2021 GEFA CWSRF WPCP MODIFICATIONS

FOR THE

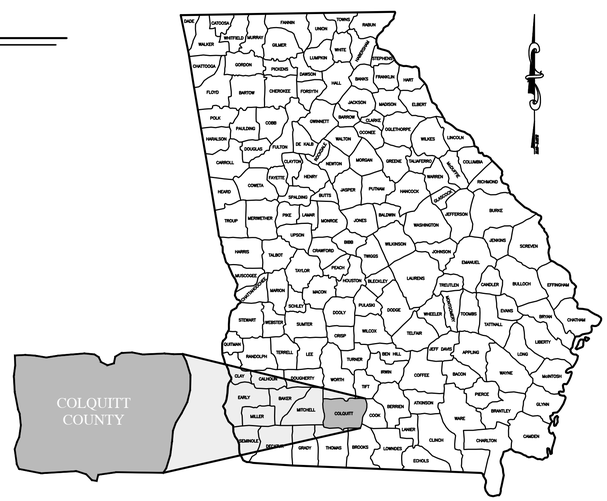
CITY OF MOULTRIE

COLQUITT COUNTY, GEORGIA

APRIL 2026

CITY OFFICIALS

NAME	TITLE
WILLIAM MCINTOSH	MAYOR
CECIL H. BARBER	COUNCIL MEMBER
WILMA HADLEY	COUNCIL MEMBER
TYLER MOBLEY	COUNCIL MEMBER
CORNELIUS PONDER	COUNCIL MEMBER
COLE POSEY	COUNCIL MEMBER
LISA CLARKE HILL	COUNCIL MEMBER
PETE DILLARD	CITY MANAGER
GREG MONFORT	UTILITIES DIRECTOR



VICINITY MAP

DESIGN CERTIFICATION

"I CERTIFY THAT I HAVE BEEN IN RESPONSIBLE CHARGE OF THE DESIGN OF THIS PROJECT IN ACCORDANCE WITH THE RULES OF THE GEORGIA STATE BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS AND LAND SURVEYORS. I FURTHER CERTIFY, TO THE BEST OF MY KNOWLEDGE AND BELIEF, THAT THESE PLANS AND SPECIFICATIONS WERE PREPARED IN ACCORDANCE WITH CURRENT STANDARD ENGINEERING PRACTICES AND ACCURATELY REFLECT THE DESIGN TECHNICAL MEMORANDUM PREVIOUSLY REVIEWED AND CONCURRED BY EPD. I FURTHER CERTIFY THAT THE SYSTEM AS DESIGNED CAN REASONABLY BE EXPECTED TO CONSISTENTLY MEET ALL CURRENTLY APPLICABLE PERMIT LIMITS, CONDITIONS AND REGULATORY REQUIREMENTS, PROVIDED THE FACILITY IS CONSTRUCTED AS DESIGNED AND PROPERLY OPERATED AND MAINTAINED."

JARED WOZNY, P.E. — 04/13/2026 DATE

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GA COA LICENSE# PEF001004 EXPIRES 6/30/2026

REVISION	DESCRIPTION	DATE
A	Released For EPD	06/05/2025
B	Released For BID	04/13/2026

GEORGIA REGISTERED No. PE042989 PROFESSIONAL ENGINEER JARED J. WOZNY 04/13/2026

GEORGIA 811 Utilities Protection Center, Inc.

C&S PROJECT NO.: M9600.066
C&S DWG NAME: M9600.066 - FRONT
DATE PLOTTED: 4/13/2026 2:49:06 PM

LEGEND

	EXISTING	PROPOSED
PROPERTY LINE		
EASEMENT LINE		
RIGHT OF WAY		
EDGE OF PAVEMENT		
CREEK/DITCH		
CONTOUR	100	100
SILT FENCE		X
FENCE	XX	XX
CENTERLINE		
WATER LINE	W	W
SANITARY SEWER	SS	
FORCE MAIN	FM	FM
GAS LINE	GAS	
UNDERGROUND CABLE	UGC	UGC
OVERHEAD POWER	OHP	
OVERHEAD TELEPHONE	OHT	
STORM DRAIN		
FIBER OPTIC CABLE	FOC	
RAILROAD		
PLANT/PROCESS LINE	PL	PL
PLANT/PROCESS DRAIN	PD	PD
WASTE ACTIVIATED SLUDGE	WAS	WAS
RETURN ACTIVATED SLUDGE	RAS	RAS
DUCTBANK	D	D
EXISTING PIPING TO BE ABANDONED		
EXISTING PIPING ALREADY ABANDONED		
MISC. YARD PIPING	OR	OR
BUILDING		
STRUCTURE		
ASPHALT PAVING		
CONCRETE PAVING		
G.A.B./GRAVEL PAVING		

	EXISTING	PROPOSED
POWER POLE		
LIGHT POLE		
WELL		
CLEANOUT	C.O.	C.O.
UTILITY POLE/GUY WIRE		
FIRE HYDRANT		
YARD HYDRANT	Y.H.	Y.H.
POST HYDRANT	P.H.	P.H.
VALVE		
METER		
SEWER MANHOLE		
SIGN		
MAILBOX		
CONTROL POINT	CP	
TEMP. BENCHMARK	TBM	
SOIL BORE	SB01	
TELEPHONE PEDESTAL	T.P.	T.P.
HEADWALL		
RIPRAP		
PINE TREE		
HARDWOOD		
MISC. TREE		
MISC. SHRUB		
IRON PIN FOUND	IPF	
CONC. R/W MONUMENT	CMF	
SPOT ELEV.	101.5	101.5
DOWNSTREAM SAMPLING POINT FOR NPDES STORM WATER GENERAL PERMIT		DSP-1
UPSTREAM SAMPLING POINT FOR NPDES STORM WATER GENERAL PERMIT		USP-1

ABBREVIATION LIST

ACT. TILE	ACOUSTICAL TILE
ASPH.	ASPHALT
B.F.	BLIND FLANGE
BLDG.	BUILDING
BLK.	BLOCK
BOT.	BOTTOM
BRG.	BEARING
B.F.V.	BUTTERFLY VALVE
B.V.	BALL VALVE
B.W.V.	BACKWATER VALVE
CAP	CORRUGATED ALUMINUM PIPE
CHEM.	CHEMICAL
CMP	CORRUGATED METAL PIPE
CONC.	CONCRETE
CONT.	CONTINUOUS
CONST.	CONSTRUCTION
CP	CONTROL POINT
CPP	CORRUGATED PLASTIC PIPE
CPVC	CHLORINATED POLY VINYL CHLORIDE
CV	CHECK VALVE
CY	CUBIC YARDS
△	DELTA
D.I.A.	DIAMETER
DIP OR DI	DUCTILE IRON PIPE
D.S.	DOWN SPOUT
D/W	DRIVEWAY
DWL.	DOWEL
EA.	EACH
E.F.	EACH FACE
EFF.	EFFLUENT
E.J.	EXPANSION JOINT
EL. OR ELEV.	ELEVATION
E.W.	EACH WAY
EXP.	EXPANSION
F & C	FRAME & COVER
F.D.	FLOOR DRAIN
F.E.	FIRE EXTINGUISHER
F.E.S.	FLARED END SECTION
F.F.	FINISHED FLOOR
FL.	FLANGE
FM	FORCE MAIN
FT.	FOOT/FEET
G.A.B.	GRADED AGGREGATE BASE
G.V.	GATE VALVE
GYP. BD.	GYPSUM BOARD
H.M.	HOLLOW METAL
HORIZ.	HORIZONTAL
H.P.	HORSE POWER
HYD.	HYDRANT
I.E.	INVERT ELEVATION
I.F.	INSIDE FACE
INF.	INFLUENT
INSUL.	INSULATION
INV.	INVERT
J.B.	JUNCTION BOX
JT.	JOINT
L	LENGTH OF CURVE
L.A.S.	LAND APPLICATION SYSTEM
LB.	POUNDS
L.C.	LENGTH OF CHORD
L.F.	LINEAR FEET
MET.	METAL
M.H.	MANHOLE
MIN.	MINIMUM
M.J.	MECHANICAL JOINT
ML	MEGALUG
N.T.S.	NOT TO SCALE
O.C.	ON CENTER
O.F.	OUTSIDE FACE
PC	POINT OF CURVATURE
PD	PROCESS DRAIN
P.E.	PLAIN END
P.H.	POST HYDRANT
P.I.	POINT OF INTERSECTION
PL	PLACE(S)
P.L.	PROCESS LINE
P.R.V.	PRESSURE REDUCING VALVE
PS	PUMP STATION
PT	POINT OF TANGENCY
PTS.	POINTS
P.V.	PLUG VALVE
P.V.C.	POLY VINYL CHLORIDE PIPE
R	RADIUS
R.A.S.	RETURN ACTIVATED SLUDGE
RCP	REINFORCED CONCRETE PIPE
REQ'D	REQUIRED
R.J.	RESTRAINED JOINT
SAN.	SANITARY
SED.	SEDIMENT
S.S.	STAINLESS STEEL
T & B	TOP & BOTTOM
TAN	TANGENT
T/W	TOP OF WALL
T.U.	TRUE UNION
TYP.	TYPICAL
U.F.	UNIFLANGE
V.B.	VALVE BOX
VERT.	VERTICAL
W/	WITH
W.A.S.	WASTE ACTIVATED SLUDGE
W.S.	WATER STOP
W.S.L.	WATER SURFACE LEVEL
Y.H.	YARD HYDRANT
XFMR	TRANSFORMER

INDEX TO DRAWINGS

SHEET NUMBER	SHEET TITLE
-	TITLE
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2	GENERAL CONSTRUCTION NOTES & LOCATION MAP
3	OVERALL SITE PLAN
4	HEADWORKS INTERMEDIATE SITE PLAN
5	GRIT REMOVAL SYSTEM REPLACEMENT PLAN & SECTION
6	GRIT REMOVAL SYSTEM REPLACEMENT SECTION & DETAILS
7	PRIMARY CLARIFIER ABANDONMENT PLAN
8	PRIMARY CLARIFIER ABANDONMENT SECTIONS
9	PRIMARY CLARIFIER BYPASS PLAN & PROFILE
10	PARSHALL FLUME PLAN & SECTION
11	TRANSFER PUMP STATION BYPASS PLAN & SECTION
12	RAS - WAS PUMP STATION MODIFICATIONS PLAN & SECTIONS
13	FACILITY PUMP STATION MODIFICATIONS PLAN & SECTION
14	COMPRESSED AIR SYSTEM REPLACEMENT PLAN & DETAILS
15	MISCELLANEOUS EQUIPMENT IMPROVEMENTS PLAN
16	MISCELLANEOUS DETAILS
17	MISCELLANEOUS DETAILS
18	MISCELLANEOUS DETAILS
19	MISCELLANEOUS DETAILS
20	MISCELLANEOUS DETAILS
E-001 - E-901	ELECTRICAL SHEETS
H-1 - H-2	HVAC SHEETS

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LEGEND & INDEX TO DRAWINGS

GEORGIA REGISTERED No. PE024599 PROFESSIONAL ENGINEER JARED J. WOZNY 04/13/2026

C&S PROJECT NO.: M9600.066
C&S DWG NAME: M9600.066 - FRONT
DATE PLOTTED:

REVISIONS:

2021 GEFA CWSRF WPCP MODIFICATIONS
FOR THE
CITY OF MOULTRIE
COLQUITT COUNTY, GEORGIA

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DSGN: JW	DRWN: JER
SCALE: AS-NOTED	
PROJ. NO.: M9600.066	
DATE: APRIL 2026	SHEET NO.: 1

GENERAL CONSTRUCTION NOTES

1. CONTRACTOR WILL BE WORKING ON CITY OF MOULTRIE PROPERTY.
2. CONTRACTOR SHALL NOTIFY UTILITY PROTECTION AGENCY 72 HOURS PRIOR TO START OF WORK. PHONE 1-800-282-7411.
3. EXISTING UTILITY LINES SHOWN ARE APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITY LINE LOCATIONS PRIOR TO ANY CONSTRUCTION. ANY DEVIATIONS FROM THE DESIGN LOCATION SHALL BE REPORTED TO THE CITY PRIOR TO CONSTRUCTION.
4. IF THE CONTRACTOR DAMAGES ANY UTILITIES DURING CONSTRUCTION, HE SHALL, AT HIS OWN EXPENSE, REPLACE OR REPAIR THE UTILITIES TO THEIR ORIGINAL CONDITION AND QUALITY, AS APPROVED BY THE CITY AND REPRESENTATIVE OF THE APPROPRIATE UTILITY COMPANY.
5. WHEN CONSTRUCTION INVOLVES THE REMOVAL OF FENCE, POLES, SIDEWALKS, DRIVEWAYS, TEMPORARY OR FIXED STRUCTURES, THE CONTRACTOR, AT HIS EXPENSE, SHALL PROVIDE FOR TEMPORARY ACCESS SERVICE, OR CONTAINMENT TO THE AFFECTED PROPERTY, AND SHALL REPLACE SUCH ITEMS WITH SIMILAR OR BETTER MATERIALS AS SOON AS PRACTICAL OR AS DIRECTED BY THE CITY.
6. PEDESTRIAN AND LOCAL VEHICULAR TRAFFIC SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION. SAFETY DEVICES AND FLAGMEN WILL BE PROVIDED BY THE CONTRACTOR AT HIS EXPENSE. WRITTEN PERMISSION TO CLOSE THE CONSTRUCTION AREA TO TRAFFIC MUST BE OBTAINED FROM THE APPROPRIATE GOVERNMENT AGENCY PRIOR TO THE CLOSING.
7. ALL CONSTRUCTION STAKING SHALL BE BY THE CONTRACTOR AT HIS EXPENSE.
8. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT ANY DISRUPTIONS OF UTILITY SERVICE. ANY UTILITIES DAMAGED MUST BE REPAIRED THE SAME DAY UNLESS WRITTEN PERMISSION FROM OWNER IS GIVEN.
9. CONTRACTOR SHALL MATCH LAWN, SOD, GRAVEL, RIVER STONE AND PINE STRAW WHEN REPAIRING DISTURBED AREAS UNLESS NOTED OTHERWISE.
10. CONTRACTOR SHALL MATCH EXISTING GRASS WHEN REPAIRING DISTURBED AREAS.
11. ALL CROSS DRAINS AND DRIVEWAY CULVERTS MUST REMAIN OPEN AT ALL TIMES. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO DRAINS AND CULVERTS.
12. ALL EROSION AND SEDIMENTATION CONTROL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. PROVISIONS TO PREVENT EROSION OF SOIL FROM THE SITE SHALL BE AS STATED IN THE SEDIMENTATION ACT OF 1975 AND THE MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA AS ISSUED BY THE STATE OF GEORGIA.
13. OPEN EXCAVATIONS LEFT UNATTENDED OVERNIGHT SHALL BE COVERED WITH TRAFFIC WEIGHT STEEL PLATES.
14. ALL WORK SHALL BE COMPLETED ACCORDING TO CITY OF MOULTRIE STANDARDS AND SPECIFICATIONS.
15. THESE DRAWINGS HAVE BEEN PREPARED BASED UPON THE FOLLOWING DOCUMENTS, DATA, & FIELD EVENTS.

    DOCUMENTS & DRAWINGS:

    1.1. "INFLUENT SCREENING AND GRIT REMOVAL UPGRADES FOR THE CITY OF MOULTRIE" BY CARTER & SLOOPE, INC. DATED JANUARY 2005

    1.2. "WWTF EQUALIZATION & SURGE BASINS FOR THE CITY OF MOULTRIE" BY CARTER & SLOOPE, INC. DATED AUGUST 2009

    1.3. "WWTF IMPROVEMENTS FOR THE CITY OF MOULTRIE" BY CARTER & SLOOPE, INC. DATED NOVEMBER 2018

    FIELD EVENTS:

    1.4. FIELD SURVEYS BY HORNE LAND SURVEYING.
    HORIZONTAL DATUM: NAD83 (2011)

CONTACTS

CITY OF MOULTRIE
UTILITIES DEPARTMENT
(SEWER, WATER, GAS & ELECTRIC)
TELEPHONE: 229.668.6000

COLQUITT EMC
TELEPHONE: 229.985.3620

GEORGIA POWER
TELEPHONE: 404.506.6539

MEDIACOM
SHANNON DICKERSON
TELEPHONE: 229.890.0866

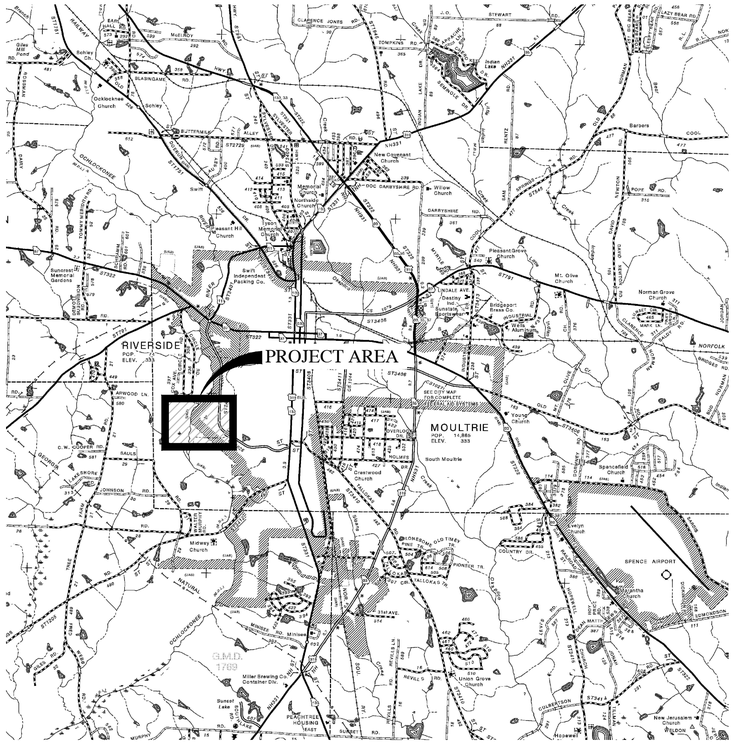
WINDSTREAM
MICK CAMPBELL
TELEPHONE: 330.650.7293

POLICE DEPARTMENT
128 1ST ST. SW
TELEPHONE: 229.985.3131

FIRE DEPARTMENT
1005 WEST BLV.
TELEPHONE: 229.985.9545

OWNER AND 24 HOUR CONTACT:
CITY OF MOULTRIE
200 1ST STREET, NE
MOULTRIE, GA 31776
(229)890-5433

INSPECTIONS:
CITY OF MOULTRIE
200 1ST STREET, NE
MOULTRIE, GA 31776
(229)890-5433



LOCATION MAP
SCALE: 1"=5,000'

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WPCP ADDRESS
1975 15TH AVENUE SW
MOULTRIE, GA 31776

GENERAL CONSTRUCTION NOTES & LOCATION MAP

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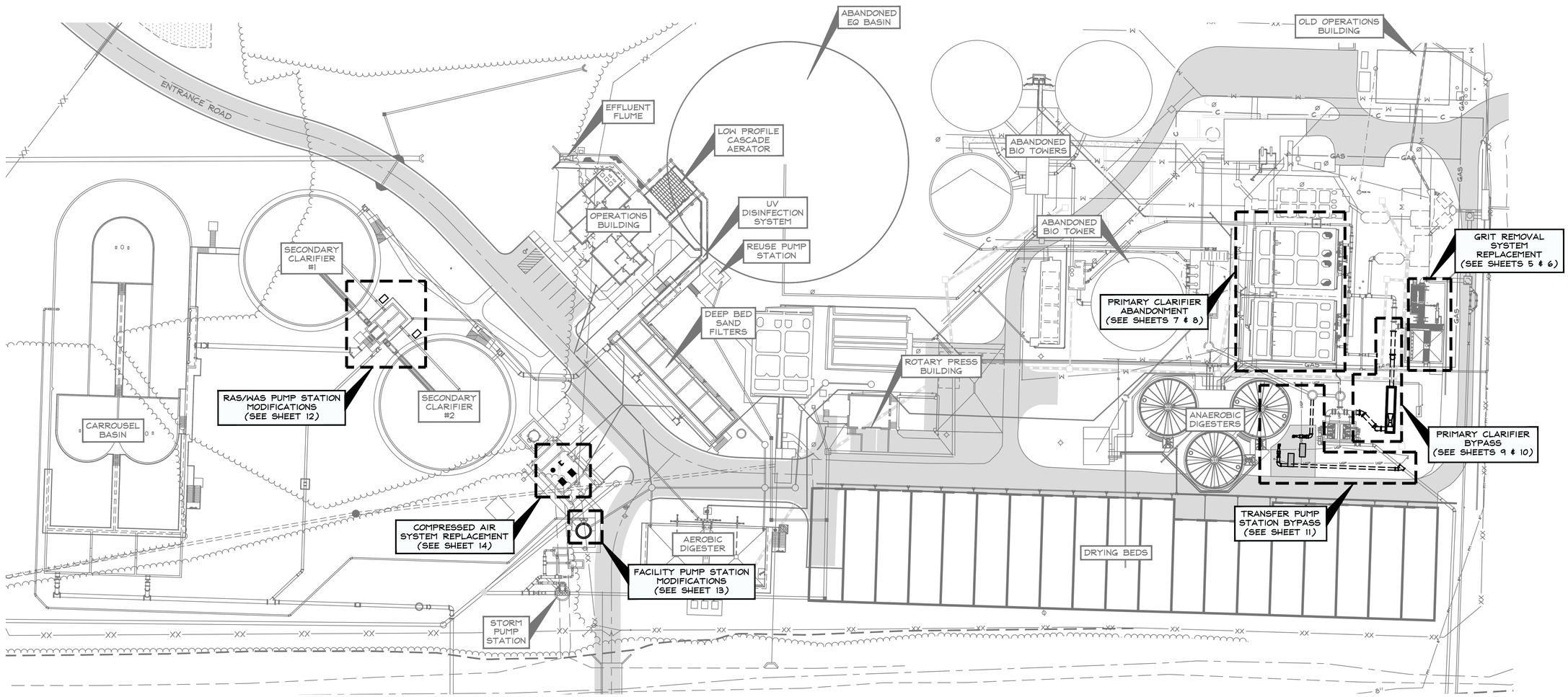
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GEORGIA REGISTERED No. PE042560 PROFESSIONAL ENGINEER JARED J. WOZNY
04/13/2026

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DATE: APRIL 2026	SHEET NO.: 2

C&S PROJECT NO.: M9600.066
C&S DWG NAME: M9600.066 - FRONT
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GEORGIA811 Utilities Protection Center, Inc.

40 0 40 80 120

SCALE: 1" = 40'

OVERALL SITE PLAN

REVISIONS:

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CITY OF MOULTRIE

COLQUITT COUNTY, GEORGIA

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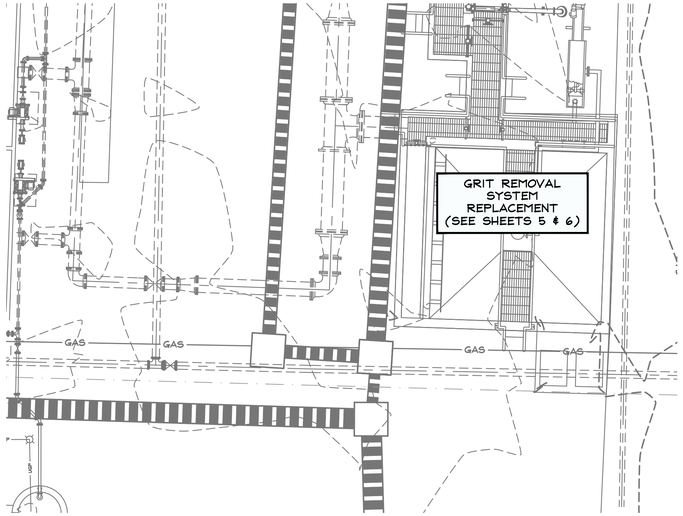
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GEORGIA REGISTERED No. PE024289 PROFESSIONAL ENGINEER JARED J. WOZNY
04/13/2026

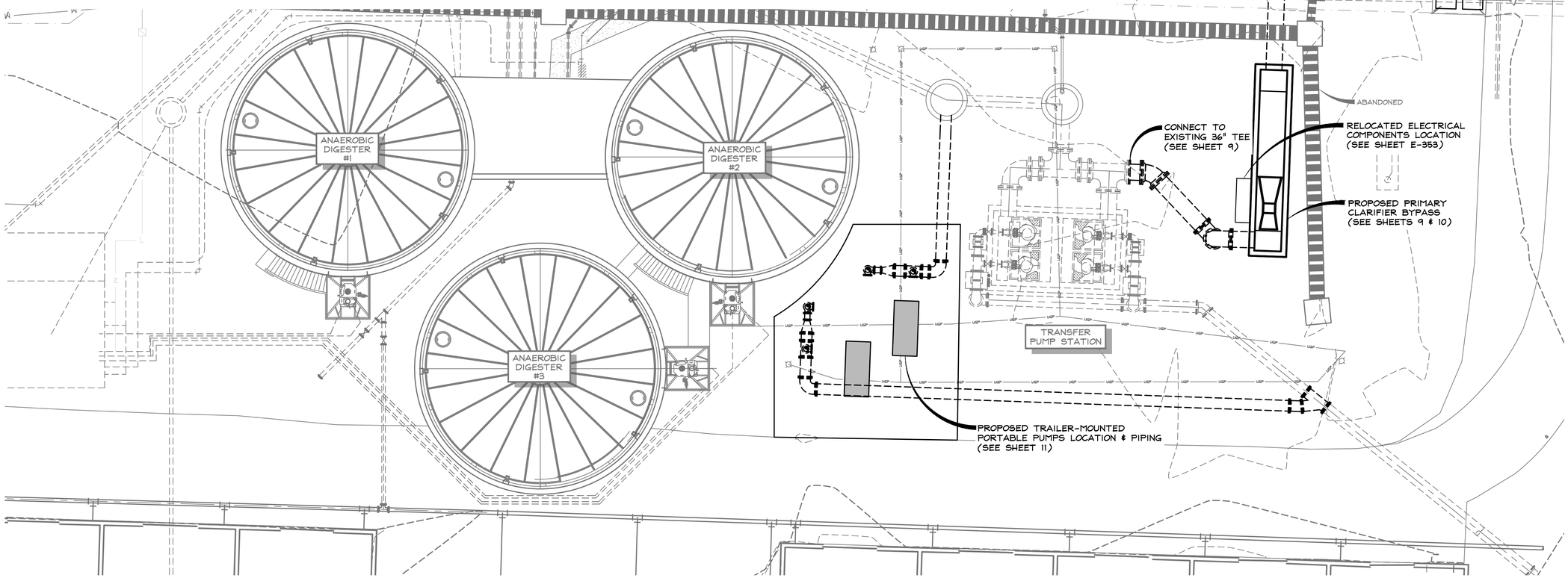
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PROJ. NO.: M9600.066	
DATE: APRIL 2026	SHEET NO.: 3

C&S PROJECT NO.: M9600.066
C&S DWG NAME: PROCESS UNIT RESTORATION & IMPROVEMENTS - LOCATION MAP
DATE PLOTTED: 4/13/2026 2:49:18 PM



EXISTING GRIT REMOVAL SYSTEM



PLAN - EXISTING HEADWORKS, PRIMARY CLARIFIER & TRANSFER PUMP STATION SITES

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Ds1	TO BE PLACED ON ALL DISTURBED AREAS TO MATCH EXISTING CONDITIONS
Ds2	
Ds3	
Du	

10 0 10 20 30
GRAPHIC SCALE IN FEET= 1"=10'

HEADWORKS INTERMEDIATE SITE PLAN

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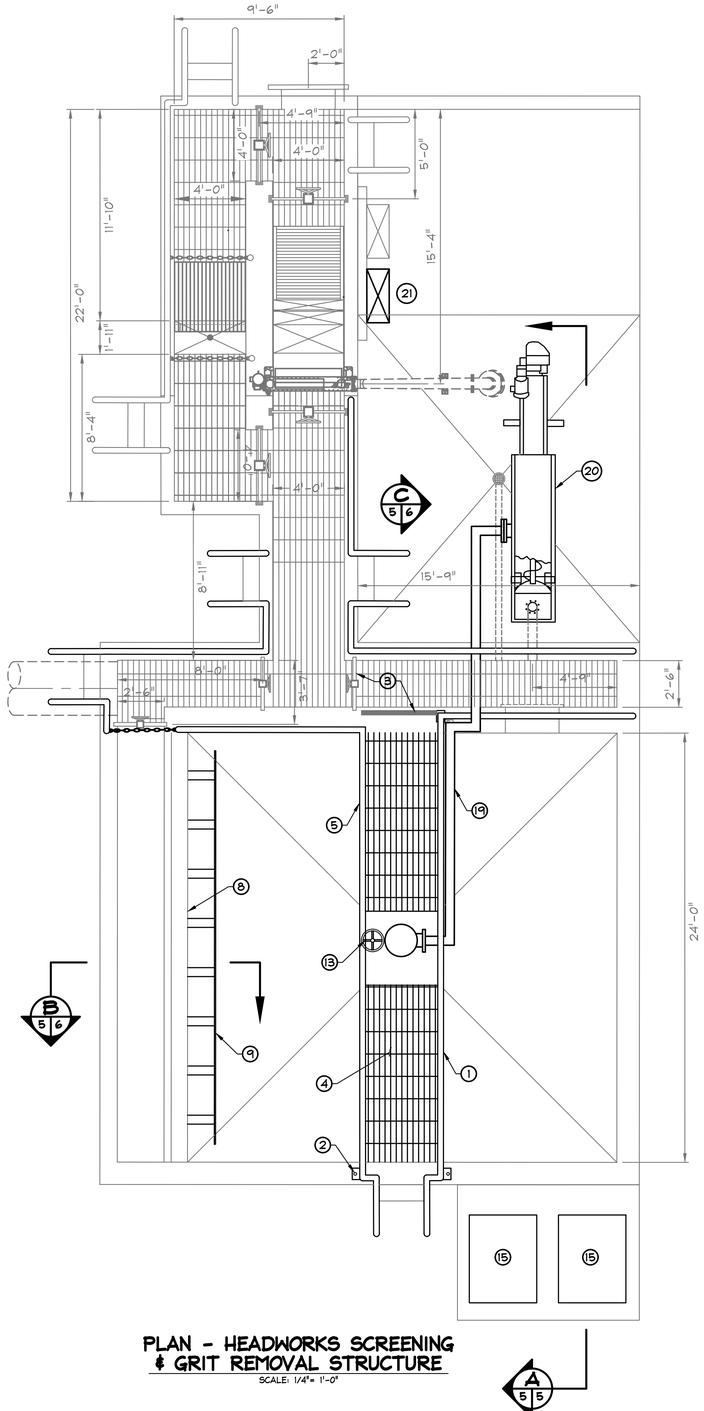
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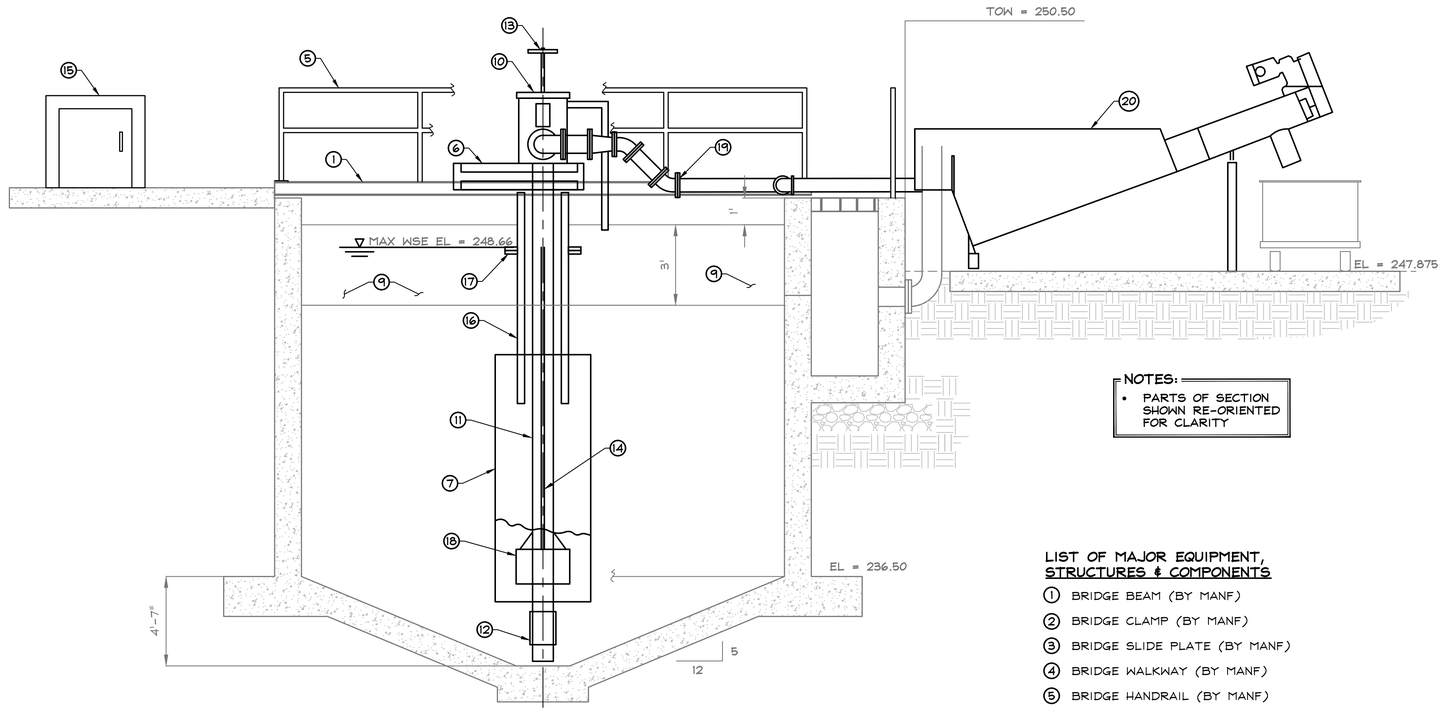
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DATE: APRIL 2026	SHEET NO.: 4

C&S PROJECT NO.: M9600.066
C&S DWG NAME: 25. EXISTING PLANT MODIFICATIONS
DATE PLOTTED: 4/13/2026 2:49:38 PM



PLAN - HEADWORKS SCREENING & GRIT REMOVAL STRUCTURE

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



A 5 5 SECTION

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

NOTES:

- PARTS OF SECTION SHOWN RE-ORIENTED FOR CLARITY

LIST OF MAJOR EQUIPMENT, STRUCTURES & COMPONENTS

1. BRIDGE BEAM (BY MANF)
2. BRIDGE CLAMP (BY MANF)
3. BRIDGE SLIDE PLATE (BY MANF)
4. BRIDGE WALKWAY (BY MANF)
5. BRIDGE HANDRAIL (BY MANF)
6. STRUCTURAL SUPPORT PLATES (BY MANF)
7. AERODUCTOR ASSEMBLY (BY MANF)
8. WEIR PLATE (EL.: 248.29) (BY MANF)
9. SCUM BAFFLE (BY MANF)
10. GRIT LIFT ASSEMBLY (BY MANF)
11. GRIT LIFT TUBE (BY MANF)
12. FOOT PIECE (BY MANF)
13. FOOT PIECE OPERATOR (BY MANF)
14. OPERATOR ROD (BY MANF)
15. 2- 10.0 HP AIR COMPRESSOR (BY MANF)
16. TUBE SUPPORT (BY MANF)
17. ENERGY BAFFLE (BY MANF)
18. DIFFUSER HEAD (BY MANF)
19. GRIT PIPE (BY CONTRACTOR)
20. GRITWASHER & DEWATERING SCREW (BY MANF)
21. ELECTRICAL (CONDUIT & WIRING BY CONTRACTOR)

GEORGIA REGISTERED No. PE042360 PROFESSIONAL ENGINEER JARED J. WOZNY

04/13/2026

GRIT REMOVAL SYSTEM REPLACEMENT PLAN & SECTION

REVISIONS:

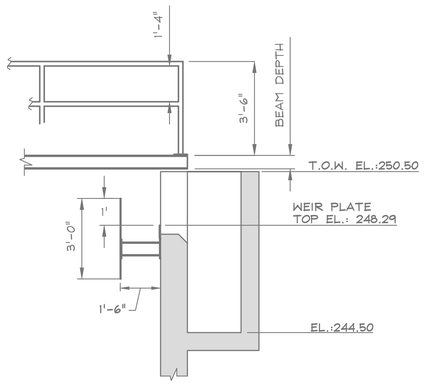
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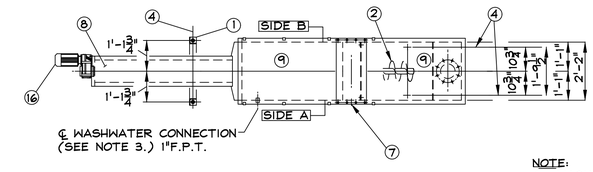
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SCALE: AS-NOTED	
PROJ. NO.: M9600.066	
DATE: APRIL 2026	SHEET NO.: 5



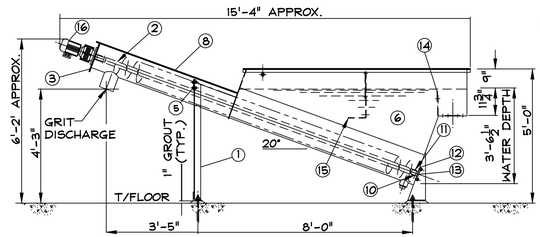
B 5/6 SECTION - WEIR PLATE & SCUM BAFFLE (TYPICAL)
N.T.S.

NOMENCLATURE

1. UPPER TROUGH SUPPORT
2. CONVEYOR SCREW
3. TROUGH END PLATE
4. WEDGE ANCHOR 3/4"DIA.X 7" O.A.L. INCLUDING NUT & WASHER
5. CAP SCREW 1/2"DIA.X 1 1/4"LG.WITHNUT
6. HOUSING
7. INFLUENT CONNECTION
8. SCREW CONVEYOR
9. REMOVABLE COVER
10. OIL SEAL
11. TAIL END SHAFT
12. GASKET
13. TAIL END SHAFT BEARING
14. WEIR PLATE
15. BAFFLE
16. HELICAL GEARMOTOR



NOTE:
1. WASHER/DEWATERING SCREW CONNECTION SHALL BE ON SIDE A
2. GRIT WASHER INLET & OUTLET SHALL BE ON SAME SIDE AS GRIT LIFT TUBE.



C 5/6 ELEVATION - GRIT WASHER
N.T.S.

