Lift Station Construction Details

GRU™
More than Energy™

Water and Wastewater Engineering Department

GRU STANDARD WASTEWATER LIFT STATION DRAWINGS

GENERAL NOTES

1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THESE DRAWINGS AND WITH THE LATEST EDITION OF THE GAINESVILLE REGIONAL UTILITIES (GRU) WATER AND WASTEWATER STANDARDS AND APPROVED MATERIALS MANUAL. THESE DRAWINGS ARE INTENDED TO COMPLEMENT WRITTEN STANDARDS IN ORDER TO PROVIDE COMPLETE INFORMATION NECESSARY TO CONSTRUCT THE PUMP STATION IN ACCORDANCE WITH GRU STANDARDS.

2. ALL WORK SHALL BE INSPECTED BY A GRU UTILITY INSPECTOR. CONTRACTOR SHALL PROVIDE 48 HOURS NOTICE (TELEPHONE (352) 393-1633) PRIOR TO START OF CONSTRUCTION.

3. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS OF THE PRECAST STRUCTURES, VALVES (BALL, PLUG, CHECK, AIR RELEASE, BACKFLOW), FENCE, LEVEL SENSOR, SAFETY DISCONNECT SWITCH, QUICK-CONNECT, HATCH COVERS, PIPES & FITTINGS, PUMPS & ACCESSORIES, AND CONTROL PANEL FOR REVIEW AND ACCEPTANCE PRIOR TO START OF CONSTRUCTION.

4. CONTRACTOR SHALL PROTECT OFF-SITE AREAS FROM EROSION AND SEDIMENT DISCHARGES AT ALL TIMES DURING CONSTRUCTION AND UNTIL PERMANENT VEGETATION IS ESTABLISHED AND ACCEPTED.

5. CONTRACTOR SHALL LOCATE AND PROTECT, ALL EXISTING UTILITIES AND FACILITIES. UTILITY SERVICE SHALL NOT BE DISRUPTED UNLESS APPROVED BY AND COORDINATED WITH GRU.

6. CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLIANCE WITH ALL FEDERAL, STATE, AND LOCAL SAFETY REQUIREMENTS AND REGULATIONS. THE PROJECT MAY REQUIRE SHEETING, SHORING, BRACING AND/OR SLOPING FOR EXCAVATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING ACTUAL REQUIREMENTS AND SHALL SUBMIT SIGNED AND SEALED ENGINEERING DESIGN PLANS AND SPECIFICATIONS, PREPARED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF FLORIDA.

7. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL AS APPROPRIATE FOR PREVAILING WORK CONDITIONS IN ACCORDANCE WITH THE LATEST REVISION OF THE FLORIDA DEPARTMENT OF TRANSPORTATION'S ROADWAY AND TRAFFIC DESIGN STANDARDS.

8. CONTRACTOR SHALL PERMIT GRU PERSONNEL ACCESS TO THE SITE AT ALL TIMES DURING CONSTRUCTION.

9. CONTRACTOR SHALL COORDINATE STARTUP OF THE LIFT STATION PUMPS AND CONTROL PANEL WITH PUMP SUPPLIER AND GRU WATER AND WASTEWATER ENGINEERING DEPARTMENT.

10. LIFT STATIONS REQUIRING PUMPS GREATER THAN 20 HP AND LESS THAN 47 HP SHALL BE EQUIPMENT WITH SOLID STATE REDUCED VOLTAGE STARTERS AND AUTOMATIC TRANSFER SWITCH AS SHOWN ON THE ELECTRICAL SHEETS E-4.

11. LIFT STATIONS THAT SERVE CRITICAL FACILITIES AS DEFINED BY FDEP, FDEM OR FDOH OR THAT HAVE PUMPS GREATER THAN 47 HP WILL BE EQUIPPED WITH A BACK UP GENERATOR AS SHOWN ON E-5. GRU SHALL DETERMINE IF A SOLID STATE REDUCED VOLTAGE STARTER OR VFD IS REQUIRED FOR THIS CLASS LIFT STATION.

12. MAGNETIC FLOW METERING SHALL BE PROVIDED FOR ALL LIFT STATIONS SERVING PRIVATE COLLECTION SYSTEMS AND STATIONS THAT HAVE PUMPS GREATER THAN 20 HP.

13. PREPARATION AND SUBMITTAL OF SHEETS ME-1 THROUGH ME-3 AND E-3 THROUGH E-5 ARE CONTINGENT UPON THE PROPOSED LIFT STATION CONFIGURATION AND ELECTRICAL SERVICE REQUIREMENTS. CONTRACTOR SHALL ONLY SUBMIT THE APPLICABLE SHEETS.

811 Know what's **below.** **Call** before you dig.

LOCATION MAP

NORTH

INDEX

SHEETS	TITLE
G-1	COVER SHEET
C-1	STANDARD LIFT STATION CIVIL SITE PLAN
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ME-2	STANDARD LIFT STATION UTILITY PLAN W/ GENERATOR AND W/O MAG METER
ME-3	STANDARD LIFT STATION UTILITY PLAN W/ GENERATOR AND MAG METER
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MD-2	CONSTRUCTION DETAILS/MISCELLANEOUS DETAILS
S-1	WET WELL SECTION AND DETAILS
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E-10	FRONT ELEVATION DETAILS
E-11	DEMARCATION BOX DETAILS
E-12	LIGHTING DETAILS
E-13	FENCE AND GATE GROUNDING DETAILS
I-1	RTU ENCLOSURE EXTERIOR AND INTERIOR DOOR
I-2	RTU LAYOUT & BILL OF MATERIALS
I-3	RTU CONTROL POWER SCHEMATIC
I-4	RTU SEL-2411P I/O SCHEMATIC

GRU SM
More than Energy TM

CLIENT:
PROJECT: GRU STANDARD LIFT STATION DRAWINGS
SHEET TITLE: COVER SHEET
JOB NO.:
SHEET NO.: G-1
DESIGNED BY:
DRAWN BY:
CHECKED BY:
COMPUTER FILE:
DATE: FEBRUARY 2026

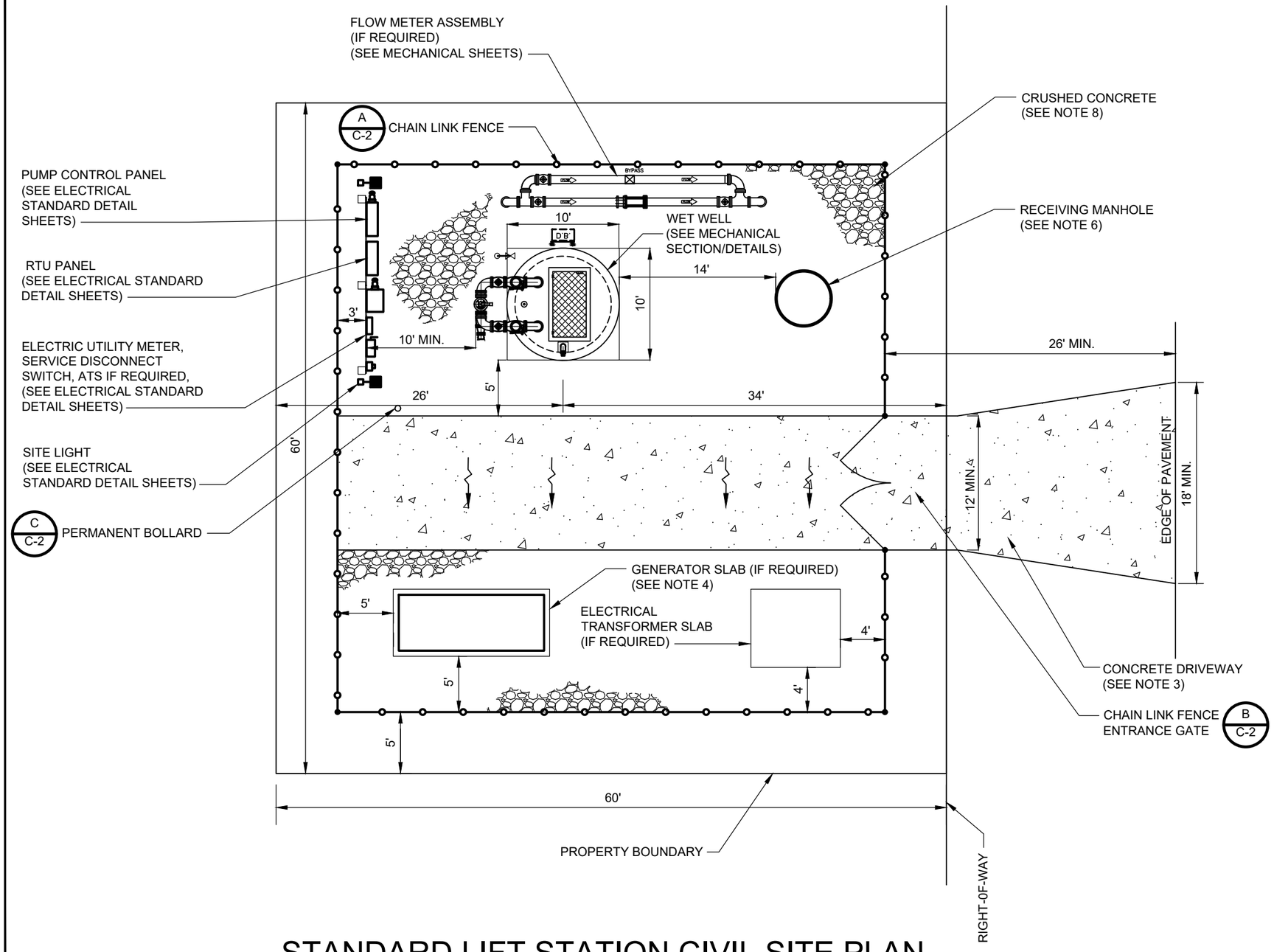
GAINESVILLE REGIONAL UTILITIES
GRU
WATER & WASTEWATER ENGINEERING

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
IF NOT ONE INCH ON THIS SHEET ADJUST SCALE ACCORDINGLY

REVISIONS		
	DATE	
1	07/2025	UPDATED STANDARD LIFT STATION UTILITY PLAN
2	02/2026	2025/2026 LIFT STATION STANDARDS UPDATES

SEAL

DATE:
APPROVED BY:
PLOT ID:



STANDARD LIFT STATION CIVIL SITE PLAN

NOTES:

1. CONTRACTOR SHALL GRADE SITE TO PROVIDE POSITIVE DRAINAGE AWAY FROM WETWELL.
2. CONSTRUCT CHAIN LINK FENCE WITH GATED ACCESS IN ACCORDANCE WITH CIVIL DETAILS. COORDINATE WITH WATER/WASTEWATER DEPARTMENT.
3. CONCRETE DRIVEWAY SHALL BE 3000 PSI MINIMUM. EXPANSION JOINTS REQUIRED ADJACENT TO PAVING, CURB, DRIVEWAY APRONS, STRUCTURES & PADS, EVERY 18 FEET AT A MINIMUM. SEE DETAIL E ON SHEET C-2.
4. GENERATOR SLAB THICKNESS SHALL BE 12" MINIMUM.
5. TOP OF WETWELL SLAB SHALL BE INSTALLED 6 INCHES ABOVE FINISHED GRADE. SLOPE FINISHED GRADE AWAY FROM WET WELL SLAB ALONG ALL SIDES.
6. MANHOLE WILL BE ARMOROCK PER GRU STANDARDS. DISTANCE FROM MANHOLE TO WET WELL SHALL BE 14 FEET MINIMUM.
7. IF RECEIVING MANHOLE IS GREATER THAN 25 FEET DEEP, COORDINATE WITH GRU ON LOCATION OF RECEIVING MANHOLE.
8. SEE DETAIL D ON SHEET C-2.
9. THE PUMP STATION DESIGNED SHALL BE LOCATED NO CLOSER THAN 100 FEET FROM A PUBLIC DRINKING WATER SUPPLY WELL AND NO CLOSER THAN 75 FEET FROM A PRIVATE DRINKING WATER SUPPLY WELL.
10. LIFT STATIONS SHALL BE DEIGNED TO REMAIN FULLY OPERATIONAL DURING A 25-YEAR FLOOD EVENT. ALL STRUCTURES, MECHANICAL, AND ELECTRICAL EQUIPMENT SHALL BE ABOVE THE 100-YEAR FLOOD ELEVATION.
11. LIFT STATION COMPONENTS SHALL BE DESIGNED AND POSITIONED ON THE SITE TO MINIMIZE ADVERSE EFFECTS FROM ODORS, NOISE AND LIGHTING.
12. IF ELECTRICAL IS PROVIDER OUTSIDE OF GRU, COORDINATE CONFIGURATION OF ELECTRICAL METER WITH PROVIDER AND GRU W/WW STAFF.
13. NO VEGETATION/SHRUBBERY TO BE PLANTED WITHIN 10 FT OF FENCE.

CLIENT:
JOB NO.:
SHEET NO.: C – 1

PROJECT: GRU STANDARD LIFT STATION DRAWINGS
SHEET TITLE: STANDARD LIFT STATION CIVIL SITE PLAN

DESIGNED BY:
DRAWN BY:
CHECKED BY:

COMPUTER FILE:
DATE: FEBRUARY 2026

GAINESVILLE REGIONAL UTILITIES
GRU
WATER & WASTEWATER ENGINEERING

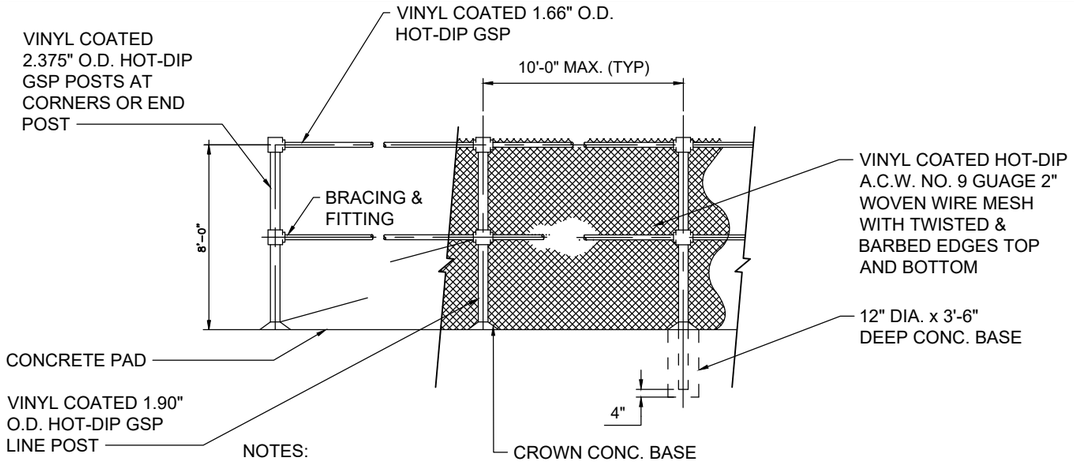
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
IF NOT ONE INCH ON THIS SHEET ADJUST SCALE ACCORDINGLY
0" 1"

REVISIONS

DATE	
07/2023	UPDATED STANDARD LIFT STATION CITY PLAN
02/2026	2025/2026 LIFT STATION STANDARDS UPDATES

SEAL

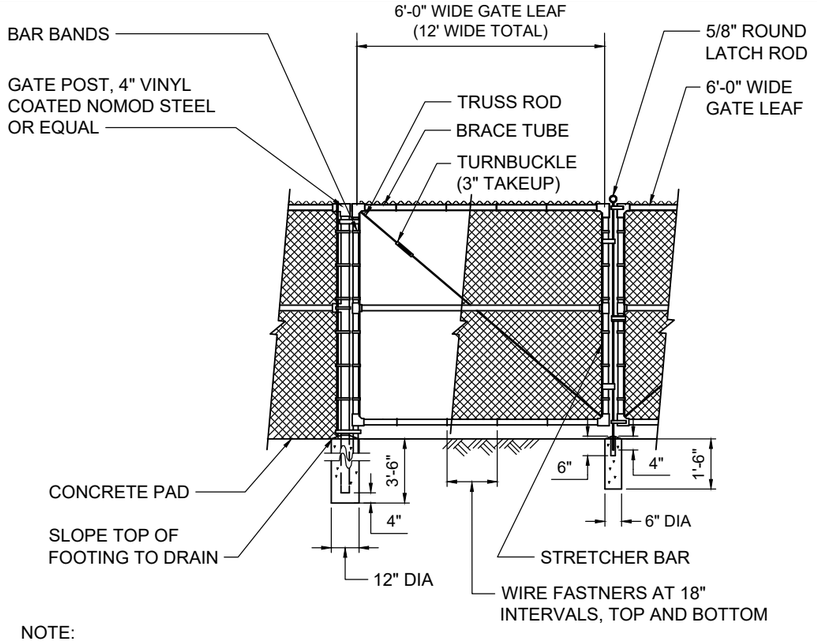
DATE:
APPROVED BY:
PLOT ID:



NOTES:

1. ALL FENCING AND POSTS SHALL BE BLACK VINYL COATED.
2. THE LOCK HASP SHALL BE CAPABLE OF ACCEPTING A STANDARD PADLOCK.
3. HEIGHT OF FENCE AT LIFT STATION SHALL BE 8'.
4. ALL FENCE POSTS SHALL BE SET WITHIN CONCRETE SLAB WITH 4" MINIMUM CLEARANCE FROM EDGE OF SLAB.
5. FENCE SHALL INCLUDE GROUNDING SYSTEM. SEE ELECTRICAL SHEETS.

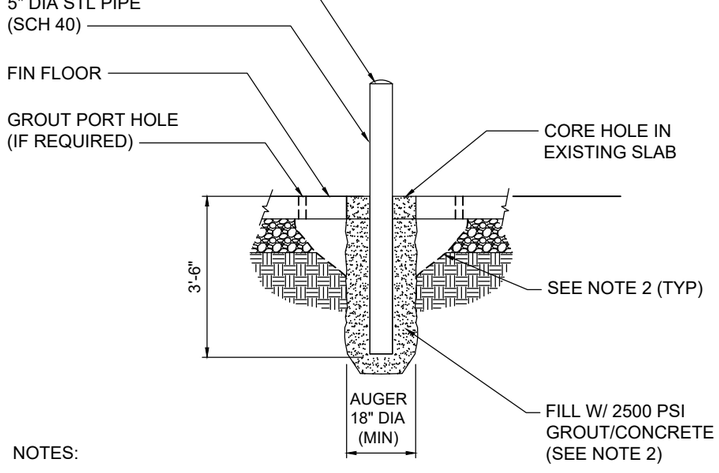
TYPICAL FENCE DETAIL
DETAIL A
NTS



NOTE:

1. GATE STOPS SHALL BE INSTALLED TO STOP AND SECURE GATE PROPERLY WHEN IN THE OPEN POSITION.

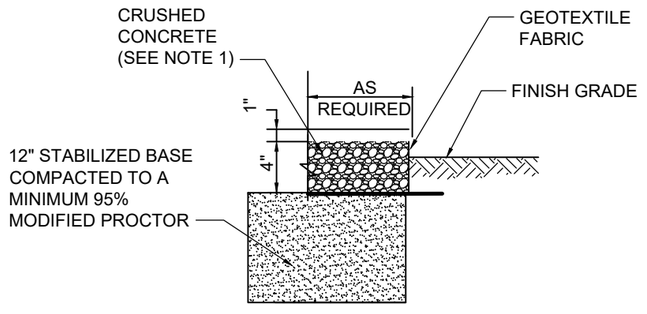
CHAIN LINK FENCE–GATE
DETAIL B
NTS



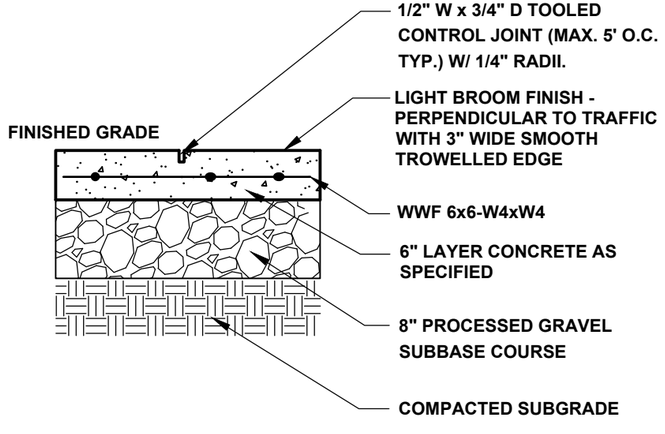
NOTES:

1. PAINT WITH HIGHLY VISIBLE COLOR (DETERMINED BY OWNER). BELOW BOTTOM OF FINISHED FLOOR ONLY PRIMER AND SINGLE COAT OF PAINT REQUIRED.
2. IF AUGER OF HOLE CREATES A VOID IN THE SUBGRADE BENEATH SLAB, CONTRACTOR SHALL DETERMINE EXTENT OF UNDERMINING AND REPLACE WITH 2500 PSI GROUT/CONCRETE BY DRILLING 2" DIA PORT HOLES IN SLAB.

PERMANENT BOLLARD DETAIL
DETAIL C
NTS



SITE COVER
DETAIL D
NTS



CONCRETE PAVEMENT
DETAIL E
NTS

CIVIL DETAILS

NOT TO SCALE

CLIENT:
JOB NO.:
SHEET NO.: C–2

PROJECT: GRU STANDARD LIFT STATION DRAWINGS
SHEET TITLE: CIVIL DETAILS

DESIGNED BY:
DRAWN BY:
CHECKED BY:

COMPUTER FILE:
DATE: FEBRUARY 2026

GAINESVILLE REGIONAL UTILITIES
GRU
WATER & WASTEWATER ENGINEERING

VERIFY SCALE
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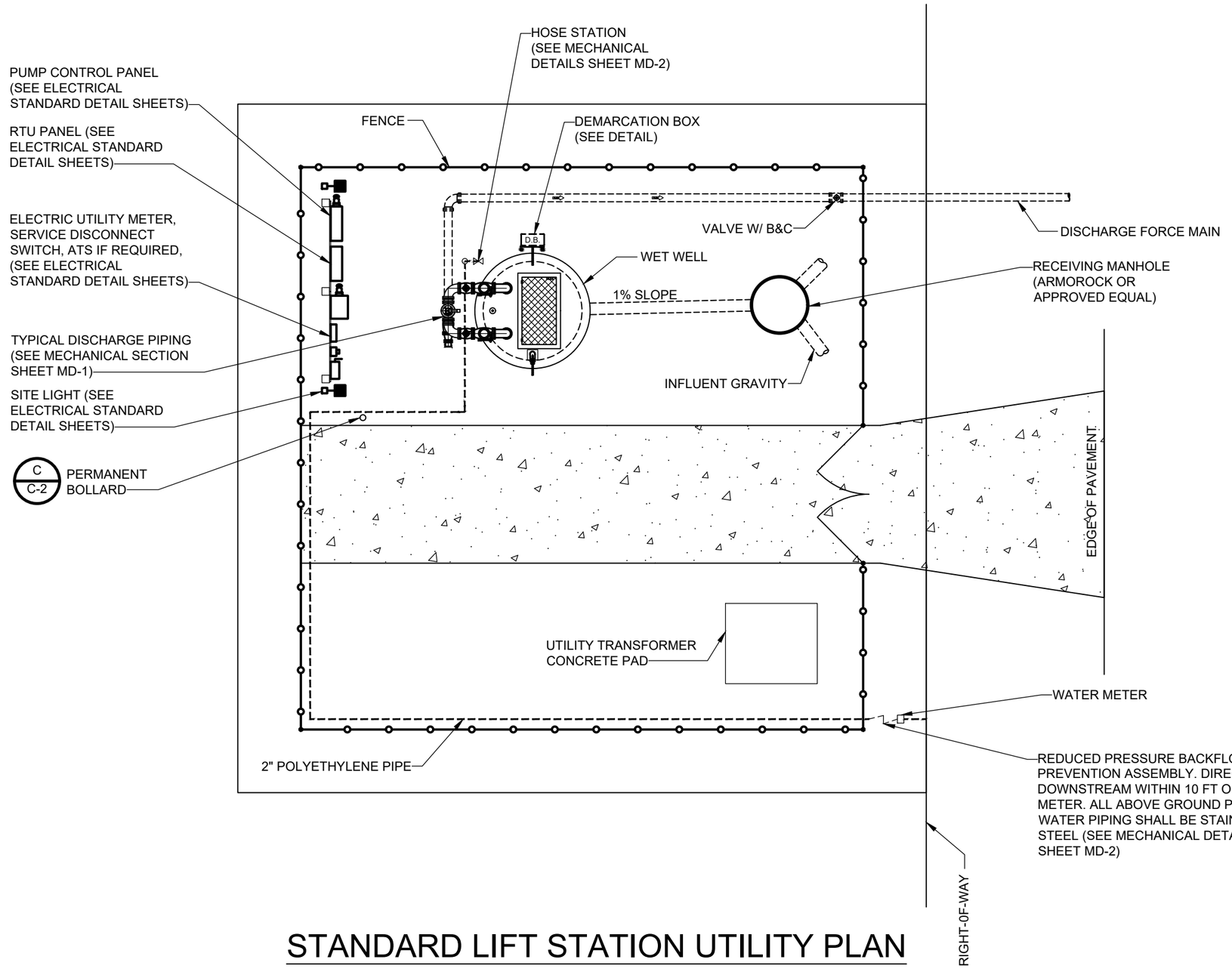
REVISIONS

DATE	DESCRIPTION
07/2023	UPDATED STANDARD LIFT STATION UTILITY PLAN
02/2026	2025/2026 LIFT STATION STANDARDS UPDATES

SEAL

DATE:
APPROVED BY:
PLOT ID:



STANDARD LIFT STATION UTILITY PLAN

SCALE: 1"=10'

1" = 10'

