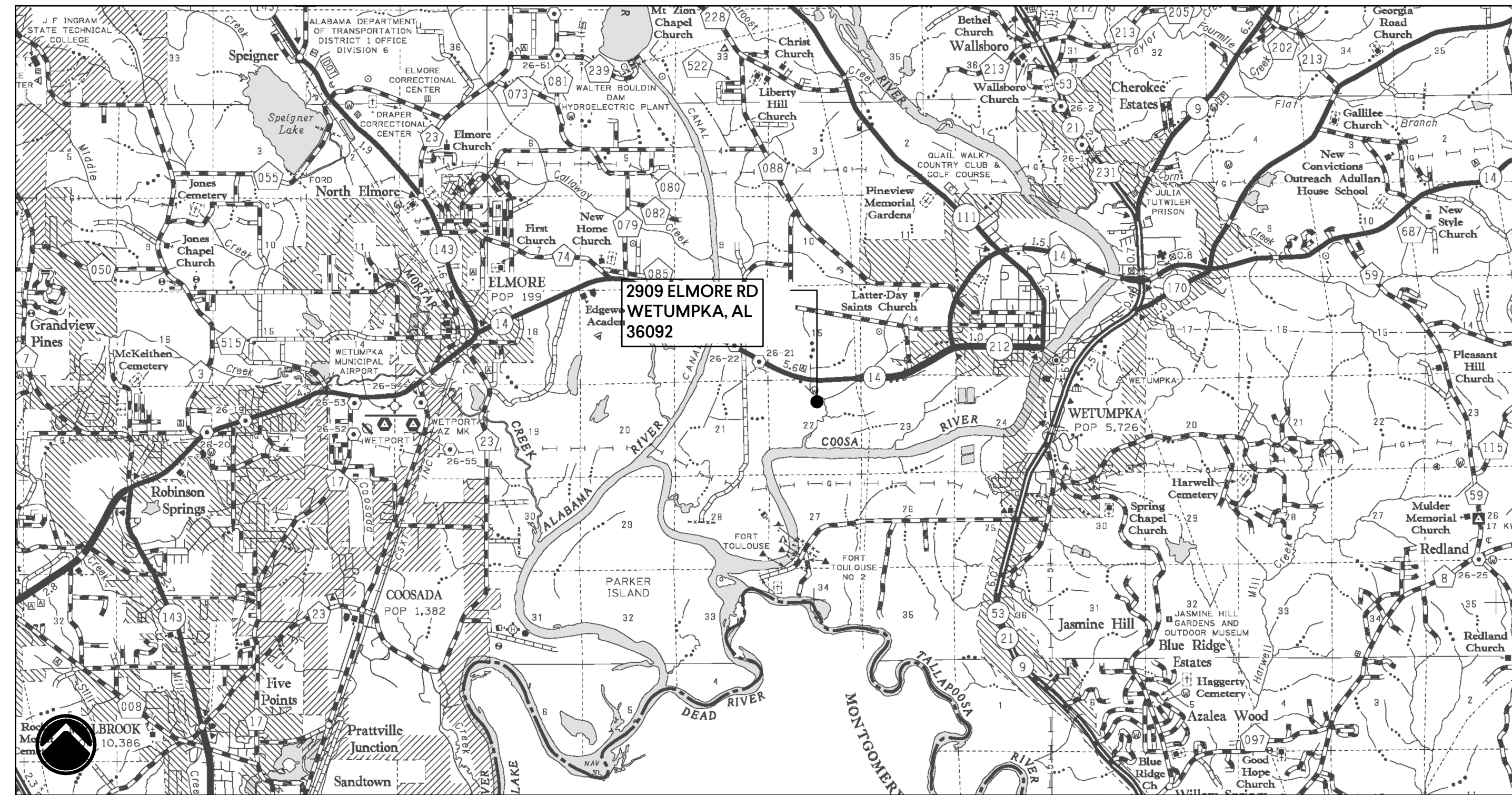


CWSRF WASTEWATER TREATMENT PLANT IMPROVEMENTS



WETUMPKA, AL
 GMC PROJECT #CMGM230096(1)
 SRF PROJECT # CS010460-06

WETUMPKA WATER WORKS & SEWER BOARD



NOVEMBER 2024

ISSUED FOR BID

PROJECT TEAM

GOODWYN MILLS CAWOOD, LLC | Process Engineering
JACKSON RENFROE & ASSOCIATES, INC | Electrical Engineering

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GMC

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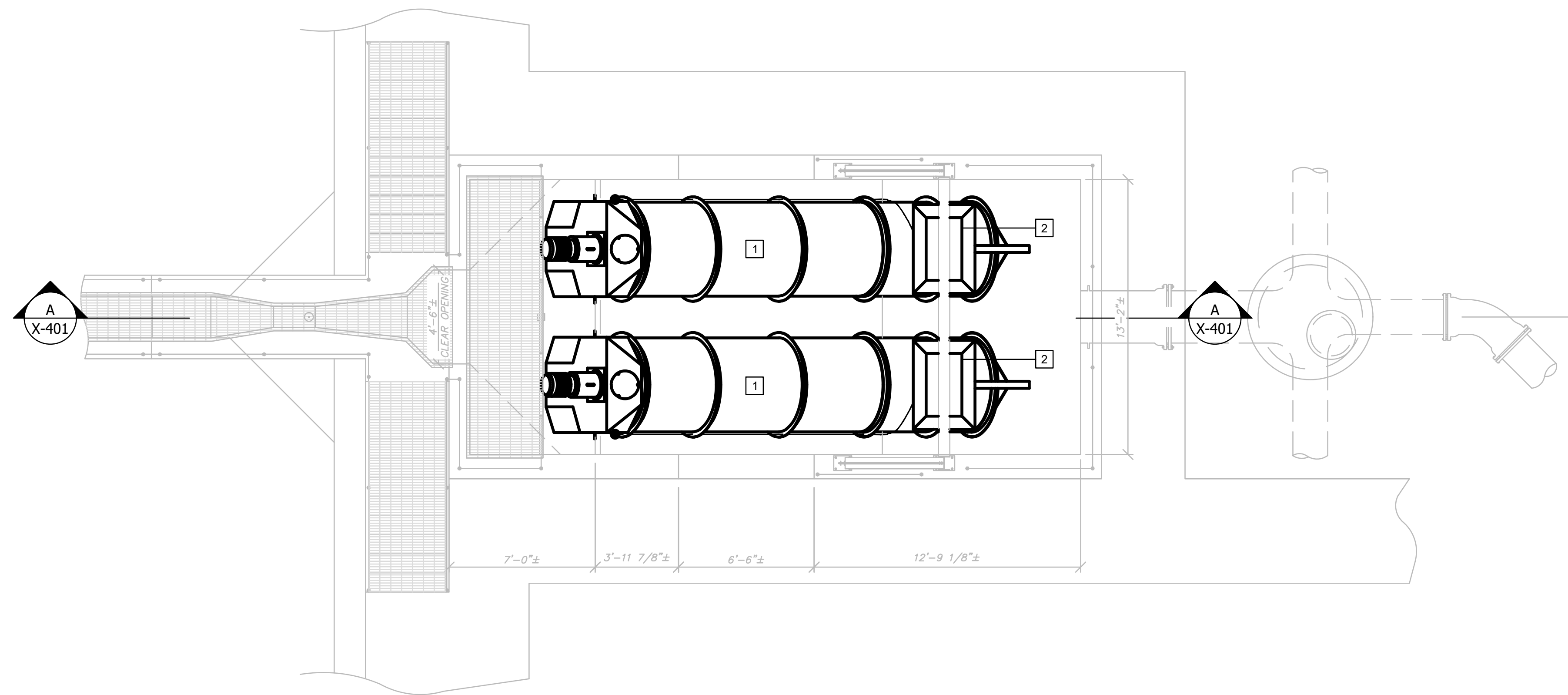
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 DRAWN BY: _____

WASTEWATER TREATMENT PLANT IMPROVEMENTS
 WETUMPKA, ALABAMA
 CS010460-06
 CMGM230096(1)

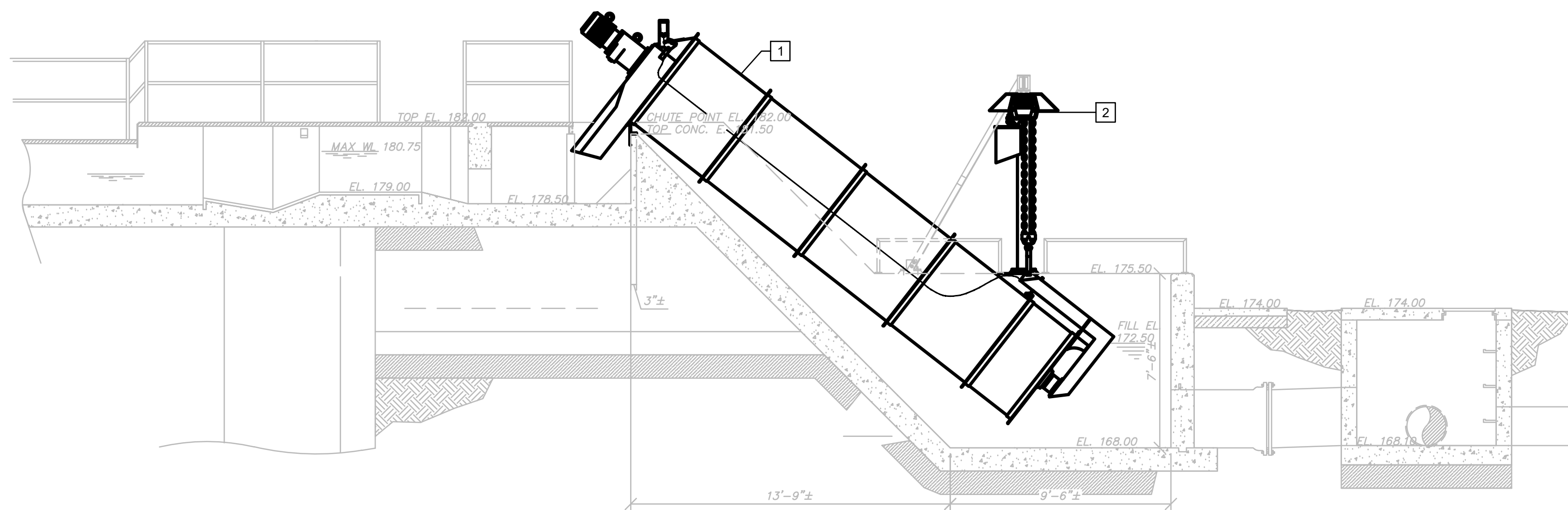
ALABAMA
 LICENSED
 11/20/2024
 No. 36869
 PROFESSIONAL
 ENGINEER
 JUSTIN ALLEN TILL

TITLE SHEET & INDEX
G-001

DRAWING FILE: C:\Users\jhill\OneDrive\Documents\GMC\Wetumpka WWTTP Improvements\CAD Files\DWG\02 Sheets\01 General\G-001.dwg
 PLOTTED: Nov 21, 2024 - 9:46am



2 PLAN
X-002 SCALE: 1/4" = 1'-0"



A SECTION
X-401 SCALE: 1/4" = 1'-0"

KEY NOTES: #

1. REMOVE RAS SCREW PUMPS
2. REMOVE ELECTRIC HOIST (SUPPORT BEAMS TO REMAIN)



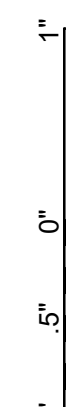
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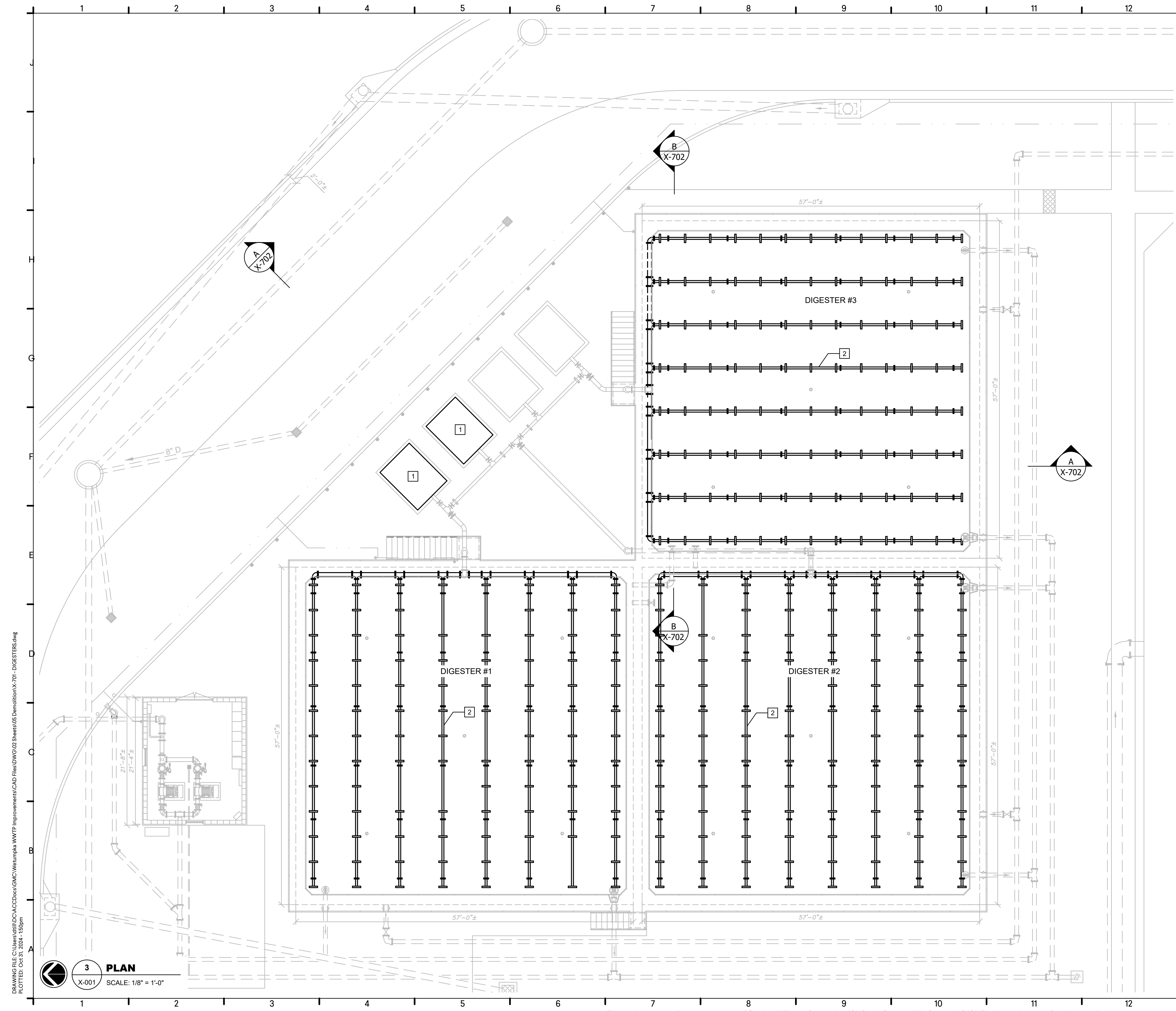
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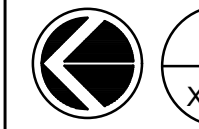
**RAS PUMP STATION -
PLAN & SECTION**
X-401





- KEY NOTES:** #
1. REMOVE BLOWER
 2. REMOVE DIFFUSERS, PIPING AND AIR HEADER INSIDE BASIN

DRAWING FILE: C:\Users\dm\OneDrive\Documents\GMC\Wetumpka WWTP Improvements\CAD Files\DWG\Sheets\56 Demolition\X-701 - DIGESTERS.dwg
 PLOTTED: Oct 31, 2024 - 1:50pm


3 PLAN
 X-001 SCALE: 1/8" = 1'-0"



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**AEROBIC DIGESTER -
 PLAN**

X-701

DRAWING FILE: C:\Users\rdh\OneDrive\Documents\GMC\Wetumpka\WWTTP Improvements\CAD Files\DWG\Sheets\65 Demolition\X-801 - CHLORINE BLDG.dwg
PLOTTED: Nov 18, 2024 - 10:28am

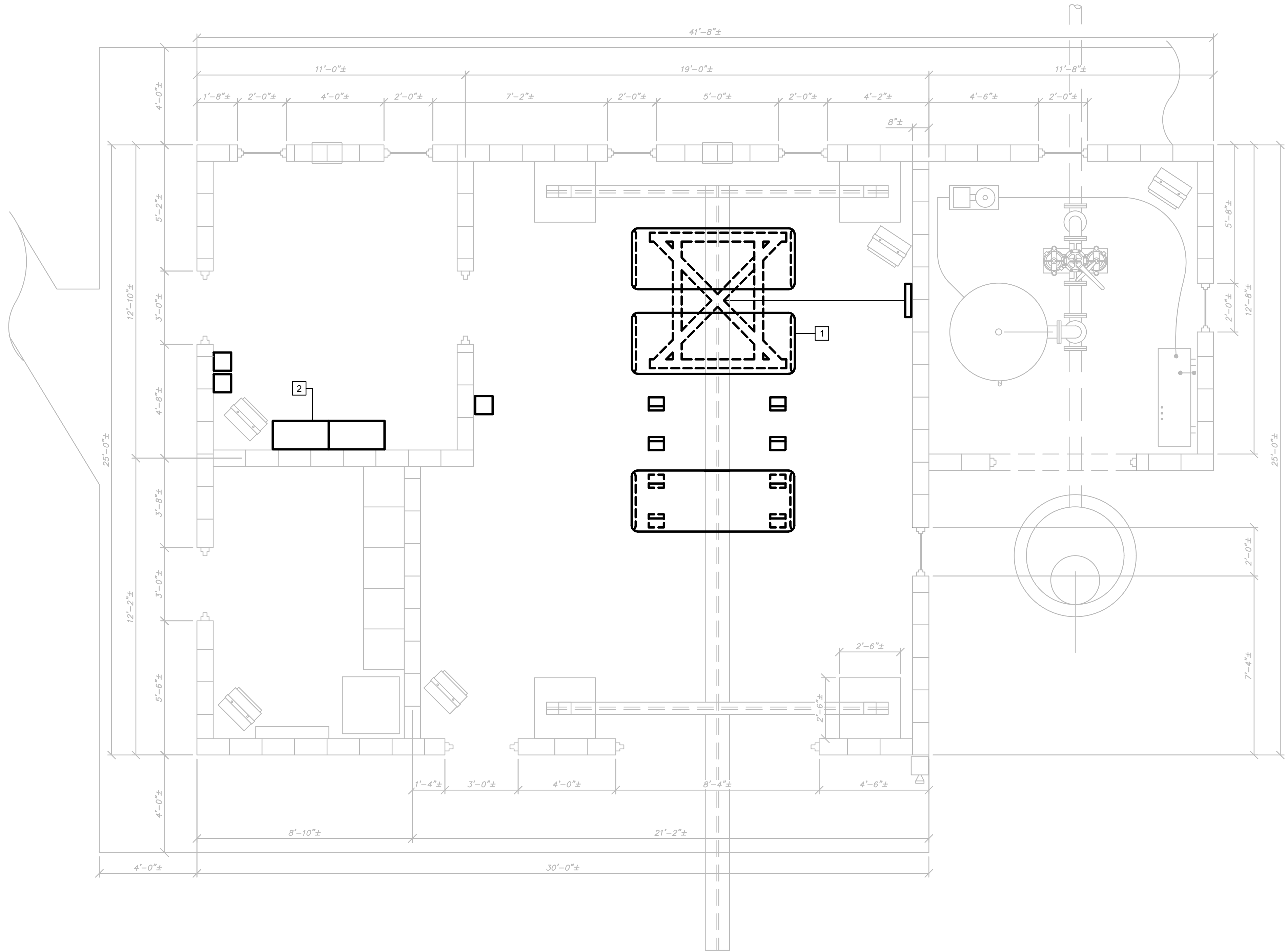


4

PLAN

X-001

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



NOTES:

1. ALL CHLORINATION EQUIPMENT AND PIPING TO BE REMOVED IS NOT SHOWN. CONTRACTOR SHALL FIELD VERIFY AND CONFIRM WITH OWNER ALL OF THE EQUIPMENT AND PIPING TO BE REMOVED.

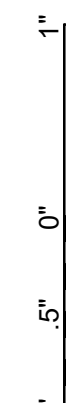
KEY NOTES: #

1. REMOVE CHLORINE TON CYLINDERS AND ALL RELATED APPURTANCES
2. REMOVE CHLORINATOR EQUIPMENT AND PIPING



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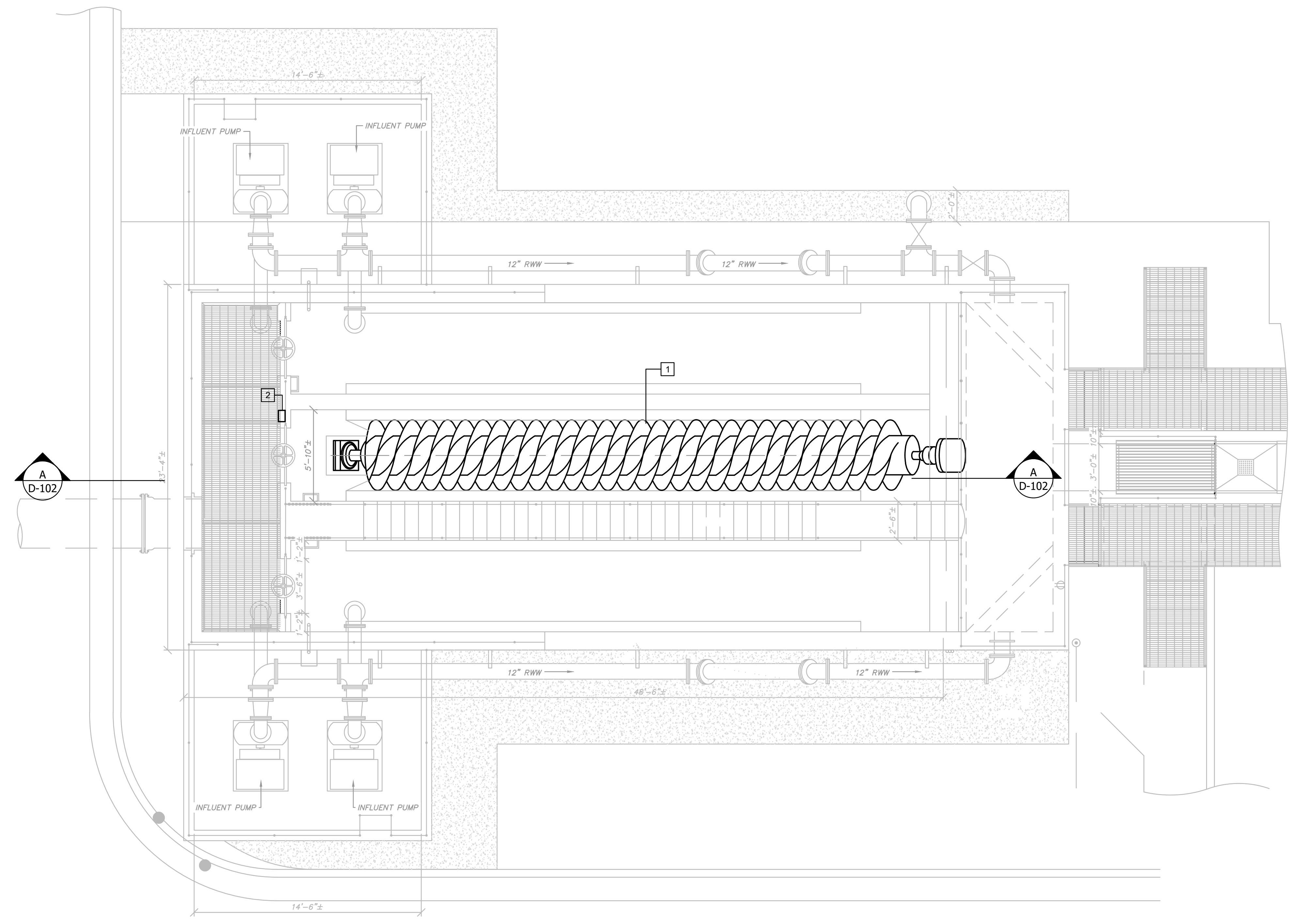
WASTEWATER TREATMENT
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CHLORINE BUILDING -
PLAN
X-801

DRAWING FILE: C:\Users\rdh\OneDrive\Documents\GMC\Wetumpka WWTP Improvements\CAD Files\DWG\12 Sheets\10 Process\D-101-INFLUENT LS.dwg
PLOTTED: Oct 31, 2024 - 11:18am

1 PLAN
D-001 SCALE: 1/4" = 1'-0"

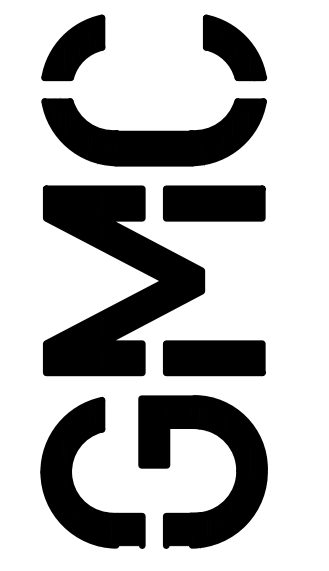


NOTES:

1. ALL WORK RELATED TO THE ARCHIMEDES SCREW PUMP IS INCLUDED IN ADDITIVE ALTERNATE NO. 1.
2. INSTALL NEW ARCHIMEDES SCREW PUMP IN EXISTING CHANNEL. DIMENSIONS ARE SHOWN FROM ORIGINAL CONSTRUCTION. EXISTING CHANNEL CONDITIONS AND DIMENSIONS SHALL BE FIELD VERIFIED TO ENSURE NEW PUMPS ARE MANUFACTURED TO THE REQUIRED TOLERANCES.
3. CONTRACTOR SHALL INSTALL GROUT IN THE EXISTING PUMP BAY AND GROUT IN THE NEW ARCHIMEDES SCREW PUMP PER MANUFACTURER'S INSTRUCTIONS.

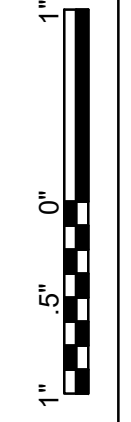
KEY NOTES: #

1. ARCHIMEDES SCREW PUMP
2. OIL RESORVIOR



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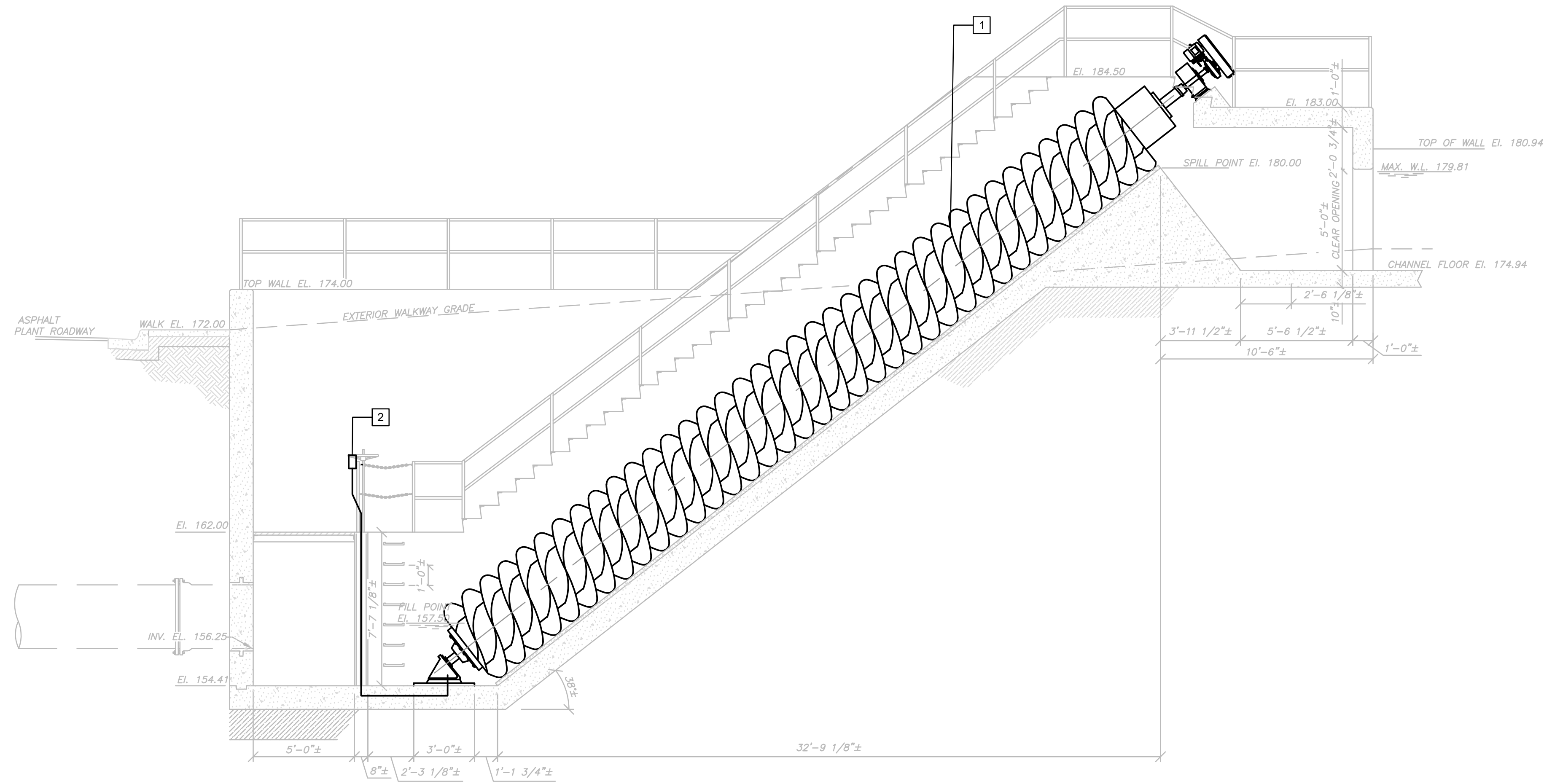
WASTEWATER TREATMENT
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**INFLUENT LIFT
STATION - PLAN
(ADDITIVE ALTERNATE
NO. 1)
D-101**

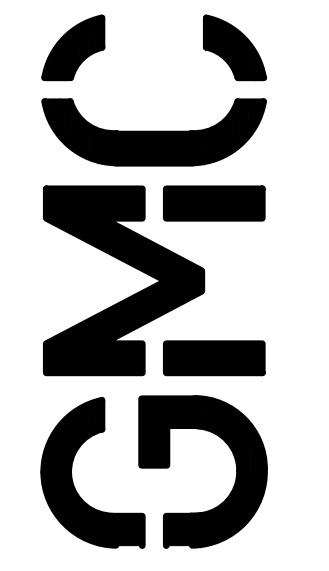
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A SECTION
D-101 SCALE: 1/4" = 1'-0"

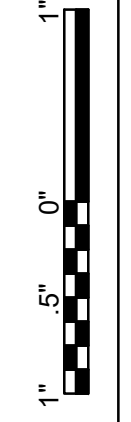


KEY NOTES: #

- 1. ARCHIMEDES SCREW PUMP
- 2. OIL RESORVIOR



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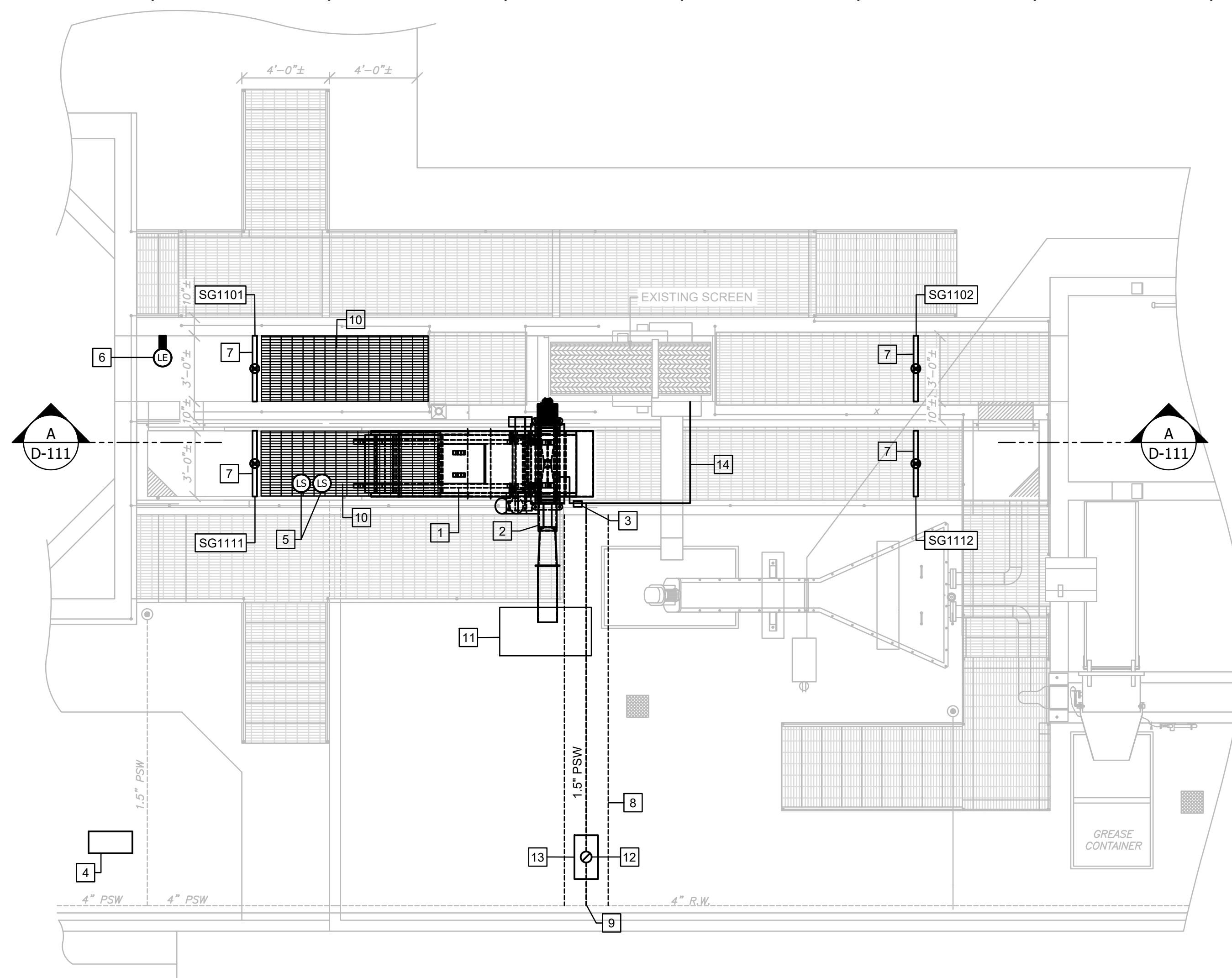


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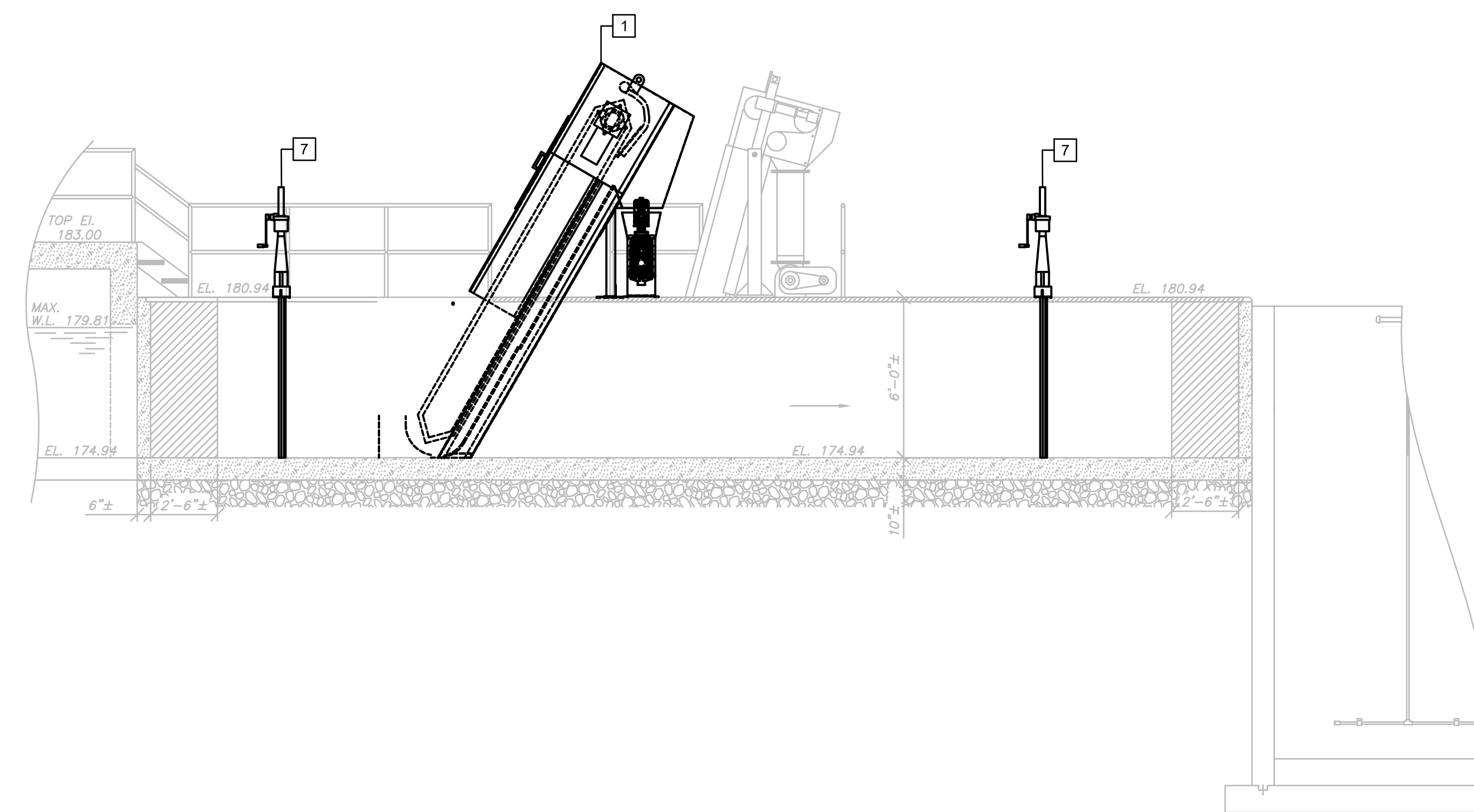
WASTEWATER TREATMENT
PLANT IMPROVEMENTS
WETUMPKA, ALABAMA
CS010460-06
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**INFLUENT LIFT
STATION - SECTION
(ADDITIVE ALTERNATE
NO. 1)**
D-102

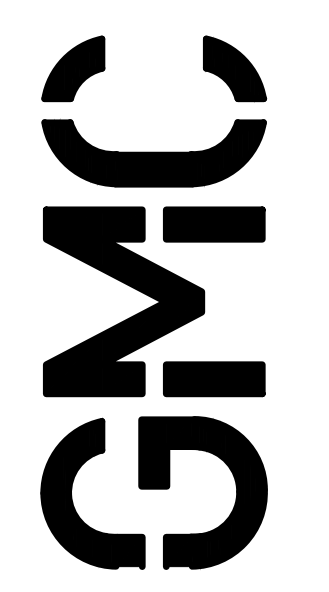


2 PLAN
D-001 SCALE: 1/4" = 1'-0"



A SECTION
D-111 SCALE: 1/4" = 1'-0"

- NOTES:**
- CONTRACTOR SHALL FIELD VERIFY EXISTING CHANNEL DIMENSIONS WHERE NEW SCREEN IS TO BE INSTALLED.
 - CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF THE NEW SCREEN TO ENSURE NO CONFLICTS EXIST WITH EXISTING STRUCTURES OR EQUIPMENT.
 - EXACT ROUTING OF NEW PSW LINE SHALL BE DETERMINED IN THE FIELD.
 - NEW PSW SHALL BE INSULATED WHERE EXPOSED.
 - EXTENT OF NEW GRATING SHOWN IS APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY THE EXTEND OF NEW GRATING.
 - CUT GRATING AS REQUIRED FOR NEW SLIDE GATE INSTALLATION.
- KEY NOTES: #**
- INSTALL NEW SCREEN IN EXISTING CHANNEL
 - WASHER COMPACTOR
 - SOLENOID VALVE (BY MANUFACTURER)
 - SCREEN CONTROL PANEL
 - FLOAT SWITCH (BY SCREEN MANUFACTURER)
 - ULTRASONIC LEVEL TRANSDUCER
 - STAINLESS STEEL SLIDE GATE W/ HANDWHEEL
 - CUT & PATCH CONCRETE PAD FOR NEW 1.5" PSW LINE INSTALLATION
 - CONNECT TO EX. 4" PSW LINE
 - ALUMINUM PLANK GRATING (MATCH EXISTING)
 - DUMPSTER (BY OWNER)
 - 1.5" GATE VALVE
 - 24" X 13" CONCRETE METER BOX
 - RUN NEW WATER LINE TO EXISTING SCREEN/COMPACTOR AND RECONNECT TO EXISTING WASH WATER MANIFOLD.