GRIT REMOVAL SYSTEM REPLACEMENT SECTION & DETAILS

GEORGIA REGISTERED No. PE024289 PROFESSIONAL ENGINEER JARED J. WOZNY
04/13/2026

REVISIONS:

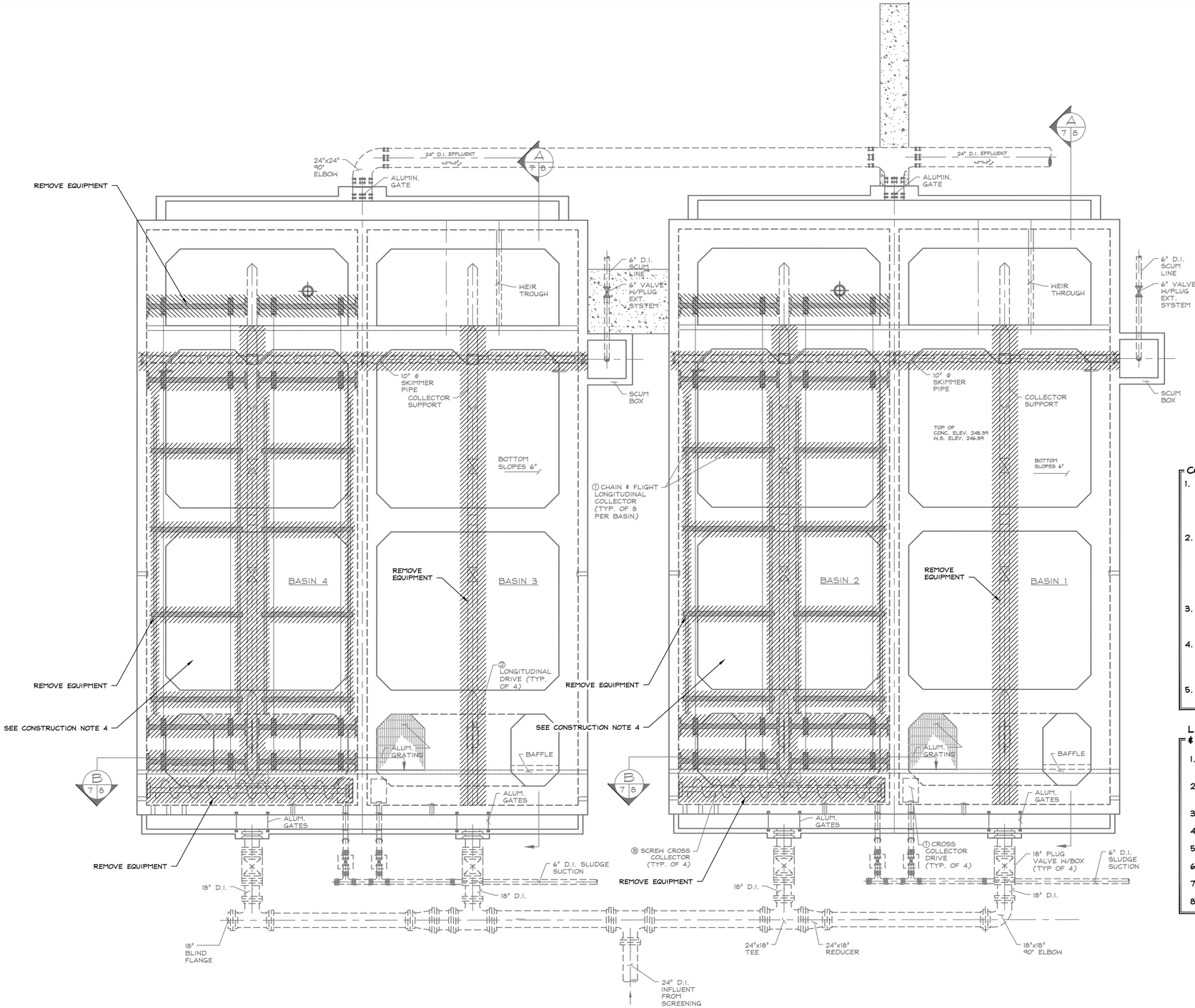
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FOR THE
CITY OF MOULTRIE
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SCALE: AS-NOTED	
PROJ. NO.: M9600.066	
DATE: APRIL 2026	SHEET NO.: 6



CONSTRUCTION NOTES:

1. WORK AT PRIMARY CLARIFIERS INVOLVES REMOVAL OF COLLECTED SLUDGE AND ALL INTERNAL MECHANICAL COMPONENTS IN ALL FOUR (4) BASINS FOLLOWING REMOVAL. BASINS WILL BE ABANDONED PER NOTE 4.
2. PLAN VIEWS, CROSS SECTIONS & DETAILS ARE THOSE DEVELOPED FROM RECORD DRAWINGS. RECORD DRAWINGS ARE FOR INFORMATIONAL PURPOSES ONLY. THE CONTRACTOR SHALL FIELD VERIFY DIMENSIONS OF STRUCTURES, ET. AL. TO ENSURE PROPER REMOVAL OF MAJOR EQUIPMENT
3. CONTRACTOR SHALL ISOLATE INDIVIDUAL BASINS IN ORDER TO REMOVE & DISPOSE OF ALL SLUDGE THEREIN.
4. CONTRACTOR SHALL FILL CLARIFIER TANKS WITH SAND AND INSTALL 6" THICK CONCRETE CAP W/ REINFORCE AS PER SIDEWALKS (6x6W10xW10)(TYP.)
5. CONTRACTOR SHALL RETURN REMOVED COMPONENTS TO THE CITY FOR DISPOSAL

LIST OF MAJOR EQUIPMENT, STRUCTURES & COMPONENTS TO REMOVE (4 BASINS)

1. CROSS COLLECTOR, DRIVE & DRIVE CHAIN (TYP. OF 4)
2. LONGITUDINAL DRIVE & DRIVE CHAIN (TYP. OF 4)
3. HEAD SHAFTS (1 PER BASIN)
4. NON-METALLIC FLIGHTS
5. RETURN RAILS
6. IDLER SHAFTS (3 PER BASIN)
7. SLUDGE REMOVAL AUGER
8. SCREW CROSS COLLECTOR (TYP. OF 4)

PRIMARY CLARIFIER ABANDONMENT PLAN

REVISIONS:

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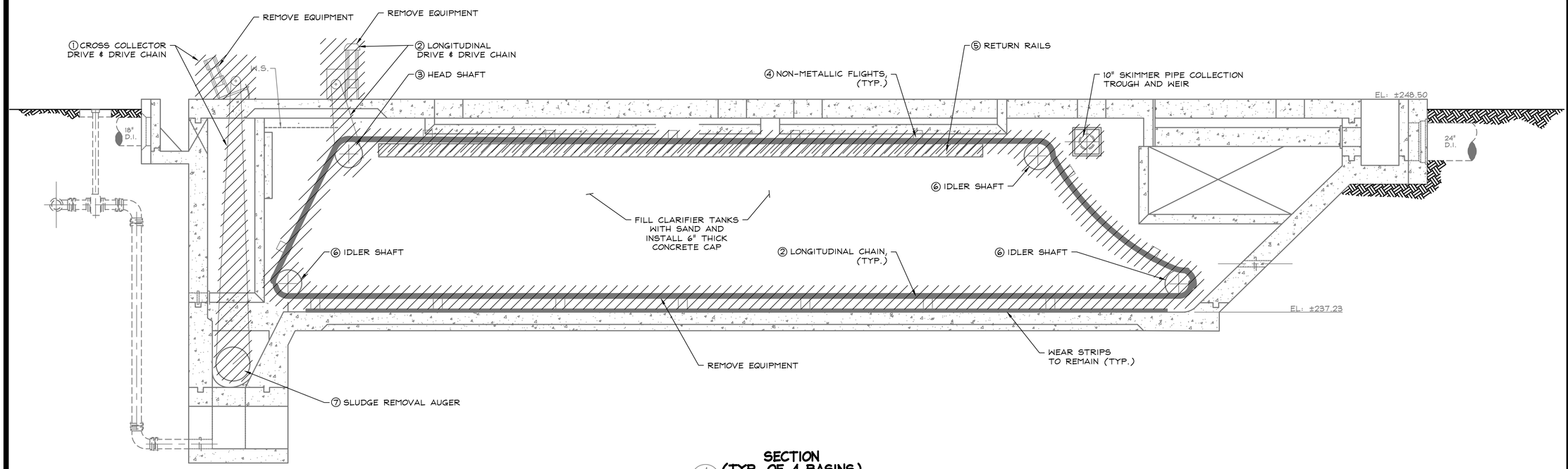
GEORGIA REGISTERED No. PE024269 PROFESSIONAL ENGINEER JARED J. WOZNY
04/13/2026

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PROJ. NO.: M9600.066	
DATE: APRIL 2026	SHEET NO.: 7

C&S PROJECT NO: M9600.066
C&S DWG NAME: PRIMARY CLARIFIER
DATE PLOTTED: 4/13/2026 2:49:11 PM

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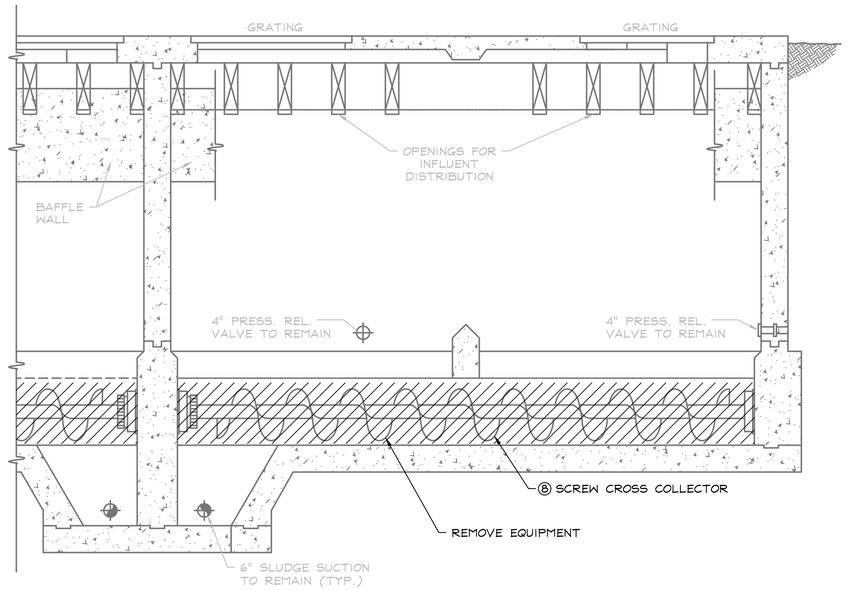
SECTION (TYP. OF 4 BASINS)

7 | 8

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

CONSTRUCTION NOTES:

1. WORK AT PRIMARY CLARIFIERS INVOLVES REMOVAL OF COLLECTED SLUDGE AND ALL INTERNAL MECHANICAL COMPONENTS IN ALL FOUR (4) BASINS FOLLOWING REMOVAL. BASINS WILL BE ABANDONED PER NOTE 4.
2. PLAN VIEWS, CROSS SECTIONS & DETAILS ARE THOSE DEVELOPED FROM RECORD DRAWINGS. RECORD DRAWINGS ARE FOR INFORMATIONAL PURPOSES ONLY. THE CONTRACTOR SHALL FIELD VERIFY DIMENSIONS OF STRUCTURES, ET. AL. TO ENSURE PROPER REMOVAL OF MAJOR EQUIPMENT
3. CONTRACTOR SHALL ISOLATE INDIVIDUAL BASINS IN ORDER TO REMOVE & DISPOSE OF ALL SLUDGE THEREIN.
4. CONTRACTOR SHALL FILL CLARIFIER TANKS WITH SAND AND INSTALL 6" THICK CONCRETE CAP (TYP.)
5. CONTRACTOR SHALL RETURN REMOVED COMPONENTS TO THE CITY FOR DISPOSAL



SECTION

7 | 8

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

LIST OF MAJOR EQUIPMENT, STRUCTURES & COMPONENTS TO REMOVE (4 BASINS)

1. CROSS COLLECTOR, DRIVE & DRIVE CHAIN (TYP. OF 4)
2. LONGITUDINAL DRIVE & DRIVE CHAIN (TYP. OF 4)
3. HEAD SHAFTS (1 PER BASIN)
4. NON-METALLIC FLIGHTS
5. RETURN RAILS
6. IDLER SHAFTS (3 PER BASIN)
7. SLUDGE REMOVAL AUGER
8. SCREW CROSS COLLECTOR (TYP. OF 4)

PRIMARY CLARIFIER ABANDONMENT SECTIONS

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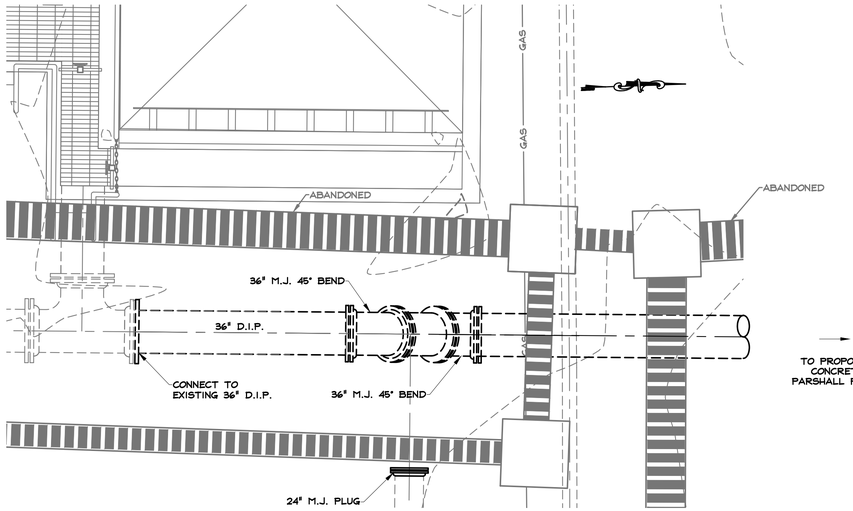
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GEORGIA REGISTERED No. PE024599 PROFESSIONAL ENGINEER JARED J. WOZNY
04/13/2026

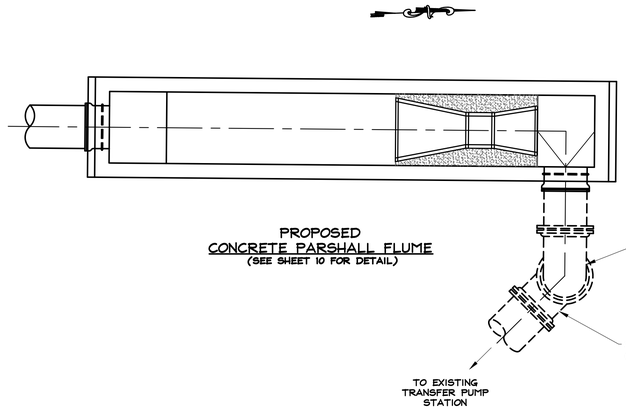
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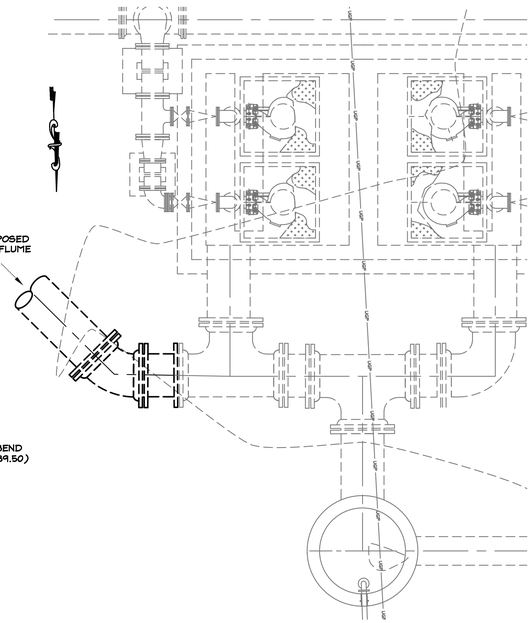
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GRIT REMOVAL BASIN
WITH MODIFICATIONS
(SEE SHEET 5 FOR DETAIL)

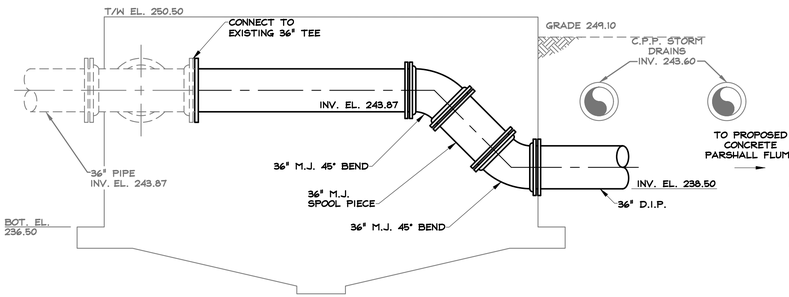


PROPOSED
CONCRETE PARSHALL FLUME
(SEE SHEET 10 FOR DETAIL)

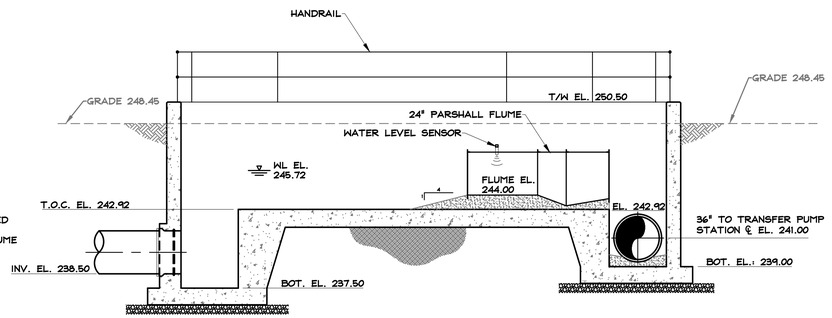


EXISTING TRANSFER
PUMP STATION
(SEE SHEET 4 FOR DETAIL)

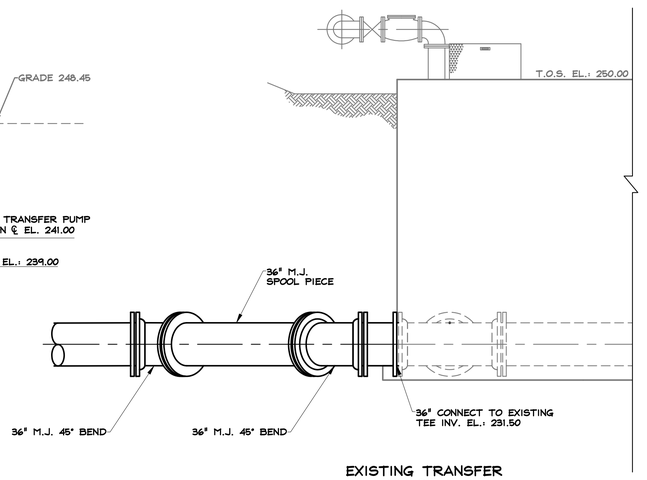
PLAN VIEW
N.T.S.



GRIT REMOVAL BASIN
WITH MODIFICATIONS
(SEE SHEET 5 FOR DETAIL)



PROPOSED
CONCRETE PARSHALL FLUME
(SEE SHEET 10 FOR DETAIL)



EXISTING TRANSFER
PUMP STATION

PROFILE VIEW
N.T.S.

PRIMARY CLARIFIER BYPASS PLAN & PROFILE

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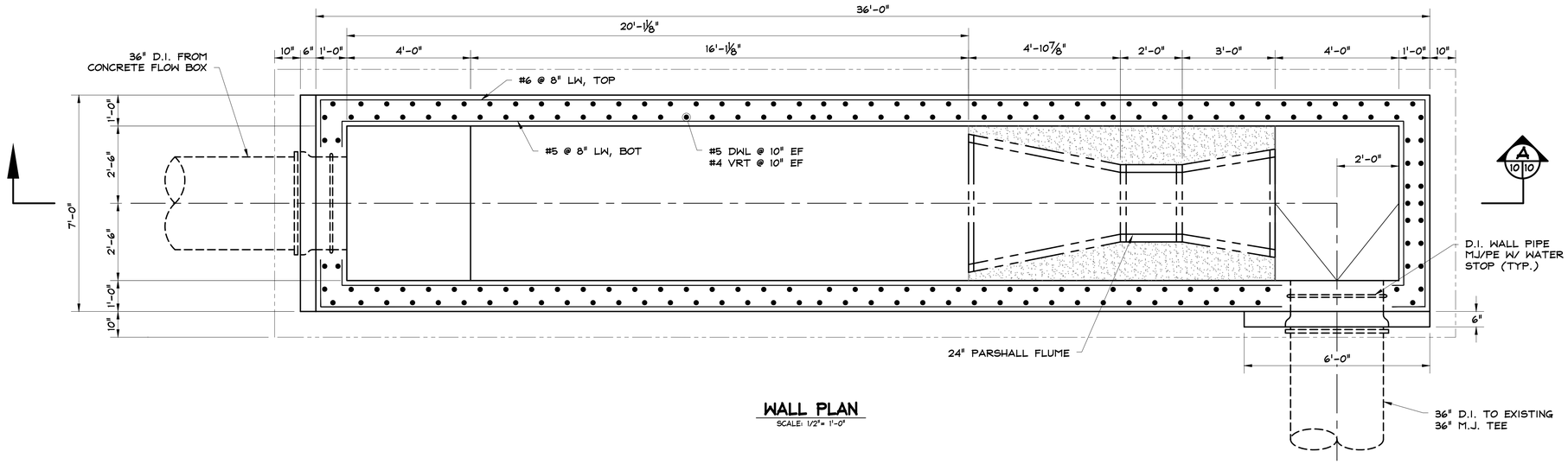
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GEORGIA REGISTERED No. PE042888 PROFESSIONAL ENGINEER JARED J. WOZNY
04/13/2026

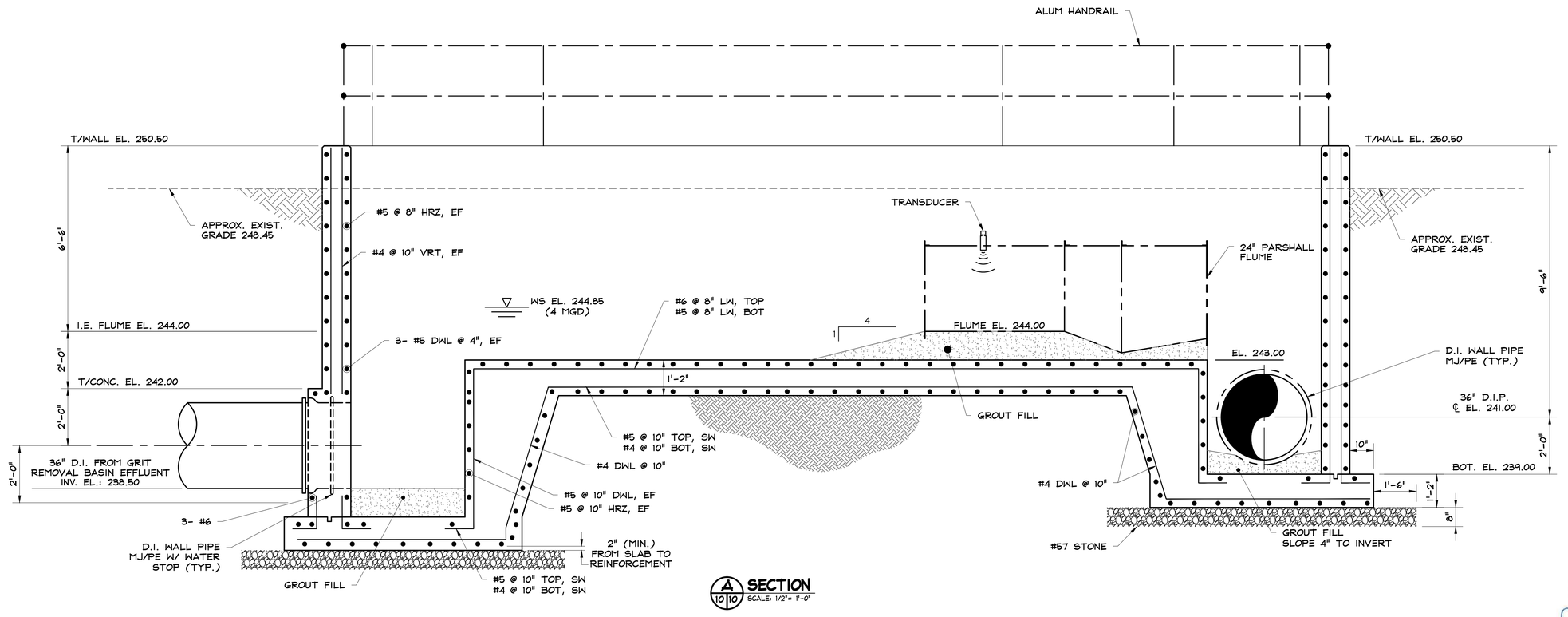
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PROJ. NO.: M9600.066	
DATE: APRIL 2026	SHEET NO.: 9

C&S PROJECT NO.: M9600.066
C&S DWG NAME: 25- EXISTING PLANT MODIFICATIONS
DATE PLOTTED: 4/13/2026 2:49:45 PM



WALL PLAN
SCALE: 1/2"= 1'-0"



A 10 10 SECTION
SCALE: 1/2"= 1'-0"

PARSHALL FLUME PLAN & SECTION

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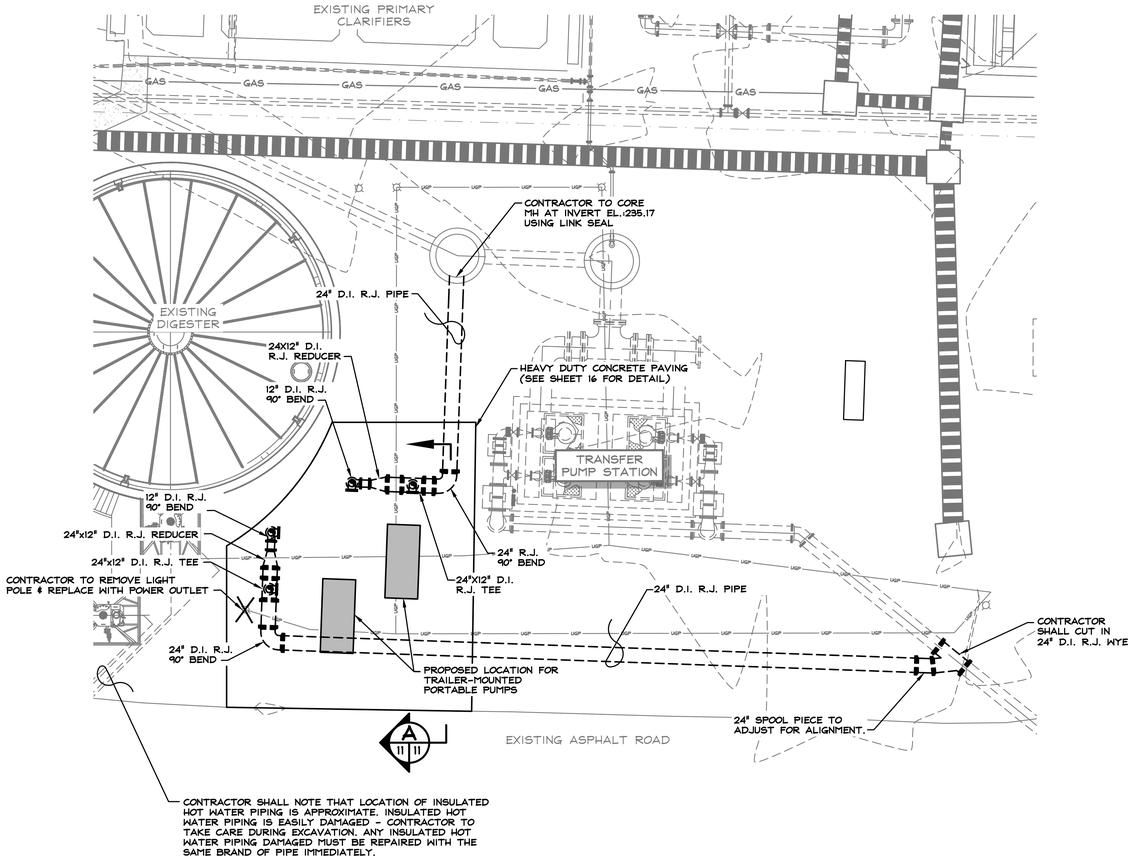
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GA COA LICENSE# PEF001004 EXPIRES 6/30/2024

FLOR & FLOR
No. SEL0016011
ENGINEER
WILLIAM NADOLSKY
04 / 13 / 26

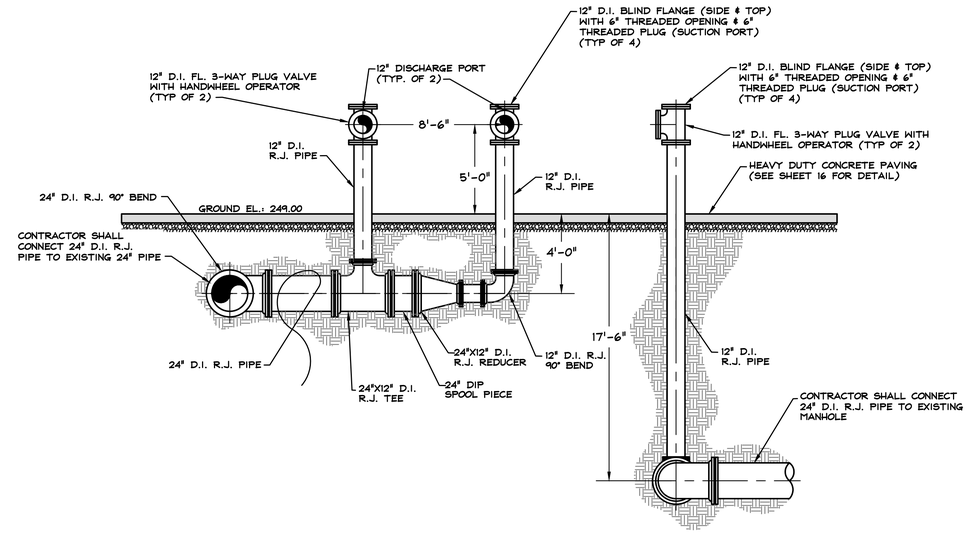
GEORGIA
REGISTERED
No. PE042662
PROFESSIONAL
ENGINEER
JARED J. WOZNY
04/13/2026

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SCALE: AS-NOTED	
PROJ. NO.: M9600.066	
DATE: APRIL 2026	SHEET NO.: 10



PLAN - VIEW
SCALE: 1"=10'



A SECTION
SCALE: 1/4"= 1'

TRANSFER PUMP STATION BYPASS PLAN & SECTION

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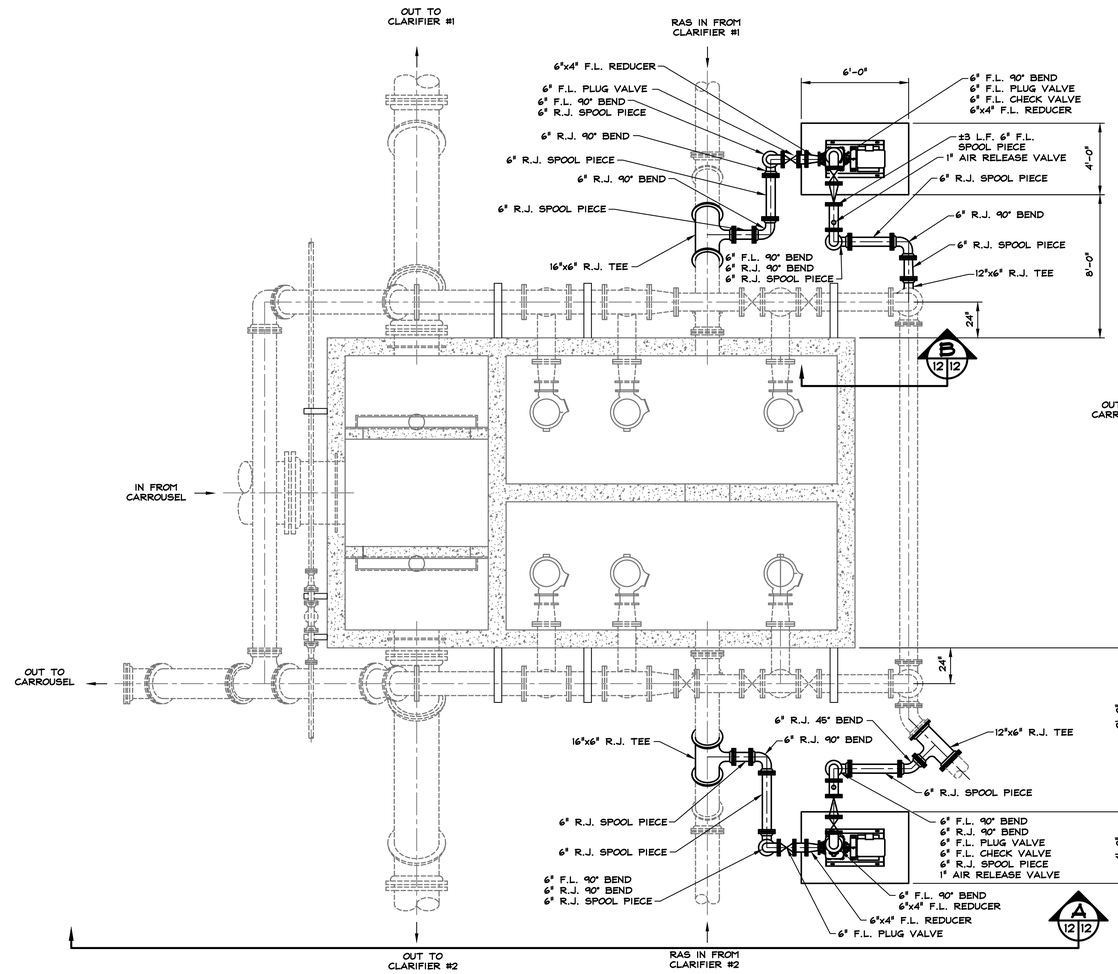
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GEORGIA REGISTERED No. PE042589 PROFESSIONAL ENGINEER JARED J. WOZNY
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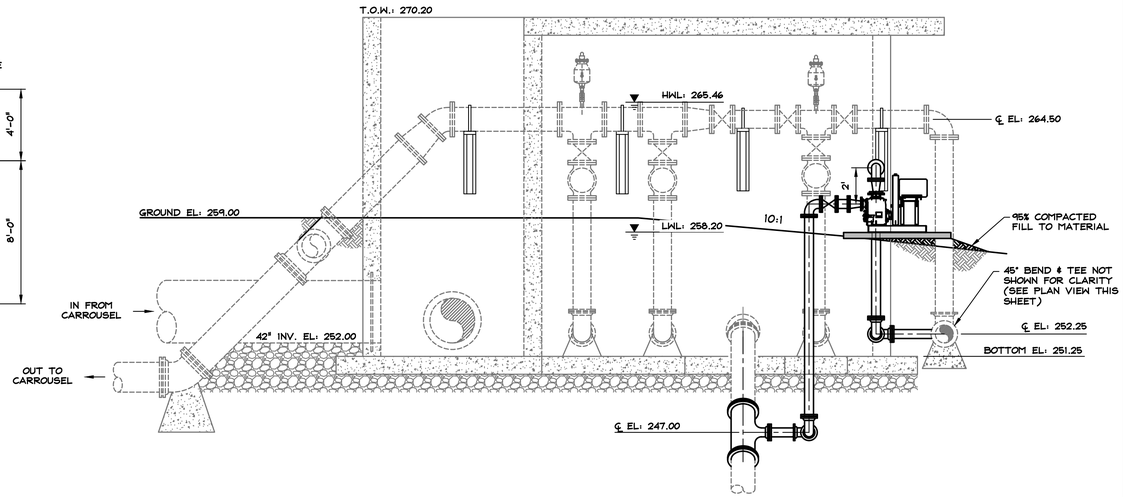
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PROJ. NO.: M9600.066	
DATE: APRIL 2026	SHEET NO.: 11

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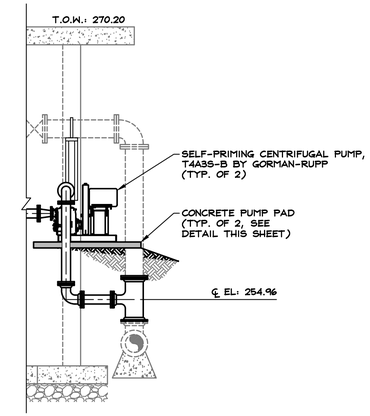
PLAN VIEW
SCALE: 1/4"= 1'-0"



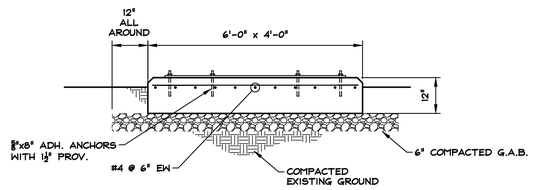
A 12|12 SECTION
SCALE: 1/4"= 1'-0"

NOTES:

- PARTS OF SECTION SHOWN RE-ORIENTED FOR CLARITY
- CONTRACTOR TO FURNISH & INSTALL SUFFICIENT SPOOL PIECES TO INSTALL PUMPS, & PIPING & APPURTENANCES AS SHOWN
- CONTRACTOR SHALL PIPE ARV DISCHARGE TO WETWELL (TYP. OF 2)



B 12|12 SECTION
SCALE: 1/4"= 1'-0"



CONCRETE PUMP PAD
SCALE: 1/2"= 1'-0"

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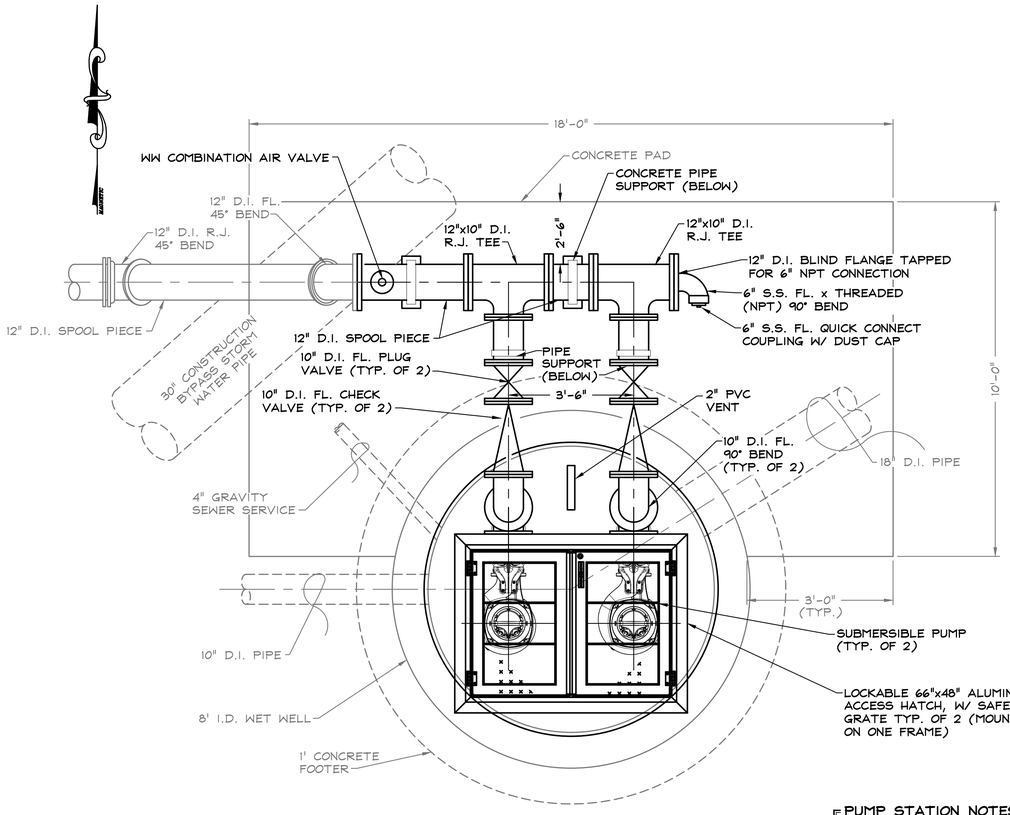
REGISTERED No. SEQU16011 ENGINEER WILLIAM NADOLSKY
04 / 13 / 26

GEORGIA REGISTERED No. PE024260 PROFESSIONAL ENGINEER JARED J. WOZNY
04/13/2026

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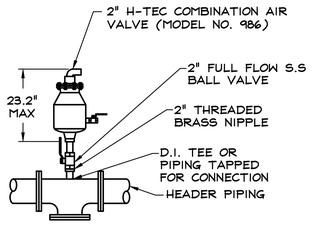
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SCALE:	AS-NOTED
PROJ. NO.:	M9600.066
DATE: APRIL 2026	SHEET NO.: 12

RAS/WAS PUMP STATION MODIFICATIONS PLAN & SECTIONS



PLAN VIEW

SCALE: 1/2"= 1'-0"



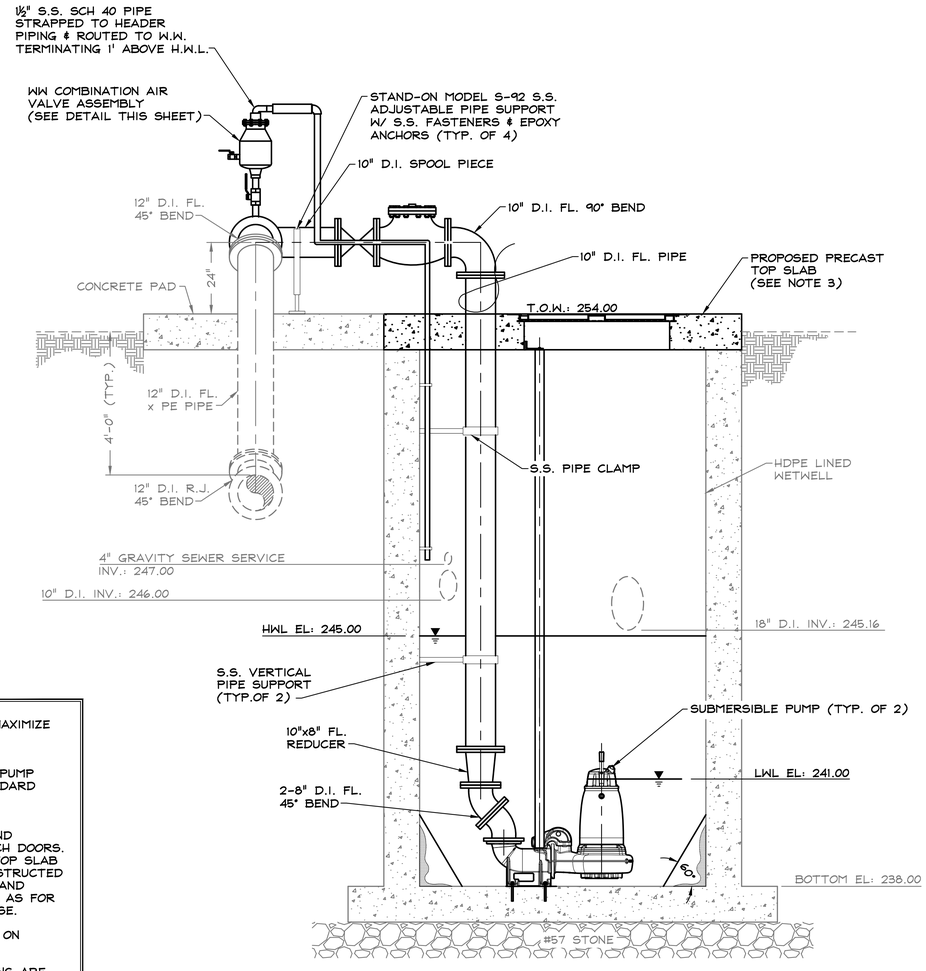
NOTE:
- COMBINATION AIR VALVE SHALL INCLUDE VALVE ACCESSORIES
- SIZE AS NOTED

AUTOMATIC AIR RELEASE & VACUUM VALVE STAINLESS STEEL DETAIL

N.T.S.

PUMP STATION NOTES:

1. REPLACE GROUTED FLOOR TO MAXIMIZE FLOW TO PUMP VOLUTE
2. CONTRACTOR SHALL CONFIGURE INSTALLATION TO CONFORM TO PUMP MANUFACTURERS MINIMUM STANDARD REQUIREMENT W/ APPROVAL OF ENGINEER.
3. CONTRACTOR SHALL REMOVE AND DISPOSE OF TOP SLAB W/ HATCH DOORS. CONTRACTOR SHALL REPLACE TOP SLAB W/ SIMILAR SLAB THAT IS CONSTRUCTED FOR INTENDED PUMP REMOVAL AND PLACEMENT W/ CRANE AS WELL AS FOR FULL SERVICE AND INTENDED USE.
4. DIMENSIONS ARE SHOWN BASED ON XYLEM NP3202 MT 3~641.
5. MANHOLE IS EXISTING DIMENSIONS ARE BASED ON PREVIOUS CONTRACTOR SHOP DRAWING. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO THE CONSTRUCTION OF TOP SLAB.
6. CONTRACTOR SHALL SLOPE GROUT FILL ACCORDING TO THE HYDRAULIC REQUIREMENTS ESTABLISHED BY THE MANUFACTURE. CONTRACTOR SHALL ALSO PROVIDE GROUTED BASE AND PLATE AS REQUIRED BY THE PUMP MANUFACTURE.
7. THE LOCATION OF CRANE PIVOT FOR PUMP REMOVAL SHALL BE DETERMINED BY THE OWNER.