5 0 10

SCALE IN FEET

GAINESVILLE REGIONAL UTILITIES
GRU
WATER & WASTEWATER ENGINEERING

CLIENT:
JOB NO.:
SHEET NO.: ME-1

PROJECT: GRU STANDARD LIFT STATION DRAWINGS
SHEET TITLE: STANDARD LIFT STATION UTILITY PLAN

DESIGNED BY:
DRAWN BY:
CHECKED BY:

COMPUTER FILE:
DATE: FEBRUARY 2026

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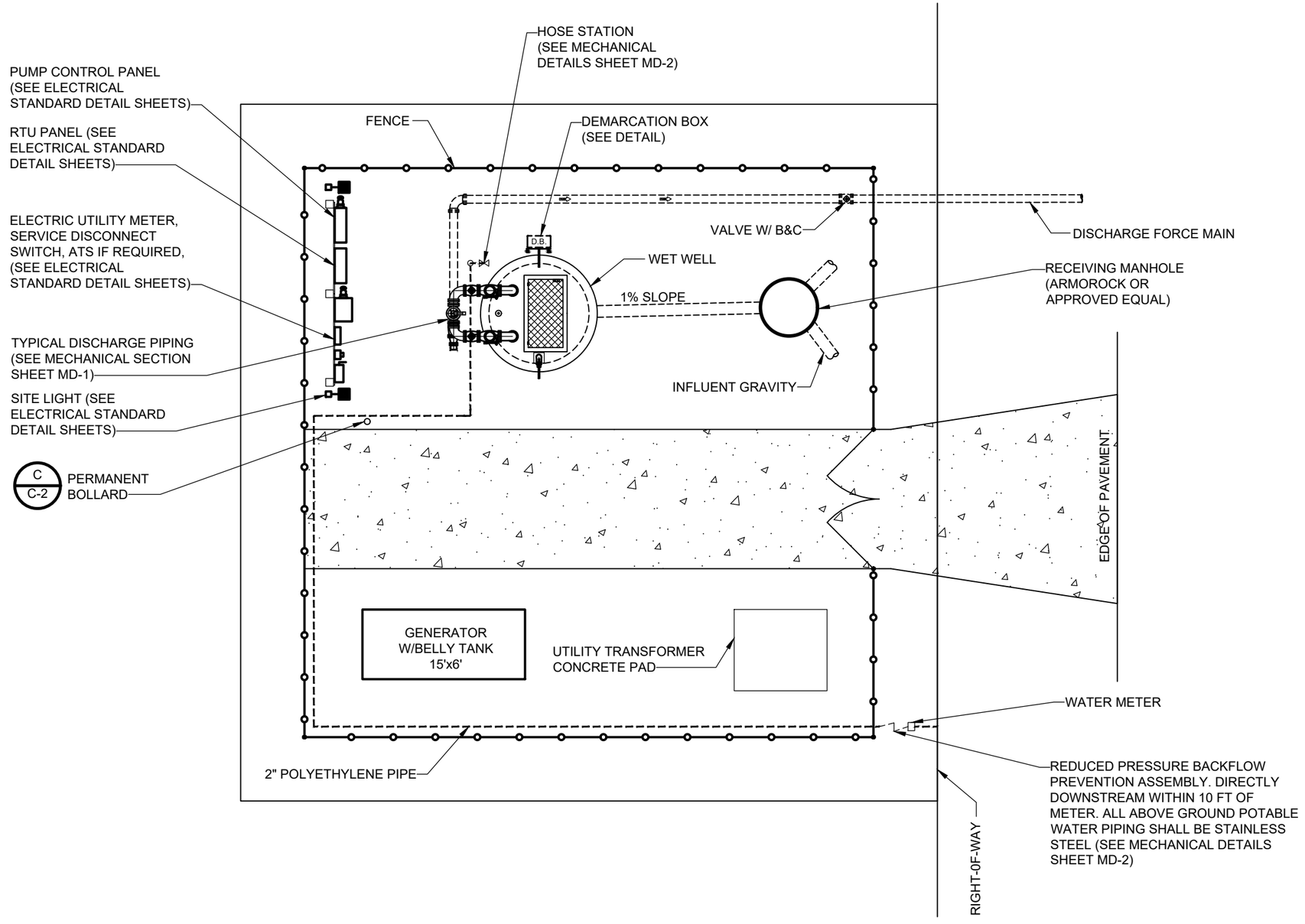

STANDARD LIFT STATION UTILITY PLAN WITH GENERATOR AND WITHOUT MAG METER

SCALE: 1"=10'

1" = 10'

5 0 10

SCALE IN FEET

GAINESVILLE REGIONAL UTILITIES

GRU

WATER & WASTEWATER ENGINEERING

CLIENT:

JOB NO.:

SHEET NO.: ME-2

PROJECT: GRU STANDARD LIFT STATION DRAWINGS

SHEET TITLE: STANDARD LIFT STATION UTILITY PLAN W/ GENERATOR AND W/O MAG METER

DESIGNED BY:

DRAWN BY:

CHECKED BY:

COMPUTER FILE:

DATE: FEBRUARY 2026

VERIFY SCALE
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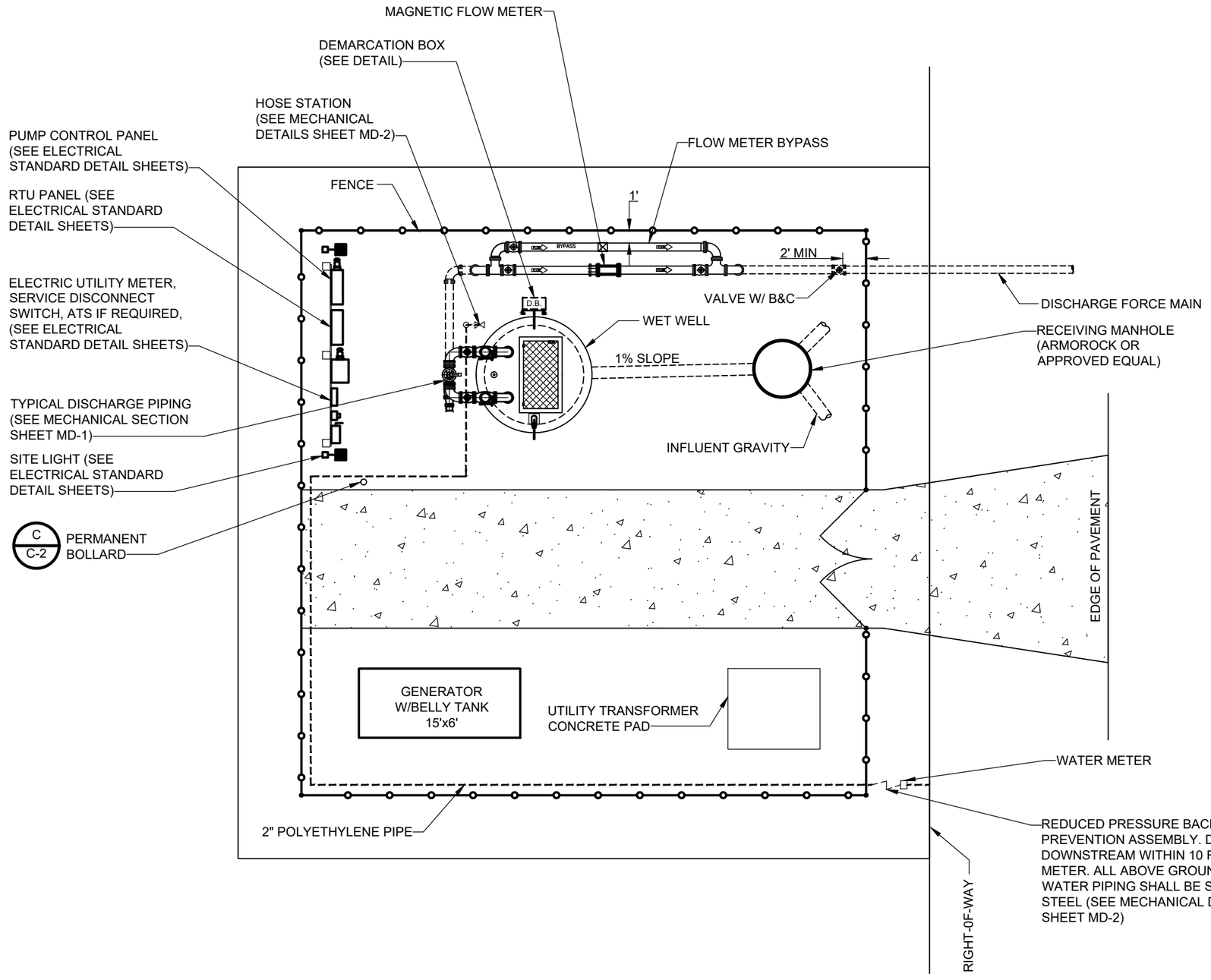

STANDARD LIFT STATION UTILITY PLAN WITH GENERATOR AND MAG METER

SCALE: 1"=10'

1" = 10'

5 0 10

SCALE IN FEET

GAINESVILLE REGIONAL UTILITIES
GRU
WATER & WASTEWATER ENGINEERING

CLIENT:
JOB NO.:
SHEET NO.: ME-3

PROJECT: GRU STANDARD LIFT STATION DRAWINGS
SHEET TITLE: STANDARD LIFT STATION UTILITY PLAN W/ GENERATOR AND MAG METER

DESIGNED BY:
DRAWN BY:
CHECKED BY:

COMPUTER FILE:
DATE: FEBRUARY 2026

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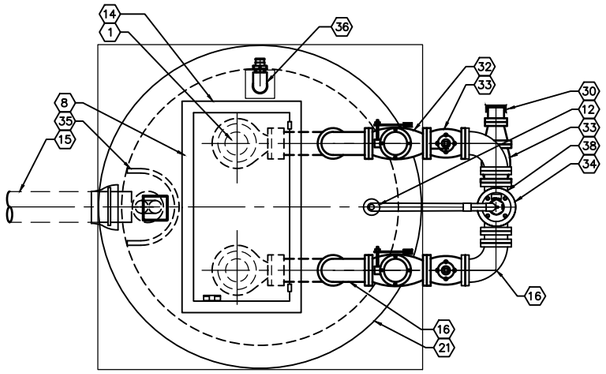
SEAL

DATE:
APPROVED BY:
PLOT ID:

MECHANICAL MATERIALS SCHEDULE

MARK	ITEM	TYPE	QTY.	UNIT
1	SUBERSIBLE SEWAGE PUMP	FLYGT	2	EA
2	PUMP BASE/DISCHARGE ELBOW	FLYGT	2	EA
3	ANCHOR BOLT	316 SST	8	EA
4	UPPER GUIDE RAIL BRACKET	316 SST	2	EA
5	INTERMEDIATE GUIDE RAIL BRACKET (SEE NOTE 16)	316 SST	2	EA
6	GUIDE RAIL (ALL ONE PIECE, BUTT WELDED AS REQUIRED)	316 SST	4	EA
7	PUMP LIFTING SS CHAIN	316 SST	2	EA
8	CABLE HOLDER	316 SST	1	EA
9	DISCHARGE PIPE ONE PIECE WITH FLANGED END (SEE NOTE 23)	316 SST	2	EA
10	BEND 45° (SEE NOTE 23)	316 SST	2	EA
11	FLANGED ECCENTRIC INCREASER (IF REQUIRED)	316 SST	2	EA
12	2" PVC PIPE W/3" DIA. SLAB OPENING (SEE NOTE 24)	PVC, SCH 80	1	EA
13	VALVE SUPPORT (DETAIL)	316 SST	2	EA
14	ACCESS HATCH (SEE NOTE 29)	LOCKING	AS REQ'D	EA
15	SEWER PIPE	PVC, SDR 26	1	EA
16	BEND FLANGED CONNECTION	316 SST	2	EA
17	TEE	D.I.	1	EA
18	FLANGED PIPE	D.I.	1	EA
19	FILLET FDOT TYPE 1 WITH FIBER	CONCRETE	2	EA
20	REINFORCED STEEL	#5	AS REQ'D	EA
21	WETWELL	CONCRETE	1	EA
22	WETWELL LINER (SEE NOTE 27)	HDPE	1	EA
23	REDUCER W/ MJ CONNECTION RESTRAINED (IF REQUIRED)	D.I.	1	EA
24	F.M.	PVC, DR18	1	EA
25	JOINT WRAP – 10' WIDE MIN. ALL JOINTS		AS REQ'D	
26	PUMP CONDUCTOR	VARIES	2	EA
27	TRANSDUCER (1/8" SS AIR CRAFT CABLE) (MFGR: KELLER AMERICA)	LEVEL RAT	1	EA
28	FLOAT SWITCH, HIGH ALARM (MFGR: ANCHOR SCIENTIFIC)	ECO-FLOAT	1	EA
29	FLUSH VALVE	FLYGT		EA
30	PUMPOUT FEMALE CAMLOCK W/ PLUG (S.S.)	316 SST	1	EA
31	SEE NOTE 25	316 SST	1	EA
32	FLANGED CHECK VALVE (SEE NOTE 17)	D.I.	2	EA
33	FLANGED PLUG VALVE (SEE NOTE 18)	D.I.	2	EA
34	2" ARVS (SEE GRU STANDARDS FOR APPROVED MFGRS) W/ 1-1/2" FLEX HOSE W/ FEMALE CAMLOCK ROUTED TO LIFT STATION		1	EA
35	DROP BOWL (SEE DETAIL)	PVC	1	EA
36	EMERGENCY SUCTION PIPE W/ PUMPOUT FEMALE CAMLOCK W/ PLUG (S.S) (SEE DETAIL)	316 SS	1	EA
37	RAM-NEK JOINT		AS REQ'D	
38	FLANGED STAINLESS STEEL CROSS	316 SS	1	EA
39	BEND FLANGED CONNECTION	D.I.	1	EA



PLAN
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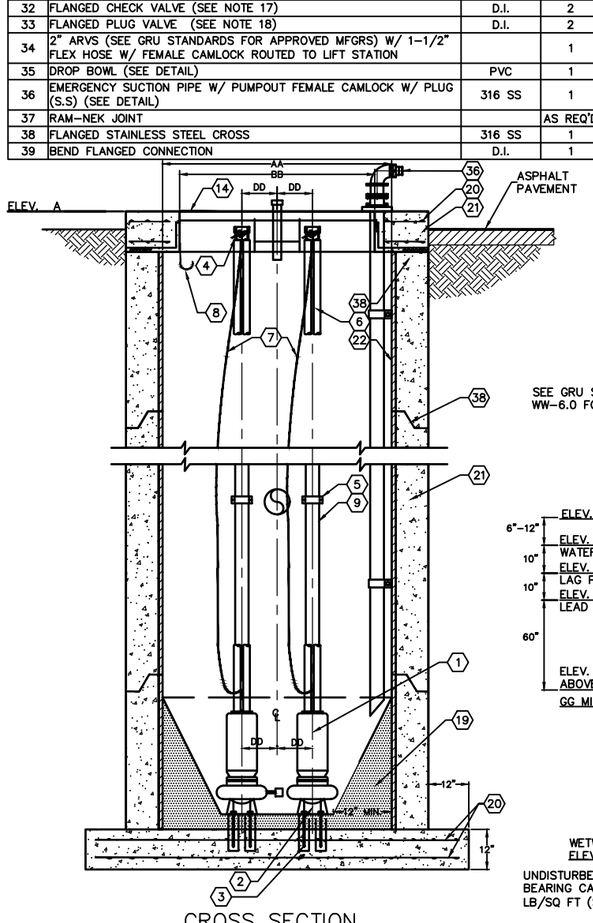
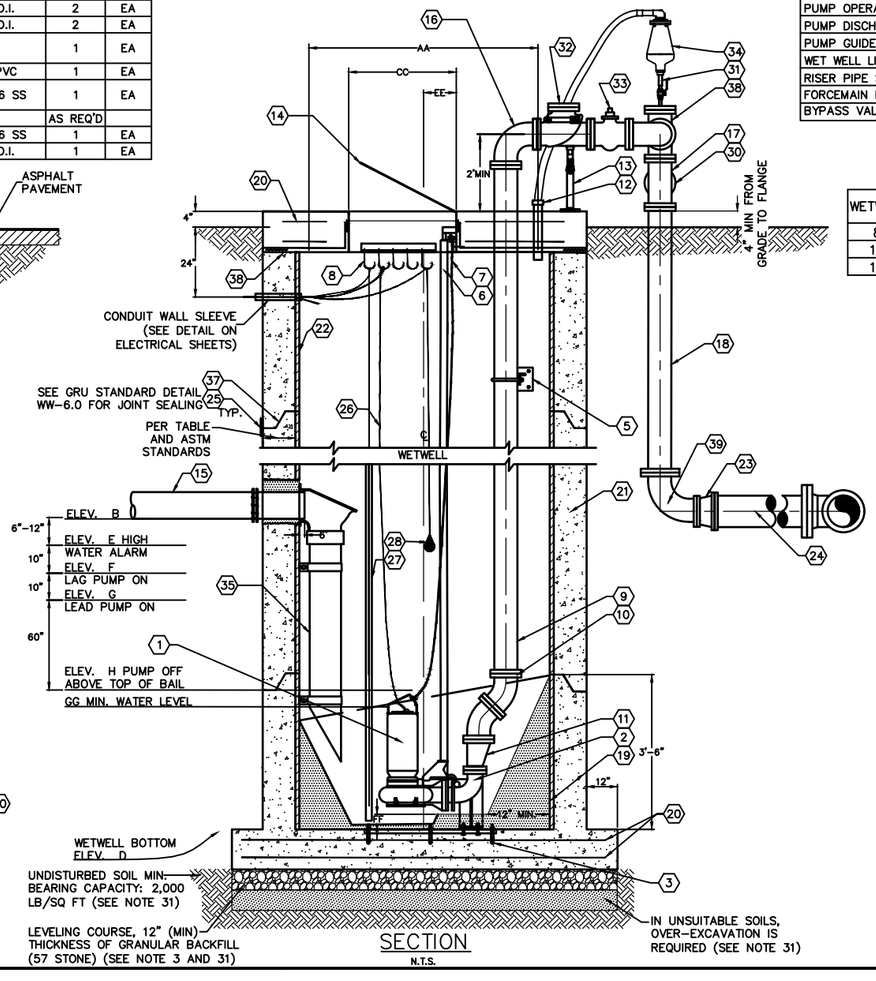


CROSS SECTION
WETWELL
N.T.S.



SECTION
N.T.S.

DIMENSION SCHEDULE

VARIABLE DIMENSIONS	DIMENSION	DESCRIPTION
AA		WETWELL DIAMETER
BB		WETWELL HATCH OPENING LENGTH
CC		WETWELL HATCH OPENING WIDTH
DD		WETWELL CL TO PUMP CL
EE		WETWELL CL TO HATCH OPENING
FF		PUMP BENCH HEIGHT
GG		PUMP MINIMUM WATER DEPTH (SEE NOTE 22)

ELEVATION SCHEDULE

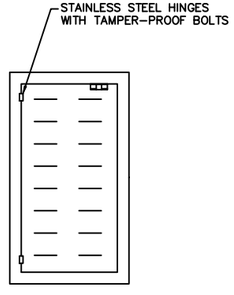
VARIABLE ELEVATIONS	ELEVATIONS (FT.)	DESCRIPTION
A		WETWELL COVER
B		INFLUENT PIPE INVERT
D		FLOOR OF WETWELL (W/O BENCH)
E		HIGH WATER ALARM
F		LAG PUMP ON
G		LEAD PUMP ON
H		PUMP OFF (SEE NOTE 22)

MECHANICAL SUMMARY DATA
(PROVIDED BY GRU)

PUMP MODEL / HP RATING			
PUMP IMPELLER NUMBER			
PUMP OPERATING POINT			
PUMP DISCHARGE PIPE SIZE			
PUMP GUIDE RAIL SIZE			
WET WELL LINER MATERIAL	HDPE AGRU-LINER		
RISER PIPE SIZE			
FORCEMAIN PIPE SIZE			
BYPASS VALVE / CONNECTOR SIZE	4"	6"	8"

WETWELL DIMENSIONS

WETWELL I.D.	WALL THICKNESS (MIN)	TOP SLAB THICKNESS (MIN)
8'-0"	0'-9"	0'-10"
10'-0"	1'-0"	1'-0"
12'-0"	1'-0"	1'-0"



VENTED HATCH DETAIL

NOTES:

1. WETWELL HATCH WITH VENTS TO BE CONSTRUCTED OF ALUMINUM
2. DESIGN LOAD = 300 LBS. PER SQ. FT.
3. 316 STAINLESS STEEL NUTS AND BOLTS

STRUCTURAL/MECHANICAL NOTES

1. STRUCTURAL DESIGN FOR ALL PRECAST CONCRETE STRUCTURES SHALL BE THE RESPONSIBILITY OF THE PRECAST MANUFACTURER AND SHALL CONFORM TO ASTM STANDARDS FOR PRECAST STRUCTURES. STRUCTURE SHALL BE DESIGNED TO RESIST FLOTATION AGAINST BUOYANT FORCE WITH FACTOR OF SAFETY OF 1.1 USING DEAD LOAD OF STRUCTURE ONLY. ALL STRUCTURES SHALL BE WATER-TIGHT AND FREE OF VOIDS (HONEYCOMB). ANY STRUCTURES FOUND WITH VOIDS OR LEAKING WATER SHALL BE REPLACED IMMEDIATELY AT THE MANUFACTURERS EXPENSE, INCLUDING DELIVERY AND INSTALLATIONS COSTS.
2. COMPACT SUBGRADE BENEATH CONCRETE STRUCTURES TO 98% OF THE MODIFIED PROCTOR DENSITY (AASHTO T-180) PRIOR TO INSTALLATION.
3. STABILIZE SUB BASE BENEATH CONCRETE STRUCTURES WITH 12" (MINIMUM) OF GRAVEL (FDOT #57) WRAPPED IN GEOTEXTILE FILTER FABRIC.
4. BACKFILL AROUND STRUCTURES IN 12" LIFTS COMPACTING EACH LIFT TO 95% OF THE MODIFIED PROCTOR DENSITY (AASHTO T-180).
5. BACKFILL THE LAST 3 FEET BENEATH STRUCTURES AND THE ACCESS DRIVEWAY COMPACTING TO A MINIMUM DENSITY OF 98% OF THE MODIFIED PROCTOR DENSITY (AASHTO T-180).
6. SEAL ALL PENETRATIONS IN CONCRETE STRUCTURES WITH TYPE II LEAN CEMENT GROUT.
7. INSTALL PUMP BASES, GUIDE RAILS, AND DISCHARGE PIPING PLUMB, LEVEL, AND SQUARE.
8. INSTALL BENCH FOR PUMP BASE PER GRU APPROVED PUMP MANUFACTURER'S SHOP DRAWINGS.
9. UNLESS OTHERWISE SPECIFIED, ALL ACCESSORIES AND FASTENERS SHALL BE 316 STAINLESS STEEL FASTENERS. INSTALL ANTI-SEIZING COMPOUND ON ALL STAINLESS STEEL FASTENERS.
10. INSTALL FILLET AFTER THE INSTALLATION OF ALL PUMP EQUIPMENT. FILLET SHALL BE CONSTRUCTED WITH A SLOPE OF 2 : 1 (VERTICAL : HORIZONTAL).
11. COAT ALL METALS THAT ARE NOT ALUMINUM OR STAINLESS STEEL AND ARE LOCATED IN THE WETWELL WITH 10 MILS (DRY FILM THICKNESS) OF BLACK, HIGH-SOLIDS EPOXY. (TNEMEC SERIES 69 HI-BUILD EPOXYLINE II) .DUCTILE IRON PIPE ON LS SITE SHOULD ALSO HAVE EPOXY COATING. COATING SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION AND SHALL NOT BE IMMERSED UNTIL FULL CURE IS ACHIEVED.
12. COAT ALL ALUMINUM SURFACES IN CONTACT WITH CONCRETE WITH BITUMINOUS COATING PRIOR TO INSTALLATION.
13. INSTALL 2" PE WATER SERVICE PIPING. CONTRACTOR INSTALLS THE BACKFLOW PREVENTOR.
14. PUMP BASES, PUMP ANCHOR BOLTS, UPPER AND INTERMEDIATE GUIDE RAIL BRACKETS, GUIDE RAILS, CABLE HANGER, PUMP LIFTING CABLES, CONTROL PANEL & LEVEL SENSOR SHALL BE PROVIDED BY PUMP SUPPLIER.
15. UPPER & INTERMEDIATE GUIDE RAIL BRACKETS, GUIDE RAILS, & CABLE HANGER SHALL BE 316 STAINLESS STEEL.
16. INSTALL INTERMEDIATE GUIDE RAIL BRACKETS WHEN GUIDE RAILS EXCEED 20'-0".
17. PROVIDE CHECK VALVES WITH EXTERNAL WEIGHT & LEVER ARM.
18. PROVIDE PLUG VALVES WITH 2" SQUARE NUT OPERATOR.
19. ANCHOR BOLTS FOR PUMP BASES SHALL BE 316 STAINLESS STEEL, EPOXY TYPE, 3/4" MINIMUM DIAMETER, LENGTH AS REQUIRED. OTHER ANCHOR BOLTS SHALL BE 316 STAINLESS STEEL, MECHANICAL WEDGE TYPE, 3/8" MINIMUM DIAMETER, LENGTH AS REQUIRED.
20. APPLY ANTI-SEIZE COATING TO STAINLESS STEEL PIPE SUPPORTS BEFORE INSTALLING.
21. ALL WORK MUST CONFORM TO THESE DRAWINGS AND WITH THE WRITTEN SPECIFICATIONS CONTAINED WITHIN GRU'S WATER AND WASTEWATER STANDARDS AND APPROVED MATERIALS MANUAL.
22. PUMP MINIMUM WATER DEPTH (GG) SHALL BE SUFFICIENT TO COMPLETELY COVER THE LIFTING BAIL ON TOP OF THE PUMP AT ALL TIMES.
23. PIPING WITHIN THE WETWELL SHALL BE FLANGED 316 STAINLESS STEEL, (SCHEDULE 10, ONE PIECE CONSTRUCTION). FITTINGS WITHIN THE WETWELL SHALL BE FLANGED 316 STAINLESS STEEL. BUTT WELDING OF PIPING IS NOT ALLOWED. ALL NUTS, BOLTS AND ACCESSORIES WITHIN THE WETWELL SHALL BE 316 STAINLESS STEEL. ALL DISCHARGE PIPE SHALL BE MINIMUM OF 4 INCHES IN DIAMETER.
24. PROVIDE 2" PIPE (PVC, SCH. 80) THROUGH CONCRETE TOP WITH CAPPED TOP AND OPEN END BOTTOM). THIS PIPE WILL BE UTILIZED FOR THE INSTALLATION OF THE AIR-RELEASE VALVE PIPING.
25. INSTALL 2" WELDED STAINLESS STEEL NIPPLE.
26. PIPE AND FITTINGS OUTSIDE THE WETWELL OR ABOVE GRADE SHALL BE FLANGED DUCTILE IRON, UNLESS OTHERWISE INDICATED IN MATERIALS SCHEDULE.
27. WETWELL LINER SHALL BE AGRU ULTRA GRIP LINER OR APPROVED BY GRU. 3MM MINIMUM THICKNESS.
28. UNLESS OTHERWISE STATED, ALL DESIGN ELEMENTS SHALL BE PER GRU STANDARDS.
29. INSTALL SINGLE OPENING HATCH WITH DOOR SWINGING TOWARD PIPING.
30. GRU MAY REQUEST A GEOTECHNICAL INVESTIGATION AND REPORT PRIOR TO INSTALLING WETWELL.
31. IN SILTS, CLAY OR HIGHLY ORGANIC SOILS (FINE-GRAINED SOILS INCLUDING SOIL GROUPS ML, CL, OL, MH, CH, OH AND PT) THE SOILS SHALL BE OVER-EXCAVATED AN ADDITIONAL 12" (AT MIN.) AND BACKFILLED WITH #57 STONE.
32. WHERE RISER PIPE EXITS THE WETWELL, SEAL AROUND CONCRETE TOP WITH NON-SHRINK GROUT.
33. POURED CONCRETE FILLET SHOULD NOT COVER OR IMPEDE ACCESS TO BASE PLATE OR STANDS IN WETWELL.

