

Floodplain Development Permit

Doddridge County, WV Floodplain Management

This permit gives approval for the development/ project listed that impacts the FEMA-designated floodplain and/or floodway of Doddridge County, WV, pursuant to the rules and regulations established by all applicable Federal, State and local laws and ordinances, including the Doddridge County Floodplain Ordinance. This permit must be posted at the site of work as to be clearly visible and must remain posted during entirety of development.

Permit: #21-591

Date Approved: April 5, 2021

Expires: April 5, 2022

Issued to: Antero Resources Corporation

POC: Daniel Bulian

Company Address: 535 White Oaks Blvd. Bridgeport, WV 26330

Project Address: Sugar Run Road

Firm: 54017C0225C

Lat/Long: 39.204808N, -80.864754W

Purpose of Development: Road Improvement Project

Issued by: George C. Eidel, CFM, OEM Director/Doddridge County FPM (or designee)

Date: April 5, 2021

For additional information regarding this permit, please contact
Doddridge County Floodplain Manager at 304.873.2631, or via email at
doddridgecountyfpm@gmail.com
118 East Court Street; West Union, WV 26456

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

James E. Webb
813 Cabin Run Road
West Union, WV 26456



9590 9402 6169 0220 8311 27

2. Article Number (Transfer from service label)

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X *James Webb* Agent Addressee
 B. Received by (Printed Name) C. Date of Delivery

D. Is delivery address different from item 1? Yes
 If YES, enter delivery address below: No

3. Service Type Priority Mail Express®
 Adult Signature Registered Mail™
 Adult Signature Restricted Delivery Registered Mail Restricted Delivery
 Certified Mail® Signature Confirmation™
 Certified Mail Restricted Delivery Signature Confirmation Restricted Delivery
 Collect on Delivery
 Collect on Delivery Restricted Delivery
 Insured Mail
 Insured Mail Restricted Delivery (over \$500)

PS Form 3811, July 2020 PSN 7530-02-000-9053

Domestic Return Receipt

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

Juanita W. Leggett
6131 Oxford Road
West Union, WV 26456



9590 9402 6169 0220 8310 97

2. Article Number (Transfer from service label)

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X *Juanita Leggett* Agent Addressee
 B. Received by (Printed Name) C. Date of Delivery

D. Is delivery address different from item 1? Yes
 If YES, enter delivery address below: No

3. Service Type Priority Mail Express®
 Adult Signature Registered Mail™
 Adult Signature Restricted Delivery Registered Mail Restricted Delivery
 Certified Mail® Signature Confirmation™
 Certified Mail Restricted Delivery Signature Confirmation Restricted Delivery
 Collect on Delivery
 Collect on Delivery Restricted Delivery
 Insured Mail
 Insured Mail Restricted Delivery (over \$500)

Juanita Leggett

PS Form 3811, July 2020 PSN 7530-02-000-9053

Domestic Return Receipt

COPY

COPY

COPY

KLEINFELDER OFFICE CHECKING
550 WEST C STREET SUITE 1200
SAN DIEGO, CA 92101

PAY TO THE ORDER OF Dadridge County Commission
One thousand four hundred ~~and~~ seventy-four and ~~no~~ ⁰⁸/₁₀₀ DOLLARS

DATE 2/26/2021 19-10/1250

\$ 1,474.08

usbank. Security Features Included. Details on Back.

FOR Permit 20203227.001A
Dennis D. Kase

FP# 21-591 *011734 000105 157514869*

FP# 21-591

COPY

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

**Gregory H. Whitehair
1602 Dotterer's Run
Charleston, SC 29414**



9590 9402 6169 0220 8311 10

2. Article Number (Transfer from service label)

COMPLETE THIS SECTION ON DELIVERY

- A. Signature
 Sandra Snyder Agent
 Addressee
- B. Received by (Printed Name) Date of Delivery
Sandra Snyder *3-6-21*
- D. Is delivery address different from item 1? Yes
 If YES, enter delivery address below: No

3. Service Type
- | | |
|--|---|
| <input type="checkbox"/> Adult Signature | <input type="checkbox"/> Priority Mail Express® |
| <input type="checkbox"/> Adult Signature Restricted Delivery | <input type="checkbox"/> Registered Mail™ |
| <input type="checkbox"/> Certified Mail® | <input type="checkbox"/> Registered Mail Restricted Delivery |
| <input type="checkbox"/> Certified Mail Restricted Delivery | <input type="checkbox"/> Signature Confirmation™ |
| <input type="checkbox"/> Collect on Delivery | <input type="checkbox"/> Signature Confirmation Restricted Delivery |
| <input type="checkbox"/> Collect on Delivery Restricted Delivery | |
| <input type="checkbox"/> Insured Mail | |
| <input type="checkbox"/> Insured Mail Restricted Delivery (over \$500) | |

PS Form 3811, July 2020 PSN 7530-02-000-9053

Domestic Return Receipt

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- Complete items 1, 2, and 3.
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**Ricky B. Winemiller
14 Sugar Run Road
West Union, WV 26456**



9590 9402 4783 8344 2622 47

2. Article Number (Transfer from service label)

COMPLETE THIS SECTION ON DELIVERY

- A. Signature
 Covid 19 Agent
 Addressee
- B. Received by (Printed Name) C. Date of Delivery
3/8
- D. Is delivery address different from item 1? Yes
 If YES, enter delivery address below: No

3. Service Type
- | | |
|--|---|
| <input type="checkbox"/> Adult Signature | <input type="checkbox"/> Priority Mail Express® |
| <input type="checkbox"/> Adult Signature Restricted Delivery | <input type="checkbox"/> Registered Mail™ |
| <input type="checkbox"/> Certified Mail® | <input type="checkbox"/> Registered Mail Restricted Delivery |
| <input type="checkbox"/> Certified Mail Restricted Delivery | <input type="checkbox"/> Return Receipt for Merchandise |
| <input type="checkbox"/> Collect on Delivery | <input type="checkbox"/> Signature Confirmation™ |
| <input type="checkbox"/> Collect on Delivery Restricted Delivery | <input type="checkbox"/> Signature Confirmation Restricted Delivery |
| <input type="checkbox"/> Insured Mail | |
| <input type="checkbox"/> Insured Mail Restricted Delivery (over \$500) | |

PS Form 3811, July 2015 PSN 7530-02-000-9053

Domestic Return Receipt

FLOODPLAIN PERMIT #21-591

Antero Resources Sugar Run Road Improvement Project 39.204808, -80.864754

TASK	COMPLETE (DATE)	NOTES
CHECK RECEIVED	3/3/2021	
US ARMY CORP. ENGINEERS (USACE)	Pending	
US FISH & WILDLIFE SERVICES (USFWS)	3/3/2021	
WV DEPT. NATURAL RESOURCES (WVDNR)	3/3/2021	
WV DEPT. ENVIROMENTAL PROTECTION (WVDEP)	3/3/2021	
STATE HISTORIC & PRESERVATION OFFICE (SHPO)	Pending	
OFFICE of LAND & STREAM (OLS)	Pending	
WVDOH	✓	3/22/2021
Elevation Certificate		
DATE OF COMMISSION READING	3/16/2021	
DATE AVAILABLE TO BE GRANTED	4/5/2021	
PERMIT GRANTED		
COMPLETE		

7019 1640 0001 3258 6935

7019 1640 0001 3258 6942

7019 1640 0001 3258 6959

7019 1640 0001 3258 6966

7019 1640 0001 3258 6973

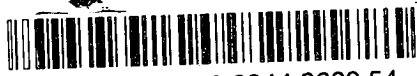
7019 1640 0001 3258 6980

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

CNG Transmission Corp.
Domestic Transmission
Liberty Avenue, Mail Drop 18-01
Pittsburgh, PA 15221



9590 9402 4783 8344 2622 54

2. Article Number (Transfer from service label)

COMPLETE THIS SECTION ON DELIVERY

A. Signature: *Nicholas A. Wojcik* Agent Addressee

B. Received by (Printed Name) C. Date of Delivery
 3/9/24

D. Is delivery address different from item 1? Yes No
 If YES, enter delivery address below:

3. Service Type
- | | |
|--|---|
| <input type="checkbox"/> Adult Signature | <input type="checkbox"/> Priority Mail Express® |
| <input type="checkbox"/> Adult Signature Restricted Delivery | <input type="checkbox"/> Registered Mail™ |
| <input type="checkbox"/> Certified Mail® | <input type="checkbox"/> Registered Mail Restricted Delivery |
| <input type="checkbox"/> Certified Mail Restricted Delivery | <input type="checkbox"/> Return Receipt for Merchandise |
| <input type="checkbox"/> Collect on Delivery | <input type="checkbox"/> Signature Confirmation™ |
| <input type="checkbox"/> Collect on Delivery Restricted Delivery | <input type="checkbox"/> Signature Confirmation Restricted Delivery |
| <input type="checkbox"/> Insured Mail | |
| <input type="checkbox"/> Insured Mail Restricted Delivery (over \$500) | |

PS Form 3811, July 2015 PSN 7530-02-000-9053

Domestic Return Receipt

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

George J. Stansberry
290 Sugar Run Road
West Union, WV 26456



9590 9402 6169 0220 8311 03

2. Article Number (Transfer from service label)

COMPLETE THIS SECTION ON DELIVERY

A. Signature: *Melanie Ayers* Agent Addressee

B. Received by (Printed Name) C. Date of Delivery
Melanie Ayers

D. Is delivery address different from item 1? Yes No
 If YES, enter delivery address below:

3. Service Type
- | | |
|--|---|
| <input type="checkbox"/> Adult Signature | <input type="checkbox"/> Priority Mail Express® |
| <input type="checkbox"/> Adult Signature Restricted Delivery | <input type="checkbox"/> Registered Mail™ |
| <input type="checkbox"/> Certified Mail® | <input type="checkbox"/> Registered Mail Restricted Delivery |
| <input type="checkbox"/> Certified Mail Restricted Delivery | <input type="checkbox"/> Return Receipt for Merchandise |
| <input type="checkbox"/> Collect on Delivery | <input type="checkbox"/> Signature Confirmation™ |
| <input type="checkbox"/> Collect on Delivery Restricted Delivery | <input type="checkbox"/> Signature Confirmation Restricted Delivery |
| <input type="checkbox"/> Insured Mail | |
| <input type="checkbox"/> Insured Mail Restricted Delivery (over \$500) | |

PS Form 3811, July 2020 PSN 7530-02-000-9053

Domestic Return Receipt



Doddridge County Floodplain Permits

(Week of March 8, 2021)

Please take notice that on the (3rd) of (March), 2021, (Antero Resources) filed an application for a Floodplain Permit (#21-591) to develop land located at or about (Sugar Run Road); Coordinates: 39.204808, -80.864754. The Application is on file with the Floodplain Manager of the County and may be inspected or copied during regular business hours in accordance to WV Code Chapter 29B Freedom of Information, Article 1 Public Records and county policy and procedures. Any interested persons who desire to comment shall present the same in writing by (April 5, 2021) (20 calendar days after the announcement at the regularly scheduled Doddridge County Commission Meeting) delivered to the Floodplain Manager of the County at 105 Court Street, Suite #3, West Union, WV 26456. **This project is for road improvements (widening/culvert placement)**

A handwritten signature in black ink, appearing to read "George C. Eidel".

GEORGE C. EIDEL, CFM

Doddridge County Floodplain Manager

7019 1640 0001 3258 6935

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
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For delivery information, visit our website at www.usps.com®.

OFFICIAL USE

Certified Mail Fee \$ 3.45

Extra Services & Fees (check box, add fee as appropriate)

Return Receipt (hardcopy) \$ 2.75

Return Receipt (electronic) \$

Certified Mail Restricted Delivery \$

Adult Signature Required \$

Adult Signature Restricted Delivery \$

Postage \$.51

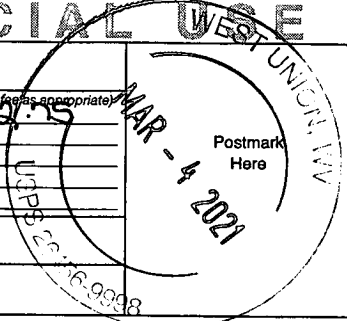
Total Postage and Fees \$ 6.71

Sent To Gregory H. Whitehair

Street and Apt. No., or PO Box No. 1602 Daffodil Run

City, State, ZIP+4® West Union, WV 26456 21-591

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions



7019 1640 0001 3258 6942

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OFFICIAL USE

Certified Mail Fee \$ 3.45

Extra Services & Fees (check box, add fee as appropriate)

Return Receipt (hardcopy) \$ 2.75

Return Receipt (electronic) \$

Certified Mail Restricted Delivery \$

Adult Signature Required \$

Adult Signature Restricted Delivery \$

Postage \$.51

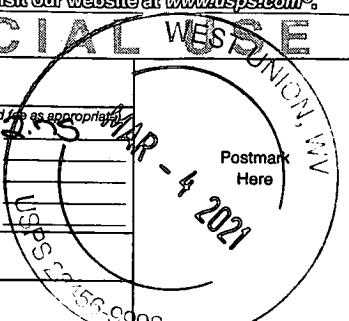
Total Postage and Fees \$ 6.71

Sent To Juanita M. Leggett

Street and Apt. No., or PO Box No. 6131 Oxford Road

City, State, ZIP+4® West Union, WV 26456 21-591

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions



7019 1640 0001 3258 6959

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OFFICIAL USE

Certified Mail Fee \$ 3.45

Extra Services & Fees (check box, add fee as appropriate)

Return Receipt (hardcopy) \$ 2.75

Return Receipt (electronic) \$

Certified Mail Restricted Delivery \$

Adult Signature Required \$

Adult Signature Restricted Delivery \$

Postage \$.51

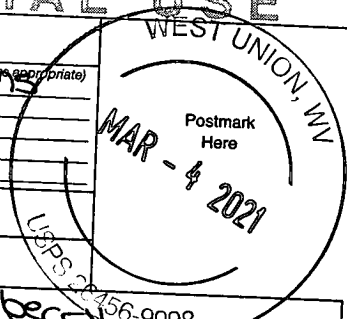
Total Postage and Fees \$ 6.71

Sent To George Stansberry

Street and Apt. No., or PO Box No. 270 Sugar Run Rd.

City, State, ZIP+4® West Union, WV 26456 21-591

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions



7019 1640 0001 3258 6966

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OFFICIAL USE

Certified Mail Fee \$ 3.45

Extra Services & Fees (check box, add fee as appropriate)

Return Receipt (hardcopy) \$ 2.75

Return Receipt (electronic) \$

Certified Mail Restricted Delivery \$

Adult Signature Required \$

Adult Signature Restricted Delivery \$

Postage \$.51

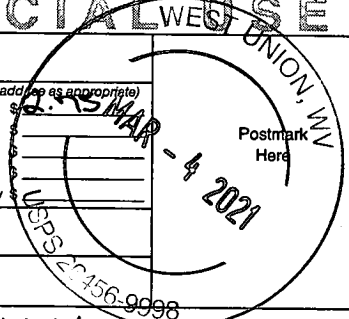
Total Postage and Fees \$ 6.71

Sent To James E. Webb

Street and Apt. No., or PO Box No. 313 Cabin Run Rd.

City, State, ZIP+4® West Union, WV 26456 21-591

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions



7019 1640 0001 3258 6973

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at www.usps.com®.

OFFICIAL USE

Certified Mail Fee \$ 3.45

Extra Services & Fees (check box, add fee as appropriate)

Return Receipt (hardcopy) \$ 2.75

Return Receipt (electronic) \$

Certified Mail Restricted Delivery \$

Adult Signature Required \$

Adult Signature Restricted Delivery \$

Postage \$.51

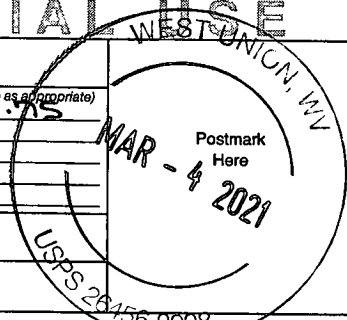
Total Postage and Fees \$ 6.71

Sent To Nicky B. Wingeniller

Street and Apt. No., or PO Box No. 14 Sugar Run Rd.

City, State, ZIP+4® West Union, WV 26456 21-591

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions



7019 1640 0001 3258 6986

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at www.usps.com®.

OFFICIAL USE

Certified Mail Fee \$ 3.45

Extra Services & Fees (check box, add fee as appropriate)

Return Receipt (hardcopy) \$ 2.75

Return Receipt (electronic) \$

Certified Mail Restricted Delivery \$

Adult Signature Required \$

Adult Signature Restricted Delivery \$

Postage \$.51

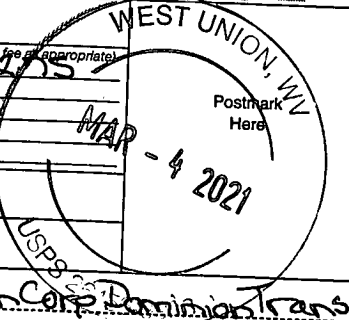
Total Postage and Fees \$ 6.71

Sent To CNC Transmission Corp Dominion Trans.

Street and Apt. No., or PO Box No. 625 Liberty Ave. Mail Drop 18-01

City, State, ZIP+4® Pittsburgh PA 15221 21-591

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions





APR 21 2021

TRANSMITTAL

To:

Mr. George Eidel
Floodplain Manager
105 Court Street, Suite #3
West Union, WV 26456

Date: March 1, 2021

cc: Project File

Subject:

Floodplain Permit Application
Antero Resources Corporation
Sugar Run Road (CR-52) Roadway Improvements
Doddridge County, West Virginia



Attached



Under separate cover

Via:

- Messenger/Courier
- First Class Mail
- FedEx
- United Parcel
- DHL
- Lone Star Overnight
- Freight
- Other

Transmitted:

- As Requested
- For Approval
- For Your Use
- For Review & Comment

Remarks:

Enclosed please find the following documents to facilitate your review of the above referenced application:

- Attachment A – Floodplain Application
- Attachment B – Table of Adjacent Property Owners
- Attachment C – Location Exhibit
- Attachment D – Site Plans
- Attachment E – No-Rise Certificate
- Attachment F – Permitting & Coordination

The check for fee is \$1,474.08. The site budget within the Floodplain is \$194,816.59 bringing the permit fee to \$1,474.08.

By:

Matt Albright
Project Manager
51 Dutilh Rd., Suite 240
Cranberry Township, PA 16066
MAlbright@Kleinfelder.com
m| 609.947.5296



ATTACHMENT A
FLOODPLAIN APPLICATION



Permit#	# 21-591
Project	Sugar Run Rd. Improvement
Permittees Name:	Antero Resources

018 5 21 10:19AM

Doddridge County, WV

Floodplain Development Permit Application

This document is to be used for projects that impact/potentially impact the FEMA---designated floodplain and/or floodway of Doddridge County, WV pursuant to the rules and regulations established by all applicable Federal, State and local laws and ordinances, including the Doddridge County Floodplain Ordinance.

SECTION 1: GENERAL PROVISIONS (APPLICANT TO READ AND SIGN)

1. No work may start until a permit is issued.
2. The permit may be revoked if any false statements are made herein.
3. If revoked, all work must cease until permit is re-issued.
4. The permit will expire if no work is commenced within six months of issuance.
5. Applicant is hereby informed that other permits may be required to fulfill local, state, and federal requirements.
6. Applicant hereby gives consent to the Floodplain Administrator/Manager or his/her representative to make inspections to verify compliance.
7. I THE APPLICANT CERTIFY THAT ALL STATEMENTS HEREIN AND IN ATTACHMENTS TO THIS APPLICATION ARE, TO THE BEST OF MY KNOWLEDGE, TRUE AND ACCURATE.

APPLICANT'S SIGNATURE Daniel Bulian

DATE 02.25.2021

Doddridge County Commercial/Industrial
Floodplain Development Permit Application

Applicant Information:

Please provide all pertinent data.

Applicant Information		
Responsible Company Name: Antero Resources Corporation		
Corporate Mailing Address: 1615 Wynkoop Street		
City: Denver	State: CO	Zip: 80202
Corporate Point of Contact (POC): Daniel Bulian		
Corporate POC Title: Environmental Specialist III		
Corporate POC Primary Phone: (304) 842-4093		
Corporate POC Primary Email: dbulian@anteroresources.com		
Corporate FEIN: N/A	Corporate DUNS: N/A	
Corporate Website: www.anteroresources.com		
Local Mailing Address: 535 White Oaks Blvd		
City: Bridgeport	State: WV	Zip: 26330
Local Project Manager (PM): Daniel Bulian		
Local PM Primary Phone: (304) 842-4093		
Local PM Secondary Phone: N/A		
Local PM Primary Email: dbulian@anteroresources.com		
Person Filing Application: Daniel Bulian		
Applicant Title: Environmental Specialist III		
Applicant Primary Phone: (304) 842-4093		
Applicant Secondary Phone: N/A		
Applicant Primary Email: dbulian@anteroresources.com		

Doddridge County Commercial/Industrial
Floodplain Development Permit Application

Project Narrative:

Describe in detail the proposed development including project name/title, type of development, estimated start and completion timeline, and its potential impact on the floodplain. Use additional copies of this page as needed.

Project Narrative:
<p>Antero Resources Corporation (Antero) is proposing improvements to approximately 2.40-miles of Sugar Run Road (CR-52), known as the Sugar Run Road (CR-52) Roadway Improvements (Roadway Improvements). The Roadway Improvements will support larger vehicle traffic near the town of West Union in Doddridge County, West Virginia (WV). The northern terminus of the Roadway Improvements is located at 39.205891, -80.864813 and the southern terminus is located at 39.178374, -80.849874. The Roadway Improvements will utilize the existing county road which will support access to current and future Antero-operated sites.</p>
<p>The proposed Roadway Improvements will result in a limit of disturbance of approximately 10.03 acres, of which 0.70 acres (7.0%) is located within the limits of the South Fork Hughes River regulated floodplain (Attachment C). The Roadway Improvements within the regulated floodplain will consist of but are not limited to roadway widening and overlay, culvert replacements, construction workspaces, tree clearing, and temporary erosion and sediment controls (Attachment D). The Roadway Improvements do not propose permanent fill above the existing floodplain elevation; therefore, no adverse effects to the floodplain are anticipated. A No-Rise Certificate has been completed by the engineering firm (Hammontree & Associates, LTD) and included as Attachment E.</p>
<p>The Roadway Improvements permitting and coordination table along with permit approvals received to date are included in Attachment F. Outstanding permit approvals will be submitted to the Doddridge County Floodplain Manager upon receipt.</p>

Doddridge County Commercial/Industrial
Floodplain Development Permit Application

Proposed Development:

Please check all elements of the proposed project that apply.