SECTION VIEW

SCALE: 1/2"= 1'-0"

FACILITY PUMP STATION MODIFICATIONS PLAN & SECTION

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CITY OF MOULTRIE
COLQUITT COUNTY, GEORGIA

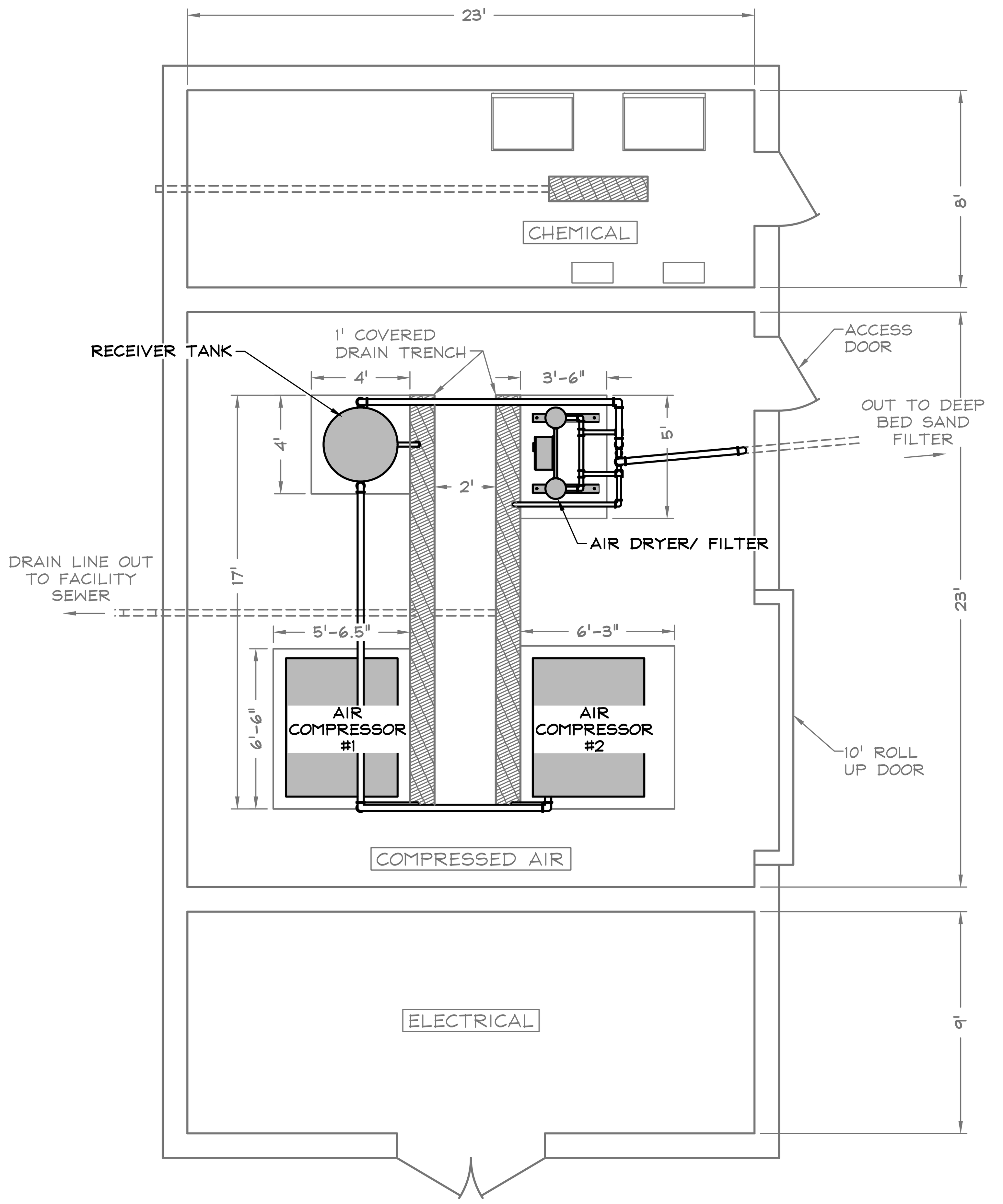
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GA COA LICENSE# PEF001004 EXPIRES 6/30/2024

GEORGIA REGISTERED No. PE024989 PROFESSIONAL ENGINEER JARED J. WOZNY
04/13/2026

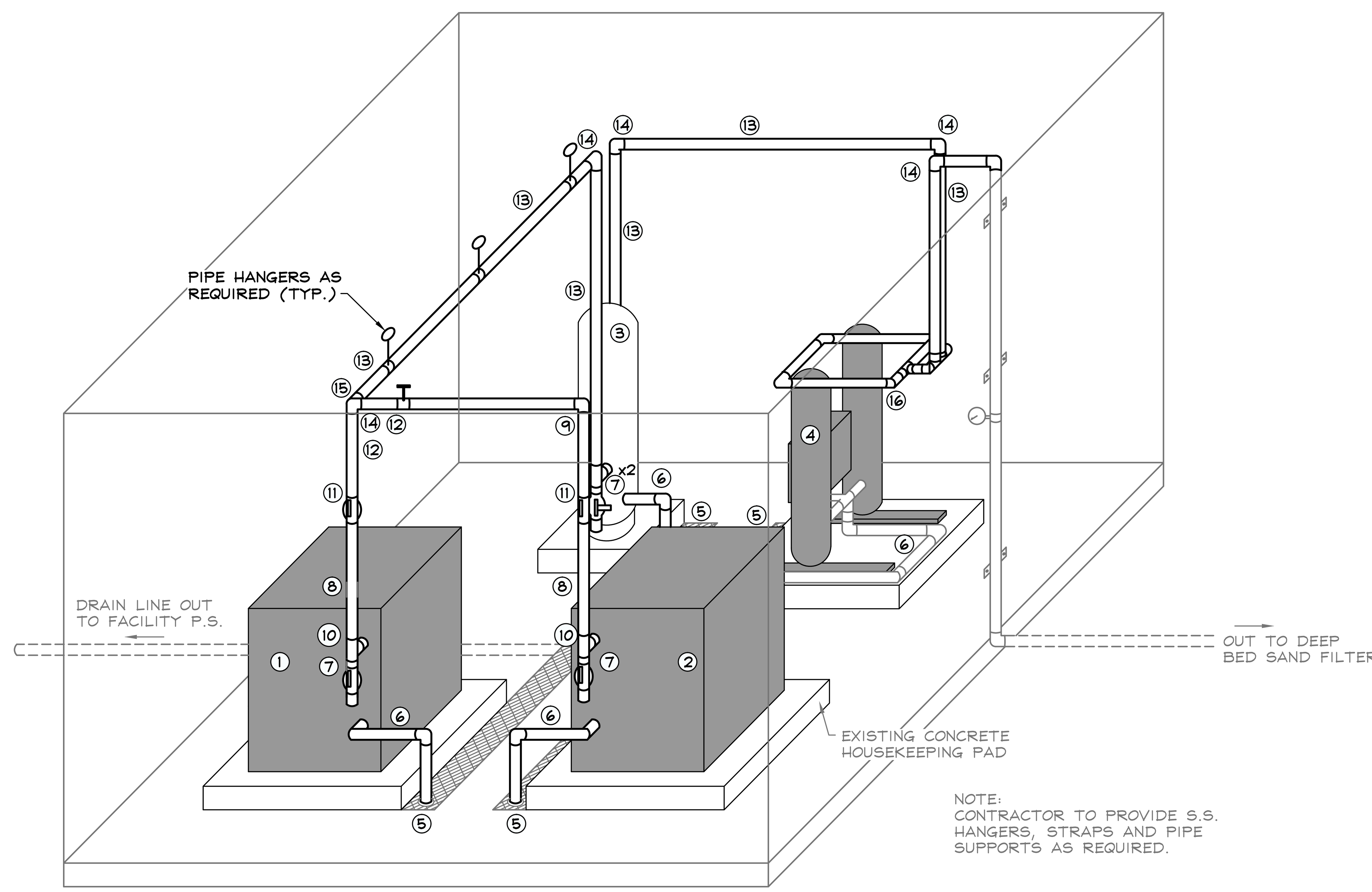
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SCALE: AS--NOTED	
PROJ. NO.: M9600.066	
DATE: APRIL 2026	SHEET NO.: 13



ELECTRICAL, COMPRESSED AIR & CHEMICAL SYSTEMS BUILDING

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



COMPRESSED AIR ROOM ISOMETRIC SCHEMATIC

N.T.S.

FITTINGS & APPURTENANCES INDEX:

1. AIR COMPRESSOR #1
2. AIR COMPRESSOR #2
3. RECEIVER TANK
4. AIR DRYER/ FILTER
5. TRENCH DRAIN COVER - CORE HOLE
6. 1" SCH 80 PVC DRAIN - PROVIDE BENDS AS NECESSARY
7. INTERIOR EXPOSED AIRLINE BLOW-OFF ASSEMBLY
8. 2" INTERIOR EXPOSED COMPRESSED AIR PIPING
9. 2" INTERIOR EXPOSED COMPRESSED AIR PIPING 90° BEND
10. 2" INTERIOR EXPOSED COMPRESSED AIR PIPING TEE
11. 2" INTERIOR EXPOSED COMPRESSED AIR LINE VALVE
12. 3"x2" INTERIOR EXPOSED COMPRESSED AIR REDUCER
13. 3" INTERIOR EXPOSED COMPRESSED AIR PIPING
14. 3" INTERIOR EXPOSED COMPRESSED AIR PIPING 90° BEND
15. 3" INTERIOR EXPOSED COMPRESSED AIR PIPING 3-WAY BRANCH
16. AIR DRYER/FILTER COMPRESSED AIR PIPING - PROVIDE BENDS AS NECESSARY

GENERAL NOTES:

1. AIR COMPRESSORS, RECEIVER TANK, DRYER-FILTER, ALTERNATOR AND PRESSURE RELIEF VALVES SHALL BE PROVIDED & INSTALLED BY THE CONTRACTOR.
2. ALL INTERCONNECTING PIPING, DRAIN PIPING, YARD PIPING AND SUPPORTS SHALL BE PROVIDED & INSTALLED BY THE CONTRACTOR.
3. AIR COMPRESSORS, RECEIVER TANK AND AIR DRYER-FILTERS SHALL BE MOUNTED & CENTERED ON THE EXISTING 4" THICK HOUSEKEEPING PADS
4. VIEWS & NOTES SHOWN WERE OBTAINED FROM RECORD DRAWINGS DATED NOVEMBER 2018. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THIS INFORMATION & PROVIDING & INSTALLING THE EQUIPMENT TO BE REPLACED INCLUDING ANY ANCILLARY COMPONENTS THAT ARE ESSENTIAL FOR BRINGING THE COMPRESSED AIR SYSTEM ON LINE & PERFORMING EQUAL TO OR BETTER THAN WHEN PREVIOUSLY INSTALLED.

INTERIOR PIPING NOTES:

1. CONTRACTOR SHALL MAKE ALL DRAIN AND COMPRESSED AIR CONNECTIONS TO MANUFACTURED EQUIPMENT, USING FITTINGS AS REQUIRED.
2. BLOW-OFF ASSEMBLIES SHALL CONSIST OF INTERIOR EXPOSED COMPRESSED AIR TEE W/ INTERIOR EXPOSED COMPRESSED AIR LINE VALVES. BLOW-OFFS SHALL BE PROVIDED AT AIR COMPRESSOR DISCHARGE AND AT INLET & OUTLET OF RECEIVER TANK AS SHOWN.
3. MAXIMUM SUPPORT SPACING SHALL BE:
   1" & 2" PIPING 3'-0"
   3" PIPING 6'-0"
4. ALL TOOLS NECESSARY FOR INSTALLATION OF INTERIOR EXPOSED COMPRESSED AIR PIPING & FITTINGS SHALL BE TURNED OVER TO THE OWNER IN GOOD CONDITION AND W/ ALL ORIGINAL MANUFACTURER'S DOCUMENTATION AT SUBSTANTIAL COMPLETION OF PROJECT.
5. CONTRACTOR TO PROVIDE S.S. HANGERS, STRAPS AND PIPE SUPPORTS AS REQUIRED.

GEORGIA 811
Utilities Protection Center, Inc.
Know what's below. Call before you dig.

COMPRESSED AIR SYSTEM REPLACEMENT PLAN & DETAILS

GEORGIA REGISTERED PROFESSIONAL ENGINEER No. PE042829 JARED J. WOZNY
04/13/2026

REVISIONS:

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COLQUITT COUNTY, GEORGIA

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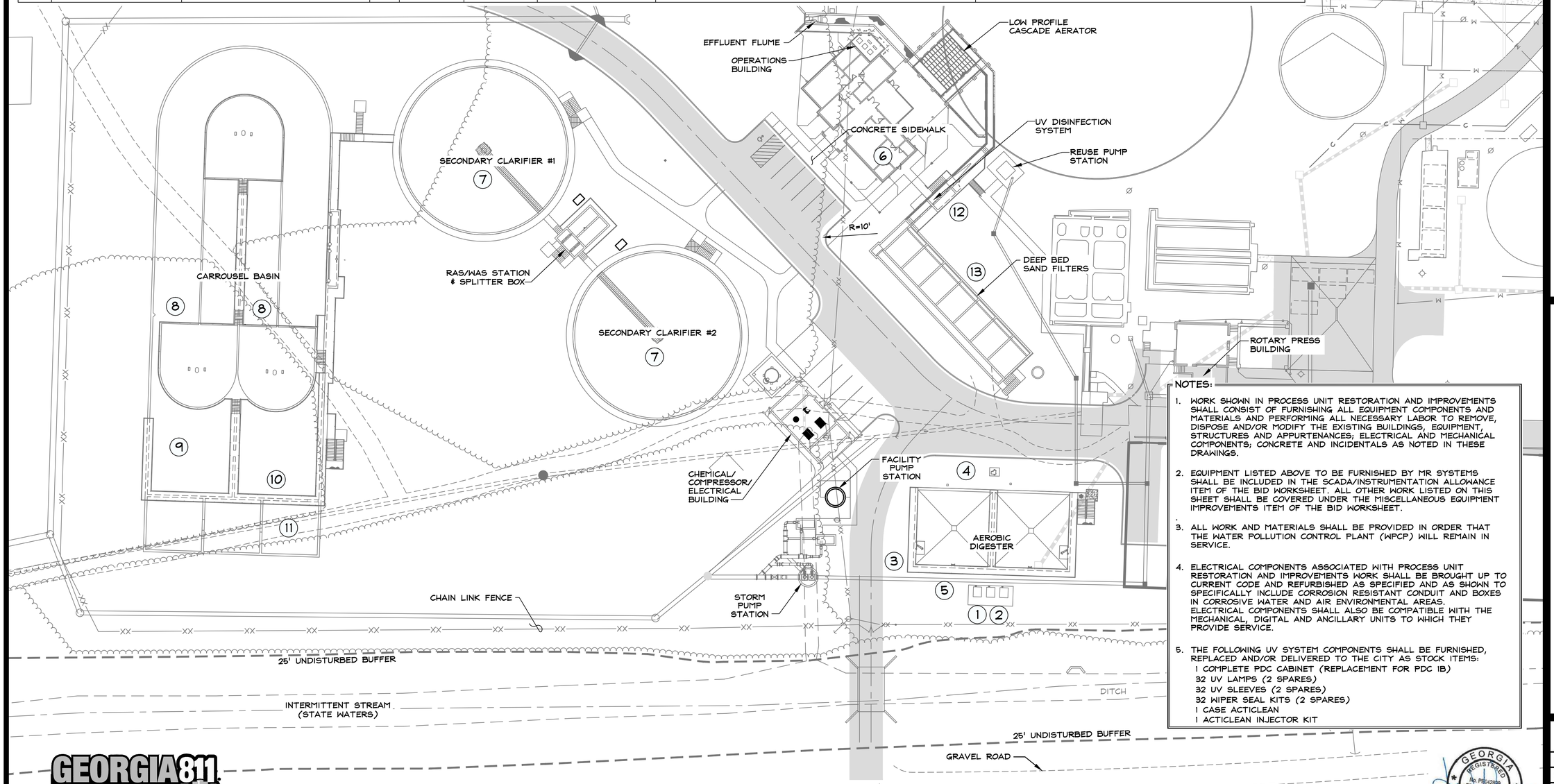
Carter & Sloope
CONSULTING ENGINEERS
MACON ◆ ATHENS ◆ CANTON ◆ MOULTRIE
GA COA LICENSE# PEF001004 EXPIRES 6/30/2024

THIS LINE IS ONE INCH LONG WHEN DRAWING IS PLOTTED FULL SCALE

DSGN: JW	DRWN: JER
SCALE: AS-NOTED	
PROJ. NO.: M9600.066	
DATE: APRIL 2026	SHEET NO.: 14

MISCELLANEOUS EQUIPMENT IMPROVEMENTS

NO.	PROCESS LOCATION	COMPONENT	QTY	SPEC	VENDOR	REPRESENTATIVE	CONTACT INFO	SCOPE DESCRIPTION
1	AEROBIC DIGESTER	BLOWER - MOTOR	1	75 HP	AERZEN	TDH	COREY HAGEMANN, CHAGEMANN@TDHCO.COM, 770-509-1808	FURNISH MOTOR & DELIVER TO CITY
2	AEROBIC DIGESTER	BLOWER - PM KIT	2	VENDOR	AERZEN	TDH	COREY HAGEMANN, CHAGEMANN@TDHCO.COM, 770-509-1808	FURNISH PM KITS & DELIVER TO CITY
3	AEROBIC DIGESTER	SUBMERSIBLE MIXER	1	6 HP	WILO-EMU	ECO-TECH	KEITH HIGGS, KHIGGS@ECO-TECH.NET, 770-842-8133	FURNISH MIXER & DELIVER TO CITY
4	AEROBIC DIGESTER	SLUDGE PUMP - REBUILD KIT	2	VENDOR	PENN VALLEY	TEMPLETON	SCOTT BROGDON, SCOTTY.BROGDON@TEMPLETON-ASSOCIATES.COM, 770-614-8550	FURNISH PUMP REBUILD KITS
5	AEROBIC DIGESTER	POTABLE LINE - 4" GATE VALVE	1	4 IN.	N/A	N/A	N/A	REPLACE GATE VALVE IN SAME LOCATION
6	RAS/WAS STATION	PUMP VARIABLE FREQUENCY DRIVE (VFD)	3	VENDOR	WILO-EMU	ECO-TECH	KEITH HIGGS, KHIGGS@ECO-TECH.NET, 770-842-8133	REPLACE VFDS IN SAME LOCATION
7	SECONDARY CLARFIER	CLARIFIER DRIVE MOTOR	2	0.6 HP	OVIVO WATER	ECO-TECH	KEITH HIGGS, KHIGGS@ECO-TECH.NET, 770-842-8133	FURNISH DRIVE MOTOR & DELIVER TO CITY
8	CARROUSEL BASIN	DO PROBE	2	VENDOR	HACH	MR SYSTEMS	SOTHORN KHEL, SOTHORN.KHEL@INFRAMARK.COM, 770-519-0597	FURNISH DO PROBE & DELIVER TO CITY
9	CARROUSEL BASIN	ORP PROBE	1	VENDOR	HACH	MR SYSTEMS	SOTHORN KHEL, SOTHORN.KHEL@INFRAMARK.COM, 770-519-0597	FURNISH ORP PROBE & DELIVER TO CITY
10	CARROUSEL BASIN	ANOXIC MIXER	1	10 HP	WILO-EMU	ECO-TECH	KEITH HIGGS, KHIGGS@ECO-TECH.NET, 770-842-8133	REPLACE MIXER IN SAME LOCATION
11	CARROUSEL BASIN	ANAEROBIC MIXER	1	5 HP	WILO-EMU	ECO-TECH	KEITH HIGGS, KHIGGS@ECO-TECH.NET, 770-842-8133	FURNISH MIXER & DELIVER TO CITY
12	OPERATIONS BUILDING	UV DISINFECTION SYSTEM	1	VENDOR	TROJAN	TEMPLETON	SCOTT BROGDON, SCOTTY.BROGDON@TEMPLETON-ASSOCIATES.COM, 770-614-8550	REPLACE COMPONENTS PER VENDOR
13	OPERATIONS BUILDING	DEEP BED SAND FILTER - AIR LIFT ASSEMBLY	20	SS, VENDOR	PARKSON	TDH	COREY HAGEMANN, CHAGEMANN@TDHCO.COM, 770-509-1808	FURNISH AIR LIFT ASSEMBLIES & DELIVER TO CITY



NOTES:

1. WORK SHOWN IN PROCESS UNIT RESTORATION AND IMPROVEMENTS SHALL CONSIST OF FURNISHING ALL EQUIPMENT COMPONENTS AND MATERIALS AND PERFORMING ALL NECESSARY LABOR TO REMOVE, DISPOSE AND/OR MODIFY THE EXISTING BUILDINGS, EQUIPMENT, STRUCTURES AND APPURTENANCES; ELECTRICAL AND MECHANICAL COMPONENTS; CONCRETE AND INCIDENTALS AS NOTED IN THESE DRAWINGS.
2. EQUIPMENT LISTED ABOVE TO BE FURNISHED BY MR SYSTEMS SHALL BE INCLUDED IN THE SCADA/INSTRUMENTATION ALLOWANCE ITEM OF THE BID WORKSHEET. ALL OTHER WORK LISTED ON THIS SHEET SHALL BE COVERED UNDER THE MISCELLANEOUS EQUIPMENT IMPROVEMENTS ITEM OF THE BID WORKSHEET.
3. ALL WORK AND MATERIALS SHALL BE PROVIDED IN ORDER THAT THE WATER POLLUTION CONTROL PLANT (WPCP) WILL REMAIN IN SERVICE.
4. ELECTRICAL COMPONENTS ASSOCIATED WITH PROCESS UNIT RESTORATION AND IMPROVEMENTS WORK SHALL BE BROUGHT UP TO CURRENT CODE AND REFURBISHED AS SPECIFIED AND AS SHOWN TO SPECIFICALLY INCLUDE CORROSION RESISTANT CONDUIT AND BOXES IN CORROSIVE WATER AND AIR ENVIRONMENTAL AREAS. ELECTRICAL COMPONENTS SHALL ALSO BE COMPATIBLE WITH THE MECHANICAL, DIGITAL AND ANCILLARY UNITS TO WHICH THEY PROVIDE SERVICE.
5. THE FOLLOWING UV SYSTEM COMPONENTS SHALL BE FURNISHED, REPLACED AND/OR DELIVERED TO THE CITY AS STOCK ITEMS:
   - 1 COMPLETE PDC CABINET (REPLACEMENT FOR PDC 1B)
   - 32 UV LAMPS (2 SPARES)
   - 32 UV SLEEVES (2 SPARES)
   - 32 WIPER SEAL KITS (2 SPARES)
   - 1 CASE ACTICLEAN
   - 1 ACTICLEAN INJECTOR KIT

GEORGIA 811 Utilities Protection Center, Inc.

30 0 30 60 90
SCALE: 1" = 30'

MISCELLANEOUS EQUIPMENT IMPROVEMENTS PLAN

REVISIONS:

2021 GEFA CWSRF WPCP MODIFICATIONS
CITY OF MOULTRIE
COLQUITT COUNTY, GEORGIA

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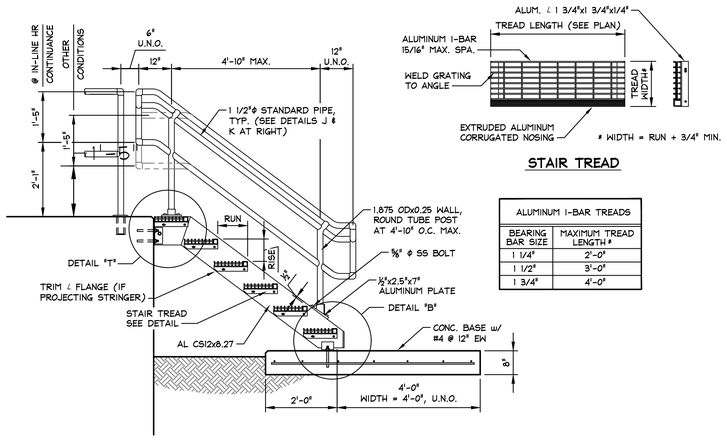
Carter & Sloope
CONSULTING ENGINEERS
24 1st AVENUE N.E. . MOULTRIE, GA 31768 . 229.668.0643 TEL. 229.668.0669 FAX
GA COA LICENSE# PEF001004 EXPIRES 6/30/2026

GEORGIA REGISTERED No. PE024262 PROFESSIONAL ENGINEER JARED J. WOZNY
04/13/2026

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SCALE: AS-NOTED	
PROJ. NO.: M9600.066	
DATE: APRIL 2026	SHEET NO.: 15

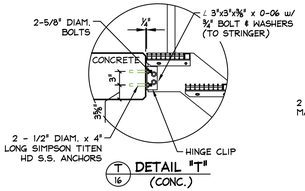
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C&S DWG NAME: PROCESS UNIT RESTORATION & IMPROVEMENTS - LOCATION MAP
DATE PLOTTED: 4/14/2026 10:09:06 AM



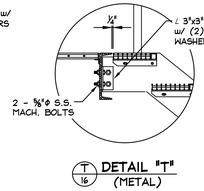
STAIR TREAD

ALUMINUM 1-BAR TREADS	
BEARING BAR SIZE	MAXIMUM TREAD LENGTH #
1 1/4"	2'-0"
1 1/2"	3'-0"
1 3/4"	4'-0"

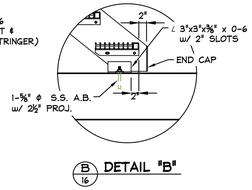
T/16 TYPICAL ALUMINUM STAIR & HANDRAIL ELEVATION



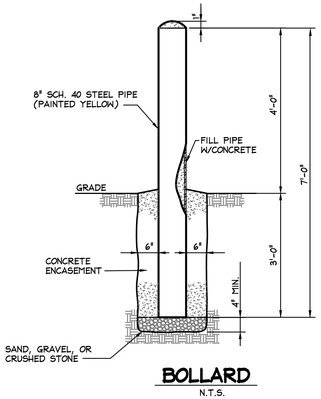
T/16 DETAIL "T" (CONC.)



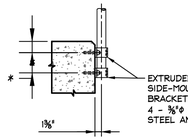
T/16 DETAIL "T" (METAL)



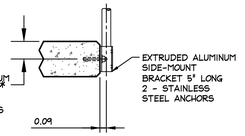
B/16 DETAIL "B"



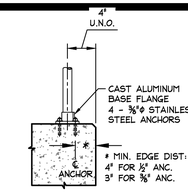
BOLLARD
N.T.S.



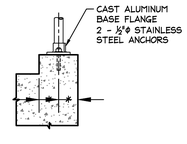
TYPICAL SIDE MOUNT CONNECTION TO CONCRETE WALL



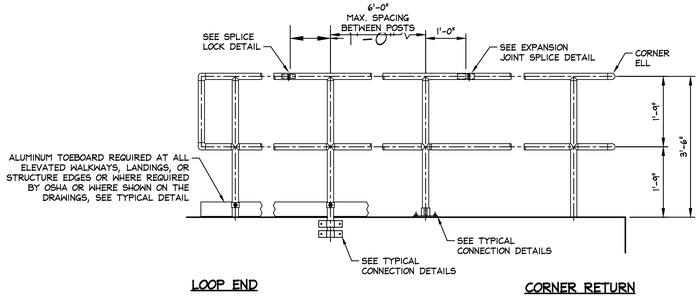
TYPICAL SIDE MOUNT CONNECTION TO CONCRETE SLAB



TYPICAL TOP MOUNT CONNECTION TO CONCRETE WALL



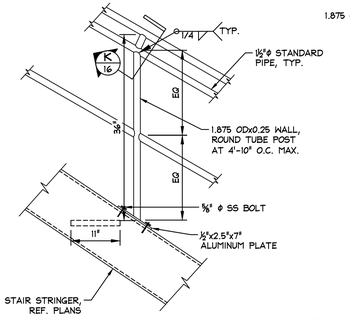
TYPICAL TOP MOUNT CONNECTION TO CONCRETE CURB



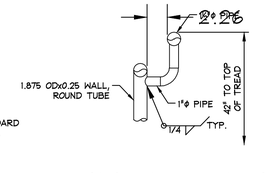
LOOP END

CORNER RETURN

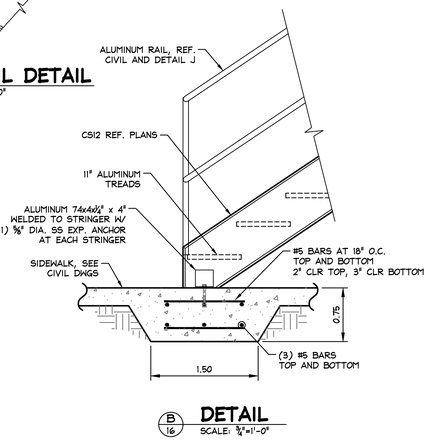
TYPICAL OSHA GUARDRAIL
GUARDRAILS SHALL BE TOP-MOUNTED OR SIDE-MOUNTED, AS SHOWN ON PLANS



J/16 STAIR HANDRAIL DETAIL
SCALE: ¾"=1'-0"

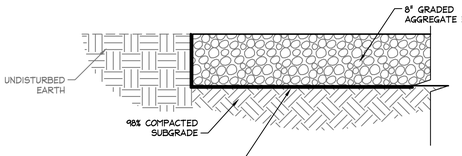


K/16 HANDRAIL SECTION
SCALE: 1½"=1'-0"



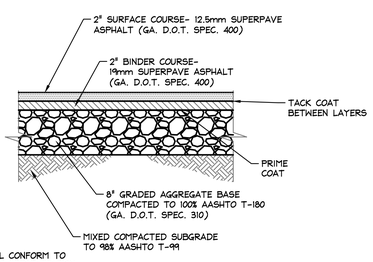
B/16 DETAIL
SCALE: ¾"=1'-0"

TYPICAL GUARDRAIL AT STAIRS
TYPICAL FOR ALL STAIR LOCATIONS



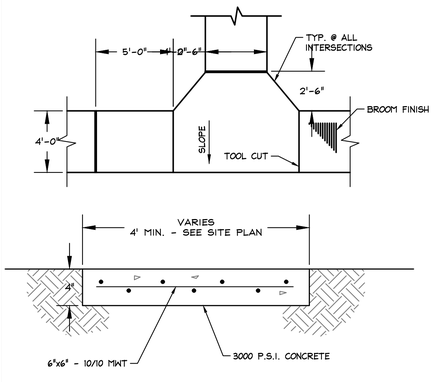
INSTALL GEOTEXTILE FABRIC BETWEEN BASE AND SUBGRADE LAYERS. GEOTEXTILE FABRIC SHALL BE A WOVEN, MONOFILAMENT FILTRATION GEOTEXTILE MADE OF 100% HIGH-TENACITY POLYPROPYLENE YARNS WITH 4% - 6% OPEN AREA, RESISTANT TO UV AND BIOLOGICAL DETERIORATION, AND SHALL MEET ALL REQUIREMENTS OF AASHTO M-288-17 FOR PERMANENT EROSION CONTROL AND SUBSURFACE DRAINAGE CLASS 2 (15% FINES). GEOTEXTILE SHALL BE A PRODUCT OF U.S. FABRICS, TENCATE, OR ENGINEER APPROVED EQUAL.

PROPOSED G.A.B. ROAD SURFACE DETAIL
N.T.S.



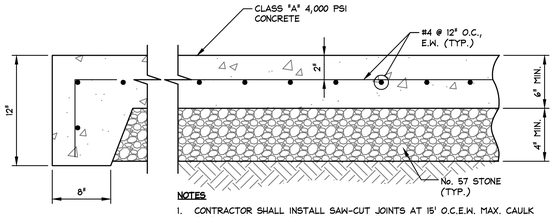
ALL CONSTRUCTION SHALL CONFORM TO LATEST GA. DOT SPECS, LATEST EDITION

ASPHALT PAVING
N.T.S.



NOTES:
1. CONCRETE SHALL BE FINISHED WITH TAMPS WOOD FLOATS AND STIFF-BUSTLE BRISTLE BROOM FINISHED.
2. TRANSVERSE CONTRACTION JOINTS SHALL BE PLACED AT 12 FT. INTERVALS (MAXIMUM). ALL EDGES SHALL BE ROUNDED TO ¼" RADIUS. TRANSVERSE JOINTS SHALL BE HAND-FORMED OR SAW CUT.
3. EXPANSION JOINTS SHALL BE ⅜" WIDE AND PLACED WHERE SIDEWALKS MEET OTHER STRUCTURES, CASTINS, CURBING, OR INTERSECTS ANOTHER SIDEWALK. MAXIMUM DISTANCE BETWEEN EXPANSION JOINTS SHALL BE 48 FEET.

TYPICAL CONCRETE SIDEWALK
N.T.S.



NOTES
1. CONTRACTOR SHALL INSTALL SAW-CUT JOINTS AT 15' O.C.E.W. MAX. CAULK JOINTS AFTER CUTTING.
2. SUBGRADE SHALL BE COMPACTED TO 95% MAX. LAB. DRY DENSITY, EXCEPT THAT THE TOP 12" SHALL BE COMPACTED TO 100%.
3. CONSTRUCT THICKENED SECTION AT ALL EDGES OF CONCRETE PAVING.

HEAVY DUTY CONCRETE PAVING DETAIL
N.T.S.

MISCELLANEOUS DETAILS

REVISIONS:

2021 GEFA CWSRF WPCP MODIFICATIONS
FOR THE
CITY OF MOULTRIE
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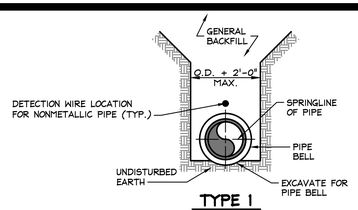
Carter & Sloope
CONSULTING ENGINEERS
24 1st AVENUE N.E. . MOULTRIE, GA 31768 . 229.668.0643 TEL . 229.668.0669 FAX
GA COA LICENSE# PEF001004 EXPIRES 6/30/2026

GEORGIA REGISTERED No. PE024288 PROFESSIONAL ENGINEER JARED J. WOZNY
04/13/2026

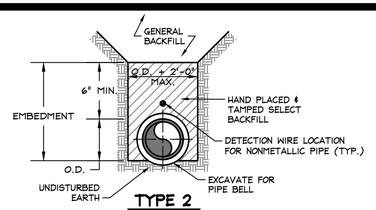
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SCALE: AS-NOTED	
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DATE: APRIL 2026	SHEET NO.: 16

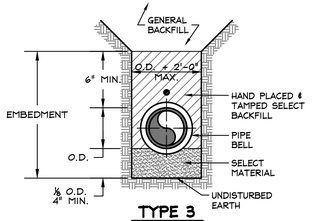
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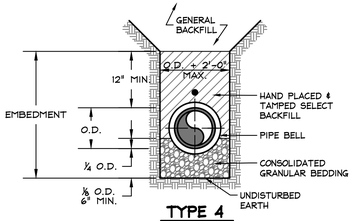
TYPE 1
(FLAT BOTTOM TRENCH)



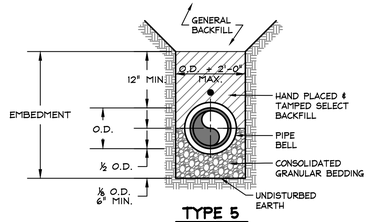
TYPE 2
(FLAT BOTTOM TRENCH)



TYPE 3
(LOOSE SOIL BEDDING)



TYPE 4
(GRANULAR BEDDING)

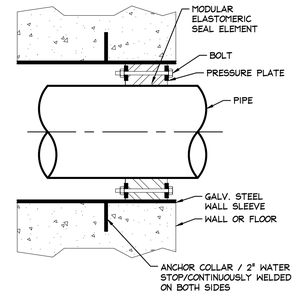


TYPE 5
(GRANULAR BEDDING)

NOTES:
1. TYPE 1 AND 2 CAN ONLY BE USED IN DRY EARTH TRENCHES.
2. TYPE 2 SHALL BE USED FOR PVC & D.I. FORCE MAINS & WATER MAINS UNLESS ROCK IS ENCOUNTERED OR OVER EXCAVATION OCCURS, IN WHICH CASE 6" MIN. OF GRANULAR CRUSHED STONE SHALL BE USED AS BEDDING.
3. SEE SPECIFICATION SECTION 02315 FOR ADDITIONAL REQUIREMENTS.

PIPE BEDDING AND HAUNCHING DETAILS GRAVITY AND PRESSURE PIPES

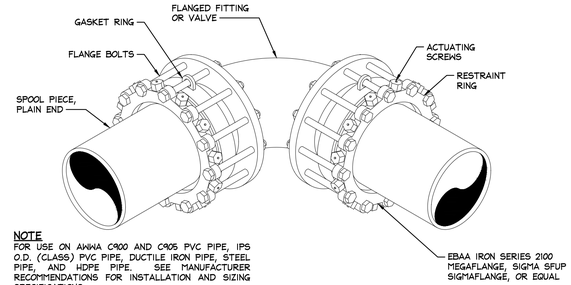
N.T.S.



NOTES:
1. SELECT SEAL SIZE AS RECOMMENDED BY MANUFACTURER FOR ACTUAL PIPE AND OPENING DIAMETERS.
2. SEAL ELEMENT SHALL BE EPDM, PRESSURE PLATES SHALL BE REINFORCED NYLON POLYMER, BOLT AND NUTS SHALL BE 316 STAINLESS STEEL.
3. WALL SLEEVE SHALL BE SCH. 40 GALVANIZED STEEL.
4. SEAL AND SLEEVE PRODUCTS SHALL BE LINK-SEAL, FLEXICRAFT, OR APPROVED EQUAL.

WALL SLEEVE ASSEMBLY DETAIL

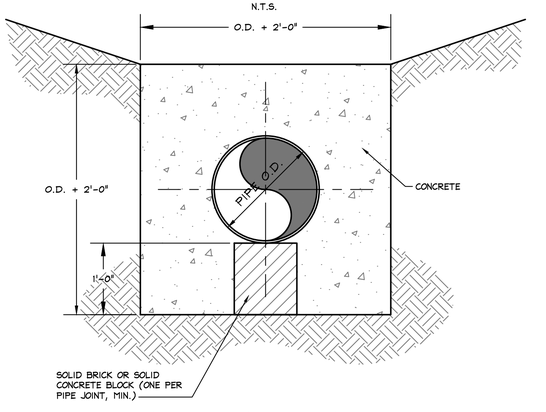
N.T.S.



NOTE
FOR USE ON AWWA C900 AND C905 PVC PIPE, IPS O.D. (CLASS) PVC PIPE, DUCTILE IRON PIPE, STEEL PIPE, AND HDPE PIPE. SEE MANUFACTURER RECOMMENDATIONS FOR INSTALLATION AND SIZING SPECIFICATIONS.

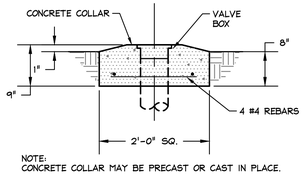
RESTRAINED FLANGED ADAPTOR DETAIL

N.T.S.



CONCRETE ENCASEMENT DETAIL

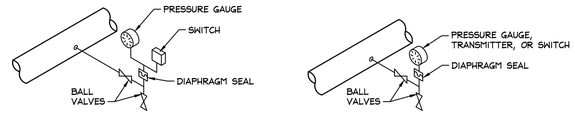
N.T.S.



NOTE:
CONCRETE COLLAR MAY BE PRECAST OR CAST IN PLACE.

CONCRETE COLLAR

N.T.S.



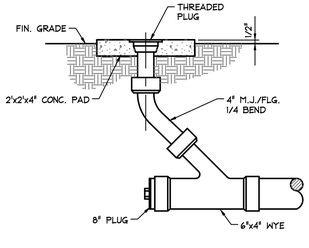
TYPICAL DUAL ASSEMBLY TYPICAL SINGLE ASSEMBLY

GAUGE, TRANSMITTER, & SWITCH INSTALLATION NOTES

1. FOR GAUGES INSTALLED ON PVC PIPE FOR WATER OR CHEMICAL SERVICE:
   a. MAIN PIPE SIZE:
      - 3" AND LESS: FURNISH IN-LINE TEE WITH REDUCING BUSHINGS FOR GAUGE CONNECTION.
      - GREATER THAN 3": FURNISH TAPPING SADDLE AT GAUGE CONNECTION LOCATION. TAPPING SADDLES SHALL MEET ALL REQUIREMENTS OF SECTION 15100.
   b. FITTINGS & NIPPLES SHALL BE SCH. 80 PVC WITH THREADED ENDS.
   c. BALL VALVES SHALL BE COMPACT TYPE WITH SOCKET ENDS
2. FOR GAUGES INSTALLED ON DI PIPE FOR WATER OR SEWAGE SERVICE, ALL SIZES:
   a. FURNISH DIRECT TAP LOCATED ON THE SIDE OF THE PIPE (3 OR 9 O'CLOCK POSITION) WHERE POSSIBLE. OTHERWISE, LOCATE TAP AT TOP OF PIPE (12 O'CLOCK POSITION).
   b. FITTINGS & NIPPLES SHALL BE STAINLESS STEEL, CLASS 150.
   c. BALL VALVES SHALL MEET ALL REQUIREMENTS OF SECTION 15100.
3. FOR ALL GAUGE OR SWITCH INSTALLATIONS:
   a. ALL FITTINGS, NIPPLES, VALVES, & SEALS SHALL BE ¼" OR ½"; SIZE TO MATCH THE GAUGE CONNECTION.
   b. GAUGES, TRANSMITTERS, SWITCHES, & DIAPHRAGM SEALS SHALL MEET ALL REQUIREMENTS OF SECTION 13420.
   c. SEE INSTRUMENT SCHEDULE FOR REQUIRED RANGES & SETPOINTS.
   d. FOR LOCATIONS THAT REQUIRE BOTH A GAUGE AND SWITCH, ONE TAP ON THE MAIN LINE MAY BE PROVIDED WITH A COMMON INSTRUMENT MANIFOLD.

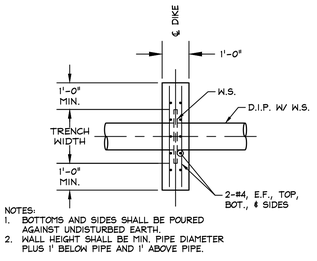
PRESSURE GAUGE ASSEMBLY DETAIL

N.T.S.



CLEANOUT DETAIL

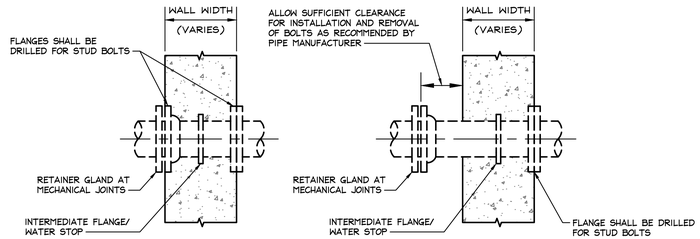
N.T.S.



NOTES:
1. BOTTOMS AND SIDES SHALL BE POURED AGAINST UNDISTURBED EARTH.
2. WALL HEIGHT SHALL BE MIN. PIPE DIAMETER PLUS 1' BELOW PIPE AND 1' ABOVE PIPE.

