FCWS - TRILITH TANK
BOOSTER PUMP STATION

ISSUED FOR BID
APRIL 2025

VICINITY MAP
NOT TO SCALE

LOCATION MAP
NOT TO SCALE

OWNER:

FAYETTE County Water

ENGINEER OF RECORD

LEGAL ENTITY: ARCADIS-U.S., INC.

ARCADIS Design & Consultancy for natural and built assets

2839 PACES FERRY ROAD, SUITE 400, ATLANTA,
GA 30339-3769 TEL: 770-431-8666 FAX: 770-435-2666
www.ARCADIS.com

GEORGIA811 Utilities Protection Center, Inc.
Know what's **below.** **Call** before you dig.

ARCADIS ASSUMES NO RESPONSIBILITY FOR EXISTING UTILITY LOCATIONS (HORIZONTAL AND VERTICAL). THE EXISTING UTILITIES SHOWN ON THESE DRAWINGS HAVE BEEN PLOTTED FROM THE BEST AVAILABLE INFORMATION. IT IS, HOWEVER, THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES.

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ARCADIS U.S., INC.
2839 PACES FERRY ROAD
SUITE 900 ATLANTA, GA 30339
TEL: 770-431-8666
WWW.ARCADIS.COM

CONSULTANTS

SEALS

GEORGIA REGISTERED PROFESSIONAL ENGINEER
No. PE045302
TRAVIS THOMAS
4/18/2025

FAYETTE COUNTY, GEORGIA
FAYETTE COUNTY WATER SYSTEM

FAYETTE County Water

FCWS-TRILITH TANK BOOSTER PUMP STATION

400 VETERANS PARKWAY,
FAYETTEVILLE, GA 30214,
UNITED STATES

REVISIONS

NO.	DATE	ISSUED FOR	BY
0	4/18/2025	ISSUED FOR BID	TT

PROJECT STATUS: BID

PROJECT NO.:	30135792
DATE:	APRIL 2025
FILE NAME:	G-01
DESIGNED BY:	E. VAN DEVENTER
DRAWN BY:	B. TARIT
CHECKED BY:	T. THOMAS

SHEET TITLE

GENERAL

COVER SHEET AND SITE LOCATION

SCALE: NTS

G-01

SHEET 1 OF 37

DRAWING INDEX

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02	G - 02	DRAWING INDEX
	CIVIL	
03	C - 01	CIVIL NOTES, SYMBOLS AND ABBREVIATIONS
04	C - 02	EXISTING CONDITIONS PLAN
05	C - 03	BOOSTER PUMP STATION SITE AND YARD PIPING PLAN
06	C - 04	SITE FINISH GRADING PLAN
07	C - 05	PRESSURE PIPE PROFILES
08	C - 06	CIVIL DETAILS
09	ESC-01	EROSION & SEDIMENT CONTROL LEGEND & NOTES
10	ESC-02	SOIL MAP
11	ESC-03	EROSION AND SEDIMENT CONTROL PLAN
12	ESC-04	EROSION & SEDIMENT CONTROL DETAILS (SHEET 1 OF 2)
13	ESC-05	EROSION & SEDIMENT CONTROL DETAILS (SHEET 2 OF 2)
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15	M - 02	BOOSTER PUMP STATION PLAN AND SECTIONS
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18	S - 02	STRUCTURAL SPECIAL INSPECTION NOTES
19	S - 03	BOOSTER PUMP STATION BASE SLAB PLAN, SECTIONS AND DETAILS
20	S - 04	BOOSTER PUMP STATION STRUCTURAL DETAILS

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22	E - 02	LEGEND, SYMBOLS, AND ABBREVIATIONS -SHEET 2 OF 2
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24	E - 04	ONE LINE DIAGRAM
25	E - 05	BOOSTER PUMP STATION POWER AND GROUNDING PLAN
26	E - 06	BOOSTER PUMP STATION LIGHTING AND RECEPTACLE PLAN
27	E - 07	INTERCONNECT WIRING DIAGRAM
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32	I - 01	INSTRUMENTATION SYMBOLS AND LEGEND 1 OF 3
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35	I - 04	ELEVATED WATER STORAGE TANK P&ID
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PROJECT STATUS: BID
PROJECT NO.: 30135792
DATE: APRIL 2025
FILE NAME: G-02
DESIGNED BY: E. VAN DEVENTER
DRAWN BY: B. TARIT
CHECKED BY: T. THOMAS

SHEET TITLE
GENERAL
DRAWING INDEX

SCALE: NTS

G-02
SHEET 2 OF 37

GENERAL SITE AND YARD PIPING NOTES

1. THE CONTRACTOR SHALL FURNISH ALL MATERIALS FOR, AND PROPERLY RESTORE ALL PAVEMENT, DRIVES, SIDEWALK, AND CURBS, WHICH MAY HAVE BEEN DAMAGED, REMOVED OR DISTURBED AS RESULT OF ACCOMPLISHING THE WORK.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING GRADES AND DIMENSIONS AND NOTIFYING THE ENGINEER IN ADVANCE AND IN WRITING OF ANY DISCREPANCIES PRIOR TO PERFORMING ANY WORK.
3. EXISTING UTILITY LOCATIONS SHOWN ARE BASED ON SURFACE OBSERVATION AND LIMITED DETECTION SERVICES. NOT ALL EXISTING UTILITIES ARE SHOWN ON THE DRAWING. CONTRACTOR IS RESPONSIBLE FOR DETERMINING BOTH THE EXACT LOCATION AND INSTALLED ELEVATION OF ALL EXISTING UTILITIES AND FOR DETERMINING THEIR PROTECTION DURING CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE ALL OPERATIONS WITH ALL UTILITIES WHICH MAY BE IN CONFLICT WITH HIS WORK. NOTIFY THE ENGINEER IN ADVANCE AND IN WRITING OF ANY DISCREPANCIES PRIOR TO PERFORMING ANY WORK.
4. A COPY OF THE APPROVED SET OF CONSTRUCTION PLANS MUST BE ON THE JOBSITE AT ALL TIMES DURING CONSTRUCTION.
5. ALL EROSION AND SEDIMENTATION CONTROLS AND TREE PROTECTION SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBANCE ACTIVITY.
6. UNLESS NOTED OTHERWISE ALL CONSTRUCTION SHALL CONFORM TO THE FAYETTE COUNTY AND STATE OF GEORGIA STANDARDS AND SPECIFICATIONS.
7. WHERE SHOWN ON DRAWINGS ALL SUBSURFACE TOPOGRAPHICAL FEATURES WHICH INCLUDE GROUND WATER TABLE, PARTIALLY WEATHERED ROCK, AND ROCK SHOWN ARE APPROXIMATE. THE CONTRACTOR AT HIS EXPENSE SHALL CONDUCT ADDITIONAL SUBSURFACE SOIL EXPLORATION IF DEEMED NECESSARY.
8. THE CONTRACTOR SHALL COORDINATE, OBTAIN APPROVAL AND PROVIDE TEMPORARY TRAFFIC ROUTING PLANS PRIOR TO ANY LANE CLOSURES WITH THE FAYETTE COUNTY.
9. ALL WORK AROUND THE EXISTING UTILITIES AND UTILITY STRUCTURES WHETHER ABOVE OR BELOW GROUND SHALL BE PERFORMED IN A MANNER THAT WILL AVOID DAMAGE TO THE UTILITIES AND STRUCTURES. PRIOR TO COMMENCING WORK, THE CONTRACTOR SHALL ACCURATELY LOCATE ABOVE AND BELOW GROUND UTILITIES WHICH MAY BE AFFECTED BY THE WORK AND PROTECT ALL UTILITIES NOT DESIGNATED FOR REMOVAL, RESTORATION, OR REPLACEMENT IN THE COURSE OF CONSTRUCTION. PROVIDE 72 HOURS OF ADVANCE NOTICE TO THE UTILITY OWNER AND FAYETTE COUNTY PRIOR TO BEGINNING CONSTRUCTION IN THE VICINITY OF THE EXISTING UTILITIES. FOR EXISTING UTILITY LOCATION ASSISTANCE CALL THE UNDERGROUND UTILITIES PROTECTION CENTER (GA 811).
10. ANY DAMAGE TO EXISTING UTILITIES CAUSED BY THE CONTRACTOR, CONTRACTOR'S CREW AND/OR EQUIPMENT SHALL BE THE CONTRACTOR'S COST AND RESPONSIBILITY TO REPLACE PER OWNER'S STANDARDS AND SPECIFICATIONS.
11. THE REFUSE RESULTING FROM THE CLEARING AND GRUBBING OPERATION SHALL BE HAULED TO A DISPOSAL SITE SECURED BY THE CONTRACTOR AND SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL REQUIREMENTS OF FEDERAL, STATE, COUNTY AND MUNICIPAL REGULATIONS. NO DEBRIS OF ANY KIND SHALL BE DEPOSITED IN ANY STREAM OR BODY OF WATER, OR IN ANY STREET OR ALLEY. NO DEBRIS SHALL BE DEPOSITED UPON ANY PRIVATE PROPERTY EXCEPT BY WRITTEN CONSENT OF THE PROPERTY OWNER. IN NO CASE SHALL ANY MATERIAL BE LEFT ON THE PROJECT, SHOVED ONTO ABUTTING PRIVATE PROPERTIES, OR BE BURIED IN THE EMBANKMENTS OR TRENCHES ON THE PROJECT.
12. FINISHED GRADING OF THE DISTURBED AREA SHALL BE ACCORDING TO CIVIL DRAWINGS. NO STANDING WATER OR PONDING OF ANY KIND IS ALLOWED. ALL DISTURBED AREA SHALL BE IMMEDIATELY GRASSED.
13. THE CONTRACTOR SHALL COMPLY WITH THE STATE OF GEORGIA MANUAL FOR EROSION AND SEDIMENT CONTROL STANDARDS, LATEST EDITION.
14. IN THE EVENT ACTIVE UTILITY SERVICES REQUIRE INTERRUPTION, THE CONTRACTORS SHALL COORDINATE AND CONSULT WITH THE OWNER OR/OWNERS AND OBTAIN APPROVAL FROM THEM PRIOR TO SERVICES BEING DISRUPTED.
15. THE CONTRACTOR SHALL ALL TIMES CONTROL DUST AND DEBRIS FROM THE OPERATIONS TO A LEVEL ACCEPTABLE TO FAYETTE COUNTY AND LOCAL BUSINESSES AT ALL TIMES.
16. TEMPORARY DISCONNECTION, REMOVAL AND/OR REPLACEMENT OF THE FOLLOWING ITEMS BUT NOT LIMITED TO, FIRE HYDRANTS, WATER METERS, BACK FLOW PREVENTION DEVICES, VAULTS, MANHOLE AND OTHER POTABLE WATER SYSTEM APPURTENANCES. ASSOCIATED APPURTENANCES SHALL BE IN STRICT ACCORDANCE WITH THE LATEST FAYETTE COUNTY STANDARDS AND SPECIFICATIONS. BEFORE CONNECTION, REMOVAL AND/OR REPLACEMENT OF ANY UTILITIES. THE CONTRACTOR SHALL CONTACT AND OBTAIN APPROVAL FROM FAYETTE COUNTY PUBLIC WORKS REPRESENTATIVES PRIOR TO CONSTRUCTION.
17. ALL EXCAVATION SHALL BE ADEQUATELY SHORED TO ENSURE WORKER SAFETY. ALL PIPE LAYING OPERATIONS SHALL COMPLY WITH OSHA REQUIREMENTS FOR TRENCH SAFETY.
18. MAINTENANCE AND TRAFFIC: THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL ROAD PERMITS FROM FAYETTE COUNTY INCLUDING PROVIDING ANY RESTORATION BONDS. THE CONTRACTOR SHALL PROVIDE A DETAILED PHASED TRAFFIC CONTROL PLAN BASED ON THE PROPOSED WORK PHASING AS DETERMINED BY THE CONTRACTOR.
19. 72 HOURS NOTICE IS REQUIRED TO GEORGIA 811 UTILITY PROTECTION CENTER BEFORE ANY PLANNED DIGGING. http://www.georgia811.com

PROJECT COMPLETION

1. PRIOR TO ACCEPTANCE AND FINAL PAYMENT, CONTRACTOR IS TO PROVIDE AN AS-BUILT SURVEY, WHICH IS A DRAWING PREPARED AND SIGNED BY A REGISTERED LAND SURVEYOR REGISTERED IN THE STATE OF GEORGIA ILLUSTRATING THE LOCATIONS, DIMENSIONS AND ELEVATIONS OF A DEVELOPMENT AS IT HAS BEEN CONSTRUCTED FOLLOWING COMPLETION OF CONSTRUCTION ON DIRECT FIELD MEASUREMENTS AND SHOWN TO SCALE.

LEGEND & SYMBOLS

- –510– EXISTING MAJOR CONTOUR
- –511– EXISTING MINOR CONTOUR
- W EXISTING WATER LINE
- PROPOSED WATER PIPE
- EXISTING STORM SYSTEM
- EXISTING LANDSCAPE
- PROPOSED ASPHALT PAVEMENT
- PROPOSED CONCRETE
- PROPOSED PROPERTY LINE
- PROPOSED GRAVEL
- X PROPOSED SILT FENCE

CIVIL ABBREVIATIONS

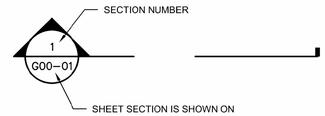
APPROX.	APPROXIMATE	GRAT.	GRATING
ASPH	ASPHALT	GV	GATE VALVE
BLDG.	BUILDING	HORIZ.	HORIZONTAL
BOC	BOTTOM OF CURB	ID	INSIDE DIAMETER
℄	CENTERLINE	IN., "	INCHES
CB	CATCH BASIN	INF.	INFLUENT
CO	CLEANOUT	INV.	INVERT
CONC.	CONCRETE	JT.	JOINT
CONT.	CONTINUED	LF	LINEAR FOOT/FEET
CPLG.	COUPLING	MAS	MASONRY
CY	CUBIC YARD(S)	MAX.	MAXIMUM
DE	DIATOMACEOUS EARTH	MFR.	MANUFACTURER
DET.	DETAIL	MGD	MILLION GALLONS PER DAY
DI	DROP INLET	MH	MANHOLE
DIP	DUCTILE IRON PIPE	MIN.	MINIMUM
DIA.	DIAMETER	NC	NORMALLY CLOSED
DISCH.	DISCHARGE	NO	NORMALLY OPEN
DWG	DRAWING	NO.	NUMBER
EA.	EACH	OD	OUTSIDE DIAMETER
EFF.	EFFLUENT	PDW	PROCESS DRAIN TO WASTE
EJ	EXPANSION JOINT	PE	POLYETHYLENE
ELEV.	ELEVATION	PG.	PROPOSED GROUND
ELEC.	ELECTRIC	PROP.	PROPOSED
EQ.	EQUAL	PSI	POUNDS PER SQUARE INCH
EXIST.	EXISTING	R	REDUCER
FCV	FLOW CONTROL VALVE	REINF.	REINFORCEMENT OR REINFORCE
FD	FLOOR DRAIN	REQ'D.	REQUIRED
FDN	FOUNDATION	ROW	RIGHT OF WAY
FIN.	FINISHED	SHT.	SHEET
FLEX.	FLEXIBLE	SS	STAINLESS STEEL
FLG	FLANGE	STD.	STANDARD
FLR.	FLOOR	STRUC.	STRUCTURAL
FTG.	FOOTING	TOC	TOP OF CURB
FT.	FEET	THK.	THICK
GRD.	GROUND	TYP.	TYPICAL
		VERT.	VERTICAL
		W/	WITH

DRAWING NUMBER EXPLANATION

COMPONENT DESIGNATOR — DRAWING NUMBER

C-01

SECTION MARKERS



TITLE MARKERS

PLAN

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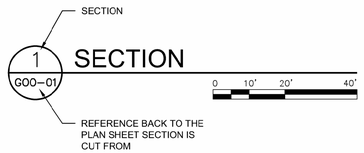
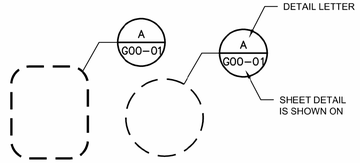


DETAIL MARKERS



TYPICAL DETAILS

ARCADIS
LEGAL ENTITY:
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2839 PACES FERRY ROAD
SUITE 900, ATLANTA, GA 30339
TE: 770-431-8666
WWW.ARCADIS.COM

CONSULTANTS

SEALS

GEORGIA REGISTERED PROFESSIONAL ENGINEER
No. PE045302
TRAVIS THOMAS
4/18/2025

ISSUED FOR BID

FAYETTE COUNTY, GEORGIA

FAYETTE COUNTY WATER SYSTEM

FAYETTE County Water

FCWS-TRILITH TANK BOOSTER PUMP STATION

400 VETERANS PARKWAY
FAYETTEVILLE, GA 30214

REVISIONS

NO.	DATE	ISSUED FOR	BY
0	4/18/2025	ISSUED FOR BID	TT

PROJECT STATUS:	ISSUED FOR BID
PROJECT NO.:	30239751
DATE:	APRIL 2025
FILE NAME:	C-03
DESIGNED BY:	N. NIA
DRAWN BY:	N. NIA
CHECKED BY:	T. THOMAS

SHEET TITLE

CIVIL

CIVIL NOTES, SYMBOLS, & ABBREVIATIONS

SCALE: AS SHOWN

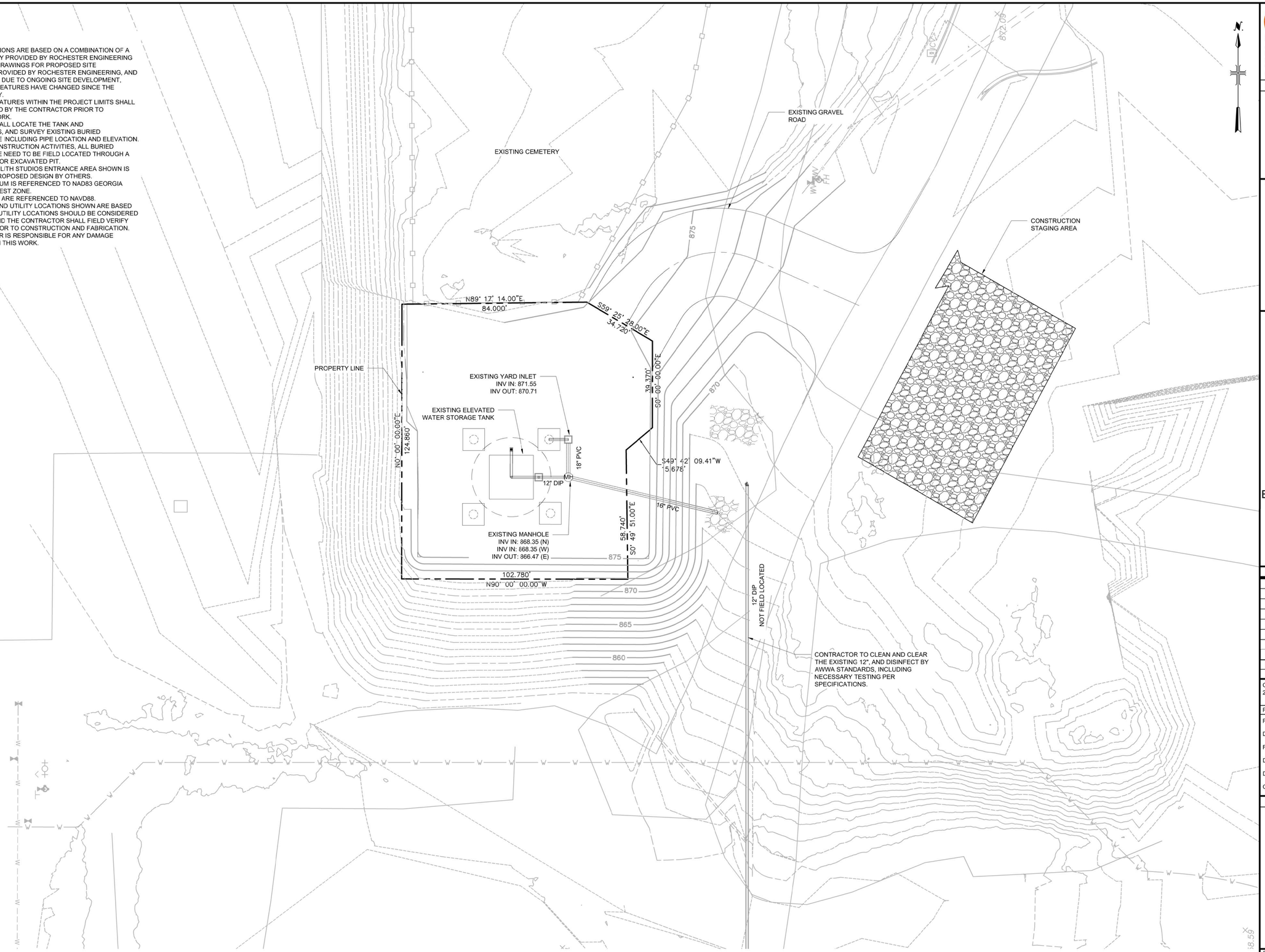
C-01

SHEET 3 OF 37

User:NNIA SpecAUS-NOSMOD File:C:\USERS\NNIA\DC\ACCDOCS\ARCADISAUS-30139792-TRILITH STUDIOS ELEVATED STORAGE TANK\PROJECT FILES\01 - WIP\CIVIL\SHEETS\25-03 TRILITH BOOSTER PUMP STATION C-01.DWG Scale:1:1 SavedDate:4/18/2025 Time:09:53 Plot Date: Ebrahimi Nia, Negodi, 4/18/2025, 09:53 - Layout:2

NOTES:

1. EXISTING CONDITIONS ARE BASED ON A COMBINATION OF A 2016 ALTA SURVEY PROVIDED BY ROCHESTER ENGINEERING IN 2022, DESIGN DRAWINGS FOR PROPOSED SITE DEVELOPMENT PROVIDED BY ROCHESTER ENGINEERING, AND AERIAL IMAGERY. DUE TO ONGOING SITE DEVELOPMENT, SOME EXISTING FEATURES HAVE CHANGED SINCE THE ORIGINAL SURVEY.
2. EXISTING SITE FEATURES WITHIN THE PROJECT LIMITS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO COMMENCING WORK.
3. CONTRACTOR SHALL LOCATE THE TANK AND KEY STRUCTURES, AND SURVEY EXISTING BURIED INFRASTRUCTURE INCLUDING PIPE LOCATION AND ELEVATION.
4. PRIOR TO ALL CONSTRUCTION ACTIVITIES, ALL BURIED INFRASTRUCTURE NEED TO BE FIELD LOCATED THROUGH A LEVEL A SURVEY OR EXCAVATED PIT.
5. THE EXISTING TRILITH STUDIOS ENTRANCE AREA SHOWN IS BASED ON THE PROPOSED DESIGN BY OTHERS.
6. HORIZONTAL DATUM IS REFERENCED TO NAD83 GEORGIA STATE PLANES WEST ZONE.
7. VERTICAL DATUM ARE REFERENCED TO NAVD88.
8. ALL UNDERGROUND UTILITY LOCATIONS SHOWN ARE BASED ON SURVEY. ALL UTILITY LOCATIONS SHOULD BE CONSIDERED APPROXIMATE AND THE CONTRACTOR SHALL FIELD VERIFY ALL UTILITIES PRIOR TO CONSTRUCTION AND FABRICATION. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE RESULTING FROM THIS WORK.



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CONSULTANTS

SEALS

GEORGIA REGISTERED No. PE045302 PROFESSIONAL ENGINEER TRAVIS THOMAS 4/18/2025

ISSUED FOR BID

FAYETTE COUNTY, GEORGIA

FAYETTE COUNTY WATER SYSTEM

FCWS-TRILITH TANK BOOSTER PUMP STATION

400 VETERANS PARKWAY
FAYETTEVILLE, GA 30214

REVISIONS

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0	4/18/2025	ISSUED FOR BID	TT

PROJECT STATUS:

PROJECT NO.:	30239751
DATE:	APRIL 2025
FILE NAME:	C-02
DESIGNED BY:	N. NIA
DRAWN BY:	N. NIA
CHECKED BY:	T. THOMAS

SHEET TITLE

CIVIL

EXISTING CONDITIONS PLAN

SCALE: AS SHOWN

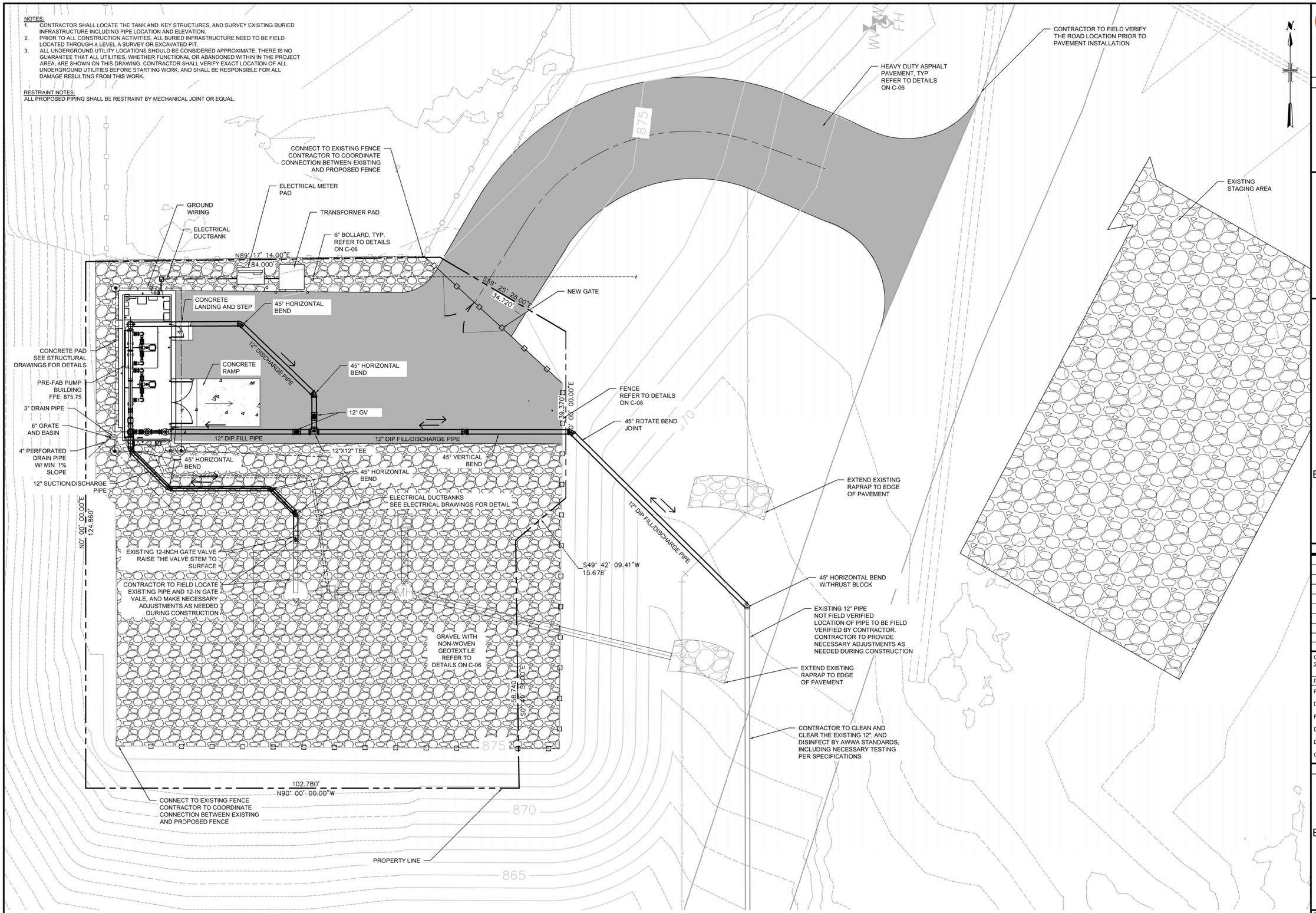
C-02

SHEET 4 OF 37

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

NOTES:
1. CONTRACTOR SHALL LOCATE THE TANK AND KEY STRUCTURES, AND SURVEY EXISTING BURIED INFRASTRUCTURE INCLUDING PIPE LOCATION AND ELEVATION.
2. PRIOR TO ALL CONSTRUCTION ACTIVITIES, ALL BURIED INFRASTRUCTURE NEED TO BE FIELD LOCATED THROUGH A LEVEL A SURVEY OR EXCAVATED PIT.
3. ALL UNDERGROUND UTILITY LOCATIONS SHOULD BE CONSIDERED APPROXIMATE. THERE IS NO GUARANTEE THAT ALL UTILITIES, WHETHER FUNCTIONAL OR ABANDONED WITHIN IN THE PROJECT AREA, ARE SHOWN ON THIS DRAWING. CONTRACTOR SHALL VERIFY EXACT LOCATION OF ALL UNDERGROUND UTILITIES BEFORE STARTING WORK, AND SHALL BE RESPONSIBLE FOR ALL DAMAGE RESULTING FROM THIS WORK.

RESTRAINT NOTES:
ALL PROPOSED PIPING SHALL BE RESTRAINT BY MECHANICAL JOINT OR EQUAL.



LEGEND

- PROPOSED ASPHALT PAVEMENT
- PROPOSED CONCRETE
- PROPOSED GRAVEL WITH NON-WOVEN GEOTEXTILE

0 10' 20'

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DESIGNED BY:	N. NIA
DRAWN BY:	N. NIA
CHECKED BY:	T. THOMAS

SHEET TITLE

CIVIL

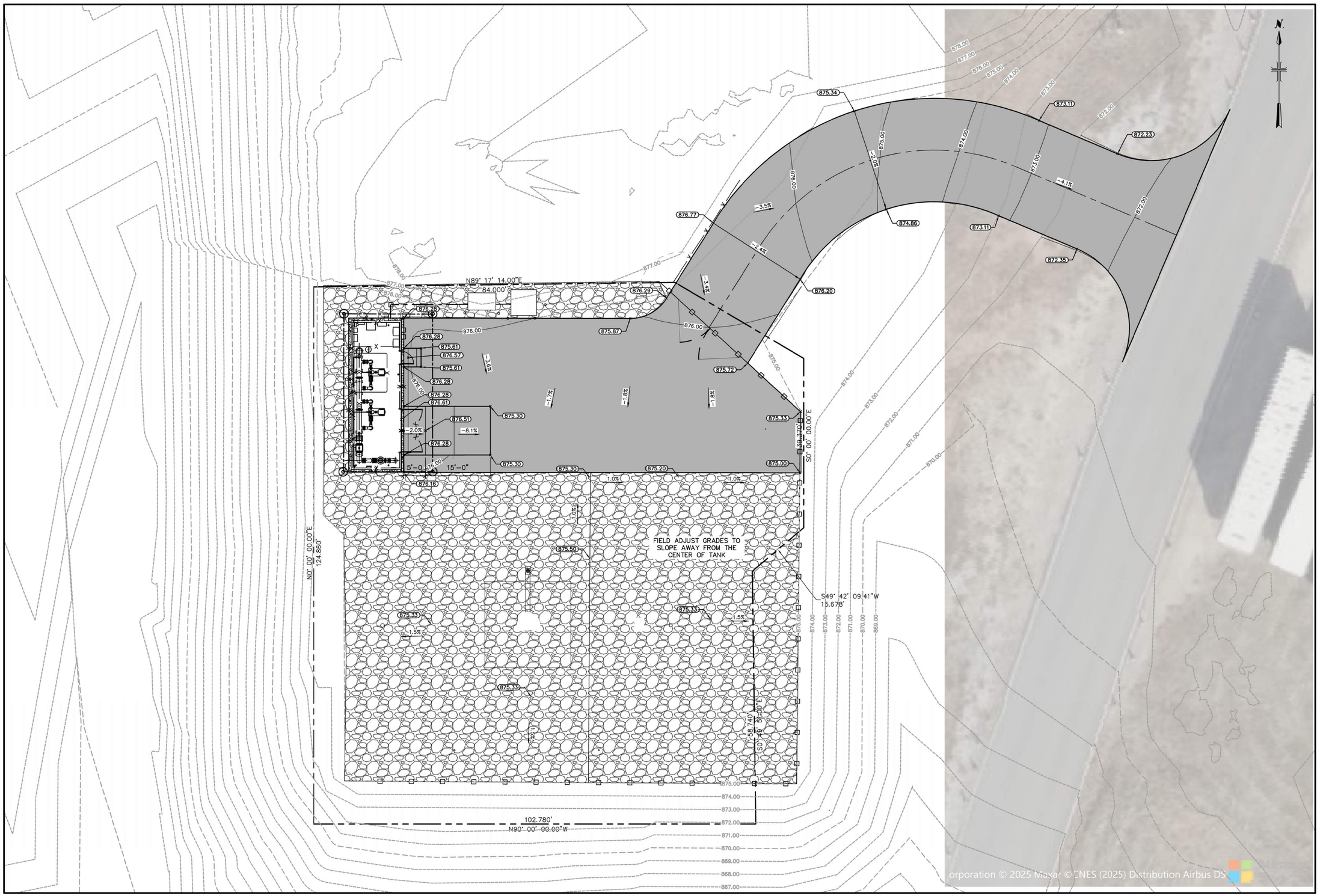
BOOSTER PUMP STATION SITE AND YARD PIPING PLAN

SCALE: AS SHOWN

C-03

SHEET 5 OF 37

User:NNIA Spec:AUS-NC2MOD File:C:\USERS\NNIA\DOCACCDOCS\ARCADIS\AUS-30135792-TRILITH 1 STUDIOS ELEVATED STORAGE TANK\PROJECT FILES\01 - WIP\CIVIL\SHEETS\25-03 TRILITH BOOSTER PUMP STATION\C-03.DWG Scale:1:1 SavedDate:4/18/2025 Time:12:07 Plot Date: Ebrahimi Nia, Negol; 4/18/2025; 12:27 - Layout:C-03



0 10' 20'

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FILE NAME:

DESIGNED BY: N. NIA

DRAWN BY: N. NIA

CHECKED BY: T. THOMAS

SHEET TITLE

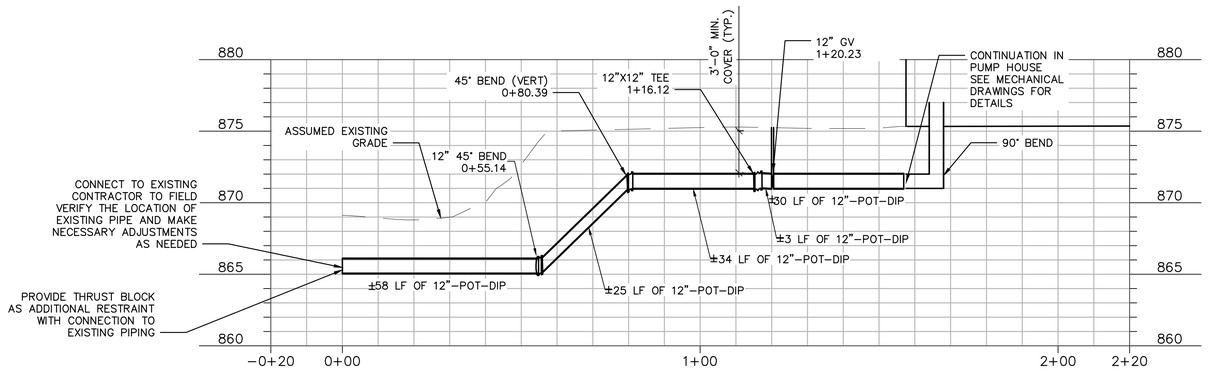
CIVIL

SITE FINISH GRADING PLAN

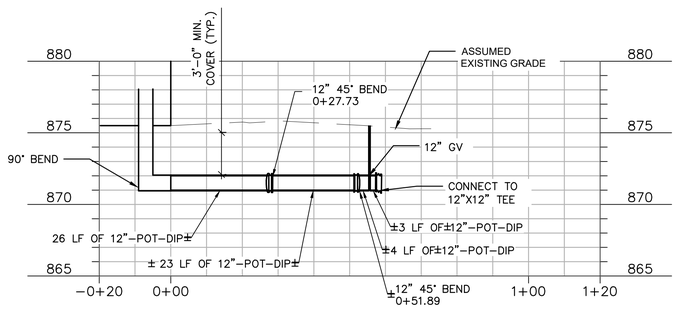
SCALE: AS SHOWN

C-04

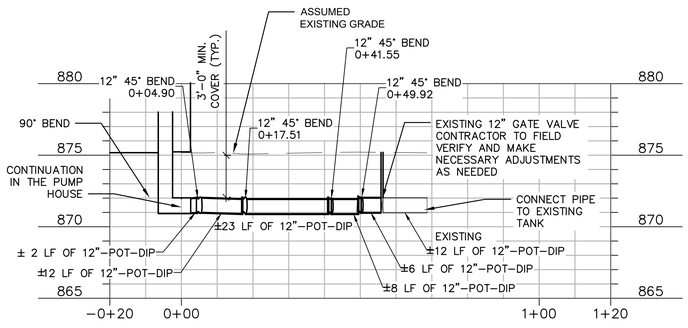
SHEET 6 OF 37



12" DIP PRESSURE PIPE
FROM EXISTING DISTRIBUTION SYSTEM TO PUMP HOUSE



12" DIP PRESSURE PIPE
FROM PUMP HOUSE TO 12"X12" TEE



12" DIP SUCTION/DISCHARGE PRESSURE PIPE
FROM PUMP HOUSE TO STORAGE TANK
FROM STORAGE TANK TO PUMP HOUSE

NOTES:
1. ALL UNDERGROUND UTILITY LOCATIONS SHOULD BE CONSIDERED APPROXIMATE. THERE IS NO GUARANTEE THAT ALL UTILITIES, WHETHER FUNCTIONAL OR ABANDONED WITHIN IN THE PROJECT AREA, ARE SHOWN ON THIS DRAWING. CONTRACTOR SHALL VERIFY EXACT LOCATION OF ALL UNDERGROUND UTILITIES BEFORE STARTING WORK, AND SHALL BE RESPONSIBLE FOR ALL DAMAGE RESULTING FROM THIS WORK.
2. POST-GRADING TOPOGRAPHIC SURVEY IS NOT AVAILABLE, AND THEREFORE, TOPOGRAPHY CONTOUR LINES PROVIDED ARE ESTIMATES OF EXISTING TOPOGRAPHY,

RESTRAINT NOTES:
1. ALL PROPOSED PIPING SHALL BE RESTRAINT BY MECHANICAL JOINT OR OTHER MANUFACTURE APPROVED RESTRAINTS.

LEGEND
- EXISTING GROUND
- PROPOSED WATER PIPE

SCALE: HORIZ. 0 10' 20' 40'
VERT. 0 10' 20'

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

ARCADIS
LEGAL ENTITY:
ARCADIS U.S., INC.
2839 PACES FERRY ROAD
SUITE 900, ATLANTA, GA 30339
TE: 770-431-8666
WWW.ARCADIS.COM

CONSULTANTS

SEALS

GEORGIA REGISTERED No. PE045302 PROFESSIONAL ENGINEER TRAVIS THOMAS 4/18/2025

ISSUED FOR BID

FAYETTE COUNTY, GEORGIA
FAYETTE COUNTY WATER SYSTEM

FCWS-TRILITH TANK
BOOSTER PUMP STATION

400 VETERANS PARKWAY
FAYETTEVILLE, GA 30214

REVISIONS

NO.	DATE	ISSUED FOR	BY
0	4/18/2025	ISSUED FOR BID	TT

PROJECT STATUS:	100% SUBMITTAL
PROJECT NO.:	30239751
DATE:	APRIL 2025
FILE NAME:	C-05
DESIGNED BY:	N. NIA
DRAWN BY:	N. NIA
CHECKED BY:	T. THOMAS

SHEET TITLE

CIVIL

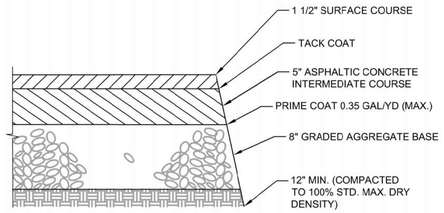
PRESSURE PIPE PROFILES

SCALE: AS SHOWN

C-05

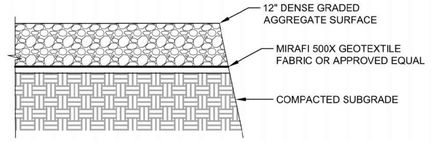
SHEET 7 OF 37

User:NNIA Spec:AUS-NCSMOD File:C:\USERS\NNIA\DOCACCDOCS\ARCADIS\AUS-30135792-TRILITH STUDIOS ELEVATED STORAGE TANK\PROJECT FILES\01 - WIP\CIVIL\SHEETS\25-03 TRILITH BOOSTER PUMP STATION\C-04.DWG Scale:1:1 SavedDate:4/18/2025 Time:08:12 Plot Date: Ebrahimi Nia, Negodi, 4/18/2025, 08:13 - Layout:12



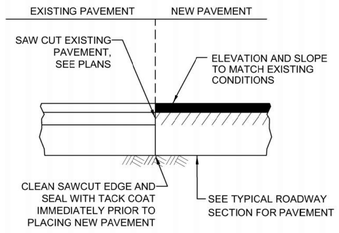
HEAVY DUTY ASPHALT PAVEMENT

NOT TO SCALE



GRAVEL DETAIL

NOT TO SCALE



NOTES:

1. JOINT SHALL BE SMOOTH AND PATCH TO BE LEVEL FROM ONE END TO THE OTHER. IF SURFACE IS NOT SMOOTH, GRIND ASPHALT TO PROVIDE SMOOTH SURFACE.

