

**BROOKE COUNTY PUBLIC SERVICE DISTRICT
BROOKE COUNTY, WEST VIRGINIA**

**PHASE IIC SANITARY SEWER LINE EXTENSIONS (ST. JOHN'S ROAD, DELTA LANE,
BAXTER ADDITION, ETTA LANE, MEMORIAL LAKES ROAD, MULBERRY DRIVE,
PLEASANT VALLEY LANE, WALKER MANOR DRIVE)**

ADDENDUM #1

JUNE 5, 2023

THRASHER PROJECT #101-020-1370

TO WHOM IT MAY CONCERN:

A Pre-Bid Conference was held on Wednesday, May 24, 2023, on the above-referenced project, a copy of the sign in sheet is included in this Addendum. The following are clarifications and responses to questions posed by contractors for the above reference project.

A. DRAWINGS

The following Plan Sheets have been added to this Addendum:

1. Plan Sheet 16 involves parcel #90 in which the E1-1-4 Grinder Station was slid towards the road approximately 20 feet due to ROW Negotiations.
2. Plan Sheet 23 has added a note to the sheet that the Contractor shall not disturb the homeowner's fence or turf yard on parcel #12.
3. Plan Sheet 27 had the Valve Vault Diameter and the Wet Well Diameter dimensions flipped on this sheet and it has since been revised.
4. Detail Sheet D2 had the incorrect dimensions for the Manhole Lids. The revised Detail Sheet was added with the correct dimensions for the Manhole Lids.
5. Detail Sheet D4 has been updated and revised due to an incorrect representation of the Customer Service Lateral Cleanout Detail for this project. It also includes the addition of the Pressure In Line Cleanout for 2" and Smaller Forcemain.
6. On the Project Notes (PN) sheet, the language regarding the SDR26 pipe has been removed and the notes regarding how the Engineer will now be performing the Pre-Construction have been updated as well.
7. Plan Sheet 27E was added to the Plan Set to add in a Generator Pad Detail that was not previously on the plans.

B. QUESTIONS AND RESPONSES

1. QUESTION

Is the field trailer necessary for the project?

RESPONSE

Yes. In reference to the Specification Section 015000 – TEMPORARY FACILITIES AND CONTROLS – 1.11 FIELD OFFICE AND SHEDS, it gives an explanation into the length of time it needs to be up for and how to submit evidence of insurance.

2. QUESTION

If the pump is not pre-approved, will it not be approved afterward?

RESPONSE

Pumps and other equipment may be submitted on this project by the awarded Contractor during the submittal process for review. If the submitted substitute meets the specifications of the project, the equipment will be deemed an “Engineer’s Approved Equal” for use on this project.

3. QUESTION

For the grinder pumps and pump stations, who is responsible for getting power there?

RESPONSE

Per Specification Section 260500 – BASIC ELECTRICAL MATERIALS AND METHODS – 1.5 COORDINATION, it states how the electrical services will be conducted and what the Owner, Engineer, and Contractor are responsible for. The Brooke County PSD will pay the power company for the new electrical services that have fees. This does not include any necessary inspection fees.

4. QUESTION

How are the DOH Inspection Fees paid for?

RESPONSE

The DOH Bonds and inspection fees are paid by the Owner.

5. QUESTION

It calls out for the manhole covers and frames to be painted with corrosion resistant coatings, is that necessary?

RESPONSE

Yes. As per the Specification Section 330513.01 – MANHOLE FRAMES AND COVERS – 3.2 PAINTING, it states to apply a dry film thickness (DFT) of 40 mils minimum and to not paint the top side of the manhole cover.

6. QUESTION

Is the completion time anything critical or is there a possibility for extension?

RESPONSE

The project shall be substantially complete within 365 calendar days. It shall be completed and ready for final payment within 395 days. However, weather days may be requested with monthly pay applications and reference from the SOC.

7. QUESTION

On the three (3) pump stations, are the valve vaults meant to be five (5) foot wide?

RESPONSE

Sheet 27 of the plans has been revised so the valve vaults for all three (3) pump stations are to be four (4) foot diameter vaults.

8. QUESTION

In the one file the watertight is a 1915-S1. The drawings show a 1916-F, which one do you want us to quote?

RESPONSE

The manhole lid shall be the 1915-S1 model manhole. Sheet D2 has been updated and included with this Addendum to show the corrected dimensions to meet the specifications of the 1915-S1 model.

9. QUESTION

Do you have a detail of what is required for bid item 62, in-line pressure cleanout shown on page 17 of the plans?

RESPONSE

A detail for Pressure In Line Cleanout for 2" and Smaller Forcemain has been provided in this Addendum.

10. QUESTION

Section 330513-4, 2.3 A03 calls for "Rubber Seal Wraps" regarding manhole riser rings, is this something that needs to be included? Can it be elaborated on what is required if so?

RESPONSE

The Rubber Seal Wraps must be included on the manhole riser rings. Infi-Shield External Gator Wrap or Engineer's Approved Equal is to be used for Rubber Seal Wraps.

11. QUESTION

The detail and spec section for boring & jacking shows casing pipe with & without a protective coating, is a coating required for casing pipe?

RESPONSE

There is not a requirement for a coating on the casing pipe.

12. QUESTION

Is #57 limestone an acceptable alternate to the noted #10 limestone?

RESPONSE

Yes, the Contractor may use #57 limestone as the bedding cover for all piping.

13. QUESTION

The spec section for fencing calls out multiple coatings along with privacy slats & fabric, can it be cleared up what we are to include?

RESPONSE

The Contractor may use any of the privacy slats called out in the fencing specification section. All fencing shall be Zinc-Coated Fabric ASTM Code A 392, Type II, Class 1. The only requirement for the privacy slats is that the color must be Hunter Green.

14. QUESTION

The plan sheets for the pump station call out reference to sheet D5 for a detail of the access roads, there is no detail on D5 for this. What detail are we to follow for the access roads? The detail on 27A or detail on D10?

RESPONSE

The detail provided on Sheet D10 shall be followed for the access roads to the pump station sites.

15. QUESTION

Other than the few properties that specify what to do with the lumber from clearing, will we be permitted to chip the trees and blow them into the surrounding woods or must they be hauled offsite?

RESPONSE

All chips of trees shall be hauled offsite to a proper dumping location unless the Contractor receives written permission from the property owner.

16. QUESTION

The note regarding the sewer pipe on sheet #PN, are we to use SDR26 PVC Pipe for cover depths between 12' and 18'? There is no bid item for SDR26 Pipe.

RESPONSE

The note regarding the sewer pipe on sheet #PN has been updated to say SDR35 pipe for all PVC pipe and sheet #PN will be included in **SECTION C – DRAWINGS**.

17. QUESTION

Will any of the stone backfill called for in WVDOH Type B Trench Repair be paid for in the WVDOH Stone Backfill item #15?

RESPONSE

No, if it is called out as WVDOH Type “B” Trench Repair in the plans then the Contractor will be paid for Type “B”. If it is called out as WVDOH Stone Backfill, then the Contractor will be paid for the Stone Backfill pay item. There are separate Details in the Plans for Type B and Stone Backfill. The Contractor will follow the appropriate Detail when called out in the Plans and be paid under the corresponding Bid Item.

18. QUESTION

Yost Mobile Home Park Road is currently asphalt, on plan sheet #8 it is labeled as WVDOH Type C Trench Repair with HMA overlay. Is this correct?

RESPONSE

Yes, it is currently asphalt on Yost Mobile Home Park Road and it will be WVDOH Type “C” Trench Repair with HMA Overlay going there once construction of the area is completed.

19. QUESTION

The Pump Station #4 rehab section refers to pipe rehab on the influent. Is this going to be done as the influent is force main?

RESPONSE

Yes, this will be done under the consideration that the influent flow is the force main while you rehabilitate the existing Wet Well at Pump Station #4.

20. QUESTION

What is the expected flow rate at Lift Station #4? How much head is there to overcome for bypass pumping?

RESPONSE

The expected flow rate at Lift Station #4 operates at approximately 45 GPM. There is 232' of total dynamic head (TDH) at this pump to overcome for bypass pumping.

21. QUESTION

What bid item are the Customer Service Lateral Cleanouts (Sheet D4) to be paid under? Or are these not required? Bid items 51-53 – Call out a Wye Service. The Detail on Sheet D4 has a 2-way Sanitary Tee. Please verify.

RESPONSE

Customer Service Lateral Cleanouts are not required. The Wye Service connections on Bid items 51-53 are to use the detail on Sheet D4 shown as “Service Connections” that has been updated and provided as part of this Addendum, see revised detail.

22. QUESTION

Is this project AIS?

RESPONSE

No, this project is not required to meet American Iron and Steel (AIS) requirements.

23. QUESTION

Please provide Generator Pad Details.

RESPONSE

The Generator Pad Details have been provided in this Addenda under **SECTION C – DRAWINGS**.

24. QUESTION

There are 2 details for Reinforced Concrete Anchors (D6 and D8). Which is correct?

RESPONSE

The detail on sheet D6 is for Reinforced Concrete Anchors and they are called out on the plans in the areas of steep slopes. The detail on sheet D8 is for HDPE Pipe Anchors and those are to be used when transitioning from non-HDPE (DI, PVC, etc.) to HDPE pipe when exiting the Valve Vaults at the Pump Stations or when tying HDPE Pipe into concrete manholes. The HDPE Pipe Anchors are also shown where applicable on the plan sheets.

25. QUESTION

How wide of a span is required for the air bridge over the gas line?

RESPONSE

Per the Temporary Equipment Timbermat Gas Pipeline Crossing detail on Sheet D11, the span for the air bridge shall be 15’ off each side of the gas pipeline.

26. QUESTION

Who is the person you have been in contact with regarding the spray lining of the interior of the manholes?

RESPONSE

The person that the Engineer has been in contact with regarding the spray lining of the interior of the manholes is Jason Foster of Spectra Shield and he can be reached at: jfoster@spectrashield.com.

27. QUESTION

Will there be VFDs required for the lift stations?

RESPONSE

Yes, there is a requirement for a VFD at all three (3) lift stations.

28. QUESTION

Will HOMA Pumps be allowed for bidding?

RESPONSE

Yes, the HOMA GRP41/3 Pump is deemed an "Engineer's Approved Equal".

29. QUESTION

What are the depths of the basins for the two (2) simplex stations (E-1-1-2 & E-1-1-4)?

RESPONSE

The invert coming into the E-1-1-2 and E-1-1-4 Simplex Grinder Pump Stations shall be approximately 34 inches.

30. QUESTION

What type of level transducer shall be specified for use on this project?

RESPONSE

The existing level transducers are the NOSHOK Level Transmitter & Transducers. Keith Smith at C2G Engineering, Inc. can be used as a contact for these level transducers and can be reached at ksmith@c2geng.com.