PIPE COLLAR DETAIL

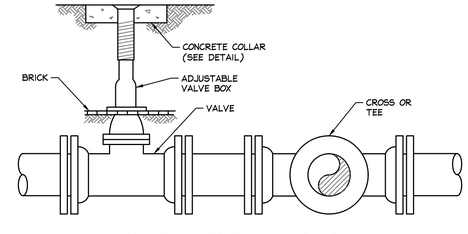
N.T.S.



NOTES:
1. FURNISH RESTRAINED MECHANICAL JOINT WHERE INDICATED ON THE DRAWINGS OR SPECIFIED.
2. FURNISH JOINT TYPES AS SHOWN ON THE DRAWINGS. JOINTS SHOWN IN DETAIL ARE CONCEPTUAL ONLY.
3. PIPE SIZE AND PIPE MATERIAL VARIES.

PIPE WALL DETAIL

N.T.S.



VALVE SETTING & BOX

N.T.S.

MISCELLANEOUS DETAILS

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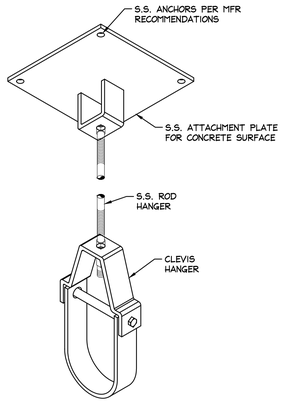
Carter & Sloope
CONSULTING ENGINEERS
24 1st AVENUE N.E. . MOULTRIE, GA 31768 . 229.668.0663 TEL. 229.668.0669 FAX
GA COA LICENSE# PEF001004 EXPIRES 6/30/2026

THIS LINE IS ONE INCH LONG WHEN DRAWING IS PLOTTED FULL SCALE

DSGN: JW	DRWN: JER
SCALE: AS-NOTED	
PROJ. NO.: M9600.066	
DATE: APRIL 2026	SHEET NO.: 17

GEORGIA REGISTERED No. PE043282 PROFESSIONAL ENGINEER JARED J. WOZNY
04/13/2026

C&S PROJECT NO.: M9600.066
C&S DWG NAME: M9600.066 - FRONT
DATE PLOTTED: 4/13/2026 2:49:30 PM

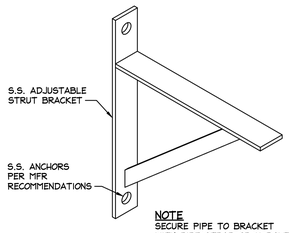


HANGER ROD SIZING CHART	
PIPE SIZE	MINIMUM ROD DIAMETER
LESS THAN 2½"	⅜"
2½" THRU 4"	½"
4"	⅝"
6"	¾"
8" THRU 12"	⅞"
14" THRU 18"	1"
20" THRU 30"	1¼"
36" THRU 60"	SEE SPECIAL SUPPORTS IN TECHNICIAL SPECIFICATIONS

PIPE HANGER DETAIL
N.T.S.

MATERIALS OF CONTRUCTION SHALL MEET THE FOLLOWING SCHEDULE FOR ALL HANGERS, SUPPORTS, & CHANNELS	
INTERIOR	STAINLESS STEEL
EXTERIOR	STAINLESS STEEL
SUBMERGED	STAINLESS STEEL
CHEMICAL	FIBERGLASS

REFER TO SECTION 15094 FOR ADDITIONAL MATERIAL SPECIFICATIONS.

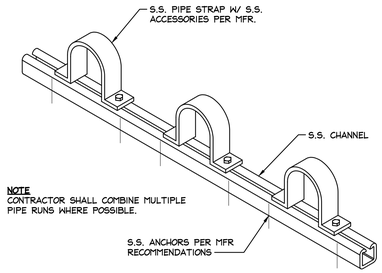


NOTE
SECURE PIPE TO BRACKET WITH PIPE STRAP OR U-BOLT.

ANGLE SUPPORT SPACING	
PIPE SIZE	ANGLE TYPE & SPACING
4" THRU 10"	LIGHT WELDED @ 10' O.C.
12" THRU 14"	MEDIUM WELDED @ 10' O.C.
16" THRU 20"	HEAVY WELDED @ 10' O.C.
24"	MEDIUM WELDED @ 5' O.C.
30" THRU 36"	HEAVY WELDED @ 5' O.C.

U-BOLT SIZING CHART	
PIPE SIZE	ROD DIAMETER
½" THRU 1"	¼"
1¼" THRU 2"	⅜"
2½" THRU 5"	½"
6" THRU 8"	⅝"
10"	¾"
12" THRU 16"	⅞"
18" THRU 36"	1"

ANGLE PIPE SUPPORTS
N.T.S.

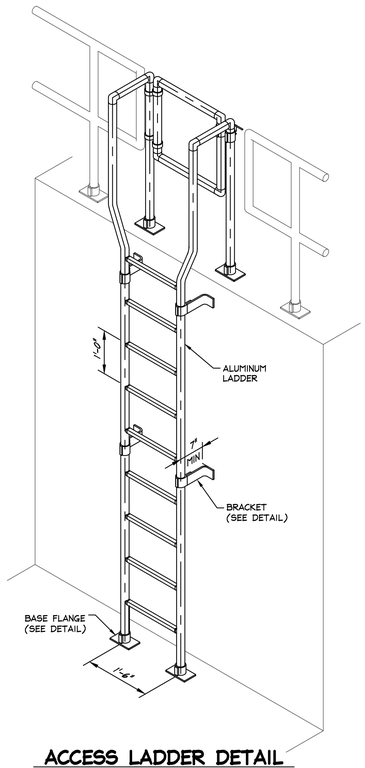


NOTE
CONTRACTOR SHALL COMBINE MULTIPLE PIPE RUNS WHERE POSSIBLE.

1. SUPPORT SPACING FOR STEEL PIPE AND COPPER TUBING SHALL NOT EXCEED FIVE (5) FEET.
2. SUPPORT SPACING FOR DUCTILE IRON PIPE SHALL NOT EXCEED TEN (10) FEET WITH A MINIMUM OF ONE SUPPORT PER PIPE SECTION.
3. SUPPORT SPACING FOR PVC PIPE SHALL MEET THE FOLLOWING SCHEDULE.

PIPE DIAMETER	MAXIMUM SPACING SCH. 40	MAXIMUM SPACING SCH. 80
¼"	3'6"	3'6"
⅜"	3'6"	4'0"
½"	4'0"	4'6"
¾"	4'0"	4'6"
1"	4'6"	5'0"
1¼"	5'0"	5'6"
1½"	5'0"	5'6"
2"	5'0"	6'0"
2½"	6'0"	6'6"
3"	6'0"	7'0"
4"	6'6"	8'0"
5"	7'0"	9'0"
6"	7'6"	9'0"
8"	8'0"	9'6"
10"	8'6"	10'0"
12"	9'6"	10'6"

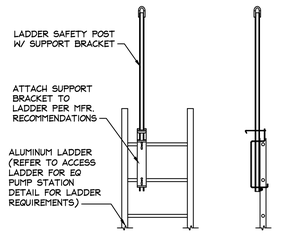
WALL CHANNEL PIPE SUPPORT LESS THAN 3"
N.T.S.



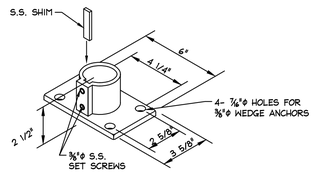
ACCESS LADDER DETAIL
N.T.S

FIXED ACCESS LADDER NOTE:
PROVIDE LADDER SAFETY SYSTEM ON ALL FIXED LADDERS EXTENDING MORE THAN 24'-0". REFER TO SECTION 05505.

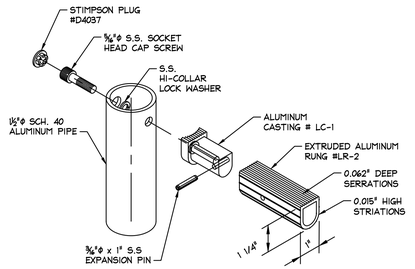
SAFETY POST NOTES
LADDER SAFETY POST SHALL BE DESIGNED WITH A TELESCOPING TUBULAR SECTION THAT LOCKS AUTOMATICALLY WHEN FULLY EXTENDED. UPWARD AND DOWNWARD MOVEMENT SHALL BE CONTROLLED BY A STAINLESS-STEEL SPRING BALANCING MECHANISM. UNIT SHALL BE COMPLETELY ASSEMBLED WITH STAINLESS-STEEL FASTENERS FOR SECURING TO THE LADDER RUNGS. POST SHALL BE ALUMINUM CONSTRUCTION WITH MILL FINISH. FURNISH PULL LOOP AT THE UPPER END TO FACILITATE RAISING.



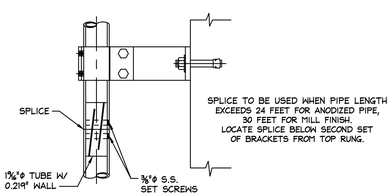
SAFETY POST DETAIL
N.T.S



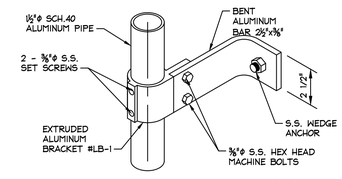
BASE FLANGE DETAIL
N.T.S



LADDER RUNG DETAIL
N.T.S

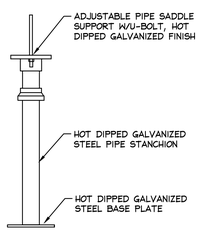


SPLICE DETAIL
N.T.S



LADDER BRACKET DETAIL
N.T.S

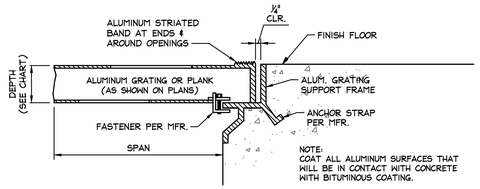
PIPE SIZE (IN)	STANCHION SIZE												
	1½"	2"	2½"	3"	4"	5"	6"	8"	10"	12"	14"	16"	20"	24"
2½"	•	•												
3"	•	•	•											
4"	•	•	•	•										
5"	•	•	•	•	•									
6"			•	•	•	•								
8"				•	•	•	•							
10"						•	•	•	•					
12"							•	•	•	•				
14"							•	•	•	•	•			
16"							•	•	•	•	•	•		
18"								•	•	•	•	•	•	
20"									•	•	•	•	•	
22"									•	•	•	•	•	•
24"									•	•	•	•	•	•
26"											•	•	•	•
28"											•	•	•	•
30"											•	•	•	•
32"											•	•	•	•
34"											•	•	•	•
36"											•	•	•	•
42"												•	•	•



STANCHION SIZE	BASE PLATE SIZE
1½"	⅜" x 6" x 6"
2"	
2½"	⅜" x 8" x 8"
3"	
4"	
5"	⅜" x 10" x 10"
6"	
8"	⅜" x 14" x 14"
10"	½" x 18" x 18"
12"	
14"	½" x 20" x 20"
16"	½" x 22" x 22"
20"	½" x 24" x 24"
24"	½" x 30" x 30"

PIPE SUPPORT NOTE:
PIPE STANCHION & BASE PLATE EQUAL TO ANVIL FIG. 63, TYPE T. ADJUSTABLE PIPE SADDLE EQUAL TO ANVIL 265.

PIPE STANCHION DETAIL
N.T.S



NOTE:
COAT ALL ALUMINUM SURFACES THAT WILL BE IN CONTACT WITH CONCRETE WITH BITUMINOUS COATING.

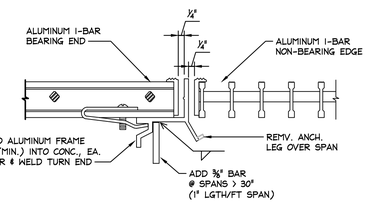
TYPICAL SECTION - GRATING/PLANK SUPPORT

GRATING SCHEDULE	
MAX SPAN	DEPTH #
3'-6"	1"
4'-0"	1¼"
4'-6"	1½"
5'-6"	1¾"
6'-0"	2"

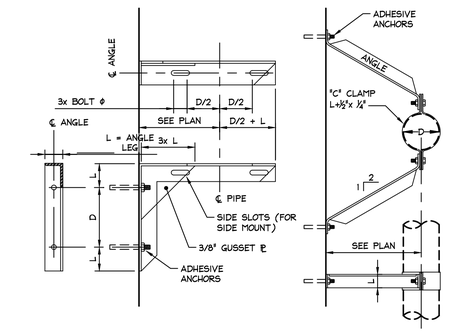
MINIMUM REQUIRED, ¼-INCH DEFLECTION w/ 100 PSF LOADING.

NOTE:
GRATING SUPPORT ANGLE SIZES SHALL BE BY GRATING MANUFACTURER. CONTRACTOR SHALL COORDINATE LOCATION OF ANCHOR STRAPS WITH ANY HANDRAIL PIPE SLEEVES.

ALUMINUM GRATING/PLANKING DETAILS
N.T.S.



1/18 TYPICAL SECTION - GRATING/PLANK SUPPORT OVER SPANS
N.T.S.

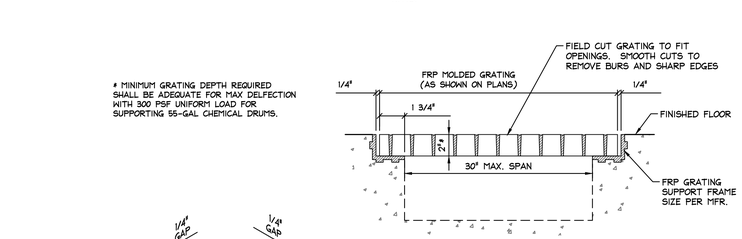


TYPE "A" TYPE "B"

NOTES:
ANGLE AND CLAMP MATERIAL SHALL BE 316 S.S. FOR EXTERIOR AND SUBMERGED WATER SERVICE. MATERIAL SHALL BE CARBON STEEL, GALV. AND PAINTED PER SPECIFICATIONS, FOR OTHER SERVICES. BOLTS AND ANCHORS SHALL BE A-307, GALV., EXCEPT FOR EXPOSED CONDITIONS AND WATER SERVICE SHALL BE 316 S.S.

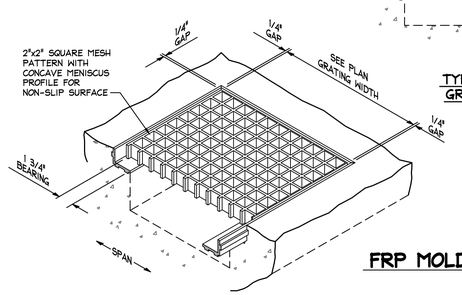
PIPE SUPPORT SCHEDULE		
PIPE ø "D"	ANGLE SIZE	BOLT SIZE
≤ 6"	2 ½"x 2 ½"x ⅜"	1/2"
8"- 10"	3"x 3"x ⅜"	1/2"
12"- 16"	4"x 4"x ⅜"	5/8"
≥ 16"	SEE PLAN	

TYPICAL PIPE SUPPORT DETAILS



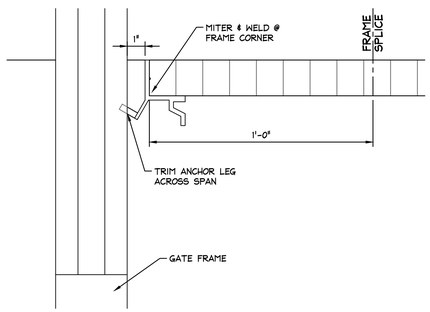
MINIMUM GRATING DEPTH REQUIRED SHALL BE ADEQUATE FOR MAX DELFECTION WITH 300 PSF UNIFORM LOAD FOR SUPPORTING 55-GAL CHEMICAL DRUMS.

TYPICAL SECTION - GRATING SUPPORT



NOTE:
GRATINGS INSTALLED IN SHALLOW, NARROW TRENCHES DO NOT REQUIRE HOLD DOWN CLIPS AS LONG AS PERIMETER SUPPORT ANGLE ADEQUATELY PREVENTS HORIZONTAL SLIDING, VERTICAL LIFTING, OR TIPPING. PROVIDE CONNECTING CLIPS PER MFR. RECOMMENDATIONS AT ABUTTING PANELS TO PREVENT DIFFERENTIAL DEFLECTION.

FRP MOLDED GRATING DETAILS
N.T.S.



2/18 GRATING SUPPORT AT GATE
N.T.S.

MISCELLANEOUS DETAILS

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CONSULTING ENGINEERS
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GA COA LICENSE# PEF001004 EXPIRES 6/30/2026

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DSGN: JW	DRWN: JER
SCALE: AS-NOTED	
PROJ. NO.: M9600.066	
DATE: APRIL 2026	SHEET NO.: 18

GEORGIA REGISTERED No. PE042889 PROFESSIONAL ENGINEER JARED J. WOZNY
04/13/2026

C&S PROJECT NO.: M9600.066
C&S DWG NAME: M9600.066 - FRONT
DATE PLOTTED: 4/13/2026 2:49:15 PM

GENERAL STRUCTURAL NOTES

MISCELLANEOUS

1. BEFORE COMMENCING WORK, CHECK ALL LINES AND LEVELS AND VERIFY ALL DIMENSION INDICATED ON THE DRAWINGS AND WITH MANUFACTURE'S SHOP DRAWINGS AND WITH OTHER WORK THAT HAS BEEN COMPLETED. NOTIFY THE ENGINEER IMMEDIATELY OF ANY DISCREPANCIES BEFORE PROCEEDING WITH ANY WORK.
2. THE CONTRACTOR SHALL COORDINATE ALL TRADES AND VERIFY THAT ALL WORK THAT IS TO BE BUILT INTO THE CONCRETE INCLUDING PIPE SLEEVES, INSERTS, ANCHOR BOLTS, ETC. IS LOCATED AND INSTALLED BEFORE PLACING ANY CONCRETE. ALL SUCH ITEMS SHALL BE PLACED SO AS NOT TO INTERFERE WITH REINFORCING STEEL.
3. THE CONTRACTOR SHALL GIVE THE ENGINEER 48 HOURS NOTICE PRIOR TO PLACING ANY CONCRETE. AT THE ENGINEER'S OPTION, ALL REINFORCING SHALL BE OBSERVED BY THE ENGINEER PRIOR TO PLACING ANY CONCRETE.
4. BEFORE PLACING ANY CONCRETE, ALL EXCAVATION AND FOOTING TRENCHES SHALL BE DRAINED OF WATER AND MUD FILM REMOVED AND LOOSE DIRT LIFTED OUT. THE CONTRACTOR SHALL PREVENT THE FLOW OF WATER INTO THE EXCAVATION AND FORMWORK WHILE THE CONCRETE IS BEING PLACED AND IS SETTING. THE CONTRACTOR SHALL TAKE ADEQUATE PRECAUTIONS TO PREVENT FLOTATION OF STRUCTURES DURING CONSTRUCTION.
5. SLAB THICKNESS INDICATED ON THE DRAWINGS IS A MINIMUM AND SHALL BE MEASURED FROM THE LOWEST POINT IN THE SLAB.
6. NO ADDITIONAL PAYMENT WILL BE MADE FOR ANY ADDITIONAL LABOR AND MATERIALS REQUIRED FOR CONSTRUCTION JOINTS INSTALLED AT THE REQUEST OF THE CONTRACTOR.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR BRACING ALL WORK DURING CONSTRUCTION.
8. ALL CONCRETE SHALL BE 4,000 PSI CLASS 'A' CONCRETE UNLESS NOTED OTHERWISE ON DRAWINGS OR IN SPECIFICATIONS.

FOUNDATIONS

1. LOOSE AND UNSUITABLE MATERIAL SHALL BE REMOVED FROM THE BOTTOM OF THE FOUNDATION AND REPLACED WITH COMPACTED STRUCTURAL FILL OR STONE.
2. STRUCTURAL FILL UNDER FOOTINGS AND SLABS ON GRADE SHALL BE COMPACTED IN 6-INCH LIFTS TO 98% OF THE MAXIMUM DRY DENSITY AS INDICATED BY ASTM D698 (STANDARD PROCTOR TEST).
3. THE CONTRACTOR SHALL PROVIDE NECESSARY BRACING OF WALLS AND STRUCTURES TO PREVENT DAMAGE DURING COMPACTION OF FILL AND BACKFILLING.
4. ALL SLABS ON GRADE SHALL BE POURED ON 6" MINIMUM COMPACTED CRUSHED STONE OR SAND. FOR BUILDING SLABS, THE CRUSHED STONE OR SAND SHALL BE COVERED BY A 6 MIL BLACK POLYETHYLENE VAPOR BARRIER.
5. AN INDEPENDENT, QUALIFIED GEOTECHNICAL ENGINEER SHALL VERIFY THE COMPACTION AND BEARING PRESSURE IS OBTAINED AT ALL FOUNDATIONS, SHALL MONITOR AND APPROVE ALL STRUCTURAL FILL PLACEMENT AND COMPACTION, AND SHALL APPROVE SUBGRADE BELOW ALL SLABS ON-GRADE.

CONCRETE

1. ALL CONCRETE WORK SHALL CONFORM TO ACI 318 AND ACI 301, ACI 350 LATEST EDITIONS.
2. CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH AT 28-DAYS AS FOLLOWS:
   a. CLASS A - 4,000 PSI
   b. CLASS B - 3,000 PSI
3. IN THE ABSENCE OF CONTRARY DESIGNATION, CONCRETE USED FOR ALL CONSTRUCTION SHALL BE CLASS A. PROVIDE THE FOLLOWING COVER FOR REINFORCING STEEL UNLESS OTHERWISE SHOWN ON THE DRAWINGS:
   a. CONCRETE CAST AGAINST OR PERMANENTLY EXPOSED TO EARTH: 3"
   b. FORMED CONCRETE EXPOSED TO EARTH, WATER OR WEATHER: 2"
   c. STRUCTURAL SLABS, BEAMS OR COLUMNS, NOT EXPOSED TO EARTH, WATER OR WEATHER: 1"
   d. OTHER FORMED SURFACES NOT EXPOSED TO EARTH, WATER OR WEATHER: ¾"
4. SINGLE MAT REINFORCING IN SLABS ON GRADE AND WALLS SHALL BE PLACED AT MID-DEPTH UNLESS NOTED OTHERWISE.
5. INSTALL SLEEVES AT ALL LOCATIONS WHERE PIPING PASSES THROUGH WALL OR SLABS. SLEEVES, ANCHOR BOLTS, AND OTHER INSERTS SHALL B POSITIVELY SECURED IN PLACE BEFORE PLACING ANY CONCRETE.
6. SEE ARCHITECTURAL, MECHANICAL, ELECTRICAL AND OTHER DRAWINGS FOR ADDITIONAL OPENINGS IN THE SLABS AND WALLS. ALL OPENINGS SHALL BE FORMED AND SLEEVED BEFORE CONCRETE IS POURED. ADDITIONAL REINFORCEMENT IS NOT REQUIRED FOR OPENINGS WHOSE LONGER DIMENSION IS 12" OR LESS BUT INTERRUPTED BARS SHALL BE DEFLECTED AROUND THE OPENING.
7. CONTRACTOR SHALL PROVIDE ALL NECESSARY INCIDENTAL ITEMS LIKE INSERTS, TIES, CLIPS AND OTHER DEVICES EVEN THOUGH SUCH ITEMS MAY NOT BE SPECIFICALLY DESCRIBED OR INDICATED, BUT ARE NECESSARY TO PROPERLY COMPLETE THE WORK. ALL FORMWORK SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH ACI 347, LATEST EDITION.
8. ALUMINUM CONDUITS, SLEEVES OR PIPES SHALL NOT BE EMBEDDED IN CONCRETE UNLESS EFFECTIVELY COATED WITH AN APPROVED BITUMINOUS PAINT TO PREVENT CHEMICAL OR ELECTROLYTIC REACTION BETWEEN THE ALUMINUM AND CONCRETE OR REINFORCEMENT.
9. UNLESS NOTED OTHERWISE, ALL CONCRETE SLABS SHALL SLOPE TO DRAIN OR SUMP.
10. CHAMFER ALL EXPOSED EDGES OF CONCRETE 3/4" UNLESS NOTED OTHERWISE.
11. PLACE ½" EXPANSION JOINT MATERIAL BETWEEN EDGES OF SLABS AND VERTICAL SURFACES, UNLESS NOTED OTHERWISE.
12. PROVIDE CONSTRUCTION OR CONTROL JOINTS IN SLABS AND WALLS AT LOCATIONS SHOWN ON THE DRAWINGS, AT OFFSETS AND CHANGES IN DIRECTION AND AT 30 FEET MAXIMUM. CONSTRUCTION JOINTS IN WALLS SHALL BE LOCATED A MINIMUM OF 5'-0" FROM WALL INTERSECTION, UNLESS NOTED OTHERWISE. COLD JOINTS SHALL BE CLEANED AND MOISTENED JUST PRIOR TO SECOND POUR.
13. SUBMIT MIX DESIGNS FOR REVIEW AND APPROVAL BY THE ENGINEER BEFORE PLACING CONCRETE.

UNIT MASONRY

1. MASONRY UNITS SHALL BE LAID IN A RUNNING BOND PATTERN UNLESS NOTED OTHERWISE.
2. TYPE "S" MORTAR SHALL BE USED FOR ALL C.M.U. WALLS. ALL FACE SHELLS AND HEAD JOINTS SHALL HAVE FULL MORTAR COVERAGE. MORTAR JOINTS SHALL BE STRAIGHT, CLEAN AND SHALL HAVE A UNIFORM THICKNESS OF 3/8-INCH. MASONRY GROUT FILL SHALL CONFORM TO ASTM C476, LATEST EDITION WITH A MINIMUM COMPRESSIVE STRENGTH OF 2,500 PSI AT 28-DAYS.
3. GROUT POURS SHALL BE LIMITED TO 4'-0" MAX. LIFTS WHEN FILLING BLOCK CELLS. ONLY CELLS WITH REINFORCING BARS SHALL RECEIVE GROUT.
4. PROVIDE HORIZONTAL JOINT REINFORCING AT 16" SPACED VERTICALLY USING NO. 9 GALVANIZED TRUSS-TYPE REINFORCING.
5. PROVIDE 1-#5 VERTICAL REINFORCING AT CORNERS, JAMBS, INTERSECTIONS, EACH SIDE OF OPENINGS AND AT 48" O.C. MAXIMUM SPACING UNLESS NOTED OTHERWISE. ALL VERTICAL REINFORCING SHALL BE DOWELED INTO FOOTING OR SLAB AND BOND BEAM.
6. REINFORCING SHALL BE DEFORMED BILLET STEEL BARS, GRADE 60, UNLESS OTHERWISE NOTED. ALL LAP SPLICES SHALL BE 48 BAR DIAMETERS, UNLESS OTHERWISE NOTED, BUT NOT LESS THAN 12-INCHES. SPLICES SHALL BE STAGGERED WHERE POSSIBLE AND REINFORCING BARS SHALL BE HELD IN POSITION AT EACH END AT INTERVALS NOT EXCEEDING 160 BAR DIAMETERS BY WIRE TIES OR REINFORCING POSITIONERS. REINFORCING SHALL BE SECURED INTO PLACE BEFORE GROUT POUR IS BEGUN.
7. CONTRACTOR SHALL PROVIDE BOND BEAMS AT THE TOP OF FOOTING OR FOUNDATION SLABS, AT TOP AND BOTTOM OF WALL OPENINGS (EXTEND 2'-0" PAST OPENING EACH SIDE), AND AT TOP OF BEARING WALLS (CONTINUOUS AROUND BUILDING), PARAPET WALLS AND INTERIOR PARTITION WALLS. BOND BEAMS MAY BE CONSTRUCTED WITH "U" SHAPED LINTEL BLOCKS OR "KNOCK-OUT" WEB BLOCKS EXCEPT OVER OPENINGS. REINFORCING WITH 2-#5'S CONTINUOUS AND GROUT FULL BLOCK DEPTH. CAP CORNER BARS AT ALL INTERIOR & EXTERIOR CORNERS. ALL VERTICAL REINFORCEMENT SHALL TERMINATE AT TOP OF WALL WITH STANDARD HOOK.
8. MASONRY WALL CONTROL JOINTS SHALL BE LOCATED AS SHOWN ON THE DRAWINGS AN IN ACCORDANCE WITH THE NCMA.
9. MAXIMUM VARIATION FROM PLUMB SHALL BE ½" IN 10'-0".
10. MAXIMUM VARIATION FROM LEVEL SHALL BE ½" IN 20'-0".

REINFORCING STEEL

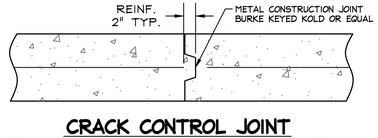
1. BARS SHALL BE ROLLED FROM NEW BILLET-STEEL CONFORMING TO ASTM A615, GRADE 60. ALL REINFORCING STEEL SHALL BE FREE OF RUST, SCALE OR OTHER FOREIGN MATERIAL PRIOR TO PLACING CONCRETE.
2. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185 OR A497.
3. REINFORCING STEEL IN PLACE SHALL BE REVIEWED BY THE ENGINEER PRIOR TO PLACING CONCRETE.
4. ALL LAP SPLICES SHALL BE MINIMUM 60 BAR DIAMETERS, UNLESS OTHERWISE NOTED, BUT NOT LESS THAN 24-INCHES.
5. SUBMIT REINFORCING STEEL SHOP DRAWINGS FOR REVIEW AND APPROVED BY ENGINEER BEFORE FABRICATION.
6. PROVIDE L-SHAPED CORNER BARS AT ALL CORNERS AND INTERSECTIONS. ALL CORNER BARS SHALL MATCH THE SIZE/SPACING OF THE TERMINATING BARS AND SHALL LAP THE TERMINATING BARS (UNLESS NOTED OTHERWISE).

STRUCTURAL STEEL

1. ALL STRUCTURAL STEEL SHALL CONFORM TO ASTM A36 UNLESS NOTED OTHERWISE.
2. ALL STRUCTURAL STEEL SHALL BE DETAILS, FABRICATED AND ERECTED IN ACCORDANCE WITH THE A.I.S.C. MANUAL OF STEEL CONSTRUCTION, LATEST EDITION, AND CODES AND STANDARDS THEREIN.
3. UNLESS OTHERWISE NOTED, ALL BOLTS SHALL BE ASTM A325, EXCEPT ANCHOR BOLTS MAY BE ASTM A307. EACH BOLT SHALL BE INSTALLED WITH A HARDENED WASHER CONFORMING TO ASTM F436 UNDER THE HEAD OR NUT, WHICHEVER IS TURNED FOR TIGHTENING.
4. BEARING ON BOLT THREADS SHALL NOT BE PERMITTED.
5. SHOP AND FIELD CONNECTIONS MAY BE BOLTED OR WELDED AS APPROVED BY THE ENGINEER.
6. ALL WELDING SHALL BE DONE BY A CERTIFIED WELDER AS PRESCRIBED IN THE "STRUCTURAL WELDING CODE," AWS D1.1 OF THE AMERICAN SOCIETY OF WELDERS FOR THE TYPES OF WELDS REQUIRED ON THIS PROJECT.
7. FULL LENGTH MEMBERS SHALL BE FURNISHED UNLESS SPLICES ARE CALLED FOR ON THE DRAWINGS. NO SHOP SPLICE, FIELD SPLICE OR OTHER CONNECTION WILL BE PERMITTED UNLESS SUCH SPLICE OR DETAIL IS SHOWN ON THE SHOP DRAWINGS AND APPROVED BY THE ENGINEER.
8. CONNECTIONS SHALL BE DESIGNED AND CONSTRUCTED TO DEVELOP THE FULL STRENGTH OF THE MEMBER CONNECTED AND AS DETAILED ON THE DRAWINGS.

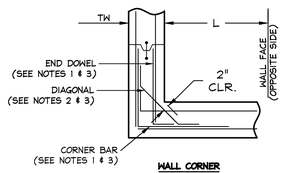
WATERSTOPS

1. PROVIDE CONTINUOUS PVC WATERSTOPS WHERE SHOWN ON THE DRAWINGS OR AT EXTERIOR WALL CONSTRUCTION JOINTS OR WATER RETAINING STRUCTURES, AND WHERE DIFFERENTIAL HEIGHTS OF FLUIDS EXIST ON EITHER SIDE OF WALL.
2. WATERSTOPS SHALL BE MANUFACTURED OF VIRGIN MATERIAL COMPOSED OF AN ELASTOMERIC POLYVINYL CHLORIDE COMPOUND MEETING THE REQUIREMENTS OF US ARMY CORPS OF ENGINEERS CRD-C572, UNLESS OTHERWISE NOTED.

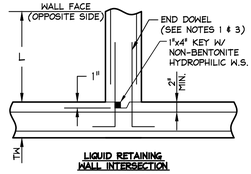


CRACK CONTROL JOINT EXPOSED AREA, NON-WATER BEARING

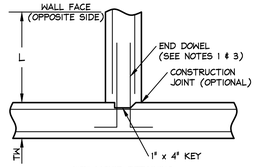
N.T.S.



WALL CORNER



LIQUID RETAINING WALL INTERSECTION



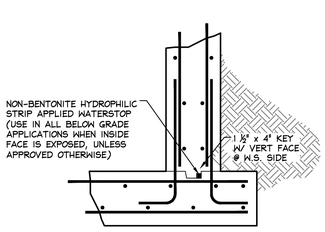
NON-LIQUID RETAINING WALL INTERSECTION

NOTES:

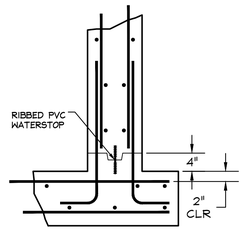
1. LEG LENGTH SHALL BE MAX. (0.15 L + TW) OR LAP SPLICE. U.N.O.
2. DIAGONAL REQ'D AT LIQUID RETAINING STRUCTURES WITH L > 20 FT., EITHER WAY. U.N.O.
3. MATCH SIZE & SPACING AND ALTERNATE WITH HORIZONTAL BARS. U.N.O.

WALL CORNER & INTERSECTION DETAIL

N.T.S.

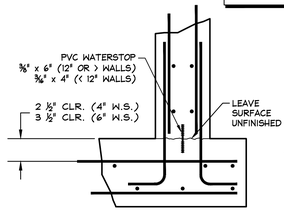


TYPE "B"

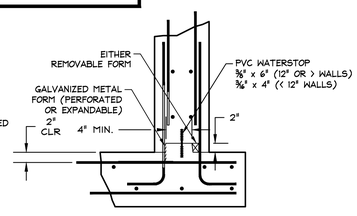


TYPE "SL"
(FOR LIQUID STORAGE)

FOR WALLS 10'-0" OR GREATER IN HEIGHT, REFER TO THE GROUTING REQUIREMENTS IN SECTION 03300.3.4.F PRIOR TO PLACING CONCRETE.



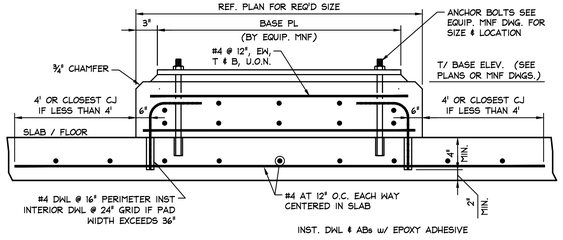
TYPE "BL"
(ONLY WHERE SHOWN OR APPROVED)



ALT. TYPE "SL"
(w/ APPROVAL ONLY)

BASE JOINT DETAILS

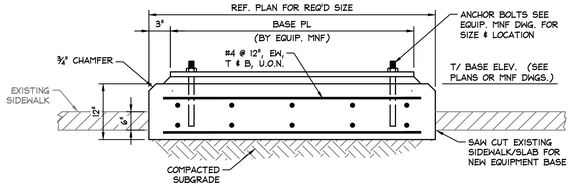
N.T.S.



INST. DWL & ABs w/ EPOXY ADHESIVE

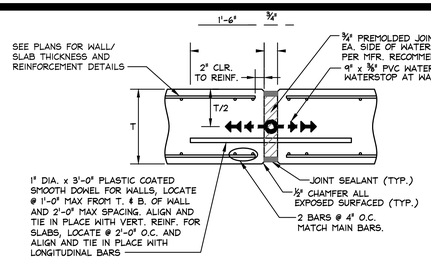
TYPICAL EQUIPMENT BASE SECTION

N.T.S.



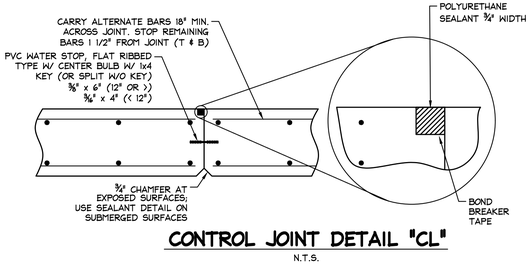
EQUIPMENT BASE SECTION AT EXISTING SLAB/SIDEWALK

N.T.S.



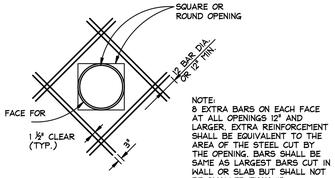
SLAB EXPANSION JOINT FOR WATER RETAINING STRUCTURES

N.T.S.



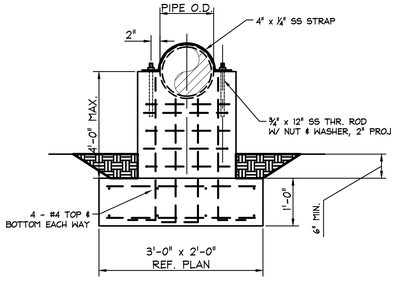
CONTROL JOINT DETAIL "CL"

N.T.S.



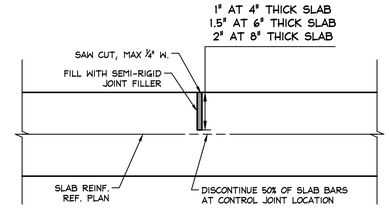
TYPICAL REINFORCEMENT AT OPENING DETAIL

N.T.S.



CONCRETE PIPE SUPPORT W/ FOOTING SECTION

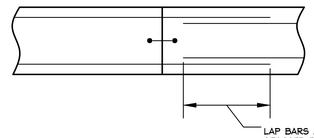
N.T.S.



REF. PLAN FOR LOCATIONS

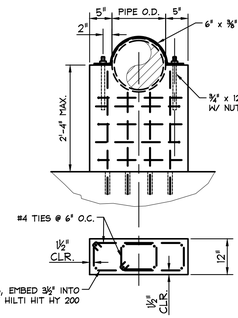
SAWED CONTROL JOINT DETAIL

N.T.S.



CONSTRUCTION JOINT DETAIL "CS"

N.T.S.

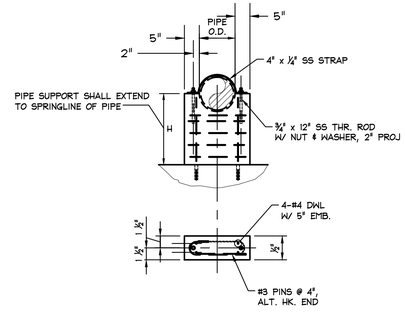


TYPICAL CONCRETE PIPE SUPPORT DETAIL

N.T.S.

CONCRETE PIPE SUPPORT SCHEDULE			
PIPE DIA.	PIER WIDTH	H (MAX) (NOTE 1)	STRAP/A.B.
0" - 12"	8"	36"	4" x ¼" / 2-⅝"
14" - 18"	12"	30"	6" x ⅜" / 2-¾"
20" - 24"	12"	30"	6" x ⅜" / 4-¾"
> 24"	SEE PLANS		

NOTES:
1. HEIGHT LIMIT W/ LATERAL THRUST LOAD.
2. SCHEDULE APPLIES U.N.O. ON PLANS.
3. DESIGN BASED ON 100PT TDH.



CONCRETE PIPE SUPPORT DETAIL

N.T.S.