DESCRIPTION OF WORK (CHECK ALL APPLICABLE BOXES)

A. STRUCTURAL DEVELOPMENT

<u>ACTIVITY</u>	<u>STRUCTURAL TYPE</u>
<input type="checkbox"/> New Structure	<input type="checkbox"/> Residential (1 – 4 Family)
<input type="checkbox"/> Addition	<input type="checkbox"/> Residential (more than 4 Family)
<input type="checkbox"/> Alteration	<input type="checkbox"/> Non-residential (floodproofing)
<input type="checkbox"/> Relocation	<input type="checkbox"/> Combined Use (res. & com.)
<input type="checkbox"/> Demolition	<input type="checkbox"/> Replacement
<input type="checkbox"/> Manufactured/Mobil Home	

B. OTHER DEVELOPMENT ACTIVITIES:

- Fill Mining Drilling Pipelining
- Grading
- Excavation (except for STRUCTURAL DEVELOPMENT checked above)
- Watercourse Alteration (including dredging and channel modification)
- Drainage Improvements (including culvert work)
- Road, Street, or Bridge Construction
- Subdivision (including new expansion)
- Individual Water or Sewer System
- Other (please specify)

Doddridge County Commercial/Industrial
Floodplain Development Permit Application

Development Site/Property Information:

Please provide physical description of the site/property, along with pertinent ownership (surface and mineral rights) data as applicable. Attach appropriate maps from the WV Flood Tool showing location of proposed development. Use additional copies of this page if development spans multiple property boundaries. Designate each property by number (i.e. Property 1 of 1, Property 2 of 7, etc.)

Property Designation: 1 of 1

Site/Property Information:		
Legal Description: Sugar Run Road (CR-52) Roadway Improvements		
Physical Address/911 Address: County Route 52		
Decimal Latitude/Longitude: 39.204838		
DMS Latitude/Longitude: -80.864770		
District: 7 (Southwest)	Map: 4	Parcel: N/A
Land Book Description: N/A		
Deed Book Reference: N/A		
Tax Map Reference: N/A		
Existing Buildings/Use of Property: Sugar Run Road (CR-52)		

Floodplain Location Data: (to be completed by Floodplain Manager or designee)			
Community:	Number:	Panel:	Suffix:
Location (Lat/Long): <i>See Attached Maps</i>		Approximate Elevation:	
		Estimated BFE:	
Is the development in the floodway? <input type="checkbox"/> Yes <input type="checkbox"/> No		Is the development in the floodplain? <input type="checkbox"/> Yes <input type="checkbox"/> No Zone: _____	
Notes:			

Doddridge County Commercial/Industrial
Floodplain Development Permit Application

Property Owner Data:

Please provide data on current site/property landowner(s), both surface and mineral rights (as applicable). Use additional copies of this page as needed. Designate each page in relation to each property listed above.

Property Designation: <u> 1 </u> of <u> 1 </u>

Property Owner Data:		
Name of Primary Owner (PO): Sugar Run Road (CR-52)		
PO Address: N/A		
City: N/A	State: N/A	Zip: N/A
PO Primary Phone: N/A		
PO Secondary Phone: N/A		
PO Primary Email: N/A		

Surface Rights Owner Data:		
Name of Primary Owner (PO): See Table of Adjacent Property Owners (Attachment B)		
PO Address:		
City:	State:	Zip:
PO Primary Phone:		
PO Secondary Phone:		
PO Primary Email:		

Mineral Rights Owner Data: (As Applicable)		
Name of Primary Owner (PO): N/A		
PO Address: N/A		
City: N/A	State: N/A	Zip: N/A
PO Primary Phone: N/A		
PO Secondary Phone: N/A		
PO Primary Email: N/A		

Doddridge County Commercial/Industrial
Floodplain Development Permit Application

Contractor Data:

Please provide all pertinent data for contractors and sub---contractors that may be participating in this project. Use additional copies of this page as needed. Designate each page in relation to each property listed above.

Property Designation: 1 of 1

Contractor/Sub-Contractor (C/SC) Information:

C/SC Company Name: One contractor to be selected from the following: JF Allen (WV000376), Doss Enterprises (WV027217), Great Lakes (WV049648), High Point Construction Group (WV026530), Independence Excavating (WV041715), Kanawha Stone Company (WV006094), OH/WV Excavating (WV005911), Shallenberger Construction (WV051031), Wolfe's Excavating (WV043545), Sheckler's Excavating (WV058244), Preston Contractors Inc (WV001285), Mountaineer Contractors Inc (WV001286), Trumbull Corporation (WV003212), Lindy Paving Inc (WV030737), RDR Energy Resources LLC (WV047502), Jennings's Excavating Inc (WV024892), Entegra Energy Solutions LLC (WV054560).		
C/SC Company Name: See Above		
C/SC WV License Number: See Above		
C/SC FEIN: TBD	C/SC DUNS: TBD	
Local C/SC Point of Contact (POC): TBD		
Local C/SC POC Title: TBD		
C/SC Mailing Address: TBD		
City: TBD	State: TBD	Zip--Code: TBD
Local C/SC Office Phone: TBD		
Local C/SC POC Phone: TBD		
Local C/SC POC E--Mail: TBD		

Engineer Firm Information:

Engineer Firm Name: Hammontree & Associates, LTD.		
Engineer WV License Number: 17912		
Engineer Firm FEIN: N/A	Engineer Firm DUNS: N/A	
Engineer Firm Primary Point of Contact (POC): Michael Thompson		
Engineer Firm Primary POC Title: Project Manager		
Engineer Firm Mailing Address: 104 Newell Avenue		
City: St. Clairsville	State: OH	Zip--Code: 43950
Engineer Firm Office Phone: 740-695-7237		
Engineer Firm Primary POC Phone: 740-275-1576		
Engineer Firm Primary POC E--Mail: mthompson@hammontree-engineers.com		

Adjacent and/or Affected Landowners Data

Please provide data for all adjacent and/or affected surface owners (both up and down stream) whose property may be impacted by proposed development as demonstrated by a floodplain study or survey. Use additional copies of this page as needed.

Adjacent Property Owner Data: Upstream		
Name of Primary Owner (PO): See Table of Adjacent Property Owners (Attachment B)		
Physical Address:		
City:	State:	Zip:
PO Primary Phone:		
PO Secondary Phone:		
PO Primary Email:		

Adjacent Property Owner Data: Upstream		
Name of Primary Owner (PO):		
Physical Address:		
City:	State:	Zip:
PO Primary Phone:		
PO Secondary Phone:		
PO Primary Email:		

Adjacent Property Owner Data: Downstream		
Name of Primary Owner (PO):		
Physical Address:		
City:	State:	Zip:
PO Primary Phone:		
PO Secondary Phone:		
PO Primary Email:		

Adjacent Property Owner Data: Downstream		
Name of Primary Owner (PO):		
Physical Address:		
City:	State:	Zip:
PO Primary Phone:		
PO Secondary Phone:		
PO Primary Email:		

Site Plan

A Site Plan is an accurate and detailed map of the proposed development for this project. It shows the size, shape, location and special features of the project property, and the size and location of any development planned to the property, especially as that development will impact the floodplain and/or floodway. Site plans show what currently exists on the project property, and any changes or improvements you are proposing to make. **A certified and licensed engineering firm should complete site plans.**

A SITE PLAN MUST CONTAIN THE FOLLOWING INFORMATION:

1. Legal description of the parcel, north arrow and scale
2. All property lines and their dimensions
3. Names of adjacent roads, location of driveways
4. Location of sloughs, tributaries, streams, rivers, wetlands, ponds, and lakes, with setbacks indicated, and including FEMA floodplain data based on most updated FIRM.
5. Location, size, shape of all buildings, existing and proposed, with elevation of lowest floor indicated.
6. Location and dimensions of existing or proposed on-site sewage systems.
7. Location of all propane tanks, fuel tanks or other liquid storage tanks whether above ground or below ground level.
8. Location and dimensions of any proposed pipeline placement(s) into floodplain/floodway.
9. Location and dimensions of any roadway development into floodplain/floodway. *(Includes initial development access roads)*
10. Location and dimensions of any bridge and/or culvert development into floodplain/floodway.
11. Location and dimensions of any storage yard or facility into the floodplain/floodway.
12. Location of any existing utilities and/or proposed utility placement and/or displacement.
13. Location, dimensions and depth of any existing or proposed fill on site.
14. A survey showing the **existing ground elevations** of at least location on the building site. **ELEVATION NOTE:** All vertical datum will reference either NGVD 29 or NAVD 88. Assumed datum will not be acceptable unless the property is located in an area where vertical datum has not been published. For those areas where vertical datum has not been established, a site plan with contours, elevations using assumed datum, high water marks and existing water levels of sloughs, rivers, lakes or streams and proposed lowest floor elevation.

Applicant

Please read print name, sign and date below:

- I certify that I am authorized to submit this application for the primary project developer.
- I certify that the information included in this application is to the best of my knowledge true and complete.
- I certify that all required Federal, State, and local permits required by law and/or ordinance for the above described development of this project have will be properly attained, are current and valid, and must be presented prior to a Doddridge County Floodplain Permit being issued.
- I understand that if in the course of the development project additional permits become required that were not needed during the initial proposal, the primary developer must notify the Doddridge County Floodplain Manager within 48 hours of such need, and that a "Stop Work" order may be issued for all project work directly impacting the floodplain or floodway, until such time the required additional permits are acquired.
- I understand that once the floodplain permit is submitted, the application will be entered into official public record at the next regularly scheduled Doddridge County Commission meeting after the date of submittal.
- I understand that from the date of submittal of the fully completed permit application, the Doddridge County Floodplain Manager has ninety (90) days to make a determination to either grant or deny said permit application. During this approval period, the Doddridge County Floodplain Manager may, at his or her discretion, conduct a review and/or additional study of provided documentation by means of an independent engineering firm. All costs associated with said review and/or study must be reimbursed to the County before issuance of approved permit.
- I understand that during the approval period, the Doddridge County Floodplain Manager of designee may at his or her discretion conduct site visits and document conditions of proposed development pursuant to the permit application.
- I understand that once the Floodplain Permit is granted, the permit will be entered into official public record. Appeals to the permit may be made no later than twenty (20) days after said issuance. If a valid appeal is submitted, as determined by the Doddridge County Floodplain Manager, a "Stop Work" order will be issued for all project development directly involving the floodplain or floodway. A public hearing by the Doddridge County Appeals Board will be scheduled no less than ten (10) days after the next regularly scheduled Doddridge County Commission meeting.
- I understand that all decisions of the Doddridge County Appeals Board shall be final.
- **I understand issuance of a Floodplain Permit authorizes me to proceed with construction as proposed.**
- In signing this application, the primary developer hereby grants the Doddridge County Floodplain Manager or designee the right to enter onto the above---described location to inspect the development work proposed, in progress, and/or completed.
- I understand that if I do not follow exactly the site---plan submitted and approved by this permit that a "Stop Work" order may be issued by the Doddridge County Floodplain Manager and that I must stop all construction immediately until discrepancies of actual work vs. proposed work is resolved.

Applicant Signature: Daniel Bulian Date: 02/25/2021

Applicant Printed Name: Daniel J Bulian



ATTACHMENT B
TABLE OF ADJACENT PROPERTY OWNERS

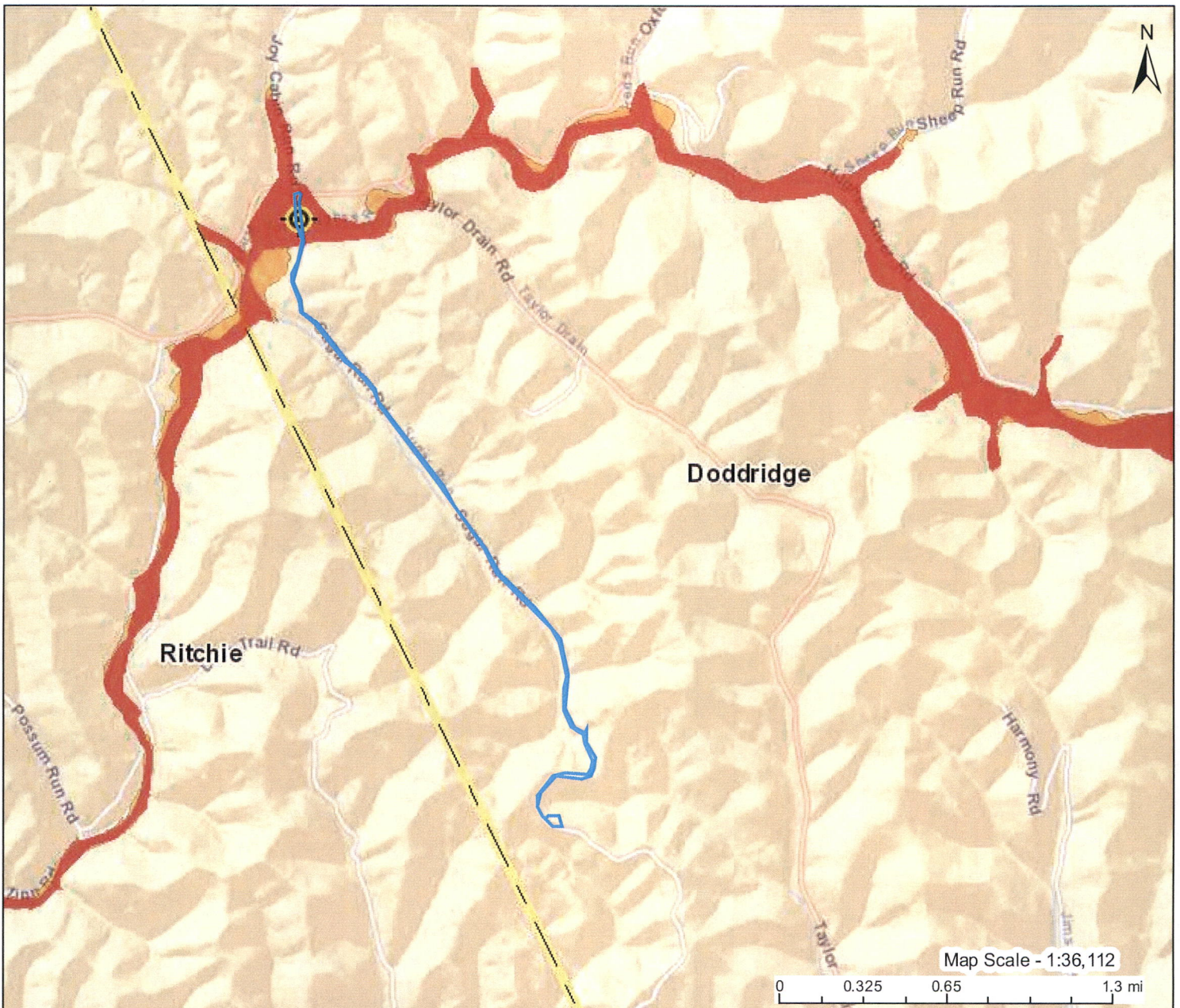
Table of Adjacent Property Owners

PROPERTY OWNER	PARCEL ID NUMBER	E-911 ADDRESS	PROPERTY OWNER ADDRESS	IN FLOODPLAIN
WEBB JAMES E (LIFE)	09-07-0004-0016-0000	2315 JOY CABIN RUN RD, WEST UNION, WV, 26456	813 CABIN RUN RD, WEST UNION, WV 26456	Yes
LEGGETT JUANITA M	09-07-0004-0014-0000	6199 OXFORD RD, WEST UNION, WV, 26456 4597 JOY CABIN RUN RD, WEST UNION, WV, 26456 5819 OXFORD RD, WEST UNION, WV, 26456 5763 OXFORD RD, WEST UNION, WV, 26456 4613 JOY CABIN RUN RD, WEST UNION, WV, 26456 6131 OXFORD RD, WEST UNION, WV, 26456 5735 OXFORD RD, WEST UNION, WV, 26456 5819 OXFORD RD, WEST UNION, WV, 26456 5761 OXFORD RD, WEST UNION, WV, 26456 5805 OXFORD RD, WEST UNION, WV, 26456	6131 OXFORD RD, WEST UNION, WV 26456	Yes
WINEMILLER RICKY BLAIN	09-07-0004-0010-0001	14 SUGAR RUN RD, WEST UNION, WV 26456 5732 OXFORD RD, WEST UNION, WV, 26456 4511 SUGAR RUN RD, WEST UNION, WV, 26456 18 SUGAR RUN RD, WEST UNION, WV, 26456	14 SUGAR RUN RD, WEST UNION, WV 26456	Yes
OXFORD M E CHURCH	09-07-0004-0012-0000	5715 OXFORD RD, WEST UNION, WV, 26456	Route 23	Yes
OXFORD COMMUNITY BLDG	09-07-0004-0019-0001	5689 OXFORD RD, WEST UNION, WV, 26456	Route 23	Yes
WEBB JAMES E	09-07-0004-0010-0000	4469 SUGAR RUN RD, WEST UNION, WV, 26456 4475 SUGAR RUN RD, WEST UNION, WV, 26456	813 CABIN RUN RD, WEST UNION, WV 26456	Yes
WHITEHAIR GREGORY H	09-07-0004-0025-0001	5934 OXFORD RD, WEST UNION, WV, 26456	GREG WHITEHAIR, 1602 DOTTERER'S RUN, CHARLESTON, SC 29414	Yes
STANSBERRY GEORGE J	09-07-0004-0020-0000	NO E-911 ADDRESS FOUND AT THIS PARCEL	290 SUGAR RUN RD, WEST UNION, WV 26456	Yes
STANSBERRY GEORGE J	09-07-0004-0021-0000	290 SUGAR RUN RD, WEST UNION, WV 26456 4219 SUGAR RUN RD, WEST UNION, WV 26456 4329 SUGAR RUN RD, WEST UNION, WV 26456 4202 SUGAR RUN RD, WEST UNION, WV 26456	290 SUGAR RUN RD, WEST UNION, WV 26456	Yes
CNG TRANSMISSION CORP	09-07-0004-0019-0003	5645 OXFORD RD, WEST UNION, WV, 26456	DOMINION TRANSMISSION, 625 LIBERTY AV MAIL DROP 18-01, PITTSBURGH, PA 15221	Yes



ATTACHMENT C
LOCATION EXHIBIT

Sugar Run Road (CR-52) Location Map



This map is not the official regulatory FIRM or DFIRM. Its purpose is to assist with determining potential flood risk for the selected location.

H I G H R I S K		Regulatory Floodway	• Flood Info Location Map created on 2/24/2021 User Notes Flood Hazard Area Location is WITHIN the FEMA 100-year floodplain. Flood Zone A Stream Np1 Watershed (HUC8) Little Kanawha (5030203) Flood Height Flood Height 6b None Water Depth About 0.0 ft (Source: HAZUS) Elevation 811.8 ft (Source: SAMS 2003) (NAVD88) Community & ID Doddridge County (ID: 540024) FEMA Map & Date 54017C0225C; Effective Date: 10/4/2011 Location (lat, long) (39.204808, -80.864754) (WGS84) Parcel ID 09-07-0004-0019-0003 E-911 Address 5645 OXFORD RD, WEST UNION, WV, 26456
	Zone AE	1-Percent-Annual-Chance Flood Hazard Area With Base Flood Elevation (BFE)	
	Zone A	1-Percent-Annual-Chance Flood Hazard Area Without BFE (may have Advisory Flood Heights)	
	Advisory	1-Percent-Annual-Chance Future Conditions (High Risk Advisory Flood Zones)	
Download the Full Legend for all flood tool symbols https://www.mapwv.gov/flood/map/docs/wv_flood_tool_legend.pdf			
Disclaimer: The online map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. Refer to the official Flood Insurance Study (FIS) for detailed flood elevation data in flood profiles and data tables. WV Flood Tool (https://www.MapWV.gov/flood) is supported by FEMA, WV NFIP Office, and WV GIS Technical Center.			



ATTACHMENT D
SITE PLANS

Roadway Summary											
	Sta. Start	Sta. End	Avg Width (FT)	Total Area (SY)	#25 Rosamilling (SY)	401 AC Base Course (Ton)	401 AC Wearing Course	1 1/2" Soil Cement @ 2% Cement (SY)	#407 Lick Coat (Gal)	Maintenance Stone (Ton)	#617 Shoulder Stone (Ton)
CR-52	0+00	6+37	24.1	1,654	1,654	205	136	1,654	83		29
Within Drainage Easement											
Bridges	6+17	6+87	14.7	114	114	14	9		6		3
Within Drainage Easement	6+87	9+45	13.3	234	234	29	19	234	13		7
Outside Drainage Easement	9+45	118+00	19.4	23,612		2,922	1,948	23,612	1,181		507
Stone Maintenance	118+00	126+70	15.8	1,524			136			671	40
Totals				2,002		3,170	2,239	25,500	1,781	671	547

0 1'
 IF SCALE BAR DOES NOT MEASURE 1" DRAWING NOT PLOTTED TO SCALE.

