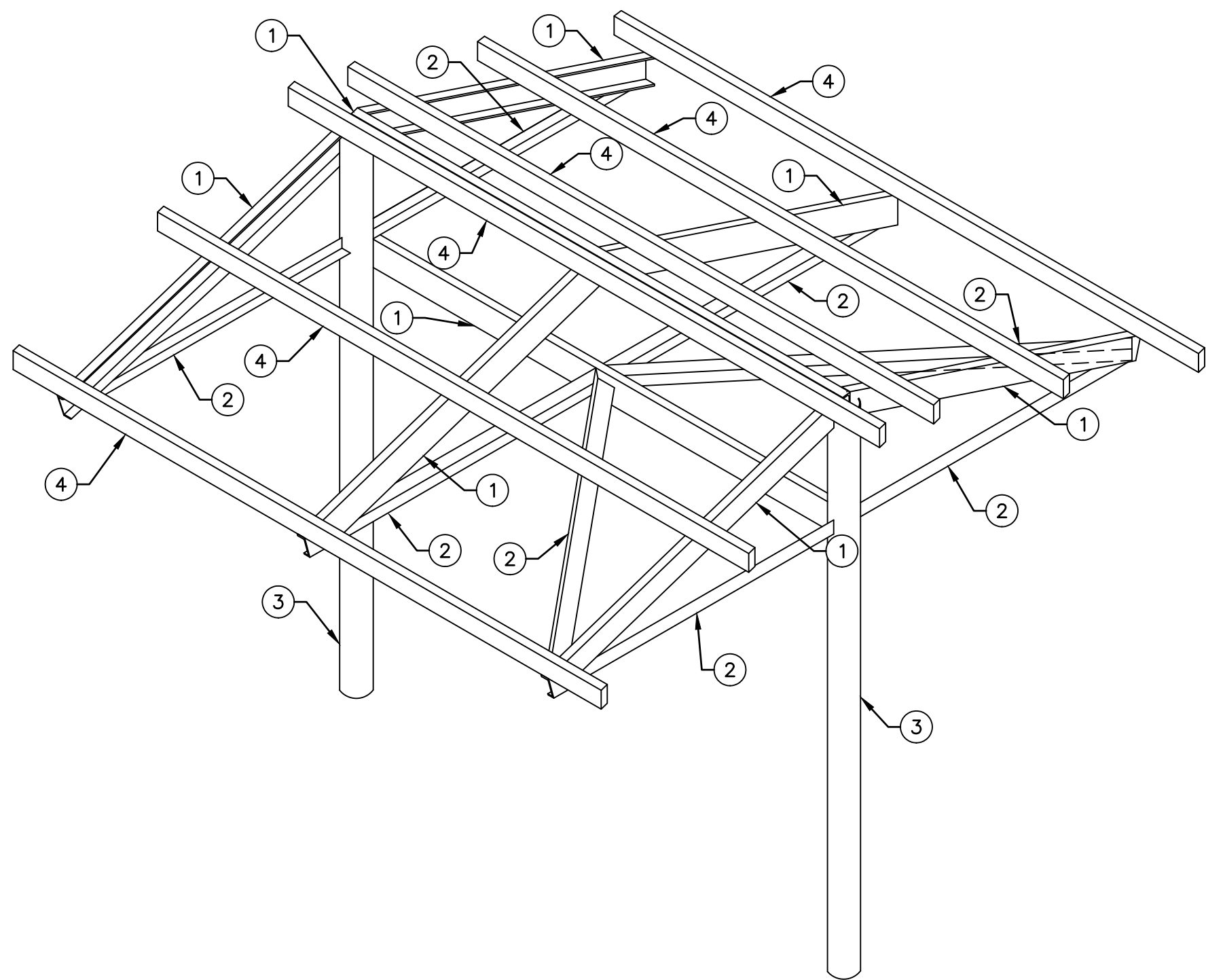
**CITY OF COPPERAS COVE  
NORTHWEST WWTP CLARIFIER REHABILITATION PROJECT  
CORYELL COUNTY, TEXAS**

**PROJECT MGR.**  
**KMH**



**SHEET**  
**22**  
**99-ASM5.01**





ISOMETRIC  
NO SCALE

GENERAL NOTES:

1. SLOPE SLAB-ON-GRADE 1/4" PER FOOT TO DRAIN.
2. METAL DECK SHALL BE GALVANIZED AND SHOP PAINTED.
3. ALL STRUCTURAL STEEL SHALL BE HOT DIP GALVANIZED GRADE 36.
4. GEOTECHNICAL ENGINEER SHALL REVIEW SUBGRADE CONDITIONS PRIOR TO PLACEMENT OF COMPACTED FILL. SEE SPECIFICATION FOR FURTHER CLARIFICATION. LIMITS OF OVER EXCAVATION SHALL EXTEND A MINIMUM OF 5'-0" BEYOND THE EDGE OF CONCRETE

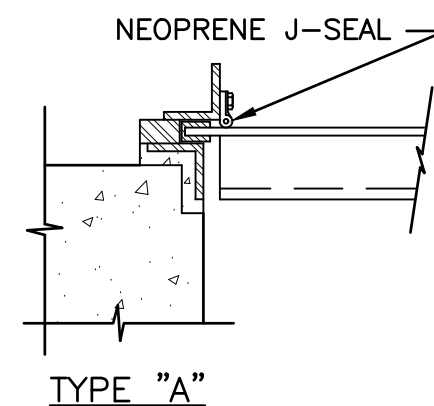
KEY NOTES:

