MEMORANDUM – ADDENDUM NO. 1

To: Interested Vendors

From: Cindy Clack

Date: 10/31/2025

Re: RFB2026-08 Rebid Northwest Elevated Water Storage Tank -- Addendum No 1 (Total of 19 pages)

Please see below for questions/answers that have been received to date.

Questions/Answers:

Q1. ***We understand the utility contractor license requirement is to remain. We just want to clarify that only our subcontractor performing the underground work has to have this license? We have a general contractor license in all states but since we don't do underground work only our sub would carry the utility license.***

A1. A Georgia Utility Contractor License is required for any entity performing underground utility construction such as water lines, sewer lines, storm drains, or related appurtenances.
If the prime contractor does not self-perform any of this underground utility work, then only the subcontractor actually performing that portion of the work must hold a valid Georgia Utility Contractor License. Your company's General Contractor License would be sufficient for the elevated water tank construction, foundation, and other work not involving underground utility installation. Please note that the licensed utility subcontractor must have a designated Utility Manager in responsible charge of the utility work as required by O.C.G.A 43-14-8.2. This individual must be actively involved in and provide direct supervision over the field operations for that portion of the project. The prime contractor remains responsible for verifying that all subcontractors are properly licensed and in good standing and for ensuring compliance throughout the project. The licensed utility subcontractor's name, license number, and Utility Manager in responsible charge shall be included with the bid response and verified prior to mobilization for the County's records.

Q2. ***What is the intent of section 21 (OWNER's Options To Purchase Materials)? Pricing will change drastically if we are not responsible for our material orders. After discussion with our President, we will have to understand this section more before determining if we will submit a bid.***

A2. There will be no owner purchased materials on this project, therefore this section is not applicable.

Q3. ***Can you confirm that the utility license is only required for piping? We have located a subcontractor for piping but prefer a familiar subcontractor to handle the foundation work.***

A3. See the answer for Question 1.

Q4. ***I'm doing my take-off for the rebid and the only change I noticed is the electrical work was removed. Is this correct? Will someone else be doing the electrical work?***

A4. The electrical work is still included. See plans attached. The attached plan set is the same as the original issued for bid plans – The Issued for Approval set should not have been in the project manual.

Attachments:

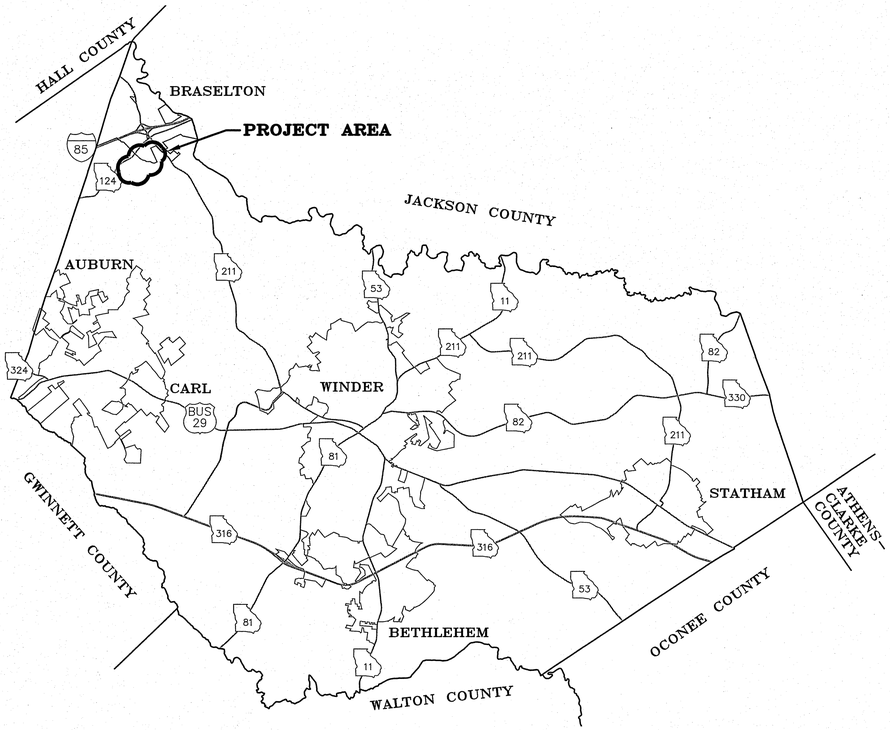
- Barrow NW Tank Plans (18 Pages)

BARROW NORTHWEST ELEVATED WATER STORAGE TANK

FOR THE

BARROW COUNTY BOARD OF COMMISIONERS

PPI PROJECT NUMBER E23136



BARROW COUNTY

PROJECT LOCATION

N.T.S.

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ELECTRICAL INSTALLATION DETAILS	E5-E6

Board of Commissioners

30 NORTH BROAD ST.
WINDER, GA 30680
PHONE: 770.307.3001

Prepared by:

PRECISION Planning Inc.

planners • engineers • architects • surveyors

802 East Spring Street, Monroe, Ga 30655
770.267.8800 • www.ppi.us

GEORGIA REGISTERED NO. 28643 PROFESSIONAL 8/15/25 ENGINEER RICHARD H. CROWDER

TOTAL SITE AREA	2.65
TOTAL DISTURBED AREA	1.26

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24-HOUR CONTACT
DEAN GARRETT
UTILITIES MANAGER
(770) 307-3014

NO.	REVISION DESCRIPTION	DATE
0	ISSUED FOR BID	08/05/25

DATE: 08/05/25 CLIENT/PPI NO. E23136
BARROW NORTHWEST ELEVATED WATER STORAGE TANK
ISSUED FOR BID

PLOT DATE: 8/5/2025 9:33 AM FILE PATH: W:\PROJECTS\2023\23136-WR-BARROW NW TANK\DWG\23136_C001_COVER PAGE.DWG - 2025-08-05 - DYLAN PARKER

GENERAL NOTES

1. OWNER: BARROW COUNTY
BOARD OF COMMISSIONERS
30 NORTH BROAD STREET
WINDER, GA 20680
CONTACT: MR. DEAN GARRETT
PHONE: (770) 307-3014

2. ENGINEER: PRECISION PLANNING, INC.
400 PIKE BLVD.
LAWRENCEVILLE, GA 30046
CONTACT: MR. RICH CROWDER, P.E.
PHONE: (770) 338-8161

3. LOCATION OF LOT LINES, PROPERTY LINES, RIGHT-OF-WAY LINES, AND OTHER LAND DIVISION REFERENCES WERE OBTAINED FROM RECORDED DATA AND LAND USE OBSERVATIONS. THE LAND DIVISIONS WERE NOT FIELD CHECKED. THEREFORE, THEY MUST ONLY BE CONSIDERED TO APPROXIMATELY REPRESENT THE ACTUAL LAND DIVISIONS, PROPERTY AND/OR EASEMENTS.

4. THE CONTRACTOR SHALL NOTIFY EACH INDIVIDUAL UTILITY OWNER OF HIS PLAN OF OPERATION IN THE AREA OF WORK. PRIOR TO COMMENCING WORK, THE CONTRACTOR SHALL CONTACT THE UTILITY OWNERS AND REQUEST THEM TO PROPERLY LOCATE THEIR RESPECTIVE UTILITY ON THE GROUND. THIS NOTIFICATION SHALL BE GIVEN AT LEAST THREE BUSINESS DAYS PRIOR TO COMMENCEMENT OF WORK.

5. CONTRACTOR TO NOTIFY THE UTILITY PROTECTION AGENCY 72 HOURS PRIOR TO START OF WORK. PHONE 811.

6. THE CONTRACTOR SHALL BE FINANCIALLY RESPONSIBLE FOR THE ADJUSTMENT OR RELOCATION OF ALL EXISTING UTILITIES. ALL COSTS AND/OR FEES RESULTING FROM UTILITY ADJUSTMENT OR RELOCATION SHALL BE PAID FOR BY THE CONTRACTOR.

7. CONTRACTOR SHALL VERIFY LOCATION AND ELEVATION OF ALL UTILITIES PRIOR TO EXCAVATION OR DEMOLITION. ADDITIONAL UTILITIES MAY NOT BE SHOWN ON THESE PLANS. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR LOCATIONS SHOWN.

8. IF THE CONTRACTOR DAMAGES ANY EXISTING UTILITIES DURING CONSTRUCTION, HE SHALL, AT HIS OWN EXPENSE, HAVE REPLACED OR REPAIRED THE UTILITIES TO THEIR ORIGINAL OR BETTER CONDITION AND QUALITY, AS APPROVED BY THE OWNER AND REPRESENTATIVE OF THE APPROPRIATE UTILITY COMPANY. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CONTACTING ALL AFFECTED UTILITIES PRIOR TO SUBMITTING HIS BID IN ORDER TO DETERMINE THE EXTENT TO WHICH UTILITY RELOCATIONS AND/OR ADJUSTMENT WILL AFFECT THE SCHEDULING OF WORK FOR THE PROJECT. SOME UTILITY FACILITIES MAY NEED TO BE ADJUSTED CONCURRENTLY WITH THE CONTRACTOR'S OPERATIONS, WHILE SOME WORK MAY BE REQUIRED AROUND UTILITY FACILITIES THAT WILL REMAIN IN PLACE. IT IS UNDERSTOOD AND AGREED THAT THE CONTRACTOR WILL RECEIVE NO ADDITIONAL COMPENSATION FOR ANY DELAYS OR INCONVENIENCE CAUSED BY THE UTILITY ADJUSTMENTS.

9. CONTRACTOR IS TO MEET ALL LOCAL UTILITY COMPANY REGULATIONS IN ANY READJUSTMENT OR RELOCATION OF EXISTING SERVICES.

10. A MINIMUM HORIZONTAL SEPARATION OF 10' SHALL BE MAINTAINED BETWEEN WATER LINES AND SANITARY SEWER LINES. AN 18" MINIMUM VERTICAL SEPARATION SHALL BE MAINTAINED AT CROSSINGS OF WATER AND SEWER LINES. WHEN CROSSING A WATER LINE, SEWER LINE, OR ANY OTHER PIPING, PIPE JOINTS SHALL BE PLACED AS FAR AWAY AS POSSIBLE FROM THE OTHER PIPE.

11. CONTRACTOR MAY TEMPORARILY RELOCATE CREEKS, STREAMS, BRANCHES OR DITCHES WITHIN THE EASEMENTS AT HIS EXPENSE USING PROPER EROSION CONTROL MEASURES, IF AUTHORIZED BY THE APPLICABLE REGULATORY AGENCY AND THE OWNER.

12. ALL CONSTRUCTION STAKING SHALL BE BY THE CONTRACTOR AT HIS EXPENSE.

13. WHEN CONSTRUCTION INVOLVES THE REMOVAL OF FENCE, POLES, SIDEWALKS, DRIVES, TEMPORARY OR FIXED STRUCTURES; THE CONTRACTOR AT HIS EXPENSE SHALL PROVIDE FOR TEMPORARY SERVICE OR CONTAINMENT TO THE AFFECTED PROPERTY, AND SHALL REPLACE SUCH ITEMS WITH SIMILAR OR BETTER MATERIALS AS SOON AS PRACTICAL OR AS DIRECTED BY THE OWNER FOLLOWING UTILITY INSTALLATION.

14. THE CONTRACTOR SHALL RESTORE OR HAVE RESTORED, AT HIS EXPENSE, ALL EXISTING FACILITIES WHICH HAVE BEEN DAMAGED DUE TO HIS CONSTRUCTION ACTIVITIES, TO THE ORIGINAL OR BETTER CONDITION. THE CONTRACTOR SHALL UTILIZE THE SAME MATERIAL COMPOSITION AS EXISTING TO REPLACE THE EXISTING FACILITIES UNLESS APPROVED OTHERWISE BY THE OWNER.

15. ALL NEW WATER MAINS ARE TO BE INSPECTED, TESTED, AND DISINFECTED PRIOR TO THE CONNECTION OF ANY SERVICES.

16. SEE SHEET 08 FOR SOIL EROSION AND SEDIMENT CONTROL NOTES AND LEGEND.

17. PEDESTRIAN AND LOCAL VEHICULAR TRAFFIC SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION. SAFETY DEVICES AND FLAGMEN SHALL BE PROVIDED BY THE CONTRACTOR AT HIS EXPENSE. WRITTEN PERMISSION TO CLOSE THE CONSTRUCTION AREA TO TRAFFIC MUST BE OBTAINED FROM THE APPROPRIATE GOVERNMENT AGENCY PRIOR TO THE CLOSING. ALL LOCAL EMERGENCY SERVICES SHALL BE NOTIFIED IN WRITING A MINIMUM 72 HOURS PRIOR TO ROAD CLOSINGS.

GENERAL NOTES (CONT.)

18. DURING CONSTRUCTION THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING TEMPORARY TRAFFIC CONTROL MEASURES TO ENSURE SAFETY AT ALL TIMES FOR EMPLOYEES, RESIDENTS, AND MOTORISTS, IN ACCORDANCE WITH THE 'MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES', ANSI D6.1, LATEST REVISION.

19. ALL EARTHWORK OPERATIONS SHALL COMPLY WITH THE REQUIREMENTS OF OSHA 29 CFR PART 1926, SUBPART P-EXCAVATIONS, LATEST REVISION, AND SHALL BE CONDUCTED IN A MANNER ACCEPTABLE TO OWNER.

20. ALL WATER MAIN PIPE MATERIALS SHALL BE DUCTILE IRON PIPE, IN ACCORDANCE WITH THE TECHNICAL SPECIFICATIONS. BEDDING FOR ALL PIPING SHALL BE TYPE 2 UNLESS OTHERWISE DIRECTED.

21. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PAINTING OF THE PROJECT STATIONING ALONG THE EDGE OF THE ROADWAY.

22. LOCATIONS SHOWN FOR FIRE HYDRANTS, VALVES, AND APPURTENANCES MAY BE FIELD ADJUSTED BY THE OWNER PRIOR TO INSTALLATION TO ACCOMMODATE EXISTING FIELD CONDITIONS.

23. HORIZONTAL PIPE BENDS/FITTINGS NOTED ON PLANS ARE TO ASSIST THE CONTRACTOR WITH THE HORIZONTAL ALIGNMENT OF THE WATER MAIN(S), AND IS NOT INTENDED TO DEPICT ALL NECESSARY HORIZONTAL BENDS/FITTINGS TO CONSTRUCT THE WATER MAIN.

BARROW COUNTY STANDARD WATER NOTES

1. ALL WATER SYSTEM IMPROVEMENTS MUST BE INSTALLED IN STRICT ACCORDANCE WITH THE BARROW COUNTY WATER DEPARTMENT POLICIES AND STANDARDS, DATED OCTOBER 2021.

2. ALL WATER MAIN PIPING 4" DIAMETER TO 12" DIAMETER SHALL BE PRESSURE CLASS 350 DUCTILE IRON PIPE (DIP). ALL WATER MAIN PIPING 14" DIAMETER TO 20" DIAMETER SHALL BE PRESSURE CLASS 300 DIP.

3. ALL WATER MAINS SHALL HAVE A MINIMUM COVER OF 4' OF COMPACTED FILL ABOVE THE TOP OF THE PIPE.

4. ALL WATER SERVICE LINES SHALL BE COPPER, AND REQUIRE AN INDIVIDUAL TAP ON THE MAIN. DOUBLE SPLIT SERVICES ARE NOT PERMITTED. LONG SIDE SERVICES ALSO REQUIRE A 2-INCH PVC CASING UNDER THE PAVEMENT. REFERENCE STANDARD DETAIL W05.

5. ALL VALVES SHALL BE INSTALLED IN THE SHOULDER OF THE ROADWAY. EVEN IF GRAPHICALLY DEPICTED ON THE PLANS DUE TO SCALING, NO VALVES SHALL BE INSTALLED IN THE PAVEMENT OR IN A SIDEWALK.

6. FIRE HYDRANTS SHALL GENERALLY BE LOCATED AT INTERVALS NO TO EXCEED 500 FEET. INLINE VALVES SHALL BE LOCATED AT INTERVALS NOT TO EXCEED 1,000 FEET WITHIN A RESIDENTIAL SUBDIVISION.

7. THE CONTRACTOR SHALL SCHEDULE AND COORDINATE A PRE-CONSTRUCTION MEETING WITH BARROW COUNTY WATER DEPARTMENT PERSONNEL AT LEAST 7 DAYS PRIOR TO BEGINNING WORK.

OBSTRUCTIONS ENCOUNTERED:

IN ADDITION TO SHOWING THE STRUCTURES TO BE BUILT FOR THIS PROJECT, THE DRAWINGS SHOW CERTAIN INFORMATION OBTAINED BY THE ENGINEER REGARDING THE PIPES, POLE LINES, CONDUITS AND OTHER STRUCTURES WHICH EXIST ALONG THE LINE OF THE WORK, BOTH AT AND BELOW THE SURFACE OF THE GROUND. THE ENGINEER AND THE OWNER EXPRESSLY DISCLAIM ANY RESPONSIBILITY FOR THE ACCURACY OR COMPLETENESS OF THE INFORMATION GIVEN ON THE DRAWINGS WITH REGARD TO EXISTING STRUCTURES, AND THE CONTRACTOR WILL NOT BE ENTITLED TO ANY EXTRA COMPENSATION ON ACCOUNT OF INACCURACY OR INCOMPLETENESS OF SUCH INFORMATION, SAID STRUCTURES BEING INDICATED ONLY FOR THE CONVENIENCE OF THE CONTRACTOR, WHO MUST VERIFY THE INFORMATION TO HIS OWN SATISFACTION. THE GIVING OF THIS INFORMATION UPON THE CONTRACT DRAWINGS WILL NOT RELIEVE THE CONTRACTOR OF HIS OBLIGATION TO SUPPORT AND PROTECT ALL PIPES, CONDUITS, AND OTHER STRUCTURES WHICH MAY BE ENCOUNTERED DURING THE CONSTRUCTION OF WORK, AND TO MAKE GOOD ALL DAMAGES DONE TO SUCH PIPES, CONDUITS, AND OTHER STRUCTURES, AS PROVIDED IN THESE SPECIFICATIONS. THE CONTRACTOR SHALL LOCATE ALL UNDERGROUND OBSTRUCTIONS PRIOR TO EXCAVATION SO AS TO PREVENT DAMAGE TO THOSE SERVICES OR OTHER UTILITIES. ANY SUCH DAMAGES MUST BE REPAIRED WITHOUT DELAY AND THE COST OF SUCH REPAIRS SHALL BE PAID FOR BY THE CONTRACTOR.

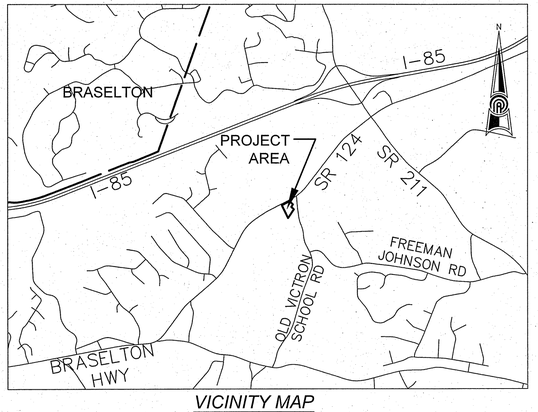
ALL CONSTRUCTION METHODS, PROCEDURES AND MATERIALS SHALL CONFORM TO THE BARROW COUNTY WATER AND SEWERAGE AUTHORITY CONSTRUCTION STANDARDS AND SPECIFICATIONS.

WATER MAINS AND APPURTENANCES MUST BE COMPLETELY INSTALLED, FLUSHED, AND DISINFECTED WITH SATISFACTORY BACTERIOLOGICAL SAMPLE RESULTS RECEIVED PRIOR TO PERMANENT CONNECTIONS BEING MADE TO THE EXISTING WATER SYSTEM OR SERVICE CONNECTIONS ACTIVATED TO INDIVIDUAL WATER CUSTOMERS. SANITARY CONSTRUCTION PRACTICES MUST BE FOLLOWED DURING INSTALLATION OF THE FINAL CONNECTION, SO THAT THERE IS NO CONTAMINATION OF THE NEW OR EXISTING WATER MAIN WITH FOREIGN MATTER OR GROUNDWATER.

24 HR CONTACT
DEAN GARRETT
UTILITIES MANAGER
PH: (770) 307-3014

LEGEND

EXISTING	LEGEND	NEW
W W	WATER	W W
SS SS	SANITARY SEWER	N.A.
FM FM	FORCE MAIN	N.A.
G G	GAS LINE	N.A.
UP UP	UNDERGROUND POWER	N.A.
UT UT	UNDERGROUND TELEPHONE	N.A.
	ROAD CENTERLINE	
	EDGE OF PAVEMENT	N.A.
	EDGE OF GRAVEL DRIVE	N.A.
	GUARDRAIL	N.A.
X X	FENCE	X X X
	TREE LINE	N.A.
	CREEK CENTERLINE	N.A.
	DITCH CENTERLINE	
	STORM DRAIN	
500	CONTOUR	500
	RIGHT-OF-WAY	N.A.
	PERMANENT EASEMENT	
N.A.	TEMPORARY CONSTRUCTION EASEMENT	
	PROPERTY LINE	N.A.
	25' STREAM BUFFER	N.A.
	50' STREAM BUFFER	N.A.
	75' STREAM BUFFER	N.A.
	100-YR FLOOD LIMITS	N.A.
	POWER POLE	N.A.
	GUY WIRE	N.A.
	SEWER MANHOLE	N.A.
	WATER VALVE	
	FIRE HYDRANT	
	WATER METER	N.A.
	TELEPHONE PEDESTAL	N.A.
	AIR RELEASE VALVE	N.A.
	IRON PIN	N.A.
	SIGN	N.A.
	TREE	N.A.
	RIP RAP	
	WETLANDS	N.A.
	BUILDING	
	CONCRETE PAVING	N.A.
	ASPHALT PAVING	
	GRAVEL	



VICINITY MAP
N.T.S.

ABBREVIATIONS

ARV	AIR RELEASE VALVE	HDWL	HEADWALL
BOC	BACK OF CURB	I.E.	INVERT ELEVATION
BM	BENCHMARK	IPF	IRON PIN FOUND
CB	CATCH BASIN	JB	JUNCTION BOX
CF	CUBIC FEET	LF	LINEAR FOOT
℄	CENTER LINE	MH	MANHOLE
CMP	CORRUGATED METAL PIPE	N.A. or N/A	NOT APPLICABLE
CO	CLEAN OUT	N/F	NOW OR FORMERLY
CY	CUBIC YARD	PERM.	PERMANENT
D.E.	DRAINAGE EASEMENT	P℄	PROPERTY LINE
DI	DROP INLET	PP	POWER POLE
DIA.	DIAMETER	PUE	PERMANENT UTILITY EASEMENT
DIP	DUCTILE IRON PIPE	PVC	POLYVINYL CHLORIDE PIPE
D/W	DRIVEWAY	RCP	REINFORCED CONCRETE PIPE
ESMT	EASEMENT	R/W	RIGHT-OF-WAY
ELEV.	ELEVATION	SSE	SANITARY SEWER EASEMENT
EOP	EDGE OF PAVEMENT	STA.	STATION
EX.	EXISTING	TBM	TEMPORARY BENCHMARK
FES	FLARED END SECTION	TCE	TEMPORARY CONSTRUCTION EASEMENT
FFE	FINISHED FLOOR ELEVATION		
FH	FIRE HYDRANT	TEMP.	TEMPORARY
GDOT	GEORGIA DEPARTMENT OF TRANSPORTATION	VCP	VITRIFIED CLAY PIPE
		WL	WATER LINE
G.M.D.	GEORGIA MILITIA DISTRICT	WM	WATER METER
GV	GAS VALVE	WV	WATER VALVE
		VC	VERTICAL CURVE

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GEORGIA REGISTERED PROFESSIONAL ENGINEER RICHARD H. CROWDER NO. 26913 8/5/25

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BARROW NORTHWEST ELEVATED WATER STORAGE TANK

GENERAL NOTES & LEGEND

SHEET TITLE

DESIGN RC | DRAWN DP | CHECKED RC

NO.	DESCRIPTION	DATE
0	ISSUED FOR BID	08/05/25

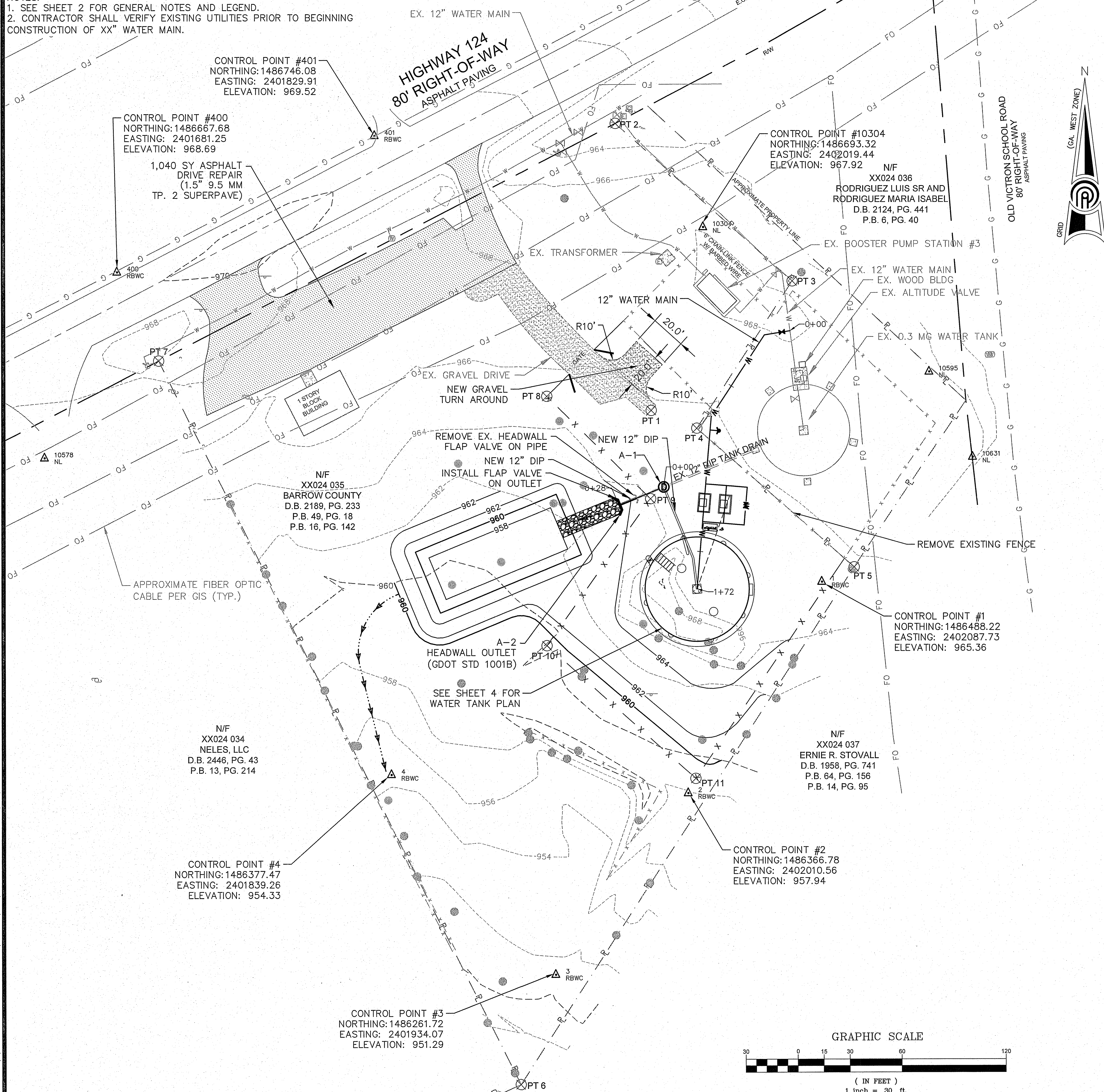
RELEASE

E23136
PPI PROJECT NO.

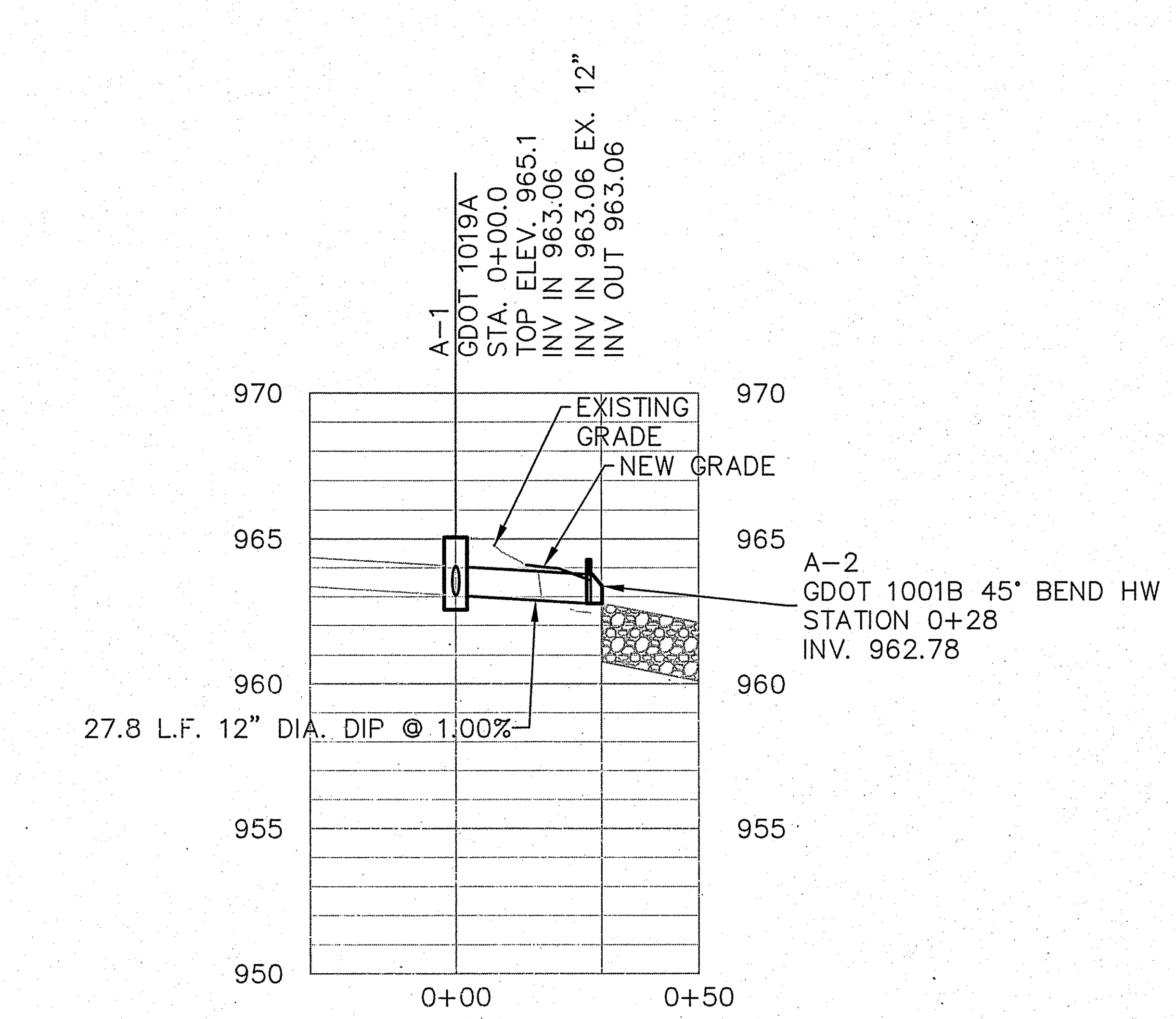
02

PLOT DATE: 8/5/2025 9:29 AM FILE PATH: W:\PROJECTS\2023\23136--WR--BARROW NW TANK\DWG\23136_2001_GENERAL NOTES_LEGENDS_ETC.DWG -- 2025-08-05 -- DYLAN PARKER

NOTES:
1. SEE SHEET 2 FOR GENERAL NOTES AND LEGEND.
2. CONTRACTOR SHALL VERIFY EXISTING UTILITIES PRIOR TO BEGINNING CONSTRUCTION OF XX" WATER MAIN.