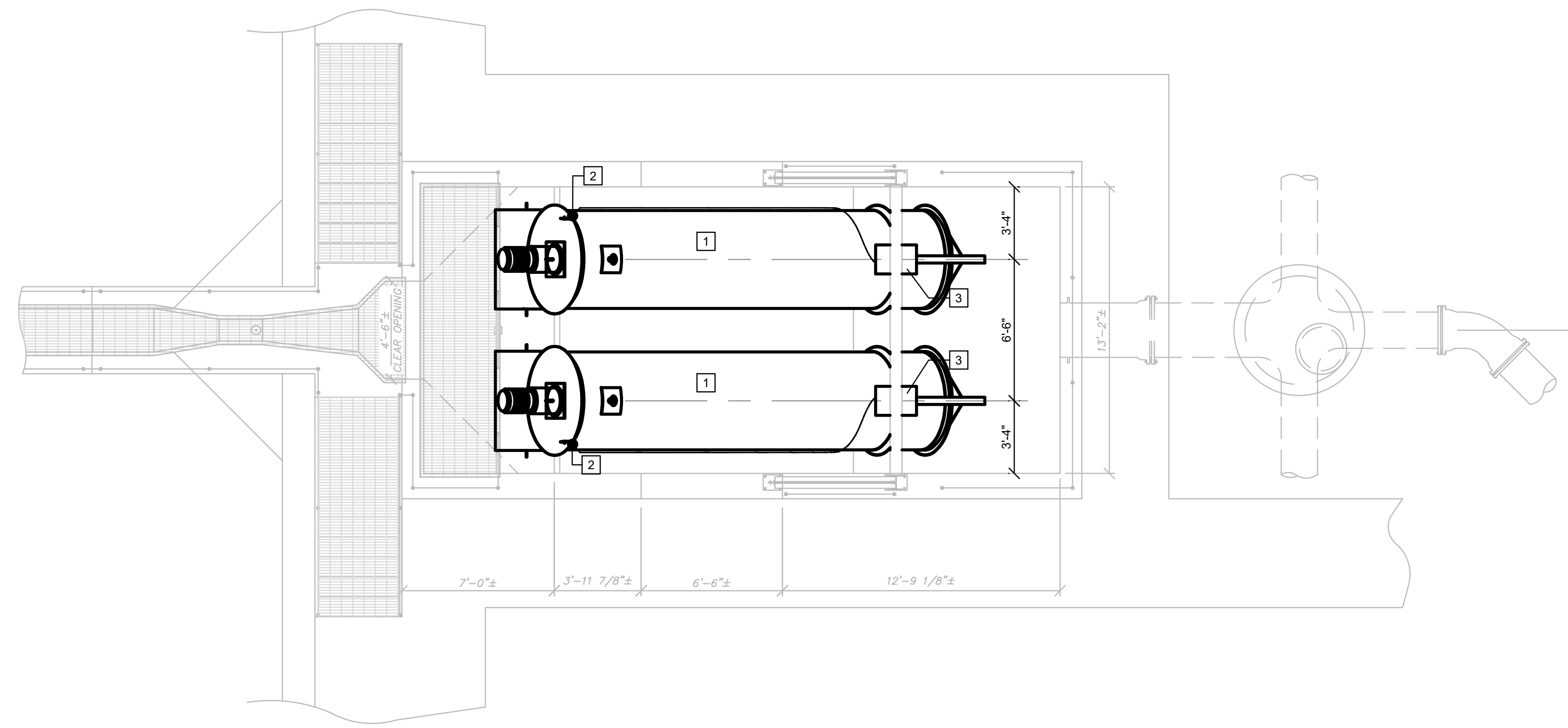
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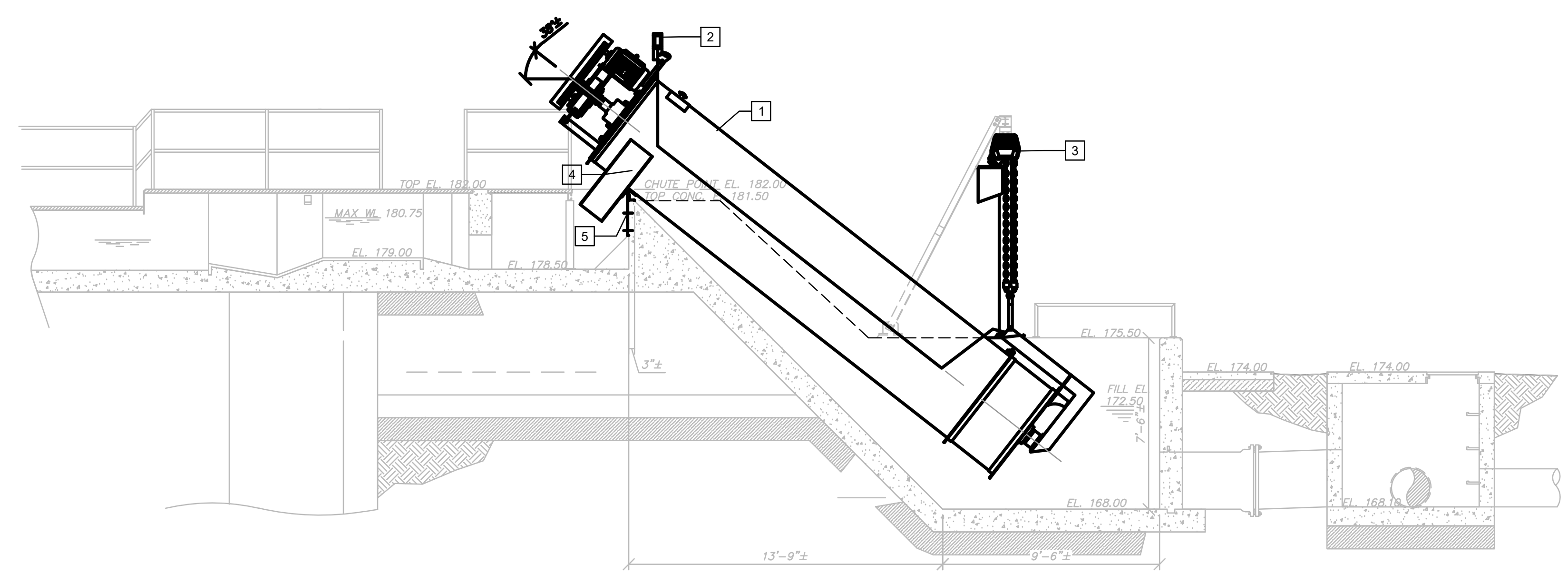
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PLANT IMPROVEMENTS
WETUMPKA, ALABAMA
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HEADWORKS -
PLAN & SECTION
D-111

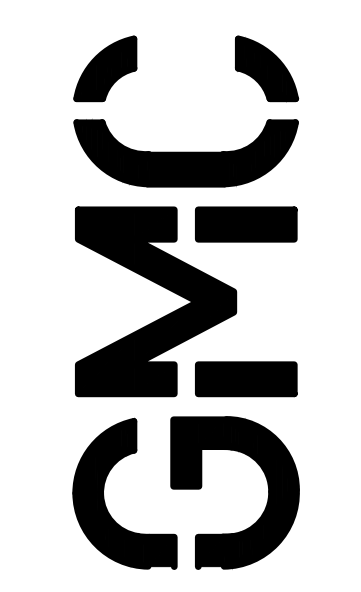


4 PLAN
X-001 SCALE: 1/4" = 1'-0"



A SECTION
D-401 SCALE: 1/4" = 1'-0"

- KEY NOTES:** #
- 54" Ø TUBE SCREW PUMP
 - OIL RESERVOIR W/ LIMIT SWITCH TO DRIVE MOTOR CUT-OFF
 - 5 TON ELECTRIC HOIST W/ WEATHERPROOF COVER
 - DISCHARGE CHUTE
 - PIVOT SUPPORT PLATE



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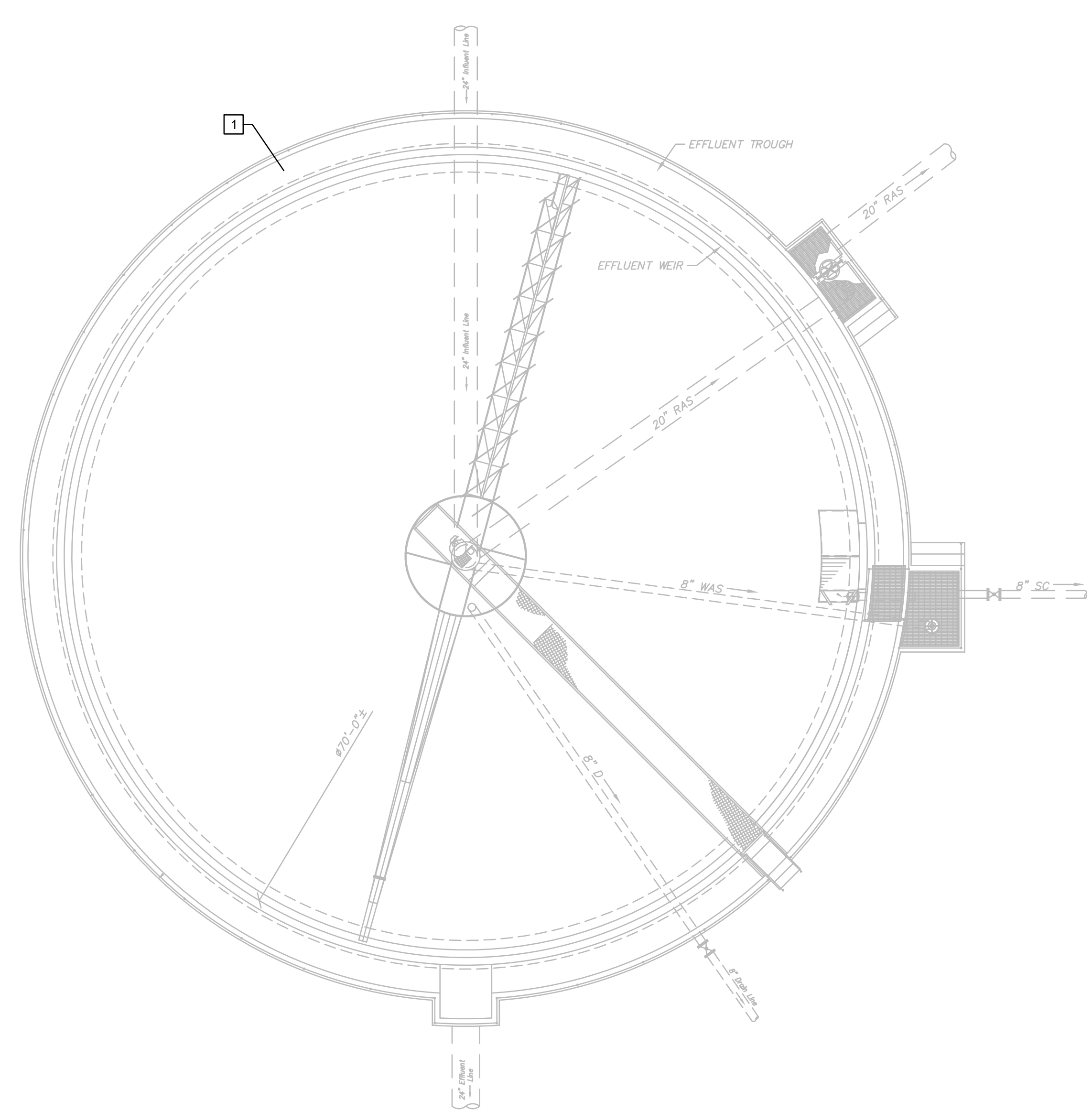
WASTEWATER TREATMENT
PLANT IMPROVEMENTS
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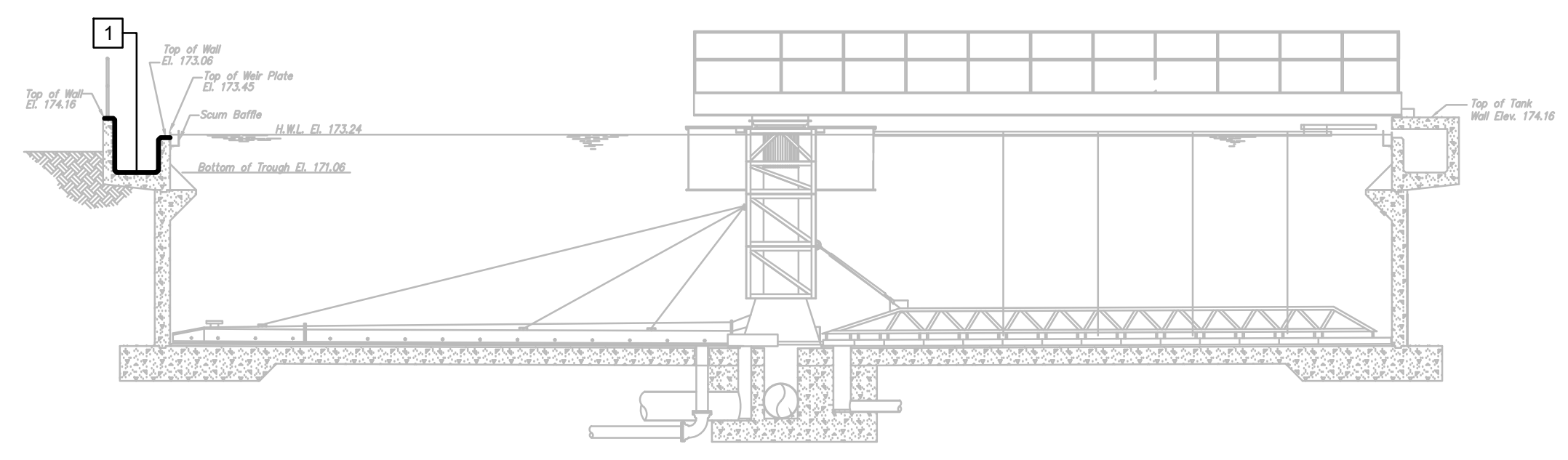
RAS PUMP STATION -
PLAN & SECTION

D-401

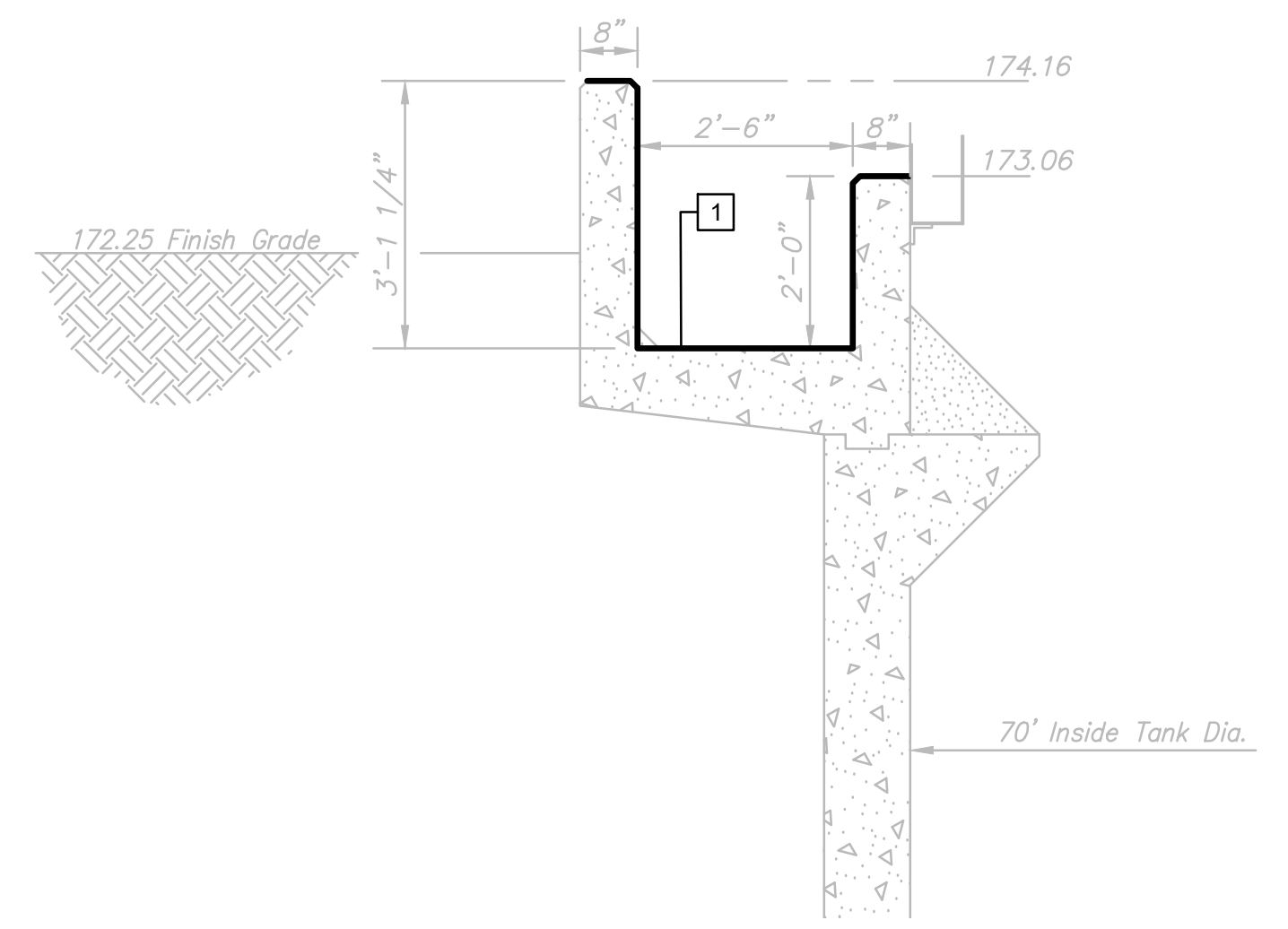
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PLOTTED: Nov 18, 2024 - 11:09am



5 PLAN
D-001 SCALE: 1/8" = 1'-0"

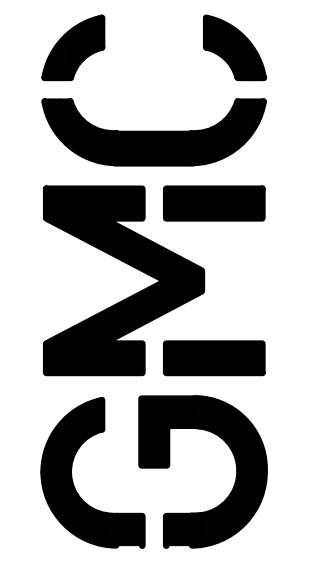


A SECTION
D-411 SCALE: 1/8" = 1'-0"



B EFFLUENT TROUGH DETAIL
D-411 SCALE: 1/4" = 1'-0"

KEY NOTES: #
1. REPAIR AND COAT CLARIFIER EFFLUENT TROUGH ACCORDING TO SPECIFICATION 09 96 10. COLOR SHALL MATCH COATING ON CLARIFIER #1.



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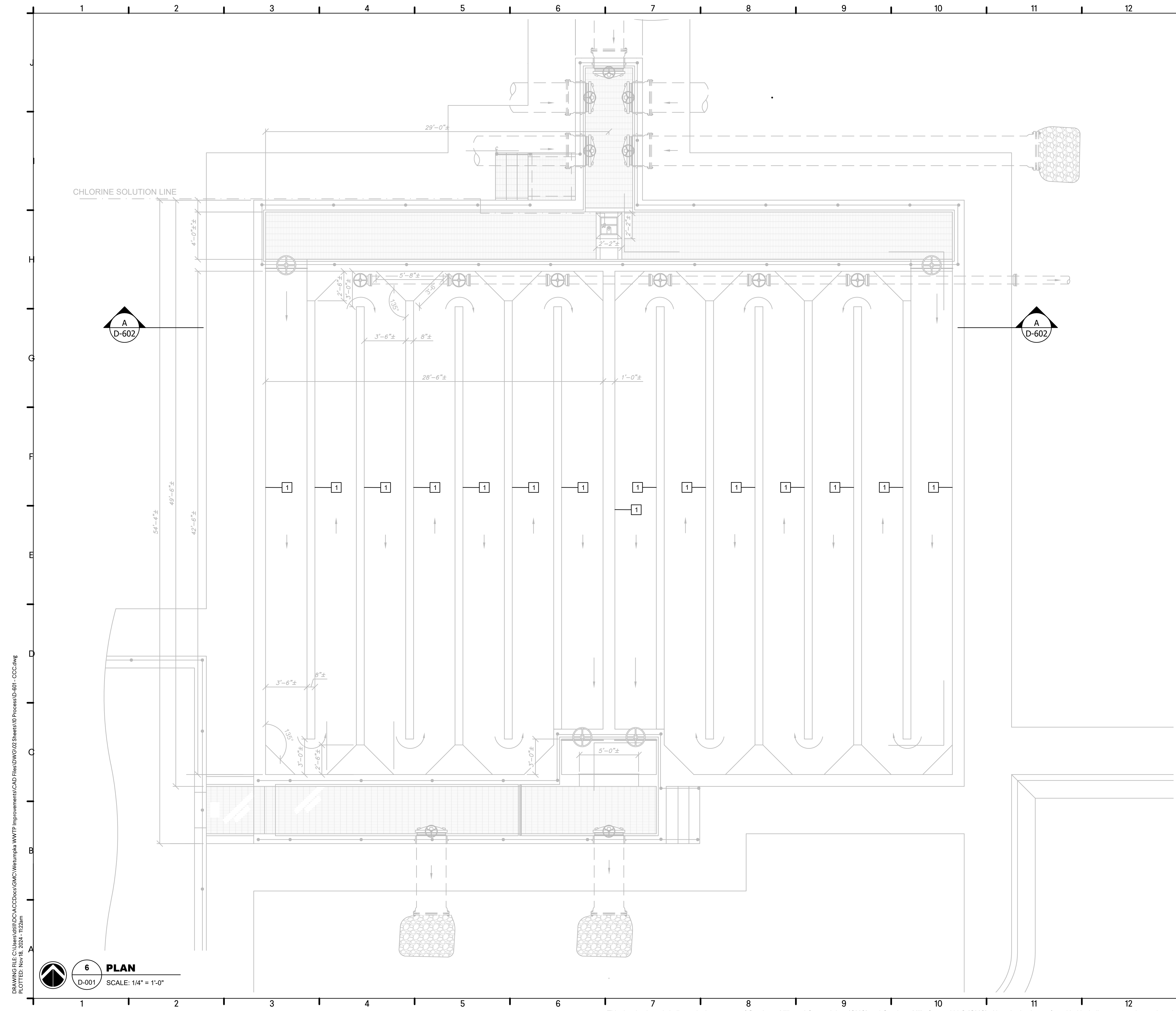
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WASTEWATER TREATMENT
PLANT IMPROVEMENTS
WETUMPKA - ALABAMA
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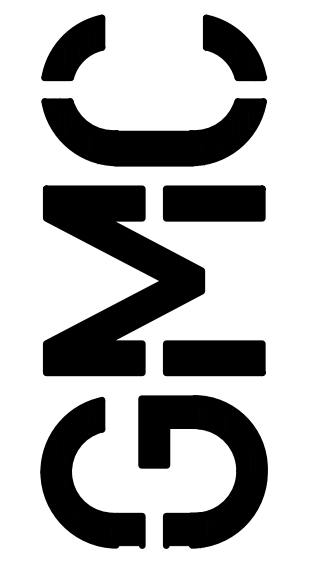
CLARIFIER #2 COATING
- PLAN & SECTION

D-411



KEY NOTES: #

- REPAIR AND COAT ALL BAFFLE WALLS AND INTERNAL WALLS ACCORDING TO SPECIFICATION 09 96 10.



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WASTEWATER TREATMENT
PLANT IMPROVEMENTS
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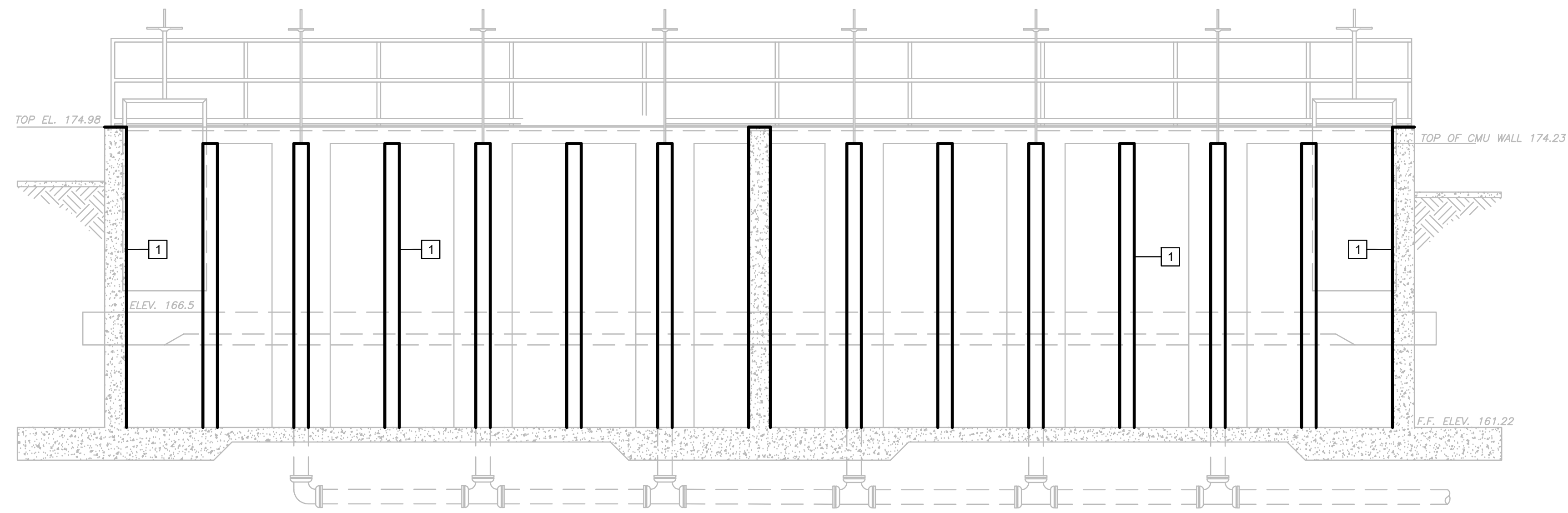


CHLORINE CONTACT
BASIN - PLAN

D-601

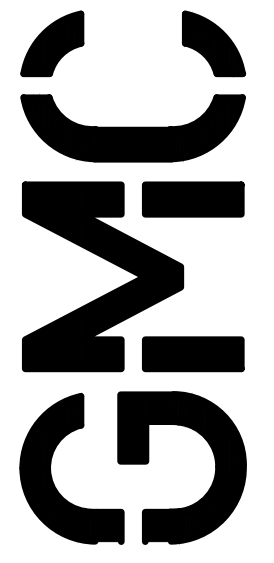
6 PLAN
D-001 SCALE: 1/4" = 1'-0"

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KEY NOTES: #

- REPAIR AND COAT ALL BAFFLE WALLS AND INTERNAL WALLS ACCORDING TO SPECIFICATION 09 96 10.



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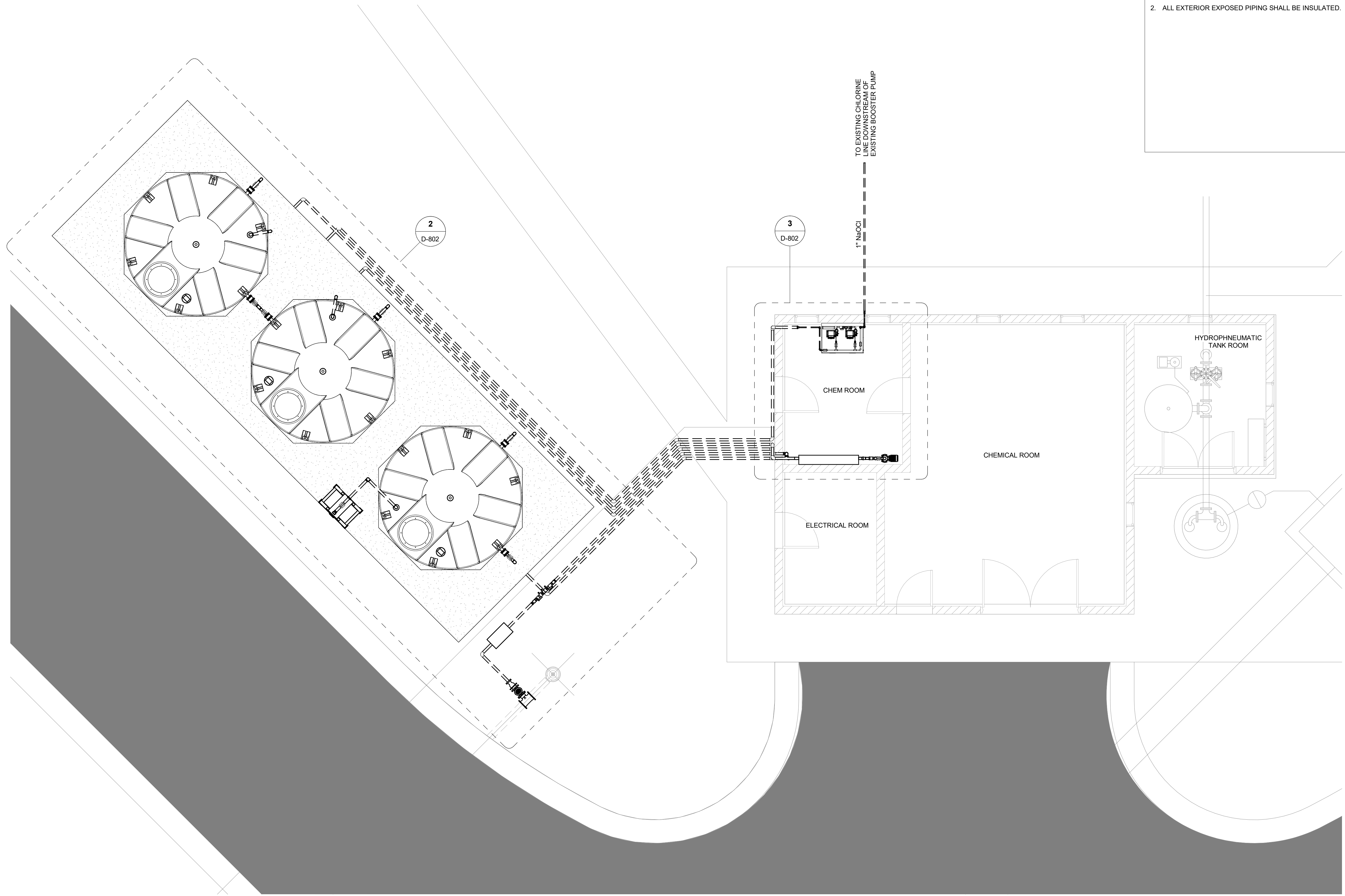
CHLORINE CONTACT
BASIN - SECTION
D-602

A SECTION
D-601 SCALE: 1/4" = 1'-0"

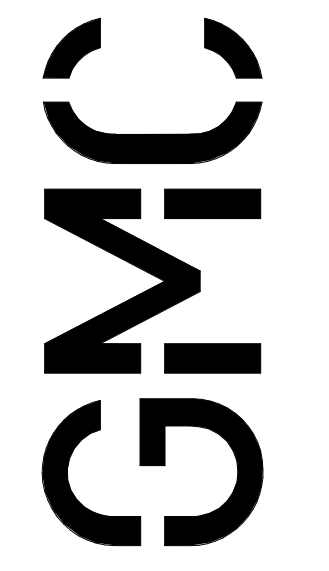
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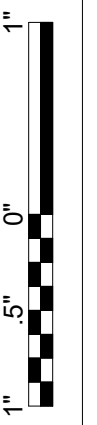
1 PLAN
D-801 SCALE: 1/4" = 1'-0"



- NOTES:**
- CHEMICAL TANK CONCRETE PAD & CONCRETE HOUSEKEEPING PAD TO HAVE CONTINUOUS 1" CHAMFER.
 - ALL EXTERIOR EXPOSED PIPING SHALL BE INSULATED.