HAMMONTREE & ASSOCIATES, LTD.
 ENGINEERS, PLANNERS, SURVEYORS
 10 NEWELL AVENUE
 SUITE 200
 CHARLOTTE, NC 28202
 www.hammontree.com

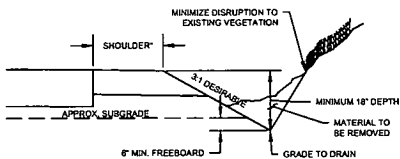


DESIGN BY: _____	DATE: _____	DESC: _____
DRWN BY: _____	DATE: _____	DESC: _____
CHK'D BY: _____	DATE: _____	DESC: _____
DATE: 02/08/2020		

QUANTITIES
 SUGAR RUN ROAD (CR-52) ROADWAY IMPROVEMENTS
 ANTERO RESOURCES
 DISTRICT 4
 DOODRIDGE COUNTY, WEST VIRGINIA

***NOTES**

- WIDTH, SLOPE, AND MATERIAL AS SPECIFIED ON TYPICAL SECTIONS AND SHOULDER RECONSTRUCTION DETAIL.
 - FINAL QUANTITY WILL DOUBLE TO ALLOW FOR CLEANING PRE AND POST PDR.
- *SEE QUANTITY TABLES AND PLANS FOR LOCATIONS



SCHEDULE FOR ITEM 229 (Ditch Cleanout)
SUGAR RUN ROAD (CR-52)

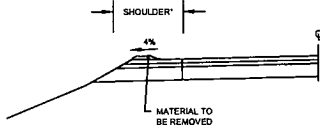
STATION	TO	STATION	RT./LT.	LENGTH (FT.)	AVG. WIDTH (FT.)	Temporary Seeding (S.Y.)
0+00	-	0+80	LT	80	3	27
0+95	-	4+10	LT	315	3	105
4+30	-	5+40	LT	110	4	49
7+50	-	16+35	LT	885	3	295
16+60	-	22+00	LT	540	3	180
22+40	-	28+75	LT	3650	3	1217
29+25	-	35+45	LT	720	3	240
37+25	-	44+38	LT	713	3	238
44+57	-	53+10	LT	853	4	379
53+30	-	55+92	LT	262	3	87
56+20	-	70+10	LT	1390	3	463
70+55	-	71+10	LT	55	3	18
71+15	-	80+25	LT	910	3	303
80+60	-	92+85	LT	1225	3	408
93+25	-	103+10	LT	985	3	328
103+50	-	112+10	LT	860	3	287
112+35	-	115+90	LT	355	3	118
116+10	-	117+00	LT	90	3	30
SUBTOTAL				15998		4773

DITCH CLEANOUT
N.T.S.

SCHEDULE FOR ITEM 229 (LINEAR GRADING)
SUGAR RUN ROAD (CR-52)

STATION	TO	STATION	RT./LT.	LENGTH (FT.)	AVG. WIDTH (FT.)	Temporary Seeding (S.Y.)
117+00	-	118+00	LT	100	4	44
SUBTOTAL				100		44

STATION	TO	STATION	RT./LT.	LENGTH (FT.)	AVG. WIDTH (FT.)	Temporary Seeding (S.Y.)
1+00	-	2+60	RT	160	4	71
2+75	-	3+65	RT	90	4	40
3+80	-	5+25	RT	145	4	64
9+00	-	13+20	RT	420	4	191
13+55	-	16+30	RT	275	4	122
16+60	-	18+25	RT	165	4	73
19+07	-	20+60	RT	153	4	68
20+80	-	29+30	RT	850	4	378
29+65	-	31+60	RT	195	4	87
31+85	-	37+20	RT	535	4	238
38+00	-	42+05	RT	315	4	140
42+40	-	43+20	RT	80	4	36
44+75	-	45+20	RT	45	4	20
48+20	-	50+90	RT	270	4	120
51+80	-	56+30	RT	450	4	200
56+60	-	59+00	RT	240	4	107
60+00	-	69+68	RT	968	4	430
70+50	-	80+90	RT	1040	4	462
83+95	-	93+20	RT	925	4	411
93+95	-	98+40	RT	445	4	198
99+20	-	102+10	RT	60	4	27
102+80	-	103+70	RT	90	4	40
SUBTOTAL				7926		3523



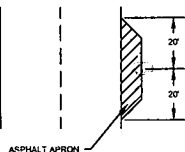
***NOTES**

- WIDTH, SLOPE, AND MATERIAL AS SPECIFIED ON TYPICAL SECTIONS AND SHOULDER RECONSTRUCTION DETAIL.
- *SEE QUANTITY TABLES AND PLANS FOR LOCATIONS

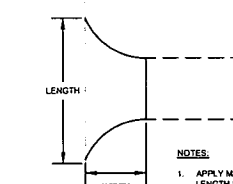
LINEAR GRADING (DAYLIGHT SHOULDER)
N.T.S.

MAILBOX APPROACHES
SUGAR RUN ROAD (CR-52)

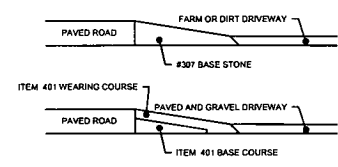
RT./LT.	Station	Length FT.	Width FT.	Total Area S.Y.	Aggregate Base (Tons)
RT	14+00	40	3	13	2.2
RT	21+30	40	3	13	2.2
RT	29+68	40	3	13	2.2
RT	42+25	40	3	13	2.2
RT	52+68	40	3	13	2.2
RT	56+45	40	3	13	2.2
RT	115+52	40	3	13	2.2
Totals		91		91	15.6



MAILBOX APPROACHES TYPICAL
NOT TO SCALE



- NOTES**
- APPLY MAINLINE PAVEMENT TO LENGTH SPECIFIED IN THE TABLES. NO MORE THAN 10' FROM ROADWAY CENTER LINE.



Driveway Summary
CR-52

Start Sta.	End Sta.	Existing Surface	Length (FT.)	Width (FT.)	Area (S.Y.)	Item 307 Aggregate (Ton)	Base Asphalt (Ton)	Wearing Asphalt (Ton)	Tack Coat (Gal)
0+80	0+95	LT Farm	15	5	8.3	2.3			
4+10	4+30	LT Farm	20	5	11.1	3.1			
16+35	16+60	LT Farm	25	5	13.9	3.9			
22+40	22+40	LT Stone	40	5	22.2	7.7	2.5	1.9	0.6
29+25	29+25	LT Farm	50	5	27.8				
35+45	37+25	LT Stone	80	5	44.4		4.9	3.7	1.1
44+38	44+57	LT Farm	19	5	10.6	2.9			
53+10	53+30	LT Stone	20	5	11.1		1.2	0.9	0.3
55+92	56+20	LT Stone	28	5	15.6		1.7	1.3	0.4
62+70	63+85	LT Farm	15	5	8.3	2.3			
69+75	70+10	LT Farm	35	5	19.4	5.4			
71+00	71+15	LT Stone	15	5	8.3		0.9	0.7	0.2
80+25	80+60	LT Stone	35	5	19.4		2.2	1.6	0.5
92+85	93+25	LT Farm	40	5	22.2	6.7			
103+10	103+50	LT Farm	40	5	22.2	6.7			
112+10	112+35	LT Stone	25	5	13.9		1.5	1.2	0.3
115+40	116+07	LT Farm	67	5	37.2	10.3			
Totals			784		96.0	48.9	35.2	10.6	

DRIVEWAY AND SIDE ROAD TREATMENT TYPICAL
NOT TO SCALE

1" = 40' SCALE BAR DOES NOT MEASURE 1" DRAWING NOT PLOTTED TO SCALE

HAMMONTREE & ASSOCIATES, LTD.
INCORPORATED
ENGINEERS, PLANNERS, SURVEYORS
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ST. PAUL, MN 55108
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Antero

SUGAR RUN ROAD (CR-52) ROADWAY IMPROVEMENTS
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DISTRICT 4
DODDRIEGE COUNTY, WEST VIRGINIA

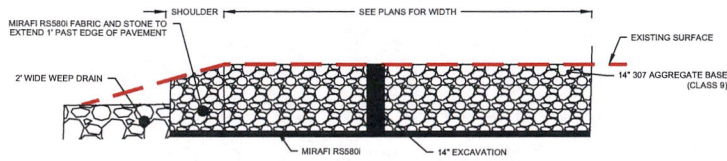
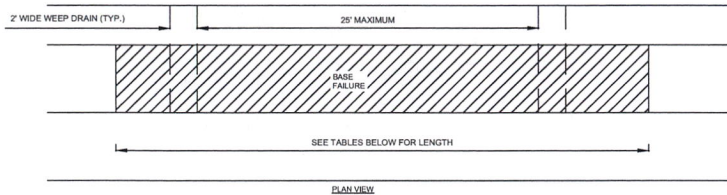
DESIGN BY: JAGT
DRAWN BY: JAGT
CHECKED BY: JAGT
DATE: 06/08/2020

REV BY: JAGT
REV BY: JAGT
REV BY: JAGT
REV BY: JAGT
DATE: 06/08/2020

TYPICAL SECTIONS

6

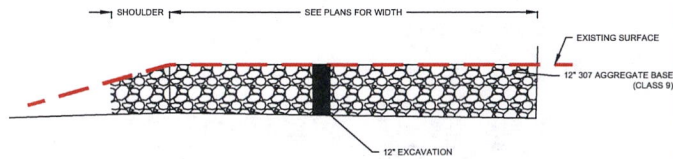
PLOT DATE: June 8, 2020



NOTES:

- TRENCH EXCAVATION SHALL BE SHAPED TO FORM A SQUARE OR RECTANGLE WHOSE SIDES ARE PARALLEL WITH AND AT RIGHT ANGLES TO THE DIRECTION OF TRAFFIC. PAVEMENT SHALL BE SAW CUT AND SIDES OF TRENCH EXCAVATED TO AS NEAR VERTICAL AS POSSIBLE. ALL LOOSE MATERIAL SHALL BE REMOVED FROM THE TRENCH BOTTOM PRIOR TO PLACING FABRIC.
- THICKNESS OF STONE, TO BE AS DIRECTED BY THE ENGINEER (ESTIMATED AT 12" OF #1 & 2 STONE, AND 2" 307 AGGREGATE BASE)
- WEEP DRAINS SHALL BE LOCATED AT ALL LOW POINTS IN TRENCH. MAXIMUM SPACING BETWEEN WEEP DRAINS SHALL BE TWENTY FIVE (25) FEET. DRAINS MAY BE SKEWED WHERE NECESSARY TO MAINTAIN SLOPE AWAY FROM THE TRENCH AREA.
- WHEEL PATH BASE FAILURE AREAS ARE TO BE EXCAVATED TO A GREATER DEPTH (MAXIMUM OF 36") IF SOIL AT 14" DOES NOT PASS A PROOF ROLL WITH A FULLY LOADED STONE TRUCK. #1 & 2 STONE WILL BE USED TO FILL IN THE ADDITIONAL DEPTH EXCAVATED.

WHEEL PATH BASE FAILURE REPAIR
N.T.S.



NOTES:

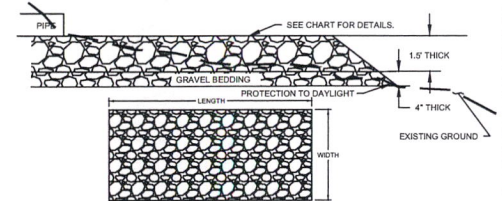
- TRENCH EXCAVATION SHALL BE SHAPED TO FORM A SQUARE OR RECTANGLE WHOSE SIDES ARE PARALLEL WITH AND AT RIGHT ANGLES TO THE DIRECTION OF TRAFFIC. PAVEMENT SHALL BE SAW CUT AND SIDES OF TRENCH EXCAVATED TO AS NEAR VERTICAL AS POSSIBLE. ALL LOOSE MATERIAL SHALL BE REMOVED FROM THE TRENCH BOTTOM PRIOR TO PLACING FABRIC.
- THICKNESS OF STONE, TO BE AS DIRECTED BY THE ENGINEER (ESTIMATED AT 12" 307 AGGREGATE BASE)

NON- WHEEL PATH BASE FAILURE REPAIR
N.T.S.

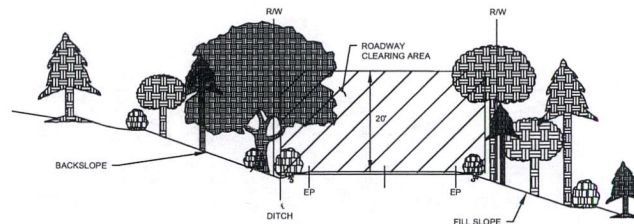
ROCK OUTLET PROTECTION						
Culvert #	Culvert Size IN.	Length FT.	Width FT.	Rock Size	Depth FT.	Rip Rap Ton
1	18" CPP	7	5.5	4-12"	1.5	4.3
2	18" CPP	7	5.5	4-12"	1.5	4.3
3	18" CPP	7	5.5	4-12"	1.5	4.3
6	18" CPP	8	5.5	4-12"	1.5	3.7
9	18" CPP	5.5	5.5	4-12"	1.5	3.4
10	18" CPP	4.5	5.5	4-12"	1.5	2.8
11	18" CPP	3.5	5.5	4-12"	1.5	2.1
12	36" CPP	7	5.5	4-12"	1.5	4.3
14	24" CPP	7	5.5	4-12"	1.5	4.3
15	24" CPP	6	6	4-12"	1.5	3.7
16	18" CPP	4	5.5	4-12"	1.5	2.4
17	18" CPP	4.5	5.5	4-12"	1.5	2.8
19	18" CPP	4	5.5	4-12"	1.5	2.4
20	18" CPP	6	5.5	4-12"	1.5	3.7
21	24" CPP	5	6	4-12"	1.5	3.3
22	18" CPP	3.5	5.5	4-12"	1.5	2.1
23	24" CPP	4.5	6	4-12"	1.5	3.0
24	24" CPP	5.5	6	4-12"	1.5	3.7
25	18" CPP	5.5	5.5	4-12"	1.5	3.4
26	18" CPP	6	5.5	4-12"	1.5	3.7
27	24" CPP	7	6	4-12"	1.5	4.7
TOTALS						72.4

NOTES:

- SUBGRADE FOR THE FILTER OR BEDDING AND RIPRAP SHALL BE PREPARED TO THE REQUIRED LINES AND GRADES AS SHOWN ON THE PLAN. THE SUBGRADE SHALL BE CLEARED OF ALL TREES, STUMPS, ROOTS, SOIL, LOOSE ROCK, OR OTHER MATERIAL.
- RIPRAP SHALL CONFORM TO THE GRADING LIMITS AS SHOWN ON THE PLAN.
- GEOTEXTILE SHALL BE SECURELY ANCHORED ACCORDING TO MANUFACTURERS' RECOMMENDATIONS.
- GEOTEXTILE SHALL BE LAID WITH THE LONG DIMENSION PARALLEL TO THE DIRECTION OF FLOW AND SHALL BE LAID LOOSELY BUT WITHOUT WRINKLES AND CREASES. WHERE JOINTS ARE NECESSARY, STRIPS SHALL BE PLACED TO PROVIDE A 12-IN. MINIMUM OVERLAP, WITH THE UPSTREAM STRIP OVERLAPPING THE DOWNSTREAM STRIP.
- RIPRAP MAY BE PLACED BY EQUIPMENT BUT SHALL BE PLACED IN A MANNER TO PREVENT SLIPPAGE OR DAMAGE TO THE GEOTEXTILE.
- RIPRAP SHALL BE PLACED BY A METHOD THAT DOES NOT CAUSE SEGREGATION OF SIZES. EXTENSIVE PUSHING WITH A DOZER CAUSES SEGREGATION AND SHALL BE AVOIDED BY DELIVERING RIPRAP NEAR ITS FINAL LOCATION WITHIN THE CHANNEL.
- CONSTRUCTION SHALL BE SEQUENCED SO THAT OUTLET PROTECTION IS PLACED AND FUNCTIONAL WHEN THE STORM DRAIN, CULVERT, OR OPEN CHANNEL ABOVE IT BECOMES OPERATIONAL.
- ALL DISTURBED AREAS WILL BE VEGETATED AS SOON AS PRACTICAL.
- CULVERT SLOPE MAY BE FIELD ADJUSTED WITH ENGINEER'S APPROVAL. (SLOPE SHALL NOT BE LESS THAN THE MINIMUM SLOPE SHOWN IN PROPOSED CULVERT DETAIL OR NOTED ON PLANS.)
- LENGTH OF OUTLET PROTECTION SHALL EXTEND BEYOND THE TOE OF ANY FILL SLOPE SO AS TO DISCHARGE ONTO UNDISTURBED GROUND.
- ALL DISTURBED AREAS WILL BE SEEDED & MULCHED AS SOON AS PRACTICAL.



ROCK OUTLET PROTECTION
NOT TO SCALE



- ALL TREES AND BRUSH WITHIN THE ROADWAY CLEARING AREA WILL BE REMOVED AS SHOWN IN DETAIL.
- IN AREAS WHERE ADEQUATE SIGHT DISTANCE IS NOT MET, TREE TRIMMING MAY TAKE PLACE UP TO THE RIGHT-OF-WAY LIMITS. (SEE TABLE FOR LOCATIONS)
- TREE AND BRUSH ARE TO BE TRIMMED BACK TO EITHER THE EDGE OF SHOULDERS OR RIGHT-OF-WAY (FOR SITE DISTANCE IMPROVEMENT) ACCORDING TO TABLES BELOW.
- ALL TRIMMED TREES AND BRANCHES SHALL BE CLEARED AND HAULED OFF-SITE IMMEDIATELY AFTER CLEARING/TRIMMING TO PREVENT TRAFFIC DISTURBANCES.

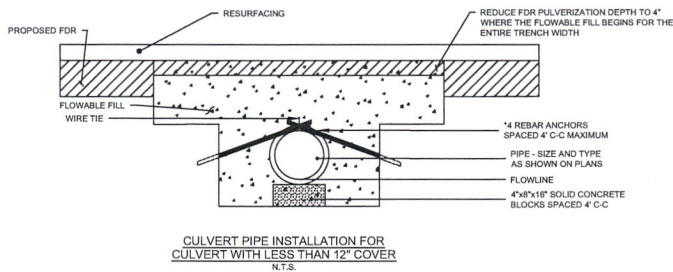
CLEARING LIMITS TYPICAL
N.T.S.

HAMMOND TREE & ASSOCIATES, LTD.
ENGINEERS, PLANNERS, SURVEYORS
1000 W. HANCOCK BLVD.
ST. CHARLES, MO 63043
PH: (636) 938-2277
WWW.HAMMONDTREE.COM

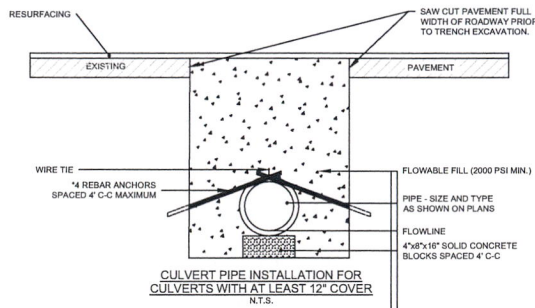


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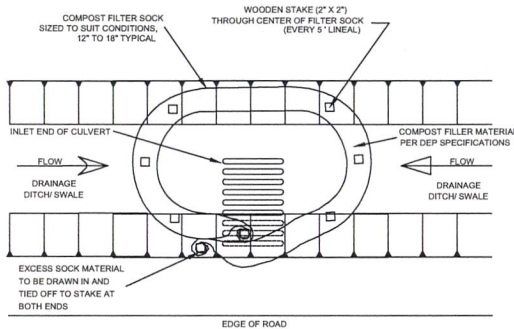
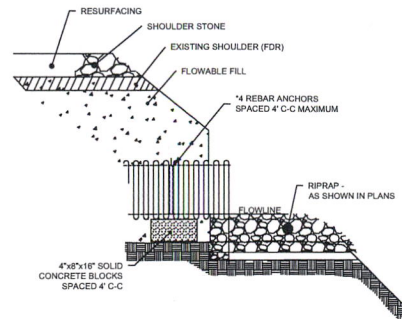
TYPICAL SECTIONS
SUGAR RUN ROAD (CR-52) ROADWAY IMPROVEMENTS
ANTERO RESOURCES
DISTRICT 4, WEST VIRGINIA
DODDGE COUNTY, WEST VIRGINIA



CULVERT PIPE INSTALLATION FOR
CULVERTS WITH LESS THAN 12" COVER
N.T.S.

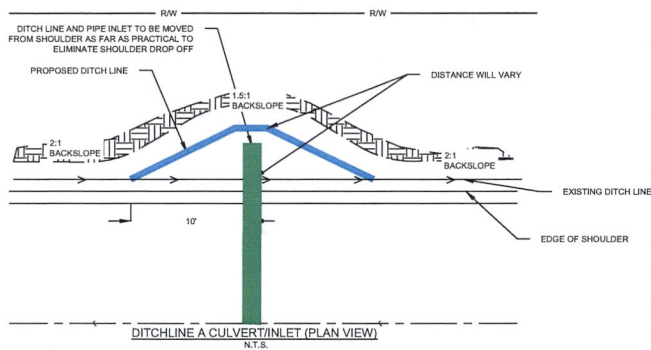


CULVERT PIPE INSTALLATION FOR
CULVERTS WITH AT LEAST 12" COVER
N.T.S.



NOTES:
COMPOST MATERIAL TO BE DISPERSED ON SITE,
AS DETERMINED BY ENGINEER.

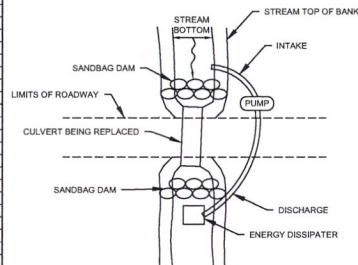
FILTER SOCK AROUND CULVERT INLETS
NOT TO SCALE



DITCHLINE A CULVERT INLET (PLAN VIEW)
N.T.S.

Culvert Summary			
Culvert	Station	Proposed Structure	Length (FT)
1	0+00	18" CPP	65
2	13+05	18" CPP	29
3	17+57	18" CPP	29
4	17+66	6" STEEL CASING	25
6	22+42	18" CPP	28
8	29+00	30" CPP	26
9	39+27	18" CPP	34
10	40+62	18" CPP	28
11	41+63	18" CPP	33
12	44+30	30" CPP	30
13	49+10	18" CPP	22
14	55+30	24" CPP	32
15	63+00	24" CPP	23
16	67+00	18" CPP	28
17	70+18	18" CPP	33
19	75+00	18" CPP	23
20	78+94	18" CPP	39
21	80+17	24" CPP	41
22	84+11	18" CPP	26
23	86+18	24" CPP	24
24	91+73	24" CPP	33
25	94+30	18" CPP	32
26	98+92	18" CPP	30

Driveway Culvert Summary			
Culvert	Station	Proposed Structure	Length (FT)
A	1+85	15" CPP	20
B	11+50	15" CPP	42

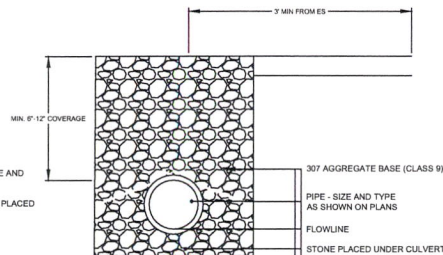


1. ALTERNATE METHOD OF CULVERT REPLACEMENT IN FLOWING MAY BE USED WITH NOTICE AND APPROVAL OF ENGINEER AT LEAST 1 WEEK PRIOR TO REPLACEMENT.
2. SANDBAGS AND ENERGY DISSIPATER MAY BE REMOVED ONCE FLOWABLE FILL HAS BEEN PLACED AND FLOW RESTORED TO THE CULVERT TO ALLOW TRAFFIC TO PASS.

