

**HARDY COUNTY RURAL DEVELOPMENT AUTHORITY
HARDY COUNTY, WEST VIRGINIA**

AMERICAN WOODMARK INDUSTRIAL ACCESS ROAD

ADDENDUM #1

OCTOBER 13, 2022

THRASHER PROJECT #030-2970

TO WHOM IT MAY CONCERN:

A Pre-Bid Conference was held on Wednesday, October 5, 2022, 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. GENERAL

1. **THE BID FORM HAS BEEN REVISED. YOU MUST USE THE REVISED BID FORM WHEN PREPARING YOUR BID PACKAGE FOR THIS PROJECT.**
2. A CADD Waiver has been emailed to Plan Holders.

B. SPECIFICATIONS

1. Bid Form has been revised.
2. Spec Section 012200 Unit Prices has been revised

C. DRAWINGS

1. Cover Sheet – Sheet Index was updated to add Plan Sheet 18.1
2. Plan Sheet 4 – updated quantities
3. Plan Sheet 14 – updated wingwall invert elevation and added channel D-9
4. Plan Sheet 18 – updated the 48” RCP profile
5. Plan Sheet 18.1 – plan sheet added
6. Plan Sheet 29 – replace the concrete block flume with rip rap lined ditch
7. Plan Sheet 30 – updated bridge notes

D. QUESTIONS AND RESPONSES

1. QUESTION

Is the roadway cut volume as well as the ditch excavation volume included in the quantity for Unclassified Borrow Excavation?

RESPONSE

The roadway and ditch excavation volumes are included in Column 1 (Unclassified Excavation) of the Earthwork Schedule on Plan Sheet 4. The excavation volumes were used to determine the necessary volume of Unclassified Borrow Excavation volume. Payment for the roadway and ditch excavation is incidental to the Unclassified Borrow Excavation item.

2. QUESTION

What class RCP pipe will be required for this project?

RESPONSE

The 48" RCP shall be Class III. The 60" RCP shall be Class IV.

3. QUESTION

Will CAD files be available for this project?

RESPONSE

In order to receive CADD files, Bidders must sign and return the CADD Waiver included with this Addendum. Upon receipt of the signed CADD Waiver, CADD files will be provided via email.

4. QUESTION

It appears the 48" pipe will intersect with the gas and phone lines. Will they be relocated?

RESPONSE

Thrasher will coordinate with the gas and phone companies to review the potential impacts to the utility lines. If the respective utilities will be relocated, scheduling and coordination with the contractor of the project will be conducted. Relocation of any gas and phone lines is not part of this bid.

5. QUESTION

Can you provide a back-fill detail for the 48" and 60" pipe?

RESPONSE

The 48" RCP and 60" RCP trench excavation shall be in accordance with West Virginia Division of Highways (WVDOH) Standard Specifications Sections 604.1 and 604.2, respectively. Each culvert shall be installed using Class B bedding in accordance with WVDOH Standard Specifications Section 604.5.3 and backfilled in accordance with WVDOH Standard Specifications Section 604.8. Payment for the excavation, bedding, and backfill shall be incidental to the 48" RCP and 60" RCP bid items.

6. QUESTION

How are the 3 sanitary sewer line remove and replace with casing paid?

RESPONSE

A bid item has been added for the sanitary sewer line and encasement. See Revised Bid Form.

7. QUESTION

Can you provide a detail for the basin in the borrow area with outlet details?

RESPONSE

Plan Sheet 18.1 was added to the plans to provide the basin details.

8. QUESTION

Can you delineate which portions of the ditch are rock lined and which have matting?

RESPONSE

The ditch lining material is denoted in the "Remarks" column of the Ditch Schedule on Plan Sheet 4.

9. QUESTION

When is it anticipated for the utilities to be relocated at station +/- 10+50?

RESPONSE

Coordination with the utilities is underway. Coordination with the contractor of this project will occur as additional information is provided from the utility. The contractor is not responsible for any utility relocations at station 10+50 +/- as part of this bid.

10. QUESTION

Can you please provide additional information on the 6" sewer line removal and replacement? The current plans and specs do not provide sufficient information for contractors to price this work.

RESPONSE

The sanitary sewer and encasement shall be completed along the lines provide on Sheet 14. The Bid Form has been revised to reflect the addition of 2 manholes, sanitary sewer, and steel encasement. The encasement is planned for under the roadway sections and adjacent fill slopes.

11. QUESTION

I do not see a pay item for the sanitary sewer remove and replace, manholes, etc. How is the contractor to be paid for these items?

RESPONSE

These items have been added to the Revised Bid Form.

12. QUESTION

I do not see a pay item for the ditches. How is the contractor to be paid for these items?

RESPONSE

Payment for the construction of the ditches is incidental to the unclassified borrow excavation line item.

13. QUESTION

I do not see a pay item for the concrete block flume. How is the contractor to be paid for this item?

RESPONSE

The concrete flume has been removed from the construction drawings and replaced with a rip rap lined ditch. See updated sheets 14 and 29.

14. QUESTION

Sheet 18 contains a profile for a "Stream Connection Ditch." The location and pipe size is not indicated. What size and type of pipe are required for this and where is the work located?

RESPONSE

This is the 48" RCP pipe shown on plan sheet 14. Sheet 18 has been updated.

15. QUESTION

Is clearing and grubbing to be performed to the edge of LOD or would it be acceptable to clear only to the extents necessary for construction?

RESPONSE

You may clear to the extents necessary for construction.

16. QUESTION

Can you provide additional information for proposed basin #1? I do not see any specification for the outlet structure, outlet pipe, or spillway.

RESPONSE

Plan Sheet 18.1 was added to the plans to provide the basin details.

17. QUESTION

Are there any restrictions on blasting, if necessary?

RESPONSE

If the contractor deems that blasting is necessary, it is the contractor's responsibility to obtain any approvals from State or local officials for blasting. There will be no additional payments for blasting as all earthwork will be paid under the unclassified borrow excavation line item.

18. QUESTION

Will the contractor be permitted to utilize offroad dump trucks to haul from the borrow area to the fill?

RESPONSE

It is the contractor's responsibility to permit any off-road trucking to haul on the County Road with the Department of Highways.

19. QUESTION

If there is an underrun or excess of material, can grades in the borrow area be adjusted so that cut/fill balances between the roadway and borrow site?

RESPONSE

In that event that this would occur, grades in the borrow area would be permitted to be adjusted with approval of the engineer.

20. QUESTION

Can the CAD file be provided to verify quantities?

RESPONSE

See question/response 3.

21. QUESTION

Will toe keys be required for fill areas? If so, can you provide a detail? If so, how will the contractor be paid?

RESPONSE

Contractor should construct the embankments in accordance with DOH earthwork specifications and the provided sections.

22. QUESTION

Will any permits be required from the contractor for the excavation that will occur in front of the abutments, along Fort Run?

RESPONSE

No.

23. QUESTION

Will the existing utility relocations be performed prior to contractor's notice to proceed?

RESPONSE

No. in the event the utility relocations disrupt the contractor's timeline, additional time will be added to the contract.

24. QUESTION

Sheet 30 has a note under general specifications that references 2018 supplemental conditions and not 2022 supplemental conditions. Is this correct?

RESPONSE

Sheet 30 has been updated.

25. QUESTION

Can you please confirm the dimensions of wing walls 2 and 4 on the bridge?

RESPONSE

See sheets 32, 34, and 36.

26. QUESTION

Does the bridge deck require grinding or grooving?

RESPONSE

Yes, grooving will be required per standard DOH specifications.

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 Thursday, October 20, 2022**, at Hardy County Rural Development Authority, located at 223 N. Main Street, Suite 102, Moorefield, WV 26836. Good luck to everyone and thank you for your interest in the project.

Sincerely,

THE THRASHER GROUP, INC.



ROBERT MILNE, PE
Senior Project Manager



HARDY COUNTY RURAL DEVELOPMENT AUTHORITY
 HARDY COUNTY, WEST VIRGINIA
 AMERICAN WOODMARK INDUSTRIAL ACCESS ROAD

PRE-BID CONFERENCE
 Wednesday, October 5, 2022

Thrasher Project #030-2970

Name	Representing	Phone #	Email Address
Rob Milne	THRASHER	904 326 6141	rmilne@the-thrashergrp.com
Matt Evans	Mountainer Infrastructure	304-866-4953	matt.evans@mountainerinfrastructure.com
Steve Snyder	WV PAVING, INC.	304-257-7738	SSnyder@wvpadding.com
Tanner Belt	J.F. Allen Co	304-918-7882	tbelt@jfellows.com
CORDELL BOJINGER	BEAVER EXCAVATING	304-295-1991	CORDELLB@beaverexcavating.com
Ed. Gasteel	BEAVER EXCAVATING	330-323-5901	Ed.Gasteel@Beaverexcavating.com
Eric Sprouse	Bear Contracting	304-326-0160	estimating@bear-contracting.com
Nash Thomas	Route Forge Bridge Company Preston Contractors	304-658-6823	nash.thomas@mcivw.com
Clint Bowman	Mountainer Contractors	304-282-6679	clint.bowman@mcivw.com

BID FORM FOR CONSTRUCTION CONTRACT

The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

ARTICLE 1—OWNER AND BIDDER

1.01 This Bid is submitted to:

*Hardy County Rural Development Authority
223 N. Main Street, Suite 102
Moorefield, WV 26836*

1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2—ATTACHMENTS TO THIS BID

2.01 The following documents are submitted with and made a condition of this Bid:

A. Bid Opening Requirements

ARTICLE 3—BASIS OF BID—LUMP SUM BID AND UNIT PRICES

GENERAL

The Bidder shall take notice of and shall be responsible for any local or state taxes levied and applicable, and the cost for the same shall be included as part of the submitted Bid.

The total Bid cost stated includes a complete operating installation including furnishing and installation of any and all changes or additions in plans, piping, mechanical work, additional electrical work, accessories, controls, etc. necessary to accommodate alternative equipment systems or materials used in construction.

BID PROPOSAL

The Bidder agrees to perform all required Work described in the detailed Specifications and as shown on the Plans for the complete construction and placing in satisfactory operation the American Woodmark Industrial Access Road. The Project "Sequence of Construction" has been detailed in the Drawings and Specification Division 1, Project Summary, Section 011000. The Bidder agrees to perform all the Work proposed for the total of the following Bid prices.

3.01 *Lump Sum Bids*

A. Bidder will complete the Work in accordance with the Contract Documents for the lump sum (stipulated) price(s), together with any Unit Prices indicated in Paragraph 3.02 and shown in the bid schedule.

- B. Lump Sum Bids may be one of the following:
 - 1. Lump Sum Price (Single Lump Sum)
 - 2. Lump Sum Price (Base Bid and Alternates)
 - 3. Lump Sum Price (Sectional Lump Sum Bids)
- C. All specified cash allowance(s) are included in the price(s) set forth in the bid schedule, and have been computed in accordance with Paragraph 13.02 of the General Conditions.
- D. All specified contingency allowances are included in the price(s) set forth in the bid schedule, and have been computed in accordance with Paragraph 13.02 of the General Conditions.

3.02 *Unit Price Bids*

- A. Bidder will perform the following Work at the indicated unit prices as shown in the Bid Schedule.
- B. Bidder acknowledges that:
 - 1. each Bid Unit Price includes an amount considered by Bidder to be adequate to cover Contractor's overhead and profit for each separately identified item, and
 - 2. estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all Unit Price Work will be based on actual quantities, determined as provided in the Contract Documents.

3.03 *Total Bid Price (Lump Sum and Unit Prices)*

BID SCHEDULE
PROPOSED
AMERICAN WOODMARK INDUSTRIAL ACCESS ROAD
FOR THE
HARDY COUNTY RURAL DEVELOPMENT AUTHORITY
HARDY COUNTY, WEST VIRGINIA

NOTE: Bid PRICE amounts are to be shown in both words and figures. In case of discrepancy, the amount shown in words will govern. Bids shall include sales tax and all other applicable taxes and fees.