C. CLARIFICATIONS

1. There were questions about the direction of flow arrows in the Plan Set. The plans have been reviewed and it was determined that there was a glitch in the Auto CAD files that flipped or removed flow arrows throughout the Plan Set that was issued for Bidding. The pipe profiles shown in the Plan Set are correct and show the correct orientation of flows through the system. The Plan Set will be updated to show the correct orientation of flow arrows and provided to the awarded contractor at the Pre-Construction Conference.
2. Note 24 under the WVDOH General Notes and Note 17 under General Notes states that Pre-Construction Video Taping shall be provided by the Contractor. The Thrasher Group will perform Pre-Construction videotaping of the project area within the rights-of-way provided in the plan set where work shall be performed. The contractor shall be responsible for videotaping areas utilized by the contractor that are not shown in the Plan Set such as storage areas, laydown yards, access points not shown in the plan set, etc.
3. There will be no Level Transducers put in Pump Stations #3 and #4. There was a level transducer put in Pump Station #3 on a previous project. Pump Station #4 is scheduled for improvements in an upcoming project in which a level transducer will be put in.

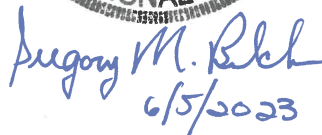
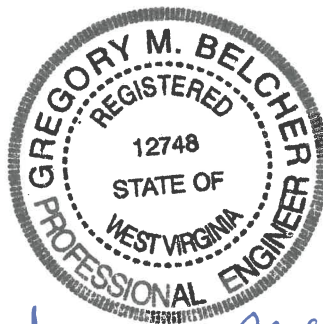
If you have any questions or comments, please feel free to contact me at your earliest convenience. As a reminder, bids will be received until 2:00 p.m. on Wednesday, June 14, 2023, at Brooke County Public Service District Office, 711 Charles Street, Wellsburg, WV. Good luck to everyone and thank you for your interest in the project.

Sincerely,

THE THRASHER GROUP, INC.



GREGORY M. BELCHER, P.E.
Project Manager



Enclosures: Pre-Bid Sign-In Sheet
Specification Section 333101 – Package Sewage Grinder Pump and Appurtenances
Plan Sheets: 16, 16A, 23, 27, D2, D4, PN, and 27E.

**BROOKE COUNTY PUBLIC SERVICE DISTRICT
 BROOKE COUNTY, WEST VIRGINIA
 CONTRACT #1 – PHASE IIC SANITARY SEWER LINE EXTENSIONS**

**PRE-BID CONFERENCE
 Wednesday, May 24, 2023**

Thrasher Project #020-01370

Name	Representing	Phone #	Email Address
Tim Carr	JF ALLEN	304 614 3129	tcarr@jfallenco.com
Clem Frazier Jr	JTC Contracting	412-680-9002	clenzjtrcont.com
Dan Williams	ODV Exc.	740- 286 ³¹² -2867	dwilliams@odvexcavating.com
Tony Closson	JF Allen Company	304-460-7424	Tclosson@JFAllenCo.com
SEAN PHARES	RDR UTILITY SERVICES GROUP	304.476.5286	sphares@rdusg.com
RANDY VLANCH	GLENN JOHNSTON, INC	412-897-8629	GREGGJOHNSTON@GMAIL.COM
Will Allison	Alex E Paris Contracting	724 947 2235	wallison@alexparisinc.com
Eric Sprouse	Bear Contracting ✓	304-326-0160	estimating@bear-contracting.com
Michael Gianni	James White Construction	304-748-8881	Tgianni@jameswhiteconstruction.com mgianni@4

SECTION 333101 – PACKAGE SEWAGE GRINDER PUMP AND APPURTENANCES

PART 1 - General

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract Documents, including General and Supplementary Conditions, and all related Specification Sections, apply to this Section.

1.2 SUMMARY

- A. The work in this section includes furnishing and installing package wastewater grinder pump units.

PART 2 - PRODUCTS

2.1 PACKAGE GRINDER PUMP STATIONS

- A. Grinder pump assembly #E1-2 shall be pre-manufactured, duplex, semi-positive displacement, 1HP, 1725 rpm, 240 V, 1 phase grinder pump unit, fiberglass, and a 150 gallon capacity wet well for duplex stations. Duplex station to include 6” inlet connection sized to accept 6” PVC SDR 35 pipe. Also, station to include discharge connection, separate HDPE drywell access way for non-traffic areas, anti-siphon valve and check valve, controls and alarm/disconnect panel.

Grinder pump assembly #E1-1 shall be pre-manufactured, simplex, semi-positive displacement, 1HP, 1725 rpm, 240 V, 1 phase grinder pump unit, fiberglass, and a 70 gallon capacity wet well for simplex stations. Simplex station to include 4” inlet connection sized to accept 4” PVC SDR 35 pipe. Also, station to include discharge connection, separate HDPE drywell access way for non-traffic areas, anti-siphon valve and check valve, controls and alarm/disconnect panel.

- B. Grinder pump assemblies shall be manufactured by Environmental/One Corporation, Model DH 152-93 for the duplex and Model DH071-74 for the simplex, Myers VRS10A-21, or approved equal.
- C. Contractor to supply one (1) spare pump which is capable of being installed in the simplex or duplex station.

2.2 CONCRETE ANTI-FLOATATION SLAB

- A. Subbase bedding for grinder station shall be as detailed on the construction plans.

PART 3 - EXECUTION

3.1 PIPING CONNECTIONS

- A. Contractor to make piping connections to the inlets from the gravity drain lines from the sludge storage building.

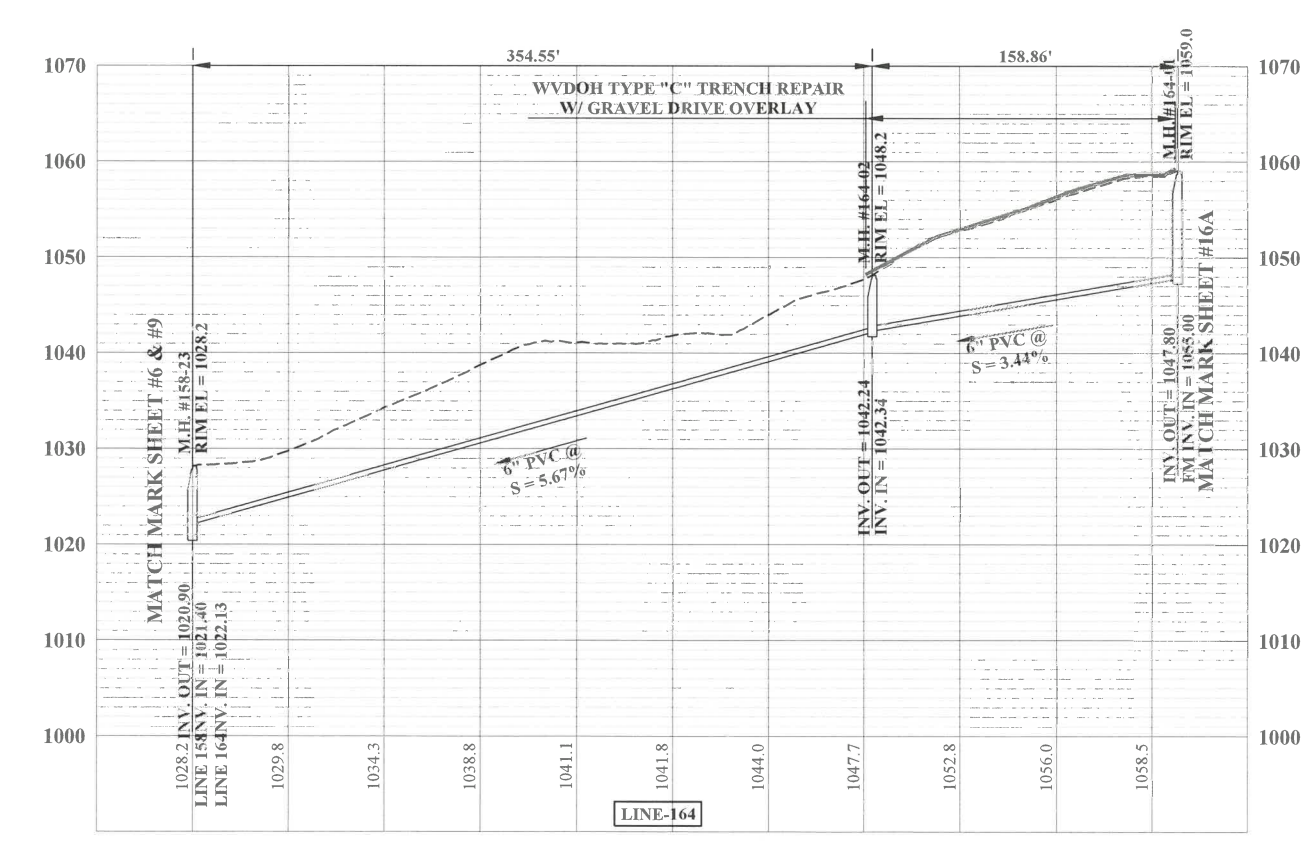
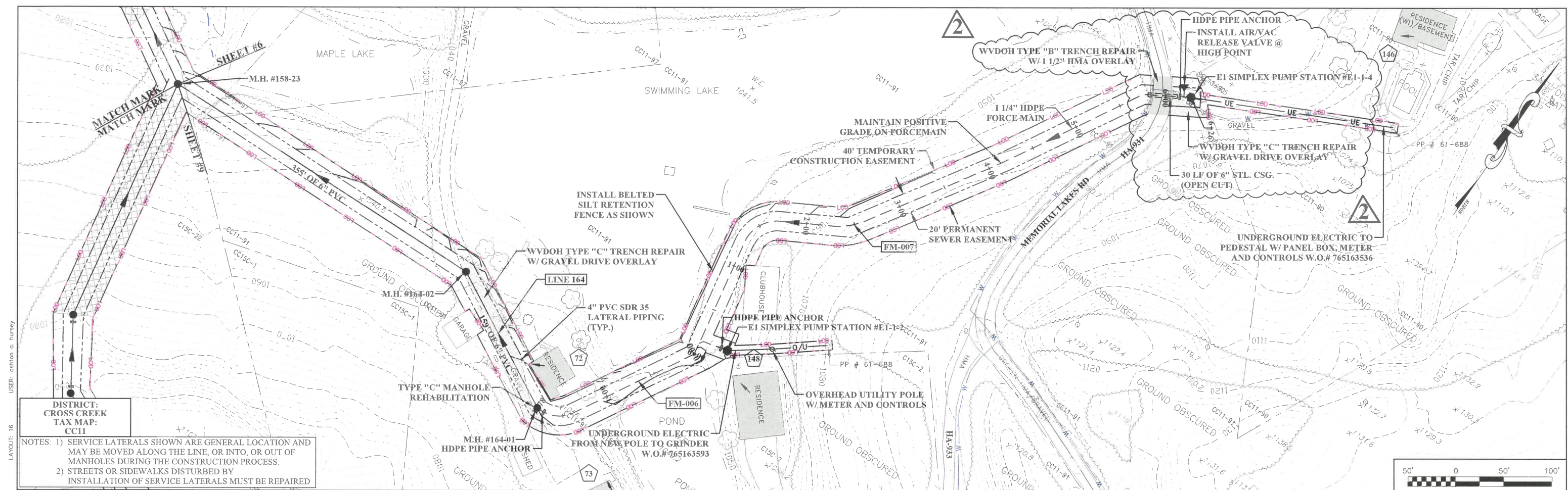
3.2 ELECTRIC SERVICE AND CONTROLS

- A. Contractor shall install pump station control panels and transformers (supplied by the equipment manufacturer) and supply all wiring for power and alarm system as recommended by the manufacturer.
- B. Electrical wiring and alarm wiring shall be placed in separate (PVC) Schedule 40 conduit in underground installations. Conduits shall be water tight.
- C. Visit www.firstenergycorp.com/builders-contractors for the Customer Guide for Electric Service.
- D. All electrical workmanship and material shall meet or exceed the latest National Electric Code (NEC) requirements.