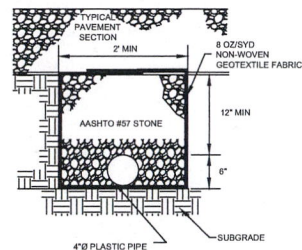
CULVERT REPLACEMENT IN FLOWING STREAM

SEE PLANS FOR INDIVIDUAL CROSS SECTIONS
FOR INVERT ELEVATIONS AND SLOPES SEE INDIVIDUAL SHEETS

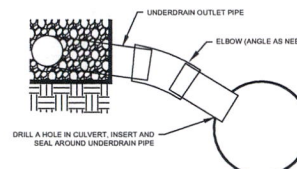
1. SAW CUT PAVEMENT ENTIRE TRENCH WIDTH PRIOR TO INSTALLATION.
2. PLACE STEEL PLATES OVER THE NEWLY PLACED FLOWABLE FILL UNTIL CONCRETE IS CURED.
3. REDUCE FOR PULVERIZATION DEPTH TO 4" WHERE FLOWABLE FILL BEGINS.



DRIVEWAY CULVERT PIPE INSTALLATION
N.T.S.

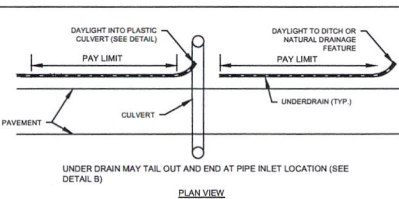


- NOTE:
- PLASTIC PIPE TO BE PERFORATED SCHEDULE 40 PVC.
 - PLACE PERFORATIONS DOWN TO ALLOW WATER TO ENTER PIPE.



OUTLET INTO PLASTIC CULVERT DETAIL
DETAIL B

ROADWAY UNDERDRAIN
N.T.S.



UNDER DRAIN MAY TAIL OUT AND END AT PIPE INLET LOCATION (SEE DETAIL B)

IF SCALE BAR DOES NOT MEASURE 1" DRAWING NOT PLOTTED TO SCALE

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10 MARSHALL WAY
BT CHARLISLE, OHIO 43080
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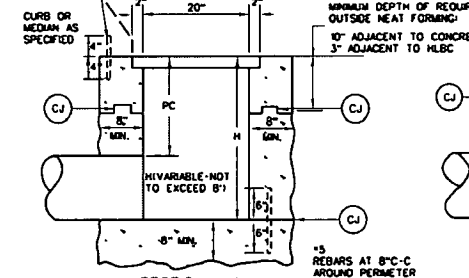
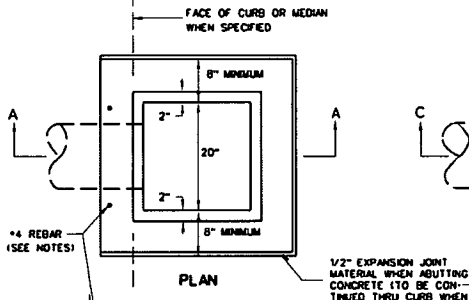
PROJECT: SUGAR RUN ROAD (CR-52) ROADWAY IMPROVEMENTS
DISTRICT 4
DODDRIEGE COUNTY, WEST VIRGINIA

DATE: 02/28/2020

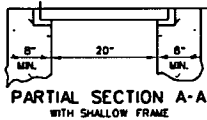
DETAILS SHEET
8

PLOT DATE: June 8, 2020

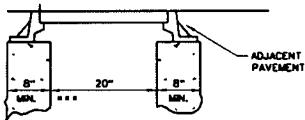
SQUARE STYLE



SECTION A-A
WITHOUT SHALLOW FRAME



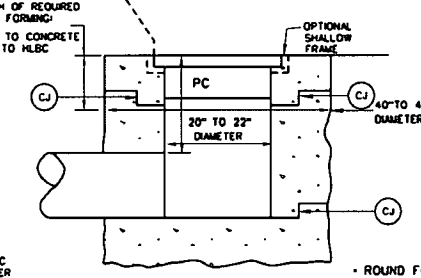
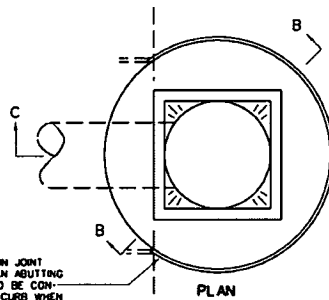
PARTIAL SECTION A-A
WITH SHALLOW FRAME



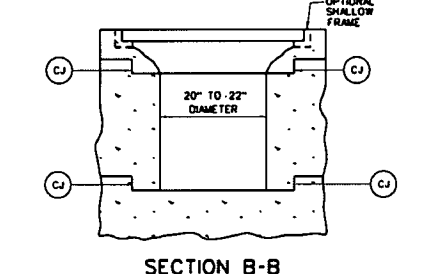
PARTIAL SECTION A-A
WITH DEEP FRAME

*** OPENING WILL BE 24" FOR 24" DIAMETER OUTLET PIPE

CIRCULAR STYLE 1

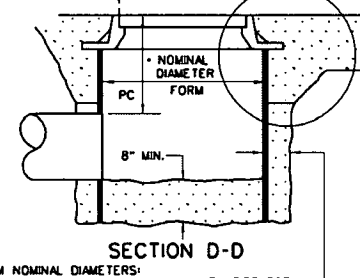
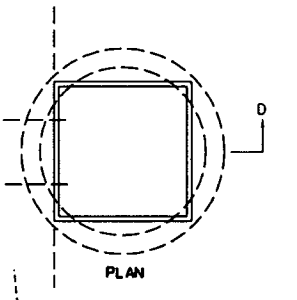


SECTION C-C

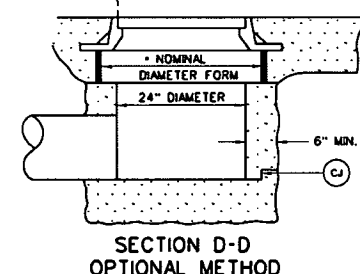


SECTION B-B

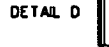
CIRCULAR STYLE 2



SECTION D-D



SECTION D-D
OPTIONAL METHOD



DETAIL D

SEE DETAIL D IF FRAME IS NOT IN CONCRETE

NOTES

UNLESS OTHERWISE SPECIFIED ON THE PLANS, TYPE B INLETS MAY BE CONSTRUCTED IN ANY OF THE SHAPES SHOWN WHEN THE OUTLET PIPE DIAMETERS IS 21" OR LESS AND THE ADJACENT PAVEMENT IS CONCRETE.

IF THE OUTLET PIPE DIAMETER IS 24" OR THE ADJACENT PAVEMENT IS HOT MIX ASPHALT, ONLY THE SQUARE STYLE WITH THE DEEP FRAME WILL BE USED. THE INSIDE OPENING OF THE INLET WILL BE ADJUSTED TO ACCOMMODATE THE 24" PIPE.

CONSTRUCTION MAY BE CAST-IN-PLACE, PRECAST IN ONE OR MULTIPLE SECTIONS, OR ANY COMBINATION OF CAST-IN-PLACE AND PRECAST.

OPTIONAL CONSTRUCTION JOINTS LABELED "CJ" MAY BE ROUGHENED CONCRETE, KEYS OR DOWELS AS PER THE TYPICAL DETAILS SHOWN HEREIN OR AS APPROVED BY THE ENGINEER. NON SHRINK GROUT MEETING THE REQUIREMENTS OF SUBSECTION 715.5 OF THE SPECIFICATIONS MAY BE USED TO A DEPTH OF 1/2" FOR LEVELING BETWEEN PRECAST SECTIONS. THICKER DEPTHS WILL BE ALLOWED AS PER THE MANUFACTURER'S RECOMMENDATIONS.

THE FINAL INSTALLED TOP SURFACE OF INLET AND GRATE SHALL BE FLUSH WITH ADJACENT FINISHED SURFACES SUCH AS PAVEMENT, GUTTERS, CURBS, AND SIDEWALKS. TOP OF GRATE ELEVATION, IF SHOWN ON THE PLANS, IS FOR INFORMATION ONLY.

REBARS ARE TO BE INSTALLED AT THE QUARTER POINTS TO CONNECT CURB TO INLET. REBARS ARE NOT REQUIRED IF CURB IS POURED MONOLITHICALLY WITH THE INLET OR IF TYPE V OR VIMEDIAN IS SPECIFIED ON THE PLANS.

FOR DETAILS OF GRATES AND FRAMES, SEE INLET CASTING STANDARD SHEET DR6-X.

THE CONTRACTOR MAY, AT HIS OPTION, OMIT USE OF THE SHALLOW FRAME BY FORMING A LEDGE IN THE CONCRETE.

SPECIAL CARE SHALL BE EXERCISED IN FORMING THE 2" WIDE CONCRETE LEDGE TO PROVIDE A SMOOTH, EVEN SURFACE FOR SUPPORTING THE GRATE IF A FRAME IS NOT USED. NO PROJECTIONS SHALL EXIST ON THE GRATE AND THE GRATE SHALL SEAT ON THE LEDGE WITHOUT ROCKING.

FIBRE FORM SHALL BE REMOVED PRIOR TO COMPLETION OF THE PROJECT.

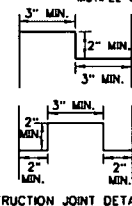
PC (MINIMUM PIPE COVER) SHALL BE 12" BELOW INLET TOP FOR PIPES PLACED UNDER SIDEWALK OR GRASSSED AREA OR 24" BELOW INLET TOP FOR PIPES PLACED UNDER PAVEMENT OR SHOULDER.

CURB, IF SPECIFIED, MAY BE EITHER CONCRETE PLACED ON THE INLET BACKWALL, AS DETAILED HEREIN OR AN APPROVED CURB BOX AS MANUFACTURED WITH THE GRATE AND FRAME. DIMENSIONS OF THE CURB BOX SHOULD REASONABLY CONFORM TO THE STANDARD CURB AS SPECIFIED ON THE PLANS. THE CURB WILL BE PAID FOR PER SECTION 610, IN EITHER CASE.

THIS INLET SHALL NOT BE PLACED IN A PEDESTRIAN CROSS WALK.

THE MINIMUM DISTANCE FROM THE TOP OF ANY PIPE OPENING TO ANY CONSTRUCTION JOINT ABOVE THE OPENING SHALL BE FOUR (4) INCHES.

THE NUMBER AND LOCATION OF PIPE OPENINGS SHALL BE AS SHOWN IN THE PLANS. THE CONTRACTOR AT NO ADDITIONAL COST, SHALL BE RESPONSIBLE FOR ANY TEMPORARY BRACING REQUIRED TO TRANSPORT PRECAST INLET SECTIONS DUE TO MULTIPLE OPENINGS.



CONSTRUCTION JOINT DETAILS

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
STANDARD DETAIL

PREPARED 1-11-99
REVISION DATE

TYPE B INLET

STANDARD SHEET DR6-B



IF SCALE BAR DOES NOT MEASURE 1' DRAWING MUST BE PLOTTED TO SCALE

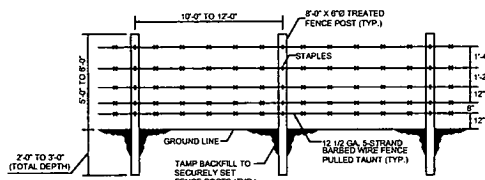
HANMONTREE & ASSOCIATES, LTD.
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BY DATE: 02/06/2008
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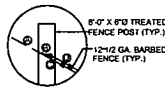
Antero
CONSTRUCTION

DATE	DESC.	DATE	DESC.	DATE	DESC.

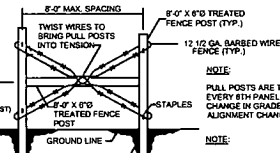
DETAILS SHEET
SUGAR RUN ROAD (CR-52) ROADWAY IMPROVEMENTS
ANTERO RESOURCES
DISTRICT 4
DODDRIDGE COUNTY, WEST VIRGINIA



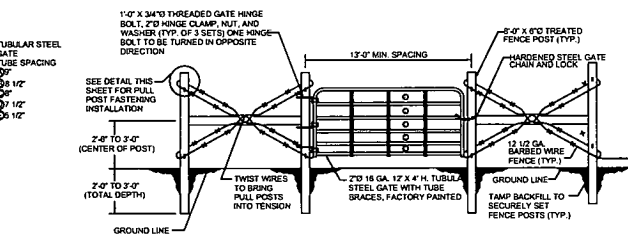
FARM FENCE DETAIL
NOT TO SCALE



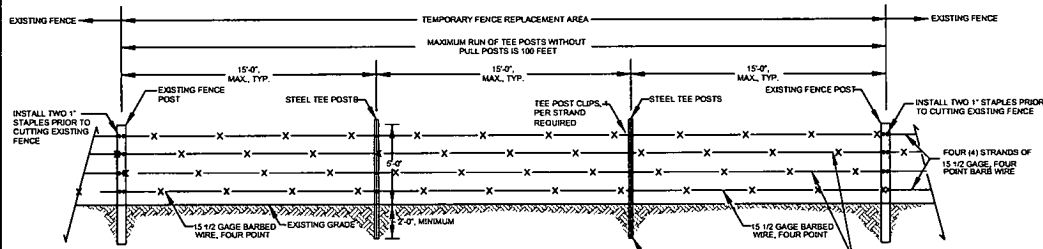
PULL POST FASTENING DETAIL
NOT TO SCALE



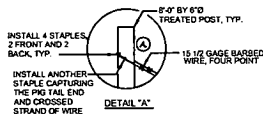
PULL POST DETAIL
NOT TO SCALE



FARM GATE DETAIL
NOT TO SCALE



TEMPORARY FENCE ELEVATION
VIEW, TYP.

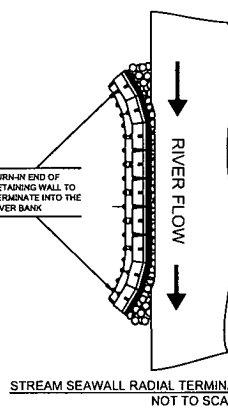


DETAIL "A"

NOTES:

1. THE MAXIMUM RUN OF STEEL TEE POSTS SHALL BE 100 FEET. PULL POSTS AS DETAIL A SHALL BE INSTALLED BY THE TEMPORARY FENCE AT 100 FOOT INTERVALS AND HIGH OR LOW POINTS AS DETERMINED BY THE ENGINEER. CORNER POSTS SHALL BE INSTALLED AT 90 DEGREE ANGLES AS DETERMINED BY THE ENGINEER.
2. TEMPORARY ELECTRIC FENCE INSTALLATIONS REQUIRE 4 BIRCHLESS ELECTRIC POSTS SPACED TWENTY FEET (20) ON CENTER, SET FIVE FEET (5) ABOVE THE GROUND AND TWO FEET (2) INTO THE GROUND, WITH SIX (6) STRANDS OF POLY WIRE (CONDUCTOR WIRE WORKS WITH SILICONE GLASS WIRE).

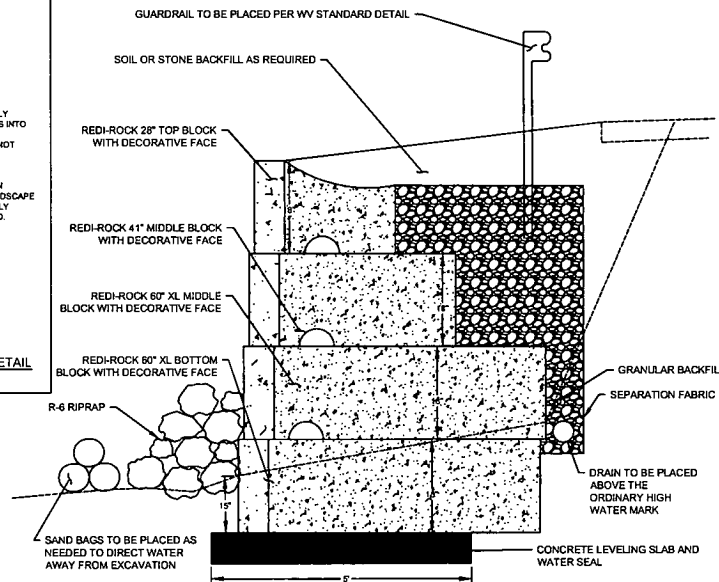
TEMPORARY FENCE
NOT TO SCALE



STREAM SEAWALL RADIAL TERMINATION INTO BANK DETAIL
NOT TO SCALE

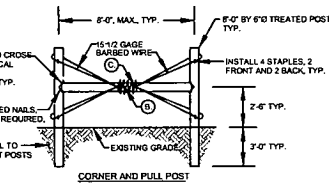
DESIGN MUST ADEQUATELY ADDRESS TURNING WALLS INTO THE BANK AT BOTH ENDS TO ASSURE WATER WILL NOT ERODE MATERIAL FROM BEHIND THE WALL.

REDI-ROCK WALLS ARE AN EFFECTIVE CHANNEL HARDSCAPE PRODUCT WHEN PROPERLY DESIGNED AND INSTALLED.



STANDARD DETAIL
NOT TO SCALE

NOTE:
REDIROCK SHOWN IN DETAIL. APPROVED ALTERNATE MAY BE ACCEPTED



CORNER AND PULL POST
ELEVATION VIEW, TYP.

Fencing Summary			
Sta. Start	Sta. Stop	Location	Total Fence Placed (FT)
0+52			
2+00	3+65	RT	165
36+65	38+30	RT	165
Total			330

1" SCALE BAR DOES NOT MEASURE 1". DRAWING NOT PLOTTED TO SCALE

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ST. PAUL, MN 55102-2327
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RESOURCES

DESIGN BY: JAB
DRAWN BY: JAB
P.L.D. BY: JAB
DATE: 06/08/2020

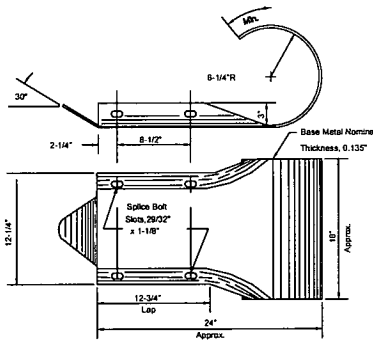
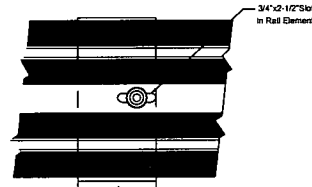
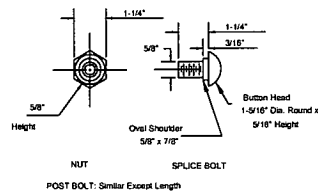
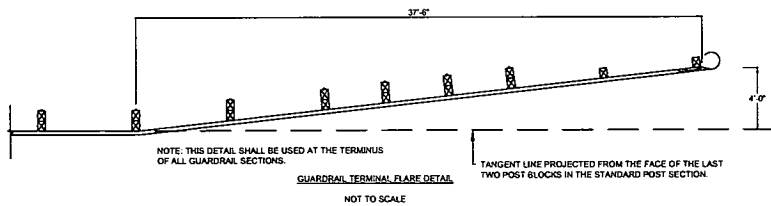
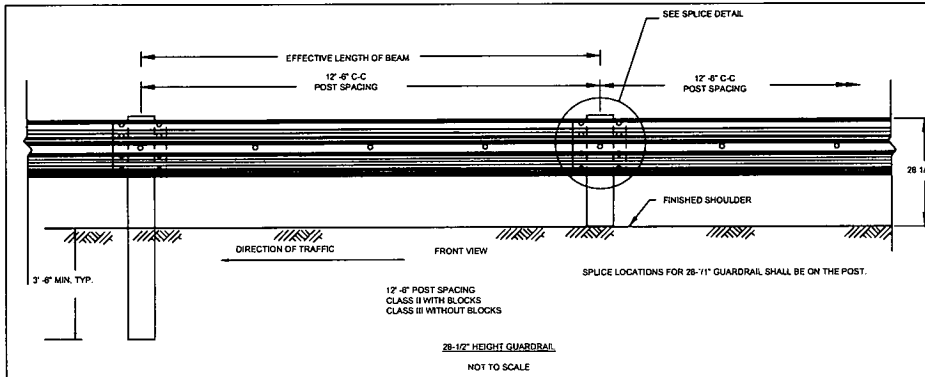
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DATE: 06/08/2020

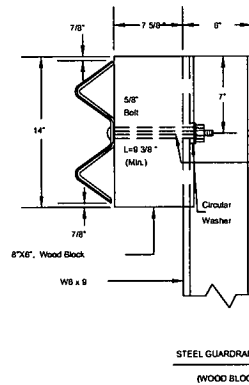
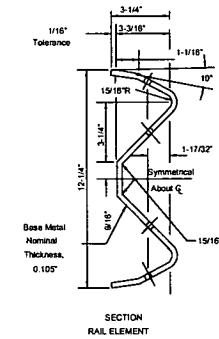
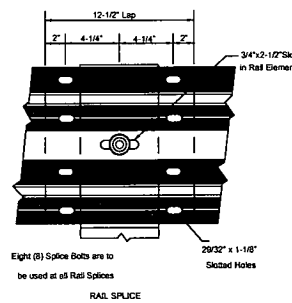
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DETAILS SHEET
SUGAR RUN ROAD (CR-52) ROADWAY IMPROVEMENTS
ANTERO RESOURCES
DISTRICT 4
DOODRIDGE COUNTY, WEST VIRGINIA



TERMINAL SECTION BUFFER END
(For Use Only on Unanchored Ends And on Special Trailing End Terminal)



GENERAL:

GUARDRAIL SYSTEMS ON NHS ROUTES MUST MEET CURRENT NCHRP 250 OR THE MOST CURRENT AASHTO MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) CRASH TESTING CRITERIA AND HAVE AN FHWA ELIGIBILITY LETTER TO BE USED ON WOOD PROJECTS.