MISCELLANEOUS DETAILS

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REVISIONS:

2021 GEFA CWSRF WPCP MODIFICATIONS
FOR THE
CITY OF MOULTRIE
COLQUITT COUNTY, GEORGIA

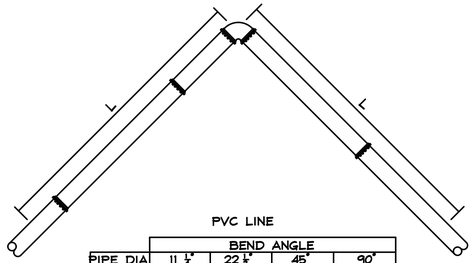
Carter & Sloope
CONSULTING ENGINEERS
24 1st AVENUE N.E. . MOULTRIE, GA 31768 . 229.668.0663 TEL . 229.668.0669 FAX
GA COA LICENSE# PEF001004 EXPIRES 6/30/2026

GEORGIA REGISTERED No. PEF012692 PROFESSIONAL ENGINEER JARED J. WOZNY
04/13/2026

THIS LINE IS ONE INCH LONG WHEN DRAWING IS PLOTTED FULL SCALE

DSGN: JW	DRWN: JER
SCALE: AS-NOTED	
PROJ. NO.: M9600.066	
DATE: APRIL 2026	SHEET NO.: 19

C&S PROJECT NO.: M9600.066
C&S DWG NAME: M9600.066 - FRONT
DATE PLOTTED: 4/13/2026 2:49:11 PM



PVC LINE

PIPE DIA	BEND ANGLE 11 1/4°	22 1/2°	45°	90°
4	2	4	8	18
6	3	5	11	25
8	4	7	14	33
10	4	8	16	39
12	5	9	19	45
16	5	9	19	45
20	6	11	23	54
24	8	16	26	62

PVC DESIGN:
SOIL TYPE: SM
TRENCH TYPE: 3
COVER: 3' ≤12"
DIA. 4' >12" DIA.
TEST PRESSURE: 150 PSI

POLYETHYLENE WRAPPED DUCTILE IRON LINE

PIPE DIA	BEND ANGLE 11 1/4°	22 1/2°	45°	90°
4	3	5	9	20
6	3	6	12	28
8	4	8	16	36
10	5	9	19	43
12	6	11	22	51
16	7	14	28	65
20	8	16	33	79
24	9	19	38	92

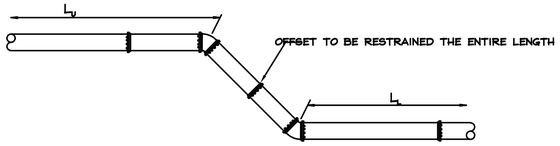
PE WRAPPED DIP:
SOIL TYPE: SM
TRENCH TYPE: 3
COVER: 3'
TEST PRESSURE: 150 PSI

MINIMUM RESTRAINED LENGTH (L)

NOTES:

1. LENGTH OF RESTRAINT SHOWN IS IN FEET. PIPE DIAMETERS ARE IN INCHES.
2. WHERE LINES CONSIST OF BOTH DUCTILE IRON AND PVC WITHIN THE LIMITS OF REQUIRED RESTRAINT, LIMITS FOR PVC SHALL APPLY.
3. INFORMATION IN THE TABLES ABOVE ARE BASED ON THE DESIGN INFORMATION SHOWN. THE ENGINEER SHALL PROVIDE AMENDED RESTRAINT LENGTHS IF SITE CONDITIONS DIFFER

HORIZONTAL BEND RESTRAINT



PVC LINE

PIPE DIA	BEND ANGLE 11 1/4°		22 1/2°		45°	
	L_U	L_L	L_U	L_L	L_U	L_L
4	4	1	8	2	17	3
6	6	1	11	2	23	4
8	8	2	15	3	30	6
10	9	2	18	4	36	7
12	11	2	21	4	43	8
16	10	3	21	5	42	10
20	13	3	25	6	51	12
24	15	4	29	7	60	15

PVC DESIGN:
SOIL TYPE: SM
TRENCH TYPE: 3
COVER: 3' ≤12"
DIA. 4' >12" DIA.
TEST PRESSURE: 150 PSI

POLYETHELYNE WRAPPED DUCTILE IRON LINE

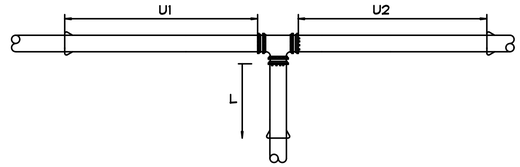
PIPE DIA	BEND ANGLE 11 1/4°		22 1/2°		45°	
	L_U	L_L	L_U	L_L	L_U	L_L
4	6	1	12	2	24	4
6	9	2	17	3	34	5
8	11	2	22	3	45	7
10	13	2	26	4	53	8
12	15	3	30	5	63	9
16	19	3	39	6	80	12
20	23	4	47	7	97	15
24	27	4	55	8	113	17

PE WRAPPED DIP:
SOIL TYPE: SM
TRENCH TYPE: 3
COVER: 3'
TEST PRESSURE: 150 PSI

NOTES:

1. LENGTH OF RESTRAINT SHOWN IS IN FEET. PIPE DIA. IS IN INCHES
2. WHERE LINES CONSIST OF BOTH DUCTILE IRON AND PVC WITHIN THE LIMITS OF REQUIRED RESTRAINT, LIMITS FOR PVC SHALL APPLY.
3. INFORMATION IN THE TABLES ABOVE ARE BASED ON THE DESIGN INFORMATION SHOWN. THE ENGINEER SHALL PROVIDE AMENDED RESTRAINT LENGTHS IF SITE CONDITIONS DIFFER

VERTICAL BEND RESTRAINT



PVC

ITEM \ U_r	10'	20'
4X4	3	#
6X4	#	#
6X6	5	#
8X4	#	#
8X6	#	#
8X8	18	#
10X4	#	#
10X6	#	#
10X8	8	#
10X10	28	11
12X4	#	#
12X6	#	#
12X8	#	#
12X10	20	#
12X12	39	3
16X6	#	#
16X8	#	#

ITEM \ U_r	10'	20'
16X10	4	#
16X12	25	#
16X16	61	24
20X6	#	#
20X8	#	#
20X10	#	#
20X12	10	#
20X16	48	2
20X20	81	44
24X6	#	#
24X8	#	#
24X10	#	#
24X12	#	#
24X16	35	#
24X20	69	25
24X24	101	63

RESTRAIN AT TEE ONLY.

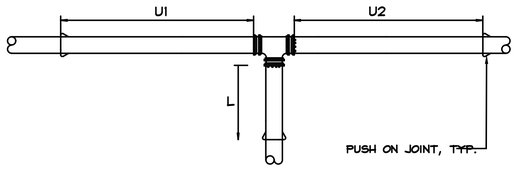
PVC DESIGN:
SOIL TYPE: SM
TRENCH TYPE: 3
COVER: 3' ≤12"
DIA. 4' >12" DIA.
TEST PRESSURE: 150 PSI

MINIMUM RESTRAINED LENGTH (L)

NOTES:

1. LENGTH OF RESTRAINT SHOWN IS IN FEET. FITTING DIAMETERS ARE IN INCHES.
2. WHERE LINES CONSIST OF BOTH DUCTILE IRON AND PVC WITHIN THE LIMITS OF REQUIRED RESTRAINT, LIMITS FOR PVC SHALL APPLY.
3. U1 AND U2 = UNINTERUPTED STRAIGHT RUNS OF PIPE IN EACH DIRECTION.
4. U_r = THE SMALLER OF U1 OR U2.
5. L = MINIMUM RESTRAINED LENGTH ALONG THE BRANCH.
6. WHERE U_r IS LESS THAN 5', RESTRAIN TEE AS A 90° HORIZONTAL BEND.
7. INFORMATION IN THE TABLES ABOVE ARE BASED ON THE DESIGN INFORMATION SHOWN. THE ENGINEER SHALL PROVIDE AMENDED RESTRAINT LENGTHS IF SITE CONDITIONS DIFFER.

TEE RESTRAINT (PVC PIPE)



POLYETHYLENE WRAPPED DUCTILE IRON PIPE

ITEM \ U_r	10'	20'
4X4	4	#
6X4	#	#
6X6	27	#
8X4	#	#
8X6	9	#
8X8	52	#
10X4	#	#
10X6	#	#
10X8	35	#
10X10	72	16
12X4	#	#
12X6	#	#
12X8	20	#
12X10	58	#
12X12	94	38
16X6	#	#
16X8	#	#

ITEM \ U_r	10'	20'
16X10	50	#
16X12	68	#
16X16	135	78
20X6	#	#
20X8	#	#
20X10	5	#
20X12	42	#
20X16	111	40
20X20	175	116
24X6	#	#
24X8	#	#
24X10	#	#
24X12	19	#
24X16	87	5
24X20	151	82
24X24	212	152

RESTRAIN AT TEE ONLY.

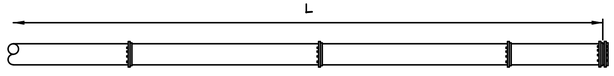
PE WRAPPED DIP:
SOIL TYPE: SM
TRENCH TYPE: 3
COVER: 3'
TEST PRESSURE=150 PSI

MINIMUM RESTRAINED LENGTH (L)

NOTES:

1. LENGTH OF RESTRAINT SHOWN IS IN FEET. FITTING DIAMETERS ARE IN INCHES.
2. WHERE LINES CONSIST OF BOTH DUCTILE IRON AND PVC WITHIN THE LIMITS OF REQUIRED RESTRAINT, LIMITS FOR PVC SHALL APPLY.
3. U1 AND U2 = UNINTERUPTED STRAIGHT RUNS OF RESTRAINED JOINT PIPE IN EACH DIRECTION.
4. U_r = THE SMALLER OF U1 OR U2 (E.G., U1, IN THE ABOVE DIAGRAM).
5. L = MINIMUM RESTRAINED LENGTH ALONG THE BRANCH.
6. WHERE U_r IS LESS THAN 5', RESTRAIN TEE AS A 90° HORIZONTAL BEND.
7. INFORMATION IN THE TABLES ABOVE ARE BASED ON THE DESIGN INFORMATION SHOWN. THE ENGINEER SHALL PROVIDE AMENDED RESTRAINT LENGTHS IF SITE CONDITIONS DIFFER.

TEE RESTRAINT (DUCTILE IRON PIPE)



POLYETHYLENE WRAPPED DUCTILE IRON LINE

PIPE DIA	L
4	58
6	82
8	107
10	128
12	151
16	193
20	234
24	273

PVC LINE

PIPE DIA	L
4	39
6	55
8	72
10	87
12	102
16	131
20	159
24	185

MINIMUM RESTRAINED LENGTH (L)

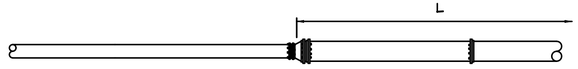
PE WRAPPED DIP:
SOIL TYPE: SM
TRENCH TYPE: 3
COVER: 3'
TEST PRESSURE: 150 PSI

PVC DESIGN:
SOIL TYPE: SM
TRENCH TYPE: 3
COVER: 3' ≤12"
DIA. 4' >12" DIA.
TEST PRESSURE: 150 PSI

NOTES:

1. LENGTH OF RESTRAINT SHOWN IS IN FEET. FITTING DIAMETERS ARE IN INCHES.
2. WHERE LINES CONSIST OF BOTH DUCTILE IRON AND PVC WITHIN THE LIMITS OF REQUIRED RESTRAINT, LIMITS FOR PVC SHALL APPLY.
3. FOR LINE STUBS (SEE DETAIL W34), THE LENGTH OF RESTRAINT (L) SHALL BE FROM THE VALVE AND NOT THE CAP.
4. INFORMATION IN THE TABLES ABOVE ARE BASED ON THE DESIGN INFORMATION SHOWN. THE ENGINEER SHALL PROVIDE AMENDED RESTRAINT LENGTHS IF SITE CONDITIONS DIFFER.

DEAD END RESTRAINT



PVC LINE

REDUCER	L
6X4	29
8X4	52
8X6	31
10X4	71
10X6	53
10X8	29
12X4	89
12X6	74
12X8	54
12X10	30
16X6	111
16X8	96
16X10	78
16X12	56
20X10	117
20X12	100
20X16	56
24X12	137
24X16	101
24X20	56

PVC DESIGN:
SOIL TYPE: SM
TRENCH TYPE: 3
COVER: 3' ≤12"
DIA. 4' >12" DIA.
TEST PRESSURE: 150 PSI

POLYETHELYNE WRAPPED DUCTILE IRON LINE

REDUCER	L
6X4	43
8X4	77
8X6	45
10X4	104
10X6	79
10X8	43
12X4	131
12X6	110
12X8	80
12X10	45
16X6	163
16X8	141
16X10	115
16X12	82
20X10	172
20X12	147
20X16	82
24X12	201
24X16	149
24X20	82

PE WRAPPED DIP:
SOIL TYPE: SM
TRENCH TYPE: 3
COVER: 3'
TEST PRESSURE: 150 PSI

U = MINIMUM UNINTERUPTED STRAIGHT RUN OF PIPE ON SMALL SIDE OF REDUCER.
L = MINIMUM RESTRAINED LENGTH.
WHERE MINIMUM "U" IS NOT MET, PIPE ON LARGE SIDE OF REDUCER SHALL BE RESTRAINED FOR A MINIMUM OF "L" FEET.

NOTES:

1. LENGTH OF RESTRAINT SHOWN IS IN FEET. FITTING DIAMETERS ARE IN INCHES.
2. WHERE LINES CONSIST OF BOTH DUCTILE IRON AND PVC WITHIN THE LIMITS OF REQUIRED RESTRAINT, LIMITS FOR PVC SHALL APPLY.
3. INFORMATION IN THE TABLES ABOVE ARE BASED ON THE DESIGN INFORMATION SHOWN. THE ENGINEER SHALL PROVIDE AMENDED RESTRAINT LENGTHS IF SITE CONDITIONS DIFFER.

REDUCER RESTRAINT

MISCELLANEOUS DETAILS

REVISIONS:

2021 GEFA CWSRF WPCP MODIFICATIONS
FOR THE
CITY OF MOULTRIE
COLQUITT COUNTY, GEORGIA

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GA COA LICENSE# PEF001004 EXPIRES 6/30/2026

GEORGIA REGISTERED No. PE042982 PROFESSIONAL ENGINEER JARED J. WOZNY
04/13/2026

THIS LINE IS ONE INCH LONG WHEN DRAWING IS PLOTTED FULL SCALE

DSGN: JW	DRWN: JER
SCALE: AS-NOTED	
PROJ. NO.: M9600.066	
DATE: APRIL 2026	SHEET NO.: 20

C&S PROJECT NO.: M9600.066
C&S DWG NAME: M9600.066 - FRONT
DATE PLOTTED: 4/13/2026 2:49:56 PM

SCHEMATIC DIAGRAM SYMBOLS

CONDUCTORS CONNECTED

CONDUCTORS NOT CONNECTED

CONNECTION POINT

XX — TERMINAL POINT FOR OUTGOING CONDUCTORS, WITH IDENTIFICATION. "XX" DENOTES CONTRACTOR ASSIGNED.

MCPXXX–XX / XXA — MAGNETIC–ONLY CIRCUIT BREAKER (MCP), WITH CURRENT RATING

CBXXX–XX / XXA — CIRCUIT BREAKER, THERMAL–MAGNETIC UNLESS OTHERWISE NOTED, WITH FRAME SIZE AND TRIP RATING

FUXXX–XX / XXA — FUSE WITH SIZE AND OPTIONAL IDENTIFICATION.

DSXXX–XX / XXXA — DISCONNECT SWITCH. RATING OPTIONAL. 30 AMP, 600V RATED MINIMUM UNLESS OTHERWISE NOTED.

FUXXX–XX / XXA — FUSE DISCONNECT SWITCH. RATING OPTIONAL. 30 AMP, 600V MINIMUM UNLESS OTHERWISE NOTED.

M–XXX / XX — MOTOR (HP AS SHOWN, PHASES AS REQUIRED)

MSR–XXX / XX XX — MOTOR STARTER COIL

OL–XXX — THERMAL MOTOR OVERLOAD

M–XXX — MOTOR CONTACT

LSXXX–XX / LSXXX–XX — LIMIT SWITCH NORMALLY CLOSED AND NORMALLY OPEN

PSXXX–XX / PSXXX–XX — PRESSURE SWITCH NORMALLY CLOSED AND NORMALLY OPEN

TSXXX–XX / TSXXX–XX — TEMPERATURE SWITCH NORMALLY CLOSED AND NORMALLY OPEN

FSXXX–XX / FSXXX–XX — FLOW SWITCH NORMALLY CLOSED AND NORMALLY OPEN

FLTXXX–XX / FLTXXX–XX — LEVEL SWITCH NORMALLY CLOSED AND NORMALLY OPEN

PRSXXX–XX / PRSXXX–XX — PROXIMITY SWITCH NORMALLY CLOSED AND NORMALLY OPEN

PCSXXX–XX / PCSXXX–XX — PULLCORD SWITCH NORMALLY CLOSED AND NORMALLY OPEN

SVXXX–XX — SOLENOID VALVE

PBXXX–XX / PBXXX–XX — MOMENTARY PUSHBUTTON NORMALLY CLOSED AND NORMALLY OPEN

SSXXX–XX / SSXXX–XX — SELECTOR SWITCH NORMALLY NORMALLY CLOSED AND NORMALLY OPEN

LTXXX–XX / X — PILOT LIGHT X = LENS COLOR

- A = AMBER
- B = BLUE
- G = GREEN
- R = RED
- W = WHITE

CRXXX–XX — CONTROL RELAY

CRXXX–XX / CRXXX–XX — CONTROL RELAY CONTACT NORMALLY CLOSED AND NORMALLY OPEN

ALXXX–XX — ALARM LIGHT

AHXXX–XX — ALARM HORN

H1 H2 / X1 X2 TFRXXX–XX — CONTROL POWER TRANSFORMER, PRIMARY AND SECONDARY VOLTAGE SHOWN. SIZE AS SHOWN OR SPECIFIED.

C.T. CTXXX–XX — CURRENT TRANSFORMER. PRIMARY/SECONDARY TURNS RATIO AS SHOWN.

FIRE ALARM SYMBOLS

S — SMOKE DETECTOR, 120VAC RATED

ONE LINE DIAGRAM SYMBOLS

CB–XXX — LOW VOLTAGE POWER CIRCUIT AND BREAKER DRAWOUT TYPE, FRAME TRIP SHOWN

CB–XXX — MOLDED CASE CIRCUIT BREAKER, FRAME AND TRIP ID SHOWN

LIGHTNING ARRESTOR AND GROUND

DS–XXX — DISCONNECT OR ISOLATING SWITCH: CONTINUOUS RATING SHOWN

MCP–XXX — MAGNETIC–ONLY CIRCUIT BREAKER (MCP), DRAWOUT TYPE, WITH CURRENT RATING

FS–XXX — FUSED SWITCH: FUSE AND SWITCH CONTINUOUS RATINGS SHOWN

TFR–XXX — POWER TRANSFORMER: PRIMARY & SECONDARY VOLTAGES, %Z, SIZE SHOWN

XS — CURRENT TRANSFORMER: RATIO SHOWN (3 INDICATES NO. OF CT'S)
METER SWITCH, xS:
AS – AMMETER SWITCH
VS – VOLTMETER SWITCH
FS – FREQUENCY SWITCH

PT — POTENTIAL TRANSFORMER PRIMARY & SECONDARY VOLTAGES & WINDINGS SHOWN. (x) UNITS

METER

METER:
A – AMMETER
W – WATTMETER
KWH – WATT–HOUR METER
F – FREQUENCY METER
VAR – VAR METER
V – VOLTMETER

FVNR / SIZE X — FULL VOLTAGE, NON–REVERSING MAGNETIC MOTOR STARTER. NEMA SIZE INDICATED

FVR / SIZE X — FULL VOLTAGE, REVERSING MAGNETIC MOTOR STARTER. NEMA SIZE INDICATED

XXHP VFD–XXX — VARIABLE FREQUENCY DRIVE. NEMA SIZE INDICATED

XXHP RVSS–XXX — REDUCED VOLTAGE SOLID STATE DRIVE (SOFT START). NEMA SIZE INDICATED

XX / M–XXX — MOTOR (HP AS SHOWN, PHASES AS REQUIRED)

GENERATOR RECEPTACLE

N E MTS–XXX — MANUAL TRANSFER SWITCH

P–XXX–X — CABLE TAG:
P – POWER CABLE
C – CONTROL CABLE
S – SHIELDED SIGNAL CABLE

Gx — GENERATOR TAG:
G – EQUIPMENT TO RUN OFF GENERATOR
X – STEP NUMBER FOR EQUIPMENT STARTING OFF THE GENERATOR

CIRCUIT AND RACEWAY SYMBOLS

RACEWAY OR WIRING SYSTEM ABOVE FLOOR LEVEL BELOW CEILING, EXPOSED. (UNLESS OTHERWISE NOTED)

RACEWAY OR WIRING SYSTEM BELOW FLOOR LEVEL, ABOVE CEILING, HIDDEN, OR EXISTING CABLE/CONDUIT. (UNLESS OTHERWISE NOTED)

SCHEMATIC DIAGRAM FIELD WIRING. (UNLESS OTHERWISE NOTED)

ONE LINE DIAGRAM EQUIPMENT ENCLOSURE. (UNLESS OTHERWISE NOTED)

PBD A–1,3,5 — HOME RUN – SEE PANELBOARD SCHEDULE FOR CIRCUIT INFORMATION

EXAMPLE: HOME TO PANELBOARD PBD A, CIRCUITS 1, 3, AND 5

GENERAL ABBREVIATIONS

AR	ALARM RELAY
AS	AMMETER SELECTOR SWITCH
A, AMP	AMP(S), AMPERE(S)
AC	ALTERNATING CURRENT
AFF	ABOVE FINISHED FLOOR
AHAP	AS HIGH AS POSSIBLE
AIC	AMPS INTERRUPTING CAPACITY, SYMM.
AL	ALUMINUM
AT	AMPERE TRIP
AF	AMPERE FRAME
AUTO	AUTOMATIC
AUX	AUXILIARY
AWG	AMERICAN WIRE GAUGE
BC	BARE COPPER CONDUCTOR
BKR	BREAKER
C	CONDUCTOR/CONTACTOR
CB	CIRCUIT BREAKER
CJB	CIRCUIT JUNCTION BOX
CKT	CIRCUIT
CLG	CEILING
CR	CONTROL RELAY
CND	CONDUIT
CONC	CONCRETE
CS	CONTROL SWITCH
CONT	CONTROL
CPT	CONTROL POWER TRANSFORMER
CT	CURRENT TRANSFORMER
CU	COPPER
D	DIAMETER
DB	DUCT BANK
DC	DIRECT CURRENT
DET	DETAIL
DIAG	DIAGRAM
DPSH	DIFFERENTIAL PRESSURE SWITCH
DS	DISCONNECT SWITCH
DWG	DRAWING
EA	EACH
EC	ELECTRICAL CONTRACTOR
EF	EXHAUST FAN
EL	ELEVATION
ELEC	ELECTRIC(AL)
EMER	EMERGENCY
ENCL	ENCLOSURE/ENCLOSED
EP	EXPLOSION PROOF EQUIP.
EX, E	EXISTING
FCP	FURNISHED WITH EQUIPMENT PANEL
FDR	FEEDER
FLA	FULL LOAD AMPS
FPP	FIBER OPTIC DISTRIBUTION PANEL
FS	FLOW SWITCH
FU	FUSE
FUT	FUTURE
FVNR	FULL VOLTAGE NON–REVERSING
FVR	FULL VOLTAGE REVERSING
GALV	GALVANIZED
GEN	GENERATOR
GFR	GROUND FAULT RELAY
GRD	GROUND
GRS	GALVANIZED RIGID STEEL
H	HIGH
HGT	HEIGHT
HH	HANDHOLE
HID	HIGH INTENSITY DISCHARGE
HP	HORSEPOWER
HS	HAND STATION (SWITCH)
HVAC	HEATING, VENTILATION AND AIR CONDITIONING
HZ	HERTZ (CYCLES PER SECOND)
HOA	HAND/OFF/AUTO
HOR	HAND/OFF/REVERSE
HMH	HIGH VOLTAGE MANHOLE
ID	INSIDE DIAMETER
IMC	INDIVIDUAL MOTOR CONTROLLER
INTLK	INTERLOCK
INST	INSTANTANEOUS
INSTR	INSTRUMENT
I/O	INPUT–OUTPUT
JB	JUNCTION BOX
KV	KILOVOLT
KVA	KILOVOLT–AMPERE
KVAR	KILOVOLT–AMPERE REACTIVE
KW	KILOWATT
KWH	KILOWATT–HOUR
KAIC	KILO AMPERE INTERRUPTING CURRENT
L–O–R	LOCAL–OFF–REMOTE
L	LONG
LC	LIGHTING CONTACTOR
LCP	LOCAL CONTROL PANEL
LP	LIGHTING PANEL
LOS	LOCK–OUT STOP
LSIG	LONG, SHORT, INSTANTANEOUS TRIP SETTING AND GROUND FAULT PROTECTION
LSL	LEVEL SWITCH LOW
LSO	LIMIT SWITCH OPEN
LSC	LIMIT SWITCH CLOSED
LTG	LIGHTING
LV	LOW VOLTAGE
LSH	LEVEL SWITCH HIGH
M	MOTOR CONTACTOR
mA	MILLIAMPERE
MAX	MAXIMUM
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MCP	MOTOR CONTROL PANEL/MOTOR CIRCUIT PROTECTOR
MECH	MECHANICAL
MFR	MANUFACTURE(R)
MH	MANHOLE
MIC	MICROPHONE
MIN	MINIMUM
MISC	MISCELLANEOUS
mM	MILLIMETER
mV	MILLIVOLT
MCM	MILLI CIRCULAR MILLS
MOP	MOTOR OPERATOR PANEL
MPR	MOTOR PROTECTION RELAY
MCB	MAIN CIRCUIT BREAKER
MTR	MOTOR
MVS	MEDIUM VOLTAGE STARTER
N/A	NOT APPLICABLE
NC	NORMALLY CLOSED
NEUT,N	NEUTRAL
NF	NON–FUSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NOM	NOMINAL
NP	NAMEPLATE
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OH	OVERHEAD
OL's	OVERLOADS
OT	OIL TIGHT
P	POLE
PA	PUBLIC ADDRESS
PB	PUSHBUTTON, PULLBOX
PE	PHOTO ELECTRIC CELL
PF	POWER FACTOR
PH	PHASE
PJB	POWER JUNCTION BOX
PLC	PROGRAMMABLE LOGIC CONTROLLER
PNL	PANEL
PP	POWER PANEL
PR	PAIR
PRI	PRIMARY
PS	PRESSURE SWITCH
PT	POTENTIAL TRANSFORMER
PVC	POLYVINYL CHLORIDE
PWR	POWER
QSH	SHEAR PIN LIMIT SWITCH
RCPT	RECEPTACLE
RCT	REACTOR
REF	REFERENCE REQ'D REQUIRED
RMS	ROOT MEAN SQUARE
RTD	RESISTANCE TEMPERATURE DETECTOR
SCH	SCHEDULE
SE	SPEED SENSOR
SEC	SECONDARY
SEL	SELECTOR
SER	SERVICE ENTRANCE RATED
SPDT	SINGLE POLE DOUBLE THROW
SPEC	SPECIFICATION
SPHTR	MOTOR SPACE HEATER
SPKR	SPEAKER
SS	STAINLESS STEEL
SSL	SPEED SWITCH
SUB	SUBSTATION
SW	SWITCH
SYMM	SYMMETRICAL
SYS	SYSTEM
SV	SOLENOID OPERATED VALVE
SPB	SIGNAL PULL BOX
TB	TERMINAL BOX
TEL	TELEPHONE
TEMP	TEMPERATURE
TFR	TRANSFORMER
TH	THERMOSTAT
TJB	TERMINAL JUNCTION BOX
TSH	TEMPERATURE SWITCH HIGH
TV	TELEVISION
TYP	TYPICAL
TR	TIMING RELAY
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
TSP	TWISTED SHIELDED PAIR
UG	UNDERGROUND
UH	UNIT HEATER
UON	UNLESS OTHERWISE NOTED
V	VOLT
VA	VOLT AMPERE
VAR	VOLT AMPERE REACTIVE
VFD	VARIABLE FREQUENCY DRIVE
VSH	VIBRATION SWITCH
W	WATT, WIRE, WIDE
W/	WITH
W/O	WITHOUT
WE	WEIGHT LOAD CELL
WIT	WEIGHT INDICATING TRANSMITTER
WP	WEATHERPROOF
XL	WARNING HORN/LIGHT
XT	ANEMOMETER
ZS	POSITION (LIMIT) SWITCH
ZSO	POSITION (LIMIT) SWITCH OPEN
ZSC	POSITION (LIMIT) SWITCH CLOSED
ZT	POSITION TRANSMITTER

GROUNDING SYMBOLS

GROUND ROD, 3/4" x 10'–0", COPPERCLAD (UNLESS OTHERWISE NOTED)

GROUND ROD AND TEST WELL

COMPRESSION TYPE GROUNDING BOND TO MOTOR CASING OR EQUIPMENT

EXOTHERMIC TYPE GROUNDING BOND TO CABLE OR CONCRETE REBAR OR RISER

G G — GROUNDING CONDUCTOR (CONCEALED), #4/0 AWG BARE COPPER

GG GG — GROUNDING CONDUCTOR (EXPOSED), #4/0 AWG INSULATED COPPER

EXOTHERMIC WELD TO CONCRETE REBAR OR RISER(S).

GENERAL NOTES:

1. SCOPE:
   - A. FURNISH ALL LABOR, MATERIAL, EQUIPMENT AND TOOLS REQUIRED TO COMPLETE INSTALLATION OF THE ELECTRICAL SYSTEM INCLUDING BUT NOT LIMITED TO WIRING, BOXES, LIGHT FIXTURES, PANELS, SWITCHES, RECEPTACLES, DISCONNECTS, STARTERS, AND ALL OTHER WORK INDICATED ON THE DRAWINGS OR AS SPECIFIED HEREIN.
   - B. OBTAIN ALL PERMITS, INSPECTIONS, AND APPROVALS AS REQUIRED BY THE LOCAL AUTHORITIES HAVING JURISDICTION AND DELIVER CERTIFICATE OF APPROVAL TO THE GENERAL CONTRACTOR. ALL ASSOCIATED FEES SHALL BE PAID BY THE CONTRACTOR.
   - C. ALL MATERIALS AND EQUIPMENT OF THE ELECTRICAL SYSTEM NECESSARY FOR ITS PROPER AND SAFE OPERATION OR OTHERWISE REQUIRED BY CODE, BUT NOT SPECIFICALLY MENTIONED OR SHOWN ON THE DRAWINGS, SHALL BE FURNISHED AND INSTALLED WITHOUT ADDITIONAL CHARGE.
   - D. WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF NATIONAL ELECTRICAL CODE, THE LATEST STANDARD BUILDING CODE, NFPA 820, ANY OTHER LOCALLY ADOPTED CODES AND LOCAL AUTHORITIES HAVING JURISDICTION.
2. ALL SUBSTITUTIONS FOR EQUIPMENT AND MATERIAL SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO INSTALLATION.
3. THE CONTRACTOR SHALL COORDINATE ALL WORK WITH ALL OTHER TRADES. IT IS THE RESPONSIBILITY OF CONTRACTOR TO VERIFY THE ACTUAL LOCATION OF EQUIPMENT, DUCTWORK, PIPING, ETC. AND COORDINATED THE INSTALLATION ACCORDINGLY. THE EQUIPMENT WIRING SHALL INCLUDE ALL NECESSARY CABLES AND CONDUIT REQUIRED FOR THE PROPER AND SAFE EQUIPMENT OPERATION.
4. ALL MATERIALS SELECTION SHALL BE AS PER THE SCHEDULE SHOWN ON DWG. E–002, UNLESS NOTED OTHERWISE ON THE DRAWINGS.

PLAN DRAWING SYMBOLS

(M) — MOTOR CONNECTION

MOTOR STARTER, INDIVIDUAL –– NOT LOCATED IN AN MCC OR SIMILAR GROUP ASSEMBLY

COMBINATION MOTOR STARTER/DISCONNECT INDIVIDUAL –– NOT LOCATED IN AN MCC OR SIMILAR GROUP ASSEMBLY

DISCONNECT SWITCH. DISCONNECT SWITCHES ARE HEAVY DUTY, SINGLE THROW, WITH NEMA 4X ENCLOSURE UNLESS OTHERWISE NOTED. MOUNT AT 4'–8" TO CENTER OF DISCONNECT.

FUSED DISCONNECT, NON–FUSED. PROVISION FOR CLASS R FUSES.

FIELD INSTRUMENT CONNECTION

START/STOP HAND STATION MOUNTED TO HANDRAIL (NEMA 4X UNLESS OTHERWISE NOTED)

$X — 120V, 20A, 1P TOGGLE SWITCH

[BLANK] = 1P TOGGLE SWITCH
2 = 2P TOGGLE SWITCH
3 = 3P TOGGLE SWITCH
D = SLIDE DIMMER
M = MOTOR RATED
S = TOGGLE WITH OCCUPANCY SENSOR

DUPLEX 120V RECEPTACLE, 120V, 20A, 1P. MOUNT 6" ABOVE COUNTER, DESK, OR CABINET.

GFCI DUPLEX 120V RECEPTACLE, 120V, 20A, 1P. MOUNT 6" ABOVE COUNTER, DESK, OR CABINET.

QUADRAPLEX 120V RECEPTACLE, 120V, 20A, 1P. MOUNT 6" ABOVE COUNTER, DESK, OR CABINET.

TELEPHONE BOX. MOUNT 18" A.F.F., INSTALL A 1/2" CONDUIT FROM BOX TO 6" ABOVE CEILING. PROVIDE PULL CORD FOR FUTURE CONNECTIONS AS REQUIRED.

DUPLEX ETHERNET CAT–6 BOX FOR DATA AND VOIP SERVICE. MOUNT 18" A.F.F., INSTALL A 1/2" CONDUIT FROM BOX TO 6" ABOVE CEILING. PROVIDE PULL CORD FOR FUTURE CONNECTIONS AS REQUIRED.

JB — JUNCTION BOX

RECESSED FLOOR JUNCTION BOX

60A, 480V, 3PH WELDING RECEPTACLE WITH INTERLOCKED 60A (NEMA 4X FUSED DISCONNECT SWITCH UNLESS OTHERWISE NOTED)

EXHAUST FAN

CCTV CAMERA

ELECTRICAL LEGEND & NOTES

GEORGIA REGISTERED No. 50137 PROFESSIONAL ENGINEER DENIS VYSTROPOV

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REVISIONS:

04/13/26	RELEASED FOR BID

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GA COA LICENSE# PEF001004 EXPIRES 6/30/2024

THIS LINE IS ONE INCH LONG WHEN DRAWING IS PLOTTED FULL SCALE

DSGN: DV	DRWN: DI
SCALE: N.T.S.	
PROJ. NO.:	
DATE: 5/30/2025	SHEET NO.: E–001 OF 24 SHEETS

ELECTRICAL EQUIPMENT MATERIALS RATING							
NO.	EQUIPMENT	INSTALLATION AREA AND DESIGN CRITERIA					
		INDOOR NON-PROCESS; EXPOSED INSTALLATION (ELECTRICAL & CONTROL ROOMS, OFFICES, LAB, UNDER RAISED FLOORS, ETC.) ENVIRONMENT: NON-CORROSIVE; DRY	OUTDOOR GENERAL AREAS ENVIRONMENT: CORROSIVE; WET	BELOW GRADE VAULTS (METERING VAULT, VALVE VAULT, ETC.) ENVIRONMENT: CORROSIVE; WET	CLASS 1, DIVISION 1, GROUP D HAZARDOUS AREA ENVIRONMENT: CORROSIVE; WET	CLASS 1, DIVISION 2, GROUP D HAZARDOUS AREA ENVIRONMENT: CORROSIVE; WET	UNDERGROUND AND DIRECT BURIED ENVIRONMENT: CORROSIVE; WET
1	RIGID CONDUITS	RMC – ALUMINUM	RMC – ALUMINUM	RMC – ALUMINUM	RMC – ALUMINUM	RMC – ALUMINUM	DIRECT BURIED – PVC 40; CONCRETE ENCASED – PVC 40.
2	FLEXIBLE CONDUITS	LIQUIDTIGHT FLEXIBLE METALLIC CONDUIT (LFMC)	LIQUIDTIGHT FLEXIBLE METALLIC CONDUIT (LFMC)	LIQUIDTIGHT FLEXIBLE METALLIC CONDUIT (LFMC)	EXPLOSIONPROOF FLEXIBLE COUPLING	LIQUIDTIGHT FLEXIBLE METALLIC CONDUIT (LFMC), RATED FOR CLASSIFIED AREA	N/A
3	CABLE TRAYS	LADDER TYPE – ALUMINUM	LADDER TYPE – ALUMINUM	LADDER TYPE – ALUMINUM	LADDER TYPE – ALUMINUM – ONLY WHEN USED WITH CABLE TYPES PERMITTED PER NEC ARTICLE 500	LADDER TYPE – ALUMINUM – ONLY WHEN USED WITH CABLE TYPES PERMITTED PER NEC ARTICLE 500	N/A
4	JUNCTION BOXES	STEEL – NEMA 1	NEMA 4X, TYPE 304 SS	NEMA 4X, TYPE 304 SS	NEMA 7	NEMA 4X, TYPE 304 SS (WHEN NO SWITCHING CONTACTS OR ARCING DEVICES ARE IN THE JUNCTION BOX), OTHERWISE, USE NEMA 7	POLYMER CONCRETE
5	PULL BOXES	STEEL – NEMA 1	NEMA 4X, TYPE 304 SS	NEMA 4X, TYPE 304 SS	NEMA 7	NEMA 4X, TYPE 304 SS (WHEN NO SWITCHING CONTACTS OR ARCING DEVICES ARE IN THE JUNCTION BOX), OTHERWISE, USE NEMA 7	POLYMER CONCRETE
6	EQUIPMENT RACKS/SUPPORTS/HARDWARE	ALUMINUM	ALUMINUM	ALUMINUM	ALUMINUM	ALUMINUM	STAINLESS STEEL 304
7	FASTENERS	ALUMINUM	ALUMINUM	ALUMINUM	ALUMINUM	ALUMINUM	STAINLESS STEEL 304
8	SWITCHGEAR	NEMA 1	NEMA 3R	N/A	N/A	N/A	N/A
9	SWITCHBOARD	NEMA 1	NEMA 3R	N/A	N/A	N/A	N/A
10	MOTOR CONTROL CENTER	NEMA 1	NEMA 3R	N/A	N/A	N/A	N/A
11	PANELBOARDS	NEMA 1	NEMA 4X, TYPE 304 SS	N/A	N/A	N/A	N/A
12	DRY TYPE TRANSFORMERS	NEMA 2	NEMA 4X, TYPE 304 SS	N/A	N/A	N/A	N/A
13	DISCONNECT SWITCHES	NEMA 1	NEMA 4X, TYPE 304 SS	NEMA 4X, TYPE 304 SS	NEMA 7	NEMA 7	N/A
14	MOTOR STARTERS	NEMA 1	NEMA 4X, TYPE 304 SS	NEMA 4X, TYPE 304 SS	NEMA 7	NEMA 7	N/A
15	CONTACTORS	NEMA 1	NEMA 4X, TYPE 304 SS	NEMA 4X, TYPE 304 SS	NEMA 7	NEMA 7	N/A
16	CONTROL PANELS	NEMA 1	NEMA 4X, TYPE 304 SS	N/A	NEMA 7	NEMA 7	N/A
17	MOTOR HOUSING MINIMUM PROTECTION RATING	ODP	TEFC	TEFC	EXPLOSION PROOF, RATED FOR CLASSIFIED AREA	TEFC, RATED FOR CLASSIFIED AREA	N/A
18	INSTRUMENTATION MINIMUM PROTECTION RATING	NEMA 1	NEMA 4X	NEMA 4X	EXPLOSION PROOF, RATED FOR CLASSIFIED AREA OR USED WITH INTRINSICALLY SAFE BARRIERS	EXPLOSION PROOF, RATED FOR CLASSIFIED AREA OR USED WITH INTRINSICALLY SAFE BARRIERS	NEMA 6P
19	VALVE ACTUATORS	N/A	NEMA 4	NEMA 6P	EXPLOSION PROOF, RATED FOR CLASSIFIED AREA	EXPLOSION PROOF, RATED FOR CLASSIFIED AREA	N/A
20	WIRING DEVICE BOXES	DIE-CAST ALUMINUM; WEATHERPROOF	DIE-CAST ALUMINUM; WEATHERPROOF	DIE-CAST ALUMINUM; WEATHERPROOF	EXPLOSION PROOF, RATED FOR CLASSIFIED AREA	EXPLOSION PROOF, RATED FOR CLASSIFIED AREA	N/A
21	DEVICES COVER PLATES	STAINLESS STEEL; NON-WEATHERPROOF (WITH GASKET)	DIE-CAST ALUMINUM; WEATHERPROOF (WITH GASKET)	DIE-CAST ALUMINUM; WEATHERPROOF (WITH GASKET)	EXPLOSION PROOF, RATED FOR CLASSIFIED AREA	EXPLOSION PROOF, RATED FOR CLASSIFIED AREA	N/A
22	OUTLET BOX HOODS	N/A	ALUMINUM; WEATHERPROOF (WHILE-IN-USE COVER) (WITH GASKET)	ALUMINUM; WEATHERPROOF (WHILE-IN-USE COVER) (WITH GASKET)	EXPLOSION PROOF, RATED FOR CLASSIFIED AREA	EXPLOSION PROOF, RATED FOR CLASSIFIED AREA	N/A

CABLE TYPES REQUIREMENTS						
	MATERIAL	SERVICE ENTRANCE	VFD MOTOR FEEDERS	POWER	CONTROL	SIGNAL
CABLE TYPES	COPPER, UNLESS NOTED OTHERWISE	XHHW, 600V	SHIELDED VFD CABLES, 1000V	THWN-2, 600V	THWN-2, 600V	SHIELDED TWISTED TYPE, 600V

NOTES:

1. POWER CABLES REQUIREMENTS:
   1.1. MINIMUM ALLOWED WIRE GAUGE: #12 AWG.
   1.2. MAXIMUM ALLOWED WIRE GAUGE: 600KCMIL.
   1.3. MAXIMUM MULTICONDUCTOR CABLES SIZE: #1 AWG.
   1.4. MAXIMUM SOLID CORE CABLES SIZE: #10 AWG.
2. CONTROL CABLES REQUIREMENTS:
   2.1. CABLES CONSTRUCTION TYPE: SINGLE CONDUCTOR.
   2.2. MINIMUM ALLOWED WIRE GAUGE: #14 AWG.
3. SIGNAL CABLES REQUIREMENTS:
   3.1. CABLES CONSTRUCTION TYPE: MULTICONDUCTOR CONDUCTOR WITH OVERALL SHIELD AND DRAIN WIRE.
   3.2. MINIMUM ALLOWED WIRE GAUGE: #16 AWG.
   3.3. MAXIMUM NUMBER OF PAIRS/TRIADS IN MULTI-PAIR/TRID CABLE: 2.

INSTALLATION REQUIREMENTS:

GENERAL:

1. ALL ELECTRICAL EQUIPMENT AND MATERIALS SHALL BE UL LISTED.
2. ALL ELECTRICAL EQUIPMENT AND MATERIALS INSTALLED OUTDOORS SHALL BE UV RESISTANT.
3. ALL ELECTRICAL EQUIPMENT AND MATERIALS OF THE SAME TYPE SHALL BE OF THE SAME MANUFACTURER AND MODEL LINE.
4. ALL FREESTANDING EQUIPMENT SHALL BE INSTALLED ON 4" HOUSEKEEPING PAD, ELEVATED ABOVE THE SURROUNDING SURFACE.
5. ALL ELECTRICAL, INSTRUMENTATION AND CONTROL SYSTEM COMPONENTS LOCATIONS SHALL BE ADJUSTED TO PROVIDE NEC REQUIRED WORKING CLEARANCES.
6. ALL ELECTRICAL EQUIPMENT INSTALLED OUTDOORS SHALL HAVE CONCRETE PADS EXTENDING 3'-0" IN FRONT OF THE EQUIPMENT.
7. THE CONTRACTOR SHALL ADJUST CIRCUIT BREAKER SIZES, CABLES AND CONDUITS FOR ELECTRICAL EQUIPMENT AT NO ADDITIONAL COST BASED ON THE ACTUAL ACCEPTED SHOP DRAWINGS.
8. THE CONTRACTOR SHALL CONFIRM ELECTRICAL EQUIPMENT DIMENSIONS PRIOR TO RELEASING FOR FABRICATION LOCATED IN THE AREAS WITH LIMITED AVAILABLE SPACE TO ENSURE PROPER EQUIPMENT INSTALLATION PROVIDING NEC REQUIRED WORKING CLEARANCES.
9. FOR NEW CONSTRUCTION, INSTALLATION AND/OR DEMOLITION THAT INTERRUPTS ANY POWER, CONTROL OR SIGNAL WIRING TO EXISTING EQUIPMENT OR DEVICES THAT SHALL REMAIN IN OPERATION. CONTRACTOR SHALL INCLUDE ALL REQUIRED BREAKERS, CABLES/CONDUITS AND/OR ANY OTHER EQUIPMENT AS REQUIRED TO KEEP THE EXISTING SYSTEM FUNCTIONAL.
10. ALL MOTORS USED WITH VARIABLE FREQUENCY DRIVES SHALL BE INVERTER DUTY RATED TYPE.
11. ALL OUTDOOR ENCLOSURES CABLES ENTRY POINTS SHALL BE IN THE BOTTOM OF THE ENCLOSURE. IN CASE OF INABILITY TO MAKE BOTTOM PENETRATION, SIDE CONNECTION WOULD BE ACCEPTABLE. ENCLOSURES TOP ENTRY ARE NOT ALLOWED.
12. THE CONTRACTOR SHALL SUPPLY AND INSTALL ALL NECESSARY HARDWARE FOR EQUIPMENT MOUNTING, INCLUDING, BUT NOT LIMITED TO, EQUIPMENT RACKS, SUPPORT CHANNELS, ANCHORS, FASTENERS, AND ANY OTHER REQUIRED COMPONENTS TO ENSURE A SECURE AND STABLE INSTALLATION.