3.3 OPERATION AND MAINTENANCE

- A. Contractor shall furnish all labor and equipment for testing in accordance with manufacturers written instructions and start up training for the grinder stations by a representative of the equipment manufacturer for a minimum of 8 hours excluding travel time.
- B. Contractor shall furnish any spare parts per the equipment manufacturers written recommendation to the Engineer.
- C. Contractor shall furnish six bound copies of pump station operation and maintenance manuals.

END OF SECTION 333101



USER: aanton a. hursey
 LAYOUT: 16
 PLOT DATE/TIME: 6/2/2023 12:18 PM
 CAD FILE: R:\020\020-1370 - Brooke County PSD - Brooke County PSD Phase IIC\Drawing\002-sheet-16.dwg

THE INFORMATION CONTAINED HEREIN IS THE SOLE PROPERTY OF THE THRASHER GROUP INC. REPRODUCTION OF THESE DOCUMENTS IN WHOLE OR IN PART, FOR ANY REASON WITHOUT PRIOR WRITTEN PERMISSION, IS STRICTLY PROHIBITED. COPYRIGHT © 2023 THE THRASHER GROUP INC.

NO.	BY	DATE	DESCRIPTION
1	SS	12/2021	ADDRESS DOH & DEP COMMENTS, ADJUST EASEMENTS
2	AH	6/2023	ADDENDUM #1



SCALE: AS SHOWN
 DRAWN: A. NEWLON DATE: 06/2023
 CHECKED: S. HAYNES DATE: 06/2023
 APPROVED: M. BELCHER DATE: 06/2023
 SURVEY DATE:
 SURVEY BY:
 FIELD BOOK No.:

THRASHER
 600 WHITE OAKS BLVD, P.O. BOX 940
 BRIDGEPORT WV 26330
 www.thrashergroup.com
 PHONE (304) 624-4108
 FAX (304) 624-7831

PHASE No. IIC
 CONTRACT No.
 PROJECT No. 101-020-1370

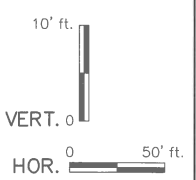
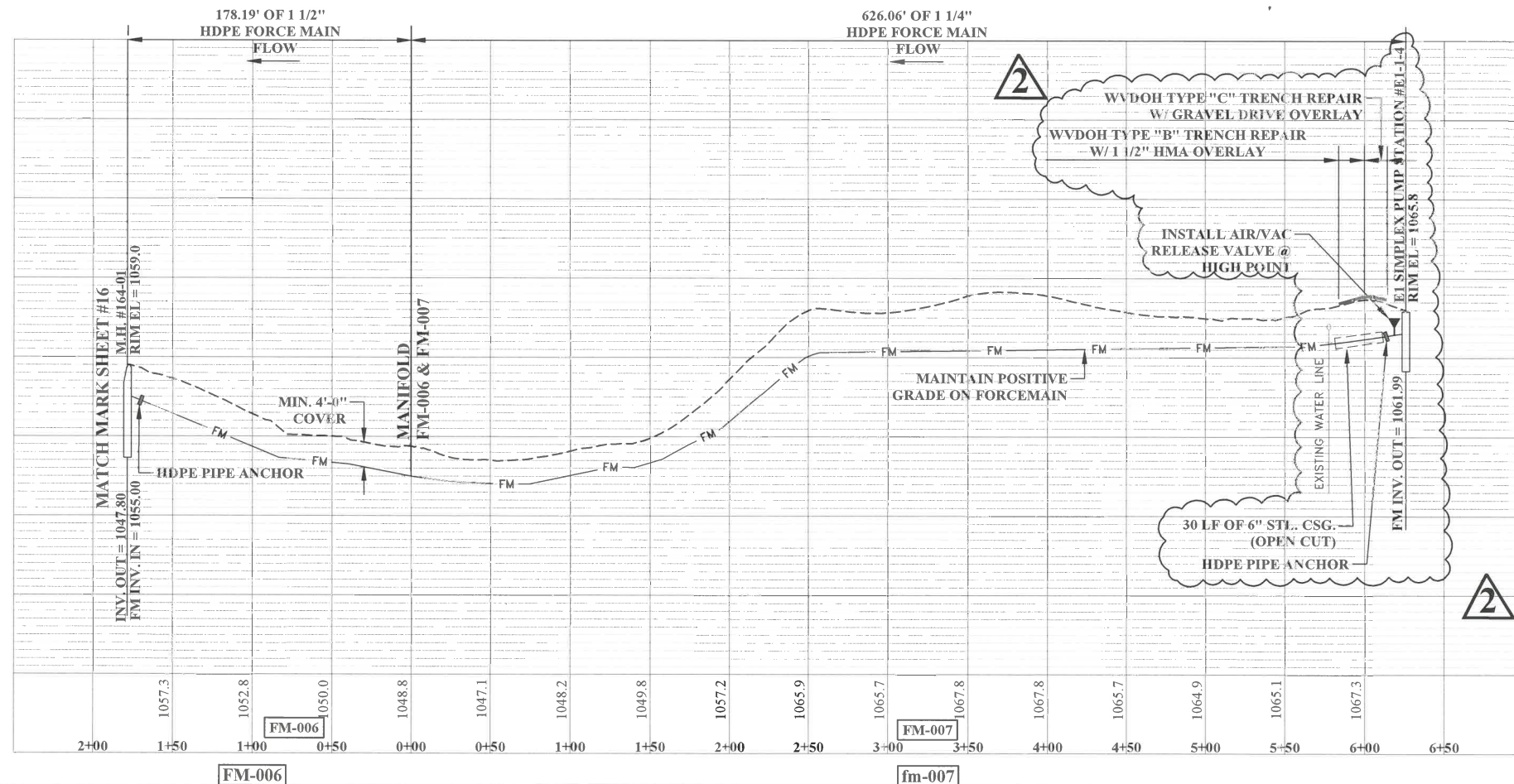
BROOKE COUNTY PUBLIC SERVICE DISTRICT
PHASE IIC SANITARY SEWER LINE EXTENSIONS
 (ST. JOHN'S ROAD, DELTA LANE, BAXTER ADDITION, ETNA LANE, MEMORIAL LAKES ROAD, MULBERRY DRIVE, PLEASANT VALLEY LANE, WALKER MANOR DRIVE)
PLAN & PROFILE

SHEET No. **16**



CAD FILE: R:\020\020-1370 - Brooke County PSD - Brooke County PSD Phase IIC Drawing\002-sheet-16.dwg
 PLOT DATE/TIME: 6/2/2023 12:16 PM
 LAYOUT: 16A
 USER: ashton a. hursay

SEE SHEET #16 FOR PLAN VIEW



1	SS	12/2021	ADDRESS DOH & DEP COMMENTS, ADJUST EASEMENTS
2	AH	6/2023	ADDENDUM #1
NO.	BY	DATE	DESCRIPTION



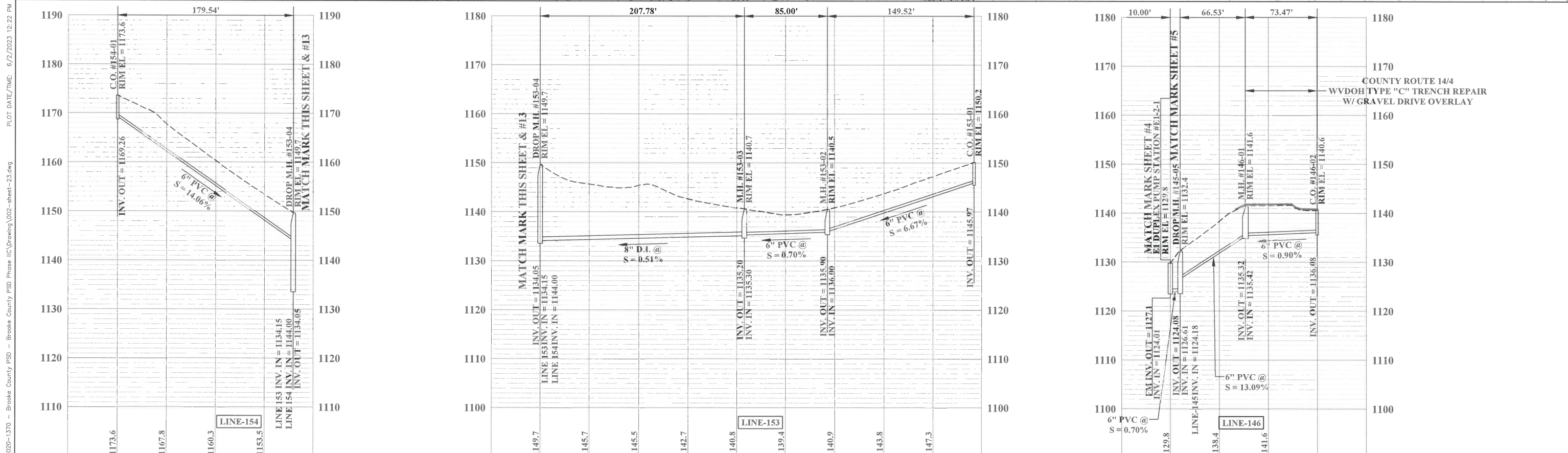
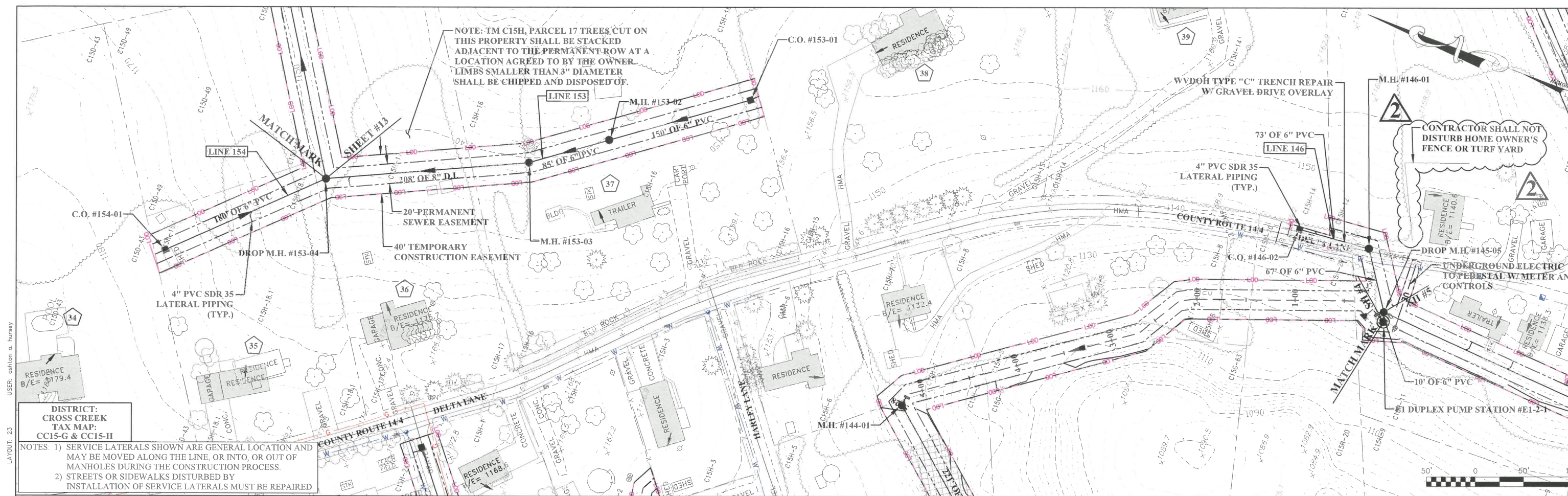
SCALE: AS SHOWN
 DRAWN: A. NEWLON DATE: 06/2023
 CHECKED: S. HAYNES DATE: 06/2023
 APPROVED: M. BELCHER DATE: 06/2023
 SURVEY DATE:
 SURVEY BY:
 FIELD BOOK No.:

THRASHER
 600 WHITE OAKS BLVD. P.O. BOX 940
 BRIDGEPORT WV 26330
 www.thrashergroup.com
 PHONE (304) 624-4108 FAX (304) 624-7831

PHASE No.
IIC
 CONTRACT No.
 PROJECT No.
101-020-1370

BROOKE COUNTY PUBLIC SERVICE DISTRICT
PHASE IIC SANITARY SEWER LINE EXTENSIONS
 ST. JOHN'S ROAD, DELTA LANE, BAXTER ADDITION, ETTA LANE, MEMORIAL LAKES ROAD,
 MULBERRY DRIVE, PLEASANT VALLEY LAKE, WALKER MANOR DRIVE
PLAN & PROFILE

SHEET No.
16A



1	SS	12/2021	ADDRESS DOH & DEP COMMENTS, ADJUST EASEMENTS
2	AH	6/2023	ADDENDUM #1
NO.	BY	DATE	DESCRIPTION



SCALE: AS SHOWN
 DRAWN: A. NEWLON
 CHECKED: S. HAYNES
 APPROVED: M. BELCHER
 SURVEY DATE:
 SURVEY BY:
 FIELD BOOK No.:

DATE: 06/2023
 DATE: 06/2023
 DATE: 06/2023

THRASHER
 600 WHITE OAKS BLVD. P.O. BOX 940
 BRIDGEPORT WV 26330
 www.thrashergroup.com

PHONE (304) 624-4108
 FAX (304) 624-7831

PHASE No.	IIC
CONTRACT No.	
PROJECT No.	101-020-1370

BROOKE COUNTY PUBLIC SERVICE DISTRICT
PHASE IIC SANITARY SEWER LINE EXTENSIONS
 (ST. JOHN'S ROAD, DELTA LANE, BAXTER ADDITION, ETNA LANE, MEMORIAL LAKES ROAD, MULBERRY DRIVE, PLEASANT VALLEY LANE, WALKER MANOR DRIVE)

PLAN & PROFILE

SHEET No. **23**

CAO FILE: R:\2020\2020-1370 - Brooke County PSD - Brooke County PSD Phase IIC Drawing\002-sheet-23.dwg
 PLOT DATE/TIME: 6/7/2023 12:22 PM
 USER: ashion a. nurray
 LAYOUT: 23

DISTRICT:
 CROSS CREEK
 TAX MAP:
 CC15-G & CC15-H

NOTES: 1) SERVICE LATERALS SHOWN ARE GENERAL LOCATION AND MAY BE MOVED ALONG THE LINE, OR INTO, OR OUT OF MANHOLES DURING THE CONSTRUCTION PROCESS.
 2) STREETS OR SIDEWALKS DISTURBED BY INSTALLATION OF SERVICE LATERALS MUST BE REPAIRED

NOTE: TM C15H, PARCEL 17 TREES CUT ON THIS PROPERTY SHALL BE STACKED ADJACENT TO THE PERMANENT ROW AT A LOCATION AGREED TO BY THE OWNER. LIMBS SMALLER THAN 3" DIAMETER SHALL BE CHIPPED AND DISPOSED OF.

CONTRACTOR SHALL NOT DISTURB HOME OWNER'S FENCE OR TURF YARD

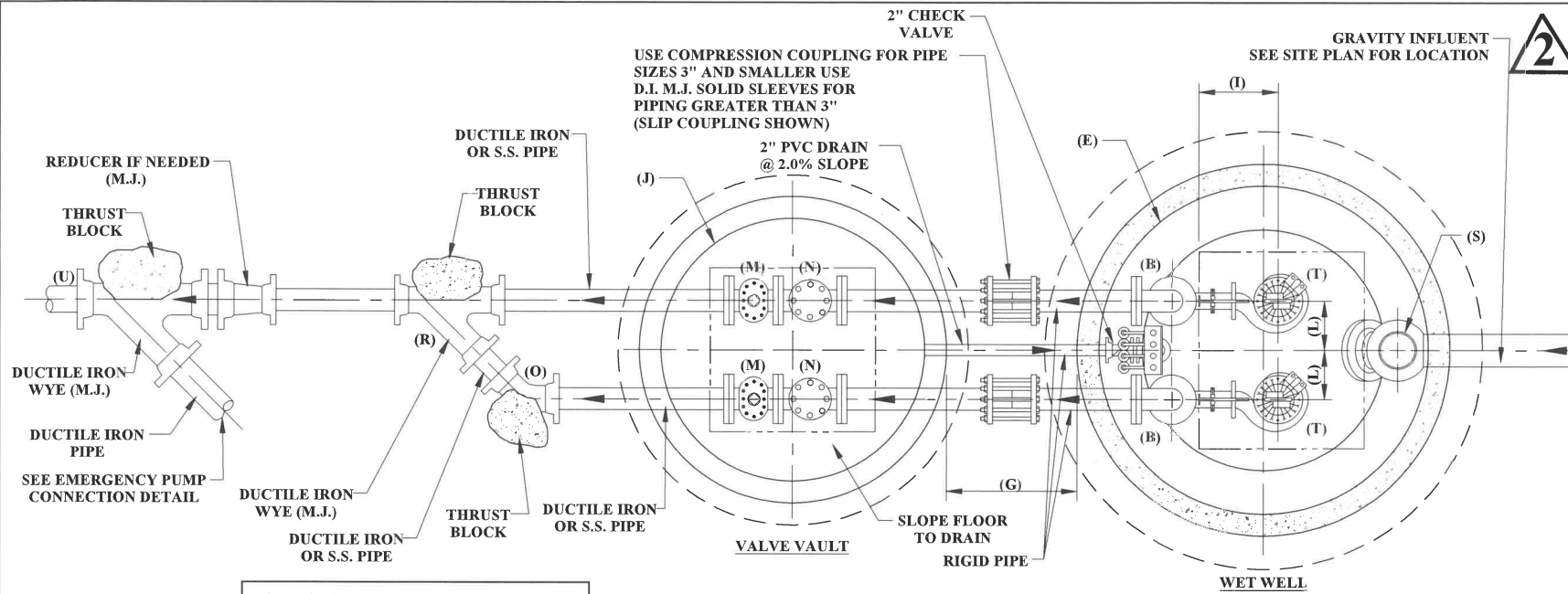
UNDERGROUND ELECTRIC TO RESIDENTIAL WATER METER AND CONTROLS

WVDOT TYPE "C" TRENCH REPAIR W/ GRAVEL DRIVE OVERLAY

DROP M.H. #145-05

#1 DUPLEX PUMP STATION #E1-2-1

USER: cshon a. bursey
 LAYOUT: 27
 PLOT DATE/TIME: 6/1/2023 8:49 AM
 CAD FILE: R:\020\020-1370 - Brooke County PSD - Brooke County PSD Phase IIC Drawing\003-pump-station-details WM.dwg