ONLY FHWA APPROVED GUARDRAIL SYSTEMS UTILIZING WOOD OR APPROVED ALTERNATE BLOCK-OUTS SHOWN ON THE DIVISION'S APPROVED SOURCE/PRODUCT LISTING SHALL BE USED. STEEL "Y" SHAPES SHALL NOT BE USED FOR BLOCK-OUTS. ONLY ONE TYPE OF BLOCK SHALL BE USED FOR BLOCK-OUTS THROUGHOUT ANY PROJECT, UNLESS OTHERWISE SPECIFIED.

BLOCKS FOR BLOCK-OUTS SHALL BE USED ON ALL POSTS EXCEPT WHEN OTHERWISE NOTED ON PLANS. WHEN BLOCKS ARE NOT PROVIDED, THE POST DETAILS WILL BE AS SHOWN HEREIN, EXCEPT THE 5/8" BOLT MINIMUM LENGTH WILL BE REDUCED AS REQUIRED, AND NAILS FOR BLOCK STABILITY WILL NOT BE NEEDED. FOR STEEL POSTS WITHOUT BLOCKS, DETAILS OF THE POSTS SHALL CONFORM TO THE "STEEL GUARDRAIL POST (WOOD BLOCK)" DETAIL HEREIN, WITH THE ADDITIONAL HOLES (TO FACILITATE ERECTION) BEING OPTIONAL.

THE CIRCULAR WASHERS SHALL BE MADE OF STEEL AND GALVANIZED IN ACCORDANCE WITH THE REQUIREMENTS OF AASHTO M222.

STEEL POSTS:

BLOCKS SHALL BE CENTERED ON THEIR POSTS AND THE CENTER OF THE BLOCK HOLES. FOR BOLTS CONNECTING RAILS TO BLOCKS, SHALL BE HORIZONTALLY OFFSET 1-1/8" FROM THE CENTER OF THE STEEL POSTS TOWARD THE POST EDGE FACING APPROACHING TRAFFIC FOR BOTH POLYMER AND WOOD BLOCKS, AS SHOWN FOR WOOD BLOCKS ON THE PLAN VIEW OF THE BLOCK STOP DETAIL. POST LENGTH WILL BE 6" ± 1/2" UNLESS OTHERWISE NOTED.

WOOD BLOCKS:

THE TYPE (SPECIES) OF WOOD BLOCKS IS TO BE ONE OF THE TYPES (SPECIES) PERMITTED BY SPECIFICATIONS FOR WOOD POSTS. WOOD BLOCKS SHALL BE PRESURE-TREATED IN CONFORMANCE WITH THE REQUIREMENTS FOR WOOD POSTS. HOWEVER, CROCIDOLE OIL IS NOT PERMITTED AS A PRESERVATIVE IN THE PRESURE TREATMENT OF WOOD BLOCKS TO BE ERECTED ON STEEL POSTS. 8" x 8" WOOD BLOCKS SHALL BE POSITIONED SO THAT THE 6" x 14" FACES OF THE BLOCKS ARE THE CONTACT FACES FOR THE RAIL ELEMENTS AND THE POSTS IN ORDER TO ACHIEVE THE BLOCKOUT DIMENSION SHOWN. WHEN WOOD BLOCK IS USED ADJACENT TO A WOOD POST, THE BLOCK SHALL BE NAILED TO THE POST WITH A GALVANIZED STEEL 100 COMMON NAIL. THE NAIL IS TO BE DRIVEN INTO THE CENTER OF THE TOP OR BOTTOM OF THE BLOCK.

NOTES:

GUARDRAIL SYSTEMS ON NHS ROUTES MUST MEET NCHRP 250 OR THE MOST CURRENT AASHTO MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) CRASH TESTING CRITERIA AND HAVE AN ELIGIBILITY LETTER TO BE USED ON WOOD PROJECTS.

GUARDRAIL SHALL BE SECURED TO THE BLOCKS, POST AND OTHER ELEMENTS BY 5/8" DIA. BOLTS AND NUTS CONFORMING TO THE DETAILS ON SHEET CR1 2072 AND TO THE REQUIREMENTS OF 712.4 OF THE STANDARD SPECIFICATIONS. NUTS SHALL CONFORM TO ASTM S63, GRADE A OR FLATTER.

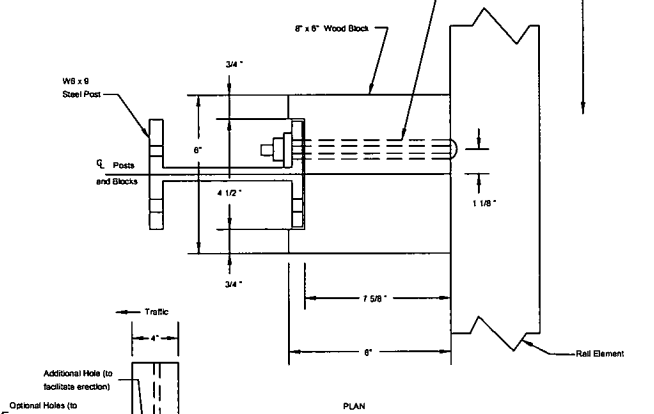
APPROACH AND TRAILING END TREATMENTS SHALL BE AS SPECIFIED ON THE PLANS OR DIRECTED BY THE ENGINEER. SHOWN OR

THE PAY QUANTITY OF GUARDRAIL WILL BE THE LINEAR FEET OF GUARDRAIL MEASURED ALONG THE FACE OF THE RAIL FROM CENTER TO CENTER OF END POSTS. COST OF THE TERMINAL SECTION BUFFER END (IF ANY) SHALL BE INCLUDED IN THE COST OF THE GUARDRAIL.

THE APPROACH SLOPE TO THE FACE OF ALL GUARDRAIL SHALL BE 10:1 OR FLATTER.

THE TYPE, CLASS, AND HEIGHT OF GUARDRAIL SHALL BE SHOWN IN THE PLANS.

LAP GUARDRAIL IN DIRECTION OF TRAFFIC.



0 1'
1" SCALE BAR DOES NOT MEASURE 1" DRAWING NOT NOTED TO SCALE

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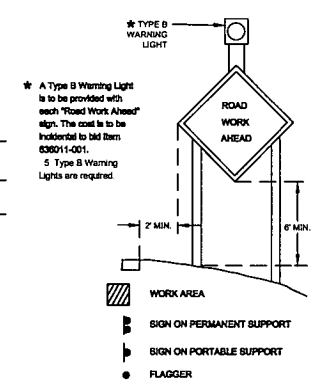
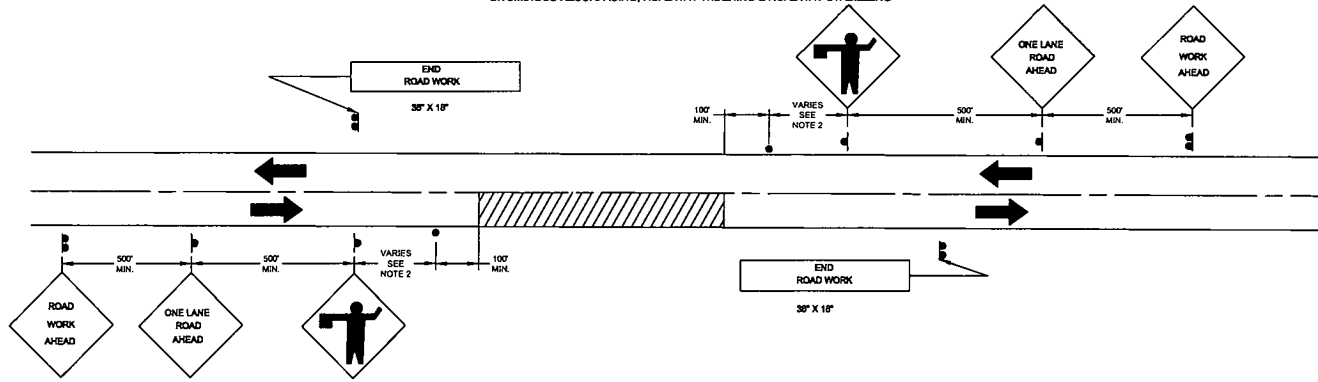
Antero
RESOURCES

DATE	REVISION
08/28/2020	REV. BY: JML
08/28/2020	REV. BY: JMB
08/28/2020	REV. BY: JMB
08/28/2020	REV. BY: JMB
08/28/2020	REV. BY: JMB
08/28/2020	REV. BY: JMB
08/28/2020	REV. BY: JMB
08/28/2020	REV. BY: JMB

DESIGN BY: JML
DRAWN BY: JMB
RWD BY: JMB
P.L.D. BY: JMB
DATE: 08/28/2020

DETAILS SHEET
SUGAR RUN ROAD (CR-52) ROADWAY IMPROVEMENTS
ANTERO RESOURCES
DISTRICT 4
CORROBBLE COUNTY, WEST VIRGINIA

BITUMINOUS RESURFACING, ROADWAY WIDENING & ROADWAY STABILIZING



* Type B Warning Light is to be provided with each "Road Work Ahead" sign. The cost is to be incidental to bid item 636011-001.
 S Type B Warning Lights are required.

- MAINTENANCE OF TRAFFIC SHALL BE IN ACCORDANCE WITH SECTION 636 OF THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION, DIVISION OF HIGHWAYS, STANDARD SPECIFICATIONS, ROADS AND BRIDGES, ADOPTED 2017, AND THE "MANUAL ON TEMPORARY TRAFFIC CONTROL FOR STREETS AND HIGHWAYS" 2006 EDITION, WHICH ARE MADE PART OF THIS CONTRACT AND ARE IN GOVERNING PROVISIONS APPLICABLE TO THIS PROJECT.
- THE CONTRACTOR SHALL USE CASE A2 FROM THE MANUAL ON TEMPORARY TRAFFIC CONTROL FOR STREETS AND HIGHWAYS, 2006 EDITION FOR THIS PROJECT.
- ACCESS TO ALL RESIDENCES AND BUSINESSES SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION UNLESS AN AGREEMENT IS MADE BETWEEN THE CONTRACTOR AND PROPERTY OWNER THAT IS SATISFACTORY TO THE PROJECT ENGINEER. IF ACCESS IS TO BE MAINTAINED, THE CONTRACTOR SHALL USE AGGREGATE. THE CONTRACTOR IS TO REUSE THIS AGGREGATE BY REMOVING IT WHEN NO LONGER NEEDED AND STOCKPILING IT.
- REFLECTING SHEETING ON ALL TEMPORARY CONTROL DEVICES SHALL BE OF NEW CONDITION AT THE BEGINNING OF THE PROJECT LIFE. NIGHT VISIBILITY AND LEGIBILITY SHALL BE MAINTAINED. ANY TRAFFIC CONTROL ITEMS FOUND TO HAVE INADEQUATE SHEETING AT ANY TIME THROUGHOUT THE DURATION OF THE PROJECT WILL BE REMOVED AT THE DISCRETION OF THE PROJECT ENGINEER. COSTS FOR CORRECTIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- FLAGGER: WHEN WORK IS PERFORMED AT NIGHT WITH A FLAGGER, THE FLAGGER STATIONS SHALL BE ADEQUATELY ILLUMINATED. ALL COSTS FOR THE ILLUMINATION SHALL BE INCIDENTAL TO ITEM 636014-001, FLAGGER.
- DURING EACH PHASE OF CONSTRUCTION, THE CONTRACTOR SHALL COVER ALL SIGNS WHICH ARE NOT APPROPRIATE TO THE CONTRACTOR'S TRAFFIC RESTRICTIONS. WHEN COVERING EXISTING SIGNS, THE CONTRACTOR HAS THE OPTION OF:
 - USING HEAVY DUTY BLACK OVERLAY (PLASTIC OR BURLAP TYPE)
 - USING THIN WOOD OVERLAY (E.G. PLYWOOD)
 - TAKING SIGNS DOWN AND REINSTALLING WHEN APPROPRIATE
- ANY DAMAGES CAUSED BY ABOVE NAMED SHALL BE REPAIRED OR REPLACED TO ORIGINAL CONDITIONS AT THE CONTRACTOR'S EXPENSE. ALL ABOVE OPERATIONS SHALL HAVE 100% SIGN COVERAGE AND BE BID INCIDENTAL TO ITEM 636011-001, TRAFFIC CONTROL DEVICE.
- IF USED, ANY ELECTRIC ARROWS OR TRAFFIC SIGNAL SHALL HAVE A MINIMUM OF 1000 FT. SIGHT DISTANCE.
- BEFORE THE CONTRACTOR PROCEEDS WITH ANY WORK AND BEFORE CHANGING PHASES, THE CONTRACTOR SHALL COORDINATE SUCH WITH THE DIVISION OF HIGHWAYS PERSONNEL TO NOTIFY TELEVISION, RADIO, NEWSPAPERS, HOSPITALS, FIRE DEPARTMENTS, SCHOOLS, POLICES, EMERGENCY VEHICLES, ETC. AS APPROPRIATE.
- "SHOULDER DROP-OFF" (W8-8A) AND "UNEVEN LANE" (W8-11) SIGNS MAY BE INCLUDED IN THIS PROJECT. THESE SIGNS SHALL BE PLACED ON PERMANENT POSTS AND SPACED EVERY MILE THROUGHOUT THE PROJECT.
- "BUMP" (W8-1) AND "BE PREPARED TO STOP" (W2-12) SIGNS MAY BE INCLUDED IN THIS PROJECT. THESE SIGNS SHALL BE PLACED ON PORTABLE POSTS AND PLACED AT DISCRETION OF THE PROJECT ENGINEER.
- THE CONTRACTOR SHALL USE "DO NOT PASS" SIGNS. THESE SIGNS SHALL BE PLACED EVERY 2500 FEET.
- ALL TEMPORARY SIGN STANDS SHALL BE WIND RESISTANT TYPE AS LISTED ON THE WDOT APPROVED LIST.
- PAYMENT FOR TEMPORARY TRAFFIC CONTROL DEVICE UNITS SHALL ONLY BE MADE ONCE TO INCLUDE THE ENTIRE LENGTH OF THE PROJECT. THERE SHALL BE NO ADDITIONAL PAYMENT FOR MOVING DEVICES.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE TRAFFIC CONTROL WITH ANY OTHER ADJACENT CONSTRUCTION PROJECT. THIS COORDINATION SHALL BE DONE SO THAT ANY CLOSURE SHALL NOT CONFLICT WITH ANY OTHER CLOSURE. THE PLAN OF COORDINATION SHALL BE PRESENTED TO THE PROJECT ENGINEER FOR APPROVAL.
- EXISTING SIGNS AND DELINEATORS: ANY SUCH EXISTING FACILITIES RELOCATED, REMOVED OR DAMAGED BY THE CONTRACTOR SHALL BE REPLACED TO ITS ORIGINAL CONDITION BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.

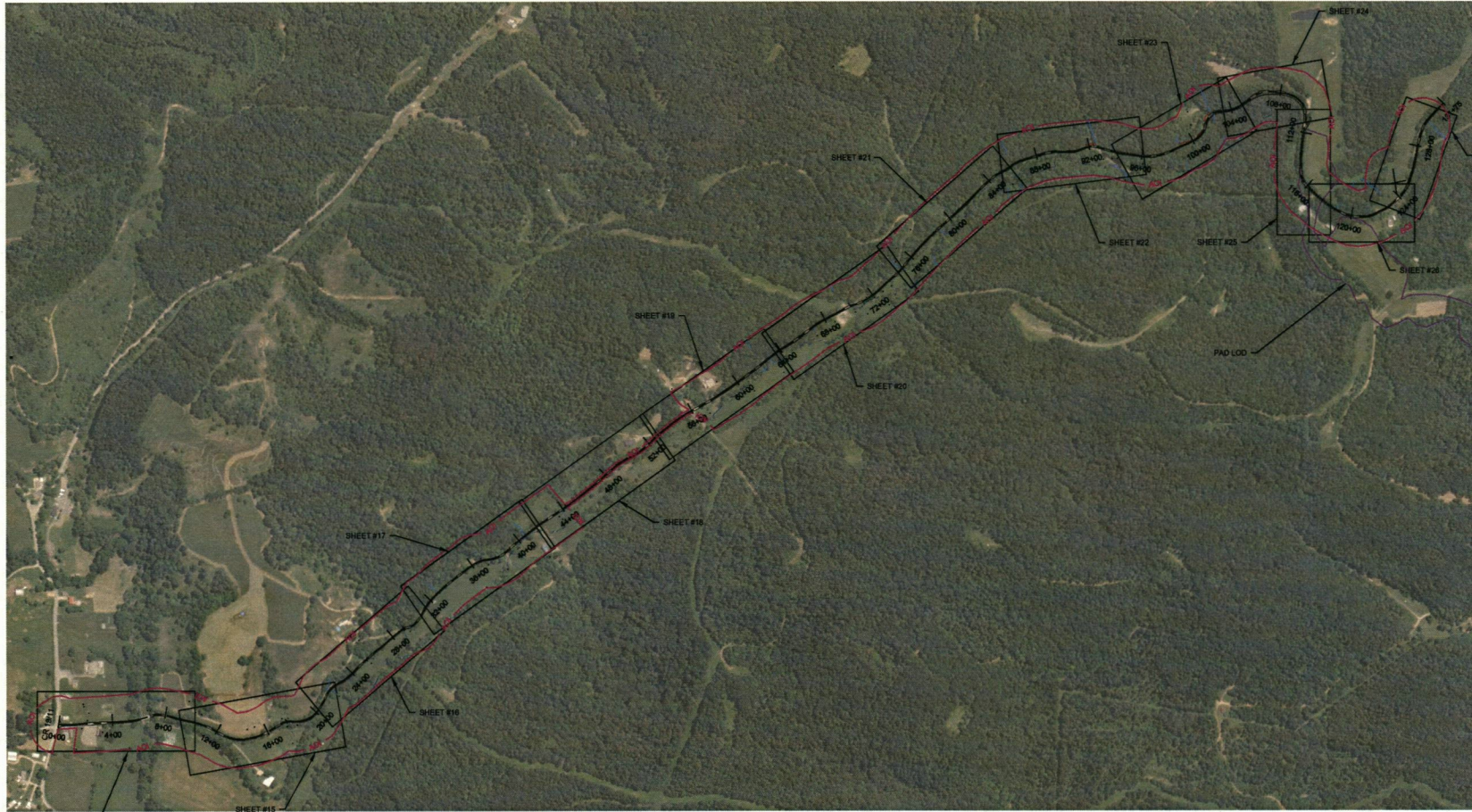


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DRWN BY:	DATE:	DESC:
CHK BY:	DATE:	DESC:
DATE:	DATE:	DESC:

MAINTENANCE OF TRAFFIC
 SUGAR RUN ROAD (CR-52) ROADWAY IMPROVEMENTS
 ANTERO RESOURCES
 DISTRICT 4
 BOONVILLE COUNTY, WEST VIRGINIA



IF SCALE BAR DOES NOT MEASURE 1", DRAWING NOT PLOTTED TO SCALE



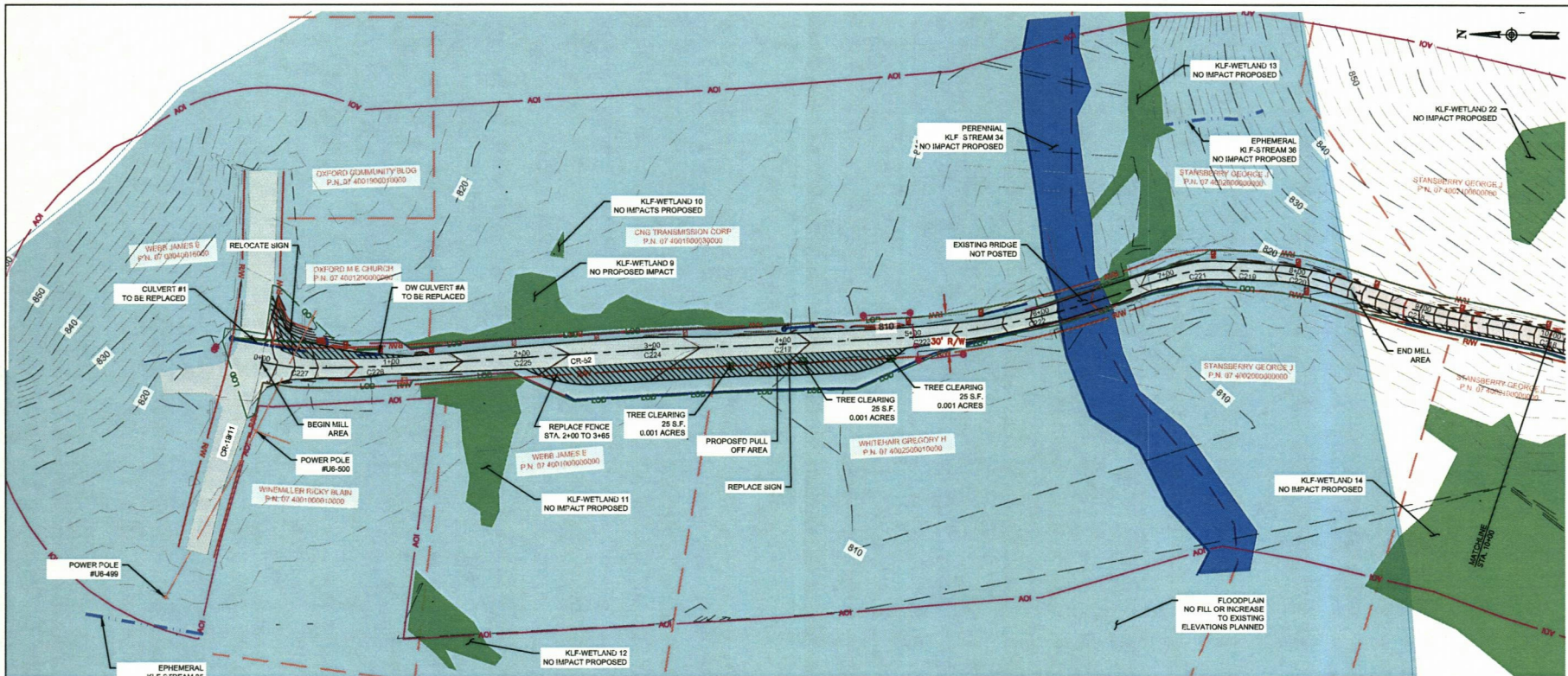
SCALE: 1" = 400'