Point Table				
Point	Description	Elevation	Northing	Easting
PT.1	℄ DRIVE	965.79	1486587.87	2401989.36
PT.2	PROPERTY CORNER	962.74	1486753.16	2401968.84
PT.3	PROPERTY CORNER	967.60	1486662.39	2401968.84
PT.4	PROPERTY CORNER	965.86	1486577.53	2402015.65
PT.5	PROPERTY CORNER	965.27	1486496.77	2402106.29
PT.6	PROPERTY CORNER	946.97	1486198.07	2401913.73
PT.7	PROPERTY CORNER	968.20	1486616.59	2401705.18
PT.8	FENCE CORNER	N/A	1486596.13	2401929.14
PT.9	FENCE CORNER	N/A	1486536.41	2401988.94
PT.10	FENCE CORNER	N/A	1486451.74	2401929.14
PT.11	FENCE CORNER	N/A	1486375.28	2402014.89



12" DISCHARGE PIPE PROFILE
SCALE: 1"=30' HOR; 1"=5' VERT

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BARROW NORTHWEST ELEVATED WATER STORAGE TANK

SITE PLAN

SHEET TITLE

DESIGN	DRAWN	CHECKED
RC	DP	RC

DATE	NO	DESCRIPTION
08/05/25	0	ISSUED FOR BID

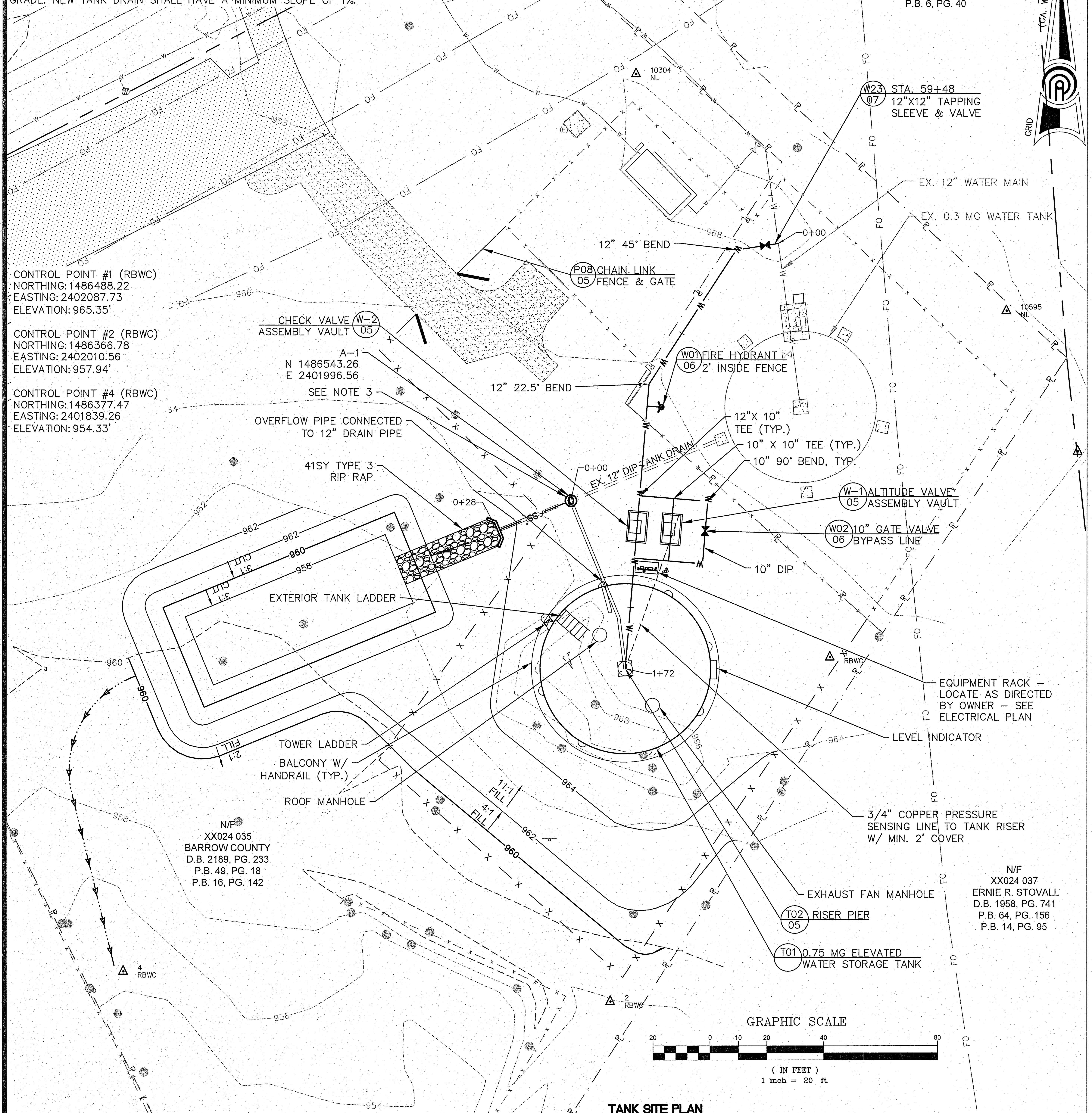
RELEASE

E23136
PPI PROJECT NO.

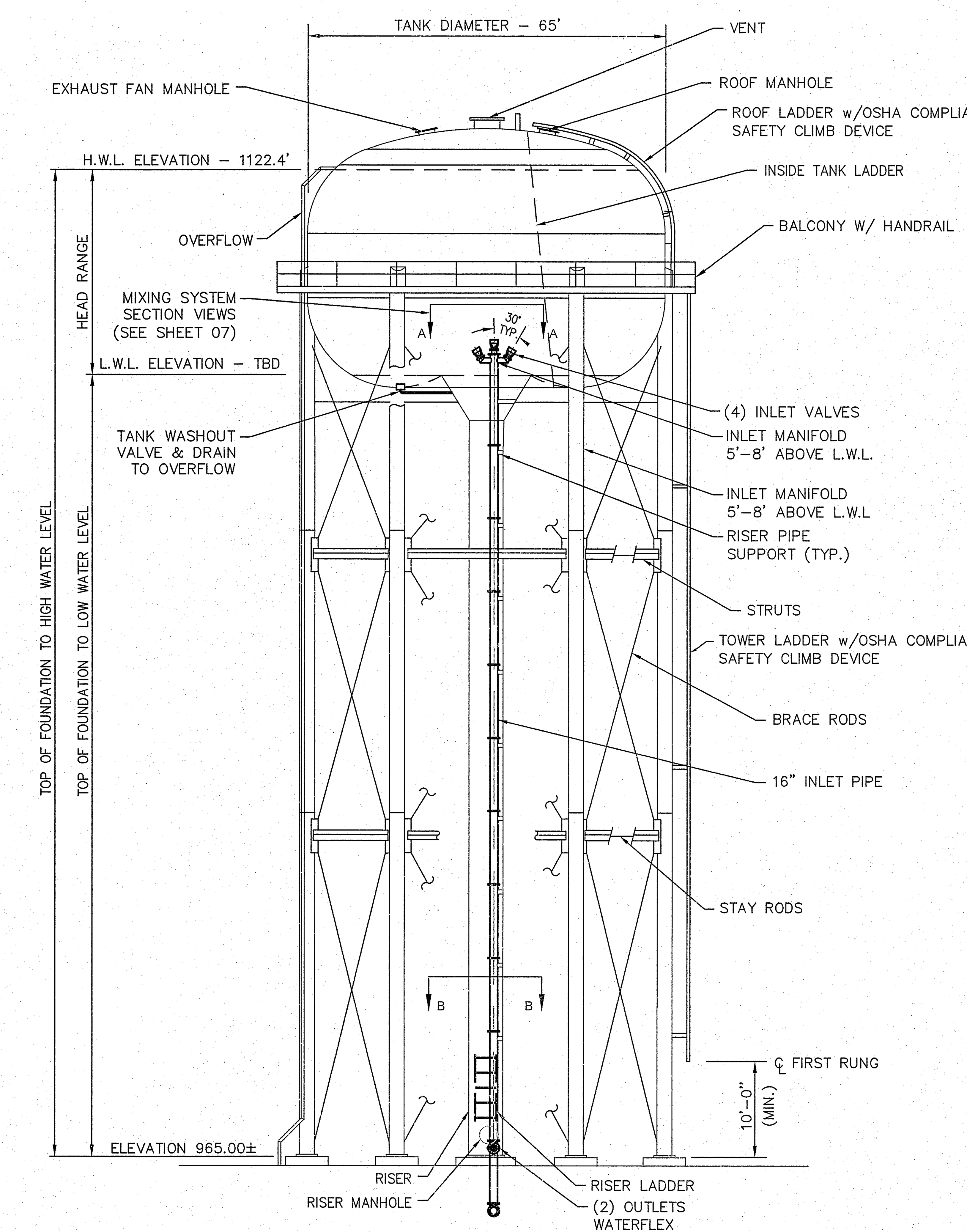
03

PLOT DATE: 8/5/2025 10:27 AM FILE PATH: W:\PROJECTS\2023\23136-WR-BARROW NW TANK\DWG\23136_BASE DESIGN.DWG – 2025-08-05 – DYLAN PARKER

NOTES:
1. SEE SHEET 2 FOR GENERAL NOTES AND LEGEND.
2. CONTRACTOR SHALL VERIFY EXISTING UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
3. CONTRACTOR TO OBTAIN ELEVATION OF EXISTING TANK DRAIN AT NEW JB LOCATION AND MATCH THIS ELEVATION WITH THE NEW DRAIN BEFORE ORDERING THE NEW JB. TOP OF THE NEW JB SHALL BE A MINIMUM OF 1' ABOVE EXISTING GRADE. NEW TANK DRAIN SHALL HAVE A MINIMUM SLOPE OF 1%.



TANK SITE PLAN



ELEVATION
0.75 MG ELEVATED STORAGE TANK
T01
N.T.S.

NOTE:
1. SEE SPECIFICATIONS SECTION 098700, ATTACHMENT 1 FOR THE TANK LOGO.
2. SIZE (EST. 15'x40') AND LOCATIONS (EST. 2) OF GRAPHICS/LETTERING SHALL BE APPROVED BY OWNER BEFORE PAINTING.

NOTE:
1. FOUNDATION DESIGN INCLUDING RISER PIER SHALL BE THE RESPONSIBILITY OF THE TANK CONTRACTOR.
2. PEDESTAL AND FOOTING DIMENSIONS AND CONCRETE REINFORCEMENT SHALL BE DETERMINED BY THE TANK CONTRACTOR.
3. FOUNDATION CONSTRUCTION SHALL COMPLY WITH AWWA D100-21, A.C.I. 318-19, A.C.I. 301-20 AND APPLICABLE SECTIONS OF THE PROJECT SPECIFICATIONS AND THE REPORT OF GEOTECHNICAL EXPLORATION BARROW COUNTY NE WATER TANK (S&ME PROJECT NO. 23800194).
4. CONCRETE COMPRESSIVE STRENGTH SHALL BE 4,000 PSI @ 28 DAYS.
5. REINFORCEMENT SHALL CONFORM TO A.S.T.M. A615 GR. 60.
6. CONSTRUCTION JOINTS SHALL BE ROUGHENED ACROSS ENTIRE FACE WITH 1/4" MINIMUM DEPTH INDENTATIONS.
7. THE TOP OF CONCRETE FOR ALL PIERS INCLUDING THE CENTER PIER SHALL BE LEVEL AND SHALL BE THE SAME ELEVATION (UNLESS OTHERWISE NOTED BY A SPECIFIED ELEV.) WITH A MAXIMUM DIFFERENTIAL OF (+ -) 1/4".
8. ANCHOR BOLTS SHALL BE PLACED WITHIN (+/-) 1/8" OF THE PLAN DIMENSIONS AT THE TOP OF THE CONCRETE. PLUMB WITHIN 1/4" IN 12" AND EXTEND WITHIN 1/2" OF THE SPECIFIED PROJECTON ABOVE THE TOP OF THE FOUNDATION.
9. TANK AND TOWER SHALL BE DESIGNED, FABRICATED AND ERECTED IN ACCORDANCE WITH AWWA D100-21 AND PROJECT SPECIFICATIONS

GEORGIA REGISTERED PROFESSIONAL ENGINEER NO. 26613 RICHARD H. CROWDER 8/5/25

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BARROW NORTHWEST ELEVATED WATER STORAGE TANK

WATER TANK PLAN

SHEET TITLE

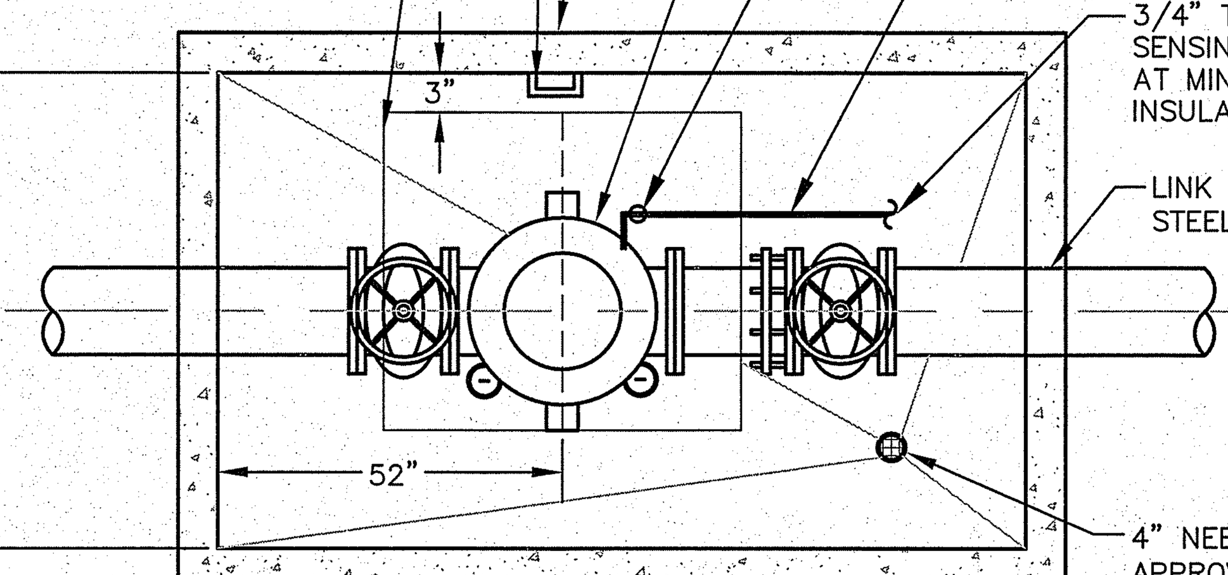
DESIGN	DRAWN	CHECKED
RC	DP	RC

DATE	NO.	DESCRIPTION
08/05/25	0	ISSUED FOR BID

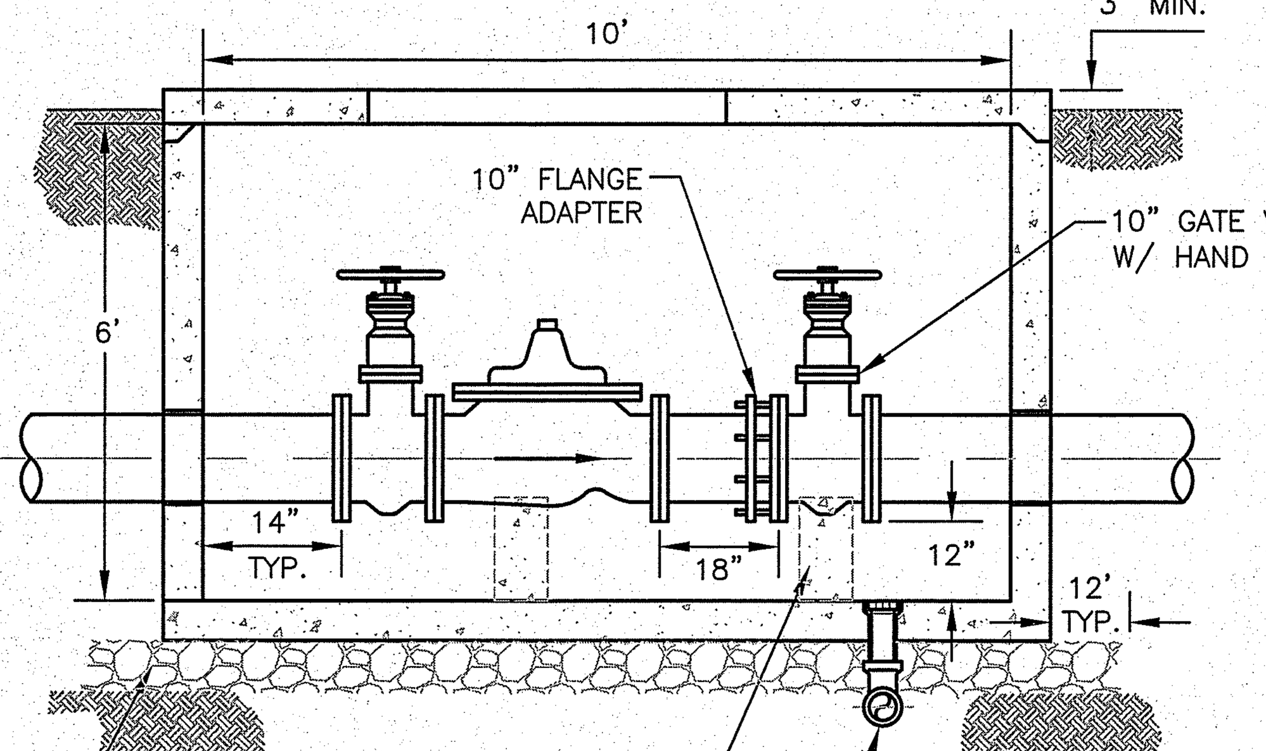
RELEASE

E23136
PPI PROJECT NO.

PLOT DATE: 8/5/2025 9:40 AM FILE PATH: W:\PROJECTS\2023\23136-WR-BARROW NW TANK\DWG\23136_BASE DESIGN.DWG - 2025-08-05 - DYLAN PARKER



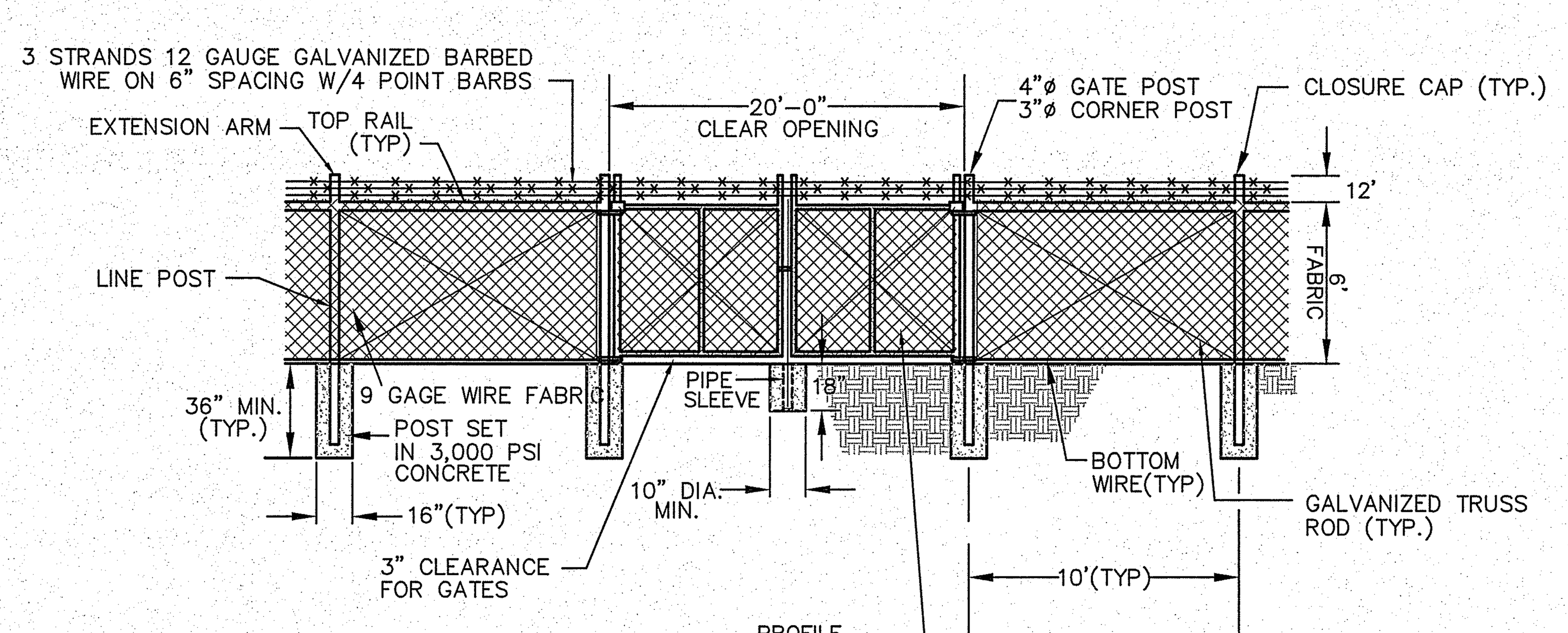
PLAN



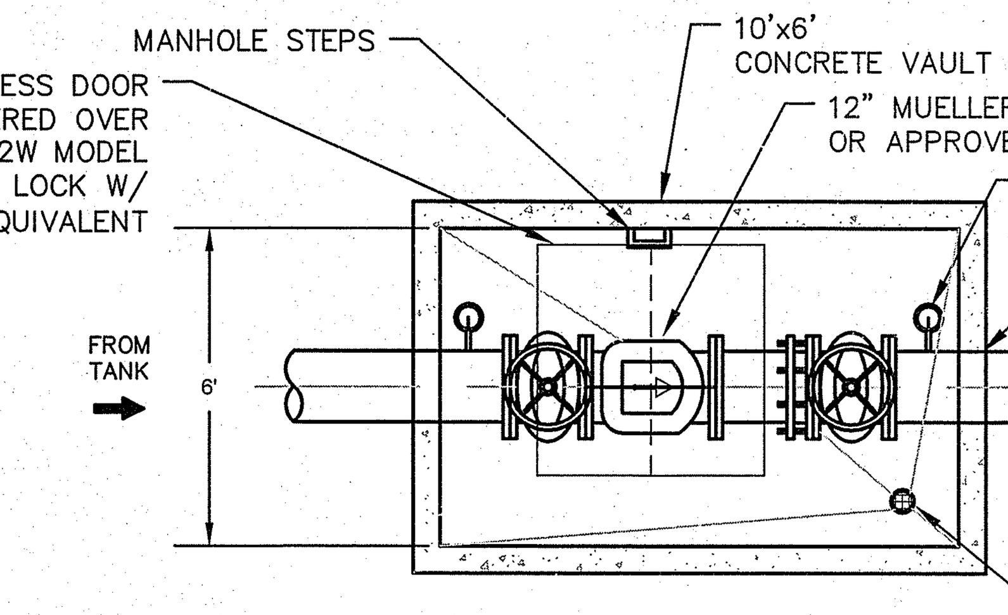
SECTION

NOTES:
1. ALL PIPING SHALL BE PRESSURE CLASS 350 DIP.
2. VAULT SHALL BE REINFORCED CONCRETE (MIN. 4000 PSI) IN ACCORDANCE WITH ASTM C 858 AND ASTM C 913 FOR HS 20-44 WHEEL LOADING. SUBMIT SHOP DRAWINGS FOR VAULT STAMPED AND SIGNED BY A GEORGIA REGISTERED PROFESSIONAL ENGINEER.
3. INSTALL ALUMINUM ACCESS DOORS CAST IN VAULT TOP IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

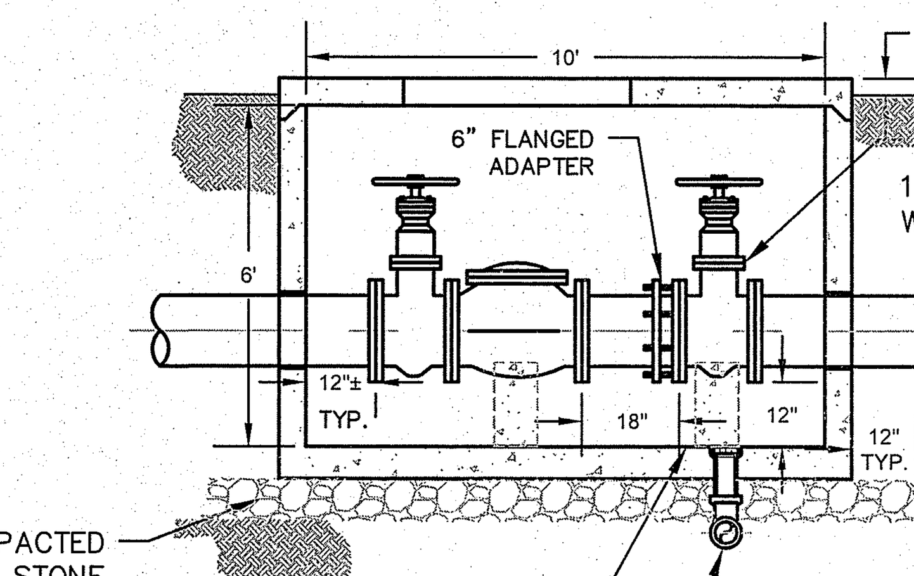
ALTITUDE VALVE ASSEMBLY VAULT (W-1)
N.T.S.



CHAINLINK FENCE AND GATE (P08)
N.T.S.



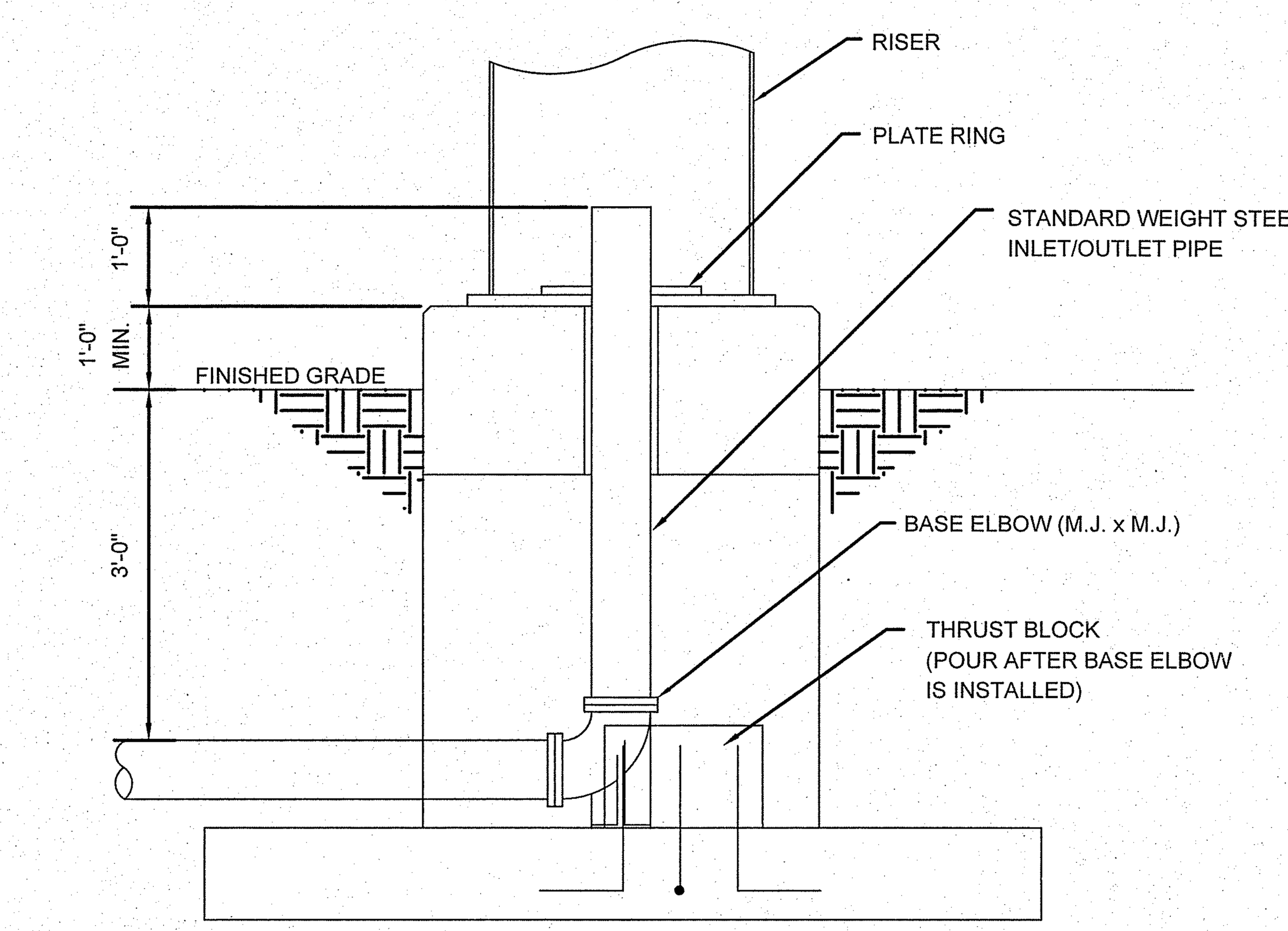
PLAN



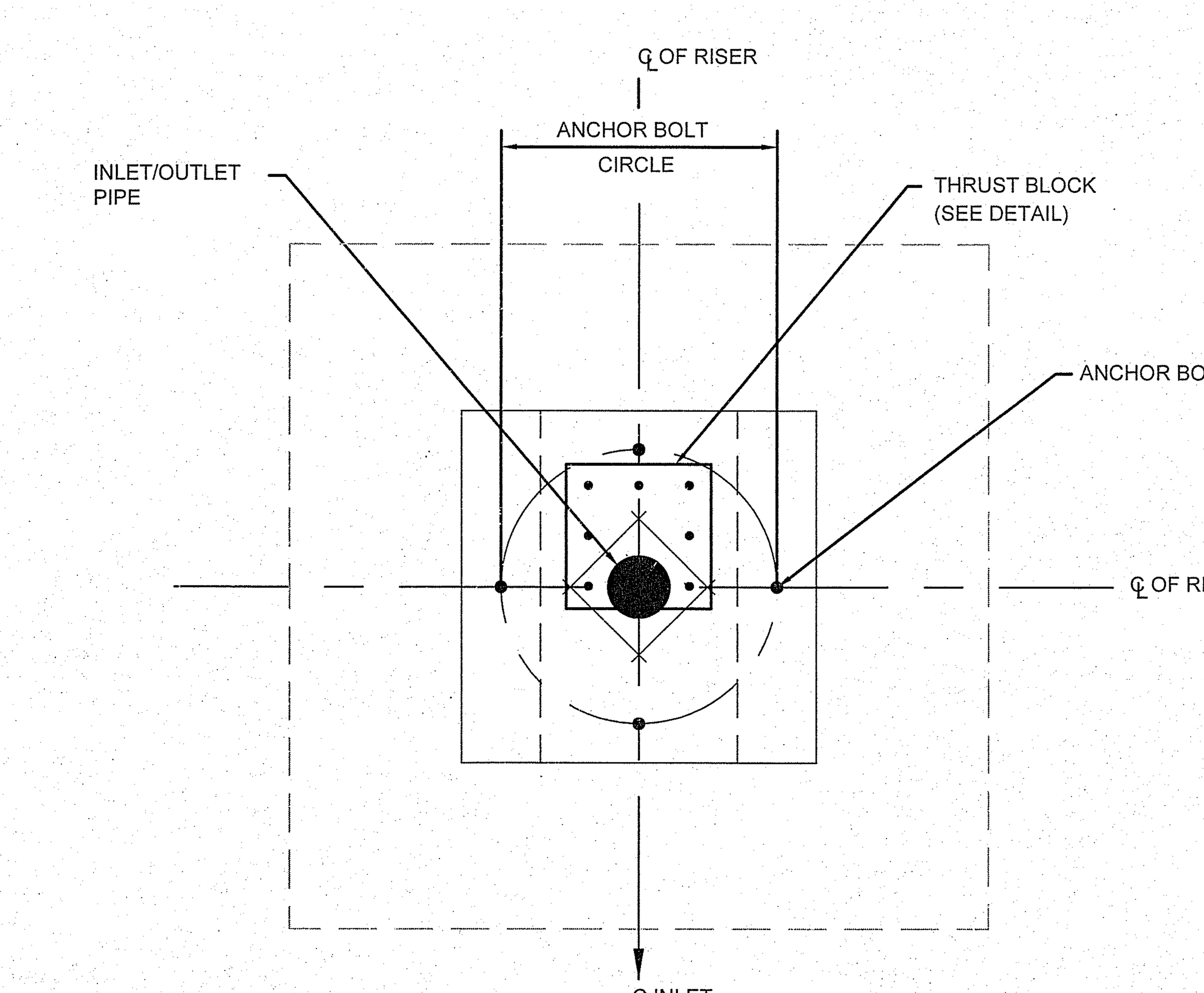
SECTION

NOTES:
1. ALL PIPING SHALL BE PRESSURE CLASS 350 DIP.
2. VAULT SHALL BE REINFORCED CONCRETE (MIN. 4000 PSI) IN ACCORDANCE WITH ASTM C 858 AND ASTM C 913 FOR HS 20-44 WHEEL LOADING. SUBMIT SHOP DRAWINGS FOR VAULT STAMPED AND SIGNED BY A GEORGIA REGISTERED PROFESSIONAL ENGINEER.
3. INSTALL ALUMINUM ACCESS DOORS IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

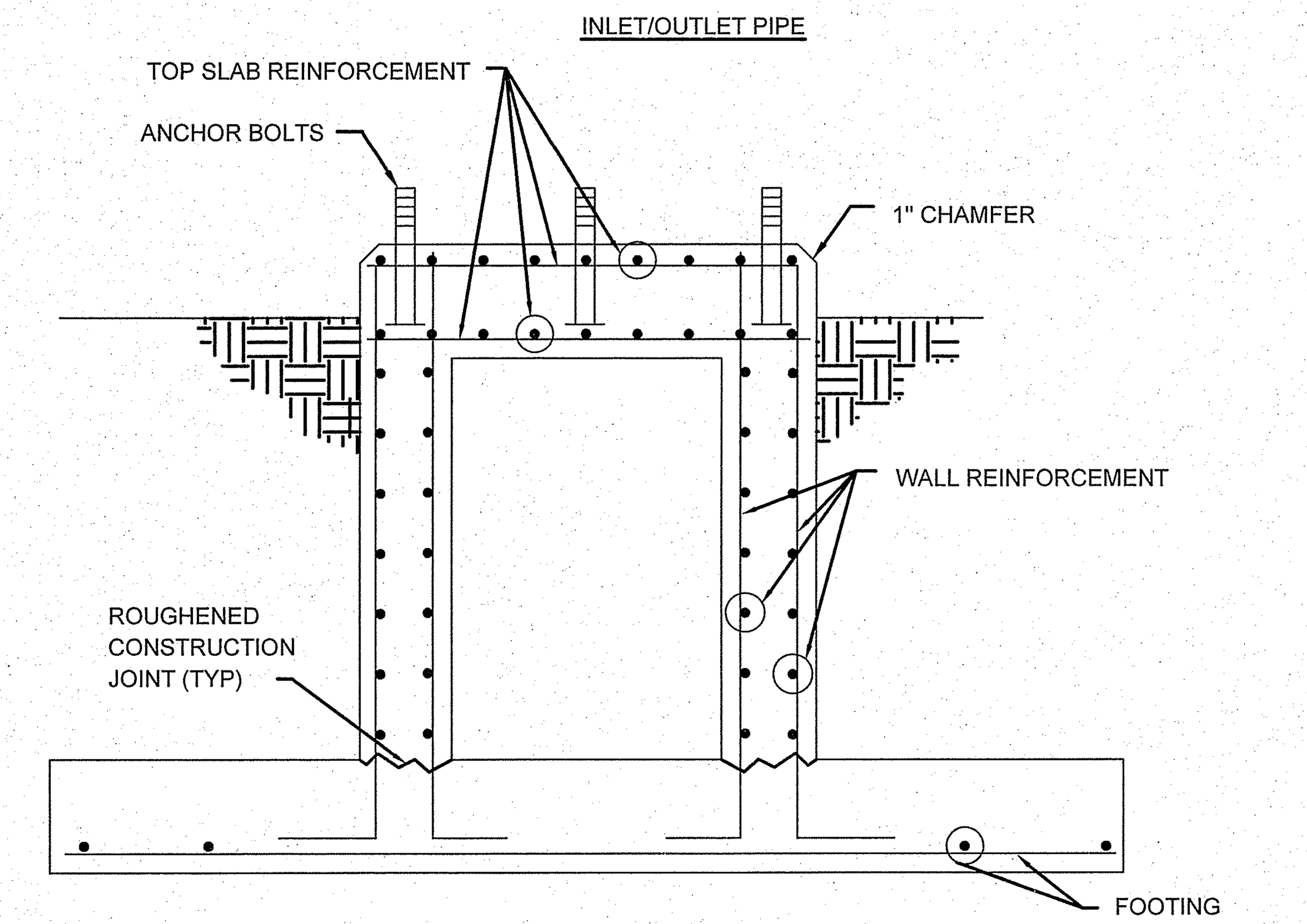
CHECK VALVE ASSEMBLY VAULT (W-2)
N.T.S.