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WASTEWATER TREATMENT
PLANT IMPROVEMENTS
WETUMPKA, ALABAMA

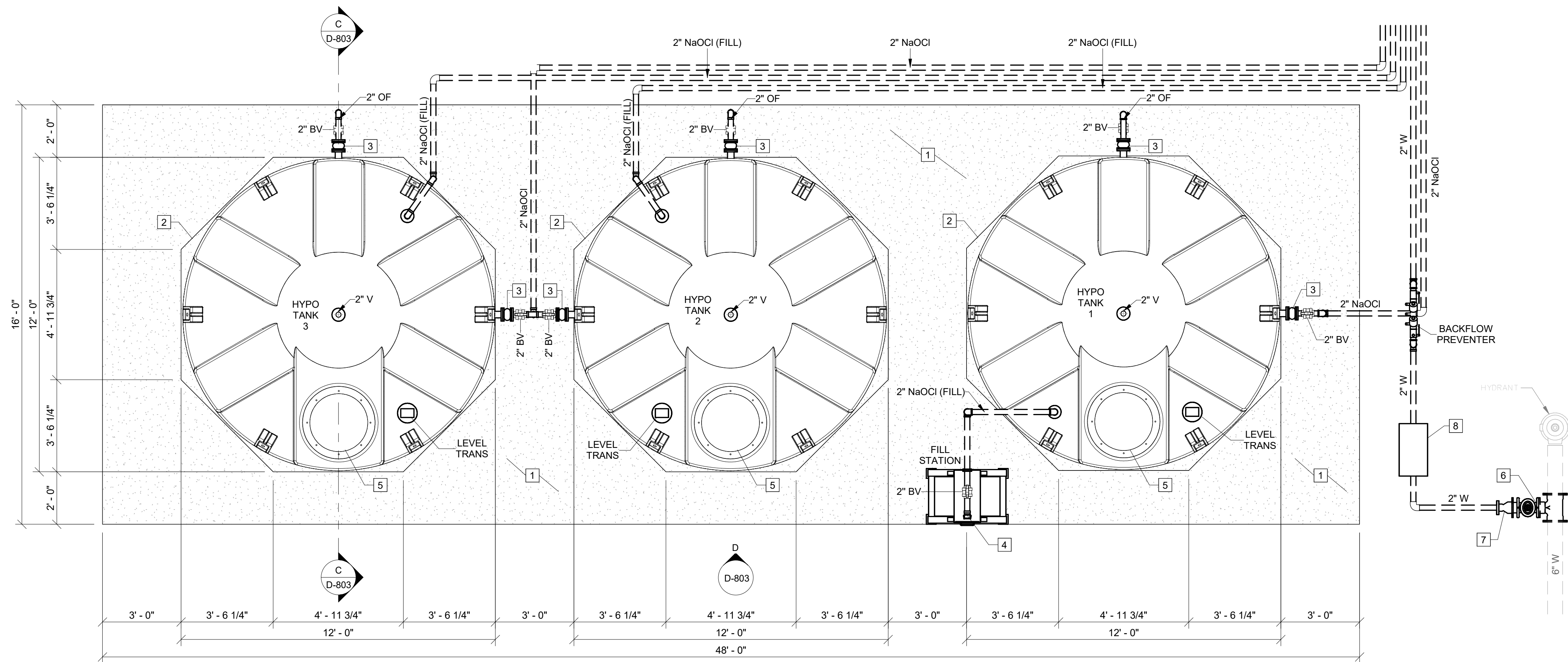
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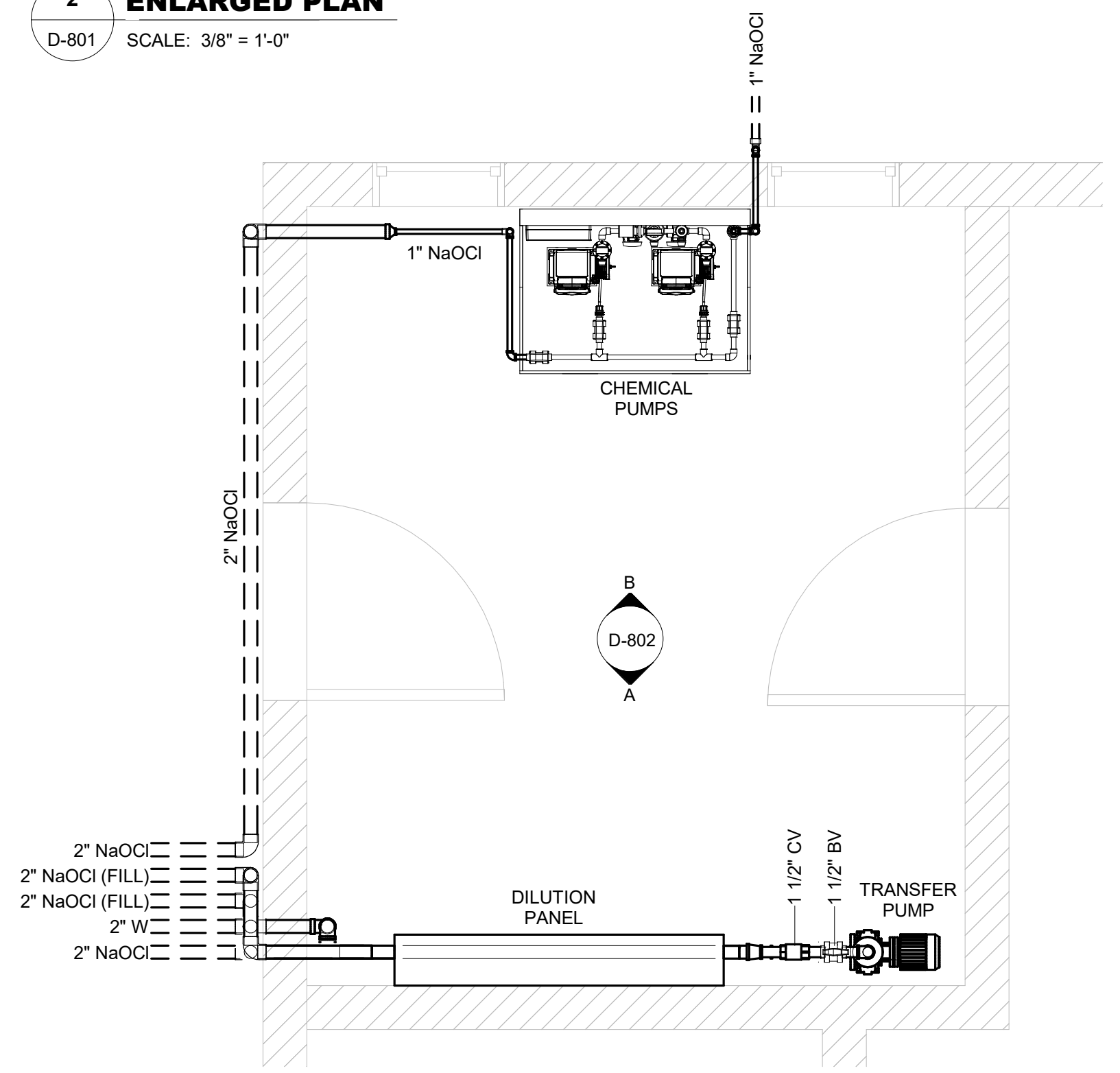
CHEMICAL FEED - PLAN

D-801

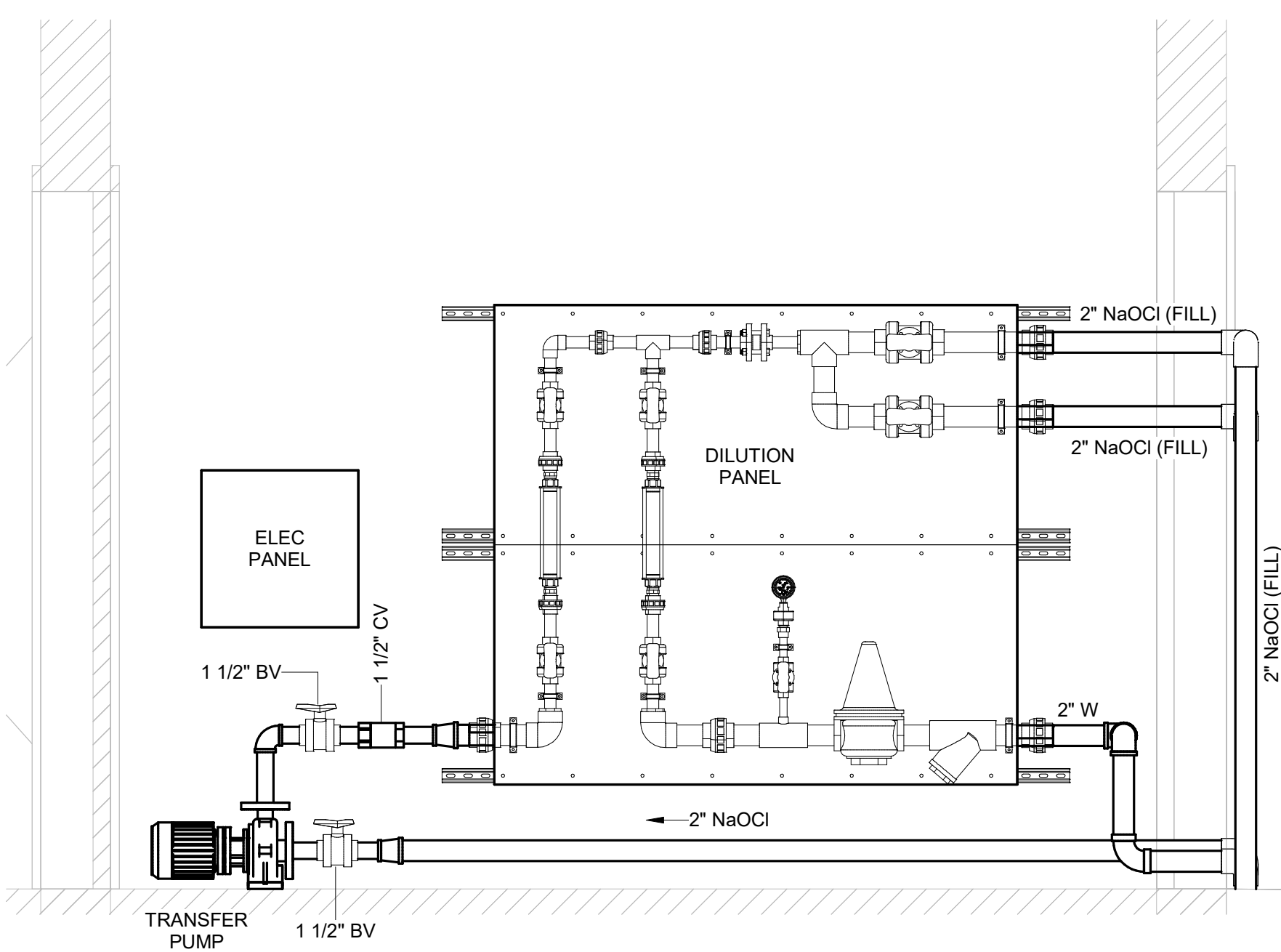
- NOTES:**
- CHEMICAL TANK CONCRETE PAD & CONCRETE HOUSEKEEPING PAD TO HAVE CONTINUOUS 1" CHAMFER.
 - ALL EXTERIOR EXPOSED PIPING SHALL BE INSULATED.
- KEY NOTES: #**
- 8" THICK SLAB WITH #6 REINFORCEMENT @12-INCH MAX O.C. EACH WAY - CENTERED IN SLAB. PAD SIZE AND REINFORCEMENT SHALL BE AS INDICATED BY THE MANUFACTURER AND APPROVED BY THE ENGINEER. TOP OF PAD SHALL BE 3" ABOVE GRADE.
 - 4" THICK CONCRETE HOUSEKEEPING PAD
 - EXPANSION JOINT
 - 316 SST CAMLOCK COUPLING W/ LOCKING CAP
 - FLANGED MANWAY
 - 6" X 4" TAPPING SLEEVE & VALVE
 - 4" X 2" REDUCER
 - NEPTUNE T-10 WATER METER IN 24"X13" CONCRETE METER BOX



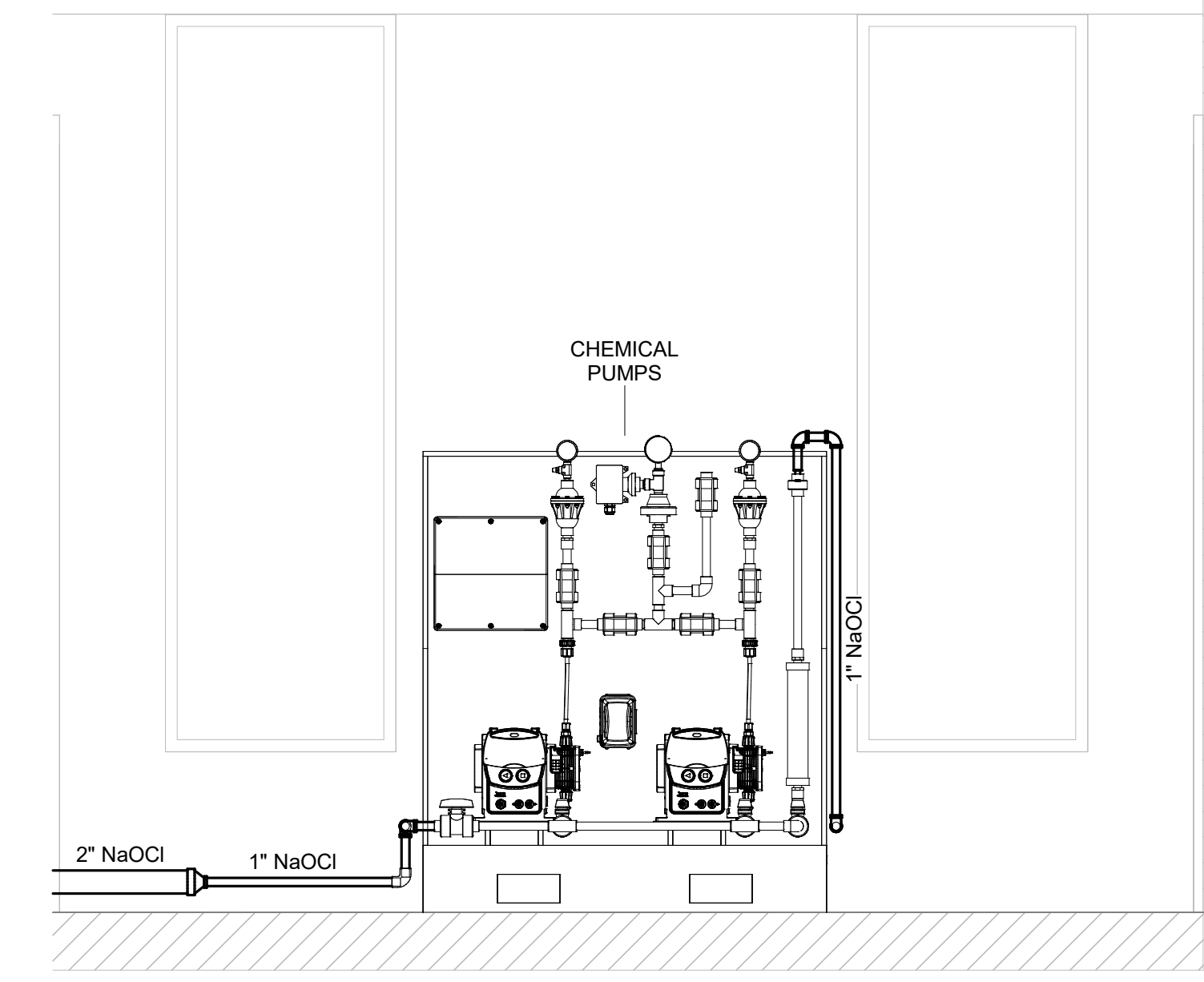
2 ENLARGED PLAN
D-801 SCALE: 3/8" = 1'-0"



3 ENLARGED PLAN
D-801 SCALE: 1/2" = 1'-0"



A ELEVATION
D-802 SCALE: 3/4" = 1'-0"



B ELEVATION
D-802 SCALE: 3/4" = 1'-0"

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100% Submittal Bid Set
10.31.2024
11.15.2024

Engineer: DT
Drawn By: DT

WASTEWATER TREATMENT
PLANT IMPROVEMENTS

WETUMPKA, ALABAMA
CMGM230096(1)

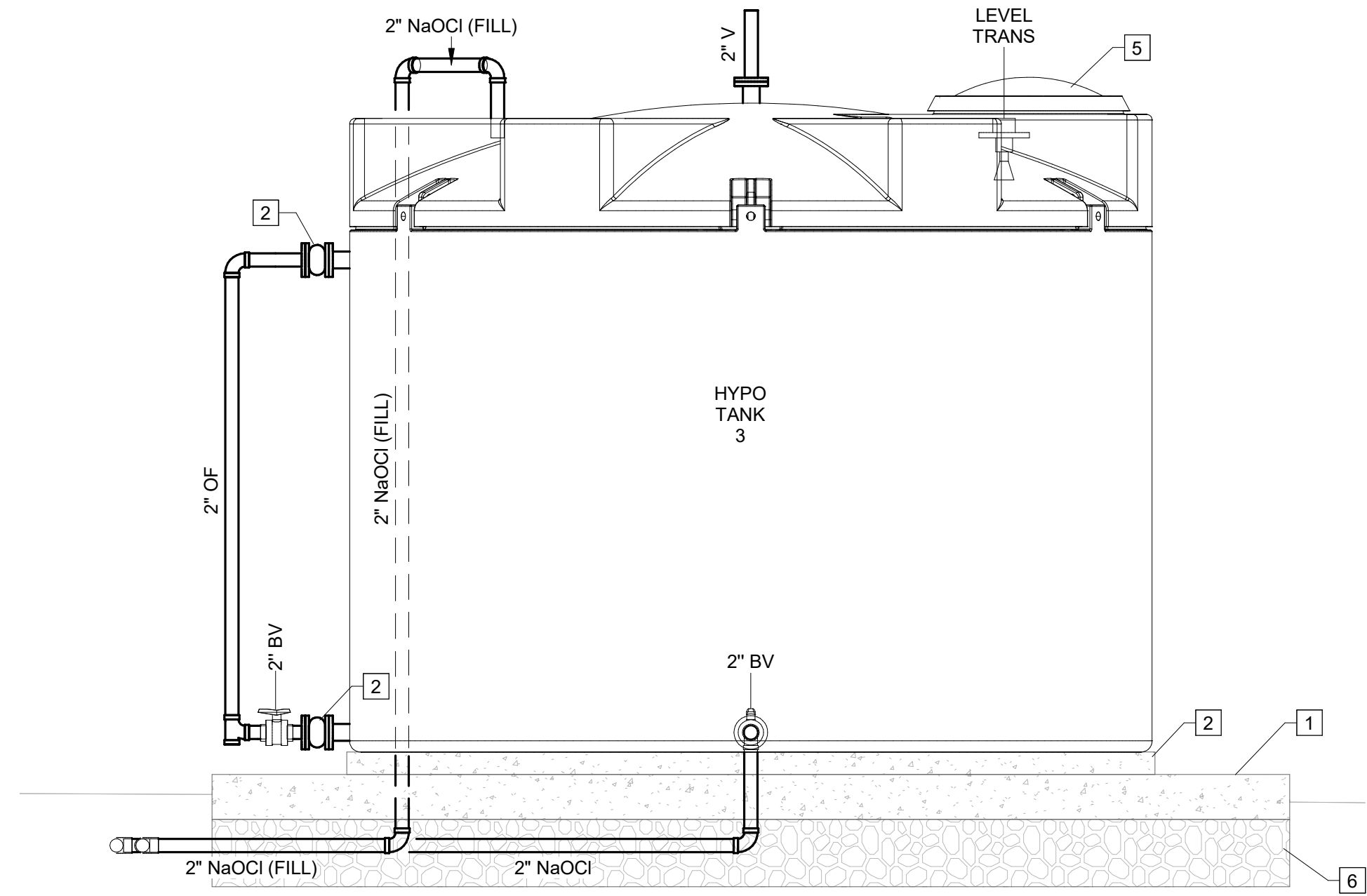


CHEMICAL FEED
ENLARGED PLANS &
ELEVATIONS

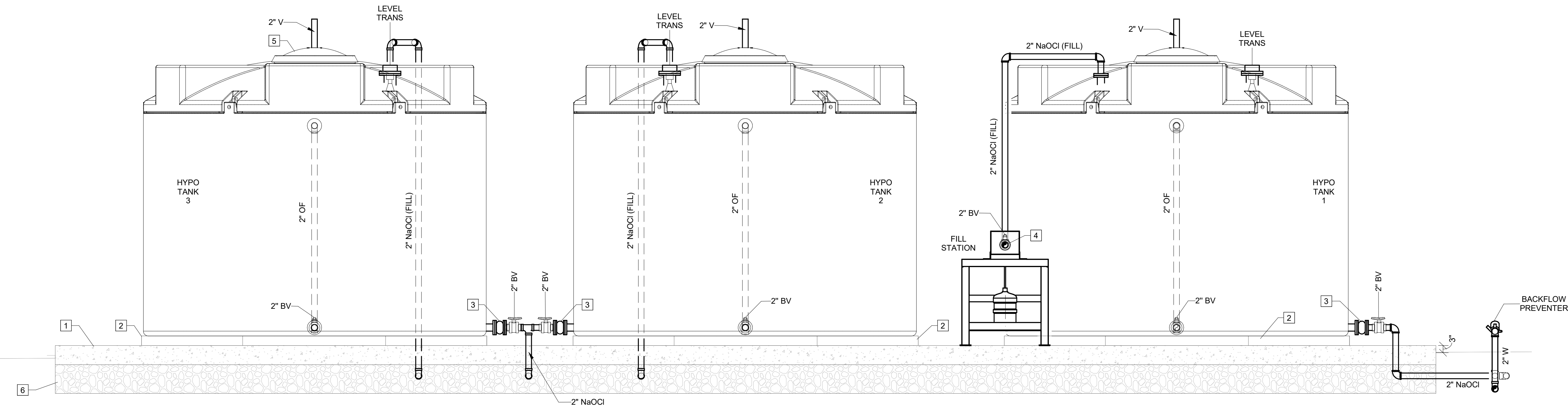
D-802

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C SECTIONS
D-802 SCALE: 1/2" = 1'-0"



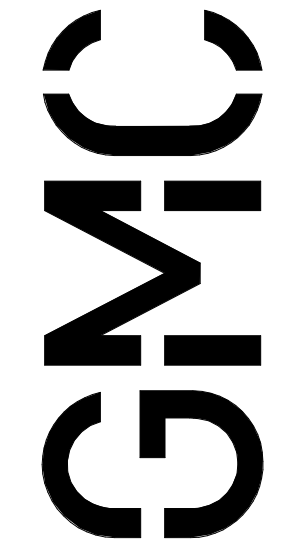
D SECTIONS
D-802 SCALE: 1/2" = 1'-0"

NOTES:

- CHEMICAL TANK CONCRETE PAD & CONCRETE HOUSEKEEPING PAD TO HAVE CONTINUOUS 1" CHAMFER.
- ALL EXTERIOR EXPOSED PIPING SHALL BE INSULATED.

KEY NOTES: #

- 8" THICK SLAB WITH #6 REINFORCEMENT @12-INCH MAX O.C. EACH WAY - CENTERED IN SLAB. PAD SIZE AND REINFORCEMENT SHALL BE AS INDICATED BY THE MANUFACTURER AND APPROVED BY THE ENGINEER. TOP OF PAD SHALL BE 3" ABOVE GRADE.
- 4" THICK CONCRETE HOUSEKEEPING PAD
- EXPANSION JOINT
- 316 SST CAMLOCK COUPLING W/ LOCKING CAP
- FLANGED MANWAY
- 12" THICK CRUSHED STONE COMPACTED TO 98% STANDARD PROCTOR



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WASTEWATER TREATMENT
PLANT IMPROVEMENTS

WETUMPKA, ALABAMA

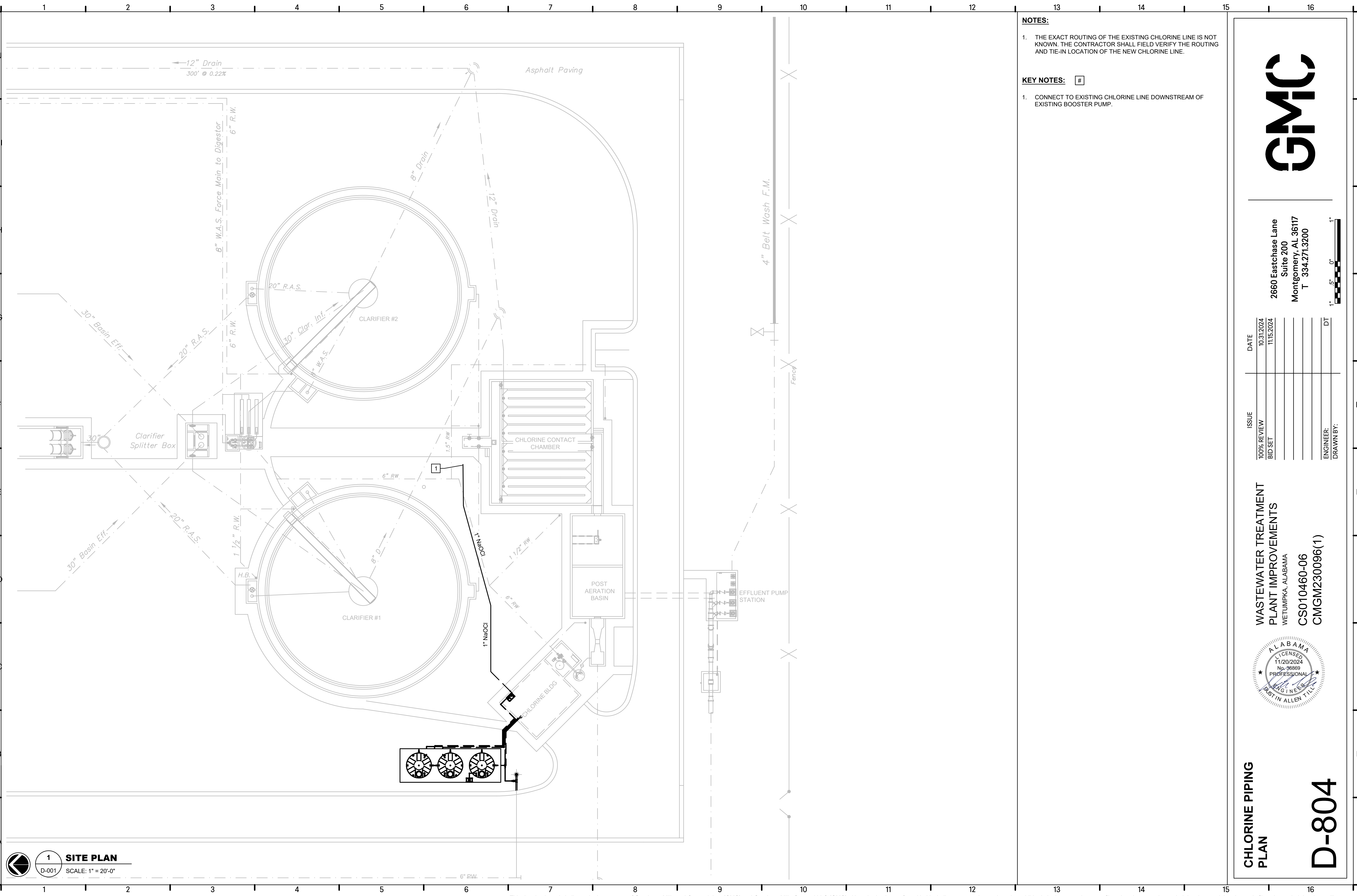
CMGM230096(1)



CHEMICAL FEED
SECTIONS

D-803

DRAWING FILE: C:\Users\rdh\OneDrive\Documents\GMC\Projects\WWTTP Improvements\CAD Files\DWG\Sheet\10 Process\10-804 - CHLORINE PIPING.dwg
PLOTTED: Nov 21, 2024 - 9:41am

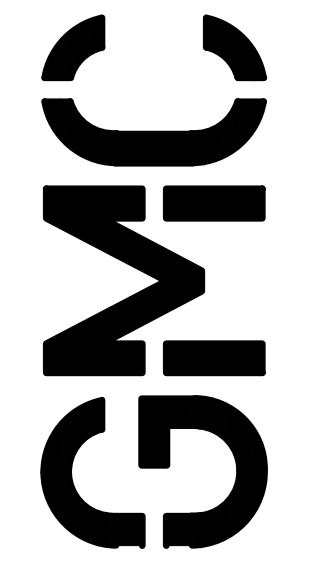


NOTES:

1. THE EXACT ROUTING OF THE EXISTING CHLORINE LINE IS NOT KNOWN. THE CONTRACTOR SHALL FIELD VERIFY THE ROUTING AND TIE-IN LOCATION OF THE NEW CHLORINE LINE.

KEY NOTES: #

1. CONNECT TO EXISTING CHLORINE LINE DOWNSTREAM OF EXISTING BOOSTER PUMP.



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**WASTEWATER TREATMENT
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WETUMPKA, ALABAMA
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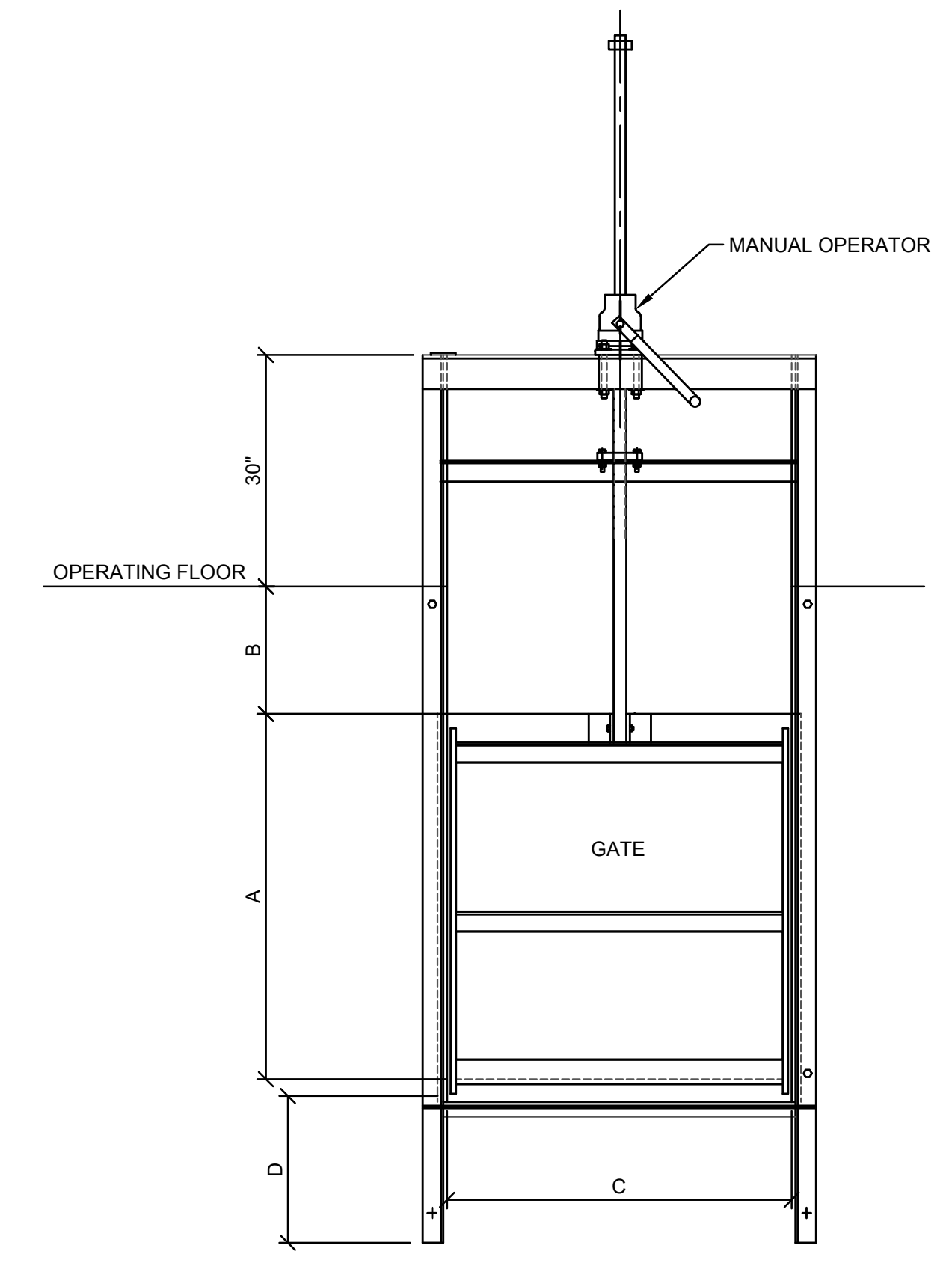