- 1 C6X8.2
- 2 L3"x3"x $\frac{1}{8}$ "
- 3 6" SCH 40
- 4 HSS 4"x2"x $\frac{1}{4}$ "

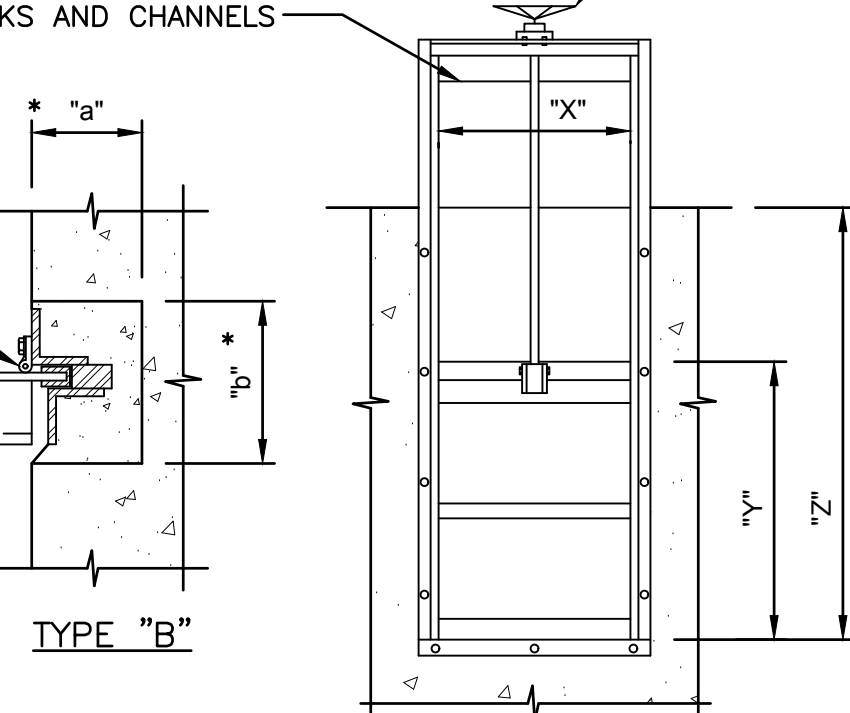
REFERENCE DWG. NUMBER	EQUIPMENT NUMBER	DIMENSION "X"	DIMENSION "Y"	DIMENSION "Z"	MOUNTING TYPE SIDES	MOUNTING TYPE INVERT	OPERATOR TYPE **
40-ASM1.02	40-SLG-01	4'-3"	4'-0"	9'-0"	"A"	"A"	H
40-ASM1.03	40-SLG-02	4'-3"	4'-0"	9'-0"	"A"	"A"	H