INDUSTRIAL ACCESS ROAD BID

Item #	Qty.	UNIT	DESCRIPTION	UNIT PRICE	UNIT PRICE WRITTEN IN WORDS	TOTAL PRICE
1	1	LS	Clearing and Grubbing			
2	1	LS	Mobilization			
3	1,056	CY	Subgrade			

Item #	Qty.	UNIT	DESCRIPTION	UNIT PRICE	UNIT PRICE WRITTEN IN WORDS	TOTAL PRICE
4	38,889	CY	Unclassified Borrow Excavation			
5	6,336	SY	Fabric for Separation			
6	98	CY	Aggregate Base Course, Class 10 (Shoulder)			
7	1,408	CY	Aggregate Base Course, Class 1			
8	2,218	TN	Marshall Hot Mix Asphalt Base Course, Type 1			
9	740	TN	Marshall Hot Mix Asphalt Base Course Type 2			
10	555	TN	Marshall Hot Mix Asphalt Wearing Course, Type 1			

Item #	Qty.	UNIT	DESCRIPTION	UNIT PRICE	UNIT PRICE WRITTEN IN WORDS	TOTAL PRICE
11	146	SY	12 Inch Portland Cement Concrete Approach Slaps			
12	3	EA	Wingwall			
13	90	LF	48" RCP			
14	170	LF	60" RCP			
15	1	EA	Type "G" Inlet			
16	1,275	LF	Guardrail, Type 1, Class 2			
17	25	EA	Right of Way Markers			

Item #	Qty.	UNIT	DESCRIPTION	UNIT PRICE	UNIT PRICE WRITTEN IN WORDS	TOTAL PRICE
18	1	LS	Construction Layout Stakes			
19	186	SY	Primary Reinforcement, 2400, LF/FT			
20	720	SY	Temporary Erosion Matting			
21	730	SY	Permanent Erosion Matting, Type A			
22	7	EA	Traffic Signs			
23	3,471	LF	Edge Line, Type II – 6 IN			
24	450	LF	Lane Line, Type V – 6-IN, White			

Item #	Qty.	UNIT	DESCRIPTION	UNIT PRICE	UNIT PRICE WRITTEN IN WORDS	TOTAL PRICE
25	1,665	LF	Centerline, Type II – 6 IN,			
26	325	LF	Channelizing Line, Type V – 8 IN			
27	44	LF	Stop Line, Type V – 24 IN			
28	170	LF	Stripe, Type V – 12 IN			
29	4	EA	One Direction Lane Assignment Arrow Type V			
30	4	EA	Multi Direction Lane Assignment Arrow Type V			
31	1	LS	Erosion and Sediment Control			

Item #	Qty.	UNIT	DESCRIPTION	UNIT PRICE	UNIT PRICE WRITTEN IN WORDS	TOTAL PRICE
32	1	LS	Seeding and Mulching			

TOTAL INDUSTRIAL ACCESS ROAD BID: _____
 (Words)

_____ (\$ _____)
 (Words) (Figures)

(Amounts are to be shown in both words and figures. In case of discrepancy, the amount shown in words will govern.)

BRIDGE BID SCHEDULE

Item #	Qty.	UNIT	DESCRIPTION	UNIT PRICE	UNIT PRICE WRITTEN IN WORDS	TOTAL PRICE
33	10	CY	Structure Excavation			
34	400	CY	Foundation Protection			
35	136	CY	Class B Concrete			
36	16	CY	Class K Concrete			
37	121	CY	Class H Concrete			
38	33,226	LB	Reinforcing Steel Bar			

Item #	Qty.	UNIT	DESCRIPTION	UNIT PRICE	UNIT PRICE WRITTEN IN WORDS	TOTAL PRICE
39	29,239	LB	Epoxy Coated Reinforcing Steel Bar			
40	304.5	LF	48 IN Prestressed Concrete I Beam			
41	4,065	LB	Fabricated Structural Steel			
42	6	EA	Non-Guided Bearing, Elastomeric			
43	270	LF	HP 14x89 Steel Bearing Pile, Pre-Drilled and Driven			
44	65	LF	Expansion Joint System Behind Approach Slab, Performed Silicone Coated Foam			
45	1	LS	Construction Layout Stake			

TOTAL BRIDGE BID: _____
(Words)

(Words) (\$ _____)
(Figures)

(Amounts are to be shown in both words and figures. In case of discrepancy, the amount shown in words will govern.)

TOTAL BID = TOTAL ACCESS ROAD BID + TOTAL BRIDGE BID:

(\$ _____)

(Amounts are to be shown in both words and figures. In case of discrepancy, the amount shown in words will govern.)

3.04 *Method of Award*

If at the time this contract is to be awarded, the lowest total bid submitted by a qualified, responsive, responsible Bidder does not exceed the amount of funds then estimated by the Owner, as available to finance the contract, the construction contract will be awarded. If such bids exceeds such amount, the owner may reject all bids.

~~ARTICLE 4—BASIS OF BID—COST PLUS FEE~~

Deleted

~~ARTICLE 5—PRICE PLUS TIME BID~~

Deleted

ARTICLE 6—TIME OF COMPLETION

6.01 Bidder agrees that the Work will be substantially complete and will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before the dates or within the number of calendar days indicated in the Agreement.

6.02 Deleted

6.03 Deleted

ARTICLE 7—BIDDER’S ACKNOWLEDGEMENTS: ACCEPTANCE PERIOD, INSTRUCTIONS, AND RECEIPT OF ADDENDA

7.01 *Bid Acceptance Period*

A. This Bid will remain subject to acceptance for 90 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

7.02 *Instructions to Bidders*

A. Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security.

7.03 *Receipt of Addenda*

A. Bidder hereby acknowledges receipt of the following Addenda:

Addendum Number	Addendum Date

ARTICLE 8—BIDDER’S REPRESENTATIONS AND CERTIFICATIONS

8.01 *Bidder’s Representations*

A. In submitting this Bid, Bidder represents the following:

1. Bidder has examined and carefully studied the Bidding Documents, including Addenda.

2. Bidder has visited the Site, conducted a thorough visual examination of the Site and adjacent areas, and become familiar with the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
3. Bidder is familiar with all Laws and Regulations that may affect cost, progress, and performance of the Work.
4. Bidder has carefully studied the reports of explorations and tests of subsurface conditions at or adjacent to the Site and the drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, with respect to the Technical Data in such reports and drawings.
5. Bidder has carefully studied the reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, with respect to Technical Data in such reports and drawings.
6. Bidder has considered the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Technical Data identified in the Supplementary Conditions or by definition, with respect to the effect of such information, observations, and Technical Data on (a) the cost, progress, and performance of the Work; (b) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, if selected as Contractor; and (c) Bidder's (Contractor's) safety precautions and programs.
7. Based on the information and observations referred to in the preceding paragraph, Bidder agrees that no further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract.
8. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.
9. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and of discrepancies between Site conditions and the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.
10. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.
11. The submission of this Bid constitutes an incontrovertible representation by Bidder that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

8.02 *Bidder's Certifications*

A. The Bidder certifies the following:

1. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation.
2. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid.
3. Bidder has not solicited or induced any individual or entity to refrain from bidding.

4. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 8.02.A:
 - a. Corrupt practice means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process.
 - b. Fraudulent practice means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition.
 - c. Collusive practice means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels.
 - d. Coercive practice means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

BIDDER hereby submits this Bid as set forth above:

Bidder:

(typed or printed name of organization)

By:

(individual's signature)

Name:

(typed or printed)

Title:

(typed or printed)

Date:

(typed or printed)

If Bidder is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.

Attest:

(individual's signature)

Name:

(typed or printed)

Title:

(typed or printed)

Date:

(typed or printed)

Address for giving notices:

Bidder's Contact:

Name:

(typed or printed)

Title:

(typed or printed)

Phone:

Email:

Address:

Bidder's Contractor License No.: (if applicable)

SECTION 012200 - UNIT PRICES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for unit prices.

1.2 DEFINITIONS

- A. Unit price is an amount incorporated in the Agreement, applicable during the duration of the Work as a price per unit of measurement for materials, equipment, or services, or a portion of the Work, added to or deducted from the Contract Sum by appropriate modification, if the scope of Work or estimated quantities of Work required by the Contract Documents are increased or decreased.

1.3 PROCEDURES

- A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, applicable taxes, overhead, and profit.
- B. Owner reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Owner's expense, by an independent surveyor acceptable to Contractor.
- C. List of Unit Prices: A schedule of unit prices is included in Part 3. Specification Sections referenced in the schedule contain requirements for materials described under each unit price.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF UNIT PRICES

- A. Clearing and Grubbing

Clearing and grubbing shall be performed in accordance with WVDOH specifications. Payment for this work shall be paid for by the lump sum and shall include all equipment, labor, etc. to clear and grub the site to prepare for site grading.

The cost of traffic control for the project shall be incidental to the clearing and grubbing cost. The cost of all necessary erosion and sediment control measures shall be incidental to the clearing and grubbing cost.

B. Mobilization/Demobilization

This bid item is to include payment of all bonding and permitting costs incurred by the Contractor. Also included in this bid item is materials and equipment unloading and reloading.

C. Subgrade

This bid item shall be performed in accordance with WVDOH specifications. Payment for this work shall be per cubic yard.

D. Unclassified Borrow Excavation

All earthwork is unclassified. Unclassified borrow excavation shall be paid for by the CY bid price.

The cost of excavation, and grading of ditches is incidental to this line item.

E. Fabric for Separation/ Subgrade Stabilization

The cost of the separation fabric and/or stabilization fabric shall be paid for by the square yard unit bid price. This shall include all labor, materials, installation and any other costs associated with the installation of the fabric for separation.

F. Seeding and Mulching

The Cost of this item as reclamation on areas disturbed by construction will be incidental to clearing and grubbing and/or unclassified excavation.

No payment shall be made in reclamation activities outside the construction limits of work as noted on drawings.

No payment will be made for temporary reclamation.

G. Aggregate Base Course

The cost of aggregate base course shall be paid for by the cubic yard unit bid price. This shall include the cost of labor, materials, and any other items associated with this unit item.

H. Hot Mix Asphalt

The cost of asphalt paving shall be paid for by the tonnage unit bid price. This shall include all asphalt, labor, equipment, and any other items associated with the construction of the industrial road.

I. Right of Way Markers

The cost for right of way markers shall be paid for by the each unit bid price. Marker cost shall include any survey required for marker installation.

J. Construction Layout Stakes

The cost for construction layout stakes shall be paid for by the lump sum unit bid price. Existing control is provided on the plans and any additional control or survey required shall be incidental to the construction layout stakes price.

K. Traffic Sign

The cost for traffic sign shall be paid for by the each unit bid price and shall include the post, sign, and installation per WVDOH standards.

L. Pavement Striping

The cost for pavement striping shall be paid for by the linear foot unit bid price.

M. Drainage Pipe and End Sections

The cost for drainage pipe shall be paid for by the LF unit bid price. This shall include all excavation, material, labor, pipe, backfill, etc. to install the drainage pipe.

The cost for pipe end sections shall be paid for by the EACH unit bid price. This shall include all excavation, material, labor, backfill, etc. to install the pipe end section.

N. SDR 35 PVC Sanitary Pipe

The cost for SDR 35 PVC pipe shall be paid for by the LF unit bid price. This shall include all excavation, material, labor, pipe, backfill, etc. to install the sanitary pipe.

O. 12" Steel Casing

The cost of the 12" steel casing shall be paid for by the LF unit bid price. This shall include material and labor to install with the sanitary sewer pipe.

The cost of excavation and backfill shall be incidental to the Sanitary Sewer line item.

P. 48" Sanitary Sewer Manhole

The cost of the sanitary sewer manhole shall be paid for EACH unit bid price. This shall include all excavation, material labor, and backfill to install the manhole and pipe connections.