INLET/OUTLET PIPE



CENTER PIER PLAN



SECTION THRU CENTER PIER
(PIPING NOT SHOWN)

NOTES:
1. FOUNDATION DESIGN WILL BE THE RESPONSIBILITY OF THE TANK CONTRACTOR.
2. PEDESTAL AND FOOTING DIMENSIONS AND CONCRETE REINFORCEMENT SHALL BE DETERMINED BY THE TANK CONTRACTOR.
3. FOUNDATION CONSTRUCTION SHALL COMPLY WITH AWWA D100, A.C.I. 318, A.C.I. 301 (LATEST EDITIONS), AND THE REPORT OF GEOTECHNICAL EXPLORATION, OCONEE COUNTY WATER TANKS, 250,000 TANK (S&ME PROJECT NO. 1280-17-071).
4. CONCRETE COMPRESSIVE STRENGTH SHALL BE 4,000 PSI @ 28 DAYS.
5. REINFORCEMENT SHALL CONFORM TO A.S.T.M. A615 GR. 60.
6. CONSTRUCTION JOINTS SHALL BE ROUGHENED ACROSS ENTIRE FACE WITH 1/4" MINIMUM DEPTH INDENTATIONS.
7. THE TOP OF CONCRETE FOR ALL PIERS INCLUDING THE CENTER PIER SHALL BE LEVEL AND SHALL BE THE SAME ELEVATION WITH A MAXIMUM DIFFERENTIAL OF (+/-) 1/4".
8. ANCHOR BOLTS SHALL BE PLACED WITHIN (+-) 1/8" OF THE MANUFACTURER'S PLAN DIMENSIONS AT THE TOP OF THE CONCRETE, PLUMB WITHIN 1/4" IN 12" AND EXTEND WITHIN 1/2" OF THE SPECIFIED PROJECTION ABOVE THE TOP OF THE FOUNDATION.

RISER DETAIL (T02 / 06)
N.T.S.

GEORGIA REGISTERED NO. 26613 PROFESSIONAL ENGINEER RICHARD H. CROWDER 8/5/25
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Georgia Engineering Firm COA # PEF000529
400 Pike Boulevard, Lawrenceville, GA 30046
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BARROW NORTHWEST ELEVATED WATER STORAGE TANK

CONSTRUCTION DETAILS
SHEET TITLE

DESIGN	DRAWN	CHECKED
RC	DP	RC

DATE	NO.	DESCRIPTION
08/05/25	0	ISSUED FOR BID

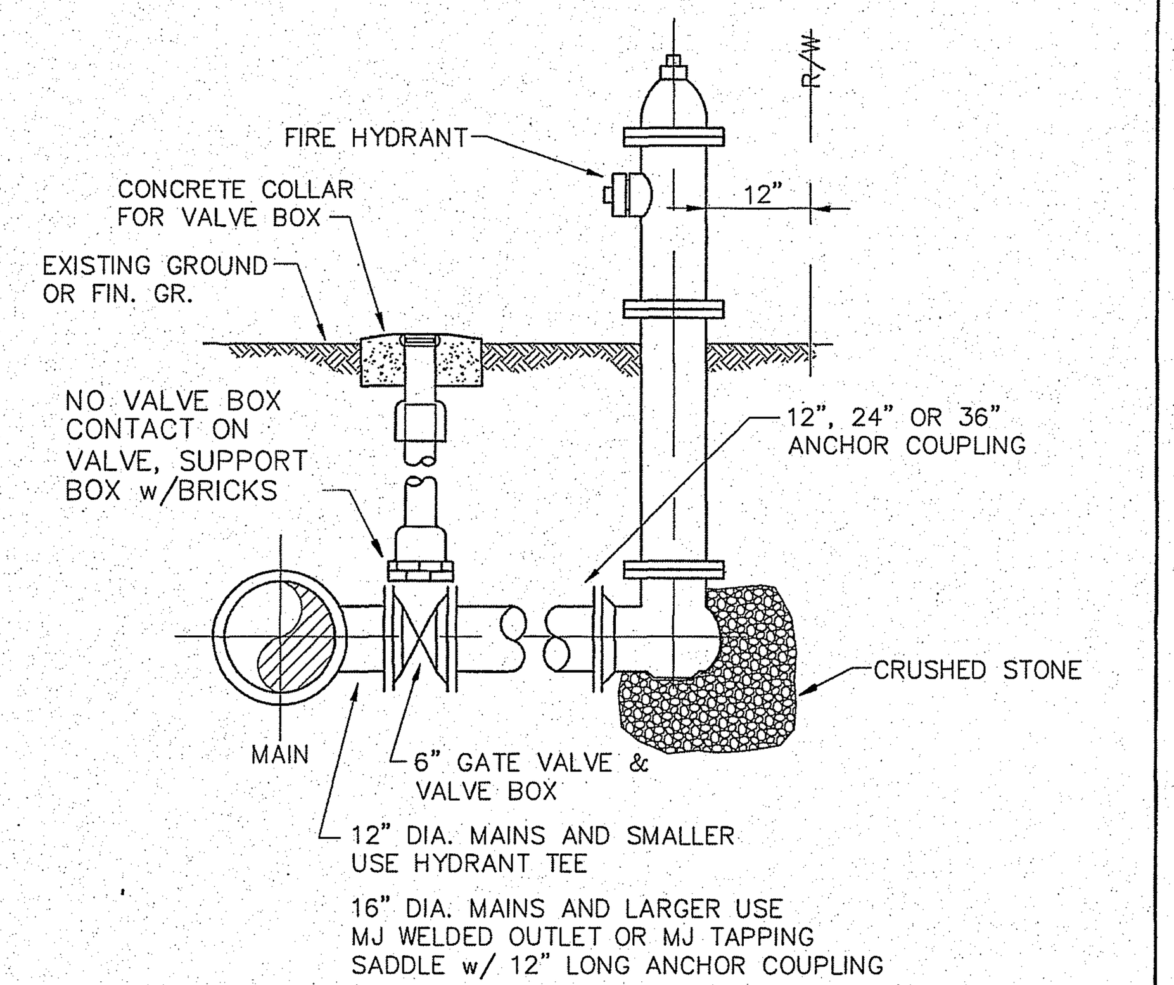
RELEASE

E23136
PPI PROJECT NO.

05

PLOT DATE: 8/5/2025 9:43 AM FILE PATH: W:\PROJECTS\2023\23136-WR-BARROW NW TANK\DWG\23136_DETAILS.DWG - 2025-08-05 - DYLAN PARKER

W01

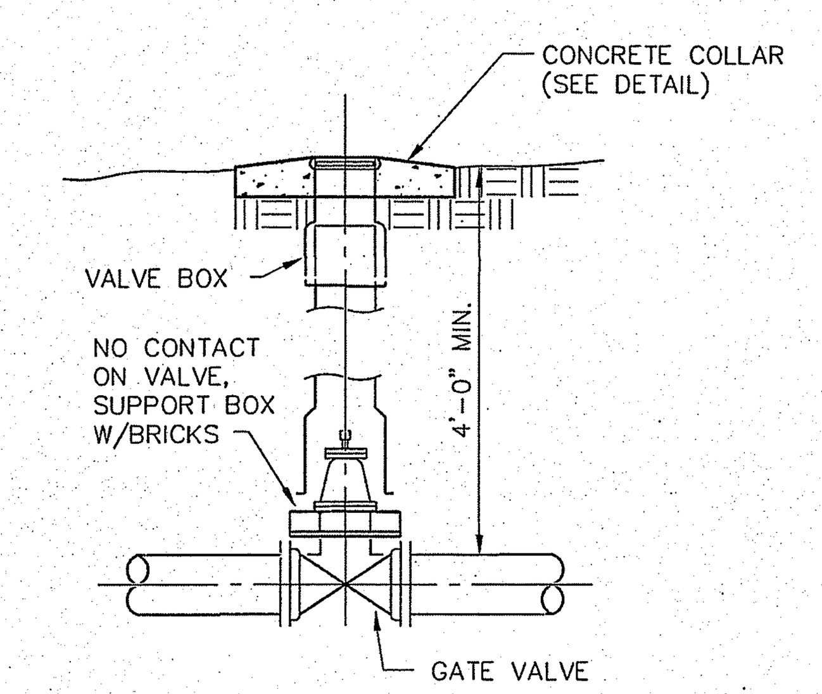


Barrow County Water & Sewerage Authority

FIRE HYDRANT

STANDARD CONSTRUCTION DETAILS
SCALE: NONE DATE: OCT 2021

W02

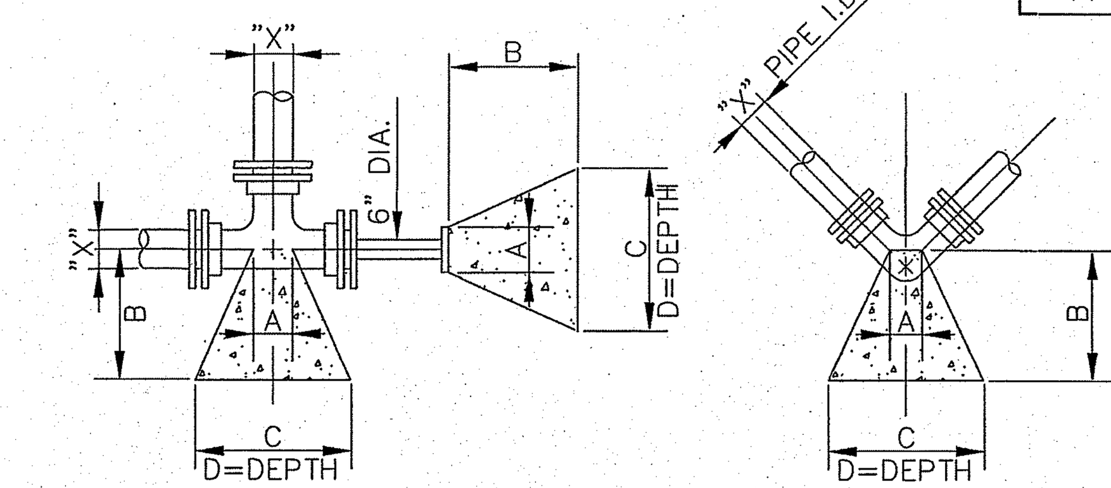


Barrow County Water & Sewerage Authority

GATE VALVE INSTALLATION

STANDARD CONSTRUCTION DETAILS
SCALE: NONE DATE: OCT 2021

W10



200 PSI TEST PRESSURE (MAXIMUM)
2000 PSF SOIL BEARING (MINIMUM)

BLOCKING DIMENSIONS

		X*	A	B	C	D
DEAD END & TEES		12'	1'-0"	3'-6"	7'-0"	4'-0"
		10"	1'-0"	2'-6"	4'-0"	2'-6"
		8"	0'-10"	2'-3"	3'-3"	2'-0"
		6"	0'-8"	1'-6"	2'-6"	1'-6"
BENDS	90°	12"	1'-0"	4'-6"	8'-0"	5'-0"
		10"	1'-0"	3'-6"	5'-0"	2'-9"
		8"	0'-10"	2'-9"	4'-0"	2'-3"
		6"	0'-8"	2'-0"	3'-0"	1'-9"
	45°	12"	1'-0"	3'-6"	6'-0"	4'-0"
		10"	1'-0"	1'-9"	3'-0"	2'-6"
		8"	0'-10"	1'-6"	2'-6"	2'-0"
		6"	0'-8"	1'-3"	2'-0"	1'-6"
	22 1/2°	12"	1'-0"	3'-0"	4'-0"	3'-0"
		10"	1'-0"	1'-4"	2'-6"	1'-6"
		8"	0'-10"	1'-0"	2'-0"	1'-3"
		6"	0'-8"	0'-9"	1'-6"	1'-0"
	11 1/4°	12"	1'-0"	2'-6"	3'-0"	2'-0"
		10"	1'-0"	0'-6"	1'-6"	1'-3"
		8"	0'-10"	0'-6"	1'-4"	1'-0"
		6"	0'-8"	0'-6"	1'-0"	0'-9"

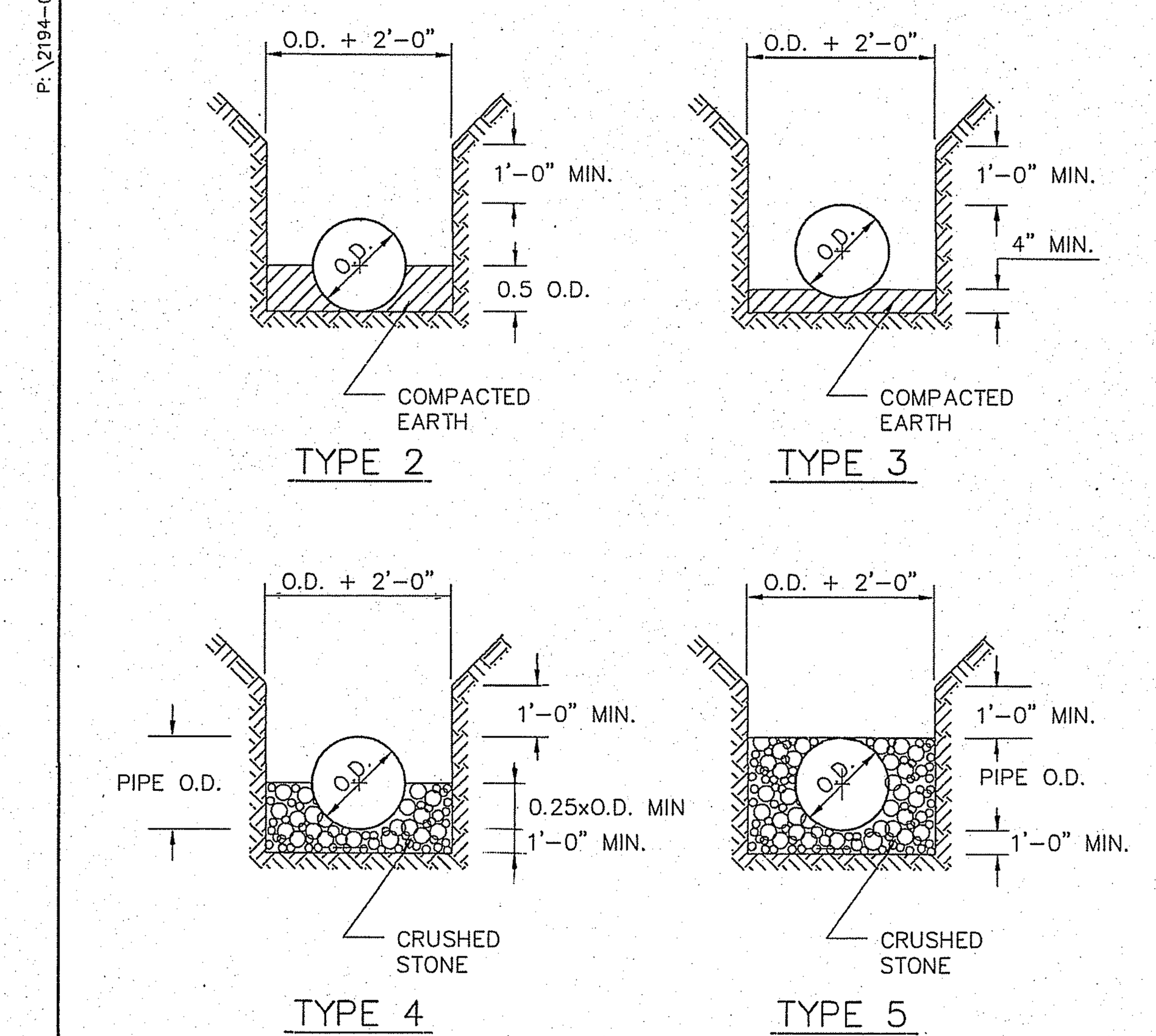
X* = DIAMETER OF PIPE TO BE BLOCKED

Barrow County Water & Sewerage Authority

THRUST BLOCKING

STANDARD CONSTRUCTION DETAILS
SCALE: NONE DATE: OCT 2021

W11

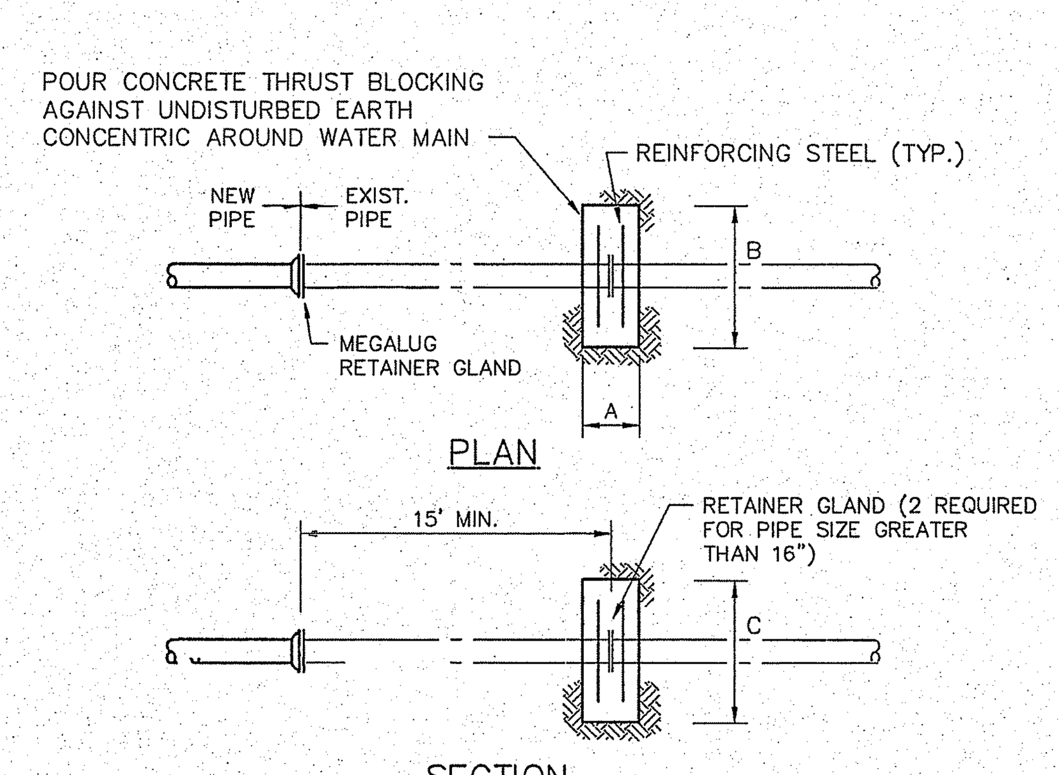


Barrow County Water & Sewerage Authority

WATER MAIN BEDDING

STANDARD CONSTRUCTION DETAILS
SCALE: NONE DATE: OCT 2021

W12



WATER MAIN DIAM.	CONC. COLLAR DIM.			STEEL REINFORCING
	A	B	C	
24"	1'-9"	9'-0"	9'-0"	#9 @ 8" O.C. EW EF
20"	1'-6"	7'-8"	7'-8"	#9 @ 12" O.C. EW EF
16"	1'-3"	6'-6"	6'-6"	#8 @ 12" O.C. EW EF
12"	1'-2"	5'-3"	5'-3"	#7 @ 12" O.C. EW EF
6" OR 8"	1'-0"	4'-0"	4'-0"	#6 @ 12" O.C. EW EF

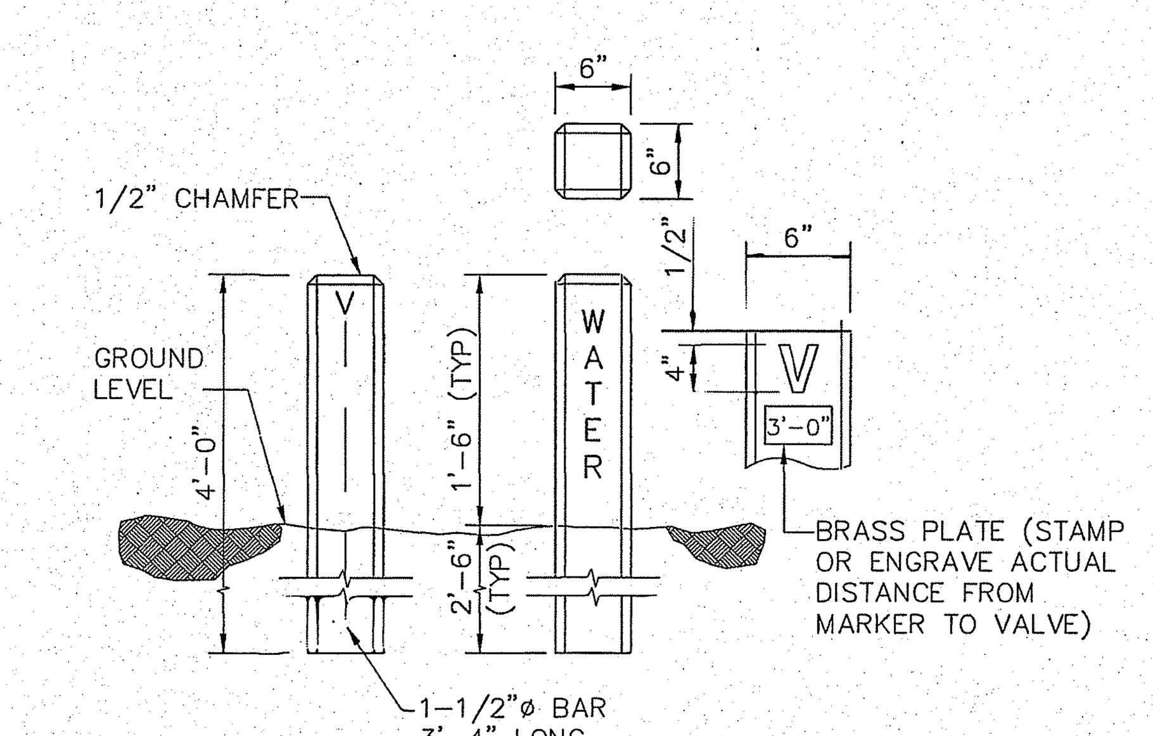
TEST PRESSURE: 250 PSI
SOIL BEARING PRESSURE: 3000 PSF

Barrow County Water & Sewerage Authority

THRUST COLLAR DETAIL

STANDARD CONSTRUCTION DETAILS
SCALE: NONE DATE: OCT 2021

W13

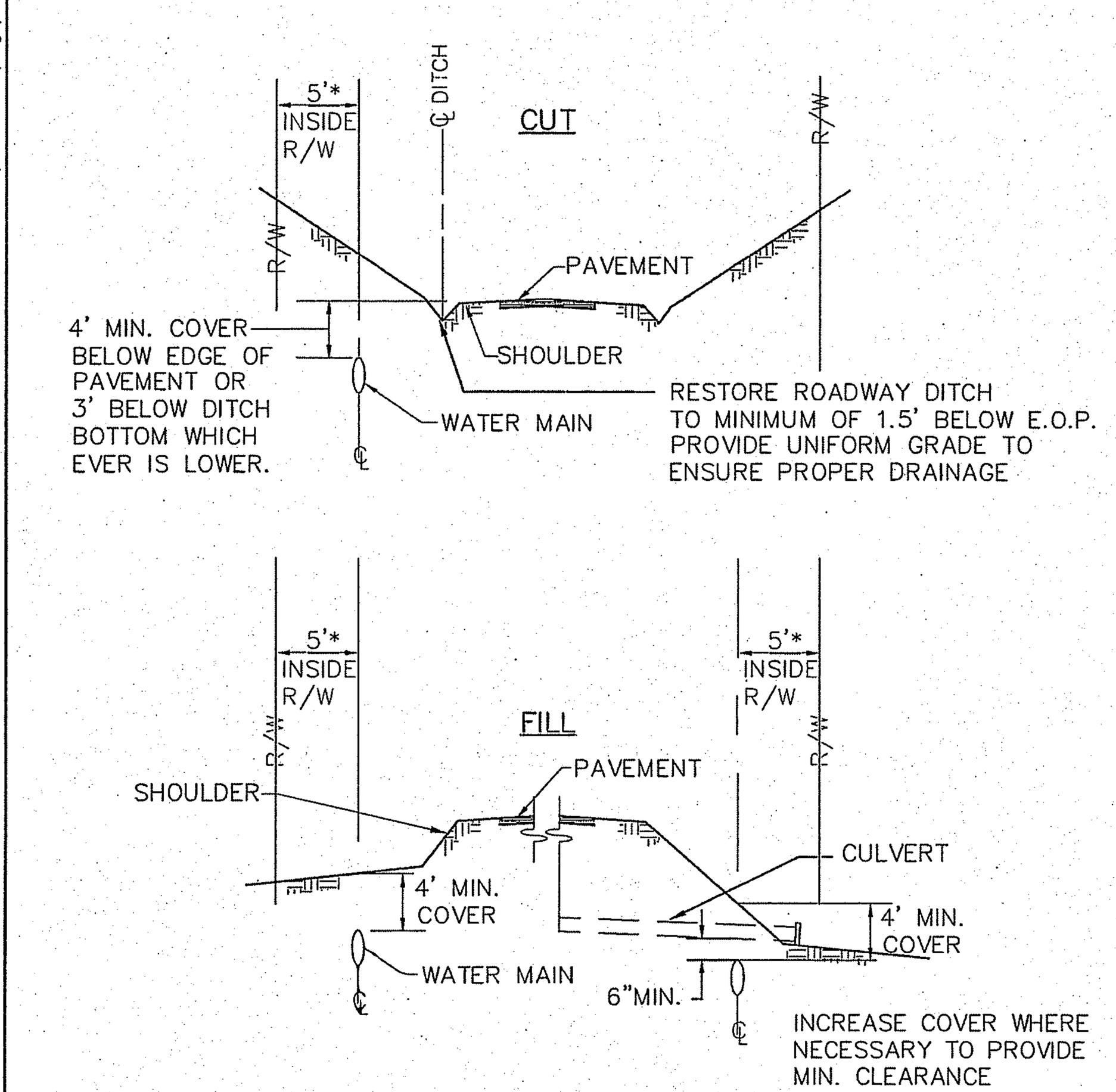


Barrow County Water & Sewerage Authority

WATER VALVE MARKER

STANDARD CONSTRUCTION DETAILS
SCALE: NONE DATE: OCT 2021

W16



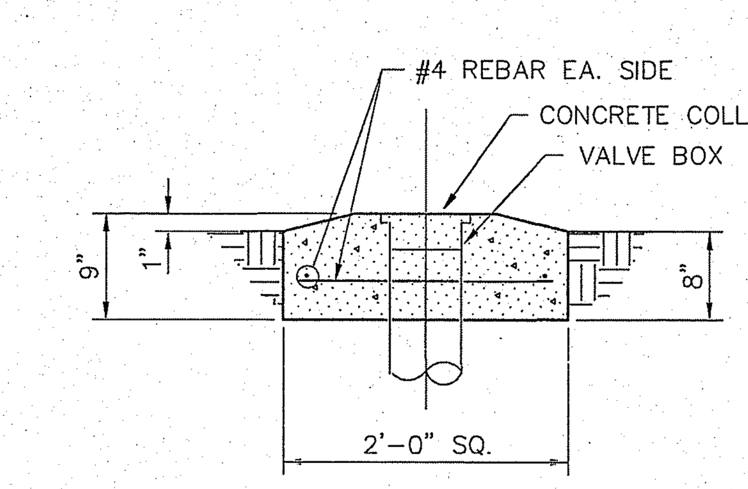
NOTE: * UNLESS SHOWN OTHERWISE.