GAINESVILLE REGIONAL UTILITIES
GRU
WATER & WASTEWATER ENGINEERING

CLIENT:
JOB NO.:
SHEET NO.: MD-1

PROJECT: GRU STANDARD LIFT STATION DRAWINGS
SHEET TITLE: MECHANICAL SECTION DETAILS

DESIGNED BY:
DRAWN BY:
CHECKED BY:

COMPUTER FILE:
DATE: FEBRUARY 2026

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02/2026	2023/2026 LIFT STATION STANDARDS UPDATES

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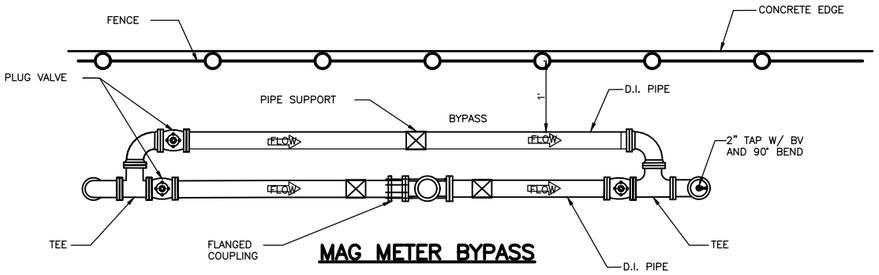
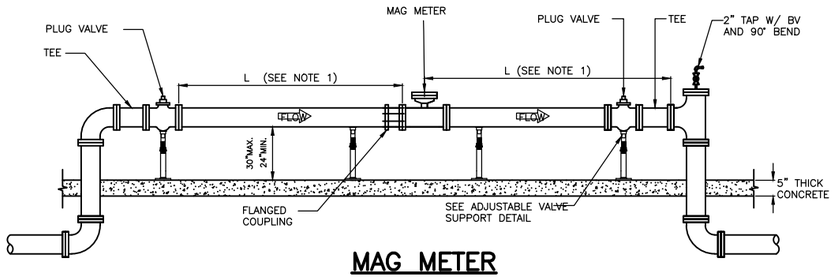
STATE:
APPROVED BY:
PLOT ID:



MAG METER BYPASS

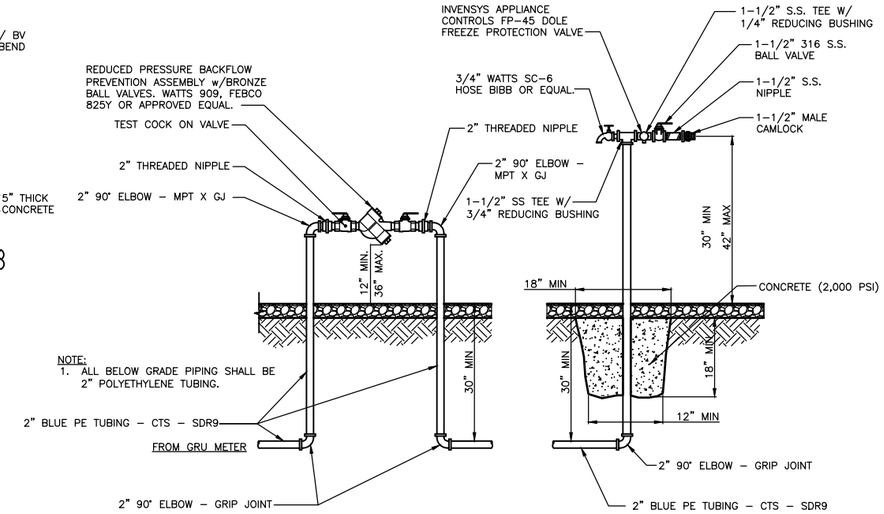


MAG METER
MAG METER DETAIL

NOT TO SCALE

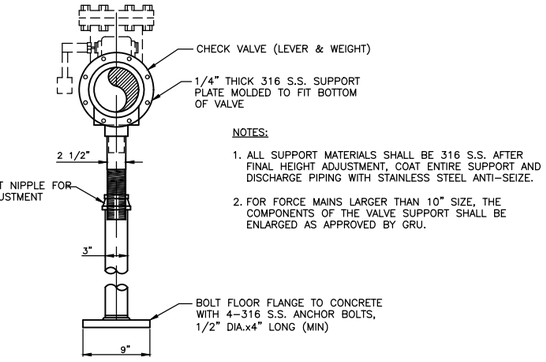
MAG METER NOTES:

1. MINIMUM UPSTREAM AND DOWNSTREAM LENGTH (L) SHALL BE REQUIRED BY MANUFACTURER OR A MINIMUM OF 5 X PIPE DIAMETER UPSTREAM AND 3 X PIPE DIAMETER DOWNSTREAM.
2. MAGNETIC FLOW METER MANUFACTURER/MODEL: ROSEMOUNT/8750W.



BACKFLOW PREVENTER DETAIL

NOT TO SCALE



NOTES:

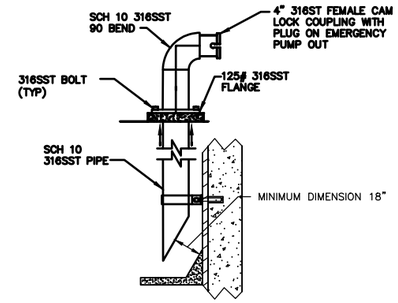
1. ALL SUPPORT MATERIALS SHALL BE 316 S.S. AFTER FINAL HEIGHT ADJUSTMENT, COAT ENTIRE SUPPORT AND DISCHARGE PIPING WITH STAINLESS STEEL ANTI-SEIZE.
2. FOR FORCE MAINS LARGER THAN 10" SIZE, THE COMPONENTS OF THE VALVE SUPPORT SHALL BE ENLARGED AS APPROVED BY GRU.

ADJUSTABLE VALVE SUPPORT DETAIL

NOT TO SCALE

1-1/2" HOSE STATION DETAIL

NOT TO SCALE



EMERGENCY SUCTION PIPE

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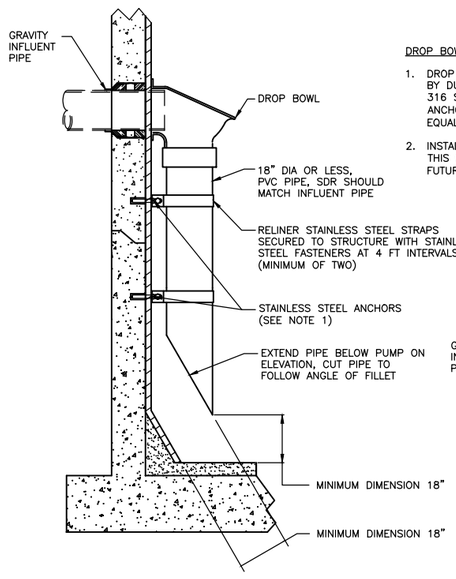
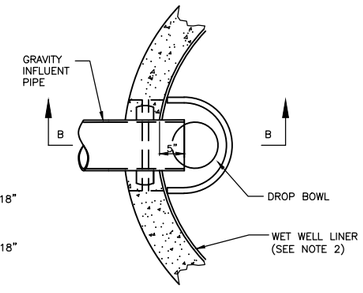


SECTION "B-B"



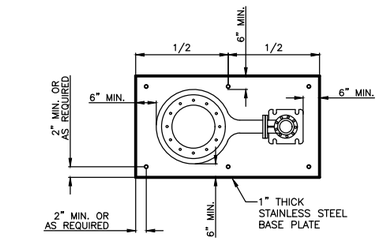
PLAN VIEW

DROP BOWL NOTES:

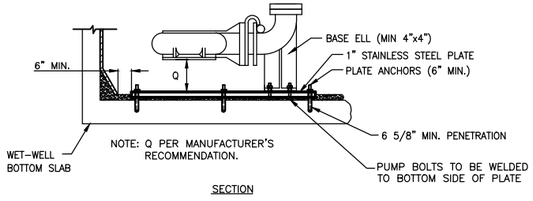
1. DROP BOWL ASSEMBLY SHALL BE RELINER SYSTEM MANUFACTURED BY DURAN OR APPROVED EQUAL. ANCHORS TO BE CONSTRUCTED OF 316 STAINLESS STEEL "H.A.S." ROD BY HILTI OR EQUAL). THE ANCHORING SYSTEM SHALL INCLUDE ADHESIVE (HILTI H.V.U. OR EQUAL) WITH AN EMBEDMENT DEPTH OF 4 1/4".
2. INSTALL DROP BOWL AFTER THE WET WELL LINER IS INSTALLED. THIS WILL ENSURE EASY REMOVAL OF THE DROP BOWL (IN THE FUTURE).

DROP BOWL DETAIL

NOT TO SCALE



PLAN



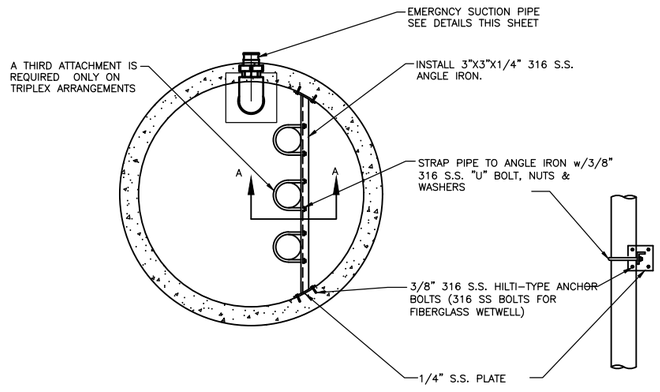
SECTION

BASE PLATE NOTES:

1. PLATE ANCHORS TO BE 3/4" DIAMETER, CONSTRUCTED OF 316 S.S. (H.A.S. ROD) w/ 2 PART EPOXY INJECTION PROVIDING AN EMBEDMENT DEPTH OF 6 5/8". ACCEPTABLE: HILTI OR GRU APPROVED EQUAL.
2. NO EXPANSION ANCHORS ALLOWED.
3. PLATE SIZE: 6" LARGER THAN BASE ELL & PUMP VOLUTE TYP. ALL AROUND.
4. BASE ELL BOLTS AND STUDS TO BE TYPE 316 STAINLESS STEEL. 5. BASE ELL BOLT HEADS SHALL BE WELDED TO UNDER SIDE OF STEEL PLATE.

SUBMERSIBLE PUMP BASE PLATE DETAIL

NOT TO SCALE



PLAN SECTION 'A-A'

PIPE ATTACHMENT TO WALL DETAIL

REQUIRED FOR ALL PUMPING STATIONS WITH WETWELL 20' DEEP AND GREATER (INSTALLED PRIOR TO SPECIALTY LINER)

NOT TO SCALE

GAINESVILLE REGIONAL UTILITIES
GRU
WATER & WASTEWATER ENGINEERING

CLIENT:
JOB NO.:
SHEET NO.: MD-2

PROJECT: GRU STANDARD LIFT STATION DRAWINGS
SHEET TITLE: CONSTRUCTION DETAILS MISCELLANEOUS DETAILS

DESIGNED BY:
DRAWN BY:
CHECKED BY:

COMPUTER FILE:
DATE: FEBRUARY 2026

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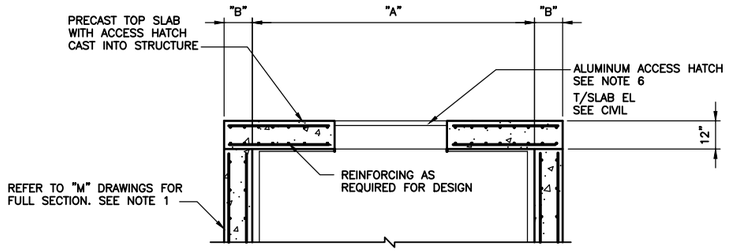
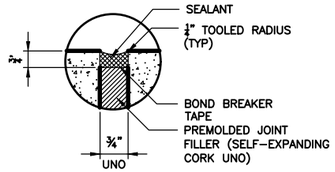


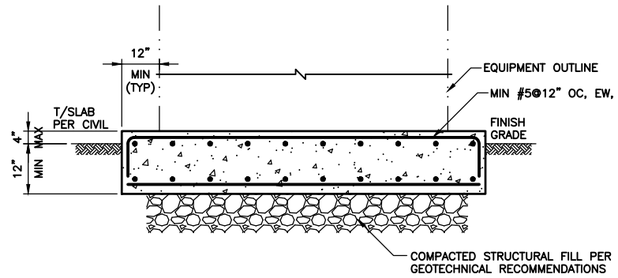
TYPICAL SECTIONAL PRECAST TO CAST IN PLACE
NTS



SLAB–PAVEMENT EXPANSION JOINT
DETAIL A
NTS

DELEGATED DESIGN NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR FINAL DESIGN OF PRECAST WET WELL STRUCTURE. REFER TO "M" DRAWINGS FOR FURTHER REQUIREMENTS.
2. THE STRUCTURE SHALL BE DESIGNED TO RESIST BUOYANCY DUE TO GROUND WATER AT FINISHED GRADE OR THE 100–YEAR FLOOD ELEVATION, WHICHEVER IS HIGHER. UPLIFT RESISTANCE SHALL NOT TAKE INTO CONSIDERATION THE WET WELL INTERIOR GROUT FILLETS, PUMPS AND PIPING.
3. DIMENSIONS "A" AND "B" SHALL BE DETERMINED PER MD–1.
4. STRUCTURES AND SECTIONS SHALL BE INSPECTED BY THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.
5. STRUCTURES SHALL BE DESIGNED TO MINIMIZE THE NUMBERS OF SECTIONS WITHIN THE STRUCTURE.
6. ALUMINUM ACCESS HATCH SHALL BE RATED FOR MINIMUM 300 PSF LOADING AND EQUIPPED WITH 316 SST HARDWARE. MANUFACTURERS SHALL BE U.S. FABRICATION, HALLIDAY PRODUCTS OR APPROVED EQUAL. REFER TO "M" DRAWINGS FOR DIMENSIONAL REQUIREMENTS.



DESIGN NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR FINAL DESIGN OF GENERATOR FOUNDATION.
2. CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4000 PSI MIN.

TYPICAL GENERATOR SLAB
NTS

GAINESVILLE REGIONAL UTILITIES
GRU
WATER & WASTEWATER ENGINEERING

PROJECT: GRU STANDARD LIFT STATION DRAWINGS
SHEET TITLE: WET WELL SECTION AND DETAILS
CLIENT:
JOB NO.:
SHEET NO.: S–1

DESIGNED BY:
DRAWN BY:
CHECKED BY:
COMPUTER FILE:
DATE: FEBRUARY 2026

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02/2026	2025/2026 LIFT STATION STANDARDS UPDATES

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DATE:
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RACEWAYS, BOXES, FITTINGS AND SUPPORTS:

1A. RIGID ALUMINUM CONDUIT (RAC) SHALL BE USED IN ALL LOCATIONS WHERE CONDUIT IS EXPOSED. RIGID ALUMINUM CONDUIT SHALL BE 6063 ALLOY AND SHALL BE AS MANUFACTURED BY NEW JERSEY ALUMINUM CORP.; REYNOLDS ALUMINUM INTERNATIONAL SERVICES INC.; ALUMAX EXTRUSIONS, INC; VAW OF AMERICA, INC. OR APPROVED EQUAL. RIGID ALUMINUM CONDUIT SHALL BE FOR USE UNDER THE PROVISIONS OF NEC ARTICLE 344.

1B. RIGID NONMETALLIC CONDUIT SHALL BE USED IN ALL UNDERGROUND DIRECT BURIED APPLICATIONS. RIGID NONMETALLIC CONDUIT SHALL BE PVC SCHEDULE 40 AS MANUFACTURED BY CARLON; AN INDIAN HEAD CO.; CANTEX; QUEEN CITY PLASTICS OR APPROVED EQUAL. PVC CONDUIT SHALL BE FOR USE UNDER THE PROVISIONS OF NEC ARTICLE 352.

1C. LIQUIDTIGHT FLEXIBLE METAL CONDUIT (LFMC) SHALL BE USED FOR ALL MOTOR, TRANSFORMER, AND GENERATOR TERMINATIONS AND OTHER EQUIPMENT WHERE VIBRATION IS PRESENT. LFMC SHALL BE SEALTITE TYPE UA STAINLESS STEEL AS MANUFACTURED BY THE ANACONDA METAL HOSE DIV.; ANACONDA AMERICAN BRASS CO.; AMERICAN FLEXIBLE CONDUIT CO.; UNIVERSAL METAL HOSE CO. OR APPROVED EQUAL. LFMC SHALL BE FOR USE UNDER THE PROVISIONS OF NEC ARTICLE 350. FITTINGS USED WITH LFMC SHALL BE STAINLESS STEEL AS MANUFACTURED BY GIBSON OR APPROVED EQUAL.

2. MINIMUM SIZE CONDUIT SHALL BE 3/4-INCH ELECTRICAL TRADE SIZE.

3. CONDUITS TERMINATING IN GASKETED ENCLOSURES SHALL BE TERMINATED WITH ALUMINUM MYERS GROUNDING TYPE CONDUIT HUBS.

4. CONDUITS SHALL BE INSTALLED USING THREADED FITTINGS U.O.N. PVC CONDUIT TO NON-METALLIC AND METALLIC BOX CONNECTIONS SHALL BE MADE WITH SEALING RINGS, WITH A STAINLESS STEEL RETAINER AS MANUFACTURED BY THOMAS & BETTS CO.

4A. ALL THREADS ON RAC AND FITTINGS SHALL BE CLEANED AND COATED WITH "NO-OXIDE" COMPOUND BEFORE INSTALLATION.

5. ALL METAL CONDUIT RISERS FROM UNDERGROUND, CONCRETE PADS, ETC. SHALL BE COATED WITH BITUMASTIC COATING FROM A POINT 12-INCHES BELOW BOTTOM OF SLAB OR GRADE TO A POINT NOT LESS THAN 6-INCHES ABOVE GRADE OR SURFACE OF SLAB.

6. ALL JUNCTION BOXES AND PULL BOXES SHALL BE TYPE 316 STAINLESS STEEL. BOXES SHALL BE SIZED IN ACCORDANCE WITH THE REQUIREMENTS OF NEC ARTICLE 314.

7. ALL CONDUIT MOUNTING EQUIPMENT AND HARDWARE SUCH AS CHANNELS, HANGERS, RODS, BACKPLATES, BEAM CLAMPS, FASTENERS, ANCHORS, NUTS, WASHERS, ETC. SHALL BE TYPE 316 STAINLESS STEEL.

8. THE MINIMUM COVER FOR DIRECT BURIED CONDUITS SHALL BE 24 INCHES UNLESS OTHERWISE PERMITTED BY THE ENGINEER.

9. NEMA 4X STAINLESS STEEL, JUNCTION BOXES AND PULL BOXES SHALL BE 316 STAINLESS STEEL WITH 316 STAINLESS STEEL HARDWARE AND GASKETED COVERS. BOXES SHALL HAVE CONTINUOUSLY WELDED SEAMS AND WELDS SHALL BE GROUND SMOOTH. BOX BODIES SHALL BE FLANGED AND SHALL NOT HAVE HOLES OR KNOCKOUTS. BOX BODIES SHALL NOT BE LESS THAN 14 GAUGE METAL AND COVERS SHALL NOT BE LESS THAN 12 GAUGE METAL. COVERS SHALL BE GASKETED AND FASTENED WITH STAINLESS STEEL SCREWS.

10. CAST ALUMINUM BOXES AND FITTINGS SHALL BE COPPER-FREE ALUMINUM WITH CAST ALUMINUM COVERS AND STAINLESS STEEL SCREWS AS MANUFACTURED BY THE KILLARK ELECTRIC CO.; CROUSE-HINDS CO.; APPLETON ELECTRIC CO.;; OR APPROVED EQUAL.

11. CAST ALUMINUM DEVICE BOXES SHALL BE TYPE FD. ALL CAST ALUMINUM BOXES AND FITTINGS SHALL BE COPPER-FREE ALUMINUM WITH CAST ALUMINUM COVERS AND STAINLESS STEEL SCREWS AS MANUFACTURED BY THE KILLARK ELECTRIC CO.; CROUSE-HINDS CO.; L.E. MASON CO. OR APPROVED EQUAL.

GROUNDING AND BONDING:

1. ALL POWER AND CONTROL CONDUITS SHALL INCLUDE AN EQUIPMENT GROUNDING CONDUCTOR. EQUIPMENT GROUNDING CONDUCTORS SHALL BE NEC TYPE XHHW-2 AND UNLESS OTHERWISE SHOWN SHALL BE SIZED PER NEC TABLE 250.122.

2. GROUND RODS SHALL BE 5/8-INCH DIAMETER BY 10-FEET COPPER CLAD STEEL.

3. ALL BURIED GROUNDING CONNECTIONS OR CONNECTIONS TO BUILDING STEEL SHALL BE BY EXOTHERMIC WELDING PROCESS.

4. GROUNDING SYSTEM SHALL BE TESTED AND INSPECTED TO VERIFY PHYSICAL AND MECHANICAL CONDITION. NO LOCATION SHALL HAVE A MAXIMUM GROUND-RESISTANCE GREATER THAN 10 OHMS. THE GROUNDING SYSTEM WILL BE CONSIDERED DEFECTIVE IF IT DOES NOT PASS TESTS AND INSPECTIONS. TEST AND INSPECTION REPORTS SHALL BE PROVIDED.

FUSED SE DISCONNECT SWITCHES:

1. DISCONNECT SWITCHES SHALL BE FUSED, SERVICE ENTRANCE RATED, HEAVY DUTY, QUICK-MAKE, QUICK-BREAK, VISIBLE BLADES, 600 VOLT, 3 POLE WITH FULL COVER INTERLOCK DEFEAT AND FLANGE MOUNTED OPERATING HANDLE. ALL CURRENT CARRYING PARTS INCLUDING LUGS SHALL BE COPPER. ENCLOSURE SHALL BE NEMA 4X STAINLESS STEEL WITH ALL STAINLESS STEEL EXTERIOR HARDWARE.

2. FUSES SHALL BE REJECTION TYPE, 600 VOLTS, 200,000 AIC DUAL ELEMENT, TIME DELAY, BUSSMAN FUSETRON, CLASS RK-5 OR EQUAL.

3. SWITCHES SHALL BE AS MANUFACTURED BY SQUARE D.

EQUIPMENT IDENTIFICATION:

1. PROVIDE AND INSTALL ENGRAVED, ALUMINUM NAMEPLATES AS CALLED FOR ON THE DRAWINGS. NAMEPLATES SHALL BE MINIMUM 1/16" THICK X 3/4" HIGH X 2 1/2" WIDE WITH WHITE LETTER ON BLACK BACKGROUND.

2. SCREW MOUNT NAMEPLATES TO NEMA 1 ENCLOSURES. EPOXY BOND (NO DOUBLE SIDED TAPE) ALL OTHER ENCLOSURE TYPES.

CONDUIT MOUNTING EQUIPMENT:

1. 316 STAINLESS STEEL CHANNEL WITH 316 STAINLESS STEEL HARDWARE (HANGERS, RODS, BACKPLATES, BEAM CLAMPS, FASTENERS, ANCHORS, NUTS, WASHERS, ETC.) SHALL BE USED IN PROCESS AREAS, AS SHOWN ON THE DRAWINGS, IN AREAS DESIGNATED "WET", "DAMP" AND "CORROSIVE" ON THE DRAWINGS AND IN OUTDOOR LOCATIONS. ALL CHANNEL AND HARDWARE SHALL BE RESISTANT TO THE CHEMICALS PRESENT IN THE AREA IN WHICH IT IS USED.