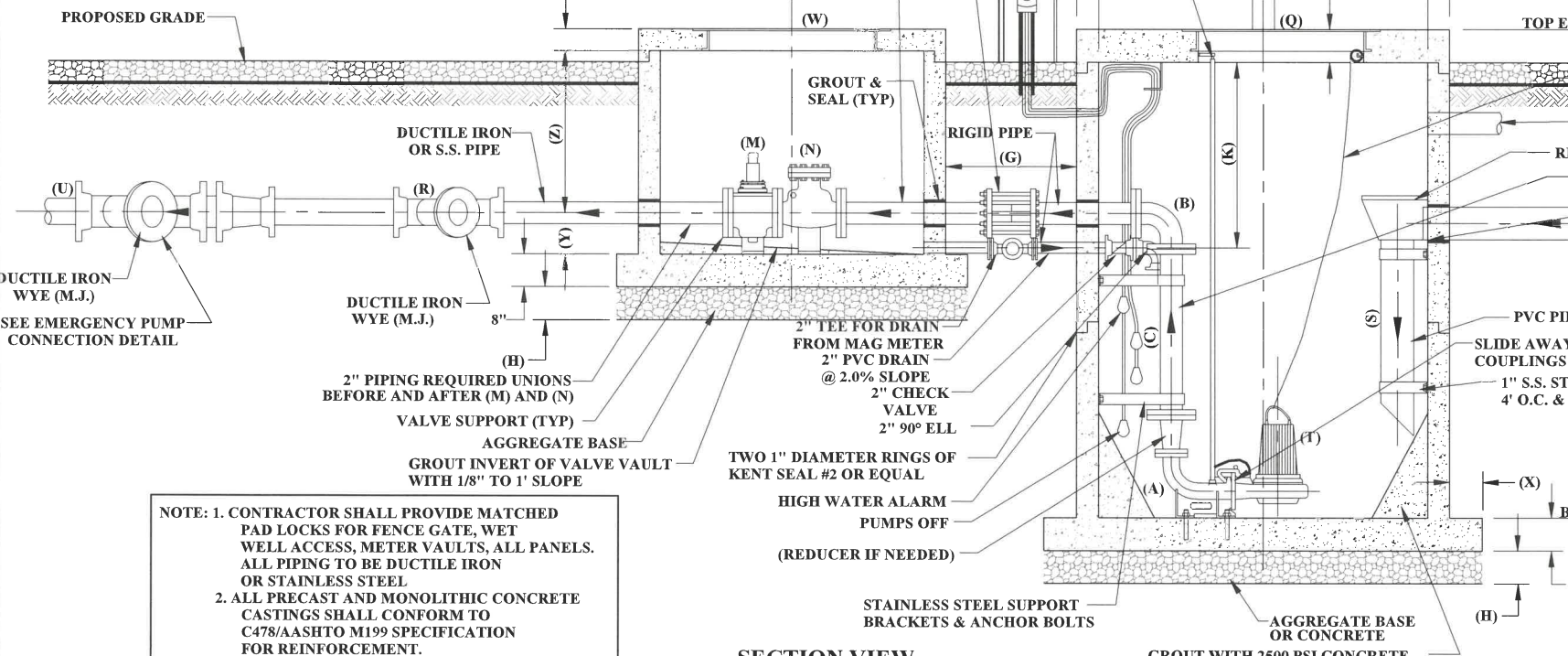


DESCRIPTIONS	PUMP STATION #8	PUMP STATION #9	PUMP STATION #10
LOCATION	ST. JOHN'S ROAD	PLEASANT VALLEY LANE	WALKER MANOR DRIVE
PROPOSED TOP ELEVATION	1129.20	1131.70	1181.70
PROPOSED WET WELL BOTTOM ELEVATION	1110.20	1113.70	1162.30
PUMPS OFF	1113.50	1117.50	1165.00
LEAD PUMP ON	1114.50	1118.50	1166.00
LAG PUMP ON	1115.50	1119.50	1167.00
HIGH WATER ALARM	1116.00	1120.00	1167.50
LOWEST INVERT IN	1117.01	1120.99	1168.50
(A) 90° ELL	2"	2"	2"
(B) 90° LONG RADIUS ELL	2"	2"	2"
(C) DISCHARGE PIPING	2"	2"	2"
(D) DIMENSION	12"	12"	12"
(E) WET WELL DIAMETER	5'-0"	5'-0"	5'-0"
(F) DIMENSION	7"	7"	7"
(G) DIMENSION	3'-0"	3'-0"	3'-0"
(H) DIMENSION	1'-0"	1'-0"	1'-0"
(I) DIMENSION	PER. MANUF.	PER. MANUF.	PER. MANUF.
(J) VALVE VAULT DIAMETER	4'-0"	4'-0"	4'-0"
(K) DIMENSION	4'-6"	4'-6"	4'-6"
(L) DIMENSION	11"	11"	11"
(M) PLUG OR BALL VALVE	2"	2"	2"
(N) CHECK VALVE	2"	2"	2"
(O) 45° BEND	2"	2"	2"
(P) DIMENSION	6"	6"	6"
(Q) ALUMINUM HATCH SIZE	30"x36"	30"x36"	30"x36"
(R) LATERAL WYE	2"	2"	2"
(S) DROP PIPING	10"	10"	10"
(T) DUPLEX PUMPS	FLYGT MP3085 HT3 259 4 H.P. 55 GPM @ 88' TDH 230V, 3Ø	FLYGT MP3085 HT3 259 4 H.P. 52 GPM @ 91' TDH 230V, 3Ø	FLYGT MP3085 HT3 259 4 H.P. 48 GPM @ 96' TDH 230V, 3Ø
SPARE PUMP REQUIRED	1	1	1
(U) DISCHARGE PIPING	2"	2"	2"
(V) DIMENSION	12"	12"	12"
(W) ACCESS HATCH	36"x36"	36"x36"	36"x36"
(X) DIMENSION	6"	6"	6"
(Y) DIMENSION	1'-6"	1'-6"	1'-6"
(Z) DIMENSION	3'-6"	3'-6"	3'-6"
FORCEMAIN PLUG VALVE	N/A	N/A	N/A
FINISHED GROUND AT LIFT STATION SITE	1128.70	1131.20	1181.20
VENT ELEVATION	1132.00	1133.50	1183.50
BOTTOM OF CONTROL BOARD ELEVATION	1132.50	1134.00	1184.00
100 YEAR FLOOD ELEVATION	N/A	N/A	N/A
SITE PLAN SHEET #	SHEET #24	SHEET #25	SHEET #26

NOTE: CONTRACTOR TO INSTALL THRUST BLOCKS AT ALL BENDS SHOWN OR ANY BENDS OR FITTINGS OTHERWISE CONSTRUCTED SEE SITE PLANS AND FORCEMAIN DRAWINGS WHERE APPLICABLE.

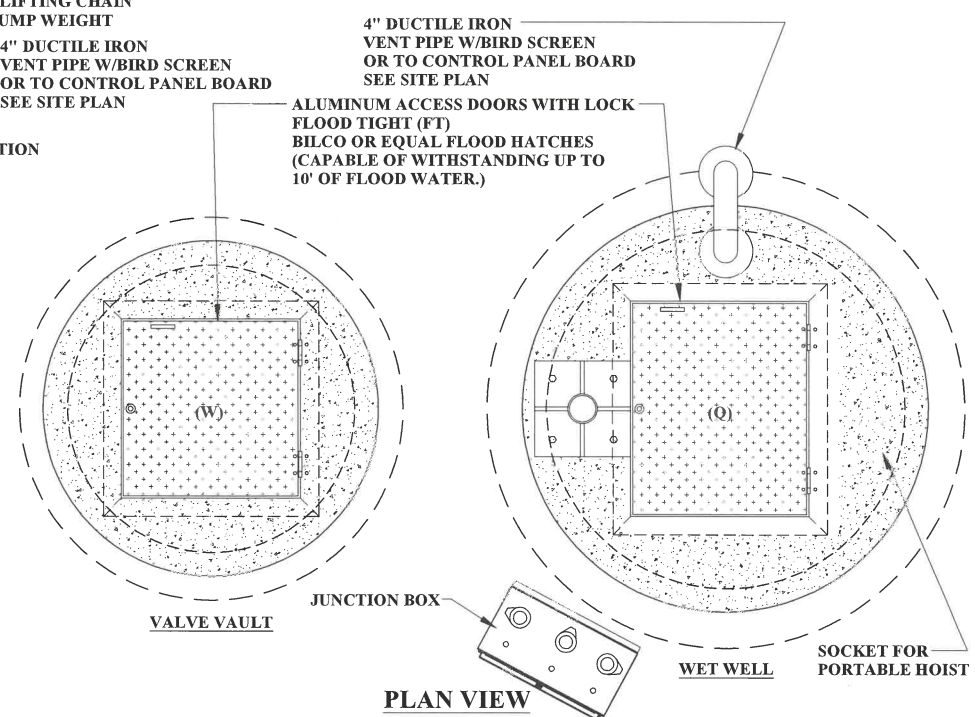
NOTE: FOR INFLUENT LINE OR LINES LOCATION SEE SITE PLANS FOR EACH STATION.

USE COMPRESSION COUPLING FOR PIPE SIZES 3" AND SMALLER USE D.I. M.J. SOLID SLEEVES FOR PIPING GREATER THAN 3" (SLIP COUPLING SHOWN)
 2" PIPING REQUIRED UNIONS BEFORE AND AFTER (M) AND (N)



NOTE: 1. CONTRACTOR SHALL PROVIDE MATCHED PAD LOCKS FOR FENCE GATE, WET WELL ACCESS, METER VAULTS, ALL PANELS. ALL PIPING TO BE DUCTILE IRON OR STAINLESS STEEL
 2. ALL PRECAST AND MONOLITHIC CONCRETE CASTINGS SHALL CONFORM TO C478/AASHTO M199 SPECIFICATION FOR REINFORCEMENT.

STAINLESS STEEL LIFTING CHAIN SHALL BE SIZED FOR LARGEST PUMP TO BE REMOVED. CHAINS SHALL BE ATTACHED TO EACH PUMP VIA A STAINLESS STEEL PINNED CLEVIS. CHAIN SHALL BE SUFFICIENT IN LENGTH TO REACH FROM PUMPS TO TOP OF WET WELL + 3 FEET.



SECTION VIEW

VALVE VAULT

PLAN VIEW

WET WELL

SOCKET FOR PORTABLE HOIST



SCALE: AS SHOWN
 DRAWN: A. NEWLON DATE: 06/2023
 CHECKED: S. HAYNES DATE: 06/2023
 APPROVED: M. BLECHER DATE: 06/2023
 SURVEY DATE:
 SURVEY BY:
 FIELD BOOK No.:

THRASHER
 600 WHITE OAKS BLVD. P.O. BOX 940
 BRIDGEPORT WV 26330
 www.thrashereng.com
 PHONE (304) 624-4108 FAX (304) 624-7831

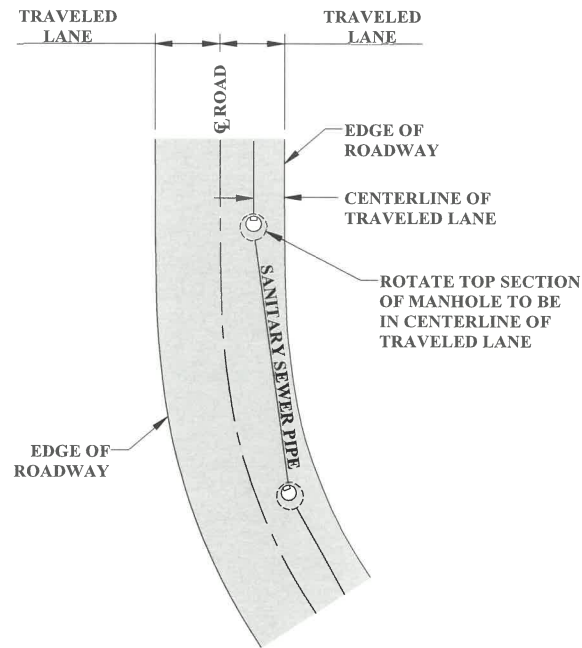
PHASE No. IIC
 CONTRACT No.
 PROJECT No. 101-020-1370

BROOKE COUNTY PUBLIC SERVICE DISTRICT
 PHASE IIC SANITARY SEWER LINE EXTENSIONS
 (ST. JOHN'S ROAD, DELTA LANE, BAXTER ADDITION, ETTA LANE, MEMORIAL LAKES ROAD, MULBERRY DRIVE, PLEASANT VALLEY LANE, WALKER MANOR DRIVE)

SHEET No. 27

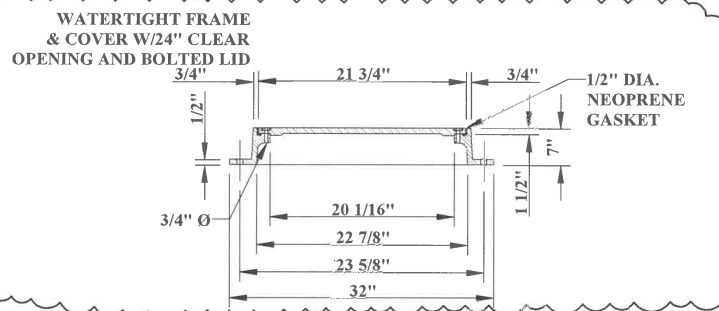
NO.	BY	DATE	DESCRIPTION
1	SS	12/2021	ADDRESS DOH & DEP COMMENTS, ADJUST EASEMENTS
2	AH	6/2023	ADDENDUM #1

CAD FILE: R:\2020\020-1370 - Brooke County PSD - Brooke County PSD Phase IIC Drawing\020-1370-Phase IIC.dwg
 PLOT DATE/TIME: 6/1/2023 2:23 PM
 USER: ashon a. hursley
 LAYOUT: D2