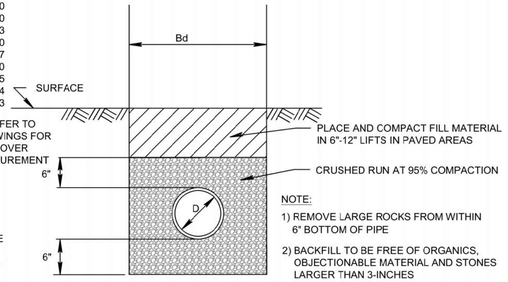
ASPHALT TO ASPHALT TRANSITION

PAVEMENT TRANSITION DETAIL

NTS

PIPE OR CASING DIA INCHES	Bd TRENCH WIDTH TOP OF PIPE FEET
4"	2.00
6"	2.00
8"	2.33
10"	2.50
12"	2.67
15"	3.00
18"	3.25
20"	3.54
24"	3.83

Bd - MAXIMUM TRENCH WIDTH AT 12" ABOVE TOP OF PIPE IF DITCH IS CUT WIDER THAN Bd SHOWN THE CONTRACTOR WILL BE REQUIRED TO INCREASE BEDDING TO COMPENSATE FOR ADDITIONAL LOAD ON PIPE AT HIS OWN EXPENSE.



NOTE:

1) REMOVE LARGE ROCKS FROM WITHIN 6" BOTTOM OF PIPE

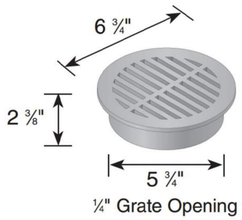
2) BACKFILL TO BE FREE OF ORGANICS, OBJECTIONABLE MATERIAL AND STONES LARGER THAN 3-INCHES

WATER LINE DETAILS FOR PVC & D.I. PIPE OPEN AREAS

NDS TECHNICAL SPECIFICATIONS

WE PUT WATER IN ITS PLACE

6" ROUND GRATE



Material: UV Protected High Density Polyethylene (HDPE)
Colors: Black (40), Green (50), Gray (60), Sand (60S)
Weight: 0.486 lbs
Fits: Use with Spee-D® Basin, 6" Sewer and Drain Fittings, 6" Corrugated, SDR-35, ABS, SCH-40, Double Wall, ASTM D-2729, Class 100 Pipe
Grate Openings: 9.10 in² open space
Will accommodate 27.84 gallons per minute with 1/2" of head.

Load Recommendation Guide

Class A
- Loads of 1-60 psi.
- Recommended for pedestrians, bicycles and wheel chair traffic.

Note: Some installations may require a concrete collar to meet load rating. Loads are based on encasing product in concrete. Product must be installed using NDS instructions.

ADA Compliance

NDS provides a wide selection of grates that are compliant with the Americans with Disabilites Act. The ADA Accessibility Guidelines For Buildings and Facilities Section 4.5.4 specifies that ground and floor grates "shall have spaces no greater than 1/2 in (13 mm) wide in one direction."

We are pleased to provide grates that comply with these requirements, so that no individual need be limited from accessing the area safely and confidently.

To see if a grate is ADA compliant, please check the description of the product in our NDS Drainage Catalog; products that meet these requirements are marked "ADA compliant."

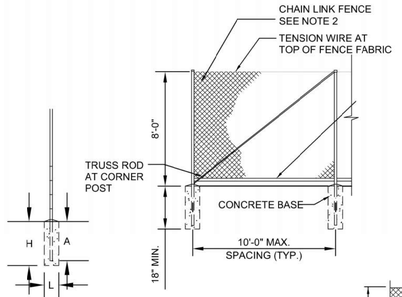
Like to find out more about ADA compliance and NDS? Send us your question and we'd be happy to help.

ADA Compliant/Heel-proof

851 N. Harvard Avenue
Lindsay, CA 93247
800-726-1994

Visit ndspro.com for specs, detail drawings, and case studies

NDS WE PUT WATER IN ITS PLACE



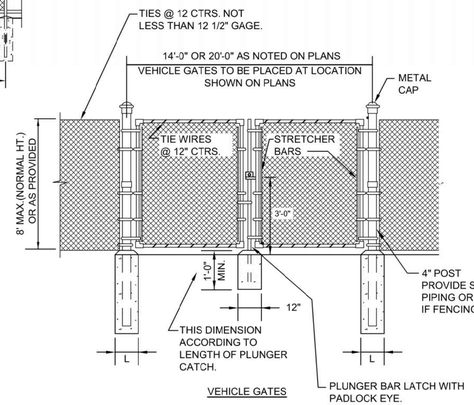
SPECIFICATION FOR POST FOUNDATION			
	H(MIN.)	L(MIN.)	A(MIN.)
LINE POSTS	2'-6"	9"	2'-0"
END, CORNER, PULL POSTS	3'-0"	12"	2'-6"

NOTE:

1. TOP GUARD SHALL BE USED IN A VERTICAL POSITION AT GATES AND OTHER CONDITIONS WHERE NECESSARY TO AVOID INTERFERENCE.
2. FENCE TO BE 9-GAUGE BLACK VINYL COATED GALVANIZED STEEL CHAIN LINK FENCE WITH 2-3/8" DIAMOND MESH.

PERIMETER FENCING

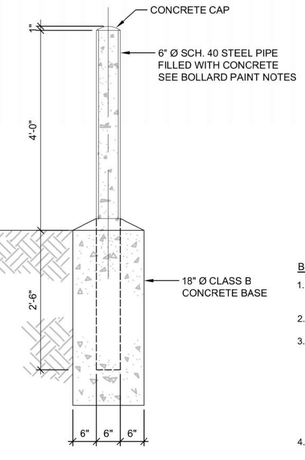
CHAIN LINK FENCE & TOP GUARD



VEHICLE GATES

CHAIN LINK PERIMETER FENCING AND GATE DETAILS

NOT TO SCALE.



BOLLARD PAINT NOTES:

1. PROVIDE PAINT SYSTEM CERTIFICATION BY PAINT MANUFACTURER THAT THE SYSTEM PROVIDED IS APPROPRIATE WITH THE CONDITIONS.
2. PROVIDE SURFACE PREPARATION AS RECOMMENDED BY PAINT MANUFACTURER.
3. PAINT SYSTEM -
   a. PRIMER, ONE COAT AT 4-6 MILS
      I. TNEMEC SERIES V69 EPOXOLINE II.
      II. CAREBOLINE CARBOGUARD 890.
      III. OR EQUAL.
   b. TOPCOAT, TWO COATS AT 2-4 MILS EACH
      I. TNEMEC SERIES V73 ENDURA-SHIELD.
      II. CAREBOLINE CARBOTHANE 133 LH.
      III. OR EQUAL.
4. ADHERE TO PAINT PRODUCTS CONDITIONS OF APPLICATION .

6" BOLLARD DETAIL

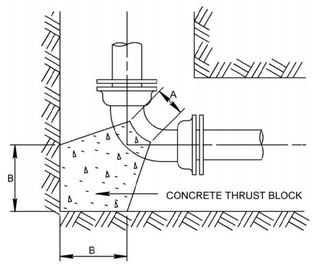
NOT TO SCALE

PIPE SIZE X	A	B	DEPTH C
90° BEND			
12"	1'-6"	2'-0"	3'-0"
10"	1'-4"	2'-0"	2'-6"
8"	1'-0"	1'-6"	2'-0"
6"	1'-0"	1'-0"	2'-0"
4"	0'-9"	1'-0"	1'-0"
45° BEND			
12"	1'-0"	3'-4"	1'-0"
10"	0'-9"	2'-6"	1'-0"
8"	0'-9"	1'-6"	1'-0"
6"	0'-9"	1'-0"	1'-0"
4"	0'-6"	1'-0"	1'-0"
22 1/2° BEND			
12"	1'-0"	1'-9"	1'-0"
10"	0'-9"	1'-6"	0'-10"
8"	0'-9"	1'-0"	0'-8"
6"	0'-9"	1'-0"	0'-6"
4"	0'-6"	1'-0"	0'-4"

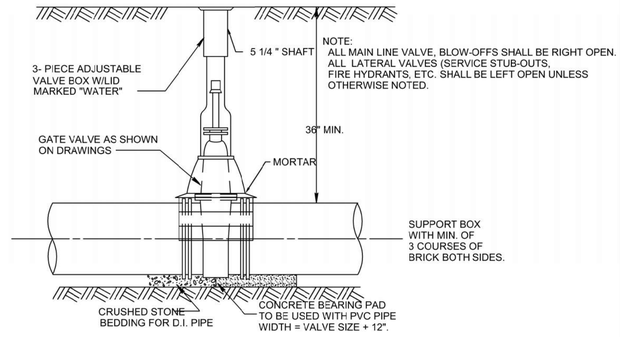
TABLE OF DIMENSIONS FOR HORIZONTAL & VERTICAL SAG BENDS.

PIPE SIZE X	A	B	DEPTH C
11 1/4° BEND			
12"	1'-0"	1'-0"	1'-0"
10"	0'-9"	1'-0"	0'-10"
8"	0'-9"	1'-0"	0'-8"
6"	0'-9"	1'-0"	0'-6"
4"	0'-6"	1'-0"	0'-4"
UNBALANCED TEE & PLUG			
12"	2'-0"	4'-6"	2'-0"
10"	1'-0"	3'-0"	2'-0"
8"	1'-0"	2'-9"	1'-6"
6"	1'-0"	1'-0"	1'-0"
4"	1'-0"	1'-0"	1'-0"
TEE			
12"	2'-0"	4'-6"	2'-0"
10"	1'-9"	3'-0"	2'-0"
8"	1'-6"	2'-9"	1'-6"
6"	1'-0"	1'-0"	1'-0"
4"	1'-0"	1'-0"	1'-0"

TABLE OF DIMENSIONS FOR HORIZONTAL & VERTICAL SAG BENDS.



PLAN-TYPICAL HORIZONTAL BEND



TYPICAL VALVE BOX AND GATE VALVE PIPE DIAMETER OR LESS

Know what's below. Call before you dig.

ARCADIS

LEGAL ENTITY:
ARCADIS U.S., INC.
2839 PACES FERRY ROAD
SUITE 900, ATLANTA, GA 30339
TE: 770-431-8666
WWW.ARCADIS.COM

CONSULTANTS

SEALS

GEORGIA REGISTERED No. PE045302 PROFESSIONAL ENGINEER TRAVIS THOMAS 4/18/2025

ISSUED FOR BID

FAYETTE COUNTY, GEORGIA

FAYETTE COUNTY WATER SYSTEM

FCWS-TRILITH TANK BOOSTER PUMP STATION

400 VETERANS PARKWAY
FAYETTEVILLE, GA 30214

REVISIONS

NO.	DATE	ISSUED FOR	BY
0	4/18/2025	ISSUED FOR BID	TT

PROJECT STATUS: ISSUED FOR BID
PROJECT NO.: 30239751
DATE: APRIL 2025
FILE NAME: C-06
DESIGNED BY: N. NIA
DRAWN BY: N. NIA
CHECKED BY: T. THOMAS

SHEET TITLE

CIVIL

CIVIL DETAILS

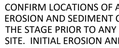
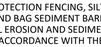
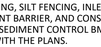
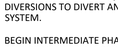
SCALE: AS SHOWN

C-06

SHEET 8 OF 37

GEORGIA
UNIFORM CODING SYSTEM
FOR SOIL EROSION AND SEDIMENT CONTROL PRACTICES
GEORGIA SOIL AND WATER CONSERVATION COMMISSION

STRUCTURAL PRACTICES

CODE	PRACTICE	DETAIL	MAP SYMBOL	DESCRIPTION
	CHECKDAM			A small temporary barrier or dam constructed across a swale, drainage ditch or area of concentrated flow.
Ch	CHANNEL STABILIZATION			Improving, constructing or stabilizing an open channel, existing stream, or ditch.
Co	CONSTRUCTION EXIT			A crushed stone pad located at the construction site exit to provide a place for removing mud from tires thereby protecting public streets.
Cr	CONSTRUCTION ROAD STABILIZATION			A traveleay constructed as part of a construction plan including access roads, subdivision roads, parking areas and other on-site vehicle transportation routes.
Dc	STREAM DIVERSION CHANNEL			A temporary channel constructed to convey flow around a construction site while a permanent structure is being constructed.
Di	DIVERSION			An earth channel or dike located above, below, or across a slope to divert runoff. This may be a temporary or permanent structure.
Dn1	TEMPORARY DOWNDRAIN STRUCTURE			A flexible conduit of heavy-duty fabric or other material designed to safely conduct surface runoff down a slope. This is temporary and inexpensive.
Dn2	PERMANENT DOWNDRAIN STRUCTURE			A paved chute, pipe, sectional conduit or similar material designed to safely conduct surface runoff down a slope.
Fr	FILTER RING			A temporary stone barrier constructed at storm drain inlets and pond outlets.
Ga	GABION			Rock filter baskets which are hand-placed into position forming soil stabilizing structures.
Gr	GRADE STABILIZATION STRUCTURE			Permanent structures installed to protect channels or waterways where otherwise the slope would be sufficient for the running water to form gullies.
Lv	LEVEL SPREADER			A structure to convert concentrated flow of water into less erosive sheet flow. This should be constructed only on undisturbed soils.
Rd	ROCK FILTER DAM			A permanent or temporary stone filter dam installed across small streams or drainageways.
Re	RETAINING WALL			A wall installed to stabilize cut and fill slopes where maximum permissible slopes are not obtainable. Each situation will require special design.
Rt	RETRO FITTING			A device or structure placed in front of a permanent stormwater detention pond outlet structure to serve as a temporary sediment filter.
Sd1	SEDIMENT BARRIER			A barrier to prevent sediment from leaving the construction site. It may be sandbags, bales of straw or hay, brush, logs and poles, gravel, or a silt fence.
Sd2	INLET SEDIMENT TRAP			An impounding area created by excavating around a storm drain drop inlet. The excavated area will be filled and stabilized on completion of construction activities.
Sd3	TEMPORARY SEDIMENT BASIN			A basin created by excavation or a dam across a waterway. The surface water runoff is temporarily stored allowing the bulk of the sediment to drop out.
Sd4	TEMPORARY SEDIMENT TRAP			A small temporary pond that drains a disturbed area so that sediment can settle out. The principle feature distinguishing a temporary sediment trap from a temporary sediment basin is the lack of a pipe or riser.
Sk	FLOATING SURFACE SKIMMER			A buoyant device that releases/drains water from the surface of sediment ponds, traps, or basins at a controlled rate of flow.
Spb	SEEP BERM			A linear control device constructed as a diversion perpendicular to the direction of the runoff to enhance dissipation and infiltration of runoff, while creating multiple sedimentation chambers with the employment of intermediate dikes.

STRUCTURAL PRACTICES

CODE	PRACTICE	DETAIL	MAP SYMBOL	DESCRIPTION
Sr	TEMPORARY STREAM CROSSING			A temporary bridge or culvert-type structure protecting a stream or watercourse from damage by crossing construction equipment.
St	STORMDRAIN OUTLET PROTECTION			A paved or short section of riprap channel at the outlet of a storm drain system preventing erosion from the concentrated runoff.
Su	SURFACE ROUGHENING			A rough soil surface with horizontal depressions on a contour or slopes left in a roughened condition after grading.
Tc	TURBIDITY CURTAIN			A floating or staked barrier installed within the water (It may also be referred to as a floating boom, silt barrier, or silt curtain).
Tp	TOPSOILING			The practice of stripping off the more fertile soil, storing it, then spreading it over the disturbed area after completion of construction activities.
Tr	TREE PROTECTION			To protect desirable trees from injury during construction activity.
Wt	VEGETATED WATERWAY OR STORMWATER CONVEYANCE CHANNEL			Paved or vegetative water outlets for diversions, terraces, berms, dikes or similar structures.

VEGETATIVE PRACTICES

CODE	PRACTICE	DETAIL	MAP SYMBOL	DESCRIPTION
Bf	BUFFER ZONE			Strip of undisturbed original vegetation, enhanced or restored existing vegetation or the reestablishment of vegetation surrounding an area of disturbance or bordering streams.
Cs	COASTAL DUNE STABILIZATION (WITH VEGETATION)		Cs	Planting vegetation on dunes that are denuded, artificially constructed, or re-nourished.
Ds1	DISTURBED AREA STABILIZATION (WITH MULCHING ONLY)		Ds1	Establishing temporary protection for disturbed areas where seedlings may not have a suitable growing season to produce an erosion retarding cover.
Ds2	DISTURBED AREA STABILIZATION (WITH TEMP. SEEDING)		Ds2	Establishing a temporary vegetative cover with fast growing seedings on disturbed areas.
Ds3	DISTURBED AREA STABILIZATION (WITH PERM. SEEDING)		Ds3	Establishing a permanent vegetative cover such as trees, shrubs, vines, grasses, or legumes on disturbed areas.
Ds4	DISTURBED AREA STABILIZATION (SODDING)		Ds4	A permanent vegetative cover using sods on highly erodable or critically eroded lands.
Du	DUST CONTROL ON DISTURBED AREAS		Du	Controlling surface and air movement of dust on construction site, roadways and similar sites.
Fl-Co	FLOCCULANTS AND COAGULANTS		Fl-Co	Substance formulated to assist in the solids/liquid separation of suspended particles in solution.
Sb	STREAMBANK STABILIZATION (USING PERM. VEGETATION)		Sb	The use of readily available native plant materials to maintain and enhance streambanks, or to prevent, or restore and repair small streambank erosion problems.
Ss	SLOPE STABILIZATION		Ss	A protective covering used to prevent erosion and establish temporary or permanent vegetation on steep slopes, shore lines, or channels.
Tac	TACKIFIERS AND BINDERS		Tac	Substance used to anchor straw or hay mulch by causing the organic material to bind together.

CONSTRUCTION SEQUENCE:

1. FOR EACH STAGE OF CONSTRUCTION THE FOLLOWING SEQUENCE WILL APPLY:

1.1. CONFIRM LOCATIONS OF AND CONSTRUCT/INSTALL INITIAL EROSION AND SEDIMENT CONTROL BMPS WITHIN THE LIMITS OF THE STAGE PRIOR TO ANY OTHER CONSTRUCTION ACTIVITIES ON SITE. INITIAL EROSION AND SEDIMENT CONTROL BMPS SHALL INCLUDE THE FOLLOWING: CONSTRUCTION FENCING, TREE PROTECTION FENCING, SILT FENCING, INLET SEDIMENT TRAPS, SAND BAG SEDIMENT BARRIER, AND CONSTRUCTION ENTRANCES. ALL EROSION AND SEDIMENT CONTROL BMPS TO BE CONSTRUCTED IN ACCORDANCE WITH THE PLANS.

1.2. CLEAR AND GRUB TO THE LIMITS REQUIRED FOR CONSTRUCTION AND REMOVE EXISTING TREES AS SHOWN ON THE PLANS.

1.3. EXCAVATE TRENCHES FOR INSTALLATION OF THE WATER INFRASTRUCTURE PIPING, AS NECESSARY, CONSTRUCT PIPE DIVERSIONS TO DIVERT AND BYPASS RUNOFF FROM EXISTING SYSTEM.

1.4. BEGIN INTERMEDIATE PHASE EXCAVATION AND GRADING ACTIVITIES AFTER ALL REQUIRED INITIAL EROSION CONTROL MEASURES HAVE BEEN INSTALLED AND CONSTRUCTED.

1.5. BEGIN CONSTRUCTION OF WATER TANK AND WATER INFRASTRUCTURE PIPING, UTILITY RELOCATIONS, CURB AND GUTTER, DRIVEWAYS, ROADWAYS, AND REMAINING STRUCTURES AS SHOWN ON PLANS. INSTALL INLET PROTECTION AS SHOWN ON PLANS.

1.6. ESTABLISH FINISHED GRADES AT EARLIEST POSSIBLE DATE.

DISTURBED AREAS SHALL BE STABILIZED WITH TEMPORARY VEGETATION AND MULCH IF LAND-DISTURBING ACTIVITIES CEASE FOR MORE THAN 14 CALENDAR DAYS IN ACCORDANCE WITH NPDES REQUIREMENTS. ONCE FINAL GRADES ARE ESTABLISHED, APPLY PERMANENT SOIL STABILIZATION IN ACCORDANCE WITH PLANS. ANY DISTURBED AREA REMAINING IDLE FOR 30 DAYS SHALL BE STABILIZED WITH PERMANENT VEGETATION.

2. THE FOLLOWING SHALL APPLY AFTER ALL CONSTRUCTION STAGES ARE COMPLETE:

2.1. AFTER FINAL STABILIZATION FOR THE PROJECT AS DEFINED BY NPDES GAR100001 IS ACHIEVED, RETURN TO THE SITE AND REMOVE ALL TEMPORARY MEASURES INCLUDING SILT FENCES, SEDIMENT TRAPS, AND DIVERSIONS. INSTALL PERMANENT VEGETATION TO ALL AREAS (EXCEPT IMPERVIOUS SURFACES) DISTURBED BY THE TEMPORARY MEASURES.

2.2. REMOVE ALL TEMPORARY EROSION CONTROL MEASURES INCLUDING CONSTRUCTION FENCING, TREE PROTECTION FENCING, AND CONSTRUCTION ENTRANCES WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION.

MANAGEMENT PLAN:

ALL EROSION CONTROL MEASURES SHALL BE INSPECTED DAILY AND AFTER EVERY RAINFALL. ALL NEEDED REPAIRS SHALL BE MADE IMMEDIATELY TO PREVENT FURTHER DAMAGE AND EROSION. STRUCTURES THAT SHALL BE INSPECTED INCLUDE:

1. SEDIMENT BARRIER - SEDIMENT SHALL BE REMOVED ONCE IT HAS ACCUMULATED TO ONE-HALF THE ORIGINAL HEIGHT OF THE BARRIER. SEDIMENT BARRIERS SHALL BE REPLACED PER MANUFACTURER'S RECOMMENDATIONS OR THE HEIGHT OF THE PRODUCT IS NOT MAINTAINING 80% OF ITS PROPERLY INSTALLED HEIGHT.
2. STORM DRAIN INLET PROTECTION - INSPECT STONE FILTER RING INLET STRUCTURE AFTER HEAVY RAINS TO SEE IF ANY EROSION AROUND OR BELOW THE FILTER RING HAS TAKEN PLACE OR IF STONES HAVE BEEN DISLODGED. IMMEDIATELY MAKE ALL NEEDED REPAIRS TO PREVENT FURTHER DAMAGE.
3. SLOPE STABILIZATION - ALL EROSION CONTROL BLANKETS AND MATTING SHOULD BE INSPECTED PERIODICALLY FOLLOWING INSTALLATION, PARTICULARLY AFTER RAINSTORMS TO CHECK FOR EROSION AND UNDERMINING. ANY DISLOCATION OR FAILURE SHOULD BE REPAIRED IMMEDIATELY. IF WASHOUTS OR BREAKAGE OCCURS, REINSTALL THE MATERIAL AFTER REPAIRING DAMAGE TO THE SLOPE OR DITCH. CONTINUE TO MONITOR THESE AREAS UNTIL THEY BECOME PERMANENTLY STABILIZED.
4. INLET SEDIMENT TRAP - TRAP SHOULD BE CLEANED OUT AFTER HEAVY RAIN EVENTS. SEDIMENT SHALL BE REMOVED WHEN THE SEDIMENT HAS ACCUMULATED TO ONE-HALF THE HEIGHT OF THE TRAP.
5. SEEDING, FERTILIZING, AND MULCHING - SEEDED AREAS SHALL BE INSPECTED FOR FAILURE AND NECESSARY REPAIRS SHALL BE MADE IMMEDIATELY.
6. CONSTRUCTION ENTRANCE/EXIT - INSPECT CONSTRUCTION ROAD SURFACE DAILY. MAINTAIN WHEN NEEDED IN A CONDITION TO PREVENT SEDIMENT AND TOPSOIL FROM LEAVING THE SITE.

DESCRIPTION OF BMP'S:

- INITIAL PHASE:
  DURING INITIAL PHASE OF CONSTRUCTION SILT FENCE, INLET PROTECTION, STONE CHECK DAMS AND FILTER RINGS WILL BE INCORPORATED TO PREVENT SEDIMENTS ESCAPING THE SITE.
- INTEMEDIATE PHASE:
  DURING INTERMEDIATE PHASE, USE OF SILT FENCE, INLET PROTECTION, TEMPORARY STABILIZATION PRACTICES, DUST CONTROL, CHECK DAMS, AND FILTER RING WILL BE INCORPORATED.
- FINAL PHASE:
  DURING FINAL PHASE ALL NON IMPERVIOUS DISTURBED AREAS WILL BE STABILIZED USING PERMANENT STABILIZATION PRACTICES.

SITE NOTES:

1. PROJECT IS LOCATED IN FAYETTE COUNTY WITHIN THE CITY OF FAYETTEVILLE, GEORGIA.
2. PROJECT LATITUDE/LONGITUDE: (33.469492, -84.510849)
3. APPROXIMATE TOTAL DISTURBED ACREAGE OF THE TRILITH STUDIOS ELEVATED WATER TANK SITE IS 0.63 ACRES.
4. THE STORMWATER RUNOFF FOR THIS PROJECT FLOWS INTO TRILITH STUDIO'S POND #5 WHICH DISCHARGES TO SANDY CREEK. SEE STORMWATER MANAGEMENT REPORT ISSUED BY ROCHESTER & ASSOCIATES FOR DETAILS.
5. IT IS ANTICIPATED THAT THE PROJECT WILL NOT HAVE ANY BUFFER ENCROACHMENTS AND BUFFER VARIANCE WILL NOT BE REQUIRED.
6. WETLAND CERTIFICATION: THE DESIGN PROFESSIONAL, WHOSE SEAL APPEARS HEREON, CERTIFIES THE FOLLOWING: THE NATIONAL WETLAND INVENTORY MAPS HAVE BEEN CONSULTED; AND, WETLANDS ARE INDICATED ON THE PROPERTY; HOWEVER, NO PORTION OF PROPOSED PROJECT AND DISTURBED AREA IS WITHIN THE WETLAND AREA. THE LAND DISTURBANCE OF PROTECTED WETLAND SHALL NOT OCCUR.
7. NO PORTION OF THIS SITE LIES WITHIN A SPECIAL FLOOD HAZARD ZONE "AE" OR "A". THE SITE LIES WITHIN THE FIRM MAPS OF THE CITY OF FAYETTEVILLE FLOOD INSURANCE STUDY. FIRM MAP NUMBERS: 13113C0082E AND 13113CO084E, EFFECTIVE DATE: SEPTEMBER 26, 2008.
8. MAINTENANCE AND TRAFFIC: THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL ROAD PERMITS FROM CITY OF FAYETTEVILLE AS NECESSARY.
9. PRIMARY PERMITTEE & 24-HOUR CONTACT:
   VANESSA TIGERT
   FAYETTE COUNTY WATER SYSTEM
   ADDRESS: 245 MCDONOUGH RD.
   FAYETTEVILLE, GA 30214
   PHONE: 770-320-6016
   EMAIL: VTIGERT@FAYETTECOUNTYGA.GOV

EROSION CONTROL

1. EROSION CONTROL PRACTICES MUST COMPLY WITH THE MINIMUM BEST MANAGEMENT PRACTICES FOR EROSION CONTROL AND SHALL COMPLY WITH THE STANDARDS / SPECIFICATIONS IN THE "MANUAL FOR EROSION CONTROL AND SEDIMENT CONTROL IN GEORGIA", LATEST EDITION.
2. EROSION AND SEDIMENT CONTROL DEVICES MUST BE INSTALLED AND INSPECTED PRIOR TO ANY GRADING ON SITE.
3. PERMANENT VEGETATION SHALL BE PLACED AT ALL AREAS GRADED TO FINAL GRADE IMMEDIATELY UPON COMPLETION. WHEN HAND PLANTING, MULCH (HAY OR STRAW) SHOULD BE UNIFORMLY SPREAD OVER SEEDED AREA WITHIN 24 HOURS OF SEEDING. DURING UNSUITABLE GROWING SEASONS, MULCH WILL BE USED AS A TEMPORARY COVER (DS1). ON SLOPES THAT ARE 2:1 OR STEEPER, MULCH WILL BE ANCHORED.
4. IN CONCENTRATED FLOW AREAS, ALL SLOPES STEEPER THAN 2.5:1 AND WITH THE HEIGHT TEN FEET OR GREATER, AND CUTS AND FILLS WITHIN STREAM BUFFER, SHALL BE STABILIZED WITH THE APPROPRIATE EROSION CONTROL MATTING OR BLANKET.
5. SEDIMENT / EROSION CONTROL DEVICES MUST BE CHECKED AFTER EACH STORM EVENT. EACH DEVICE IS TO BE MAINTAINED OR REPLACED IF SEDIMENT ACCUMULATION HAS REACHED ONE HALF THE CAPACITY OF THE DEVICE. THE CONTRACTOR SHALL FURNISH, INSTALL, AND MAINTAIN ANY ADDITIONAL EROSION CONTROL MEASURES AS DIRECTED BY THE GOVERNING JURISDICTION AND/OR THE ENGINEER.
6. THE CONTRACTOR SHALL INSTALL ALL EROSION CONTROL DEVICES AND ENSURE THAT THEY ARE PROPERLY FUNCTIONING PRIOR TO ANY LAND DISTURBANCE ACTIVITIES.
7. AMENDMENTS/REVISIONS TO THE ES&PC PLAN WHICH HAVE A SIGNIFICANT EFFECT ON BMPS WITH A HYDRAULIC COMPONENT MUST BE CERTIFIED BY THE DESIGN PROFESSIONAL.
8. THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND PRACTICES PRIOR TO LAND DISTURBING ACTIVITIES.
9. EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE.
10. ANY DISTURBED AREAS LEFT EXPOSED FOR A PERIOD GREATER THAN 14 DAYS SHALL BE STABILIZED WITH MULCH OR TEMPORARY SEEDING.
11. BUILDING MATERIALS AND BUILDING PRODUCTS NOT IN USE SHALL BE COVERED BY HEAVY PLASTIC.

CONSTRUCTION SCHEDULE						
ACTIVITY	MONTH 2	MONTH 4	MONTH 6	MONTH 8	MONTH 10	MONTH 12
SITE PREPARATION						
EROSION CONTROL						
TANK AND WATER INFRASTRUCTURE INSTALLATION						
PAVEMENT INSTALLATION						
RESTORATION						

POLLUTION CONTROLS

1. BMP'S SUCH AS CONSTRUCTION EXITS, WATERING STATIONS, AND SWEEPERS MAY BE UTILIZED TO MINIMIZE OFF-SITE VEHICLE TRACKING OF SEDIMENTS AND THE GENERATION OF DUST.
2. NON-EXEMPT ACTIVITIES SHALL NOT BE CONDUCTED WITHIN THE 25 OR 50-FOOT UNDISTURBED STREAM BUFFERS AS MEASURED FROM THE POINT OF WRESTED VEGETATION OR WITHIN 25-FEET OF THE COASTAL MARSHLAND BUFFER AS MEASURED FROM THE JURISDICTIONAL DETERMINATION LINE WITHOUT FIRST ACQUIRING THE NECESSARY VARIANCES AND PERMITS.
3. PETROLEUM BASED PRODUCTS- CONTAINERS FOR PRODUCTS SUCH AS FUELS, LUBRICANTS, TARS WILL BE INSPECTED DAILY FOR LEAKS AND SPILLS. THIS INCLUDES ON-SITE VEHICLE AND MACHINERY DAILY INSPECTIONS AND REGULAR PREVENTATIVE MAINTENANCE OF SUCH EQUIPMENT. EQUIPMENT MAINTENANCE AREAS WILL BE LOCATED AWAY FROM STATE WATER, NATURAL DRAINS AND STORM WATER DRAINAGE INLETS. IN ADDITION, TEMPORARY FUELING TANKS SHALL HAVE A SECONDARY CONTAINMENT LINER TO PREVENT/MINIMIZE SITE CONTAMINATION. DISCHARGE OF OILS, FUELS AND LUBRICANTS IS PROHIBITED. PROPER DISPOSAL METHODS WILL INCLUDE COLLECTION IN A SUITABLE CONTAINER AND DISPOSAL AS REQUIRED BY LOCAL AND STATE REGULATIONS.
   3.1. SOLVENTS- ALL PRODUCTS WILL BE STORED IN TIGHTLY SEALED ORIGINAL CONTAINERS WHEN NOT IN USE. EXCESS PRODUCT WILL NOT BE DISCHARGED TO THE STORM WATER COLLECTION SYSTEM. EXCESS PRODUCT, MATERIALS USED WITH THESE PRODUCTS AND PRODUCT CONTAINERS WILL BE DISPOSED OF ACCORDING TO MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.
   3.2. CONCRETE TRUCK WASHING- WASHOUT OF CONCRETE DRUMS AT THE CONSTRUCTION SITE IS PROHIBITED. CONTRACTOR IS TO SELECT LOCATIONS ON THE SITE FOR CONCRETE WASH DOWN THAT MEET THE CONDITIONS OF THE NPDES STAND ALONE PERMIT CONCRETE WASH DOWN AREA SHOULD BE OUTSIDE OF THE AREA THAT IS MARKED FOR EXCAVATION. CONTRACTOR SHALL SELECT AN EPA RECOMMENDED WASHOUT BMP TO BE USED AND SUBMIT LOCATIONS AND WASH OUT BMP TYPE FOR ENGINEER'S APPROVAL. WASHOUT OF THE DRUM AT THE CONSTRUCTION SITE IS PROHIBITED.
   3.3. FERTILIZER/HERBICIDES- THESE PRODUCTS WILL BE APPLIED AT RATES THAT DO NOT EXCEED THE MANUFACTURER'S SPECIFICATIONS OR ABOVE THE GUIDELINES SET FORTH IN THE CROP ESTABLISHMENT OR IN THE GSWCC MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA. ANY STORAGE OF THESE MATERIALS WILL BE UNDER ROOF IN SEALED CONTAINERS.
   3.4. CONSTRUCTION MATERIALS- NO CONSTRUCTION MATERIALS WILL BE BURIED OR DISPOSED OF ONSITE. ALL SUCH MATERIAL WILL BE DISPOSED OF ACCORDING TO APPLICABLE STATE AND LOCAL REGULATIONS.
   3.5. WASTE MATERIALS SHALL NOT BE DISCHARGED TO WATERS OF THE STATE, EXCEPT AS AUTHORIZED BY A SECTION 404 PERMIT.
4. SOIL CLEANUP AND CONTROL PRACTICES
   4.1. LOCAL, STATE AND MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP WILL BE CLEARLY POSTED AND PROCEDURES MADE AVAILABLE TO SITE PERSONNEL.
   4.2. MATERIAL AND EQUIPMENT NECESSARY FOR SPILL CLEANUP WILL BE KEPT IN THE MATERIAL STORAGE AREAS. TYPICAL MATERIALS AND EQUIPMENT INCLUDES, BUT IS NOT LIMITED TO: BROOMS, DUSTPANS, MOPS, RAGS, GLOVES, GOGGLES, CAT LITTER, SAND, SAWDUST AND PROPERTY LABELED PLASTIC AND METAL WASTE CONTAINERS.
   4.3. SPILL PREVENTION PRACTICES AND PROCEDURES WILL BE REVIEWED AFTER A SPILL AND ADJUSTED AS NECESSARY TO PREVENT FUTURE SPILLS.
   4.4. ALL SPILLS WILL BE CLEANED UP IMMEDIATELY UPON DISCOVERY. ALL SPILLS WILL BE REPORTED AS REQUIRED BY LOCAL, STATE AND FEDERAL REGULATIONS.
   4.5. FOR SPILLS THAT IMPACT SURFACE WATER (LEAVE A SHEEN ON SURFACE WATER), THE NATIONAL RESPONSE CENTER (NRC) WILL BE CONTACTED WITHIN 24 HOURS AT 1-800-424-8802.
   4.6. FOR SPILLS OF AN UNKNOWN AMOUNT, THE NATIONAL RESPONSE CENTER (NRC) WILL BE CONTACTED WITHIN 24 HOURS A 1-800-424-8802.
   4.7. FOR SPILLS GREATER THAN 25 GALLONS AND NO SURFACE WATER IMPACTS, THE GEORGIA EPD WILL BE CONTACTED WITHIN 24 HOURS.
   4.8. FOR SPILLS LESS THAN 25 GALLONS AND NO SURFACE WATER IMPACTS, THE SPILL WILL BE CLEANED UP AND LOCAL AGENCIES WILL BE CONTACTED AS REQUIRED.
   4.9. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD WHO PREPARED THIS PLAN IF MORE THAN 1320 GALLONS OF PETROLEUM IS STORED ONSITE (THIS INCLUDES CAPACITIES OF EQUIPMENT) OR IF ANY ONE PIECE OF EQUIPMENT HAS A CAPACITY GREATER THAN 660 GALLONS. THE CONTRACTOR WILL NEED A SPILL PREVENTION CONTAINMENT AND COUNTERMEASURES PLAN PREPARED BY A LICENSED PROFESSIONAL.
5. A PORTABLE SANITARY WASTE UNIT WILL BE ONSITE TO COLLECT SANITARY WASTE DURING CONSTRUCTION.

PROJECT DESCRIPTION

THE TRILITH TANK BOOSTER PUMP STATION PROJECT INCLUDES THE CONSTRUCTION OF PRE-FABRICATED BOOSTER PUMP STATION AND ASSOCIATED WATER INFRASTRUCTURE. THE EXISTING TRILITH STUDIOS SITE IS A MOVIE PRODUCTION CAMPUS THAT HAS MULTIPLE STAGE BUILDINGS FOR PRODUCTION. THE PROJECT AREA FOR THE WATER TANK IS ON AN EXISTING GRASSED HILL ADJACENT TO THE CEMETERY NEAR AN ENTRANCE OF THE TRILITH CAMPUS.