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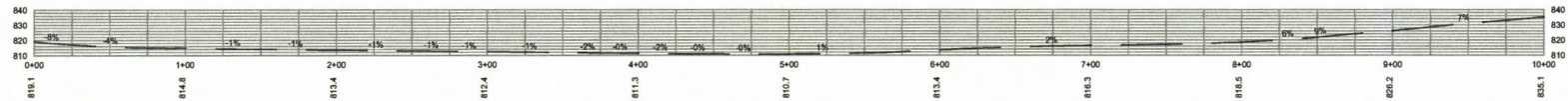


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DATE:	DATE:	DESK:

OVERVIEW
 SUGAR RUN ROAD (CR-52) ROADWAY IMPROVEMENTS
 ANTERO RESOURCES
 DISTRICT 4
 DODDRIIDGE COUNTY, WEST VIRGINIA



PLAN VIEW
CR-52 STA. 0+00 - 10+00

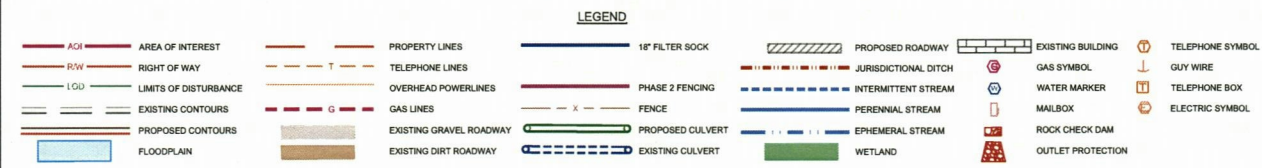


PROFILE
STA. 0+00 - 10+00
HORIZONTAL SCALE: 1"=40'
VERTICAL SCALE: 1"=40'

CURVE #	RADIUS	ARC LENGTH	DELTA ANGLE	TANGENT	MID ORDINATE	DEGREE OF CURVE	PI
C227	103.54	17.29'	9°33'55"	8.66'	0.38	55.2004	0+30.01
C228	1290.49'	63.70'	2°49'41"	31.88'	0.39	4.2623	0+87.42
C225	1000.00'	3.17'	0°10'54"	1.58'	0.00	5.4346	2+00.37
C224	480.72'	9.96'	1°11'15"	4.98'	0.03	11.5508	2+99.97
C217	50.00'	0.67'	0°45'48"	0.33'	0.00	114.3530	3+99.98
C223	227.39'	18.33'	4°37'10"	9.17'	0.18	25.1148	5+06.59
C222	699.82'	133.49'	10°55'49"	66.95'	3.18	8.1114	5+95.05
C221	100.00'	33.05'	18°56'08"	16.68'	1.38	57.1745	7+23.44
C219	147.14'	2.41'	0°56'23"	1.21'	0.00	38.5627	7+62.40
C220	183.44'	46.85'	14°38'00"	23.55'	1.49	31.1402	8+01.87
C218	923.00'	63.02'	6°54'14"	31.55'	0.95	10.5719	8+96.49

Pole #	TO	Pole #	Station	Location	Height
UNMARKED		U6-500	0+22	LT EP	16'

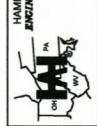
Culvert	Existing Culvert					Proposed Culvert						
	Existing Structure	Station	Length (FT.)	Slope	Cover (IN.)	Activity Proposed	Proposed Structure	Length (FT.)	Slope	Inlet FL Elevation	Outlet FL Elevation	Cover (IN.)
I	18" CPP	0+00	54	3.2%	22	REPLACE	18" CPP	65	3.0%	817.0	815.0	18.0
A	12" CPP	0+80	16	5.3%		REPLACE	15" CPP	16				



FINAL PLAN

IF SCALE BAR DOES NOT MEASURE 1", DRAWING NOT PLOTTED TO SCALE

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CHECKED BY: JAS
DATE: 02/28/2020

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DATE: 02/28/2020

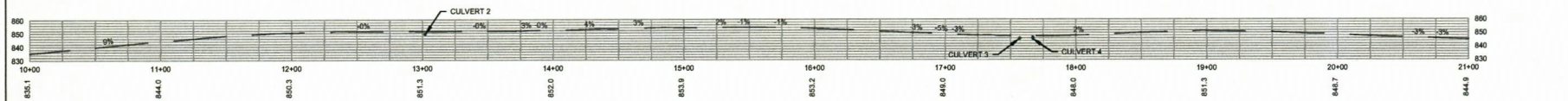
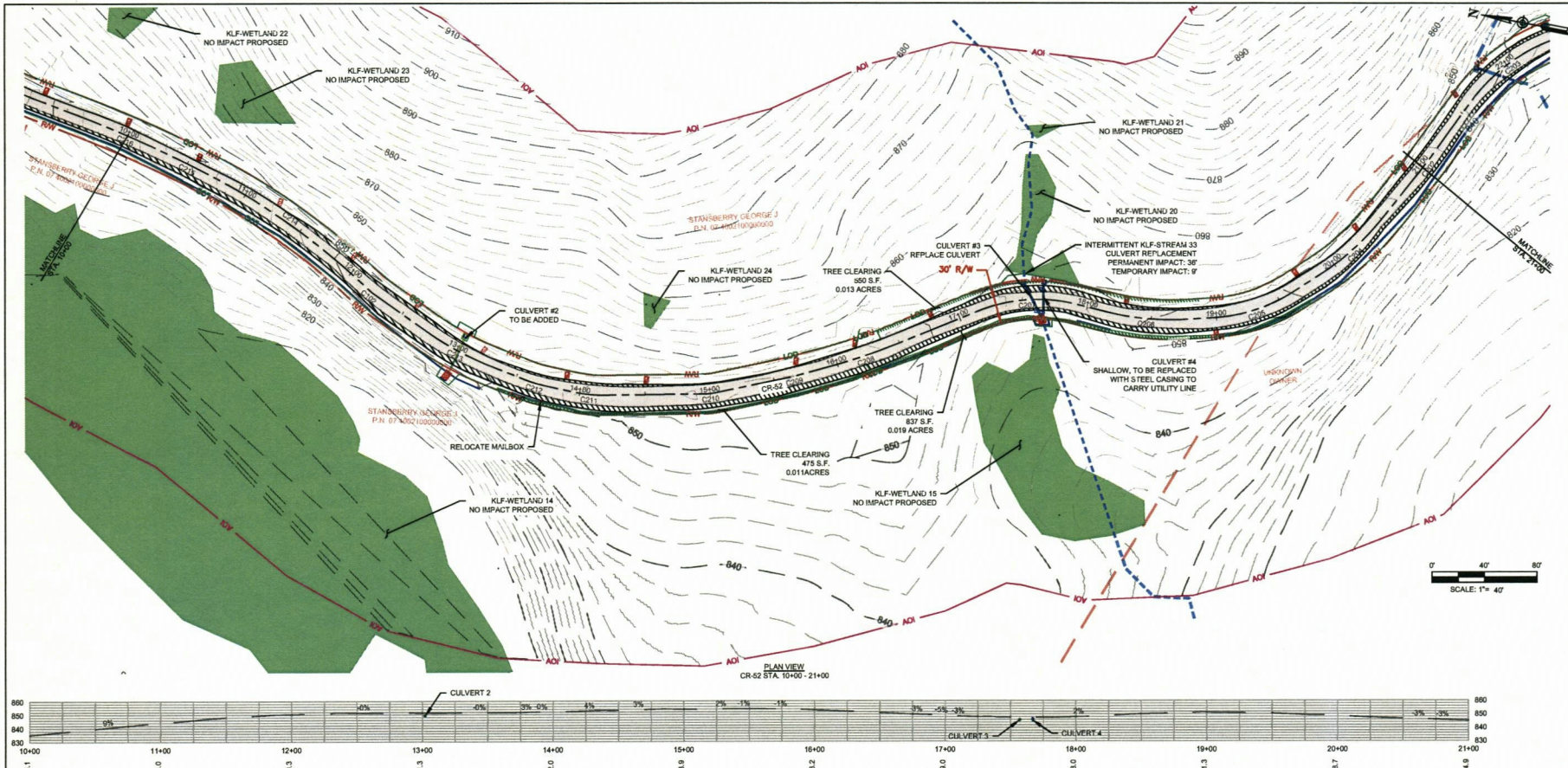
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DATE: 02/28/2020

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REV. BY: JAS
DATE: 02/28/2020

STA. 0+00 TO 10+00
SUGAR RUN ROAD (CR-52) ROADWAY IMPROVEMENTS
ANTERO RESOURCES
DISTRICT 4
DOUGLASS COUNTY, WEST VIRGINIA



CURVE DATA TABLE							
CURVE #	RADIUS	ARC LENGTH	DELTA ANGLE	TANGENT	MID ORDINATE	DEGREE OF CURVE	PI
C216	1000.00'	81.17'	4°39'03"	40.61'	0.82	5.4346	9+99.37
C215	200.00'	4.68'	1°20'24"	2.34'	0.01	28.3852	10+51.51
C214	506.00'	141.29'	15°59'44"	71.11'	4.92	11.1917	11+38.86
C102	10.00'	1.31'	7°30'24"	0.66'	0.02	572.5728	12+21.77
C213	235.19'	56.84'	13°50'54"	28.56'	1.72	24.2143	13+00.86
C212	100.00'	16.09'	9°13'13"	8.06'	0.32	57.1745	13+65.53
C211	100.00'	22.29'	12°46'13"	11.19'	0.62	57.1745	14+07.23
C210	50.02'	9.56'	10°57'18"	4.80'	0.23	114.3226	14+99.87
C209	100.00'	6.27'	3°35'36"	3.14'	0.05	57.1745	15+64.79
C208	500.00'	58.30'	6°40'49"	29.16'	0.85	11.2733	16+21.40
C207	122.80'	76.79'	35°49'142"	39.70'	5.95	46.3934	17+54.56
C206	202.84'	61.76'	17°28'42"	31.12'	2.35	28.1451	18+46.58
C205	125.48'	63.13'	28°49'34"	32.25'	3.95	45.3942	19+30.72
C204	197.41'	82.29'	18°04'49"	31.41'	2.45	26.0125	20+17.16

Culvert Table													
Culvert	Existing Culvert				Activity Proposed	Proposed Culvert							
	Existing Structure	Station	Length (FT.)	Slope		Proposed Structure	Length (FT.)	Slope	Inlet FL Elevation	Outlet FL Elevation	Cover (IN.)	Notes	
2	N/A	13+02	N/A	N/A	ADD	18" CPP	29	3.4%	848.6	847.6	14.0	Inlet	
3	18" CMP	17+57	19	4.1%	12	REPLACE	18" CPP	29	4.0%	845.4	844.3	8.5	Shallow
4	18" CMP	17+66	18	11.2%	1	REPLACE	6" Steel Casing	25	4.0%	845.9	844.9	14.0	Field ft

LEGEND

- AOI: AREA OF INTEREST
- R/W: RIGHT OF WAY
- LOD: LIMITS OF DISTURBANCE
- EXISTING CONTOURS
- FLOODPLAIN
- PROPERTY LINES
- TELEPHONE LINES
- OVERHEAD POWERLINES
- GAS LINES
- EXISTING GRAVEL ROADWAY
- EXISTING DIRT ROADWAY
- 16" FILTER SOCK
- PHASE 2 FENCING
- FENCE
- PROPOSED CULVERT
- EXISTING CULVERT
- JURISDICTIONAL DITCH
- INTERMITTENT STREAM
- PERENNIAL STREAM
- EPHEMERAL STREAM
- WETLAND
- EXISTING BUILDING
- GAS SYMBOL
- WATER MARKER
- MAILBOX
- ROCK CHECK DAM
- OUTLET PROTECTION
- TELEPHONE SYMBOL
- GUY WIRE
- TELEPHONE BOX
- ELECTRIC SYMBOL

FINAL PLAN

1" = 40'
SCALE BAR DOES NOT MEASURE 1". DRAWING NOT PLOTTED TO SCALE.

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RWD BY: _____
FLD BY: _____
BK PLO: _____
DATE: _____

STA. 10+00 TO 21+00
SUGAR RUN ROAD (CR-62) ROADWAY IMPROVEMENTS
DISTRICT 4
ANTERO RESOURCES
DODDRIDGE COUNTY, WEST VIRGINIA

15

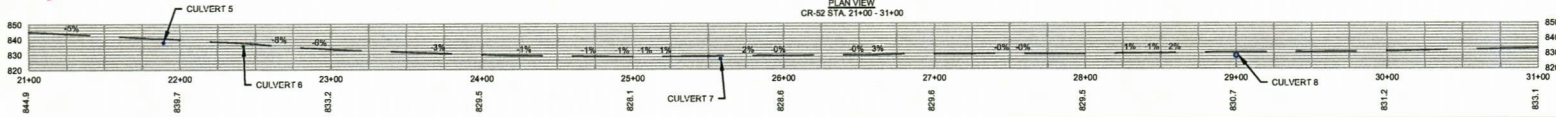
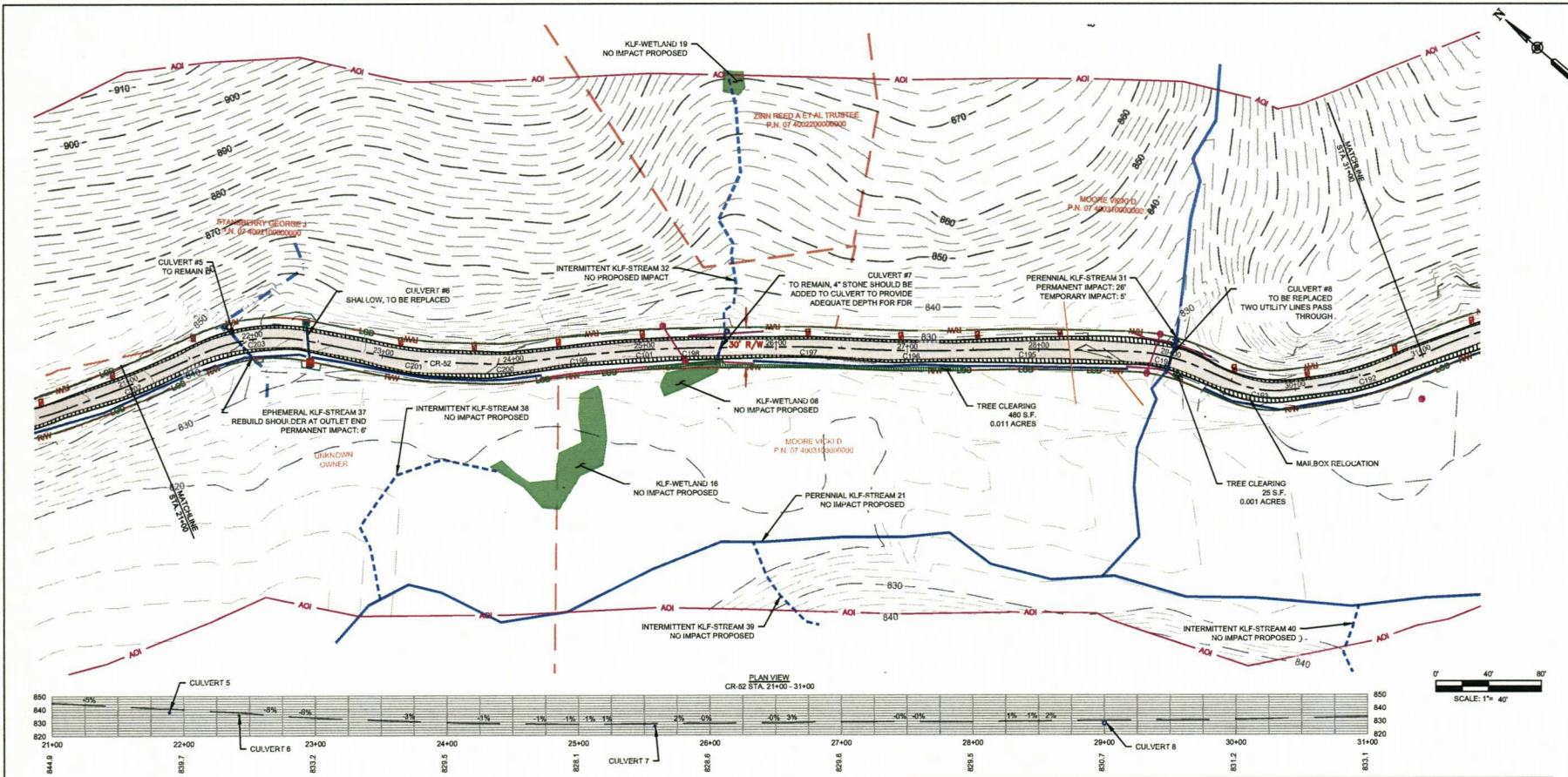
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 PROJECT NO.: _____
 SHEET NO.: _____

STA. 21+00 TO 31+00
 SUGAR RUN ROAD (CR-52) ROADWAY IMPROVEMENTS
 DISTRICT 4
 ANTERO RESOURCES
 DODDRIE COUNTY, WEST VIRGINIA



CURVE DATA TABLE							
CURVE #	RADIUS	ARC LENGTH	DELTA ANGLE	TANGENT	MID ORDINATE	DEGREE OF CURVE	PI
C202	500.00'	25.83'	2°59'13"	12.82'	0.16	11.2733	21+01.31
C203	135.05'	80.97'	34°2'109"	41.75'	8.02	42.2527	22+03.77
C201	313.25'	51.36'	9°23'30"	25.74'	1.05	18.1726	23+24.03
C200	150.00'	22.44'	8°34'11"	11.24'	0.42	38.1150	23+93.30
C199	500.00'	18.84'	2°09'32"	9.42'	0.08	11.2733	24+49.29
C101	50.00'	2.45'	2°48'45"	1.23'	0.02	114.3530	24+99.36
C198	500.00'	12.15'	1°22'33"	6.08'	0.04	11.2733	25+35.03
C197	500.00'	28.57'	3°16'27"	14.29'	0.20	11.2733	26+24.82
C196	1000.00'	70.99'	4°04'04"	35.51'	0.63	5.4346	27+03.12
C195	1000.00'	48.54'	2°46'51"	24.27'	0.29	5.4346	27+91.39
C194	143.12'	54.09'	21°39'14"	27.37'	2.55	40.0158	28+96.00
C193	78.12'	41.18'	30°12'16"	21.08'	2.07	73.2044	29+73.89
C192	350.80'	104.27'	17°02'23"	52.52'	3.87	16.2031	30+55.12

Overhead Utility Clearance					
Pole #	TO	Pole #	Station	Location	Height
UNMARKED	UNMARKED	28+23	CL		26'

Culvert Table												
Culvert	Existing Culvert					Proposed Culvert						
	Station	Length (FT.)	Slope	Cover (IN.)	Activity Proposed	Station	Length (FT.)	Slope	Inlet FL Elevation	Outlet FL Elevation	Cover (IN.)	Notes
5	21+89	31	11.2%	16	TO REMAIN	N/A	N/A	N/A	N/A	N/A	N/A	Shallow
6	22+42	25	14.8%	6	REPLACE	18" CPP	28	3.8	835.1	834.0	N/A	Inlet
7	25+58	26	1.6%	10	TO REMAIN	N/A	N/A	N/A	N/A	N/A	N/A	Shallow
8	29+00	21	7.5%	1	REPLACE	36" CPP	26	2.0	827.6	827.1	2.5	Shallow

LEGEND

- AOI: AREA OF INTEREST
- R/W: RIGHT OF WAY
- LOD: LIMITS OF DISTURBANCE
- EXISTING CONTOURS
- PROPOSED CONTOURS
- FLOODPLAIN
- PROPERTY LINES
- TELEPHONE LINES
- OVERHEAD POWERLINES
- GAS LINES
- EXISTING GRAVEL ROADWAY
- EXISTING DIRT ROADWAY
- 18" FIBER SOCK
- PHASE 2 FENCING
- FENCE
- PROPOSED CULVERT
- EXISTING CULVERT
- JURISDICTIONAL DITCH
- INTERMITTENT STREAM
- PERENNIAL STREAM
- EPHEMERAL STREAM
- WETLAND
- EXISTING BUILDING
- GAS SYMBOL
- WATER MARKER
- MAILBOX
- ROCK CHECK DAM
- OUTLET PROTECTION
- TELEPHONE SYMBOL
- GUY WIRE
- TELEPHONE BOX
- ELECTRIC SYMBOL