POWER DISTRIBUTION AND CONDUITS INSTALLATION REQUIREMENTS:

1. ALL POWER DISTRIBUTION EQUIPMENT SHALL BE BY THE FOLLOWING MANUFACTURES: EATON, SCHNEIDER ELECTRIC, ABB, ALLEN-BRADLEY, SIEMENS OR APPROVED EQUAL.
2. ALL MOTOR STARTERS, VFD'S, RVSS'S SHALL BE BY THE FOLLOWING MANUFACTURES: EATON, SCHNEIDER ELECTRIC, ABB, ALLEN-BRADLEY, SIEMENS OR APPROVED EQUAL.
3. ALL CONDUITS ENDS SHALL BE FREE OF METAL SHAVINGS AND BE PROVIDED WITH FITTINGS WITH INSULATED BUSHING.
4. ALL EXPOSED CONDUITS SHALL BE MINIMUM OF 3/4". ALL BURIED CONDUIT SHALL BE MINIMUM OF 1".
5. ALL UNDERGROUND CONDUITS SHALL HAVE RIGID STEEL ELBOWS.
6. ALL METAL CONDUITS SHALL BE PROTECTED WITH A BITUMINOUS COATING WHEN INSTALLED UNDERGROUND OR WHEN IN CONTACT WITH CONCRETE.
7. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL CABLES AND EQUIPMENT LUG SIZES. IN CASE THE CABLE IS OF A LARGER SIZE THAN THE EQUIPMENT LUG, CONTRACTOR SHALL PROVIDE THE REQUIRED CONNECTOR AT NO ADDITIONAL CHARGE TO OWNER.
8. THE CONTRACTOR SHALL PROVIDE PULL STRING AND PERMANENTLY ATTACHED IDENTIFICATION LABELS AT EACH CONDUIT END FOR ALL SPARE CONDUITS. EACH TAG SHALL INCLUDE CONDUIT NUMBER, SIZE AND DESTINATION POINT.
9. THE CONTRACTOR SHALL PROVIDE ALL REQUIRED PULL BOXES AND/OR CONDULETS TO MEET NEC ARTICLE 314 FOR CABLE PULLS.
10. ALL CABLES INSTALLED IN CABLE TRAYS SHALL BE TC RATED.
11. CONDUIT FITTING CONNECTION TYPES SHALL BE AS FOLLOWS:
    11.1. FOR RMC AND IMC CONDUITS – THREADED TYPE;
    11.2. FOR EMT CONDUITS – COMPRESSION TYPE.
12. RIGID CONDUIT CONNECTIONS TO ENCLOSURES SHALL BE MADE WITH MYERS HUBS.
13. ALL OPEN CONDUIT ENDS (INSIDE THE EQUIPMENT ENCLOSURES) SHALL BE PROTECTED FROM ELEMENTS PENETRATION TO THE INSIDE THE CONDUIT WITH DUCT SEAL.
14. EQUIPMENT ENCLOSURES THAT ARE NOT SUITABLE FOR RIGID OR FLEXIBLE CONDUIT CONNECTION, THE CONTRACTOR SHALL PROVIDE A CORD GRIP AT THE CONDUIT END TO PROTECT FROM ELEMENTS PENETRATION TO THE INSIDE THE CONDUIT.
15. THE CONTRACTOR SHALL INSTALL EXPANSION COUPLINGS AS REQUIRED TO PREVENT CONDUIT DAMAGE DUE TO LONGITUDAL MOVEMENT AND/OR THERMAL EXPANSION.
16. THE CONTRACTOR SHALL INSTALL DEFLECTION COUPLINGS FOR CONDUITS RUNS THAT ARE SUBJECT TO ANGULAR AND PARALLEL MISALIGNMENT.
17. THE CONTRACTOR SHALL INSTALL DRAIN FITTING IN VERTICAL CONDUIT RUNS AT LOW POINTS IN CONDUIT SYSTEM TO PREVENT ACCUMULATION OF CONDENSATE ABOVE SEAL-OFF FITTINGS.
18. THE CONTRACTOR SHALL INSTALL DRAIN FITTINGS AT LOW POINTS OF CONDUIT RUN TO DRAIN ACCUMULATED CONDENSATE AND TO PROVIDE VENTILATION TO MINIMIZE CONDENSATION.
19. FOR OVERHEAD SERVICES THE CONTRACTOR SHALL INSTALL WEATHERED FITTINGS AS REQUIRED, FOR SERVICE CABLE INSTALLATION THROUGH THE ROOF, USE SERVICE ENTRANCE MAST KITS.
20. THE CONTRACTOR SHALL INSTALL GROUNDING BUSHING AS REQUIRED BY NEC, AS WELL AS FOR THE FOLLOWING CONDITIONS:
    20.1. FOR METALLIC RACEWAYS CONTAINING SERVICE CONDUCTORS;
    20.2. FOR METALLIC RACEWAYS TERMINATED AT NON-METALLIC ENCLOSURES;
    20.3. FOR METALLIC RACEWAYS TERMINATED ON RING KNOKOUTS REMAINING AND THE CIRCUIT EXCEEDING 250V TO GROUND NOMINAL;
    20.4. FOR METALLIC RACEWAYS NOT TERMINATED AT ENCLOSURE.

INSTRUMENTATION AND CONTROLS:

1. ALL FIELD MOUNTED INDICATING TRANSMITTERS SHALL BE PROVIDED WITH SUN/RAIN HOOD.
2. ALL CONTROL CABINETS INSTALLED OUTDOORS HOUSING VFD's, SOFT STARTERS, OR PLC's SHALL BE EQUIPPED WITH SUN PROTECTION COVERS TO PREVENT DIRECT SUNLIGHT EXPOSURE.
3. ALL OUTDOOR CONTROL CABINETS WITH HMI SCREENS OR OTHER TYPES OF DISPLAYS SHALL BE EQUIPPED WITH PROTECTIVE COVERS TO SHIELD THE DISPLAYS FROM SUNLIGHT EXPOSURE AND PREVENT DETERIORATION.
4. ALL INSTRUMENT SHALL BE PROVIDED WITH STAINLESS STEEL TAGS ATTACHED USING STAINLESS STEEL TAGGING WIRE.

GROUNDING:

1. MAXIMUM DISTANCE BETWEEN DRIVEN GROUND RODS IS NOT TO EXCEED 50'-0" UNLESS OTHERWISE NOTED.
2. ALL GROUNDING CONDUCTORS TO BE BARE, STRANDED, SOFT DRAWN, COPPER, SIZED AS INDICATED ON THE DESIGN DRAWINGS.
3. MAIN RING GROUND WIRE TO BE MAXIMUM 3'-0" OUTSIDE FOUNDATIONS AND 2'-6" BELOW FINISH GRADE.
4. THE CONTRACTOR TO DETERMINE ACTUAL LOCATION OF ANY EQUIPMENT UTILIZING BONDS TO GROUNDING TAILS. CONTRACTOR TO LOCATE 1" PVC GROUNDING STUB-UPS IN ACCORDANCE WITH EQUIPMENT VENDOR INFORMATION OR DRAWING REQUIREMENTS.
5. FOR COMPRESSION APPLICATIONS, APPLY A COAT OF "NO-OXIDE" COMPOUND ONTO COPPER CABLE AND COMPRESSION CONNECTORS PRIOR TO CRIMPING CONNECTION OR USE PRE-FILLED CONNECTORS.
6. ALL GROUND CABLES STUBBING UP THROUGH CONCRETE SHALL STUB UP THRU PVC CONDUIT, SIZED PER PLAN DRAWINGS. PVC CONDUIT SHALL EXTEND A MINIMUM OF 6" ABOVE AND 6" BELOW THE CONCRETE.
7. PIGTAILS SHOULD BE INSTALLED THRU 1" PVC CONDUIT, 10'-0" LONG U.N.O.
8. ALL UNDERGROUND CONNECTIONS SHALL BE EITHER MADE WITH EXOTHERMIC WELDS OR CRIMP CONNECTORS. ALL SUCH CONNECTIONS SHALL BE INSPECTED BY THE SITE ENGINEER REPRESENTATIVE PRIOR TO COVER.
9. ALL ABOVE GROUND GROUNDING CONNECTIONS SHALL EMPLOY PROPERLY RATED COMPRESSION CONNECTORS.
10. THE MAIN GROUNDING RING CONDUCTOR SHALL BE RUN AS MECHANICALLY CONTINUOUS AS POSSIBLE WITH A MINIMUM OF CUTS AND SPLICES.

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EXISTING CABLES/CONDUITS
SHOWN FOR REFERENCE ONLY

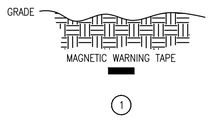


EXISTING DB–1

1) 1" C. (8 #14)
2) 1" C. (10 #14)

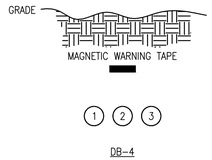
EXISTING DB–2

1) 3" C. (GRIT REMOVAL SYSTEM POWER)
2) 3" C. (7 PR #16 TWISTED SHIELDED – GRS)
3) 2" C. (40 #14)
4) 2" C. (FIBER OPTIC)
5) 3" C. (SPARE)
6) 2" C. (10 #10, 4 #10G)



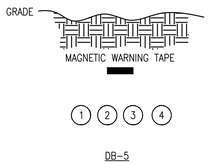
DB–3

1) 2" C. (FIBER OPTIC CABLE FROM TRANSFER PUMP STATION CONTROL PANEL)



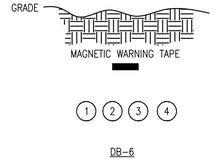
DB–4

1) 1" C. (120V POWER TO EXISTING RELOCATED LEVEL TRANSMITTER)
2) 1" C. (SIGNALS TO DIGESTER PLC)
3) 1" C. (SPARE)



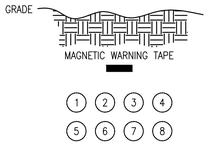
DB–5

1) 1" C. (120V POWER TO EXISTING RELOCATED LEVEL TRANSMITTER)
2) 1" C. (CONTROLS TO DIGESTER PLC)
3) 2" C. (FIBER OPTIC CABLE FROM TRANSFER PUMP STATION CONTROL PANEL)
4) 1" C. (SPARE)



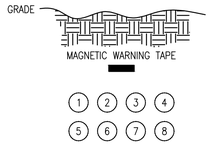
DB–6

1) 1" C. (120V POWER TO EXISTING RELOCATED LEVEL TRANSMITTER)
2) 1" C. (CONTROLS TO DIGESTER PLC)
3) 2" C. (FIBER OPTIC CABLE FROM TRANSFER PUMP STATION CONTROL PANEL)
4) 1" C. (SPARE)



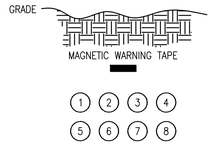
DB–7

1) 2" C. (480V POWER TO WAS PUMP P–707)
2) 1" C. (120V POWER TO XZ–P707)
3) 1" C. (CONTROLS FROM VFD–P707)
4) 1" C. (SPARE)



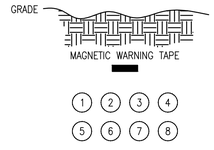
DB–8

1) 2" C. (480V POWER TO WAS PUMP P–708)
2) 1" C. (120V POWER TO XZ–P708)
3) 1" C. (CONTROLS FROM VFD–P708)
4) 1" C. (SPARE)



DB–9

1) 2" C. (480V POWER TO WAS PUMP P–707)
2) 1" C. (120V POWER TO XZ–P707)
3) 1" C. (CONTROLS FROM VFD–P707)
4) 1" C. (SPARE)
5) 2" C. (480V POWER TO WAS PUMP P–708)
6) 1" C. (120V POWER TO XZ–P708)
7) 1" C. (CONTROLS FROM VFD–P708)
8) 1" C. (SPARE)



DB–10

1) 2" C. (480V POWER TO WAS PUMP P–707)
2) 1" C. (120V POWER TO XZ–P707)
3) 1" C. (CONTROLS FROM VFD–P707)
4) 1" C. (SPARE)
5) 2" C. (480V POWER TO WAS PUMP P–708)
6) 1" C. (120V POWER TO XZ–P708)
7) 1" C. (CONTROLS FROM VFD–P708)
8) 1" C. (SPARE)

EXISTING UNDERGROUND CONDUITS TO
BE USED FOR NEW CABLES AS SHOWN



EXISTING DB–11

1 – 2" C. (NEW 480V POWER TO NEW LCP–350)
2 – 2" C. (NEW 120V CONTROLS FROM NEW LCP–350)
3 – 1" C. (NEW LEVEL FROM FPS PS)
4 – 1" C. (SPARE)

EXISTING DB–12

1 – 2" C. (NEW 480V POWER TO LCP–350)
2 – 2" C. (NEW 120V CONTROLS FROM LCP–350 & EXISTING 120V CONTROLS FROM LCP–1100)
3 – 2" C. (NEW LEVEL FROM LCP–350 & EXISTING LEVEL FROM LCP–1100)
4 – 1" C. (SPARE)
5 – 2" C. (EXISTING 480V POWER TO LCP–1100)
6 – 2" C. (EXISTING 120V POWER TO SUMP PUMP MH–1 & EXISTING 120V POWER TO CP–1&2 BATTERY CHARGER AND HEATER)

NOTE:

THE CONTRACTOR SHALL DISCONNECT THE EXISTING CABLES ASSOCIATED WITH THE DEMOLISHED FACILITY PUMP STATION CONTROL PANEL FCP–300 AND REUSE THE EXISTING CONDUITS TO ROUTE NEW CABLES FROM THE NEW FACILITY PUMP STATION CONTROL PANEL FCP–350 TO EXISTING ELECTRICAL–CHEMICAL–COMPRESSOR BUILDING. CABLES NOT ASSOCIATED WITH THE DEMOLISHED FCP–300 SHALL REMAIN.

DUCTBANK SECTIONS

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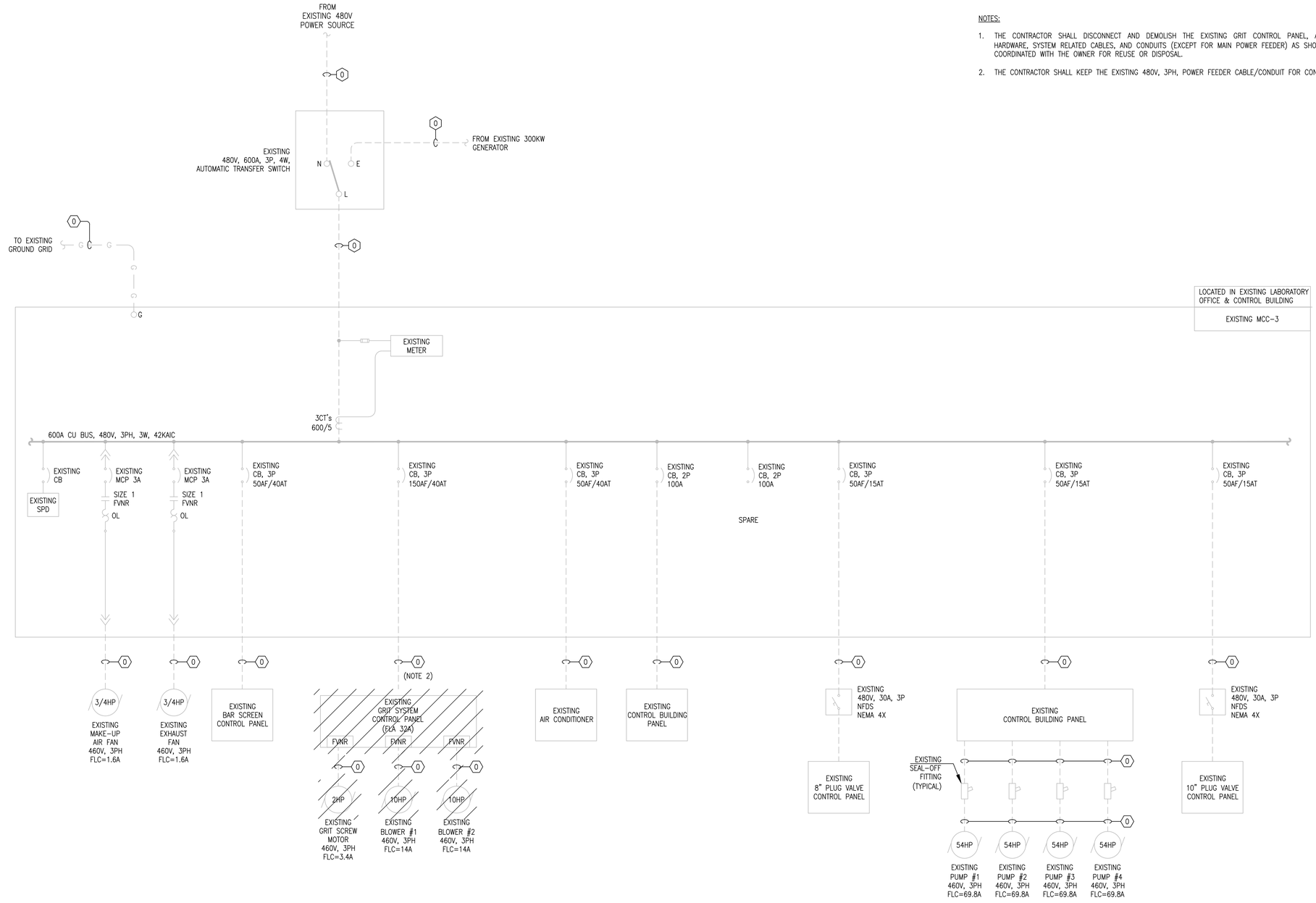
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NOTES:

1. THE CONTRACTOR SHALL DISCONNECT AND DEMOLISH THE EXISTING GRIT CONTROL PANEL, ASSOCIATED MOTORS, AND ALL RELATED INSTALLATION HARDWARE, SYSTEM RELATED CABLES, AND CONDUITS (EXCEPT FOR MAIN POWER FEEDER) AS SHOWN. ALL DEMOLISHED ELECTRICAL EQUIPMENT SHALL BE COORDINATED WITH THE OWNER FOR REUSE OR DISPOSAL.
2. THE CONTRACTOR SHALL KEEP THE EXISTING 480V, 3PH, POWER FEEDER CABLE/CONDUIT FOR CONNECTION TO NEW GRIT SYSTEM PANEL.

LEGEND:

/// – EQUIPMENT TO BE DEMOLISHED

CONDUCTOR/CONDUIT SCHEDULE
0 EXISTING CABLES/CONDUITS
1 EXISTING CABLES/CONDUITS TO BE DEMOLISHED
2 3 #12 & 1 #12 GND IN 1" C.
3 3 #12 & 1 #12 GND IN 1.5" C. (VFD SHIELDED)
4 3 #250kcmil & 1 #4 GND IN 2" C.
5 CABLE BY VENDOR IN 2" C.
6 3 #10 & 1 #10 GND IN 1" C.

1 EXISTING MCC-3 ONE LINE DIAGRAM – DEMOLITION

EXISTING MCC-3 ONE LINE DIAGRAM - DEMOLITION

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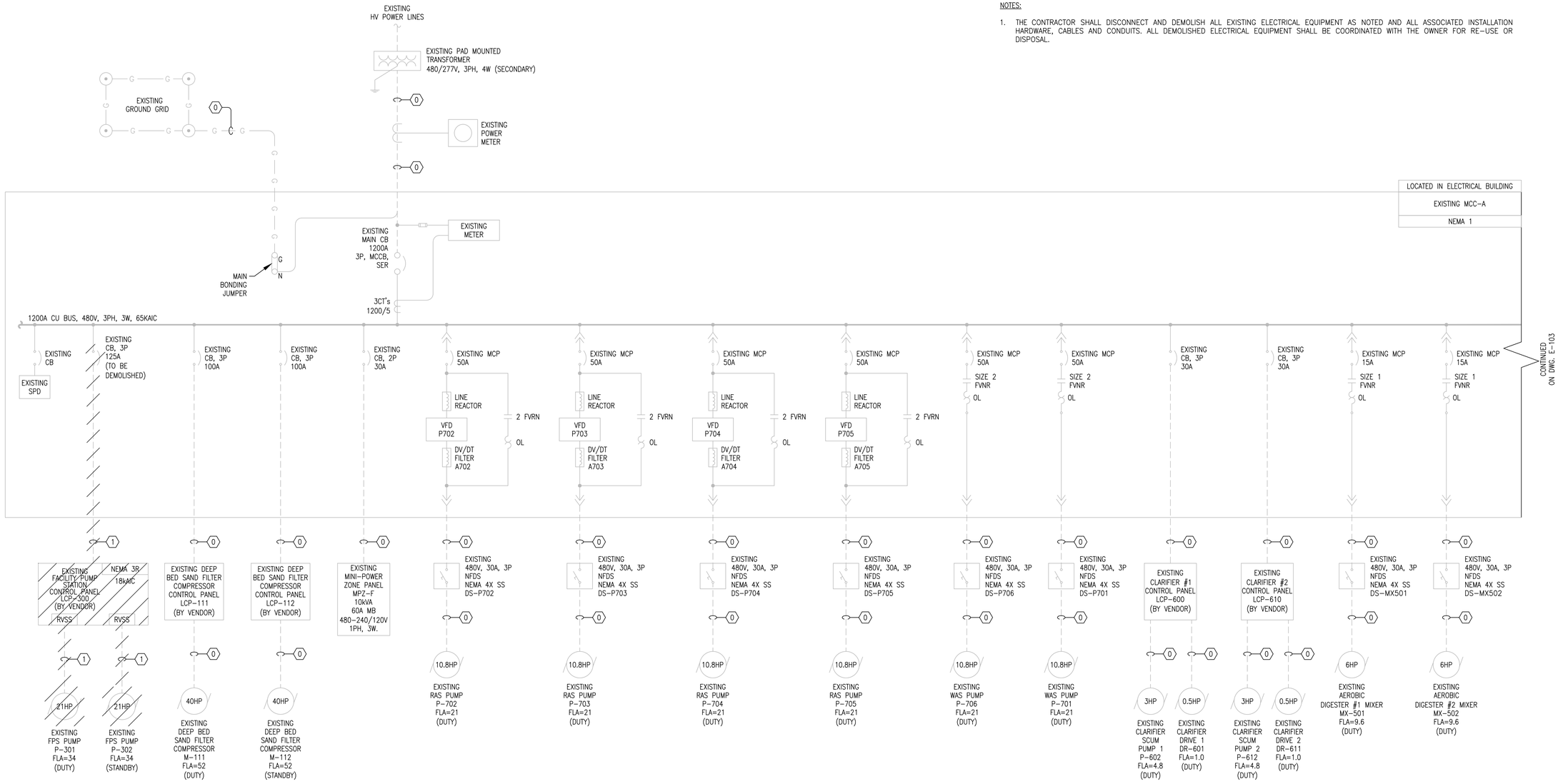
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1 EXISTING MCC-A ONE LINE DIAGRAM – DEMOLITION

NOTES:

1. THE CONTRACTOR SHALL DISCONNECT AND DEMOLISH ALL EXISTING ELECTRICAL EQUIPMENT AS NOTED AND ALL ASSOCIATED INSTALLATION HARDWARE, CABLES AND CONDUITS. ALL DEMOLISHED ELECTRICAL EQUIPMENT SHALL BE COORDINATED WITH THE OWNER FOR RE-USE OR DISPOSAL.

LEGEND:

/// – EQUIPMENT TO BE DEMOLISHED

CONDUCTOR/CONDUIT SCHEDULE
(0) EXISTING CABLES/CONDUITS
(1) EXISTING CABLES/CONDUITS TO BE DEMOLISHED
(2) 3 #12 & 1 #12 GND IN 1" C.
(3) 3 #12 & 1 #12 GND IN 1.5" C. (VFD SHIELDED)
(4) 3 #250kcmil & 1 #4 GND IN 2" C.
(5) CABLE BY VENDOR IN 2" C.
(6) 3 #10 & 1 #10 GND IN 1" C.

EXISTING MCC-A ONE LINE DIAGRAM - DEMOLITION

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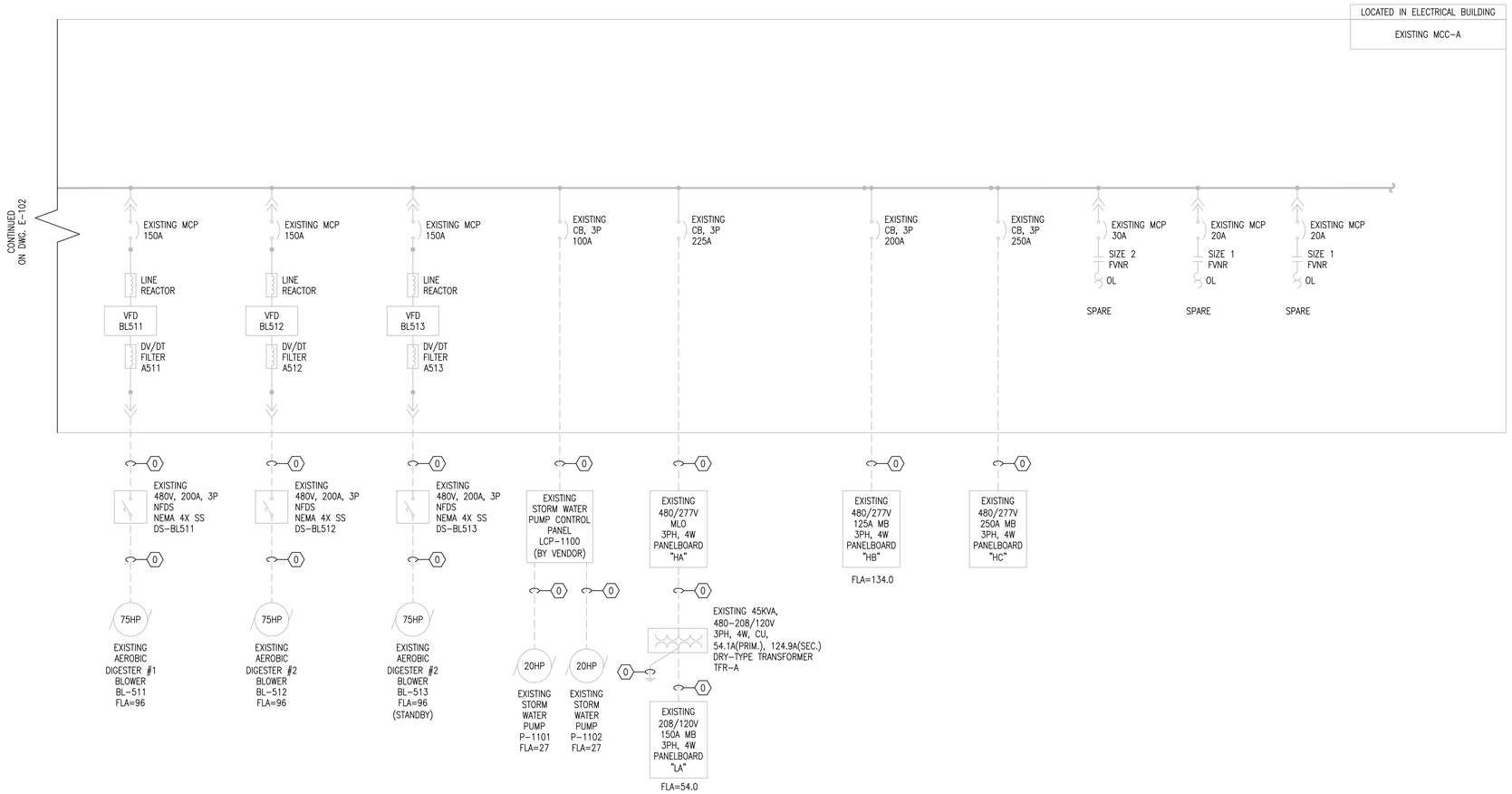
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1 EXISTING MCC-A ONE LINE DIAGRAM – DEMOLITION

FOR REFERENCE ONLY

LEGEND:

– EQUIPMENT TO BE DEMOLISHED

CONDUCTOR/CONDUIT SCHEDULE
0 EXISTING CABLES/CONDUITS
1 EXISTING CABLES/CONDUITS TO BE DEMOLISHED
2 3 #12 & 1 #12 GND IN 1" C.
3 3 #12 & 1 #12 GND IN 1.5" C. (VFD SHIELDED)
4 3 #250kcmil & 1 #4 GND IN 2" C.
5 CABLE BY VENDOR IN 2" C.
6 3 #10 & 1 #10 GND IN 1" C.

EXISTING MCC-A ONE LINE DIAGRAM - DEMOLITION

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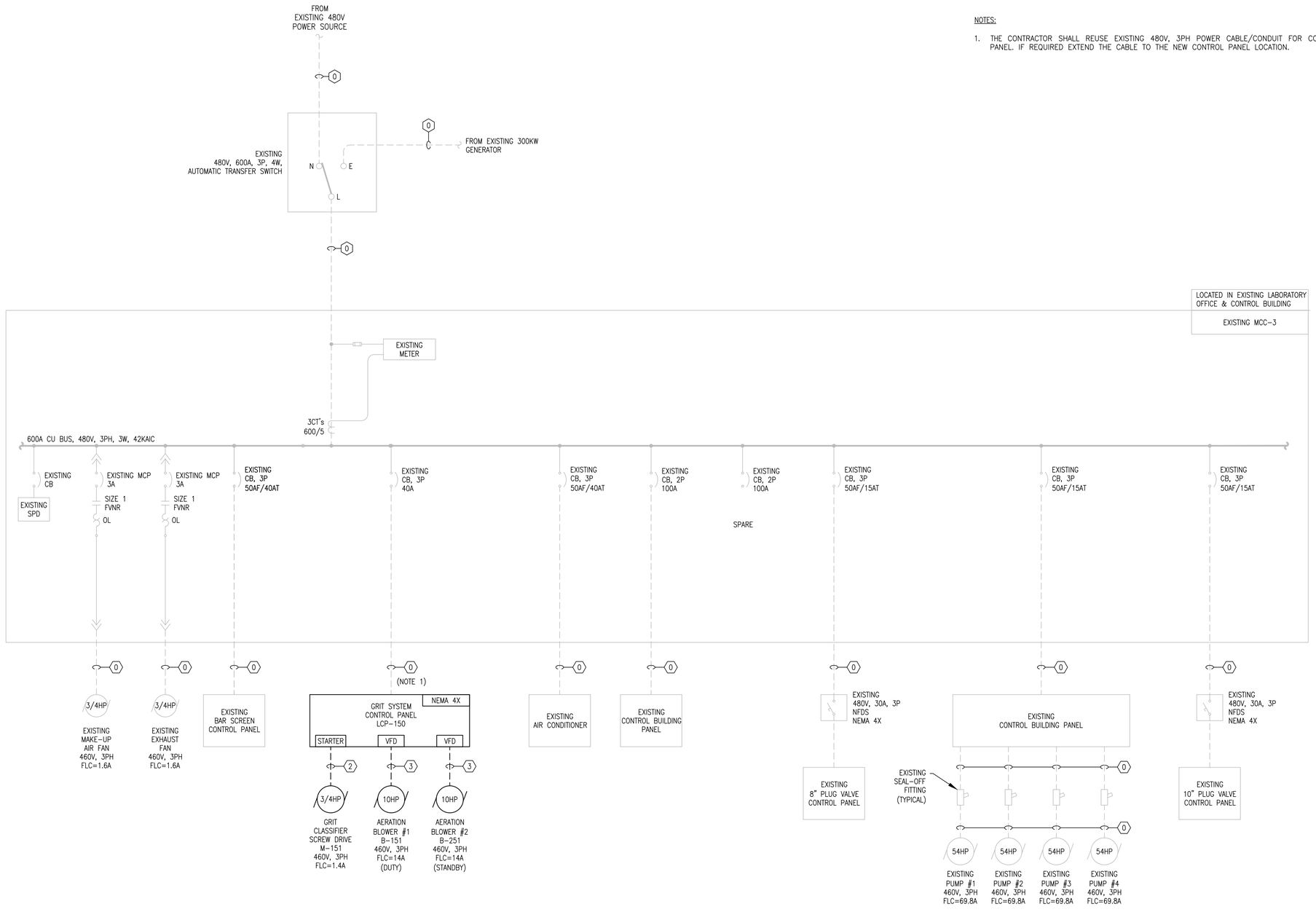
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1 EXISTING MCC-3 ONE LINE DIAGRAM – DEMOLITION

NOTES:

1. THE CONTRACTOR SHALL REUSE EXISTING 480V, 3PH POWER CABLE/CONDUIT FOR CONNECTION TO THE NEW GRIT SYSTEM CONTROL PANEL. IF REQUIRED EXTEND THE CABLE TO THE NEW CONTROL PANEL LOCATION.

CONDUCTOR/CONDUIT SCHEDULE
0 EXISTING CABLES/CONDUITS
1 EXISTING CABLES/CONDUITS TO BE DEMOLISHED
2 3 #12 & 1 #12 GND IN 1" C.
3 3 #12 & 1 #12 GND IN 1.5" C. (VFD SHIELDED)
4 3 #250kcmil & 1 #4 GND IN 2" C.
5 CABLE BY VENDOR IN 2" C.
6 3 #10 & 1 #10 GND IN 1" C.

EXISTING MCC-3 ONE LINE DIAGRAM

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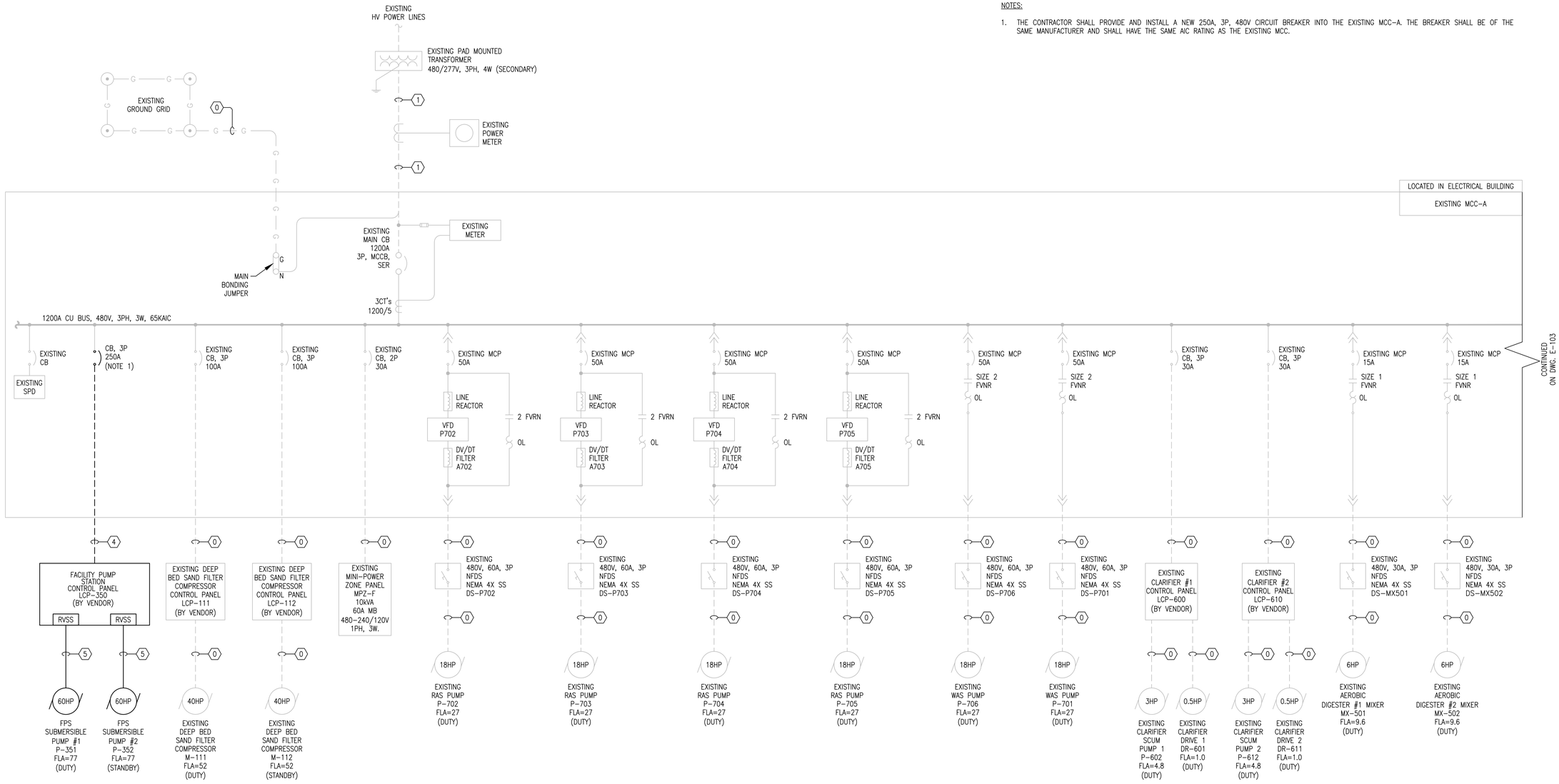
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NOTES:

1. THE CONTRACTOR SHALL PROVIDE AND INSTALL A NEW 250A, 3P, 480V CIRCUIT BREAKER INTO THE EXISTING MCC-A. THE BREAKER SHALL BE OF THE SAME MANUFACTURER AND SHALL HAVE THE SAME AIC RATING AS THE EXISTING MCC.

1 EXISTING MCC-A ONE LINE DIAGRAM - DEMOLITION

CONDUCTOR/CONDUIT SCHEDULE
0 EXISTING CABLES/CONDUITS
1 EXISTING CABLES/CONDUITS TO BE DEMOLISHED
2 3 #12 & 1 #12 GND IN 1" C.
3 3 #12 & 1 #12 GND IN 1.5" C. (VFD SHIELDED)
4 3 #250kcmil & 1 #4 GND IN 2" C.
5 CABLE BY VENDOR IN 2" C.
6 3 #10 & 1 #10 GND IN 1" C.

EXISTING MCC-A ONE LINE DIAGRAM

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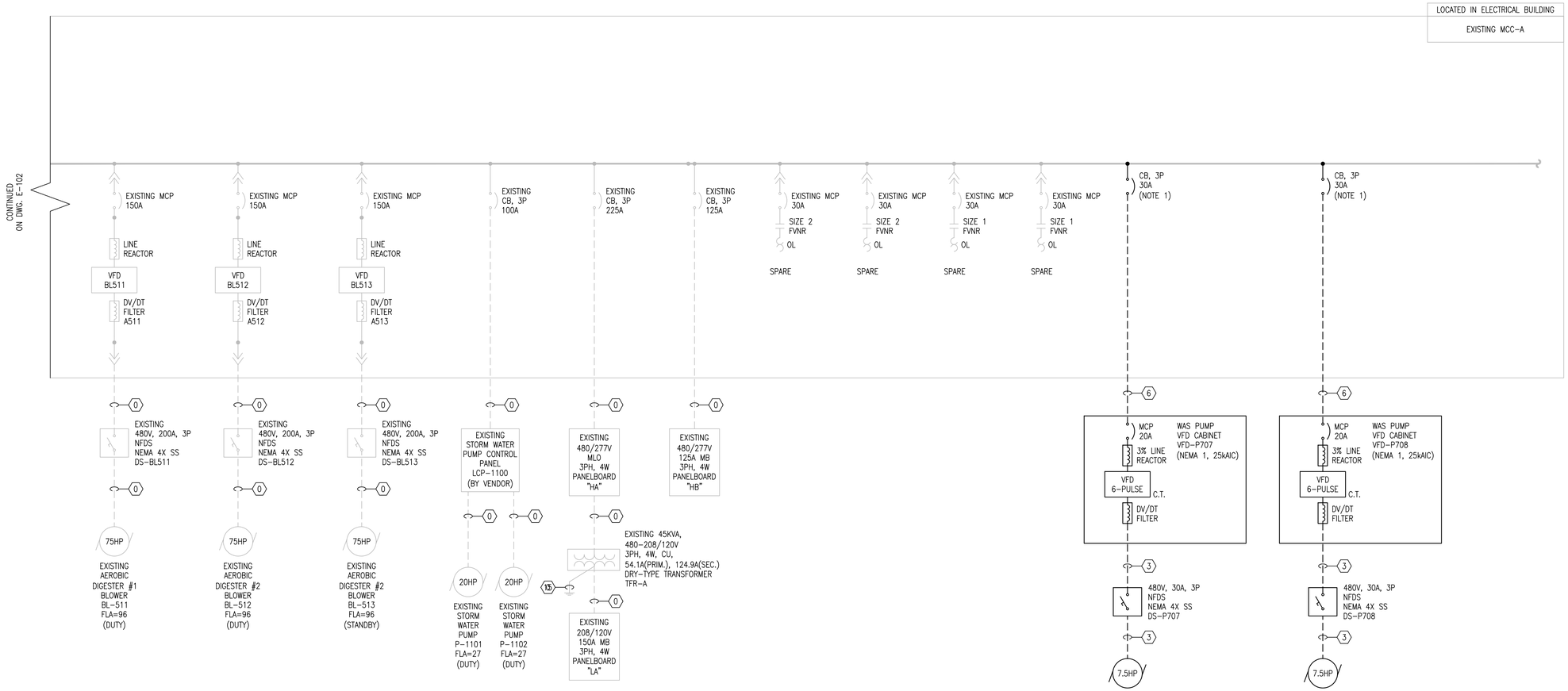
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1 EXISTING MCC-A ONE LINE DIAGRAM – DEMOLITION

NOTES:

1. THE CONTRACTOR SHALL PROVIDE AND INSTALL TWO (2) NEW 30A CIRCUIT BREAKERS INTO THE EXISTING MCC-A. THE BREAKERS SHALL BE OF THE SAME MANUFACTURER AND SHALL HAVE THE SAME AIC RATING AS THE EXISTING MCC-A.