PUMP CONTROL PANEL:

1. ELECTRICAL CONTROL EQUIPMENT SHALL BE MOUNTED WITHIN A NEMA 4X 316 STAINLESS STEEL ENCLOSURE, AT LEAST 14 GAUGE. OUTER DOOR SHALL HAVE PADLOCKABLE HANDLE WITH 3-POINT LATCHING AND 90-DEGREE DOOR STOP KIT, AND ALL HARDWARE SHALL BE 316 STAINLESS STEEL. SEE PUMP CONTROL PANEL DETAILS.

2. ALL MAIN BREAKERS SHALL BE THERMAL-MAGNETIC AIR CIRCUIT BREAKER, TYPE FH (42kAIC MINIMUM) AS MANUFACTURED BY SQUARE D OR EQUAL.

3. SURGE PROTECTION DEVICE (SPD) SHALL BE UL 1449 (LATEST EDITION), SQUARE D, MODEL NUMBER SDSA3650.

4. THE CONTROL DIAGRAMS AND OVERLOAD TABLES SHALL BE LAMINATED TO THE INSIDE OF THE DOOR EXCEPT WHERE DOOR SPACE IS LIMITED THE LAMINATED DOCUMENTS SHALL BE IN THE PRINT STORAGE POCKET.

5. WELDED STUD MOUNTED PRINT STORAGE POCKETS SHALL BE PROVIDED ON THE INSIDE OF EACH PANEL. POCKET SHALL BE OF SUFFICIENT SIZE AS REQUIRED TO HOLD ALL PRINTS NECESSARY TO SERVICE THE EQUIPMENT. A SET OF REDUCED DRAWINGS SHALL BE PROVIDED FOR EACH PANEL, FIXED TO FIT IN THE STORAGE POCKET.

6. A PHASE MONITOR SHALL BE PROVIDED FOR THE CONTROL PANEL, MONITORS SHALL BE MODEL MPE-001-DVM-118 AS MANUFACTURED BY MOTOR PROTECTION ELECTRONICS LLC., OR APPROVED EQUAL.

7. ALL CONTROL PANEL WIRING SHALL BE NUMBERED AT BOTH ENDS WITH TYPE WRITTEN HEAT SHRINKABLE WIRE MARKERS.

8. WIRING SHALL BE STRANDED COPPER, MINIMUM SIZE #16 AWG (EXCEPT FOR SHIELDED INSTRUMENTATION CABLE), WITH 600 VOLT, 90 DEGREE C, FLAME RETARDANT, TYPE MTW THERMOPLASTIC INSULATION.

9. ALL CONTROL RELAYS SHALL HAVE 10 AMP RATED CONTACTS (MINIMUM), 8 PIN WITH MOUNTING BASE, 3PDT (MINIMUM), WITH LED INDICATORS TO SHOW RELAY STATUS AND MANUAL OVERRIDE, RELAYS SHALL BE MANUFACTURED BY SQUARE D OR APPROVED EQUAL.

10. TERMINAL BLOCKS SHALL BE 600 VOLT HEAVY DUTY RATED, TUBULAR CLAMP TYPE. TERMINAL STRIPS SHALL BE WAGO OR APPROVED EQUAL. EACH TERMINAL SHALL BE INDIVIDUALLY LABELED.

11. THE COMPLETED CONTROL PANEL ASSEMBLY SHALL BE U.L. CERTIFIED.

12. A GROUND BAR WITH SUFFICIENT TERMINALS FOR ALL FIELD AND PANEL GROUND CONNECTIONS SHALL BE PROVIDED.

13. CONTROL PANEL SPARE PARTS:
    THE FOLLOWING NUMBER OF SPARE PARTS SHALL BE FURNISHED FOR EACH CONTROL PANEL:
    A. 2 CONTROL RELAYS FOR EACH TYPE FURNISHED
    B. 5 FUSES FOR EACH TYPE/SIZE FURNISHED
    C. 1 STARTER COIL FOR EACH SIZE FURNISHED

SOLID-STATE REDUCED VOLTAGE STARTERS:

1. CONTROLLER UNITS: COMPLY WITH UL 508 SOLID STATE, SIX SCR, FULL WAVE TYPE WITH ADJUSTABLE CURRENT LIMIT AND VOLTAGE RAMP TO CONTROL STARTING TORQUE, AUTOMATIC LOAD SENSING CIRCUIT TO MINIMIZE ENERGY CONSUMPTION, LINE AND LOAD SIDE SURGE PROTECTION AND NOISE SUPPRESSION AND CONTROLLED DECELERATION ADJUSTMENT TO REDUCE THE EFFECTS OF SURGES. PROVIDE HEAT SINKS AND VENTILATION TO REMOVE HEAT FROM THE STRUCTURE. EACH STARTER SHALL INCLUDE A MOTOR HORSEPOWER RATED ISOLATION CONTACTOR TO POSITIVELY DISCONNECT THE LINE VOLTAGE WHEN THE SCR CONTROL IS OFF.

2. UNITS SUITABLE FOR OPERATION OF NEMA MG 1, DESIGN A AND DESIGN B MOTORS, POLYPHASE INDUCTION MOTORS.

3. SOLID-STATE REDUCED VOLTAGE (SSRV) STARTERS SHALL BE SPRECHER SCHUH PCS-085-600V

BOXES:

1. DEVICE BOXES SHALL BE CAST ALUMINUM, TYPE FD.

2. NEMA 4X STAINLESS-STEEL, JUNCTION BOXES AND PULL BOXES AND TERMINAL BOXES SHALL BE 316 STAINLESS-STEEL HARDWARE AND GASKETED COVERS. BOXES SHALL HAVE CONTINUOUSLY WELDED SEAMS AND WELDS SHALL BE GROUND SMOOTH. BOX BODIES SHALL BE FLANGED AND SHALL NOT HAVE HOLES OR KNOCKOUTS. BOX BODIES AND COVERS SHALL NOT BE LESS THAN 14 GAUGE METAL. COVERS SHALL BE GASKETED, HINGED, AND FASTENED WITH QUICK CONNECT DOOR CLAMP. TERMINAL BOXES SHALL BE FURNISHED WITH HINGED DOORS WITH 3-POINT LATCH, TERMINAL MOUNTING STRAPS AND BRACKETS. BOXES SHALL BE AS MANUFACTURED BY HOFFMAN ENGINEERING CO.; LEE PRODUCTS CO.; ASCO ELECTRICAL PRODUCTS CO.; INC., OR APPROVED EQUAL.

3. WHERE NO SIZE IS INDICATED FOR JUNCTION BOXES, PULL BOXES, OR TERMINAL BOXES, THEY SHALL BE SIZED IN ACCORDANCE WITH THE REQUIREMENTS OF NEC ARTICLE 314.

MAJOR EQUIPMENT MANUFACTURERS:

EQUIPMENT	MANUFACTURER
CIRCUIT BREAKERS	SQUARE D (SCHNEIDER ELECTRIC)
FUSED SE DISCONNECT SWITCH	SQUARE D (SCHNEIDER ELECTRIC)
SOLID-STATE REDUCED VOLTAGE STARTERS	SPRECHER SCHUH
AUTOMATIC TRANSFER SWITCH	ASCO (SCHNEIDER ELECTRIC)
GENERATOR	CATERPILLAR
SURGE PROTECTION DEVICES	SQUARE D (SCHNEIDER ELECTRIC)
GENERATOR RECEPTACLE ASSEMBLY	CROUSE-HINDS

EXCAVATION AND BACKFILL:

1. CONTRACTOR SHALL PROVIDE ALL MATERIALS, LABOR, EQUIPMENT AND SERVICES REQUIRED TO ACCOMPLISH ALL EXCAVATION, BACKFILLING AND RELATED WORK IN ACCORDANCE WITH THE DRAWINGS.

2. ALL EXCAVATION AND BACKFILL WORK SHALL CONFORM TO GRU STANDARDS.

3. ALL BACKFILL SHALL BE THOROUGHLY COMPACTED TO PREVENT FUTURE SETTLEMENT.

4. ALL CONDUIT LINES SHALL BE LAID STRAIGHT AND IN TRUE ALIGNMENT WITH THE GRADE AND LOCATION AS SHOWN ON THE DRAWINGS.

5. ALL TRENCHING FOR CONDUIT SHALL CONTAIN DETECTABLE UNDERGROUND WARNING TAPE, PER CITY STANDARDS.

6. ALL TRENCHING WORK SHALL BE SCHEDULED TO ALLOW BACKFILLING IN PAVED AREAS AT THE END OF THE WORK DAY. OPEN TRENCHES IN PAVED AREAS WILL NOT BE PERMITTED.

7. CONTRACTOR SHALL RETURN ALL EXCAVATED AREAS TO ORIGINAL GRADE ONCE INSTALLATION IS COMPLETE. ALL AREAS ORIGINALLY COVERED WITH SOD SHALL BE RE-SODDED.

WIRES & CABLES:

1. WIRES AND CABLES SHALL BE ANNEALED, 98 PERCENT CONDUCTIVITY, STRANDED, SOFT DRAWN COPPER with 600V INSULATION.

2. ALL WIRE OF A GIVEN TYPE SHALL BE BY THE SAME MANUFACTURER.

3. MINIMUM WIRE SIZE FOR POWER CIRCUITS SHALL BE NO. 12 AWG. MINIMUM WIRE SIZE FOR CONTROL CIRCUITS SHALL BE NO. 16 AWG.

4. WIRE FOR POWER AND CONTROL CIRCUITS SHALL BE NEC TYPE THWN-2 AND BE AS MANUFACTURED BY SOUTHWIRE CO.; OR APPROVED EQUAL.

5. WIRE FOR 4-20 mA PROCESS INSTRUMENT SIGNALS SHALL BE SINGLE OF MULTIPLE PAIRED, TWISTED, SHIELDED, NO. 16 AWG MINIMUM, STRANDED (19X29), TINNED-COPPER CONDUCTORS, TYPE TC, UL 1277, 600V, XLPE INSULATION WITH A 100 PERCENT ALUMINUM/POLYESTER FOIL SHIELD AND DRAIN WIRE. WIRE MUST BE MANUFACTURED BY BELDEN; ROCKBESTOS, OR APPROVED EQUAL.

6. INDUSTRIAL ETHERNET CABLE MUST BE FOUR-PAIR, BALANCED-TWISTED PAIR CABLE, CERTIFIED TO MEET TRANSMISION CHARACTERISTICS OF CATEGORY 6 CABLE AT FREQUENCIES UP TO 100 MHZ ETHERNET/IP COMPLIANT. THE CABLE MUST BE UL COMPLIANT, THE CONDUCTORS MUST BE RATED 100-OHM, 22 AWG SOLID COPPER, 600V, WITH AN OVERALL FOIL SHIELD AND PVC JACKET.

7. UNLESS OTHERWISE INDICATED ON THE PLANS, NO SPLICES MAY BE MADE IN THE CABLES WITHOUT PRIOR WRITTEN APPROVAL OF THE ENGINEER. WHERE SPLICING IS APPROVED, THEN SPLICING MATERIAL SHALL BE APPROVED BY THE ENGINEER AND CABLE MANUFACTURER. SPLICING MATERIALS AND INSTALLATION FOR CONTROL CONDUCTORS SHALL BE AS REQUIRED BY THE ENGINEER. THE CONDUCTIVITY OF ALL COMPLETED CONNECTIONS SHALL BE NOT LESS THAN THAT OF THE UNCUT CONDUCTOR.

8. WIRE AND CABLE MARKERS SHALL BE TYPE WRITTEN, HEAT SHRINKABLE TYPE, SHRUNK IN PLACE AS MANUFACTURED BY THE W.H. BRADY CO., PANDUIT, OR APPROVED EQUAL.

9. USE LUBRICATIONS TO FACILITATE WIRE PULLING. PULLING COMPOUND SHALL BE NONTOXIC, NONFLAMMABLE, NONCOMBUSTIBLE AND NONCORROSIVE. THE MATERIAL SHALL BE UL LISTED AND COMPATIBLE WITH THE CABLE INSULATION AND JACKET.

10. IF CABLE CANNOT BE TERMINATED IMMEDIATELY AFTER INSTALLATION INSTALL HEAT SHRINKABLE END CAPS.

11. TEST ALL 600 VOLT WIRE INSULATION WITH A MEGOHM METER AFTER INSTALLATION AND PRIOR TO TERMINATION. MAKE TESTS AT NO LESS THAN 1000 VOLTS DC. SUBMIT A WRITTEN TEST REPORT OF THE RESULTS TO THE ENGINEER. NOTIFY ENGINEER AND CONSTRUCTION MANAGER IN WRITING 48 HOURS PRIOR TO TESTING. FIELD TESTING AND COMMISSIONING SHALL BE DONE IN ACCORDANCE WITH THE LATEST REVISION OF THE "ACCEPTANCE TESTING SPECIFICATIONS FOR ELECTRICAL POWER DISTRIBUTION EQUIPMENT AND SYSTEMS" PUBLISHED BY THE INTERNATIONAL ELECTRICAL TESTING ASSOCIATION. MINIMUM WIRE INSULATION RESISTANCE SHALL NOT BE LESS THAN 250 MEGOHMS.

12. WIRE COLOR CODE IDENTIFICATION SHALL BE: BROWN, ORANGE, YELLOW, GRAY (L1, L2, L3, N) FOR 480/277V; BLACK, RED, WHITE (L1, L2, N) FOR 240/120V; RED FOR AC CONTROL, BLUE FOR DC CONTROL AND GREEN FOR GROUND.

13. EQUIPMENT GROUNDING CONDUCTORS SHALL BE INSTALLED IN ALL RACEWAYS. CONDUCTORS SHALL BE NEC TYPE THW, GREEN IN COLOR, AND SIZED PER NEC TABLE 250-122.

UNDERGROUND SYSTEMS:

1. LAY RACEWAY LINES IN TRENCHES ON A CLEAN BACKFILL BEDDING NOT LESS THAN 6 INCHES THICK AND WELL GRADED AND COMPACTED.

2. ALL CONDUITS, ELBOWS, AND SWEEPS UNDERGROUND SHALL BE PVC SCHEDULE 40.

3. ALL 2-INCH AND LARGER RACEWAYS SHALL HAVE A MANDREL DRAWN THROUGH FOLLOWED BY A SWAB TO CLEAN OUT ANY OBSTRUCTION WHICH MAY CAUSE CABLE ABRASIONS. THE MANDREL SHALL BE 12 INCHES IN LENGTH AND THE DIAMTER 1/2-INCH LESS THAN THE INSIDE DIAMETER OF THE RACEWAY. ALL 1 1/2-INCH AND SMALLER RACEWAYS SHALL BE SWABBED CLEAN BEFORE INSTALLING CABLES.

4. PLUG AND SEAL SPARE RACEWAYS WATERTIGHT AT ALL HANDHOLES, BUILDINGS, AND STRUCTURES WITH MECHANICAL DEVICE.

5. 3/16 -INCH POLYPROPYLENE PULL LINE SHALL BE INSTALLED AND LEFT IN ALL SPARE AND EMPTY RACEWAYS.

6. INSTALL DETECTABLE WARNING TAPE IN ALL UNDERGROUND RACEWAYS. DUCT BANKS, ETC. TAPE SHALL BE PLACED ALONG THE ENTIRE LENGTH OF THE RACEWAY AND INSTALLED 18 INCHES ABOVE THE TOP OF THE RACEWAY OR DUCT RELY ON COMPACTED BACKFILL MATERIAL. WHERE TRENCH EXCEEDS 24-INCH WIDTH, PROVIDE ADDITIONAL DETECTABLE TAPE RUNS TO MARK EACH SIDE OF THE DUCT BANK IN ADDITION TO THE ONE IN THE CENTER.

7. DETECTABLE WARNING TAPE SHALL BE CAPABLE OF BEING DETECTED OR LOCATED BY EITHER CONDUCTIVE OR INDUCTIVE LOCATION TECHNIQUES.

8. DETECTABLE WARNING TAPE SHALL CONSIST OF 5 MIL (.005 INCH) OVERALL THICKNESS; FIVE-PLY COMPOSITION; ULTRA-HIGH MOLECULAR WEIGHT; VIRGIN POLYETHYLENE; ACID; ALKALINE AND CORROSION RESISTANT; WITH 150 POUNDS OF TENSILE BREAK STRENGTH MINIMUM PER 6-INCH WIDTH.

9. THE TOP SIDE OF THE TRACER TAPE SHALL BE COLOR BANDED RED FOR ELECTRICAL AND HIGH VOLTAGE LINES, AND ORANGE FOR SIGNAL, COMMUNICATION, TELEPHONE, AND FIRE ALARM LINES. TRACER TAPE SHALL BE 4-INCH-WIDE WITH FOUR COLOR BANDS. THE TAPE SHALL BE INSCRIBED WITH THE WARNING MESSAGE FOR THE UTILITY SUCH AS "CAUTION - ELECTRICAL LINE BURIED BELOW". TAPE SHALL BE AS MANUFACTURED BY MUTUAL INDUSTRIES, INC.; TERRA TAPE, DIV. OF REEF INDUSTRIES INC. OR APPROVED EQUAL.

GAINESVILLE REGIONAL UTILITIES
GRU WATER & WASTEWATER ENGINEERING

CLIENT:
JOB NO.:
SHEET NO.: E-1

PROJECT: GRU STANDARD LIFT STATION DRAWINGS
SHEET TITLE: ELECTRICAL NOTES

DESIGNED BY:
DRAWN BY:
CHECKED BY:

COMPUTER FILE:
DATE: FEBRUARY 2026

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
IF NOT ONE INCH ON THIS SHEET ADJUST SCALE ACCORDINGLY

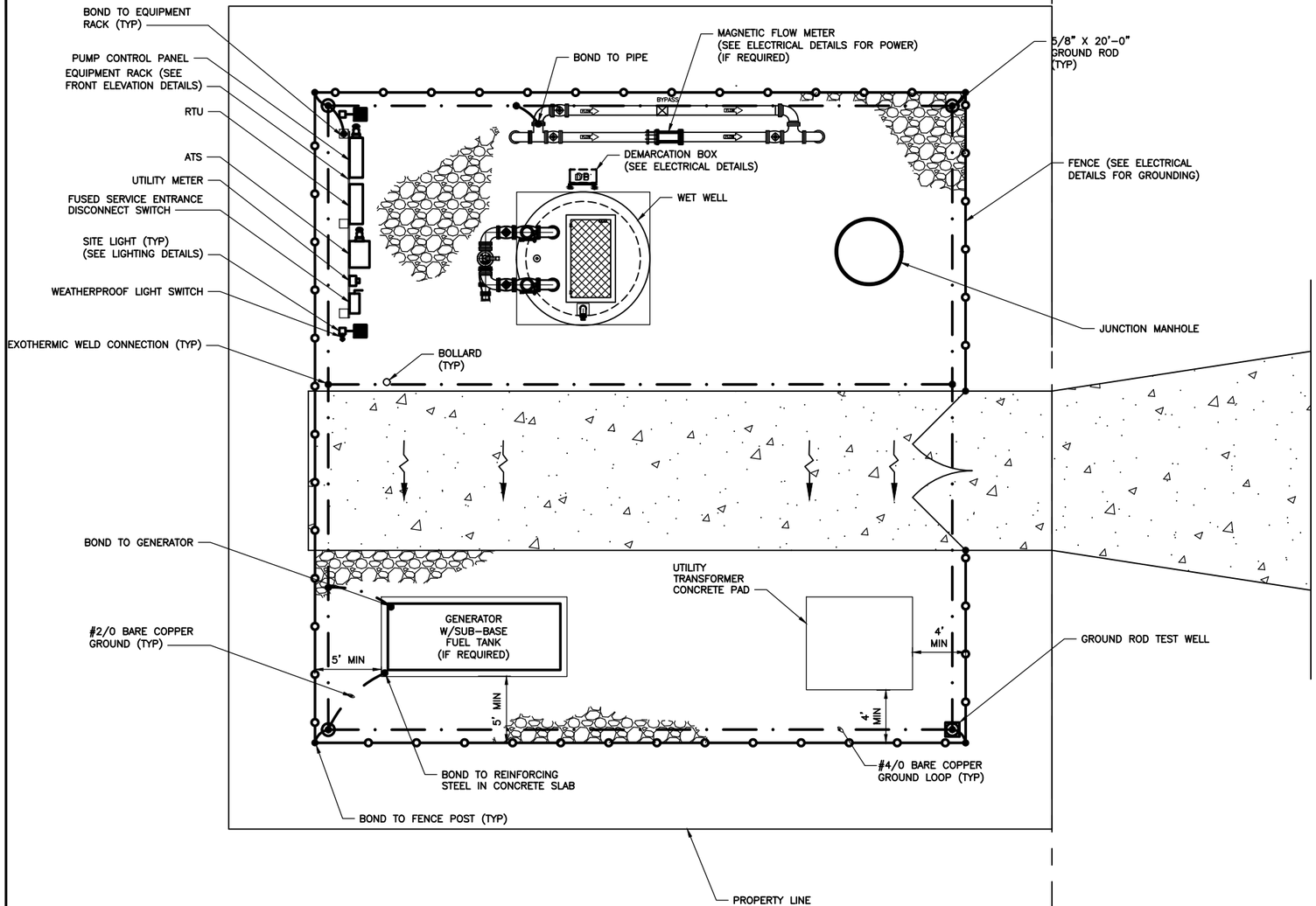
DATE	REVISIONS
02/2023	UPDATED STANDARD LIFT STATION CITY PLAN
2025/2026	LIFT STATION STANDARDS UPDATES
02/2026	

SEAL

DATE:
APPROVED BY:
PLOT ID:

NOTES:

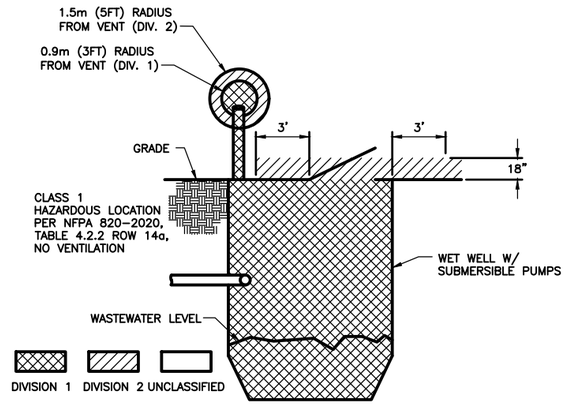
1. REFER TO ELECTRICAL NOTES SHEET, ELECTRICAL ONE LINE POWER DIAGRAM SHEETS, AND ELECTRICAL DETAILS SHEETS.



TYPICAL ELECTRICAL SITE PLAN

PLAN

1" = 10'-0"



WASTEWATER PUMPING STATION WET WELL HAZARDOUS AREA CLASSIFICATION

GAINESVILLE REGIONAL UTILITIES
GRU
WATER & WASTEWATER ENGINEERING

CLIENT:
JOB NO.:
SHEET NO.: E-2

PROJECT: GRU STANDARD LIFT STATION DRAWINGS
SHEET TITLE: TYPICAL ELECTRICAL SITE PLAN

DESIGNED BY:
DRAWN BY:
CHECKED BY:

COMPUTER FILE:
DATE: FEBRUARY 2026

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
IF NOT ONE INCH ON THIS SHEET ADJUST SCALE ACCORDINGLY

REVISIONS

DATE	
02/2023	UPDATED STANDARD LIFT STATION UTILITY PLAN
02/2026	2025/2026 LIFT STATION STANDARDS UPDATES

SEAL

DATE:
APPROVED BY:
PLOT ID:

480 VAC, 3-PHASE, 4-WIRE WYE GROUNDED, 60 HZ

EXTEND THE UNDERGROUND SERVICE CONDUIT TO THE SERVICE POINT OF CONNECTION, AS DESIGNATED BY THE ELECTRIC UTILITY COMPANY, AND TERMINATE IN ACCORDANCE WITH THE ELECTRIC UTILITY COMPANY REQUIREMENTS. PROVIDE SERVICE RISER UP POLE, SERVICE CONNECTION BOX AT BASE OF POLE, PAD MOUNTED TRANSFORMER SERVICE CONNECTION, ETC. AS REQUIRED BY THE ELECTRIC UTILITY COMPANY.

SERVICE CONDUIT SHALL BE MINIMUM 2 1/2" FOR SERVICES UP TO 200 AMPS, MINIMUM 4" FOR SERVICES UP TO 400 AMPS, AND MINIMUM (2) 4" FOR SERVICES UP TO 800 AMPS. SERVICE CONDUIT SHALL BE RAC ABOVE GRADE AND SCHEDULE 40 PVC BELOW GRADE. SERVICE CONDUCTORS SHALL BE TYPE THWN-2 COPPER

THE ELECTRICAL SERVICE FUSED DISCONNECT SWITCH RATING SHALL BE MINIMUM 200A. WHERE THE MINIMUM ELECTRICAL SERVICE RATING EXCEEDS 200A, THE MAIN SERVICE DISCONNECT RATING SHALL BE 400A OR LARGER AS DETERMINED BY THE PUMP STATION ELECTRICAL DESIGN ENGINEER

SERVICE ENTRANCE RATED FUSED DISCONNECT SWITCH WITH TYPE 316 NEMA 4X ENCLOSURE. COORDINATE DISCONNECT SWITCH AND METER ARRANGEMENT WITH ELECTRIC UTILITY COMPANY. FOR ELECTRIC SERVICE BY CLAY ELECTRIC COOPERATIVE, INC., REFER TO CLAY ELECTRIC COOPERATIVE, INC. SINGLE SERVICE (320 AMP MAX) UNDERGROUND SUPPLY (PEDESTAL MOUNT) DRAWING NO. ESFIG7A 2020 FOR INSTALLATION REQUIREMENTS.

SPD

SURGE PROTECTIVE DEVICE
UL 1449 FIFTH (LATEST) EDITION
MODEL NUMBER SDSA3650
NEMA 4X ENCLOSURE
MOUNTED SO THAT THE INDICATOR LIGHTS ARE VISIBLE AND ACCESSIBLE

FUSED DISCONNECT SWITCHES TO INCLUDE CLASS RK5 TIME DELAY FUSES.