\*\*H - HANDWHEEL  
C - CRANK  
M - MOTOR  
F.S. - FLOOR STAND  
E.P. - EXPLOSION PROOF  
CLASS 1, DIV. 1, GROUP D

+ BY EQUIPMENT MANUFACTURER

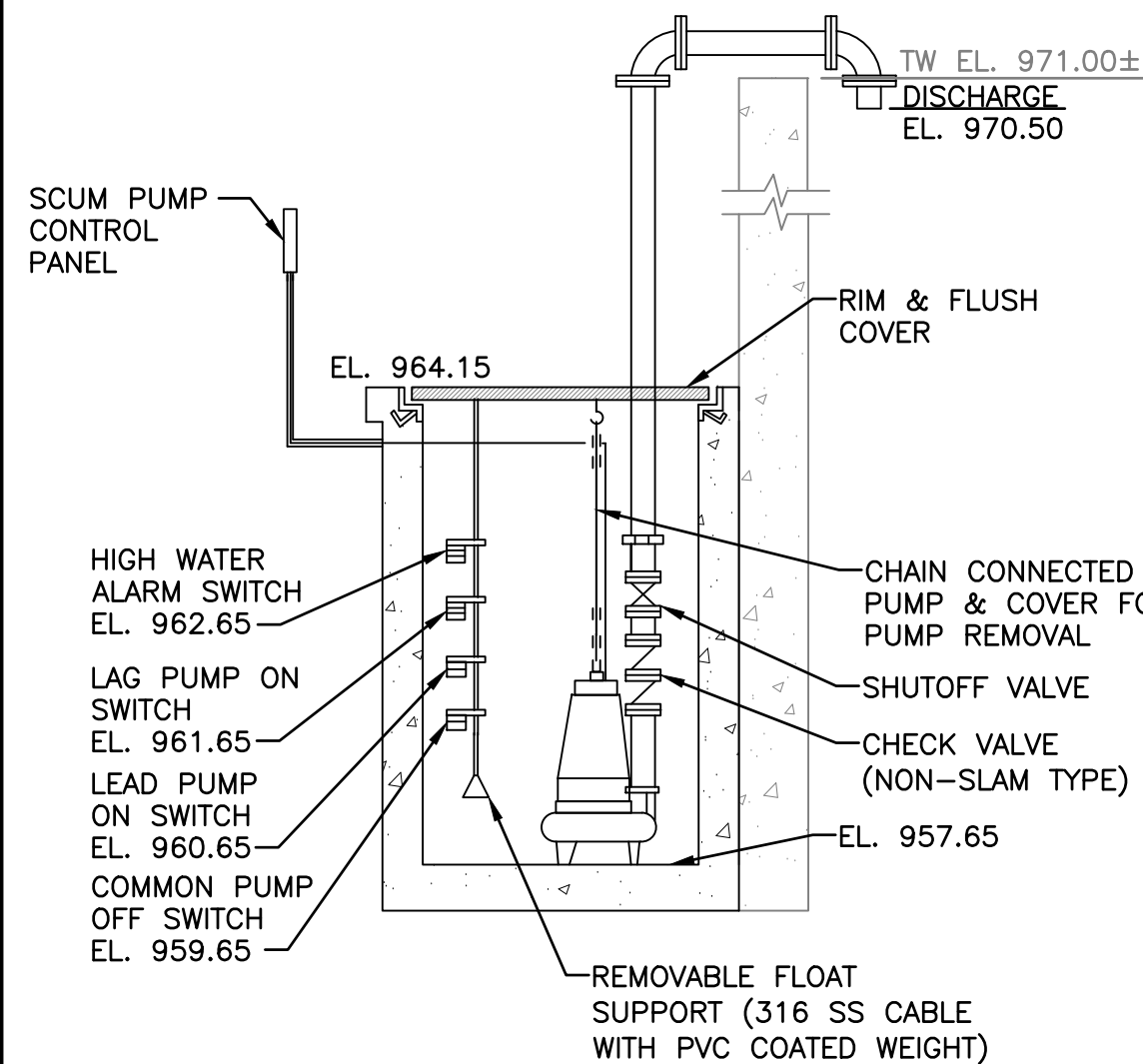


PROVIDE SAFETY RAIL AT ALL OPEN  
TANKS AND CHANNELS



\*CONFIRM WITH MANUFACTURER

A  
99-ASM5.02  
SLIDE GATE DETAILS  