ARCADIS
LEGAL ENTITY:
ARCADIS U.S., INC.
2839 PACES FERRY ROAD
SUITE 900, ATLANTA, GA 30339
TE: 770-431-8666
WWW.ARCADIS.COM

CONSULTANTS

SEALS

GEORGIA REGISTERED PROFESSIONAL ENGINEER
No. PE045302
TRAVIS THOMAS
4/18/2025

ISSUED FOR BID

FAYETTE COUNTY, GEORGIA
FAYETTE COUNTY WATER SYSTEM

FCWS-TRILITH TANK BOOSTER PUMP STATION

400 VETERANS PARKWAY
FAYETTEVILLE, GA 30214

REVISIONS

NO.	DATE	ISSUED FOR	BY
0	4/18/2025	ISSUED FOR BID	TT

PROJECT STATUS: ISSUED FOR BID
PROJECT NO.: 30239751
DATE: APRIL 2025
FILE NAME: ESC-01
DESIGNED BY: N. NIA
DRAWN BY: N. NIA
CHECKED BY: D.Wilson

SHEET TITLE

EROSION & SEDIMENT CONTROL

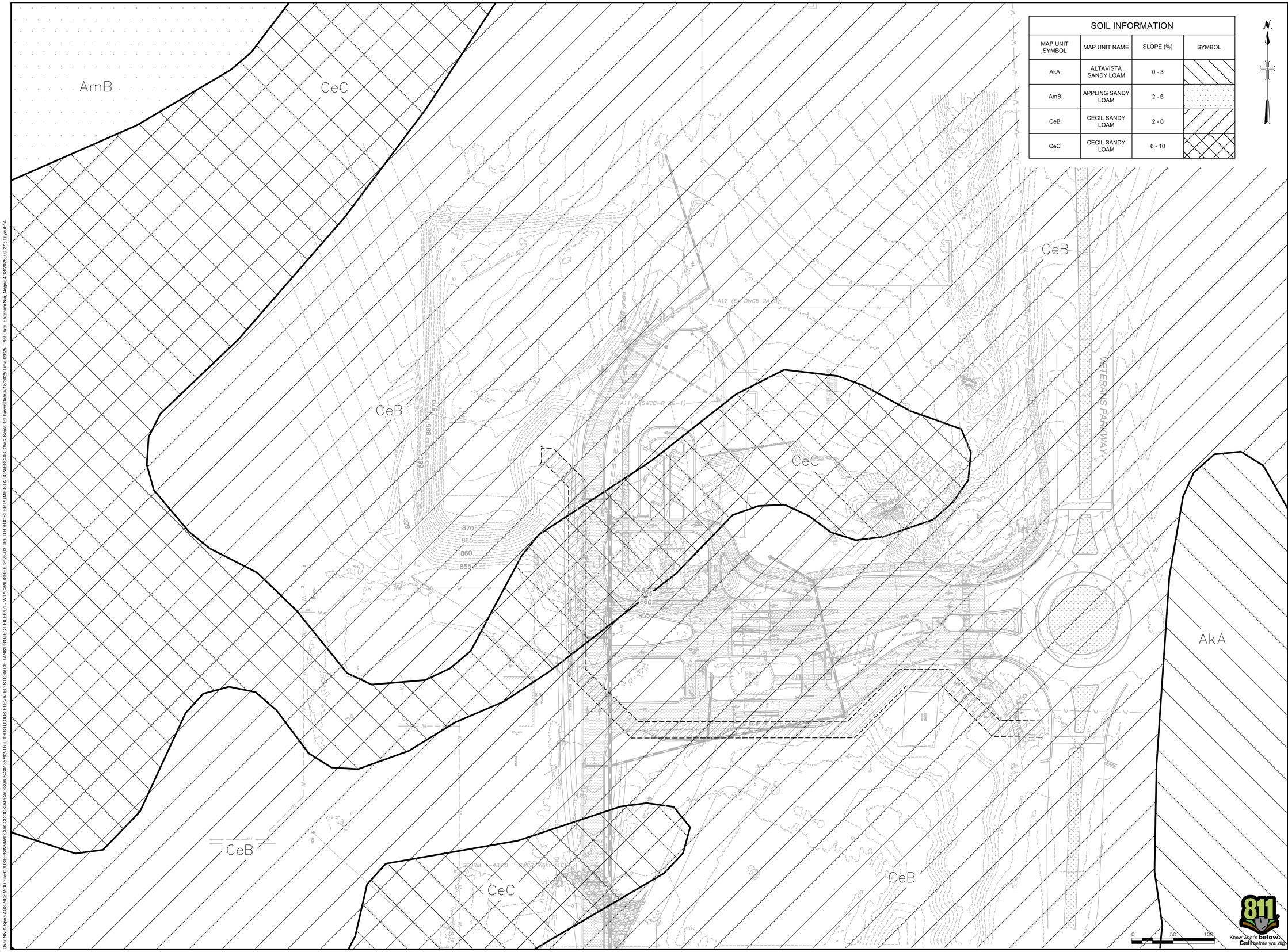
EROSION & SEDIMENT CONTROL LEGEND & NOTES

SCALE: AS SHOWN

ESC-01

SHEET 9 OF 37

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



SOIL INFORMATION			
MAP UNIT SYMBOL	MAP UNIT NAME	SLOPE (%)	SYMBOL
AkA	ALTAVISTA SANDY LOAM	0 - 3	
AmB	APPLING SANDY LOAM	2 - 6	
CeB	CECIL SANDY LOAM	2 - 6	
CeC	CECIL SANDY LOAM	6 - 10	

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CONSULTANTS

SEALS

GEORGIA REGISTERED PROFESSIONAL ENGINEER
No. PE045302
TRAVIS THOMAS
4/18/2025

ISSUED FOR BID

FAYETTE COUNTY, GEORGIA
FAYETTE COUNTY WATER SYSTEM

FAYETTE County Water

FCWS-TRILITH TANK BOOSTER PUMP STATION

400 VETERANS PARKWAY
FAYETTEVILLE, GA 30214

REVISIONS

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0	4/18/2025	ISSUED FOR BID	TT

PROJECT STATUS: ISSUED FOR BID
PROJECT NO.: 30239751
DATE: APRIL 2025
FILE NAME:
DESIGNED BY: N. NIA
DRAWN BY: N. NIA
CHECKED BY: D.Wilson

SHEET TITLE
CIVIL

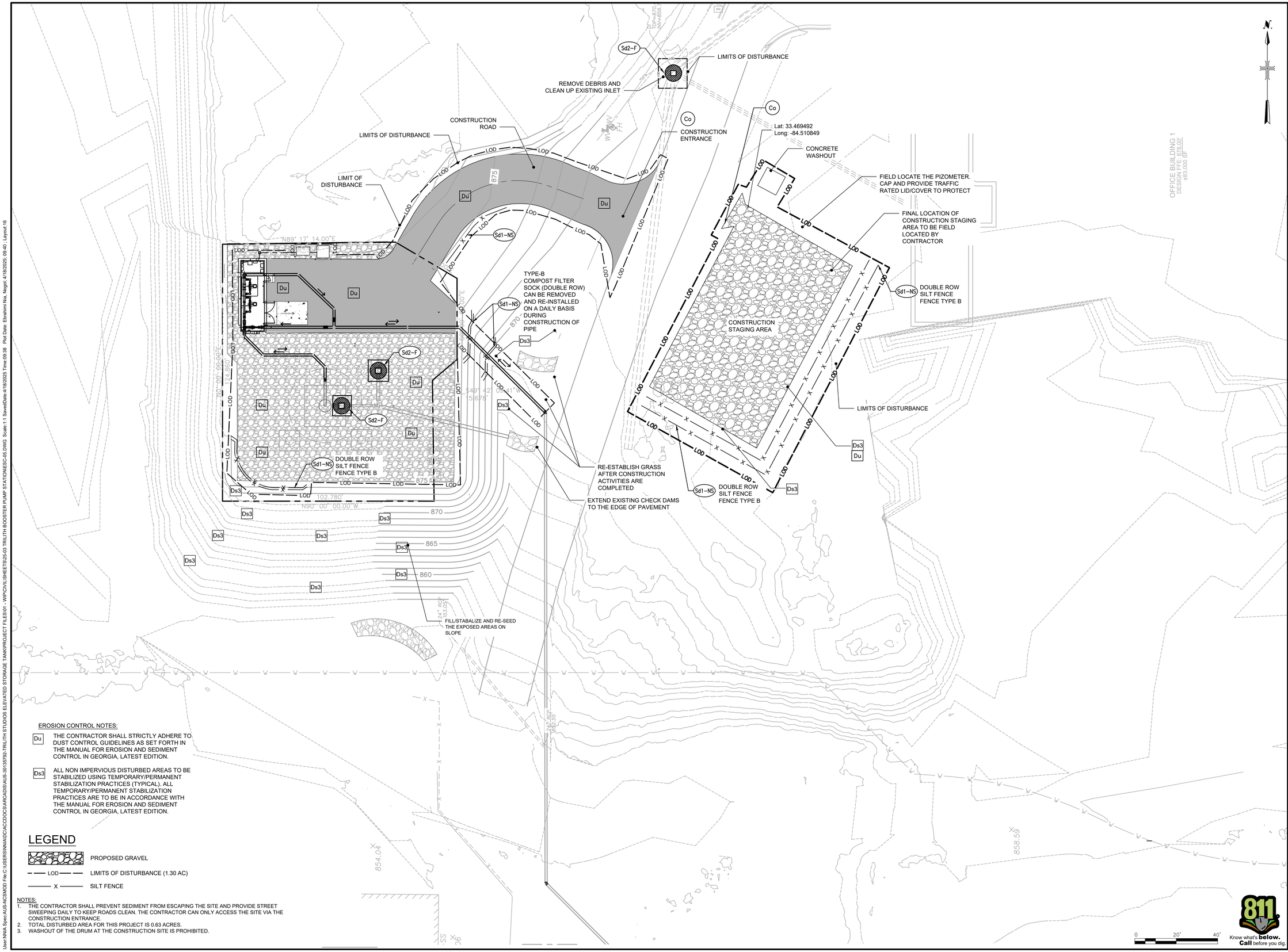
SOIL MAP

SCALE:
AS SHOWN

ESC-02

SHEET 10 OF 37

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



EROSION CONTROL NOTES:

Du THE CONTRACTOR SHALL STRICTLY ADHERE TO DUST CONTROL GUIDELINES AS SET FORTH IN THE MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA, LATEST EDITION.

Ds3 ALL NON IMPERVIOUS DISTURBED AREAS TO BE STABILIZED USING TEMPORARY/PERMANENT STABILIZATION PRACTICES (TYPICAL). ALL TEMPORARY/PERMANENT STABILIZATION PRACTICES ARE TO BE IN ACCORDANCE WITH THE MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA, LATEST EDITION.

LEGEND

PROPOSED GRAVEL

LOD LIMITS OF DISTURBANCE (1.30 AC)

X SILT FENCE

NOTES:

1. THE CONTRACTOR SHALL PREVENT SEDIMENT FROM ESCAPING THE SITE AND PROVIDE STREET SWEEPING DAILY TO KEEP ROADS CLEAN. THE CONTRACTOR CAN ONLY ACCESS THE SITE VIA THE CONSTRUCTION ENTRANCE.
2. TOTAL DISTURBED AREA FOR THIS PROJECT IS 0.63 ACRES.
3. WASHOUT OF THE DRUM AT THE CONSTRUCTION SITE IS PROHIBITED.

0 20' 40'

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CONSULTANTS

SEALS

GEORGIA REGISTERED No. PE045302 PROFESSIONAL ENGINEER TRAVIS THOMAS 4/18/2025

ISSUED FOR BID

FAYETTE COUNTY, GEORGIA

FAYETTE COUNTY WATER SYSTEM

FCWS-TRILITH TANK BOOSTER PUMP STATION

400 VETERANS PARKWAY
FAYETTEVILLE, GA 30214

REVISIONS

NO.	DATE	ISSUED FOR	BY
0	4/18/2025	ISSUED FOR BID	TT

PROJECT STATUS:	ISSUED FOR BID
PROJECT NO.:	30239751
DATE:	APRIL 2025
FILE NAME:	ESC-05
DESIGNED BY:	N. NIA
DRAWN BY:	N. NIA
CHECKED BY:	D.Wilson

SHEET TITLE

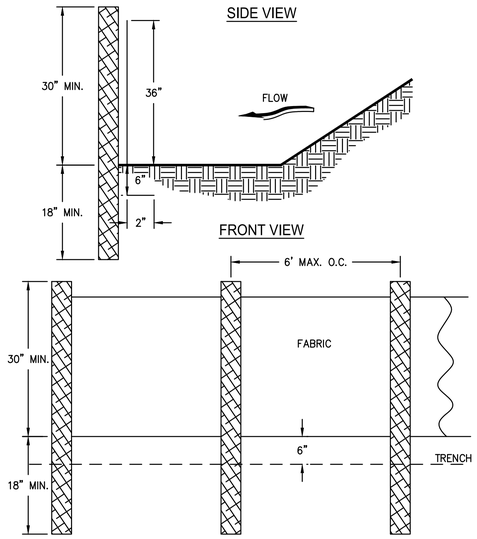
CIVIL

EROSION & SEDIMENT CONTROL PLAN

SCALE: AS SHOWN

ESC-03

SHEET 11 OF 37



NOTES:
1. USE STEEL OR WOOD POSTS OR AS SPECIFIED BY THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.
2. SILT FENCE – TYPE NON-SENSITIVE (SD1-NS) SHALL MEET THE SPECIFICATIONS OF SILT FENCE, TYPE A AS DESCRIBED IN SECTION 171 OF THE "GDOT STANDARD SPECIFICATIONS CONSTRUCTION OF TRANSPORTATION SYSTEMS", 2013 EDITION.
3. Sd1-NS = TYPE A SILT FENCE.

SILT FENCE - TYPE NON-SENSITIVE

Sd1-NS

N.T.S.

Sd2

Filter Fabric with Supporting Frame **Sd2-F**

- Applicable where the inlet drains a relatively flat area (<5% slope).
- Use Type S steel posts.
- Space stakes evenly around perimeter at a maximum of 3 ft apart.
- Drive stakes into the ground ~18" deep.
- The fabric shall be 36" tall and entrenched at least 12" and backfill with crushed stone or compacted soil.
- Securely fasten the fabric and wire to the posts.

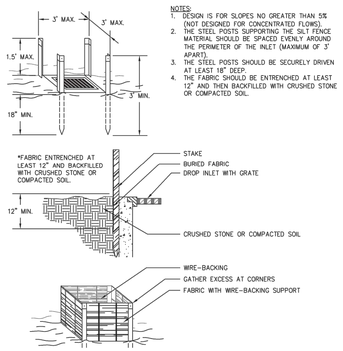


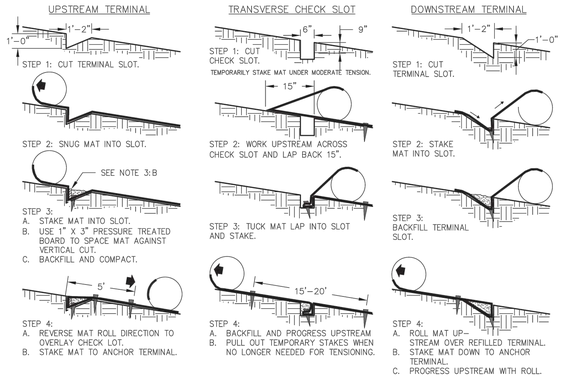
Figure 1. Filter Fabric with Supporting Frame Installation Requirements (Sd2-F)

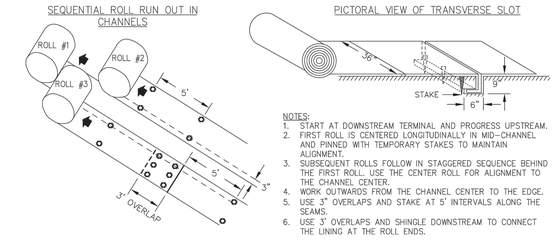
Sd2-F

FILTER FABRIC INLET SEDIMENT TRAP

TYPICAL INSTALLATION GUIDELINES FOR ROLLED EROSION CONTROL PRODUCTS (RECP)

BLANKET AND MATTING CROSS-SECTIONS





Ss

Figure 6-10.1 - Typical Installation Guidelines for Matting and Blankets

SLOPE STABILIZATION

Cd

Stone Check Dams **Cd-S**

- Drainage area not to exceed 2 acres.
- Constructed of graded size 2"-10" stone.
- The center of the check dam should be at least 9" lower than the outer edges.
- The dam height should be a maximum of 2 ft from the center to the rim edge.
- Place a suitable geotextile between the graded stone and the soil base and abutments.

STONE CHECK DAM

SPACING BETWEEN CHECK DAMS

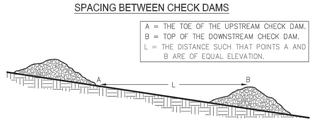


Figure 1. Stone Check Dam Spacing Requirements

CD-S

STONE CHECK DAM

SCALE: NONE

DEFINITION

CONTROLLING SURFACE AND AIR MOVEMENT OF DUST ON CONSTRUCTION SITES, ROADS, AND DEMOLITION SITES.

CONDITIONS

THIS PRACTICE IS APPLICABLE TO AREAS SUBJECT TO SURFACE AND AIR MOVEMENT OF DUST WHERE ON AND OFF-SITE DAMAGE MAY OCCUR WITHOUT TREATMENT.

METHOD AND MATERIALS

A. TEMPORARY METHODS

MULCHES. SEE STANDARD DS1 – DISTURBED AREA STABILIZATION (WITH MULCHING ONLY). SYNTHETIC RESINS MAY BE USED INSTEAD OF ASPHALT TO BIND MULCH MATERIAL. REFER TO STANDARD TB–TACKIFIERS AND BINDERS. RESINS SUCH AS CURASOL OR TERRATACK SHOULD BE USED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

VEGETATIVE COVER. SEE STANDARD DS2 – DISTURBED AREA STABILIZATION (WITH TEMPORARY SEEDING).

SPRAY–ON ADHESIVES. THESE ARE USED ON MINERAL SOILS (NOT EFFECTIVE ON MUCK SOILS). KEEP TRAFFIC OFF THESE AREAS. REFER TO STANDARD TB–TACKIFIERS AND BINDERS.

TILLAGE. THIS PRACTICE IS DESIGNED TO ROUGHEN AND BRING CLODS TO THE SURFACE. IT IS AN EMERGENCY MEASURE WHICH SHOULD BE USED BEFORE WIND EROSION STARTS. BEGIN PLOWING ON WINDWARD SIDE OF SITE. CHISEL–TYPE PLOWS SPACED ABOUT 12 INCHES APART, SPRING–TOOTHED HARROWS, AND SIMILAR PLOWS ARE EXAMPLES OF EQUIPMENT WHICH MAY PRODUCE THE DESIRED EFFECT.

IRRIGATION. THIS IS GENERALLY DONE AS AN EMERGENCY TREATMENT. SITE IS SPRINKLED WITH WATER UNTIL THE SURFACE IS WET. REPEAT AS NEEDED.

BARRIERS. SOLID BOARD FENCES, SNOW FENCES, BURLAP FENCES, CRATE WALLS, BALES OF HAY AND SIMILAR MATERIAL CAN BE USED TO CONTROL AIR CURRENTS AND SOIL BLOWING. BARRIERS PLACED AT RIGHT ANGLES TO PREVAILING CURRENTS AT INTERVALS OF ABOUT 15 TIMES THEIR HEIGHT ARE EFFECTIVE IN CONTROLLING WIND EROSION.

CALCIUM CHLORIDE. APPLY AT RATE THAT WILL KEEP SURFACE MOIST. MAY NEED RETREATMENT.

B. PERMANENT METHODS

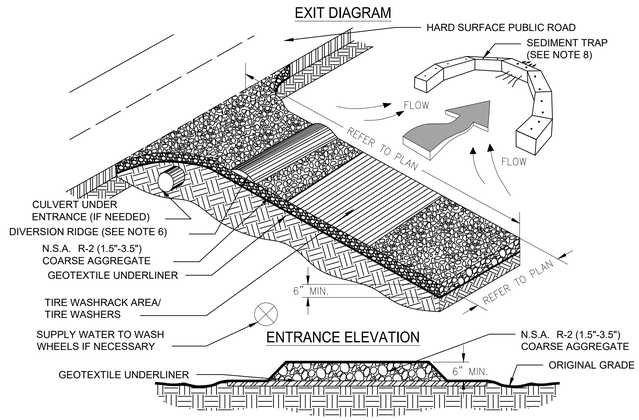
PERMANENT VEGETATION. SEE STANDARD DS3 –DISTURBED AREA STABILIZATION (WITH PERMANENT VEGETATION). EXISTING TREES AND LARGE SHRUBS MAY AFFORD VALUABLE PROTECTION IF LEFT IN PLACE.

TOPSOILING. THIS ENTAILS COVERING THE SURFACE WITH LESS EROSIVE SOIL MATERIAL. SEE STANDARD TP – TOPSOILING.

STONE. COVER SURFACE WITH CRUSHED STONE OR COARSE GRAVEL. SEE STANDARD CR–CONSTRUCTION ROAD STABILIZATION.

Du

DUST CONTROL ON DISTURBED AREAS



NOTES:
1. AVOID LOCATING ON STEEP SLOPES OR AT CURVES ON PUBLIC ROADS.
2. REMOVE ALL VEGETATION AND OTHER UNSUITABLE MATERIAL FROM THE FOUNDATION AREA, GRADE, AND CROWN FOR POSITIVE DRAINAGE.
3. AGGREGATE SIZE SHALL BE IN ACCORDANCE WITH NATIONAL STONE ASSOCIATION R–2 (1.5"–3.5" STONE).
4. GRAVEL PAD SHALL HAVE A MINIMUM THICKNESS OF 6".
5. PAD WIDTH SHALL BE EQUAL FULL WIDTH AT ALL POINTS OF VEHICULAR EGRESS, BUT NO LESS THAN 20'.
6. A DIVERSION RIDGE SHOULD BE CONSTRUCTED WHEN GRADE TOWARD PAVED AREA IS GREATER THAN 2%.
7. INSTALL PIPE UNDER THE ENTRANCE IF NEEDED TO MAINTAIN DRAINAGE DITCHES.
8. WHEN WASHING IS REQUIRED, IT SHOULD BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN (DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM THE ENTRANCE TO A SEDIMENT CONTROL DEVICE).
9. WASHRACKS AND/OR TIRE WASHERS MAY BE REQUIRED DEPENDING ON SCALE AND CIRCUMSTANCE. IF NECESSARY, WASHRACK DESIGN MAY CONSIST OF ANY MATERIAL SUITABLE FOR TRUCK TRAFFIC THAT REMOVE MUD AND DIRT.
10. MAINTAIN AREA IN A WAY THAT PREVENTS TRACKING AND/OR FLOW OF MUD ONTO PUBLIC RIGHTS–OF–WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.

Co

TEMPORARY CONSTRUCTION EXIT

SCALE: NONE

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ARCADIS U.S., INC.
2839 PACES FERRY ROAD
SUITE 900, ATLANTA, GA 30339
TE: 770-431-8666
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CONSULTANTS

SEALS

GEORGIA REGISTERED No. PE045302 PROFESSIONAL ENGINEER TRAVIS THOMAS 4/18/2025

ISSUED FOR BID

FAYETTE COUNTY, GEORGIA

FAYETTE COUNTY WATER SYSTEM

FCWS-TRILITH TANK BOOSTER PUMP STATION

400 VETERANS PARKWAY
FAYETTEVILLE, GA 30214

REVISIONS

NO.	DATE	ISSUED FOR	BY
0	4/18/2025	ISSUED FOR BID	TT

PROJECT STATUS: ISSUED FOR BID

PROJECT NO.:	30239751
DATE:	APRIL 2025
FILE NAME:	ESC-03
DESIGNED BY:	N. NIA
DRAWN BY:	N. NIA
CHECKED BY:	D.Wilson

SHEET TITLE

EROSION & SEDIMENT CONTROL

EROSION & SEDIMENT CONTROL DETAILS (SHEET 1 OF 2)

SCALE: AS SHOWN

ESC-04

SHEET 12 OF 37

User:NNIA Spec:AUS-NCSMOD File:C:\USERS\NNIA\DOCACCDOCS\ARCADIS\AUS-30135792-TRILITH STUDIOS ELEVATED STORAGE TANK\PROJECT FILES\01 - WIP\CIVIL\SHEETS\05-03 TRILITH BOOSTER PUMP STATION\ESC-08.DWG Scale:1:1 SavedDate:4/18/2025 Time:09:46 Plot Date: Ebrahimi Nia, Nogol- 4/18/2025, 09:47 - Layout:19

SEEDING SCHEDULE TEMPORARY COVER

SPECIES	BROADCAST RATES – PLS PER ACRE	BROADCAST RATES – PLS PER 1000 SQ. FT.	RESOURCE AREA^3	PLANTING DATES (SOLID LINES INDICATE OPTIMUM DATES, DOTTED LINES INDICATED PERMISSIBLE BUT MARGINAL DATES.) J F M A M J J A S O N D
BARLEY (HORDEUM VULGARE)			M–L	
ALONE	3 BU. (144 LBS.)	3.3 LB.	P	
IN MIXTURES	½ BU. (24 LBS.)	0.6 LB.	C	
LESPEDEZA, ANNUAL (LEZPEDEZA STRIATA)			M–L	
ALONE	40 LBS.	0.9 LB.	P	
IN MIXTURES	10 LBS.	0.2 LB.	C	
LOVEGRASS, WEEPING (ERAGROSTIS CURVULA)			M–L	
ALONE	4 LBS.	0.1 LB.	P	
IN MIXTURES	2 LBS.	0.05 LB.	C	
MILLET, BROWNTOP (PANCIUM FASCICULATUM)			M–L	
ALONE	40 LBS.	0.9 LB.	P	
IN MIXTURES	10 LBS.	0.2 LB.	C	
MILLET, PEARL (PENNESETUM GLAUCUM)			M–L	
ALONE	50 LBS.	1.1 LB.	P	
			C	
OATS (AVENA SATIVA)			M–L	
ALONE	4 BU. (128 LBS.)	2.9 LB.	P	
IN MIXTURES	1 BU. (32 LBS.)	0.7 LB.	C	
RYE (SECALE CEREALE)			M–L	
ALONE	3 BU. (168 LBS.)	3.9 LB.	P	
IN MIXTURES	½ BU. (28 LBS.)	0.6 LB.	C	
TRITICALE (X–TRITICOSECALE)			C	
ALONE	3 BU. (144 LBS.)	3.3 LB.		
IN MIXTURES	½ BU. (24 LBS.)	0.6 LB.		
RYEGRASS, ANNUAL (LOLIUM TEMULENTUM)			M–L	
ALONE	40 LBS.	0.9 LB.	P	
			C	
SUDANGRASS (SORGHUM SUDANESE)			M–L	
ALONE	60 LBS.	1.4 LB.	P	
			C	
WHEAT (TRITICUM AESTIVUM)			M–L	
ALONE	3 BU. (180 LBS.)	4.1 LB.	P	
IN MIXTURES	½ BU. (30 LBS.)	0.7 LB.	C	

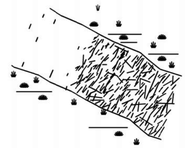
LIME: APPLY AT A RATE OF ONE TON PER ACRE
FERTILIZER: APPLY 500–700 POUNDS OF 10–10–10 OR EQUIVALENT PER ACRE

FERTILIZER REQUIREMENTS PERMANENT COVER

TYPE OF SPECIES	YEAR	ANALYSIS OR EQUIVALENT N–P–K	RATE	N TOP DRESSING RATE
1. COOL SEASON GRASSES	FIRST	6–12–12	1500 lbs./AC.	50–100 lbs./AC. 1/2/
	SECOND	6–12–12	1000 lbs./AC.	——
	MAINTENANCE	10–10–10	400 lbs./AC.	30 lbs./AC.
2. COOL SEASON GRASSES & LEGUMES	FIRST	6–12–12	1500 lbs./AC.	0–50 lbs./AC. 1/
	SECOND	10–10–10	1000 lbs./AC.	——
	MAINTENANCE	10–10–10	400 lbs./AC.	——
3. GROUND COVERS	FIRST	10–10–10	1300 lbs./AC. 3/	——
	SECOND	10–10–10	1300 lbs./AC. 3/	——
	MAINTENANCE	10–10–10	1100 lbs./AC.	——
4. PINE SEEDLINGS	FIRST	20–10–5	ONE 21–GRAM PELLET PER SEEDLING PLACED IN THE CLOSING HOLE	——
5. SHRU LESPEDEZA	FIRST	0–10–10	700 lbs./AC.	——
	MAINTENANCE	0–10–10	700 lbs./AC. 4/	——
6. TEMPORARY COVER CROPS SEEDED ALONE	FIRST	10–10–10	500 lbs./AC.	30 lbs./AC. 5/
7. WARM SEASON GRASSES	FIRST	6–12–12	1500 lbs./AC.	50–100 lbs./AC. 2/6/
	SECOND	6–12–12	800 lbs./AC.	50–100 lbs./AC. 2/
	MAINTENANCE	10–10–10	400 lbs./AC.	30 lbs./AC.
8. WARM SEASON GRASSES & LEGUMES	FIRST	6–12–12	1500 lbs./AC.	50 lbs./AC. 6/
	SECOND	0–10–10	1000 lbs./AC.	——
	MAINTENANCE	0–10–10	400 lbs./AC.	——

LIME: APPLY AT A RATE OF ONE TON PER ACRE

1/ APPLY IN SPRING FOLLOWING SEEDING.
2/ APPLY IN SPLIT APPLICATIONS WHEN HIGH RATES ARE USED.
3/ APPLY IN 3 SPLIT APPLICATIONS.
4/ APPLY WHEN PLANTS ARE PRUNED.
5/ APPLY TO GRASS SPECIES ONLY.
6/ APPLY WHEN PLANTS GROW TO A HEIGHT OF 2 TO 4 INCHES.



ESTABLISHING A TEMPORARY PROTECTION FOR DISTURBED AREAS USING SPECIFIC MULCH MATERIALS.

1. MULCH MATERIALS SHALL CONSIST OF DRY STRAW OR HAY AT 2.5 TONS PER ACRE, WOOD CHIPS AT 6 TO 9 TONS PER ACRE, EROSION CONTROL MATTING OR NETTING, OR POLYETHYLENE FILM.
2. THIS STANDARD APPLIED TO GRADES OR CLEARED AREAS WHICH MAY BE SUBJECTED TO EROSION CONTROL FOR 6 MONTHS OR LESS, AND CAN BE STABILIZED WITH A MULCH COVER.

Ds1 DISTURED AREA STABILIZATION
(WITH MULCHING)

SEEDING SCHEDULE PERMANENT COVER

SPECIES	BROADCAST RATES - PLS PER ACRE	BROADCAST RATES - PLS PER 1000 SQ. FT.	RESOURCE AREA^3	PLANTING DATES (SOLID LINES INDICATE OPTIMUM DATES, DOTTED LINES INDICATED PERMISSIBLE BUT MARGINAL DATES.) J F M A M J J A S O N D
BERMUDA, SPRIGS (CYNODON DACTYLON)			M-L	
COASTAL COMMON OR TIFT 44	40 CU. FT. OR SOD PLUGS 3'X3'	0.9 CU. FT.	P	
			C	
BERMUDA, COMMON (CYNODON DACTYLON)				HULLED SEED
ALONE	10 LBS.	0.2 LB.		UNHULLED SEED
W/ OTHER PERRENIALS	6 LBS.	0.1 LB.		
FESCUE, TALL (FESTUCA ARUNDINACEA)			M-L	
ALONE	50 LBS.	1.1 LB.	P	
W/OTHER PERRENIALS	30 LBS.	0.7 LB.		
CROWN/TECH (CORONILLA VARIA) W/WINTER ANNUALS OR COOL SEASON GRASSES	15 LBS.	0.3 LB.	M-L P	
REED CANARY GRASS (PHARLARIS ARUNDINACEA)			M-L	
ALONE	50 LBS.	1.1 LB.	P	
W/OTHER PERRENIALS	30 LBS.	0.7 LB.		
CENTIPEDE (EREMOCHLOA OPHIUROIDES)	BLACK SOD ONLY		P	
			C	
LOVEGRASS, WEEPING (ERAGROSTIS CURVULA)			M-L	
ALONE	4 LBS.	0.1 LB.	P	
W/OTHER PERRENIALS	2 LBS.	0.05 LB.	C	
LESPEDEZA, SERICEA (LESPEDEZA CUNEATA)			M-L	
SCARIFIED	60 LBS.	1.4 LB.	P	
UNSCARIFIED	75 LBS.	1.7 LB.		
SEED-BEARING HAY	3 TONS	138 LB.	C	

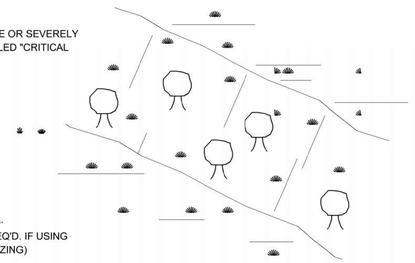
NOTE:
1. YOU MAY USE ANY OTHER SPECIES IF APPROVED BY MANUAL OF EROSION AND SEDIMENT CONTROL IN GEORGIA, LATEST EDITION.
2. ALL FERTILIZER RATE AND APPLICATION, SEED QUALITY, SEEDBED PREPERATION, INNOCULANTS, PLANTING, AND MULCHING SHALL COMPLY WITH MANUAL OF EROSION AND SEDIMENT CONTROL IN GEORGIA, LATEST EDITION.

ESTABLISHING A PERMANENT VEGETATIVE COVER AS A DISTURBED AREA.

1. APPLICABLE ON HIGHLY ERODIBLE OR SEVERELY ERODED AREAS, SOMETIMES CALLED "CRITICAL AREAS" INCLUDING:
   - CUT OR FILL SLOPES
   - EARTH SPILLWAYS
   - BORROW AREAS
   - CHANNEL BANKS
   - BERMS
   - ROADSIDES
   - SPOIL AREAS
   - GULLIED LANDS
2. GRADING AND SHAPING REQ'D. WHERE FEASIBLE AND PRACTICAL.
3. SEEDBED PREPARATION (NOT REQ'D. IF USING HYDRAULIC SEEDING AND FERTILIZING)

SLOPE	SEEDBED
3:1 OR FLATTER	> 4" DEEP
2:1 TO 3:1	1" TO 4" DEEP
2:1 OR STEEPER	DEPRESSIONS EVERY 6"-8" WITH HAND TOOL

4. HAVE SOIL ANALYZED FOR LIME AND FERTILIZER RATE.
5. MULCH ALL SLOPES STEEPER THAN 3%AND IN BOTTOM OF SPILLWAYS AND ON ROADBANKS.
6. ANCHOR MULCH IMMEDIATELY.



Ds3 DISTURED AREA STABILIZATION
(WITH PERMANENT VEGETATION)

Sd2

Filter Fabric with Supporting Frame **Sd2-F**

- Applicable where the inlet drains a relatively flat area (<5% slope).
- Use Type S steel posts.
- Space stakes evenly around perimeter at a maximum of 3 ft apart.
- Drive stakes into the ground ~18" deep.
- The fabric shall be 36" tall and entrenched at least 12" and backfill with crushed stone or compacted soil.
- Securely fasten the fabric and wire to the posts.

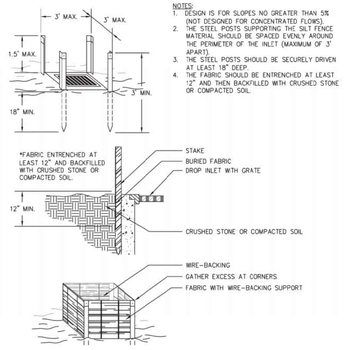


Figure 1. Filter Fabric with Supporting Frame Installation Requirements (Sd2-F)

Sd2-F FILTER FABRIC INLET SEDIMENT TRAP

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

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CONSULTANTS

SEALS

GEORGIA REGISTERED No. PE045302 PROFESSIONAL ENGINEER TRAVIS THOMAS 4/18/2025

ISSUED FOR BID

FAYETTE COUNTY, GEORGIA
FAYETTE COUNTY WATER SYSTEM

FCWS-TRILITH TANK BOOSTER PUMP STATION

400 VETERANS PARKWAY
FAYETTEVILLE, GA 30214

REVISIONS

NO.	DATE	ISSUED FOR	BY
0	4/18/2025	ISSUED FOR BID	TT

PROJECT STATUS: ISSUED FOR BID
PROJECT NO.: 30239751
DATE: APRIL 2025
FILE NAME: ESC-03
DESIGNED BY: N. NIA
DRAWN BY: N. NIA
CHECKED BY: D.Wilson

SHEET TITLE

EROSION & SEDIMENT CONTROL

EROSION & SEDIMENT CONTROL DETAILS (SHEET 2 OF 2)

SCALE: AS SHOWN

ESC-05
SHEET 13 OF 37

User:NNIA SpecAUS-NCSMOD File:C:\USERS\NNIA\DCA\CCDOCS\ARCADISAUS-30139792-TRILITH STUDIOS ELEVATED STORAGE TANK\PROJECT FILES\01 - WIP\CIVIL\SHEETS\25-03 TRILITH BOOSTER PUMP STATION\ESC-08.DWG Scale:1:1 SavedDate:4/18/2025 Time:09:47 Plot Date: Ebrahimi Nia, Nogol; 4/18/2025; 09:49 - Layout-20

NOTES:

1. PIPELINES, VALVES AND EQUIPMENT SHALL BE FURNISHED, FABRICATED, ERECTED AND OTHERWISE INSTALLED TO LINES, ELEVATIONS LOCATIONS, AND DIMENSIONS AS SHOWN, SPECIFIED OR REQUIRED FOR A COMPLETE INSTALLATION. THE CONTRACTOR SHALL MEASURE ALL DIMENSIONS SHOWN PROPERLY AND SHALL TAKE SUCH FIELD DIMENSIONS AS MAY BE NECESSARY TO PROPERLY INSTALL ALL PIPELINES, VALVES AND EQUIPMENT. DIMENSIONS AND LOCATIONS OF EXISTING EQUIPMENT, PIPING, AND STRUCTURES SHALL BE FIELD VERIFIED BY CONTRACTOR PRIOR TO NEW EQUIPMENT FABRICATION.
2. ALL PIPELINES, VALVES AND EQUIPMENT SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH CONTRACT DOCUMENTS AND MANUFACTURER'S SPECIFICATIONS, IN A NEAT WORKMANLIKE MANNER, AND IN ACCORDANCE WITH APPROVED SHOP AND WORKING DRAWINGS.
3. ALL CONSTRUCTION MATERIALS REQUIRING STORAGE SHALL BE STORED IN STRICT CONFORMANCE WITH CONTRACT DOCUMENTS, MANUFACTURER'S SPECIFICATIONS, RECOMMENDATIONS AND INSTRUCTIONS.

PIPING SYMBOLS

- WELD NECK FLANGE
- FLANGED
- MECHANICAL JOINT
- GROOVED END
- WELDED
- CONCRETE BELL & SPIGOT
- CPVC/PVC/COPPER
- FASTITE (RESTRAINED JOINT)
- FORGED STEEL SOCKET/THREADED
- HDPE IPS (FLANGED)
- HDPE IPS
- CAST IRON HUBLESS
- FLANGED FLARE
- BLIND FLANGE
- EXPANSION JOINT
- FLEXIBLE COUPLING
- FLANGED COUPLING ADAPTER
- FLANGED COUPLING ADAPTER
- DISMANTLING JOINT
- HARNESSED DISMANTLING JOINT

SCHEMATIC VALVE LEGEND

SYM PLAN ELEV

- AIR RELEASE VALVE (AR)
- AIR/VACUUM VALVE (AV)
COMBINATION AIR VALVE (CA)
- BALL VALVE (BV)
- BALL CHECK VALVE (BC)
- BUTTERFLY VALVE (BFV)
- BUTTERFLY DAMPER (BD)
- CHECK VALVE (CH)
- TELESCOPING VALVE (TV)
- DIAPHRAGM VALVE (DV)
- SUCTION FOOT VALVE (FV)
- THREE-WAY PLUG VALVE (TW)
- FOUR-WAY VALVE (FW)
- GLOBE VALVE (GL)
- GATE VALVE (GV)
CURB STOP (CS)
- KNIFE GATE VALVE (KV)
- MUD VALVE (MD)
- NEEDLE VALVE (NV)
- PINCH VALVE (PI)
- AUTOMATIC PRESSURE REDUCING VALVES (PR)
- AUTOMATIC PRESSURE SUSTAINING VALVES (PS)
- ECCENTRIC PLUG VALVE (PV)
- RELIEF VALVE (RV)
- SLUICE GATE (SL)
- SLIDE GATE (SG)
SLIDE PLATE (SP)
- SOLENOID VALVE (SV)
FO=FAIL OPEN
FC=FAIL CLOSED

ABBREVIATIONS

PIPE SERVICE

ALP	AIR (LOW PRESSURE PROCESS)
CA	COMPRESSED AIR
DR	DRAIN
DG	DIVERTER GATE
HO	HYDRAULIC OIL
HPW3	HIGH PRESSURE PLANT WATER
LS	LEVEL SENSOR
OF	OVERFLOW
POT	POTABLE WATER
SAM	SAMPLE
SAN	SANITARY

VALVE TYPES

AECV	AUTOMATIC ELECTRONIC CONTROL VALVES
ARV	AIR RELEASE VALVE
AVV	AIR VACUUM VALVE
BFV	BUTTERFLY VALVE
BLV	BALL VALVE
ECV	ELECTRIC CHECK VALVE
GV	GATE VALVE
GBV	GLOVE VALVE
KGV	KNIFE GATE VALVE
PRV	PRESSURE REDUCING VALVE
PSV	PRESSURE SUSTAINING VALVE
SG	SLUICE GATE
SV	SOLENOID VALVE

PIPE MATERIALS

BS	BLACK STEEL
CU	COPPER
CPVC	CHLORINATED POLYVINYL CHLORIDE
CS	CARBON STEEL
DIP	DUCTILE IRON
PVC	POLYVINYL CHLORIDE
RPVC	REINFORCED PVC FLEXIBLE HOSE
SSTL	STAINLESS STEEL
ST	STEEL

EXAMPLE: NEW PIPE LABEL

36" - RW - DIP - HT/I

- 36": DIAMETER (INCHES)
- RW: PIPE SERVICE
- DIP: PIPE MATERIAL
- HT/I: HEAT TRACED/ INSULATED

EXAMPLE: VALVE LABEL

16" - BFV

- 16": DIAMETER (INCHES)
- BFV: VALVE TYPE

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SUITE 900 ATLANTA, GA 30339
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CONSULTANTS

SEALS

GEORGIA REGISTERED No. PE045302 PROFESSIONAL ENGINEER TRAVIS THOMAS
4/18/2025

FAYETTE COUNTY, GEORGIA
FAYETTE COUNTY WATER SYSTEM

FCWS-TRILITH TANK BOOSTER PUMP STATION

400 VETERANS PARKWAY, FAYETTEVILLE, GA 30214, UNITED STATES

REVISIONS

NO.	DATE	ISSUED FOR	BY
0	4/18/2025	ISSUED FOR BID	TT

PROJECT STATUS: BID

PROJECT NO.:	30135792
DATE:	APRIL 2025
FILE NAME:	M-01
DESIGNED BY:	E. VAN DEVENTER
DRAWN BY:	B. TARIT
CHECKED BY:	T. THOMAS

SHEET TITLE

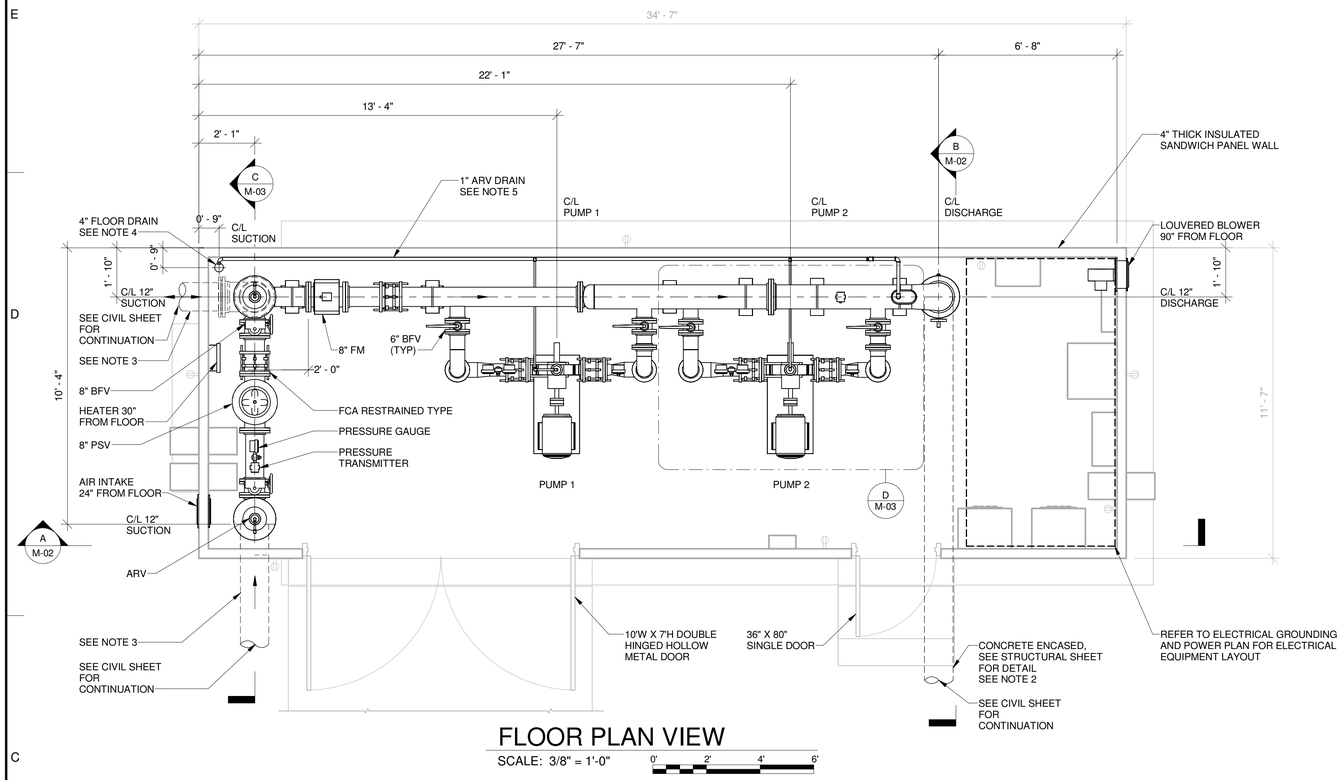
MECHANICAL

MECHANICAL LEGENDS, SYMBOLS AND ABBREVATIONS

SCALE: NTS

M-01

SHEET 14 OF 37

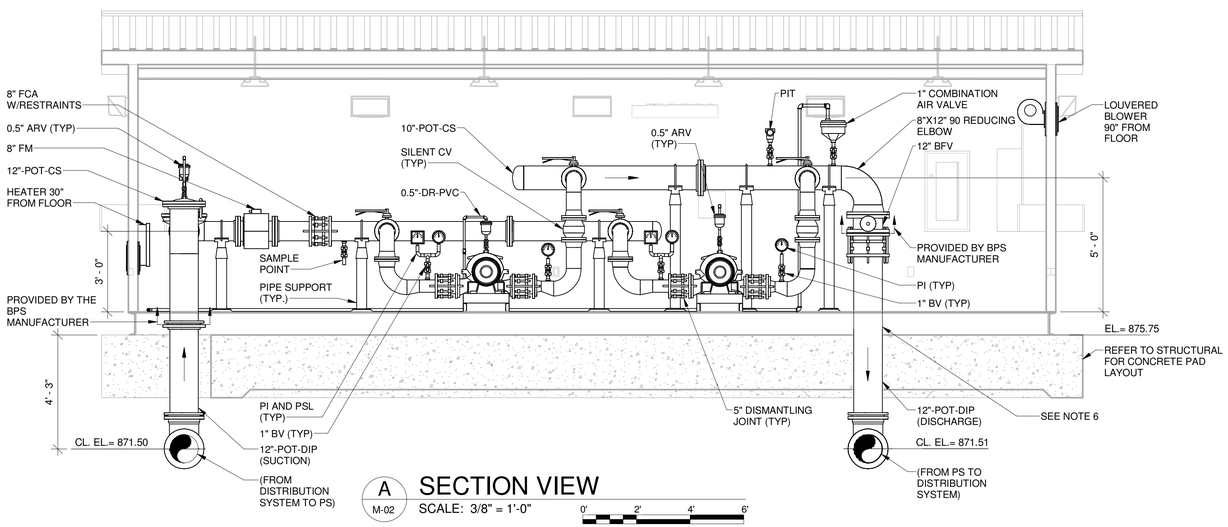


FLOOR PLAN VIEW

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

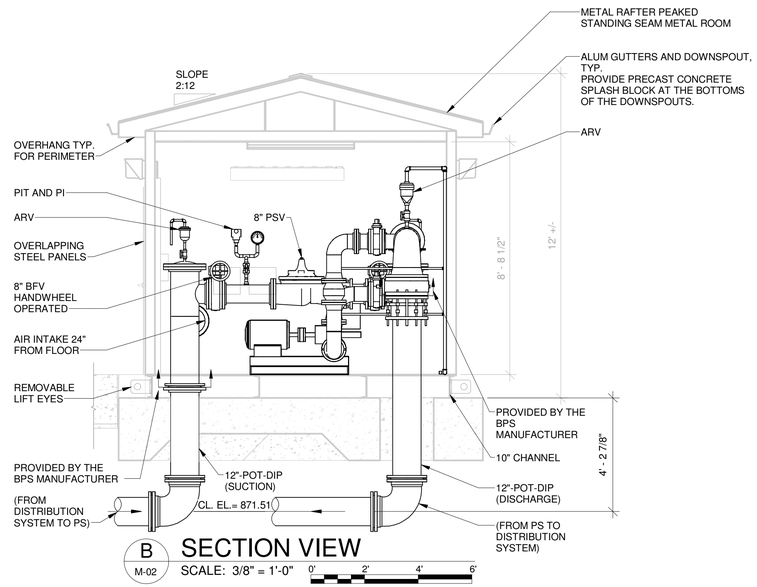
NOTES:

1. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL EQUIPMENT COORDINATION AND INSTALLATION CONSIDERATIONS, AND FURNISH AND INSTALL ALL EQUIPMENT, APPURTENANCES, AND SERVICES NOT PROVIDED BY THE PS MANUFACTURER TO ALLOW FOR A COMPLETE AND OPERABLE BOOSTER PUMP STATION SYSTEM.
2. CONTRACTOR TO INSTALL AND ENCASE IN CONCRETE PIPING FROM PS TO DISTRIBUTION SYSTEM PRIOR TO SETTING THE PS ON THE FOUNDATION SLAB.
3. CONTRACTOR TO SET PS ON FOUNDATION SLAB THEN CONNECT AND INSTALL DISTRIBUTION SYSTEM AND TANK CONNECTING PIPING UNDER THE PS.
4. CONTRACTOR TO ROUTE DRAIN TO TRENCH DRAIN OUTSIDE THE PS.
5. CONTRACTOR TO COMBINE AND ROUTE ALL AIR VALVE DRAINS TO DRAIN IN PS CORNER.
6. CONTRACTOR TO GROUT FILL AROUND PIPING ONCE CONNECTED TO PS.