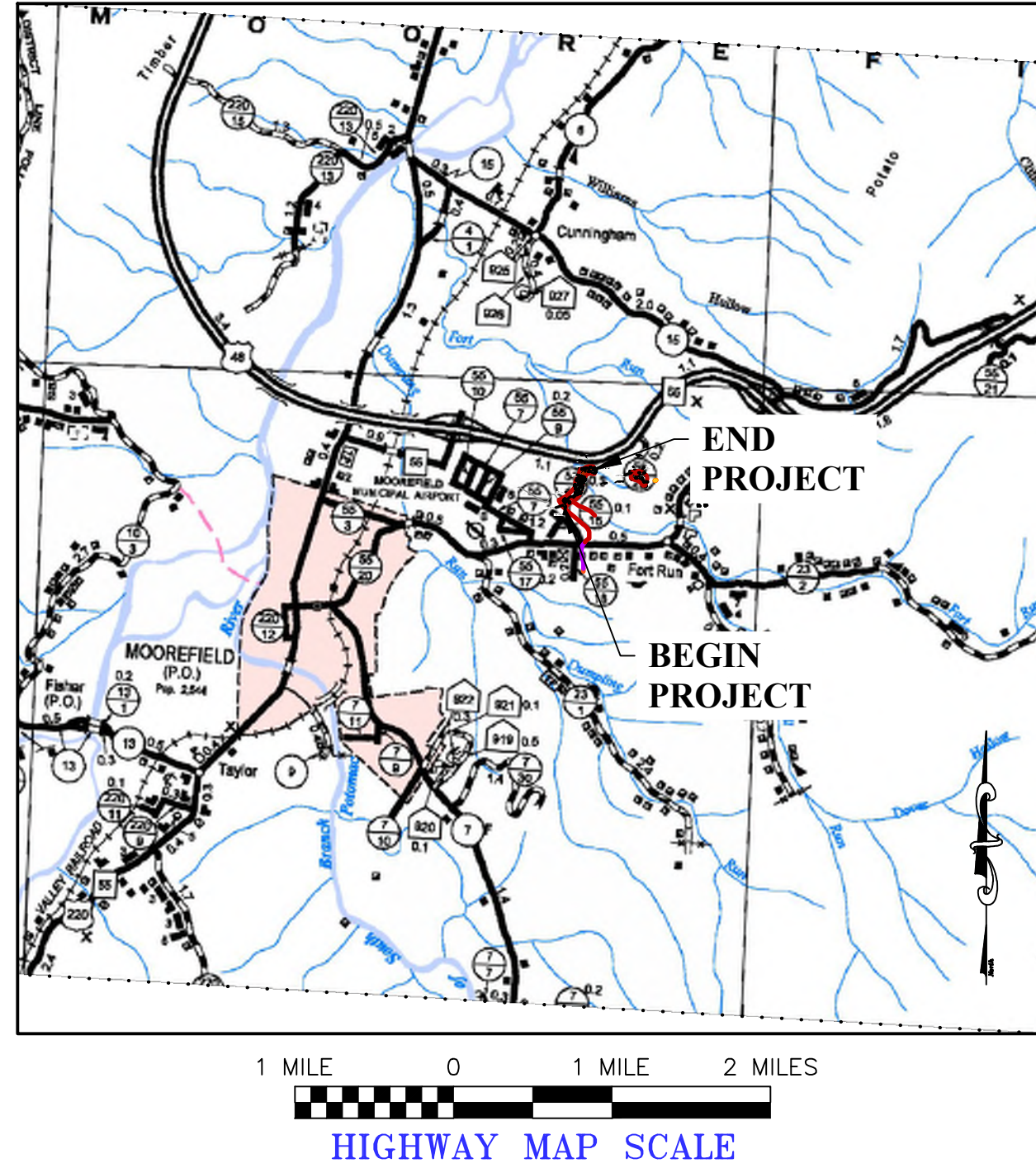
Q. Guardrail

The cost of the guardrail shall be paid for by the linear foot unit bid price. This shall include all excavation, material, labor, backfill, etc. to install the guardrail. All posts and end terminals shall be incidental to the installation of the guardrail.

END OF SECTION 012200

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HARDY COUNTY, WV HIGHWAY MAP



HARDY COUNTY DEVELOPMENT AUTHORITY

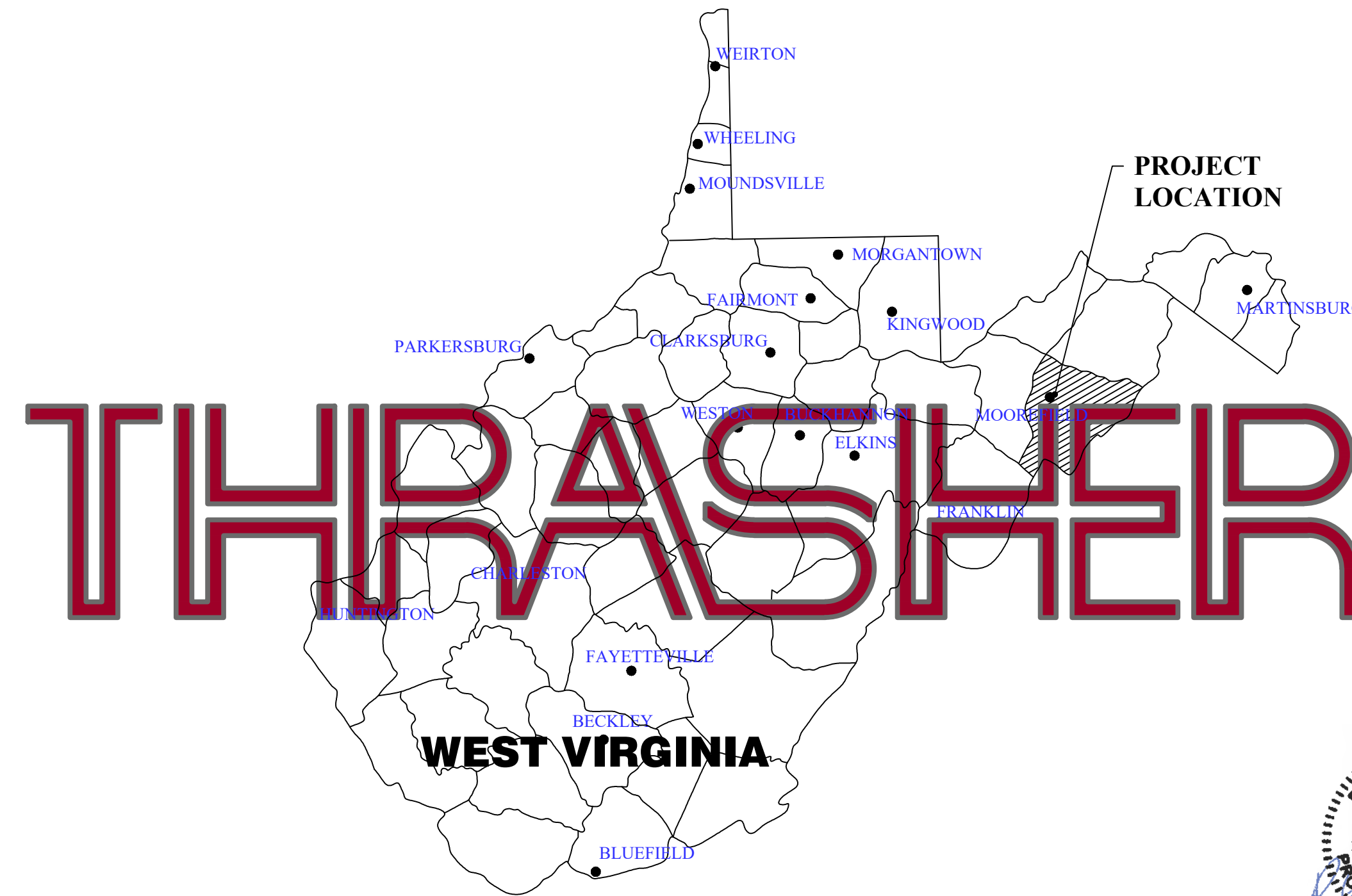
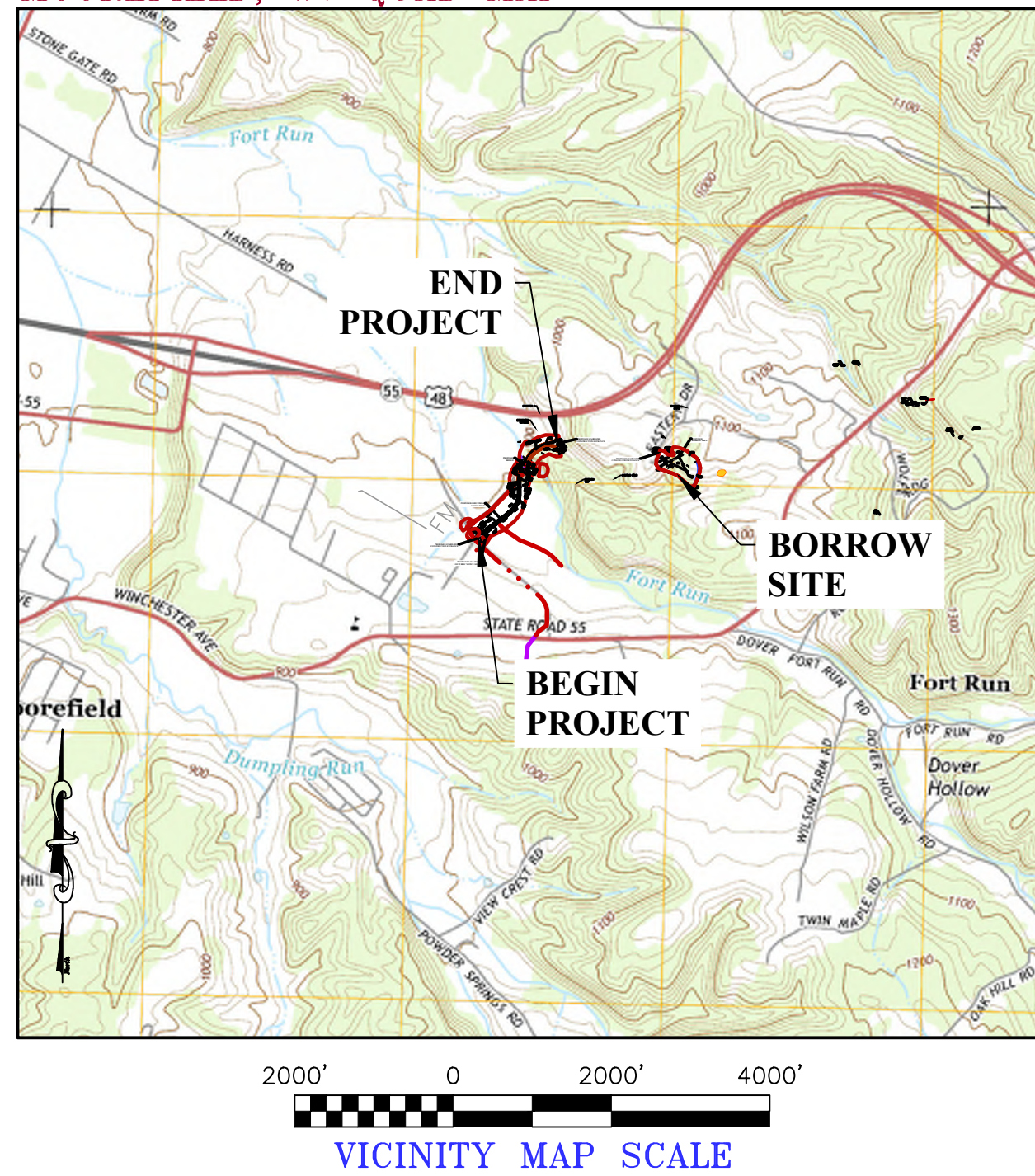
CONSTRUCTION PLANS FOR THE

AMERICAN WOODMARK INDUSTRIAL ACCESS ROAD

MOOREFIELD DISTRICT, HARDY COUNTY, WV
SEPTEMBER 2022

STATE PROJECT NO.: X316-55/28-0.00
PROJECT DESIGN SPEED: 35 MPH
CLASS: RURAL COLLECTOR

MOOREFIELD, WV QUAD MAP



SHEET INDEX	
SHEET	DESCRIPTION
1	TITLE SHEET
2-3	TYPICAL SECTIONS
4	QUANTITIES
5	GENERAL NOTES
6	GEOMETRIC LAYOUT
7-9	SUPERELEVATION TABLES
10-11	INTERSECTION DETAILS
12-18	PLANS AND PROFILES
18.1	STORM BASIN DETAIL
19-20	SIGNAGE / PAVEMENT MARKINGS
21	PROPERTY MAP / OWNERSHIP INDEX
22-28	DETAILS
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32	FOUNDATION LAYOUT
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34	WINGWALLS 1 & 2
35	ABUTMENT 2 BRIDGE SEAT
36	WINGWALLS 3 & 4
37	BAR LIST (ABUTMENT BRIDGE SEAT)
38	BAR LIST (WINGWALLS)
39	FRAMING PLAN
40	TYPICAL PRESTRESSED BEAM
41	LAMINATED ELASTOMERIC BEARINGS
42-43	DECK SLAB
44	ABUTMENT 1 END DIAPHRAGM
45	ABUTMENT 2 END DIAPHRAGM
46	BAR LIST (DECK & END DIAPHRAGM)
47	DECK SLAB CONCRETE BARRIER
48	BAR LIST (DECK SLAB CONCRETE BARRIERS)
49	ABUTMENT BACKFILL DETAIL
50-52	APPROACH SLAB
53-54	APPROACH SLAB CONCRETE BARRIER
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56	SITUATION PLAN
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59	EXTERIOR BEAM LOAD RATING TABLES
60	INTERIOR BEAM LOAD RATING TABLES
61-72	CROSS SECTIONS



APPROVED FOR BIDS DATE: 10.13.2022 BY: RRM
 APPROVED FOR CONSTRUCTION DATE: _____ BY: _____

ONE CALL UTILITY SYSTEM CONTACT INFO



CONTRACTOR SHALL NOTIFY THE ONE-CALL SYSTEM OF THE INTENDED EXCAVATION OR DEMOLITION NOT LESS THAN FORTY-EIGHT (48) HOURS, EXCLUDING SATURDAYS, SUNDAYS AND LEGAL FEDERAL OR STATE HOLIDAYS, NOR MORE THAN TEN (10) WORK DAYS PRIOR TO THE BEGINNING OF SUCH WORK.