NO SCALE



B  
99-ASM5.02  
SCUM PUMPING STATION  
NO SCALE



DATE:  
9/05/2025

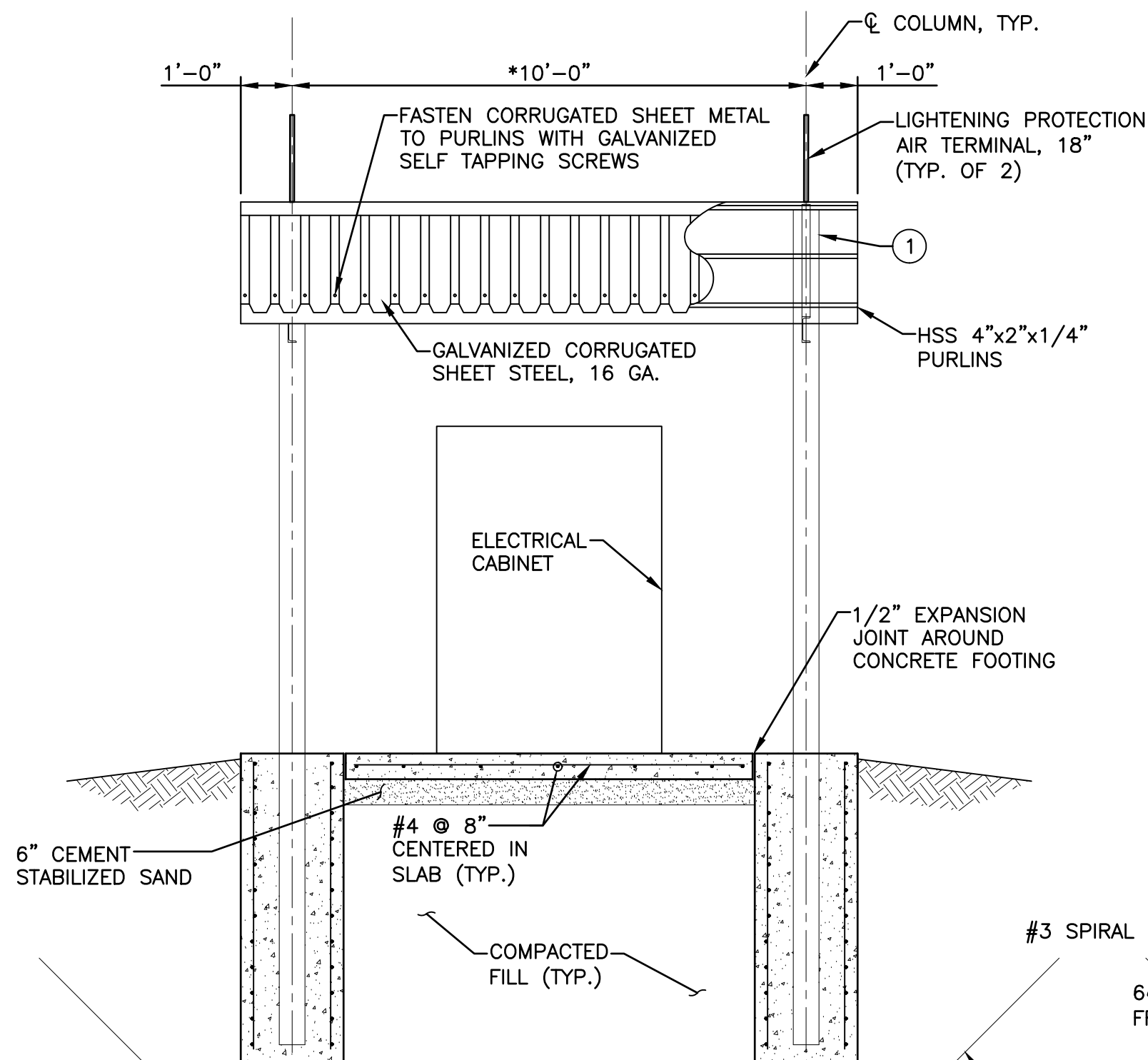
REVISIONS

ISSUED FOR BID

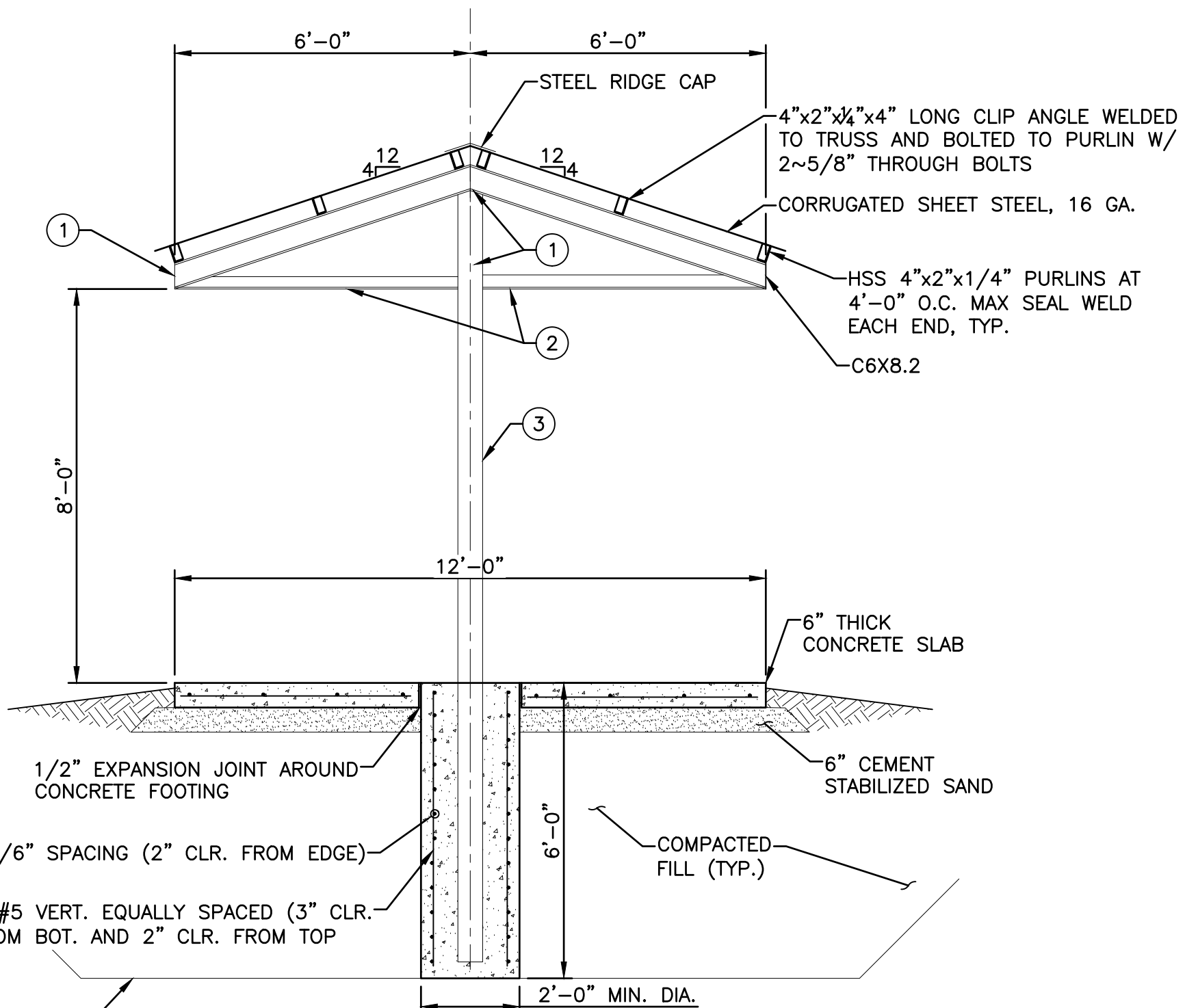
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ARCHITECTURAL/STRUCTURAL/MECHANICAL DETAILS - 2