M

SELF CONTAINED OR CT METERING IN ACCORDANCE WITH THE ELECTRIC UTILITY COMPANY REQUIREMENTS. METER ENCLOSURES AND CT CABINETS SHALL BE STAINLESS STEEL.

GROUND METERING IN ACCORDANCE WITH NEC AND LOCAL INSPECTION AUTHORITY REQUIREMENTS.

PROVIDE GROUNDING ELECTRODE SYSTEM PER NEC AND LOCAL INSPECTION AUTHORITY REQUIREMENTS. THE GROUNDING ELECTRODE SYSTEM SHALL INCLUDE A MINIMUM OF TWO GROUND RODS, NOT LESS THAN 6 FEET APART. THE GROUNDING ELECTRODE CONDUCTOR SHALL BE CONTINUOUS FROM THE METER CAN TO EACH GROUND ROD AND SHALL TERMINATE ON A FENCE POST EMBEDDED IN CONCRETE.

PUMP STATION CONTROL PANEL FEEDER AMPACITY SHALL BE BASED ON 100% OF THE PUMP CONTROL PANEL RATING. CONDUIT SHALL BE RAC ABOVE GRADE AND SCHEDULE 40 PVC BELOW GRADE (2" MIN)

PUMP CONTROL PANEL (PCP)

480V, 3-PHASE, 3-WIRE, 60 HZ

ECB 3P | MCB 3P | CB1 3P | CB2 3P | TCB1 2P | TCB2 2P | CB3 1P | CB4 1P | CB5 1P | CB6 1P | CB7 1P | CB8 1P | CB9 1P | CB10 1P

SPD

SSRV STARTER

SSRV STARTER

480V-120V, 1PH, 10KVA TRANSFORMER (EXTERNAL TO PCP)

SPARE | SPARE | SPARE | PCP | SITE LIGHTS | GFCI RECEPT | MAGMETER

GENERATOR RECEPTACLE ASSEMBLY SHALL BE RATED 600 VAC, 200 AMPS, 4 POLE, 3-WIRE, CROUSE-HINDS, CATALOG NO. AREA 20427 REVERSE SERVICE

MECHANICALLY INTERLOCKED

EXPLOSIONPROOF CONDUIT SEAL FITTING (TYP)

RTU

DEMARCATION BOX

TS HP NO.1

TS HP NO.2

SUBMERSIBLE PUMPS

HIGH FLOAT CONTROL

LEVEL TRANSDUCER

WET WELL CONDUITS SHALL BE RAC ABOVE GRADE AND SCHEDULE 40 PVC BELOW GRADE, MAXIMUM 31% FILL (2" MIN.) (TYP)

ONE LINE POWER DIAGRAM

WITH GENERATOR RECEPTACLE (20 HP AND 47 HP)

ELECTRICAL SUMMARY DATA

(PROVIDED BY GRU)

SERVICE ENTRANCE CURRENT RATING		
SAFETY DISCONNECT FUSE RATING		
TRANSFORMER SIZE - KVA		
TRANSFORMER PAD SIZE		
ELECTRIC METER TYPE	PLUG-IN	BOLT-IN
ELECTRIC METER SIZE		
SECONDARY VOLTAGE/PHASE		
CONTROL PANEL TYPE	POST MOUNT	FREE STANDING
CONTROL PANEL SIZE		

THE PUMP CONTROL PANEL MCB RATING SHALL BE MINIMUM 100A. WHERE THE CONTROL PANEL MINIMUM LOAD RATING EXCEEDS 100A, THE MAIN CIRCUIT BREAKER RATING SHALL BE 200A, 400A OR LARGER AS DETERMINED BY THE PUMP STATION ELECTRICAL DESIGN ENGINEER.

PORTABLE GENERATOR ECB SHALL BE THE SAME SIZE AS THE PCP MCB.

REFER TO THE ELECTRICAL NOTES SHEET FOR ADDITIONAL PUMP CONTROL PANEL REQUIREMENTS.

REFER TO INSTRUMENTATION SHEETS FOR ADDITIONAL REQUIREMENTS.

GAINESVILLE REGIONAL UTILITIES
GRU
WATER & WASTEWATER ENGINEERING

CLIENT:
JOB NO.:
SHEET NO.: E – 3

PROJECT: GRU STANDARD LIFT STATION DRAWINGS
SHEET TITLE: ONE LINE POWER DIAGRAM WITH GENERATOR RECEPTACLE

DESIGNED BY:
DRAWN BY:
CHECKED BY:

COMPUTER FILE:
DATE: FEBRUARY 2026

WHEN PLOTTED AT FULL SIZE, THIS SHEET SHOULD SCALE ACCORDINGLY.
WHEN ONE INCH ON ORIGINAL DRAWING
0" 1"
WHEN PLOTTED AT HALF SIZE
WHEN ONE INCH ON ORIGINAL DRAWING
0" 1"

DATE	REVISIONS
02/2023	UPDATED STANDARD LIFT STATION UTILITY PLAN
2023/2026	LIFT STATION STANDARDS UPDATES
02/2026	

SEAL

DATE:
APPROVED BY:
PLOT ID:

480 VAC, 3-PHASE, 4-WIRE WYE GROUNDED, 60 HZ

EXTEND THE UNDERGROUND SERVICE CONDUIT TO THE SERVICE POINT OF CONNECTION, AS DESIGNATED BY THE ELECTRIC UTILITY COMPANY, AND TERMINATE IN ACCORDANCE WITH THE ELECTRIC UTILITY COMPANY REQUIREMENTS. PROVIDE SERVICE RISER UP POLE, SERVICE CONNECTION BOX AT BASE OF POLE. PAD MOUNTED TRANSFORMER SERVICE CONNECTION, ETC. AS REQUIRED BY THE ELECTRIC UTILITY COMPANY.

SERVICE CONDUIT SHALL BE MINIMUM 2 1/2" FOR SERVICES UP TO 200 AMPS, MINIMUM 4" FOR SERVICES UP TO 400 AMPS, AND MINIMUM (2) 4" FOR SERVICES UP TO 800 AMPS. SERVICE CONDUIT SHALL BE RAC ABOVE GRADE AND SCHEDULE 40 PVC BELOW GRADE. SERVICE CONDUCTORS SHALL BE TYPE THWN-2 COPPER.

SERVICE ENTRANCE RATED FUSED DISCONNECT SWITCH WITH TYPE 316 NEMA 4X ENCLOSURE. COORDINATE DISCONNECT SWITCH AND METER ARRANGEMENT WITH ELECTRIC UTILITY COMPANY. FOR ELECTRIC SERVICE BY CLAY ELECTRIC COOPERATIVE, INC., REFER TO CLAY ELECTRIC COOPERATIVE, INC. SINGLE SERVICE (320 AMP MAX) UNDERGROUND SUPPLY (PEDESTAL MOUNT) DRAWING NO. ESFIG7A 2020 FOR INSTALLATION REQUIREMENTS.

SPD

SURGE PROTECTIVE DEVICE
UL 1449 FIFTH (LATEST) EDITION
MODEL NUMBER SDSA3650
NEMA 4X ENCLOSURE
MOUNTED SO THAT THE INDICATOR LIGHTS ARE VISIBLE AND ACCESSIBLE

THE ELECTRICAL SERVICE FUSED DISCONNECT SWITCH RATING SHALL BE MINIMUM 200A. WHERE THE MINIMUM ELECTRICAL SERVICE RATING EXCEEDS 200A, THE MAIN SERVICE DISCONNECT RATING SHALL BE 400A OR LARGER AS DETERMINED BY THE PUMP STATION ELECTRICAL DESIGN ENGINEER.

M

FUSED DISCONNECT SWITCHES TO INCLUDE CLASS RK5 TIME DELAY FUSES.

SELF CONTAINED OR CT METERING IN ACCORDANCE WITH THE ELECTRIC UTILITY COMPANY REQUIREMENTS. METER ENCLOSURES AND CT CABINETS SHALL BE STAINLESS STEEL.

GROUND METERING IN ACCORDANCE WITH NEC AND LOCAL INSPECTION AUTHORITY REQUIREMENTS.

PROVIDE GROUNDING ELECTRODE SYSTEM PER NEC AND LOCAL INSPECTION AUTHORITY REQUIREMENTS. THE GROUNDING ELECTRODE SYSTEM SHALL INCLUDE A MINIMUM OF TWO GROUND RODS, NOT LESS THAN 6 FEET APART. THE GROUNDING ELECTRODE CONDUCTOR SHALL BE CONTINUOUS FROM THE METER CAN TO EACH GROUND ROD AND SHALL TERMINATE ON A FENCE POST EMBEDDED IN CONCRETE.

AUTOMATIC TRANSFER SWITCH (ATS)
ASCO 300 SERIES, 200 AMP, 4 POLE, WITHIN A NEMA 4X ENCLOSURE

GENERATOR RECEPTACLE SHALL BE RATED 4 WIRE, 3 POLE, 200 AMPS, 600 VAC, CROUSE-HINDS, CAT NO. AREA20427 REVERSE SERVICE.

ATS SIGNALS TO RTU (REFER TO INSTRUMENTATION SHEETS FOR ADDITIONAL REQUIREMENTS)

START SIGNAL TO GENERATOR (PORTABLE GENERATORS MUST HAVE AUTOMATIC STARTING CAPABILITIES)

PUMP STATION CONTROL PANEL FEEDER AMPACITY SHALL BE BASED ON 100% OF THE PUMP CONTROL PANEL RATING. CONDUIT SHALL BE RAC ABOVE GRADE AND SCHEDULE 40 PVC BELOW GRADE (2" MIN)

PUMP CONTROL PANEL (PCP)

480V, 3-PHASE, 3-WIRE, 60 HZ

GENERATOR RECEPTACLE ASSEMBLY SHALL BE RATED 600 VAC, 200 AMPS, 4 POLE, 3-WIRE, CROUSE-HINDS, CATALOG NO. AREA 20427 REVERSE SERVICE

MECHANICALLY INTERLOCKED

ECB 3P | MCB 3P | CB1 3P | CB2 3P | TCB1 2P | TCB2 2P | CB3 1P | CB4 1P | CB5 1P | CB6 1P | CB7 1P | CB8 1P | CB9 1P | CB10 1P

SPD

SSRV STARTER | SSRV STARTER

480V-120V, 1PH, 10KVA TRANSFORMER (EXTERNAL TO PCP)

SPARE | SPARE | SPARE | PCP | SITE LIGHTS | GFCI RECEPT | MAGMETTER

EXPLOSIONPROOF CONDUIT SEAL FITTING (TYP)

RTU

DEMARCATION BOX

TS HP NO.1 | TS HP NO.2

SUBMERSIBLE PUMPS

HIGH FLOAT CONTROL | LEVEL TRANSDUCER

WET WELL CONDUITS SHALL BE RAC ABOVE GRADE AND SCHEDULE 40 PVC BELOW GRADE, MAXIMUM 31% FILL (2" MIN.) (TYP)

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PORTABLE GENERATOR ECB SHALL BE THE SAME SIZE AS THE PCP MCB.

REFER TO THE ELECTRICAL NOTES SHEET FOR ADDITIONAL PUMP CONTROL PANEL REQUIREMENTS.

REFER TO INSTRUMENTATION SHEETS FOR ADDITIONAL REQUIREMENTS.

ELECTRICAL SUMMARY DATA
(PROVIDED BY GRU)

SERVICE ENTRANCE CURRENT RATING		
SAFETY DISCONNECT FUSE RATING		
TRANSFORMER SIZE - KVA		
TRANSFORMER PAD SIZE		
ELECTRIC METER TYPE	PLUG-IN	BOLT-IN
ELECTRIC METER SIZE		
SECONDARY VOLTAGE/PHASE		
CONTROL PANEL TYPE	POST MOUNT	FREE STANDING
CONTROL PANEL SIZE		

ONE LINE POWER DIAGRAM
WITH GENERATOR RECEPTACLES (20 HP AND 47 HP)

GAINESVILLE REGIONAL UTILITIES
GRU
WATER & WASTEWATER ENGINEERING

CLIENT:
JOB NO.:
SHEET NO.: E – 4

PROJECT: GRU STANDARD LIFT STATION DRAWINGS
SHEET TITLE: ONE LINE POWER DIAGRAM WITH GENERATOR RECEPTACLES

DESIGNED BY:
DRAWN BY:
CHECKED BY:

COMPUTER FILE:
DATE: FEBRUARY 2026

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
IF NOT ONE INCH ON THIS SHEET ADJUST SCALE ACCORDINGLY

DATE	REVISIONS
07/2023	UPDATED STANDARD LIFT STATION UTILITY PLAN
02/2026	2025/2026 LIFT STATION STANDARDS UPDATES

SEAL

DATE:
APPROVED BY:
PLOT ID:

480 VAC, 3-PHASE, 4-WIRE WYE GROUNDED, 60 HZ

EXTEND THE UNDERGROUND SERVICE CONDUIT TO THE SERVICE POINT OF CONNECTION, AS DESIGNATED BY THE ELECTRIC UTILITY COMPANY, AND TERMINATE IN ACCORDANCE WITH THE ELECTRIC UTILITY COMPANY REQUIREMENTS. PROVIDE SERVICE RISER UP POLE, SERVICE CONNECTION BOX AT BASE OF POLE, PAD MOUNTED TRANSFORMER SERVICE CONNECTION, ETC. AS REQUIRED BY THE ELECTRIC UTILITY COMPANY.

SERVICE CONDUIT SHALL BE MINIMUM 2 1/2" FOR SERVICES UP TO 200 AMPS, MINIMUM 4" FOR SERVICES UP TO 400 AMPS, AND MINIMUM (2) 4" FOR SERVICES UP TO 800 AMPS. SERVICE CONDUIT SHALL BE RAC ABOVE GRADE AND SCHEDULE 40 PVC BELOW GRADE. SERVICE CONDUCTORS SHALL BE TYPE THWN-2 COPPER.

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SPD

SURGE PROTECTIVE DEVICE
UL 1449 FIFTH (LATEST) EDITION
MODEL NUMBER SDSA3650
NEMA 4X ENCLOSURE
MOUNTED SO THAT THE INDICATOR LIGHTS ARE VISIBLE AND ACCESSIBLE

THE ELECTRICAL SERVICE FUSED DISCONNECT SWITCH RATING SHALL BE MINIMUM 200A. WHERE THE MINIMUM ELECTRICAL SERVICE RATING EXCEEDS 200A, THE MAIN SERVICE DISCONNECT RATING SHALL BE 400A OR LARGER AS DETERMINED BY THE PUMP STATION ELECTRICAL DESIGN ENGINEER.

FUSED DISCONNECT SWITCHES TO INCLUDE CLASS RK5 TIME DELAY FUSES.

SELF CONTAINED OR CT METERING IN ACCORDANCE WITH THE ELECTRIC UTILITY COMPANY REQUIREMENTS. METER ENCLOSURES AND CT CABINETS SHALL BE STAINLESS STEEL.

M

GROUND METERING IN ACCORDANCE WITH NEC AND LOCAL INSPECTION AUTHORITY REQUIREMENTS.

PROVIDE GROUNDING ELECTRODE SYSTEM PER NEC AND LOCAL INSPECTION AUTHORITY REQUIREMENTS. THE GROUNDING ELECTRODE SYSTEM SHALL INCLUDE A MINIMUM OF TWO GROUND RODS, NOT LESS THAN 6 FEET APART. THE GROUNDING ELECTRODE CONDUCTOR SHALL BE CONTINUOUS FROM THE METER CAN TO EACH GROUND ROD AND SHALL TERMINATE ON A FENCE POST EMBEDDED IN CONCRETE.

CATERPILLAR
STANDBY GENERATOR
WYE GROUNDED
480/277V, 3Ø

G — CP — GENERATOR CONTROL PANEL

GCB 3P

GENERATOR SIGNALS TO RTU (REFER TO INSTRUMENTATION SHEETS FOR ADDITIONAL REQUIREMENTS)

AUTOMATIC TRANSFER SWITCH (ATS)
ASCO 300 SERIES, 200 AMP MINIMUM, 4 POLE, WITHIN A NEMA 4X ENCLOSURE

ATS SIGNALS TO RTU (REFER TO INSTRUMENTATION SHEETS FOR ADDITIONAL REQUIREMENTS)

PUMP STATION CONTROL PANEL FEEDER AMPACITY SHALL BE BASED ON 100% OF THE PUMP CONTROL PANEL RATING. CONDUIT SHALL BE RAC ABOVE GRADE AND SCHEDULE 40 PVC BELOW GRADE (2" MIN)

PUMP CONTROL PANEL (PCP)

480V, 3-PHASE, 3-WIRE, 60 HZ

GENERATOR RECEPTACLE ASSEMBLY SHALL BE RATED 600 VAC, 200 AMPS, 4 POLE, 3-WIRE, CROUSE-HINDS, CATALOG NO. AREA 20427 REVERSE SERVICE

MECHANICALLY INTERLOCKED

ECB 3P — MCB 3P — SPD

CB1 3P — SSRV STARTER

CB2 3P — SSRV STARTER

TCB1 2P — 480V-120V, 1PH, 10KVA TRANSFORMER (EXTERNAL TO PCP)

TCB2 2P

CB3 1P — GENERATOR

CB4 1P — SPARE

CB5 1P — SPARE

CB6 1P — PCP

CB7 1P — SITE LIGHTS

CB8 1P — GFCI RECEPT

CB9 1P

CB10 1P — MAGMETER

EXPLOSIONPROOF CONDUIT SEAL FITTING (TYP)

RTU

DEMARCATION BOX

TS HP — NO.1

TS HP — NO.2

SUBMERSIBLE PUMPS

HIGH FLOAT CONTROL

LEVEL TRANSDUCER

WET WELL CONDUITS SHALL BE RAC ABOVE GRADE AND SCHEDULE 40 PVC BELOW GRADE, MAXIMUM 31% FILL (2" MIN.) (TYP)

THE PUMP CONTROL PANEL MCB RATING SHALL BE MINIMUM 100A. WHERE THE CONTROL PANEL MINIMUM LOAD RATING EXCEEDS 100A, THE MAIN CIRCUIT BREAKER RATING SHALL BE 200A, 400A OR LARGER AS DETERMINED BY THE PUMP STATION ELECTRICAL DESIGN ENGINEER.

PORTABLE GENERATOR ECB SHALL BE THE SAME SIZE AS THE PCP MCB.

REFER TO THE ELECTRICAL NOTES SHEET FOR ADDITIONAL PUMP CONTROL PANEL REQUIREMENTS.

REFER TO INSTRUMENTATION SHEETS FOR ADDITIONAL REQUIREMENTS.

ELECTRICAL SUMMARY DATA
(PROVIDED BY GRU)

SERVICE ENTRANCE CURRENT RATING		
SAFETY DISCONNECT FUSE RATING		
TRANSFORMER SIZE - KVA		
TRANSFORMER PAD SIZE		
ELECTRIC METER TYPE	PLUG-IN	BOLT-IN
ELECTRIC METER SIZE		
SECONDARY VOLTAGE/PHASE		
CONTROL PANEL TYPE	POST MOUNT	FREE STANDING
CONTROL PANEL SIZE		

ONE LINE POWER DIAGRAM
WITH STANDBY GENERATOR (20 HP AND 47 HP)

GAINESVILLE REGIONAL UTILITIES
GRU
WATER & WASTEWATER ENGINEERING

CLIENT:
JOB NO.:
SHEET NO.: E-5

PROJECT: GRU STANDARD LIFT STATION DRAWINGS
SHEET TITLE: ONE LINE POWER DIAGRAM WITH STANDBY GENERATOR

DESIGNED BY:
DRAWN BY:
CHECKED BY:

COMPUTER FILE:
DATE: FEBRUARY 2026

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
IF NOT ONE INCH ON THIS SHEET ADJUST SCALES ACCORDINGLY

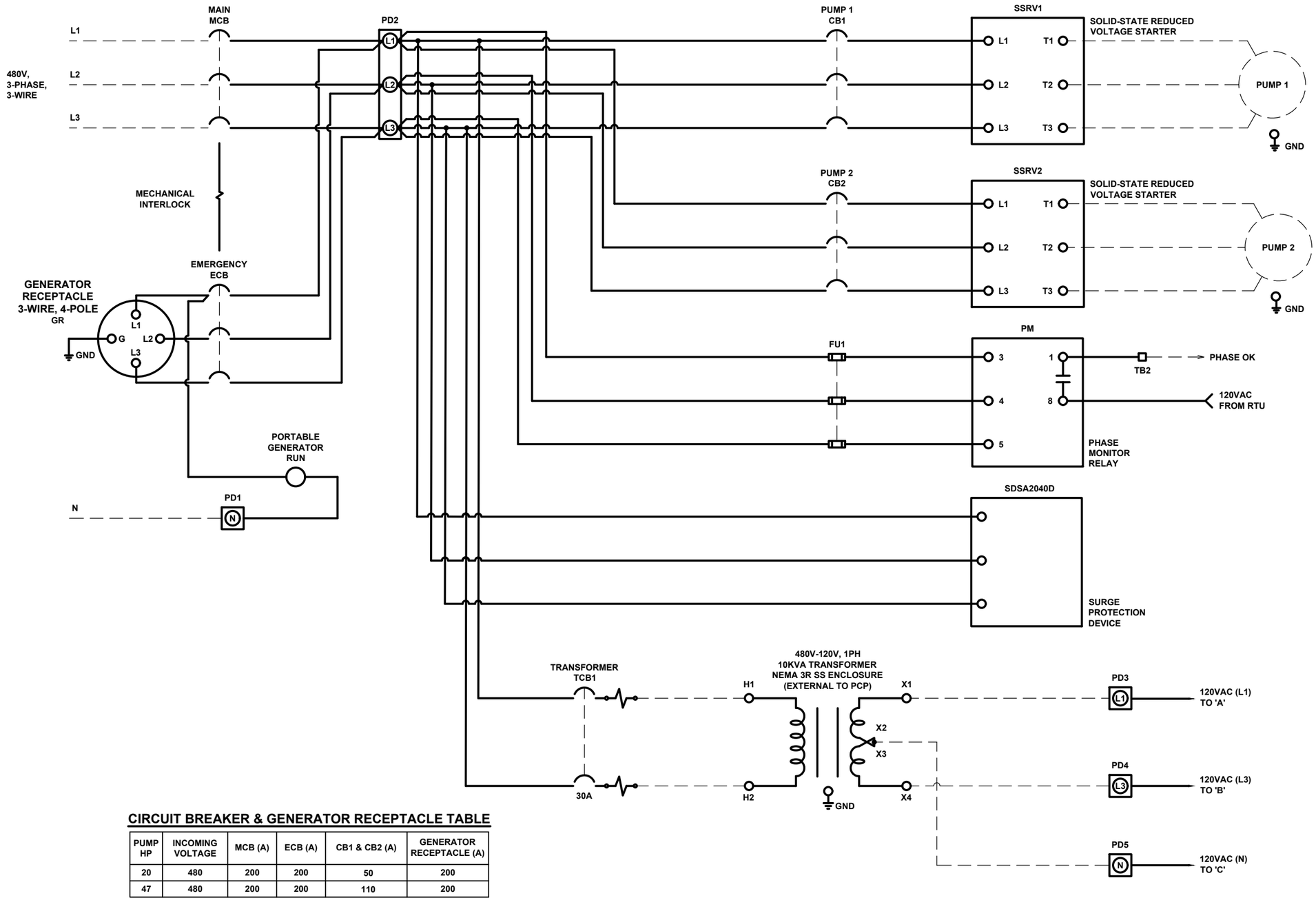
DATE	REVISIONS
02/2026	UPDATED STANDARD LIFT STATION UTILITY PLAN
02/2026	2025/2026 LIFT STATION STANDARDS UPDATES

SEAL

DATE:
APPROVED BY:
PLOT ID:

NOTES:

1. THE COMPLETED CONTROL PANEL ASSEMBLY SHALL BE UL CERTIFIED.
2. POWER AND CONTROL WIRING SHALL BE STRANDED TINNED COPPER, MINIMUM #14 AWG, 600V, 90-DEGREE C, TYPE MTW.
3. THE CONTROL PANEL SHALL BE PROVIDED WITH NAMEPLATES IDENTIFYING EACH COMPONENT, SWITCH, PUSHBUTTON, ETC.