A SECTION VIEW

A M-02 SCALE: 3/8" = 1'-0"



B SECTION VIEW

B M-02 SCALE: 3/8" = 1'-0"

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SUITE 900 ATLANTA, GA 30339
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4/18/2025

FAYETTE COUNTY, GEORGIA
FAYETTE COUNTY WATER SYSTEM

FAYETTE County Water

FCWS-TRILITH TANK BOOSTER PUMP STATION

400 VETERANS PARKWAY,
FAYETTEVILLE, GA 30214,
UNITED STATES

REVISIONS

NO.	DATE	ISSUED FOR	BY
0	4/18/2025	ISSUED FOR BID	TT

PROJECT STATUS: BID

PROJECT NO.:	30135792
DATE:	APRIL 2025
FILE NAME:	M-02
DESIGNED BY:	E. VAN DEVENTER
DRAWN BY:	B. TARIT
CHECKED BY:	T. THOMAS

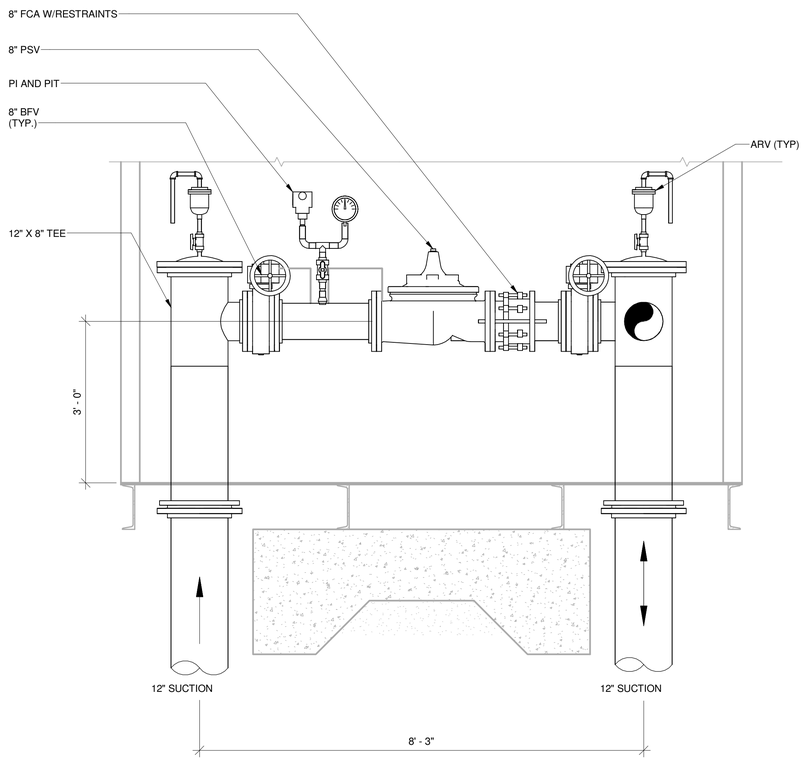
SHEET TITLE

MECHANICAL
BOOSTER PUMP STATION
PLAN AND SECTIONS
(FROM PS TO DISTRIBUTION SYSTEM)

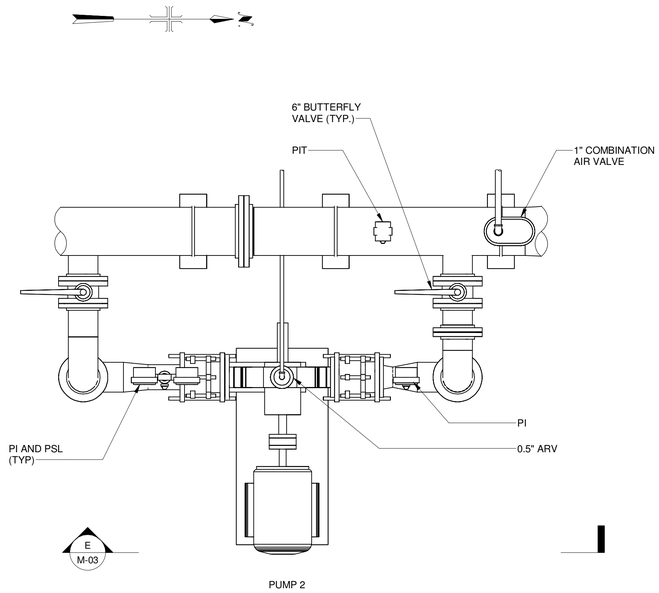
SCALE: 3/8" = 1'-0"

M-02

SHEET 15 OF 37

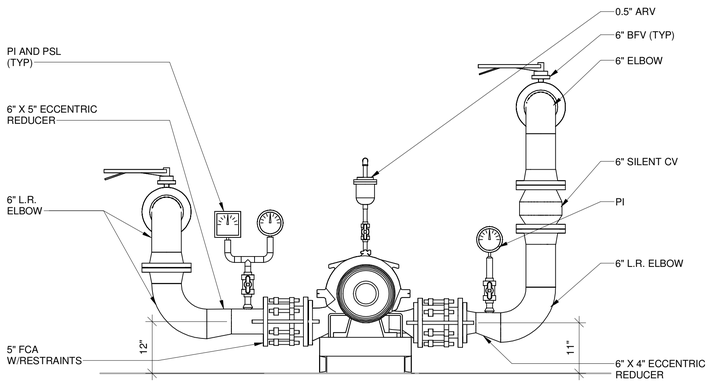


C SECTION VIEW
M-02 SCALE: 3/4" = 1'-0"



PUMP 2

D PUMPS ENLARGED PLAN VIEW
M-02 SCALE: 3/4" = 1'-0"



E SECTION VIEW
M-03 SCALE: 3/4" = 1'-0"

NOTE:
1. PIPE EXTERNAL TO STATION MUST BE INDEPENDENTLY SUPPORTED.

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SUITE 900 ATLANTA, GA 30339
TEL: 770-431-8666
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CONSULTANTS

SEALS

GEORGIA REGISTERED No. PE045302 PROFESSIONAL ENGINEER TRAVIS THOMAS
4/18/2025

FAYETTE COUNTY, GEORGIA
FAYETTE COUNTY WATER SYSTEM

FAYETTE County Water

FCWS-TRILITH TANK BOOSTER PUMP STATION

400 VETERANS PARKWAY,
FAYETTEVILLE, GA 30214,
UNITED STATES

REVISIONS

NO.	DATE	ISSUED FOR	BY
0	4/18/2025	ISSUED FOR BID	TT

PROJECT STATUS: BID

PROJECT NO.:	30135792
DATE:	APRIL 2025
FILE NAME:	M-03
DESIGNED BY:	E. VAN DEVENTER
DRAWN BY:	B. TARIT
CHECKED BY:	T. THOMAS

SHEET TITLE

MECHANICAL
BOOSTER PUMP STATION
SECTIONS AND DETAILS

SCALE: 3/4" = 1'-0"

M-03

SHEET 16 OF 37

GENERAL

G-1 THESE NOTES ARE GENERAL AND SUPPLEMENTAL TO THE SPECIFICATIONS AND APPLY TO THE ENTIRE PROJECT UNLESS MODIFIED OR NOTED OTHERWISE IN THE CONTRACT DOCUMENTS.

G-2 STANDARD DETAILS SHOWN ON STRUCTURAL TYPICAL DRAWINGS SHALL BE USED WHEN REFERRED TO, UNLESS DIFFERENT DETAILS ARE SHOWN ON THE DRAWINGS.

G-3 DESIGN IS IN ACCORDANCE WITH AND CONSTRUCTION SHALL COMPLY WITH THE PROVISIONS OF THE 2018 INTERNATIONAL BUILDING CODE WITH GEORGIA STATE AMENDMENTS (2022-2025), EXCEPT WHERE OTHER APPLICABLE CODES AND THE CONTRACT DOCUMENTS ARE MORE RESTRICTIVE.

DESIGN LOADS:

LIVE LOADS:

-FLOOR LIVE LOAD	300 PSF

SNOW LOAD:

-GROUND SNOW LOAD, P_g	5 PSF
-SNOW IMPORTANCE FACTOR	1.1

WIND LOAD:

-ULTIMATE DESIGN WIND SPEED	114 MPH
-WIND EXPOSURE	C
-RISK CATEGORY	III

SEISMIC LOAD:

-RISK CATEGORY	III
-SPECTRAL RESPONSE ACCELERATIONS, S_s	0.163
-SPECTRAL RESPONSE ACCELERATIONS, S_1	0.082
-SITE CLASS	D
-SPECTRAL RESPONSE COEFFICIENT, S_{DS}	0.173
-RESPONSE COEFFICIENT, S_{D1}	0.130
-SEISMIC DESIGN CATEGORY	B
-ANALYSIS PROCEDURE	ASCE 7-16,11.7
-SEISMIC IMPORTANCE FACTOR, I_e	1.25

G-4 WHERE THE ASTERISK SYMBOL (*) IS SHOWN IN THE DRAWINGS, DIMENSIONS AND ELEVATIONS ARE TO BE VERIFIED EITHER BY FIELD MEASUREMENTS FOR EXISTING STRUCTURES OR BY SHOP DRAWINGS FOR EQUIPMENT FURNISHED. STRUCTURAL DIMENSIONS NOT SHOWN BUT CONTROLLED BY OR RELATED TO EQUIPMENT SHALL BE VERIFIED BY THE CONTRACTOR WITH THE MANUFACTURER PRIOR TO CONSTRUCTION.

G-5 EQUIPMENT ANCHOR BOLT SIZES, TYPES, LOCATIONS AND PATTERNS SHALL BE AS REQUIRED BY THE APPROVED EQUIPMENT MANUFACTURER. ALL BOLT PATTERNS SHALL BE TEMPLATED TO ENSURE ACCURACY OF PLACEMENT.

G-6 STRUCTURAL DRAWINGS SHALL BE USED IN COORDINATION WITH DRAWINGS OF ALL OTHER DISCIPLINES AND MANUFACTURER'S SHOP DRAWINGS.

G-7 IF A CONFLICT IS FOUND BETWEEN DIFFERENT PORTIONS OF THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL NOTIFY THE OWNER IMMEDIATELY. CONTINUED CONSTRUCTION OF THE AREA IN CONFLICT SHALL BE AT THE CONTRACTOR'S OWN RISK UNTIL THE CONFLICT IS RESOLVED BY THE OWNER.

G-8 STRUCTURES HAVE BEEN DESIGNED FOR OPERATIONAL LOADS ON THE COMPLETED STRUCTURE. DURING CONSTRUCTION, THE STRUCTURES SHALL BE PROTECTED BY BRACING AND TEMPORARY SUPPORTS WHEREVER EXCESSIVE CONSTRUCTION LOADS MAY OCCUR. OVERSTRESSING OF ANY STRUCTURAL ELEMENT IS PROHIBITED.

G-9 NO BACKFILL SHALL BE PLACED AGAINST ANY WALL UNLESS ALL SUPPORTING ELEMENTS OF THE STRUCTURE HAVE BEEN CONSTRUCTED AND HAVE REACHED THE SPECIFIED MINIMUM CONCRETE STRENGTH.

G-10 ALL THE DIMENSIONS AND LEVELS ARE IN FEET UON.
DO NOT SCALE THESE DRAWINGS, USE DIMENSIONS.

G-11 CONTRACTOR'S CONSTRUCTION AND/OR ERECTION SEQUENCES SHALL RECOGNIZE AND CONSIDER THE EFFECTS OF THERMAL MOVEMENTS OF STRUCTURAL ELEMENTS DURING THE CONSTRUCTION PERIOD.

G-12 WHERE CONNECTIONS TO OR MODIFICATIONS OF EXISTING STRUCTURES ARE SHOWN, EXISTING FOUNDATIONS, WALLS, COLUMNS, SLABS, BEAMS, FLOORS, DECKS (CONCRETE, STEEL, TIMBER, ETC.) ARE ASSUMED TO BE IN GOOD CONDITION. THIS MUST BE VERIFIED IN THE FIELD BY THE CONTRACTOR. UNSOUND CONDITIONS SHALL BE REPORTED TO THE ENGINEER. ALL UNSOUND STRUCTURAL ELEMENTS SHALL BE REPAIRED TO SOUND CONDITION AS APPROVED BY THE ENGINEER. EXISTING CONSTRUCTION DIMENSIONS SHALL BE VERIFIED BY THE CONTRACTOR BEFORE WORK COMMENCES. VARIATIONS FROM DIMENSIONS SHOWN ON THESE DRAWINGS SHALL BE REPORTED TO THE ENGINEER.

G-13 OPENINGS AND PENETRATIONS:
THE CONTRACTOR SHALL SUBMIT COMPOSITE DRAWINGS INDICATING ALL FLOOR OPENINGS AND PENETRATIONS THROUGH STRUCTURAL MEMBERS REQUIRED TO ACCOMMODATE THE HVAC, PLUMBING AND ELECTRICAL WORK. THE CONTRACTOR SHALL FOLLOW THE TYPICAL FRAMING DETAILS AT OPENINGS AND REINFORCEMENT DETAILS AT PENETRATIONS THROUGH STRUCTURAL MEMBERS. ACCORDINGLY, THE CONTRACTOR SHALL SUBMIT SHOP DETAILS TO THE ENGINEER FOR REVIEW.

FOUNDATION NOTES

F-1 FOR FOUNDATION DESIGN CRITERIA REFER TO DESIGN PHASE GEOTECHNICAL ENGINEERING REPORT PREPARED BY OASIS CONSULTING SERVICES, PROJECT NO. 224927, DATED OCTOBER 4, 2022, AND REPORT ADDENDUM, DATED NOVEMBER 22, 2022.

CONCRETE

C-1 CONCRETE 28-DAY COMPRESSIVE STRENGTH:
CLASS A - 4500 PSI
CLASS B - 3000 PSI

C-2 PORTLAND CEMENT: ASTM C150, TYPE I/II OR ASTM C595 TYPE IL.

C-3 REINFORCEMENT: ASTM A615, GRADE 60.

C-4 FLY ASH: ASTM C618, CLASS F OR SLAG ASTM C989 GRADE 120, MAX CONTENT 25% BY WEIGHT.

C-5 CONCRETE COVER FOR REINFORCING:

A) SURFACES CAST AGAINST EARTH	3"
B) SURFACE WITH EMBEDDED PVC WATERSTOP	3"
C) ALL OTHER SURFACES	2"

C-6 CONSTRUCTION JOINTS SHALL BE LOCATED AS SHOWN ON THE DRAWINGS. WHERE NOT SHOWN, CONSTRUCTION JOINTS SHALL BE LOCATED AS REQUIRED BY THE SPECIFICATIONS. CONSTRUCTION JOINT, TYPES AND LOCATIONS SHALL BE AS APPROVED BY THE ENGINEER.

C-7 WHERE HORIZONTAL CONSTRUCTION JOINTS, LOCATED ABOVE THE FOUNDATION SLAB, EXTEND BEYOND WHERE NEEDED, TERMINATE AT A VERTICAL CONSTRUCTION JOINT AS APPROVED BY THE ENGINEER.

C-8 EQUIPMENT SUPPORTS, ANCHORAGES, OPENINGS, RECESSES AND REVEALS NOT SHOWN ON THE STRUCTURAL DRAWINGS BUT REQUIRED BY OTHER CONTRACT DOCUMENTS, SHALL BE PROVIDED FOR PRIOR TO PLACING CONCRETE.

C-9 AT ALL TYPICAL CURBS, EQUIPMENT PADS, AND PIPE SUPPORT PIERS, REINFORCING DOWELS SHOWN MAY BE REPLACED WITH MATCHING DOWELS SET IN EPOXY IN DRILLED HOLES AS SPECIFIED. DOWELS LOCATED CLOSER THAN 3 INCHES FROM ANY EDGE OF CONCRETE SHALL NOT BE REPLACED WITH DRILLED DOWELS.

C-10 WHERE DRILLED EPOXY DOWELS ARE PLACED INTO HARDENED CONCRETE, ADJUST THE DOWEL LOCATIONS AS NEEDED TO AVOID DRILLING THROUGH ANY REINFORCING BARS. IF THE DOWEL LOCATION NEEDS TO BE MODIFIED, CONTACT THE ENGINEER BEFORE PROCEEDING.

C-11 DOWELS, ANCHOR BOLTS, PIPES, AND OTHER EMBEDDED ITEMS SHALL BE HELD SECURELY IN POSITION WHILE CONCRETE IS BEING PLACED.

C-12 CONDUITS AND PIPES EMBEDDED IN OR PENETRATING THROUGH CONCRETE SHALL BE SPACED ON CENTER NOT LESS THAN 3 TIMES THEIR OUTSIDE DIMENSION, BUT NOT LESS THAN 2 1/2 INCHES CLEAR. OUTSIDE DIMENSION OF EMBEDDED ITEMS SHALL NOT EXCEED 1/3 OF THE CONCRETE MEMBER THICKNESS. CLEAR SPACING REQUIREMENTS SHALL APPLY FOR EMBEDDED CONDUITS OR PIPES CROSSING AT AN ANGLE LESS THAN 60 DEGREES.

C-13 THE EFFECTIVE DIMENSION USED TO MEET MEMBER THICKNESS LIMITATIONS SHALL BE THE SUM OF THE OUTER DIMENSIONS OF CROSSING ELEMENTS.

C-14 EMBEDDED CONDUITS AND PIPES SHALL BE LOCATED BETWEEN THE LAYERS OF REINFORCEMENT AND A MINIMUM OF 2 1/2 INCHES CLEAR FROM APPROXIMATELY PARALLEL REINFORCING BARS. REQUIREMENTS FOR EMBEDDED ELEMENTS CROSSING REINFORCING BARS SHALL BE AS REQUIRED FOR CROSSING EMBEDDED ELEMENTS.

C-15 CONDUITS AND PIPES SHALL NOT BE EMBEDDED IN OR PASS THROUGH COLUMNS AND BEAMS.

C-16 REINFORCING BARS AND ACCESSORIES SHALL NOT BE IN CONTACT WITH ANY METAL PIPE, PIPE FLANGE, METAL CONDUIT OR OTHER METAL PARTS EMBEDDED IN CONCRETE. A MINIMUM CLEARANCE OF 2 INCHES SHALL BE PROVIDED.

C-17 CONTRACTOR SHALL PROVIDE 3/4 INCH CHAMFER USING WOOD CHAMFER STRIPS ON ALL EXPOSED CORNERS OF COLUMNS, BEAMS AND WALLS OR AS REQUIRED TO MATCH EXISTING.

C-18 LAP SPLICES SHALL BE IN ACCORDANCE WITH THE TABLE SHOWN ON SHEET S-01.

C-19 PROVIDE ADDITIONAL REINFORCEMENT AT OPENINGS AND WALL INTERSECTIONS AS SHOWN ON TYPICAL DETAILS (UON).

C-20 PROVIDE WATERSTOPS IN ALL FOUNDATIONS, TANKS AND OTHER SUBSTRUCTURES.

STRUCTURAL METALS

S-1 DETAIL, FABRICATE, AND ERECT STRUCTURAL STEEL IN ACCORDANCE WITH AISC SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS, LATEST EDITION.

S-2 STEEL MATERIAL:
A) STRUCTURAL TUBING: ASTM A500, GRADE C
B) STRUCTURAL PIPE: ASTM A53, GRADE B
C) W SHAPES: ASTM A992
D) ALL OTHER SHAPES: ASTM A572, GRADE 50
E) PLATES AND ANGLES: ASTM A36, UON

S-3 DO NOT PAINT STEEL SURFACES WHICH ARE TO BE WELDED OR ENCASED IN CONCRETE.

S-4 ALL GROOVE AND BUTT WELDS SHALL BE FULL PENETRATION.

S-5 FILLET WELD SIZES SHALL BE THE MINIMUM SIZE REQUIRED BY AISC CODE FOR PLATE SIZES TO BE CONNECTED BUT NOT LESS THAN 3/16" AND SHALL BE APPLIED TO THE ENTIRE JOINT CONTACT LENGTH.

S-6 ALL BOLTS, ANCHOR BOLTS, AND CONCRETE ANCHORS CONNECTING GALVANIZED STEEL SHALL BE SS 316.

S-7 WHENEVER ONE MEMBER IS FASTENED TO ANOTHER WITH FASTENINGS (BOLTS, WELDS, ETC.) SET AT A UNIFORM SPACING, THERE SHALL BE A MINIMUM OF TWO FASTENINGS PER PIECE CONNECTED AND THE FIRST AND LAST FASTENINGS SHALL BE LOCATED NOT TO EXCEED 1/4 SPACE FROM EACH END.

S-8 A) ALUMINUM SHAPES
1. ASTM B308/B308M, ALLOY 6061-T6, ASTM B221, ALLOY 6061-T6
2. ALUMINUM TUBES AND PIPES: ASTM B429, ALLOY 6061-T6
3. ALUMINUM BARS AND RODS: ASTM B211, ALLOY 6061-T6
4. ALUMINUM PLATES: ASTM B209, ALLOY 6061-T6

B) ELECTRODES FOR WELDING: ER 5356 COMPLYING WITH AWS D1.2/D1.2M

S-9 STAINLESS STEEL:
1. ANSI, TYPE 316/316L
2. SECTION, SHAPES AND BARS ASTM A 276
3. BOLTED CONNECTIONS - BOLTS AND ANCHOR BOLTS:
A. MATCH ALLOY OF THE STRUCTURAL MEMBER CONNECTED
B., TYPE 316/316L : ASTM F 593, GRADE B8M, CLASS 1, HEAVY HEX
C., TYPE 304/304L : ASTM F593, GRADE B8, CLASS 1, HEAVY HEX
4. WELDED CONNECTIONS:, TYPE 316L : E316L- 15 ELECTRODE

LAP SPLICE AND EMBEDMENT LENGTH TABLE

REINFORCEMENT LAP SPLICE, EMBEDMENT LENGTH AND STANDARD HOOKS (INCHES)

BAR SIZE	MIN LAP LENGTHS FOR: BEAMS AND COLUMNS* CLASS B		SLABS AND WALLS ** CLASS B		MIN EMBEDMENT LENGTHS: FOR BEAMS AND COLUMNS *		FOR SLABS AND WALLS **		WITH STANDARD HOOK	MIN STD HOOKS: 90° A OR G	90° H	135° A OR G	135° H
	TOP***	OTHERS	TOP***	OTHERS	TOP***	OTHERS	TOP***	OTHERS					
#3	25	19	16	16	19	15	12	12	5	6	4	4	2.5
#4	33	25	20	16	25	19	15	12	7	8	4.5	6	3
#5	41	31	25	19	31	24	19	15	9	10	5.5	8	3.75
#6	49	37	29	23	37	29	23	18	10	12	8	10	4.5
#7	71	54	43	33	54	42	33	25	12	14	9	12	5.25
#8	81	62	49	37	62	48	37	29	14	16	10.5	14	6
#9	91	70	60	46	70	54	46	36	15	19	-	18	-
#10	102	79	74	57	79	61	57	44	17	22	-	20	-
#11	114	87	89	69	87	67	68	53	19	24	-	22	-

REINFORCEMENT LAP SPLICE, EMBEDMENT LENGTH AND STANDARD HOOKS TABLE IS BASED ON A MINIMUM CONCRETE COMPRESSIVE STRENGTH OF 4000 PSI MINIMUM OR GREATER AND 60000 PSI REINFORCEMENT (WITH NO EPOXY COATING).

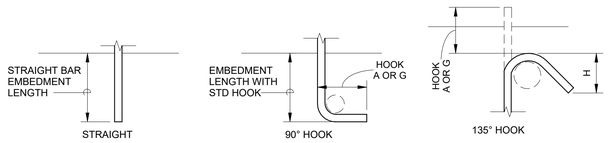
ALL LAP SPLICES SHALL BE CLASS B SPLICES.

* THE MINIMUM LAP LENGTHS FOR BEAMS, COLUMNS AND STRAIGHT EMBEDMENTS ARE BASED ON A 3 BAR DIAMETER MINIMUM CENTER TO CENTER BAR SPACING AND A 2" BAR COVER. IF THE SPLICE AND/OR EMBEDMENT DOES NOT CONFORM TO THESE REQUIREMENTS, THEN CONTRACTOR SHALL APPLY APPROPRIATE FACTORS IN COMPLIANCE WITH ACI 318 WITH APPROVAL BY ENGINEER.

** THE MINIMUM LAP LENGTHS FOR SLABS, WALLS AND STRAIGHT EMBEDMENTS ARE BASED ON A 6" BAR SPACING AND A 2" BAR COVER. IF THE LAP CONDITION DOES NOT CONFORM TO THESE REQUIREMENTS, THEN USE BEAM LAP LENGTHS OR COMPLY WITH LAP REQUIREMENTS OF ACI 318 WITH APPROVAL BY ENGINEER.

*** TOP BARS ARE DEFINED AS ALL HORIZONTAL BARS WITH 12" OR MORE FRESH CONCRETE BENEATH.

WHERE SPLICES ARE REQUIRED BETWEEN BARS OF DIFFERENT SIZES, THE LAP LENGTH SHALL BE NO LESS THAN THE EMBEDMENT LENGTH OF THE LARGER BAR OR THE LAP LENGTH OF THE SMALLER BAR, WHICHEVER IS GREATER.



ADHESIVE ANCHORS FOR ANCHORAGE INTO CONCRETE:

MANUFACTURERS:

1.HILTI HIT-RE 500 V3 EPOXY ADHESIVE ANCHORS

2.OR AS APPROVED.

A. INJECTABLE TWO-COMPONENT ADHESIVE.
B. HILTI ANCHOR ROD HAS-R 316 STAINLESS STEEL THREADED ROD COMPLYING WITH ASTM F593 CONDITION CW.
C. ADHESIVE ANCHORAGE SYSTEM SHALL BE SEISMIC QUALIFIED WITH CURRENT ICC-ES ESR REPORT (ICC-ES-ESR 3814).
D. INSTALLERS TO BE TRAINED BY ANCHOR MANUFACTURER.
E. 10% OF ALL ADHESIVE ANCHORS TO BE LOAD TESTED, AS INSTALLED IN FIELD, TO ENSURE ALLOWABLE MANUFACTURER LOADS ARE ACHIEVED.

ABBREVIATIONS

AB	ANCHOR BOLTS
ADD'L	ADDITIONAL
AL	ALUMINUM
ALT	ALTERNATE
ANCH	ANCHOR
APPROX	APPROXIMATE
A	ARCHITECTURAL
BAL	BALANCE
BET	BETWEEN
BL	BUILDING LINE
BLDG	BUILDING
BLK	BLOCK
BM	BEAM
BOT	BOTTOM
BRG	BEARING
C	CHANNEL (STRUCTURAL SHAPE)
CANT'L	CANTILEVER
CF	COMBINED FOOTING
CJ	CONSTRUCTION JOINT
CL	CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
COMP	COMPRESSIBLE
CONC	CONCRETE
CONN	CONNECTION
CONST	CONSTRUCTION
CONT	CONTINUOUS
C/C	CENTER TO CENTER
CTR	CENTER
DET	DETAIL
DIA	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DL	DEAD LOAD
DN	DOWN
DO	DITTO
DP	DEEP
DWG	DRAWING
DWL	DOWEL
E	EAST
EA	EACH
EF	EACH FACE
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRICAL
EMB	EMBEDMENT
ENCL	ENCLOSURE
EQ	EQUAL
EQUIP	EQUIPMENT
ES	EACH SIDE
EW	EACH WAY
EW T&B	EACH WAY TOP & BOTTOM
EXIST	EXISTING
EXP	EXPANSION
EXT	EXTERIOR
FB	FLOOR BEAM
FD	FLOOR DRAIN
FDN	FOUNDATION
FF	FAR FACE
FIN	FINISH
FL	FLOOR
FTG	FOOTING
GA	GAUGE
GALV	GALVANIZE
GB	GRADE BEAM
GR	GRADE
GRTG	GRATING
H	HIGH
HT	HEIGHT
HORIZ	HORIZONTAL
HP	HIGH POINT
HVAC	HEATING, VENTILATING & AIR CONDITIONING
ID	INSIDE DIAMETER
IF	INSIDE FACE
INV	INVERT
JT	JOINT
KO	KNOCK OUT
L	ANGLE (STRUCTURAL SHAPE)
LG	LONG
LL	LIVE LOAD
LLH	LONG LEG HORIZ
LLV	LONG LEG VERT
LOC	LOCATION
LP	LOW POINT
LW	LONG WAY
MTCH	MATCH/MATCHING
MAX	MAXIMUM
MECH	MECHANICAL
MEZZ	MEZZANINE
MFR	MANUFACTURE, MANUFACTURER
MH	MANHOLE
MID	MIDDLE
MIN	MINIMUM
N	NORTH
NF	NEAR FACE
#	NUMBER
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OF	OUTSIDE FACE
OH	OVER HEAD
OPNG	OPENING
OPP	OPPOSITE
PB	PLINTH BEAM
PC	PRECAST CONCRETE
PL	PLATE
PSF	POUNDS PER SQUARE FOOT
PVC	POLYVINYL CHLORIDE
R	RISER
RAD	RADIUS
RD	ROOF DRAIN
REINF	REINFORCEMENT
REQD	REQUIRED
RM	ROOM
RO	ROUGH OPENING
S	SOUTH
SECT	SECTION
SHT	SHEET
SIM	SIMILAR
SL	SLAB
SPA	SPACING
SPEC	SPECIFICATION
SQ	SQUARE
SST	STAINLESS STEEL
STD	STANDARD
STIR	STIRRUP
STL	STEEL
STRUCT	STRUCTURAL
SW	SHORT WAY
TBD	TO BE DECIDED
T&B	TOP AND BOTTOM
TOC	TOP OF CONCRETE
THK	THICK
T/	TOP OF
T	TREAD
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
VERT	VERTICAL
W	WIDTH, WEST
WF	WIDE FLANGE STRUCTURAL SHAPE
W/	WITH
WP	WORKING POINT
WS	WATERSTOP

ARCADIS
LEGAL ENTITY:
ARCADIS U.S., INC.
2839 PACES FERRY ROAD
SUITE 900 ATLANTA, GA 30339
TEL: 770-431-8666
WWW.ARCADIS.COM

CONSULTANTS

SEALS

GEORGIA REGISTERED No.SE003840 STRUCTURAL ENGINEER DONNELL VIVIAN DUNCAN 04.18.25

FAYETTE COUNTY, GEORGIA
FAYETTE COUNTY WATER SYSTEM

FAYETTE County Water

FCWS - TRILITH TANK BOOSTER PUMP STATION

400 VETERANS PARKWAY, FAYETTEVILLE, GA 30214, UNITED STATES

REVISIONS

NO.	DATE	ISSUED FOR	BY
0	4/18/2025	ISSUED FOR BID	TT

PROJECT STATUS: BID SET

PROJECT NO.:	30135792
DATE:	APRIL 2025
FILE NAME:	S-01
DESIGNED BY:	N. SADASHIVA
DRAWN BY:	A. RAJESH
CHECKED BY:	D. DUNCAN

SHEET TITLE

STRUCTURAL

GENERAL NOTES

SCALE: NO SCALE

S-01

SHEET 17 OF 37

STRUCTURAL QUALITY ASSURANCE PLAN

GENERAL:

THIS STRUCTURAL QUALITY ASSURANCE PLAN IDENTIFIES THE RESPONSIBILITIES OF THE CONTRACTOR AND THE SPECIAL INSPECTOR IN PERFORMING THE TESTING AND INSPECTION OF THE WORK REQUIRED BY CHAPTER 17 OF THE BUILDING CODE THAT IS WITHIN THE SCOPE OF THE STRUCTURAL ENGINEERING SERVICES FOR THIS PROJECT. REFER TO OTHER PORTIONS OF THE CONSTRUCTION DOCUMENTS FOR TESTING AND INSPECTIONS REQUIRED OF MECHANICAL, ELECTRICAL, CIVIL, OR OTHER BUILDING COMPONENTS.

CONTRACTOR'S RESPONSIBILITIES:

CONTRACTOR IS RESPONSIBLE FOR THE CONSTRUCTION OF A WIND OR SEISMIC FORCE RESISTING SYSTEM/COMPONENT LISTED IN THE "STATEMENT OF SPECIAL INSPECTION" AND SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY TO THE BUILDING OFFICIAL AND THE OWNER PRIOR TO THE COMMENCEMENT OF WORK ON SUCH SYSTEM OR COMPONENT PER SECTION 1704.4 OF THE IBC 2018 EDITION. CONTRACTOR SHALL GIVE 48 HOURS ADVANCED NOTICE FOR ALL REQUIRED INSPECTIONS.

SPECIAL INSPECTOR'S RESPONSIBILITIES:

THE SPECIAL INSPECTOR SHALL BE A LICENSED ENGINEER IN THE STATE OF GEORGIA OR PERFORMING APPROPRIATE DUTIES DIRECTLY UNDER THE SUPERVISION OF A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF GEORGIA AND HAVE A THOROUGH UNDERSTANDING OF THE SPECIAL INSPECTION REQUIREMENTS OF THE 2018 IBC. THE SPECIAL INSPECTOR SHALL BE AN INDIVIDUAL OR INDIVIDUALS CERTIFIED OR EXPERIENCED TO PERFORM SUCH INSPECTIONS IN A PARTICULAR FIELD.

THE SPECIAL INSPECTOR SHALL KEEP RECORDS OF ALL INSPECTIONS AND FURNISH REPORTS TO THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. PERIODIC REPORTS SHALL BE PROVIDED AND SHALL INDICATE THAT WORK INSPECTED WAS DONE IN CONFORMANCE WITH APPROVED CONSTRUCTION DOCUMENTS. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF THE DISCREPANCIES ARE NOT CORRECTED TO THE SATISFACTION OF THE SPECIAL INSPECTOR, THE DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE PRIOR TO THE COMPLETION OF THAT PHASE WORK.

A WEEKLY REPORT OF INSPECTIONS DOCUMENTING REQUIRED SPECIAL INSPECTIONS AND CORRECTION OF ANY DISCREPANCIES NOTED IN THE INSPECTIONS SHALL BE SUBMITTED. AT THE COMPLETION OF THE SPECIAL INSPECTIONS, THE LICENSED PROFESSIONAL ENGINEER IN CHARGE OF PERFORMING THE SPECIAL INSPECTION SHALL CERTIFY THE FINAL SPECIAL INSPECTION REPORT AND AFFIX HIS/HER SEAL TO THE SPECIAL INSPECTOR'S FINAL REPORT. PROVIDE THREE (3) COPIES OF THIS REPORT TO THE PROJECT ENGINEER.

SOILS:

CONTRACTOR SHALL PERFORM THE FOLLOWING:

1. SUBMIT TEST REPORTS FOR ENGINEERED FILL. CONTRACTOR TO COORDINATE BUILDING DEPARTMENT INSPECTIONS AND SPECIAL INSPECTIONS.

INSPECTOR SHALL PERFORM THE FOLLOWING:

TABLE 1705.6
REQUIRED SPECIAL INSPECTION AND TESTS OF SOILS

TYPE	C	P
1. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.		X
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.		X
3. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS.		X
4. VERIFY USE OF PROPER MATERIALS, DENSITIES, AND LIFT THICKNESS DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.	X	
5. PRIOR TO PLACEMENT OF COMPACTED FILL, INSPECT SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.		X

C = CONTINUOUS SPECIAL INSPECTION

P = PERIODIC SPECIAL INSPECTION

CAST-IN-PLACE CONCRETE:

CONTRACTOR SHALL PERFORM THE FOLLOWING:

1. ESTABLISH CONCRETE MIX DESIGN PROPORTIONS PER ACI 318. SUBMIT THREE COPIES OF THE CONCRETE MIX DESIGNS. INCLUDE THE FOLLOWING:
   - A. TYPE AND QUANTITIES OF MATERIALS
   - B. SLUMP
   - C. AIR CONTENT
   - D. FRESH UNIT WEIGHT
   - E. AGGREGATES SIEVE ANALYSIS
   - F. DESIGN COMPRESSIVE STRENGTH
   - G. LOCATION OF PLACEMENT IN STRUCTURE
   - H. METHOD OF PLACEMENT
   - I. METHOD OF CURING
   - J. SEVEN-DAY AND 28-DAY COMPRESSIVE STRENGTHS
2. SUBMIT CERTIFICATION FROM EACH MANUFACTURER OR SUPPLIER STATING THAT MATERIALS MEET THE REQUIREMENTS OF THE SPECIFIED ASTM AND ACI STANDARDS.
3. SUBMIT CERTIFICATION THAT THE READY-MIXED CONCRETE PLANT COMPLIES WITH THE REQUIREMENTS OF THE NATIONAL READY MIX CONCRETE ASSOCIATION.