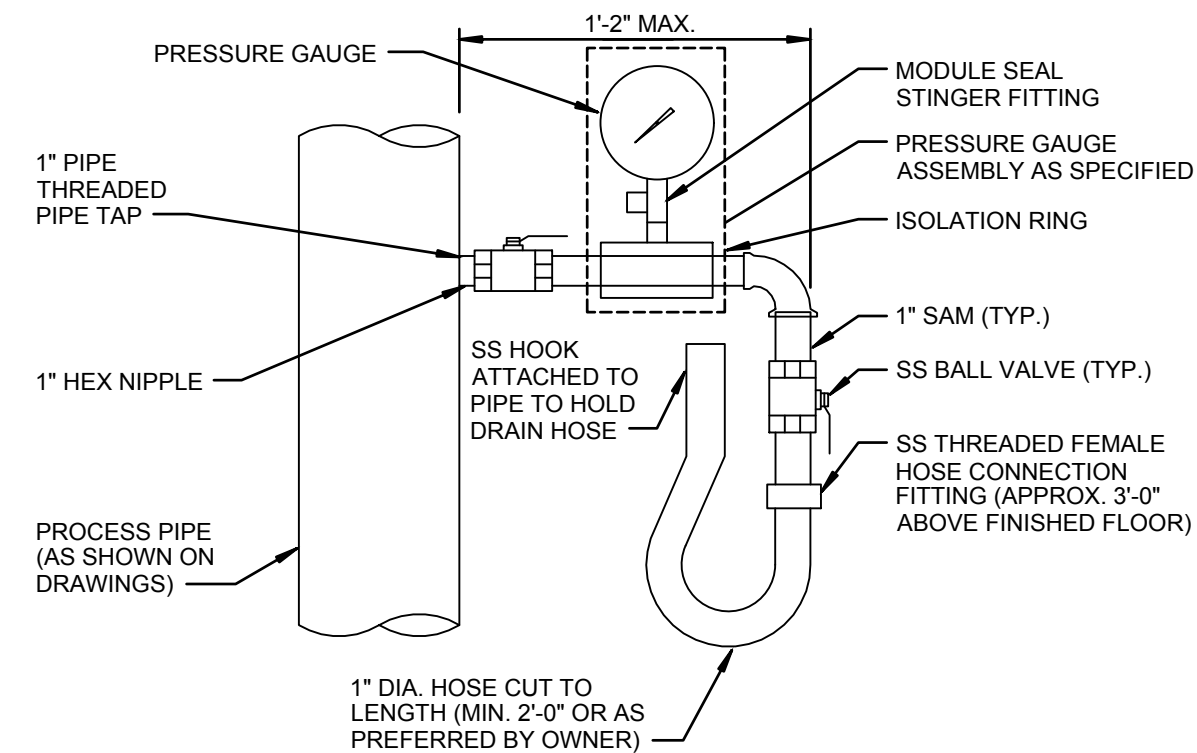
CITY OF COPPERAS COVE  
NORTHWEST WTP CLARIFIER REHABILITATION PROJECT  
CORYELL COUNTY, TEXAS