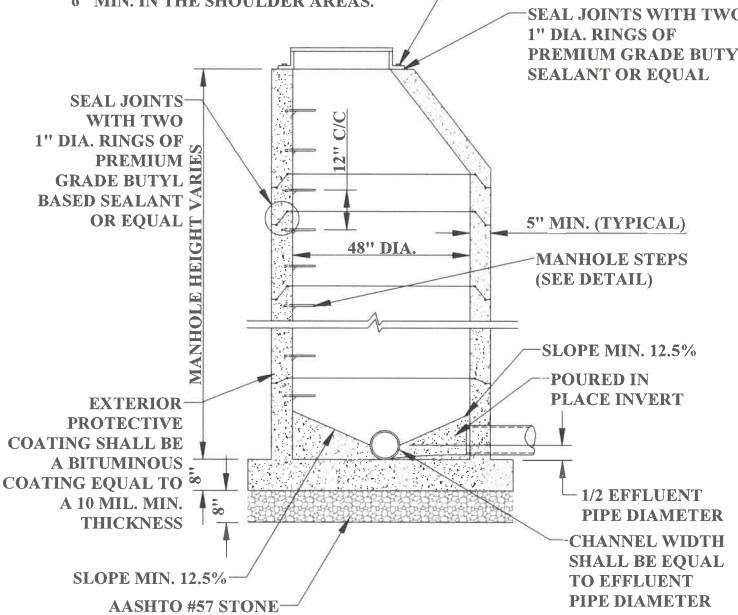


TYPICAL INSTALLATION OF MANHOLES IN TRAVELED LANES OF ROADWAY
NOT TO SCALE

2

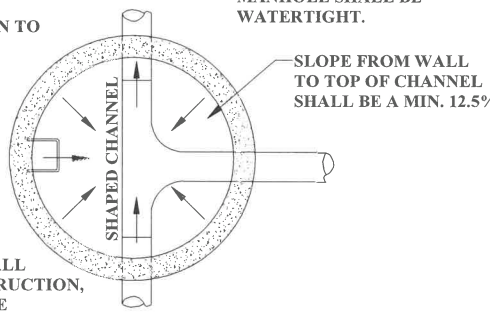


NOTE: BURY MANHOLES & CLEANOUTS 1' MIN. UNDER WVDH ROADWAY DITCHES & 6" MIN. IN THE SHOULDER AREAS.



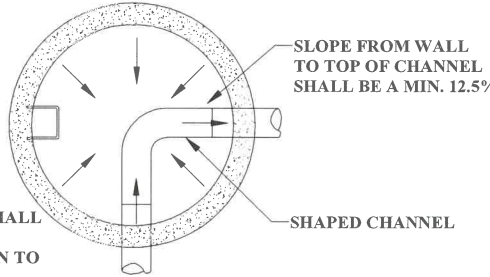
NOTE: CHANNEL SLOPES SHALL BE A MIN. OF 0.10' FROM PIPE INVERT IN TO PIPE INVERT OUT.

NOTE: ALL SEALED JOINTS IN MANHOLE SHALL BE WATERTIGHT.



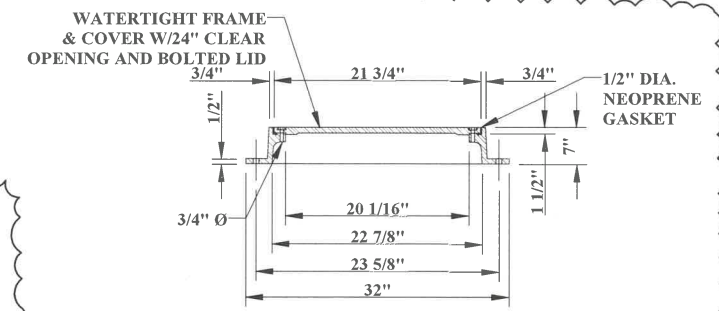
REGULAR MANHOLE DETAIL
NOT TO SCALE

NOTE: ALL MANHOLES SHALL BE PRECAST CONSTRUCTION, AND SHALL INCLUDE CAST IN PLACE FLEXIBLE PIPE TO MANHOLE CONNECTORS AT ALL PIPE PENETRATIONS.

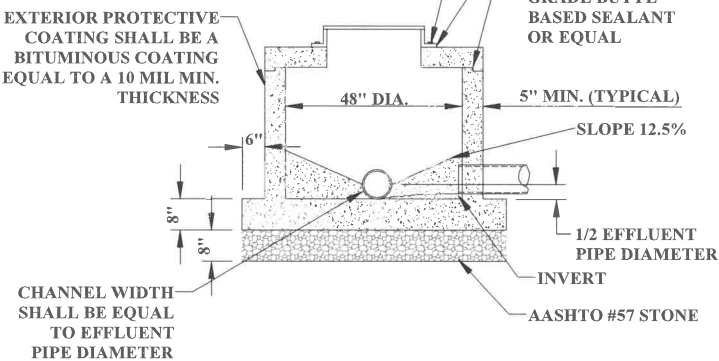


REGULAR MANHOLE W/ CHANNEL BENDS DETAIL
NOT TO SCALE

NOTE: CHANNEL SLOPES SHALL BE A MIN. OF 0.10' FROM PIPE INVERT IN TO PIPE INVERT OUT.

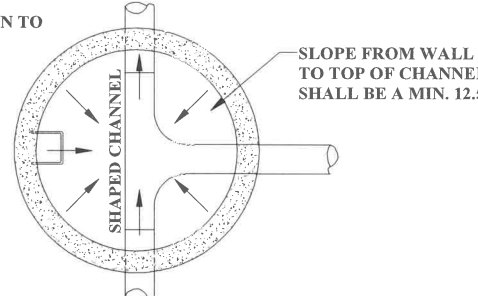


NOTE: BURY MANHOLES & CLEANOUTS 1' MIN. UNDER WVDH ROADWAY DITCHES & 6" MIN. IN THE SHOULDER AREAS.



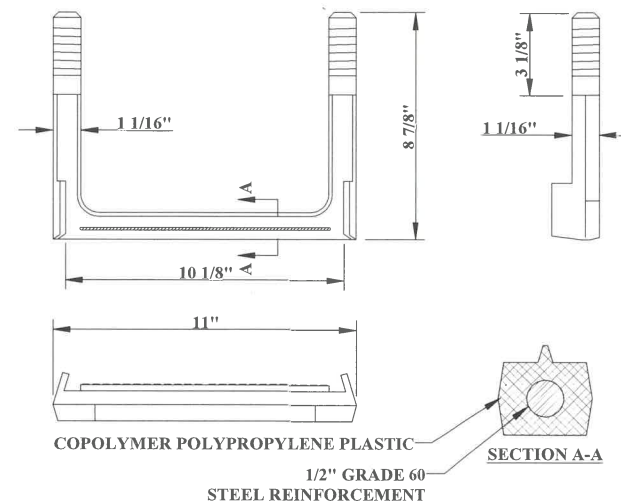
NOTE: FLAT TOP MANHOLE TO BE USED WHEN PROPOSED MANHOLE IS 28" OR LESS IN DEPTH.

NOTE: CHANNEL SLOPES SHALL BE A MIN. OF 0.10' FROM PIPE INVERT IN TO PIPE INVERT OUT.



FLAT TOP MANHOLE DETAIL
NOT TO SCALE

NOTE: ALL MANHOLES SHALL BE PRECAST CONSTRUCTION, AND SHALL INCLUDE CAST IN PLACE FLEXIBLE PIPE TO MANHOLE CONNECTORS AT ALL PIPE PENETRATIONS.

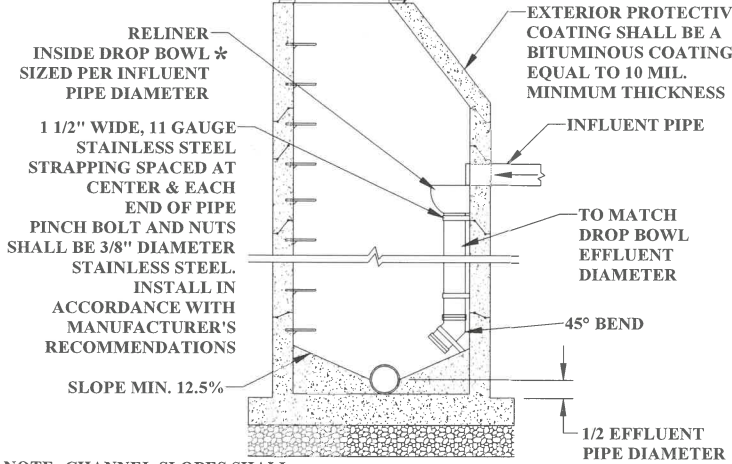


NOTES: 1) MANHOLE STEPS SHALL BE IMPACT RESISTANT CO-POLYMER POLYPROPYLENE PLASTIC MOLDED AROUND 1/2" DIAMETER GRADE 60 REINFORCED STEEL. STEPS SHALL BE STANDARD BLACK IN COLOR AND SHALL HAVE NON-SLIP TREAD ON BOTH SIDES.
2) TOP STEP SHALL NOT TO BE GREATER THAN 2'-0" FROM TOP OF MANHOLE.
3) LANDING TO BOTTOM STEP SHALL NOT BE GREATER THAN 2'-0".

MEETS: ASTM C-478
ASTM D-4101
ASTM A-615
AASHTO M-199

MANHOLE STEP DETAIL
NOT TO SCALE

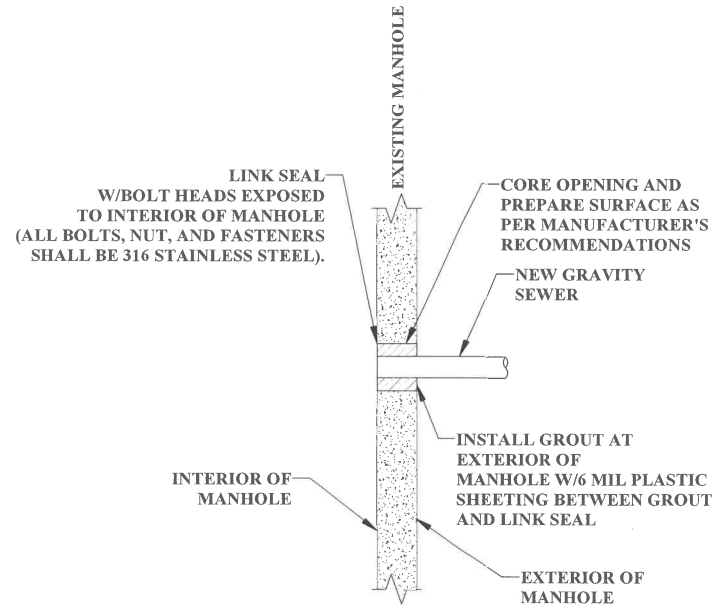
NOTE: ALL MANHOLES SHALL BE PRECAST CONSTRUCTION, AND SHALL INCLUDE CAST IN PLACE FLEXIBLE PIPE TO MANHOLE CONNECTION OR AT ALL PIPE PENETRATIONS.
NOTE: MANHOLES & CLEANOUTS TO BE BURIED 1' MIN. UNDER WVDH ROADWAY DITCHES & 6" MIN. IN THE SHOULDER AREAS.



NOTE: CHANNEL SLOPES SHALL BE A MIN. OF 0.10 SLOPE FROM PIPE INVERT THROUGH PIPE INVERT OUT.

RELINER DESIGNATION *	INFLUENT LINE DIAMETER
A-4	6"
A-6	8"
A-8	10"
A-10	12"

INTERIOR DROP MANHOLE
NOT TO SCALE



CONNECTION TO EXISTING MANHOLE DETAIL (LINK SEAL)
NOT TO SCALE

THE INFORMATION CONTAINED HEREIN IS THE SOLE PROPERTY OF THE THRASHER GROUP INC. REPRODUCTION OF THESE DOCUMENTS IN WHOLE OR IN PART, FOR ANY REASON WITHOUT PRIOR WRITTEN PERMISSION, IS STRICTLY PROHIBITED. COPYRIGHT © 2023 THE THRASHER GROUP INC.