**CHLORINE PIPING
PLAN**

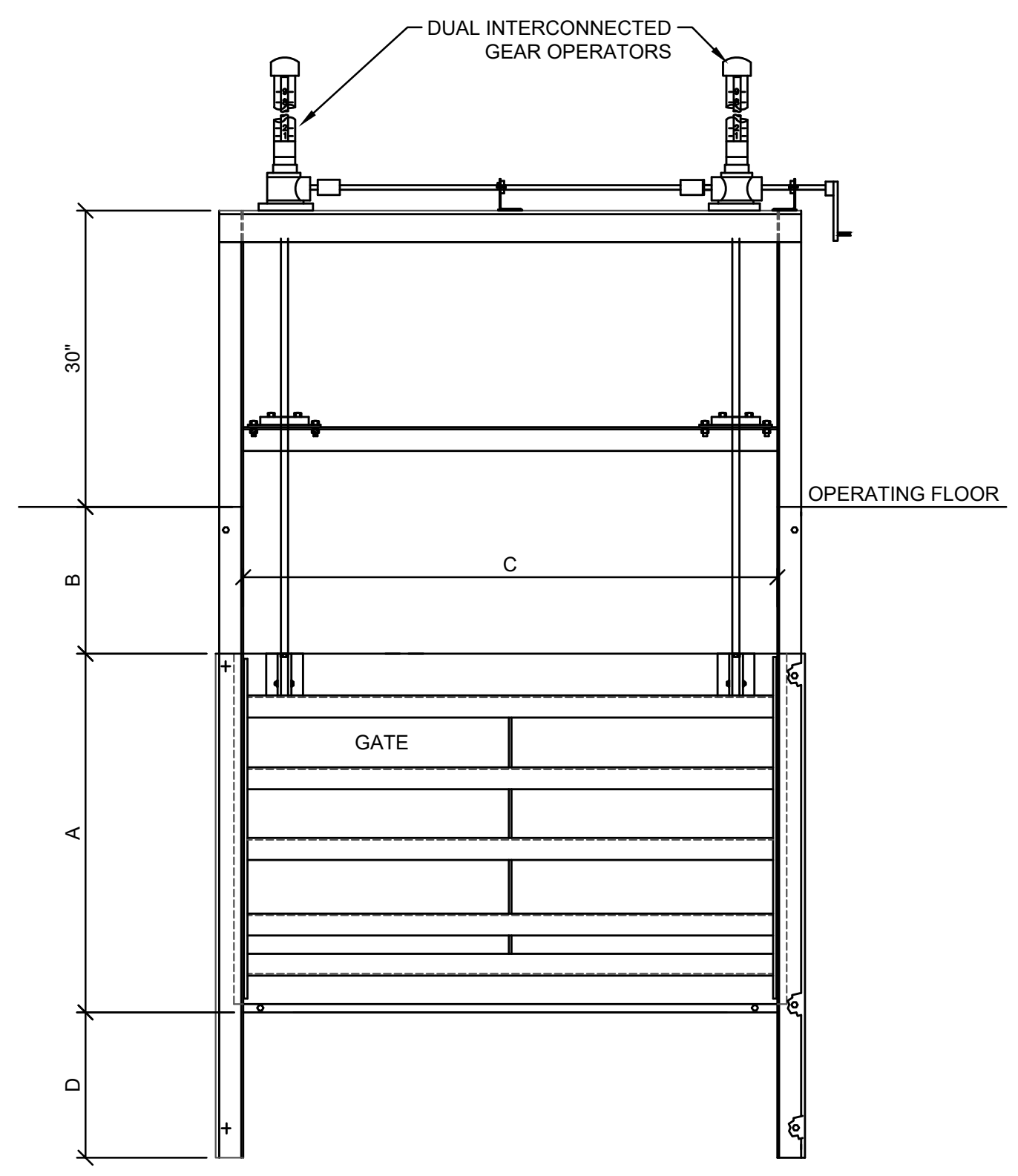
D-804

1 SITE PLAN
D-001 SCALE: 1" = 20'-0"

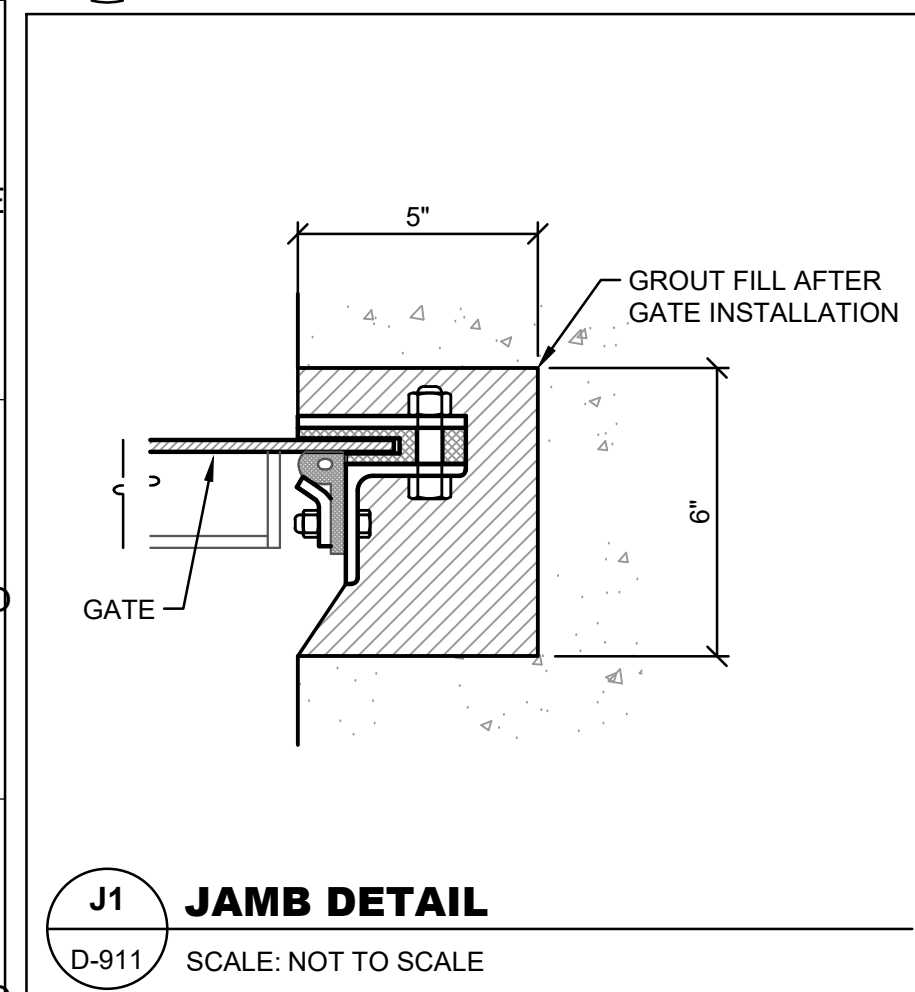
SLIDE GATE SCHEDULE														
TAG	TYPE	LOCATION	OPERATOR	GATE HEIGHT -A (INCHES)	HEIGHT TO OPERATING DECK -B (INCHES)	GATE WIDTH -C (INCHES)	DOWNWARD OPENING FRAME EXTENSION -D (INCHES)	JAMB TYPE	SILL TYPE	P&ID SHEET NUMBER	PROCESS SHEET NUMBER	SEATED OR UNSEATED HEAD	OPERATOR SUPPORT	REMARKS
SG1101	UPWARD OPENING SLIDE GATE	SCREEN #1 INLET CHANNEL	HANDWHEEL	48	24	36	0	J3	S3	N/A	D-111	2		
SG1102	UPWARD OPENING SLIDE GATE	SCREEN #1 EFFLUENT CHANNEL	HANDWHEEL	48	24	36	0	J3	S3	N/A	D-111	2		
SG1111	UPWARD OPENING SLIDE GATE	SCREEN #2 INLET CHANNEL	HANDWHEEL	48	24	36	0	J3	S3	N/A	D-111	2		
SG1112	UPWARD OPENING SLIDE GATE	SCREEN #2 EFFLUENT CHANNEL	HANDWHEEL	48	24	36	0	J3	S3	N/A	D-111	2		



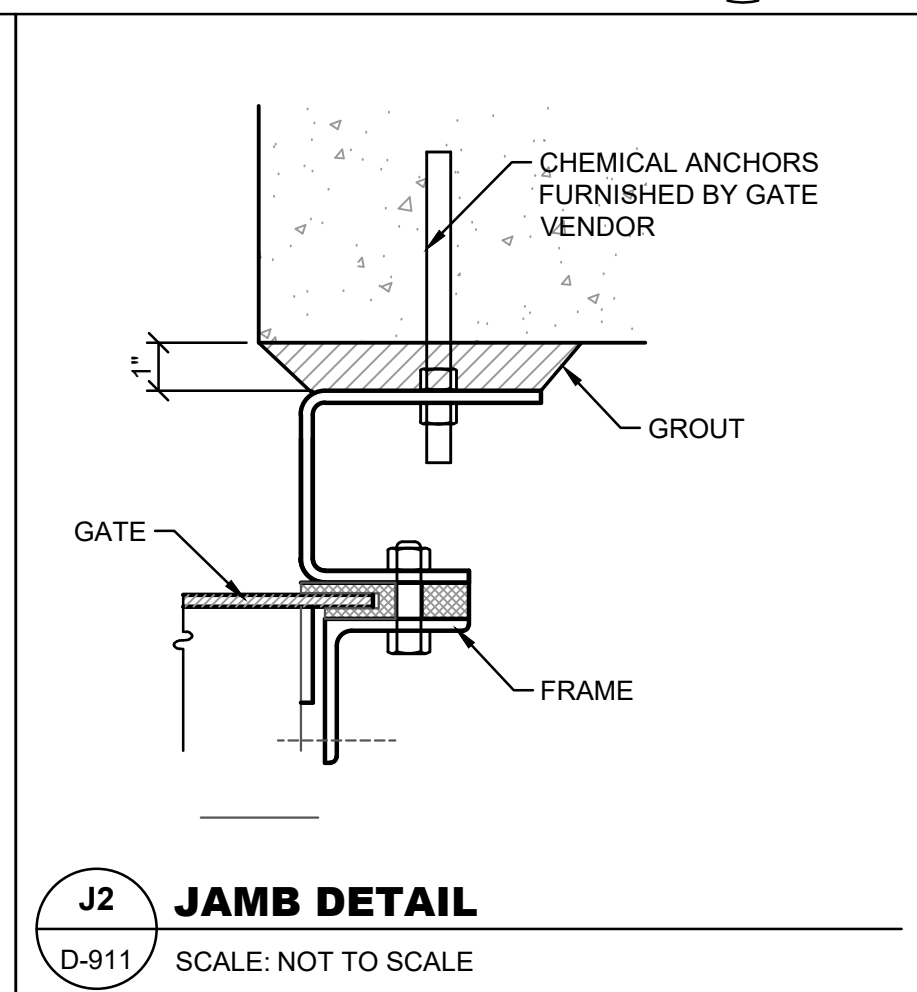
1 SECTION - SINGLE STEM SLIDE GATE
D-911 SCALE: NOT TO SCALE



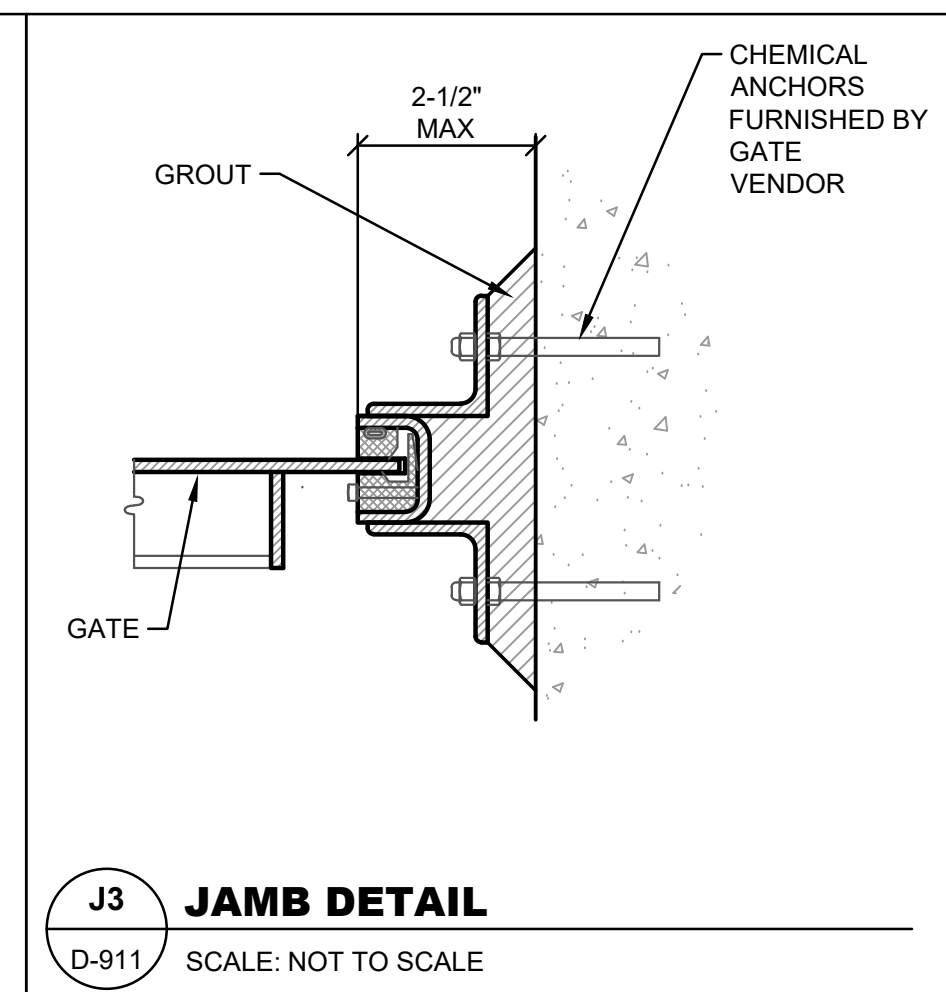
2 SECTION - DUAL STEM SLIDE GATE
D-911 SCALE: NOT TO SCALE



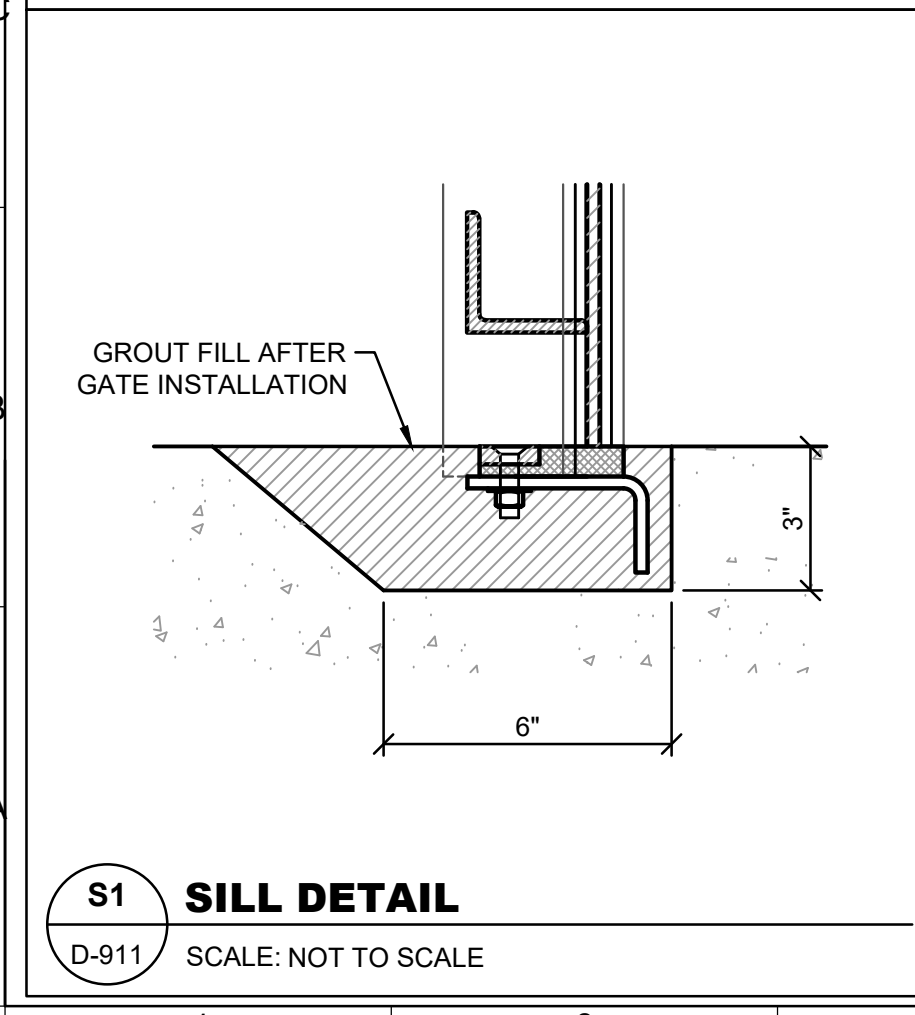
J1 JAMB DETAIL
D-911 SCALE: NOT TO SCALE



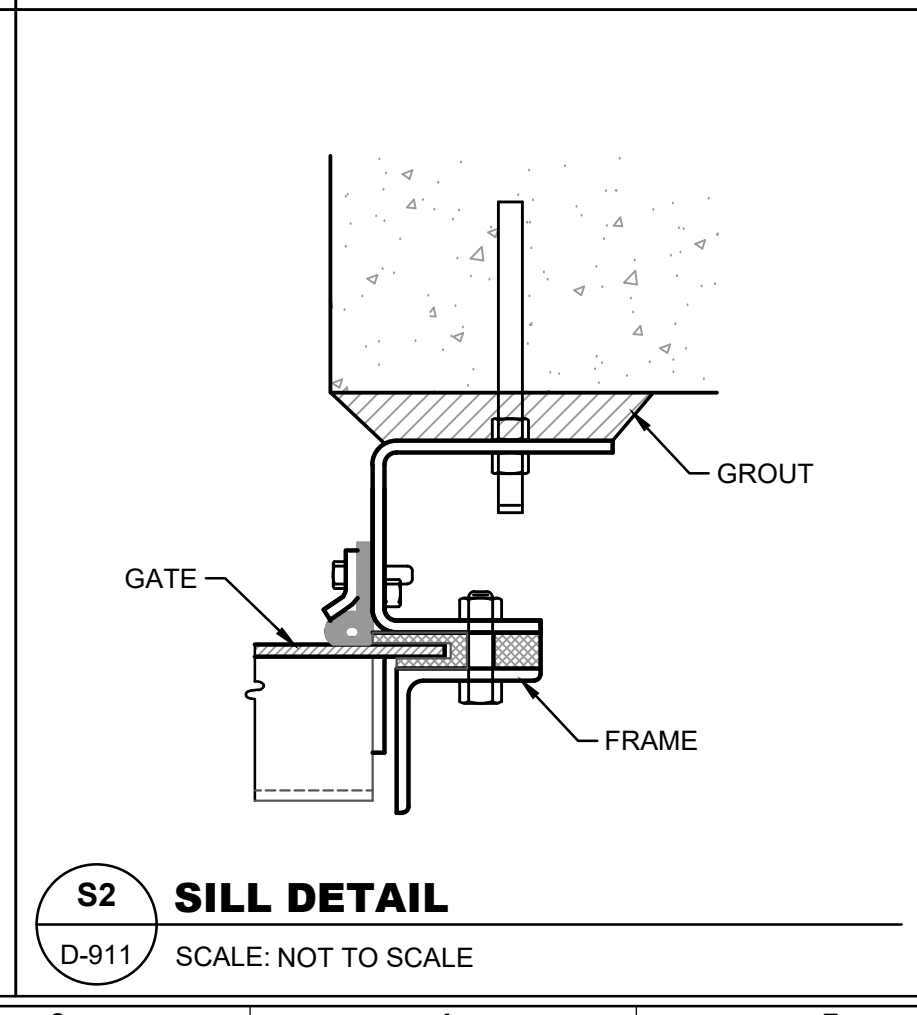
J2 JAMB DETAIL
D-911 SCALE: NOT TO SCALE



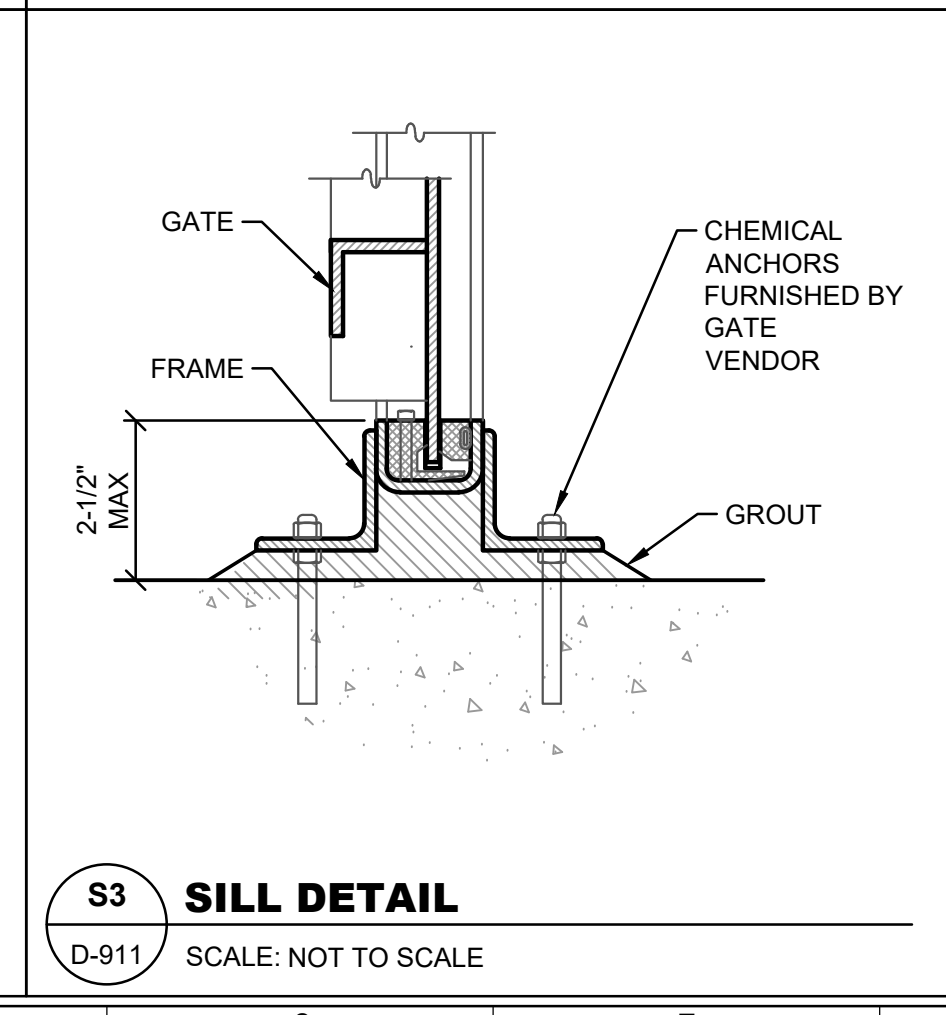
J3 JAMB DETAIL
D-911 SCALE: NOT TO SCALE



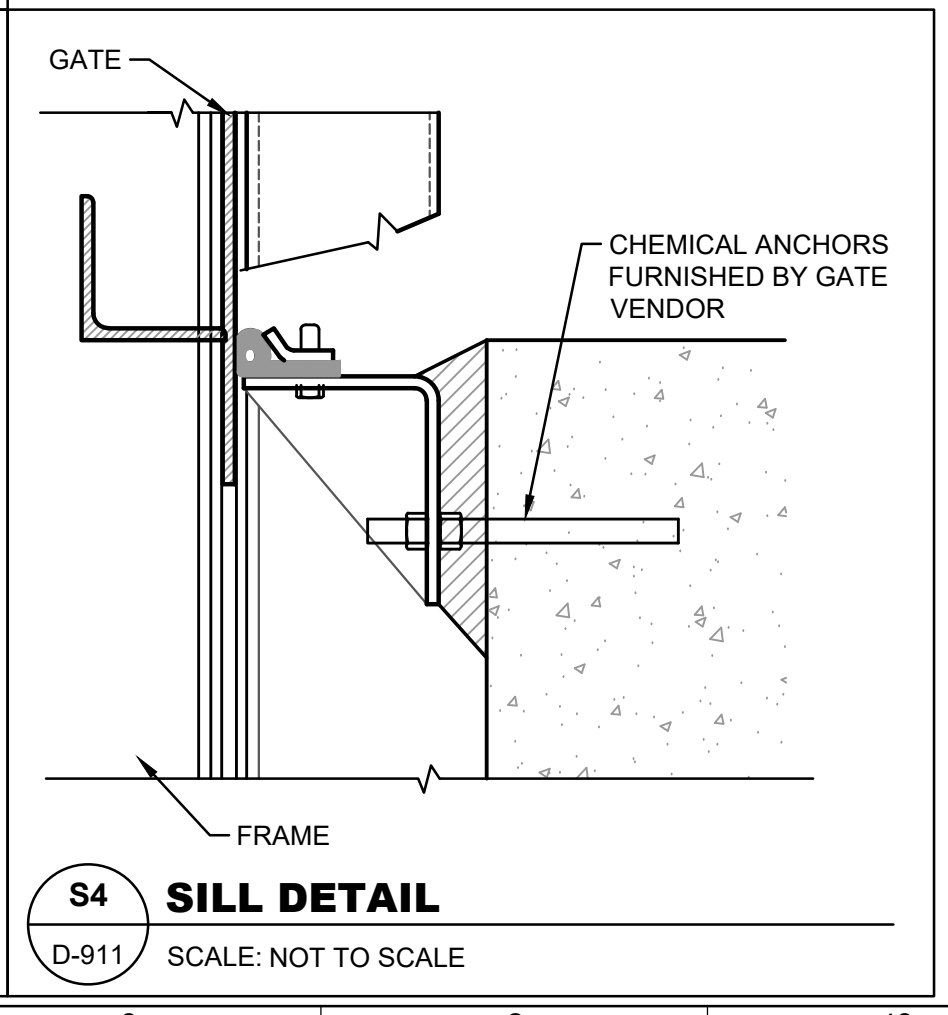
S1 SILL DETAIL
D-911 SCALE: NOT TO SCALE



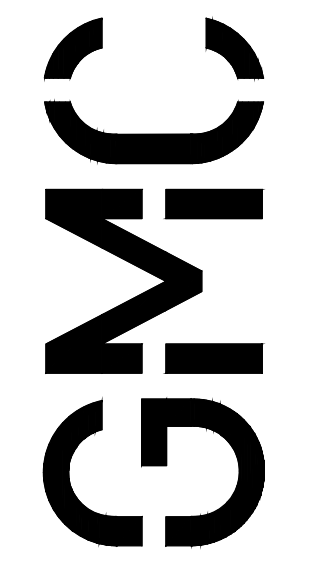
S2 SILL DETAIL
D-911 SCALE: NOT TO SCALE



S3 SILL DETAIL
D-911 SCALE: NOT TO SCALE



S4 SILL DETAIL
D-911 SCALE: NOT TO SCALE



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CS010460-06
CMGM230096(1)
NOT - RELEASED FOR CONSTRUCTION



GATE SCHEDULE
& DETAILS

D-911

GENERAL ELECTRICAL LEGEND

HZ\$X SWITCH OUTLET - MANUAL MOTOR STARTER - TOGGLE TYPE - 3 POLE - CLASS 1 DIVISION 1 HAZARDOUS LOCATION RATED - WEATHERPROOF - CORROSION RESISTANT - APLETON EDSC SERIES - PROVIDE LOCK-OFF HARDWARE.

DOUBLE DUPLEX

WALL OUTLET - RECEPTACLE - 20A - 125V - 2P - 3W - GROUNDING - NEMA 5-20R - SINGLE PLATE.

WALL OUTLET - RECEPTACLE - 20A - 125V - 2P - 3W - GROUNDING - "GFI" TYPE - WEATHER RESISTANT - NEMA 5-20R - SINGLE PLATE.

OUTLET DESIGNATIONS (APPLY TO ALL OUTLETS, DEVICES & EQUIPMENT):

ES EQUIPMENT MOUNTED TO ALUMINUM SUPPORT FRAME (WITHOUT CANOPY) - SEE DETAIL "E-ES".

HR DEVICE SHALL BE HANDRAIL MOUNTED AT TOP OF HANDRAIL - SEE DETAIL "E-HR".

SRS PROVIDE SUN/RAIN SHIELD FOR DEVICE/EQUIPMENT PER DETAIL "E-SRS".

VL VERIFY EXACT OUTLET LOCATION WITH EQUIPMENT SUPPLIER OR OWNER PRIOR TO ROUGH-IN.

W WEATHER PROOF - OUTLET SHALL BE INSTALLED WITH WEATHERPROOF, IN-USE, CAST COVER.

FLOOR OR SURFACE-MOUNTED OUTLET - JUNCTION BOX.

WALL OUTLET - JUNCTION BOX - FLUSH MOUNTED.

BRANCH/FEEDER CIRCUIT - CONCEALED IN WALLS OR CEILING.

BRANCH/FEEDER CIRCUIT - EXPOSED ON WALLS OR CEILING.

BRANCH/FEEDER CIRCUIT - CONCEALED IN FLOOR SLAB OR DIRT FILL.

BRANCH/FEEDER CIRCUIT - TO BE DEMOLISHED - MAY BE USED WITH OTHER LINE TYPES.

BRANCH/FEEDER CIRCUIT - HOMERUN - CAN BE USED WITH OTHER BRANCH/FEEDER TYPES.

BRANCH/FEEDER CIRCUIT MODIFIERS:

: 2#12 & 1#12G UNLESS NOTED OTHERWISE.

: 3#12 & 1#12G, ETC. UNLESS NOTED OTHERWISE (TICK MARKS INDICATE CONDUCTOR QUANTITY NOT INCLUDING GROUND WIRE).

: 2#10 & 1#10G UNLESS NOTED OTHERWISE (NUMBER INDICATES WIRE AWG).

: CABLING AS DIRECTED BY SUPPLIER IN CONDUIT(S) SIZED AT 150% OF N.E.C. MINIMUM SIZE.

CONNECTED PANEL.

INDICATED BREAKER AMPACITY AND NUMBER OF POLES - BREAKER SHALL BE 20/1 IF THIS INFORMATION IS OMITTED OR NOTED OTHERWISE IN HOMERUN MARK.

BREAKER TYPE - BREAKER SHALL BE OF STANDARD TYPE IF THIS INFORMATION IS OMITTED OR NOTED WITH ONE OF THE FOLLOWING DESCRIPTIONS BELOW:

GFI GFI-TYPE (5mA TRIP).

GFIE GFI-EPD TYPE (30mA TRIP).

LOFF WITH LOCK-OFF HARDWARE.

LON WITH LOCK-ON HARDWARE.

INDICATES THAT A CIRCUIT SHALL BE CONNECTED TO A "NEW, SPARE OR VACATED" BREAKER OF RATED TYPE AND AMPACITY IN EXISTING PANEL AS SHOWN ABOVE.

TOTAL QUANTITY OF BREAKERS.

SIZE CONDUIT PER N.E.C. UNLESS INDICATED OTHERWISE.

FLEXIBLE CONNECTION TO EQUIPMENT.

BRANCH CIRCUIT - RISER DOWN OR GENERAL CONDUIT STUB-OUT.

BRANCH CIRCUIT - RISER UP.

CONCRETE-ENCASED DUCT BANK - SEE DETAIL "E-DR".

EQUIPMENT STAND - WITH (OR WITHOUT) CONCRETE PAD AS INDICATED BY HIDDEN LINETYPE - SEE DETAIL "E-ES" - MOUNT ANY UTILIZATION EQUIPMENT (PANELBOARDS, CONTROL STATION, RECEPTACLES, SWITCHES, ETC.) PER DETAIL "E-ES".

POWER DISTRIBUTION EQUIPMENT.

LIGHTING PANEL - SURFACE MOUNTED.

TRANSFORMER - POWER.

MAGNETIC MOTOR STARTER.

DISCONNECT SWITCH - NONFUSED.

DISCONNECT SWITCH - FUSED.

DISCONNECT SWITCH - NONFUSED - WITH AUXILIARY CONTACTS (OPENS WHEN SWITCH IS OPENED).

DISCONNECT SWITCH - INTEGRAL TO EQUIPMENT.

MOTOR OUTLET - SIZE AS SHOWN.

HEAT TRACING WITH INSULATION - SHALL BE PROVIDED ALONG FULL LENGTH(S) OF ALL SMALL DIAMETER PIPING IN INDICATED AREA UNLESS NOTED OTHERWISE - REFER TO CIVIL PLANS FOR PIPING LAYOUTS - VERIFY EXACT TERMINATION LOCATION(S) WITH SUPPLIER(S) PRIOR TO ROUGH-IN - REFER TO SPECIFICATION SECTION 26 44 00.

CONTROL STATION - SEE DETAIL "E-CS".

*****-***** TYPICAL CONTROL & INSTRUMENTATION WIRING MARK (WHERE "***" REPRESENTS A UNIQUE IDENTIFIER CONSISTING OF LETTERS AND NUMBERS) - SEE CONTROL & INSTRUMENTATION WIRING SCHEDULES.

FLOAT SWITCH(ES) - "x4" INDICATES QUANTITIES OF FLOAT SWITCHES - SEE DETAIL "E-SUBC".

ULTRASONIC LEVEL TRANSDUCER - SEE DETAIL "E-SUBC".

SOLENOID VALVE.

LEVEL INDICATING TRANSMITTER.

DETAIL DESIGNATOR - WHERE "A" INDICATES UNIQUE DETAIL MARK AND "E-1" INDICATES SHEET NUMBER WHERE DETAIL IS LOCATED (TYPICAL).

DETAIL DESIGNATOR - REFERENCE MARK (WHERE "****" REPRESENTS A UNIQUE IDENTIFIER CONSISTING OF LETTERS & NUMBERS) - SEE DETAIL SHEETS CONTAINED WITHIN THIS SET OF ELECTRICAL DRAWINGS FOR THE CORRESPONDING DETAIL.

DETAIL DESIGNATOR NOTES:

- DETAIL DESIGNATORS FOUND WITHIN THIS SET OF DRAWINGS ARE TYPICAL (ARE FOR GENERAL REFERENCE ONLY) AND ARE NOT INTENDED TO MARK EVERY INSTANCE WHERE DETAILS ARE APPLICABLE.
- DESIGN DETAILS REPRESENT THE CHARACTER AND NATURE OF WORK REQUIRED THROUGHOUT THE PROJECT. ALL ASSOCIATED WORK SHALL BE IN ACCORDANCE WITH THE DESIGN DETAILS WHETHER THE DETAILS ARE SPECIFICALLY REFERENCED OR NOT.

GENERAL ABBREVIATIONS:

(EX) EXISTING TO REMAIN.

(EX-R) EXISTING TO BE REMOVED - REMOVE ALL ASSOCIATED ELECTRICAL EQUIPMENT, DEVICES, CONDUIT AND WIRING CONNECTIONS TO OTHER ELECTRICAL ITEMS.

(EX-RL) EXISTING TO BE RELOCATED - REMOVE ALL ASSOCIATED ELECTRICAL EQUIPMENT, DEVICES, CONDUIT AND WIRING AT EXISTING LOCATION. RELOCATE ITEM TO NEW LOCATION SHOWN ON ELECTRICAL PLANS.

(EX-RP) EXISTING TO BE REPLACED - EXTEND AND RECONNECT EXISTING CONDUIT AND WIRING TO REPLACED ITEM.

ELECTRICAL ABBREVIATIONS:

A	AMPERES.	NSV	NEW, SPARE OR VACATED.
AIC	AMPERES INTERRUPTING CAPACITY.	OC	ON CENTER.
AFF	ABOVE FINISHED FLOOR.	P	POLES.
AL	ALUMINUM.	PF	POWER FACTOR.
ATS	AUTOMATIC TRANSFER SWITCH.	Ø	PHASE.
AWG	AMERICAN WIRE GAUGE.	PVC	POLYVINYL CHLORIDE.
C	CONDUIT.	S	SINGLE LINE DIAGRAM.
CU	COPPER.	SS	STAINLESS STEEL.
EC	EMPTY CONDUIT OR ELECTRICAL CONTRACTOR.	UL	UNDERWRITERS LABORATORY.
FPN	FUSE PER NAMEPLATE.	UNO	UNLESS NOTED OTHERWISE.
G	GROUND CONDUCTOR.	V	VOLTS.
KVA	KILOVOLT-AMPERES.	W	WIRES.
KW	KILOWATT.	CFCI	CONTRACTOR FURNISHED, CONTRACTOR INSTALLED.
LV	LOW VOLTAGE.	CFOI	CONTRACTOR FURNISHED, OWNER INSTALLED.
MCM	THOUSAND CIRCULAR MILS.	OFOI	OWNER FURNISHED, OWNER INSTALLED.
MV	MEDIUM VOLTAGE.	OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED.
N	NEUTRAL.		
NEC	NATIONAL ELECTRICAL CODE.		
NEMA	NATIONAL ELECTRICAL MANUFACTURER ASSOCIATION.		
NIC	NOT IN CONTRACT.		

TYPICAL CIRCUITRY DESIGNATIONS:

2 SETS OF 4#3/0 & 1#3G - 2 1/2" C

CONDUIT SIZE.

GROUND CONDUCTOR WIRE GAUGE.

QUANTITY OF GROUND CONDUCTORS (PER SET)

PHASE/NEUTRAL CONDUCTOR WIRE GAUGE.

QUANTITY OF PHASE/NEUTRAL CONDUCTORS (PER SET).

QUANTITY OF PARALLEL SETS OF THE PHASE/NEUTRAL CONDUCTORS, GROUND CONDUCTOR AND CONDUIT SPECIFIED.

MULTI-CONDUCTOR CONTROL 600V TRAY CABLE DESIGNATIONS:

(2) 4C#14 W/G - 1 1/4" C

CONDUIT SIZE.

"W/G" = WITH ADDITIONAL INTEGRAL GROUND CONDUCTOR WITH GREEN INSULATION IN EACH CABLE SHEATH.

WIRE GAUGE.

QUANTITY OF CONDUCTORS IN EACH CABLE SHEATH (NOT INCLUDING GROUND).

QUANTITY OF MULTI-CONDUCTOR CABLES OF THE TYPE SPECIFIED WITHIN THE SPECIFIED CONDUIT.

TWISTED, SHIELDED INSTRUMENTATION CABLE DESIGNATIONS:

(2) #16TSP - 1" C

CONDUIT SIZE.