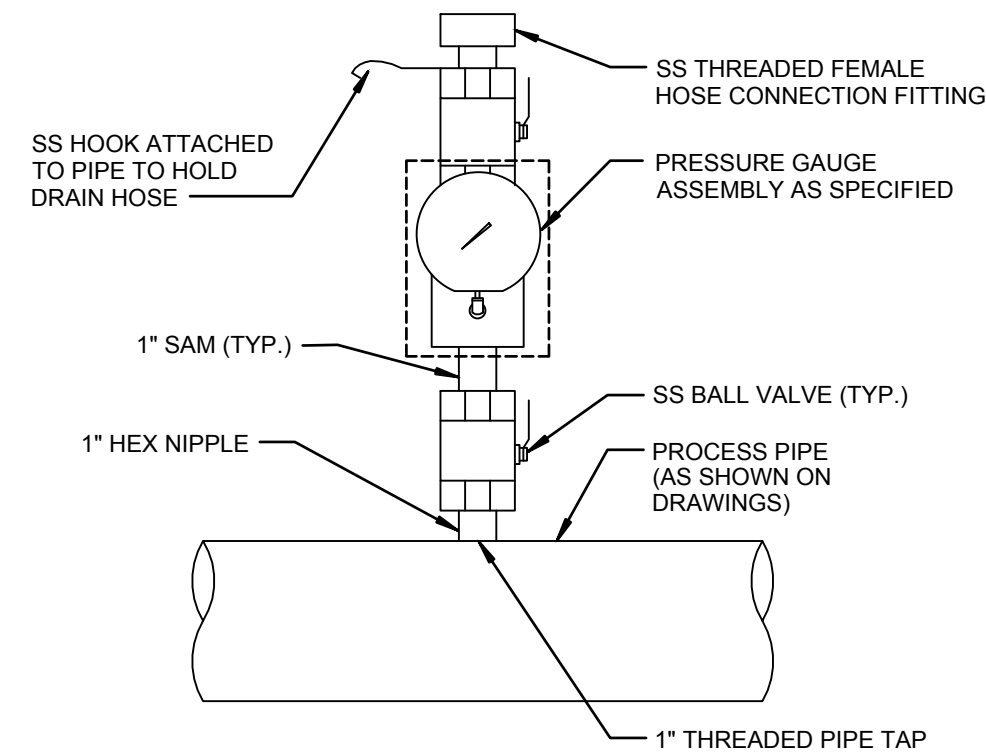
FRONT ELEVATION  
NO SCALE



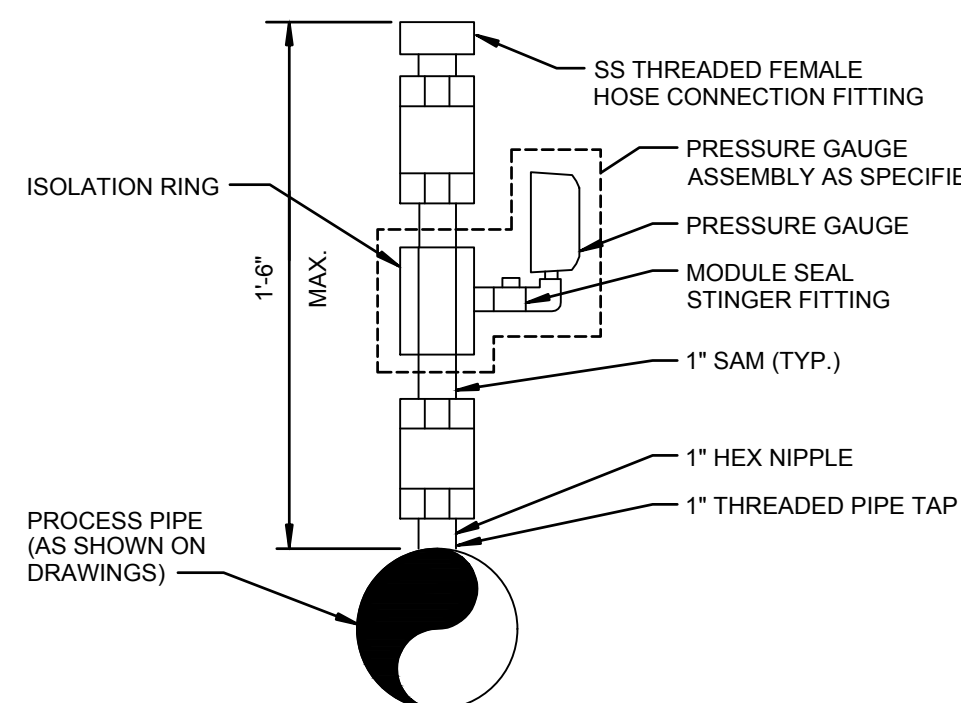
SIDE ELEVATION  
NO SCALE



VERTICAL PROCESS PIPE -  
HORIZONTAL TAP  
ARRANGEMENT  
NO SCALE



HORIZONTAL PROCESS PIPE -VERTICAL TAP  
ARRANGEMENT -FRONT VIEW  
NO SCALE



HORIZONTAL PROCESS PIPE -VERTICAL  
TAP ARRANGEMENT SIDE VIEW  
NO SCALE

GENERAL NOTES:

1. PROVIDE TAPPING BOSS ON PROCESS PIPE AS REQUIRED TO PROVIDE SUFFICIENT PIPE WALL THICKNESS FOR FULL DEPTH THREADS IN WALL OF PIPE WITHOUT PROJECTION OF SAMPLE PIPE INTO INSIDE DIAMETER OF PROCESS PIPE.
2. PROVIDE STAINLESS STEEL SAMPLE PIPING AND BALL VALVES IN ACCORDANCE WITH SPECIFICATIONS.
3. LOCATE SAMPLE AND GAUGE PIPE ARRANGEMENT AS REQUIRED TO AVOID INTERFERENCE WITH EQUIPMENT, VALVES, OR PIPING MAINTENANCE AND TO ALLOW FOR EASE OF READING PRESSURE GAUGE AND ACCESS FOR MAINTENANCE. CONFIRM PIPE ARRANGEMENT WITH OWNER.

D  
99-ASM5.02  
PRESSURE GAUGE ASSEMBLY  
NO SCALE

C  
99-ASM5.02  
ELECTRICAL EQUIPMENT CANOPY  
NO SCALE





F CONCRETE PAD ON GRADE  
99-E5.01 NO SCALE



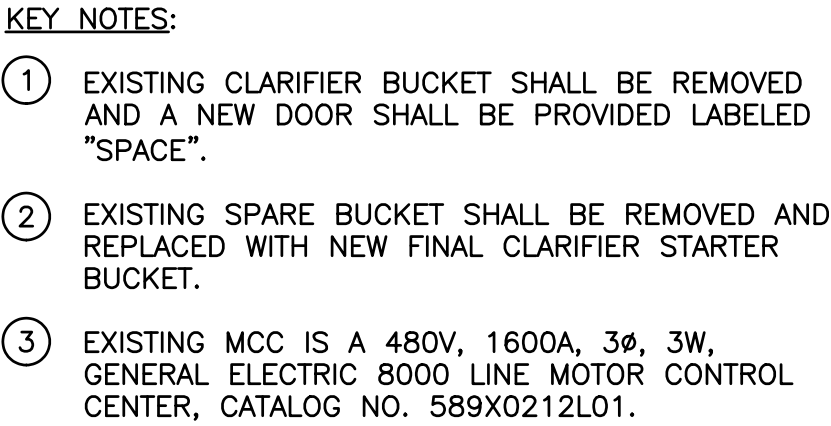


MOTOR AND MOTOR CONTROL CENTER SCHEDULE MCC-A															
EQUIPMENT AND NAMEPLATE TITLES			EQUIPMENT LOCATION	PANEL/MCC	MOTOR INFORMATION			MOTOR STARTER INFORMATION				CONTROL & INTERLOCKS		CONDUIT AND WIRE** 1ST ROW(S)=CONTROL* LAST ROW=POWER	REMARKS***
EQUIPMENT NUMBER	FIRST LINE SECOND LINE WHEN EQUIPMENT NUMBER IS INDICATED	SECOND LINE THIRD LINE WHEN EQUIPMENT NUMBER IS INDICATED			HP (OR KW)	VOLTS	F.L.A.	SIZE	TYPE	DISCONNECT		CONTROL DEVICES	DESCRIPTION		
										TYPE	AMPS				
FCD-40-01	FINAL CLARIFIER	DRIVE NO. 1	SITE	MCC-A	0.75	480	1.6	1	FVNR	M	15	00,R,R,R,G,RST,ETM	WSH-40-01, WSHH-40-01, I.S. BARRIER (120V POWER), DISCONNECT	4~#14, 3/4"C. 2~#12, 3/4"C. 2~#14, 3~#12, 3/4"C.	SEE NOTE A R=STARTER OVERLOAD, R=HIGH TORQUE SHUTDOWN, R=HIGH TORQUE ALARM
FCD-40-02	FINAL CLARIFIER	DRIVE NO. 2	SITE	MCC-A	0.75	480	1.6	1	FVNR	M	15	00,R,R,R,G,RST,ETM	WHS-40-02, WSHH-40-02, I.S. BARRIER (120V POWER), DISCONNECT	4~#14, 3/4"C. 2~#12, 3/4"C. 2~#14, 3~#12, 3/4"C.	SEE NOTE A R=STARTER OVERLOAD, R=HIGH TORQUE SHUTDOWN, R=HIGH TORQUE ALARM