CIRCUIT BREAKER & GENERATOR RECEPTACLE TABLE

PUMP HP	INCOMING VOLTAGE	MCB (A)	ECB (A)	CB1 & CB2 (A)	GENERATOR RECEPTACLE (A)
20	480	200	200	50	200
47	480	200	200	110	200

CLIENT:
JOB NO.:
SHEET NO.: E-6

PROJECT: GRU STANDARD LIFT STATION DRAWINGS
SHEET TITLE: LIFT STATION CONTROL PANEL 480V PCP SCHEMATIC

DESIGNED BY:
DRAWN BY:
CHECKED BY:

COMPUTER FILE:
DATE: FEBRUARY 2026

GAINESVILLE REGIONAL UTILITIES
WATER & WASTEWATER ENGINEERING

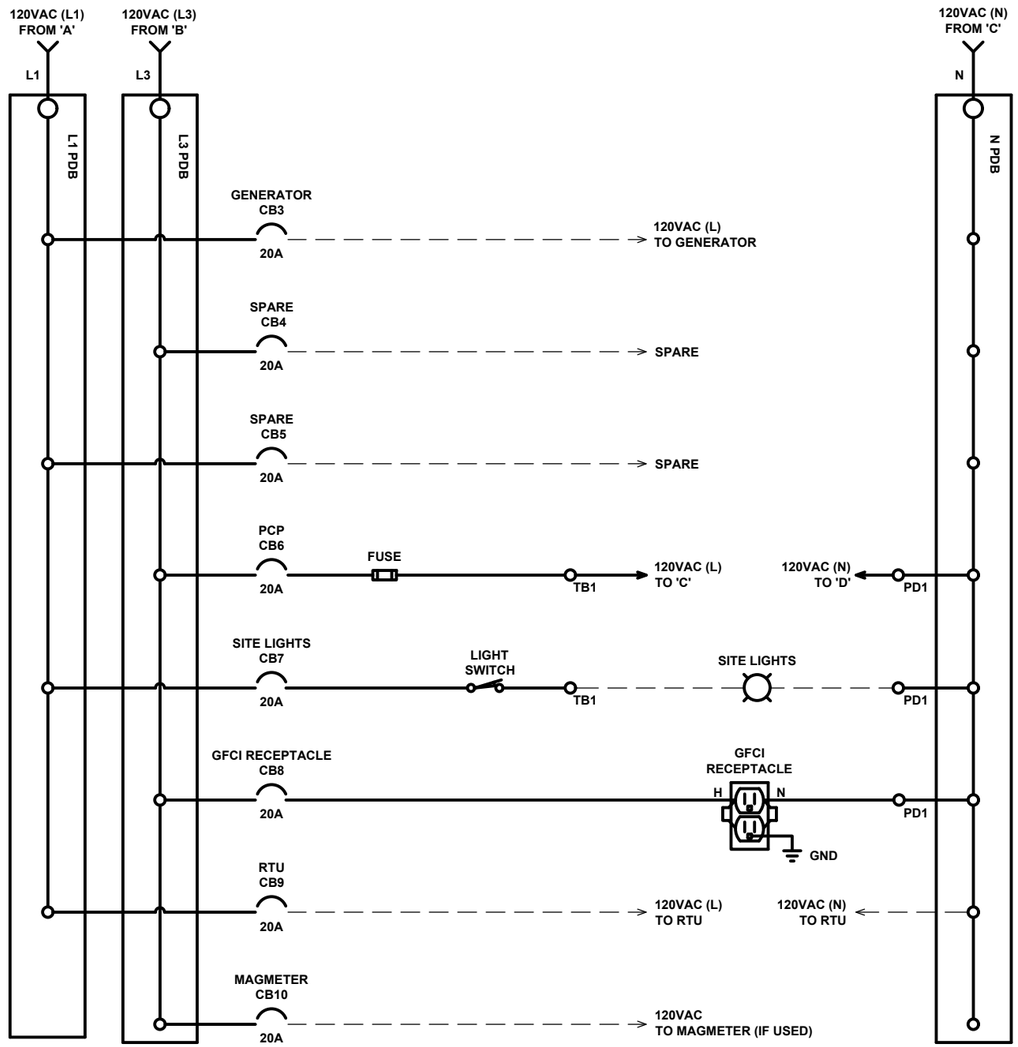
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
IF NOT ONE INCH ON THIS SHEET ADJUST SCALE ACCORDINGLY

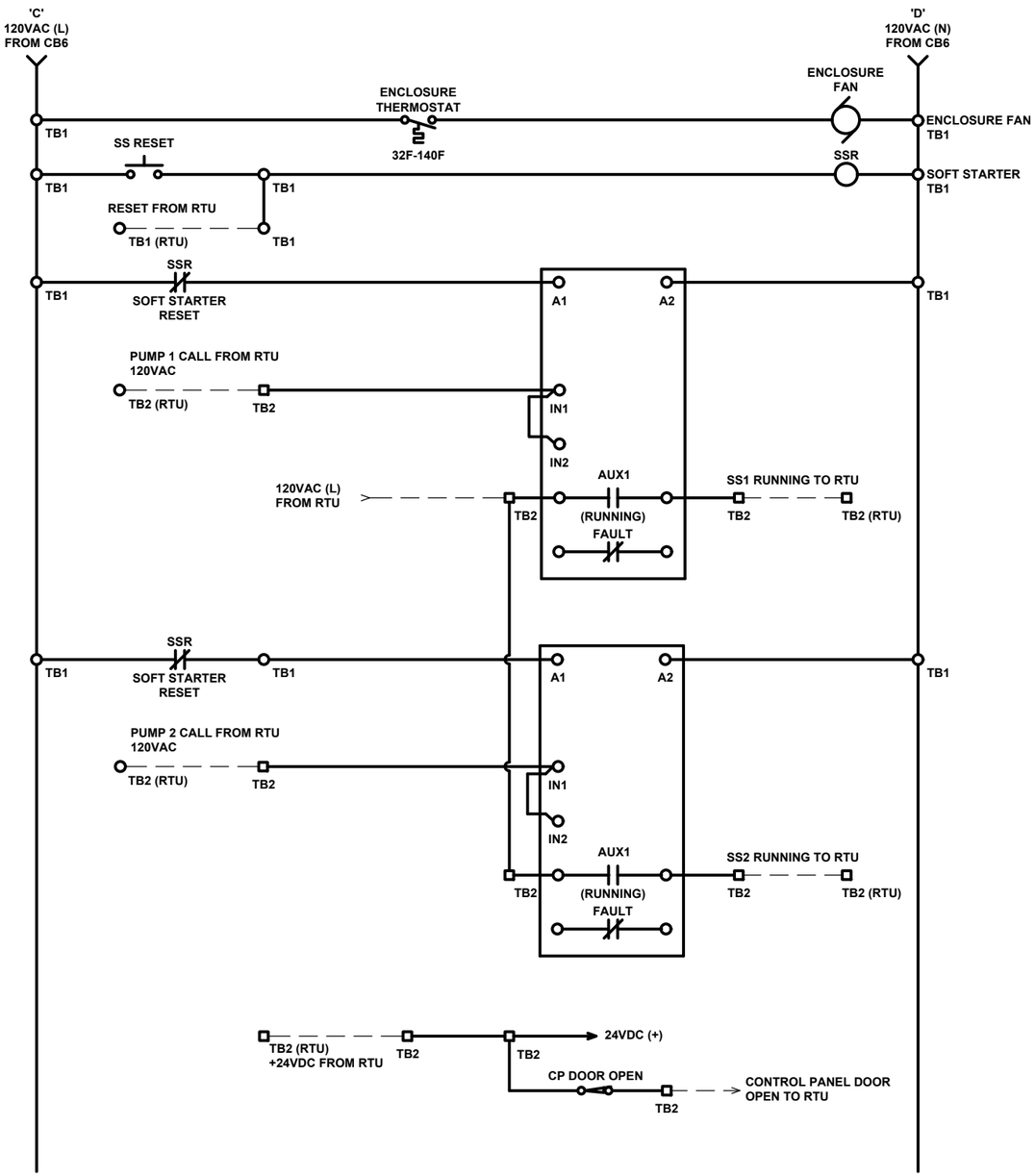
REVISIONS

DATE	DESCRIPTION
02/2013	UPDATED STANDARD LIFT STATION TITLE BLOCK
02/2026	2022/2026 LIFT STATION STANDARDS UPDATES

SEAL

DATE:
APPROVED BY:
PLOT ID:





GAINESVILLE REGIONAL UTILITIES
GRU
WATER & WASTEWATER ENGINEERING

PROJECT: GRU STANDARD LIFT STATION DRAWINGS
JOB NO.:
SHEET NO.: E-7
SHEET TITLE: LIFT STATION CONTROL PANEL PCP & CONTROL POWER SCHEMATIC
CLIENT:
DESIGNED BY:
DRAWN BY:
CHECKED BY:
COMPUTER FILE:
DATE: FEBRUARY 2026

VERIFY SCALE
B&B IS ONE INCH ON ORIGINAL DRAWING
IF NOT ONE INCH ON THIS SHEET ADJUST SCALE ACCORDINGLY.

REVISIONS

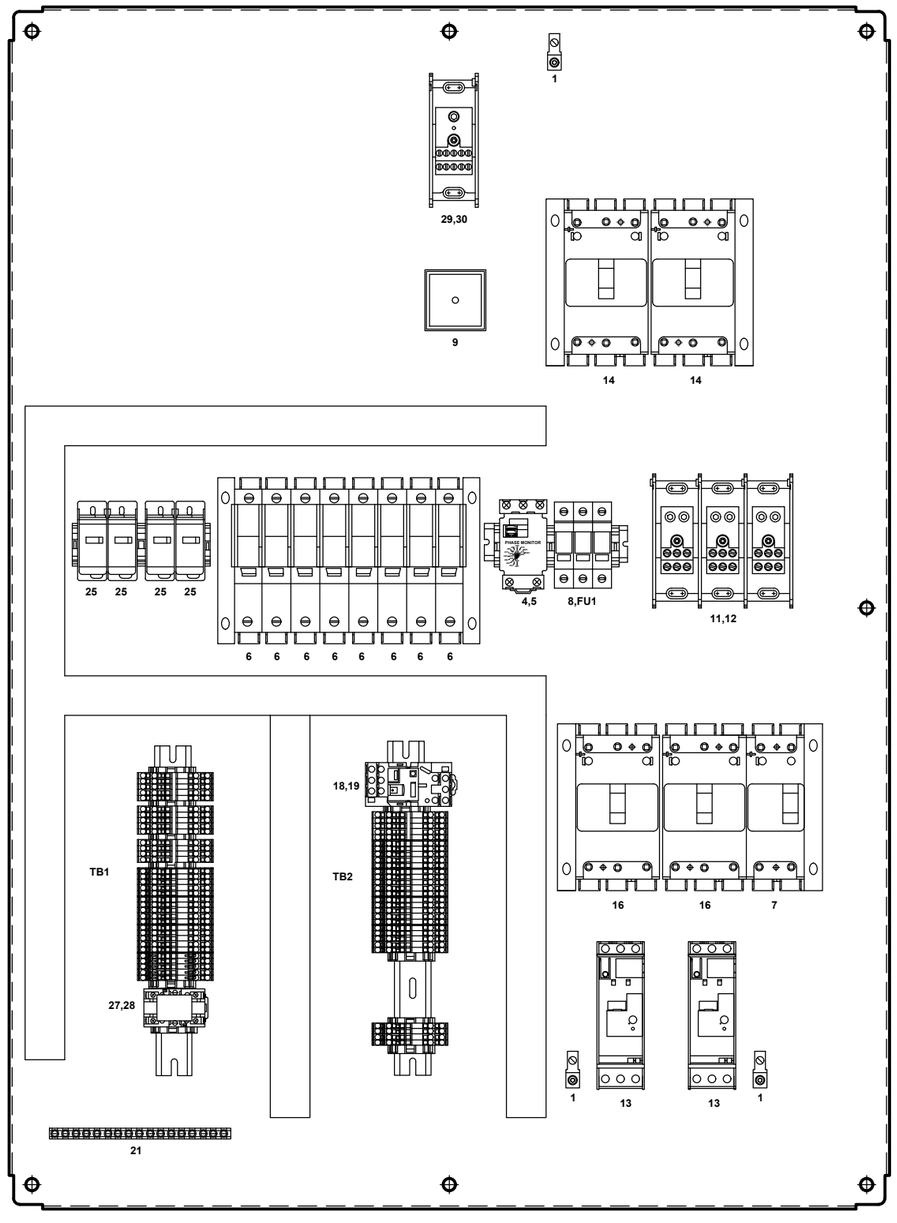
DATE	
02/2026	UPDATED STANDARD LIFT STATION UTILITY PLAN
02/2026	2025/2026 LIFT STATION STANDARDS UPDATES

SEAL

DATE:
APPROVED BY:
PLOT ID:

NOTES:

1. SEE CIRCUIT BREAKER & GENERATOR RECEPTACLE TABLE, SHEET 1 OF 8.
2. THE CONTROL PANEL SHALL BE PROVIDED WITH NAMEPLATES IDENTIFYING EACH COMPONENT, SWITCH, PUSHBUTTON, ETC.



BACKPANEL

BILL OF MATERIALS				
REF	QTY	MANUFACTURER	PART NO	DESCRIPTION
ENCL.	1	HAMMOND	HW483612S16HK	NEMA 4X 316SS 48x36x12 ENCLOSURE
ENCL.	1	HAMMOND	18P4533	PAINTED STEEL BACKPLATE
ENCL.	1	HAMMOND	DK48S16	ENCLOSURE DRIP RAIL KIT
ENCL.	1	HAMMOND	SPB2	DEADFRONT SWING DOOR KIT
ENCL.	1	HAMMOND	DSTOPK	ENCLOSURE DOOR STOP KIT
ENCL.	1	HAMMOND	18A4533	ALUMINUM DEADFRONT SWING PANEL
FILTER FAN	1	HAMMOND	PF32000T3RLG	8" ENCLOSURE FILTER FAN
RAIN HOOD	2	HAMMOND	RH300000N4S16	NEMA 4X SS RAIN HOOD
FILTER	2	HAMMOND	PFA30000T3RLG	8" EXHAUST FILTER
THERMOSTAT	1	HAMMOND	SKT011419NO	120V ENCLOSURE THERMOSTAT
1	3	MARATHON	LG02	GROUND LUG
2	1	CROUSE-HINDS	AREA20427	600VAC-200A 4P 3W RECEPTACLE ASSEMBLY
3				NOT USED
4	1	MP ELECTRONICS	MPE-001-DVM-118	PHASE MONITOR
5	1	MP ELECTRONICS	70-461-1	PHASE MONITOR OCTAL RELAY BASE
6	8	SQUARE D	BGL16020	20A-1POLE MCCB
7	1	SQUARE D	BJL26030	30A-2POLE MCCB
8	1	WOHNER	31297	3-POLE FUSE HOLDER
FU1	3	BUSSMANN	FNQ-R-*	CLASS CC FUSE
9	1	SQUARE D	SDSA3650	SURGE PROTECTION DEVICE
10	1	SQUARE D	QOSAMK	SURGE PROTECTION MTG KIT
11	1	MERSEN	MPDB67513	TRANSFER DISTRIBUTION BLOCK
12	1	MERSEN	MPDBC6667	DISTRIBUTION BLOCK COVER
13	2	SPRECHER SCHUH	PCS-085-600V	480VAC MOTOR SOFTSTARTER
14	2	SQUARE D	BJL36200	200A 65kA 480V MCCB (SEE NOTE 1)
15	1	SQUARE D	LV426909	POWERPACT B HANDLE INTERLOCK
16	2	SQUARE D	BJL36050	50A 65kA 480V MCCB (SEE NOTE 1)
17	4	SQUARE D	LV426920	INTERPHASE BARRIERS
18	1	SQUARE D	RPM32F7	15A 3CO, LED 120VAC RELAY
19	1	SQUARE D	RPZF3	RPM RELAY BASE
20	1	SQUARE D	9001SKR1BH6	FLUSH, BLACK, 30 MM PB
TB1,TB2	59	WAGO	2002-1401	4P TERMINAL BLOCK
TB1	5	WAGO	2002-1407	GROUND TERMINAL BLOCK
TB1,TB2	6	WAGO	2002-1491	TERMINAL BLOCK COVER
TB1,TB2	17	WAGO	249-116	DIN END BARRIER
TB1	2	WAGO	2002-405	5-POLE JUMPER BAR
TB1	2	WAGO	2002-402	2-POLE JUMPER BAR
21	1	ILSCO	D-167-14	14-PT GROUND BAR
22	1	HOFFMAN	ALFSWD	INTRUSION LIMIT SWITCH
23	1	EATON	TWRSGF20W	20A GFCI DUPLEX RECEPTACLE
24	1	EATON	1221W	20A TOGGLE SWITCH
25	4	TE CONNECTIVITY	DBL80	DISTRIBUTION BLOCK
26	1	HOFFMANN	ALFSWD	DOOR SWITCH 10A 120VAC
27	1	ALLEN-BRADLEY	700-HA32A27	277VAC DPDT RELAY
28	1	ALLEN-BRADLEY	700-HN125	RELAY SOCKET, 8-PIN, OPEN STYLE SCREW TERMINALS
29	1	MERSEN	MPDB66591	1 POLE DISTRIBUTION BLOCK COVER
30	1	MERSEN	MPDBC6667	1 POLE DISTRIBUTION BLOCK COVER
MISC.	1	ATS		CUSTOM MAIN CB STANDOFF
MISC.	1	ATS		CUSTOM SS CB STANDOFF

GAINESVILLE REGIONAL UTILITIES
GRU
WATER & WASTEWATER ENGINEERING

CLIENT:
JOB NO.:
SHEET NO.: E-8

PROJECT: GRU STANDARD LIFT STATION DRAWINGS
SHEET TITLE: LIFT STATION CONTROL PANEL PCP LAYOUT & BILL OF MATERIALS

DESIGNED BY:
DRAWN BY:
CHECKED BY:

COMPUTER FILE:
DATE: FEBRUARY 2026

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
IF NOT ONE INCH, ADJUST THIS SHEET ACCORDINGLY

REVISIONS

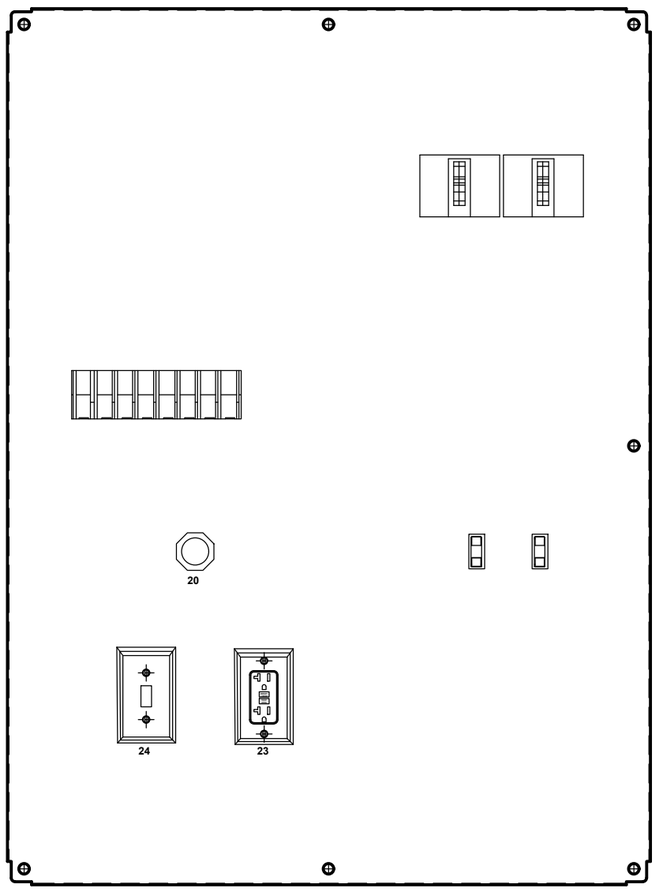
DATE	
02/2026	UPDATED STANDARD LIFT STATION UTILITY PLAN
02/2026	2025/2026 LIFT STATION STANDARDS UPDATES

SEAL

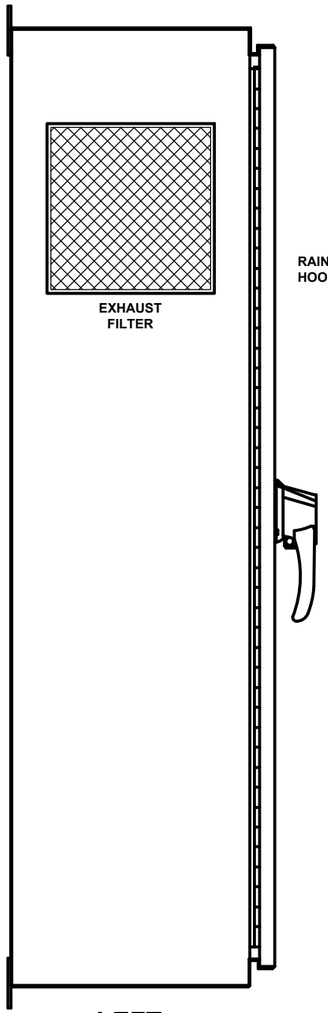
DATE:
APPROVED BY:
PLOT ID:

NOTE:

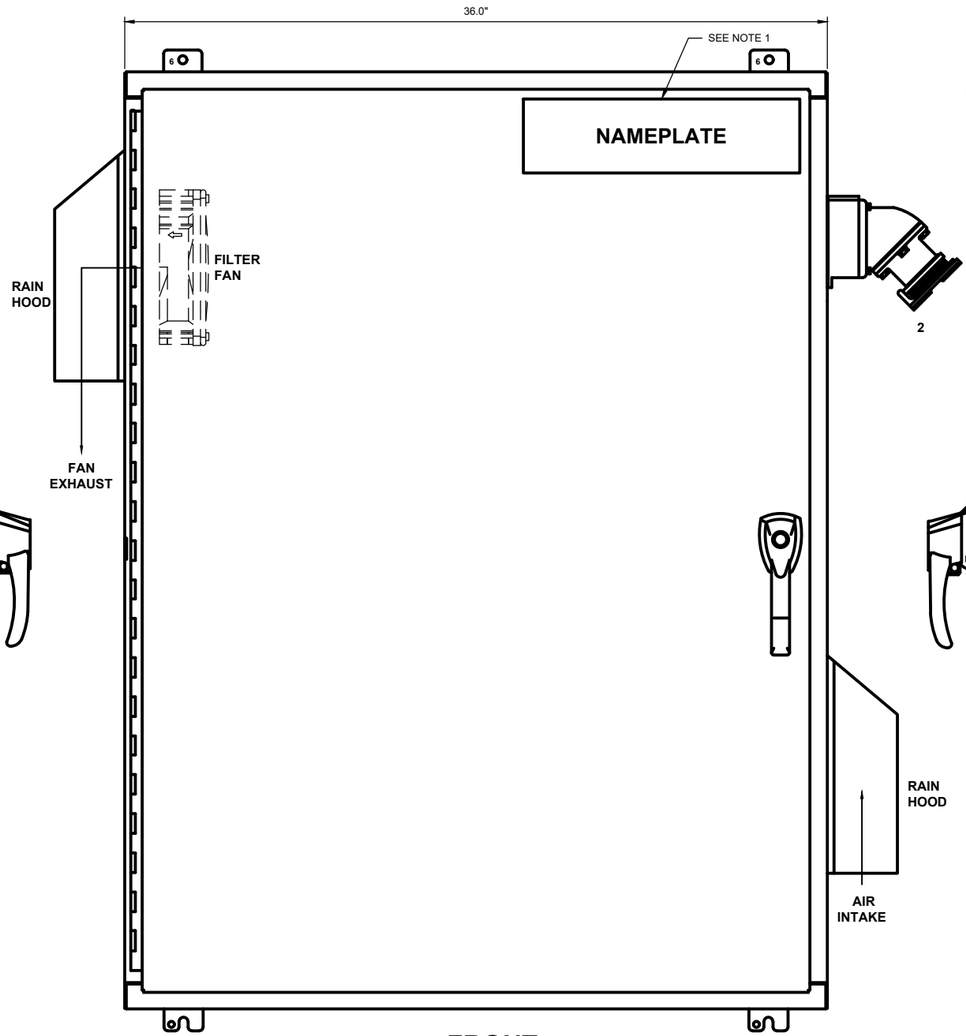
1. **PROVIDE A NAMEPLATE ON THE EXTERIOR DOOR TO IDENTIFY THE NAME OF THE CONTROL PANEL.**



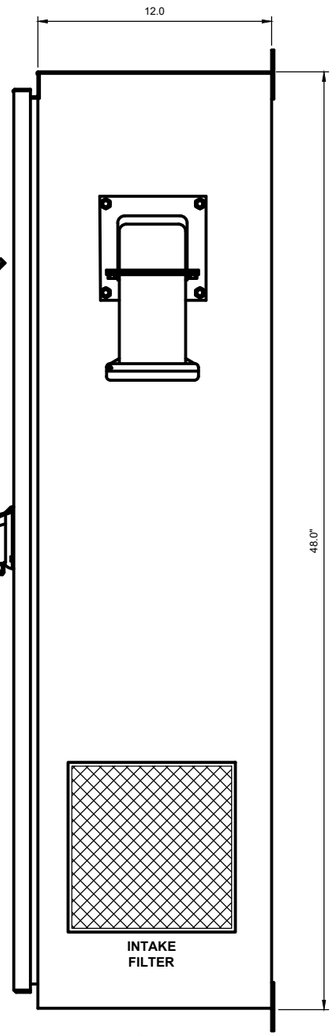
DEAD-FRONT INNER DOOR



LEFT



FRONT



RIGHT

CLIENT:

JOB NO.:

SHEET NO.: E – 9

PROJECT: GRU STANDARD LIFT STATION DRAWINGS

SHEET TITLE: LIFT STATION PUMP CONTROL PANEL PCP ENCLOSURE & INNER DOOR

DESIGNED BY:

DRAWN BY:

CHECKED BY:

COMPUTER FILE:

DATE: FEBRUARY 2026

GAINESVILLE REGIONAL UTILITIES

GRU

WATER & WASTEWATER ENGINEERING

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING

IF NOT ONE INCH ON THIS SHEET ADJUST SCALES ACCORDINGLY.