Barrow County Water & Sewerage Authority

WATER MAIN LOCATION FOR COUNTY AND STATE ROADS

STANDARD CONSTRUCTION DETAILS
SCALE: NONE DATE: OCT 2021

W17



Barrow County Water & Sewerage Authority

CONCRETE VALVE BOX COLLAR

STANDARD CONSTRUCTION DETAILS
SCALE: NONE DATE: OCT 2021

GEORGIA REGISTERED PROFESSIONAL ENGINEER NO. RICHARD H. CROWDER

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BARROW NORTHWEST ELEVATED WATER STORAGE TANK

CONSTRUCTION DETAILS

SHEET TITLE

DESIGN	DRAWN	CHECKED
RC	DP	RC

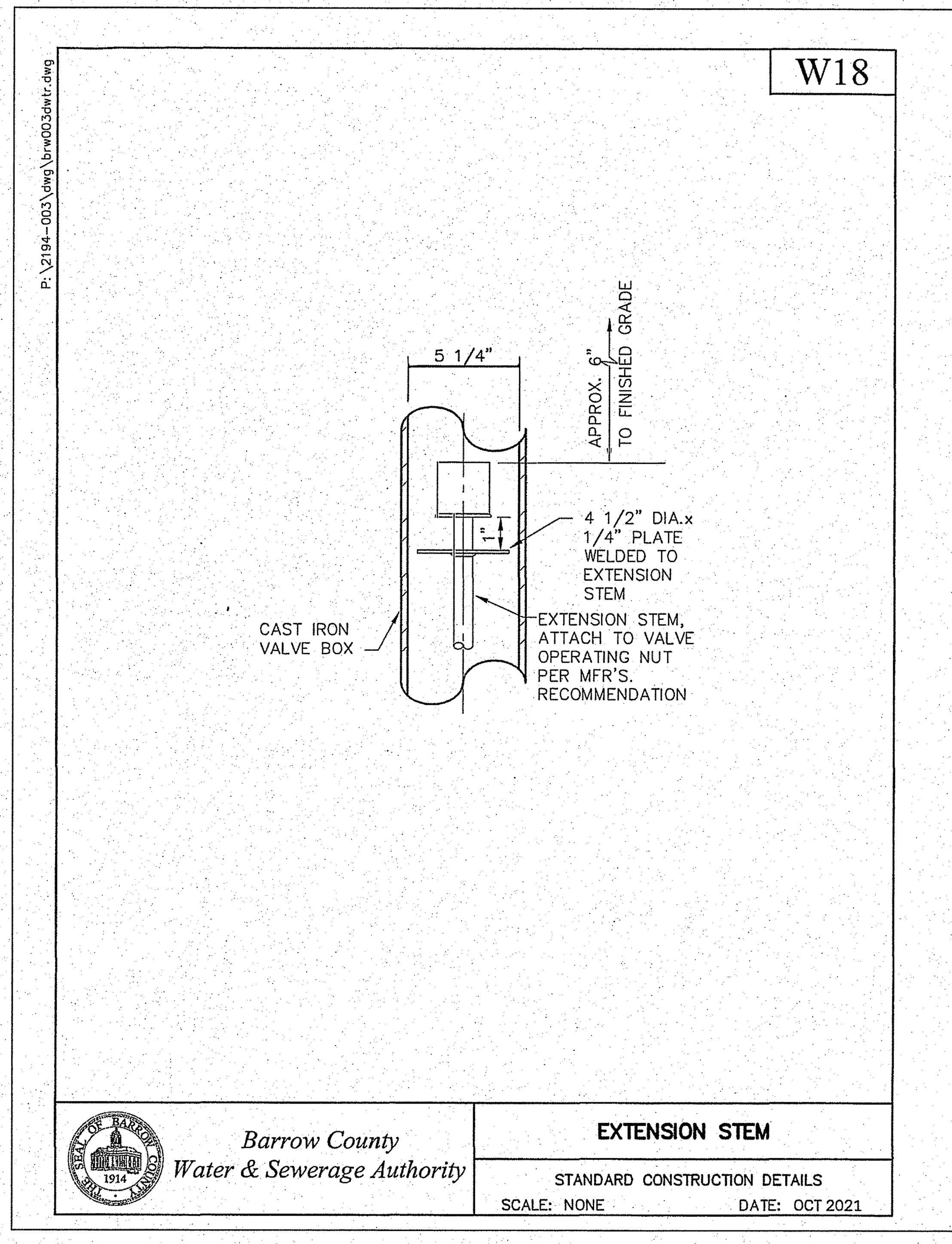
DATE	NO	DESCRIPTION
08/05/25	0	ISSUED FOR BID

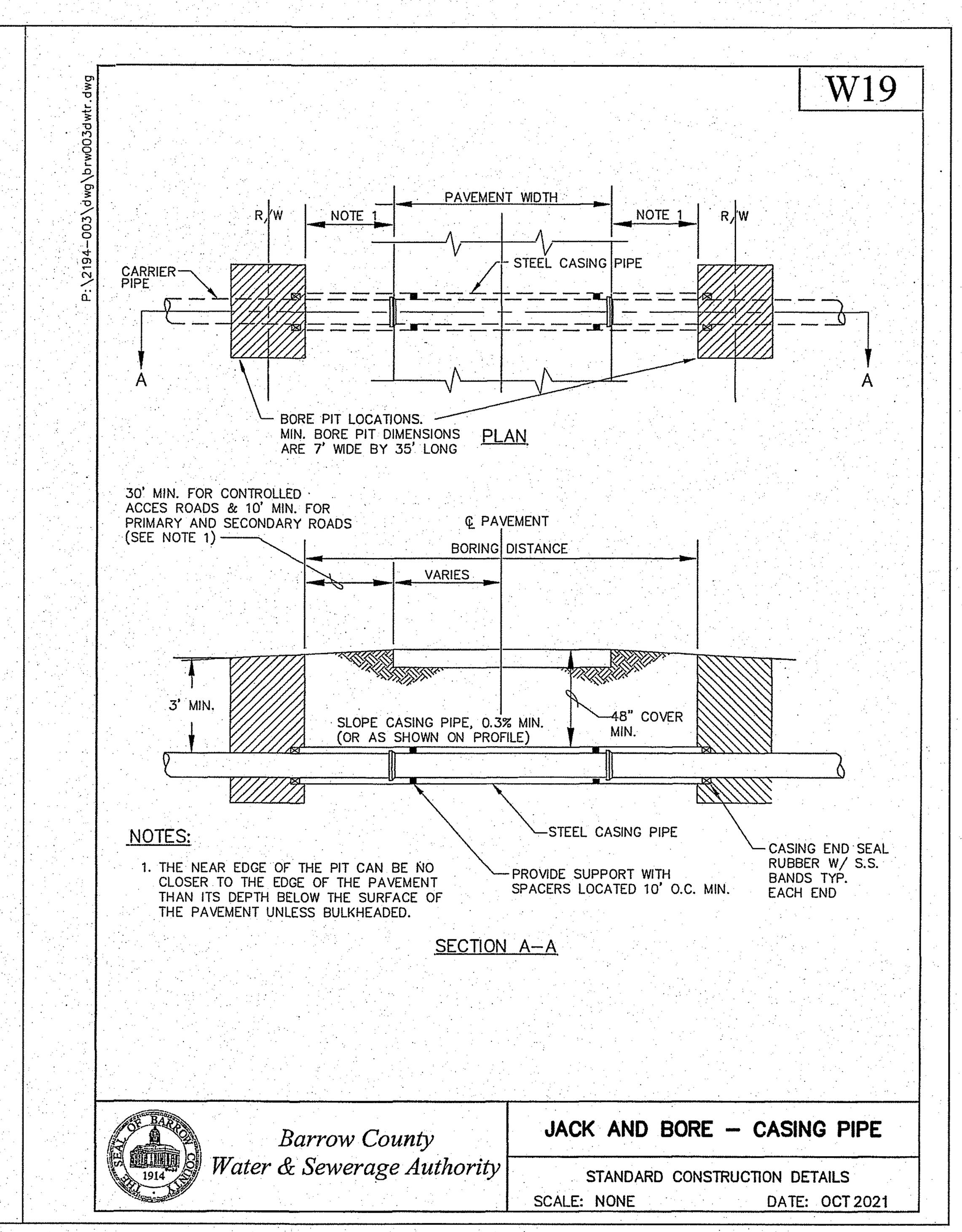
RELEASE

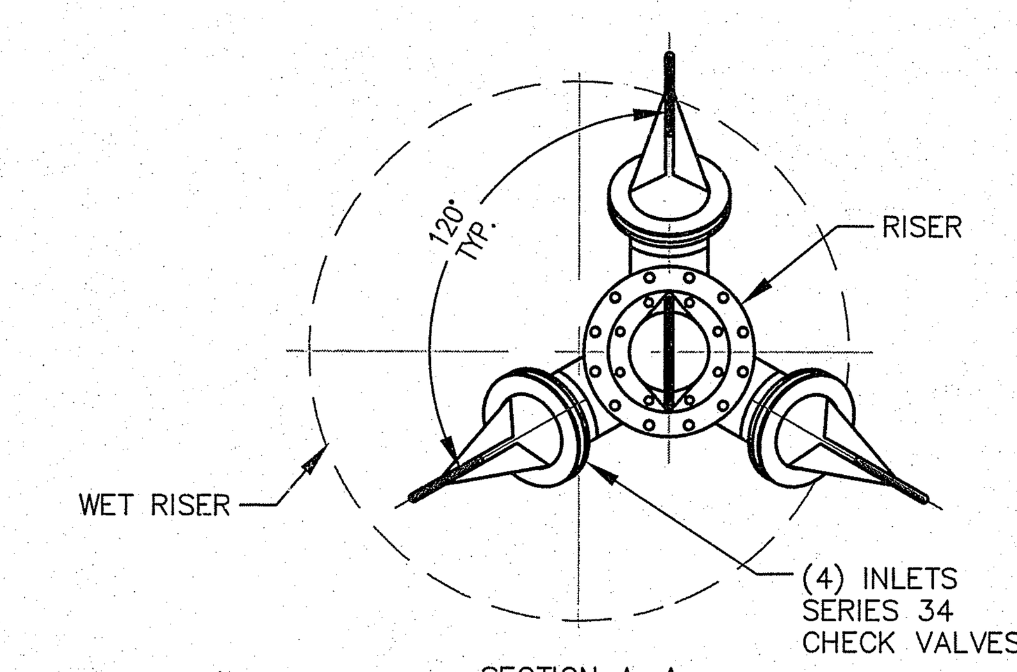
E23136
PPI PROJECT NO.

06

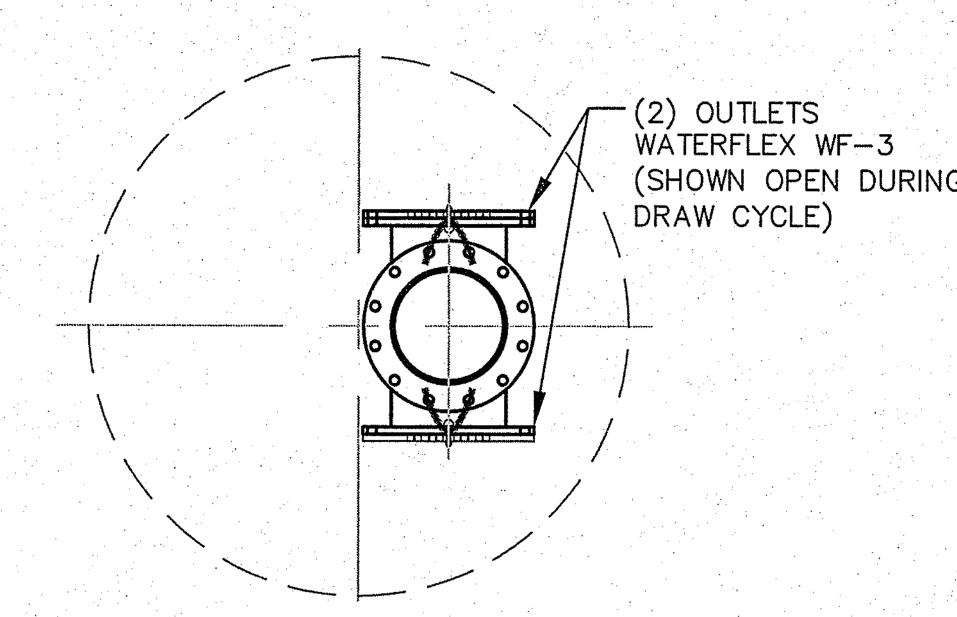
PLOT DATE: 8/5/2025 9:44 AM FILE PATH: W:\PROJECTS\2023\23136-WR-BARROW NW TANK\DWG\23136_DETAILS.DWG – 2025-08-05 – DYLAN PARKER



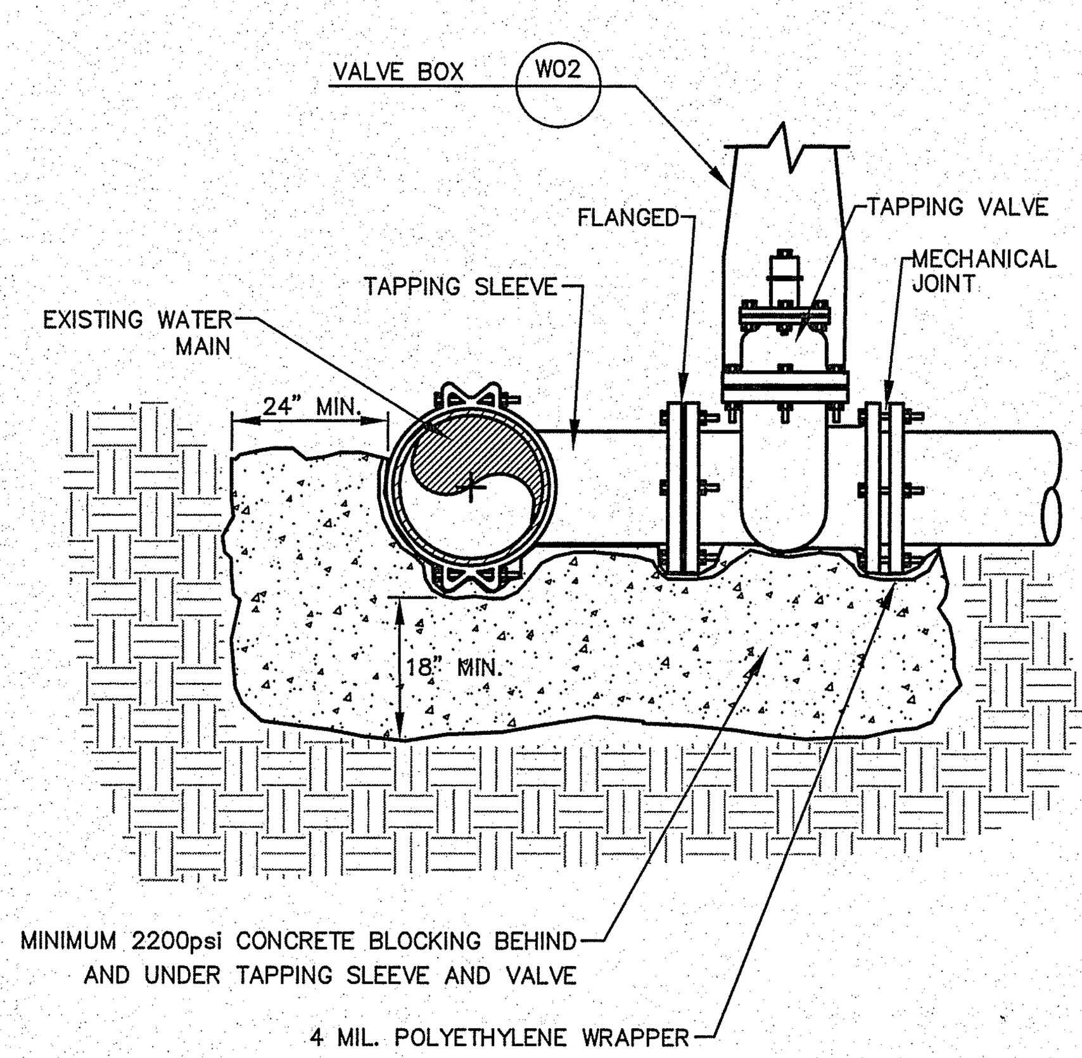




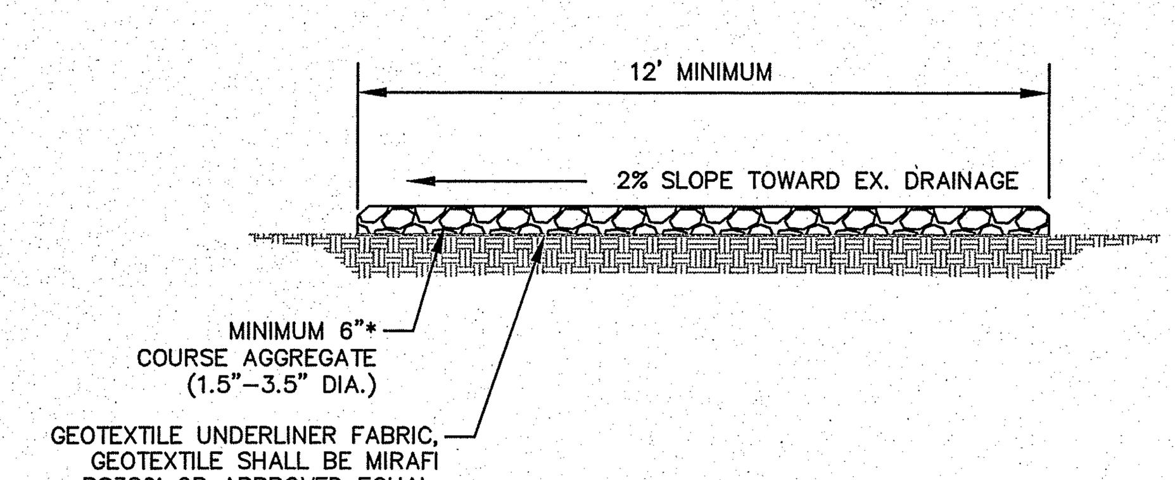
SECTION A–A



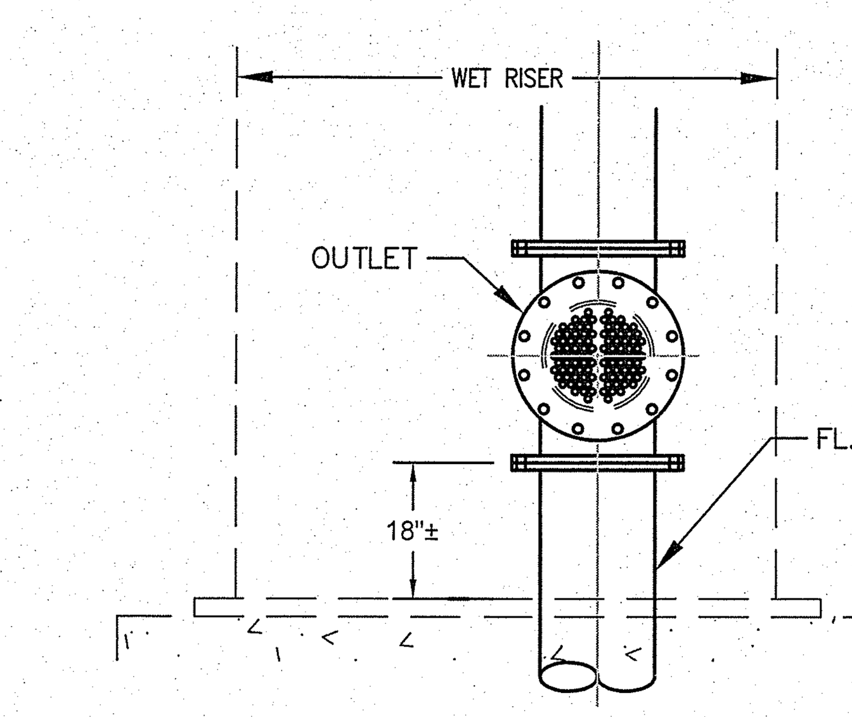
SECTION B–B



TAPPING SLEEVE AND VALVE (W23)
N.T.S.



GRAVEL DRIVE
N.T.S.



ELEVATION VIEW

RISER PEIR/MIXING SYSTEM SECTION VIEWS
N.T.S.

GEORGIA REGISTERED NO. 28613 PROFESSIONAL ENGINEER RICHARD H. CROWDER

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BARROW NORTHWEST ELEVATED WATER STORAGE TANK

CONSTRUCTION DETAILS

SHEET TITLE

DESIGN	DRAWN	CHECKED
RC	DP	RC

DATE	NO.	DESCRIPTION
08/05/25	0	ISSUED FOR BID

RELEASE

E23136
PPI PROJECT NO.

07

PLOT DATE: 8/5/2025 9:46 AM FILE PATH: W:\PROJECTS\2023\23136–WR–BARROW NW TANK\DWG\23136_DETAILS.DWG – 2025–08–05 – DYLAN PARKER

OWNER/PRIMARY PERMITTEE:
BARROW COUNTY BOARD OF COMMISSIONERS
30 NORTH BROAD STREET
WINDER, GA 30680
PH. (770) 307-3014
email: dgarret@barrowga.org

24-HOUR EMERGENCY CONTACT:
DEAN GARRETT
(770) 307-3014

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

GSWCC
GEORGIA SOIL AND WATER CONSERVATION COMMISSION
RICHARD H. CROWDER
Level II Certified Design Professional
CERTIFICATION NUMBER 0000011369
ISSUED: 12/26/22 EXPIRES: 12/26/25

SOIL EROSION NOTES

1. DISTURBED AREA CALCULATIONS INDICATE MAXIMUM TOTAL AREA DISTURBED DURING CONSTRUCTION AND IS LIMITED TO EASEMENT AREAS SHOWN. FOR TRENCHING OPERATIONS WITHIN RIGHTS-OF-WAY, THE AREAS INCLUDE TRENCH, EQUIPMENT TRACK, AND SPOIL HEAP WIDTHS.

   TOTAL PROJECT AREA: 2.65
   TOTAL DISTURBED AREA: 1.26

2. GPS COORDINATES OF THE PROJECT LOCATION ARE LATITUDE 34.0865° N AND LONGITUDE 83.8189° W.
3. DESCRIPTION OF THE NATURE OF CONSTRUCTION ACTIVITY AND EXISTING SITE CONDITIONS: THE EXISTING SITE IS A SMALL HILL, PARTIALLY WOODED, ADJACENT TO AN EXISTING WATER TANK. THIS INFRASTRUCTURE PROJECT INCLUDES CONSTRUCTION OF A 0.75 MGD POTABLE WATER TANK THAT WILL INCLUDE LINEWORK TO TIE INTO THE EXISTING WATER DISTRIBUTION SYSTEM, AND ASSOCIATED SITE WORK. LINEWORK WILL BE INSTALLED BY TRENCHING AND EXISTING GRADE WILL BE RESTORED OVER THE PIPELINE, AND MILD GRADING WILL BE REQUIRED FOR FACILITY SITE WORK.
4. THE RECEIVING WATER IS A TRIBUTARY TO THE MULBERRY RIVER WHICH IS A WARM WATER FISHERY. THERE ARE NO WETLANDS OR OTHER SENSITIVE AREAS IDENTIFIED ON OR ADJACENT TO THE SITE.
5. CERTIFICATION STATEMENTS:

"I CERTIFY UNDER PENALTY OF LAW THAT THIS PLAN WAS PREPARED AFTER A SITE VISIT TO THE LOCATION DESCRIBED HEREIN BY MYSELF OR MY AUTHORIZED AGENT UNDER MY SUPERVISION."

"I CERTIFY THAT THE PERMITTEE'S EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN PROVIDES FOR AN APPROPRIATE AND COMPREHENSIVE SYSTEM OF BEST MANAGEMENT PRACTICES REQUIRED BY THE GEORGIA WATER QUALITY CONTROL ACT AND THE DOCUMENT "MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA" (MANUAL) PUBLISHED BY THE GEORGIA SOIL AND WATER CONSERVATION COMMISSION AS OF JANUARY 1 OF THE YEAR IN WHICH THE LAND-DISTURBING ACTIVITY WAS PERMITTED, PROVIDES FOR THE SAMPLING OF THE RECEIVING WATER(S) OR THE SAMPLING OF THE STORM WATER OUTFALLS AND THAT THE DESIGNED SYSTEM OF BEST MANAGEMENT PRACTICES AND SAMPLING METHODS IS EXPECTED TO MEET THE REQUIREMENTS CONTAINED IN THE GENERAL NPDES PERMIT NO. GAR 100002."

"I CERTIFY THAT THE PERMITTEE'S EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN PROVIDES FOR THE MONITORING OF: (A) ALL PERENNIAL AND INTERMITTENT STREAMS AND OTHER WATER BODIES SHOWN ON THE USGS TOPOGRAPHIC MAP AND ALL OTHER FIELD VERIFIED PERENNIAL AND INTERMITTENT STEAMS AND OTHER WATER BODIES, OR (B) WHERE ANY SUCH SPECIFIC IDENTIFIED PERENNIAL OR INTERMITTENT STREAM AND OTHER WATER BODY IS NOT PROPOSED TO BE SAMPLED, I HAVE DETERMINED IN MY PROFESSIONAL JUDGMENT, UTILIZING THE FACTORS REQUIRED IN THE GENERAL NPDES PERMIT NO. GAR 100002, THAT THE INCREASE IN THE TURBIDITY OF EACH SPECIFIC IDENTIFIED SAMPLED RECEIVING WATER WILL BE REPRESENTATIVE OF THE INCREASE IN THE TURBIDITY OF A SPECIFIC IDENTIFIED UN-SAMPLED RECEIVING WATER."

Richard Crowder
SIGNATURE OF DESIGN PROFESSIONAL

6. THE DESIGN PROFESSIONAL WHO PREPARED THE ES&PC PLAN IS TO INSPECT AND CERTIFY THE INSTALLATION OF THE INITIAL SEDIMENT STORAGE REQUIREMENTS AND PERIMETER CONTROL BMPs WITHIN 7 DAYS AFTER INSTALLATION.
7. NON-EXEMPT ACTIVITIES SHALL NOT BE CONDUCTED WITHIN THE 25 OR 50-FOOT UNDISTURBED STREAM BUFFERS AS MEASURED FROM THE POINT OF WRESTED VEGETATION WITHOUT FIRST ACQUIRING THE NECESSARY VARIANCES AND PERMITS.
8. THERE ARE NO ENCROACHMENTS INTO THE 25-FOOT UNDISTURBED STREAM BUFFER AS PART OF THIS PLAN.
9. 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.
10. WASTE MATERIALS SHALL NOT BE DISCHARGED TO WATERS OF THE STATE, EXCEPT AS AUTHORIZED BY A SECTION 404 PERMIT.
11. 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.
12. EROSION CONTROL MEASURES SHALL 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.
13. ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 14 DAYS SHALL BE STABILIZED WITH MULCH OR TEMPORARY SEEDING.
14. CONSTRUCTION ACTIVITY DOES NOT DISCHARGE STORM WATER INTO AN IMPAIRED STREAM SEGMENT, OR WITHIN 1 LINEAR MILE UPSTREAM OF ANY PORTION OF A BIOTA-IMPAIRED STREAM SEGMENT.
15. CONCRETE WASHDOWN: WASHOUT OF THE DRUM AT THE CONSTRUCTION SITE IS PROHIBITED. USE BMP'S FOR WASHDOWN OF TOOLS, MIXER CHUTES, HOPPERS, AND THE REAR OF VEHICLES.
16. REMEDIATION OF PETROLEUM SPILLS AND LEAKS: ANY LEAKS OR SPILLS OF PETROLEUM PRODUCTS WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CONTAIN, CONTROL, AND REMEDIATE IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL GUIDELINES, ORDINANCES, AND LAWS.
    - LOCAL, STATE AND MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP WILL BE CLEARLY POSTED AND PROCEDURES WILL BE MADE AVAILABLE TO SITE PERSONNEL.
    - 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 PROPERLY LABELED PLASTIC AND METAL WASTE CONTAINERS.
    - PETROLEUM SPILLS SHALL BE IMMEDIATELY CONTAINED. ALL INLETS MUST BE PLUGGED IMMEDIATELY, AND THE PETROLEUM DIRECTED AWAY FROM RECEIVING WATERS OR STORM DRAINAGE SYSTEMS. CLEANUP MAY BE ACCOMPLISHED BY, BUT IS NOT LIMITED TO, SWEEPING, SHOVELING, AND VACUUMING ALONG WITH THE USE OF SORBENTS AND GELS.
    - ANY CONTAMINATED SOILS MUST BE REMOVED FROM THE SITE IMMEDIATELY AND REPLACED WITH SOIL OF SIMILAR PROPERTIES.
    - SPILL PREVENTION PRACTICES AND PROCEDURES WILL BE REVIEWED AFTER A SPILL AND ADJUSTED AS NECESSARY TO PREVENT FUTURE SPILLS.
    - ALL SPILLS WILL BE CLEANED UP IMMEDIATELY UPON DISCOVERY. ALL SPILLS WILL BE REPORTED AS REQUIRED BY LOCAL, STATE, AND FEDERAL REGULATIONS.
    - 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.
    - FOR SPILLS OF AN UNKNOWN AMOUNT, THE NATIONAL CENTER (NRC) WILL BE CONTACTED WITHIN 24 HOURS AT 1-800-4424-8802.
    - FOR SPILLS GREATER THAN 25 GALLONS AND NO SURFACE WATER IMPACTS, THE GEORGIA EPD WILL BE CONTACTED WITHIN 24 HOURS.
    - 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.
    - THE CONTRACTOR SHALL NOTIFY THE LICENSED PROFESSIONAL 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 THAT LICENSED PROFESSIONAL AT THE CONTACTOR'S EXPENSE.
17. MEASURES INSTALLED TO CONTROL POLLUTANTS IN STORM WATER AFTER CONSTRUCTION: ALL DISTURBED AREAS WILL BE RE-STABILIZED WITH PERMANENT GRASSING OR SOD TO LIMIT POLLUTANTS IN STORM WATER AFTER CONSTRUCTION OPERATIONS HAVE CEASED. ALL DRAINAGE PATTERNS WILL BE RETURNED TO PRE-CONSTRUCTION STATE.

SOIL EROSION NOTES, CONT.

18. DESCRIPTION OF PRACTICES THAT WILL BE USED TO REDUCE AND CONTROL POLLUTANTS IN STORM WATER DISCHARGES: POLLUTANTS OR POTENTIALLY HAZARDOUS MATERIALS, SUCH AS FUELS, LUBRICANTS, LEAD PAINT, CHEMICALS, OR BATTERIES, SHALL BE TRANSPORTED, STORED, AND UTILIZED IN A MANNER TO PREVENT LEAKAGE OR SPILLAGE INTO THE ENVIRONMENT. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR PROPER AND LEGAL DISPOSAL OF ALL SUCH MATERIALS. EQUIPMENT, ESPECIALLY CONCRETE OR ASPHALT TRUCKS, SHALL NOT BE WASHED OR CLEANED OUT ON THE PROJECT EXCEPT IN AREAS WHERE UNUSED PRODUCT CONTAMINANTS CAN BE PREVENTED FROM ENTERING WATERWAYS.

    PETROLEUM BASED PRODUCTS - CONTAINERS FOR PRODUCTS SUCH AS FUELS, LUBRICANTS, AND TARS WILL BE INSPECTED DAILY FOR LEAKS AND SPILLS. THIS INCLUDES ONSITE VEHICLES AND MACHINERY DAILY INSPECTIONS AND REGULAR PREVENTATIVE MAINTENANCE OF SUCH EQUIPMENT. EQUIPMENT MAINTENANCE AREAS WILL BE LOCATED AWAY FROM STATE WATERS, 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.

    PAINT/FINISHES/SOLVENTS - ALL PRODUCT 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.

    CONCRETE TRUCK WASHING - NO CONCRETE TRUCKS WILL BE ALLOWED TO WASH OUT OR DISCHARGE SURPLUS CONCRETE OR DRUM WASH WATER ONSITE.

    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.

    BUILDING MATERIALS - NO BUILDING OR CONSTRUCTION MATERIALS WILL BE BURIED OR DISPOSED OF ONSITE. ALL SUCH MATERIAL WILL BE DISPOSED OF IN PROPER WASTE DISPOSAL PROCEDURES.

    PRACTICES TO PROVIDE COVER FOR BUILDING MATERIALS AND PRODUCTS ON SITE SHALL INCLUDE MEASURES SUCH AS PLASTIC SHEETING OR TEMPORARY ROOFS TO MINIMIZE EXPOSURE TO PRECIPITATION AND STORMWATER.

19. DESCRIPTION OF CONTROLS AND MEASURES FOR SEDIMENT CONTROL: AT A MINIMUM, THE FOLLOWING EROSION CONTROL MEASURES SHALL BE UTILIZED IN THE CONSTRUCTION OF THE PROJECT AS INDICATED ON THE ES&PC PLAN:
    - A. SILT FENCE SHALL BE INSTALLED AT APPROPRIATE LOCATIONS TO PREVENT SEDIMENT FROM BEING WASHED OFF OF THE SITE.
    - B. RIP RAP CHANNEL STABILIZATION WILL BE USED TO MINIMIZE THE TRANSFER OF DISTURBED SOIL IN EXISTING DITCHES CROSSING THE CONSTRUCTION AREAS.
    - C. TEMPORARY AND PERMANENT GRASSING/SODDING AND MULCHING SHALL BE USED TO REESTABLISH VEGETATION ON THE DISTURBED AREAS AS CONSTRUCTION PROCEEDS.
    - D. SURFACE ROUGHENING AND EROSION CONTROL MATTING WILL BE USED TO STABILIZE SOIL ON DISTURBED SLOPES.
    - E. CONSTRUCTION EXITS SHALL BE USED TO PREVENT THE TRANSPORT OF MUD FROM MATERIAL. EQUIPMENT STORAGE AREAS AND CONSTRUCTION ROAD STABILIZATION WILL BE USED WHERE CONSTRUCTION TRAFFIC IS REQUIRED TO PREVENT EROSION FROM THESE AREAS.
    - F. TEMPORARY SEDIMENT BASIN WILL BE CONSTRUCTED TO CAPTURE STORM WATER RUNNOFF FROM DISTURBED AREAS.
20. AN ESTIMATE OF THE RUNOFF COEFFICIENT OF THE SITE PRIOR TO CONSTRUCTION ACTIVITIES IS 0.4 AND AFTER CONSTRUCTION ACTIVITIES IS 0.4.
21. JUSTIFICATION TO USE EQUIVALENT CONTROLS FOR SEDIMENT STORAGE ON LINEAR PORTIONS OF THE PROJECT: SEDIMENT STORAGE REQUIREMENT FOR THE SITE CANNOT BE ATTAINED BY INSTALLATION OF A TEMPORARY SEDIMENT BASIN. THEREFORE, A MINIMUM OF 67 CY/ACRE SEDIMENT STORAGE IS PROVIDED USING EQUIVALENT CONTROLS. AT 1/3-FULL (0.83' SEDIMENT DEPTH) AND AT MAXIMUM SLOPE OF 5:1, EACH LINEAR FOOT OF Sd1-S SILT FENCE HOLDS 1.74 CF OF SEDIMENT. APPROXIMATELY 449 LF OF SILT FENCE IS SHOWN ON THE PLANS FOR THE LINEWORK WHICH CAN PROVIDE 29 CY OF STORAGE. AN ADDITIONAL 295 CY OF STORAGE IS PROVIDED BY A SEDIMENT TRAP. THE REQUIRED STORAGE IS (67 CY/ACRE x 1.26 ACRE) 84.14 CY TOTAL. AVAILABLE STORAGE EXCEEDS REQUIRED STORAGE.