CONDUCTOR/CONDUIT SCHEDULE
0 EXISTING CABLES/CONDUITS
1 EXISTING CABLES/CONDUITS TO BE DEMOLISHED
2 3 #12 & 1 #12 GND IN 1" C.
3 3 #12 & 1 #12 GND IN 1.5" C. (VFD SHIELDED)
4 3 #250kcmil & 1 #4 GND IN 2" C.
5 CABLE BY VENDOR IN 2" C.
6 3 #10 & 1 #10 GND IN 1" C.

LEGEND:

C.T. – VFD – CONSTANT TORQUE VFD

V.T. – VFD – VARIABLE TORQUE VFD

EXISTING MCC-A ONE LINE DIAGRAM

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SCALE: N.T.S.	
PROJ. NO.:	
DATE: 5/30/2025	SHEET NO.: E-106 OF 24 SHEETS

EXISTING PANELBOARD				LP				(LOCATED IN ROTARY PRESS BUILDING)			
VOLTAGE (L-N):		120V		ENCLOSURE TYPE:		NEMA 3R					
VOLTAGE (L-L):		208V		MOUNTING:		SURFACE					
PHASE, WIRES:		3 ϕ, 4 W		AIC RATING (A):		18,000 AIC					
MINIMUM BUS CAPACITY (A):		50A CU		NOTES:							
MAIN O.C. DEVICE (A):		50A, 3P MAIN BREAKER									

	CKT NO	DESCRIPTION	TRIP AMPS	POLE	PHASE LOADS (AMP) A		B		C		POLE	TRIP AMPS	DESCRIPTION	CKT NO
	1	FLOW INDICATING TRANSMITTER FIT-103 EQ. BASIN	20	1	0.3	1.5					1	20	PLC-2	2
	3	LEVEL INDICATING TRANSMITTER LIT-102	20	1			0.3	0.2			1	20	LIGHT POLE @ P.S.	4
	5	LEVEL INDICATING TRANSMITTER LIT-103	20	1					0.3	0.2	1	20	LIGHT POLE AT METERING VAULT	6
	7	LEVEL INDICATING TRANSMITTER LIT-104 (FUTURE PLANT)	20	1	0.3	0.0							SPACE	8
(NOTE 1) →	9	PRIMARY CLARIFIER BYPASS LEVEL TRANSMITTER (LIT-100)	20	1			0.3	0.0					SPACE	10
	11	SPACE							0.0	0.0			SPACE	12
	13	TV-901	20	3	5.0	0.0							SPACE	14
	15	⋮	⋮	⋮			5.0	0.0					SPACE	16
	17	⋮	⋮	⋮					5.0	0.0			SPACE	18
	19	TV-902	20	3	5.0	0.0							SPACE	20
	21	⋮	⋮	⋮			5.0	0.0					SPACE	22
	23	⋮	⋮	⋮					5.0	0.0			SPACE	24
	25	SPACE			0.0	0.0							SPACE	26
	27	SPACE					0.0	0.0					SPACE	28
	29	SPACE							0.0	0.0			SPACE	30
USE THE FOLLOWING CONDUCTORS FOR PANELBOARD CIRCUITS: 20A – #12AWG					CONNECTED LOAD PHASE TOTALS (AMP)									
					12.1		10.8		10.5					

1 EXISTING LP – PANELBOARD SCHEDULE

NOTES:

1. THE CONTRACTOR SHALL PROVIDE AND INSTALL A NEW 20A, 1P, 120V CIRCUIT BREAKER INTO THE EXISTING PANELBOARD LP. THE BREAKER SHALL BE OF THE SAME MANUFACTURER AND SHALL HAVE THE SAME AIC RATING AS THE EXISTING PANELBOARD.
2. THE CONTRACTOR SHALL FEED RELOCATED PARSHALL FLUME LEVEL INDICATING TRANSMITTER LIT-100 FROM CIRCUIT #9. SEE SHEET E-603 FOR DETAILS.

PANELBOARD SCHEDULE

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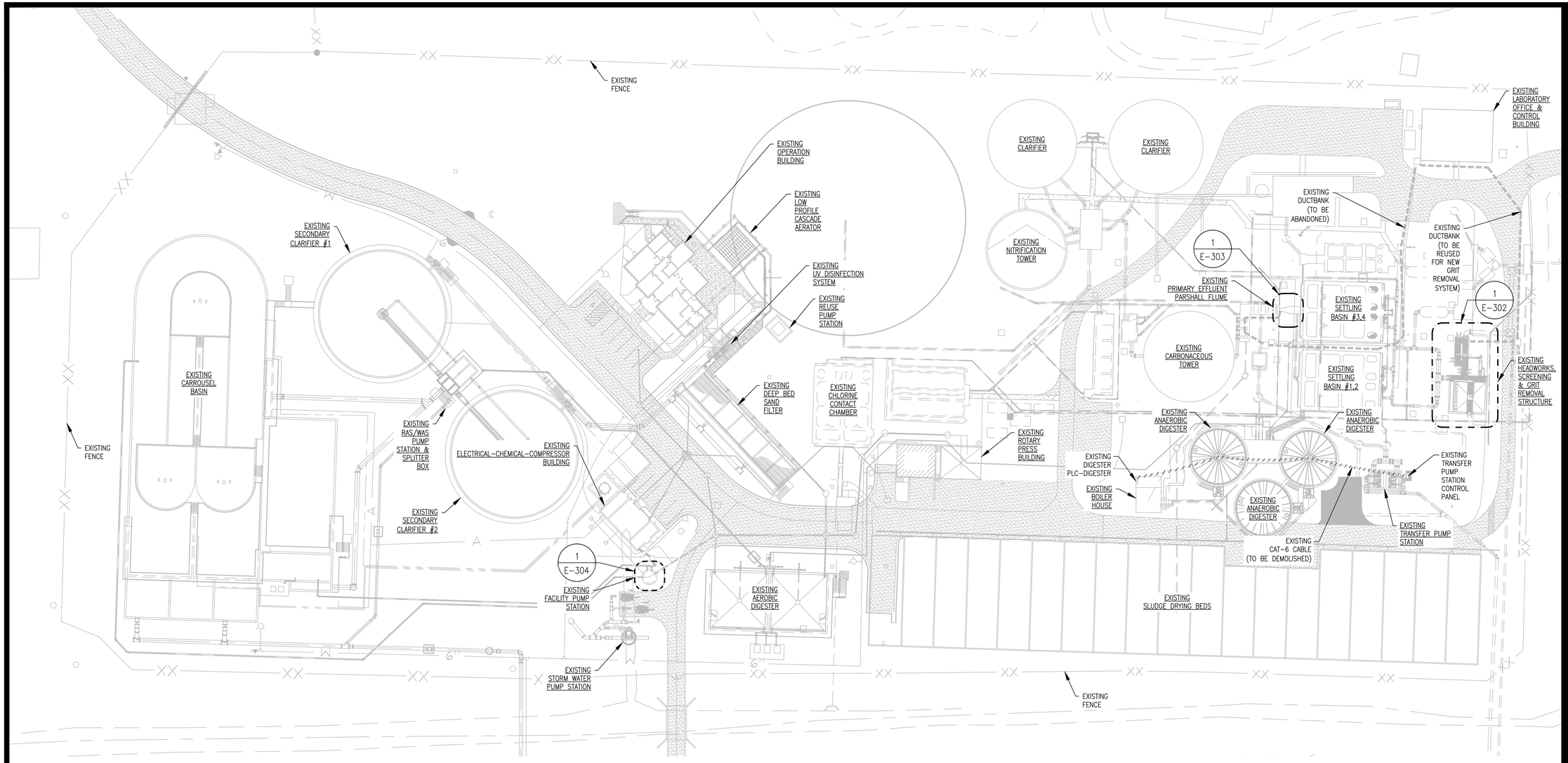
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1 OVERALL ELECTRICAL DEMOLITION SITE PLAN
SCALE: 1" = 40'-0"

GRAPHIC SCALE
40 0 20 40 80 160
(IN FEET)
1 inch = 40 ft.

NOTES:

1. THE CONTRACTOR SHALL DISCONNECT AND REMOVE ALL EXISTING EQUIPMENT AS SHOWN. COORDINATE DISPOSAL OR STORAGE OF THE DEMOLISHED EQUIPMENT WITH THE OWNER. REFER TO MECHANICAL AND CIVIL DRAWINGS FOR ADDITIONAL INFORMATION REGARDING THE REQUIRED DEMOLITION SCOPE.

LEGEND:

- EQUIPMENT TO BE DEMOLISHED
- EXITING CAT-6 CABLE
- DIRECT BURIED UNDERGROUND DUCTBANK

OVERALL ELECTRICAL DEMOLITION SITE PLAN

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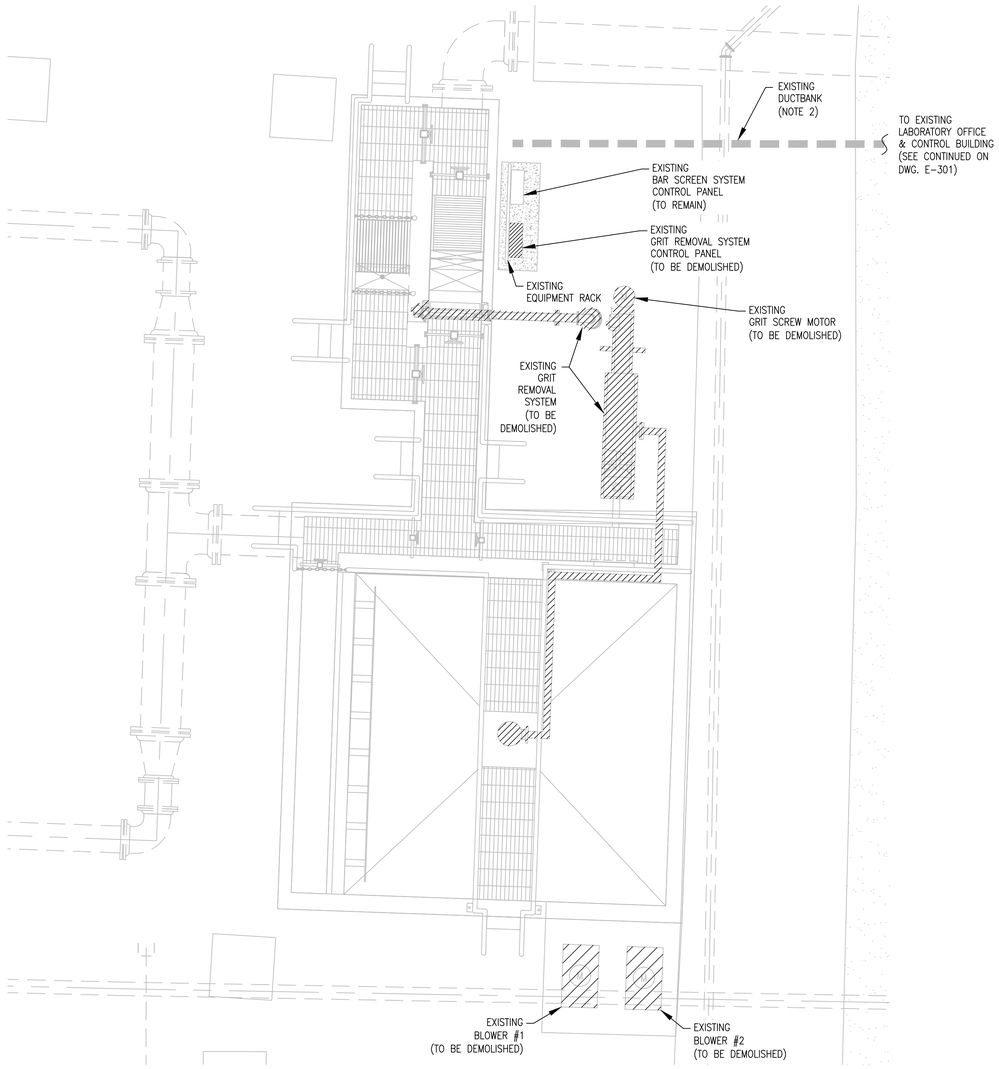
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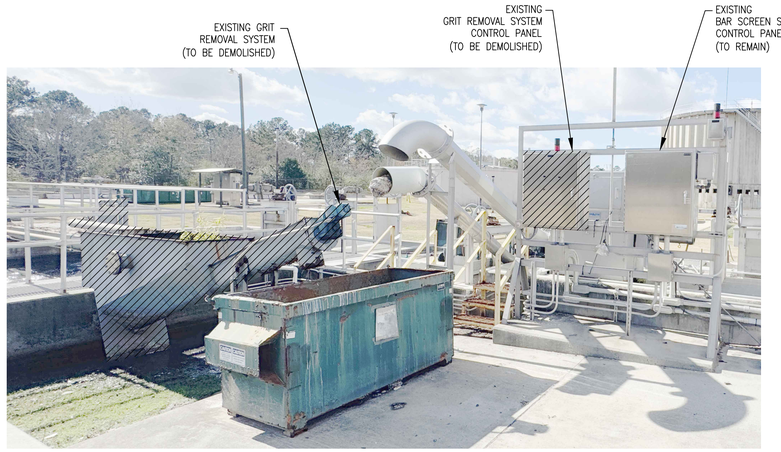


1 EXISTING GRIT REMOVAL STRUCTURE DEMOLITION PLAN
SCALE: 3/16" = 1'-0"

GRAPHIC SCALE

5.33 0 2.67 5.33 10.67 21.33

(IN FEET)
3/16 inch = 1 ft.



2 DEMOLITION DETAIL
(GRIT REMOVAL SYSTEM)

NOTES:

1. THE CONTRACTOR SHALL DISCONNECT AND REMOVE ALL EXISTING EQUIPMENT AS SHOWN. COORDINATE DISPOSAL OR STORAGE OF THE DEMOLISHED EQUIPMENT WITH THE OWNER. REFER TO MECHANICAL AND CIVIL DRAWINGS FOR ADDITIONAL INFORMATION REGARDING THE REQUIRED DEMOLITION SCOPE.
2. THE CONTRACTOR SHALL KEEP THE EXISTING FEEDER FROM MCC-3 IF POSSIBLE. OTHERWISE, THE CONTRACTOR SHALL INSTALL A NEW FEEDER IN THE EXISTING CONDUIT.

LEGEND:

- EQUIPMENT TO BE DEMOLISHED

EXISTING GRIT REMOVAL STRUCTURE DEMOLITION PLAN

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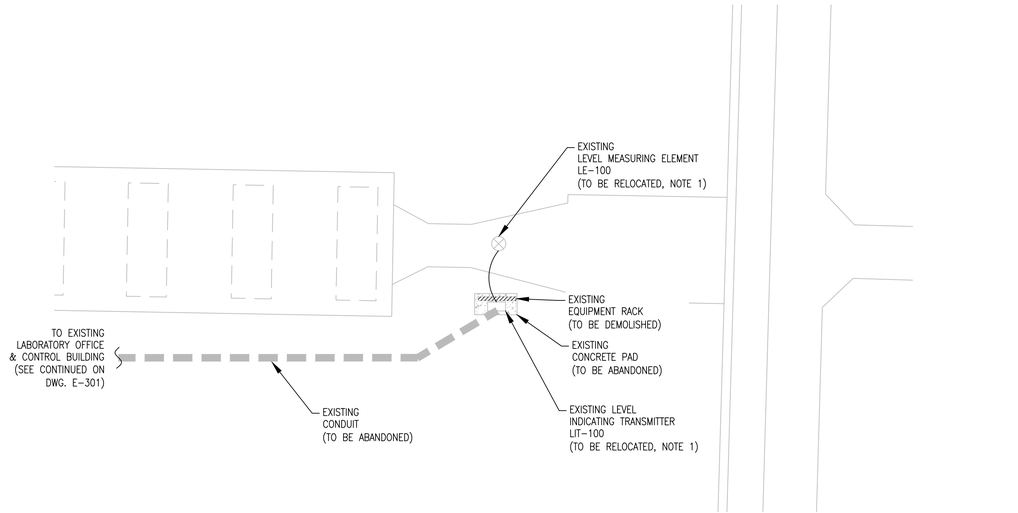
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1 EXISTING PRIMARY EFFLUENT PARSHALL FLUME DEMOLITION PLAN

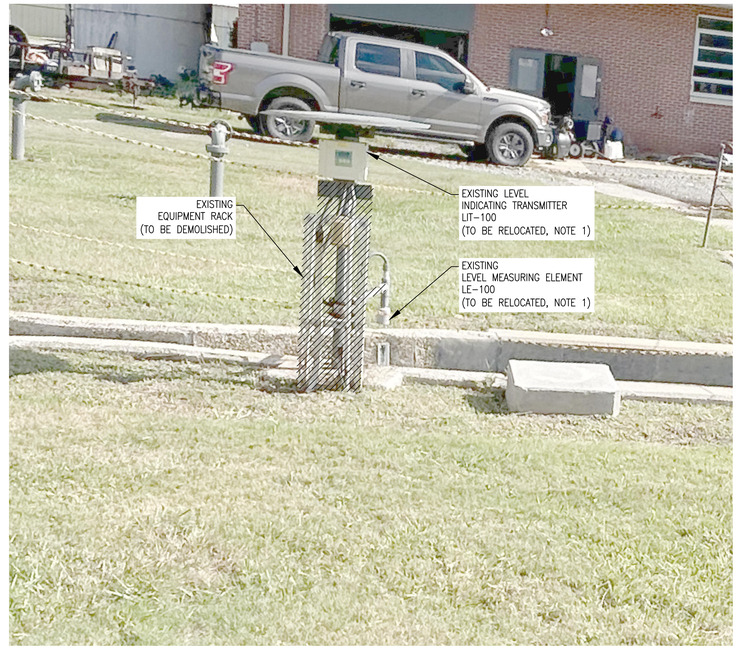
SCALE: 1/4" = 1'-0"

GRAPHIC SCALE

4 0 2 4 8 16

(IN FEET)

1/4 inch = 1 ft.



2 DEMOLITION DETAIL

(FLOW SENSOR / FLOW INDICATING TRANSMITTER)

NOTES:

1. THE CONTRACTOR SHALL DISCONNECT AND RELOCATE THE EXISTING LEVEL ELEMENT AND LEVEL TRANSMITTER TO THE NEW PARSHALL FLUME LOCATION SHOWN ON SHEET E-353.

LEGEND:

– – – – DIRECT BURIED UNDERGROUND DUCTBANK

EXISTING PRIMARY EFFLUENT PARSHALL FLUME DEMO PLAN

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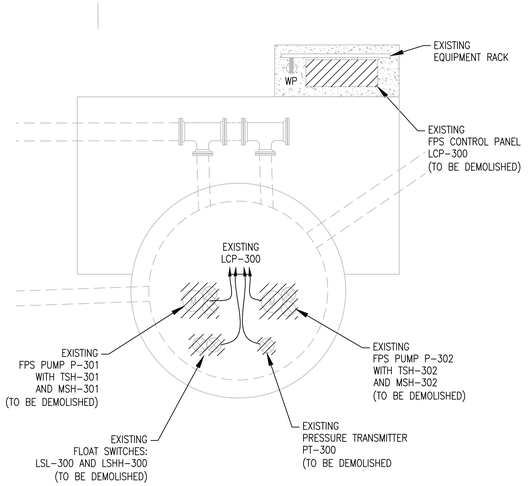
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1 EXISTING FACILITY PUMP STATION DEMOLITION PLAN

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

GRAPHIC SCALE

4 0 2 4 8 16

(IN FEET)

1/4 inch = 1 ft.



2 DEMOLITION DETAIL

(FACILITY PUMP STATION)

NOTES:

1. THE CONTRACTOR SHALL DISCONNECT AND REMOVE ALL EXISTING EQUIPMENT AS SHOWN. COORDINATE DISPOSAL OR STORAGE OF THE DEMOLISHED EQUIPMENT WITH THE OWNER. REFER TO MECHANICAL AND CIVIL DRAWINGS FOR ADDITIONAL INFORMATION REGARDING THE REQUIRED DEMOLITION SCOPE.

LEGEND:

– EQUIPMENT TO BE DEMOLISHED

EXISTING FACILITY PUMP STATION DEMOLITION PLAN

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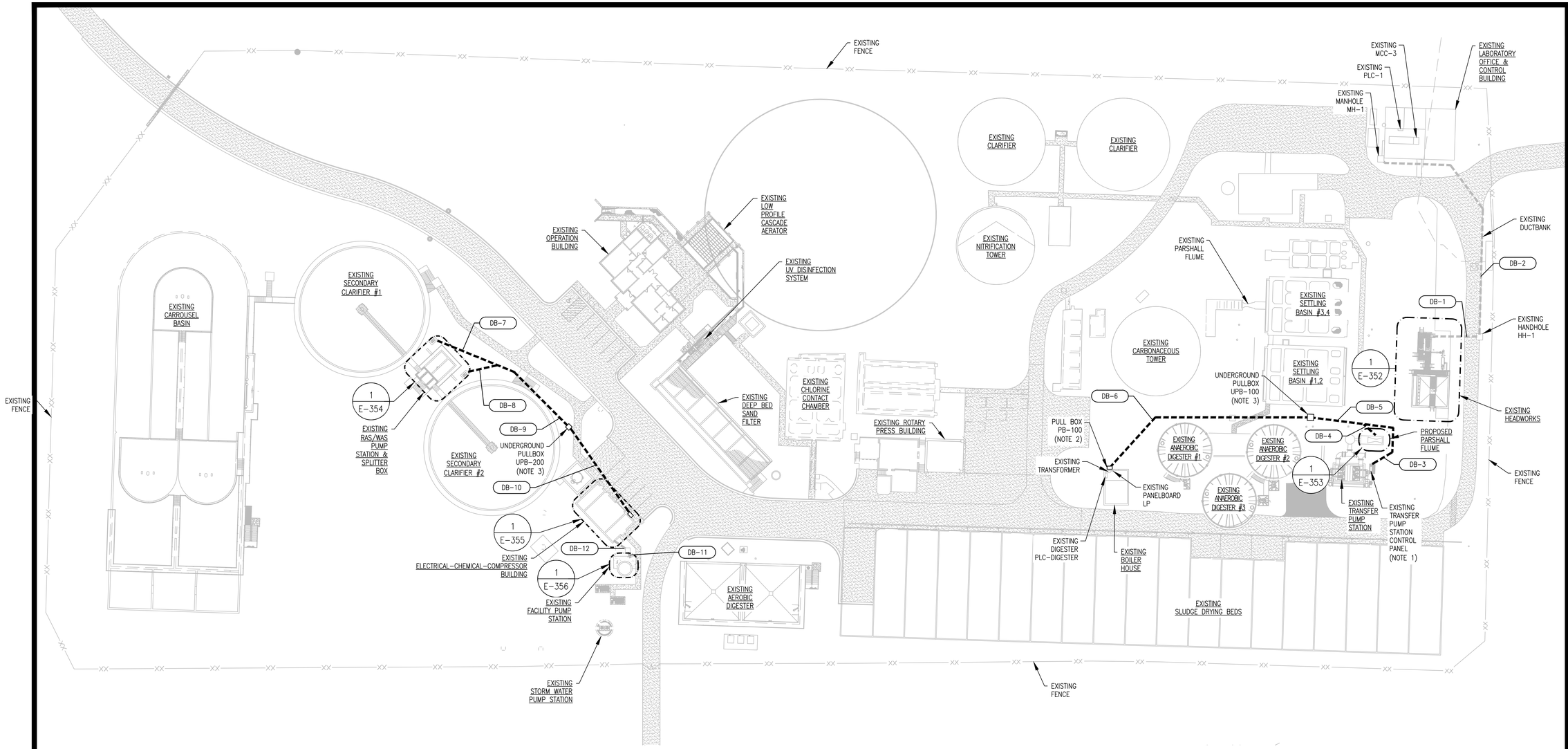
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1 E-351 – OVERALL ELECTRICAL SITE PLAN

SCALE: 1" = 40'-0"

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)

1 inch = 40 ft.

NOTES:

1. THE CONTRACTOR SHALL INSTALL A 2" UNDERGROUND CONDUIT FOR FIBER OPTIC CABLE BETWEEN THE TRANSFER PUMP STATION CONTROL PANEL AND THE EXISTING DIGESTER PLC. THE CONDUIT SHALL BE DIRECT-BURIED AND INCLUDE MAGNETIC WARNING TAPE ABOVE IT. THE CONDUIT ROUTING SHALL BE COORDINATED WITH EXISTING UTILITIES AND OTHER DISCIPLINES, AND ADJUSTED AS NECESSARY.
2. THE CONTRACTOR SHALL PROVIDE AND INSTALL A NEMA 4X STAINLESS STEEL PULL BOX ADEQUATELY SIZED FOR ASSOCIATED CABLES AND CONDUITS.
3. THE CONTRACTOR SHALL PROVIDE AND INSTALL UNDERGROUND PULL BOX ADEQUATELY SIZED SIZED FOR ASSOCIATED CABLES AND CONDUITS. SEE DETAIL "C" ON DWG. E-901 FOR UNDERGROUND PULLBOX INSTALLATION DETAILS.
4. SEE DWG. E-003 FOR DUCTBANKS SECTIONS.

LEGEND:

– DIRECT BURIED UNDERGROUND DUCTBANK

OVERALL ELECTRICAL SITE PLAN

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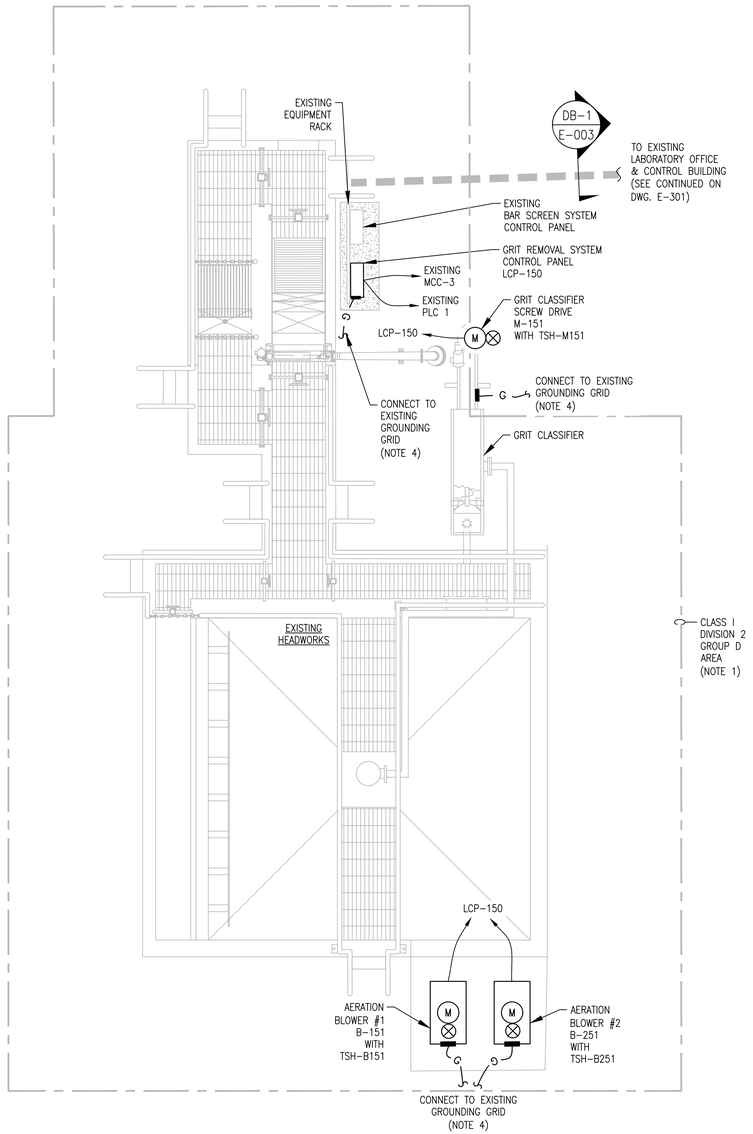
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1 EXISTING GRIT REMOVAL STRUCTURE DEMOLITION PLAN

SCALE: 3/16" = 1'-0"

GRAPHIC SCALE

5.33 0 2.67 5.33 10.67 21.33

(IN FEET)

3/16 inch = 1 ft.

NOTES:

1. ALL EQUIPMENT AND INSTALLATION LOCATED WITHIN CLASSIFIED AREA SHALL CONFORM WITH "ENCLOSURE TYPE AND INSTALLATION METHODS" REQUIREMENTS SET IN NEC ARTICLE 500. ACCORDING TO NFPA 820, TABLE 5.2.2 ROW 2C:

   CLASS 1, DIVISION 2, GROUP D AREA:
   CLASSIFIED AREA EXTENDS WITHIN 10 FT ENVELOPE AROUND EQUIPMENT AND OPEN CHANNEL.

2. THE CONTRACTOR SHALL COORDINATE ALL WORK WITH OTHER TRADES. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE ACTUAL LOCATION OF EQUIPMENT, EXISTING DUCTBANKS, PIPING, ETC. AND COORDINATE INSTALLATION ACCORDINGLY, THE EQUIPMENT WIRING SHALL INCLUDE ALL NECESSARY CABLES AND CONDUIT REQUIRED FOR THE PROPER AND SAFE EQUIPMENT OPERATION.

3. THE EXACT GRIT SYSTEM LOCATIONS SHALL BE CONFIRMED WITH APPROVED VENDOR DRAWINGS.

4. THE CONTRACTOR SHALL USE #1 AWG BARE COPPER GROUND WIRE FOR ALL THE REQUIRED GROUNDING CONNECTIONS TO THE NEW EQUIPMENT, STRUCTURES, ETC. AS REQUIRED BY NEC.

5. SEE DWG. E-003 FOR DUCTBANKS SECTIONS.

LEGEND:

– DIRECT BURIED UNDERGROUND DUCTBANK

EXISTING GRIT REMOVAL STRUCTURE ELECTRICAL PLAN

REVISIONS:

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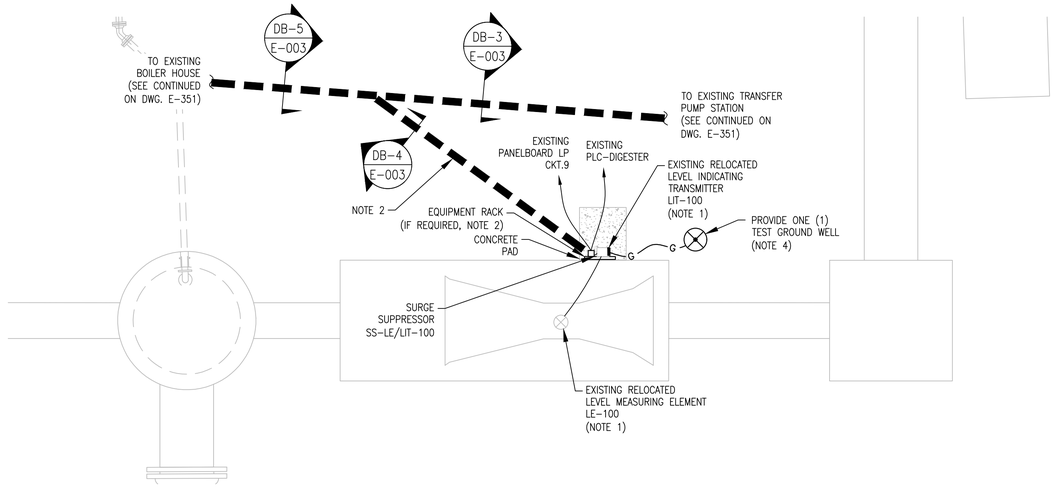
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EDEC, INC.
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TEL. (770) 493-8685

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DATE: 5/30/2025	SHEET NO.: E-352 OF 24 SHEETS



1 PROPOSED PRIMARY CLARIFIER BYPASS PARSHALL FLUME

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

GRAPHIC SCALE

4 0 2 4 8 16

(IN FEET)

1/4 inch = 1 ft.

N

NOTES:

1. THE CONTRACTOR SHALL RELOCATE EXISTING FLOW METER ELEMENT AND LEVEL INDICTING TRANSMITTER FROM EXISTING PARSHALL FLUME. SEE SHEET E-303 FOR DETAILS.
2. THE CONTRACTOR SHALL INSTALL THREE (3) 1" UNDERGROUND CONDUITS FOR THE RELOCATED PARSHALL FLUME FLOW METER. THE CONTRACTOR SHALL TAP INTO THE NEW HANDHOLE NEAR THE EXISTING TRANSFER PUMP STATION, AS SHOWN. THE CONTRACTOR SHALL CONNECT CONTROL CABLES TO THE EXISTING DIGESTER PLC AND BRING 120V POWER TO THE LEVEL TRANSMITTER FROM THE EXISTING PANELBOARD LP. THE CONDUITS SHALL BE DIRECT-BURIED AND INCLUDE MAGNETIC WARNING TAPE ABOVE IT. THE CONDUITS ROUTING SHALL BE COORDINATED WITH EXISTING UTILITIES AND OTHER DISCIPLINES, AND ADJUSTED AS NECESSARY.
3. THE CONTRACTOR SHALL PROVIDE AND INSTALL EQUIPMENT RACK SUPPORT AS SHOWN. THE CONTRACTOR IS RESPONSIBLE TO FIELD VERIFY EXACT LOCATION OF EQUIPMENT RACK TO PROVIDE ADEQUATE CLEARANCES FOR ALL EQUIPMENT. SEE DETAIL "A" AND "B" ON DWG. E-901 FOR INSTALLATION DETAILS. 8" CONCRETE PAD SHALL BE UNDER ELECTRICAL EQUIPMENT AND SHALL EXTEND 3'-0" IN FRONT OF THE EQUIPMENT.
4. THE CONTRACTOR SHALL PROVIDE AND INSTALL A COMPLETE GROUND GRID AND MAKE CONNECTIONS AS SHOWN ON ELECTRICAL PLANS. GRID SHALL CONSIST OF #1 AWG BARE COPPER GROUND CONDUCTOR, 3/4" DIAMETER X 10'-0" GROUND RODS AND CADWELD CONNECTIONS TO GROUND RODS.
5. SEE DWG. E-003 FOR DUCTBANKS SECTIONS.

LEGEND:

- DIRECT BURIED UNDERGROUND DUCTBANK

PROPOSED PRIMARY CLARIFIER BYPASS PARSHALL FLUME

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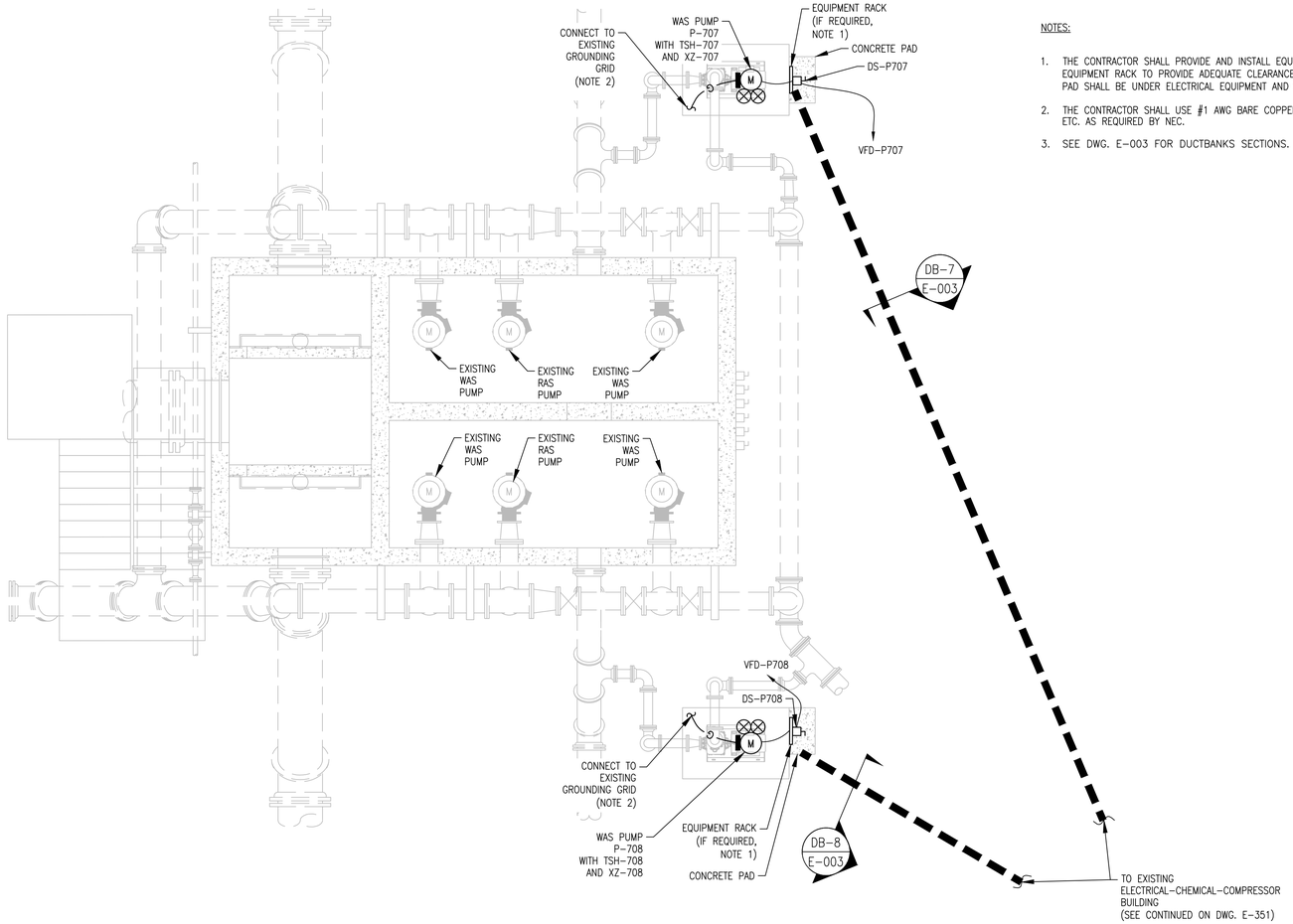
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NOTES:

1. THE CONTRACTOR SHALL PROVIDE AND INSTALL EQUIPMENT RACK SUPPORT AS SHOWN. THE CONTRACTOR IS RESPONSIBLE TO FIELD VERIFY EXACT LOCATION OF EQUIPMENT RACK TO PROVIDE ADEQUATE CLEARANCES FOR ALL EQUIPMENT. SEE DETAIL "A" AND "B" ON DWG. E-901 FOR INSTALLATION DETAILS. 8" CONCRETE PAD SHALL BE UNDER ELECTRICAL EQUIPMENT AND SHALL EXTEND 3'-0" IN FRONT OF THE EQUIPMENT.
2. THE CONTRACTOR SHALL USE #1 AWG BARE COPPER GROUND WIRE FOR ALL THE REQUIRED GROUNDING CONNECTIONS TO THE NEW EQUIPMENT, STRUCTURES, ETC. AS REQUIRED BY NEC.
3. SEE DWG. E-003 FOR DUCTBANKS SECTIONS.

1 EXISTING RAS WAS PUMP STATION ELECTRICAL PLAN
SCALE: 1/4" = 1'-0"

GRAPHIC SCALE
4 0 2 4 8 16
(IN FEET)
1/4 inch = 1 ft.

LEGEND:
– DIRECT BURIED UNDERGROUND DUCTBANK

EXISTING RAS WAS PUMP STATION ELECTRICAL PLAN

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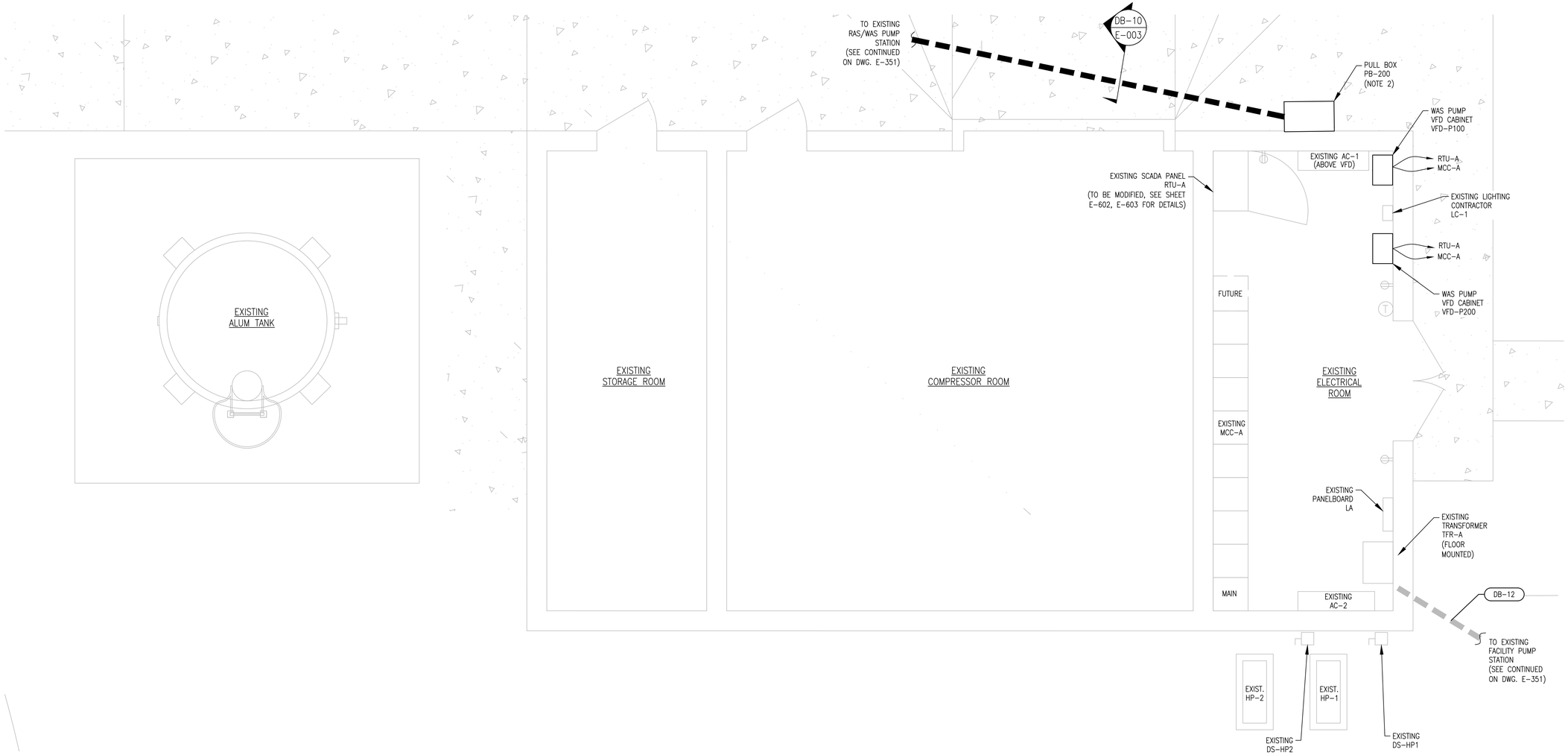
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1 EXISTING ELECTRICL-CHEMICAL-COMPRESSOR BUILDING POWER PLAN

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

GRAPHIC SCALE

2.67 0 1.33 2.67 5.33 10.67

(IN FEET)

3/8 inch = 1 ft.