NO.	BY	DATE	DESCRIPTION
1	SS	12/2021	ADDRESS DOH & DEP COMMENTS, ADJUST EASEMENTS
2	AH	6/2023	ADDENDUM #1



SCALE: AS SHOWN
DRAWN: A. NEWLON DATE: 06/2023
CHECKED: S. HAYNES DATE: 06/2023
APPROVED: M. BLECHER DATE: 06/2023
SURVEY DATE:
SURVEY BY:
FIELD BOOK No.:

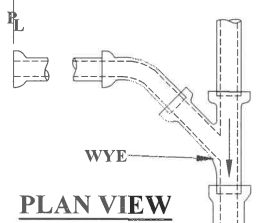
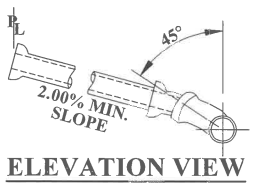
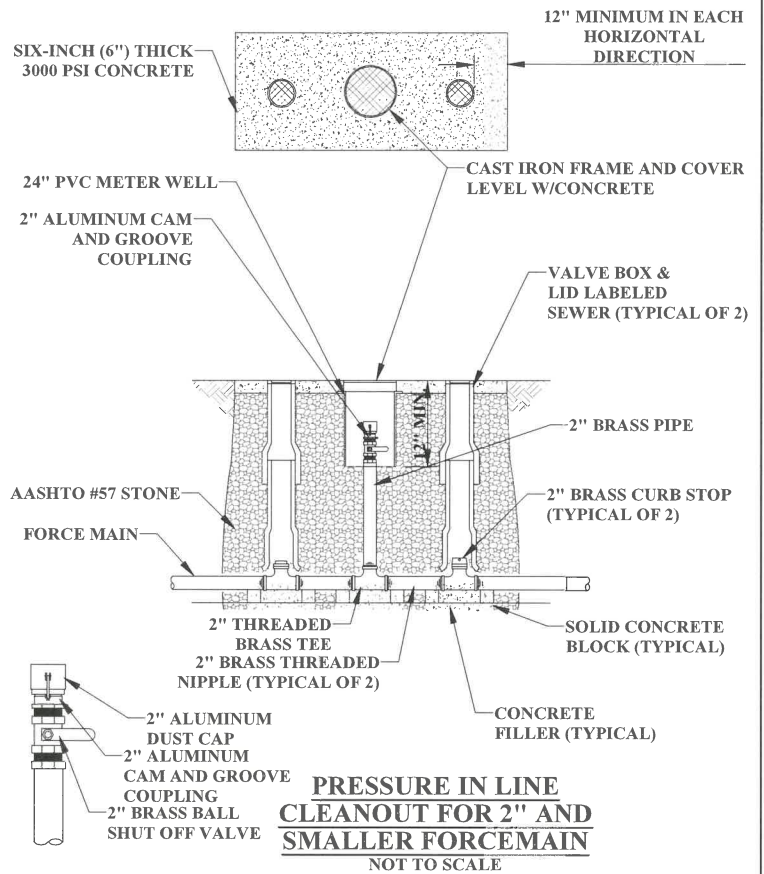
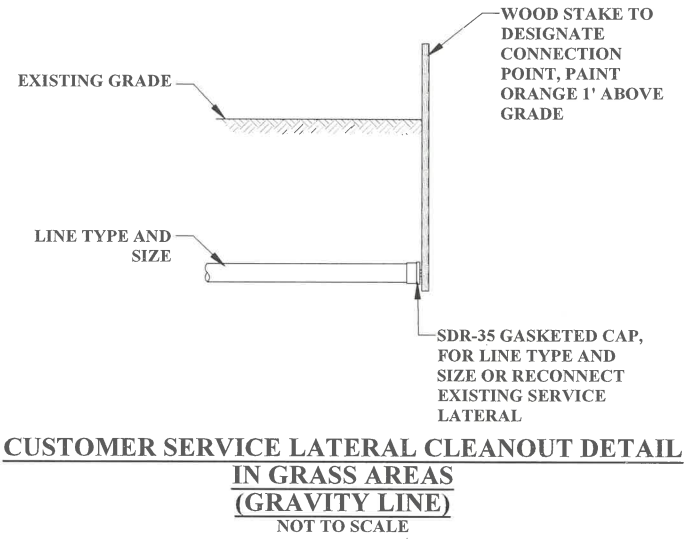
THRASHER
600 WHITE OAKS BLVD. P.O. BOX 940
BRIDGEPORT WV, 26330
www.thrashereng.com
PHONE (304) 624-4108
FAX (304) 624-7831

PHASE No.
IIC
CONTRACT No.
PROJECT No.
101-020-1370

BROOKE COUNTY PUBLIC SERVICE DISTRICT
PHASE IIC SANITARY SEWER LINE EXTENSIONS
(ST. JOHN'S ROAD, DELTA LANE, BAXTER ADDITION, ETTA LANE, MEMORIAL LAKES ROAD, MULBERRY DRIVE, PLEASANT VALLEY LANE, WALKER MANOR DRIVE)
SEWER DETAILS

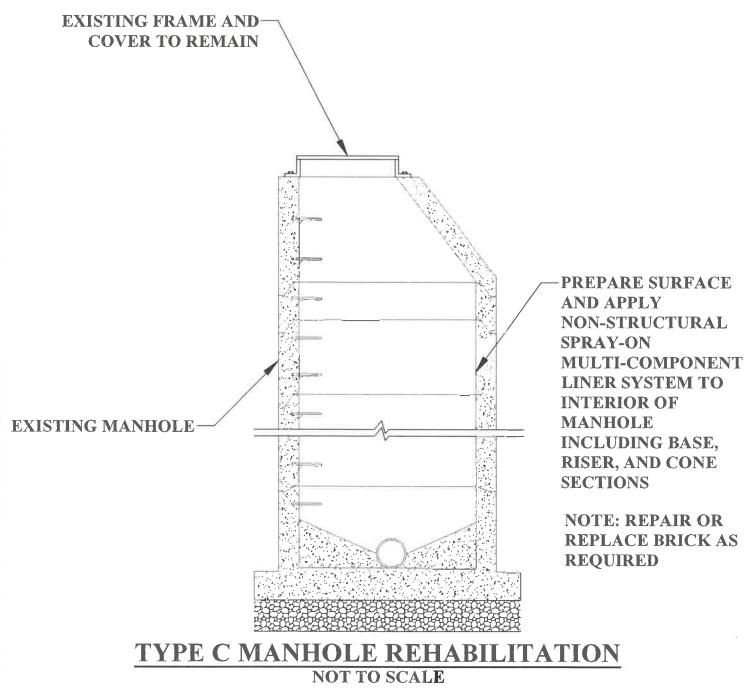
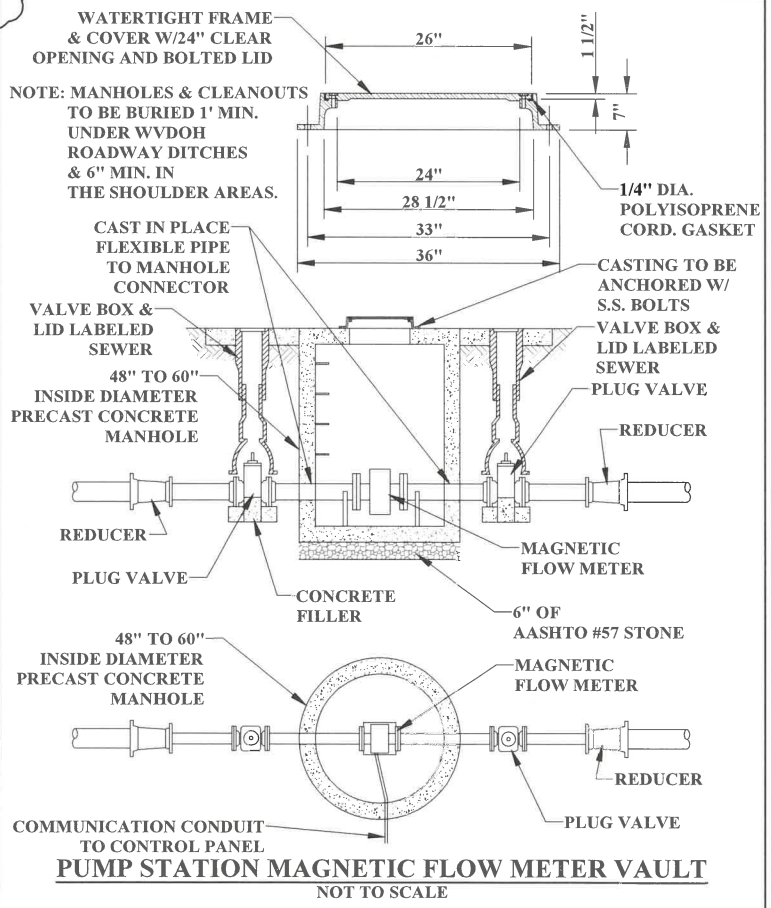
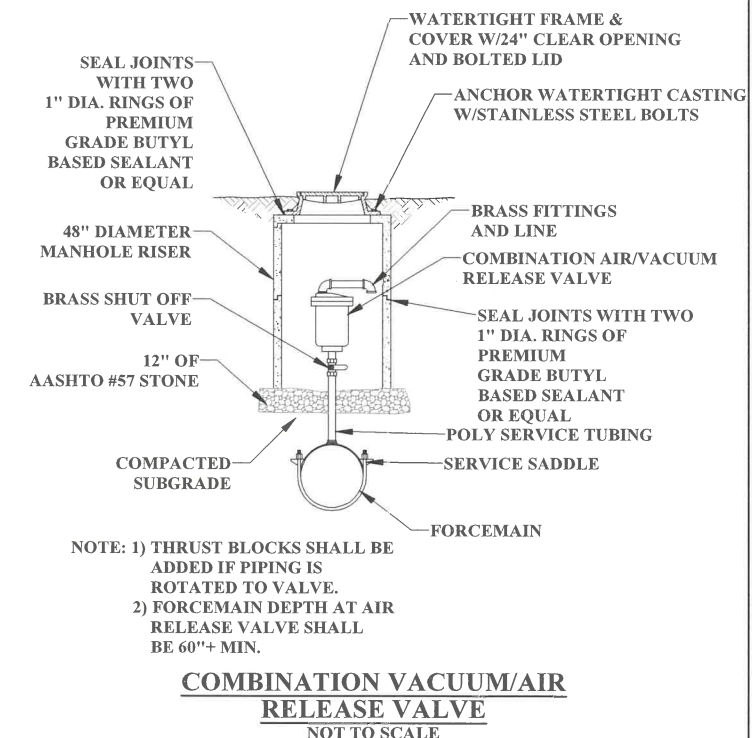
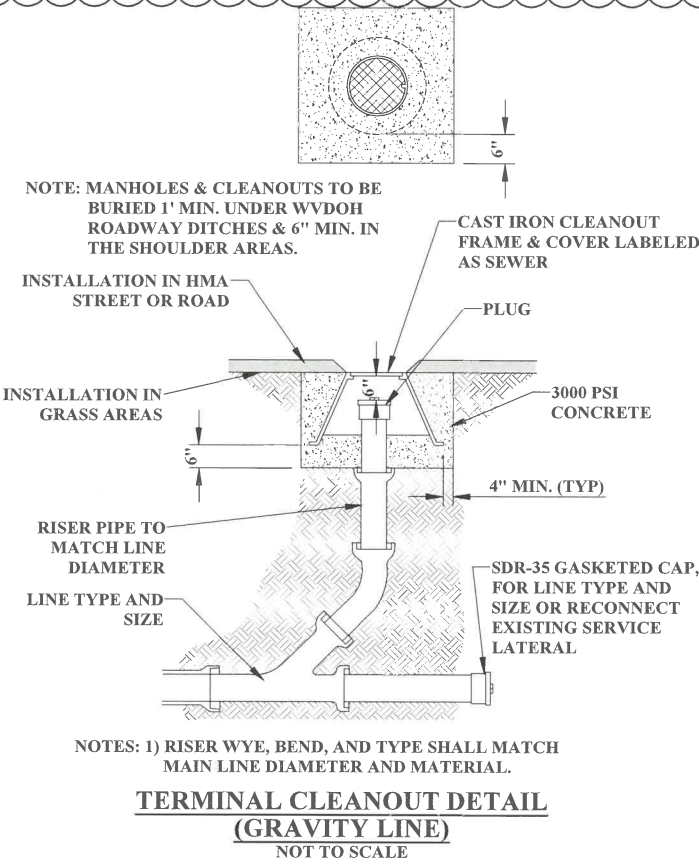
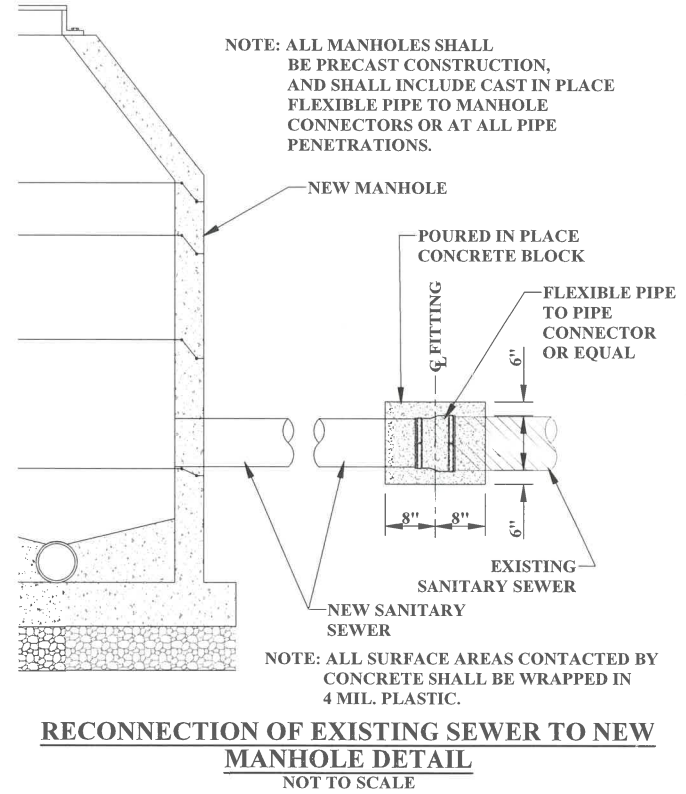
SHEET No.
D2