SEDIMENT SUMMARY:
STORAGE REQUIRED - 28.9 CY
STORAGE PROVIDED - 29 CY (SILT FENCE) + 295 (SEDIMENT TRAP) = 324 CY

22. IT SHALL BE THE RESPONSIBILITY OF THE PERSON PERFORMING THE CONSTRUCTION OPERATIONS TO INSTALL AND MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES INDICATED ON THESE DRAWINGS OR TO PROVIDE ADDITIONAL MEASURES AS DEEMED NECESSARY BY SITE CONDITIONS.
23. ADDITIONAL MEASURES SHALL BE ADDED IF DETERMINED TO BE NECESSARY BY ON-SITE INSPECTIONS AND/OR BY THE GOVERNING AUTHORITY.
24. STANDARDS AND SPECIFICATIONS: ALL DESIGNS WILL CONFORM TO AND ALL WORK WILL BE PERFORMED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE "MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA" (LATEST EDITION), PUBLISHED BY THE GEORGIA SOIL AND WATER CONSERVATION COMMISSION.
25. SURVEY INFORMATION: TOPOGRAPHIC INFORMATION FROM SURVEY BY PRECISION PLANNING, INC. AND USGS TOPOGRAPHIC MAP.
26. SOILS INFORMATION: SOILS INFORMATION TAKEN FROM SOIL SURVEY OF BARROW COUNTY, GEORGIA BY USDA SOIL CONSERVATION SERVICE IN COOPERATION WITH UNIVERSITY OF GEORGIA COLLEGE OF AGRICULTURE AGRICULTURAL EXPERIMENT STATIONS.
27. TEMPORARY EROSION MEASURES: TEMPORARY EROSION CONTROL STRUCTURES, MEASURES, AND DEVICES SHALL BE INSTALLED AND OPERATIONAL PRIOR TO ANY LAND DISTURBING ACTIVITY. IF, DURING ANY STAGE OF CONSTRUCTION, ADDITIONAL MEASURES ARE DEEMED NECESSARY THEY SHALL BE INSTALLED AS SOON AS POSSIBLE AFTER NOTIFICATION.
28. MAINTENANCE OF TEMPORARY EROSION CONTROL MEASURES SHALL BE REQUIRED THROUGHOUT ALL STAGES OF CONSTRUCTION. MAINTENANCE SHALL BE IN ACCORDANCE WITH THE EROSION CONTROL MANUAL CHAPTER 6 AND THE EROSION CONTROL DETAILS INCLUDED ON THESE DRAWINGS. MAINTENANCE OF ALL EROSION CONTROL MEASURES SHALL BE THE RESPONSIBILITY OF THE PERSON PERFORMING THE CONSTRUCTION.
29. PERMANENT EROSION MEASURES: PERMANENT EROSION CONTROL STRUCTURES SHALL BE INSTALLED AS CONSTRUCTION PROGRESSES. PERMANENT VEGETATIVE MEASURES SHALL BE PLACED IMMEDIATELY DURING THE VARIOUS STAGES OF CONSTRUCTION.
30. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL LAND DISTURBED DURING CONSTRUCTION HAS STABILIZED AND A STRONG STAND OF PERMANENT VEGETATION HAS BEEN ESTABLISHED. ALL TEMPORARY EROSION CONTROL MEASURES SHALL BE PROPERLY MAINTAINED UNTIL THE OWNER APPROVES REMOVAL.
31. TRENCH BACKFILL AND COMPACTION SHALL BE PERFORMED IN ACCORDANCE WITH THE CONSTRUCTION SPECIFICATIONS. TRENCHES SHALL BE BACKFILLED AND COMPACTED TO MINIMIZE SETTLEMENT AND SCOURING. IT IS THE RESPONSIBILITY OF THE PERSON PERFORMING THE CONSTRUCTION TO CORRECT ANY SETTLED OR SCOURED AREAS THROUGHOUT THE WARRANTY PERIOD.
32. WATER AND SEWER LINES ARE EXEMPT FROM 50- AND 75-FOOT BUFFERS. A 25-FOOT BUFFER SHALL BE MAINTAINED FOR ALL UTILITIES INCLUDING PERMANENT AND TEMPORARY CONSTRUCTION EASEMENTS.
33. ALL GRASSING/SODDING AND MULCHING SHALL TAKE PLACE AS SOON AS PRACTICAL AFTER BACKFILLING OF TRENCH EXCAVATIONS OR OTHER LAND DISTURBING ACTIVITIES.
34. CONSTRUCTION MATERIAL STORAGE AREA WILL REQUIRE THE INSTALLATION OF A CONSTRUCTION EXIT (Co) TO REDUCE OR ELIMINATE THE TRANSPORT OF MUD FROM THE AREA. SILT FENCE SHALL ALSO BE INSTALLED TO PREVENT SEDIMENT FROM LEAVING THE MATERIAL STORAGE AREA. AFTER DEMOBILIZATION, THE MATERIAL STORAGE AREA SHALL BE SEEDED AND MULCHED, AND THE SILT FENCE SHALL REMAIN UNTIL THE AREA IS PERMANENTLY STABILIZED.
35. STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED.
36. THERE IS NO FLOODPLAIN ON THIS PROPERTY FROM A WATER COURSE WITH A DRAINAGE AREA EXCEEDING 100 ACRES OR FLOODPLAIN PER FIRM MAP NUMBER 13013C0050D DATED DECEMBER 1, 2022.

SOIL TYPES (FROM USDA SOIL SURVEY)		
SYMBOL	SOIL NAME	DESCRIPTION
ApB	APPLING	SANDY LOAM 2 TO 6% SLOPES
ApC	APPLING	SANDY LOAM 6 TO 10% SLOPES

ANTICIPATED ACTIVITY SCHEDULE

ACTIVITY	MONTH 1	2	3	4	5	6	7	8	9	10	11	12
BARROW NW TANK												
INSTALLATION OF EROSION CONTROL												
MAINTENANCE OF EROSION CONTROL												
TANK CONSTRUCTION												
WATER MAIN CONSTRUCTION												
FINAL CLEANUP AND GRASSING												

EROSION CONTROL LEGEND

	DESCRIPTION	SYMBOL
Ss	SLOPE STABILIZATION	N.A.
Ch-2	RIP RAP CHANNEL STABILIZATION	
Co	CONSTRUCTION EXIT	
Sd1-S	SILT FENCE	XX
Su	SURFACE ROUGHENING	N.A.
	DISTURBED AREA LIMITS	
Sd4-C	TEMPORARY SEDIMENT TRAP	N.A.
Wa	CONCRETE WASHOUT AREA	

Ds1 STABILIZE DISTURBED AREA (WITH MULCHING ONLY) - AS NECESSARY

APPLIES TO DISTURBED AREAS WHERE SEEDING MAY NOT HAVE SUITABLE GROWING SEASON TO PRODUCE AN EROSION RETARDANT COVER.

SPECIES	RATE
STRAW OR HAY	2.5 TONS/AC.

Ds2 TEMPORARY GRASSING - AS NECESSARY

TEMPORARY GRASSING SHALL CONSIST OF SOWING A QUICK GRASS SUCH AS RYE, BROWN TOP MILLET, OR A GRASS SUITABLE TO THE AREA AND SEASON. LIME AND FERTILIZER SHALL BE OMITTED.

SPECIES	RATE	PLANTING DATE
RYEGRASS, ANNUAL	40#/AC.	AUGUST THRU MARCH
MILLET, BROWNTOP	40#/AC.	APRIL THRU JULY

Ds3 PERMANENT GRASSING

PERMANENT GRASSING SHALL CONSIST OF GROUND PREPARATION, LIMING AND FERTILIZATION, SEEDING, AND MULCHING.

THE GROUND SHALL BE PREPARED BY PLOWING AND DISKING NOT LESS THAN 4". FERTILIZER AND LIME SHALL BE UNIFORMLY MIXED INTO THE GROUND - FERTILIZER AT A RATE OF 1500#/AC. AND LIME AT 1750#/AC. THE GROUND SHALL BE FINISHED OFF SMOOTH AND UNIFORM BEING FREE OF ROCKS, CLODS, ROOTS, ETC. FERTILIZER MIXED GRADE SHALL BE EITHER 4-12-12; 6-12- 12 OR 10-10-10. SEEDING SHALL BE DONE WITHIN 24 HOURS OF THE FERTILIZER APPLICATION, WEATHER PERMITTING. SEED SHALL BE UNIFORMLY SPREAD AT THE RATE SHOWN BELOW. MULCHING IS REQUIRED AND SHALL BE DONE IMMEDIATELY AFTER SEEDING. MULCH SHALL BE UNIFORMLY APPLIED OVER THE AREA LEAVING APPROXIMATELY 25% OF THE GROUND SURFACE EXPOSED. MULCHING MATERIAL SHALL BE DRY STRAW OR DRY HAY OF GOOD QUALITY, FREE OF WEED SEEDS. APPLY AT A RATE OF 2.5 TONS PER ACRE. THE RATE OF APPLICATION SHALL BE DOUBLED ON SIDE SLOPES 4:1 AND STEEPER.

SPECIES	RATE	PLANTING DATE
TALL FESCUE	30#/AC.	AUGUST THRU OCTOBER
COMMON BERMUDA (UNHULLED)	10#/AC.	OCTOBER THRU FEBRUARY
COMMON BERMUDA (HULLED)	10#/AC.	MARCH THRU JUNE
SERICEA LESPEDEZA	75#/AC.	ALL YEAR

GEORGIA REGISTERED PROFESSIONAL ENGINEER NO. 26818 8/6/25 RICHARD H. CROWDER

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BARROW NORTHWEST ELEVATED WATER STORAGE TANK

EROSION CONTROL NOTES

SHEET TITLE

DESIGN RC | DRAWN DP | CHECKED RC

NO	DATE	DESCRIPTION
0	08/05/25	ISSUED FOR BID

RELEASE

E23136
PPI PROJECT NO.

08

PLOT DATE: 8/5/2025 9:49 AM FILE PATH: W:\PROJECTS\2023\23136-WR-BARROW NW TANK\DWG\23136_C050_EROSION CONTROL NOTES.DWG - 2025-08-05 - DYLAN PARKER

NOTES:
1. SEE SHEET 8 FOR EROSION CONTROL NOTES AND LEGEND.
2. CONSTRUCTION OF ROCK OUTLET TEMP. SEDIMENT BASIN (SD4C) SHALL BE IN ACCORDANCE WITH THE GEORGIA STANDARD SPECIFICATIONS OF TRANSPORTATION SYSTEMS, LATEST EDITION.

CO CONSTRUCTION EXIT
CONTRACTOR TO DETERMINE ACTUAL LOCATION BASED ON MATERIAL STORAGE AREA LOCATION.
GPS COORDINATES:
LAT 34.0865° N
LONG 83.8189° W

0.19 AC ADDITIONAL SITE AREA FOR ASPHALT REPAIR

0.81 AC DRAINAGE AREA FOR SD4-C

Wa CONCRETE WASH OUT AREA

INSTALL ORANGE BARRIER FENCE PRIOR TO CONSTRUCTION

PLACE DOUBLE ROW OF RIP RAP SPREADER BERMS AT TOE OF SLOPE BENEATH DOWNDRAIN (RB1 10)

Sd4-C ROCK OUTLET TEMP. SEDIMENT TRAP (TYP.)
V=0.4xAxD
=0.4x 4979 SF X 4 FT
= 7966 CF = 295 CY

Ss SLOPE STABILIZATION (A1)

SOIL TYPE AND DELINEATION (TYP.)

STORM WATER MONITORING POINT A1

SILT FENCE TYPE "S" (TYP.) Sd1-S

LIMITS OF DISTURBANCE (TYP.)

HIGHWAY 124
80' RIGHT-OF-WAY
ASPHALT PAVING

OLD VICTRON SCHOOL ROAD
80' RIGHT-OF-WAY
ASPHALT PAVING

N/F
XX024 035A
BARROW COUNTY
D.B. 2189, PG. 233
P.B. 49, PG. 18

N/F
XX024 036
RODRIGUEZ LUIS SR AND
RODRIGUEZ MARIA ISABEL
D.B. 2124, PG. 441
P.B. 6, PG. 40

N/F
XX024 035
BARROW COUNTY
D.B. 2189, PG. 233
P.B. 49, PG. 18
P.B. 16, PG. 142

N/F
XX024 037
ERNIE R. STOVALL
D.B. 1958, PG. 741
P.B. 64, PG. 156
P.B. 14, PG. 95

N/F
XX024 034
NELES, LLC
D.B. 2446, PG. 43
P.B. 13, PG. 214

EX. 12" WATER MAIN
EX. 0.3 MG WATER TANK
RAILROAD TIE WALL
1 STORY BLOCK BUILDING
GRAVEL (TYP.)
ASPHALT PAVING
APPROXIMATE PROPERTY LINE
4' CHAINLINK FENCE W/ BARBED WIRE

ApB
ApC

GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)
1 inch = 30 ft.

Ds1	MULCHING
Ds2	TEMPORARY GRASSING
Ds3	PERMANENT GRASSING TO BE APPLIED TO ALL DISTURBED AREAS
Du	DUST CONTROL – AS NECESSARY
Ss	PLACE EROSION CONTROL MATTING AFTER SEEDING ON ALL DISTURBED SLOPES 3:1 OR GREATER

GEORGIA REGISTERED PROFESSIONAL ENGINEER RICHARD H. CROWDER NO. 29928 8/5/25

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BARROW NORTHWEST ELEVATED WATER STORAGE TANK

EROSION CONTROL PLAN

SHEET TITLE

DESIGN RC | DRAWN DP | CHECKED RC

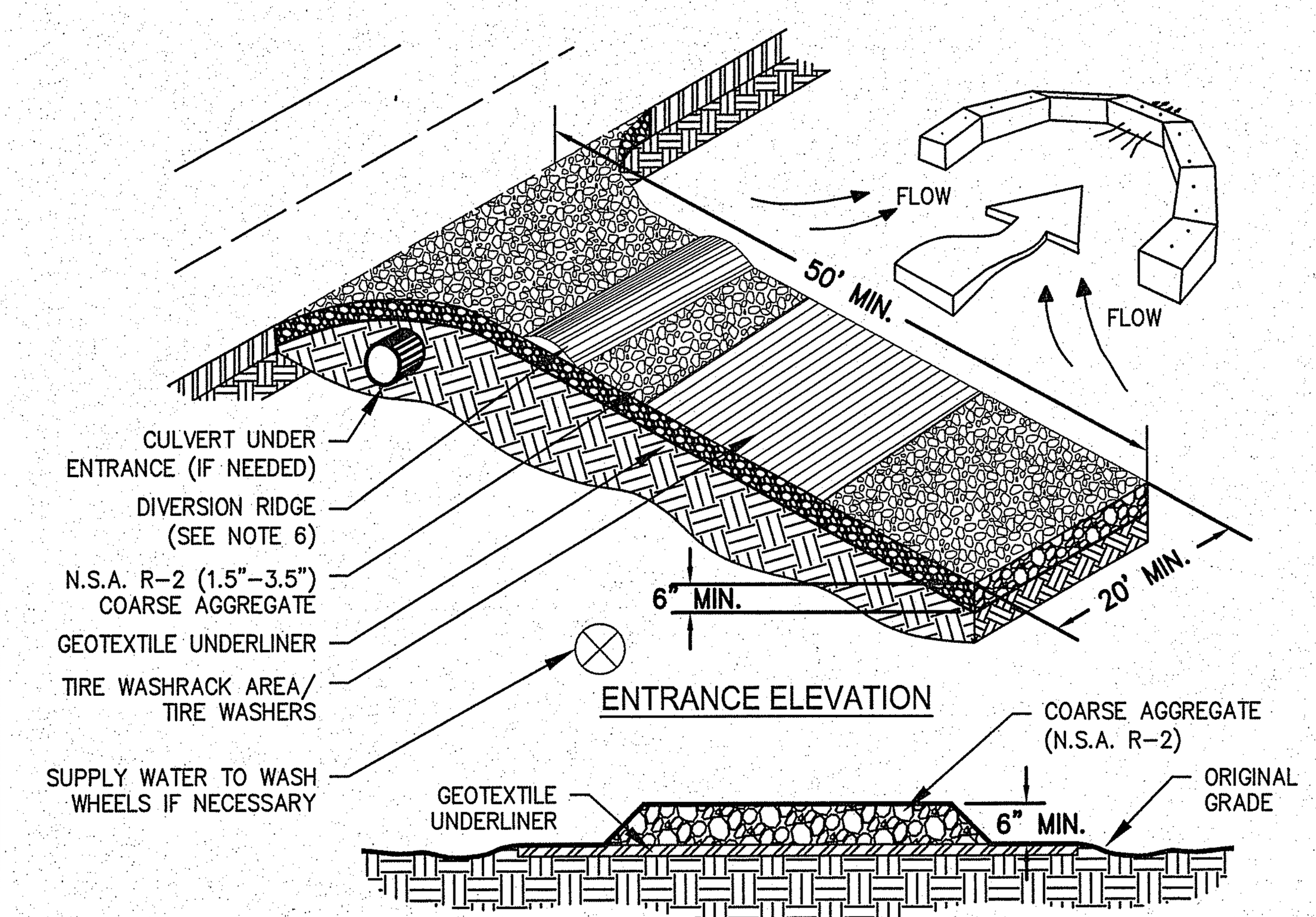
NO.	DATE	DESCRIPTION
0	08/05/25	ISSUED FOR BID

RELEASE

E23136
PPI PROJECT NO.

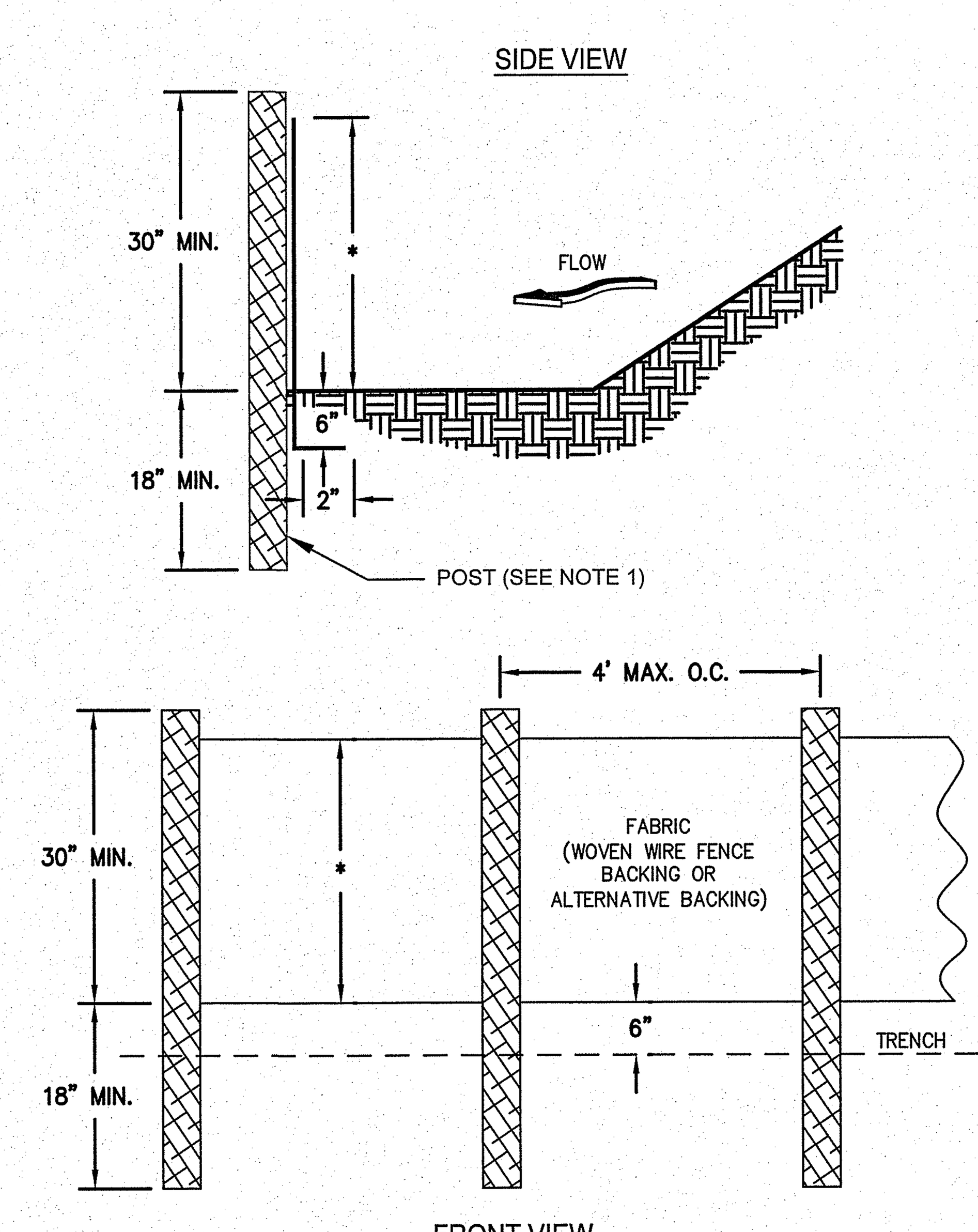
09

PLOT DATE: 8/5/2025 9:50 AM FILE PATH: W:\PROJECTS\2023\23136-WR-BARROW NW TANK\DWG\23136_EROSION CONTROL PLAN.DWG – 2025-08-05 – DYLAN PARKER



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.

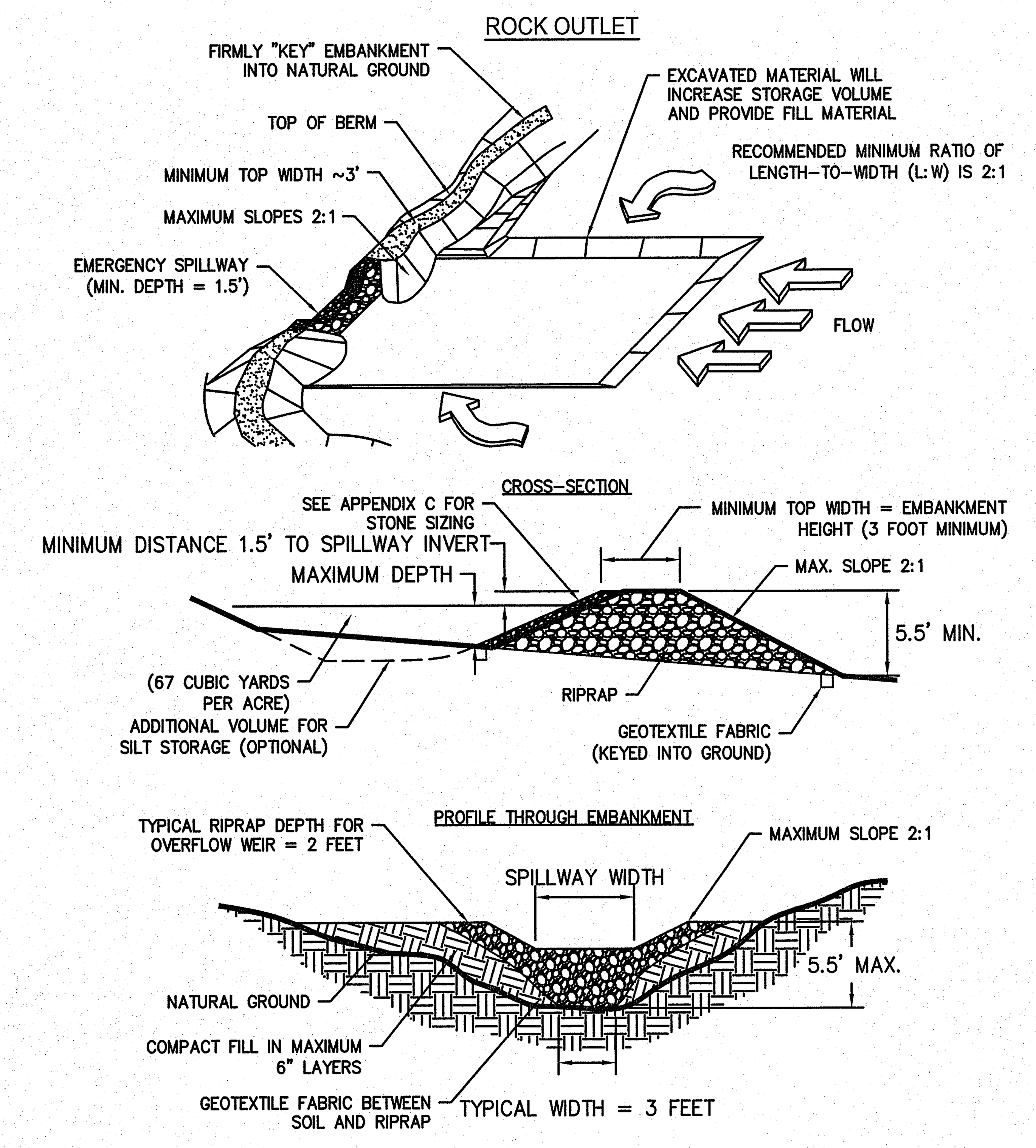
Co CONSTRUCTION EXIT



NOTES:
1. USE STEEL OR WOOD POSTS OR AS SPECIFIED BY THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.
2. HEIGHT (*) IS TO BE SHOWN ON THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.

Sd1-S SEDIMENT BARRIER

SENSITIVE AREAS - TYPE C SILT FENCE



Sd4-C TEMPORARY SEDIMENT TRAP

TYPE: ROCK OUTLET

METHODS 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 AREAS 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, SNOWFENCES, 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 TIME THEIR HEIGHT ARE EFFECTIVE IN CONTROLLING WIND EROSION. CALCIUM CHLORIDE. APPLY AT RATE THAT WILL KEEP SURFACE MOIST. MAY NEED RE-TREATMENT.

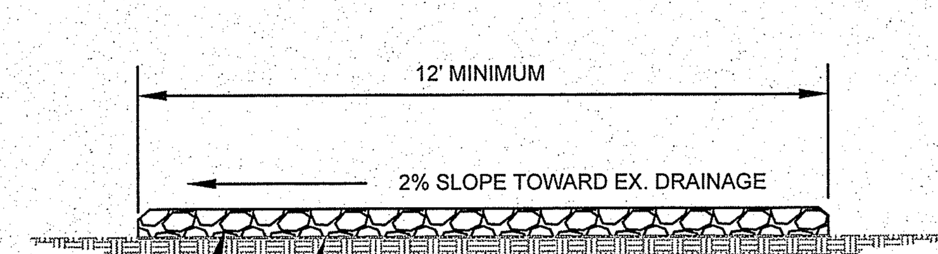
B. PERMANENT METHODS

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

Du DUST CONTROL ON DISTURBED AREAS

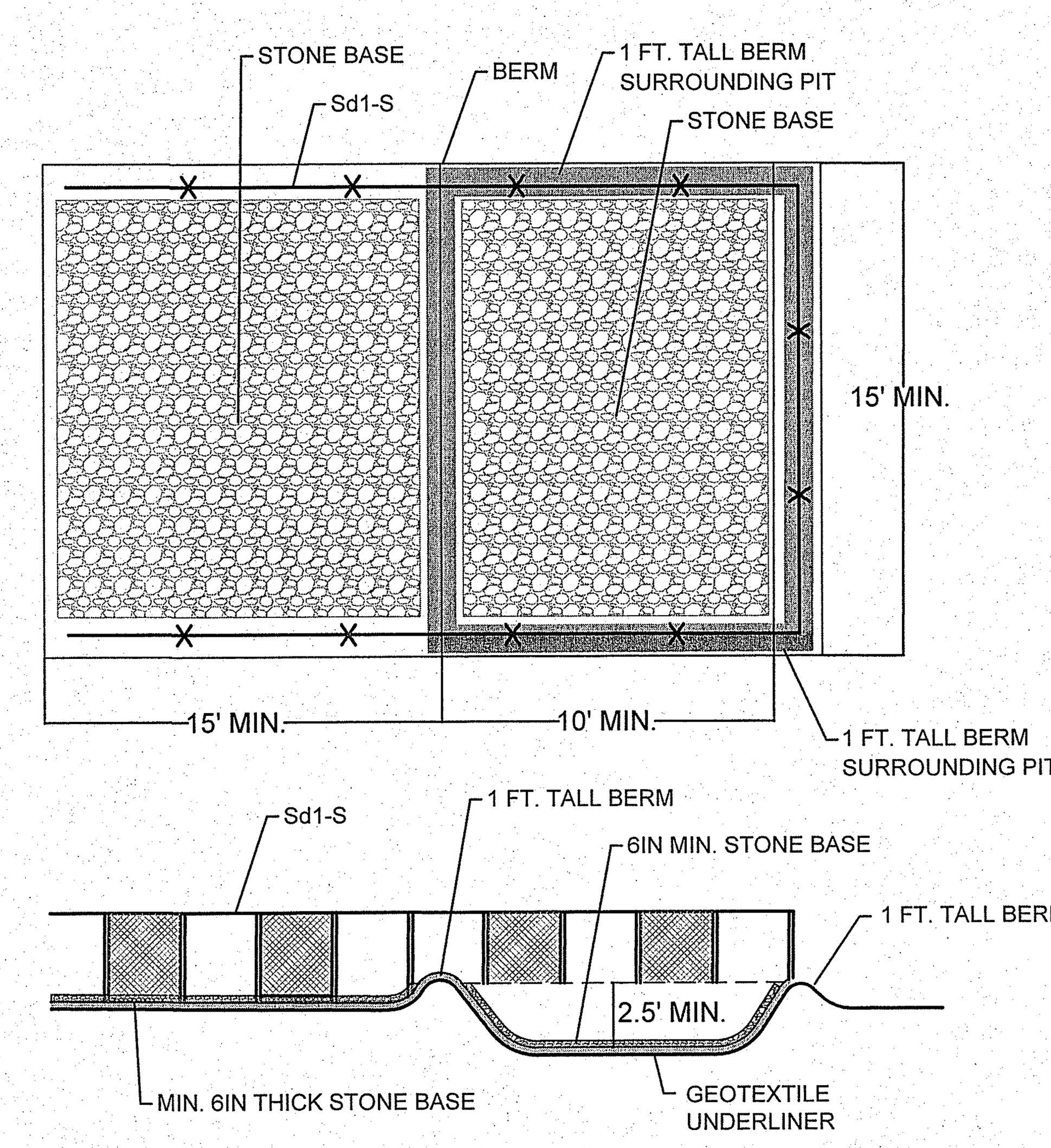


* DEPENDANT UPON EQUIPMENT PROPOSED TO BE USED BY CONTRACTOR

NOTES:
1. ALL MATERIALS SPILLED, DROPPED, WASHED OR TRACKED FROM VEHICLES ON SITE ONTO ROADS AND OUTSIDE ROAD LIMITS ARE TO BE REMOVED IMMEDIATELY.
2. PROVIDE PERIODIC TOP DRESSING WITH 1.5" TO 3.5" DIA. COARSE AGGREGATE AS NECESSARY FOR STABILIZATION.
3. USE WATER BREAKS OR BARS TO CONTROL SURFACE RUNOFF AS REQUIRED OR DIRECTED BY GCDWR.
4. UPON FINAL ACCEPTANCE OF ALL WORK ACCESSED BY A CONSTRUCTION ROAD, THAT ROAD SHALL BE COMPETELY REMOVED (ALL AGGREGATE, FABRIC, GRADE TO PRE-CONSTRUCTION CONTOURS) AND STABILIZED WITH APPROPRIATE EROSION CONTROL PRACTICES.

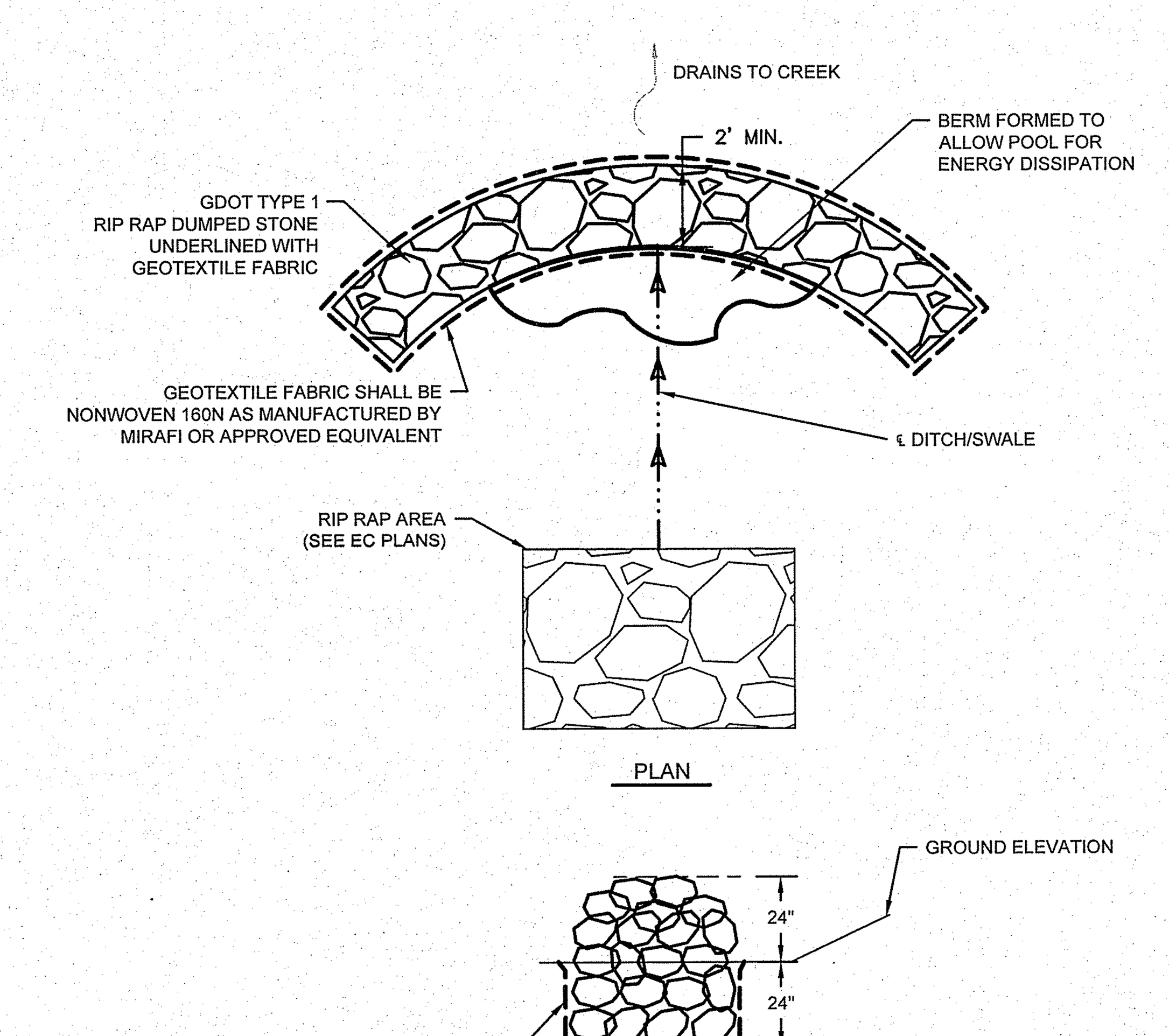
Cr CONSTRUCTION ROAD STABILIZATION

N.T.S.