REVISION NUMBER	REVISED SHEETS	BY	DATE	DESCRIPTION
1	1,4,14,18,18.1,29,30	BM	10.13.2022	UPDATED SHEET INDEX; UPDATED QUANTITIES; UPDATED INVERT ELEV; UPDATED 48" RCP PROFILE; ADDED STORM BASIN DETAIL; REPLACED CONCRETE BLOCK FLUME WITH RIP RAP LINED DITCH; UPDATED BRIDGE NOTES



RECOMMENDED	DESIGNER
RECOMMENDED FOR APPROVAL	STATE HIGHWAY ENGINEER
APPROVED	COMMISSIONER OF HIGHWAYS

CAD FILE: R:\030\030-2870-WOODMARK IAR-HARDY COUNTY RDA-Drawing\2870-Cover.dwg PLOT DATE/TIME: 10/13/2022 3:39 PM USER: brod messenger

QUANTITY SUMMARY

SUMMARY OF ESTIMATED QUANTITIES				
ITEM NO.	DESCRIPTION	WVDOH ITEM NO.	UNIT	QUANTITY
1	CLEARING AND GRUBBING	201001-000	LS	1
2	MOBILIZATION	204001-000	LS	1
3	SUBGRADE	204002-000	CY	1056
4	UNCLASSIFIED BORROW EXCAVATION	211001-000	CY	37864
5	FABRIC FOR SEPERATION	207034-000	SY	6336
6	AGGREGATE BASE COURSE, CLASS 10 (SHOULDER)	307001-000	CY	98
7	AGGREGATE BASE COURSE, CLASS 1	307001-000	CY	1408
8	MARSHALL HOT-MIX ASPHALT BASE COURSE, TYPE 1	401001-020	TN	2218
9	MARSHALL HOT-MIX ASPHALT BASE COURSE, TYPE 2	401001-023	TN	740
10	MARSHALL HOT-MIX ASPHALT WEARING COURSE, TYPE 1	401002-020	TN	555
11	12 INCH PORTLAND CEMENT CONCRETE APPROACH SLABS	502001-012	SY	146
12	WINGWALL	603028-001	EA	3
13	48" RCP	604037-028	LF	90
14	60" RCP	604037-032	LF	170
15	TYPE "G" INLET	605009-001	EA	1
16	GUARDRAIL, TYPE 1, CLASS 2	607001-001	LF	1275
17	RIGHT OF WAY MARKERS	638002-001	EA	25
18	CONSTRUCTION LAYOUT STAKES	639001-001	LS	1
19	PRIMARY REINFORCEMENT, 2400 LB/FT	645001-001	SY	186
20	TEMPORARY EROSION MATTING	655001-001	SY	720
21	PERMANENT EROSION MATTING, TYPE A	655002-001	SY	730
22	TRAFFIC SIGNS	661	EA	6
23	EDGE LINE, TYPE II - 6 IN.	663001-026	LF	3471
24	LANE LINE, TYPE V - 6 IN. WHITE	663002-026	LF	450
25	CENTERLINE, TYPE II - 6 IN.	663002-040	LF	1665
26	CHANNELIZING LINE, TYPE V - 8 IN	663004-011	LF	325
27	STOP LINE, TYPE V - 24 IN	663005-011	LF	44
28	STRIPE, TYPE V - 12 IN	663007-010	LF	170
29	ONE DIRECTION LANE ASSIGNMENT ARROW, TYPE V	663010-010	EA	4
30	MULTI DIRECTION LANE ASSIGNMENT ARROW, TYPE V	663010-011	EA	4
31	EROSION AND SEDIMENT CONTROL	642	LS	1
32	SEEDING AND MULCHING	652	LS	1
33	RIP RAP LINED DITCH	633003-001	LF	695
34	6" SDR 35 SANITARY SEWER PIPE	675007-001	LF	388
35	12" STEEL CASING	675021-001	LF	252
36	48" SANITARY SEWER MANHOLE	675014-001	EA	2

CULVERT INSTALLATION SCHEDULE

Structure Description	Size and Material	Length	Slope	Remarks
CULVERT #1	48 - IN RCP	90-FT	0.5%	WINGWALL
CULVERT #2	60 - IN RCP	171-FT	0.6%	MODIFIED TYPE G INLET; WINGWALL

DITCH SCHEDULE

Ditch Name	Ditch Description	Location	Bottom Width	Depth	Side Slopes	Side Slopes	Minimum Slope	Remarks
D2	ROADSIDE DITCH	10+32 - 11+46	2-FT	2-FT	4.0H:1V	2.0H:1V	-1.0%	TEMPORARY MATTING
D1	ROADSIDE DITCH	10+27 - 11+76	2-FT	2-FT	4.0H:1V	2.0H:1V	-1.0%	TEMPORARY MATTING
D4	ROADSIDE DITCH	15+94 - 18+22	2-FT	2-FT	4.0H:1V	2.0H:1V	-1.0%	TEMPORARY MATTING
D3	ROADSIDE DITCH	16+24 - 18+25	2-FT	2-FT	4.0H:1V	2.0H:1V	-1.0%	TEMPORARY MATTING
D2	COLLECTION DITCH	11+46 - 12+56	2-FT	1-FT	2.0H:1V	2.0H:1V	-1.0%	TEMPORARY MATTING; OUTLET PROTECTION
D1	COLLECTION DITCH	11+76 - 21+61	2-FT	VARIES	2.0H:1V	2.0H:1V	-1.0%	PERMANENT MATTING, TYPE A; OUTLET PROTECTION
D4	COLLECTION DITCH	18+22 - 19+11	2-FT	1-FT	2.0H:1V	2.0H:1V	-1.0%	TEMPORARY MATTING; OUTLET PROTECTION
D5	COLLECTION DITCH	#1 BORROW SITE	2-FT	1-FT	2.5H:1V	2.5H:1V	-1.0%	BASIN
D6	COLLECTION DITCH	#2 BORROW SITE	2-FT	1-FT	2.5H:1V	2.5H:1V	-1.0%	BASIN
D7	DIVERSION DITCH	#1 BORROW SITE	2-FT	1-FT	2.5H:1V	2.5H:1V	-1.0%	RIPRAP
D8	DIVERSION DITCH	#2 BORROW SITE	2-FT	1-FT	2.5H:1V	2.5H:1V	-1.0%	RIPRAP
D9	COLLECTION DITCH	20+96 - 20+98	3-FT	1-FT	3.0H:1V	3.0H:1V	-1.0%	RIPRAP

GUARDRAIL SCHEDULE

LOCATION	ITEM 607001-001 TYPE I GUARDRAIL, CLASS II	ITEM 607006-001 THRIE BEAM GUARDRAIL BRIDGE TRANSITION (EA)	ITEM 607030-001 SPECIAL TRAILING END TERMINAL (EA)	ITEM 607065-001 FLARED BUFFER END TERMINALS (EA)	Remarks
19+47 - 21+00 LT	162.5	1	1		31" HEIGHT
19+86 - 20+98 RT	112.5	1		1	31" HEIGHT
22+43 - 27+02 LT	512.5	1			31" HEIGHT, TIE INTO EXISTING
22+43 - 27+00 RT	487.5	1			31" HEIGHT, TIE INTO EXISTING

EARTHWORK SCHEDULE

DESCRIPTION	LOCATION		TOTAL UNCLASSIFIED EXCAVATION ITEM 207001-001	UNSUITABLE EXCAVATION	SUITABLE EXCAVATION	SHRINK OR SWELL FACTOR	ADJUSTED EXCAVATION	UNCLASSIFIED EMBANKMENT	SELECT EMBANKMENT	TOTAL EMBANKMENT	EXCESS (+) OR BORROW (-)	REMARKS
	STATION	STATION										
MAINLINE	10+15	21+01	2560	1628	932	1	932	3800	0	3800	-2868	
	22+01	27+08	1461	1461	0	1	0	31554	0	31554	-31554	
		TOTAL	4021	3089	932		932	35354	0	35354	-34422	

BORROW COMPUTATIONS

UNCLASSIFIED EMBANKMENT REQUIRED (FROM GRADING SUMMARY) =	35354 CY
ADJUSTED EXCAVATION (FROM GRADING SUMMARY) =	932 CY
SELECT EMBANKMENT AVAILABLE =	0 CY
EMBANKMENT NEEDED =	34422 CY
EXCAVATION REQUIRED TO MEET EMBANKMENT REQUIREMENTS WITH *10% SHRINK FACTOR:	
ITEM 211001-000 UNCLASSIFIED BORROW EXCAVATION = EMBANKMENT NEEDED =	37864 CY

LAYOUT TAG: 04-04y
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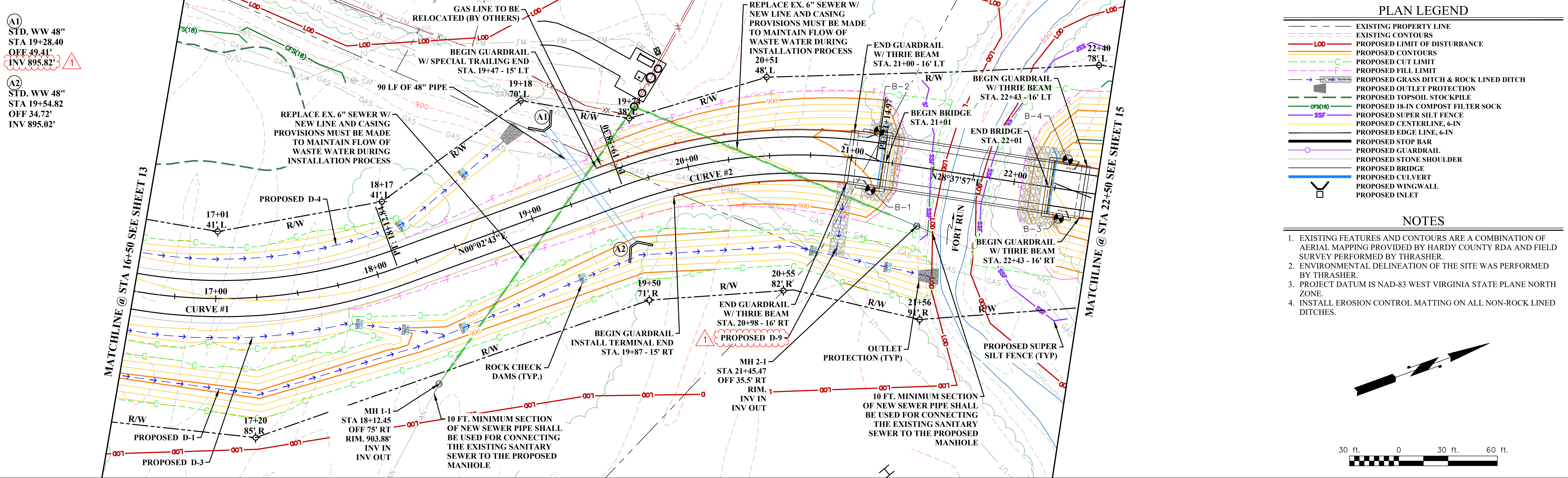
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1	RBM	10.13.2022	ADDENDUM 1 - UPDATED QUANTITIES