"TSP" = TWISTED SHIELDED PAIR.

WIRE GAUGE.

QUANTITY OF INSTRUMENTATION CABLES IN THE SPECIFIED CONDUIT.

GENERAL ELECTRICAL NOTES

- SPECIAL ATTENTION IS CALLED TO THE FACT THAT THE REQUIRED WORK IS AT OPERATING FACILITIES, AND AS SUCH, NO UNNECESSARY SHUTDOWNS WILL BE ALLOWED. ANY NECESSARY SHUTDOWNS SHALL BE APPROVED IN WRITING BY THE PLANT MANAGER A MINIMUM OF TWO (2) WEEKS IN ADVANCE. TEMPORARY/PORABLE PUMPING PROVISIONS (AND OTHER TEMPORARY PROVISIONS AS REQUIRED FOR OPERATION OF THE EXISTING SYSTEMS) SHALL BE PROVIDED BY THE CONTRACTOR IF OWNER-MANDATED MAXIMUM SHUTDOWN PERIODS ARE ANTICIPATED OR ARE POSSIBLE.
- ELECTRICAL PLANS & DETAILS INDICATE TYPICAL WIRING REQUIREMENTS FOR PROCESS EQUIPMENT. VERIFY EXACT WIRING REQUIREMENTS & ALL DEVICE LOCATIONS WITH APPROVED MANUFACTURERS SHOP DRAWINGS PRIOR TO ROUGH-IN. NO ADDITIONAL COMPENSATION WILL BE PAID FOR MINOR CIRCUITRY ADJUSTMENTS REQUIRED TO COMPLY WITH MANUFACTURERS INSTALLATION DETAILS.
- CONTRACTOR SHALL VISIT THE SITE(S) OF THE WORK PRIOR TO SUBMITTING BID TO EXAMINE CAREFULLY LOCAL CONDITIONS AND DIFFICULTIES TO BE ENCOUNTERED. ANY DISCREPANCY BETWEEN PLANS AND EXISTING CONDITIONS SHALL IMMEDIATELY BE CALLED TO THE ATTENTION OF THE ENGINEER.
- ALL EQUIPMENT SHALL BE GROUNDED AND BONDED IN ACCORDANCE WITH NEC.
- THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION AND MOUNTING OF ALL INSTRUMENTATION DEVICES (EXCLUDING THOSE PRE-INSTALLED ON SKIDS BY THE MANUFACTURER). SEE INSTALLATION DETAILS ON CIVIL & ELECTRICAL DRAWINGS AND PROVIDED BY SUPPLIERS. COORDINATE ALL REQUIREMENTS WITH SUPPLIERS PRIOR TO ROUGH-IN.
- THIS CONTRACTOR SHALL FURNISH ALL MATERIALS AND LABOR NECESSARY TO EXTEND CIRCUITS AND MAKE RECONNECTIONS TO ANY ACTIVE ELECTRICAL DEVICES ON WHICH THE BRANCH CIRCUIT IS INTERRUPTED BY THIS ALTERATION. CARE SHALL BE TAKEN TO INSURE THAT EXISTING PANEL AND FEEDER RATINGS ARE NOT EXCEEDED.
- WET OR PROCESS AREAS (FOR USE IN DETERMINING TYPES OF MATERIALS REQUIRED PER ELECTRICAL SPECIFICATIONS) SHALL BE DEFINED AS ALL AREAS WITHIN THE PROJECT SCOPE EXCEPT THE FOLLOWING:
 - OFFICES, RESTROOMS, BREAK ROOMS, ELECTRICAL ROOMS AND OTHER SIMILAR, ANCILARY, NON-PROCESS, AIR-CONDITIONED SPACES.
- ALL NEW INDICATING TRANSMITTER DEVICES (D.O. TRANSMITTERS, LEVEL TRANSMITTERS, ETC.) LOCATED IN EXTERIOR ENVIRONMENTS SHALL BE INSTALLED WITHIN SUN/RAIN SHIELDS PER DETAIL "E-SRS". CONTRACTOR SHALL PROVIDE SUN/RAIN SHIELDS (INCLUDING INSTRUMENTS FURNISHED BY EQUIPMENT SUPPLIERS). CONTRACTOR SHALL COORDINATE WITH INSTRUMENT SUPPLIER(S) PRIOR TO SUBMITTAL OF SHOP DRAWINGS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING 120V AND ANALOG SURGE PROTECTION DEVICES AT ALL NEW INSTRUMENTS LOCATED IN EXTERIOR ENVIRONMENTS. CONTRACTOR SHALL COORDINATE WITH INSTRUMENT SUPPLIER(S) PRIOR TO SUBMITTAL OF SHOP DRAWINGS.
 - SURGE PROTECTION DEVICES AT 2-WIRE INSTRUMENTS SHALL BE DEHN DEHNPIPE SERIES (IP67 STAINLESS STEEL DEVICE WITH 10KA TOTAL NOMINAL DISCHARGE CURRENT PER LINE) (NO EQUAL ALLOWED).
 - SURGE PROTECTION DEVICES AT 4-WIRE INSTRUMENTS SHALL BE DEHN BLITZDUCTOR XT SERIES (FOR THE ANALOG SIGNAL) PLUS DEHNGUARD SERIES (FOR THE POWER INPUT) COMBINED INTO ONE OVERALL NEMA 4X ENCLOSURE WITH VIEWING WINDOW PER SPEC SECTION 27 60 05 REQUIREMENTS. SPD'S SHALL BE 10KA DISCHARGE CURRENT PER LINE FOR ANALOG, 15KA DISCHARGE CURRENT PER LINE FOR 120V POWER).
- CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING IDENTIFICATION/LABELING FOR ALL NEW OR MODIFIED INSTRUMENTS, UTILIZATION EQUIPMENT (PUMPS, BLOWERS, ETC.), CONTROL DEVICES, CONTROL PANELS, STARTERS, POWER PANELS, ETC. (REGARDLESS OF WHICH ENTITY PROVIDES THE EQUIPMENT) PER DETAILED REQUIREMENTS OF SPECIFICATION SECTION 26 05 53.

BASE BID & ALTERNATE NOTES

- BASE BID:** THE BASE BID OF THIS PROJECT INCLUDES THE FOLLOWING GENERAL SCOPE ITEMS:
 - ALL ELECTRICAL SCOPE ITEMS INDICATED IN PLANS OR SPECIFICATIONS UNLESS NOTED OTHERWISE.
 - THE FOLLOWING ITEMS SHALL BE OMITTED:
 - INSTALLATION OF INFLUENT SCREW PUMP NO. 1 RVSS AND ALL ASSOCIATED CIRCUITRY/ETC. SHOWN ON SHEET E-022.
 - INSTALLATION OF INFLUENT SCREW PUMP NUMBER NO. 1 AND ALL ASSOCIATED CIRCUITRY/ETC. SHOWN ON SHEET E-101.
- ADDITIVE ALTERNATE NO. 1:** THE ADDITIVE ALTERNATE NO. 1 OF THIS PROJECT INCLUDES THE ADDITION OF THE FOLLOWING GENERAL SCOPE ITEMS:
 - ALL INFLUENT SCREW PUMP NO. 1 IMPROVEMENTS ON SHEETS E-022 & E-101.

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T 334.271.3200

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DRAWN BY:	RGN

1" = 5' 0" 1"

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WETUMPKA, ALABAMA
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11/19/2024

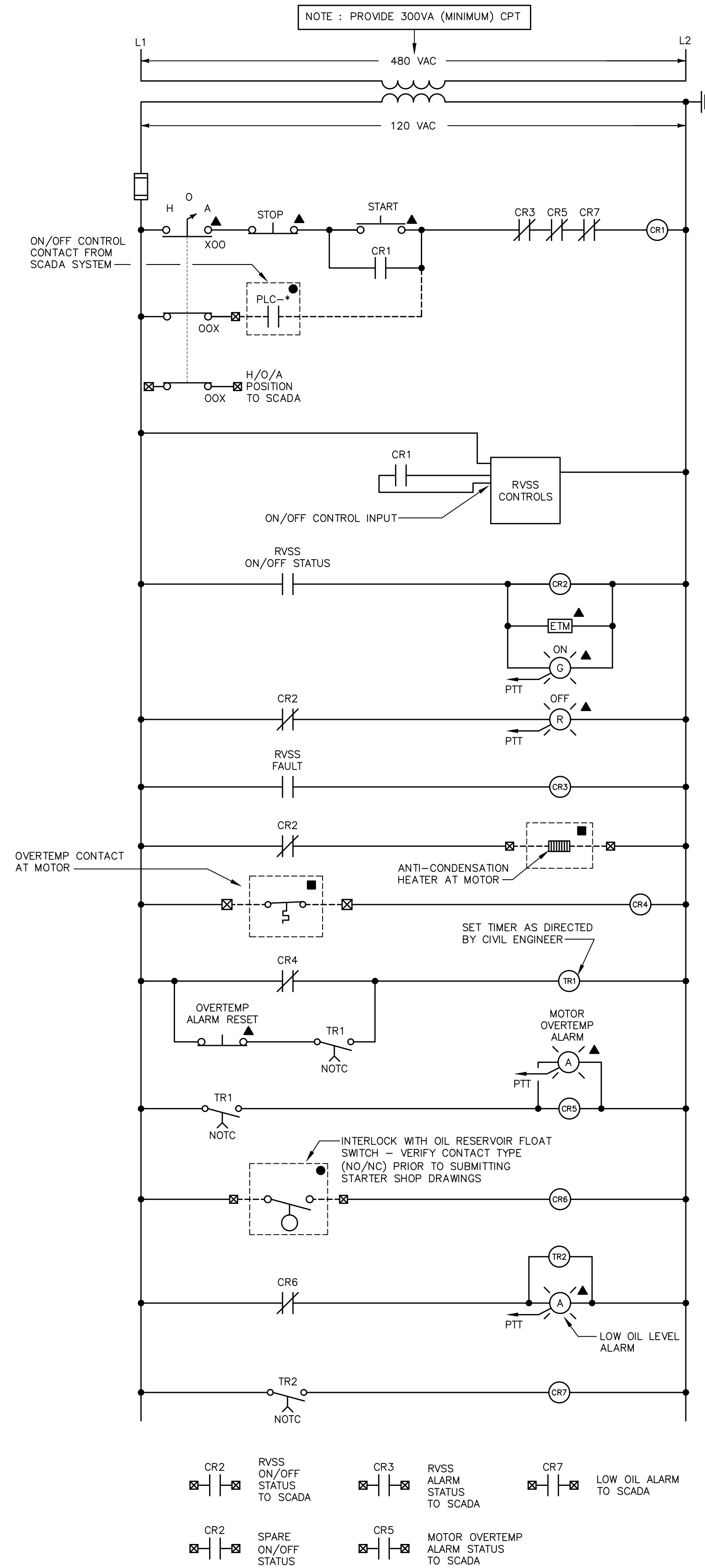
ELECTRICAL LEGEND & NOTES

E-001

JACKSON, RENFRO & ASSOCIATES, INC.
ELECTRICAL ENGINEERING & DESIGN
31 INVERNESS CENTER PARK • SUITE 301
BIRMINGHAM, ALABAMA • 35242

PHIL BLACK, PE
phil@raee.com
(205) 536-7120
(P) 205.995.1078
IRA JOB NO. 224149

ELEMENTARY DIAGRAM LEGEND	
	PUSHBUTTON - START - NORMALLY OPEN - MOMENTARY CONTACT.
	PUSHBUTTON - STOP - NORMALLY CLOSED - MOMENTARY CONTACT.
	PUSHBUTTON - EMERGENCY STOP - NORMALLY CLOSED - MAINTAINED CONTACT - MUSHROOM HEAD.
	SELECTOR SWITCH - HAND-OFF-AUTOMATIC - MAINTAINED CONTACT - "XOO" INDICATES THAT CONTACT IS ONLY CLOSED IN THE FIRST (HAND) POSITION (MAY BE USED WITH OTHER COMBINATIONS OF "X" & "O").
	SELECTOR SWITCH - ON-OFF - MAINTAINED CONTACT - "XO" INDICATES - THAT CONTACT IS ONLY CLOSED IN THE FIRST (ON) POSITION (MAY BE USED WITH OTHER COMBINATIONS OF "X" & "O").
	SELECTOR SWITCH - NORMAL-BYPASS - MAINTAINED CONTACT - "XO" INDICATES - THAT CONTACT IS ONLY CLOSED IN THE FIRST (NORMAL) POSITION (MAY BE USED WITH OTHER COMBINATIONS OF "X" & "O").
	SELECTOR SWITCH - LOCAL-OFF-REMOTE - MAINTAINED CONTACT - "XOO" INDICATES THAT CONTACT IS ONLY CLOSED IN THE FIRST (HAND) POSITION (MUST BE USED WITH OTHER COMBINATIONS OF "X" & "O").
	MOTOR STARTER COIL.
	BYPASS MOTOR STARTER COIL.
	OVERLOAD RELAY CONTACT.
	CONTROL RELAY COIL.
	CONTROL CONTACT - NORMALLY OPEN.
	CONTROL CONTACT - NORMALLY CLOSED.
	INDICATOR LIGHT - COLOR AS SHOWN.
	CONTROL TRANSFORMER.
	ELAPSED TIME METER.
	DEVICE LOCATED ON STARTER DOOR.
	DEVICE LOCATED ADJACENT TO MOTOR.
	DEVICE LOCATED REMOTE - SEE PLAN.
	TERMINAL BLOCK WITHIN STARTER UNIT.
	FLOAT SWITCH - CLOSSES ON RISING LEVEL.
	FLOAT SWITCH - CLOSSES ON FALLING LEVEL.
	PRESSURE SWITCH - CLOSSES ON INCREASE PRESSURE.
	PRESSURE SWITCH - CLOSSES ON DECREASE PRESSURE.
	LIMIT SWITCH - NORMALLY OPEN - HELD CLOSED.
	LIMIT SWITCH - NORMALLY CLOSED - HELD OPEN.
	TIME DELAY RELAY COIL.
	TIME DELAY RELAY CONTACT - NORMALLY CLOSED, TIME OPEN.
	TIME DELAY RELAY CONTACT - NORMALLY OPEN, TIME CLOSED.
	TIME DELAY RELAY CONTACT - NORMALLY OPEN, TIME OPEN.
	TIME DELAY RELAY CONTACT - NORMALLY CLOSED, TIME CLOSED.
	SOLENOID VALVE.
	THERMOSTAT - NORMALLY CLOSED, OPENS ON HIGH TEMP.
	THERMOSTAT - NORMALLY OPEN, CLOSSES ON HIGH TEMP.
	AUTOMATIC DAMPER.
	ALARM HORN.



ELEMENTARY DIAGRAM NO. 1

INFLUENT SCREW PUMP NO. 1 RVSS: SEPARATELY ENCLOSED STARTER

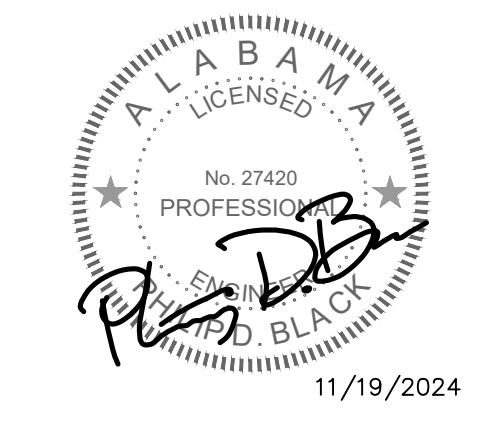
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 ELECTRICAL ENGINEERING & DESIGN
 31 INVERNESS CENTER PKWY • SUITE 301
 BIRMINGHAM, ALABAMA • 35242

PHIL BLACK, PE
 phil@jraee.com
 (205) 536-7120
 (P) 205.995.1078
 JRA# DB NO. 224149
 BIRMINGHAM, ALABAMA • 35242

ELEMENTARY DIAGRAMS

E-002

WASTEWATER TREATMENT PLANT IMPROVEMENTS
 WETUMPKA, ALABAMA
 CS010460-06
 CMGM230096(1)



ISSUE	DATE
100% REVIEW	10.31.2024
BID SET	11.19.2024

DESIGNER: PDB
 DRAWN BY: RGN

GMC

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 Suite 200
 Montgomery, AL 36117
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SCADARTU NO. 2 POINT LIST AND CONTROL & INSTRUMENTATION WIRING SCHEDULE								
HOMERUN MARK	TO	EQUIPMENT DESCRIPTION	PARAMETER	POINT TYPE	TAG	WIRING	SHEET	REMARKS
SC-P-210	SCADA RTU NO. 2	INFLUENT SCREW PUMP NO. 1 RVSS	H/O/A SWITCH POSITION INDICATION	DI	P-210-HS	(1) 12C#14 - 1" C	E-022	SEE BASE BID & ADDITIVE ALTERNATE NOTE ON SHEET E-001
			ON/OFF STATUS	DI	P-210-Y1			
			RVSS ALARM	DI	P-210-YA			
			TEMPERATURE ALARM - HIGH	DI	P-210-TAH			
			LOW OIL LEVEL	DI	P-210-YA.LO			
			ON/OFF CONTROL	DO	P-210-YC			
SC-CP-310	SCADA RTU NO. 2	SCREEN NO. 2 CONTROL PANEL	ON/OFF STATUS	DI	CP-310-Y1	(1) 4C#14 - 3/4" C	E-111	
SC-UT-311	SCADA RTU NO. 2	HEADWORKS SCREENS INFLUENT LEVEL TRANSMITTER	ALARM	DI	CP-310-YA		E-111	
			LEVEL INDICATION	AI	UT-311-LI	(1) #16TSP - 3/4" C		

NOTES:
1. THIS SCHEDULE ONLY SHOWS NEW SCADA I/O POINTS FOR INDICATED EXISTING RTU. EXISTING I/O POINTS ARE NOT SHOWN ABOVE

CONTROL & INSTRUMENTATION WIRING SCHEDULES LEGEND & NOTES	
LEGEND:	"DI" - DISCRETE INPUT POINT "DO" - DISCRETE OUTPUT POINT "AI" - ANALOG INPUT POINT "AO" - ANALOG OUTPUT POINT
NOTES:	1. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS & INFORMATION. 2. ALL CONTROL CABLING (IDENTIFIED WITH "C#14" OR SIMILAR DESIGNATIONS) SHALL BE 600V MULTI-CONDUCTOR TRAY CABLE PER SPECIFICATION REQUIREMENTS. 3. ALL INSTRUMENTATION CABLING (IDENTIFIED WITH "TSP" OR "SHD" DESIGNATIONS) SHALL BE 300V TWISTED, OVERALL-SHELDIED TRAY CABLE.

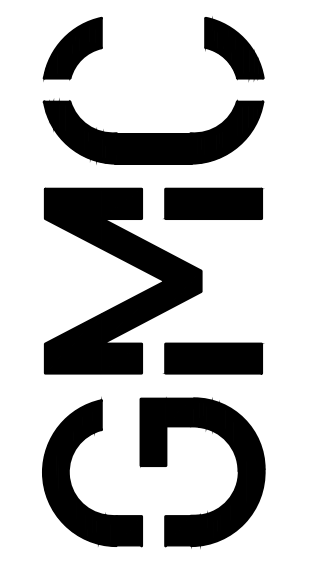
INSTRUMENT SCHEDULE								
INSTRUMENT NAME	INSTRUMENT TYPE	SHEET	ASSOCIATED SPECIFICATION SECTION	FURNISHED BY	PROVIDE 2-WIRE SURGE PROTECTION DEVICE	PROVIDE 4-WIRE SURGE PROTECTION DEVICE	PROVIDE SUN/RAIN SHIELD	NOTES
ALL HEADWORKS SCREEN NO. 2 INSTRUMENTS	VARIOUS	E-111	46 21 15	SCREEN SUPPLIER				
HEADWORKS SCREENS INFLUENT LEVEL TRANSMITTER	ULTRASONIC LEVEL TRANSDUCER WITH REMOTE TRANSMITTER	E-111	27 60 05	INSTRUMENTATION INTEGRATOR		X	X	
SODIUM HYPOCHLORITE TANK NO. 1 LEVEL TRANSMITTER	ULTRASONIC LEVEL TRANSDUCER WITH REMOTE TRANSMITTER	E-801	27 60 05	INSTRUMENTATION INTEGRATOR		X	X	
SODIUM HYPOCHLORITE TANK NO. 2 LEVEL TRANSMITTER	ULTRASONIC LEVEL TRANSDUCER WITH REMOTE TRANSMITTER	E-801	27 60 05	INSTRUMENTATION INTEGRATOR		X	X	
SODIUM HYPOCHLORITE TANK NO. 3 LEVEL TRANSMITTER	ULTRASONIC LEVEL TRANSDUCER WITH REMOTE TRANSMITTER	E-801	27 60 05	INSTRUMENTATION INTEGRATOR		X	X	

NOTES:
1. SEE INSTRUMENTATION SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
2. ELECTRICAL CONTRACTOR SHALL COORDINATE ALL EQUIPMENT MOUNTING HARDWARE REQUIREMENTS WITH INSTRUMENT MANUFACTURERS.
3. SEE PLANS FOR ADDITIONAL REQUIREMENTS.
4. RANGES AND/OR MOUNTING HEIGHTS OF ALL INSTRUMENTS/DEVICES LISTED ABOVE SHALL BE AS DIRECTED BY CIVIL ENGINEER.

INCLUDE IN ADDITIVE ALTERNATE NO. 1
- SEE BASE BID & ADDITIVE ALTERNATE NOTES ON SHEET E-001

SEPARATELY ENCLOSED STARTERS SCHEDULE													
'FED FROM' EQUIPMENT	NAMEPLATE DESCRIPTION	UNIT DESCRIPTION	MOUNTING/ENCLOSURE	LOCATION	ELECTRICAL CHARACTERISTICS					STARTER RATING	ASSOCIATED ELEM. DIAG	WIRE & COND. SIZE (TO MOTOR)	MINIMUM KVA/C RATING
					V	P	HP	KW	AMPS				
MCC-2	INFLUENT SCREW PUMP NO. 1 RVSS	COMBINATION RVSS WITH MCP WITH LINE ISOLATION CONTACTOR, SPD, AND SHORTING CONTACTOR	SEPARATE NEMA 12 ENCLOSURE	MAIN ELECTRICAL ROOM	480	3	50			77 AMP	1	SEE PLANS	42KVA/C

NOTES:
1. SEE SPECIFICATIONS 26 29 00 & 26 29 16 FOR ADDITIONAL REQUIREMENTS.



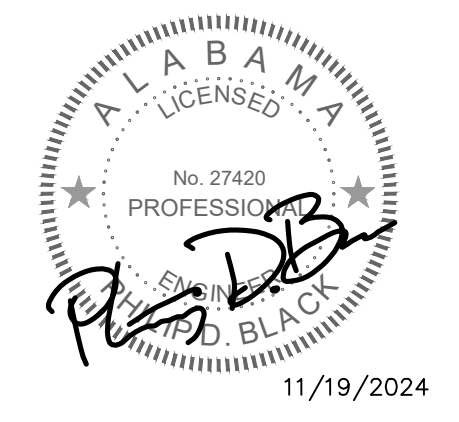
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Suite 200
Montgomery, AL 36117
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WASTEWATER TREATMENT
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WETUMPKA, ALABAMA
CS010460-06
CMGM230096(1)

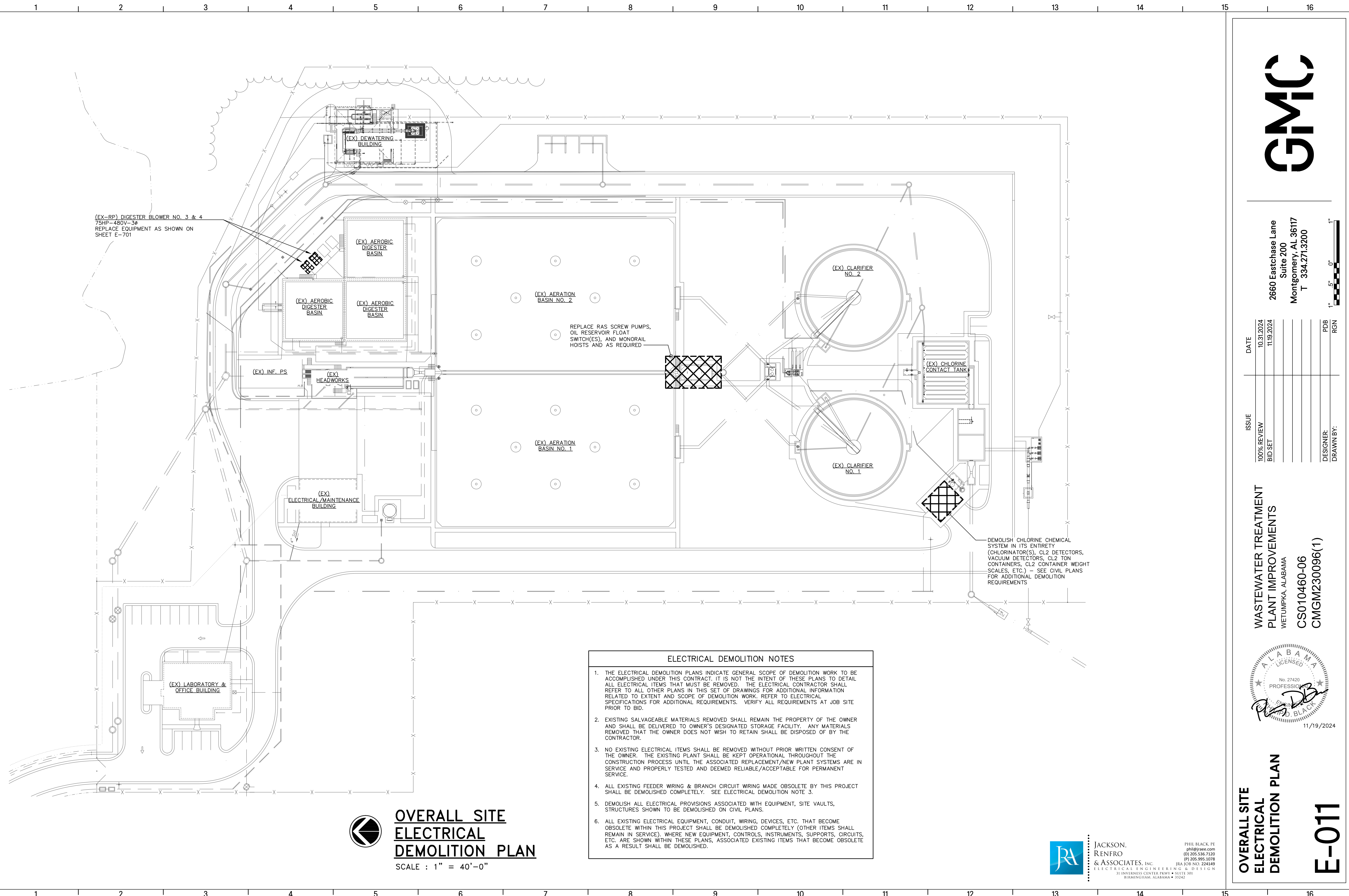


11/19/2024

JACKSON, RENFRO & ASSOCIATES, INC.
ELECTRICAL ENGINEERING & DESIGN
31 INVERNESS CENTER PARKWAY • SUITE 301
BERMINGHAM, ALABAMA • 35242
PHIL BLACK, PE
phil@jraee.com
(205) 536-7120
(P) 205.995.1078
JRA JOB NO. 224149

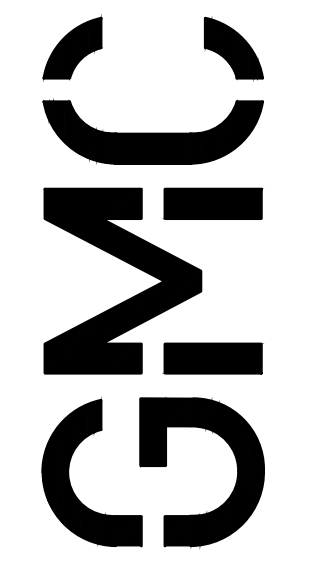
ELECTRICAL SCHEDULES

E-003



- ELECTRICAL DEMOLITION NOTES**
1. THE ELECTRICAL DEMOLITION PLANS INDICATE GENERAL SCOPE OF DEMOLITION WORK TO BE ACCOMPLISHED UNDER THIS CONTRACT. IT IS NOT THE INTENT OF THESE PLANS TO DETAIL ALL ELECTRICAL ITEMS THAT MUST BE REMOVED. THE ELECTRICAL CONTRACTOR SHALL REFER TO ALL OTHER PLANS IN THIS SET OF DRAWINGS FOR ADDITIONAL INFORMATION RELATED TO EXTENT AND SCOPE OF DEMOLITION WORK. REFER TO ELECTRICAL SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS. VERIFY ALL REQUIREMENTS AT JOB SITE PRIOR TO BID.
 2. EXISTING SALVAGEABLE MATERIALS REMOVED SHALL REMAIN THE PROPERTY OF THE OWNER AND SHALL BE DELIVERED TO OWNER'S DESIGNATED STORAGE FACILITY. ANY MATERIALS REMOVED THAT THE OWNER DOES NOT WISH TO RETAIN SHALL BE DISPOSED OF BY THE CONTRACTOR.
 3. NO EXISTING ELECTRICAL ITEMS SHALL BE REMOVED WITHOUT PRIOR WRITTEN CONSENT OF THE OWNER. THE EXISTING PLANT SHALL BE KEPT OPERATIONAL THROUGHOUT THE CONSTRUCTION PROCESS UNTIL THE ASSOCIATED REPLACEMENT/NEW PLANT SYSTEMS ARE IN SERVICE AND PROPERLY TESTED AND DEEMED RELIABLE/ACCEPTABLE FOR PERMANENT SERVICE.
 4. ALL EXISTING FEEDER WIRING & BRANCH CIRCUIT WIRING MADE OBSOLETE BY THIS PROJECT SHALL BE DEMOLISHED COMPLETELY. SEE ELECTRICAL DEMOLITION NOTE 3.
 5. DEMOLISH ALL ELECTRICAL PROVISIONS ASSOCIATED WITH EQUIPMENT, SITE VAULTS, STRUCTURES SHOWN TO BE DEMOLISHED ON CIVIL PLANS.
 6. ALL EXISTING ELECTRICAL EQUIPMENT, CONDUIT, WIRING, DEVICES, ETC. THAT BECOME OBSOLETE WITHIN THIS PROJECT SHALL BE DEMOLISHED COMPLETELY (OTHER ITEMS SHALL REMAIN IN SERVICE). WHERE NEW EQUIPMENT, CONTROLS, INSTRUMENTS, SUPPORTS, CIRCUITS, ETC. ARE SHOWN WITHIN THESE PLANS, ASSOCIATED EXISTING ITEMS THAT BECOME OBSOLETE AS A RESULT SHALL BE DEMOLISHED.

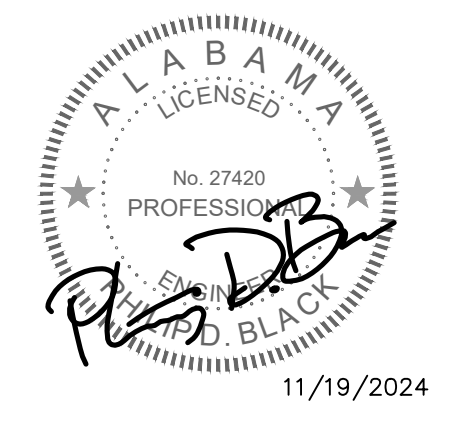
**OVERALL SITE
ELECTRICAL
DEMOLITION PLAN**
 SCALE : 1" = 40'-0"



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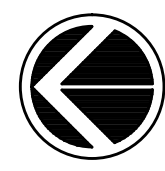
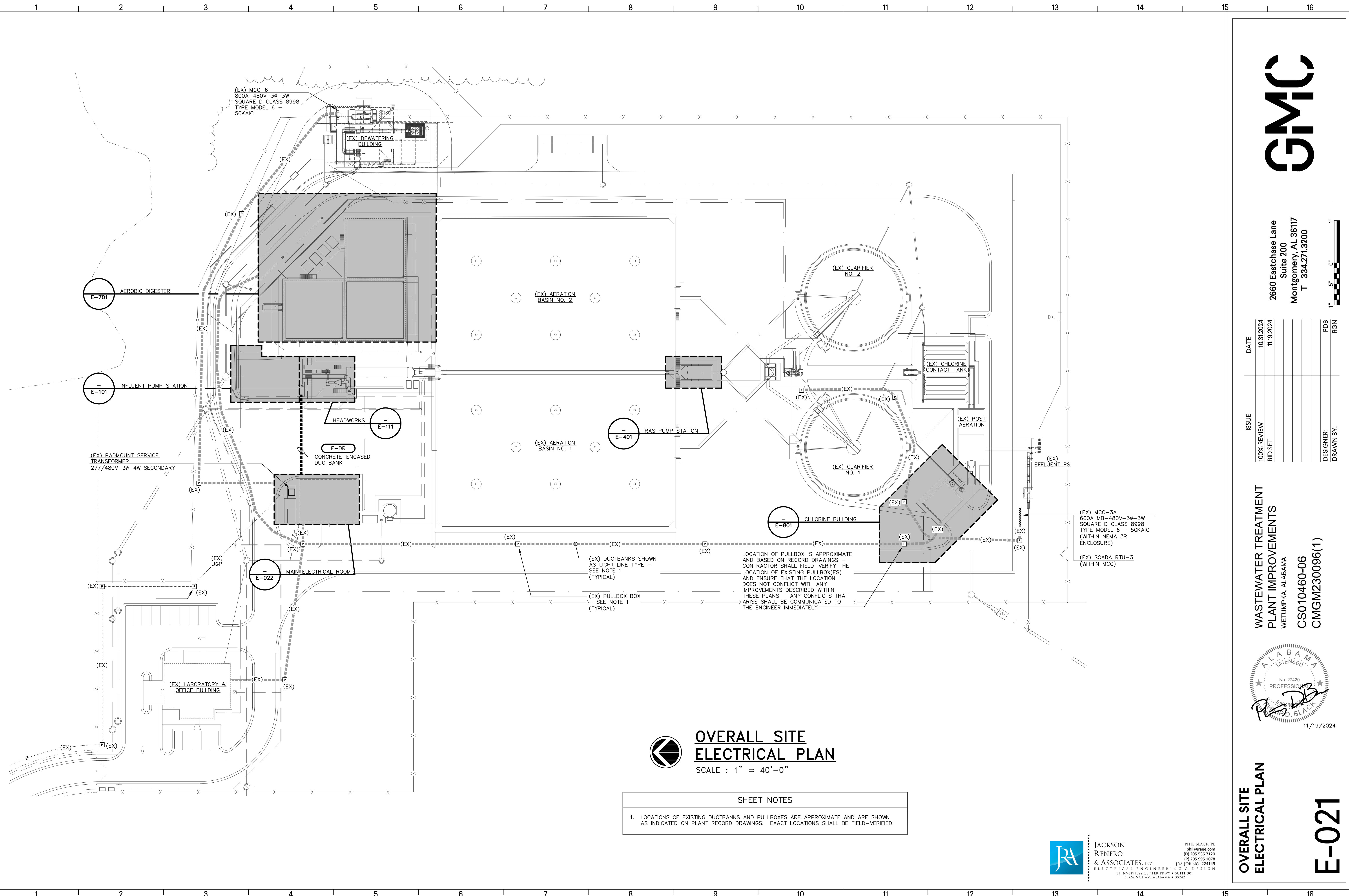
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WASTEWATER TREATMENT
PLANT IMPROVEMENTS
WETUMPKA, ALABAMA
CS010460-06
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OVERALL SITE
ELECTRICAL
DEMOLITION PLAN
E-011

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& ASSOCIATES, INC.**
 ELECTRICAL ENGINEERING & DESIGN
 31 INVERNESS CENTER PKWY • SUITE 301
 BIRMINGHAM, ALABAMA • 35242
 PHIL BLACK, PE
 phil@raee.com
 (205) 536-7120
 (P) 205.995.1078
 RA JOB NO. 224149



OVERALL SITE ELECTRICAL PLAN
 SCALE : 1" = 40'-0"

SHEET NOTES

1. LOCATIONS OF EXISTING DUCTBANKS AND PULLBOXES ARE APPROXIMATE AND ARE SHOWN AS INDICATED ON PLANT RECORD DRAWINGS. EXACT LOCATIONS SHALL BE FIELD-VERIFIED.