2



NOTE: POSITION LATERAL CONNECTIONS AT PROPERTY LINE SO THAT A MINIMUM OF 3' OF COVER OVER LATERAL CAN BE MAINTAINED FROM THE HOUSE TO THE PROPERTY LINE AND FROM THE PROPERTY LINE TO THE SEWER

**SERVICE CONNECTIONS
NOT TO SCALE**



CAD FILE: R:\020\020-1370 - Brooke County PSD - Phase IIC\Drawing\004-phasesic-details.dwg USER: ashton a. hursley LAYOUT: D4 PLOT DATE/TIME: 6/1/2023 1:48 PM

1	SS	12/2021	ADDRESS DOH & DEP COMMENTS, ADJUST EASEMENTS
2	AH	6/2023	ADDENDUM #1
NO.	BY	DATE	DESCRIPTION



SCALE: AS SHOWN
DRAWN: A. NEWLON DATE: 06/2023
CHECKED: S. HAYNES DATE: 06/2023
APPROVED: M. BLECHER DATE: 06/2023
SURVEY DATE:
SURVEY BY:
FIELD BOOK No.:

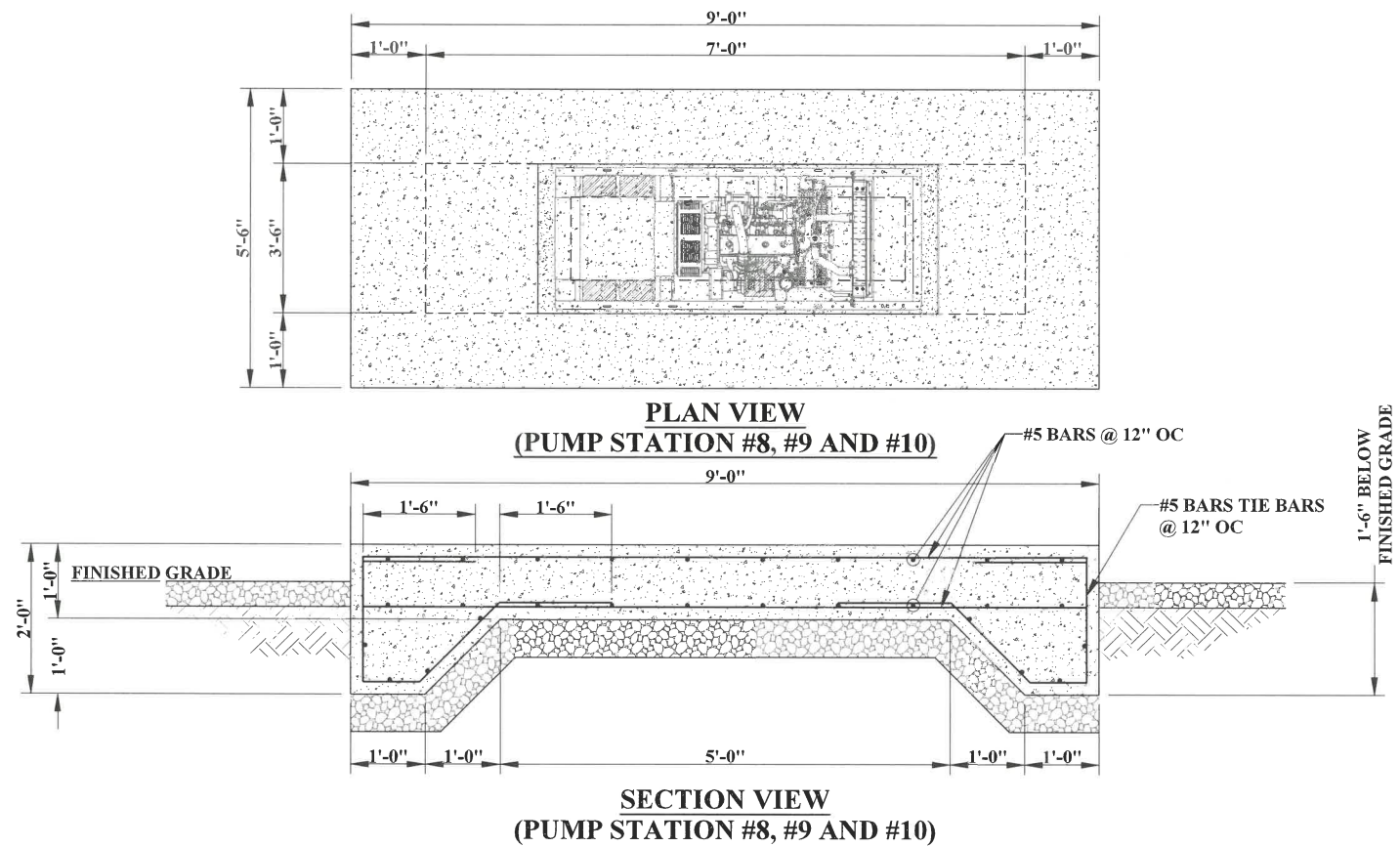
THRASHER
600 WHITE OAKS BLVD. P.O. BOX 940
BRIDGEPORT WV 26330
www.thrashereng.com
PHONE (304) 624-4108 FAX (304) 624-7831

PHASE No. IIC
CONTRACT No.
PROJECT No. 101-020-1370

BROOKE COUNTY PUBLIC SERVICE DISTRICT
PHASE IIC SANITARY SEWER LINE EXTENSIONS
ST. JOHN'S ROAD, DELTA LANE, BAXTER ADDITION, ETTA LANE, MEMORIAL LAKES ROAD,
MULBERRY DRIVE, PLEASANT VALLEY LANE, WALKER MANOR DRIVE)
SEWER DETAILS

SHEET No. **D4**

CAD FILE: R:\020\020-1370 - Brooke County PSD - Brooke County PSD Phase IIC\Drawing\003-pump-station-details MW.dwg
 PLOT DATE/TIME: 6/2/2023 7:55 AM
 LAYOUT: 27E
 USER: oshon o. hursey



ADDENDUM #1

THE INFORMATION CONTAINED HEREIN IS THE
 SOLE PROPERTY OF THE THRASHER GROUP, INC.
 REPRODUCTION OF THESE DOCUMENTS IN WHOLE
 OR IN PART, FOR ANY REASON WITHOUT PRIOR
 WRITTEN PERMISSION, IS STRICTLY PROHIBITED.
 COPYRIGHT © 2023 THE THRASHER GROUP, INC.

1	SS	12/2021	ADDRESS DOH & DEP COMMENTS, ADJUST EASEMENTS
2	AH	6/2023	ADDENDUM #1 (ENTIRE SHEET)
NO.	BY	DATE	DESCRIPTION



SCALE: AS SHOWN
 DRAWN: A. NEWLON DATE: 06/2023
 CHECKED: S. HAYNES DATE: 06/2023
 APPROVED: M. BLECHER DATE: 06/2023
 SURVEY DATE:
 SURVEY BY:
 FIELD BOOK No.:

THRASHER
 600 WHITE OAKS BLVD, P.O. BOX 940
 BRIDGEPORT WV, 26330
 www.thrashereng.com
 PHONE (304) 624-4108 FAX (304) 624-7831

PHASE No. IIC
 CONTRACT No.
 PROJECT No. 101-020-1370

BROOKE COUNTY PUBLIC SERVICE DISTRICT
 PHASE IIC SANITARY SEWER LINE EXTENSIONS
 (ST. JOHN'S ROAD, DELTA LANE, BAXTER ADDITION, ETTA LANE, MEMORIAL LAKES ROAD,
 MULBERRY DRIVE, PLEASANT VALLEY LANE, WALKER MANOR DRIVE)
 GENERATOR PAD DETAIL

SHEET No. 27E