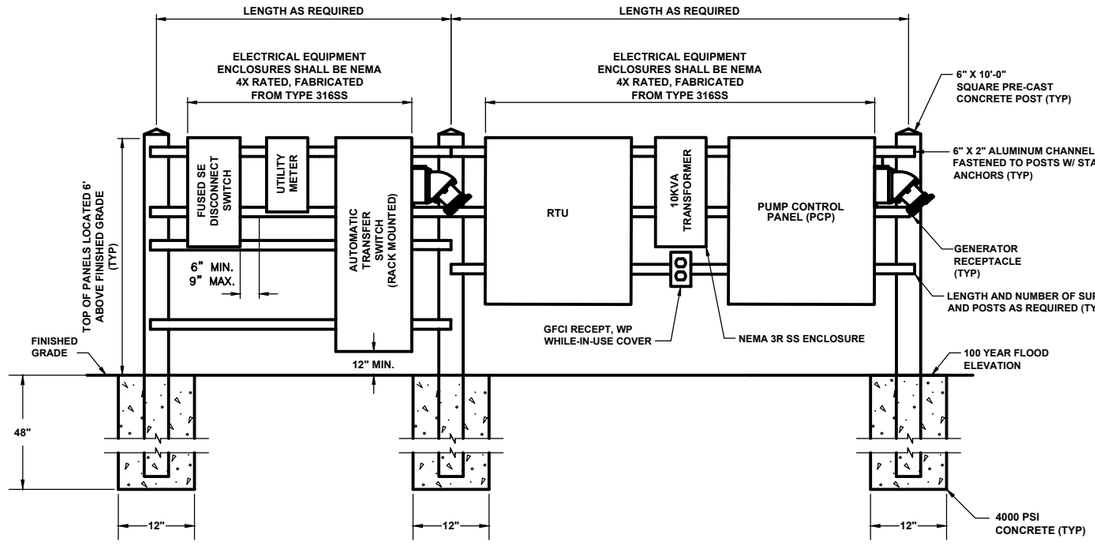
DATE	REVISIONS
02/2023	UPDATED STANDARD LIFT STATION UTILITY PLAN
02/2026	2025/2026 LIFT STATION STANDARDS UPDATES

SEAL

DATE:

APPROVED BY:

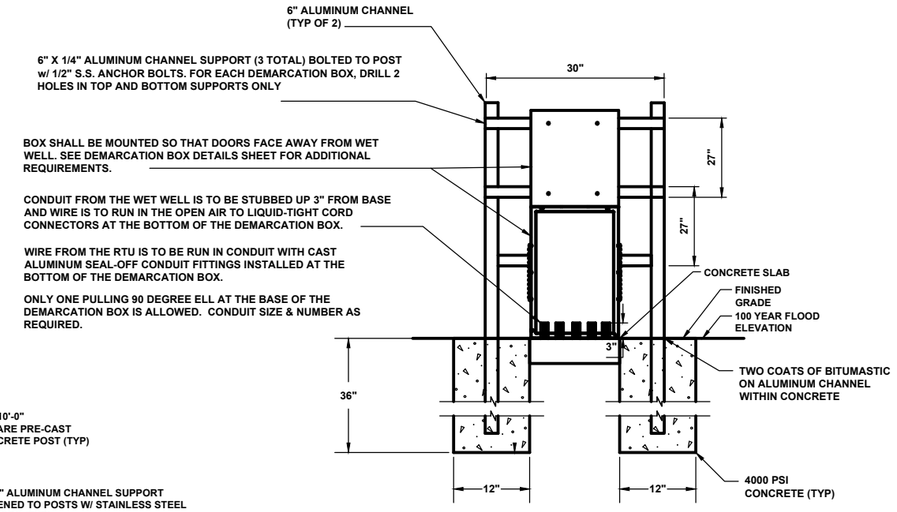
PLOT ID:



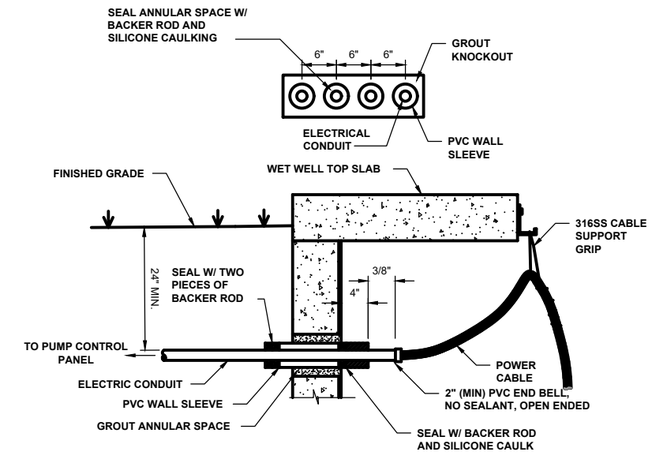
EQUIPMENT RACK WITH STANDBY GENERATOR PROVISIONS
DETAIL
NTS

EQUIPMENT RACK MOUNTING NOTES:

1. WIND SPEEDS SHALL BE DETERMINED BY THE DELEGATE ENGINEER.
2. EMBEDMENT DEPTH AS REQUIRED PER DELEGATE ENGINEER.
3. ALL SUPPORTS, AND MOUNTING HARDWARE SHALL BE TYPE 316 STAINLESS STEEL.
4. FOR ELECTRIC SERVICE BY CLAY ELECTRIC COOPERATIVE, INC., REFER TO CLAY ELECTRIC COOPERATIVE, INC. SINGLE SERVICE (320 AMP MAX) UNDERGROND SUPPLY (PEDESTAL MOUNT) DRAWING NO. ESFIG7A 2020 FOR INSTALLATION REQUIREMENTS PERTAINING TO THE ELECTRIC METER AND DISCONNECT SWITCH EQUIPMENT RACK LAYOUT.



DEMARCATION BOX MOUNTING
DETAIL
NTS



ELECTRICAL WALL PENETRATION
DETAIL
NTS

GAINESVILLE REGIONAL UTILITIES
GRU
WATER & WASTEWATER ENGINEERING

CLIENT:
JOB NO.:
SHEET NO.: E-10

PROJECT: GRU STANDARD LIFT STATION DRAWINGS
SHEET TITLE: FRONT ELEVATION DETAILS

DESIGNED BY:
DRAWN BY:
CHECKED BY:

COMPUTER FILE:
DATE: FEBRUARY 2026

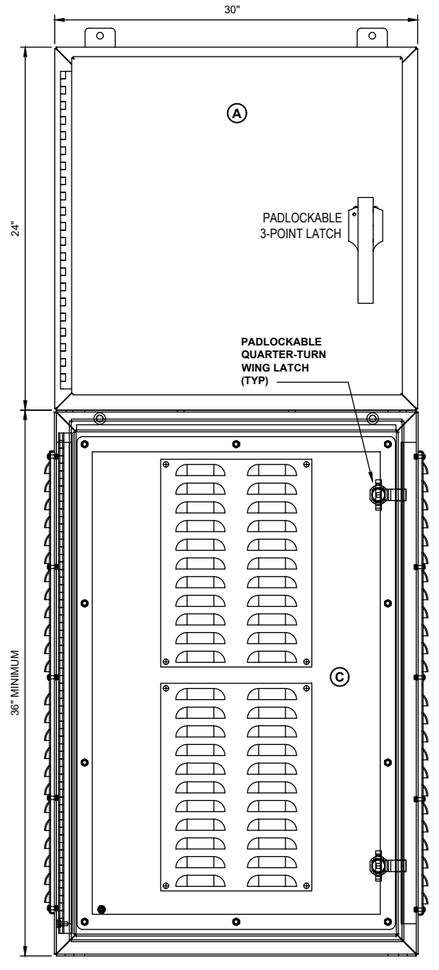
USE 1" SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

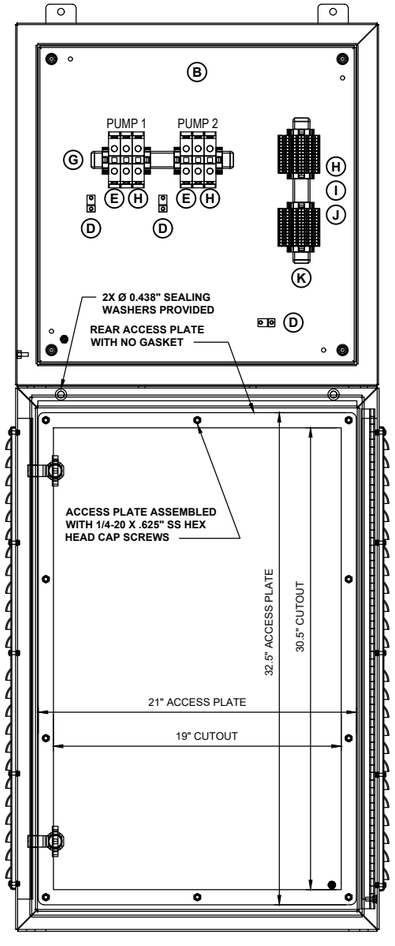
REVISIONS

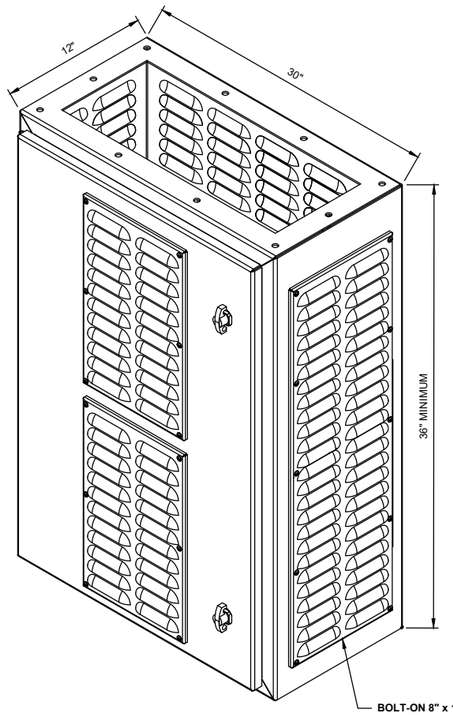
DATE	DESCRIPTION
02/2026	UPDATED STANDARD LIFT STATION UTILITY PLAN
02/2026	2025/2026 LIFT STATION STANDARDS UPDATES

SEAL

DATE:
APPROVED BY:
PLOT ID:







DEMARCATION BOX AND PEDESTAL

ENCLOSURE:
SCHAEFER #SPN4SS6-243012 (24"H x 30"W x 12"D) NEMA 4X RATED, FABRICATED FROM TYPE 316 STAINLESS STEEL. OUTER DOOR IS FITTED WITH A PADLOCKABLE 3-POINT LATCH.

BACK PANEL:
SCHAEFER #SPP-3030 (27"H x 27"W) FABRICATED FROM 12 GAUGE CARBON STEEL WITH WHITE POLYESTER POWDER COAT FINISH.

PEDESTAL:
SCHAEFER #SPN12SS6-363012-215 (36"H x 30"W x 12"D) NEMA 12 RATED, FABRICATED FROM TYPE 316 STAINLESS STEEL. OUTER DOOR IS FITTED WITH TWO PADLOCKABLE QUARTER-TURN LATCHES.

BILLS of MATERIALS
DEMARCATION BOX and PEDESTAL

	QTY	MANUFACTURER	PART NUMBER	DESCRIPTION
A	1	SCHAEFER	SPN4SS6-243012	ENCLOSURE, NEMA 4X 316 STAINLESS STEEL, 3-PT.
B	1	SCHAEFER	SPP-2430	MOUNTING PANEL, 12ga. PAINTED STEEL
C	1	SCHAEFER	SPN12SS6-363012-215	PEDESTAL, NEMA 12 316 STAINLESS STEEL, LOUVERS
D	3	PANDUIT	LAMA2-14-QY	GROUND LUG, DUAL-RATED, #2-14 AWG
E	6	WAGO	285-135	TERMINAL BLOCK, 1 POLE, 115A
		WAGO	285-150	TERMINAL BLOCK, 1 POLE, 150A
		WAGO	285-195	TERMINAL BLOCK, 1 POLE, 200A
		WAGO	285-1185	TERMINAL BLOCK, 1 POLE, 310A
F	-	WAGO	285-435	ADJACENT JUMPER, 115A
		WAGO	285-450	ADJACENT JUMPER, 150A
		WAGO	285-495	ADJACENT JUMPER, 200A
		WAGO	285-1171	ADJACENT JUMPER, 310A
G	1	WAGO	210-118	2M CARRIER RAIL, STEEL, UNSLOTTED
H	8	WAGO	249-197	TERMINAL END STOP, GRAY
I	24	WAGO	2102-1201	CONTROL TERMINALS, 24A, 800V, SPRING
J	2	WAGO	2102-1292	TERMINAL END / PARTITION PLATE, ORANGE
K	1	WAGO	210-112	2M DIN RAIL, GALVANIZED, SLOTTED

GAINESVILLE REGIONAL UTILITIES
GRU
WATER & WASTEWATER ENGINEERING

CLIENT:
JOB NO.:
SHEET NO.: E-11

PROJECT: GRU STANDARD LIFT STATION DRAWINGS
SHEET TITLE: DEMARCATION BOX DETAILS

DESIGNED BY:
DRAWN BY:
CHECKED BY:

COMPUTER FILE:
DATE: FEBRUARY 2026

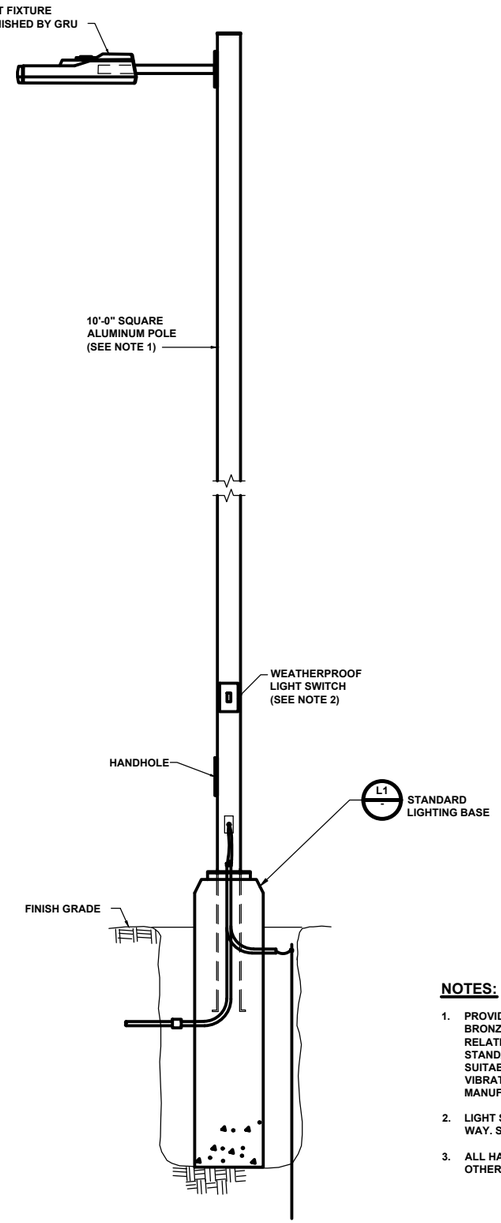
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0" 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALE ACCORDINGLY.

REVISIONS

DATE	DESCRIPTION
02/2026	UPDATED STANDARD LIFT STATION CAPACITY PLAN
02/2026	2025/2026 LIFT STATION STANDARDS UPDATES

SEAL

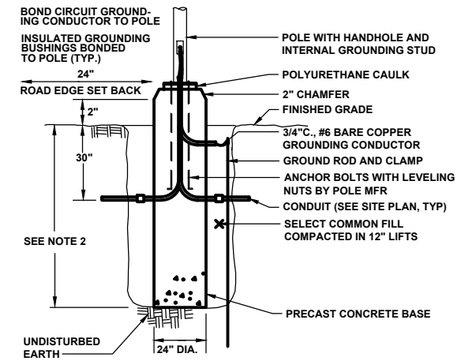
DATE:
APPROVED BY:
PLOT ID:



SITE LIGHT
DETAIL
NTS

NOTES:

1. PROVIDE A 10'-0" SQUARE ALUMINUM POLE. POLE SHALL HAVE A BRONZE FINISH AND MEET WIND LOADS AND GUST FACTOR FOR RELATED PROJECT LOCATION. POLE SHALL BE MOUNTED TO A STANDARD LIGHTING BASE PER DETAIL L1 ON THIS SHEET. SUITABLE ANCHOR BOLTS, BASE COVER, GROUND LUG, AND VIBRATION PAD FURNISHED WITH POLE. POLE SHALL BE MANUFACTURED BY HAPCO OR APPROVED EQUAL.
2. LIGHT SWITCH LOCATED ON POLE NEAREST TO ENTRANCE/DRIVE WAY. SEE ELECTRICAL SITE PLAN FOR LOCATION.
3. ALL HARDWARE SHALL BE TYPE 316 STAINLESS STEEL UNLESS OTHERWISE NOTED.



NOTES:

1. WIND SPEEDS SHALL BE DETERMINED BY THE DELEGATE ENGINEER.
2. EMBEDMENT DEPTH AS REQUIRED PER DELEGATE ENGINEER. MIN. EMBEDMENT IN CLAYEY SOILS 6'-6", MIN EMBEDMENT IN SANDY SOILS 4'-6".

STANDARD LIGHTING BASE
DETAIL L1
NTS

GAINESVILLE REGIONAL UTILITIES
GRU
WATER & WASTEWATER ENGINEERING

PROJECT: GRU STANDARD LIFT STATION DRAWINGS
SHEET TITLE: LIGHTING DETAILS
CLIENT:
JOB NO.:
SHEET NO.: E-12

DESIGNED BY:
DRAWN BY:
CHECKED BY:
COMPUTER FILE:
DATE: FEBRUARY 2026

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
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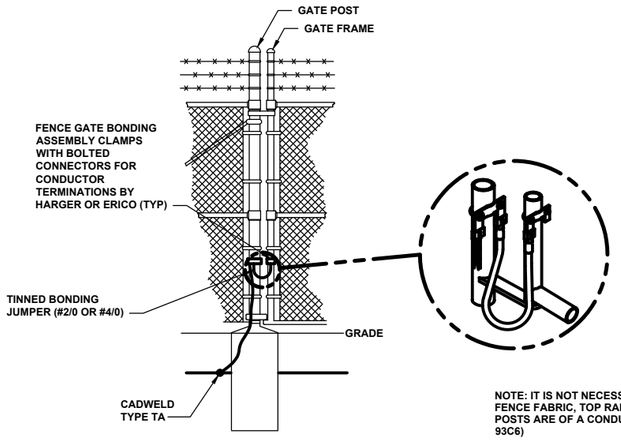
DATE	REVISIONS
02/2026	UPDATED STANDARD LIFT STATION UTILITY PLAN
02/2026	2025/2026 LIFT STATION STANDARDS UPDATES

SEAL

DATE:
APPROVED BY:
PLOT ID:



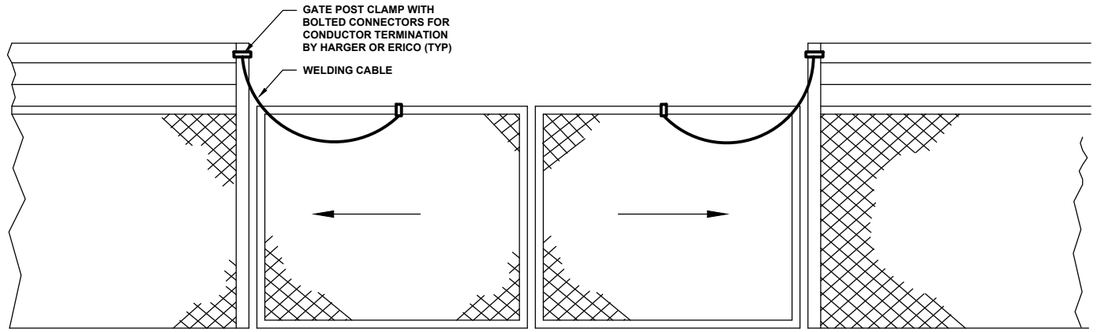
NOTE: IT IS NOT NECESSARY TO CONNECT TO THE FENCE FABRIC, TOP RAIL OR THE BARBED WIRE IF THE POSTS ARE OF A CONDUCTING MATERIAL. (REF: NESC 93C6)

GATE & GATE POST

GATE & GATE POST GROUNDING

DETAIL A

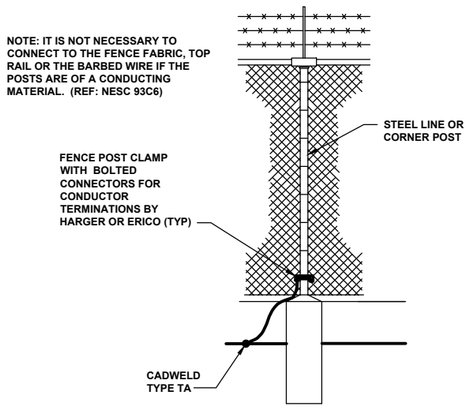
NTS



ROLLING GATE BONDING

DETAIL B

NTS



FENCE GROUNDING, LINE & CORNER POSTS

DETAIL C

NTS

GAINESVILLE REGIONAL UTILITIES
GRU
WATER & WASTEWATER ENGINEERING

PROJECT: GRU STANDARD LIFT STATION DRAWINGS
SHEET TITLE: FENCE & GATE GROUNDING DETAILS
JOB NO.:
SHEET NO.: E-13

DESIGNED BY:
DRAWN BY:
CHECKED BY:
COMPUTER FILE:
DATE: FEBRUARY 2026

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
IF NOT ONE INCH ON THIS SHEET ADJUST SCALES ACCORDINGLY

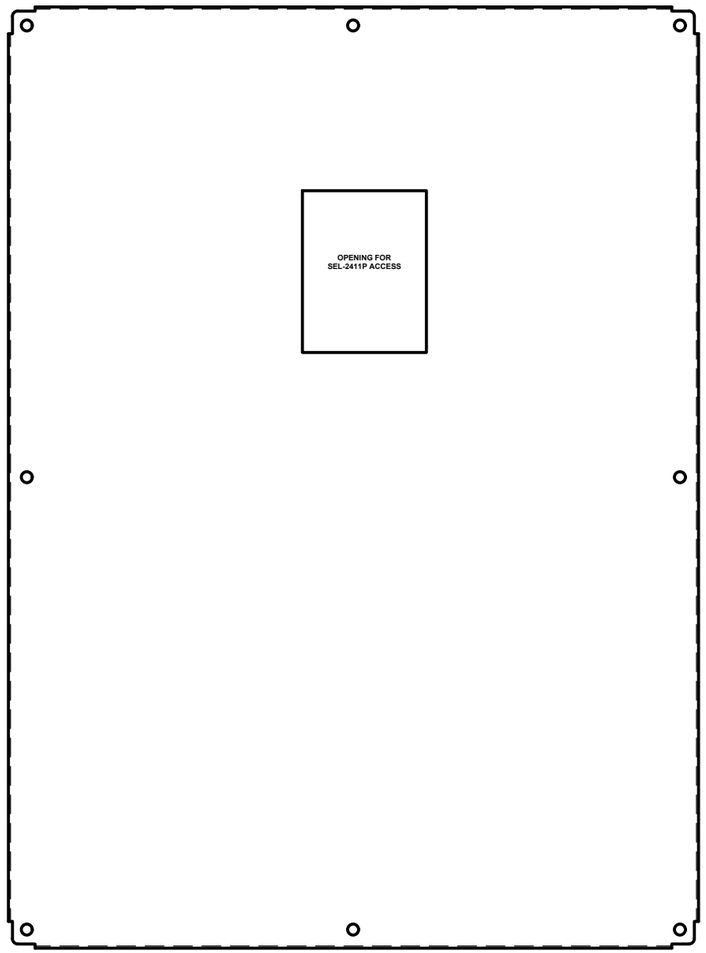
DATE	REVISIONS
02/2023	UPDATED STANDARD LIFT STATION UTILITY PLAN
2025/2026	LIFT STATION STANDARDS UPDATES
02/2026	

SEAL

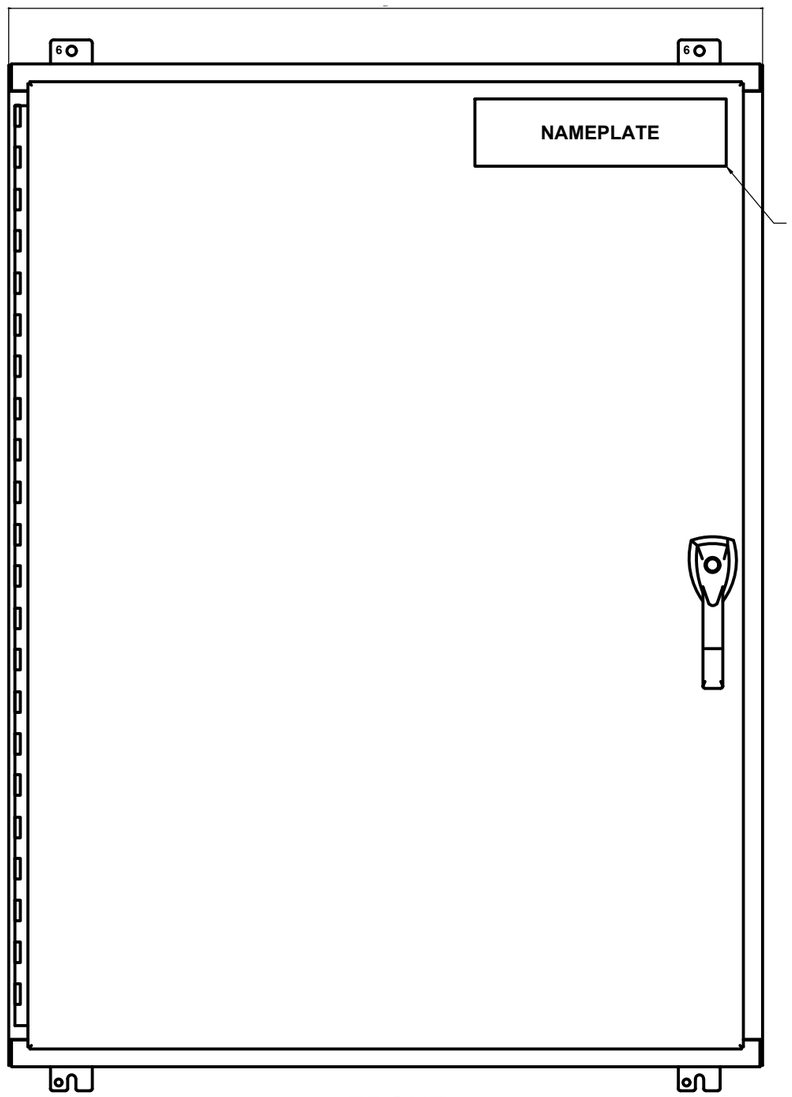
DATE:
APPROVED BY:
PLOT ID:

NOTE:

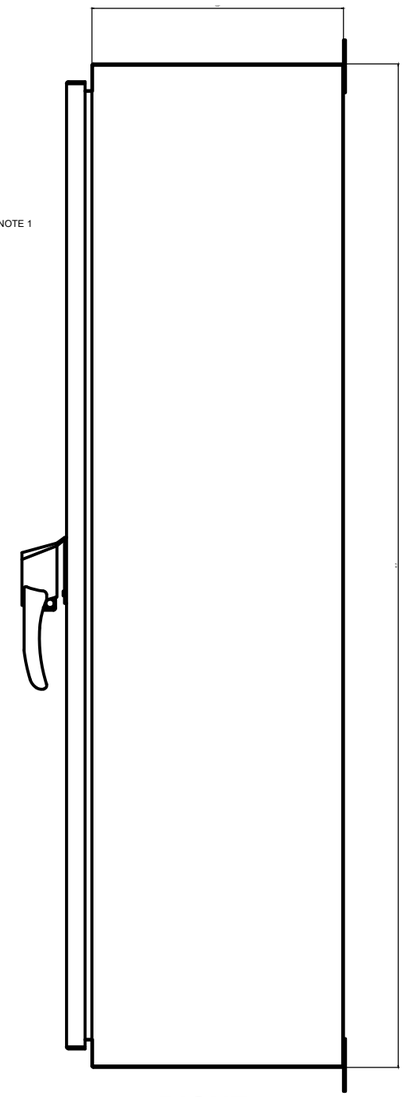
1. **PROVIDE A NAMEPLATE ON THE EXTERIOR DOOR TO IDENTIFY THE NAME OF THE CONTROL PANEL.**



DEAD-FRONT INNER DOOR



FRONT



RIGHT

CLIENT:

JOB NO.:

SHEET NO.: 1 — 1

PROJECT: GRU STANDARD LIFT STATION DRAWINGS

SHEET TITLE: RTU ENCLOSURE EXTERIOR & INTERIOR DOOR

DESIGNED BY:

DRAWN BY:

CHECKED BY:

COMPUTER FILE:

DATE: FEBRUARY 2026

GAINESVILLE REGIONAL UTILITIES
GRU
WATER & WASTEWATER ENGINEERING

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
IF BAR DOES NOT MEASURE 1" THIS SHEET IS NOT SCALED ACCORDINGLY.