CONCRETE WASHDOWN OF THE DRUM IS NOT ALLOWED ON-SITE.
TO BE INSTALLED AND OPERATIONAL PRIOR TO ANY CONCRETE WORK ON-SITE.
STONE BASE SIZE = N.S.A R-2 1 1/2" TO 3 1/2" DIA. COARSE AGGREGATE.
PROVIDE PERIODIC TOP DRESSING AS NECESSARY WITH 1 1/2" TO 3 1/2" DIA. STONE.

Wa CONCRETE WASHOUT AREA

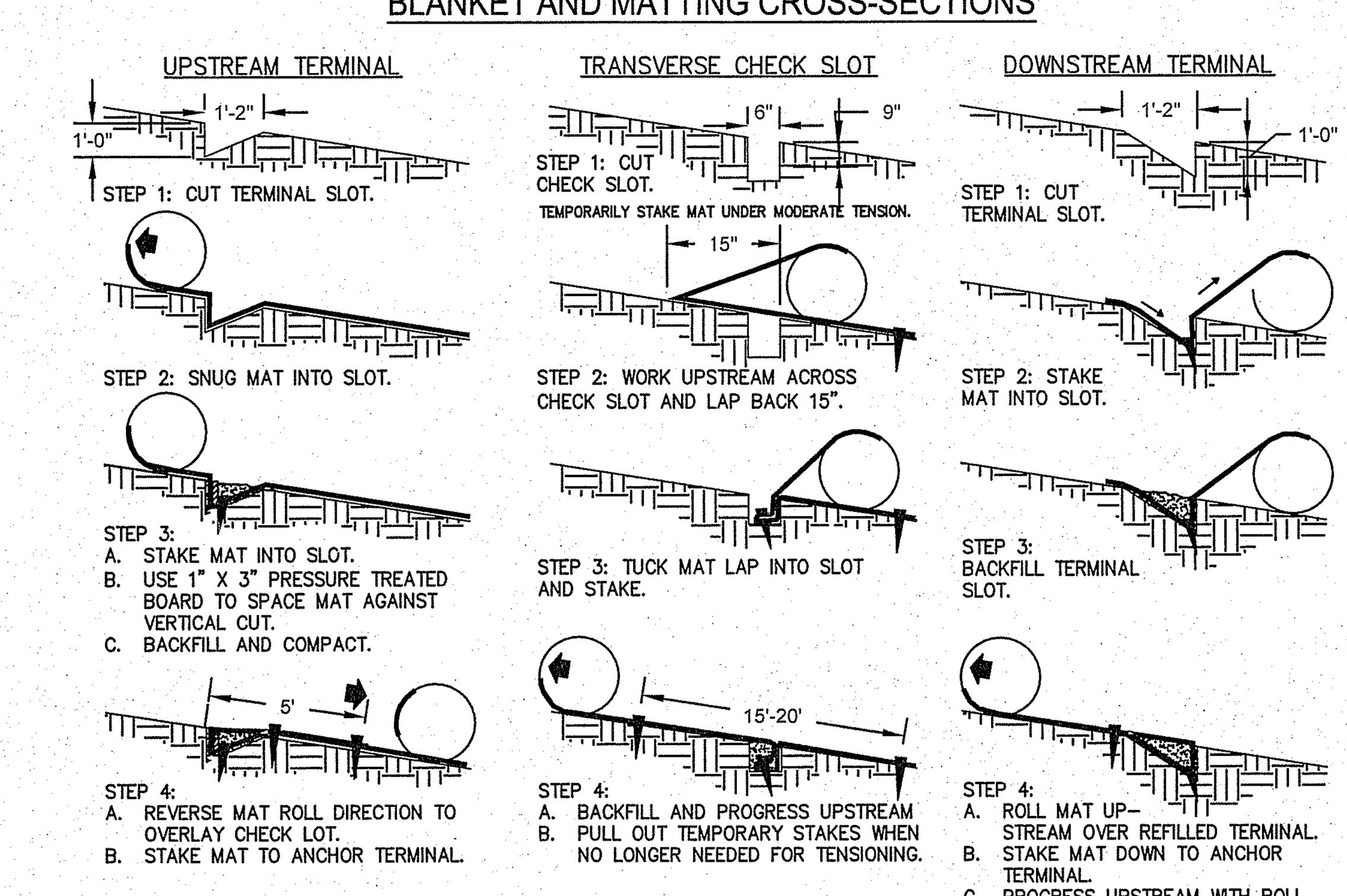


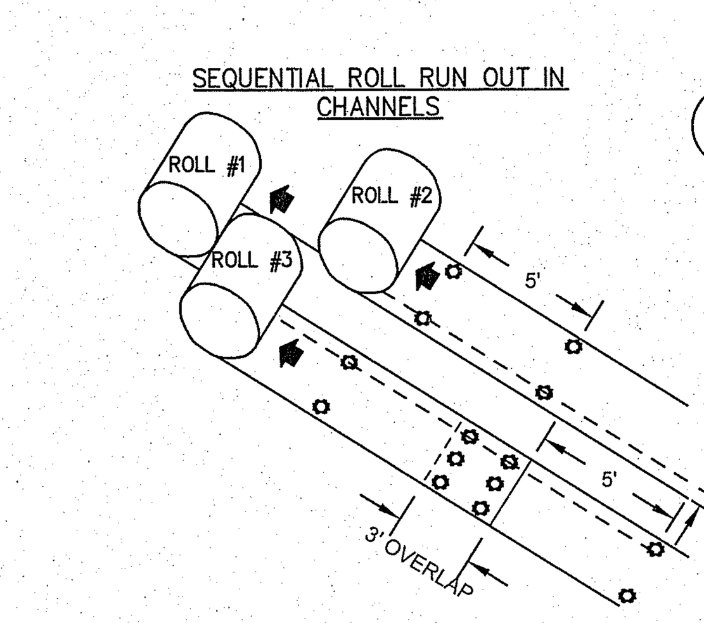
RB1 RIP RAP SPREADER BERM

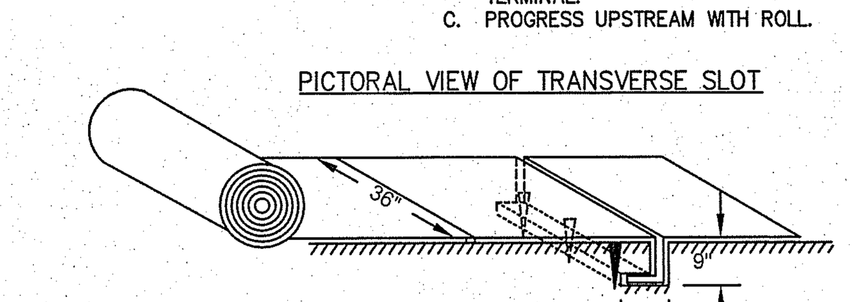
N.T.S.

TYPICAL INSTALLATION GUIDELINES FOR ROLLED EROSION CONTROL PRODUCTS (RECP)

BLANKET AND MATTING CROSS-SECTIONS







NOTES:
1. START AT DOWNSTREAM TERMINAL AND PROGRESS UPSTREAM.
2. FIRST ROLL IS CENTERED LONGITUDINALLY IN MID-CHANNEL AND PINNED WITH TEMPORARY STAKES TO MAINTAIN ALIGNMENT.
3. SUBSEQUENT ROLLS FOLLOW IN STAGGERED SEQUENCE BEHIND THE FIRST ROLL. USE THE CENTER ROLL FOR ALIGNMENT TO THE CHANNEL CENTER.
4. WORK OUTWARDS FROM THE CHANNEL CENTER TO THE EDGE.
5. USE 3" OVERLAPS AND STAKE AT 5' INTERVALS ALONG THE SEAMS.
6. USE 3' OVERLAPS AND SHINGLE DOWNSTREAM TO CONNECT THE LINING AT THE ROLL ENDS.

Ss SLOPE STABILIZATION

TYPE (BLANKET AND MATTING)

PLOT DATE: 8/5/2025 9:52 AM FILE PATH: W:\PROJECTS\2023\23136-WR-BARROW NW TANK\DWG\23136_EROSION CONTROL DETAILS.DWG - 2025-08-05 - DYLAN PARKER

GEORGIA REGISTERED NO. 26613 PROFESSIONAL ENGINEER RICHARD H. CROWDER 8/5/25

STAMP

PRECISION Planning Inc.
planners • engineers • architects • surveyors
Georgia Engineering Firm COA # PEF000529
400 Pike Boulevard, Lawrenceville, GA 30046
770.338.8000 • www.ppi.us

BARROW NORTHWEST ELEVATED WATER STORAGE TANK

EROSION CONTROL DETAILS

SHEET TITLE

DESIGN	DRAWN	CHECKED
RC	DP	RC

DATE	NO	DESCRIPTION
08/05/25	0	ISSUED FOR BID

RELEASE

E23136
PPI PROJECT NO.

10

The following statements are referenced from "Authorization to Discharge Under The National Pollutant Discharge Elimination System Storm Water Discharges Associated With Construction Activity for Infrastructure Construction" General Permit No. GAR 100002, Part IV. For the purposes of this plan the term Precision Planning, Inc. (PPI) is the Design Professional of these construction documents.

GAR 100002 PART IV.

D. Contents of Plan.
4. Inspections.
(a) Permittee requirements.
(1) Each day when any type of construction activity has taken place at a primary permittee's site, certified personnel provided by the primary permittee shall inspect: (a) all areas at the primary permittee's site where petroleum products are stored, used, or handled for spills and leaks from vehicles and equipment and (b) all locations at the primary permittee's site where vehicles enter or exit the site for evidence of off-site sediment tracking. These inspections must be conducted until a Notice of Termination is submitted.

(2) Measure and record rainfall within disturbed areas of the site that have not met final stabilization once every 24 hours except any non-working Saturday, non-working Sunday and non-working Federal Holiday. The data collected for the purpose of compliance with this permit shall be representative of the monitored activity. Measurement of rainfall may be suspended if all areas of the site have undergone final stabilization or established a crop of annual vegetation and a seeding of target perennials appropriate for the region.

(3) Certified personnel (provided by the Primary Permittee) shall inspect the following at least once every fourteen (14) calendar days: (a) disturbed areas of the Primary Permittee's construction site; (b) areas used by the Primary Permittee for storage of materials that are exposed to precipitation; and (c) structural control measures. Erosion and sediment control measures identified in the Plan applicable to the Primary Permittee's site shall be observed to ensure that they are operating correctly. Certified personnel shall also conduct inspections within 24 hours of the end of a storm that is 0.5 inches rainfall or greater (unless such storm ends after 5:00 PM on any Friday or on any non-working Saturday, non-working Sunday or any non-working Federal holiday in which case the inspection shall be Completed by the end of the next business day and/or working day, whichever occurs first). Post-rain inspections will reset the 14-day inspection frequency requirement. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving water(s). For areas of a site that have undergone final stabilization or established a crop of annual vegetation and a seeding of target perennials appropriate for the region, the permittee must comply with Part IV.D.4.a.(4). These inspections must be conducted until a Notice of Termination is submitted.

(4) Certified personnel (provided by the primary permittee) shall inspect at least once per month during the term of this permit (i.e., until a Notice of Termination is submitted to EPD) the areas of the site that have undergone final stabilization or established a crop of annual vegetation and a seeding of target perennials appropriate for the region. These areas shall be inspected for evidence of, or the potential for, pollutants entering the drainage system and the receiving water(s). Erosion and sediment control measures identified in the Plan shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving water(s).

(5) Based on the results of each inspection, the site description and the pollution prevention and control measures identified in the Erosion, Sedimentation and Pollution Control Plan, the Plan shall be revised as appropriate not later than seven (7) calendar days following each inspection. Implementation of such changes shall be made as soon as practical but in no case later than seven (7) calendar days following each inspection.

(6) A report of each inspection that includes the name(s) of certified personnel making each inspection, the date(s) of each inspection, construction phase (i.e., initial, intermediate or final), major observations relating to the implementation of the Erosion, Sedimentation and Pollution Control Plan, and actions taken in accordance with Part IV.D.4.a.(5). of the permit shall be made and retained at the site or be readily available at a designated alternate location until the entire site or that portion of a construction site that has been phased has undergone final stabilization and a Notice of Termination is submitted to EPD. Such reports shall be readily available by end of the second business day and/or working day and shall identify all incidents of best management practices that have not been properly installed and/or maintained as described in the Plan. Where the report does not identify any incidents, the inspection report shall contain a statement that the best management practices are in compliance with the Erosion, Sedimentation and Pollution Control Plan. The report shall be signed in accordance with Part V.G.2. of this permit.

5. Maintenance. The Plan shall include a description of procedures to ensure the timely maintenance of vegetation, erosion and sediment control measures and other protective measures identified in the site plan.

6. Sampling Requirements. This permit requires the monitoring of nephelometric turbidity in receiving water(s) or outfalls in accordance with this permit. The following procedures constitute EPD's guidelines for sampling turbidity.

a. Sampling Requirements shall include the following:

(1) A USGS topographic map, a topographic map or a drawing (referred to as a topographic map) that is a scale equal to or more detailed than a 1:24000 map showing the location of the infrastructure construction; (a) the location of all perennial and intermittent streams and other water bodies as shown on a USGS topographic map, and all other perennial and intermittent streams and other water bodies located during mandatory field verification, into which the stormwater is discharged and (b) the receiving water and/or outfall sampling locations for each representative stormwater outfall. When the permittee has chosen to use a USGS topographic map and the receiving water(s) is not shown on the USGS topographic map, the location of the receiving water(s) must be hand-drawn on the USGS topographic map from where the stormwater(s) enters the receiving water(s) to the point where the receiving water(s) combines with the first blue line stream shown on the USGS topographic map;

(2) A written narrative of site specific analytical methods used to collect and analyze the samples including quality control/quality assurance procedures. This narrative must include precise sampling methodology for each sampling location;

(3) When the permittee has determined that some or all outfalls will be sampled, a rationale must be included on the Plan for the NTU limit(s) selected from Appendix B. This rationale must include the size of the construction site, the calculation of the size of the surface water drainage area, and the type of receiving water(s) (i.e., trout stream or supporting warm water fisheries); and

(4) Any additional information EPD determines necessary to be part of the Plan. EPD will provide written notice to the permittee of the information necessary and the time line for submittal.

b. Sample Type. All sampling shall be collected by "grab samples" and the analysis of these samples must be conducted in accordance with methodology and test procedures established by 40 CFR Part 136 (unless other test procedures have been approved), the guidance document titled "NPDES Storm Water Sampling Guidance Document, EPA 833-B-92-001" and guidance documents that may be prepared by the EPD.

(1) Sample containers should be labeled prior to collecting the samples.

(2) Samples should be well mixed before transferring to a secondary container.

(3) Large mouth, well cleaned and rinsed glass or plastic jars should be used for collecting samples. The jars should be cleaned thoroughly to avoid contamination.

(4) Manual, automatic or rising stage sampling may be utilized. Samples required by this permit should be analyzed immediately, but in no case later than 48 hours after collection. However, samples from automatic samplers must be collected no later than the next business day after their accumulation, unless flow through automated analysis is utilized. If automatic sampling is utilized and the automatic sampler is not activated during the qualifying event, the permittee must utilize manual sampling or rising stage sampling during the next qualifying event. Dilution of samples is not required. Samples may be analyzed directly with a properly calibrated turbidimeter. Samples are not required to be cooled.

(5) Sampling and analysis of the receiving water(s) or outfalls beyond the minimum frequency stated in this permit must be reported to EPD as specified in Part IV.E.

c. Sampling Points.

(1) For construction activities the primary permittee must sample all perennial and intermittent streams and other water bodies shown on the USGS topographic map and all other field verified perennial and intermittent streams and other water bodies, or a combination thereof. However, provided for in and in accordance with Part IV.D.6.c.(2). of this permit, primary permittees on an infrastructure construction project may sample the representative perennial and intermittent streams, other water bodies or outfalls, or a combination thereof. Samples taken for the purpose of compliance with this permit shall be representative of the monitored activity and representative of the water quality of the receiving water(s) and/or the storm water outfalls using the following minimum guidelines:

(a) The upstream sample for each receiving water(s) must be taken immediately upstream of the confluence of the first stormwater discharge from the permitted activity (i.e., the discharge farthest upstream at the site) but downstream of any other stormwater discharges not associated with the permitted activity. Where appropriate, several upstream samples from across the receiving water(s) may need to be taken and the arithmetic average of the turbidity of these samples used for the upstream turbidity value.

(b) The downstream sample for each receiving water(s) must be taken downstream of the confluence of the last stormwater discharge from the permitted activity (i.e., the discharge farthest downstream at the site) but upstream of any other stormwater discharge not associated with the permitted activity. Where appropriate, several downstream samples from across the receiving water(s) may need to be taken and the arithmetic average of the turbidity of these samples used for the downstream turbidity value.

(c) Ideally the samples should be taken from the horizontal and vertical center of the receiving water(s) or the stormwater outfall channel(s).

(d) Care should be taken to avoid stirring the bottom sediments in the receiving water(s) or in the outfall stormwater channel.

(e) The sampling container should be held so that the opening faces upstream.

(f) The samples should be kept free from floating debris.

(g) Permittees do not have to sample sheetflow that flows onto undisturbed natural areas or areas stabilized by the project. For purposes of this section, stabilized shall mean, for unpaved areas and areas not covered by permanent structures, 100% of the soil surface is uniformly covered in permanent vegetation with a density of 70% or greater, or landscaped according to the Plan (uniformly covered with landscaping materials in planned landscape areas), or equivalent permanent stabilization measures as defined in the Manual (excluding a crop of annual vegetation and a seeding of target crop perennials appropriate for the region). For infrastructure construction projects on land used for agricultural or silvicultural purposes, final stabilization may be accomplished by stabilizing the disturbed land for its agricultural or silvicultural use.

(h) All sampling pursuant to this permit must be done in such a way (including generally accepted sampling methods, locations, timing, and frequency) as to accurately reflect whether stormwater runoff from the construction site is in compliance with the standard set forth in Parts III.D.3. or III.D.4., whichever is applicable.

(2) For infrastructure construction projects, the permittee is not required to sample a perennial or intermittent stream or other water bodies (or the associated outfall, if applicable) if the design professional preparing the Plan certifies that an increase in the turbidity of a specific identified receiving water to be sampled will be representative of the increase in the turbidity of a specific identified un-sampled receiving water. A written justification and detailed analysis shall be prepared by the design professional justifying such proposed sampling. A summary chart of the justification and analysis for the representative sampling must be included on the Plan. The justification and analysis shall include the location and description of the specified sampled and un-sampled receiving water and shall contain a detailed comparison and discussion of each such receiving water in the following areas:

(a) site land disturbances and characteristics;

(b) receiving water watershed sizes and characteristics; and

(c) site and watershed runoff characteristics utilizing the methods in Appendix A-1 (United States Department of Agriculture Soil Conservation Service's TR-55, Urban Hydrology for Small Watersheds) of the most recent version of the "Manual for Erosion and Sedimentation Control in Georgia" for the various precipitation events and any other such considerations necessary to show that the increase in the turbidity of a specific identified sampled receiving water will be representative of the increases in the turbidity of a specific identified un-sampled receiving water(s).

(3) For infrastructure construction projects, when the permittee determines that some receiving water(s) will not be sampled due to representative sampling, the design professional making this determination and preparing the Plan must include and sign the following certification in the Plan:

"I certify that the permittee's Erosion, Sedimentation and Pollution Control Plan provides for the monitoring of: (a) all perennial and intermittent streams and other water bodies shown on the USGS topographic map and all other field verified perennial and intermittent streams and other water bodies, or (b) where any such specific identified perennial or intermittent stream and other water body is not proposed to be sampled, I have determined in my professional judgment, utilizing the factors required in the General NPDES Permit No. GAR 100002, that the increase in the turbidity of each specific identified sampled receiving water will be representative of the increase in the turbidity of each specific identified sampled receiving water will be representative of the increase in the turbidity of a specific identified un-sampled receiving water."

(4) For infrastructure construction projects, if at any time during the life of the project a selected receiving water no longer represents another receiving water, then the permittee shall sample the latter receiving water until selection of an alternative representative receiving water.

(5) For infrastructure projects, if at any time during the life of the project a receiving water is determined not to be represented as certified in the Plan, the permittee shall sample that receiving water until a Notice of Termination is submitted or until the applicable phase is stabilized in accordance with this permit.

(6) For infrastructure construction projects, monitoring obligations shall cease for any phase of the project that has been stabilized in accordance with Part IV.D.6.c.(1).(g).

d. Sampling Frequency.

(1) The primary permittee must sample in accordance with the Plan at least once for each rainfall event described below. For a qualifying event, the permittee shall sample at the beginning of any stormwater discharge to a monitored receiving water and/or from a monitored outfall location within forty-five (45) minutes or as soon as possible.

(2) However, where manual and automatic sampling are impossible (as defined in this permit), or are beyond the permittee's control, the permittee shall take samples as soon as possible, but in no case more than twelve (12) hours after the beginning of the storm water discharge.

(3) Sampling by the permittee shall occur for the following qualifying events:

(a) For each area of the site that discharges to a receiving water or from an outfall, the first rain event that reaches or exceeds 0.5 inch with a stormwater discharge that occurs during normal business hours after all clearing and grubbing operations have been completed, but prior to completion of mass grading operations, in the drainage area of the location selected as the representative sampling location;

(b) In addition to (a) above, for each area of the site that discharges to a receiving water or from an outfall, the first rain event that reaches or exceeds 0.5 inch with a stormwater discharge that occurs during normal business hours either 90 days after the first sampling event or after all mass grading operations have been completed, but prior to submittal of a NOT, in the drainage area of the location selected as the representative sampling location, whichever comes first;

(c). At the time of sampling performed pursuant to (a) and (b) above, if BMPs in any area of the site that discharges to a receiving water or from an outfall are not properly designed, installed and maintained, corrective action shall be defined and implemented within two (2) business days, and turbidity samples shall be taken from discharges from that area of the site for each subsequent rain event that reaches or exceeds 0.5 inch during normal business hours* until the selected turbidity standard is attained, or until post-rain event inspections determine that BMPs are properly designed, installed and maintained;

(d) Where sampling pursuant to (a), (b) or (c) above is required but not possible (or not required because there was no discharge), the permittee, in accordance with Part IV.D.4.a.(6)., must include a written justification in the inspection report of why sampling was not performed. Providing this justification does not relieve the permittee of any subsequent sampling obligations under (a), (b) or (c) above; and

(e) Existing construction activities, i.e., those that are occurring on or before the effective date of this permit, that have met the sampling required by (a) above shall sample in accordance with (b) those existing construction activities that have met the sampling required by (b) above shall not be required to conduct additional sampling other than as required by (c) above.

*Note that the Permittee may choose to meet the requirements of (a) and (b) above by collecting turbidity samples from any rain event that reaches or exceeds 0.5 inch and allows for sampling at any time of the day or week.

7. Non-stormwater discharges. Except for flows from fire fighting activities, sources of non-stormwater listed in Part III.A.2. of this permit that are combined with stormwater discharges associated with construction activity must be identified in the Plan. The Plan shall identify and ensure the implementation of appropriate pollution prevention measures for the non-stormwater component(s) of the discharge.

E. Reporting.

(1) The applicable permittees are required to submit the sampling results to the EPD by the fifteenth day of the month following the reporting period. Reporting periods are months during which samples are taken in accordance with this permit. Sampling results shall be in a clearly legible format. Upon written notification, EPD may require the applicable permittee to submit the sampling results on a more frequent basis. Sampling and analysis of any storm water discharge(s) or the receiving water(s) beyond the minimum frequency stated in this permit must be reported in a similar manner to the EPD. Sampling reports must be submitted to EPD using the electronic submittal service provided by EPD. Sampling reports must be submitted to EPD until such time as a NOT is submitted in accordance with Part VI.

(2) All sampling reports shall include the following information:

a. The rainfall amount, date, exact place, and time of sampling or measurements;

b. The name(s) of the certified personnel who performed the sampling and measurements;

c. The date(s) analyses were performed;

d. The time(s) analyses were initiated;

e. The name(s) of the certified personnel who performed the analyses;

f. References and written procedures, when available, for the analytical techniques or methods used;

g. The results of such analyses, including the bench sheets, instrument readouts, computer disks or tapes, etc., used to determine these results;

h. Results which exceed 1000 NTU shall be reported as "exceeds 1000 NTU"; and

i. Certification statement that sampling was conducted as per the Plan.

(3) All written correspondence required by this permit shall be submitted by return receipt certified mail (or similar service) to the appropriate EPD District Office or delivery receipt email to the appropriate EPD District Office resource mailbox according to the schedule in Appendix A of this permit. The permittee shall retain a copy of the proof of submittal at the construction site or the proof of submittal shall be readily available at a designated location from commencement of construction until such time as a NOT is submitted in accordance with Part VI.

F. Retention of Records.

(1) The Primary Permittee shall retain the following records at the construction site or the records shall be readily available at a designated alternate location from commencement of construction until such time as a NOT is submitted in accordance with Part VI:

a. A copy of all Notices of Intent submitted to EPD;

b. A copy of the Erosion, Sedimentation and Pollution Control Plan required by this permit;

c. The design professional's report of the results of the inspection conducted in accordance with Part IV.A.5.of this permit;

d. A copy of all monitoring information, results, and reports required by this permit;

e. A copy of all inspection reports generated in accordance with Part IV.D.4.a. of this permit;

f. A copy of all violation summaries and violation summary reports generated in accordance with Part III.D.2. of this permit; and

g. Daily rainfall information collected in accordance with Part IV.D.4.a.(2) of this permit.

(2) Copies of all Notices of Intent, Notices of Termination, inspection reports, sampling reports (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation), or other reports requested by the EPD, Erosion, Sedimentation and Pollution Control Plans, records of all data used to complete the Notice of Intent to be covered by this permit and all other records required by this permit shall be retained by the permittee who either produced or used it for a period of at least three years from the date that the the NOT is submitted in accordance with Part VI of this permit. These records must be maintained at the permittee's primary place of business or at a designated alternative location once the construction activity has ceased at the permitted site. This period may be extended by request of the EPD at any time upon written notification to the permittee.

RICHARD H. CROWDER – GASWCC CERTIFICATION # 00000011369

GEORGIA REGISTERED NO. 29538 PROFESSIONAL 5/5/25 ENGINEER RICHARD H. CROWDER

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BARROW NORTHWEST ELEVATED WATER STORAGE TANK

NPDES NOTES

SHEET TITLE

DESIGN	DRAWN	CHECKED
RC	DP	RC

NO	DATE	DESCRIPTION
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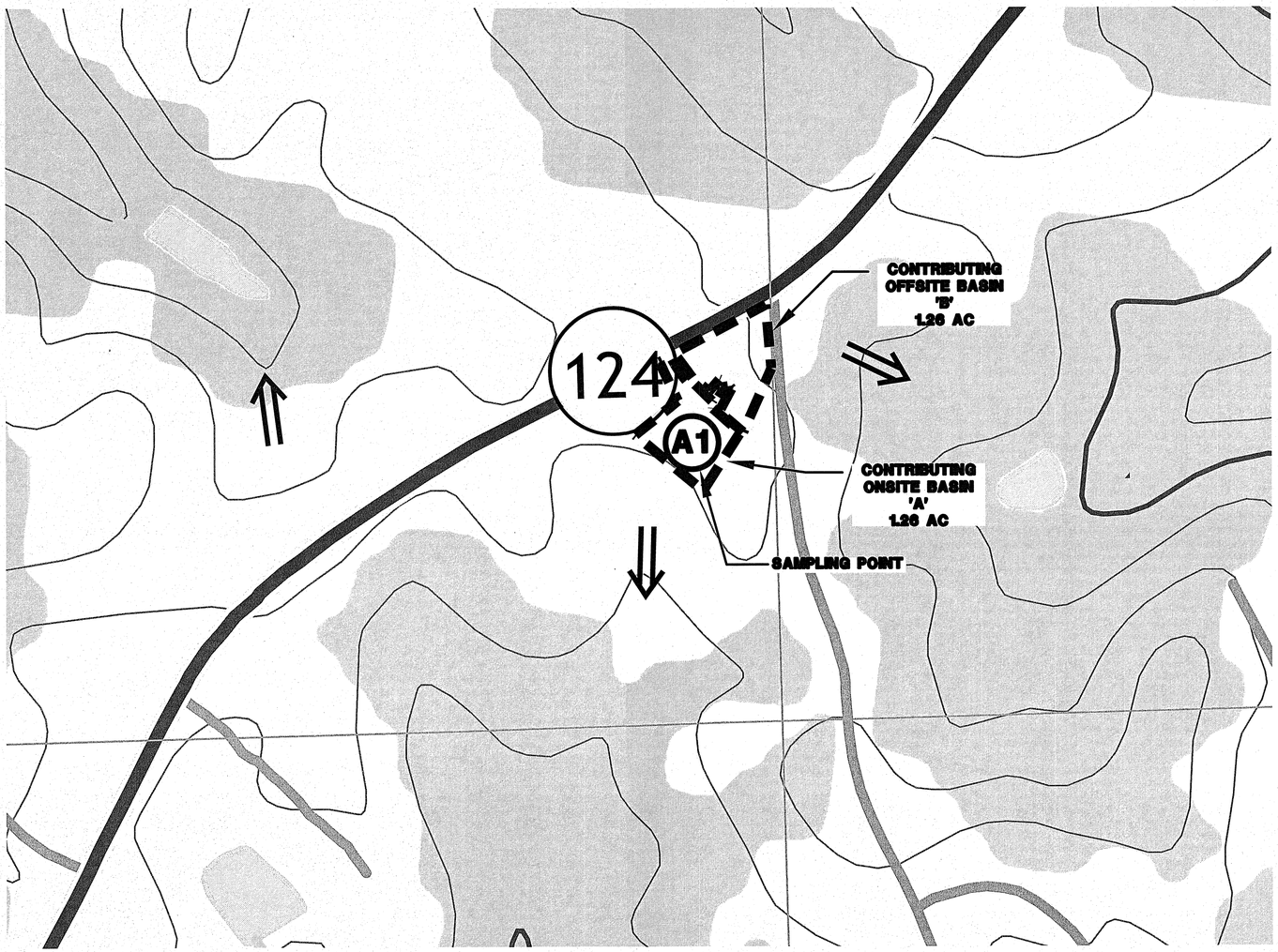
E23136
PPI PROJECT NO.

11

PLOT DATE: 8/5/2025 8:53 AM FILE PATH: W:\PROJECTS\2023\23136-WR-BARROW NW TANK\DWG\23136_NPDES & SWMP.DWG – 2025-08-05 – DYLAN PARKER



GRAPHIC SCALE

200 0 100 200 400 800

(IN FEET)
1 inch = 200 ft.

STORM WATER MONITORING

CONTRACTOR SHALL PERFORM MONITORING OF STORM WATER LEAVING THE CONSTRUCTION SITE IN ACCORDANCE WITH THE REQUIREMENTS OF GENERAL PERMIT NO. GAR100002. THE MONITORING POINTS FOR STORM WATER SAMPLING FOR THIS PROJECT ARE DESCRIBED AS FOLLOWS:

Monitoring point A1 in an outfall monitoring point is located along the drainage path downstream of the Sd4-C BMP leaving the project site. Disturbed area contributing to this point includes construction of an elevated water storage tank and accompanying water piping for a total disturbed area to this point of 1.26 acres. due to flat topography, additional surface water drainage area to this point is negligible therefore making the total drainage area equal to the disturbed area. Per appendix b of the permit, the allowable ntu value (0-4.99 sq. mi. drainage area, 1.00-10 acres site size, warm water) is 75. The location is approximately 0.10 miles east of Old Victron School rd.