SPECIAL INSPECTOR SHALL PERFORM THE FOLLOWING:

TABLE 1705.3
REQUIRED SPECIAL INSPECTIONS AND TESTS OF CONCRETE CONSTRUCTION

TYPE	C	P	REFERENCE STANDARD	IBC REFERENCE
1. INSPECT REINFORCEMENT, INCLUDING PRESTRESSING TENDONS, AND VERIFY PLACEMENT.	-	X	ACI 318 Ch: 20, 25.2, 25.3, 26.6.1-26.6.3	1908.4
2. REINFORCING BAR WELDING: a. VERIFY WELDABILITY OF REINFORCING BARS OTHER THAN ASTM A706 ; b. INSPECT SINGLE PASS FILET WELDS, MAXIMUM 5/16" ; AND c. INSPECT ALL OTHER WELDS.	- X X	X X	AWS D1.4 ACI 318: 26.6.4	-
3. INSPECT ANCHORS CAST IN CONCRETE.	-	X	ACI 318: 17.8.2	-
4. INSPECT ANCHORS POST - INSTALLED IN HARDENED CONCRETE MEMBERS. [b] a. ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS. b. MECHANICAL ANCHORS AND ADHESIVE ANCHORS. NOT DEFINED IN 4.a.	X	X	ACI 318: 17.8.2.4 ACI 318: 17.8.2	-
5. VERIFY USE OF REQUIRED DESIGN MIX.	-	X	ACI 318 Ch: 19, 26.4.3, 26.4.4	1904.1, 1904.2, 1908.2, 1908.3
6a. PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP OR SLUMP FLOW, AIR CONTENT TESTS, DENSITY AND DETERMINE THE TEMPERATURE OF THE CONCRETE. WITH ALL RESULTS INCLUDED IN THE TEST REPORTS.	X	-	ASTM C172 ASTM C31 ACI 318: 26.5, 26.12	1908.10
6b. VERIFY THAT CONCRETE SPECIMENS FOR STRENGTH TESTS ARE MAINTAINED IN THE REQUIRED INITIAL CURING AND LABORATORY CURING ENVIRONMENT, AND THAT THE MAXIMUM AND MINIMUM TEMPERATURES DURING THE INITIAL CURING PERIOD ARE REPORTED.	X	-	ACI 318: 26.12 ASTM C31	-
7. INSPECT CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	X	-	ACI 318: 26.5	1908.6, 1908.7, 1908.8
8. VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.	-	X	ACI 318: 26.5.3-26.5.5	1908.9
9. INSPECT PRESTRESSED CONCRETE FOR: a. APPLICATION OF PRESTRESSING FORCE; AND b. GROUTING OF BONDED PRESTRESSING TENDONS.	X X	- -	ACI 318: 26.10 ACI 318: 26.10	-
10. INSPECT ERECTION OF PRECAST CONCRETE MEMBERS.	-	X	ACI 318: Ch. 26.9	-
11. VERIFY IN -SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST-TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS.	-	X	ACI 318: 26.11.2	-
12. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.	-	X	ACI 318: 26.11.1.2 (b)	-

C = CONTINUOUS SPECIAL INSPECTION P = PERIODIC SPECIAL INSPECTION

b = SPECIFIC REQUIREMENTS FOR SPECIAL INSPECTION SHALL BE INCLUDED IN THE RESEARCH REPORT FOR THE ANCHOR ISSUED BY AN APPROVED SOURCE IN ACCORDANCE WITH 17.8.2 IN ACI 318 OR OTHER QUALIFICATION PROCEDURES. WHERE SPECIFIC REQUIREMENTS ARE NOT PROVIDED, SPECIAL INSPECTION REQUIREMENTS SHALL BE SPECIFIED BY THE REGISTERED DESIGN PROFESSIONAL AND SHALL BE APPROVED BY THE BUILDING OFFICIAL PRIOR TO THE COMMENCEMENT OF THE WORK.

STRUCTURAL STEEL:

CONTRACTOR SHALL PERFORM THE FOLLOWING:

1. FIELD WELDING TO BE DONE BY CERTIFIED WELDERS.
2. CONTRACTOR TO COORDINATE BUILDING DEPARTMENT INSPECTIONS AND SPECIAL INSPECTIONS.
3. SUBMIT CERTIFIED MILL TEST REPORTS FOR STRUCTURAL STEEL.
4. SUBMIT MANUFACTURER'S CERTIFICATE OF COMPLIANCE FOR HIGH-STRENGTH BOLTING AND WELD FILLER MATERIALS.
5. SUBMIT SHOP DRAWINGS FOR STRUCTURAL STEEL MEMBERS AND CAST-IN/ADHESIVE/UNDERCUT ANCHORS.

SPECIAL INSPECTOR SHALL PERFORM THE FOLLOWING:

1. SPECIAL INSPECTION FOR STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH THE QUALITY ASSURANCE INSPECTION REQUIREMENTS OF AISC 360
2. SUBMIT CERTIFICATION THAT THE FABRICATOR IS APPROVED BY THE BUILDING OFFICIAL TO PERFORM REQUIRED WORK WITHOUT SPECIAL INSPECTIONS.
3. IF FABRICATOR IS NOT APPROVED, SPECIAL INSPECTION OF THE FABRICATED ITEMS SHALL BE REQUIRED. SPECIAL INSPECTOR SHALL VERIFY THAT THE FABRICATOR MAINTAINS DETAILED FABRICATION AND QUALITY CONTROL PROCEDURES THAT PROVIDE A BASIS FOR INSPECTION CONTROL OF THE WORKMANSHIP AND THE FABRICATOR'S ABILITY TO CONFORM TO APPROVED CONSTRUCTION DOCUMENTS AND REFERENCED STANDARDS. SPECIAL INSPECTOR SHALL REVIEW THE PROCEDURES FOR COMPLETENESS AND ADEQUACY RELATIVE TO THE CODE REQUIREMENTS FOR THE FABRICATOR'S SCOPE OF WORK.
4. SPECIAL INSPECTION FOR SEISMIC RESISTANCE FOR STEEL SHALL BE PERFORMED AS SPECIFIED.

REQUIRED VERIFICATION AND INSPECTION OF STEEL CONSTRUCTION 1705.2 & AISC 360

VERIFICATION AND INSPECTION	C	P	REFERENCED STANDARD
1. MATERIAL VERIFICATION OF HIGH-STRENGTH BOLTS, NUTS AND WASHERS:			
A. IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS.		X	ASTM MATERIAL SPECS; AISC 360 SECTION A3.3
B. MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED.		X	
2. INSPECTIONS OF HIGH-STRENGTH BOLTING:			
A. SNUG TIGHT JOINTS		X	AISC 360, SECTION M2.5
3. MATERIAL VERIFICATION OF STRUCTURAL STEEL AND COLD FORMED STEEL DECK:			
A. FOR STRUCTURAL STEEL,IDENTIFICATION MARKINGS TO CONFORM TO AISC 360.		X	AISC 360 SECTION A3.1
B. FOR OTHER STEEL,IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS.		X	APPLICABLE ASTM STANDARDS
C. MANUFACTURER'S CERTIFIED TEST REPORTS.		X	
4. MATERIAL VERIFICATION OF WELD FILLER MATERIALS:			
A. IDENTIFICATION MARKINGS TO CONFORM TO AWS SPECIFICATION IN THE APPROVED CONSTRUCTION DOCUMENTS.		X	AISC 360, SECTION A3.5, AND APPLICABLE AWS A5 DOCUMENT
B. MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED.		X	
5. INSPECTION OF WELDING:			
A. STRUCTURAL STEEL & COLD-FORMED STEEL DECK:			
1) COMPLETE AND PARTIAL PENETRATION AND GROOVE WELDS	X		AWS D1.1
2) MULTIPLE FILLET WELDS	X		
3) SINGLE PASS FILLER WELDS > 5/10.152	X		
4) PLUG AND SLOT WELDS	X		
5) SINGLE PASS FILLER WELDS <= 5/10.152		X	
6. INSPECTION OF STEEL FRAME JOINT DETAILS FOR COMPLIANCE:			
A. DETAILS SUCH AS BRACING AND STIFFENING		X	
B. MEMBER LOCATIONS		X	
C. APPLICATION OF JOINT DETAILS AT EACH CONNECTION		X	
7. VERIFY EACH FABRICATOR MAINTAINS DETAILED FABRICATION AND QUALITY CONTROL PROCEDURES		X	

C=CONTINUOUS SPECIAL INSPECTION P=PERIODIC SPECIAL INSPECTION

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2839 PACES FERRY ROAD
SUITE 900 ATLANTA, GA 30339
TEL: 770-431-8666
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CONSULTANTS

SEALS

GEORGIA REGISTERED No.SE000840 STRUCTURAL ENGINEER DONWELL VIVIAN DUNCAN
04.18.25

FAYETTE COUNTY, GEORGIA
FAYETTE COUNTY WATER SYSTEM

FAYETTE County Water

FCWS - TRILITH TANK BOOSTER PUMP STATION

400 VETERANS PARKWAY, FAYETTEVILLE, GA 30214, UNITED STATES

REVISIONS

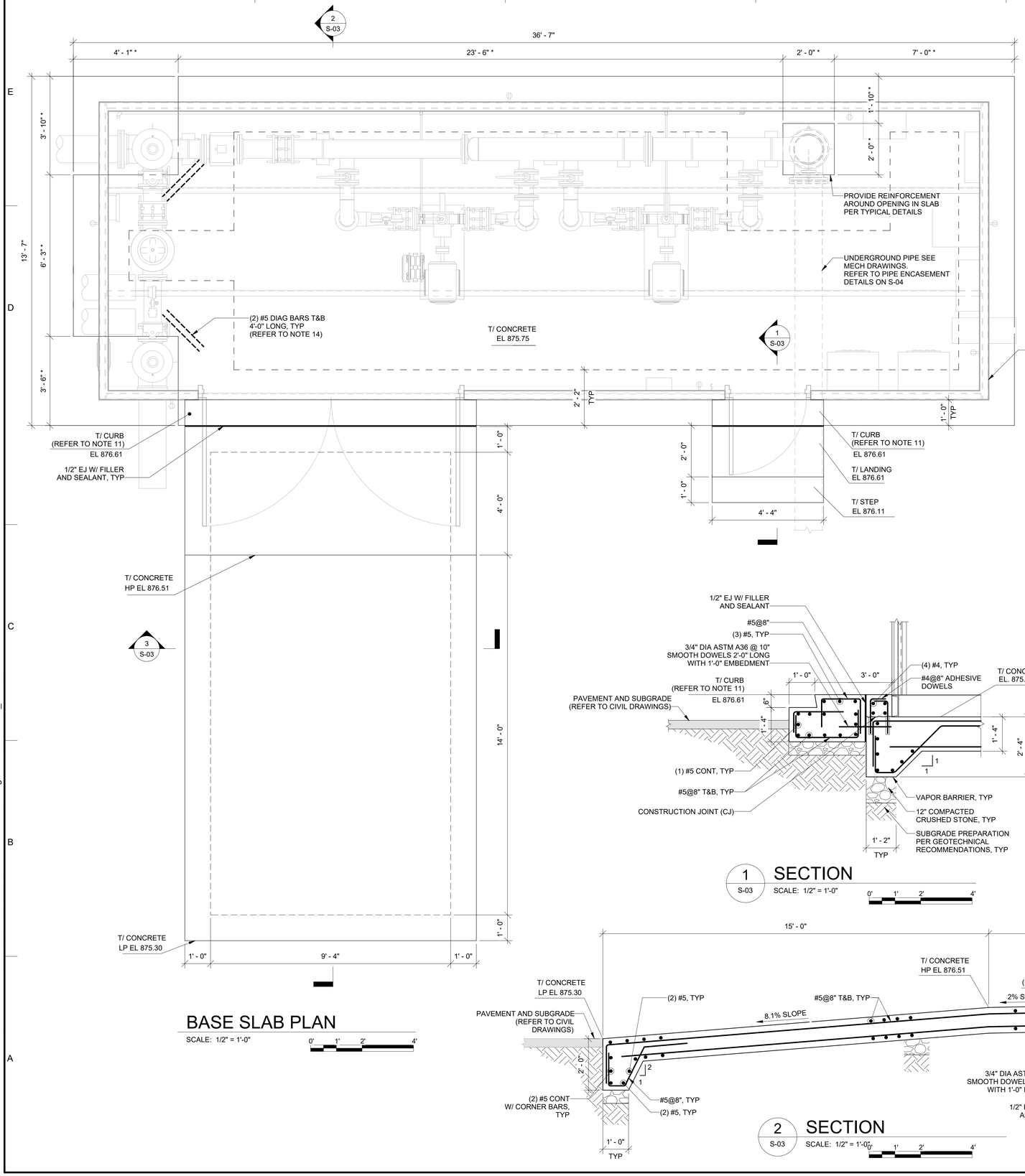
NO.	DATE	ISSUED FOR	BY
0	4/18/2025	ISSUED FOR BID	TT

PROJECT STATUS: BID SET
PROJECT NO.: 30135792
DATE: APRIL 2025
FILE NAME: S-02
DESIGNED BY: N. SADASHIVA
DRAWN BY: A. RAJESH
CHECKED BY: D. DUNCAN

SHEET TITLE
STRUCTURAL
STRUCTURAL SPECIAL INSPECTION NOTES

SCALE: NO SCALE

S-02
SHEET 18 OF 37



BASE SLAB PLAN

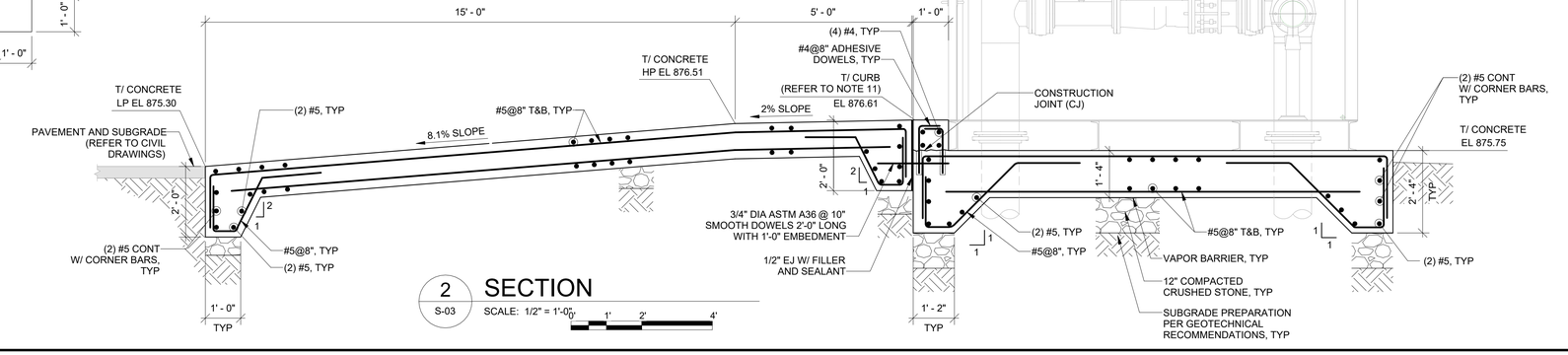
SCALE: 1/2" = 1'-0"

0' 1' 2' 4'

1 SECTION

S-03 SCALE: 1/2" = 1'-0"

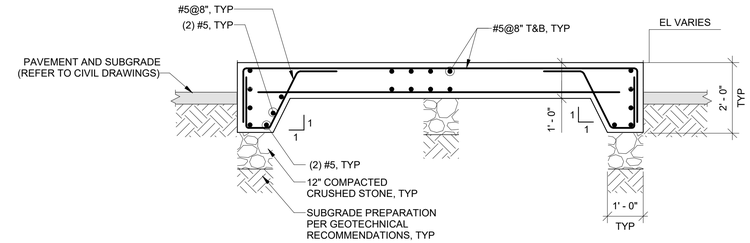
0' 1' 2' 4'



2 SECTION

S-03 SCALE: 1/2" = 1'-0"

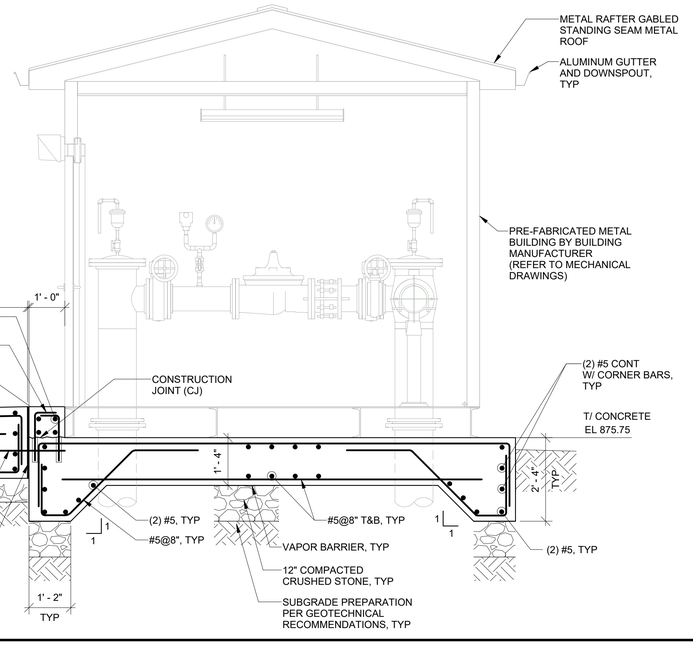
0' 1' 2' 4'



3 SECTION

S-03 SCALE: 1/2" = 1'-0"

0' 1' 2' 4'



NOTES:

1. FLOOR LIVE LOAD = 300 PSF.
2. ALLOWABLE SOIL BEARING PRESSURE = 2000 PSF.
3. ALL EQUIPMENT ANCHORS SHALL BE STAINLESS STEEL TYPE 316 ADHESIVE ANCHORS.
4. ALL EQUIPMENT, CONNECTIONS, SKIDS AND OTHER COMPONENTS SHALL BE DESIGNED BY EQUIPMENT MANUFACTURER FOR DESIGN LOAD CRITERIA INDICATED ON SHEET S-01.
5. COORDINATE ALL EQUIPMENT, PIPING AND OTHER COMPONENT SIZES AND LOCATIONS WITH OTHER DISCIPLINE DRAWINGS.
6. ALL INTERIOR EQUIPMENT AND PRE-FABRICATED BUILDING SHALL BE PROPERLY ANCHORED BY THE BUILDING MANUFACTURER TO MEET WIND, SEISMIC AND OTHER LOADS PER CURRENT APPLICABLE CODES. PROVIDE REQUIRED EDGE DISTANCE FOR ANCHORAGE. EDGE DISTANCE SHALL BE SUFFICIENT TO RESIST SHEAR AND UPLIFT ON ANCHOR BOLTS.
7. CONTRACTOR SHALL SUBMIT ALL INTERIOR EQUIPMENT AND PRE-FABRICATED BUILDING ANCHORAGE SHOP DRAWINGS AND DESIGN CALCULATIONS SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF GEORGIA.
8. ALL MECHANICAL EQUIPMENT NOT SHOWN FOR CLARITY. REFER TO MECHANICAL DRAWINGS.
9. FOR BUILDING LOCATION, GRADE ELEVATION, BOLLARDS AND OTHER INFORMATION REFER TO CIVIL DRAWINGS. NOTIFY ENGINEER OF ANY DISCREPANCIES BEFORE CONSTRUCTION.
10. CONTRACTOR SHALL SUBMIT SIGNED AND SEALED COMPLETE PRE-FABRICATED BUILDING COMPONENT SHOP DRAWINGS AND DESIGN CALCULATIONS SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF GEORGIA.
11. CONTRACTOR SHALL COORDINATE WITH MANUFACTURER TO VERIFY T/CURB ELEVATION WITH INTERIOR FLOOR ELEVATION OF PRE-FABRICATED BUILDING.
12. THE SYSTEM LAYOUT AND DESIGN HAS BEEN BASED ON USEMCO. ANY CHANGES REQUIRED, INCLUDING SLAB CUT OUTS AND OPENINGS, TO ACCOMMODATE A DIFFERENT MANUFACTURER AS LISTED IN THE SPECIFICATIONS SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. THE CONTRACTOR SHALL CAREFULLY REVIEW THE LAYOUT DRAWINGS, MANUFACTURER'S SHOP DRAWINGS, AND THE ASSOCIATED INSTALLATION REQUIREMENTS AND SHALL MAKE ANY MODIFICATION REQUIRED FOR INSTALLATION SUBJECT TO ACCEPTANCE BY THE ENGINEER AND OWNER. ANY ADDITIONAL COST INCURRED TO REMEDIATE INSTALLATION NOT MEETING THE REQUIREMENTS CONTAINED IN THE CONTRACT DOCUMENTS IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
13. LIFTING LUGS AND ANCHOR TIE DOWNS MAY INTERFERE WITH CURB, SO CURB CONCRETE WILL BE POURED AFTER INSTALLATION OF PREFAB BUILDING.
14. BARS TO BE CENTERED AT RE-ENTRANT CORNERS AND PLACED ABOVE THE TOP LAYER OF REINFORCEMENT.

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2839 PACES FERRY ROAD
SUITE 900 ATLANTA, GA 30339
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SEALS

GEORGIA REGISTERED No. SE003840 STRUCTURAL ENGINEER DONNELL VIVIAN DUNCAN
04.18.25

FAYETTE COUNTY, GEORGIA
FAYETTE COUNTY WATER SYSTEM

FAYETTE County Water

FCWS - TRILITH TANK BOOSTER PUMP STATION

400 VETERANS PARKWAY, FAYETTEVILLE, GA 30214, UNITED STATES

REVISIONS

NO.	DATE	ISSUED FOR	BY
0	4/18/2025	ISSUED FOR BID	TT

PROJECT STATUS: BID SET

PROJECT NO.:	30135792
DATE:	APRIL 2025
FILE NAME:	S-03
DESIGNED BY:	N. SADASHIVA
DRAWN BY:	A. RAJESH
CHECKED BY:	D. DUNCAN

SHEET TITLE

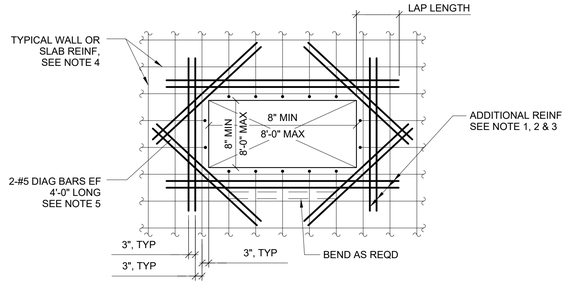
STRUCTURAL

BOOSTER PUMP STATION BASE SLAB PLAN, SECTIONS AND DETAILS

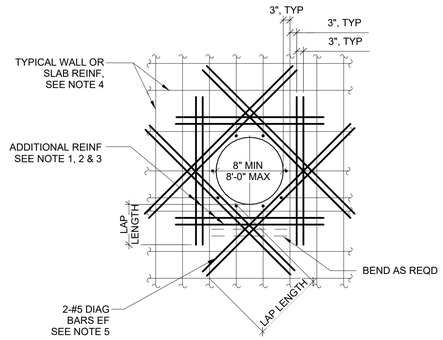
SCALE: AS SHOWN

S-03

SHEET 19 OF 37



RECTANGULAR



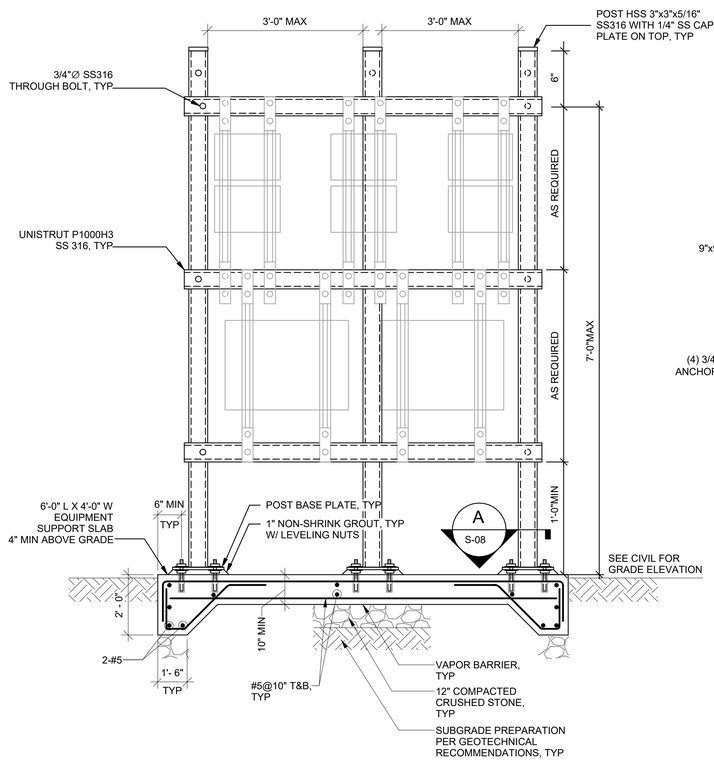
CIRCULAR

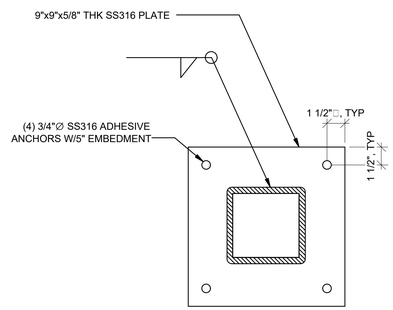
TYPICAL REINFORCING AROUND OPENING IN WALL AND SLAB

NOT TO SCALE

NOTES:

1. PROVIDE ADDITIONAL REINFORCEMENT AT EACH SIDE OF ALL OPENINGS, ACCESS HATCHES, PIPE PENETRATIONS, ETC. EQUAL IN AREA TO 1/2 OR MORE THE AREA OF REINFORCEMENT CUT BY OPENING IN EACH DIRECTION. ADDITIONAL REINFORCEMENT TO MATCH SIZE OF, TYPICAL REINFORCEMENT (MIN 2 BARS ES AND EF) AND PLACED BETWEEN, TYPICAL REINFORCEMENT @ 3". SPACING ON EACH SIDE OF OPENING. IF A WALL OR BEAM IS ADJACENT TO THE OPENING, THE ADDITIONAL REINFORCEMENT ON THAT SIDE OF THEOPENING CAN BE OMITTED.
2. ANY OPENING 12" OR LESS TO AN ADJACENT WALL DOES NOT REQUIRE ADDITIONAL REINFORCEMENT ATTHAT SIDE OF OPENING.
3. PROVIDE MATCHING DOWELS WHERE REQUIRED TO PROVIDE CLASS "B" LAP WITH ADDITIONAL REINFORCEMENT. (WHERE LAPPING OF ADDITIONAL REINFORCEMENT FROM ADJACENT OPENINGS OCCUR, ADDITIONAL REINFORCEMENT SHALL BE COMBINED).
4. PROVIDE STANDARD HOOK AT END OF ALL BARS TERMINATING AT OPENING.
5. DIAGONAL BARS INNERMOST LAYER.





A S-08 SECTION

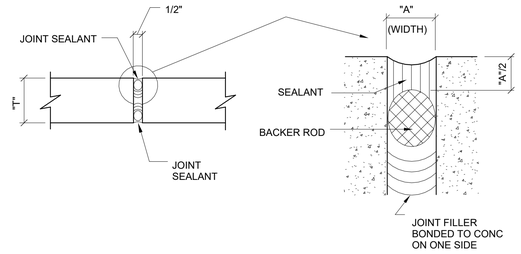
SCALE: N.T.S

OUTDOOR ELECTRICAL EQUIPMENT ASSEMBLY SUPPORT DETAIL

NOT TO SCALE

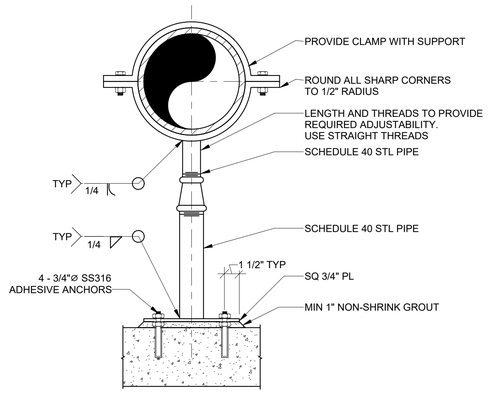
NOTES :

1. SLOPE SLAB PROJECTION TO DRAIN
2. REFER TO ELECTRICAL AND CIVIL DRAWINGS FOR LOCATION AND GRADE ELEVATIONS
3. CONTRACTOR SHALL COORDINATE ELECTRICAL EQUIPMENT DIMENSIONS WITH EQUIPMENT MANUFACTURER BEFORE CONCRETE PLACEMENT



JOINT TREATMENT AT EXPANSION JOINT

NOT TO SCALE

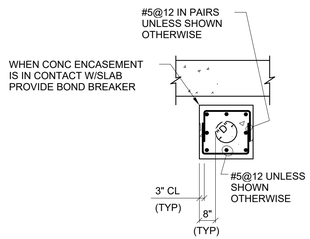


NOTES:

1. HOT-DIP GALVANIZED SUPPORT AFTER FABRICATION.

TYPICAL ADJUSTABLE PIPE SUPPORT

NOT TO SCALE



SOIL SUPPORTED STRUCTURES AND UNDER ROADWAYS

NOTES:

1. FOR PIPE DIAMETER AND ELEVATION, SEE CIVIL, MECHANICAL, HVAC, ELECTRICAL AND PLUMBING DRAWINGS.
2. ALL PIPES LOCATED BENEATH STRUCTURES SHALL BE IN CONCRETE. ENCASEMENT SHALL EXTEND 5'-0" (MIN) BEYOND STRUCTURE UON.
3. PROVIDE COMPACTED SELECT FILL TO UNDERSIDE OF STRUCTURES.
4. CONCRETE PIPE ENCASEMENT SHALL BE CAST SEPARATELY FROM THE CONCRETE SLAB. PROVIDE BOND BREAKER OR LAYER OF SELECT FILL BETWEEN ENCASEMENT AND CONCRETE SLAB.
5. BOTTOM REINFORCEMENT TO BE CONTINUOUS WHERE POSSIBLE.

PIPE ENCASEMENT DETAIL UNDER STRUCTURES

NOT TO SCALE

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04.18.25

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FCWS - TRILITH TANK BOOSTER PUMP STATION

400 VETERANS PARKWAY, FAYETTEVILLE, GA 30214, UNITED STATES

REVISIONS

NO.	DATE	ISSUED FOR	BY
0	4/18/2025	ISSUED FOR BID	TT

PROJECT STATUS: BID SET

PROJECT NO.:	30135792
DATE:	APRIL 2025
FILE NAME:	S-04
DESIGNED BY:	N. SADASHIVA
DRAWN BY:	A. RAJESH
CHECKED BY:	D. DUNCAN

SHEET TITLE

STRUCTURAL

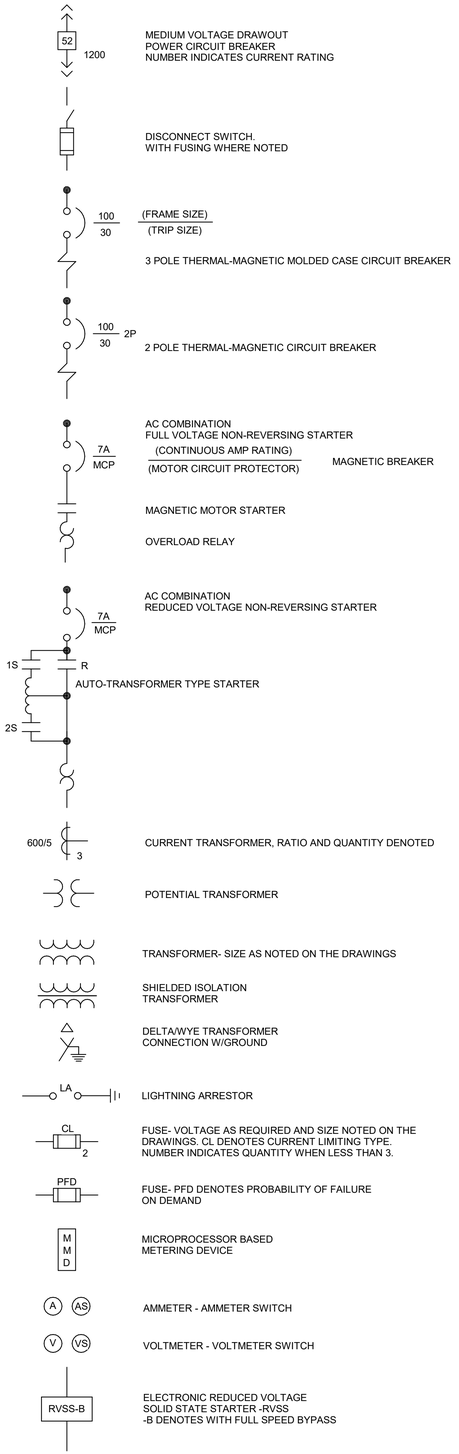
BOOSTER PUMP STATION STRUCTURAL DETAILS

SCALE: As indicated

S-04

SHEET 20 OF 37

DIAGRAMS



MEDIUM VOLTAGE DRAWOUT
POWER CIRCUIT BREAKER
NUMBER INDICATES CURRENT RATING

DISCONNECT SWITCH.
WITH FUSING WHERE NOTED

3 POLE THERMAL-MAGNETIC MOLDED CASE CIRCUIT BREAKER

2 POLE THERMAL-MAGNETIC CIRCUIT BREAKER

AC COMBINATION
FULL VOLTAGE NON-REVERSING STARTER

MAGNETIC MOTOR STARTER

OVERLOAD RELAY

AC COMBINATION
REDUCED VOLTAGE NON-REVERSING STARTER

AUTO-TRANSFORMER TYPE STARTER

CURRENT TRANSFORMER, RATIO AND QUANTITY DENOTED

POTENTIAL TRANSFORMER

TRANSFORMER- SIZE AS NOTED ON THE DRAWINGS

SHIELDED ISOLATION
TRANSFORMER

DELTA/WYE TRANSFORMER
CONNECTION W/GROUND

LIGHTNING ARRESTOR

FUSE- VOLTAGE AS REQUIRED AND SIZE NOTED ON THE DRAWINGS. CL DENOTES CURRENT LIMITING TYPE. NUMBER INDICATES QUANTITY WHEN LESS THAN 3.

FUSE- PFD DENOTES PROBABILITY OF FAILURE
ON DEMAND

MICROPROCESSOR BASED
METERING DEVICE

AMMETER - AMMETER SWITCH

VOLTMETER - VOLTMETER SWITCH

ELECTRONIC REDUCED VOLTAGE
SOLID STATE STARTER -RVSS
-B DENOTES WITH FULL SPEED BYPASS

VFD-B — VARIABLE FREQUENCY DRIVE - VFD
-B WHEN INDICATED DENOTES WITH STARTING AND FULL SPEED BYPASS

SUBMERSIBLE CABLES
BY VENDOR

PUSH-BUTTON STATION

PUSH-BUTTON STATION WITH LOCK-OUT FEATURE

SELECTOR SWITCH

INDICATING LIGHT

CS — CONTROL STATION

ATS-BI / SSC — AUTOMATIC TRANSFER SWITCH -ATS, WITH SOLID STATE CONTROLS AND ACCESSORIES. -BI WHEN INDICATED DENOTES WITH BYPASS-ISOLATION SWITCH

F — 60/40 — DISCONNECT SWITCH - 480V 3POLE UNFUSED OR FUSED F DENOTES FUSING, ONLY WHERE INDICATED FIRST NUMBER DENOTES SWITCH AMP RATING SECOND NUMBER DENOTES FUSE SIZE WHEN PROVIDED.

JB OR JB — JUNCTION BOX; SIZE AS REQUIRED BY N.E.C.

TB OR TB — TERMINAL BOX; SIZE AS REQUIRED BY N.E.C. AND TO ACCOMMODATE ALL TERMINATIONS ON TERMINAL BLOCKS. TERMINATIONS TO INCLUDE SPARE WIRING.

PB OR PB — PULL BOX; SIZE AS REQUIRED BY N.E.C.

M 5 — ELECTRIC MOTOR (NUMBER INDICATES HORSEPOWER).

S S S — POWER ON-OFF SNAP SWITCH, 1PH, 120V AC, 20A
S2-DENOTES, 2 POLE, 240 VOLTS, 20A

MS — 20A TWO OR THREE POLE MANUAL STARTER,

MV — MOTORIZED VALVE WITH CONTROLLER BY VENDOR

MOV OR MV — MOTORIZED VALVE

SV OR SV — SOLENOID VALVE

GV OR GV — GLOBE VALVE

SPD — SURGE SUPPRESSION DEVICE

AUXILIARY SYSTEMS

DC — DOOR CONTACT

MS — MOTION SENSOR

CR — CARD READER

IACP — INTRUSION ALARM CONTROL PANEL

ACP — ALARM CONTROL PANEL

FOPP — FIBER OPTIC PATCH PANEL

OR CCTV — CAMERA

R — ALARM BEACON
LETTER INDICATES COLOR

UPS — UNINTERRUPTIBLE POWER SUPPLY

INSTRUMENTS

PS 123 — INSTRUMENT DEVICE: LETTERS IDENTIFY DEVICE FUNCTION, NUMBERS WHERE INDICATED DENOTE LOOP NUMBER

PC — PRESSURE CONTROLLER

PS — PRESSURE SWITCH (PSH DENOTES PRESSURE SWITCH HIGH AND PSL DENOTES PRESSURE LOW)

FS — FLOW SWITCH (FSH DENOTES FLOW SWITCH HIGH AND FSL DENOTES FLOW SWITCH LOW)

ZS — LIMIT SWITCH

ZSO — LIMIT SWITCH OPEN

ZSC — LIMIT SWITCH CLOSED

PIT — PRESSURE TRANSMITTER (I DENOTES INDICATING TYPE AND PE DENOTES PRESSURE ELEMENT)

LIT — LEVEL TRANSMITTER (LE DENOTES LEVEL ELEMENT)

FIT — FLOW TRANSMITTER (FE DENOTES FLOW ELEMENT)

AIT — ANALYSIS TRANSMITTER (AE DENOTES ANALYSIS ELEMENT)

TIT — TEMPERATURE TRANSMITTER (TE DENOTES TEMPERATURE ELEMENT)

TS — TEMPERATURE SWITCH (TSH DENOTES TEMPERATURE SWITCH HIGH AND TSL DENOTES TEMPERATURE SWITCH LOW)

LS — LEVEL SWITCH (LSH DENOTES LEVEL SWITCH HIGH AND LSL DENOTES LEVEL SWITCH LOW. LE DENOTES LEVEL ELEMENT)

VLV — MANUAL OPERATED VALVE WITH POSITION CONTROLS

ACV — AIR OPERATED CONTROL VALVE

MS — MOISTURE SENSOR

H — HORN

AV — STROBE/HORN COMBINATION

MB — MOTOR BEARING DETECTOR P= PUMP BEARING

MV — MOTOR VIBRATION DETECTOR P= PUMP VIBRATION

GENERAL NOTES

1. THE SYMBOLS AND ABBREVIATIONS LISTED REPRESENT A COMPREHENSIVE STANDARD GUIDE INTENDED FOR GENERAL USE ON ALL PROJECTS. THEREFORE, NOT ALL OF THE SYMBOLS AND ABBREVIATIONS CONTAINED ON THESE SHEETS ARE NECESSARILY USED ON THIS PARTICULAR CONTRACT.
2. THE CONTRACTOR SHALL READ AND UNDERSTAND THAT ENTIRE SET OF CONSTRUCTION DOCUMENTS INCLUDES BUT IS NOT LIMITED TO THE PLANS AND SPECIFICATIONS FOR ALL DISCIPLINES. THIS WILL ENSURE A FULL UNDERSTANDING OF THE SCOPE OF WORK AND IS ABLE TO CONVEY THE REQUIRED MATERIALS AND METHODS OF INSTALLATION TO THE ESTIMATORS, SUPPLIERS AND INSTALLERS.
3. THE CONTRACTOR SHALL VISIT THE PROJECT SITE AND MAKE HIMSELF/HERSELF AWARE OF ALL EXISTING CONDITIONS PRIOR TO SUBMITTING A BID FOR THIS WORK.
4. THE CONTRACTOR SHALL COORDINATE ANY AND ALL WORK WITH OTHER TRADES PRIOR TO INSTALLATION IN ORDER TO AVOID CONFLICTS DURING CONSTRUCTION.
5. WHERE JOB CONDITIONS REQUIRE CHANGES FROM THE CONTRACT DOCUMENTS THAT DO NOT CHANGE THE SCOPE OF INSTALLATION OR NATURE OF THE WORK REQUIRED, THE CONTRACTOR SHALL MAKE SUCH CHANGES WITHOUT ANY ADDITIONAL COST TO THE OWNER. AFTER NOTIFICATION TO THE ENGINEER AND OWNER, NO OTHER CHANGES MAY BE MADE WITHOUT WRITTEN CONSENT FROM THE ENGINEER AND OWNER.
6. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE ENFORCED EDITION OF THE NATIONAL ELECTRICAL CODE, NATIONAL ELECTRICAL SAFETY CODE, UFE SAFETY CODE AND ALL OTHER LOCAL AND STATE CODES AND REGULATIONS. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS AND INSPECTIONS REQUIRED BY THE AUTHORITY HAVING JURISDICTION.
7. EQUIPMENT LOCATIONS SHOWN ARE APPROXIMATE. EXTEND CONDUIT & WIRE TO INSTALLED LOCATIONS AT NO ADDITIONAL COST TO THE OWNER.
8. ELECTRICAL SYSTEMS SHALL BE COMPLETE AND OPERABLE AT PROJECT COMPLETION.
9. UNLESS OTHERWISE SPECIFIED OR NOTED, ALL WALL MOUNTED ELECTRICAL PANELS, ENCLOSURES, AND SIMILAR EQUIPMENT SHALL BE MOUNTED 6'-6 " (MAX) FROM THE TOP OF THE PANEL TO FINISHED FLOOR OR GRADE.
10. A SEPARATE EQUIPMENT GROUNDING CONDUCTOR SHALL BE PROVIDED FOR EACH CIRCUIT (SEPARATE CONDUCTOR IN THE CONDUIT). THE CONDUCTOR SHALL BE TERMINATED AT THE PROPER DEVICE. TERMINAL OR LUG AT THE POWER SOURCE (MCC GROUND BUS, PANELBOARD GROUND BUS, ETC.). GROUND CONDUCTOR SIZE SHALL BE PER THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE ENACTED FOR THIS PROJECT.
11. CONDUIT RUNS ARE SHOWN DIAGRAMMATICALLY ONLY AND SHALL BE INSTALLED IN A MANNER TO PREVENT CONFLICTS WITH EQUIPMENT AND STRUCTURAL CONDITIONS EXPOSED CONDUITS SHALL BE INSTALLED PARALLEL TO BEAMS AND WALLS.
12. NO CONDUIT SMALLER THAN 3/4" PIPE SIZE NOR WIRE SMALLER THAN NO. 12AWG SHALL BE USED UNLESS OTHERWISE NOTED.
13. SWITCHES SHALL BE MOUNTED 4'-6" ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED. RECEPTACLES SHALL BE MOUNTED 18" ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED.
14. ALL SURFACE MOUNTED PANELS AND PANELBOARDS ON THE INSIDE OF THE EXTERIOR WALLS ABOVE GRADE, OR IN OTHER LOCATIONS CONSIDERED AS DAMP, SHALL BE MOUNTED SO AS TO MAINTAIN A 1/4 " AIR SPACE BETWEEN THE ENCLOSURE AND THE WALL.
15. ALL PANELBOARDS SHALL BE MOUNTED SO THAT THE DISTANCE FROM THE TOP CIRCUIT BREAKER OPERATING HANDLE TO THE FLOOR SHALL NOT EXCEED 6'-6".
16. IN GENERAL, PULL BOXES OR JUNCTION BOXES SHALL BE PROVIDED IN ACCORDANCE WITH THE SPECIFICATIONS, ENFORCED EDITION OF NATIONAL ELECTRICAL CODE ABOVE GRADE, JUNCTION, PULL AND TERMINAL BOXES SHALL BE OF STAINLESS STEEL CONSTRUCTION. ENFORCED EDITION OF NATIONAL ELECTRICAL CODE.
17. CONDUIT AND WIRE FOR SWITCHES AND/OR RECEPTACLES AND SHALL BE
    a. MINIMUM 3/4" CONDUIT, TYPE AS SPECIFIED.
    b. MINIMUM NO. 12 COPPER WIRE, TYPE AS SPECIFIED. QUANTITY OF WIRES AS REQUIRED. PROVIDE SEPARATE NEUTRAL FOR EACH CIRCUIT.