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APPROVED:
SURVEY DATE:
SURVEY BY:
FIELD BOOK No.:

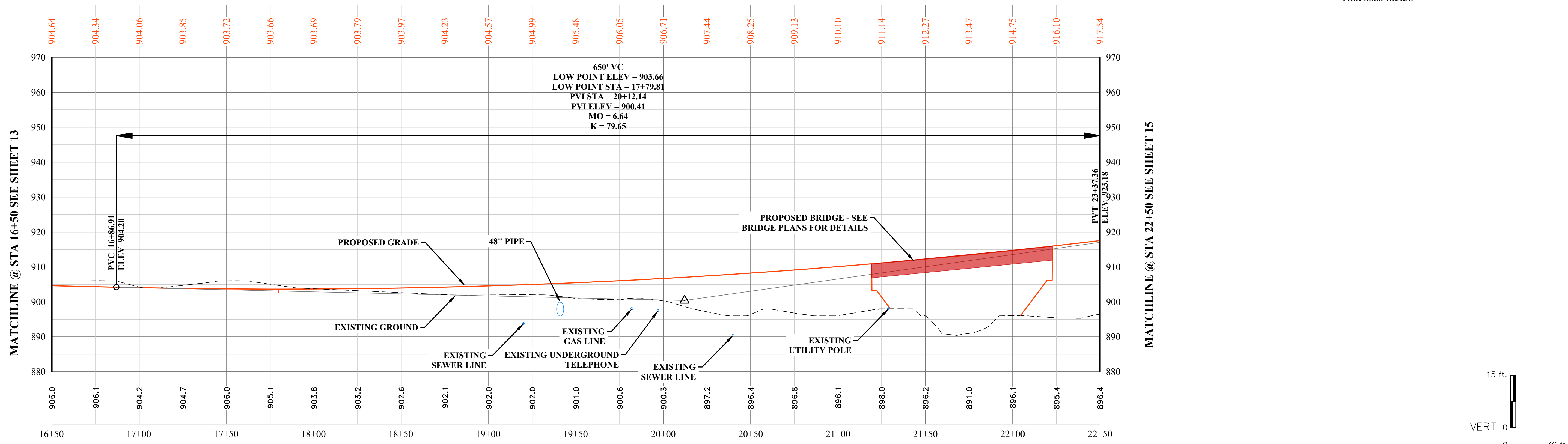
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 THE THRASHER GROUP, INC.
 600 WHITE OAKS BOULEVARD, BRIDGEPORT, WV 26330
 PHONE (304) 624-4108 FAX (304) 624-7831

PHASE No.
CONTRACT No.
PROJECT No.
101-030-2970

HARDY CO. RURAL DEVELOPMENT AUTHORITY
 CONSTRUCTION PLANS FOR THE
 INDUSTRIAL ACCESS ROAD
 HARDY COUNTY, WEST VIRGINIA
 QUANTITIES



INDUSTRIAL ACCESS ROAD CENTERLINE PROFILE



LAYOUT TAB: 14-P-P
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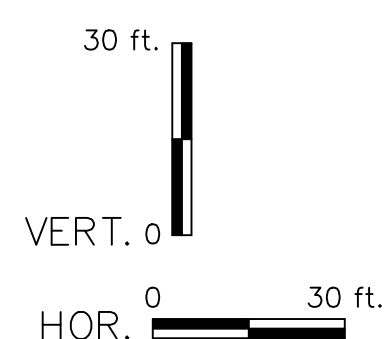
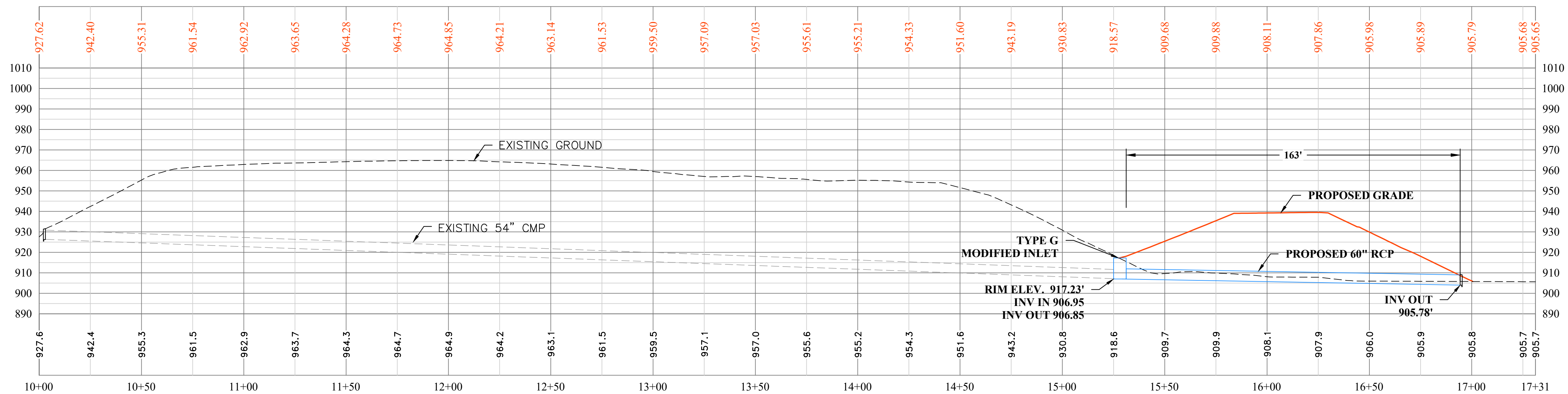
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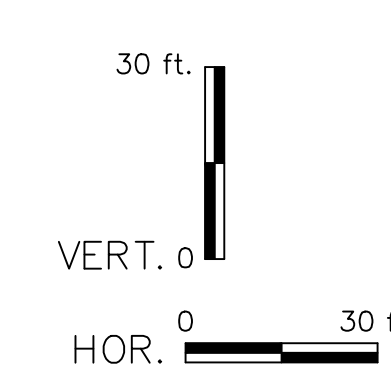
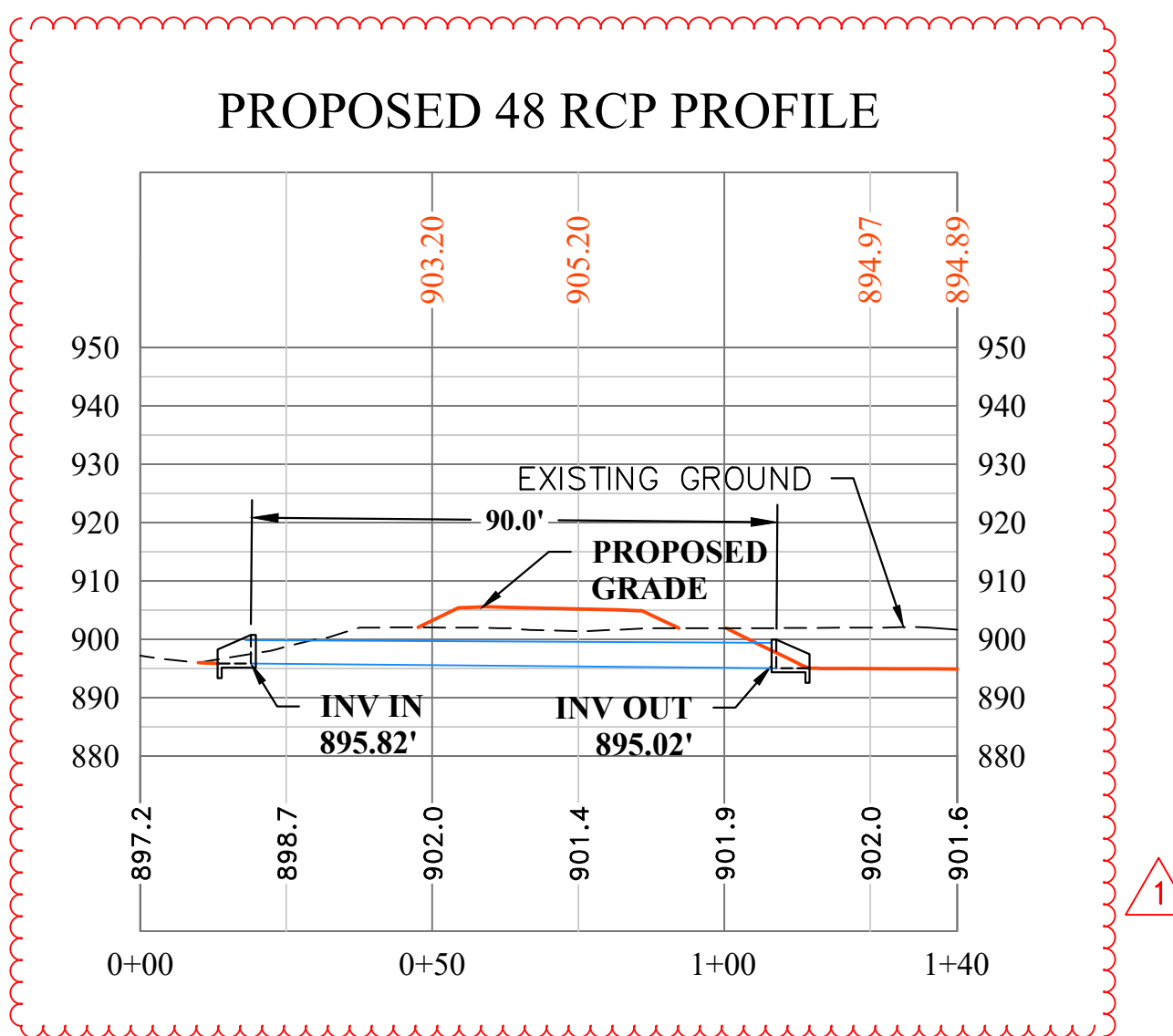
PHASE No.	
CONTRACT No.	
PROJECT No.	101-030-2970

HARDY CO. RURAL DEVELOPMENT AUTHORITY
 CONSTRUCTION PLANS FOR THE
 INDUSTRIAL ACCESS ROAD
 HARDY COUNTY, WEST VIRGINIA
 ROAD PLAN AND PROFILE