NTU SELECTION

No NTU selection from the tables in Appendix B of the General Permit is required since there is no monitoring of outfalls. Monitoring points are on live streams on the upstream and downstream sides of construction. A difference of 25 NTUs will be the maximum allowable difference between the monitoring points.

CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLETING, SUBMITTING, AND MAINTAINING ALL FORMS, MONITORING DATA REPORTS, INSPECTION REPORTS, ETC. ON A TIMELY BASIS IN ACCORDANCE WITH THE REQUIREMENTS OF GENERAL PERMIT NO. GAR100002.

GPS COORDINATES:

MONITORING POINT A1: 34.085575° N LATITUDE
83.819028° W LONGITUDE

Sampling Rationale Summary

SAMPLING POINT	NTU Limit Selected	Drainage Area	Type of Receiving Water
A1	75 NTU	0-4.9 SQ MI	WARM

EROSION, SEDIMENTATION & POLLUTION CONTROL PLAN CHECKLIST
INFRASTRUCTURE CONSTRUCTION PROJECTS

SWCD: Mulberry River

Project Name: Barrow Northwest Elevated Water Storage Tank Address: 1172 SR 124, Hoschton, GA 30548

Local Issuing Authority: Barrow County Date on Plans: 8/5/25

Name & Email of person filling out checklist: Dylan Parker; 883dp@ppi.us

Plan Page #	Included Y/N		TO BE SHOWN ON ES&PC PLAN
12	Y	1	The applicable Erosion, Sedimentation and Pollution Control Plan Checklist established by the Commission as of January 1 of the year in which the land-disturbing activity was permitted. The completed Checklist must be submitted with the ES&PC Plan or the Plan will not be reviewed. **Permit I.V.D.1. pg 28**
8-12	Y	2	Level II certification number issued by the Commission, signature and seal of the certified design professional. Signature, seal and Level II number must be on each sheet pertaining to ES&PC Plan or the Plan will not be reviewed. The Level II certification must be issued to the Design Professional, **after completion of a GSWCC approved course**, and whose signature and seal are on the Plan.
8	Y	3	The name and phone number of the 24-hour contact responsible for erosion, sedimentation and pollution controls.
8	Y	4	Provide the name, address, email address, and phone number of Primary Permittee.
8	Y	5	Note total and disturbed acreages of the project or phase under construction.
8	Y	6	Provide the GPS locations of the beginning and end of the infrastructure project. Give the Latitudes and Longitudes in decimal degrees.
ALL	Y	7	Initial date of the Plan and the dates of any revisions made to the Plan including the entity who requested the revisions.
8	Y	8	Descriptions of the nature of construction activity and existing site conditions.
3,12	Y	9	Provide vicinity map showing site's relation to surrounding areas. Include designation of specific phase, if necessary.
8	Y	10	Identify the project receiving waters and describe all sensitive adjacent areas including streams, lakes, residential areas, wetlands, marshlands, etc. which may be affected.
8	Y	11	Design professional's certification statement and signature that the site was visited prior to development of the ES&PC Plan as stated on **Part IV page 21** of the permit.
8	Y	12	Design professional's certification statement and signature that the Permittee's ES&PC Plan provides for an appropriate and comprehensive system of BMPs and sampling to meet permit requirements as stated on **Part IV page 21** of the permit. *
8	Y	13	Design professional certification statement and signature that the Permittee's ES&PC Plan provides for representative sampling as stated on **Part IV.D.6.c.(3), page 37** of the permit as applicable. *
8	Y	14	Clearly note the statement that "The design professional who prepared the ES&PC Plan is to inspect **and certify** the installation of the initial sediment storage requirements and perimeter control BMPs within 7 days after installation." *
8	Y	15	Clearly note the statement that "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."
8	Y	16	Provide a description of any buffer encroachments and indicate whether a buffer variance is required.
8	Y	17	Clearly note the statement that "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	Y	18	Clearly note the statement that "Waste materials shall not be discharged to waters of the State, except as authorized by a Section 404 permit." *
8	Y	19	Clearly note statement that "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."
8	Y	20	Clearly note statement that "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."
8	Y	21	Clearly note the statement "Any disturbed area left exposed for a period greater than 14 days shall be stabilized with mulch or temporary seeding."
N/A	N/A	22	Any construction activity which discharges storm water into a Biota Impaired Stream Segment, or within 1 linear mile upstream of and within the same watershed as any portion of a Biota Impaired Stream Segment, must comply with **Part III.C.** of the permit. Include the completed Appendix 1 of this checklist with at least 4 of the chosen BMPs that will be used for those areas of the site which discharge to the Impaired Stream Segment. *
N/A	N/A	23	If a TMDL Implementation Plan for sediment has been finalized for the Biota Impaired Stream Segment identified in Item 22 above) at least six months prior to submittal of NOI, the ES&PC Plan must address any site-specific conditions or requirements included in the TMDL Implementation Plan. *
8	Y	24	BMPs for concrete washdown of tools, concrete mixer chutes, hoppers and the rear of the vehicles. Include statement that washout of the drum at the construction site is prohibited. *
8	Y	25	Provide BMPs for the remediation of all petroleum spills and leaks.
8	Y	26	Description of the measures that will be installed during the construction process to control pollutants in storm water that will occur after construction operations have been completed. *
8	Y	27	Description of practices to provide cover for building materials and building products on site. *
8	Y	28	Description of the practices that will be used to reduce the pollutants in storm water discharges. *
8	Y	29	Description and chart or timeline of the intended sequence of major activities which disturb soils for the major portions of the site (i.e., initial perimeter and sediment storage BMPs, clearing and grubbing activities, excavation activities, utility activities, grading, infrastructure, temporary and final stabilization).
8,11	Y	30	Provide complete requirements of Inspections and record keeping by the Primary Permittee. *
11	Y	31	Provide complete requirements of Sampling Frequency and Reporting of sampling results. *
11	Y	32	Provide complete details for Retention of Records as per **Part IV.F.** of the permit. *
11	Y	33	Description of analytical methods to be used to collect and analyze the samples from each location. *
N/A	N/A	34	Appendix B rationale for NTU values at all outfall sampling points where applicable. *
11-12	Y	35	Delineate all sampling locations **on all phases of the Plan**, and perennial and intermittent streams and other water bodies into which storm water is discharged. *
8	Y	36	A description of appropriate controls and measures that will be implemented at the construction site including: (1) initial sediment storage requirements and perimeter control BMPs, (2) intermediate grading and drainage BMPs, and (3) final BMPs. For construction sites where there will be no mass grading and the initial sediment storage requirements and initial perimeter control BMPs, intermediate grading and drainage BMPs, and final BMPs are the same, the Plan may combine all BMPs into a single phase plan. *
3-4,9,12	Y	37	Graphic scale and North arrow.
3-4,9	Y	38	Existing and proposed contour lines with contour lines drawn at an interval in accordance with the following:
N/A	N/A	39	Use of Alternative BMPs whose performance has been documented to be equivalent to or superior to conventional BMPs as certified by a Design Professional (unless disapproved by GAEPD or the Georgia Soil and Water Conservation Commission). Refer to the Alternative BMP Guidance Document found at www.gaswcc.georgia.gov.
N/A	N/A	40	Use of Alternative BMP for application to the Equivalent BMP List. Refer to Appendix A-2 of the Manual for Erosion & Sediment Control in Georgia 2016 Edition. *
N/A	N/A	41	Delineation of the applicable 25-foot or 50-foot undisturbed buffers adjacent to State Waters and any additional buffers as required by the Local Issuing Authority. Clearly note and delineate all areas of impact.
N/A	N/A	42	Delineation of all State Waters and wetlands located on or within 200 feet of the project site.
12	Y	43	Delineation and acreage of contributing drainage basins on the project site.
12	Y	44	Delineate on-site drainage and off-site watersheds using USGS 1" :2000' topographical sheets.
12	Y	45	Estimate of the runoff coefficient or peak discharge flow of the site prior to and after construction activities are completed.
N/A	N/A	46	Storm-drain pipe and weir velocities with appropriate outlet protection to accommodate discharges without erosion. Identify/Delineate at all storm water discharge points.
8-9	Y	47	Soil series for the project site and their delineation.
9	Y	48	The limits of disturbance for each phase of construction.
8	Y	49	Provide a minimum of 67 cubic yards of sediment storage per acre drained using a temporary sediment basin, retrofitted detention pond, and/or excavated inlet sediment traps for each common drainage location. Sediment storage volume must be in place prior to and during all land disturbance activities until final stabilization of the site has been achieved. A written justification explaining the decision to use equivalent controls when a sediment basin is not attainable must be included in the Plan for each common drainage location in which a sediment basin is not provided. A written justification as to why 67 cubic yards of storage is not attainable must also be given. Worksheets from the Manual must be included for structural BMPs and all calculations used by the design professional to obtain the required sediment storage when using equivalent controls. When discharging from sediment basins and impoundments, Permittees are required to utilize outlet structures that withdraw water from the surface, unless infeasible. If outlet structures that withdraw water from the surface are not feasible, a written justification explaining this decision must be included in the Plan.
8-9	Y	50	Location of Best Management Practices that are consistent with, and no less stringent than, the Manual for Erosion and Sediment Control in Georgia. Use uniform coding symbols from the Manual Chapter 6, with legend.
10	Y	51	Provide detailed drawings for all structural practices. Specifications must, at a minimum, meet the guidelines set forth in the Manual for Erosion and Sediment Control in Georgia.
8-10	Y	52	Provide vegetative plan, noting all temporary and permanent vegetative practices. Include species, planting dates and seeding, fertilizer, lime and mulching rates. Vegetative plan shall be site specific for appropriate time of year that seeding will take place and for the appropriate geographic region of Georgia.

Existing Contours	USGS 1": 2000' Topographical Sheets
Proposed Contours	1" : 400' Centerline Profile

* **If using this checklist for a project that is less than 1 acre and not part of a common development but within 200 ft of a perennial stream the * checklist items would be N/A.**

Effective January 1, 2025

RICHARD H. CROWDER – GASWCC CERTIFICATION # 0000011369

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BARROW NORTHWEST ELEVATED WATER STORAGE TANK

NPDES CHECKLIST & STORMWATER MONITORING PLAN

SHEET TITLE

DESIGN	DRAWN	CHECKED
RC	DP	RC

DATE	NO.	DESCRIPTION
08/05/25	0	ISSUED FOR BID

RELEASE

E23136
PPI PROJECT NO.

12

PLOT DATE: 8/5/2025 10:07 AM FILE PATH: W:\PROJECTS\2023\23136-WR-BARROW NW TANK\DWG\23136_NPDES & SWMP.DWG – 2025-08-05 – DYLAN PARKER

SCHEMATIC DIAGRAM SYMBOLS:

Symbol	Description
	CONDUCTORS CONNECTED
	CONDUCTORS NOT CONNECTED
	CONNECTION POINT
xx	TERMINAL POINT FOR OUTGOING CONDUCTORS, WITH IDENTIFICATION "xx" DENOTES CONTRACTOR ASSIGNED.
MCP-xxx xxA	MAGNETIC-ONLY CIRCUIT BREAKER (MCP), WITH CURRENT RATING
CB-xxx xxA	CIRCUIT BREAKER, THERMAL-MAGNETIC UNLESS OTHERWISE NOTED, WITH FRAME SIZE AND TRIP RATING
FU-xxx xxA	FUSE WITH SIZE AND OPTIONAL IDENTIFICATION.
DS-xxx xxA	DISCONNECT SWITCH. RATING OPTIONAL. 30 AMP, 600V RATED MINIMUM UNLESS OTHERWISE NOTED.
FD-xxx xxA	FUSE DISCONNECT SWITCH. RATING OPTIONAL. 30 AMP, 600V MINIMUM UNLESS OTHERWISE NOTED.
xx HP M-xxx	MOTOR (HP AS SHOWN, PHASES AS REQUIRED)
M	MOTOR STARTER COIL
OL	THERMAL MOTOR OVERLOAD
M	MOTOR CONTACT
LS-XXX LS-XXX	LIMIT SWITCH NORMALLY CLOSED AND NORMALLY OPEN
PS-XXX PS-XXX	PRESSURE SWITCH NORMALLY CLOSED AND NORMALLY OPEN
TS-XXX TS-XXX	TEMPERATURE SWITCH NORMALLY CLOSED AND NORMALLY OPEN
FS-XXX FS-XXX	FLOW SWITCH NORMALLY CLOSED AND NORMALLY OPEN
FLT-XXX FLT-XXX	LEVEL SWITCH NORMALLY CLOSED AND NORMALLY OPEN
PRS-XXX PRS-XXX	PROXIMITY SWITCH NORMALLY CLOSED AND NORMALLY OPEN
PCS-XXX PCS-XXX	PULLCORD SWITCH NORMALLY CLOSED AND NORMALLY OPEN
PB-XXX PB-XXX	MOMENTARY PUSHBUTTON NORMALLY CLOSED AND NORMALLY OPEN
SS-XXX OX SS-XXX OX	SELECTOR SWITCH NORMALLY CLOSED AND NORMALLY OPEN
TDS-XXX 0-30 SEC TRXXX-XX 0-30 SEC	TIME DELAY SWITCH NORMALLY CLOSED AND NORMALLY OPEN
CR-XXX CR-XXX	CONTROL RELAY CONTACT NORMALLY CLOSED AND NORMALLY OPEN
SV-XXX	SOLENOID VALVE
CR-XXX	CONTROL RELAY
LT-XXX X	PILOT LIGHT X = LENS COLOR — A = AMBER, B = BLUE, G = GREEN, R = RED, W = WHITE
AL-XXX	ALARM LIGHT
AH-XXX	ALARM HORN
H1 CPT H2 X1 X2 xxV-PRI xxV-SEC xxKVA	CONTROL POWER TRANSFORMER, PRIMARY AND SECONDARY VOLTAGE SHOWN. SIZE AS SHOWN OR SPECIFIED.
xS CT-xxx	CURRENT TRANSFORMER. PRIMARY/SECONDARY. TURNS RATIO AS SHOWN.
XZ-XXX	MOTOR SPACE HEATER

ONE LINE DIAGRAM SYMBOLS:

Symbol	Description
CB-xxx xxA-T xxA-F	LOW VOLTAGE POWER CIRCUIT BREAKER, DRAW-OUT TYPE, FRAME AND TRIP ID SHOWN
CB-xxx xxA-T xxA-F	MOLDED CASE CIRCUIT BREAKER, FRAME AND TRIP ID SHOWN
	LIGHTNING ARRESTER AND GROUND
DS-xxx	DISCONNECT OR ISOLATING SWITCH: CONTINUOUS RATING SHOWN
MCP-xxx xxA-T xxA-F	MAGNETIC-ONLY CIRCUIT BREAKER (MCP), DRAW-OUT TYPE, FRAME AND TRIP ID SHOWN
FD-xxx xxA-T xxA-F	FUSED DISCONNECT SWITCH, FUSE AND SWITCH CONTINUOUS RATINGS SHOWN
TFR-xxx xxV-PRI xxV-SEC x%Z xxKVA	POWER TRANSFORMER: PRIMARY & SECONDARY VOLTAGES, %Z, SIZE SHOWN
CT-xxx xS	CURRENT TRANSFORMER: RATIO SHOWN (3 INDICATES NO. OF CT'S) METER SWITCH, xS: AS - AMMETER SWITCH; VS - VOLTMETER SWITCH; FS - FREQUENCY SWITCH
PT-xxx	POTENTIAL TRANSFORMER, PRIMARY & SECONDARY VOLTAGES & WINDINGS SHOWN. (x) UNITS
METER	METER: A - AMMETER; W - WATTMETER; KWH - WATT-HOUR METER; F - FREQUENCY METER; VAR - VAR METER; V - VOLTMETER
FVNR SIZE x OL	FULL VOLTAGE, NON-REVERSING MAGNETIC MOTOR STARTER. NEMA SIZE INDICATED
FVR SIZE x OL	FULL VOLTAGE, REVERSING MAGNETIC MOTOR STARTER. NEMA SIZE INDICATED
xxHP VFD-xxx	VARIABLE FREQUENCY DRIVE, NEMA SIZE INDICATED
xxHP RVSS-xxx	REDUCED VOLTAGE SOLID STATE DRIVE (SOFT START), NEMA SIZE INDICATED
xx HP M-xxx	MOTOR (HP AS SHOWN, PHASES AS REQUIRED)
	GENERATOR RECEPTACLE
N E L MTS-xxx	MANUAL TRANSFER SWITCH
xx P-xxx x/c #xx 1/c #xx GND IN x" C.	CABLE TAG: P - POWER CABLE; C - CONTROL CABLE; S - SHIELDED SIGNAL CABLE

CIRCUIT AND RACEWAY SYMBOLS:

Symbol	Description
	RACEWAY OR WIRING SYSTEM ABOVE FLOOR LEVEL BELOW CEILING, EXPOSED. (UNLESS OTHERWISE NOTED)
	RACEWAY OR WIRING SYSTEM BELOW FLOOR LEVEL, ABOVE CEILING, HIDDEN, OR EXISTING CABLE/CONDUIT. (UNLESS OTHERWISE NOTED)
	SCHEMATIC DIAGRAM FIELD WIRING. (UNLESS OTHERWISE NOTED)
	ONE LINE DIAGRAM EQUIPMENT ENCLOSURE. (UNLESS OTHERWISE NOTED)
G	GROUNDING CONDUCTOR (CONCEALED), #4/0 AWG BARE COPPER (UNLESS OTHERWISE NOTED)
GG GG	GROUNDING CONDUCTOR (EXPOSED), #4/0 AWG INSULATED COPPER (UNLESS OTHERWISE NOTED)
PBD A-1,3,5	HOME RUN - SEE PANELBOARD SCHEDULE FOR CIRCUIT INFORMATION. EXAMPLE: HOME TO PANELBOARD PBD A, CIRCUITS 1, 3, AND 5

GENERAL ABBREVIATIONS:

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

GROUNDING SYMBOLS:

- GROUND ROD, 3/4" x 10'-0", COPPERCLAD (UNLESS OTHERWISE NOTED)
- GROUND ROD AND WELL
- COMPRESSION TYPE GROUNDING BOND TO MOTOR CASING OR EQUIPMENT
- EXOTHERMIC TYPE GROUNDING BOND TO MOTOR CASING OR EQUIPMENT

GENERAL NOTES:

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

PLAN DRAWING SYMBOLS:

Symbol	Description
M	MOTOR CONNECTION
	MOTOR STARTER, INDIVIDUAL -- NOT LOCATED IN AN MCC OR SIMILAR GROUP ASSEMBLY IN NEMA 4X ENCLOSURE UNLESS OTHERWISE NOTED. MOUNT AT 4'-8" TO CENTER OF STARTER.
	COMBINATION MOTOR STARTER/DISCONNECT, INDIVIDUAL -- NOT LOCATED IN AN MCC OR SIMILAR GROUP ASSEMBLY IN NEMA 4X ENCLOSURE UNLESS OTHERWISE NOTED. MOUNT AT 4'-8" TO CENTER OF STARTER/DISCONNECT.
	DISCONNECT SWITCH. DISCONNECT SWITCHES ARE HEAVY DUTY, SINGLE THROW, WITH NEMA 4X ENCLOSURE UNLESS OTHERWISE NOTED. MOUNT AT 4'-8" TO CENTER OF DISCONNECT.
	FUSED DISCONNECT, NON-FUSED. PROVISION FOR CLASS R FUSES.
	FIELD INSTRUMENT CONNECTION
	START/STOP HAND STATION MOUNTED TO HANDRAIL (NEMA 4X UNLESS OTHERWISE NOTED)
$_X	120V, 20A, 1P TOGGLE SWITCH — [BLANK] = 1P TOGGLE SWITCH; 2 = 2P TOGGLE SWITCH; 3 = 3P TOGGLE SWITCH; D = SLIDE DIMMER; M = MOTOR RATED; S = TOGGLE WITH OCCUPANCY SENSOR
	DUPLEX 120V RECEPTACLE, 120V, 20A, 1P. MOUNT 18" ABOVE TWISTED FLOOR (A.F.F) OR 6" ABOVE COUNTER, DESK, OR CABINET.
	GFCI DUPLEX 120V RECEPTACLE, 120V, 20A, 1P. MOUNT 18" ABOVE FINISHED FLOOR (A.F.F.) OR 6" ABOVE COUNTER, DESK, OR CABINET.
	QUADRAPLEX 120V RECEPTACLE, 120V, 20A, 1P. MOUNT 18" ABOVE FINISHED FLOOR (A.F.F.) OR 6" ABOVE COUNTER, DESK, OR CABINET.
	TELEPHONE/DATA BOX. MOUNT 18" A.F.F., INSTALL A 1/2" CONDUIT FROM BOX TO 6" ABOVE CEILING. PROVIDE PULL CORD FOR FUTURE CONNECTIONS AS REQUIRED.
JB	JUNCTION BOX
	60A, 480V, 3PH WELDING RECEPTACLE
	WELDING RECEPTACLE, 240V, 30A, 2P. MOUNT 18" ABOVE FINISHED FLOOR (A.F.F.)

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BARROW NORTHWEST ELEVATED WATER STORAGE TANK

ELECTRICAL LEGEND AND NOTES

SHEET TITLE

DESIGN	DRAWN	CHECKED
DV	DV	DV

DATE	NO	DESCRIPTION
05/30/25	A	ISSUED FOR BID

RELEASE

E23136
PPI PROJECT NO.

E-1

ELECTRICAL EQUIPMENT MATERIALS RATING				
NO.	EQUIPMENT	INSTALLATION AREA AND DESIGN CRITERIA		
		OUTDOOR GENERAL AREAS ENVIRONMENT: CORROSIVE; WET	BELOW GRADE VAULTS (METERING VAULT, VALVE VAULT, ETC.) ENVIRONMENT: CORROSIVE; WET	UNDERGROUND AND DIRECT BURIED ENVIRONMENT: CORROSIVE; WET
1	RIGID CONDUITS	RMC – ALUMINUM	RMC – ALUMINUM	DIRECT BURIED – PVC 40; CONCRETE ENCASED – PVC 40.
2	FLEXIBLE CONDUITS	LIQUIDTIGHT FLEXIBLE METALLIC CONDUIT (LFMC)	LIQUIDTIGHT FLEXIBLE METALLIC CONDUIT (LFMC)	N/A
3	CABLE TRAYS	LADDER TYPE – ALUMINUM	LADDER TYPE – ALUMINUM	N/A
4	JUNCTION BOXES	STEEL – NEMA 3R	STEEL – NEMA 4	POLYMER CONCRETE
5	PULL BOXES	STEEL – NEMA 3R	STEEL – NEMA 4	POLYMER CONCRETE
6	EQUIPMENT RACKS/SUPPORTS/HARDWARE	ALUMINUM	ALUMINUM	STAINLESS STEEL 304
7	FASTENERS	ALUMINUM	ALUMINUM	STAINLESS STEEL 304
8	SWITCHGEAR	NEMA 3R	N/A	N/A
9	SWITCHBOARD	NEMA 3R	N/A	N/A
10	MOTOR CONTROL CENTER	NEMA 3R	N/A	N/A
11	PANELBOARDS	NEMA 3R	N/A	N/A
12	DRY TYPE TRANSFORMERS	NEMA 3R	N/A	N/A
13	DISCONNECT SWITCHES	NEMA 3R	NEMA 4	N/A
14	MOTOR STARTERS	NEMA 3R	NEMA 4	N/A
15	CONTACTORS	NEMA 3R	NEMA 4	N/A
16	CONTROL PANELS	NEMA 3R	N/A	N/A
17	MOTOR HOUSING MINIMUM PROTECTION RATING	TEFC	TEFC	N/A
18	INSTRUMENTATION MINIMUM PROTECTION RATING	NEMA 4	NEMA 6P	NEMA 6P
19	VALVE ACTUATORS	NEMA 4	NEMA 6P	N/A
20	WIRING DEVICE BOXES	DIE–CAST ALUMINUM; WEATHERPROOF	DIE–CAST ALUMINUM; WEATHERPROOF	N/A
21	DEVICES COVER PLATES	DIE–CAST ALUMINUM; WEATHERPROOF	DIE–CAST ALUMINUM; WEATHERPROOF	N/A
22	OUTLET BOX HOODS	ALUMINUM; WEATHERPROOF (WHILE–IN–USE COVER)	ALUMINUM; WEATHERPROOF (WHILE–IN–USE COVER)	N/A

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

NOTES:

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

INSTALLATION REQUIREMENTS:

GENERAL:

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

POWER DISTRIBUTION AND CONDUITS INSTALLATION REQUIREMENTS:

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

INSTRUMENTATION AND CONTROLS:

1. ALL FIELD MOUNTED INDICATING TRANSMITTERS SHALL BE PROVIDED WITH SUN/RAIN HOOD.
2. ALL CONTROL CABINETS INSTALLED OUTDOORS SHALL BE PROVIDED WITH SUN PROTECTING COVER OVER DISPLAYS TO AVOID DETERIORATION FROM UV EXPOSURE.

GROUNDING:

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

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BARROW NORTHWEST ELEVATED WATER STORAGE TANK

MATERIALS SCHEDULE

SHEET TITLE

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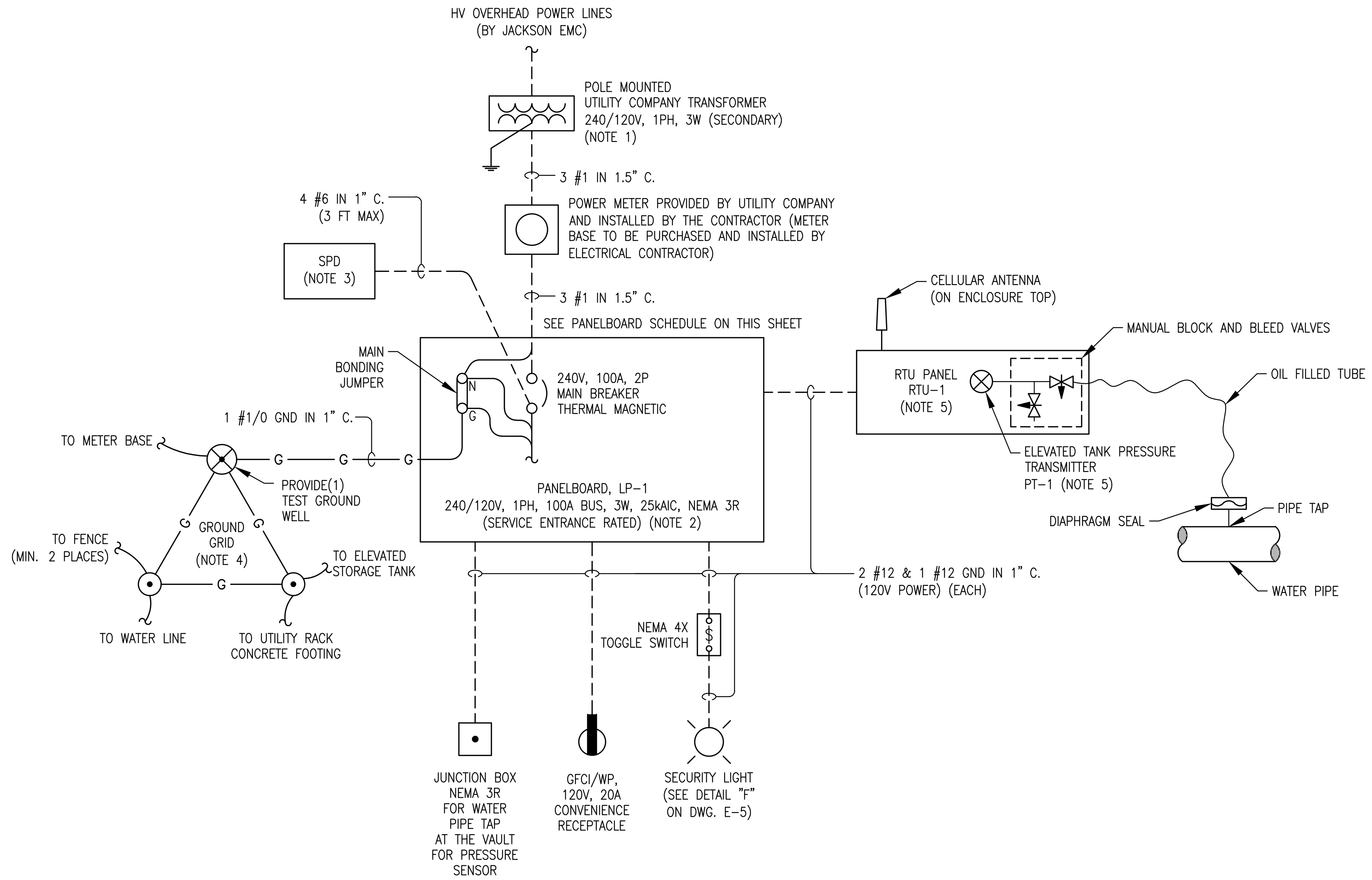
E-2



1 ONE LINE DIAGRAM

NOTES:

1. THE CONTRACTOR SHALL COORDINATE THE LOCATION OF THE POLE MOUNTED UTILITY TRANSFORMER WITH JACKSON EMC – JACKOB HOGAN, (EMAIL: JHOGAN@JACKSONEMC.COM; TEL: 706-367-6286). THE CONTRACTOR IS RESPONSIBLE FOR PAYING ALL COSTS ASSOCIATED WITH BRINGING POWER SERVICE TO THE SITE AND PROVIDING METER INSTALLATION AND ASSOCIATED HARDWARE AS REQUIRED BY UTILITY COMPANY.

2. THE CONTRACTOR SHALL PROVIDE AND INSTALL 100A, 240/120V, 1PH, 3W, 18 CKT. PANELBOARD IN NEMA 3R ENCLOSURE. SEE PANELBOARD SCHEDULE ON THIS SHEET.

3. THE CONTRACTOR SHALL PROVIDE SURGE PROTECTION DEVICE (SPD) IN NEMA 4 ENCLOSURE. SPD SHALL BE EATON CAT#: SPD-120-240S-3-O WITH INTEGRAL DISCONNECT SWITCH OR APPROVED EQUAL.

4. THE CONTRACTOR SHALL FURNISH AND INSTALL A COMPLETE GROUND GRID AND MAKE CONNECTIONS AS SHOWN ON THE ELECTRICAL PLANS. GRID SHALL CONSIST OF #1/0 BARE COPPER GROUND CONDUCTOR, 3/4" DIAMETER 10' GROUND RODS AND CADWELD CONNECTIONS TO GROUND RODS.

5. THE CONTRACTOR SHALL PROVIDE AND INSTALL CELLULAR BASED REMOTE TELEMETRY UNIT (RTU) PANEL. THE PANEL SHALL INCLUDE AS A MINIMUM THE FOLLOWING COMPONENTS:
   A. CONTROL PANEL SCCR SHALL BE 10kAIC MINIMUM.
   B. ENCLOSURE: 3-POINT LATCHING WALL MOUNTED NEMA 3R.
   C. MAIN DEVICE: THERMAL MAGNETIC CIRCUIT BREAKER 20A, 120V, 1P.
   D. 120V, 1PH SURGE PROTECTION DEVICE.
   E. 24VDC POWER SUPPLY UNIT.
   F. BATTERY BACKUP UNIT SIZED FOR 6 HOURS OF UNINTERRUPTIBLE POWER SUPPLY.
   G. CONTROLLER: ALLEN – BRADLEY MICRO 850 SERIES WITH I/O MODULES AS REQUIRED.
   H. OIT: NONE.
   I. WIRELESS CELLULAR MODEM.
   J. STRIP HEATER WITH THERMOSTAT.
   K. INCLUDE AT LEAST 20% OF SPARE I/O's OF EACH TYPE.
   L. RELAYS, FUSES, TERMINALS AND ALL OTHER COMPONENTS AS REQUIRED FOR PROPER RTU OPERATION.
   M. 4-20mA SURGE SUPPRESSOR FOR PRESSURE TRANSDUCER.
   N. PRESSURE TRANSMITTER: LOOP POWERED WITH 4-20mA OUTPUT, BY WIKA, KELLER OR APPROVED EQUAL.
   O. PRESSURE GAUGE (BY ASHCROFF OR APPROVED EQUAL).
   P. BLOCK AND BLEED VALVES.

   THE FOLLOWING I/O's SHALL BE PROVIDED:
   A. ANALOG INPUTS:
      A.1. TANK LEVEL.

   THE SCHEMATIC WIRING DIAGRAM IS CONCEPTUAL IN NATURE. CONTROL PANEL SHALL BE UL508A LISTED AND LABELED. CONTRACTOR SHALL SUBMIT DETAILED WIRING DIAGRAM AND BOM FOR THE PANEL TO ENGINEER FOR APPROVAL, PRIOR TO FABRICATION. INCLUDE ALL ASSOCIATED PROGRAMMING, FACTORY TESTING AND OPERATORS TRAINING AND START-UP ASSISTANCE AS REQUIRED FOR A FULLY FUNCTIONAL SYSTEM INCLUDING MODIFICATIONS AS NEEDED AT THE CITY's MASTER SCADA. RTU SHALL BE PROVIDED BY ZILE TECHNOLOGY COMPANY (JOHN ZILE, JOHNZ@ZILETECHNOLOGY.COM).