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LEGAL ENTITY:
ARCADIS U.S., INC.
2839 PACES FERRY ROAD
SUITE 1000 ATLANTA, GA 30339
TEL: 770-431-8666
WWW.ARCADIS.COM

CONSULTANTS

SEALS

GEORGIA REGISTERED 024-18-6623 No. PE001104 PROFESSIONAL ENGINEER THOMAS H POWELL

FAYETTE COUNTY, GEORGIA
FAYETTE COUNTY WATER SYSTEM

FAYETTE County Water

FCWS-TRILITH TANK BOOSTER PUMP STATION

400 VETERANS PARKWAY,
FAYETTEVILLE, GA 30214,
UNITED STATES

REVISIONS

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PROJECT STATUS: 100% SUBMITTAL

PROJECT NO.: 30135792
DATE: MARCH 2025
FILE NAME: E-01
DESIGNED BY: N. DESHPANDE
DRAWN BY: V. GANESH
CHECKED BY: T. POWELL

SHEET TITLE

ELECTRICAL

LEGEND, SYMBOLS, AND ABBREVIATIONS - SHEET 1 OF 2

SCALE: NOT TO SCALE

E-01

SHEET 21 OF 37

PLANS

1-3 / a — LED LIGHTING FIXTURE - SURFACE OR PENDANT MOUNTED. FIRST NUMERAL DENOTES LIGHTING PANEL (LP1), SECOND NUMBER DENOTES BRANCH CIRCUIT NUMBER. LOWER CASE LETTER DENOTES SWITCHED CIRCUIT.

EM — LED LIGHTING FIXTURE WITH BATTERY PACK SURFACE OR PENDANT.

PENDANT OR CEILING MOUNTED LIGHTING FIXTURE.

WALL MOUNTED LIGHTING FIXTURE.

POLE OR STANCHION MOUNTED LIGHTING FIXTURE.

TWO (2) POLE OR STANCHION MOUNTED LIGHTING FIXTURES

GF — POLE MOUNTED FIXTURE WITH GF RECEPTACLE

3 — WALL MOUNTED EXIT LIGHT

A 3 a — LED WALL PACK LIGHT FIXTURE WITH FULL CUTOFF LENS, SUITABLE FOR WET AND CORROSIVE LOCATIONS

D / 150 — 10'-0" AFF — FIXTURE DESIGNATION SYMBOL. SEE LIGHTING FIXTURE SCHEDULE FOR DESCRIPTION AND TYPE. ALL FIXTURES SHOWN IN A ROOM WITH THIS SYMBOL SHALL BE OF TYPE INDICATED BY LETTER. NUMBER IN SYMBOL INDICATES LAMP WATTAGE AND NUMBER OF NUMBER IN SYMBOL INDICATES LAMP WATTAGE AND NUMBER OF NUMBER BELOW SYMBOL INDICATES MOUNTING HEIGHT ABOVE FINISHED FLOOR OR AS NOTED.

I-2 / GF/WIP — DUPLEX CONVENIENCE RECEPTACLE, 2 POLE, 3 WIRE, 120 VOLTS A.C. 20 AMP RECEPTACLE DESIGNATIONS, FIRST NUMBER DENOTES PANEL, SECOND NUMBER DENOTES CIRCUIT NUMBER. GF-DENOTES GROUND FAULT, WIP-WEATHER PROOF WHILE IN USE.

SINGLE CONVENIENCE RECEPTACLE, 2 POLE, 3 WIRE; 120 VOLTS AC. 20 AMP UNLESS NOTED OTHERWISE ON DRAWINGS.

POWER RECEPTACLE, 2 POLE, 3 WIRE 250 VOLTS A.C. 20 AMP UNLESS NOTED OTHERWISE ON DRAWINGS.

a — SINGLE POLE SWITCH - LOWER CASE LETTER DENOTES SWITCHING.

2 — TWO POLE SWITCH

LP1-2 — BRANCH CIRCUIT HOME RUN TO PANELBOARD LETTERS AND NUMERALS INDICATE PANEL AND CIRCUIT NUMBER. AS A MINIMUM, ALL WIRING SHALL BE 3#12 AWG IN 3/4" CONDUIT. #10 AWG WIRE SHALL BE USED FOR RUNS BETWEEN PANEL AND FIRST LIGHTING FIXTURE OR RECEPTACLE EXCEEDING 50 FEET, UNLESS OTHERWISE NOTED ON DRAWING.

INDICATES GROUND CONDUCTOR

C12 — INDICATES HOMERUN AND CONDUIT TAG

LIGHTING, APPLIANCE OR INSTRUMENT PANELBOARD

POWER PANELBOARD

INDICATES NEW EQUIPMENT/EXPOSED CONDUIT

CONDUIT TURNING DOWN

CONDUIT TURNING UP

CONDUIT CAPPED

INDICATES EXISTING EQUIPMENT/CONDUIT

INDICATES CONDUIT UNDERGROUND OR CONCEALED IN CEILING, WALLS, BELOW OR IN FLOOR SLAB

M 1-24 / M 1-24 / UH 1-24 OR 1-24 — MOTOR, UNIT HEATER-NUMERAL DENOTES LIGHTING PANEL AND BRANCH CIRCUIT NUMBER. MOTOR SYMBOL SHOWN DASHED DENOTES EQUIPMENT LOCATED ON ROOF.

DEMOLITION

EMH — ELECTRICAL MANHOLE

EHH — ELECTRICAL HANDHOLE

IMH — INSTRUMENTATION MANHOLE

IHH — INSTRUMENTATION HANDHOLE

ATS — AUTOMATIC TRANSFER SWITCH

GROUND TEST POINT

GROUND ROD

EXOTHERMIC WELDED GROUND CONNECTION

BOLTED GROUND CONNECTION

GROUND

#4/0 GROUND CABLE BURIED 2'-6" BELOW GRADE UNLESS OTHERWISE NOTED

CLASS I COPPER LIGHTNING CONDUCTOR UNLESS OTHERWISE NOTED

PC — PHOTOCELL

IL / PT — INDICATING LIGHT, PT-DENOTES PUSH TO TEST TYPE LETTER INDICATES LENS COLOR
W-WHITE G-GREEN A-AMBER
R-RED B-BLUE C-CLEAR

SWITCH - TOGGLE OPEN

MOMENTARY CONTACT PUSH BUTTON NORMALLY OPEN

MOMENTARY CONTACT PUSH BUTTON NORMALLY CLOSED

SWITCH - TEMPERATURE NORMALLY CLOSED. OPENS ON RISING TEMPERATURE

SWITCH - TEMPERATURE NORMALLY OPEN. CLOSES ON RISING TEMPERATURE

SWITCH - PRESSURE NORMALLY CLOSED. OPENS ON RISING PRESSURE

SWITCH - PRESSURE NORMALLY OPEN. CLOSES ON RISING PRESSURE

VALVE LIMIT SWITCH (OPEN)

VALVE LIMIT SWITCH (CLOSED)

SWITCH - LIMIT NORMALLY OPEN.

SWITCH - LIMIT NORMALLY CLOSED.

CRI — NORMALLY OPEN CONTACT, NUMBER INDICATES RELAY.

NORMALLY CLOSED CONTACT

OL — THERMALLY ACTUATED MOTOR OVERLOAD RELAY, LATCHES CLOSED ON OVERLOAD

OL — THERMALLY ACTUATED MOTOR OVERLOAD RELAY, LATCHES OPEN ON OVERLOAD

SOLENOID VALVE

M — MOTOR STARTER CONTACTOR COIL COIL DESIGNATION: M-COIL

RUN — MOTOR STARTER CONTACTOR COIL COIL DESIGNATION: R-RUN

CR — CONTROL RELAY COIL DESIGNATION: CR-CONTROL RELAY MX-AUXILIARY RELAY TR-TIMING RELAY AR-ALARM RELAY RR-READY RELAY

H A (X,O) (O,X) — SELECTOR SWITCH, 2 POSITION MAINTAINED CONTACT

(O,X) DENOTES CONTACT BLOCK CONFIGURATION X INDICATES CONTACT CLOSED, O DENOTES CONTACT OPEN.

O H A — SELECTOR SWITCH, 3 POSITION MAINTAINED CONTACT

ELECTRIC SPACE HEATER ELEMENT

ETM — ELAPSED TIME METER

ABBREVIATIONS

A	AMPERE
AI	ANALOG INPUT
AO	ANALOG OUTPUT
AC	ALTERNATING CURRENT
AFC	ABOVE FINISHED CONCRETE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AG	ABOVE GRADE
AL	ALUMINUM
ATC	AUTOMATIC TEMPERATURE CONTROL
ATS	AUTOMATIC TRANSFER SWITCH
AUX	AUXILIARY
AUTO	AUTOMATIC
AWG	AMERICAN WIRE GAUGE
BD	BOARD
BKR	BREAKER
BLDG	BUILDING
BV	BUTTERFLY VALVE
C	CONDUIT
CBV	CABLE BY VENDOR
CB	CIRCUIT BREAKER
CKT	CIRCUIT
CLG	CEILING
CTRL	CONTROL
CP	CONTROL PANEL
CPT	CONTROL POWER TRANSFORMER
CT	CURRENT TRANSFORMER
CU	COPPER
DI	DISCRETE INPUT
DO	DISCRETE OUTPUT
DB	DECIBELS
DC	DIRECT CURRENT
DCS	DISTRIBUTED CONTROL SYSTEM
DISC	DISCONNECT
DN	DOWN
DPDT	DOUBLE POLE DOUBLE THROW
DP	DISTRIBUTION PANEL
DS	DISCONNECT SWITCH
DWG	DRAWING
EC	EMPTY CONDUIT
EL	ELEVATION
EMH	ELECTRICAL MANHOLE
EMT	ELECTRICAL METALLIC TUBING
EO	ELECTRICALLY OPERATED
EX	EXISTING
FUT	FUTURE
FVNR	FULL VOLTAGE NON-REVERSING
GALV	GALVANIZED
GFI	GROUND FAULT INTERRUPTER
G, GND	GROUND
HOA	HAND-OFF-AUTO
HTR	HEATER
IMT	INTERMEDIATE METALLIC TUBING
ITB	INSTRUMENT TERMINAL BOX
JB, J	JUNCTION BOX
KAIC	THOUSAND AMPERE INTERRUPTING CURRENT
KCMIL	THOUSAND CIRCULAR MILS
KVA	KILOVOLT-AMPERES
KW	KILOWATTS
KWH	KILOWATT-HOURS
LA	LIGHTNING ARRESTOR
LCP	LOCAL CONTROL PANEL
LTG	LIGHTING
LV	LOW VOLTAGE
MCC	MOTOR CONTROL CENTER
MCP	MOTOR CIRCUIT PROTECTOR
MFR	MANUFACTURER
MH	MANHOLE
MOV	MOTOR OPERATED VALVE
MTG	MOUNTING
MTS	MANUAL TRANSFER SWITCH
N/A	NON-APPLICABLE
NC	NORMALLY CLOSED
NO	NORMALLY OPENED
NTS	NOT TO SCALE
OL	OVERLOAD
OS	OCCUPANCY SENSOR
PB	PUSH BUTTON
PFC	POWER FACTOR CORRECTION
PNL	PANEL
PR	PAIR
PT	POTENTIAL TRANSFORMER
PTZ	PAN-TILT-ZOOM
REC	RECEPTACLE
REQ	REQUIRED
RGS	RIGID GALVANIZED STEEL
RVSS	REDUCED VOLTAGE SOFT START
SP	SPARE
SS	STAINLESS STEEL
SPD	SURGE PROTECTION DEVICE
SPDT	SINGLE POLE DOUBLE THROW
SPST	SINGLE POLE SINGLE THROW
SV	SOLENOID VALVE
SW	SWITCH
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
TB	TERMINAL BOX
TDR	TIME DELAY RELAY
TEMP	TEMPERATURE
TEW	THERMOCOUPLE EXTENSION WIRE
TSP	TWISTED SHIELDED PAIR
TYP	TYPICAL
UG	UNDERGROUND
UON	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTIBLE POWER SUPPLY
V	VOLTS
VAC	VOLTS ALTERNATING CURRENT
VDC	VOLTS DIRECT CURRENT
VFD	VARIABLE FREQUENCY DRIVE
W	WATTS
W/O	WITHOUT
WP	WEATHERPROOF
XFMR	TRANSFORMER
XP	EXPLOSION PROOF
1PH	SINGLE PHASE
3PH	THREE PHASE
3W	THREE WIRE
4W	FOUR WIRE

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LEGAL ENTITY:
ARCADIS U.S., INC.
2839 PACES FERRY ROAD
SUITE 1000 ATLANTA, GA 30339
TEL: 770-431-8666
WWW.ARCADIS.COM

CONSULTANTS

SEALS

GEORGIA REGISTERED 04-18-2025 No. PE027581 PROFESSIONAL ENGINEER THOMAS H POWELL

FAYETTE COUNTY, GEORGIA
FAYETTE COUNTY WATER SYSTEM

FAYETTE County Water

FCWS-TRILITH TANK BOOSTER PUMP STATION

400 VETERANS PARKWAY,
FAYETTEVILLE, GA 30214,
UNITED STATES

REVISIONS

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PROJECT STATUS: 100% SUBMITTAL

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FILE NAME:	E-02
DESIGNED BY:	N. DESHPANDE
DRAWN BY:	V. GANESH
CHECKED BY:	T. POWELL

SHEET TITLE

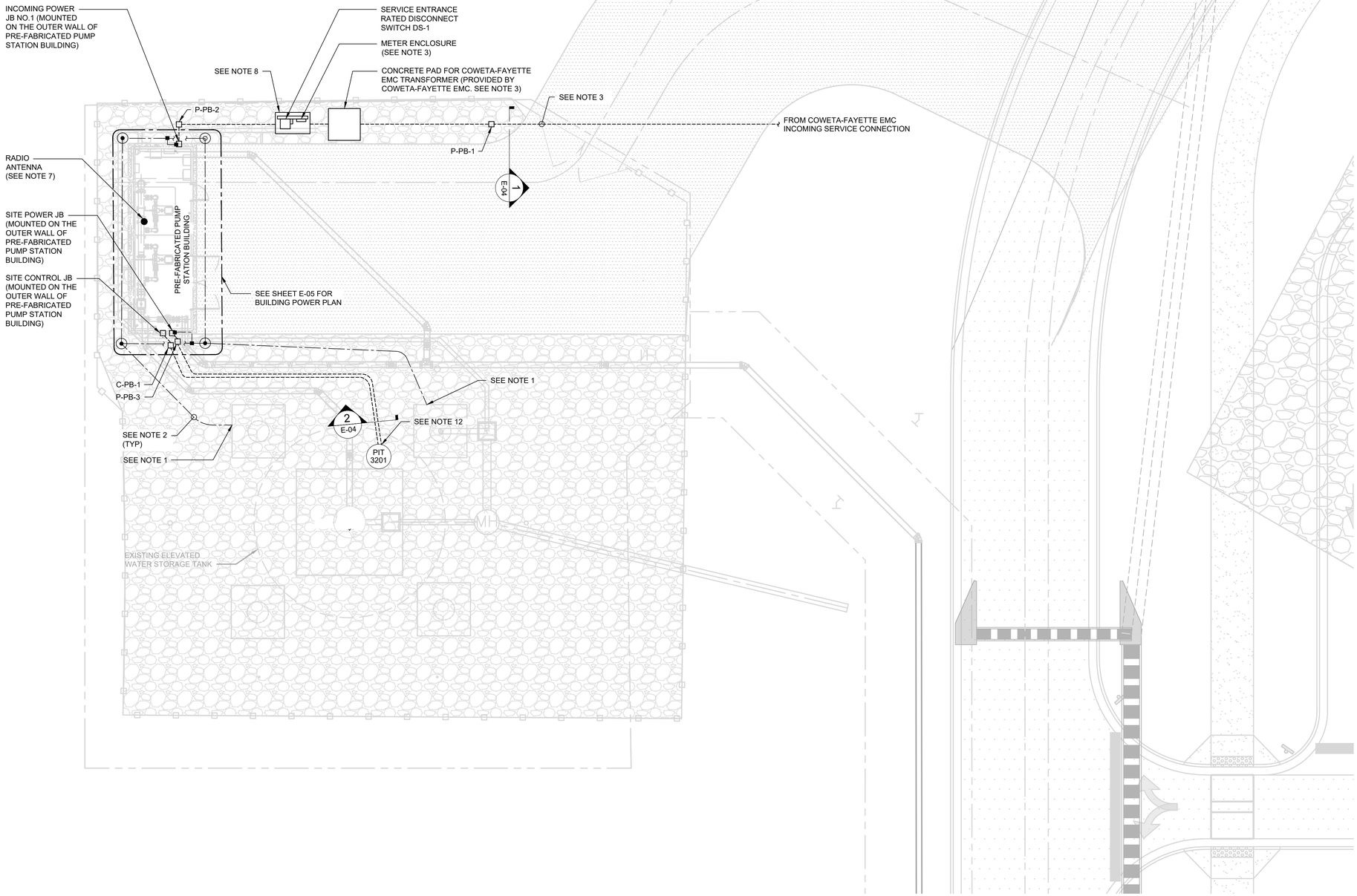
ELECTRICAL

LEGEND, SYMBOLS, AND ABBREVIATIONS - SHEET 2 OF 2

SCALE: NOT TO SCALE

E-02

SHEET 22 OF 37



ELECTRICAL SITE PLAN

SCALE: 1"=10'

0 10' 20'

NOTES:

1. GROUND CONDUCTOR MUST HAVE BOLTED CONNECTION TO THE TANK STEEL STRUCTURE. CONTRACTOR SHALL PROVIDE EXTEND TO THE GROUND CABLE TO BOLTED CONNECTION WITHOUT ANY DAMAGE TO TANK AND TANK FOUNDATION.
2. PROVIDE DIRECTLY BURIED COPPER GROUND CONDUCTOR AS PER SPECIFICATION SECTION 26 05 26-GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS.
3. CONTRACTOR SHALL COORDINATE INCOMING UTILITY ELECTRICAL SERVICE REQUIREMENT WITH COWETA-FAYETTE EMC. UTILITY TRANSFORMER ALONG WITH PRE-FABRICATED CONCRETE PAD, PRIMARY CABLE AND CONDUIT, AND METER BASE WILL BE PROVIDED BY COWETA-FAYETTE EMC. PROVIDE SUBGRADE REQUIRED FOR PREFABRICATED TRANSFORMER PAD AS PER CONTRACT GEOTECHNICAL STUDY REPORT.
4. CONTRACTOR SHALL FIELD LOCATE, CONFIRM AND VERIFY THE DUCTBANK LOCATIONS WITH OTHER UNDERGROUND UTILITIES IN ADVANCED TO AVOID CONFLICTS. THE CONTRACTOR SHALL COORDINATE CONFLICTS WITH THE ENGINEER PRIOR TO CONSTRUCTION.
5. REFER TO SINGLE LINE DIAGRAM AND INTERCONNECT DIAGRAM FOR ADDITIONAL DETAILS.
6. ALL UNDERGROUND UTILITY LOCATIONS SHOWN ARE BASED ON SURVEY. ALL UTILITY LOCATIONS SHOULD BE CONSIDERED APPROXIMATE AND THE CONTRACTOR SHALL FIELD VERIFY ALL UTILITIES PRIOR TO CONSTRUCTION AND FABRICATION. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE RESULTING FROM THIS WORK.
7. INSTALL RADIO ANTENNA ON TOP OF THE BUILDING. SEE INTERCONNECT DIAGRAM AND INSTRUMENTATION SHEETS FOR MORE DETAILS.
8. REFER OUTDOOR ELECTRICAL EQUIPMENT ASSEMBLY SUPPORT DETAIL ON STRUCTURAL SHEETS.
9. CONTRACTOR SHALL PROVIDE POWER FOR THE EXISTING ELEVATED TANK AND FAA OBSTRUCTION LIGHTING. USE BREAKERS IN PANELBOARD LP-1 AS REQUIRED TO POWER OBSTRUCTION LIGHTING AND OTHER TANK LIGHTING.
10. REFER TO SHEET E-11 FOR PULLBOX DETAILS.
11. REFER TO CIVIL SHEETS FOR MORE SITE DETAILS.
12. CONTRACTOR SHALL VERIFY LOCATION OF PRESSURE TRANSMITTER BEFORE INSTALLATION. PROVIDE POWER CONDUIT STUB-UP FOR FUTURE TANK LIGHTING POWER REQUIREMENTS.

ARCADIS
LEGAL ENTITY:
ARCADIS U.S., INC.
2839 PACES FERRY ROAD
SUITE 1000 ATLANTA, GA 30339
TEL: 770-431-8666
WWW.ARCADIS.COM

CONSULTANTS

SEALS

GEORGIA REGISTERED 24-18-23 No. PE/ATTIME PROFESSIONAL ENGINEER THOMAS H POWELL

FAYETTE COUNTY, GEORGIA
FAYETTE COUNTY WATER SYSTEM

FAYETTE County Water

FCWS-TRILITH TANK BOOSTER PUMP STATION

400 VETERANS PARKWAY,
FAYETTEVILLE, GA 30214,
UNITED STATES

REVISIONS

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PROJECT STATUS: 100% SUBMITTAL

PROJECT NO.:	30135792
DATE:	MARCH 2025
FILE NAME:	E-03
DESIGNED BY:	N. DESHPANDE
DRAWN BY:	V. GANESH
CHECKED BY:	T. POWELL

SHEET TITLE

ELECTRICAL

ELECTRICAL SITE PLAN

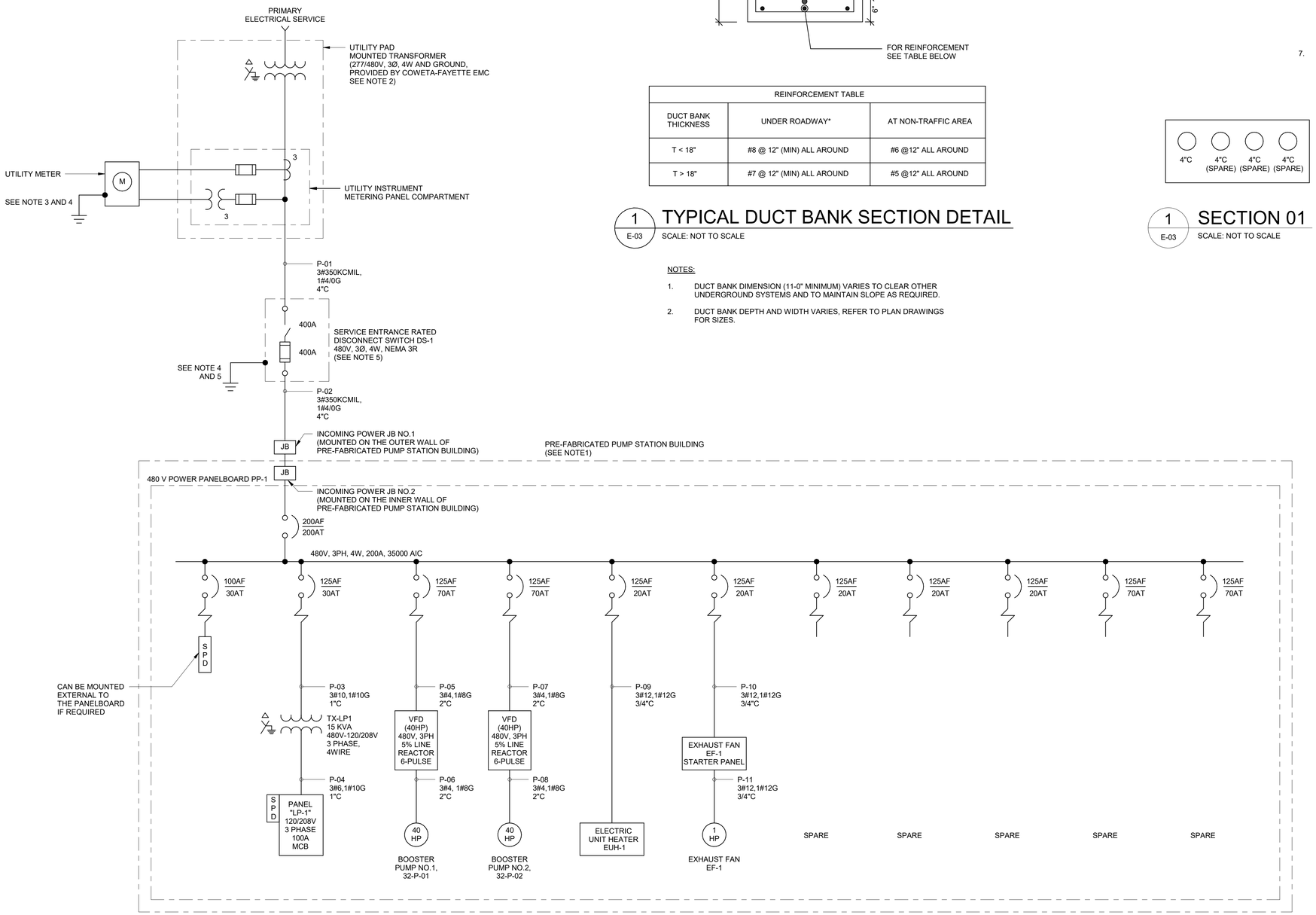
SCALE:
1" = 10'

E-03

SHEET 23 OF 37

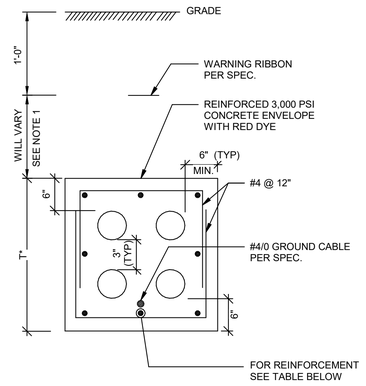
EQUIPMENT	QUANTITY	HP/KVA	CONNECTED LOAD (A)	DEMAND HP/KVA	RUNNING LOAD (A)
15 KVA TRANSFORMER, TX-LP1	1	15	18	12	14
BOOSTER PUMP NO.1, 32-P-01	1	40	52	40	48
BOOSTER PUMP NO.2, 32-P-02	1	40	52	40	48
ELECTRIC UNIT HEATER, EUH-1	1	5	6	5	6
EXHAUST FAN, EF1	1	1	1	1	1
TOTAL			129	98	118
125% OF THE RUNNING LOAD					147

BOOSTER PUMP STATION LOAD CALCULATIONS



PANELBOARD PP-1 ONE LINE DIAGRAM

SCALE: NOT TO SCALE



REINFORCEMENT TABLE		
DUCT BANK THICKNESS	UNDER ROADWAY*	AT NON-TRAFFIC AREA
T < 18"	#8 @ 12" (MIN) ALL AROUND	#6 @12" ALL AROUND
T > 18"	#7 @ 12" (MIN) ALL AROUND	#5 @12" ALL AROUND

1 TYPICAL DUCT BANK SECTION DETAIL

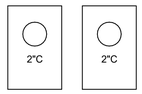
E-03 — SCALE: NOT TO SCALE

NOTES:

1. DUCT BANK DIMENSION (11-0" MINIMUM) VARIES TO CLEAR OTHER UNDERGROUND SYSTEMS AND TO MAINTAIN SLOPE AS REQUIRED.
2. DUCT BANK DEPTH AND WIDTH VARIES, REFER TO PLAN DRAWINGS FOR SIZES.

1 SECTION 01

E-03 — SCALE: NOT TO SCALE



2 SECTION 02

E-03 — SCALE: NOT TO SCALE

NOTES:

1. NEW BOOSTER PUMP STATION BUILDING SHALL BE PRE-WIRED PRIOR TO DELIVERY TO SITE. SERVICE CONNECTION FOR POWER, MONITORING & CONTROLS, AND GROUNDING SHALL BE MADE IN THE FIELD.
2. ALL EQUIPMENT, WIRING, CONDUITS, ETC., LOCATED OUTSIDE OF THE BOOSTER PUMP STATION ENCLOSURE SHALL BE PROVIDED BY THE CONTRACTOR, UNLESS OTHERWISE NOTED.
3. NO UNDERGROUND CONCRETE ENCASED CONDUIT SMALLER THAN 2" PIPE SIZE SHALL BE USING UNLESS OTHERWISE NOTED.
4. FOLLOWING ASSUMPTIONS HAVE BEEN CONSIDERED FOR UTILITY TRANSFORMER :
   TRANSFORMER KVA- 500
   MINIMUM %Z- 2.80
   X/R RATIO- 3.5
   AVAILABLE FAULT CURRENT- 21,480A
   ELECTRICAL EQUIPMENT SPECIFIED UNDER THIS PROJECT IS RATED FOR KILO-AMPERE INTERRUPTING CAPACITY OF 35 KAIC, HENCE MEETS THE INTERRUPTING AND WITHSTAND RATING REQUIREMENT TO HANDLE AVAILABLE FAULT CURRENT IN CASE OF A FAULT CONDITION.
5. CONTRACTOR TO COORDINATE AND PROVIDE METER SOCKET PER THE REQUIREMENTS OF COWETA-FAYETTE EMC. PROVIDE CONNECTION FROM THE METER ENCLOSURE TO THE GROUNDING ELECTRODE SYSTEM.
6. BOND THE GROUNDING ELECTRODE CONDUCTOR TO AN ACCEPTABLE GROUNDING ELECTRODE SYSTEM IN ACCORDANCE WITH NEC SECTION 250. THIS MAY INCLUDE A CONCRETE ENCASED ELECTRODE OR A GROUND ROD. THE SYSTEM SHALL BE CONNECTED TO THE GROUND RING AS SHOWN ON SHEET E-02 AND E-04. PROVIDE A SUPPLEMENTAL GROUND ROD IF THE RESISTANCE TO EARTH EXCEEDS 5 OHMS.
7. PROVIDE 600V, DUAL ELEMENT, TIME DELAY, 200KAIC, CLASS RK5 TYPE FUSES (SIZE AS SHOWN).

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LEGAL ENTITY:
ARCADIS U.S., INC.
2839 PACES FERRY ROAD
SUITE 1000 ATLANTA, GA 30339
TEL: 770-431-8666
WWW.ARCADIS.COM

CONSULTANTS

SEALS

GEORGIA REGISTERED 034-18-6233 No. PE/INTERN PROFESSIONAL ENGINEER THOMAS H POWELL

FAYETTE COUNTY, GEORGIA
FAYETTE COUNTY WATER SYSTEM

FAYETTE County Water

FCWS-TRILITH TANK BOOSTER PUMP STATION

400 VETERANS PARKWAY, FAYETTEVILLE, GA 30214, UNITED STATES

REVISIONS

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PROJECT NO.: 30135792
DATE: MARCH 2025
FILE NAME: E-04
DESIGNED BY: N. DESHPANDE
DRAWN BY: V. GANESH
CHECKED BY: T. POWELL

SHEET TITLE

ELECTRICAL

ONE LINE DIAGRAM

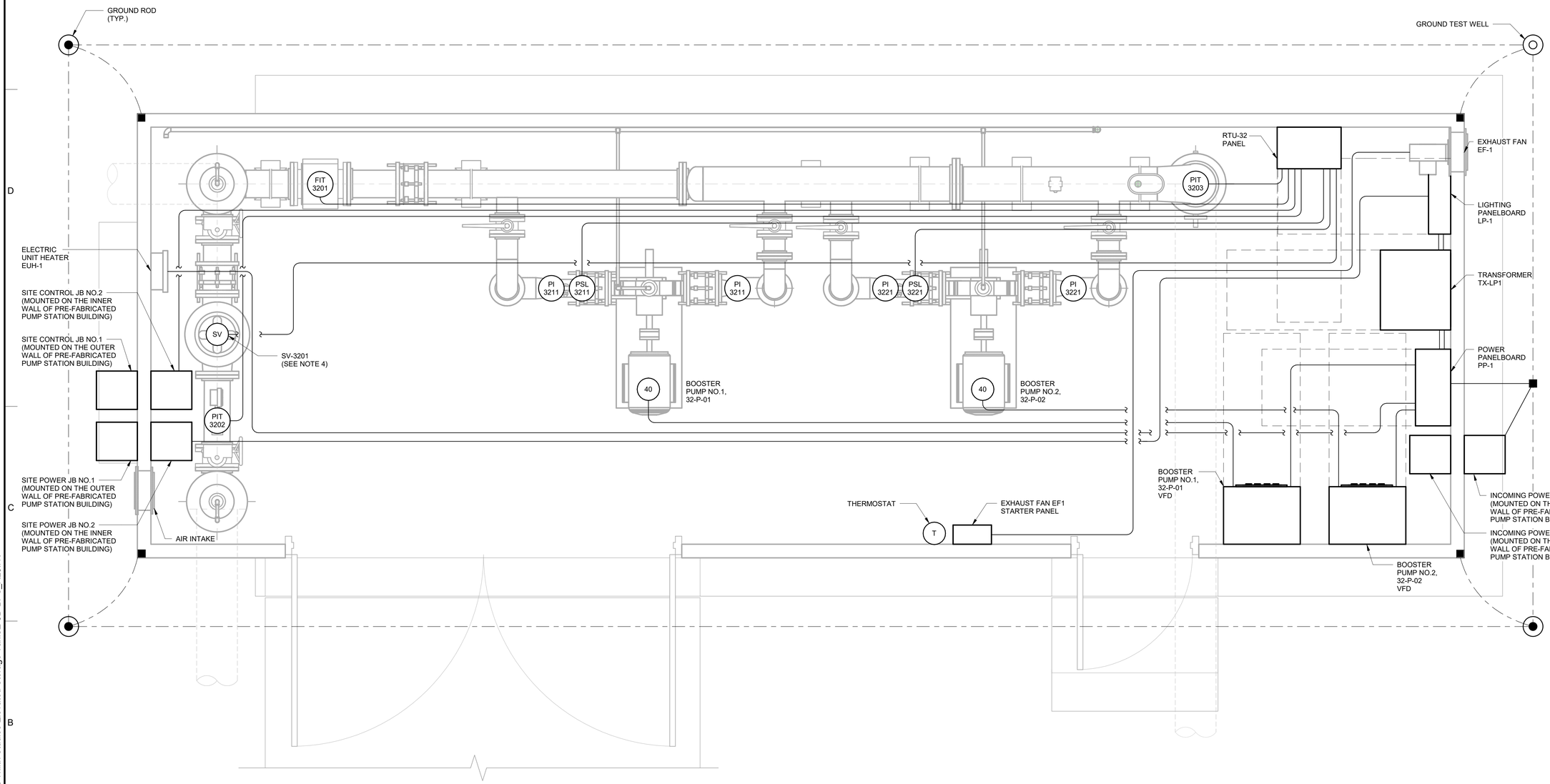
SCALE: NOT TO SCALE

E-04

SHEET 24 OF 37

NOTES:

1. CONDUIT ROUTING SHOWN IS FOR DIAGRAMMATIC REPRESENTATION ONLY. CONTRACTOR SHALL FIELD LOCATE AND VERIFY BEFORE WIRING.
2. REFER TO ONE LINE DIAGRAM AND INTERCONNECT DIAGRAM FOR MORE DETAILS.
3. REFER TO SHEET E-08 FOR CONTROL WIRING SCHEMATIC DETAILS.
4. POWER FOR PRESSURE SUSTAINING VALVE SOLENOID IS PROVIDED FROM RTU-32 PANEL.



BOOSTER PUMP STATION POWER AND GROUNDING PLAN

SCALE: 3/4" = 1'-0"

0' 1' 2' 3'

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LEGAL ENTITY:
ARCADIS U.S., INC.
2839 PACES FERRY ROAD
SUITE 1000 ATLANTA, GA 30339
TEL: 770-431-8666
WWW.ARCADIS.COM

CONSULTANTS

SEALS

GEORGIA REGISTERED 04-18-2025 NO. PE017168 PROFESSIONAL ENGINEER THOMAS H POWELL

FAYETTE COUNTY, GEORGIA
FAYETTE COUNTY WATER SYSTEM

FCWS-TRILITH TANK BOOSTER PUMP STATION

400 VETERANS PARKWAY, FAYETTEVILLE, GA 30214, UNITED STATES

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DESIGNED BY:	N. DESHPANDE
DRAWN BY:	V. GANESH
CHECKED BY:	T. POWELL

SHEET TITLE

ELECTRICAL

BOOSTER PUMP STATION POWER AND GROUNDING PLAN

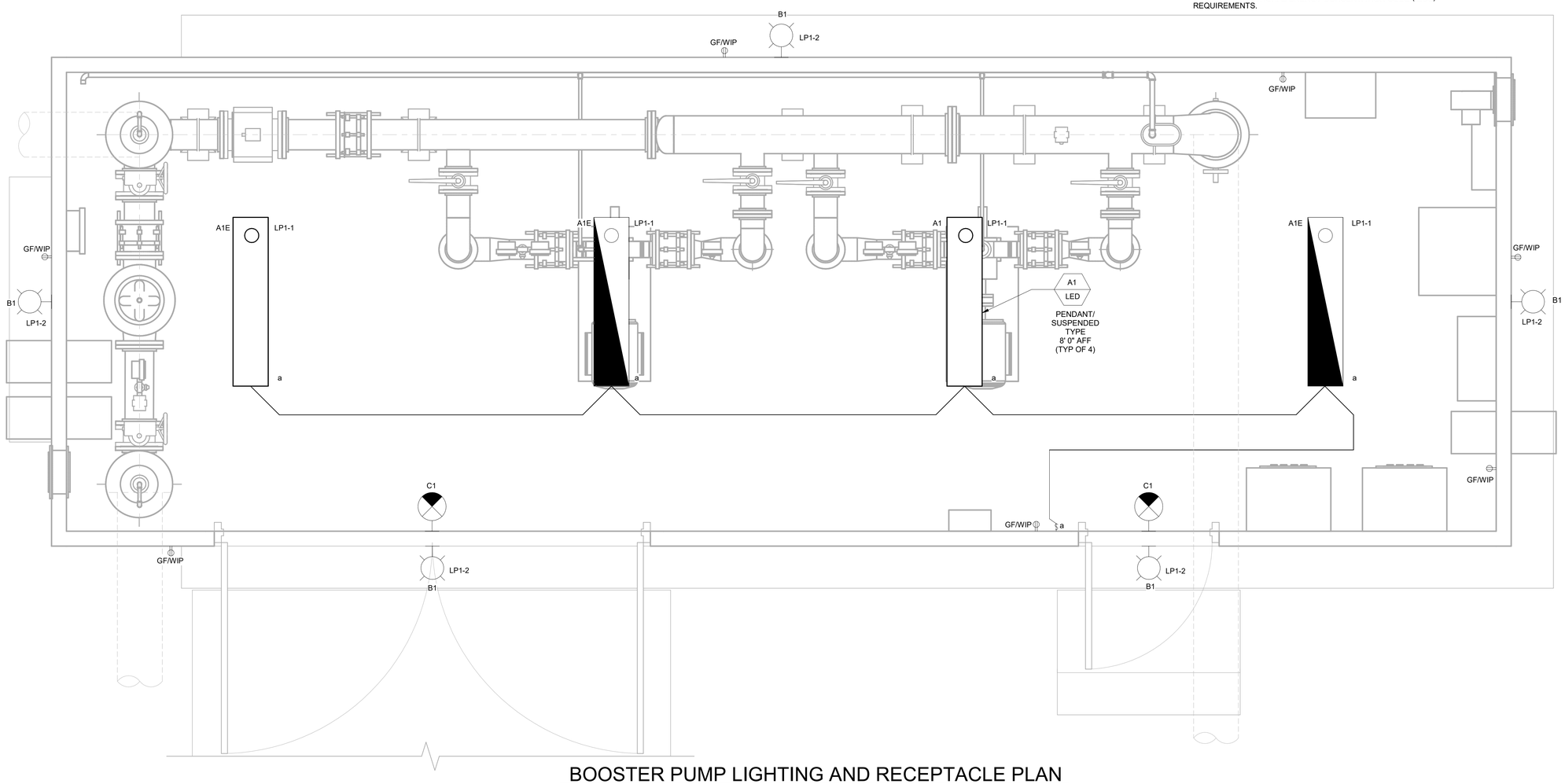
SCALE: 3/4" = 1'-0"

E-05

SHEET 25 OF 37

NOTES:

1. MOUNT WALL PACK FIXTURES 6" ABOVE DOOR.
2. MOUNT EXIT LIGHT FIXTURES 6" ABOVE DOOR.
3. ALL THE LIGHT FIXTURES SHALL BE POWERED FROM PANELBOARD LP-1 RUN 2# 12, 1#12G IN 3/4" CONDUIT.
4. PROVIDE DUPLEX WEATHERPROOF WHILE IN USE CONVENIENCE RECEPTACLE WITH GROUND FAULT PROTECTION. 2 POLE, 3 WIRE, 120 VAC, 20 AMP.
5. INTERIOR AND EXTERIOR LIGHTING COMPLIANCE CERTIFICATION WAS OBTAINED USING ONLINE COMCHECK SOFTWARE TOOL. INTERIOR AND EXTERIOR LIGHTING SHOWN ON THE DRAWING IS COMPLIANT WITH THE LATEST INTERNATIONAL ENERGY CONSERVATION CODE (IECC) REQUIREMENTS.