STORM NETWORK PROFILE



PROPOSED 48 RCP PROFILE



LAYOUT TAB: 18--STORM PROFILE
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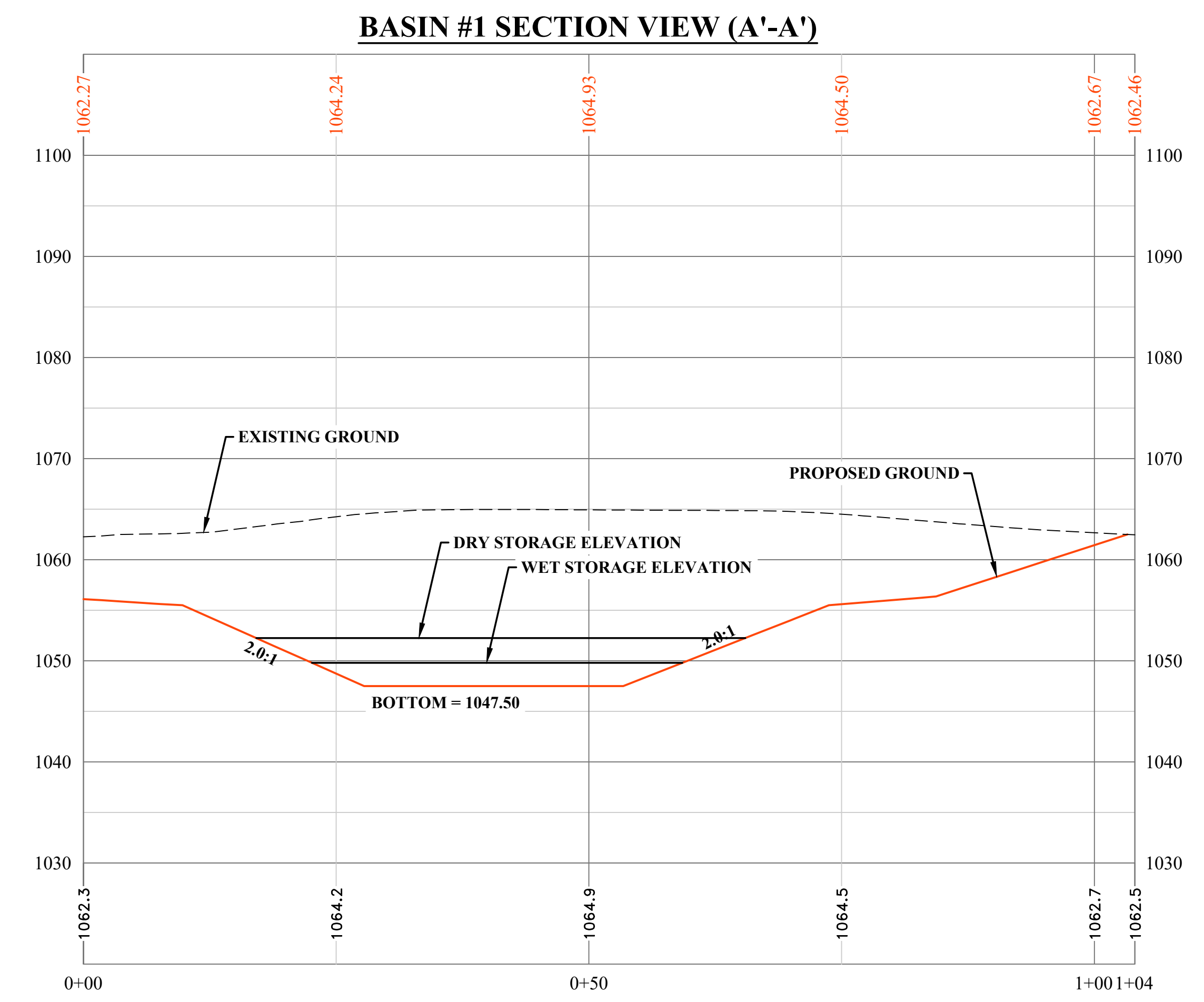
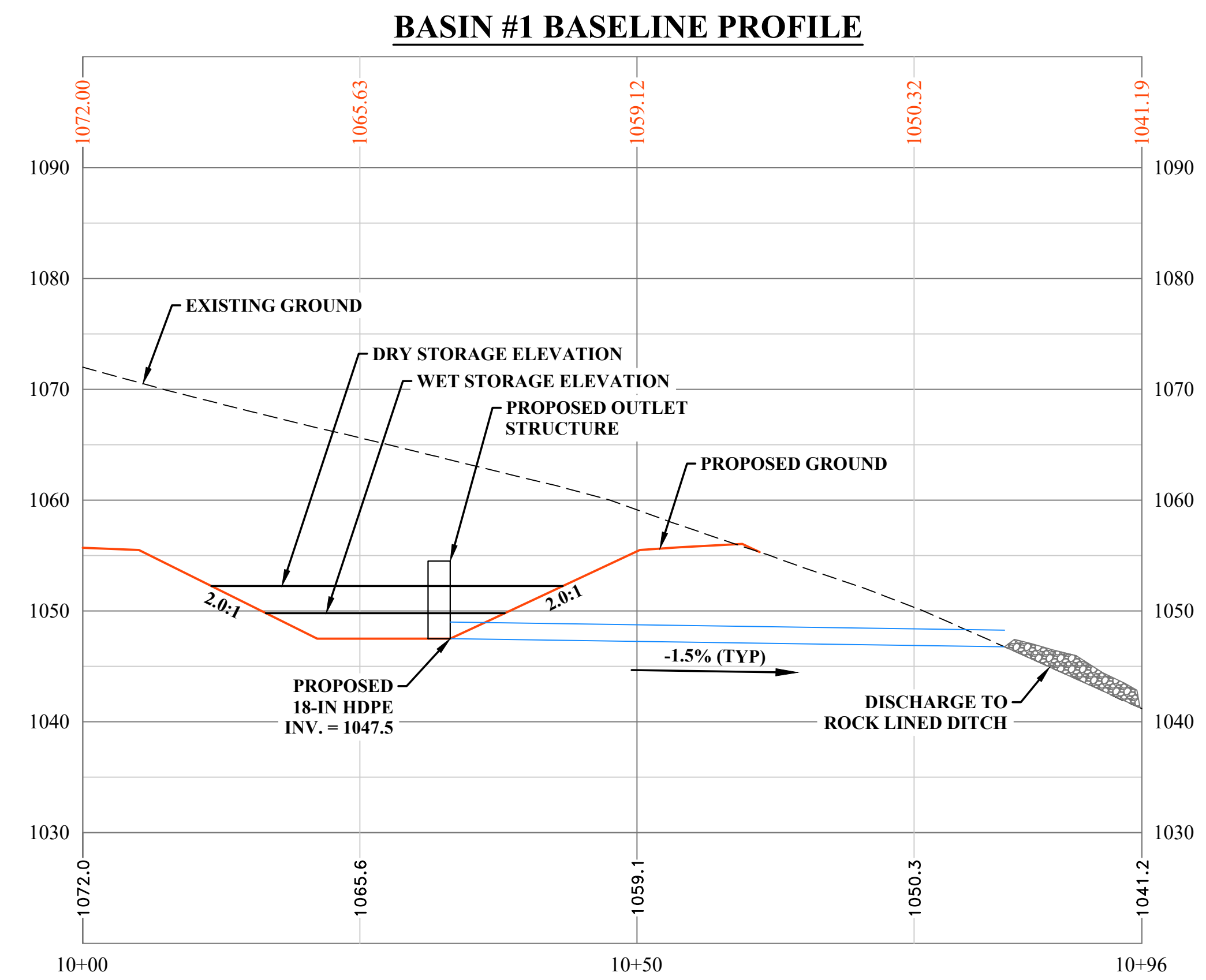
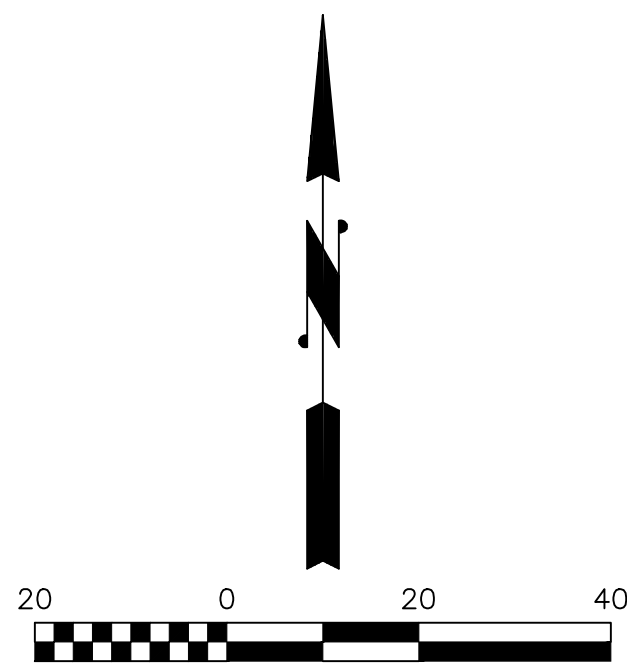
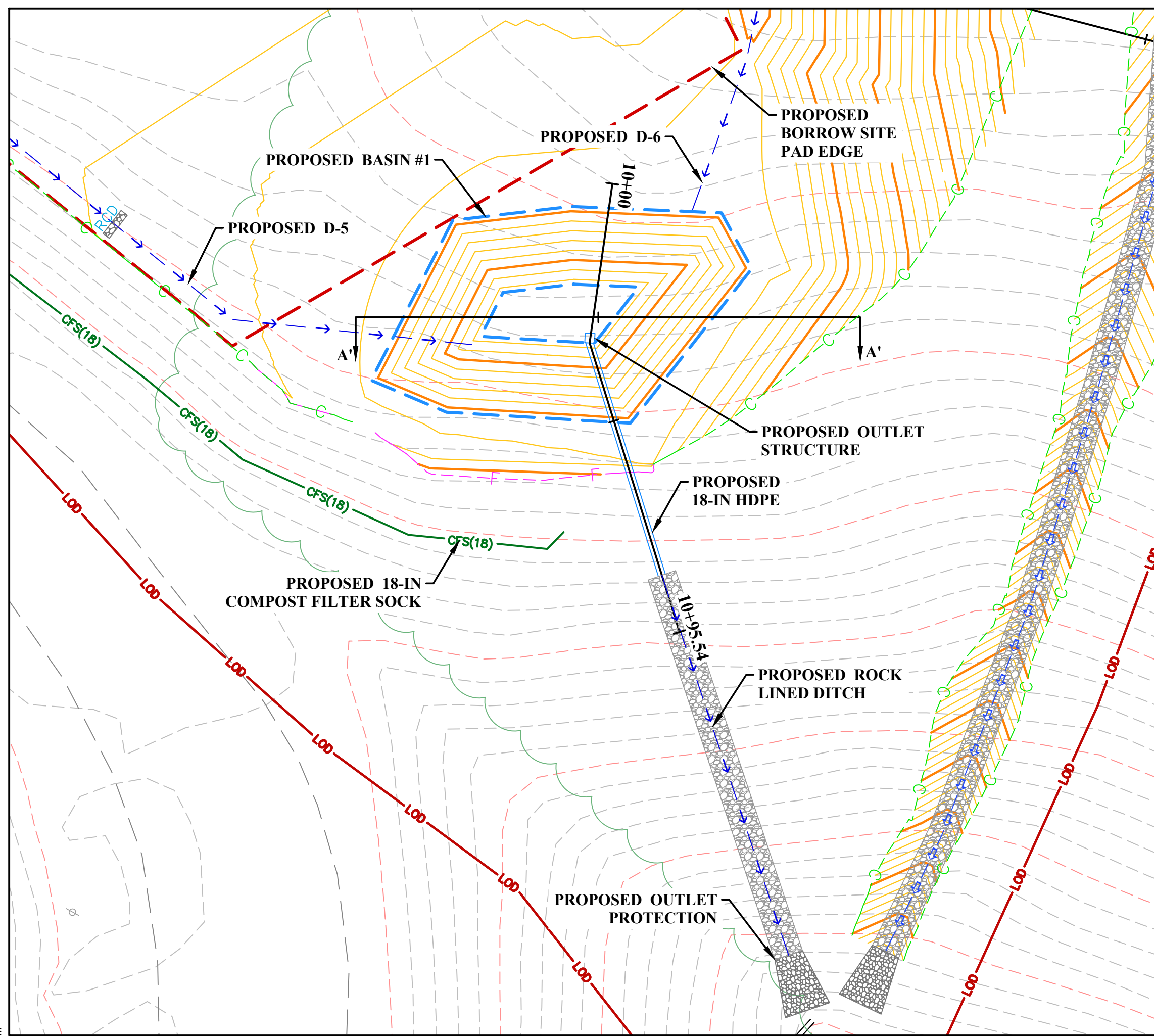
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NO.	BY	DATE	DESCRIPTION
1	RFM	10.13.2022	ADDENDUM 1 - UPDATED 48" RCP PROFILE

SCALE:	
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SURVEY DATE:	
SURVEY BY:	
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PHASE No.	
CONTRACT No.	
PROJECT No.	101-030-2970