PANELBOARD LP-1

VOLTAGE (L-N):	120V	ENCLOSURE TYPE:	NEMA 3R
VOLTAGE (L-L):	240V	MOUNTING:	SURFACE
PHASE, WIRES:	1 ϕ, 3 W	AIC RATING (A):	25,000 AIC
MINIMUM BUS CAPACITY (A):	100A	NOTES:	
MAIN O.C. DEVICE (A):	100A, 2P MAIN BREAKER		

CKT NO	DESCRIPTION	TRIP AMPS	POLE	PHASE LOADS (AMP) A		B		POLE	TRIP AMPS	DESCRIPTION	CKT NO
1	DUPLEX RECEPTACLE	20	1	1.5	0.5			1	20	RTU PANEL (RTU-1)	2
3	SECURITY POLE LIGHT	20	1			1.0	1.0	1	20 (*)	HEAT TRACE	4
5	SPARE	20	1	0.0	0.0			1	20	SPARE	6
7	SPARE	20	1			0.0	0.0	1	20	SPARE	8
9	SPACE			0.0	0.0					SPACE	10
11	SPACE					0.0	0.0			SPACE	12
13	SPACE			0.0	0.0					SPACE	14
15	SPACE					0.0	0.0			SPACE	16
17	SPACE			0.0	0.0					SPACE	18
USE THE FOLLOWING CONDUCTORS FOR PANELBOARD CIRCUITS: 20A – #12AWG.				CONNECTED LOAD PHASE TOTALS (AMP) 2.0		2.0		(*) – 30mA, EGFP CIRCUIT BREAKER			

2 LP-1 – PANELBOARD SCHEDULE

LEGAL:

LEGEND:
⊘ – CONTROL TERMINAL
△ – LOW VOLTAGE POWER TERMINAL

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BARROW NORTHWEST ELEVATED WATER STORAGE TANK

ONE LINE DIAGRAM

SHEET TITLE

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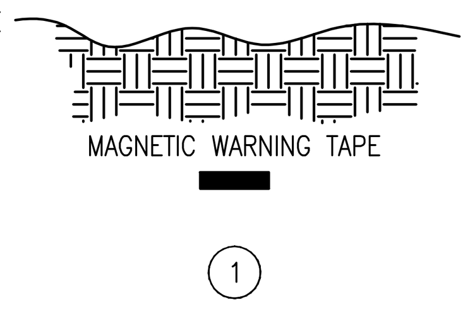
E-3

NOTES:

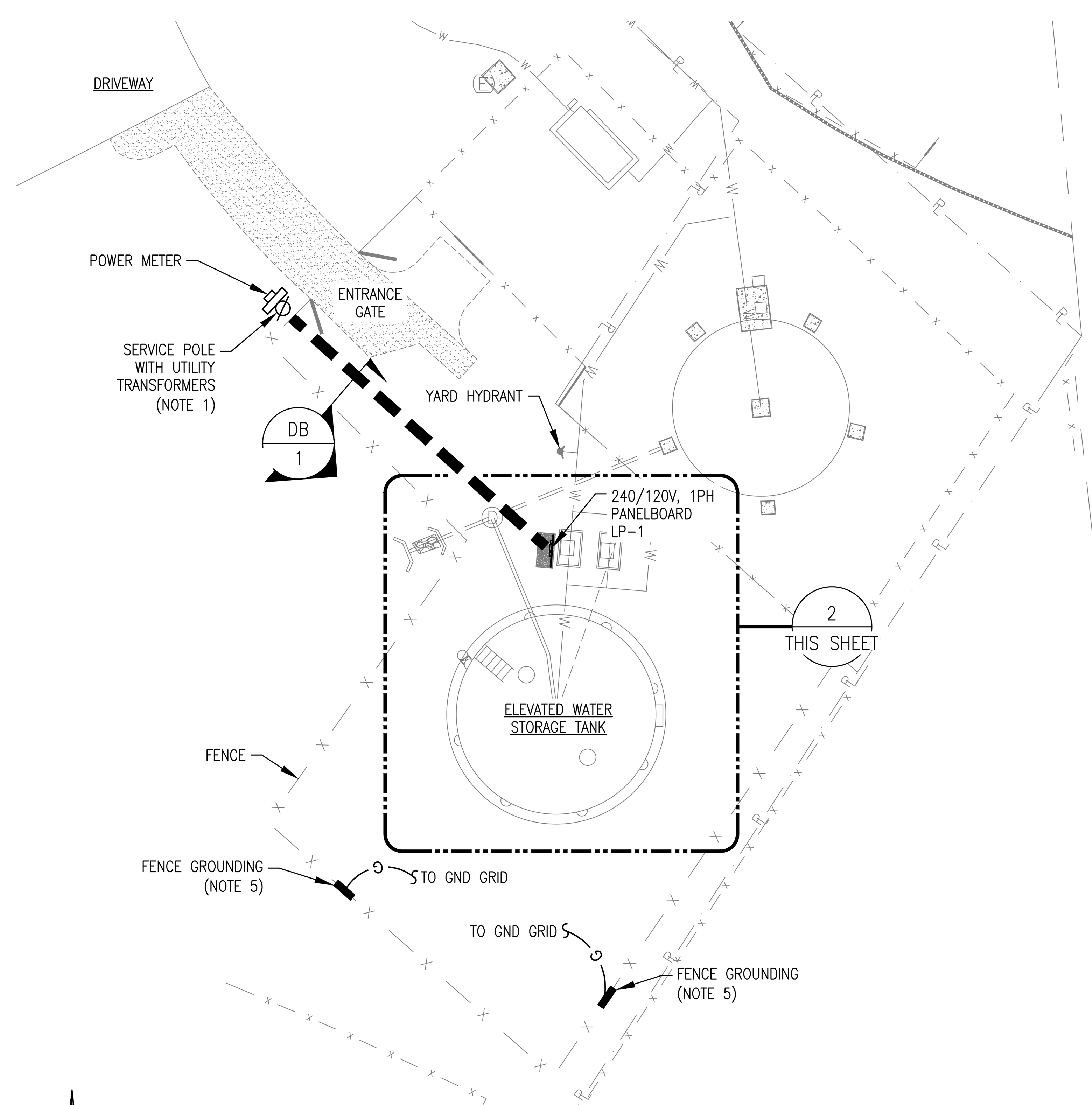
1. THE CONTRACTOR SHALL COORDINATE ACTUAL UTILITY TRANSFORMER LOCATION IN THE FIELD AND ADJUST SECONDARY CABLES/CONDUITS ROUTING ACCORDINGLY. UTILITY COMPANY SHALL PROVIDE AND INSTALL HIGH VOLTAGE PRIMARIES FROM POINT OF SERVICE TO NEW TRANSFORMER.
2. THE CONTRACTOR SHALL PROVIDE AND INSTALL EQUIPMENT RACK SUPPORT AS SHOWN. THE CONTRACTOR IS RESPONSIBLE TO FIELD VERIFY EXACT LOCATION OF EQUIPMENT RACK TO PROVIDE ADEQUATE CLEARANCES FOR ALL EQUIPMENT. SEE DETAIL "A" AND "B" ON DWG. E-5 FOR INSTALLATION DETAILS. 8" CONCRETE PAD SHALL BE UNDER ELECTRICAL EQUIPMENT AND SHALL EXTEND 3 FEET IN FRONT OF THE EQUIPMENT.
3. ALL EXPOSED PIPING 2" AND SMALLER SHALL BE HEAT TRACED.
4. THE CONTRACTOR SHALL PROVIDE A GROUND GRID CONSISTING OF 3/4" DIAMETER x 10' LONG COPPER CLAD GROUND RODS. THE RODS SHALL BE DRIVEN IN GROUND CONNECTED TOGETHER WITH #1/0 AWG BARE STRANDED COPPER CONDUCTORS. PROVIDE A GROUND WELL FOR ONE ROD. SEE DETAIL "D" AND "E" ON DWG. E-5 AND DETAIL "A" ON DWG. E-6 FOR GROUND WELL INSTALLATION DETAILS.
5. THE CONTRACTOR SHALL GROUND FENCE AT TWO (2) PLACES AS REQUIRED BY NEC ARTICLE 250.194.
6. THE CONTRACTOR SHALL PROVIDE AND INSTALL NEMA 3R JUNCTION BOX FOR WATER PRESSURE TAP TUBE HEAT TRACING SYSTEM. THE CONTRACTOR SHALL PROVIDE AND INSTALL A COMPLETE HEAT TRACING SYSTEM INCLUDING, BUT NOT LIMITED TO SELF-REGULATING CABLE, THERMOSTAT (FOR AUTOMATIC OPERATION, INSULATION, ETC).
7. ONLY MAJOR UNDERGROUND CONDUITS ARE SHOWN FOR CLARITY. CONTRACTOR SHALL COORDINATE ALL UNDERGROUND CONDUIT RUNS WITH OTHER UNDERGROUND UTILITIES. SEE DETAIL "C" ON DRAWING E-5.
8. THE CONTRACTOR SHALL PROVIDE AND INSTALL SITE LIGHTING POLE AND LIGHT FIXTURE. SEE DETAIL "F" AND "G" ON DWG. E-5 FOR INSTALLATION DETAILS

UNDERGROUND DUCTBANKS:



DB-1

1 – 1.5" C. (240/120V POWER FROM UTILITY TRANSFORMER)



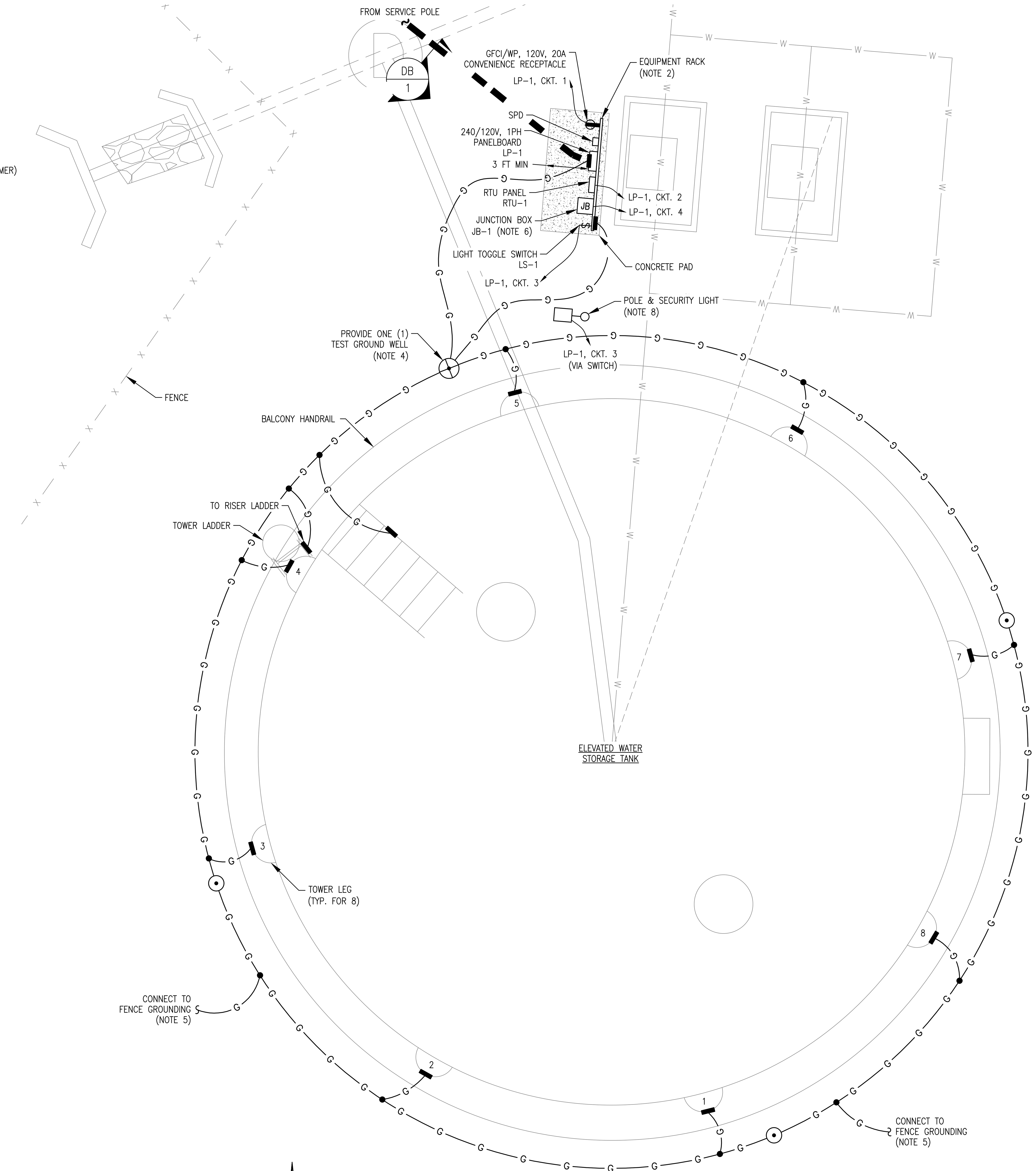
1 OVERALL ELECTRICAL SITE PLAN

SCALE: 1/32" = 1'-0"

GRAPHIC SCALE

16 0 8 16 32 64

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



2 STORAGE TANK ELECTRICAL PLAN

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

GRAPHIC SCALE

5.33 0 2.67 5.33 10.67 21.33

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

LEGEND:

– DIRECT BURIED UNDERGROUND DUCTBANK

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BARROW NORTHWEST ELEVATED WATER STORAGE TANK

ELECTRICAL SITE PLAN

SHEET TITLE

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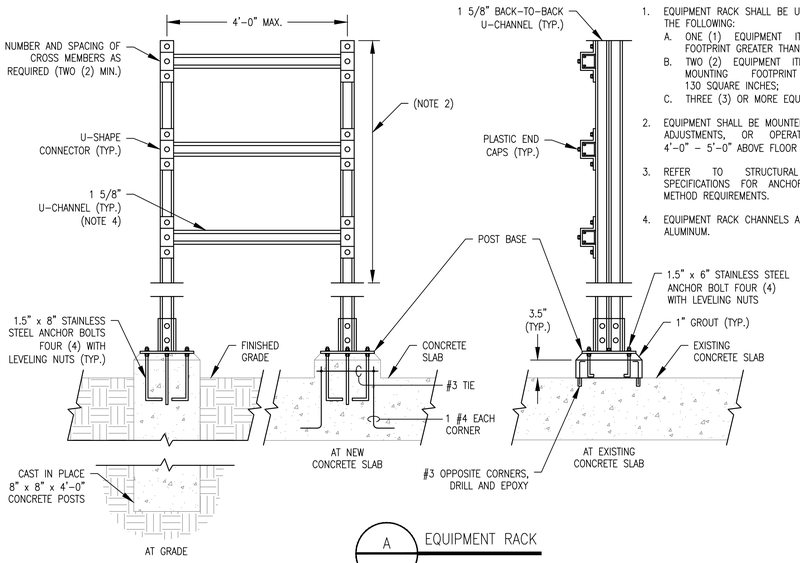
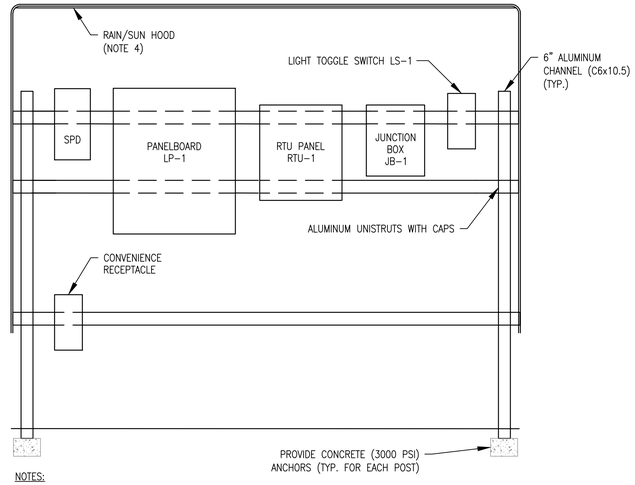
E-4



NOTES:

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

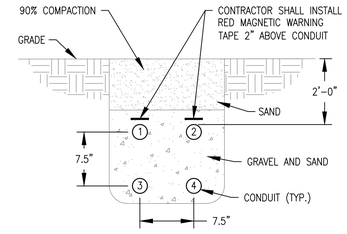
A EQUIPMENT RACK



NOTES:

1. CONTRACTOR SHALL PROVIDE ANCHORS, CHANNELS AND UNI-STRUTS AS REQUIRED TO SUPPORT EQUIPMENT.
2. SEE ELECTRICAL PLAN DRAWING FOR ACTUAL EQUIPMENT LAYOUT.
3. CONTRACTOR SHALL COAT ALL METAL PARTS EMBEDDED IN CONCRETE WITH TWO COATS OF BLACK ASPHALTIC TYPE PAINT.
4. CONTRACTOR SHALL PROVIDE AND INSTALL RAIN/SUN HOOD OVER THE PANELS.

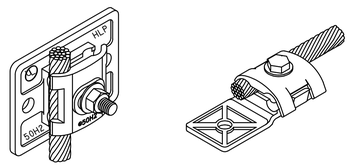
B EQUIPMENT RACK INSTALLATION DETAIL



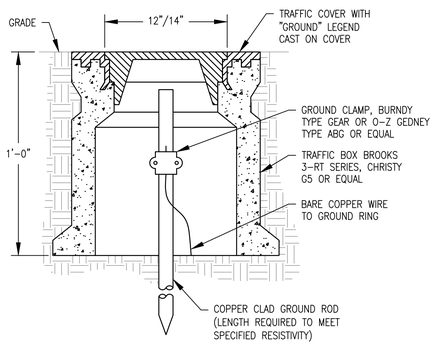
NOTES:

1. NUMBER AND SIZE OF ELECTRICAL CONDUITS SHALL BE AS INDICATED ON THE DESIGN DRAWINGS.
2. BOND THE GROUNDING CONDUCTOR TO ALL GROUNDING ELECTRODES ALONG THE DUCT BANK ROUTE, INCLUDING THE BUILDING's GROUNDING ELECTRODE AT BOTH ENDS OF THE DUCT BANK.
5. INSTALL SADDLE-TYPE CONDUIT SPACERS AT INTERVALS OF 8'-0" OR AS OTHERWISE SPECIFIED BY THE MANUFACTURER's RECOMMENDATIONS.

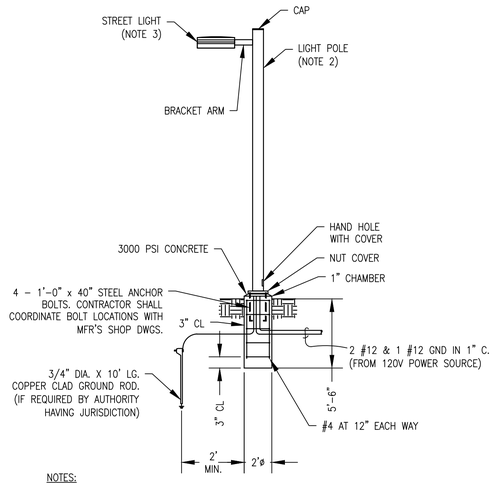
C CONDUIT SECTION IN TRENCH



D BONDING LUGS AND PLATES



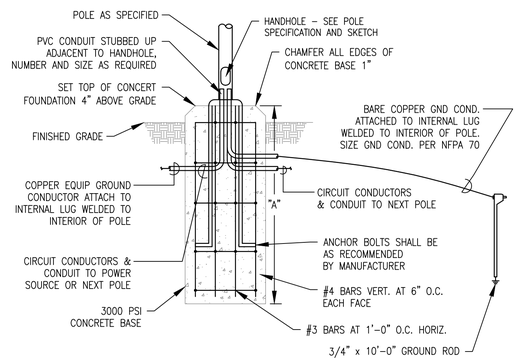
E GROUND TEST WELL



NOTES:

1. WIRING TO BE CONTINUOUS TO FIXTURE. NO SPLICING IN CONDUIT IS PERMITTED.
2. STREET LIGHT MUST BE MOUNTED ON A SQUARE STRAIGHT ALUMINUM POLE FEET IN HEIGHT. LIGHT POLE SHALL BE LITHONIA #SSA-"20"-DDB WITH ALL THE REQUIRED ANCHORING AND MOUNTING ACCESSORIES.
3. STREET LIGHT ATTACHED TO THE TOP OF THE POLE SHALL BE A 102W LED LIGHTING FIXTURE LITHONIA #DSX1-LED-P3-40K-T3M-MVOLT-SPUMBA-KMA-SF-DDBXD WITH "PER" PHOTOCELL OR APPROVED EQUAL.

F LIGHT POLE



POLE HEIGHT	A	B
8'-0" – 12'-0"	3'-0"	1'-0"
13'-0" – 20'-0"	4'-6"	1'-6"
21'-0" – 25'-0"	6'-0"	2'-0"

G LIGHTING POLE BASE

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BARROW NORTHWEST ELEVATED WATER STORAGE TANK

ELECTRICAL INSTALLATION DETAILS

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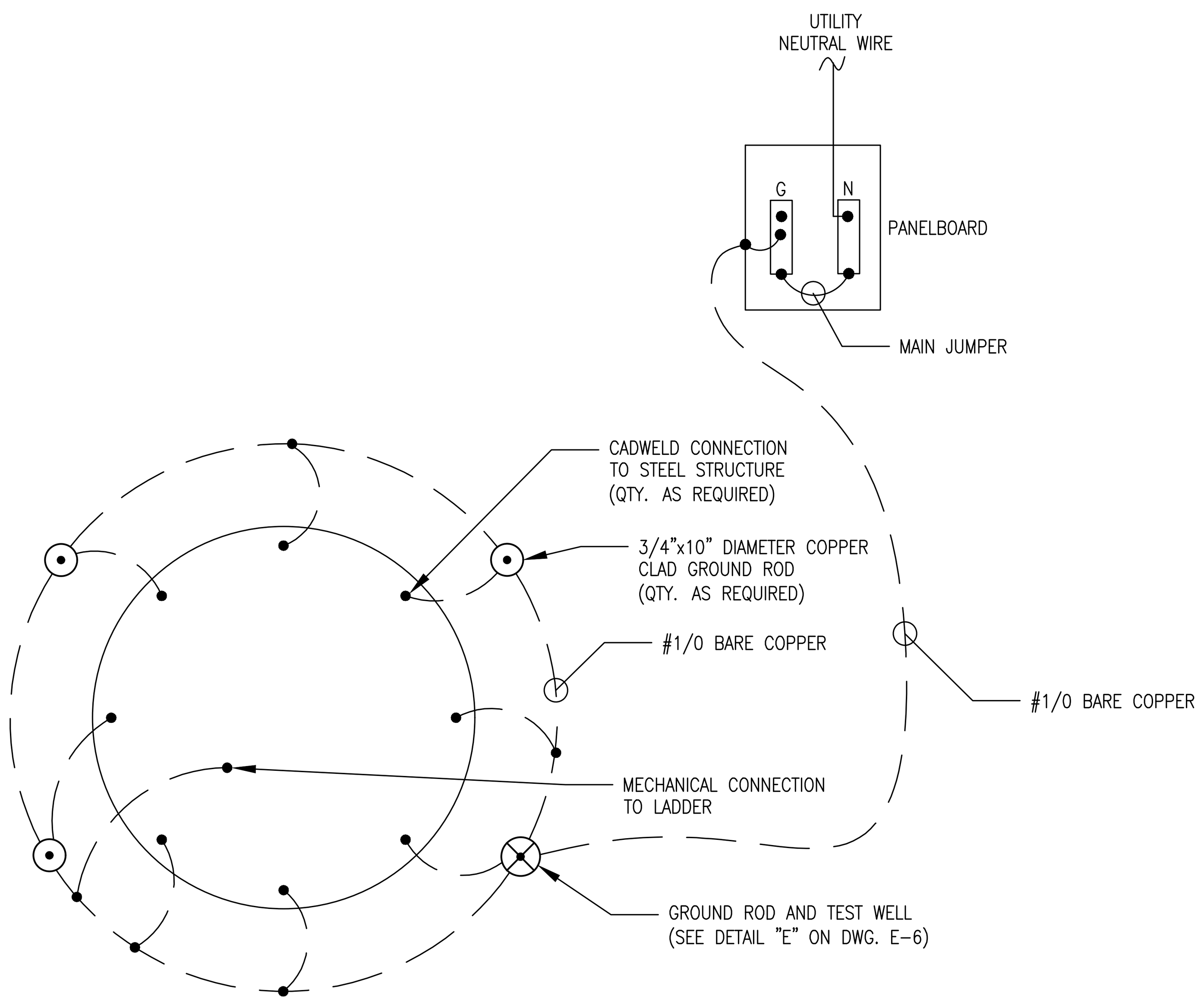
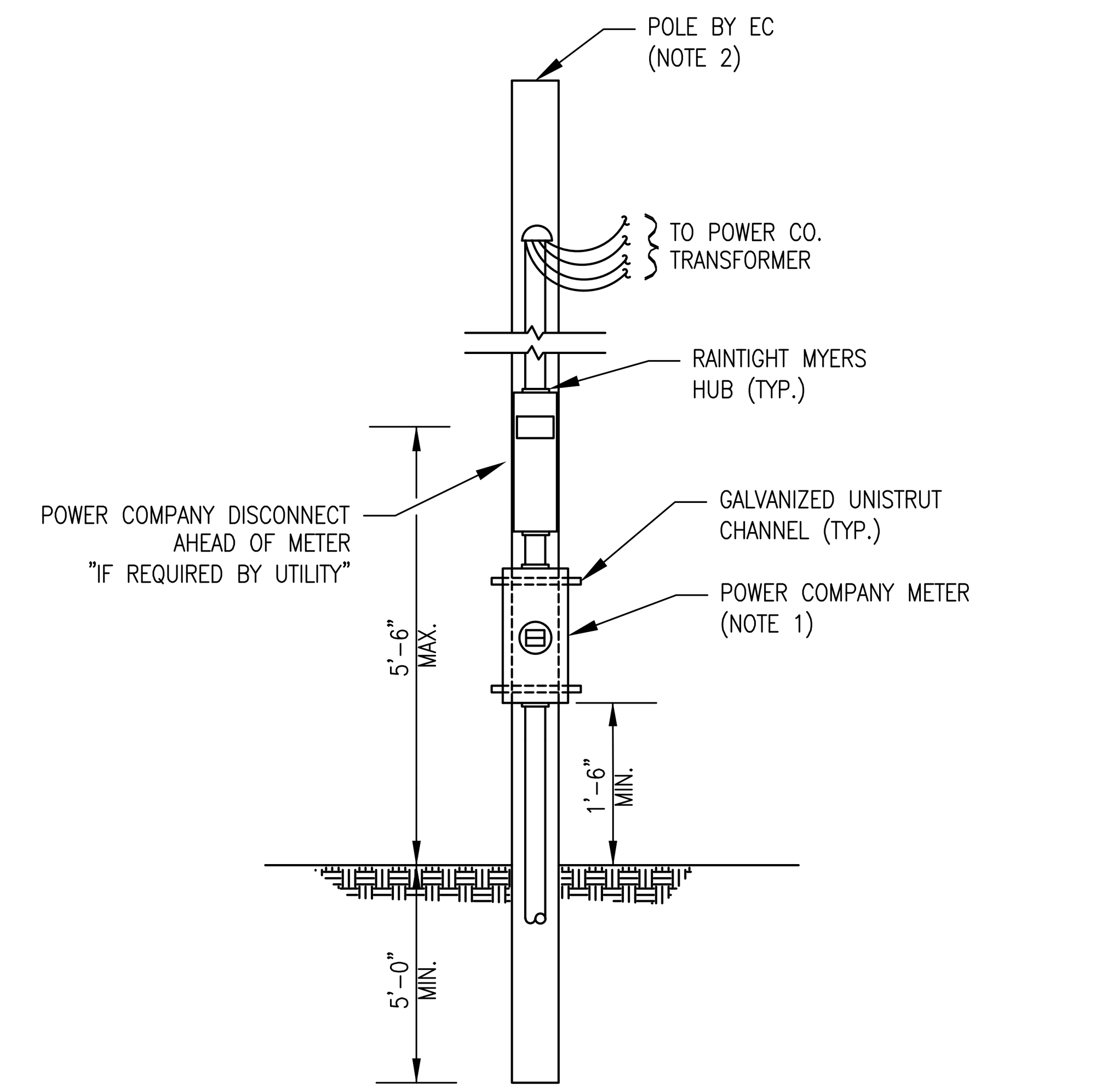


NOTE:

1. CONTRACTOR SHALL PROVIDE A GROUND RING CONSISTING OF 3/4" DIAMETER x 10' LONG COPPERWELD GROUND RODS AND ONE (1) GROUND TEST WELL. THE RODS SHALL BE DRIVEN IN GROUND CONNECTED TOGETHER WITH #1/0 AWG BARE STRANDED COPPER CONDUCTORS. THE GROUND CONDUCTORS TO PANELBOARD AND ELEVATED TANK STEEL SHALL BE CADWELDED. PROVIDE A GROUND WELL FOR ONE (1) ROD.

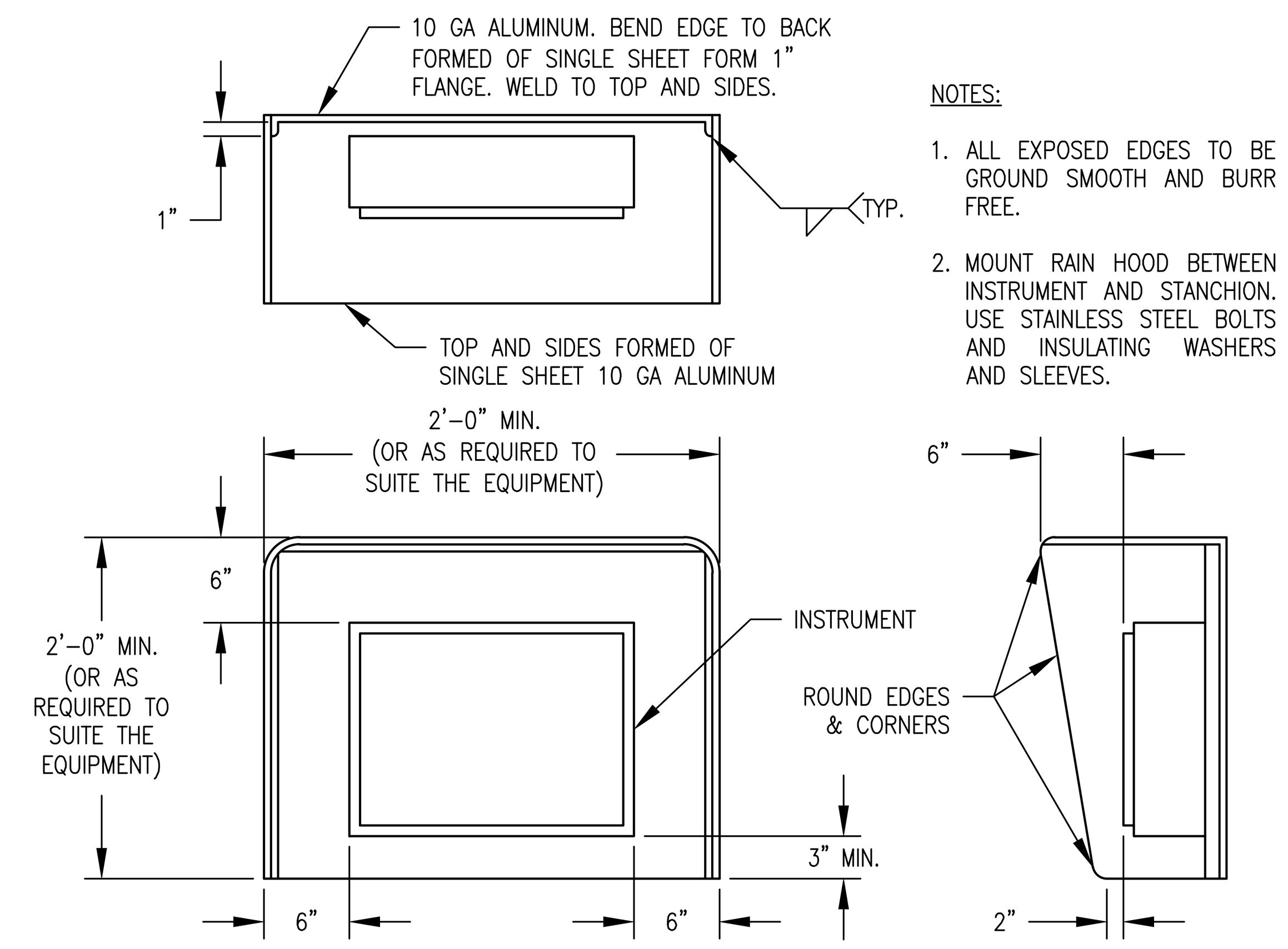
A — ELEVATED STORAGE TANK GROUNDING SYSTEM



NOTES:

1. INSTALL THE METER SO THE METER READINGS CAN BE TAKEN WITHOUT ENTERING THE GATE.
2. UTILITY POLE SHALL BE CLASS 5, 20FT. PRESSURE SALT TREATED SOUTHERN PINE UTILITY GRADE POLE, STRAIGHT AND TRUE WITH NO KNOTS, SPLITS OR OFFSETS, CANTED TOP, STAMPED AND DATED, AND SET IN GROUND PLUMB TO UTILITY STANDARDS.

B — POWER POLE



NOTES:

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

C — SUN/RAIN HOOD

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RELEASE

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PPI PROJECT NO.

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