BOOSTER PUMP LIGHTING AND RECEPTACLE PLAN

SCALE: 3/4" = 1'-0"

0' 1' 2' 3'

LUMINAIRE TAG	DESCRIPTION	MOUNTING	LUMINAIRE			VOLTAGE	DESIGN BASIS MANUFACTURE & MODEL NO.
			QUANTITY	WATTS	TYPE		
A1	4'-0" NOM. LENGTH LED LUMINAIRE, PENDANT/SUSPENDED TYPE. ENCLOSED AND GASKETED INDUSTRIAL TYPE FIXTURE, 4000 LUMENS	PENDANT/ SUSPENDED TYPE	2	36	LED 4000K	120-277	LITHONIA FEM L48 6000LM LPPFL MD MVOLTGZ10 40K 80CRI, OR APPROVED EQUAL
A1E	4'-0" NOM. LENGTH LED LUMINAIRE, PENDANT SUSPENDED TYPE. ENCLOSED AND GASKETED INDUSTRIAL TYPE FIXTURE, 4000 LUMENS. 10 W, MVOLT SELF DIAGNOSTICS BATTERY PACK FOR EMERGENCY	PENDANT/ SUSPENDED TYPE	2	36	LED 4000K	120-277	LITHONIA FEM E10WMCP L48 6000LM LPPFL MD MVOLT GZ10 40K 80CRI, OR APPROVED EQUAL
B1	LED WALL PACK LIGHT FIXTURE WITH FULL CUTOFF LED WALL PACK LIGHT FIXTURE WITH FULL CUTOFF LENS, SUITABLE FOR WET AND CORROSIVE LOCATIONS, IP66 RATED, DIE-CAST ALUMINUM HOUSING WITH IMPACT-RESISTANT GLASS LENS, CORROSION RESISTANT PAINTED FINISH. FIXTURE SHALL HAVE INTEGRAL SURGE PROTECTION. DRIVER AND INTEGRAL PHOTOCELL OPERATE AT 120V AND ARE FULLY ENCLOSED IN THE UPPER HOUSING.	WALL	5	30	LED 4000K	120-277	LITHONIA HLWPC2, OR APPROVED EQUAL
C1	LED EXIT SIGN, SUITABLE FOR WET AND CORROSIVE LOCATIONS, PLASTIC (POLYCARBONATE CONSTRUCTION) HOUSING WITH IMPACT-RESISTANT GLASS LENS, CORROSION RESISTANT PAINTED FINISHED. OPTIONS: NICKEL CADMIUM BATTERY BACKUP PROVIDING MINIMUM OF 90 MINUTES EMERGENCY ILLUMINATION. PROVIDE INTEGRAL SELF-DIAGNOSTIC TESTING. PROVIDE NUMBER OF FACES AS SHOWN ON DRAWINGS AND RED LETTERING.	WALL	2	N/A	N/A	120-277	LITHONIA HLWPC2, OR APPROVED EQUAL

LUMINAIRE SCHEDULE

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ARCADIS U.S., INC.
2839 PACES FERRY ROAD
SUITE 1000 ATLANTA, GA 30339
TEL: 770-431-8666
WWW.ARCADIS.COM

CONSULTANTS

SEALS

GEORGIA REGISTERED 034-18-6213 NO. PEMITAR PROFESSIONAL ENGINEER THOMAS H POWELL

FAYETTE COUNTY, GEORGIA
FAYETTE COUNTY WATER SYSTEM

FAYETTE County Water

FCWS-TRILITH TANK BOOSTER PUMP STATION

400 VETERANS PARKWAY,
FAYETTEVILLE, GA 30214,
UNITED STATES

REVISIONS

NO.	DATE	ISSUED FOR	BY
0	04/18/2025	ISSUED FOR BID	ND

PROJECT STATUS: 100% SUBMITTAL

PROJECT NO.: 30135792
DATE: MARCH 2025
FILE NAME: E-06
DESIGNED BY: N. DESHPANDE
DRAWN BY: V. GANESH
CHECKED BY: T. POWELL

SHEET TITLE

ELECTRICAL

BOOSTER PUMP LIGHTING AND RECEPTACLE PLAN

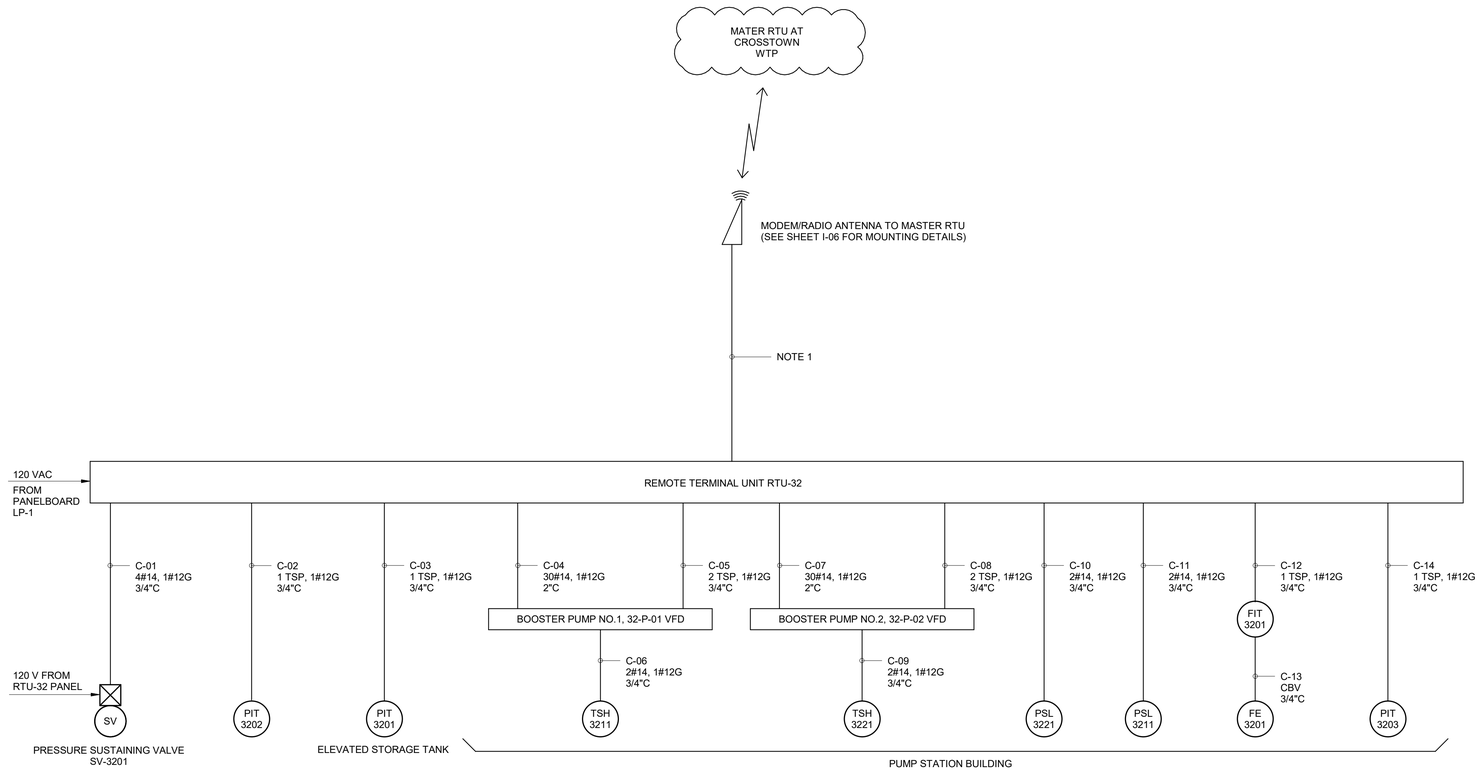
SCALE: 3/4" = 1'-0"

E-06

SHEET 26 OF 37

NOTE:

1. REFER TO INSTRUMENTATION SHEETS FOR MORE DETAILS.



INTERCONNECT WIRING DIAGRAM

SCALE: NOT TO SCALE

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2839 PACES FERRY ROAD
SUITE 1000 ATLANTA, GA 30339
TEL: 770-431-8666
WWW.ARCADIS.COM

CONSULTANTS

SEALS

GEORGIA REGISTERED 024-18-6213 No. PE/INTERN PROFESSIONAL ENGINEER THOMAS H POWELL

FAYETTE COUNTY, GEORGIA

FAYETTE COUNTY WATER SYSTEM

FCWS-TRILITH TANK BOOSTER PUMP STATION

400 VETERANS PARKWAY, FAYETTEVILLE, GA 30214, UNITED STATES

REVISIONS

NO.	DATE	ISSUED FOR	BY
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PROJECT STATUS: 100% SUBMITTAL

PROJECT NO.:	30135792
DATE:	MARCH 2025
FILE NAME:	E-07
DESIGNED BY:	N. DESHPANDE
DRAWN BY:	V. GANESH
CHECKED BY:	T. POWELL

SHEET TITLE

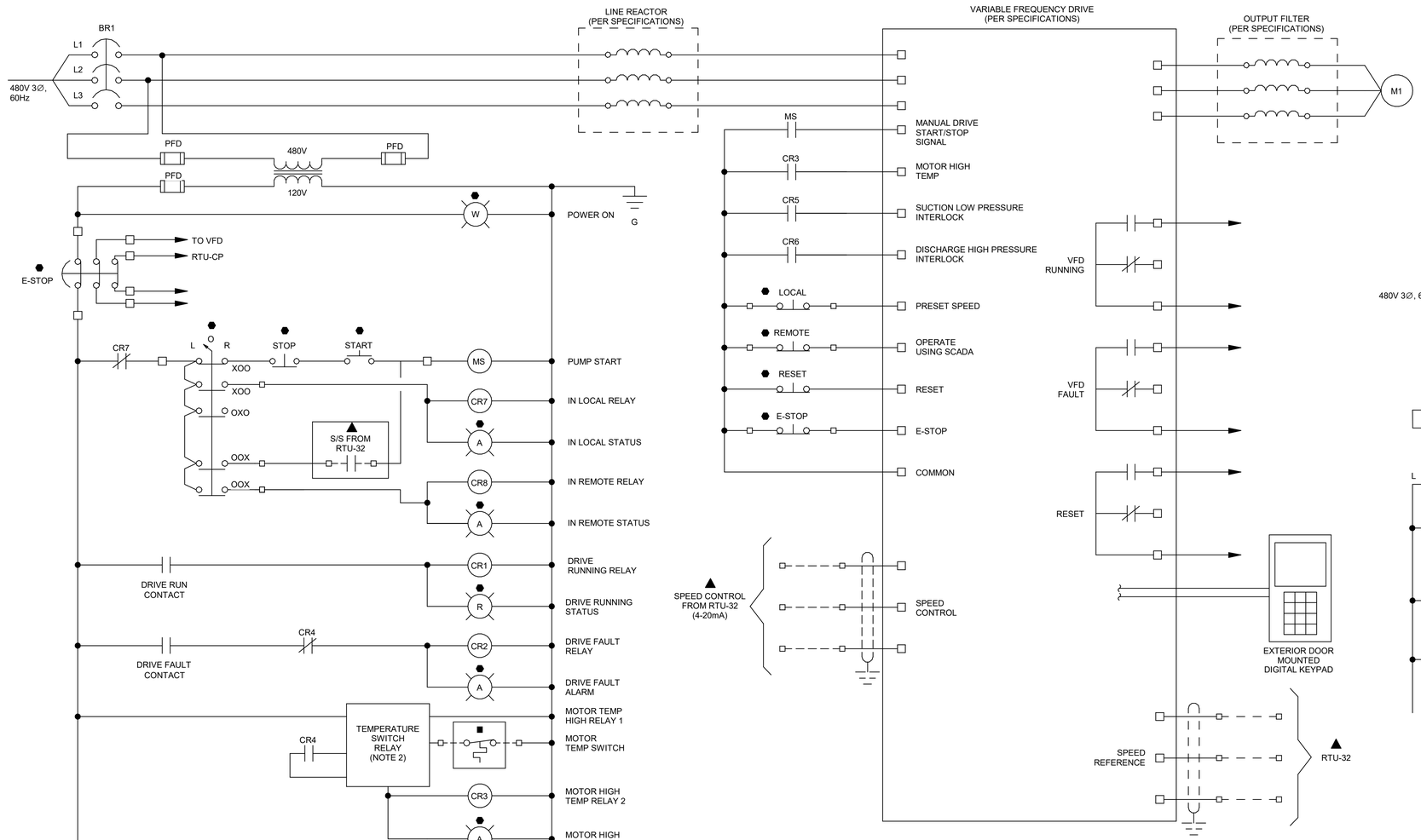
ELECTRICAL

INTERCONNECT WIRING DIAGRAM

SCALE: NOT TO SCALE

E-07

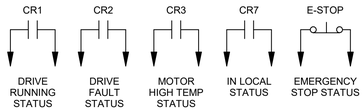
SHEET 27 OF 37



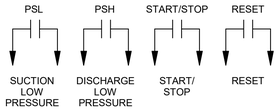
TYPICAL VFD CONTROL WIRING SCHEMATIC

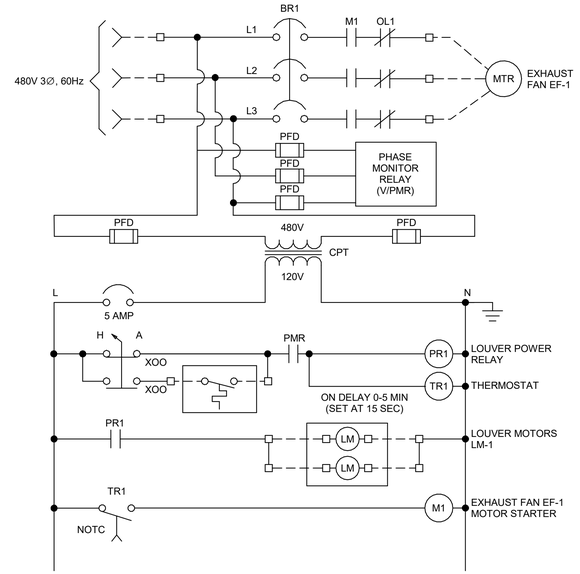
SCALE: NOT TO SCALE

SIGNALS FROM VFD TO RTU-32



SIGNALS FROM RTU-32 TO VFD





TYPICAL EXHAUST FAN STARTER PANEL CONTROL WIRING SCHEMATIC

SCALE: NOT TO SCALE

NOTES:

1. DIAGRAM IS TYPICAL. REFER TO P&IDS FOR MORE INFORMATION REGARDING CONTROL PANEL, INDICATING LIGHTS, PUSH BUTTONS ETC.
2. DIVERSIFIED ELECTRONICS, MODEL NO. SPM-120-ACA OR EQUAL.
3. ALL INDICATING LIGHTS SHALL BE PUSH-TO-TEST TYPE. PROVIDE ADDITIONAL WIRING AND CONNECTIONS AS REQUIRED.

LEGEND

- ■ FIELD LOCATED DEVICE
- ▲ RTU-32
- ⬢ VFD MOUNTED DEVICE

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LEGAL ENTITY:
ARCADIS U.S., INC.
2839 PACES FERRY ROAD
SUITE 1000 ATLANTA, GA 30339
TEL: 770-431-8666
WWW.ARCADIS.COM

CONSULTANTS

SEALS

GEORGIA REGISTERED 04-18-25 No. PE047341 PROFESSIONAL ENGINEER THOMAS H POWELL

FAYETTE COUNTY, GEORGIA
FAYETTE COUNTY WATER SYSTEM

FAYETTE County Water

FCWS-TRILITH TANK BOOSTER PUMP STATION

400 VETERANS PARKWAY, FAYETTEVILLE, GA 30214, UNITED STATES

REVISIONS

NO.	DATE	ISSUED FOR	BY
0	04/18/2025	ISSUED FOR BID	ND

PROJECT STATUS: 100% SUBMITTAL

PROJECT NO.:	30135792
DATE:	MARCH 2025
FILE NAME:	E-08
DESIGNED BY:	N. DESHPANDE
DRAWN BY:	V. GANESH
CHECKED BY:	T. POWELL

SHEET TITLE

ELECTRICAL

VFD CONTROL SCHEMATIC

SCALE: NOT TO SCALE

E-08

SHEET 28 OF 37

CKT NO.	TRIP AMPS	DESCRIPTION OF LOAD	LOAD KVA	AMPS	POLES	KVA PER PHASE A	KVA PER PHASE B	KVA PER PHASE C	POLES	AMPS	LOAD KVA	DESCRIPTION OF LOAD	TRIP AMPS	CKT NO.
1	20	BUILDING INTERIOR LIGHTING	1	8.3	1	1.5			1	4.2	0.5	BUILDING EXTERIOR LIGHTING	20	2
3	20	BUILDING INDOOR RECEPTACLES	1	8.3	1		2.0		1	8.3	1.0	BUILDING EXTERIOR RECEPTACLES	20	4
5	20	RTU-32 PANEL	1	8.3	1			1.2	1	1.7	0.2	EXHAUST FAN LOUVER DAMPER	20	6
7	20	FLOWMETER, FIT 3201	0.1	0.8	1	0.1			1			SPARE	20	8
9	20	SOLENOID SV-3201	0.2	1.7	1		0.2		1			SPARE	20	10
11	20	SPARE			1			0.0	1			SPARE	20	12
13	20	SPARE			1	0.0			1			SPARE	20	14
15	20	SPARE			1		0.0		1			SPARE	20	16
17	20	SPARE			1			0.0	1			SPARE	20	18

PANEL **LP-1**
LOCATION TRILITH BOOSTER PUMP STATION
BUILDING PUMP STATION BUILDING
NOTES: NEMA 12, WALL MOUNTED

TOTAL KVA	1.6	2.2	1.2
GRAND CONNECTED TOTAL KVA		5.0	

SERVICE CHARACTERISTICS
VOLTS: 208Y/120
PHASE: 3
WIRE: 4
35k MIN AIC SYMM, FULLY RATED ASSEMBLY

_____ A MLO
100 A MCB

PANELBOARD LP-1 SCHEDULE

SCALE: NOT TO SCALE

CKT NO.	TRIP AMPS	DESCRIPTION OF LOAD	LOAD KVA	AMPS	POLES	KVA PER PHASE A	KVA PER PHASE B	KVA PER PHASE C	POLES	AMPS	LOAD KVA	DESCRIPTION OF LOAD	TRIP AMPS	CKT NO.
1	70	BOOSTER PUMP NO.1, 32-P-01	44	52.9	3	29.3			3	52.9	44	BOOSTER PUMP NO.2, 32-P-02	70	2
							29.3							
								29.3						
7	20	ELECTRIC UNIT HEATER, EUH-1	5	6.0	3	2.0			3	1.2	1	EXHAUST FAN, EF-1 STARTER PANEL	20	8
							2.0							
								2.0						
13	20	SPARE				5.0			3	18.0	15	15 KVA TRANSFORMER, TX-LP1	30	14
							5.0							
								5.0						
19	20	SPARE			3	0.0			3			SPARE	20	20
							0.0							
								0.0						
25	70	SPARE			3	0.0			3			SPARE	70	26
							0.0							
								0.0						

PANEL **PP-1**
LOCATION TRILITH BOOSTER PUMP STATION
BUILDING PUMP STATION BUILDING
NOTES: NEMA 12, WALL MOUNTED

TOTAL KVA	36.3	36.3	36.3
GRAND CONNECTED TOTAL KVA		109.0	

SERVICE CHARACTERISTICS
VOLTS: 480Y/277
PHASE: 3
WIRE: 4
35k MIN AIC SYMM, FULLY RATED ASSEMBLYY

_____ A MLO
200 A MCB

PANELBOARD PP-1 SCHEDULE

SCALE: NOT TO SCALE

NOTES:

1. PROVIDE 2#12, 1#12G, 3/4" CONDUIT FOR 120VAC, SINGLE PHASE BRANCH, CIRCUITS TO IDENTIFIED EQUIPMENT, UNLESS NOTED OTHERWISE.
2. ALL 20A BRANCH CIRCUITS WHICH EXTEND BEYOND 100 FEET IN LENGTH SHALL UTILIZE #10 AWG WIRING THROUGHOUT THE ENTIRE LENGTH OF THE CIRCUIT FOR THE PURPOSE OF LIMITING VOLTAGE DROP AND REDUCING WIRING SYSTEM LOSSES.
3. MULTIPLE 120VAC, 20A BRANCH CIRCUITS MAY BE COMBINED WITHIN A SINGLE CONDUIT TO MINIMIZE THE NUMBER OF HOMERUNS TO PANELBOARD. DO NOT EXCEED SIX CURRENT CARRYING CONDUCTORS MAY SHARE THE SAME CONDUIT IF ALL CONDUCTOR SIZES ARE INCREASED TO #10 AWG, AND PROVIDED THAT THE CIRCUIT BREAKERS FOR EACH CIRCUIT ARE RATED 20A OR LESS.
4. A SEPARATE GREEN INSULATED EQUIPMENT GROUNDING CONDUCTOR SHALL BE PROVIDED FOR EACH BRANCH CIRCUIT.

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ARCADIS U.S., INC.
2839 PACES FERRY ROAD
SUITE 1000 ATLANTA, GA 30339
TEL: 770-431-8666
WWW.ARCADIS.COM

CONSULTANTS

SEALS

GEORGIA REGISTERED 04-18-2025 No. PE041581 PROFESSIONAL ENGINEER THOMAS H POWELL

FAYETTE COUNTY, GEORGIA
FAYETTE COUNTY WATER SYSTEM

FCWS-TRILITH TANK BOOSTER PUMP STATION

400 VETERANS PARKWAY, FAYETTEVILLE, GA 30214, UNITED STATES

REVISIONS

NO.	DATE	ISSUED FOR	BY
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PROJECT STATUS: 100% SUBMITTAL
PROJECT NO.: 30135792
DATE: MARCH 2025
FILE NAME: E-09
DESIGNED BY: N. DESHPANDE
DRAWN BY: V. GANESH
CHECKED BY: T. POWELL

SHEET TITLE

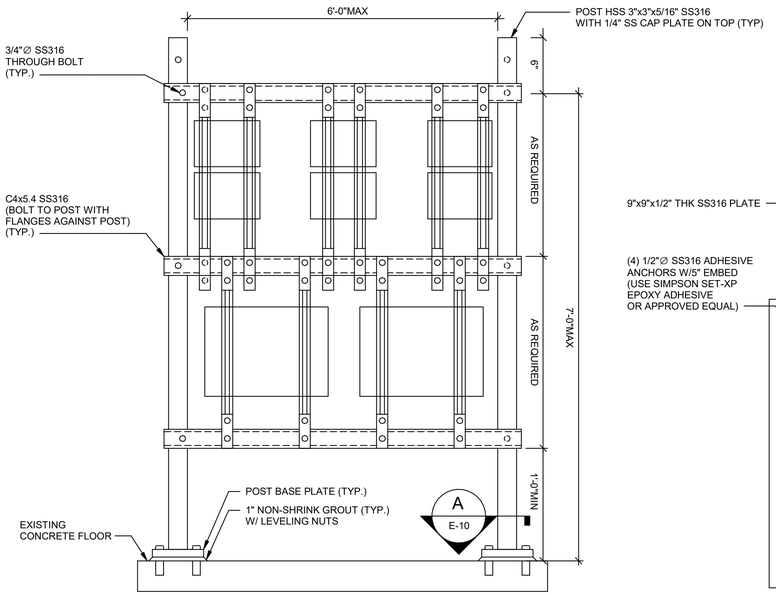
ELECTRICAL

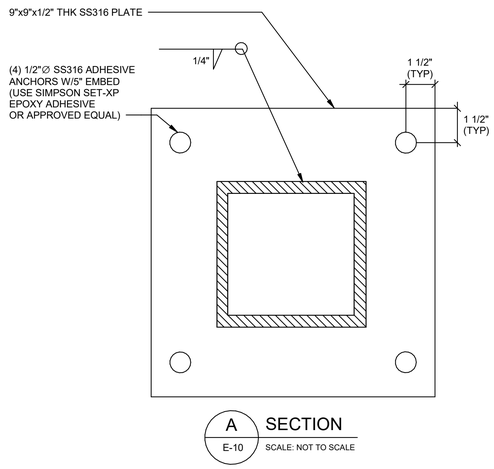
PANELBOARD SCHEDULE

SCALE: NOT TO SCALE

E-09

SHEET 29 OF 37

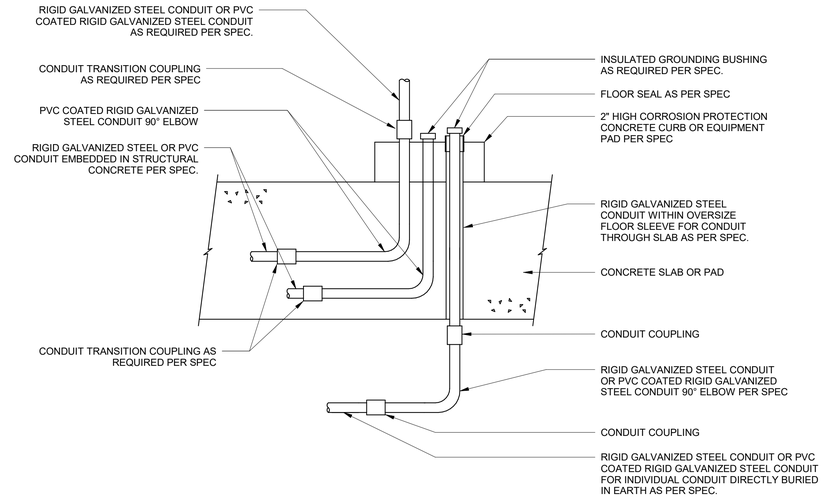




A E-10 SECTION
SCALE: NOT TO SCALE

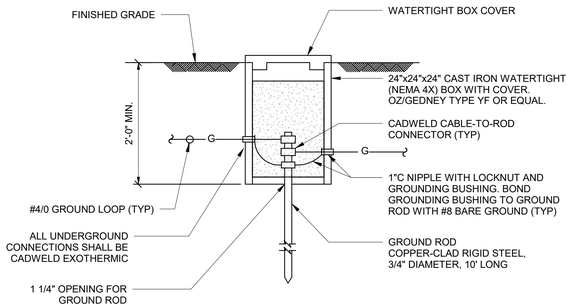
1 E-10 INDOOR ELECTRICAL EQUIPMENT ASSEMBLY SUPPORT DETAIL

SCALE: NOT TO SCALE



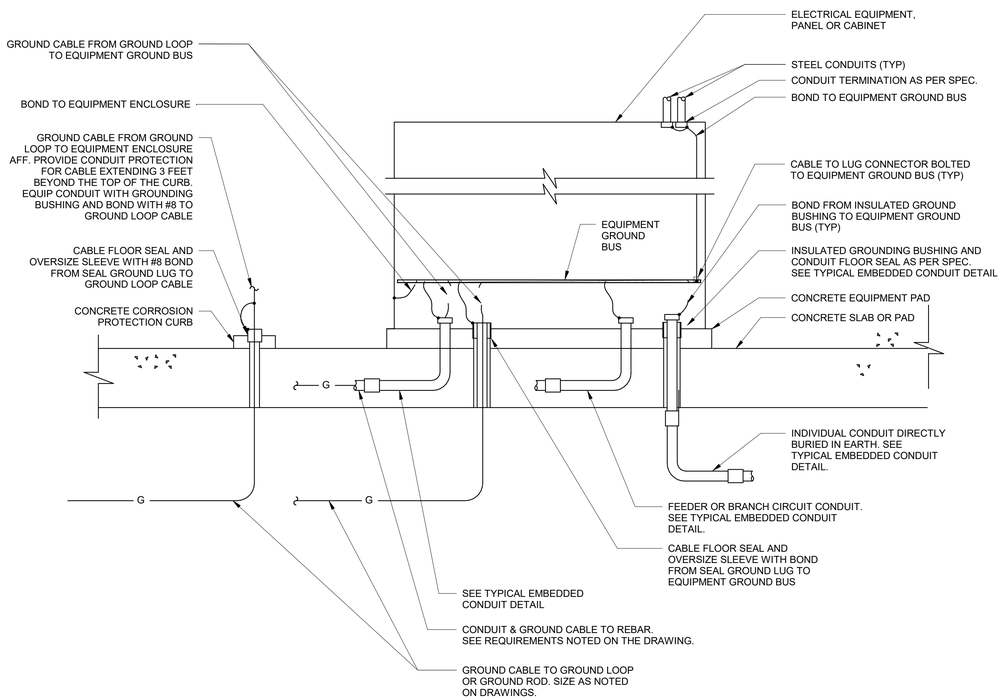
2 E-10 EMBEDDED CONDUIT DETAIL AND CONDUIT CORROSION PROTECTION DETAIL

SCALE: NOT TO SCALE



3 E-10 EXTERIOR GROUND CONNECTION AND TEST WELL DETAILS

SCALE: NOT TO SCALE



4 E-10 TYPICAL EQUIPMENT GROUNDING DETAIL

SCALE: NOT TO SCALE

TYPE OF CONNECTION	BOLTED OR COMPRESSION		WELDED
	BURNDY CAT#	T&B CAT#	CADWELL CAT#
CABLE TO LUG (LUG, CABLE)	YA	54000 SERIES	LA
CABLE TO ROD (ROD, CABLE)	-	53000 SERIES	GT
(ROD)	GAR	-	GR
CABLE TO CABLE	GX	53000 SERIES	TV OR TA
CABLE TO PIPE (CABLE, PIPE OR CONDUIT)	-	-	HA OR VS
	GAR OR GD	3900 SERIES	-
CABLE TO FLAT SURFACE	GB	-	HA OR HS
BRAID TO PIPE	GG	-	-

GROUNDING CONNECTIONS

SCALE: NOT TO SCALE

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LEGAL ENTITY:
ARCADIS U.S., INC.
2839 PACES FERRY ROAD
SUITE 1000 ATLANTA, GA 30339
TEL: 770-431-8666
WWW.ARCADIS.COM

CONSULTANTS

SEALS

GEORGIA REGISTERED 034-18-6243 No. PEMITAR PROFESSIONAL ENGINEER THOMAS H POWELL

FAYETTE COUNTY, GEORGIA
FAYETTE COUNTY WATER SYSTEM

FAYETTE County Water

FCWS-TRILITH TANK BOOSTER PUMP STATION

400 VETERANS PARKWAY,
FAYETTEVILLE, GA 30214,
UNITED STATES

REVISIONS

NO.	DATE	ISSUED FOR	BY
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PROJECT STATUS: 100% SUBMITTAL

PROJECT NO.: 30135792
DATE: MARCH 2025
FILE NAME: E-10
DESIGNED BY: N. DESHPANDE
DRAWN BY: V. GANESH
CHECKED BY: T. POWELL

SHEET TITLE

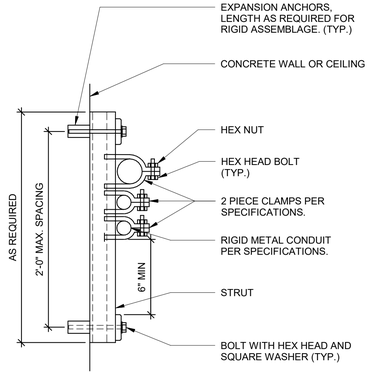
ELECTRICAL

TYPICAL ELECTRICAL DETAILS - SHEET 1 OF 2

SCALE: NOT TO SCALE

E-10

SHEET 30 OF 37

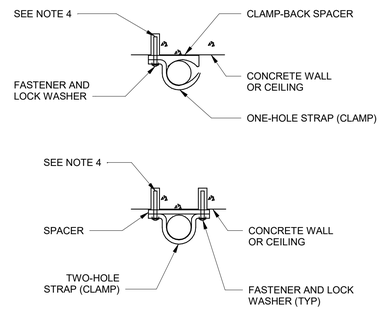


NOTES:

1. THIS DETAIL IS TYPICAL FOR BOTH VERTICAL AND HORIZONTAL MOUNTING.
2. STRUT AND ALL HARDWARE PER SPECIFICATIONS.
3. STRUT TO BE SPACED AT SPECIFIED INTERVALS PER SPECIFICATIONS.

1 TYPICAL MULTIPLE CONDUIT MOUNTING USING STRUT

E-11 SCALE: NOT TO SCALE

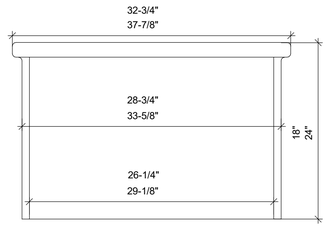


NOTES:

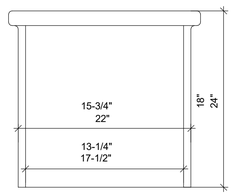
1. THESE DETAILS ARE TYPICAL FOR BOTH VERTICAL AND HORIZONTAL MOUNTING.
2. ALL THREADED FASTENERS TO BE PER SPECIFICATIONS.
3. STRUT TO BE SPACED PER SPECIFICATIONS.
4. EXPANSION ANCHOR, LENGTH AS REQUIRED FOR RIGID ASSEMBLAGE (TYP).

2 TYPICAL CONDUIT MOUNTING

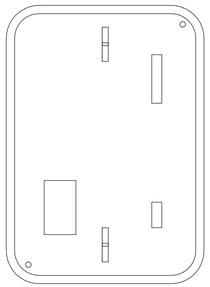
E-11 SCALE: NOT TO SCALE



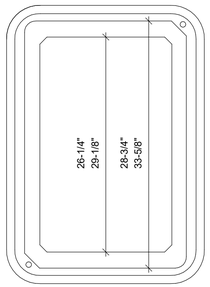
LENGTHWISE - SIDE VIEW



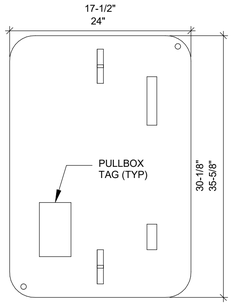
WIDTHWISE - SIDE VIEW



COVER - TOP VIEW



INSIDE - TOP VIEW



COVER - TOP VIEW

CONTROL PULLBOX SIZE TABLE		
PULLBOX TAG	SIZE	TYPE
C-PB-1	30"L x 17"W x 24"D	POLYCONCRETE - IN GROUND OPEN BOTTOM

POWER PULLBOX SIZE TABLE		
PULLBOX TAG	SIZE	TYPE
P-PB-1	36"L x 24"W x 24"D	POLYCONCRETE - IN GROUND OPEN BOTTOM
P-PB-2	36"L x 24"W x 24"D	POLYCONCRETE - IN GROUND OPEN BOTTOM
P-PB-3	36"L x 24"W x 24"D	POLYCONCRETE - IN GROUND OPEN BOTTOM

POLYCONCRETE PULLBOX TABLES

NOTE:

1. POLYCONCRETE PULLBOXES SHALL BE SYNERTECH OPEN BOTTOM TYPE WITH TIER 20K BOLT DOWN COVERS, OR EQUAL.

3 POLYCONCRETE PULLBOX DETAIL

E-11 SCALE: NOT TO SCALE

ARCADIS
LEGAL ENTITY:
ARCADIS U.S., INC.
2839 PACES FERRY ROAD
SUITE 1000 ATLANTA, GA 30339
TEL: 770-431-8666
WWW.ARCADIS.COM

CONSULTANTS

SEALS

GEORGIA REGISTERED 04-18-2025 No. PE047048 PROFESSIONAL ENGINEER THOMAS H POWELL

FAYETTE COUNTY, GEORGIA
FAYETTE COUNTY WATER SYSTEM

FCWS-TRILITH TANK BOOSTER PUMP STATION

400 VETERANS PARKWAY, FAYETTEVILLE, GA 30214, UNITED STATES

REVISIONS

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PROJECT NO.: 30135792
DATE: MARCH 2025
FILE NAME: E-11
DESIGNED BY: N. DESHPANDE
DRAWN BY: V. GANESH
CHECKED BY: T. POWELL

SHEET TITLE

ELECTRICAL

TYPICAL ELECTRICAL DETAILS - SHEET 2 OF 2

SCALE: NOT TO SCALE

E-11

SHEET 31 OF 37

GENERAL NOTES

1. THE SYMBOLS AND ABBREVIATIONS SHOWN ON THE INSTRUMENTATION SYMBOLS AND LEGEND SHEETS ARE STANDARD DESIGNATIONS. NOT ALL SYMBOLS AND ABBREVIATIONS ARE APPLICABLE TO THE INCLUDED DIAGRAMS AND INSTRUMENTATION TAGGING.
2. NOT ALL PIPING, FITTINGS, AND TANK DETAILS ARE SHOWN. REFER TO PROCESS DRAWINGS FOR ACTUAL DETAILS

INSTRUMENTATION IDENTIFICATION LEGEND

	FIRST LETTER		SECOND LETTER		
	MEASURED OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS		ALARM		
B	BURNER FLAME		NOT USED	NOT USED	NOT USED
C	CONDUCTIVITY (ELECTRICAL)			CONTROL	CLOSED
D	DENSITY (MASS)OR SPECIFIC GRAVITY	DIFFERENTIAL			
E	VOLTAGE (EMF)		PRIMARY ELEMENT		
F	FLOW, FLOW RATE	RATIO (FRACTION)			OFF
G	INTRUSION		GLASS GAGE (UNCALIBRATED)		
H	HAND (MANUALLY INDICATED)				HIGH
I	CURRENT(ELECTRICAL)		INDICATE		
J	POWER	SCAN			
K	TIME OR TIME SCHEDULE			CONTROL STATION	
L	LEVEL		LIGHT (PILOT)		LOW
M	MOISTURE, HUMIDITY OR MOTOR				MIDDLE OR INTERMEDIATE
N	SEQUENCE STRATEGY		NOT USED	NOT USED	NOT USED
O	NOT USED		ORIFICE (RESTRICTION)	ANALYSIS	OPEN OR ON
P	PRESSURE OR VACUUM		POINT (TEST CONNECTION)	PULSE	
Q	QUANTITY	INTERGRATE OR TOTALIZE			
R	RADIOACTIVITY		RECORD OR PRINT	REMOTE	
S	SPEED, FREQUENCY	SAFETY		SWITCH, START OR STOP	
T	TEMPERATURE			TRANSIT	
U	MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION	MULTIFUNCTION
V	VIBRATION			VALVE, DAMPER OR LOUVER	
W	WEIGHT OR FORCE		WELL		
X	UNCLASSIFIED	X AXIS	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED
Y	EVENT STATUS	Y AXIS		RELAY OR COMPUTE	
Z	POSITION			DRIVE, ACTUATE, OR UNCLASSIFIED FINAL CONTROL ELEMENT	

LINE TYPES

- MAIN PROCESS LINE
- AUXILIARY LINE
- EXISTING MAIN PROCESS LINE
- EXISTING AUXILIARY LINE
- ELECTRIC (ELECTRONIC) SIGNAL ARROW INDICATES SIGNAL DIRECTION
- SOFTWARE LINK SYSTEM FUNCTION CONNECTION OR COMMUNICATION LINK
- FIBER OPTIC CONNECTION
- (SERIAL) 2 OR 4 CONDUCTOR CABLE
- HDMI CABLE
- COAX CABLE
- (ETHERNET) CAT-6 CABLE
- PNUEMATIC SIGNAL
- CAPILLARY LINE
- HYDRAULIC SIGNAL
- HEAT TRACED AND INSULATED
- TELEPHONE WIRE
- PACKAGED SYSTEM BOUNDARY
- FUTURE
- PANEL LIMITS
- EXISTING BUILDING BOUNDARY LINE
- EXISTING ROOM BOUNDARY LINE

DRAWING CONTINUATION LEGEND

PROCESS LINES (ON / OFF PAGE)

PROCESS-MED | CONN | AREA OR EQUIPMENT / DRAWING I-XXX

UTILITY LINES (ON / OFF PAGE)

REMARKS 1 | CONN | UTILITY / DRAWING I-XXX | REMARKS 2

INSTRUMENT SIGNAL LINES (ON / OFF PAGE)

SIGNAL NAME | CONN | DRAWING NO. I-XXX

PROCESS LINES NOT WITHIN THE BOUNDARY OF THIS DRAWING SET

PROCESS-MED | AREA OR EQUIPMENT

UTILITY LINES NOT WITHIN THE BOUNDARY OF THIS DRAWING SET

REMARKS 1 | UTILITY

INSTRUMENT SIGNAL LINES NOT WITHIN THE BOUNDARY OF THIS DRAWING SET

SIGNAL NAME

CONN = CONNECTION NUMBER (ALPHANUMERIC CHARACTER STRING)

INSTRUMENT NUMBERING SYSTEM

FIT-0401A

- FIT: INSTRUMENT IDENTIFICATION
- 0401: LOOP NUMBER
- A: FIRST TWO DIGITS FOR LOOP NUMBER DESIGNATION IS FACILITY CODE

BASE INSTRUMENTATION SYMBOLS

XXX / XXX / XXX — CONTROL PANEL NAME (SEE THIS SHEET FOR CONTROL PANEL ABBREVIATIONS)
FUNCTIONS PROGRAMMED IN SOFTWARE FROM HARD I/O POINT WITH DISPLAY
XXX = FUNCTION IDENTIFIER
= LOOP NUMBER

- DIGITAL INPUT
- DIGITAL OUTPUT
- ANALOG INPUT
- ANALOG OUTPUT
- # COMMUNICATION TYPE

E ETHERNET
C CONTROLNET
D DEVICENET
H HART
M MODBUS

XXX.X / XX / ### / YYYY — FUNCTIONS PROGRAMMED IN SOFTWARE FROM SOFT I/O POINT VIA COMMUNICATION LINK WITH DISPLAY

YYYY = COMMUNICATION TYPE

ENT ETHERNET
CNT CONTROLNET
DNT DEVICENET
HART HART
MOD MODBUS

XXX.X / XX / ### / YYYY — FUNCTIONS DERIVED FROM I/O POINTS WITHIN THE SOFTWARE WITH DISPLAY

XXX.X / CS / ### — CS - ### = CONTROL STRATEGY NUMBER IN SPECIFICATION

XXX.X / IN / ### — IN - ### = INTERLOCK NUMBER ON THE DRAWING

XXX / ### — FIELD INSTRUMENT, POWER SUPPLY REQUIRED LOCALLY WHERE SHOWN.