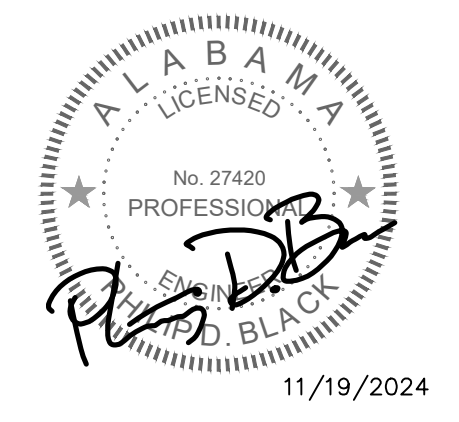


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 PLANT IMPROVEMENTS
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 CS010460-06
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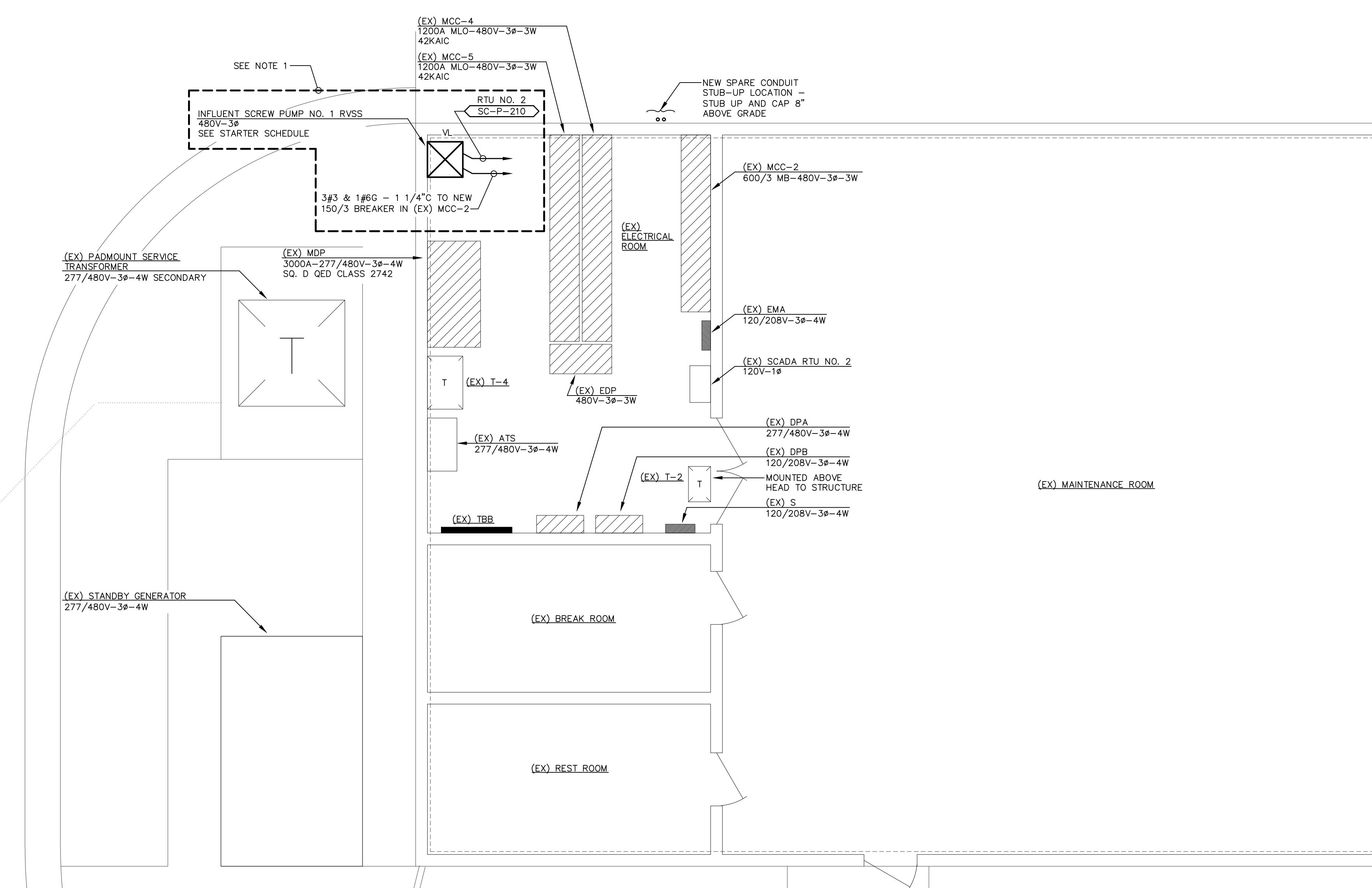


OVERALL SITE
 ELECTRICAL PLAN

E-021

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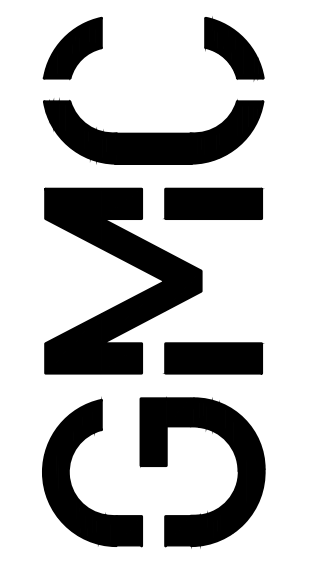
PHIL BLACK, PE
 pmh@jraee.com
 (205) 536-7120
 (P) 205.995.1078
 JRA ID# NO. 224149



**MAIN ELECTRICAL ROOM
ELECTRICAL PLAN**
SCALE : 1/4" = 1'-0"

NOTES THIS SHEET ONLY

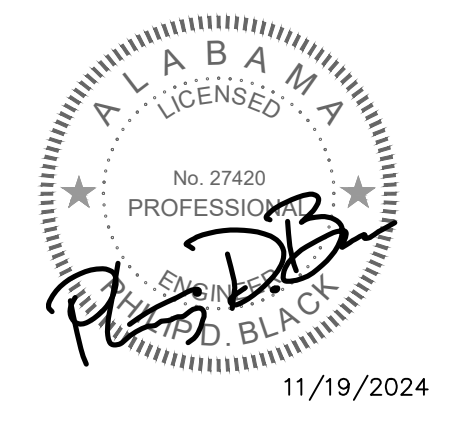
1. ALL IMPROVEMENTS ON THIS PLAN SHALL BE INCLUDED AS ADDITIVE ALTERNATE NO. 1 AND OMITTED FROM THE BASE BID OF THIS PROJECT. SEE "BASE BID & ALTERNATE NOTES ON SHEET E-001".



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WASTEWATER TREATMENT
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WETUMPKA, ALABAMA
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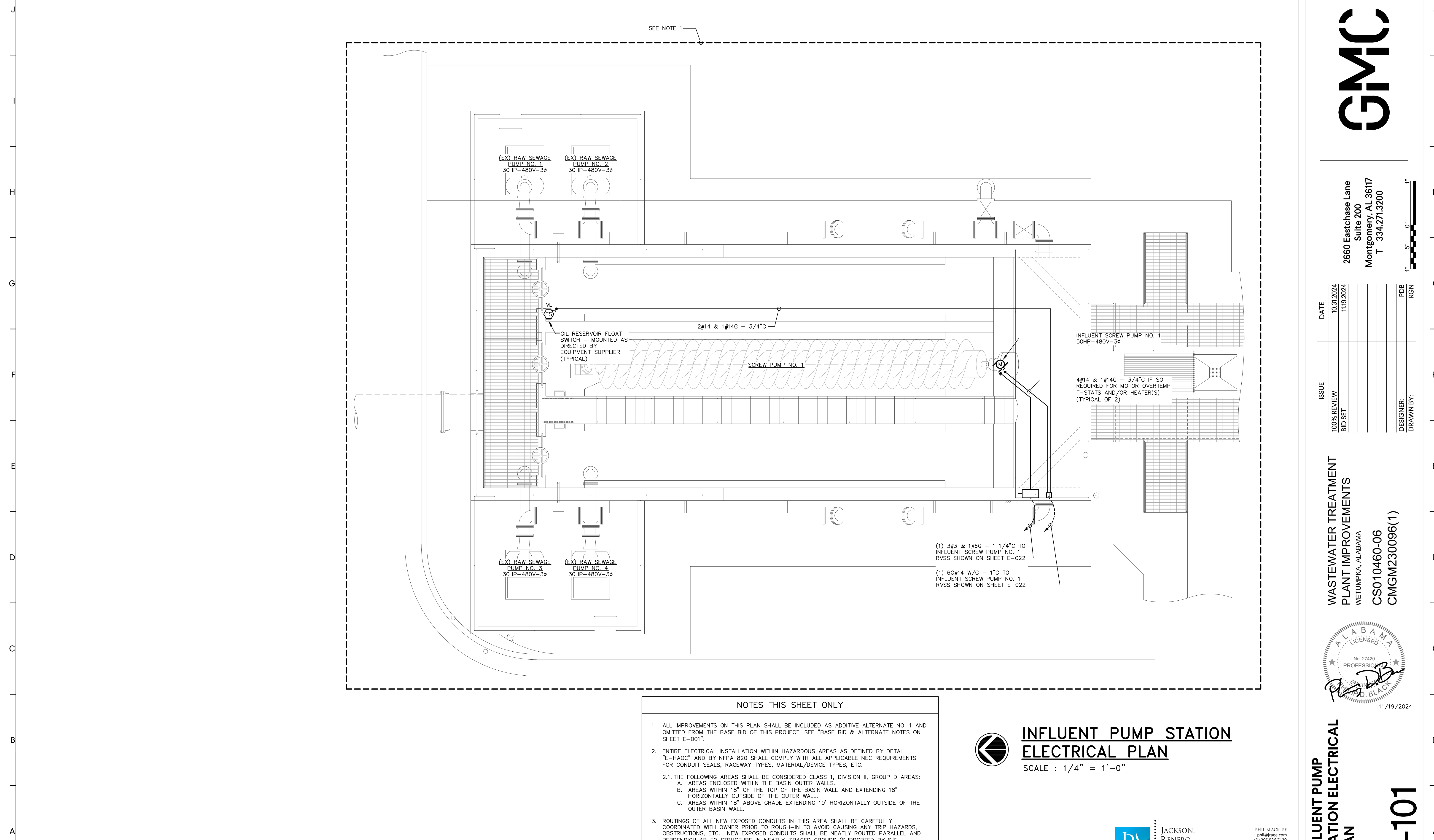


MAIN ELECTRICAL
ROOM ELECTRICAL
PLAN

E-022

**JACKSON
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& ASSOCIATES, INC.**
ELECTRICAL ENGINEERING & DESIGN
31 INVERNESS CENTER PKWY • SUITE 301
BIRMINGHAM, ALABAMA • 35242

PHIL BLACK, PE
pm@jraee.com
(205) 536-7120
(P) 205.995.1078
JRA JOB NO. 224149



SEE NOTE 1

(EX) RAW SEWAGE PUMP NO. 1 30HP-480V-3Ø
(EX) RAW SEWAGE PUMP NO. 2 30HP-480V-3Ø

(EX) RAW SEWAGE PUMP NO. 3 30HP-480V-3Ø
(EX) RAW SEWAGE PUMP NO. 4 30HP-480V-3Ø

OIL RESERVOIR FLOAT SWITCH - MOUNTED AS DIRECTED BY EQUIPMENT SUPPLIER (TYPICAL)

2#14 & 1#14G - 3/4" C

SCREW PUMP NO. 1

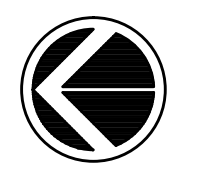
INFLUENT SCREW PUMP NO. 1 50HP-480V-3Ø

4#14 & 1#14G - 3/4" C IF SO REQUIRED FOR MOTOR OVERTEMP T-STATS AND/OR HEATER(S) (TYPICAL OF 2)

(1) 3#3 & 1#6G - 1 1/4" C TO INFLUENT SCREW PUMP NO. 1 RVSS SHOWN ON SHEET E-022

(1) 6C#14 W/G - 1" C TO INFLUENT SCREW PUMP NO. 1 RVSS SHOWN ON SHEET E-022

- NOTES THIS SHEET ONLY
- ALL IMPROVEMENTS ON THIS PLAN SHALL BE INCLUDED AS ADDITIVE ALTERNATE NO. 1 AND OMITTED FROM THE BASE BID OF THIS PROJECT. SEE "BASE BID & ALTERNATE NOTES ON SHEET E-001".
 - ENTIRE ELECTRICAL INSTALLATION WITHIN HAZARDOUS AREAS AS DEFINED BY DETAL "E-HAOC" AND BY NFPA 820 SHALL COMPLY WITH ALL APPLICABLE NEC REQUIREMENTS FOR CONDUIT SEALS, RACEWAY TYPES, MATERIAL/DEVICE TYPES, ETC.
 - THE FOLLOWING AREAS SHALL BE CONSIDERED CLASS 1, DIVISION II, GROUP D AREAS:
 - AREAS ENCLOSED WITHIN THE BASIN OUTER WALLS.
 - AREAS WITHIN 18" OF THE TOP OF THE BASIN WALL AND EXTENDING 18" HORIZONTALLY OUTSIDE OF THE OUTER WALL.
 - AREAS WITHIN 18" ABOVE GRADE EXTENDING 10' HORIZONTALLY OUTSIDE OF THE OUTER BASIN WALL.
 - ROUTINGS OF ALL NEW EXPOSED CONDUITS IN THIS AREA SHALL BE CAREFULLY COORDINATED WITH OWNER PRIOR TO ROUGH-IN TO AVOID CAUSING ANY TRIP HAZARDS, OBSTRUCTIONS, ETC. NEW EXPOSED CONDUITS SHALL BE NEATLY ROUTED PARALLEL AND PERPENDICULAR TO STRUCTURE IN NEATLY-SPACED GROUPS (SUPPORTED BY S.S. UNISTRUT) WHERE POSSIBLE. CONDUITS SHALL BE ROUTED BENEATH GRATING AS HIGH AS POSSIBLE ABOVE WATER LEVELS TO AVOID TRIP HAZARDS WHERE NECESSARY.

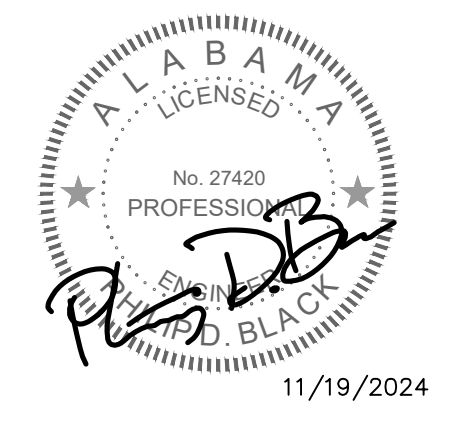


INFLUENT PUMP STATION ELECTRICAL PLAN

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

JACKSON RENFRO & ASSOCIATES, INC.
ELECTRICAL ENGINEERING & DESIGN
31 INVERNESS CENTER PKWY • SUITE 301
BIRMINGHAM, ALABAMA • 35242

PHIL BLACK, PE
phil@jraee.com
(205) 536-7120
(P) 205.995.1078
JRA JOB NO. 224149



INFLUENT PUMP STATION ELECTRICAL PLAN

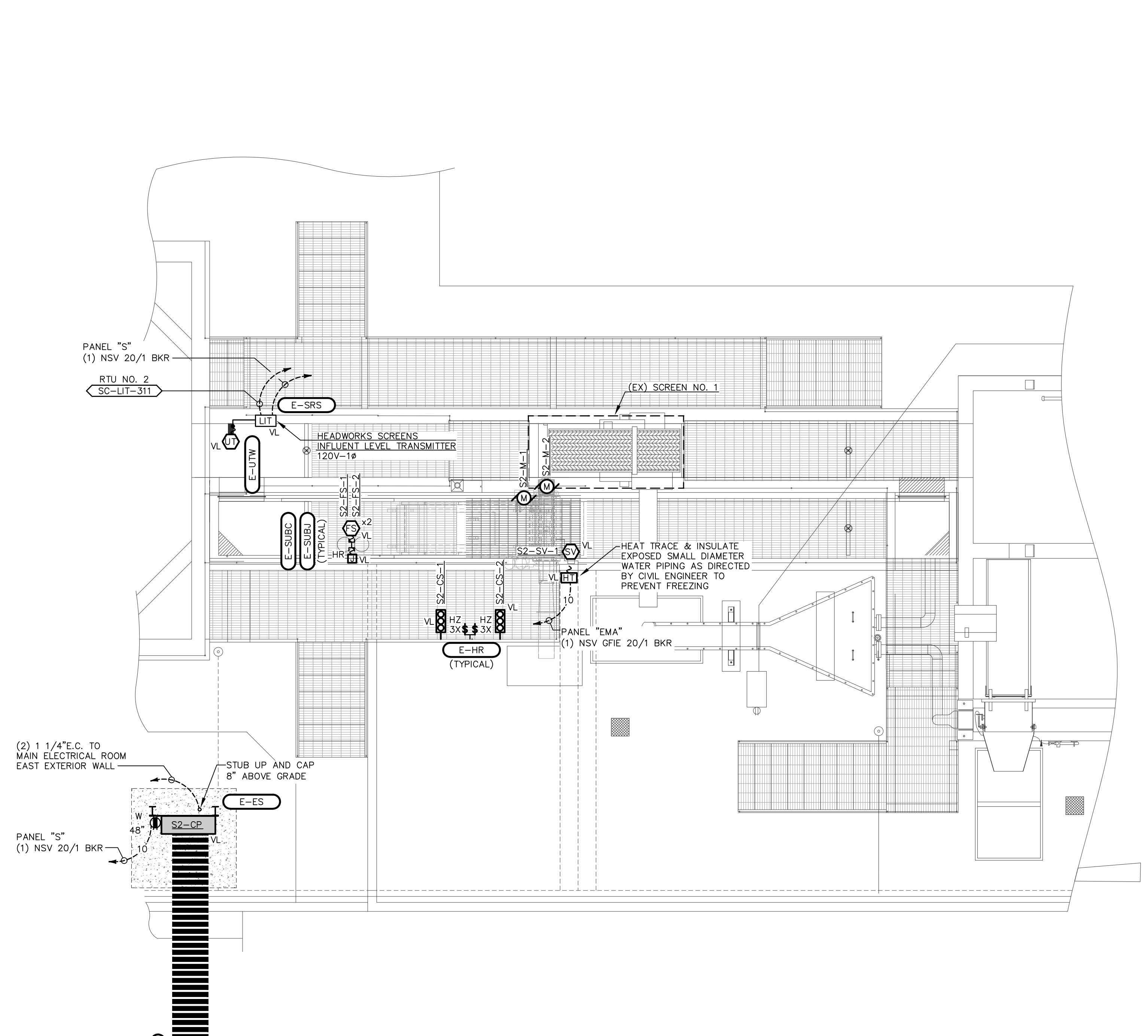
E-101

WASTEWATER TREATMENT PLANT IMPROVEMENTS
WETUMPKA, ALABAMA
CS010460-06
CMGM230096(1)

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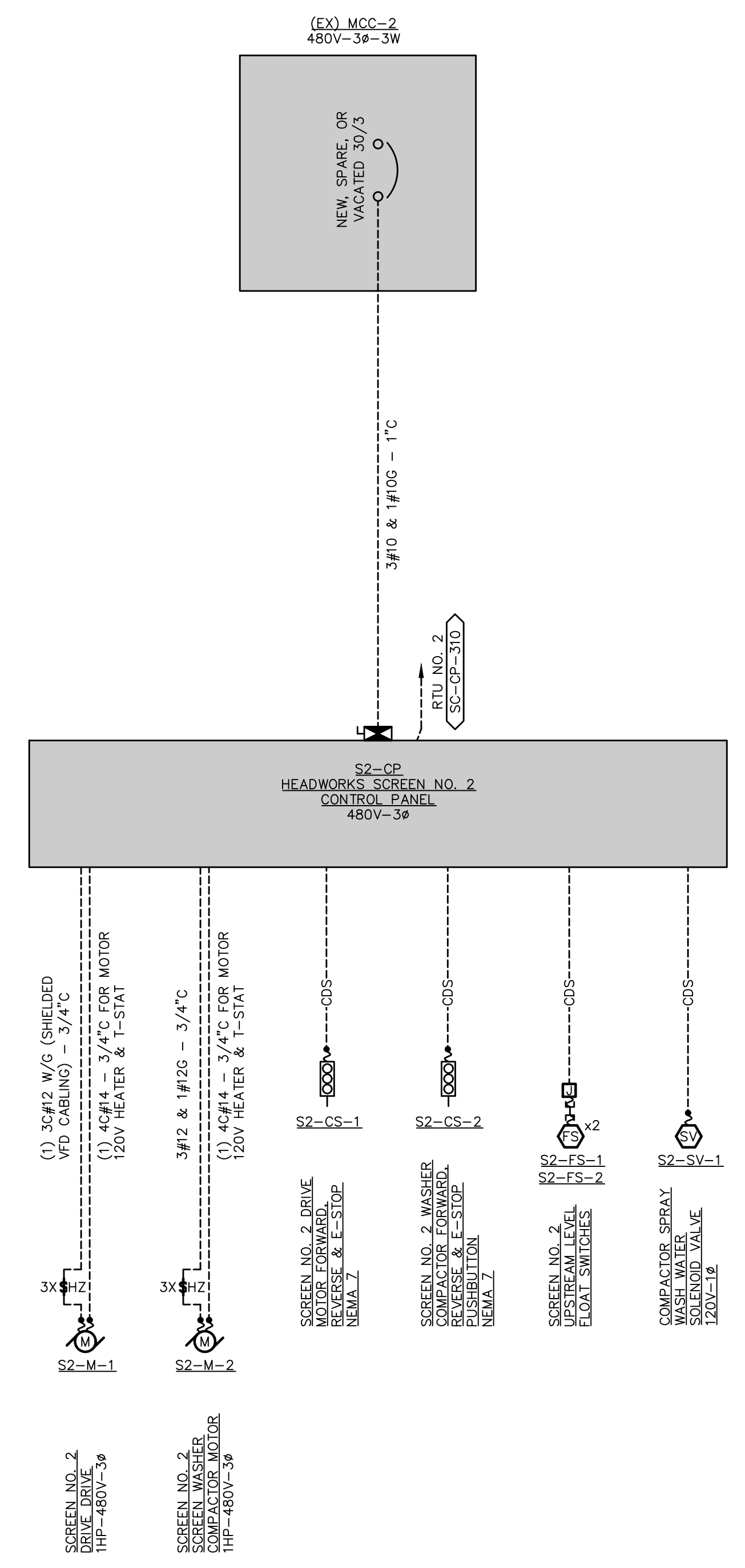




HEADWORKS ELECTRICAL PLAN

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

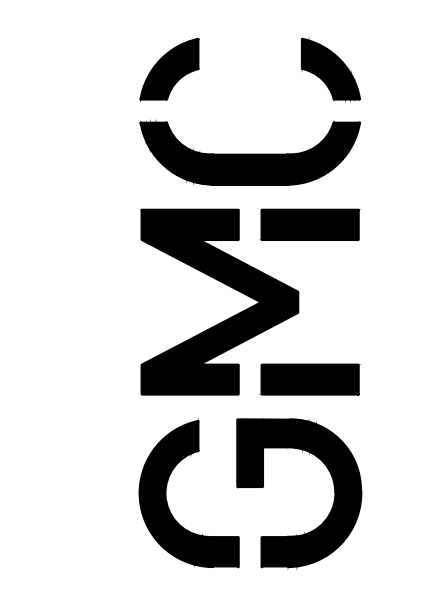
- NOTES THIS SHEET ONLY**
- ENTIRE ELECTRICAL INSTALLATION WITHIN HAZARDOUS AREAS AS DEFINED BELOW BY DETAIL "E-HAOC" AND BY NFPA 820 SHALL COMPLY WITH ALL APPLICABLE NEC REQUIREMENTS FOR CONDUIT SEALS, RACEWAY TYPES, MATERIAL/DEVICE TYPES, ETC.
 - THE FOLLOWING AREAS ON THIS PLAN SHALL BE CONSIDERED CLASS I, DIVISION II, GROUP D AREAS:
 - AREAS ENCLOSED WITHIN BASIN/CHANNEL WALLS.
 - AREAS FROM GRADE LEVEL TO WITHIN 18" OF THE TOP OF THE BASIN/CHANNEL WALLS AND EXTENDING 10' HORIZONTALLY OUTSIDE OF THE BASIN CHANNEL WALLS.
 - AREAS WITHIN 10' RADIUS (IN ALL DIRECTIONS) FROM HEADWORKS SCREENING, GRIT COLLECTIONS, GRIT PUMPING, OR GRIT CLASSIFICATION SYSTEMS.
 - VERIFY EXACT LOCATIONS OF ALL EQUIPMENT/DEVICES WITH EQUIPMENT SUPPLIER PRIOR TO ROUGH-IN.
 - THIS PLAN IS INTENDED TO SHOW GENERAL ELECTRICAL EQUIPMENT/DEVICE LOCATIONS ONLY. REFER TO ASSOCIATED ASSOCIATED WIRING DIAGRAM AND SINGLE LINE DIAGRAM FOR ALL SITE CIRCUITRY REQUIREMENTS, PUMP HP'S, STATION VOLTAGES, ETC. NOT INDICATED ON THIS PLAN.



HEADWORKS SCREEN NO. 2 CONTROL PANEL WIRING DIAGRAM

SCALE : NONE

- DIAGRAM NOTES**
- THIS IS A TYPICAL DIAGRAM THAT INDICATES GENERAL PROCESS EQUIPMENT CIRCUITRY, & MISCELLANEOUS WIRING REQUIREMENTS. IT IS NOT INTENDED TO SPECIFY ALL REQUIRED CIRCUITRY FOR THE PROJECT. SEE PLANS FOR SITE-SPECIFIC QUANTITIES OF DEVICES & EQUIPMENT. PROVIDE ALL INTERCONNECTIONS/CIRCUITRY AS REQUIRED FOR A COMPLETE INSTALLATION.
 - EXACT LOCATIONS OF ALL DEVICES AND EQUIPMENT WITHIN SHALL BE AS DIRECTED BY CIVIL ENGINEER.
 - ALL INTERCONNECTING CIRCUITRY BETWEEN SEPARATE EQUIPMENT, DEVICES, ETC. SHALL BE ROUTED UNDERGROUND (RATHER THAN EXPOSED OR ABOVE GRADE) WHERE POSSIBLE.

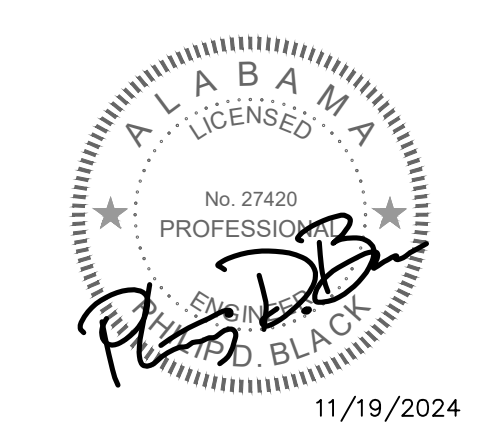


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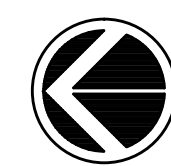
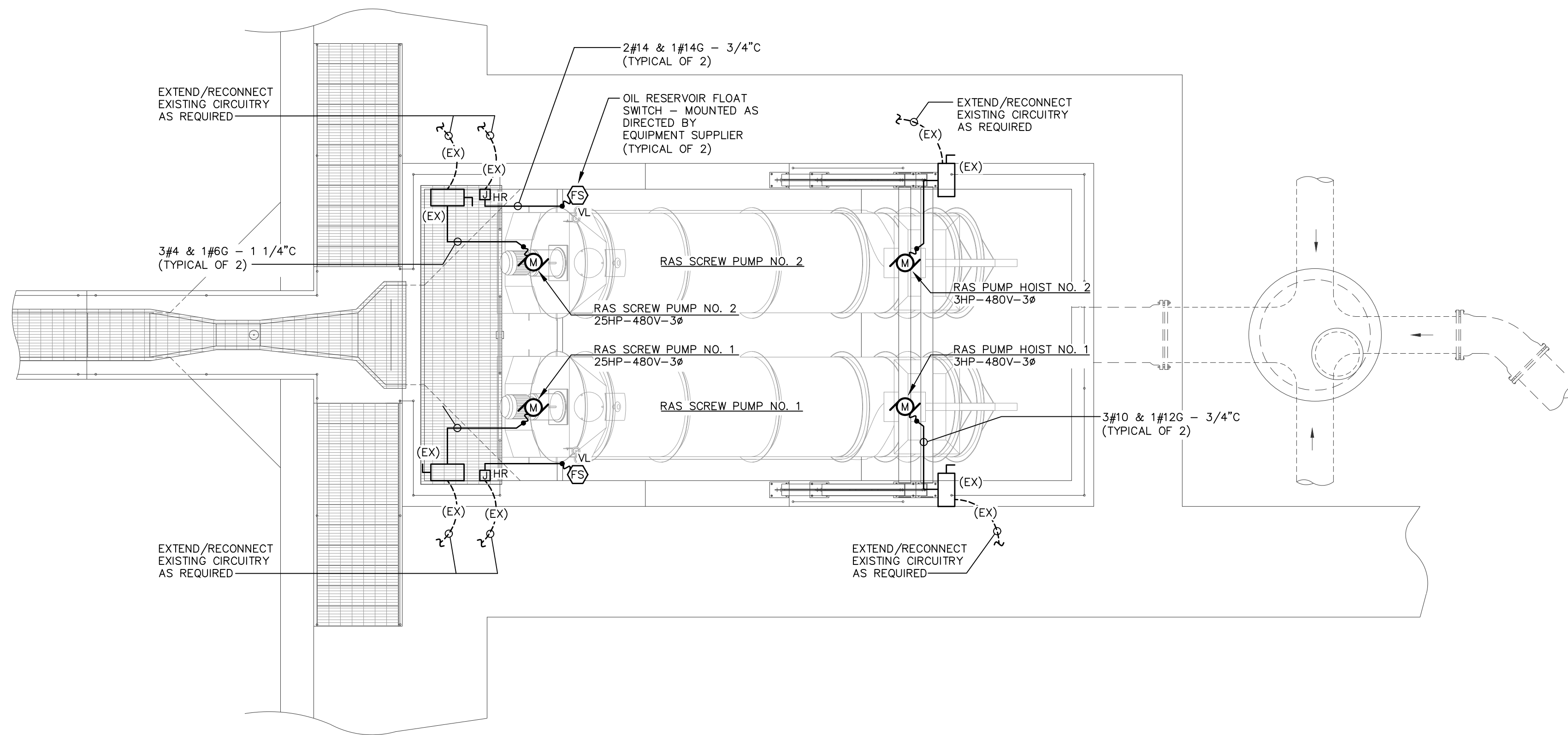
WASTEWATER TREATMENT PLANT IMPROVEMENTS
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HEADWORKS ELECTRICAL PLAN

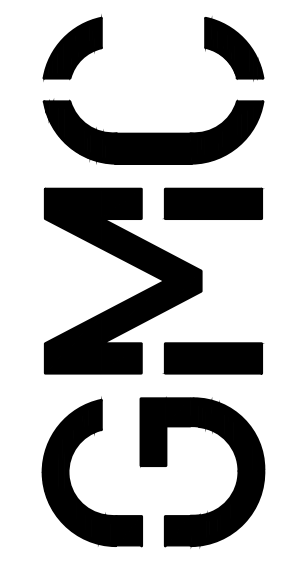
E-111

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ELECTRICAL ENGINEERING & DESIGN
PHIL BLACK, PE
jrh@jraee.com
(205) 536-7120
(P) 205.995.1078
JRA JOB NO. 224149
31 INVERNESS CENTER PKWY • SUITE 301
BIRMINGHAM, ALABAMA • 35242



**RAS PUMP STATION
ELECTRICAL PLAN**

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

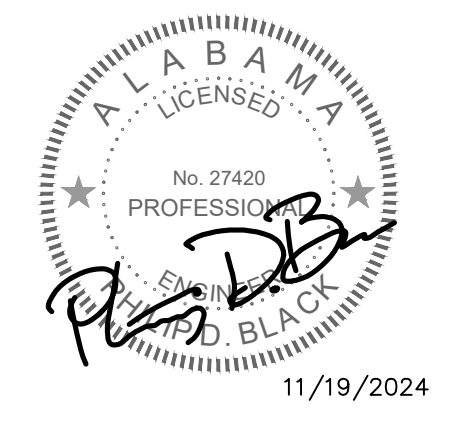


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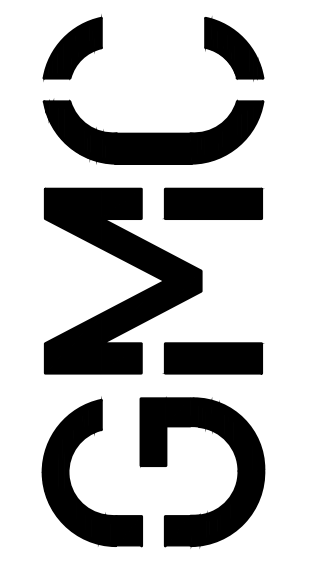
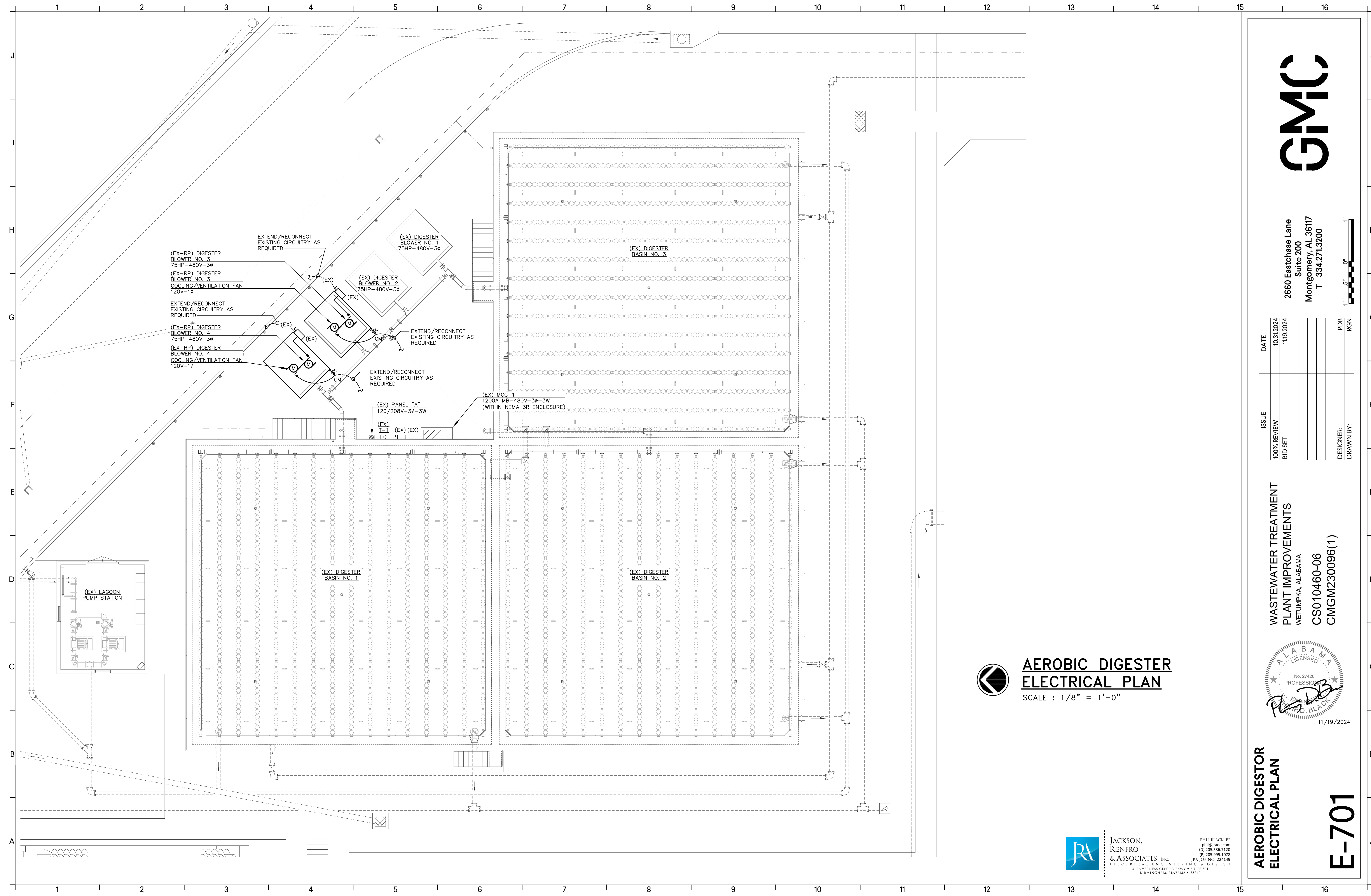
WASTEWATER TREATMENT
PLANT IMPROVEMENTS
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RAS PUMP STATION
ELECTRICAL PLAN