NOTES:

1. SEE DWG. E-003 FOR DUCTBANKS SECTIONS.
2. THE CONTRACTOR SHALL PROVIDE AND INSTALL A NEMA 4X STAINLESS STEEL PULL BOX ADEQUATELY SIZED FOR ASSOCIATED CABLES AND CONDUITS.

LEGEND:

– – – – – DIRECT BURIED UNDERGROUND DUCTBANK

EXISTING ELECTRICAL BUILDING ELECTRICAL PLAN

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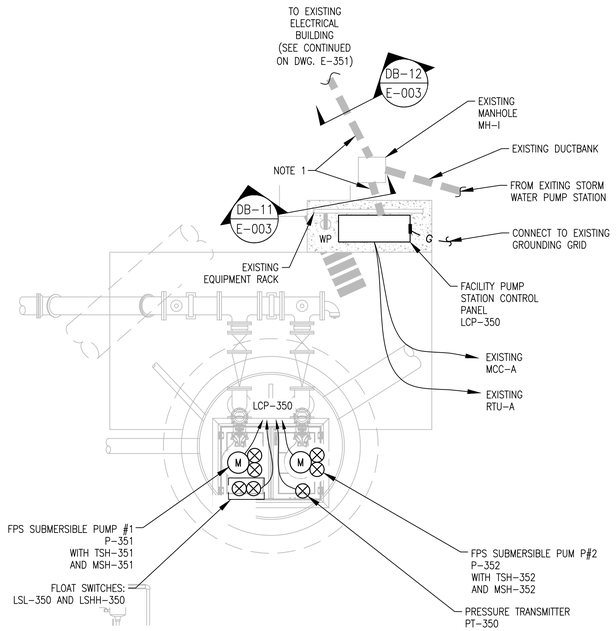
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1 EXISTING FACILITY PUMP STATION ELECTRICAL PLAN

SCALE: 1/2" = 1'-0"

GRAPHIC SCALE

2 0 1 2 4 8

(IN FEET)
1/2 inch = 1 ft.

NOTES:

1. THE CONTRACTOR SHALL REUSE THE EXISTING CONDUITS IN DUCTBANK DB-11, MANHOLE MH-I AND PORTION OF DUCTBANK DB-12 TO ROUTE NEW POWER AND CONTROL CABLES FROM LCP-350 TO THE EXISTING MCC-A AND RTU-A, LOCATED IN THE EXISTING ELECTRICAL-CHEMICAL-COMPRESSOR BUILDING.
2. SEE DWG. E-003 FOR DUCTBANKS SECTIONS.

LEGEND:

– – – – DIRECT BURIED UNDERGROUND DUCTBANK

EXISTING FACILITY PUMP STATION ELECTRICAL PLAN

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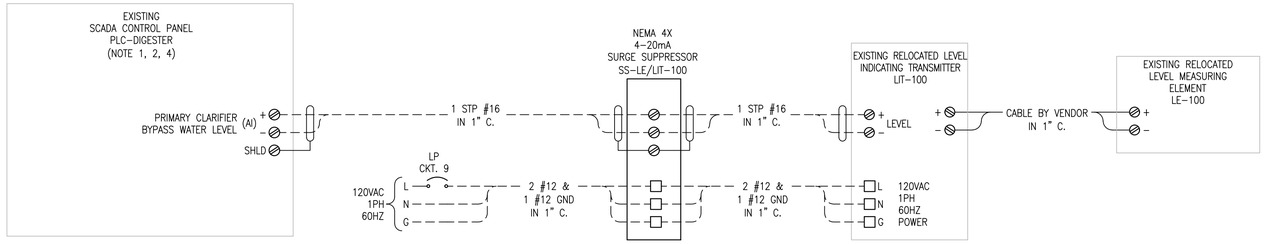
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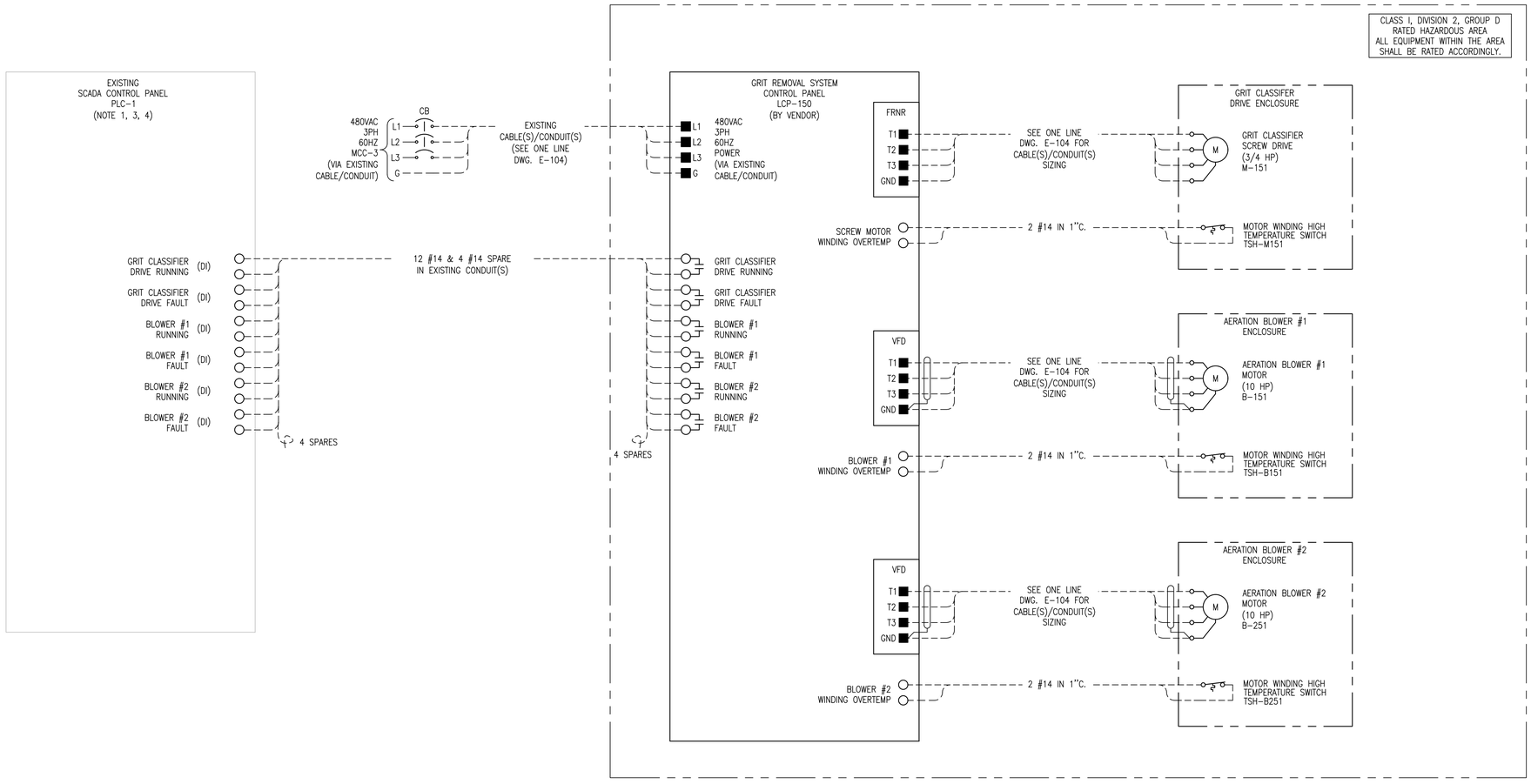
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1 EXISTING RELOCATED PRIMARY CLARIFIER BYPASS PRASHALL FLUME LEVEL TRANSMITER SCHEMATIC WIRING DIAGRAM



2 GRIT REMOVAL SYSTEM CONTROL PANEL LCP-150 SCHEMATIC WIRING DIAGRAM

NOTES:

1. THE CONTRACTOR SHALL DISCONNECT EXISTING LEVEL INDICATING TRANSMITTER LIT-100 AND EXISTING GRIT REMOVAL SYSTEM CONTROL PANEL IN "PLC-1" LOCATED IN THE EXISTING LABORATORY OFFICE & CONTROL BUILDING. SEE SHEET E-303 FOR DEMOLITION DETAILS.
2. THE CONTRACTOR SHALL CONNECT RELOCATED LEVEL INDICATING TRANSMITTER LIT-100 TO EXISTING SCADA PANEL "PLC-DIGESTER" AND MAKE ALL NECESSARY MODIFICATIONS TO THE THE ADDITION OF NEW I/O'S. PROVIDE AND INSTALL CABLES AND CONDUITS TO THE SCADA PANEL "PLC-DIGESTER" AS REQUIRED TO ACCOMMODATE NEW I/O'S. SEE SCHEMATIC WIRING DIAGRAMS FOR DETAILS.
3. THE CONTRACTOR SHALL MAKE ALL NECESSARY MODIFICATIONS TO THE EXISTING SCADA PANEL "PLC-1" FOR THE ADDITION OF NEW I/O'S. PROVIDE AND INSTALL CABLES AND CONDUITS TO THE SCADA PANEL "PLC-1" AS REQUIRED TO ACCOMMODATE NEW I/O'S. SEE SCHEMATIC WIRING DIAGRAMS FOR DETAILS.
4. SCADA SYSTEM INTEGRATOR SHALL BE MR SYSTEMS.

LEGEND:
- □ – 120V POWER TERMINAL
- ○ – CONTROL TERMINAL
- ⊘ – SIGNAL TERMINAL

SCHEMATIC WIRING DIAGRAM

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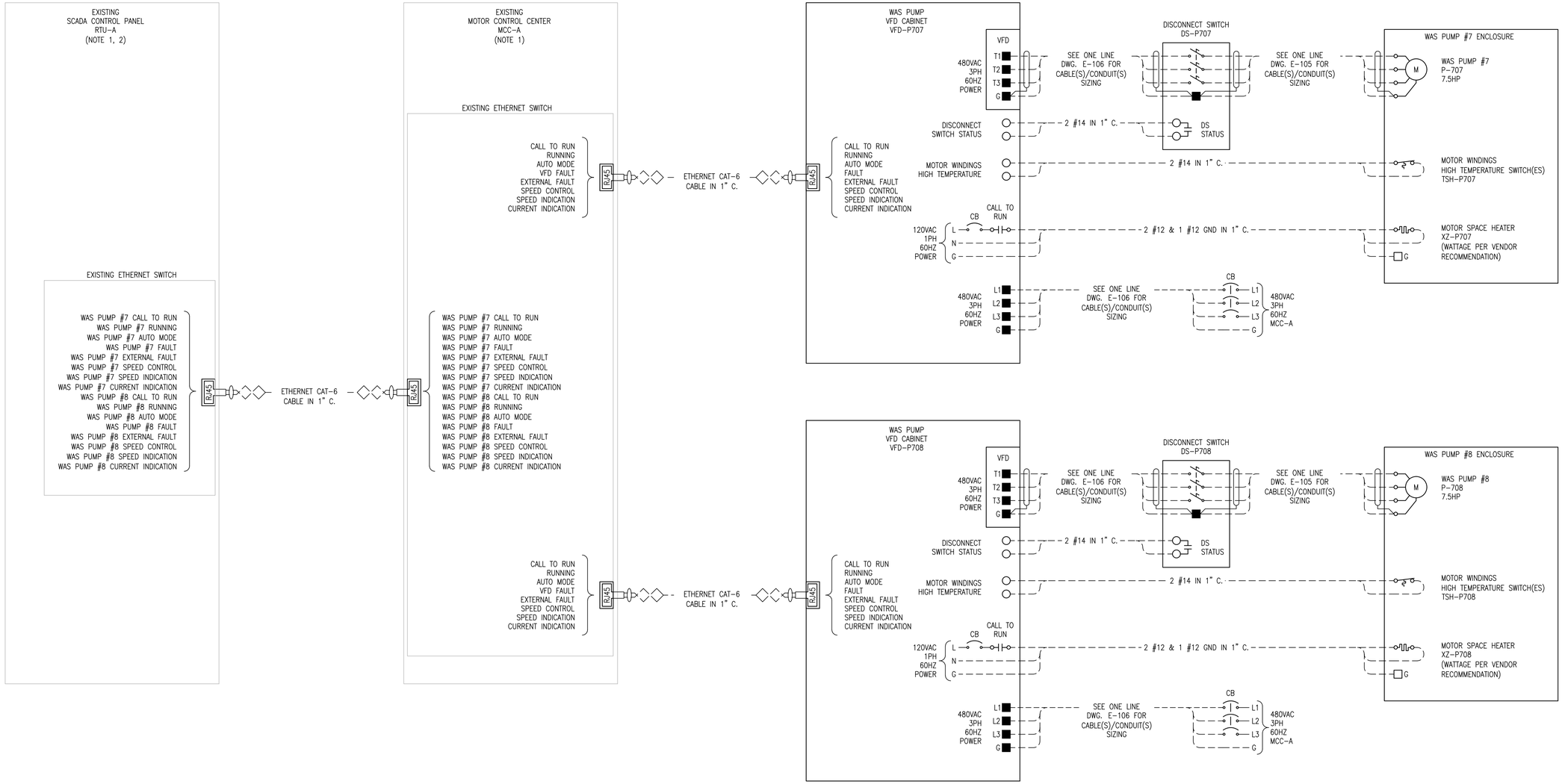
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NOTES:

1. THE CONTRACTOR SHALL MAKE ALL NECESSARY MODIFICATIONS TO THE EXISTING SCADA PANEL "RTU-A" AND MOTOR CONTROL CENTER MCC-A FOR THE ADDITION OF NEW I/O'S. PROVIDE AND INSTALL CABLES AND CONDUITS TO THE SCADA PANEL "RTU-A" AND MCC-A AS REQUIRED TO ACCOMMODATE NEW I/O'S. SEE SCHEMATIC WIRING DIAGRAMS FOR DETAILS.
2. SCADA SYSTEM INTEGRATOR SHALL BE MR SYSTEMS.

1 RAS PUMPS SCHEMATIC WIRING DIAGRAM

SCHEMATIC WIRING DIAGRAM

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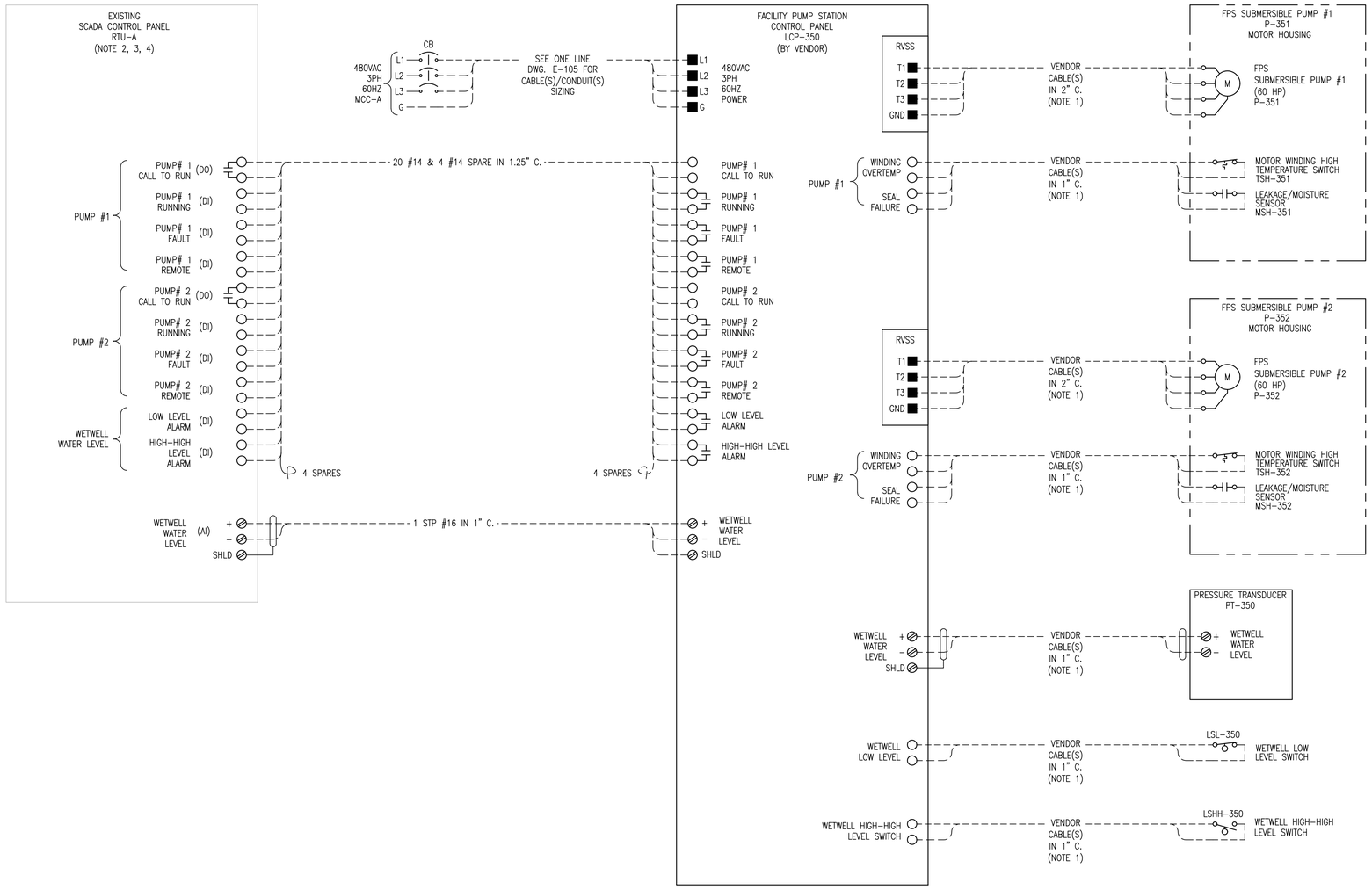
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NOTES:

1. THE CONTRACTOR SHALL INCLUDE SUFFICIENT CABLE LENGTH SUPPLIED WITH SUBMERSIBLE PUMP MOTORS AND LEVEL TRANSDUCER/SWITCHES TO REACH PUMP CONTROL PANEL WITHOUT CABLE SPLICING OR EXTENSION.
2. THE CONTRACTOR SHALL DISCONNECT ALL I/OS FROM EXISTING FACILITY PUMP STATION CONTROL PANEL LCP-300 IN "RTU-A" LOCATED IN THE ELECTRICAL ROOM OF THE ELECTRICAL-CHEMICAL-COMPRESSOR BUILDING. SEE SHEET E-304 FOR DEMOLITION DETAILS.
3. THE CONTRACTOR SHALL MAKE ALL NECESSARY MODIFICATIONS TO THE EXISTING SCADA PANEL "RTU-A" FOR THE ADDITION OF NEW I/O'S. PROVIDE AND INSTALL CABLES AND CONDUITS TO THE SCADA PANEL "RTU-A" AS REQUIRED TO ACCOMMODATE NEW I/O'S. SEE SCHEMATIC WIRING DIAGRAMS FOR DETAILS.
4. SCADA SYSTEM INTEGRATOR SHALL BE MR SYSTEMS.

1 FACILITY PUMP STATION CONTROL PANEL LCP-350 SCHEMATIC WIRING DIAGRAM

LEGEND:
□ – 120V POWER TERMINAL
○ – CONTROL TERMINAL
⊘ – SIGNAL TERMINAL

SCHEMATIC WIRING DIAGRAM

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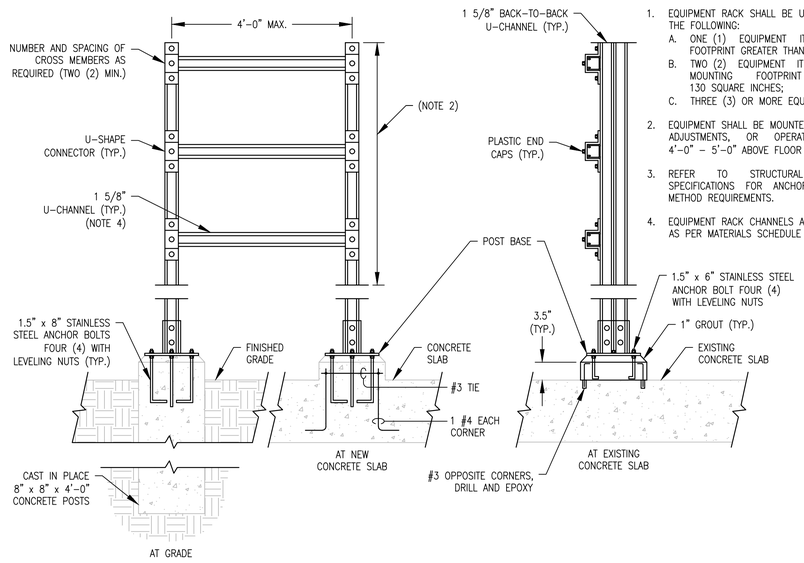
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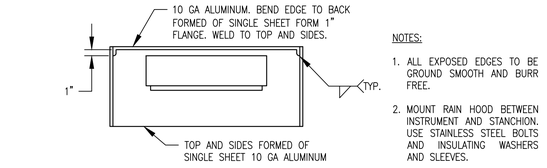
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NOTES:

1. EQUIPMENT RACK SHALL BE UTILIZED FOR MOUNTING THE FOLLOWING:
   A. ONE (1) EQUIPMENT ITEM WITH MOUNTING FOOTPRINT GREATER THAN 150 SQUARE INCHES;
   B. TWO (2) EQUIPMENT ITEMS WITH COMBINED MOUNTING FOOTPRINT GREATER THAN 130 SQUARE INCHES;
   C. THREE (3) OR MORE EQUIPMENT ITEMS.
2. EQUIPMENT SHALL BE MOUNTED SO THAT INDICATION, ADJUSTMENTS, OR OPERATING HANDLES ARE 4'-0" – 5'-0" ABOVE FLOOR OR PLATFORM.
3. REFER TO STRUCTURAL DRAWINGS AND SPECIFICATIONS FOR ANCHORAGE MATERIALS AND METHOD REQUIREMENTS.
4. EQUIPMENT RACK CHANNELS AND FITTINGS SHALL BE AS PER MATERIALS SCHEDULE ON DWG. E-002.

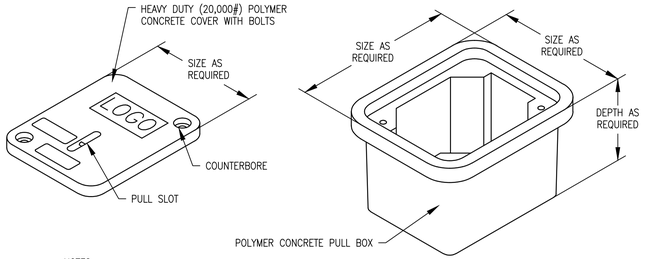
A EQUIPMENT RACK



NOTES:

1. ALL EXPOSED EDGES TO BE GROUND SMOOTH AND BURR FREE.
2. MOUNT RAIN HOOD BETWEEN INSTRUMENT AND STANCHION. USE STAINLESS STEEL BOLTS AND INSULATING WASHERS AND SLEEVES.

B SUN/RAIN HOOD
FOR RTU AND PUMP CONTROL PANELS

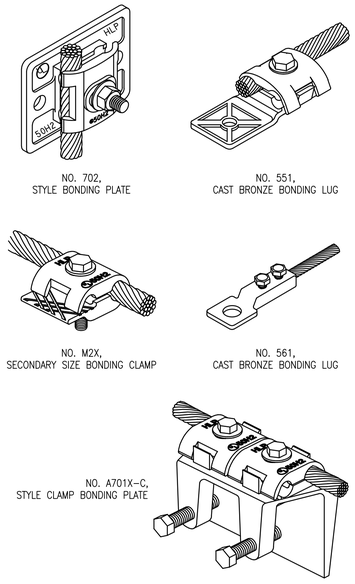


NOTES:

1. PULL BOX TO BE MADE WITH PRECAST POLYMER CONCRETE FIBERGLASS REINFORCED, STACKABLE WITH SELF-ALIGNING, REPLACEABLE EZ-NUT.
2. THE CONTRACTOR SHALL SIZE THE PULL BOXES BASED ON THE NUMBER OF CONDUITS. USE MANHOLES WHERE PULL BOX WIDTH/HEIGHT IS NOT SUFFICIENT TO ACCEPT ALL ENTERING/EXITING CONDUITS.
3. "LOGO" ENGRAVING SHALL READ "ELECTRICAL" FOR ALL ELECTRICAL/FIBER UNDERGROUND DUCTBANKS.

TIER TYPE	APPLICATION DESCRIPTION	NOTES
8	SIDEWALK APPLICATIONS, NOT EXPOSED TO ANY VEHICLE TRAFFIC	
15	OFF-ROADWAY APPLICATIONS SUBJECT TO OCCASIONAL NON-DELIBERATE VEHICLE TRAFFIC	
22	DRIVEWAY AND PARKING LOT APPLICATIONS SUBJECT TO OCCASIONAL NON-DELIBERATE HEAVY VEHICULAR TRAFFIC	
AASHTO H-20	DRIVEWAY, PARKING LOT, AND OFF-ROADWAY APPLICATIONS SUBJECT TO HEAVY VEHICLE TRAFFIC	UTILIZE PRECAST HANDHOLES FOR AASHTO H-20 APPLICATIONS

C UNDERGROUND PULL BOX



D BONDING LUGS AND PLATES

ELECTRICAL INSTALLATION DETAILS

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HVAC – GENERAL NOTES

1. ALL WORK AND EQUIPMENT SHALL CONFORM WITH THE REQUIREMENTS OF THE 2006 INTERNATIONAL MECHANICAL CODE WITH GEORGIA AMENDMENTS, NFPA 90A, AND ALL APPLICABLE LOCAL CODES AND ORDINANCES.
2. FIELD LOCATE AND ROUTE DUCTWORK, REFRIGERANT PIPING, CONDENSATE PIPING, ETC. IN CEILING AND CHASE SPACE AS REQUIRED. COORDINATE ROUTING WITH ROOF STRUCTURE.
3. IT SHALL BE UNDERSTOOD THAT THE DRAWINGS SHOW THE GENERAL ROUTING OF PIPES, DUCTS, ETC. AND THE APPROXIMATE LOCATION OF APPARATUS. CONTRACTOR TO FIELD VERIFY ALL FIELD DIMENSIONS AND INVESTIGATE EXISTING CONDITIONS PRIOR TO FABRICATING DUCTWORK OR PIPING AND LOCATING EQUIPMENT. PENETRATIONS THROUGH WALLS AND FLOORS SHALL BE COORDINATED WITH EXIST. UTILITIES AND OBSTRUCTIONS. UTILITIES SHALL BE RELOCATED BY THE CONTRACTOR AS REQUIRED. COORDINATE ALL ROUTING WITH LIGHTING AND ARCHITECTUAL FEATURES. NOTE THAT THE DRAWINGS REPRESENT WORK TO BE INSTALLED BY A KNOWLEDGABLE, LICENSED MECHANICAL CONTRACTOR FAMILIAR WITH THE TYPES OF SYSTEMS INDICATED AND DO NOT NECESSARILY SHOW ALL DETAILS FOR SYSTEM INSTALLATION.
4. CONTRACTOR SHALL COORDINATE ELECTRICAL CHARACTERISTICS AND REQUIREMENTS OF ALL MECHANICAL EQUIPMENT WITH ELECTRICAL PLANS AND SHALL FURNISH EQUIPMENT WIRED FOR VOLTAGES AS REQUIRED. CONTRACTOR TO COORDINATE VOLTAGE AND PHASE OF EACH PIECE OF EQUIPMENT WITH ELECTRICAL CONTRACTOR BEFORE ORDERING EQUIPMENT.
5. ALL FANS SUPPLYING MORE THAN 2,000 CFM OR AS OTHERWISE INDICATED ON THE DRAWINGS SHALL BE INSTALLED WITH A SMOKE DETECTOR IN COMPLIANCE WITH SBCCI. THE SMOKE DETECTOR SHALL BE WIRED TO STOP THE FAN UPON DETECTION OF SMOKE.
6. SMOKE DETECTORS, TRANSFORMERS, CONTROLS AND CONTROL WIRING REQUIRED FOR ALL MECHANICAL SYSTEMS SHALL BE FURNISHED AND INSTALLED BY THE MECHANICAL CONTRACTOR.
7. DUCTWORK SHALL BE CONSTRUCTED OF GALVANIZED SHEET METAL AS RECOMMENDED IN SMACNA LOW PRESSURE DUCT CONSTRUCTION STANDARDS, LATEST EDITION. SEAL ALL DUCT LOGITUDINAL AND TRANSVERSE JOINTS (LEVEL A) WITH MASTIC DUCT SEALANT AS APPLICABLE. CONFORM TO LEAKAGE CLASS 3. PROVIDE LEAKAGE TEST FOR OPERATING ROOMS AS PART OF TEST AND BALANCE (NOTE21). FLEXIBLE CONNECTIONS SHALL BE SUPPLIED AT EACH RTU DISCHARGE. ROUND DUCT SHALL BE SPIRAL TYPE. DUCT SIZES SHOWN ARE CLEAR INSIDE DIMENSIONS. WHERE DUCT LINER IS USED, DIMENSIONS MUST BE ADJUSTED ACCORDINGLY. ROUND DUCT SIZES MAY BE SUBSTITUTED FOR RECTANGULAR SIZES INDICATED. SUBSTITUTE SIZES SHALL BE CALCULATED USING EQUAL VELOCITY AND FRICTION PER UNIT LENGTH AS SIZES INDICATED ON PLAN.
8. ALL SHEET METAL SUPPLY, RETURN AND OUTSIDE AIR DUCTWORK SHALL BE INSULATED WITH 2" THICK (MIN. R6) INSULATION WITH A MAXIMUM FLAME AND SMOKE SPREAD RATING OF 25 AND 50, RESPECTIVELY, OR BETTER. SHEET METAL DUCTWORK IN CONDITIONED AREA SHALL NOT BE INSULATED. THE FIRST 10' OF SUPPLY AND RETURN DUCT FROM EACH AIR HANDLER SHALL BE SUPPLIED WITH 1" THICK DUCT LINER FOR SOUND ATTENUATION, WITH ANTI-MICROBIAL INHIBITOR, COATED AND SEALED PER ASTM C1071.IF FIELD CONDITIONS, OBSTRUCTIONS, ETC. PREVENT INSTALLATION OF DUCT SIZES SHOWN, SIZES MAY BE CHANGED SUCH THAT THE SAME VELOCITY IS MAINTAINED IN THAT DUCT.
9. FLEXIBLE DUCTWORK SHALL BE PRE-INSULATED (MIN. R6), THERMAFLEX, ATCO OR APPROVED EQUAL, SAME SIZE AS DIFFUSER NECKS. FLEX DUCT RUNS SHALL NOT EXCEED 7 FEET. SUPPORT FLEX DUCT WITH HANGER STRAPS SUCH THAT THERE ARE NO KINKS OR RESTRICTIONS IN THE FLEX DUCT. DO NOT USE FLEX DUCT IN EXPOSED CEILING AREAS UNLESS NOTED OTHERWISE.
10. SPIN-IN FITTINGS SHALL BE NOVAFLEX, CROWN OR APPROVED EQUAL. PROVIDE BALANCING DAMPER FOR ALL BRANCH DUCTS.
11. LOCATIONS OF GRILLES, REGISTERS AND DIFFUSERS SHOWN ON THE DRAWINGS ARE APPROXIMATE. COORDINATE EXACT LOCATIONS WITH LIGHTS, CEILING GRID, ETC.
12. COORDINATE THERMOSTAT LOCATIONS WITH LIGHTS, CEILING GRID, ETC. AND ARCHITECTS REFLECTED CEILING PLAN.
13. MOUNT THERMOSTATS 5'-0" AFF. ALL CONTROL WIRING SHALL BE RUN INSIDE WALLS OR ABOVE CEILINGS. PLENUM RATED CABLE SHALL BE USED IN CEILING SPACES USED AS RETURN AIR PLENUMS.
14. CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ALL MECHANICAL EQUIPMENT, DUCTWORK, ETC. TO FIT WITHIN THE SPACE ALLOWED BY ARCHITECTURAL AND STRUCTURAL CONDITIONS. CUTTING OR OTHERWISE ALTERING ANY STRUCTURAL MEMBER IS NOT PERMITTED.
15. ALL MECHANICAL EQUIPMENT SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
16. PROVIDE FIRE DAMPERS IN ALL RATED WALLS, FLOORS, SHAFTS AND CEILINGS WITH PROTECTIVE RATING CONSISTENT WITH RATING OF STRUCTURE AND AS DICTATED BY CODE. CONTRACTOR SHALL ENSURE THAT HE HAS REVIEWED THE LATEST REVISION OF THE ARCHITECTURAL DRAWINGS TO DETERMINE WHERE FIRE WALLS ARE LOCATED.
17. ALL PIPE PENETRATIONS THRU FIREWALLS AND FLOORS (METAL GAS PIPE) SHALL BE FIRE STOPPED WITH APPLICABLE UL APPROVED SYSTEM. FIRE STOPPING MATERIALS SHALL BE BY HILTI, 3M OR APPROVED EQUAL. SEE PLUMBING DRAWINGS FOR DETAIL AS APPLICABLE.
18. PROVIDE TURNING VANES IN ALL RECTANGULAR SUPPLY ELBOWS. ELBOWS IN EXHAUST DUCTWORK SHALL NOT HAVE TURNING VANES.
19. ALL HVAC EQUIPMENT SHALL MEET OR EXCEED REQUIREMENTS OF THE 2009 INTERNATIONAL ENERGY CODE WITH GEORGIA AMENDMENTS FOR THE TYPE AND CAPACITY OF SYSTEMS PROVIDED.
20. PROVIDE OWNER WITH ONE (1) YEAR WARRANTY ON EQUIPMENT AND INSTALLATION WITH FIVE (5) YEAR WARRANTY ON RTU COMPRESSORS.
21. CONTRACTOR SHALL TEST ALL EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND CERTIFY TO OWNER THAT ALL SYSTEMS ARE FULLY AND PROPERLY OPERATIONAL UPON COMPLETION OF WORK. CONTRACTOR SHALL PERFORM COMPLETE TEST AND BALANCE FOR ALL HVAC SYSTEMS. TEST & BALANCE SHALL BE TO THE FLOWS INDICATED ON THE DRAWINGS. TEST & BALANCE SHALL BE BY AN INDEPENDENT TAB AGENCY THAT IS NEBB AND/OR AABC CERTIFIED. CONTRACTOR SHALL PROVIDE FOUR (4) COPIES OF THE TEST AND BALANCE REPORT TO THE ARCHITECT.
22. CONTRACTOR SHALL ENSURE THAT ADEQUATE CLEARANCE IS MAINTAINED IN FRONT OF ELECTRICAL PANELS AND AROUND ALL EQUIPMENT FOR MAINTENANCE.

SYMBOLS

(S)	WALL SWITCH. SEE ELECTRICAL DWGS.
(T)	THERMOSTAT, WALL OR EQUIP. MOUNTED
[M]	DAMPER MOTOR

ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR
BOD	BOTTOM OF DUCT
CFM	CUBIC FEET PER MINUTE
DWG	DRAWING
EA	EXHAUST AIR
EF	EXHAUST FAN
EL	ELEVATION
FD	FIRE DAMPER
FL	FLOOR
HD	HUB DRAIN
OA	OUTSIDE AIR
RA	RETURN AIR
RG	RETURN GRILLE
RTU	ROOFTOP UNIT
SA	SUPPLY AIR
TYP	TYPICAL
U.N.O.	UNLESS NOTED OTHERWISE
VD	VOLUME DAMPER

WALL LOUVER SCHEDULE

MARK	CFM	MAX. PRESS. DROP WG	LOUVER SIZE				LOUVER TYPE	BASIS OF DESIGN (SUBJECT TO MEETING SCH. REQUIREMENTS)*	INTERLOCK WITH FAN	LOCATION / SERVICE	NOTES
			WIDE (IN)	HT. (IN)	DEEP (IN)	MIN FREE AREA					
WL-2C	4000	.05	48	40	6	15.7 S.F.	STATIONARY WITH MOTOR OPERATED DAMPER	RUSKIN ELC6375DAX	EF-2	WALL MOUNT / COMPR. RM.	1,2

* MANUFACTURER AND MODEL NUMBER SHOWN TO DEMONSTRATE QUALITY AND TYPE OF UNIT INTENDED. MANUFACTURER'S TO BE RUSKIN, AEROLITE OR APPROVED EQUAL.

1. LOUVERS SHALL BE EXTRUDED ALUMINUM WITH BIRDSCREEN AND MIN. .08" THICK FRAME AND BLADES. ENTIRE LOUVER SHALL BE KYNAR COATED. COLOR TO BE SELECTED BY OWNER / ARCHITECT.
2. LOUVER TO BE PROVIDED WITH 120V ELECTRIC MOTOR OPERATED DAMPER. DAMPER SHALL BE INTERLOCKED WITH FAN INDICATED IN SCHEDULE TO OPEN WHEN FAN(S) IS ENERGIZED. DAMPERS SHALL BE HEAVY DUTY INDUSTRIAL TYPE WITH EPOXY COATING.

HVAC NOTES & SCHEDULES

REVISIONS:

04/13/26	RELEASED FOR BID

2021 GEFA CWSRF WPCP MODIFICATIONS
FOR THE
CITY OF MOULTRIE
COLQUITT COUNTY, GEORGIA

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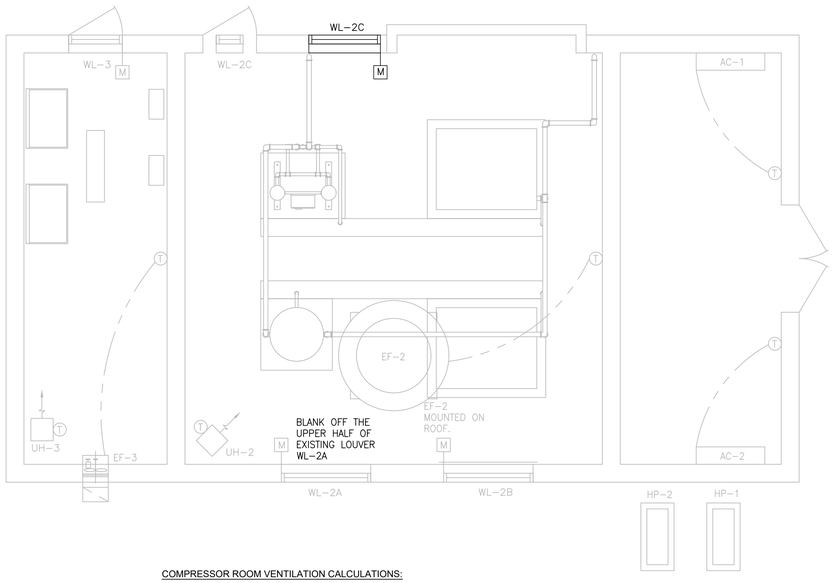
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DSGN: DV	DRWN: DI
SCALE: N.T.S.	
PROJ. NO.:	
DATE: 5/30/2025	SHEET NO.: H-1 OF 24 SHEETS



COMPRESSOR ROOM VENTILATION CALCULATIONS:

COMPRESSOR ROOM VENTILATION FANS AND LOUVERS ARE SIZED TO REMOVE HEAT FROM COMPRESSORS IN THE AREA. AIRFLOW BASED ON LIMITING TEMPERATURE RISE TO SPACE TO 10°F WHICH SHOULD KEEP APPROXIMATELY 105°F WITH OUTDOOR TEMPERATURES OF OF 95°F (OR LESS).

CALCULATED HEAT GENERATION INSIDE BUILDING IS BASED ON ONE COMPRESSOR OPERATING AND ONE STANDBY, WITH HEAT FROM MOTOR INEFFICIENCY AND HEAT OF DRIVEN EQUIPMENT ENTERING SPACE (HEAT LOSS FROM COMPRESSOR PROVIDED BY COMPRESSOR SUPPLIER).

TOTAL HEAT INTO SPACE (BTUH) = BTUH PROVIDED BY MFGR * USE FACTOR * LOAD FACTOR.

ITEM	HEAT LOSS	USE FACTOR	LOAD FACTOR	HEAT INTO SPACE
COMPRESS. NO. 1	152,600 BTUH	1.0	1.0	152,600 BTUH
COMPRESS. NO. 2	0 BTUH	--	--	0 BTUH
MISC. / LITES				15,000 BTUH
TOTAL				167,600 BTUH

AIRFLOW REQUIRED (CFM) = TOTAL HEAT / (1.08 * 10°F TEMP. RISE)

AIRFLOW = 167,600 BTUH / (1.08 * 10°F) = 15,519 CFM

SIZE NEW EXHAUST AND INTAKE LOUVER FOR 16,000 CFM BASED ON HEAT GAIN.

UNIT HEATER IS SIZED FOR FREEZE PROTECTION IN THE WINTER WITH EXHAUST FAN OFF.

1 COMPRESSOR / ELECTRICAL BUILDING HVAC PLAN

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

COMPRESSOR - ELECTRICAL BUILDING HVAC PLAN

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