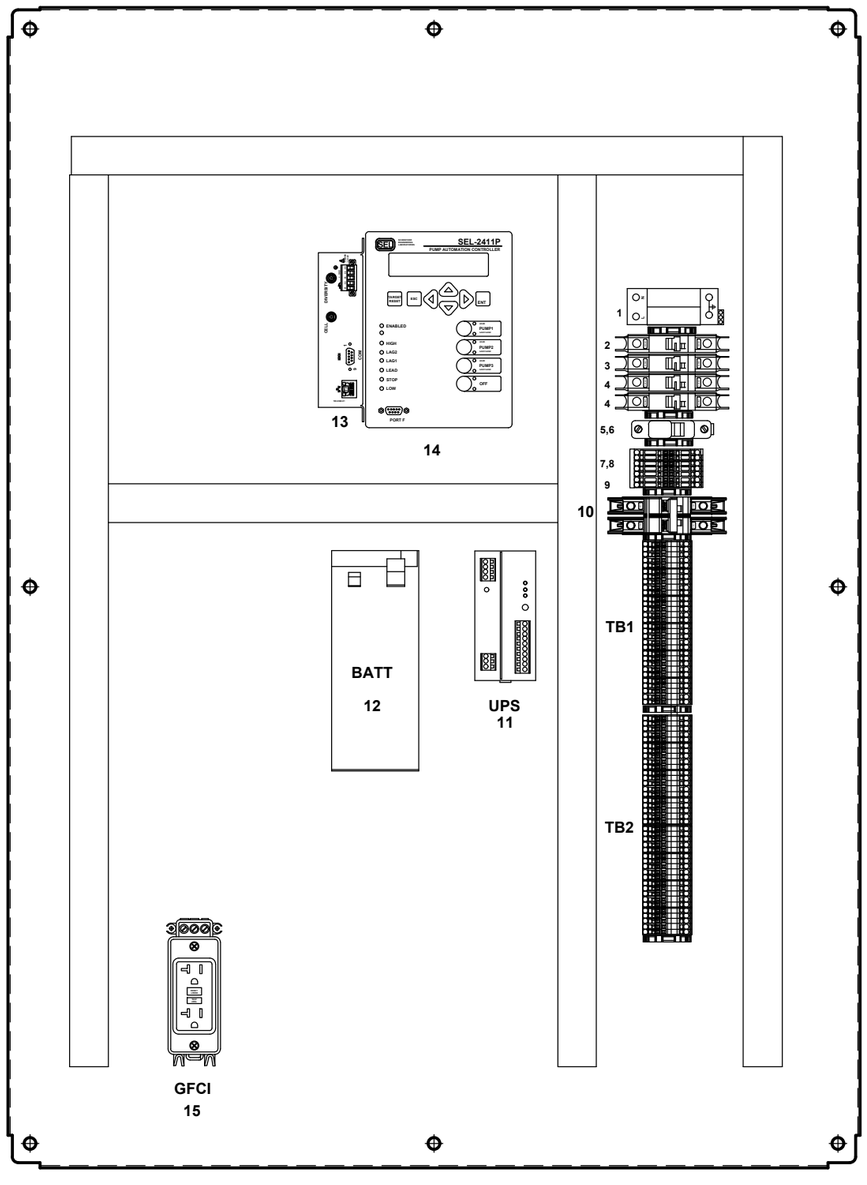
REVISIONS	DATE
UPDATED STANDARD LIFT STATION TITLE BLOCK	02/2023
2025/2026 LIFT STATION STANDARDS UPDATES	02/2026

SEAL

DATE:

APPROVED BY:

PLOT ID:



BACKPANEL

BILL OF MATERIAL

REF	QTY	MANUFACTURER	PART NO.	DESCRIPTION
1	1	CITEL	DS42S-120/G	SURGE ARRESTOR
2	1	EATON	FAZ-C15-1-NA-L-SP	CIRCUIT BREAKER, 1-P, 15A, UL489
3	1	EATON	FAZ-C10-1-NA-L-SP	CIRCUIT BREAKER, 1-P, 10A, UL489
4	2	EATON	FAZ-C5-1-NA-L-SP	CIRCUIT BREAKER, 1-P, 5A, UL489
5	1	EATON	CHM1DU	FUSE HOLDER, FINGER DAFE, 13/32 x 1.-1/2 FUSE
6	1	BUSSMAN	FNN-5	FUSE, 5A, 250V TIME DELAY
7	5	WAGO	2002-1611/1000-541	FUSE HOLDER 5x 20MM W/24DC BLOWN FUSE INDICATOR
8	4	BUSSMAN	GMA-2R	FUSE, 2A, 250V, 5 x 20MM
9	1	BUSSMAN	GMA-250R	FUSE, 250MA, 250V, 5 x 20MM
10	1	EATON	FAZ-C5/2-1-NA-L-SP	CIRCUIT BREAKER, 2-P 5A, UL 489
11	1	WAGO	787-1675	DC POWER SUPPLY WITH BATTERY CHARGER.CONTROLLER
12	1	WAGO	787-872	7 AH BATTERY
13	1	SCHWEITZER LAB	SEL-3061	CELLUAR ROUTER
13	1	SCHWEITZER LAB	SEL-3061-NC6L	CELLUAR ROUTER DUAL ANTENNA KIT
14	1	SCHWEITZER / EMC	SEL-2411P	PUMP CONTROLLER
14	1	SCHWEITZER / EMC		2411P ACCESSORIES KIT
15	1	WAGO	51018351	DUPLEX GFCI RECEPTACLE, 15A
TBA, TB2	X	WAGO	2002-1201	TERMINAL BLOCK, CAGE CLAMP
TBA, TB2	X	WAGO	2002-1207	GROUND TERMINAL BLOCK
TBA, TB2	X	WAGO	2002-1291	END PLATE
MISC.	X	WAGO	249-116	END STOP
ENCL.	1	HAMMOND	HW483612S16HK	ENCLOSURE, NEMA 4x, 316 STAINLESS STEEL
ENCL.	1	HAMMOND	18P4533	BACK PANEL, STEEL, WHITE
ENCL.	1	HAMMOND	DK36S16	DRIP SHIELD
ENCL.	1	HAMMOND	18A4533	ALUMINUM SWING PANEL
ENCL.	1	HAMMOND	SPB2	SWING PANEL MOUNTING/HINGE KIT
ENCL.	1	HAMMOND	DSTOPK	DOOR STOP KIT
LIGHT	1	HAMMOND	HDLED120SCR	LED ENCLOSURE LIGHT, 120VAC
PWR CORD	1	HAMMOND	LEDACCORDPOW	POWER CORD, 120VAC
DOOR SWITCH	1	HOFFNAM	ALFSWD	DOOR SWITCH
GND BAR	1	ITSCO	D-167-14	GROUND BAR
	1	CITEL	DLA2-24D3	ANALOG SURGE ARRESTOR
MISC.				-1/2 x 4" x 1 METER WIRE DUCT & COVER, AS REQUIRED
MISC.				DIN RAIL

GAINESVILLE REGIONAL UTILITIES
GRU
WATER & WASTEWATER ENGINEERING

CLIENT:
JOB NO.:
SHEET NO.: 1 – 2

PROJECT: GRU STANDARD LIFT STATION DRAWINGS
SHEET TITLE: RTU LAYOUT & BILL OF MATERIALS

DESIGNED BY:
DRAWN BY:
CHECKED BY:

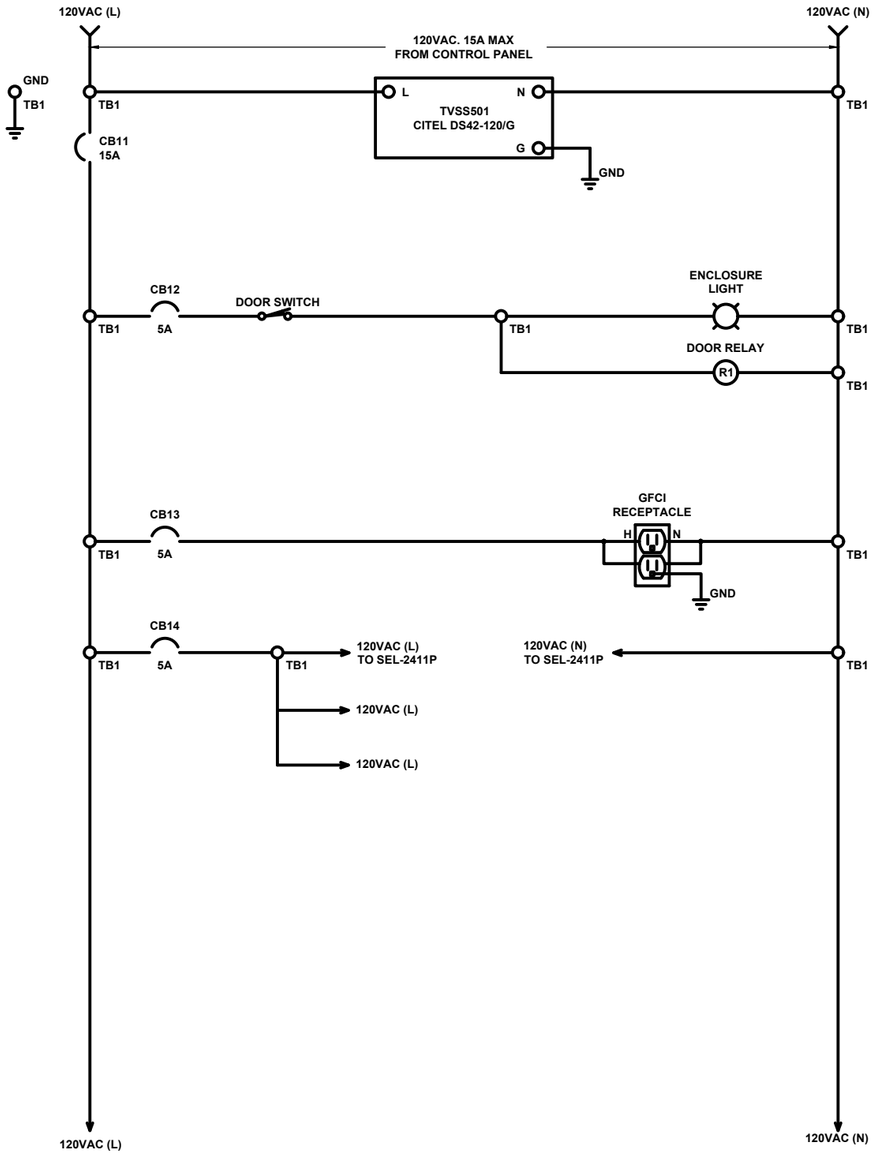
COMPUTER FILE:
DATE: FEBRUARY 2026

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
IF NOT ONE INCH DO NOT SCALE DRAWING

REVISIONS		
DATE		
07/2023	UPDATED STANDARD LIFT STATION UTILITY PLAN	
02/2026	2025/2026 LIFT STATION STANDARDS UPDATES	

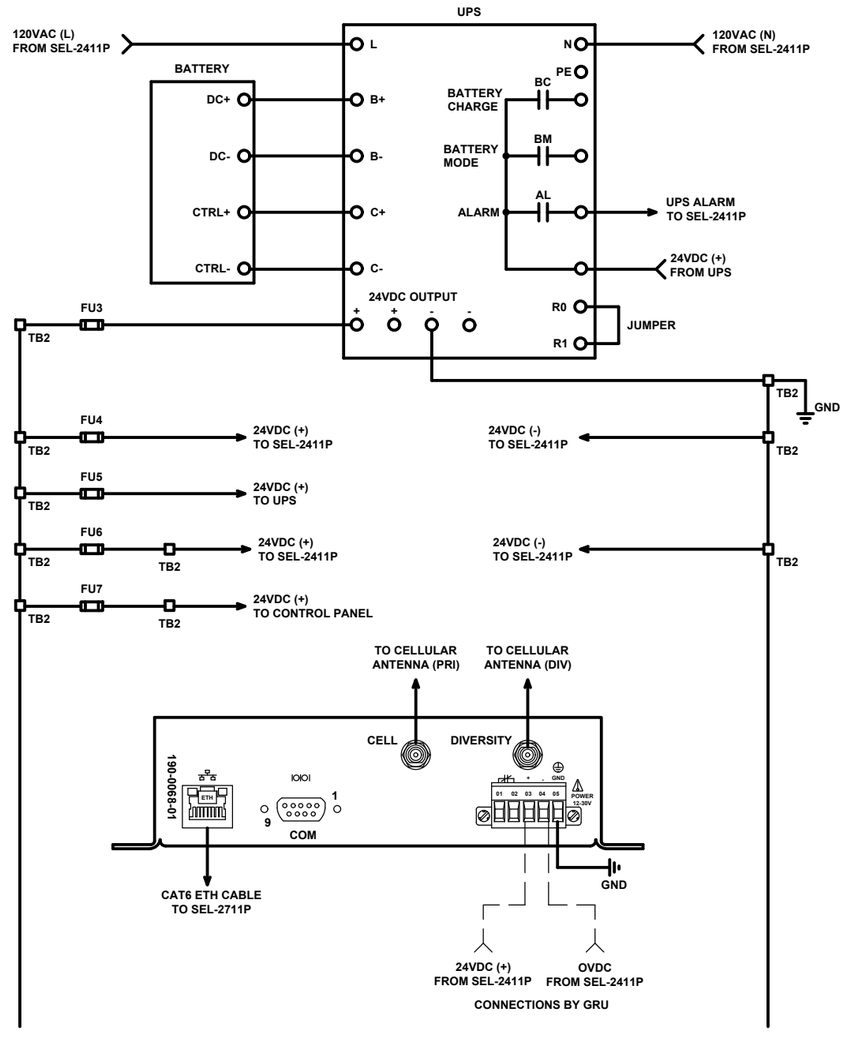
SEAL

DATE:
APPROVED BY:
PLOT ID:



NOTE:

1. THE COMPLETED CONTROL PANEL ASSEMBLY SHALL BE UL CERTIFIED.



CLIENT:

JOB NO.:

SHEET NO.: 1 — 3

PROJECT: GRU STANDARD LIFT STATION DRAWINGS

SHEET TITLE: RTU CONTROL POWER SCHEMATIC

DESIGNED BY:

DRAWN BY:

CHECKED BY:

COMPUTER FILE:

DATE: FEBRUARY 2026

GAINESVILLE REGIONAL UTILITIES

GRU

WATER & WASTEWATER ENGINEERING

USE F SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0" 1"
IF NOT ONE INCH, ADJUST THIS SHEET ACCORDINGLY.

REVISIONS

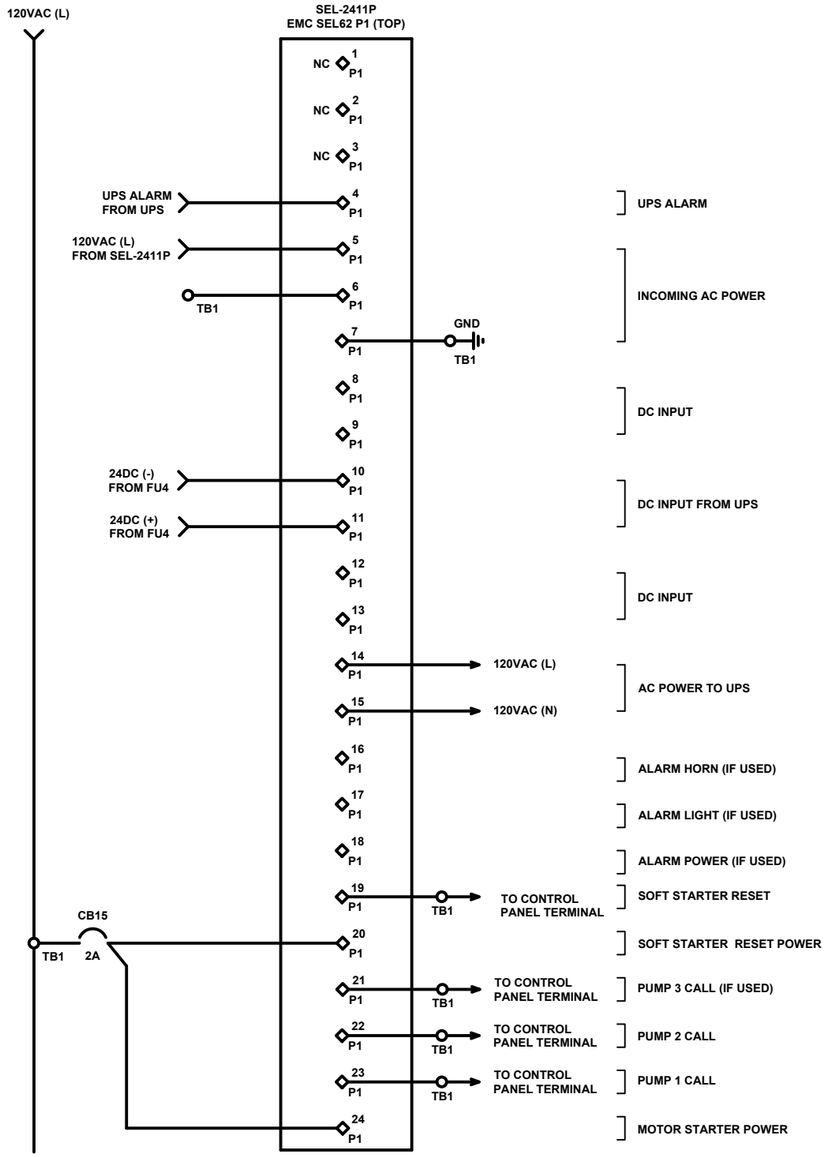
DATE	
07/2023	UPDATED STANDARD LIFT STATION UTILITY PLAN
02/2026	2025/2026 LIFT STATION STANDARDS UPDATES

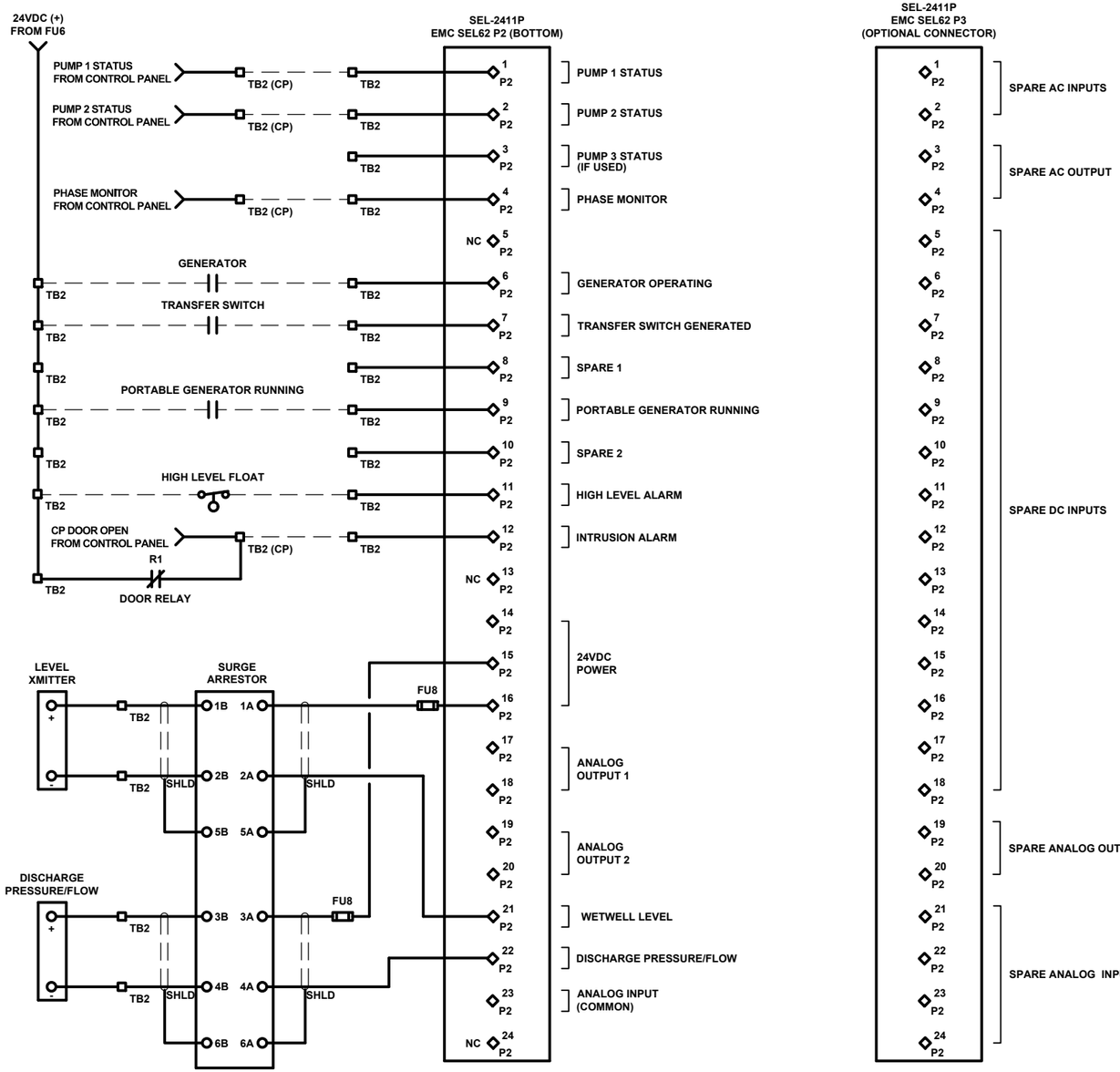
SEAL

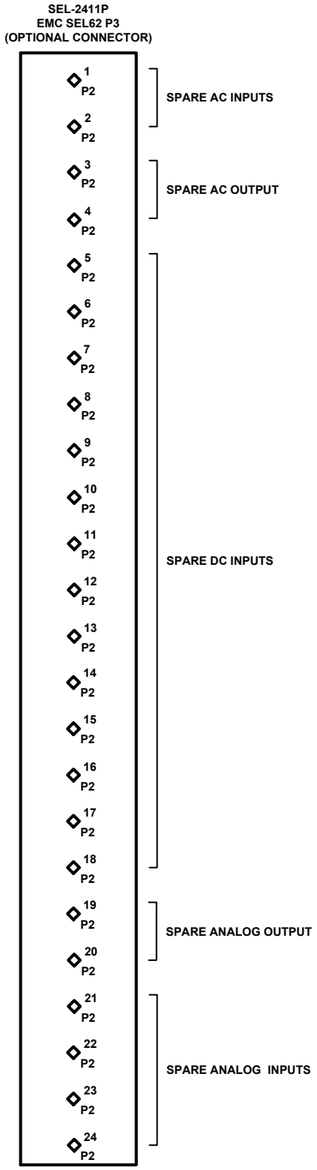
DATE:

APPROVED BY:

PLOT ID:







CLIENT:
JOB NO.:
SHEET NO.: I – 4

PROJECT: GRU STANDARD LIFT STATION DRAWINGS
SHEET TITLE: RTU SEL 2411P I/O SCHEDULE

DESIGNED BY:
DRAWN BY:
CHECKED BY:

COMPUTER FILE:
DATE: FEBRUARY 2026

REVISIONS
UPDATED STANDARD LIFT STATION UTILITY PLAN
2025/2026 LIFT STATION STANDARDS UPDATES

DATE
02/2026
02/2026

SEAL

APPROVED BY:
PLOT ID:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
IF NOT ONE INCH ON THIS SHEET ADJUST SCALE ACCORDINGLY.
0" 1"

GAINESVILLE REGIONAL UTILITIES
GRU
WATER & WASTEWATER ENGINEERING