XXX / ### — INSTRUMENT ON PANEL

Δ XXX / ### — INSTRUMENT ON REAR OF PANEL (BROKEN LINE). ACTIVATES AND DEACTIVATES CONTROL AND/OR ALARM SWITCHES AT PRESET SIGNALVALUES.

Δ DIFFERENCE
> HIGH SELECTOR
< LOW SELECTOR
P/I PNUEMATIC/CURRENT CONVERTER
I/I CURRENT/CURRENT CONVERTER (REPEATER)
Σ SUMMATION
AV AVERAGE
% RATIO

XXX — INSTRUMENT IDENTIFICATION. (SEE THIS SHEET FOR INSTRUMENT IDENTIFICATION LEGEND AND NUMBERING SYSTEM.)

— LOOP NUMBER

HSS / ### — SAFETY PULL CORD

ZS / ### — BELT ALIGNMENT SWITCH

LS / ### — FLOAT SWITCH

INSTRUMENTATION SYMBOLS (CONT.)

FE / ### — ORIFICE FLOW ELEMENT

FIT / ### — VENTURI FLOW ELEMENT

PARSHALL FLUME

FE / ### / M — ELECTROMAGNETIC FLOWMETER

FE / ### / △T — THERMAL MASS FLOWMETER

LE / ### — NON-CONTACT LEVEL OR FLOW ELEMENT

X =
A AREA VELOCITY (FLOW)
R RADAR
U ULTRASONIC

FE / ### — ROTAMETER

INTERCONNECTING LINES WITH DOT INDICATE ROUTING OF THE SAME SIGNAL

INTERCONNECTING LINES WITHOUT DOT INDICATE ROUTING OF MULTIPLE SIGNALS

FR / ### AR / ### — FR & AR TWO FUNCTIONS AS PART OF ONE UNIT (CIRCLES TOUCH)

AIT / ### X — SUPERSCRIPT (X) FOR ANALYTIC DEVICES:

CH4	METHANE
Cl2	CHLORINE
COMB	COMBUSTIBLES
DO	DISSOLVED OXYGEN
FeCl3	FERRIC CHLORIDE
H2S	HYDROGEN SULFIDE
H3PO4	PHOSPHORIC ACID
H2SO4	SULFURIC ACID
Na2S2O5	SODIUM BISULFITE
NH3	AMMONIA
NOX	NIRATE/NITRITE
O2	OXYGEN
ORP	OXIDATION REDUCTION POTENTIAL
pH	HYDROGEN ION CONCENTRATION (-LOG)
PO4	PHOSPHATE

PANEL DEVICE SYMBOLS

XXX / X/X/X — HAND SWITCH (MANUAL SELECTOR)

XXX / XXXX — PUSH BUTTON

FUNCTION SUBSCRIPT FOR HAND SWITCH AND PUSH BUTTON

ESTOP	E-STOP
F/O/R	FORWARD-OFF-REVERSE
F/O/JR	FORWAR-OFF-JOG REVERSE
H/O/A	HAND-OFF-AUTO
H/O/R	HAND-OFF-REMOTE
H/O/SBY	HAND-OFF-STANDBY
J/O/R	JOG-OFF-REMOTE
O/L/R	OFF-LOCAL-REMOTE
M/A	MANUAL-AUTO
M/O/A	MANUAL-OFF-AUTO
O/C	OPEN-CLOSE
O/O	ON-OFF
O/S/C	OPEN-STOP-CLOSE
RS	RESET
R/L	REMOTE-LOCAL
R/O	RUN-OFF
SC	SPEED CONTROL POTENTIOMETER
SCR	SILICON CRYSTAL RECTIFIER
S/S	START-STOP
S/SLO	START-STOP WITH LOCKOUT
STR	START
STP	STOP

PANEL DEVICE SYMBOLS (CONT.)

XXX / IL / G — INDICATING LIGHT UNIT

B BLUE
G GREEN
R RED
W WHITE
A AMBER
F FLASHES ON ELECTRIC OR MECHANICAL MALFUNCTION

R## — RELAY LOGIC
= FUNCTION IDENTIFICATION NUMBER

ISR — INTRINSICALLY SAFE RELAY

ELECTRONIC HORN

XXX / G — STROBE LIGHT

A AMBER
B BLUE
G GREEN
R RED
W WHITE

VFD (#) — VARIABLE FEQUENCY DRIVE
= IDENTIFICATION NUMBER SHOWING LOCAL CONTROL AT VFD

LOCAL CONTROL AT VFD
(KEYPAD SHALL BE PROVIDED IN ADDITION TO THE CONTROLS IDENTIFIED)

1. S/S, RUN INDICATION, MALFUNCTION.
2. S/S, RUN INDICATION, MALFUNCTION, H/O/R.
3. S/S, RUN INDICATION, MALFUNCTION, H/O/R, E-STOP.
4. S/S, RUN INDICATION, MALFUNCTION, H/O/R, E-STOP, RESET.
5. S/S, RUN INDICATION, MALFUNCTION, H/O/R, RESET, SPEED INDICATION, SPEED CONTROL.
6. S/S, RUN INDICATION, MALFUNCTION, RESET, SPEED INDICATION, SPEED CONTROL.
7. S/S, RUN INDICATION, MALFUNCTION, H/O/R, RESET SPEED INDICATION, SPEED CONTROL, VFD FAULT.
8. S/S, RUN INDICATION, MALFUNCTION, RESET, SPEED INDICATION, SPEED CONTROL, VFD FAULT.

MCC (#) OR RVSS (#) — MOTOR CONTROL CENTER OR REDUCED VOLTAGE STARTER SYSTEM
= IDENTIFICATION NUMBER SHOWING LOCAL CONTROL AT MCC OR RVSS

LOCAL CONTROL AT MCC OR RVSS

1. S/S, RUN INDICATION, MALFUNCTION.
2. S/S, RUN INDICATION, MALFUNCTION, H/O/R.
3. S/S, RUN INDICATION, MALFUNCTION, H/O/R, E-STOP.
4. S/S, RUN INDICATION, MALFUNCTION, H/O/R, E-STOP, RESET.
5. S/S, RUN INDICATION, MALFUNCTION, H/O/R, RESET.

LCS (#) — LOCAL CONTROL STATION
= IDENTIFICATION NUMBER SHOWING LOCAL CONTROL AT LCS

LOCAL CONTROL AT LCS

1. S/S, RUN INDICATION, MALFUNCTION.
2. S/S, RUN INDICATION, MALFUNCTION, H/O/R.
3. S/S, RUN INDICATION, MALFUNCTION, A/M.
4. S/S, RUN INDICATION, MALFUNCTION, H/O/R, E-STOP.
5. S/S, RUN INDICATION, MALFUNCTION, H/O/R, E-STOP, RESET.
6. O/C, OPEN INDICATION, CLOSE INDICATION, MALFUNCTION, L/O/R.
7. J/O/R, RUN INDICATION, E-STOP, FAIL INDICATION.
8. S/S, RUN INDICATION, MALFUNCTION, L/O/R, E-STOP.

IAS — INSTRUMENT AIR SUPPLY
120V — 120V AC POWER SUPPLY
240V — 240V AC POWER SUPPLY
480V — 480V AC POWER SUPPLY
24V — 24V DC POWER SUPPLY

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2839 PACES FERRY ROAD
SUITE 1000 ATLANTA, GA 30339
PHONE : 770-431-8666
WWW.ARCADIS.COM

CONSULTANTS

SEALS

GEORGIA REGISTERED 04-18-2025 NO. PE047681 PROFESSIONAL ENGINEER THOMAS H POWELL

FAYETTE COUNTY, GEORGIA
FAYETTE COUNTY WATER SYSTEM

FAYETTE County Water

FCWS - TRILITH TANK BOOSTER PUMP STATION

400 VETERANS PARKWAY, FAYETTEVILLE, GA 30214, UNITED STATES

REVISIONS

NO.	DATE	ISSUED FOR	BY
0	04/18/2025	ISSUED FOR BID	SA

PROJECT STATUS: 100% SUBMITTAL

PROJECT NO.:	30135792
DATE:	APRIL 2025
FILE NAME:	I-01
DESIGNED BY:	S. AYOADE
DRAWN BY:	M. ANDAVARAPU
CHECKED BY:	T. POWELL

SHEET TITLE

INSTRUMENTATION AND CONTROLS

INSTRUMENTATION SYMBOLS AND LEGENDS 1 OF 3

SCALE: NTS

I-01

SHEET 32 OF 37

VALVE & GATE IDENTIFICATION

TBD

VALVE & GATE SYMBOLS & ABBR.

FILLED IN VALVE SYMBOL (SOLID CIRCLE OR TRIANGLE) INDICATES NORMALLY CLOSED POSITION, OTHERWISE VALVE IS NORMALLY OPEN.

- AIR RELEASE VALVE (ARV)
- AIR/VACUUM VALVE (AV)
  COMBINATION AIR VALVE (CA)
- BALL VALVE (BV)
- BALL CHECK VALVE (BC)
- BUTTERFLY VALVE (BFV)
- BUTTERFLY VALVE (DIGESTER GAS SERVICE) OPEN/CLOSE APPLICATIONS (BD)
- BUTTERFLY VALVE (AIR SERVICE) OPEN/CLOSE APPLICATIONS (BR)
- HIGH PERFORMANCE BUTTERFLY VALVE - (DIGESTER GAS SERVICE) - MODULATING APPLICATIONS (HD)
- HIGH PERFORMANCE BUTTERFLY VALVE - (AIR SERVICE) - MODULATING APPLICATIONS (HR)
- CHECK VALVE/SWING CHECK VALVE (CV)
- CHECK VALVE (DIGESTER GAS SERVICE) (CD)
- CHECK VALVE (AIR SERVICE) (CR)
- AUTOMATIC ELECTRIC CHECK VALVE (CT)
- SWING FLAP VALVE (SF)
- RUBBER CHECK VALVE (RC)
- TELESCOPING VALVE (TV)
- DIAPHRAGM VALVE (DV)
- SUCTION FOOT VALVE (FV)
- THREE WAY VALVE (TW)
- FOUR WAY VALVE (FW)
- GLOBE VALVE (GL)
- GATE VALVE (GV)
- METAL SEATED GATE VALVE - SOLID WEDGE AND DOUBLE DISC TYPE (GM)
- RESILIENT SEATED GATE VALVE (GR)
- KNIFE GATE VALVE (KV)
- PLUG VALVE (PV)
- MUD VALVE (MD)
- NEEDLE VALVE (NV)
- PINCH VALVE (PI)
- AUTOMATIC PRESSURE REDUCING VALVE (PRV) (FLOW LEFT TO RIGHT)
- AUTOMATIC PRESSURE SUSTAINING VALVE (PSV) (FLOW LEFT TO RIGHT)
- 3-WAY VALVE WITH DIAPHRAGM
- RELIEF VALVE (RV)
- SOLENOID VALVE (SO)
  FO - FAIL OPEN
  FC - FAIL CLOSED
- SLUICE GATE (SL)
- SLIDE GATE (SG)
  SLIDE PLATE (SP)
- DAMPER (DM)

ACTUATOR IDENTIFICATION

TBD

ACTUATOR SYMBOLS & ABBR.

- ELECTRIC MOTOR ACTUATOR (E)
- PNEUMATIC ACTUATOR (P)
- HYDRAULIC ACTUATOR (H)
- SPRING ACTUATOR (S)
- SOLENOID ACTUATOR
  FO- FAIL OPEN
  FC-FAIL CLOSED

OPERATION TYPE ABBREVIATIONS

OC	OPEN / CLOSE
MD	MODULATING

SIGNAL TYPE ABBREVIATIONS

ANG	ANALOG
CNT	CONTROLNET
DCT	DRY CONTACT
DNT	DEVICENET
ENT	ETHERNET
FLB	FOUNDATION FIELD BUS
MOD	MODBUS

PIPING SYMBOLS

- CONCENTRIC REDUCER
- ECCENTRIC REDUCER (FLAT ON BOTTOM)
- ECCENTRIC REDUCER (FLAT ON TOP)
- Y STRAINER
- SINGLE BASKET STRAINER
- VENT
- HOSE BIB
- VACUUM BREAKER
- NOZZLE
- DIAPHRAGM SEAL, WITH ISOLATION VALVE
- INLINE SEAL, WITH ISOLATION VALVE

PIPING SYMBOLS (CONTINUED)

- EXPANSION TANK
- EXPANSION TANK (WITH RUPTURE DISC)
- PULSATION DAMPENER
- FLEXIBLE HOSE
- EXPANSION JOINT, METALLIC
- CALIBRATION COLUMN
- SAFETY SHOWER AND EYEWASH
- UNION
- BACKFLOW PREVENTER
- DOUBLE CHECK VALVE
- SEAL WATER
- DRAIN
- DRIP TRAP
- VACUUM BREAKER
- FLANGES
- BLIND FLANGE
- SCREW CAP
- HOSE CONNECTION QUICK CONNECT
- CAMLOCK CONNECTION
- ORIFICE PLATE

SCADA BLOCK DIAGRAM SYMBOLS AND ABBREVIATIONS

- COMPUTER WORKSTATION WITH SINGLE MONITOR, KEYBOARD, AND MOUSE
- COMPUTER WORKSTATION WITH DUAL MONITOR, KEYBOARD, AND MOUSE
- LAPTOP
- PRINTER
- WALL MOUNT MONITOR
- HMI — PANEL MOUNT INDUSTRIAL PC
- OIT — OPERATOR INTERFACE TERMINAL (OIT)
- PROGRAMMABLE LOGIC CONTROLLER (PLC)
- REMOTE I/O (R I/O)
- ES — ETHERNET SWITCH PANEL MOUNT (UNMANAGED TYPE)
- ES — ETHERNET SWITCH PANEL MOUNT (MANAGED TYPE)
- ES-* — RACK MOUNTED ETHERNET SWITCH. WHERE ASTERISK (*) INDICATES M: MANAGED OR U: UNMAMAGED
- BYPASS SWITCH
- KEYPAD/CARD READER
- RT — RADIO TRANSMITTER

SCADA BLOCK DIAGRAM SYMBOLS AND ABBREVIATIONS (CONTINUED)

- FPP-* — PANEL MOUNT FIBER PATCH PANEL (FPP)
- FPP-* — RACK MOUNTED FIBER PATCH PANEL (FPP). WHERE ASTERISK (*) INDICATES HARDWARE IDENTIFIER NUMBER
- SVR-* — RACK MOUNTED SERVER (SVR). WHERE ASTERISK (*) INDICATES HARDWARE IDENTIFIER NUMBER
- NVR — NETWORK VIDEO RECORDER (NVR)
- KVM — KEYBOARD, VIDEO MONITOR, AND MOUSE (KVM) SWITCH
- UPS-* — RACK MOUNTED UPS. WHERE ASTERISK (*) INDICATES HARDWARE IDENTIFIER NUMBER
- UPS-* — UNINTERRUPTABLE POWER SUPPLY (UPS)
- FRONT PANEL MOUNT NETWORK PORT
- X/X — CONVERTER

X/X =

B/E	BACNET / ETHERNET
C/E	CONTROLNET / ETHERNET
D/E	DEVICENET / ETHERNET
D/M	DEVICENET / MODBUS
D/PN	DEVICENET / PROFINET
M/B	MODBUS / BACNET
M/E	MODBUS / ETHERNET
M/PB	MODBUS / PROFIBUS
M/PN	MODBUS / PROFINET
PB/E	PROFIBUS / ETHERNET
PN/E	PROFINET / ETHERNET
S/E	SERIAL / ETHERNET

- CONTROLNET CONNECTOR MODULE
- F/C — FIBER TO COPPER CONVERTER
- ZZZZZ — CONTROL PANEL
  ZZZZZ - CONTROL PANEL NAME, SEE SYMBOLS AND LEGEND SHEET 1 FOR CONTROL PANEL IDENTIFICATION
- ZZZZZ — CONTROL PANEL WITH MAJOR DEVICES IDENTIFIED INSIDE PANEL LIMITS
- * — FACILITY/LOCATION LIMITS WHERE ASTERISK (*) INDICATES FACILITY OR LOCATION NAME
- FIXED CAMERA
- ANTENNA
- ### / X — NETWORK / TELEPHONE JACK
  ### INDICATES DEVICE NUMBER
  "X" INDICATES (S) SINGLE FUNCTION OR (M) MULTIFUNCTION
- TELEPHONE

MISCELLANEOUS SYMBOLS

- WATER SURFACE ELEVATION

CONTROL SCHEMATIC SYMBOLS

- CR# — CONTROL RELAY, WHERE # INDICATES CONTROL RELAY NUMBER
- CR# — CONTROL RELAY NORMALLY OPEN CONTACT
- CR# — CONTROL RELAY NORMALLY CLOSED CONTACT
- CIRCUIT BREAKER (CB)
- FLOAT SWITCH
- THERMISTOR
- X / X / XO / OX — SELECTOR SWITCH, WHERE X INDICATES SWITCH POSITION NAME. SEE SYMBOLS AND LEGEND SHEET 1 FOR SWITCH POSITION NAME IDENTIFIERS.
- GROUND
- TERMINAL BLOCKS

MISCELLANEOUS ABBREVIATIONS

ABBR	ABBREVIATION
AMB	AMBIENT
ATM	ATMOSPHERE
BEAR	BEARING
B/O	BY OWNER
CHR	CHARGER
CONT'D	CONTINUED
DIFF	DIFFERENTIAL
DWG	DRAWING
EESS	EMERGENCY EYEWASH AND SHOWER STATION
EES	EMERGENCY EYEWASH STATION
ES	ETHERNET SWITCH
ESS	EMEGENCY SHOWER STATION
FLR	FLOOR
FREQ	FREQUENCY
GND	GROUND
HARM	HARMONICS
HVAC	HEATING VENTILATION AND AIR CONDITIONING
KW	KILOWATTS
LCP	LOCAL CONTROL PANEL
LCS	LOCAL CONTROL STATION
LEL	LOWER EXPLOSIVE LIMIT
MALF	MALFUNCTION
MAX	MAXIMUM
MCC	MOTOR CONTROL CENTER
MIN	MINIMUM
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
NTS	NOT TO SCALE
NVR	NETWORK VIDEO RECORDER
O/C	OPEN/CLOSE
OL	OVERLOAD
%	PERCENTAGE
POSI	POSITION
PRI	PRIMARY
PRESS	PRESSURE
SEC	SECONDARY
TBD	TO BE DETERMINED
TEMP	TEMPERATURE
THD	TOTAL HARMONIC DISTORTION
TYP	TYPICAL
UPS	UNITERRUPTIBLE POWER SUPPLY
VA	VOLTAMPS
VFD	VARIABLE SPEED DRIVE
WC	WATER COLUMN

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ARCADIS U.S., INC.
2839 PACES FERRY ROAD
SUITE 1000 ATLANTA, GA 30339
PHONE : 770-431-8666
WWW.ARCADIS.COM

CONSULTANTS

SEALS

GEORGIA REGISTERED 24-18-8423 NO. PE/NTAR PROFESSIONAL ENGINEER THOMAS H POWELL

FAYETTE COUNTY, GEORGIA
FAYETTE COUNTY WATER SYSTEM

FAYETTE County Water

FCWS - TRILITH TANK BOOSTER PUMP STATION

400 VETERANS PARKWAY,
FAYETTEVILLE, GA 30214,
UNITED STATES

REVISIONS

NO.	DATE	ISSUED FOR	BY
0	04/18/2025	ISSUED FOR BID	SA

PROJECT STATUS: 100% SUBMITTAL

PROJECT NO.: 30135792
DATE: APRIL 2025
FILE NAME: I-02
DESIGNED BY: S. AYOADE
DRAWN BY: M. ANDAVARAPU
CHECKED BY: T. POWELL

SHEET TITLE

INSTRUMENTATION AND CONTROLS

INSTRUMENTATION SYMBOLS AND LEGENDS 2 OF 3

SCALE: NTS

I-02

SHEET 33 OF 37

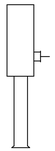
EQUIPMENT SYMBOLS

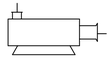

CENTRIFUGAL PUMP


METERING PUMP


SUBMERSIBLE PUMP (DRY WELL)


SUBMERSIBLE PUMP (WET WELL)


VERTICAL TURBINE PUMP


PROGRESSIVE CAVITY PUMP


ROTARY LOBE PUMP


ROTARY VANE PUMP


DIAPHRAGM PUMP


POSITIVE DISPLACEMENT COMPRESSOR


COMPRESSOR, PISTON TYPE


BLOWER, CENTRIFUGAL


BLOWER, ROTARY LOBE


TURBO BLOWER

HORIZONTAL MOTOR

VERTICAL MOTOR

EQUIPMENT SYMBOLS (CONTINUED)


CENTRIFUGAL FAN


GRINDER


TURBO CHARGER

HEATING ELEMENT


AXIAL/MIXED FLOW PUMP


CHLORINE INJECTOR

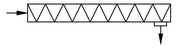

WEIR

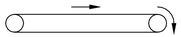

GRIT SCREW

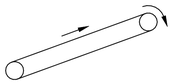

MANUAL SCREEN


MECHANICAL SCREEN

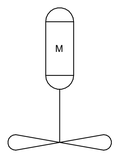

FINE SCREEN


SCREW CONVEYOR


BELT CONVEYOR


BELT CONVEYOR, INCLINED


AERATOR



MIXER

EQUIPMENT SYMBOLS (CONTINUED)

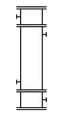

POSITIVE DISPLACEMENT GEAR PUMP


VENTURI PUMP


CHILLER


FILTER, CARTRIDGE


FILTER, COALESCING


HEAT EXCHANGER (SHELL AND TUBE)

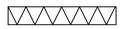

HEAT EXCHANGER (PLATE AND FRAME)


FLAME ARESSTER

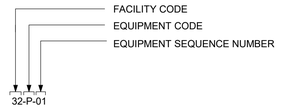

FLEXIBLE JOINT


AIR DRYER

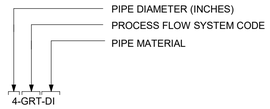

PRESSURIZED TANK


STATIC MIXER OR INLINE MIXER

EQUIPMENT IDENTIFICATION



LINE IDENTIFICATION



LINE IDENTIFICATION ABBREIVATIONS

BS	BLACK STEEL
CU	COPPER
CPVC	CHLORINATED POLYVINYL CHLORIDE
CS	CARBON STEEL
DIP	DUCTILE IRON
PVC	POLYVINYL CHLORIDE
RPVC	REINFORCED PVC FLEXIBLE HOSE
SSTL	STAINLESS STEEL
ST	STEEL

EQUIPMENT DESIGNATIONS

COMP	COMPRESSOR
DT	DAY TANK
DTM	DRAFT TUBE MIXER
ENG	ENGINE
M	MOTOR
P	PUMP
SK	STORAGE TANK
T	TANK

PROCESS MEDIUM

AIR	AIR, ATMOSPHERIC
ALP	AIR (LOW PRESSURE PROCESS)
CA	COMPRESSED AIR
DG	DIVERTER GATE
DR	DRAIN
HO	HYDRAULIC OIL
HPW3	HIGH PRESSURE PLANT WATER
IA	AIR, INSTRUMENT SUPPLY
LS	LEVEL SENSOR
NPW	NON-POTABLE WATER
OF	OVERFLOW
PA	AIR, PROCESS
PAI	AIR INTAKE, PROCESS
POT	POTABLE WATER
SAM	SAMPLE
SAN	SANITARY
STA	STARTING AIR
SW	SERVICE WATER
URE	UREA SOLUTION
VAC	VACUUM
VT	VENT
VTC	VENT, CHEMICAL

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LEGAL ENTITY:
ARCADIS U.S., INC.
2839 PACES FERRY ROAD
SUITE 1000 ATLANTA, GA 30339
PHONE : 770-431-8666
WWW.ARCADIS.COM

CONSULTANTS

SEALS

FAYETTE COUNTY, GEORGIA

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400 VETERANS PARKWAY,
FAYETTEVILLE, GA 30214,
UNITED STATES

REVISIONS

NO.	DATE	ISSUED FOR	BY
0	04/18/2025	ISSUED FOR BID	SA

PROJECT STATUS: 100% SUBMITTAL

PROJECT NO.: 30135792
DATE: APRIL 2025
FILE NAME: I-03
DESIGNED BY: S. AYOADE
DRAWN BY: M. ANDAVARAPU
CHECKED BY: T. POWELL

SHEET TITLE

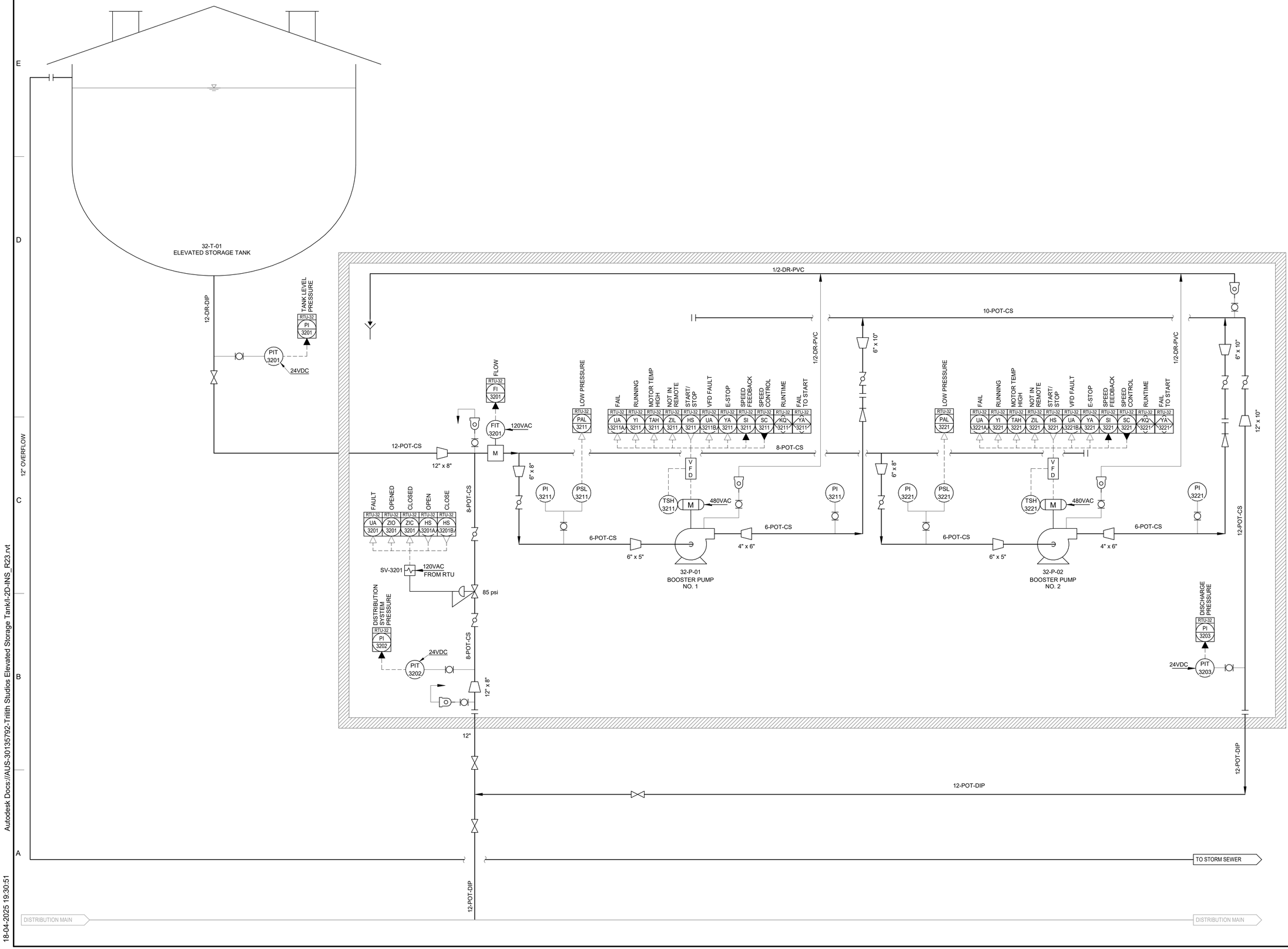
INSTRUMENTATION AND CONTROLS

INSTRUMENTATION SYMBOLS AND LEGENDS 3 OF 3

SCALE: NTS

I-03

SHEET 34 OF 37



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ARCADIS U.S., INC.
2839 PACES FERRY ROAD
SUITE 1000 ATLANTA, GA 30339
PHONE : 770-431-8666
WWW.ARCADIS.COM

CONSULTANTS

SEALS

GEORGIA REGISTERED 034-18-0433 No. PE/INTERN PROFESSIONAL ENGINEER THOMAS H POWELL

FAYETTE COUNTY, GEORGIA
FAYETTE COUNTY WATER SYSTEM

FAYETTE County Water

FCWS - TRILITH TANK BOOSTER PUMP STATION

400 VETERANS PARKWAY,
FAYETTEVILLE, GA 30214,
UNITED STATES

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DESIGNED BY:	S. AYOADE
DRAWN BY:	M. ANDAVARAPU
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INSTRUMENTATION AND CONTROLS

ELEVATED WATER STORAGE TANK P&ID

SCALE: NTS

I-04

SHEET 35 OF 37

Autodesk Docs://AUS-30135792-Trilith Studios Elevated Storage Tank/I-2D-INS_R23.rvt

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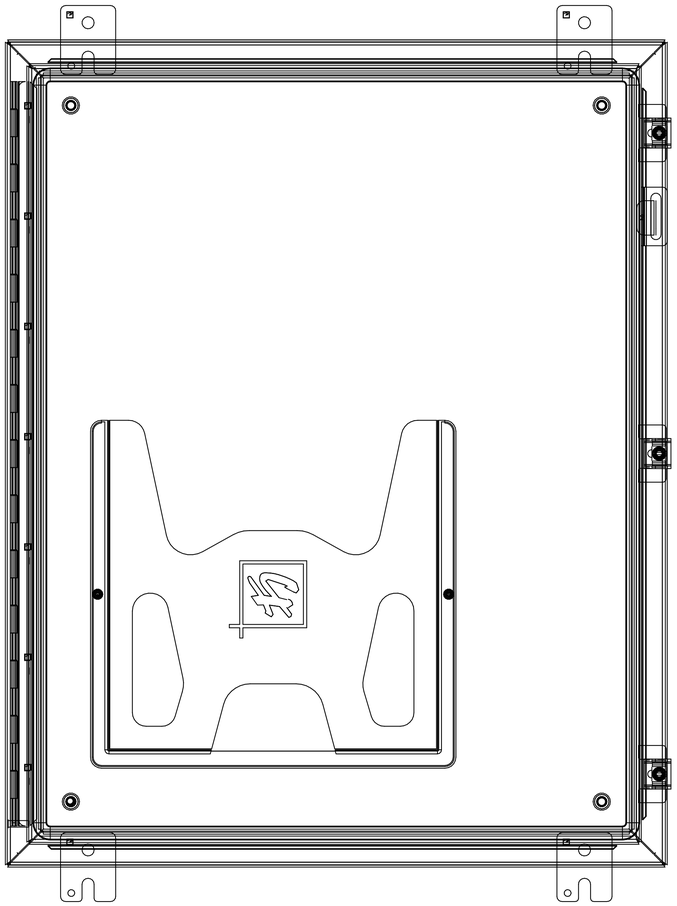
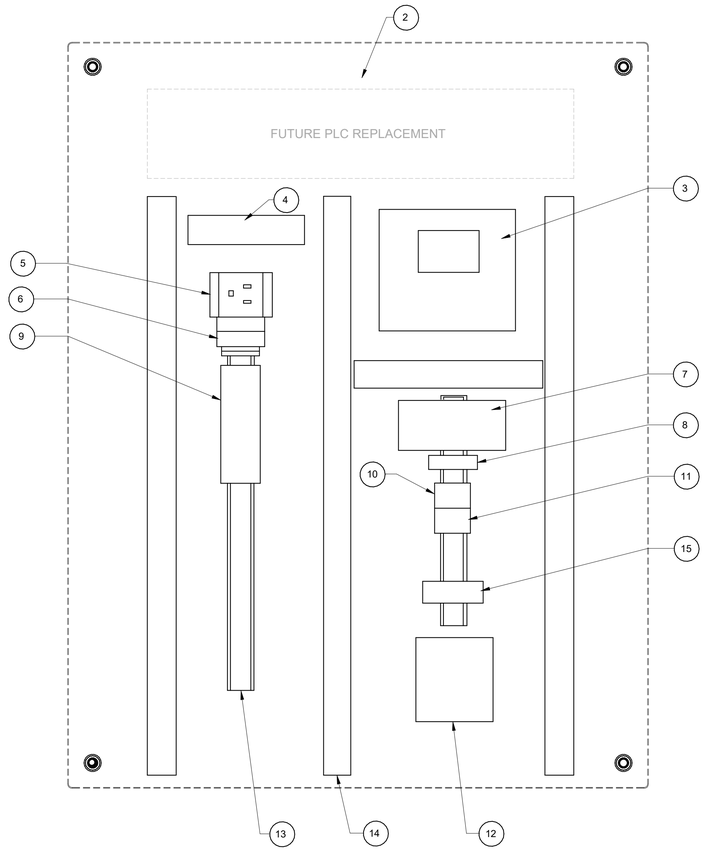


FRONT VIEW



BACK PANEL VIEW

BILL OF MATERIAL	
S.NO	DESCRIPTION
1	NEMA 4X ENCLOSURE WALL MOUNT
2	BACK PANEL
3	HORNER
4	RADIO MODEM
5	RECEPTACLE
6	120V CIRCUIT BREAKER
7	24VDC POWER SUPPLY
8	SURGE PROTECTION (120V)
9	RELAYS
10	TERMINAL BLOCKS
11	GROUNDING TERMINAL BLOCKS
12	BACK UP POWER
13	DIN RAIL
14	WIRE TRAY
15	HEATER

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SUITE 1000 ATLANTA, GA 30339
PHONE : 770-431-8666
WWW.ARCADIS.COM

CONSULTANTS

SEALS

GEORGIA REGISTERED 034-18-0433 No. PE034708 PROFESSIONAL ENGINEER THOMAS H POWELL

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FAYETTE COUNTY WATER SYSTEM

FAYETTE County Water

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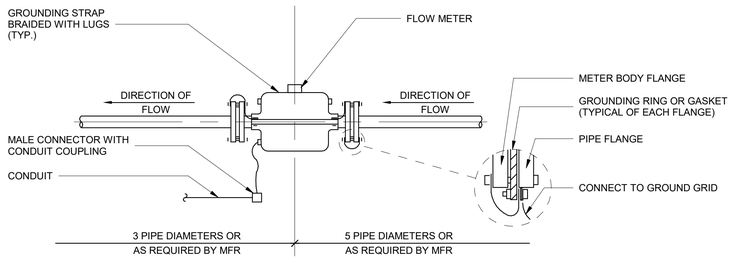
INSTRUMENTATION AND CONTROLS

RTU CONTROL PANEL DETAIL

SCALE: NTS

I-05

SHEET 36 OF 37



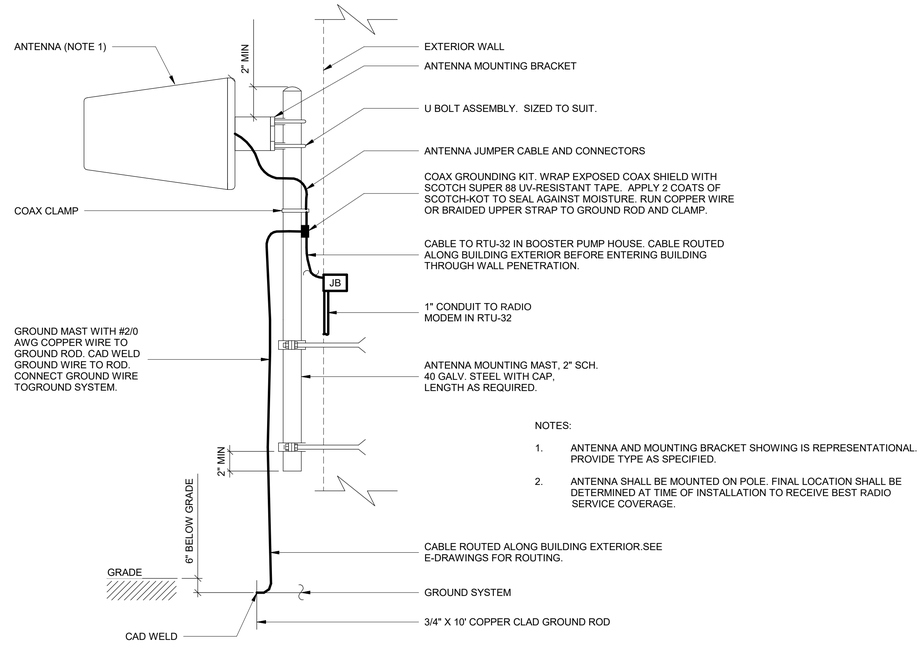
NOTES:

1. FLOW METER DETAIL SHOWN SHALL BE USED FOR BOTH ELECTRICALLY NON-CONDUCTIVE AND CONDUCTIVE TYPE PIPELINES.
2. BOND MAGNETIC FLOW METER TO ONE OF THE FOLLOWING ACCEPTABLE GROUNDS:
   . METALLIC WATER PIPE IF BURIED PORTION IS MORE THAN 10 FEET.
   . STRUCTURAL STEEL
3. GROUND WIRE SHALL BE NO. 12AWG INSULATED. IF LENGTH OF GROUND WIRE IS MORE THAN 6 FEET, INSTALL CONDUCTOR IN 3/4" CONDUIT.
4. SIGNAL CABLE SHALL BE INSTALLED IN CONDUIT. CONDUIT NOT SHOWN
5. PROVIDE POWER TO TRANSMITTER.
6. ENSURE CONDUIT CONNECTIONS TO DEVICE IS ADEQUATELY SEALED SUCH THAT SUBMERGENCE WILL NOT ALLOW WATER TO ENTER INTO CONDUIT OR INSTRUMENT.
7. A NON-CONDUCTIVE SILICON OIL SHALL BE USED TO FILL THE CONDUIT RUN. ALTERNATIVELY AN APPROPRIATE POTTING MAY BE USED TO FILL THE CONDUIT RUN TO OCCUPY THE SPACE IN WHICH CONDENSATION WILL BE NORMALLY FORMED. USE PROPERLY POTTED CONNECTIONS OR SEALED GLAND. ALL SUITABLE FOR SUBMERGENCE (MINIMUM 6FT OF SUBMERGENCE).

1 MAGNETIC FLOW METER INSTALLATION DETAIL

I-06

SCALE: NTS



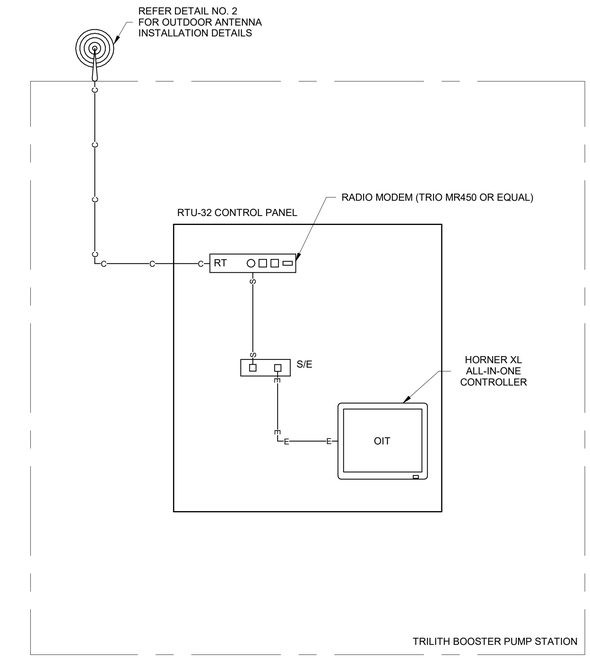
NOTES:

1. ANTENNA AND MOUNTING BRACKET SHOWING IS REPRESENTATIONAL. PROVIDE TYPE AS SPECIFIED.
2. ANTENNA SHALL BE MOUNTED ON POLE. FINAL LOCATION SHALL BE DETERMINED AT TIME OF INSTALLATION TO RECEIVE BEST RADIO SERVICE COVERAGE.

2 OUTDOOR ANTENNA INSTALLATION DETAIL

I-06

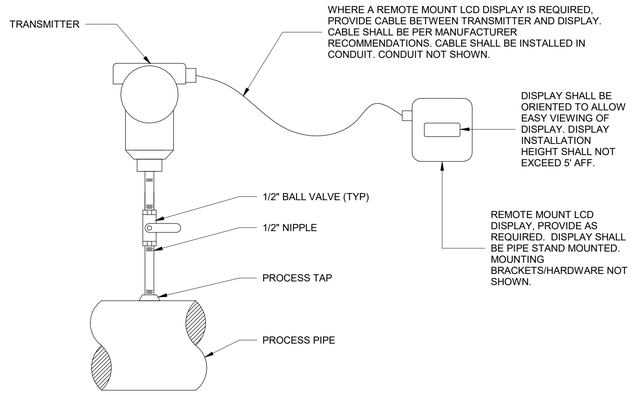
SCALE: NOT TO SCALE



3 PUMP STATION NETWORK BLOCK DIAGRAM

I-06

SCALE: NTS



NOTES:

1. SEE SPECIFICATIONS FOR SIZE OF INSTRUMENT PROCESS CONNECTION.
2. INSTRUMENT VALVE AND PIPE ASSEMBLY SHOWN PROVIDED AND INSTALLED BY PCSS.
3. PCSS SHALL BE RESPONSIBLE TO TERMINATE ELECTRICAL WIRING AT INSTRUMENT.
4. ALL VALVES AND FITTINGS SHALL BE 316 S.S.

4 PRESSURE TRANSDUCER INSTALLATION DETAILS

I-06

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SUITE 1000 ATLANTA, GA 30339
PHONE : 770-431-8666
WWW.ARCADIS.COM

CONSULTANTS

SEALS

GEORGIA REGISTERED 04-18-2025 No. PE047049 PROFESSIONAL ENGINEER THOMAS H POWELL

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INSTRUMENTATION AND CONTROLS

INSTRUMENTATION DETAILS

SCALE: NOT TO SCALE

I-06

SHEET 37 OF 37