MOTOR CONTROL PANEL (MCP-43) SCHEDULE															
EQUIPMENT AND NAMEPLATE TITLES			EQUIPMENT LOCATION	PANEL/MCP	MOTOR INFORMATION			MOTOR STARTER INFORMATION				CONTROL & INTERLOCKS	CONDUIT AND WIRE** 1ST ROW(S)=CONTROL* LAST ROW=POWER	REMARKS***	
EQUIPMENT NUMBER	FIRST LINE SECOND LINE WHEN EQUIPMENT NUMBER IS INDICATED	SECOND LINE THIRD LINE WHEN EQUIPMENT NUMBER IS INDICATED			HP (OR KW)	VOLTS	F.L.A.	SIZE	TYPE	DISCONNECT		CONTROL DEVICES			DESCRIPTION
										TYPE	AMPS				
RASP-43-01	RAS PUMP	NO. 1	SITE	MCP-43	10	480	14	—	VFD (ND)	TM	35	HOA,R,R,G,RST,ETM	MOTOR T-STATS, DISCONNECT	4~#14, 3/4°C. 3~#12, 3/4°C.	SEE NOTE B  R=VFD FAULT, R=MOTOR OVERTEMP
RASP-43-02	RAS PUMP	NO. 2	SITE	MCP-43	10	480	14	—	VFD (ND)	TM	35	HOA,R,R,G,RST,ETM	MOTOR T-STATS, DISCONNECT	4~#14, 3/4°C. 3~#12, 3/4°C.	SEE NOTE B  R=VFD FAULT, R=MOTOR OVERTEMP
RASP-43-03	RAS PUMP	NO. 3	SITE	MCP-43	10	480	14	—	VFD (ND)	TM	35	HOA,R,R,G,RST,ETM	MOTOR T-STATS, DISCONNECT	4~#14, 3/4°C. 3~#12, 3/4°C.	SEE NOTE B  R=VFD FAULT, R=MOTOR OVERTEMP

EQUIPMENT AND NAMEPLATE TITLES			EQUIPMENT LOCATION	PANEL/MCP	MOTOR INFORMATION			MOTOR STARTER INFORMATION				CONTROL & INTERLOCKS	CONDUIT AND WIRE** 1ST ROW(S)=CONTROL* LAST ROW=POWER	REMARKS***	
EQUIPMENT NUMBER	FIRST LINE SECOND LINE WHEN EQUIPMENT NUMBER IS INDICATED	SECOND LINE THIRD LINE WHEN EQUIPMENT NUMBER IS INDICATED			HP (OR KW)	VOLTS	F.L.A.	SIZE	TYPE	DISCONNECT					CONTROL DEVICES
										TYPE	AMPS				
RASP-43-01	RAS PUMP	NO. 1	SITE	MCP-43	10	480	14	-	VFD (ND)	TM	35	HOA,R,R,G,RST,ETM	MOTOR T-STATS, DISCONNECT	4~#14, 3/4"C. 3~#12, 3/4"C.	SEE NOTE B R=VFD FAULT, R=MOTOR OVERTEMP
RASP-43-02	RAS PUMP	NO. 2	SITE	MCP-43	10	480	14	-	VFD (ND)	TM	35	HOA,R,R,G,RST,ETM	MOTOR T-STATS, DISCONNECT	4~#14, 3/4"C. 3~#12, 3/4"C.	SEE NOTE B R=VFD FAULT, R=MOTOR OVERTEMP
RASP-43-03	RAS PUMP	NO. 3	SITE	MCP-43	10	480	14	-	VFD (ND)	TM	35	HOA,R,R,G,RST,ETM	MOTOR T-STATS, DISCONNECT	4~#14, 3/4"C. 3~#12, 3/4"C.	SEE NOTE B R=VFD FAULT, R=MOTOR OVERTEMP



CONTROL DEVICES		SELECTOR SWITCHES AND AUXILIARY DEVICES			DISCONNECT TYPE		MOTOR STARTER TYPE		
PUSHBUTTONS									
ST	START			FR	FORW.—REV.	TM	THERMAL MAG BREAKER	FVNR	FULL VOLTAGE NON REVERSING
STP	STOP			OO	ON—OFF	M	MAG ONLY BREAKER	FVR	FULL VOLTAGE REVERSING
ESPB	EMERGENCY STOP	R	RED (FAIL)	HOAL	HAND—OFF—AUTO—LOCAL	F	FUSED	TS2WR	TWO SPEED TWO WINDING REVERSING
RST	RESET	G	GREEN (RUN FWD)	HOA	HAND—OFF—AUTO	NF	NON—FUSED	TS2W	TWO SPEED TWO WINDING
LOS	LOCKOUT STOP	A	AMBER (WARNING)	FOR	FOR.—OFF—REV.			RVSS	REDUCED VOLTAGE SOLID STATE
SIL	SILENCE	B	BLUE (RUN REV)	ETM	ELAPSED TIME METER			VFD	VARIABLE FREQUENCY DRIVE
		W	WHITE					ND	NORMAL DUTY
		C	CLEAR					HD	HEAVY DUTY
								AHE	ACTIVE HARMONIC FRONT END