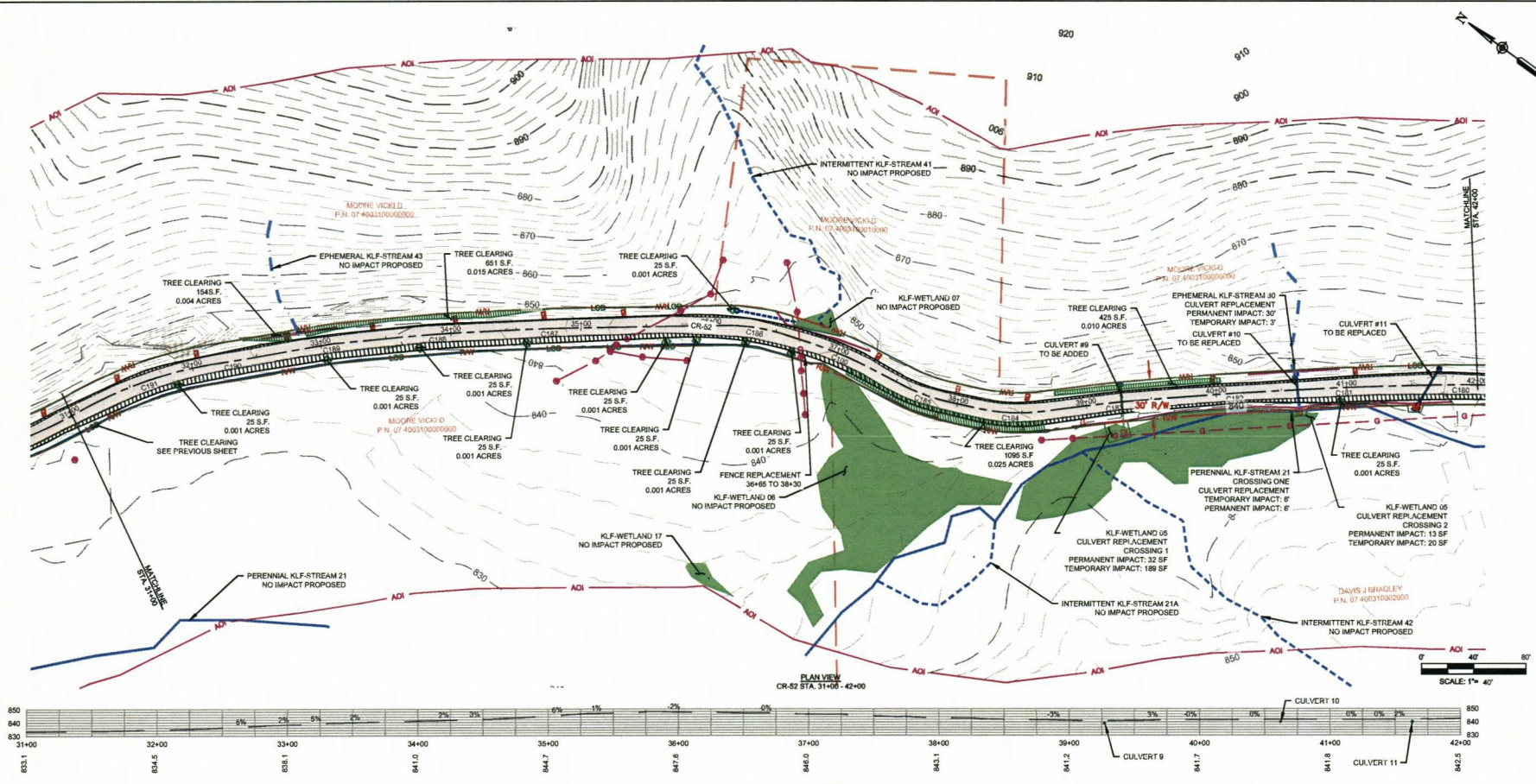
FINAL PLAN

IF SCALE BAR DOES NOT MEASURE 1" DRAWING NOT PLOTTED TO SCALE



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DRAWN BY:	DESK:	DATE:	DRAWN BY:	DESK:	DATE:
FLD BY:	DESK:	DATE:	FLD BY:	DESK:	DATE:
CHK BY:	DESK:	DATE:	CHK BY:	DESK:	DATE:
DATE:	02/28/2020				

DESIGN BY:	JAGT	DATE:	02/28/2020
DRAWN BY:	JAGT	DATE:	
FLD BY:	JAGT	DATE:	
CHK BY:	JAGT	DATE:	
DATE:	02/28/2020		



CURVE #	RADIUS	ARC LENGTH	DELTA ANGLE	TANGENT	MID ORDINATE	DEGREE OF CURVE	PI
C191	311.73'	112.81'	20°44'00"	57.07	5.09	18.2244	31+64.55
C190	522.64'	12.21'	1°20'20"	5.11'	0.04	10.5748	32+30.70
C189	100.00'	7.89'	4°24'31"	3.85'	0.07	57.1745	33+07.54
C188	1000.00'	47.16'	2°42'11"	23.59'	0.28	5.4346	33+89.58
C187	1000.00'	30.82'	1°45'17"	15.31'	0.12	5.4346	34+75.61
C186	147.37'	48.54'	18°52'20"	24.49'	1.99	38.5241	36+34.09
C100	298.11'	48.64'	9°24'39"	24.37'	1.00	19.2058	37+03.40
C185	150.00'	39.55'	15°08'30"	19.89'	1.30	38.1150	37+74.05
C184	150.00'	51.16'	19°32'58"	25.84'	2.18	38.1150	38+41.74
C183	1000.00'	52.31'	2°59'49"	26.16'	0.34	5.4346	39+21.19
C182	1000.00'	22.17'	1°18'13"	11.09'	0.06	5.4346	40+13.87
C181	1000.00'	24.19'	1°25'38"	12.46'	0.08	5.4346	40+97.60
C180	1000.00'	57.07'	3°16'12"	28.54'	0.41	5.4346	41+87.45

PROFILE
 STA. 31+00 - 42+00
 HORIZONTAL SCALE: 1"=40'
 VERTICAL SCALE: 1"=40'

Culvert	Existing Culvert				Proposed Culvert								
	Existing Structure	Station	Length (FT.)	Slope	Cover (IN.)	Activity Proposed	Proposed Structure	Length (FT.)	Slope	Inlet FL Elevation	Outlet FL Elevation	Cover (IN.)	Notes
9	N/A	39+27	N/A	N/A	N/A	ADD	18" CPP	34	2.9	838.6	837.6	8.0	Shallow
10	8" STEEL	40+62	19	5.5%	12	REPLACE	18" CPP	28	3.9	839.2	838.1	14	
11	18" RCP	41+63	29	2.1%	10	REPLACE	18" CPP	33	1.5	839.7	839.2	9.6	Shallow

LEGEND

AOI	AREA OF INTEREST	PROPERTY LINES	PROPERTY LINES	18" FILTER SOCK	PROPOSED ROADWAY	EXISTING BUILDING	TELEPHONE SYMBOL
R/W	RIGHT OF WAY	TELEPHONE LINES	TELEPHONE LINES	PHASE 2 FENCING	JURISDICTIONAL DITCH	GAS SYMBOL	GUY WIRE
LOD	LIMITS OF DISTURBANCE	OVERHEAD POWERLINES	OVERHEAD POWERLINES	FENCE	INTERMITTENT STREAM	WATER MARKER	TELEPHONE BOX
EXISTING CONTOURS	EXISTING CONTOURS	GAS LINES	GAS LINES	PROPOSED CULVERT	PERENNIAL STREAM	MAILBOX	ELECTRIC SYMBOL
PROPOSED CONTOURS	PROPOSED CONTOURS	EXISTING GRAVEL ROADWAY	EXISTING GRAVEL ROADWAY	EPHEMERAL STREAM	WETLAND	ROCK CHECK DAM	OUTLET PROTECTION
FLOODPLAIN	FLOODPLAIN	EXISTING DIRT ROADWAY	EXISTING DIRT ROADWAY				

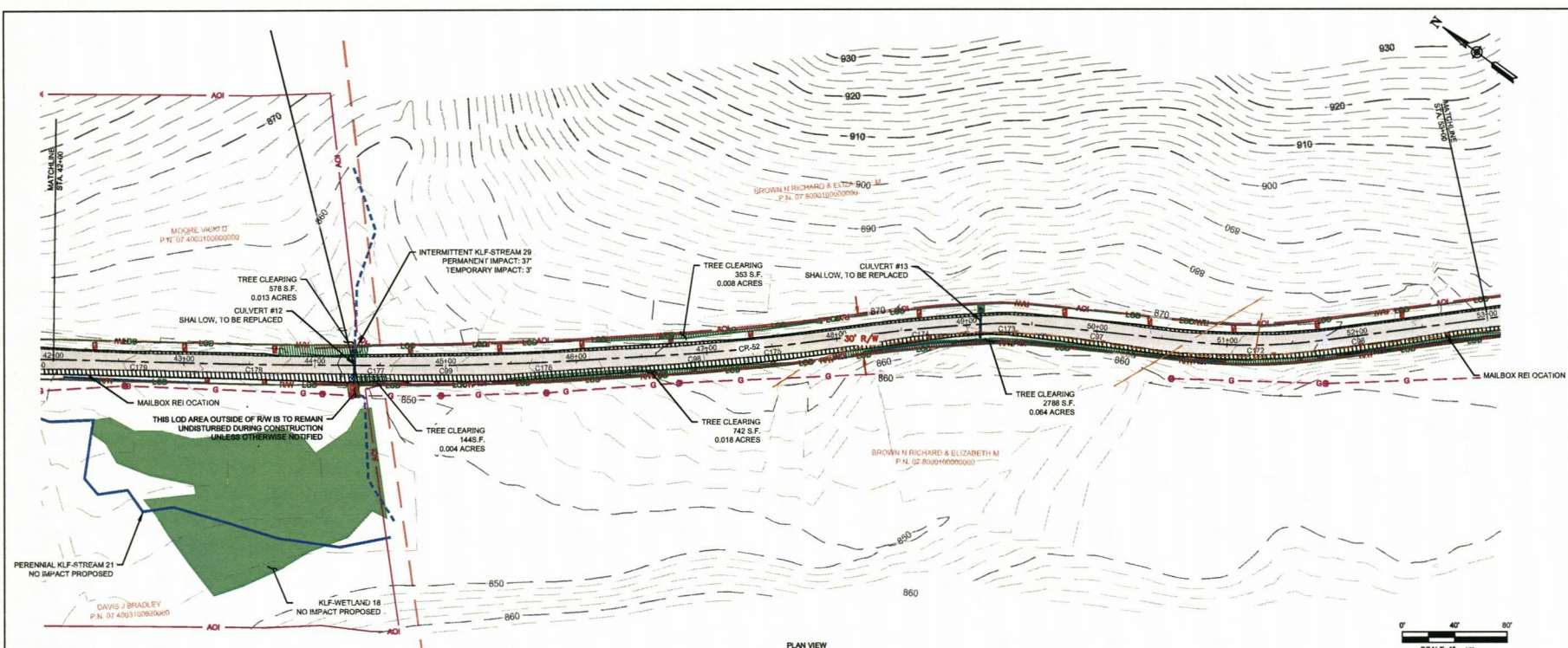
FINAL PLAN

1" = 40'
 # SCALE BAR DOES NOT MEASURE 1". DRAWING NOT PLOTTED TO SCALE.

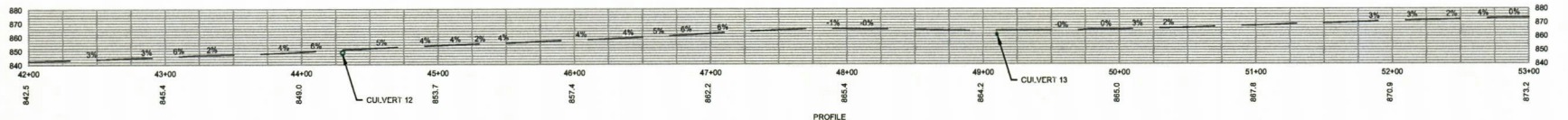
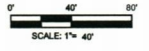


DESIGN BY:	DATE:	DESC:
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STA. 42+00 TO 53+00
SUGAR RUN ROAD (CR-52) ROADWAY IMPROVEMENTS
ANTERO RESOURCES
DISTRICT 4
DODDRIEGE COUNTY, WEST VIRGINIA



PLAN VIEW
CR-52 STA. 42+00 - 53+00



PROFILE
STA. 42+00 - 53+00
HORIZONTAL SCALE: 1"=40'
VERTICAL SCALE: 1"=4'

CURVE #	RADIUS	ARC LENGTH	DELTA ANGLE	TANGENT	MID ORDINATE	DEGREE OF CURVE	PI
C179	1000.00'	3.90'	0°13'25"	1.95'	0.00	5.4346	42+65.39
C178	1000.00'	15.84'	0°54'28"	7.92'	0.03	5.4346	43+53.49
C177	1000.00'	9.47'	0°32'33"	4.73'	0.01	5.4346	44+46.73
C176	1000.00'	30.81'	1°45'55"	15.41'	0.12	5.4346	45+74.82
C98	50.00'	1.34'	1°32'17"	0.67'	0.00	114.3530	46+90.22
C175	1000.00'	39.34'	2°15'14"	19.67'	0.19	5.4346	47+50.18
C174	1000.00'	99.39'	3°24'11"	29.71'	0.44	5.4346	37+03.40
C173	200.00'	31.57'	0°02'42"	15.82'	0.62	28.3852	49+30.78
C97	50.00'	0.79'	0°54'06"	0.39'	0.00	114.3530	50+00.16
C172	408.55'	95.94'	1°32'16"	48.19'	2.81	14.0127	51+21.84
C96	50.00'	0.29'	0°20'11"	0.15'	0.00	114.3530	51+99.98

Pole #	TO	Pole #	Station	Location	Height
UNMARKED	UNMARKED	50+73	CL	26'	
UNMARKED	UNMARKED	51+22	CL	26'	

Culvert	Existing Culvert			Proposed Culvert						
	Existing Structure	Station	Length (FT.)	Proposed Structure	Length (FT.)	Slope	Inlet FL Elevation	Outlet FL Elevation	Cover (IN.)	NOTES
12	36" CMP	44+30	20	36" CPP	30	2.3%	847.0	846.7	6	N/A
13	18" RCP	49+10	20	18" CPP	22	4.0%	861.6	860.7	14	Inlet

LEGEND

AREA OF INTEREST	PROPERTY LINES	18" FILTER SOCK	PROPOSED ROADWAY	EXISTING BUILDING	TELEPHONE SYMBOL
R/W	TELEPHONE LINES	PHASE 2 FENCING	JURISDICTIONAL DITCH	GAS SYMBOL	GUY WIRE
LOD	OVERHEAD POWERLINES	FENCE	INTERMITTENT STREAM	WATER MARKER	TELEPHONE BOX
EXISTING CONTOURS	GAS LINES	PROPOSED CULVERT	PERENNIAL STREAM	MAILBOX	ELECTRIC SYMBOL
PROPOSED CONTOURS	EXISTING GRAVEL ROADWAY	EXISTING CULVERT	EPHEMERAL STREAM	ROCK CHECK DAM	OUTLET PROTECTION
FLOODPLAIN	EXISTING DIRT ROADWAY	WETLAND			

FINAL PLAN

IF SCALE BAR DOES NOT MEASURE TO SCALE, DRAWING NOT PLOTTED TO SCALE

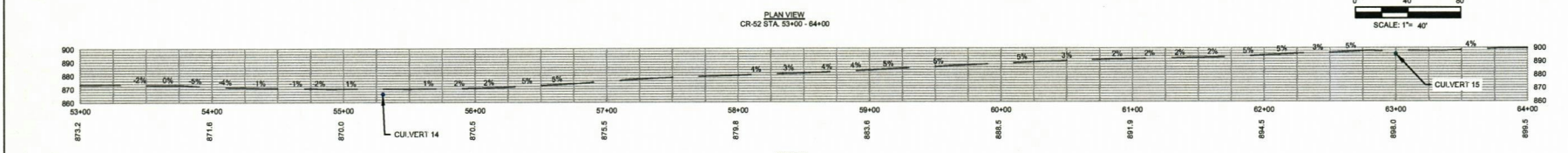
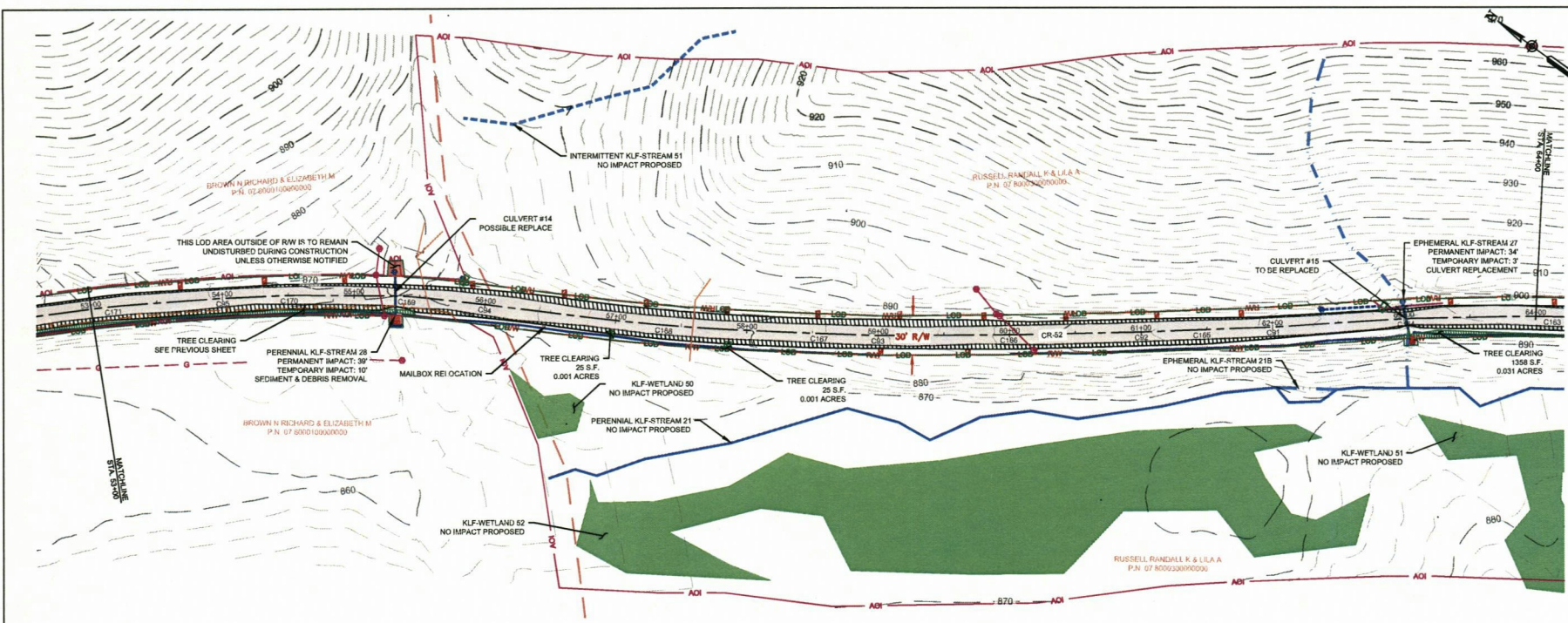
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 DATE: 02/28/2020
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 DATE: 02/28/2020
 REVISIONS:
 REV. BY: JAM DATE: 02/28/2020
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STA. 53+00 TO 64+00
 SUGAR RUN ROAD (CR-52) ROADWAY IMPROVEMENTS
 DISTRICT 4
 ANTERO RESOURCES
 DOORIDGE COUNTY, WEST VIRGINIA



CURVE DATA TABLE

CURVE #	RADIUS	ARC LENGTH	DELTA ANGLE	TANGENT	MID ORDINATE	DEGREE OF CURVE	PI
C171	900.00'	30.16'	3°27'29"	15.08'	0.23	11.2733	53+16.13
C86	50.00'	1.41'	1°38'38"	0.70'	0.00	114.3530	53+99.97
C170	290.00'	12.07'	2°49'58"	5.04'	0.07	22.5508	54+50.81
C169	343.33'	36.29'	6°02'16"	18.16'	0.48	16.4108	55+40.22
C94	50.00'	0.64'	0°44'15"	0.32'	0.00	114.3530	56+00.12
C168	1800.00'	129.58'	4°38'24"	64.82'	1.31	3.3452	57.36.94
C167	1000.00'	8.99'	0°24'01"	3.49'	0.01	5.4346	58+55.16
C93	50.00'	2.07'	2°22'32"	1.04'	0.01	114.3530	58+99.83
C166	1000.00'	16.08'	0°56'17"	8.07'	0.03	5.4346	59+39.38
C92	50.00'	0.85'	0°58'10"	0.42'	0.00	114.3530	61+00.05
C165	500.00'	1.04'	0°07'08"	0.52'	0.00	11.2733	61+46.04
C91	50.00'	1.37'	1°34'06"	0.68'	0.00	114.3530	61+99.97
C164	500.00'	22.56'	2°36'09"	11.28'	0.13	11.2733	63+01.38

Overhead Utility Clearance

Pole #	TO	Pole #	Station	Location	Height
UNMARKED		UB-643	55+55	RT EP	20' 2"
UNMARKED		UNMARKED	57+58	RT EP	21' 10"

Culvert Table

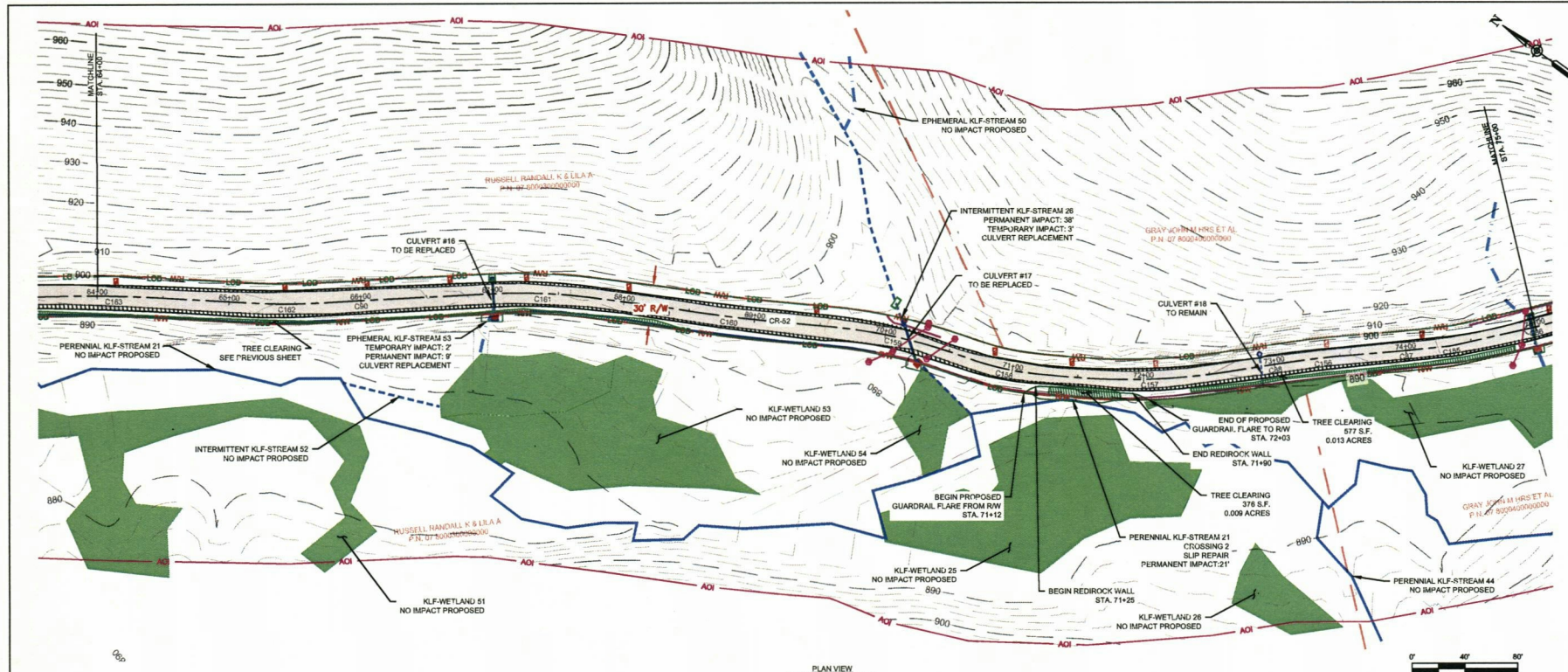
Culvert	Existing Culvert			Proposed Culvert									
	Existing Structure	Station	Length (FT.)	Slope	Cover (IN.)	Activity Proposed	Proposed Structure	Length (FT.)	Slope	Inlet FL Elevation	Outlet FL Elevation	Cover (IN.)	Notes
14	24" RCP	55+30	30	5.5%	24	REPLACE	24" CPP	32'	2%	N/A	N/A	15 MIN.	N/A
15	24" RCP	63+00	21	4.2%	10	REPLACE	24" CPP	28'	3.9%	894.6	893.9	14	