E-401

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& ASSOCIATES, INC.
ELECTRICAL ENGINEERING & DESIGN
31 INVERNESS CENTER PKWY • SUITE 301
BERMINGHAM, ALABAMA • 35242
PHIL BLACK, PE
phil@raee.com
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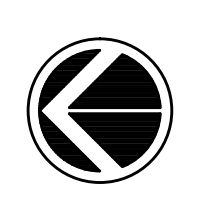


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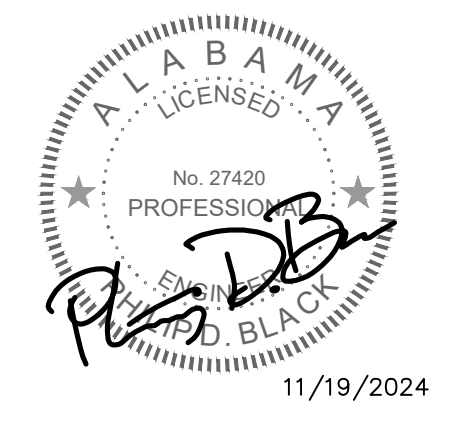
DESIGNER: PDB
DRAWN BY: RGN

WASTEWATER TREATMENT
PLANT IMPROVEMENTS
WETUMPKA, ALABAMA
CS010460-06
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AEROBIC DIGESTER ELECTRICAL PLAN

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



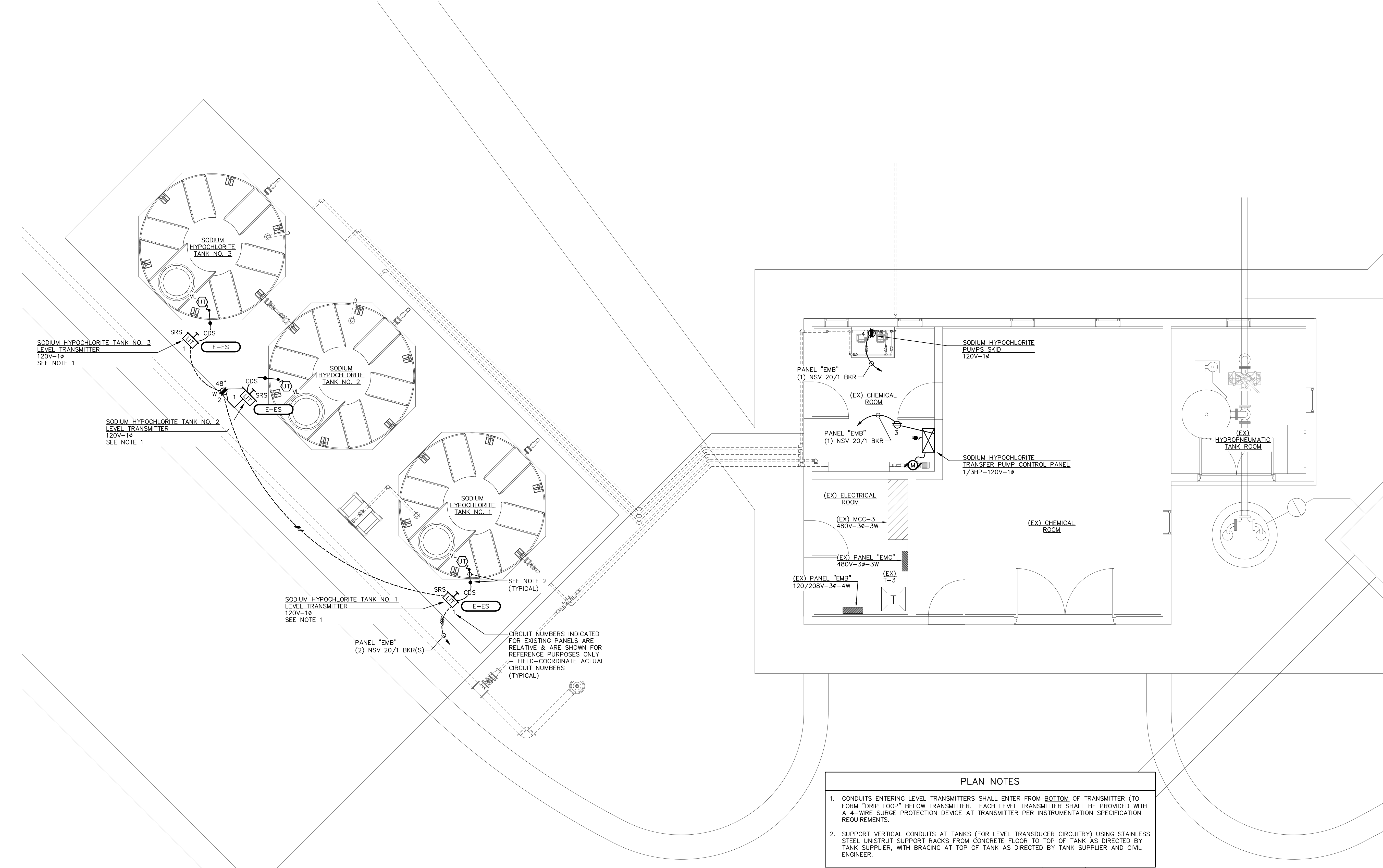
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ELECTRICAL ENGINEERING & DESIGN
31 INVERNESS CENTER PKWY • SUITE 301
BERMINGHAM, ALABAMA • 35242

PHIL BLACK, PE
phil@raee.com
(205) 536-7120
(P) 205.995.1078
RA JOB NO. 224149

**AEROBIC DIGESTOR
ELECTRICAL PLAN**

E-701

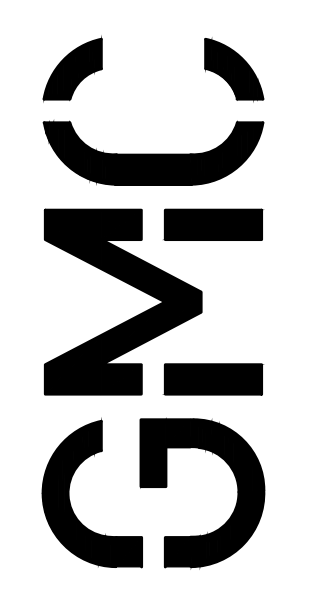


- PLAN NOTES**
- CONDUITS ENTERING LEVEL TRANSMITTERS SHALL ENTER FROM BOTTOM OF TRANSMITTER (TO FORM "DRIP LOOP" BELOW TRANSMITTER. EACH LEVEL TRANSMITTER SHALL BE PROVIDED WITH A 4-WIRE SURGE PROTECTION DEVICE AT TRANSMITTER PER INSTRUMENTATION SPECIFICATION REQUIREMENTS.
 - SUPPORT VERTICAL CONDUITS AT TANKS (FOR LEVEL TRANSDUCER CIRCUITRY) USING STAINLESS STEEL UNISTRUT SUPPORT RACKS FROM CONCRETE FLOOR TO TOP OF TANK AS DIRECTED BY TANK SUPPLIER, WITH BRACING AT TOP OF TANK AS DIRECTED BY TANK SUPPLIER AND CIVIL ENGINEER.

**CHLORINE BUILDING
ELECTRICAL PLAN**
SCALE : 1/4" = 1'-0"

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ELECTRICAL ENGINEERING & DESIGN
31 INVERNESS CENTER PKWY • SUITE 301
BERMINGHAM, ALABAMA • 35242

PHIL BLACK, PE
phil@jraee.com
(205) 536-7120
(205) 995-1078
JRA JOB NO. 224149

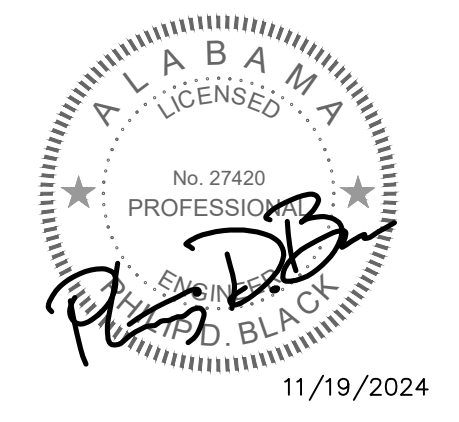


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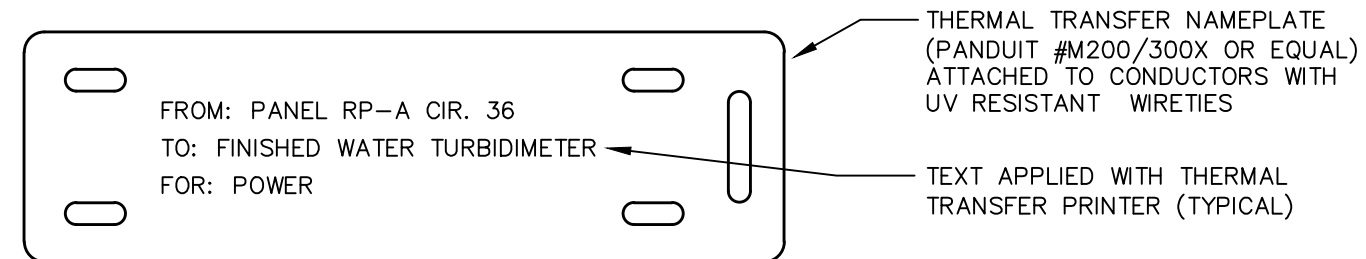
DESIGNER: PDB
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PLANT IMPROVEMENTS**
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**CHLORINE BUILDING
ELECTRICAL PLAN**

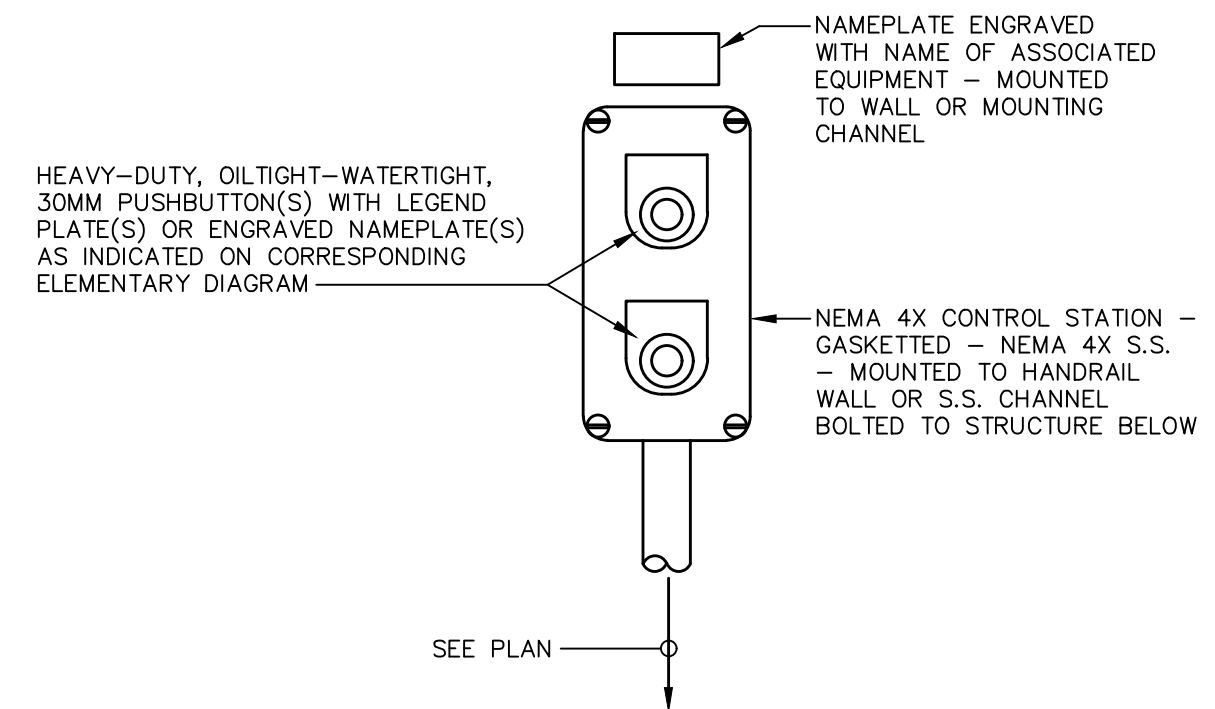
E-801



E-CL
DETAIL "E-CL"
TYPICAL CIRCUIT LABEL

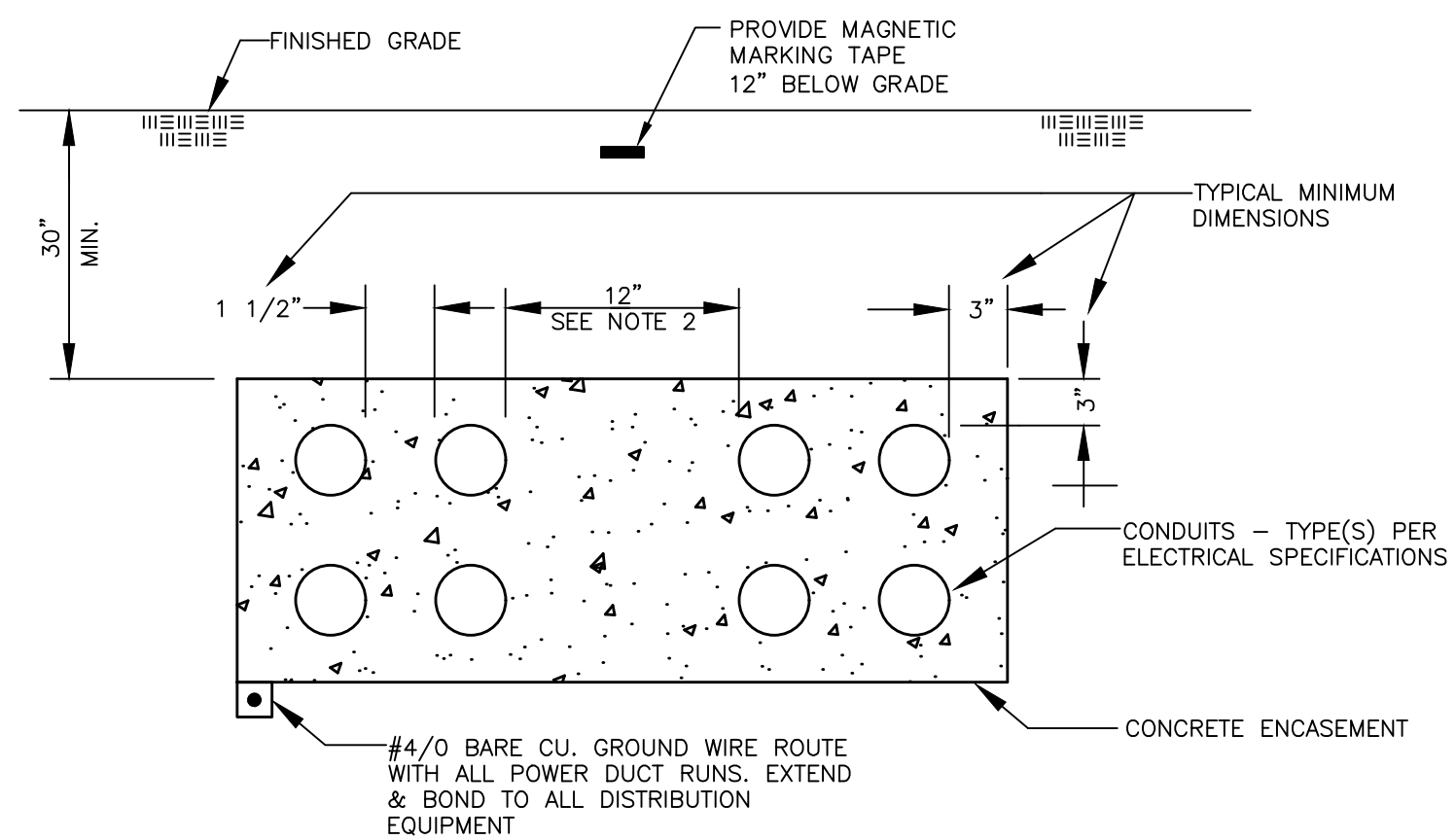
SCALE : NONE

NOTES THIS DETAIL ONLY	
1.	CIRCUIT LABEL TYPES SHOWN ABOVE SHALL BE USED TO IDENTIFY ALL CIRCUITS WITHIN PULLBOXES, HANDHOLES, VAULTS JUNCTION BOXES LARGER THAN 4-11/16", APPROXIMATELY EVERY 50 FEET WITHIN CABLE TRAYS (INCLUDING AT MAJOR CABLE TRAY JUNCTIONS AND BREAKOUT LOCATIONS) AND AT OTHER SIMILAR LOCATIONS. SEE SPECIFICATIONS FOR LABELING REQUIREMENTS IN OTHER AREAS.
2.	CIRCUIT NUMBERS SHALL BE IDENTIFIED FOR ALL CIRCUITS FED FROM LIGHTING OR POWER PANELBOARDS.
3.	"FROM", "TO" & "FOR" TEXT SHOWN ABOVE ARE FOR EXAMPLE PURPOSES ONLY. NAMES/NUMBERS SHALL BE ADJUSTED TO MATCH ASSOCIATED CIRCUITS/CABLES.
4.	SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.



E-CS
DETAIL "E-CS"
TYPICAL CONTROL STATION

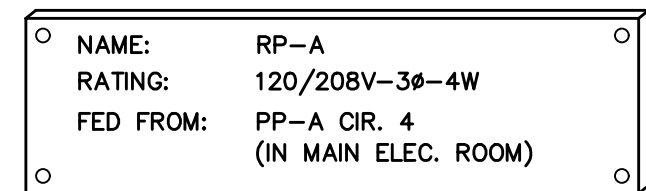
SCALE : NONE



E-DR
DETAIL "E-DR"
TYPICAL DUCT RUN SECTION

SCALE : NONE

DETAIL NOTES	
1.	PVC SPACERS SHALL BE INSTALLED AT RECOMMENDED INTERVALS TO SUPPORT AND MAINTAIN SPACING FOR CONDUITS.
2.	INSTRUMENTATION CONDUITS SHALL BE SEPARATED FROM POWER/CONTROL CONDUITS BY A MINIMUM OF 12" THROUGHOUT ANY DUCT RUNS.
3.	COORDINATE EXACT ROUTING OF NEW DUCTBANK(S) TO AVOID CONFLICTS WITH NEW OR EXISTING UNDERGROUND UTILITIES, STRUCTURES, FUTURE CONSTRUCTION/STRUCTURAL AREAS (AS DIRECTED BY CIVIL ENGINEER), ETC. PRIOR TO ROUGH-IN.
4.	WHERE NEW DUCTRUNS CROSS (OR ROUTE WITHIN) EXISTING PAVED OR HARDSCAPED AREAS, CONTRACTOR SHALL NEATLY CUT, TRENCH & PATCH AS DIRECTED BY CIVIL ENGINEER OR OWNER.
5.	WHERE NEW DUCTRUNS CROSS (OR ROUTE WITHIN) AREAS WITH EXISTING LANDSCAPING (GRASS, SHRUBBERY, ETC.), LANDSCAPING SHALL BE REPLACED TO MATCH EXISTING TO OWNER'S SATISFACTION. NEW DUCTRUNS SHALL BE CAREFULLY ROUTED OUTSIDE OF "DRIPLINES" OF EXISTING TREES THAT ARE BEING MAINTAINED AS REQUIRED TO AVOID DAMAGE TO ROOT SYSTEMS UNLESS DIRECTED OTHERWISE.



E-EDL
DETAIL "E-EDL"
DISTRIBUTION EQUIPMENT LABEL

SCALE : NONE

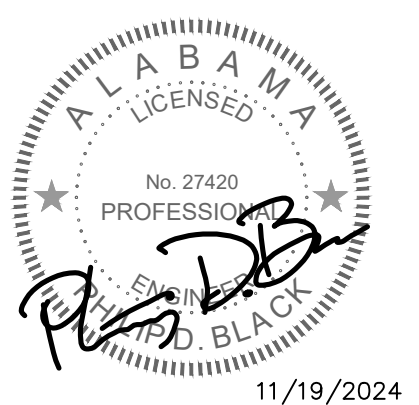
DETAIL NOTES	
1.	PANEL NAMES & RATINGS LISTED ABOVE ARE FOR EXAMPLE PURPOSES ONLY. NAMES & RATINGS SHALL BE ADJUSTED TO MATCH ASSOCIATED EQUIPMENT.
2.	THE INTENT OF THIS DETAIL IS TO DEMONSTRATE GENERAL ELECTRICAL IDENTIFICATION REQUIREMENTS FOR ELECTRICAL DISTRIBUTION AND UTILIZATION EQUIPMENT. REFER TO SPECIFICATIONS FOR SPECIFIC REQUIREMENTS REGARDING LOCATIONS, CONTENT, MATERIALS, ETC..

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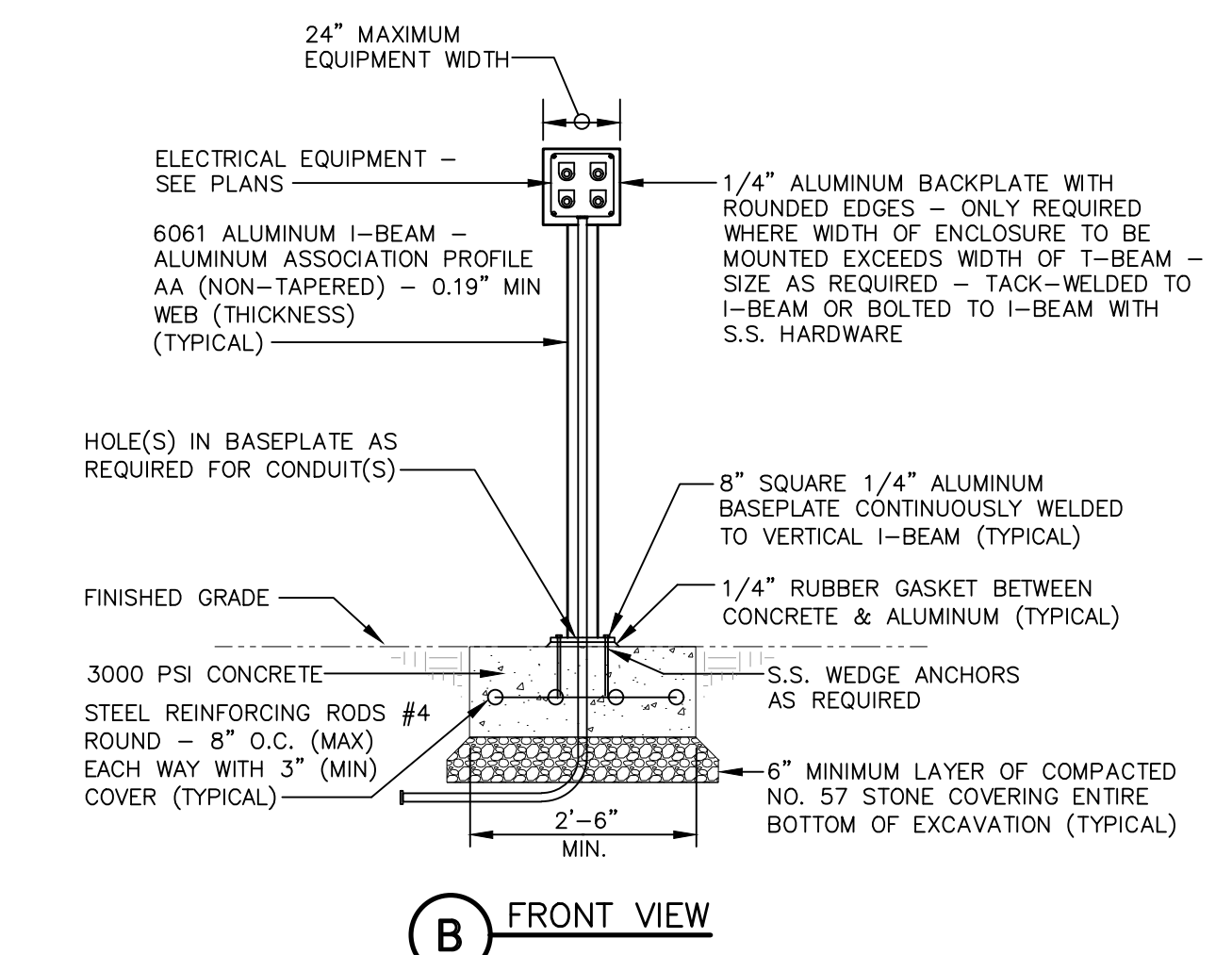
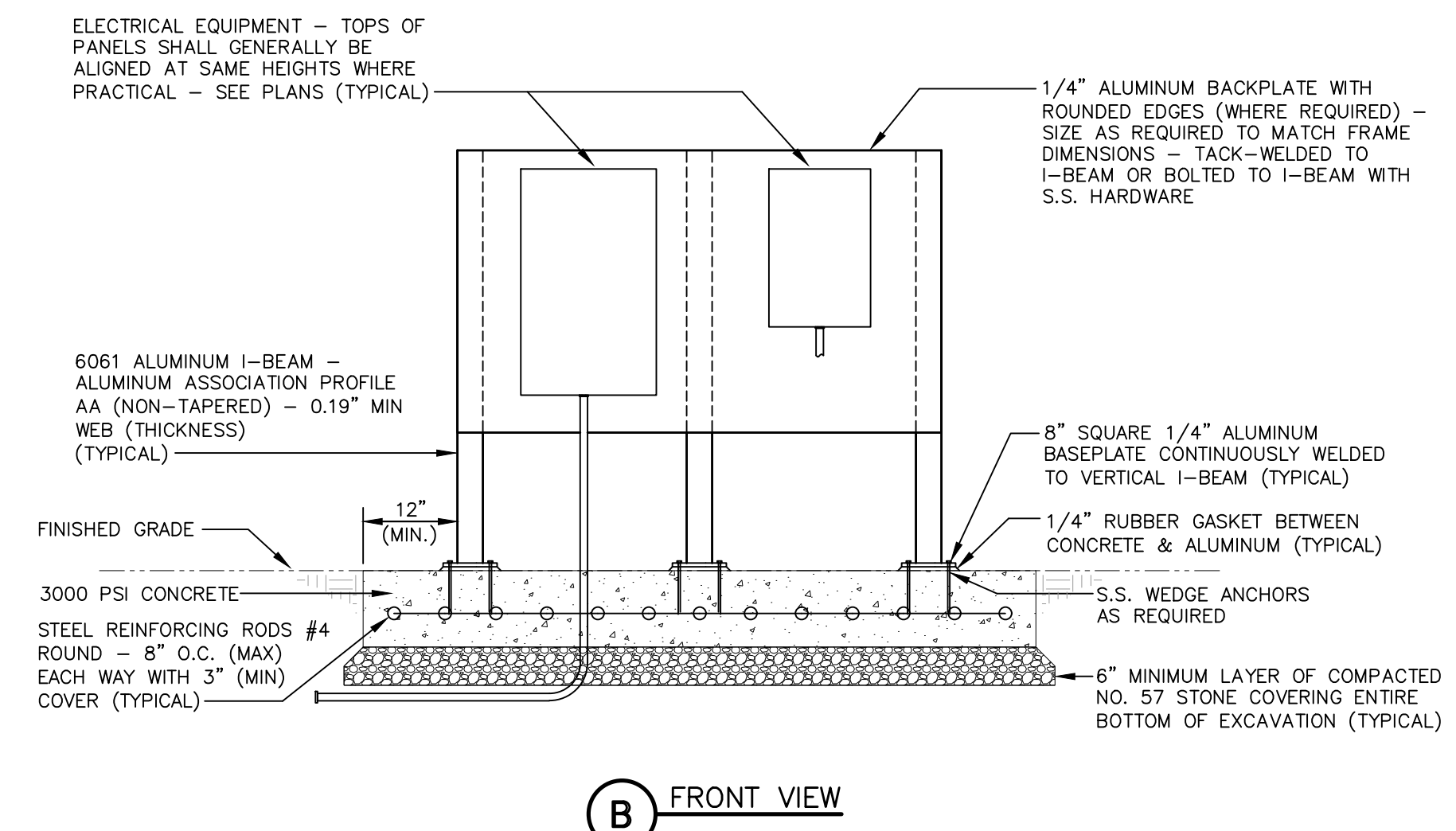
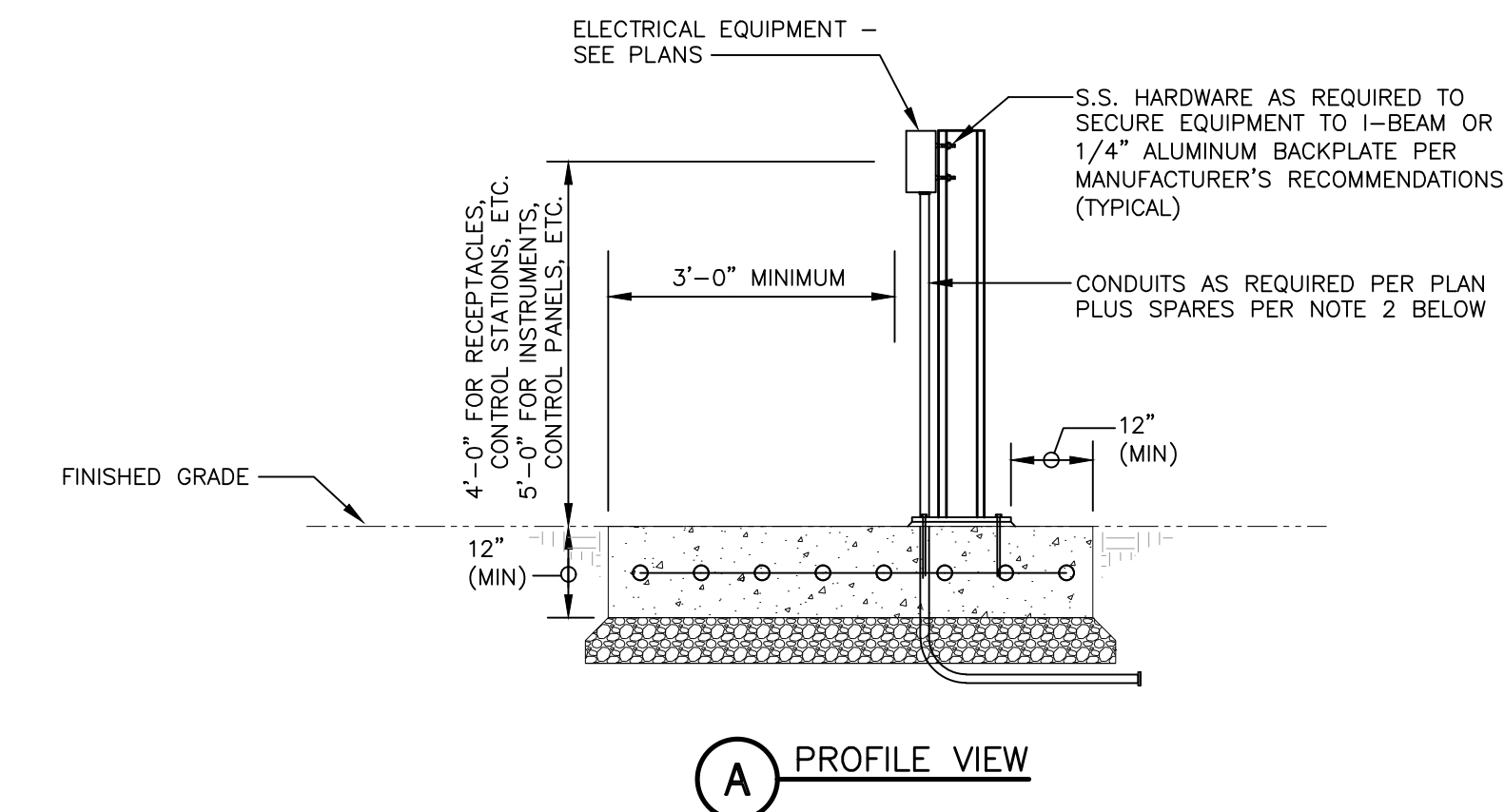
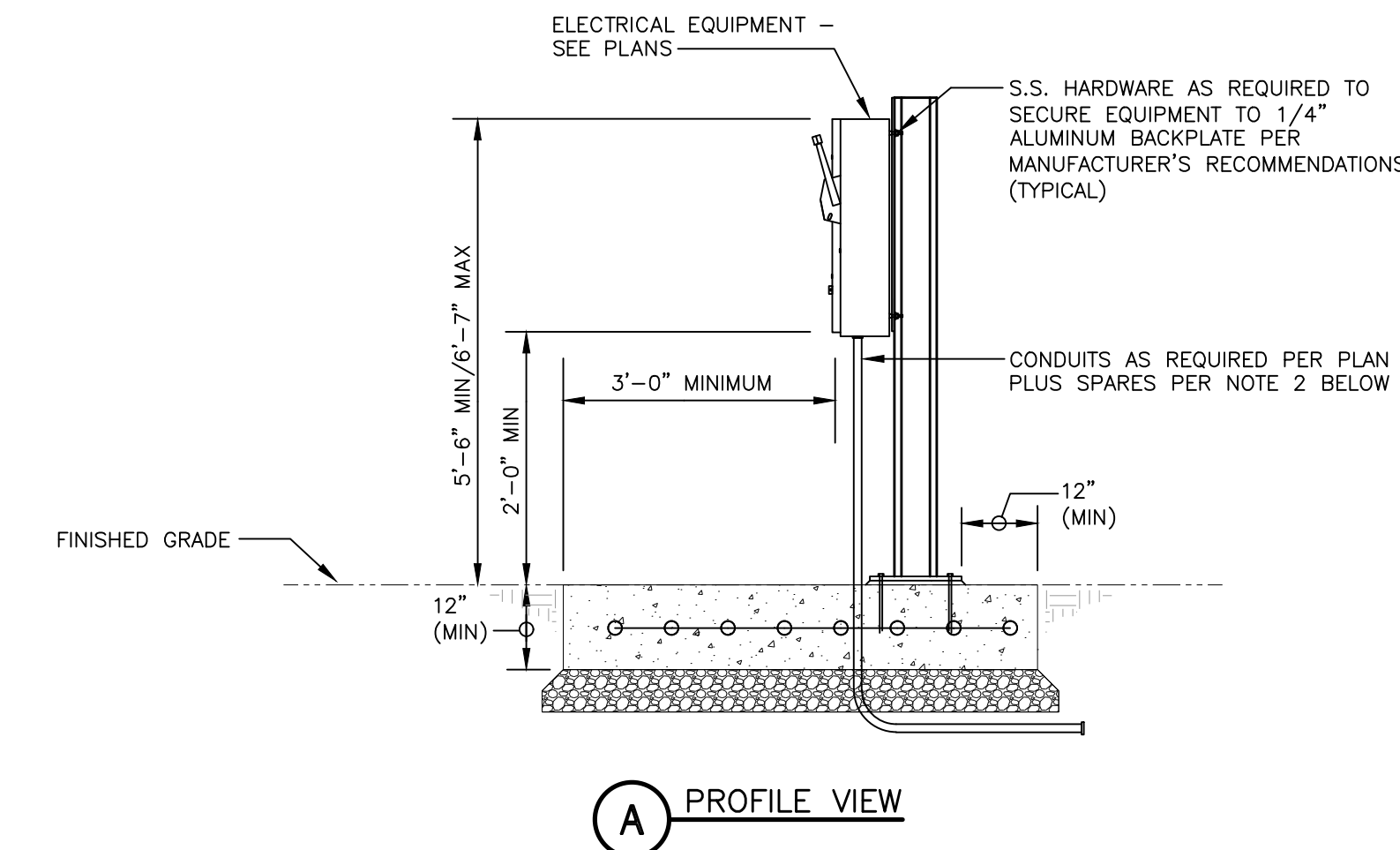
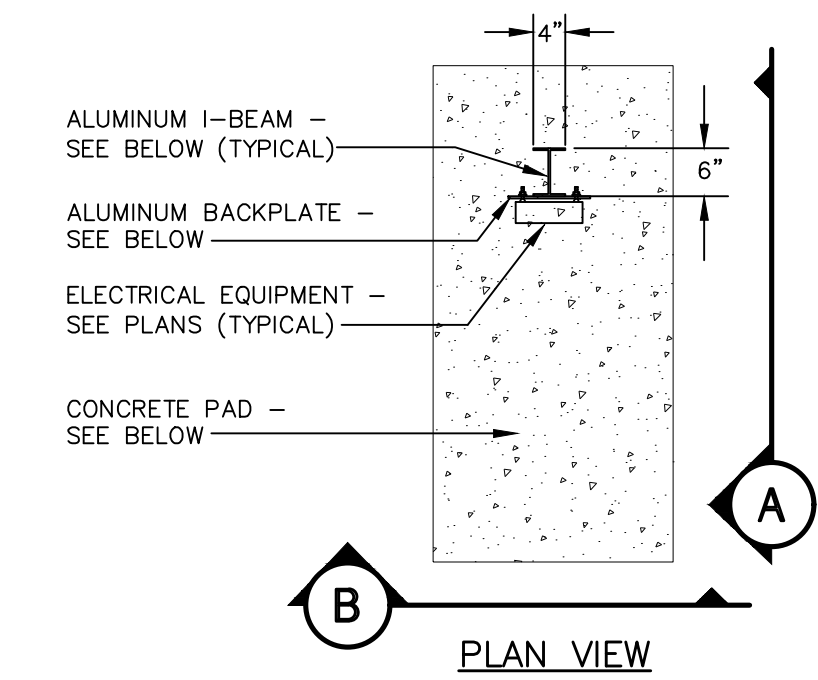
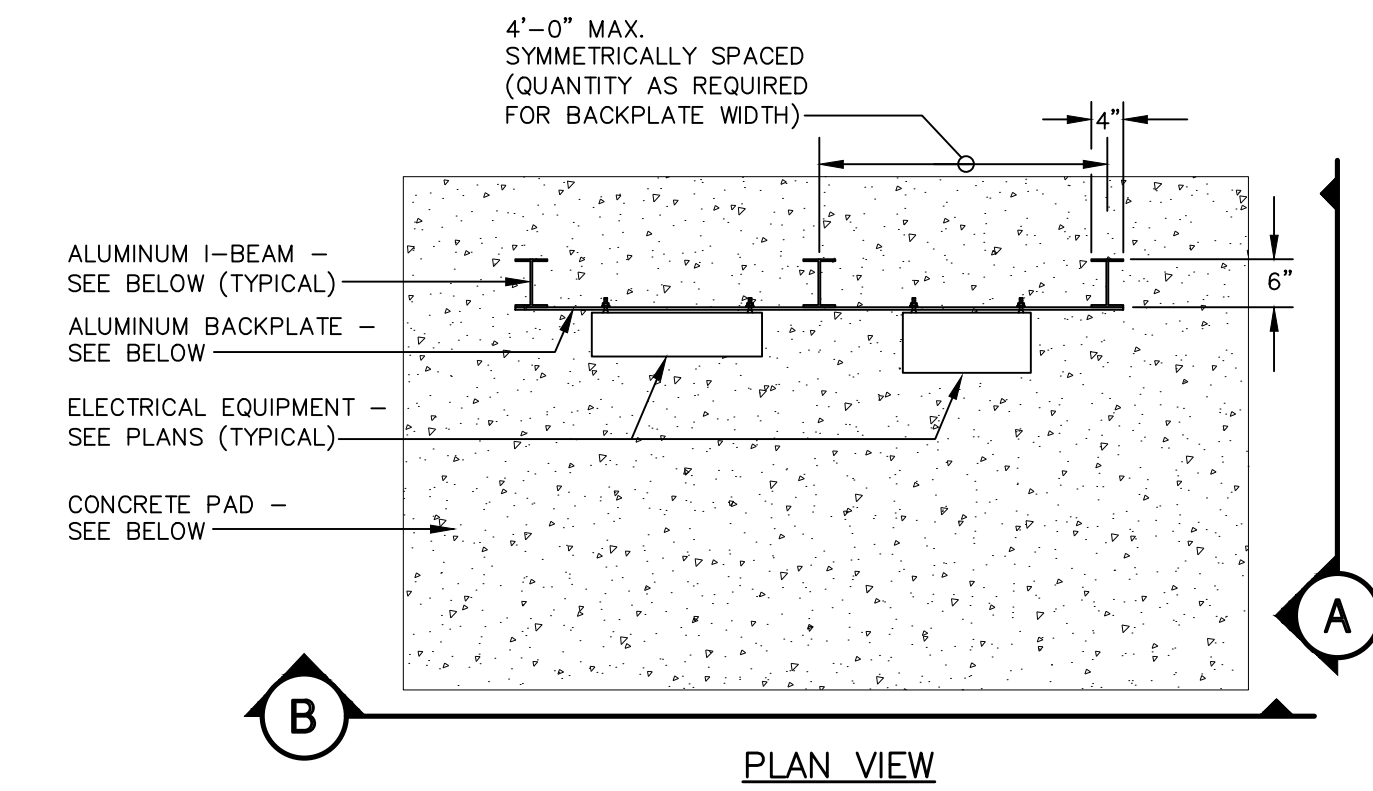
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ELECTRICAL DETAILS