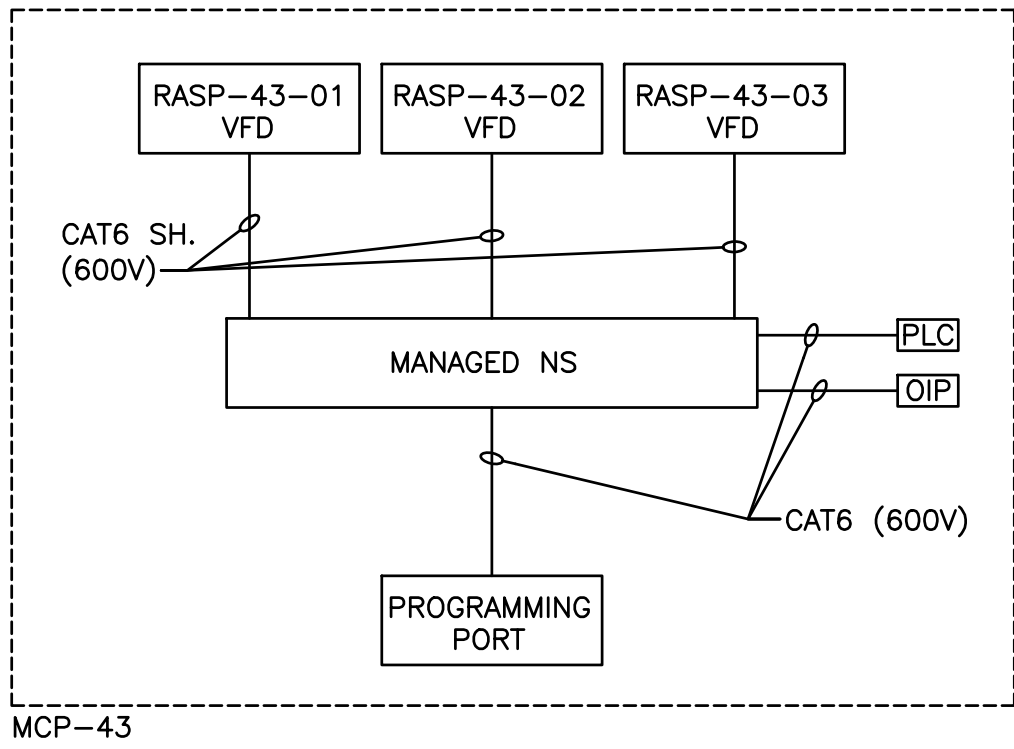
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1157.001

**PROJECT MGR.**  
KMH

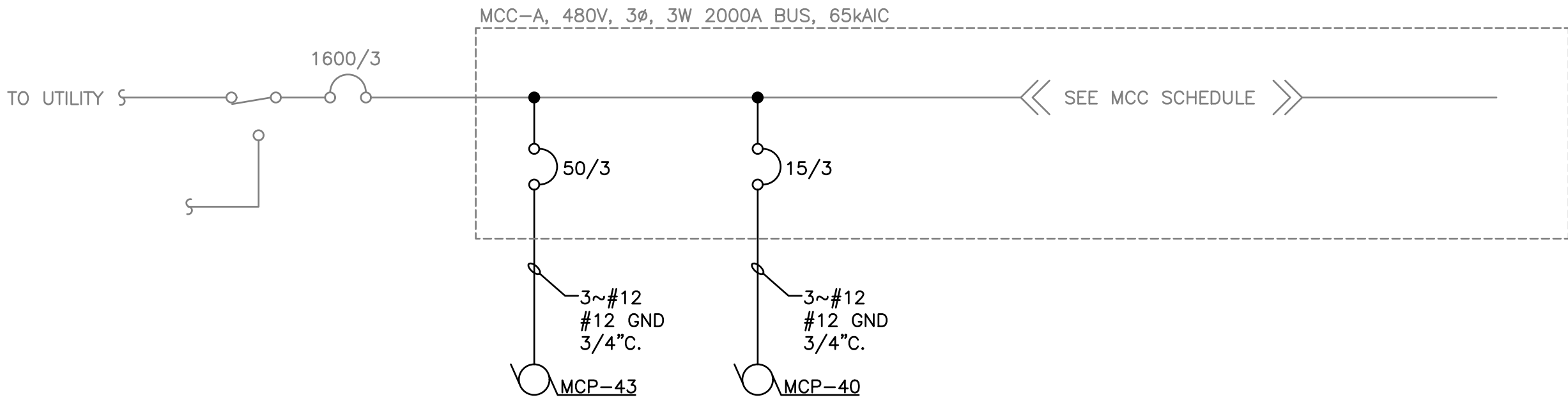
**SA**  
**STRAND**  
ASSOCIATES®

**SHEET**  
**25**  
**99-E6.01**

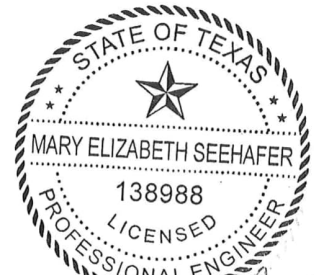




SCADA RISER DIAGRAM  
NO SCALE



ONE-LINE DIAGRAM  
NO SCALE



Mary Elizabeth Seehafer  
9/3/25

NO.	REVISIONS	DATE:
	ISSUED FOR BID	9/05/2025

DETAILS  
ELECTRICAL ONE-LINE DIAGRAM

CITY OF COPPERAS COVE  
NORTHWEST WWTP CLARIFIER REHABILITATION PROJECT  
CORYELL COUNTY, TEXAS

JOB NO.  
1157.001

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KMH



SHEET  
26  
99-E7.01