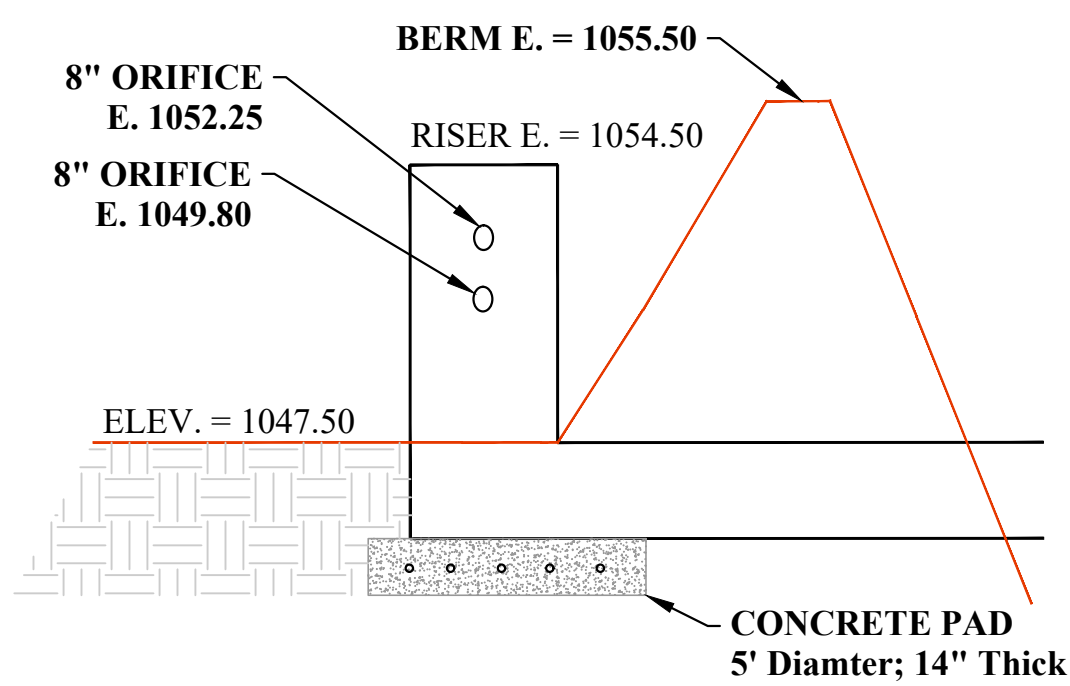
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CONSTRUCTION PLANS FOR THE
INDUSTRIAL ACCESS ROAD
HARDY COUNTY, WEST VIRGINIA
STORM PROFILE



BASIN #1

BOTTOM ELEV. = 1047.50
 BOTTOM AREA = 282 SF
 TOP ELEV = 1055.50
 TOP AREA = 2,552 SF
 RISER ELEV = 1054.50

TOTAL REQUIRED STORAGE PER WVDEP BMP MANUAL = 7,452 CF
 TOTAL PROVIDED STORAGE = 10,032 CF



TYPICAL BASIN 1 RISER DETAIL
 NOT TO SCALE

LAYOUT TAB: 18.1-BASIN DETAIL
 CAD FILE: R:\050\030-2970-WOODMARK (AR-HARDY COUNTY RDA-Drawing_0370-Station) REVISED.dwg
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NO.	BY	DATE	DESCRIPTION
1	REM	10.13.2022	ADDENDUM 1 - ADDED STORM BASIN DETAIL

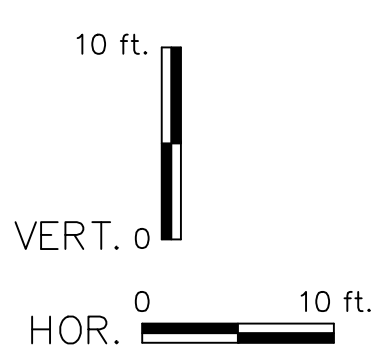
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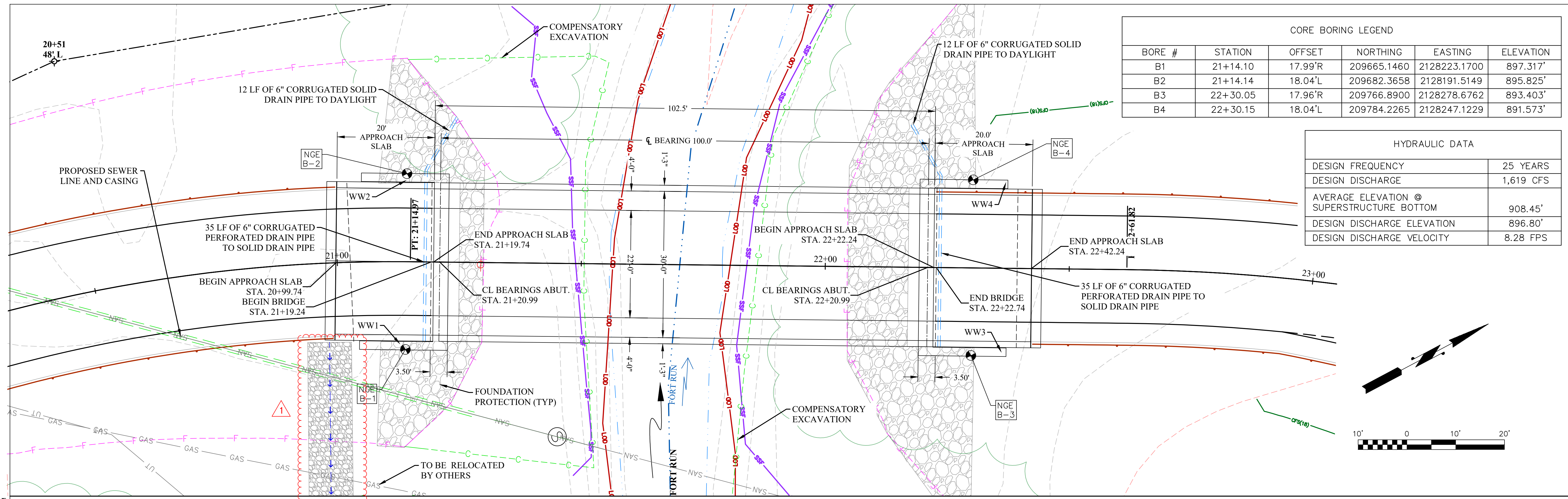
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CONTRACT No.
PROJECT No.
101-030-2970

HARDY CO. RURAL DEVELOPMENT AUTHORITY
CONSTRUCTION PLANS FOR THE
INDUSTRIAL ACCESS ROAD
HARDY COUNTY, WEST VIRGINIA
STORM BASIN DETAIL

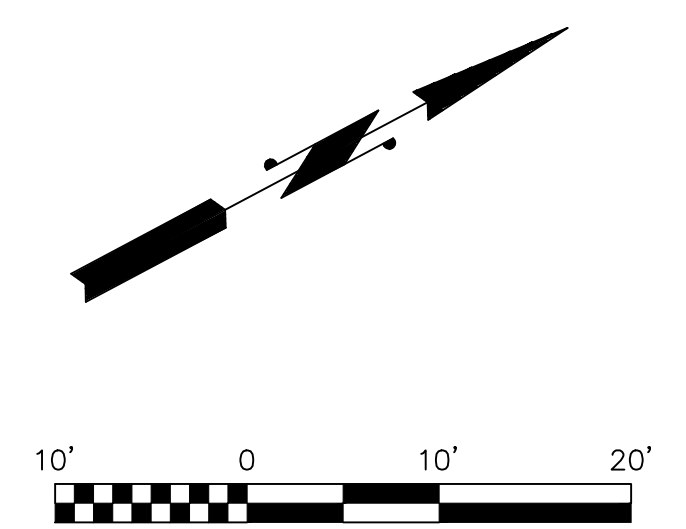
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18.1



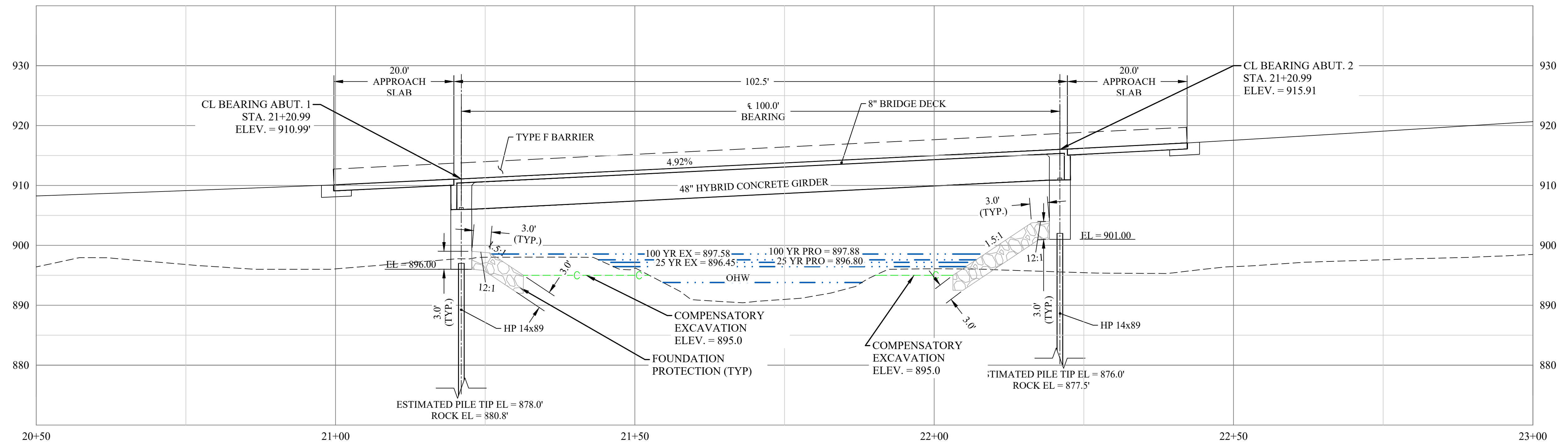


CORE BORING LEGEND					
BORE #	STATION	OFFSET	NORTHING	EASTING	ELEVATION
B1	21+14.10	17.99'R	209665.1460	2128223.1700	897.317'
B2	21+14.14	18.04'L	209682.3658	2128191.5149	895.825'
B3	22+30.05	17.96'R	209766.8900	2128278.6762	893.403'
B4	22+30.15	18.04'L	209784.2265	2128247.1229	891.573'

HYDRAULIC DATA	
DESIGN FREQUENCY	25 YEARS
DESIGN DISCHARGE	1,619 CFS
AVERAGE ELEVATION @ SUPERSTRUCTURE BOTTOM	908.45'
DESIGN DISCHARGE ELEVATION	896.80'
DESIGN DISCHARGE VELOCITY	8.28 FPS



INDUSTRIAL ACCESS ROAD CENTERLINE PROFILE



FORT RUN H&H DATA

FLOW 100 YR = 2478 cfs
FLOW 25 YR = 1619 cfs

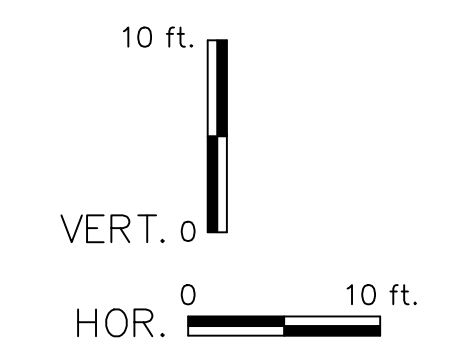
EX 100 YR FLOOD EL = 897.29
37 LF UPSTREAM

PRO 100 YR FLOOD EL = 897.99
37 LF UPSTREAM

EX 25 YR FLOOD EL = 896.20
37 LF UPSTREAM

PRO 25 YR FLOOD EL = 896.88
37 LF UPSTREAM

ALL STORM EVENTS WATER SURFACE ELEVATIONS BACK TO ZERO FOR PROPOSED BRIDGE AT APPROXIMATELY 300 LF UPSTREAM OF PROPOSED BRIDGE



LAYOUT TAB: 29-B1-P-P CAD FILE: R:\030\030-2970-WOODMARK (AR-HARDY COUNTY RDA-Drawing\2970-BridgeSitePlan_CANTON.dwg PLOT DATE/TIME: 10/13/2022 2:36 PM

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NO.	REV.	DATE	DESCRIPTION
1	REB	10.13.2022	ADDENDUM 1 - UPDATED CONC BLOCK FLUME TO ROCK LINED DITCH

SCALE:
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SURVEY DATE:
SURVEY BY:
FIELD BOOK No.:

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PHASE No.	
CONTRACT No.	
PROJECT No.	101-030-2970

HARDY CO. RURAL DEVELOPMENT AUTHORITY
CONSTRUCTION PLANS FOR THE
INDUSTRIAL ACCESS ROAD
HARDY COUNTY, WEST VIRGINIA
BRIDGE GENERAL PLAN

SHEET No.
29

GENERAL SPECIFICATIONS:

THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION, DIVISION OF HIGHWAYS STANDARD SPECIFICATION, ROADS AND BRIDGES ADOPTED 2017 AND THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION, DIVISION OF HIGHWAYS, SUPPLEMENTAL SPECIFICATION DATED JANUARY 1, 2022, THE CONTRACT DOCUMENTS, AND THE CONTRACT PLANS ARE THE GOVERNING PROVISIONS APPLICABLE TO THIS PROJECT.