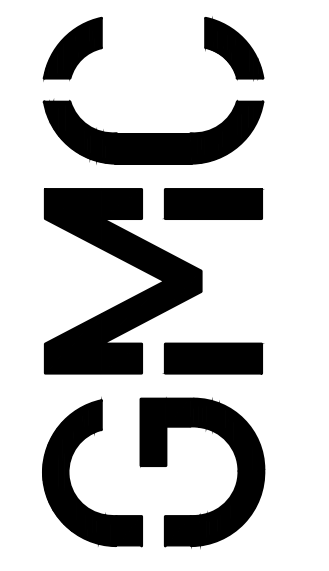
E-901

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 RENFRO
 & ASSOCIATES, INC.
 ELECTRICAL ENGINEERING & DESIGN
 PHIL BLACK, PE
 phil@jraee.com
 (205) 536-7120
 (P) 205.995.1078
 JRA JOB NO. 224149
 31 INVERNESS CENTER PKWY • SUITE 301
 BIRMINGHAM, ALABAMA • 35242



E-ES
DETAIL "E-ES"
EQUIPMENT SUPPORT
 SCALE : NONE

DETAIL NOTES
1. ALL DIMENSIONS SHOWN ARE TYPICAL.
2. PROVIDE TWO (2) 1" E.C. FROM ALL DISTRIBUTION PANELS, LIGHTING PANELS, PLC'S AND CONTROL PANELS ROUTED BELOW CONCRETE PAD TO NEAREST PULLBOX OR ACCESSIBLE STUB OUT LOCATION (NOT UNDERNEATH CONCRETE/ROCK/STRUCTURE/ETC).

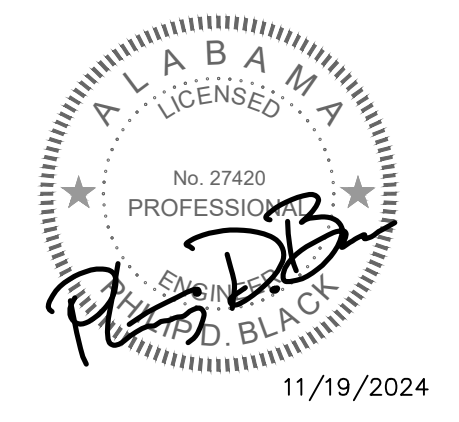


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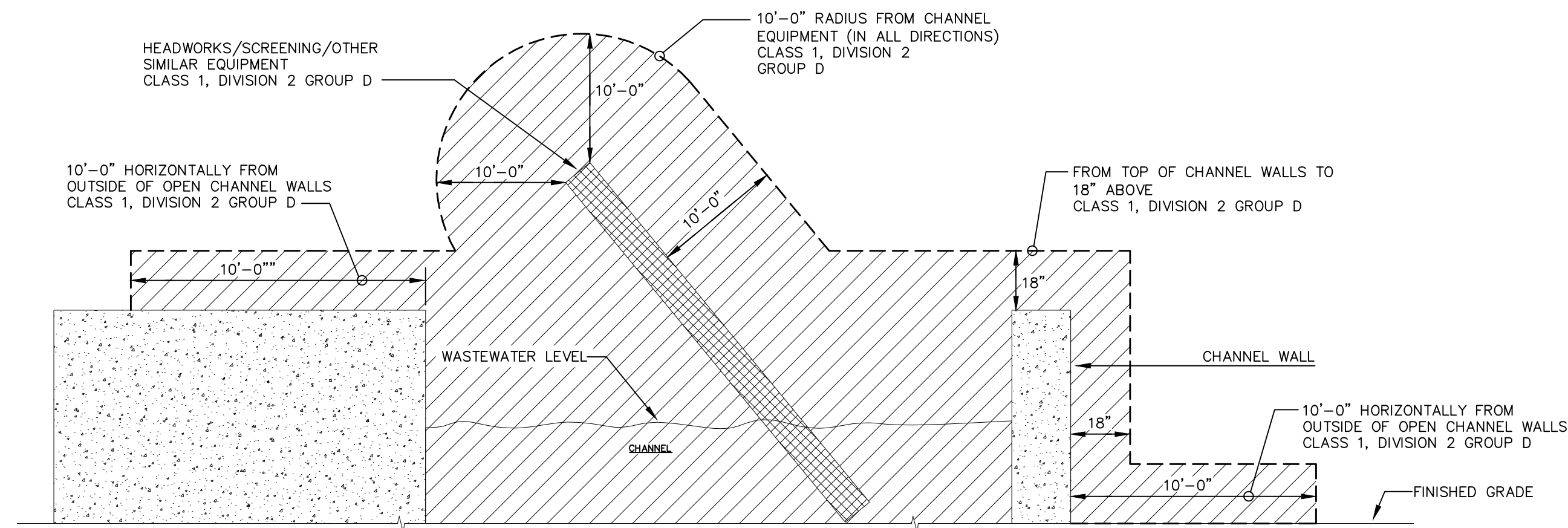


ELECTRICAL DETAILS

E-902

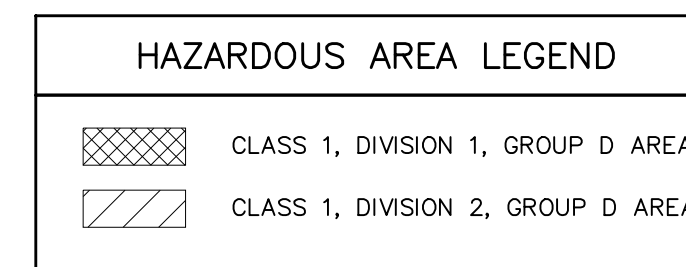
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 phil@jraee.com
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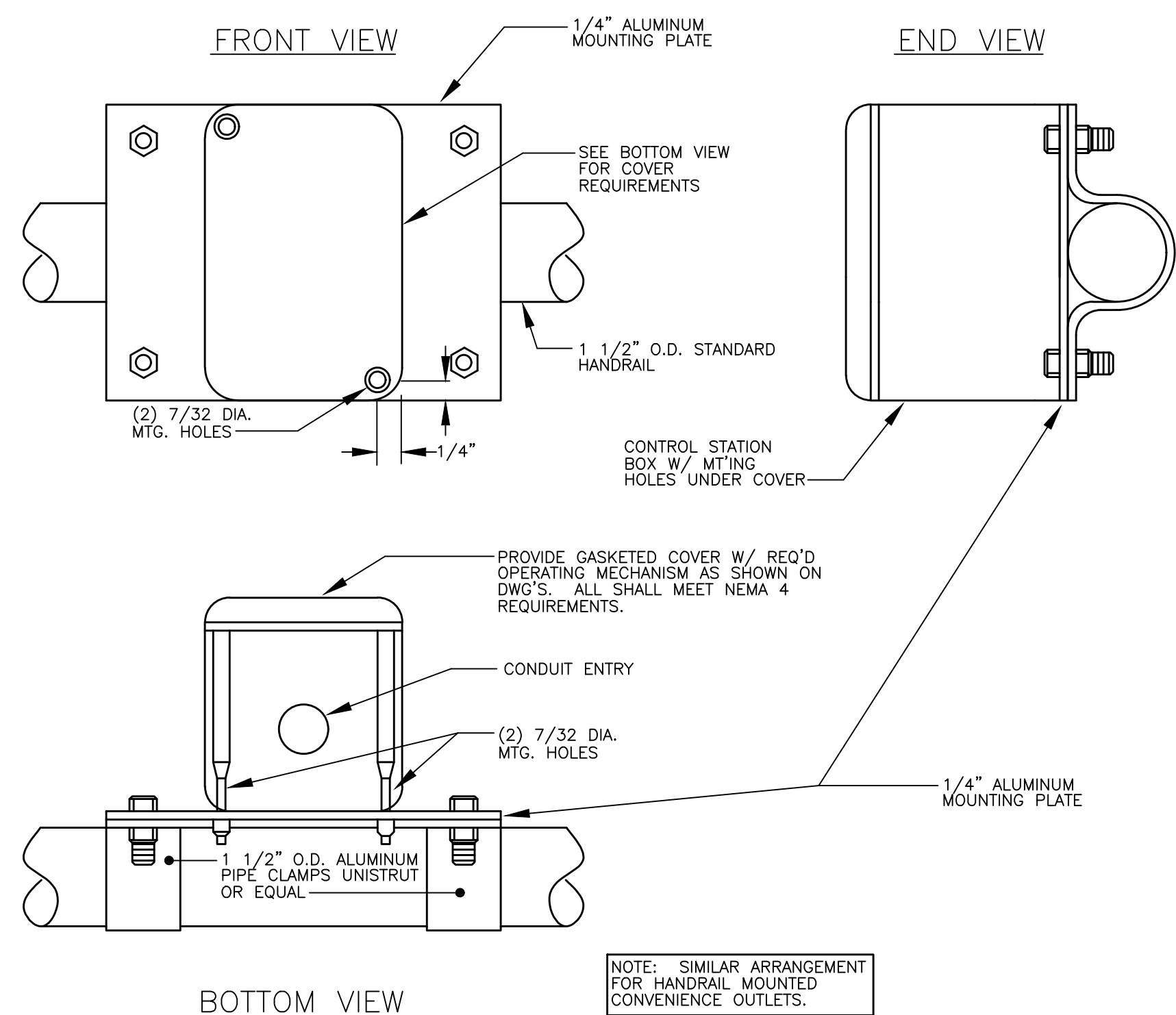
E-HAOC
DETAIL "E-HAOC"
HAZARDOUS AREA CLASSIFICATION
FOR OPEN WASTEWATER CHANNELS
& HEADWORKS EQUIPMENT

SCALE : NONE



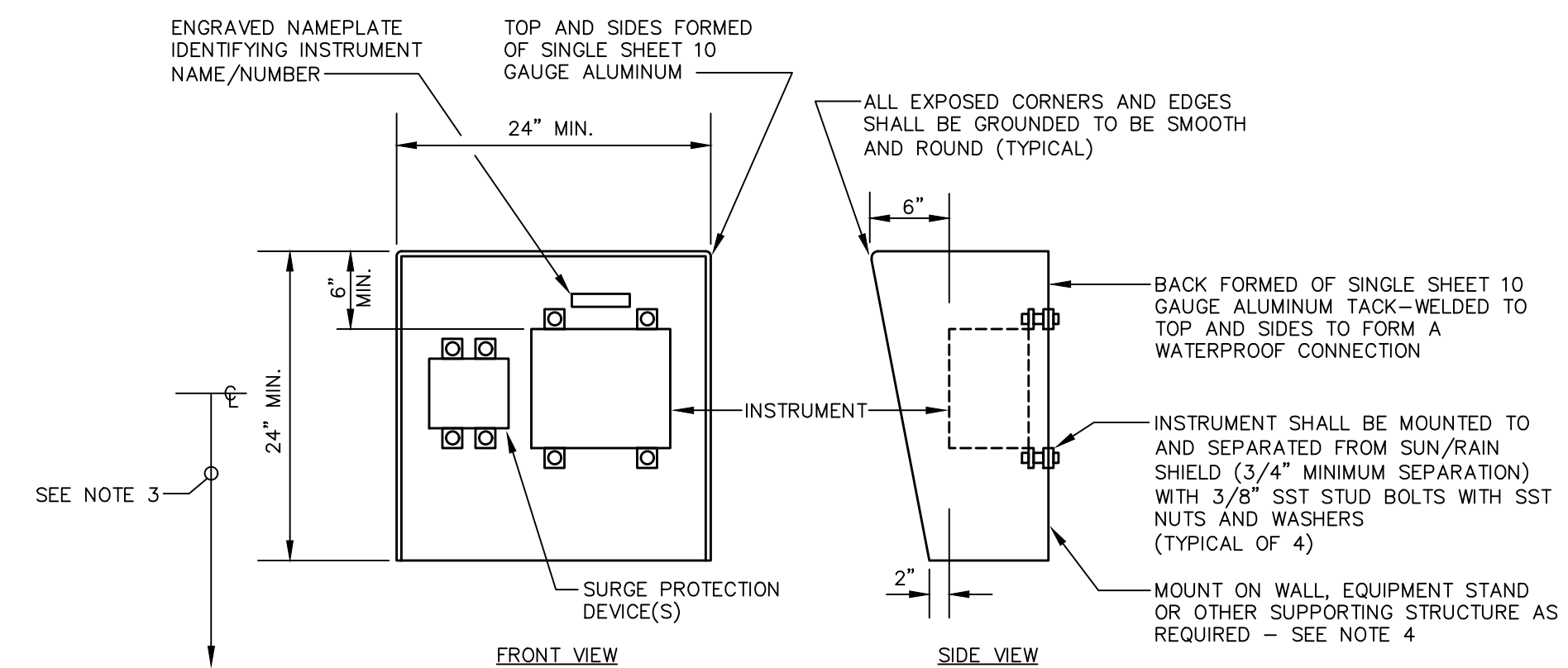
DETAIL NOTES

- ALL EQUIPMENT, DEVICES, CIRCUITRY, ETC. SHALL BE KEPT OUT OF HAZARDOUS AREAS UNLESS SPECIFICALLY SHOWN OTHERWISE. ENTIRE ELECTRICAL INSTALLATION WITHIN HAZARDOUS AREAS AS (DEFINED ON PLANS OR BY NFPA 820) SHALL COMPLY WITH ALL APPLICABLE NEC REQUIREMENTS FOR INSTALLATION, CONDUIT SEALS, RACEWAY TYPES, MATERIAL/DEVICE TYPES, ETC. GENERAL PROJECT INTENT IS TO MINIMIZE EQUIPMENT/DEVICES/CIRCUITRY LOCATED WITHIN HAZARDOUS AREAS.



E-HR
DETAIL "E-HR"
NEMA 4 HANDRAIL MOUNTING

SCALE : NONE



E-SRS
DETAIL "E-SRS"
INSTRUMENT SUN/RAIN SHIELD
INSTALLATION DETAIL

SCALE : NONE

DETAIL NOTES

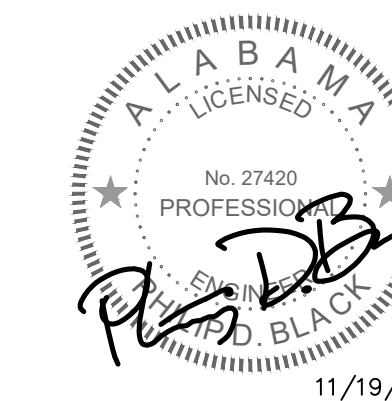
- SUN/RAIN SHIELDS SHALL BE FURNISHED FOR ALL ELECTRONIC INSTRUMENTS THAT WILL BE EXPOSED TO SUN OR RAIN (OR WHERE OTHERWISE SPECIFICALLY NOTED).
- DIMENSIONS SHOWN ABOVE ARE MINIMUM. SUN/RAIN SHIELDS SHALL BE SUFFICIENTLY SIZED TO ACCOMMODATE INSTRUMENT PLUS ASSOCIATED SURGE PROTECTION DEVICE(S), POWER SUPPLIES, AND OTHER SIMILAR DEVICES.
- CENTERLINE OF INSTRUMENT SHALL BE LOCATED AT APPROXIMATELY 60" ABOVE GRADE/FLOOR LEVEL.
- WHERE SUN/RAIN SHIELD IS SHOWN TO BE MOUNTED AT HANDRAIL(S) WITH LESS THAN 60" OF FRONTAL CLEARANCE (FOR PROPOSED INSTRUMENT), PROVIDE TWO (2) SETS OF VERTICAL 316 STAINLESS STEEL UNISTRUT FRAMES FROM "BACK" SIDE OF BOTH RAILS OF HANDRAIL SYSTEM AS REQUIRED TO OFFSET SUN/RAIN SHIELD BEHIND HANDRAIL SYSTEM, SUCH THAT FRONT OF SUN/RAIN SHIELD DOES NOT PROTRUDE INTO WALKWAY PAST INSIDE OF HANDRAIL, TO "BACK" SIDE OF SUN/RAIN SHIELD.

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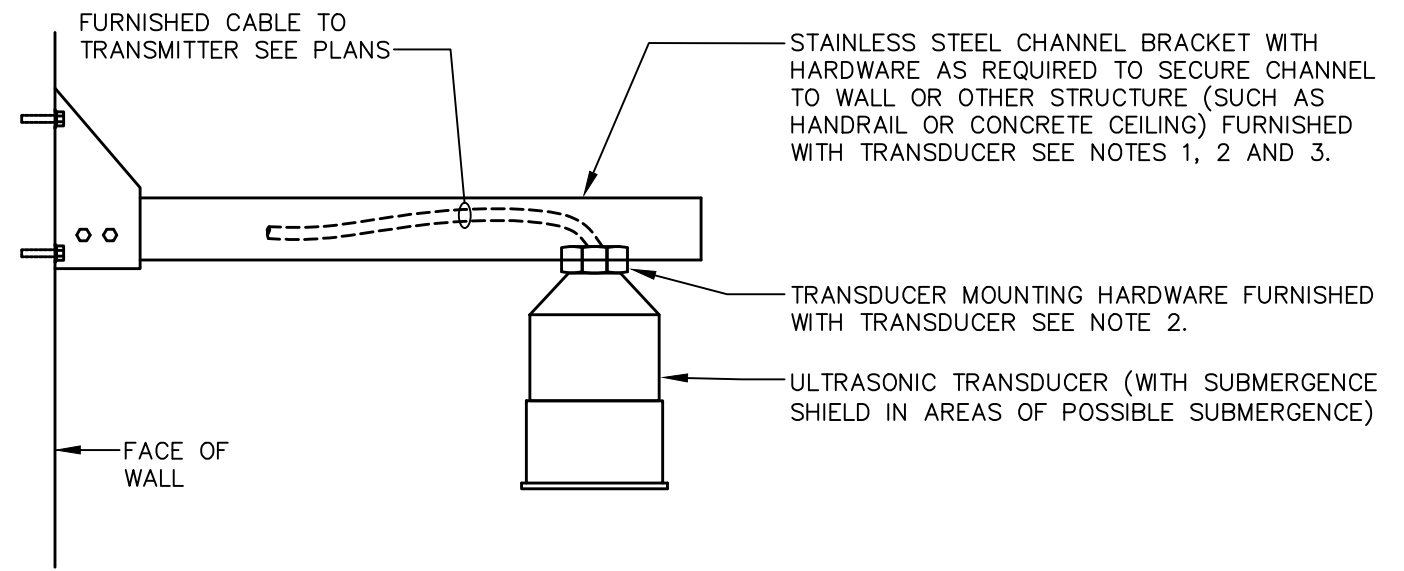
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ELECTRICAL DETAILS

E-903

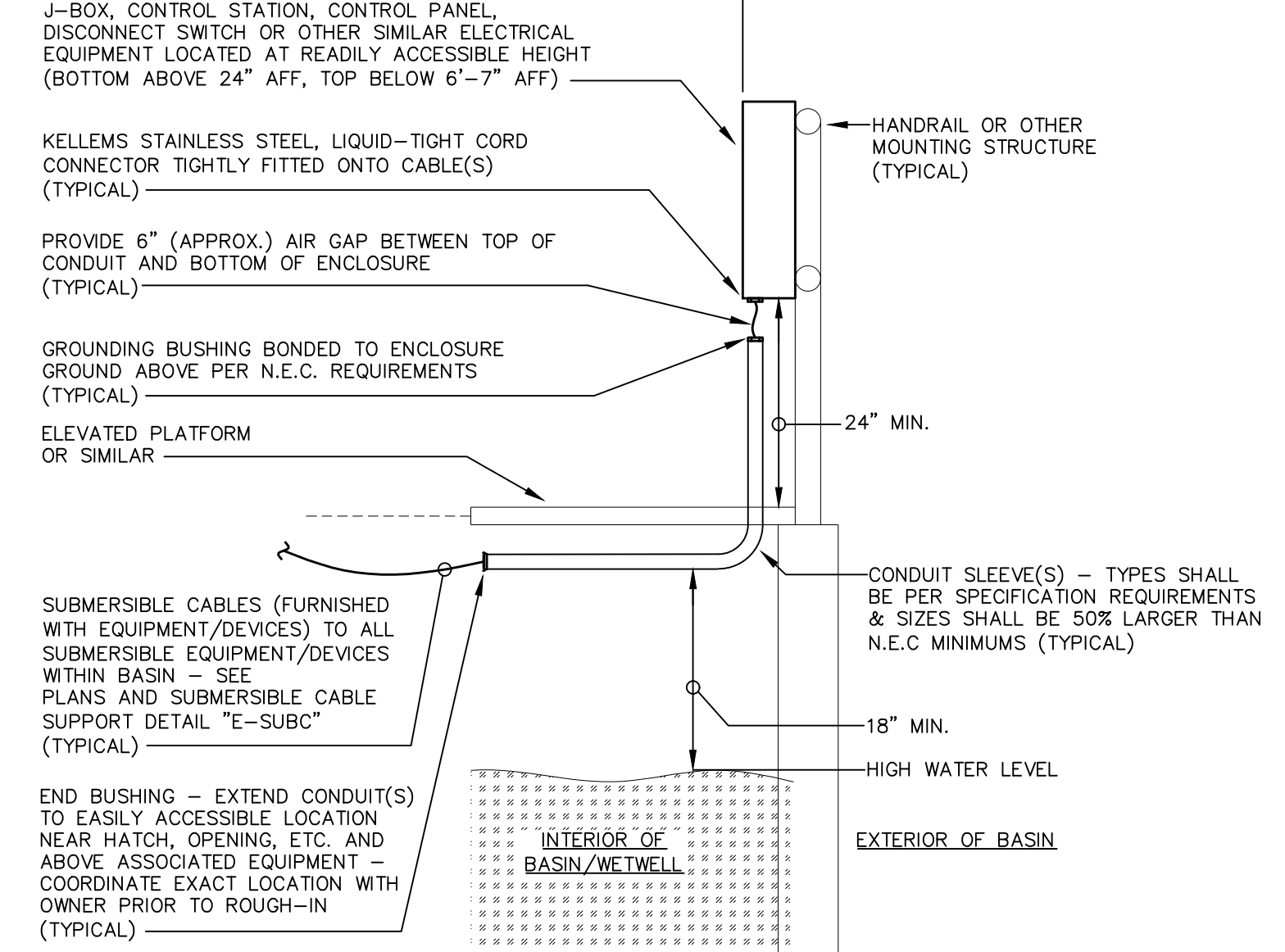
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 ELECTRICAL ENGINEERING & DESIGN
 PHIL BLACK, PE
 phil@raee.com
 (D) 205.536.7120
 (P) 205.995.1078
 31 INVERNESS CENTER PKWY • SUITE 301
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DETAIL "E-UTW"
TYPICAL ULTRASONIC LEVEL TRANSDUCER
WALL-MOUNT INSTALLATION DETAIL
 SCALE : NONE

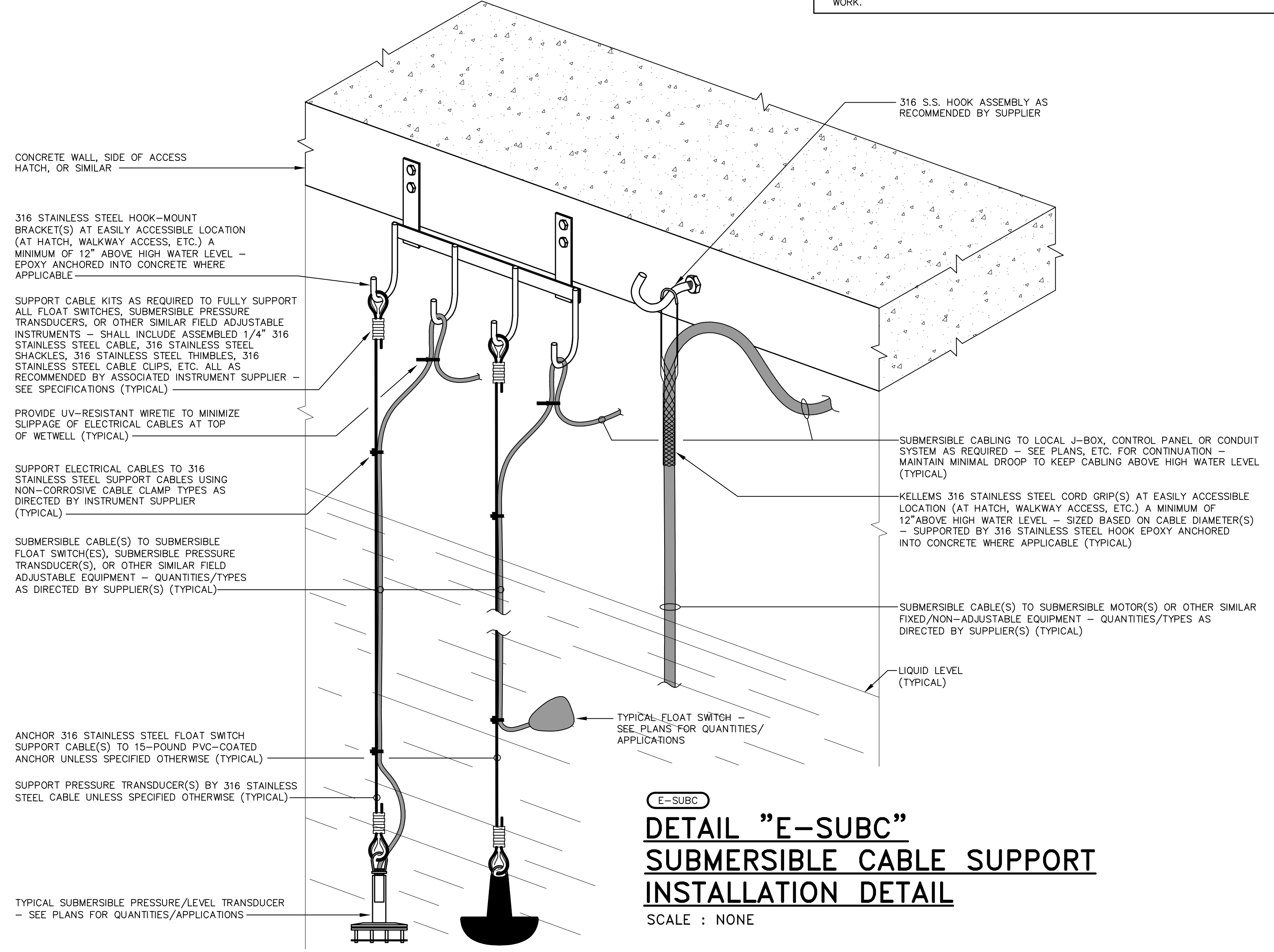
- DETAIL NOTES**
1. INSTALLATION SHOWN IS TYPICAL. EXACT REQUIREMENTS SHALL BE DETERMINED BY APPROVED MANUFACTURER'S SHOP DRAWINGS.
 2. CONTRACTOR SHALL COORDINATE ALL EQUIPMENT MOUNTING HARDWARE REQUIREMENTS WITH INSTRUMENTATION PROVIDER.
 3. DETAIL BASED ON TYPICAL WALL MOUNTED CHANNEL BRACKET. HANDRAIL MOUNTED BRACKETS SHALL BE CONNECTED TO AN ALUMINUM BACKPLATE SECURED TO TWO HORIZONTAL HANDRAIL MEMBERS.
 4. TRANSDUCER SHALL BE LOCATED AS REQUIRED TO AVOID OBSTRUCTIONS INTERFERING WITH THE ULTRASONIC BEAMSPREAD AND TO PROVIDE PROPER MEASUREMENT OF THE ASSOCIATED LEVEL PER THE RECOMMENDATIONS OF THE TRANSDUCER SUPPLIER. TRANSDUCER MOUNTING HEIGHT SHALL BE ABOVE PEAK LEVEL OF MEASURED MEDIA, AT HEIGHT AS APPROVED BY CIVIL ENGINEER PRIOR TO START OF WORK.

LOCATE EQUIPMENT/DEVICES AS REQUIRED TO MAINTAIN NEC-REQUIRED FRONTAL WORKING CLEARANCES:
 36" FOR 120/208V AND 48"
 FOR 277/480V EQUIPMENT REQUIRING MAINTENANCE (TYPICAL)

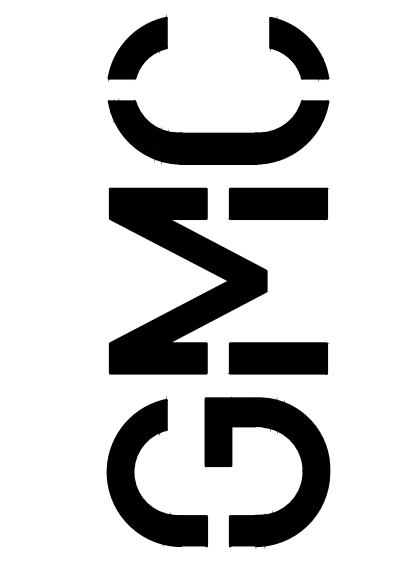


E-SUBJ
DETAIL "E-SUBJ"
SUBMERSIBLE CABLING TO
JUNCTION BOX INSTALLATION DETAIL
 SCALE : NONE

- DETAIL NOTES**
1. THIS DETAIL IS TYPICAL ONLY. PROVIDE QUANTITIES/ARRANGEMENTS OF EQUIPMENT/DEVICES AS REQUIRED BY APPLICATION.
 2. WHERE CABLES ARE ROUTED THROUGH EXPOSED AIR GAPS AS INDICATED ABOVE, CABLES SHALL BE MULTI-CONDUCTOR TYPE (AS REQUIRED TO COORDINATE WITH THE CABLE GLANDS INDICATED ABOVE). CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE SPECIFIC CABLE/CONDUCTOR TYPES REQUIRED.



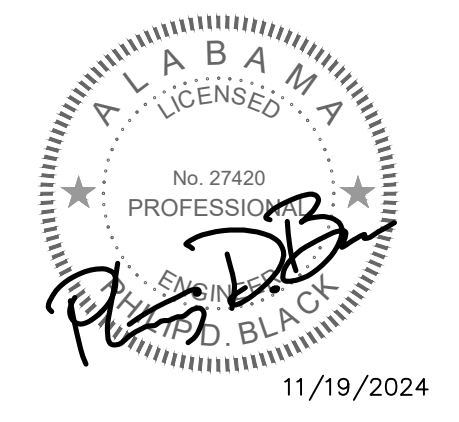
E-SUBC
DETAIL "E-SUBC"
SUBMERSIBLE CABLE SUPPORT
INSTALLATION DETAIL
 SCALE : NONE



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E-904

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 BIRMINGHAM, ALABAMA • 35242
 PHIL BLACK, PE
 phil@jraee.com
 (205) 536-7120
 (P) 205.995.1078
 JRA JOB NO. 224149
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