DESIGN:

THE BRIDGE IS DESIGNED WITH THE LOAD AND RESISTANCE FACTOR DESIGN METHOD (LRFD) IN ACCORDANCE WITH THE AASHTO LRFD A BRIDGE DESIGN SPECIFICATIONS, 8th EDITION DATED 2017 USING HL-93 LIVE LOADING.

THE DESIGN PROVIDES FOR AN ADDITIONAL WEARING SURFACE OF 25 PSF OF ROADWAY SURFACE. THIS ADDITIONAL WEARING SURFACE IS NOT INCLUDED IN THE CONTRACT.

A UNIFORM DECK LOAD OF 15 PSF IS INCLUDED IN THE DESIGN FOR PERMANENT DECK FORMS.

THE BRIDGE DECK IS DESIGNED IN ACCORDANCE WITH THE EMPIRICAL DECK METHOD.

REDISTRIBUTION OF NEGATIVE MOMENTS HAS NOT BEEN USED FOR GIRDER DESIGN.

THE SUPERSTRUCTURE HAS BEEN DESIGNED AS A COMPOSITE SECTION.

THE STRUCTURE HAS BEEN DESIGNED FOR HL - 93 LIVE LOADING.

DESIGN UNIT STRESSES:

- CLASS B CONCRETE: F ' C - 3,000 PSI N-9
CLASS K CONCRETE: F ' C - 4,000 PSI N-8
CLASS H CONCRETE: F ' C - 4,000 PSI N-8
PRESTRESSED I BEAM: F ' C AT RELEASE - 6,500 PSI
F ' C AT FINAL - 8,000 PSI
REINFORCING STEEL: FY - 60,000 PSI
STRUCTURAL STEEL: AASHTO DESIGNATIONS:
ASSHTO M270 GRADE 50W: FY - 50,000 PSI

CONCRETE:

A WATER REDUCING RETARDING ADMIXTURE IN ACCORDANCE WITH SECTION 707.2 OF THE SPECIFICATIONS SHALL BE USED IN ALL SUPERSTRUCTURE CONCRETE. PAYMENT SHALL BE INCLUDED IN ITEM 601003-001. RETARDER WILL NOT BE REQUIRED BELOW 50 DEGREES F, BUT WATER REDUCING ADMIXTURE SHALL BE USED. THE CONTRACTOR'S ATTENTION IS CALLED TO THE TEST REQUIREMENTS FOR THE RETARDER ADMIXTURE.

ALL CONCRETE SHALL BE PLACED IN THE DRY.

REINFORCING STEEL:

ALL REINFORCING STEEL BARS SHALL BE INTERMEDIATE GRADE BILLET STEEL IN ACCORDENCE WITH ASSHTO M31, GRADE 60, UNLESS OTHERWISE NOTED IN THE PLANS.

STRUCTURAL STEEL:

NO FIELD WELDING IS PERMITTED UNLESS SHOWN ON THE PLANS OR APPROVED BY THE ENGINEER.

ALL STRUCTURAL STEEL SHALL MEET AASHTO GRADE 50W.

PROTECTION OF CONCRETE SUBSTRUCTURE:

INCLUDE THE COST OF SILANE COATING, PROTECTING, CLEANING, AND RE-COATING SUBSTRUCTURE UNITS IN ITEM 601002-001, CLASS B CONCRETE.

FASTENERS:

ALL FASTENERS SHALL BE 7/8" HIGH STRENGTH BOLTS (ASTM F3125, GRADE A325), UNLESS OTHERWISE NOTED. THE THREADED ENDS OF THE BOLTS SHALL BE PLACED ON THE INSIDE WHERE PRACTICAL FOR PROTECTION FROM THE WEATHER.

HIGH STRENGTH FASTENERS SHALL MEET SECTION 709.24 AND SHALL BE BLACK (UNCOATED) TYPE 3 (WEATHERING STEEL). THE HIGH STRENGTH FASTENERS USED IN REGIONS OF THE STRUCTURE THAT REQUIRE PAINTING SHALL BE TYPE 1 OR 3 AND SHALL BE MECHANICALLY GALVANIZED.

GEOTECHNICAL INFORMATION

GEOTECHNICAL INFORMATION IS PROVIDED WITH THESE PLANS AND SHALL BE CONSIDERED AS A PART OF THE CONTRACT DOCUMENTS.

THE INFORMATION PRESENTED IS BASED IN PART ON SMALL DIAMETER TEST BORINGS AND SHOULD BE CONSIDERED AS APPROXIMATE. SHOULD DIFFERING CONDITIONS BE ENCOUNTERED, THE CONTRACTOR SHALL CONTACT THE ENGINEER AT THE EARLIEST OPPORTUNITY FOR RE-EVALUATION PRIOR TO PROCEEDING WITH WORK ON THAT PORTION OF THE PROJECT.

PILING:

ALL STEEL PILES SHALL BE HP14X89 STEEL BEARING PILES, PREDRILLED AND DRIVEN AND SHALL MEET AASHTO M270, GRADE 50, REQUIREMENTS. HARDENED STEEL PILE POINTS SHALL BE USED. THE TARGET CAPACITY IS 490 KIPS PER PILE AT REFUSAL ON BEDROCK. THE CONTRACTOR SHALL GRADE THE ABUTMENT LOCATIONS TO WITHIN 1 FT. OF THE PLANNED PILE CAP ELEVATION PRIOR TO PREDRILLING AND DRIVING THE PILES. THE CONTRACTOR SHALL PREDRILL ALL THE PILE BOREHOLES TO BEDROCK TO THE FOLLOWING MINIMUM ELEVATIONS: ABUTMENT NO. 1 = 880.0 FT.; ABUTMENT NO. 2 = 878.0 FT. ALL PREDRILLED BOREHOLES SHALL HAVE A DIAMETER OF 24 INCHES AND SHALL BE BACKFILLED WITH DRY SAND PRIOR TO DRIVING.

REFUSAL IS DEFINED IN BLOWS PER 1 INCH OF PENETRATION (BPI) TO THE TARGET BPI AS LISTED IN THE FOLLOWING TABLE, PROVIDED THAT DRIVING SHOULD BE TERMINATED IN ANY EVENT AT 10 BLOWS PER 1/4 INCH TO AVOID DAMAGING THE PILES.

Table with 5 columns: Hammer Type, Energy Rating (FT-LBS), Fuel Setting, Target BPI, Target Stroke Height (ft.). Rows include KOBE K13, ICE I-12, ICE 42S, PILECO D19-42, DELMAG D19-42, APE D19-32, ICE I-19v2, and APE D19-42.

IF THE CONTRACTOR ELECTS TO USE A HAMMER THAT IS NOT INCLUDED IN THE ABOVE TABLE, OR IF A DIFFERENT FUEL SETTING THAN THOSE LISTED ABOVE IS USED, THEN THE CONTRACTOR SHALL SUBMIT DRIVING CRITERIA USING A WAVE EQUATION ANALYSIS, SUCH AS GRLWEAP. THE DRIVING CRITERIA SHALL BE SUBMITTED TO THE ENGINEER AT LEAST 14 DAYS PRIOR TO THE INSTALLATION OF THE FIRST PILE AND SHALL INCLUDE THE FUEL SETTING(S), STROKE HEIGHT, THE REQUIRED BLOWS PER 1 INCH OF PENETRATION TO ACHIEVE THE TARGET CAPACITY, AND THE MAXIMUM DRIVING STRESS AT REFUSAL. A MINIMUM OF 6 BPI MAY BE ALLOWED AS PRACTICAL REFUSAL BY THE ENGINEER BASED ON THE WAVE EQUATION ANALYSIS. THE ANALYSIS SHALL DEMONSTRATE THAT THE TARGET CAPACITY CAN BE ACHIEVED WITHOUT DAMAGING THE PILES OR EXCEEDING 45 KSI MAXIMUM COMPRESSIVE STRESS. ANY WAVE EQUATION ANALYSES PERFORMED BY THE CONTRACTOR AND ASSOCIATED COSTS DUE TO DELAYS, DRIVING EQUIPMENT, OR MOBILIZATION SHALL BE AT THE CONTRACTOR'S EXPENSE. THE COST OF PILE POINTS AND SAND BACKFILL SHALL BE INCLUDED IN ITEM 616005-017, HP14X89 STEEL BEARING PILES, PRE-DRILLED AND DRIVEN.

DECK SLAB OVERHANG FORM:

DECK SLAB OVERHANG FORMS SHALL BE SUPPORTED FROM THE BOTTOM FLANGE OF FASCIA GIRDERS OR STRINGERS. THE CONTRACTOR SHALL SUBMIT FORMING PLANS AND SUPPORTING CALCULATIONS FOR THE OVERHANG TO THE ENGINEER FOR GENERAL COMPLIANCE PRIOR TO ERECTING THE FORMWORK. THE REQUIRED DOCUMENTATION SHALL BE PERFORMED BY A WV PE WHO SHALL VERIFY THE DESIGN IS UTILIZED IN THE FIELD.

SHOP DRAWINGS:

ALL SHOP DRAWINGS WILL BE SUBJECT TO REQUIREMENTS OF SECTION 105.2. SUBMIT SHOP DRAWINGS TO: THE THRASHER GROUP, INC. 600 WHITE OAKS BOULEVARD BRIDGEPORT, WV 26330

THE DESIGN CALCULATIONS AND PLANS FOR ANY PROPOSED FALSE WORK, COFFERDAMS, SHEETING OR OTHER TEMPORARY SUPPORTS OR BRACING REQUIRED TO CONSTRUCT THE STRUCTURE SHALL BE PERFORMED AND SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF WEST VIRGINIA BEFORE BEING SUBMITTED TO THE ENGINEER FOR REVIEW.

SPECIAL PROVISION:

- SECTION 615 ELASTOMERIC BEARINGS
SECTION 627 PREFORMED SILICONE COATED FOAM BRIDGE EXPANSION JOINT SYSTEM
SECTION 645 REINFORCED SOIL SLOPES

CONSTRUCTION SEQUENCE

- 1. PREDRILL, BACKFILL WITH SAND, AND DRIVE STEEL H-PILES.
2. CONSTRUCT CONCRETE ABUTMENTS AND WINGWALLS.
3. ERECT CONCRETE BEAMS.
4. POUR CONCRETE DECK, END DIAPHRAGM, AND BARRIERS.
5. CONSTRUCT APPROACH SLABS AND INSTALL GUARDRAIL.
6. ASPHALT PAVE THE ROAD APPROACHES AND PERFORM PAVEMENT MARKINGS.

BRIDGE SHEET INDEX

Table with 2 columns: SHEET NO., DESCRIPTION. Lists sheets 29 through 60 including items like BRIDGE GENERAL PLAN, FOUNDATION LAYOUT, DECK SLAB, and LOAD RATING CALCULATIONS.

LAYOUT TAG: 30-Gen-Notes CAD FILE: R:\000\030-2970-WOODMARK (AR-HARDY COUNTY RDA-Drawing\2970-Bridge-General Notes.dwg PLOT DATE/TIME: 10/13/2022 2:55 PM

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Table with 4 columns: NO., BY, DATE, DESCRIPTION. Row 1: 1, RBM, 10.13.2022, ADDENDUM 1 - UPDATED SUPP YEAR & PILING NOTES

Table with 2 columns: SCALE, DRAWN, CHECKED, APPROVED, SURVEY DATE, SURVEY BY, FIELD BOOK No. All cells are empty.

THRASHER logo and contact information: THE THRASHER GROUP, INC. 600 WHITE OAKS BOULEVARD, BRIDGEPORT, WV 26330. PHONE (304) 624-4108 FAX (304) 624-7831

Table with 2 columns: PHASE No., CONTRACT No., PROJECT No. Values: PHASE No. (empty), CONTRACT No. (empty), PROJECT No. 101-030-2970

HARDY CO. RURAL DEVELOPMENT AUTHORITY CONSTRUCTION PLANS FOR THE INDUSTRIAL ACCESS ROAD HARDY COUNTY, WEST VIRGINIA BRIDGE GENERAL NOTES

Table with 2 columns: SHEET No., 30