LEGEND

- AOI — AREA OF INTEREST
- RW — RIGHT OF WAY
- LOD — LIMITS OF DISTURBANCE
- — — — — EXISTING CONTOURS
- — — — — PROPOSED CONTOURS
- — — — — FLOODPLAIN
- — — — — PROPERTY LINES
- T — TELEPHONE LINES
- — — — — OVERHEAD POWERLINES
- G — GAS LINES
- — — — — EXISTING GRAVEL ROADWAY
- — — — — EXISTING DIRT ROADWAY
- — — — — 18" FILTER SOCK
- — — — — PHASE 2 FENCING
- X — FENCE
- — — — — PROPOSED CULVERT
- — — — — EXISTING CULVERT
- — — — — PROPOSED ROADWAY
- — — — — JURISDICTIONAL DITCH
- — — — — INTERMITTENT STREAM
- — — — — PERENNIAL STREAM
- — — — — EPHEMERAL STREAM
- — — — — WETLAND
- — — — — EXISTING BUILDING
- — — — — GAS SYMBOL
- — — — — WATER MARKER
- — — — — MAILBOX
- — — — — ROCK CHECK DAM
- — — — — OUTLET PROTECTION
- — — — — TELEPHONE SYMBOL
- — — — — GUY WIRE
- — — — — TELEPHONE BOX
- — — — — ELECTRIC SYMBOL

FINAL PLAN

1" = 40'
 # SCALE BAR DOES NOT MEASURE 1" DRAWING NOT PLOTTED TO SCALE



PLAN VIEW
CR-52 STA. 64+00 - 75+00



PROFILE
STA. 64+00 - 75+00
HORIZONTAL SCALE: 1"=40'
VERTICAL SCALE: 1"=40'

CURVE #	RADIUS	ARC LENGTH	DELTA ANGLE	TANGENT	MID ORDINATE	DEGREE OF CURVE	PI
C163	932.57'	70.47'	4°19'48"	35.25'	0.67'	6.0838	64+12.85
C162	500.00'	57.14'	6°32'52"	28.60'	0.82'	11.2733	65+43.81
C160	50.00'	0.43'	0°29'37"	0.22'	0.00'	114.3530	65+99.99
C161	425.10'	75.39'	10°09'43"	37.80'	1.67'	13.2842	67+38.07
C68	50.00'	1.44'	1°39'05"	0.72'	0.01'	114.3530	68+30.65
C160	1071.48'	71.12'	3°48'11"	35.57'	0.59'	5.2050	68+80.81
C159	407.92'	98.64'	13°5'11"	49.56'	2.98'	14.0246	70+06.92
C158	219.84'	54.13'	14°06'28"	27.20'	1.66'	26.0346	70+94.61
C157	500.00'	119.28'	13°40'06"	59.92'	3.55'	11.2733	72+04.74
C88	50.00'	0.80'	0°54'43"	0.40'	0.00'	114.3530	72+99.98
C156	500.00'	26.85'	3°04'36"	13.43'	0.18'	11.2733	73+36.60
C87	50.00'	0.94'	1°04'38"	0.47'	0.00'	114.3530	73+99.91
C155	76.94'	8.06'	6°44'46"	4.53'	0.13'	74.2802	74+34.19
C86	50.00'	1.95'	2°14'02"	0.97'	0.01'	114.3530	74+99.53

Existing Culvert		Culvert Table											
Culvert	Existing Structure	Station	Length (FT.)	Slope	Cover (IN.)	Activity Proposed	Proposed Structure	Length (FT.)	Slope	Inlet FL Elevation	Outlet FL Elevation	Cover (IN.)	Notes
16	15" CMP	67+00	20	6.7%	1	REPLACE	18" CPP	28	3.9%	863.1	862.0	14	Inlet
17	15" CPP	70+18	21	5.2%	18	REPLACE	18" CPP	33	3.9%	860.7	869.4	14	
18	15" CPP	72+89	20	4.4%	10	TO REMAIN	N/A	N/A	N/A	N/A	N/A	N/A	Shallow

LEGEND

- AOI: AREA OF INTEREST
- R/W: RIGHT OF WAY
- LOD: LIMITS OF DISTURBANCE
- EXISTING CONTOURS
- PROPOSED CONTOURS
- FLOODPLAIN
- PROPERTY LINES
- TELEPHONE LINES
- OVERHEAD POWERLINES
- GAS LINES
- EXISTING GRAVEL ROADWAY
- EXISTING DIRT ROADWAY
- 18" FILTER SOCK
- JURISDICTIONAL DITCH
- INTERMITTENT STREAM
- PERENNIAL STREAM
- EPHEMERAL STREAM
- WETLAND
- PROPOSED ROADWAY
- EXISTING BUILDING
- EXISTING ROADWAY
- TELEPHONE SYMBOL
- GUY WIRE
- TELEPHONE BOX
- ELECTRIC SYMBOL
- GAS SYMBOL
- WATER MARKER
- MAILBOX
- ROCK CHECK DAM
- OUTLET PROTECTION

FINAL PLAN

IF SCALE BAR DOES NOT MEASURE 1", DRAWING NOT PLOTTED TO SCALE

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DRAWN BY: JMS
FIELD BY: JMS
DATE: 03/28/2023

REV. BY: JMS
DATE: 03/28/2023

REV. BY: JMS
DATE: 03/28/2023

REV. BY: JMS
DATE: 03/28/2023

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DATE: 03/28/2023

STA. 64+00 TO 75+00
SUGAR RUN ROAD (CR-52) ROADWAY IMPROVEMENTS
DISTRICT 4
ANTERO RESOURCES
DODDRIEGE COUNTY, WEST VIRGINIA

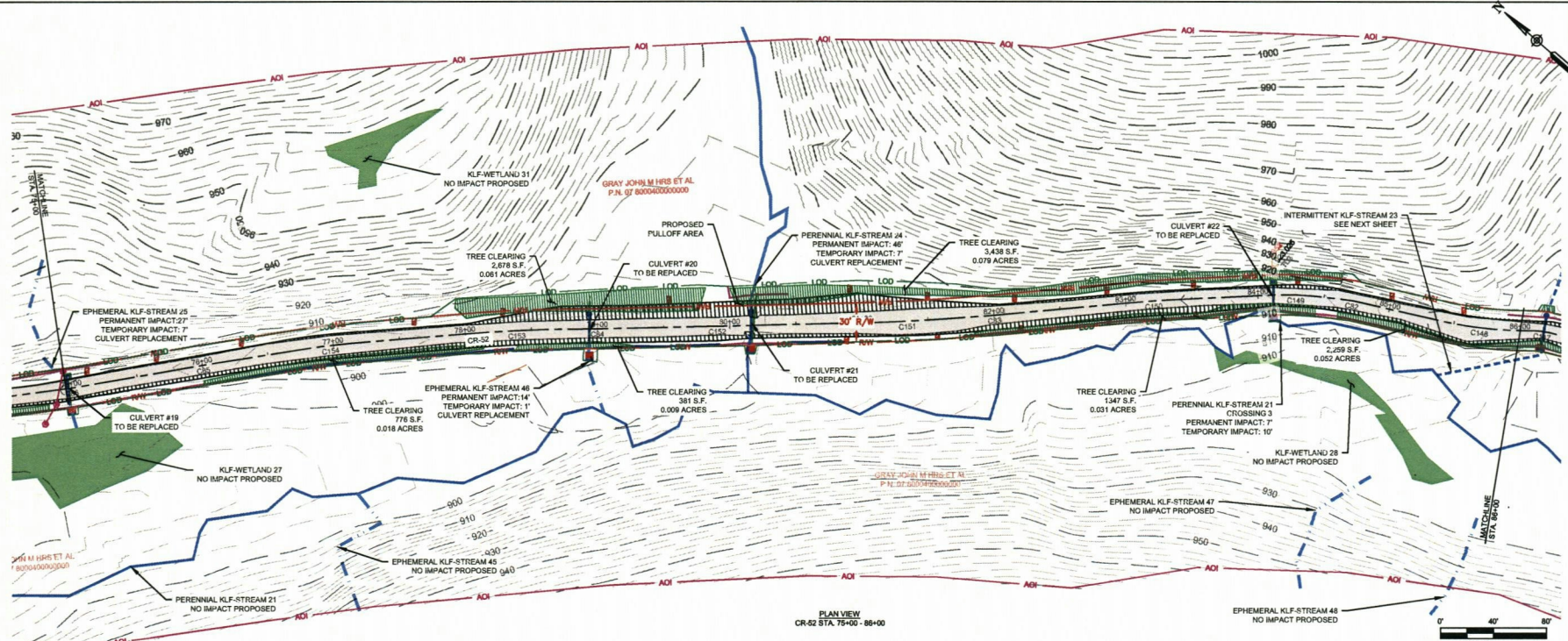
HAMMONTREE & ASSOCIATES, L.T.D.
 50 NEWELL AVENUE
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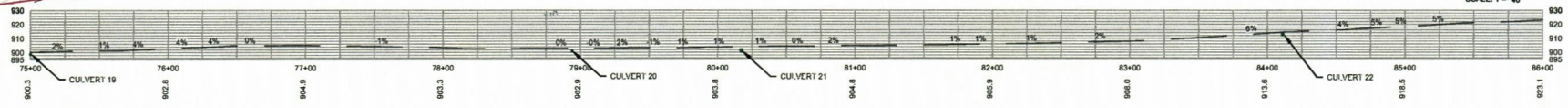
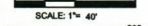
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DESIGN BY: JAS
 DRAWN BY: JAS
 CHECKED BY: JAS
 DATE: 02/28/2020

STA. 75+00 TO 86+00
 SUGAR RUN ROAD (CR-52) ROADWAY IMPROVEMENTS
 ANTERO RESOURCES
 DISTRICT 4
 DOODROO COUNTY, WEST VIRGINIA



PLAN VIEW
 CR-52 STA. 75+00 - 86+00



PROFILE
 STA. 75+00 - 86+00
 HORIZONTAL SCALE: 1"=40'
 VERTICAL SCALE: 1"=40'

CURVE #	RADIUS	ARC LENGTH	DELTA ANGLE	TANGENT	MID ORDINATE	DEGREE OF CURVE	PI
C88	50.00'	5.33'	6°06'13"	2.87'	0.07	114.3530	78+00.14
C154	668.51'	49.91'	4°16'41"	24.97'	0.47	8.3415	78+97.45
C153	1098.89'	78.27'	4°04'52"	38.15'	0.70	5.1251	78+38.89
C182	1469.43'	5.31'	0°12'26"	2.66'	0.00	3.5357	79+90.40
C151	1081.75'	52.68'	2°47'25"	26.35'	0.32	5.1748	81.33.81
C83	50.00'	0.92'	1°03'11"	0.46'	0.00	114.3530	82+00.03
C150	1000.00'	43.70'	2°30'14"	21.85'	0.24	5.4348	83+20.85
C149	250.00'	41.29'	9°27'14"	20.67'	0.88	22.5508	84+28.02
C82	50.00'	0.68'	0°46'44"	0.34'	0.00	114.3530	84+71.05
C148	300.01'	61.71'	11°47'07"	30.96'	1.59	19.0553	85+69.91

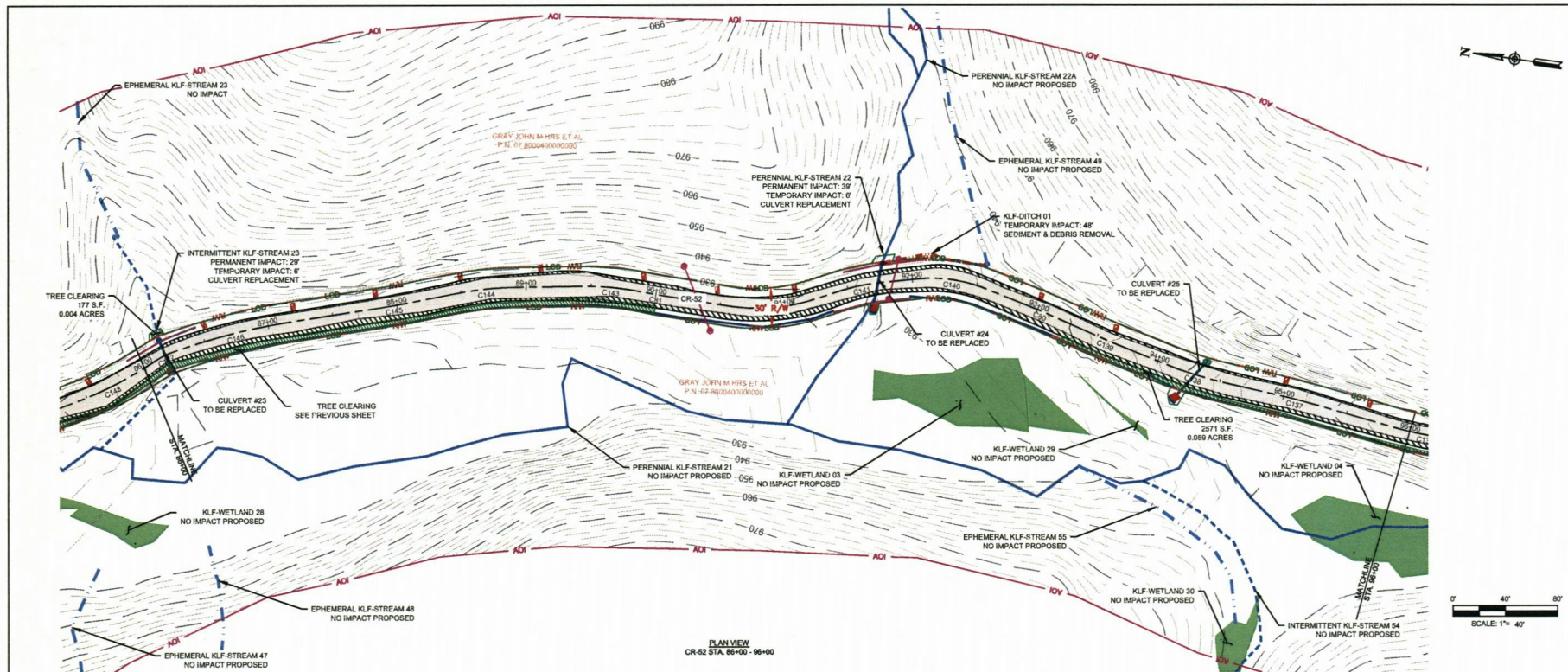
Culvert	Existing Culvert				Activity Proposed	Proposed Culvert				Notes			
	Existing Structure	Station	Length (FT.)	Slope		Proposed Structure	Length (FT.)	Slope	Inlet FL Elevation		Outlet FL Elevation	Cover (IN.)	
19	12" CMP	75+00	20	2.9%	5	REPLACE	18" CPP	23	3.0	897.2	896.5	14	Inlet
20	12" CMP	78+94	20	1.5%	10	REPLACE	18" CPP	39	1.8%	900.0	899.3	14	
21	24" CMP	80+17	20	6.3%	16	REPLACE	24" CPP	41	2.4%	901.0	900.0	8	Shallow
22	18" CMP	84+11	21	9.1%	1	REPLACE	18" CPP	26	3.8%	911.7	910.7	14	Inlet

LEGEND

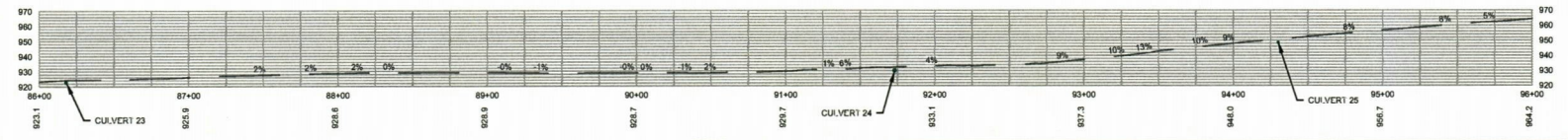
AOI	AREA OF INTEREST	PROPERTY LINES	PROPOSED ROADWAY	EXISTING BUILDING	TELEPHONE SYMBOL
RW	RIGHT OF WAY	TELEPHONE LINES	JURISDICTIONAL DITCH	GAS SYMBOL	GUY WIRE
LOD	LIMITS OF DISTURBANCE	OVERHEAD POWERLINES	INTERMITTENT STREAM	WATER MARKER	TELEPHONE BOX
EXISTING CONTOURS	EXISTING CONTOURS	GAS LINES	PERENNIAL STREAM	MAILBOX	ELECTRIC SYMBOL
PROPOSED CONTOURS	PROPOSED CONTOURS	EXISTING GRAVEL ROADWAY	PROPOSED CULVERT	ROCK CHECK DAM	
FLOODPLAIN	FLOODPLAIN	EXISTING DIRT ROADWAY	EXISTING CULVERT	OUTLET PROTECTION	
			18" FILTER SOCK		
			PHASE 2 FENCING		
			FENCE		
			WETLAND		

FINAL PLAN

IF SCALE BAR DOES NOT MEASURE 1", DRAWING NOT PLOTTED TO SCALE



PLAN VIEW
CR-52 STA. 86+00 - 96+00



PROFILE
STA. 86+00 - 96+00
HORIZONTAL SCALE: 1"=40'
VERTICAL SCALE: 1"=40'

CURVE DATA TABLE							
CURVE #	RADIUS	ARC LENGTH	DELTA ANGLE	TANGENT	MID ORDINATE	DEGREE OF CURVE	PI
C147	59.59'	13.53'	13°00'29"	6.79'	0.38	96.0927	86+17.11
C148	500.00'	90.87'	10°24'48"	45.56'	2.08	11.2733	86+73.70
C146	503.03'	20.41'	2°19'29"	10.21'	0.10	11.2324	87+97.00
C144	280.43'	49.56'	10°07'35"	24.85'	1.09	20.2553	88+58.16
C143	222.21'	45.10'	11°37'41"	22.63'	1.14	25.4702	89+55.32
C81	50.00'	1.80'	2°03'29"	0.90'	0.01	114.3530	90+00.13
C142	147.46'	67.33'	26°09'41"	34.26'	3.83	38.5123	90+90.05
C141	137.06'	28.30'	11°49'55"	14.20'	0.73	41.4811	91+59.85
C140	113.22'	53.49'	27°04'01"	27.25'	3.14	50.3623	92+31.26
C80	500.00'	1.85'	2°07'11"	0.93'	0.01	114.3530	93+03.39
C139	500.00'	18.34'	2°09'04"	9.17'	0.08	11.2733	93+56.10
C138	300.00'	45.24'	8°38'28"	22.66'	0.85	19.0555	94+28.78
C137	500.00'	26.18'	2°59'58"	13.09'	0.17	11.2733	95+08.68

Culvert Table												
Culvert	Existing Culvert					Proposed Culvert						
	Station	Length (FT.)	Slope	Cover (IN.)	Activity Proposed	Proposed Structure	Length (FT.)	Slope	Inlet FL Elevation	Outlet FL Elevation	Cover (IN.)	Notes
23	86+18	22	2.1%	8	REPLACE	24" CPP	24	2.1%	921.7	921.2	6	Shallow
24	91+73	25	2.3%	15	REPLACE	24" CPP	33	2.1%	929.7	929.0	9	Shallow
25	94+30	31	7.8%	5	REPLACE	18" CPP	32	3.7%	948.2	947.0	14	Inlet

LEGEND

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- GAS LINES
- EXISTING GRAVEL ROADWAY
- EXISTING DIRT ROADWAY
- 18" FILTER SOCK
- PHASE 2 FENCING
- FENCE
- PROPOSED CULVERT
- EXISTING CULVERT
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- PERENNIAL STREAM
- EPHEMERAL STREAM
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- EXISTING BUILDING
- GAS SYMBOL
- WATER MARKER
- MAILBOX
- ROCK CHECK DAM
- OUTLET PROTECTION
- TELEPHONE SYMBOL
- GUY WIRE
- TELEPHONE BOX
- ELECTRIC SYMBOL

FINAL PLAN

1" = 40'
IF SCALE BAR DOES NOT MEASURE 1" DRAWING NOT PLOTTED TO SCALE

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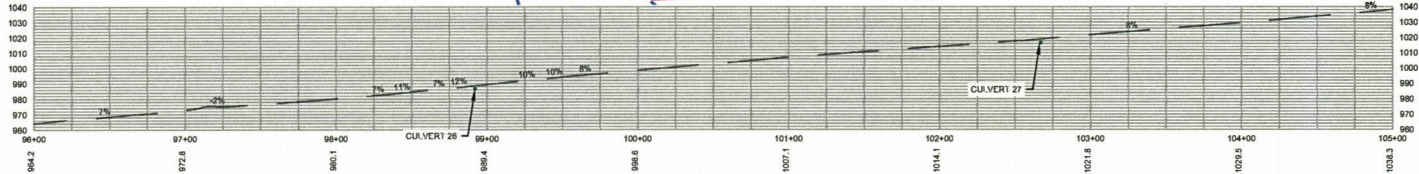
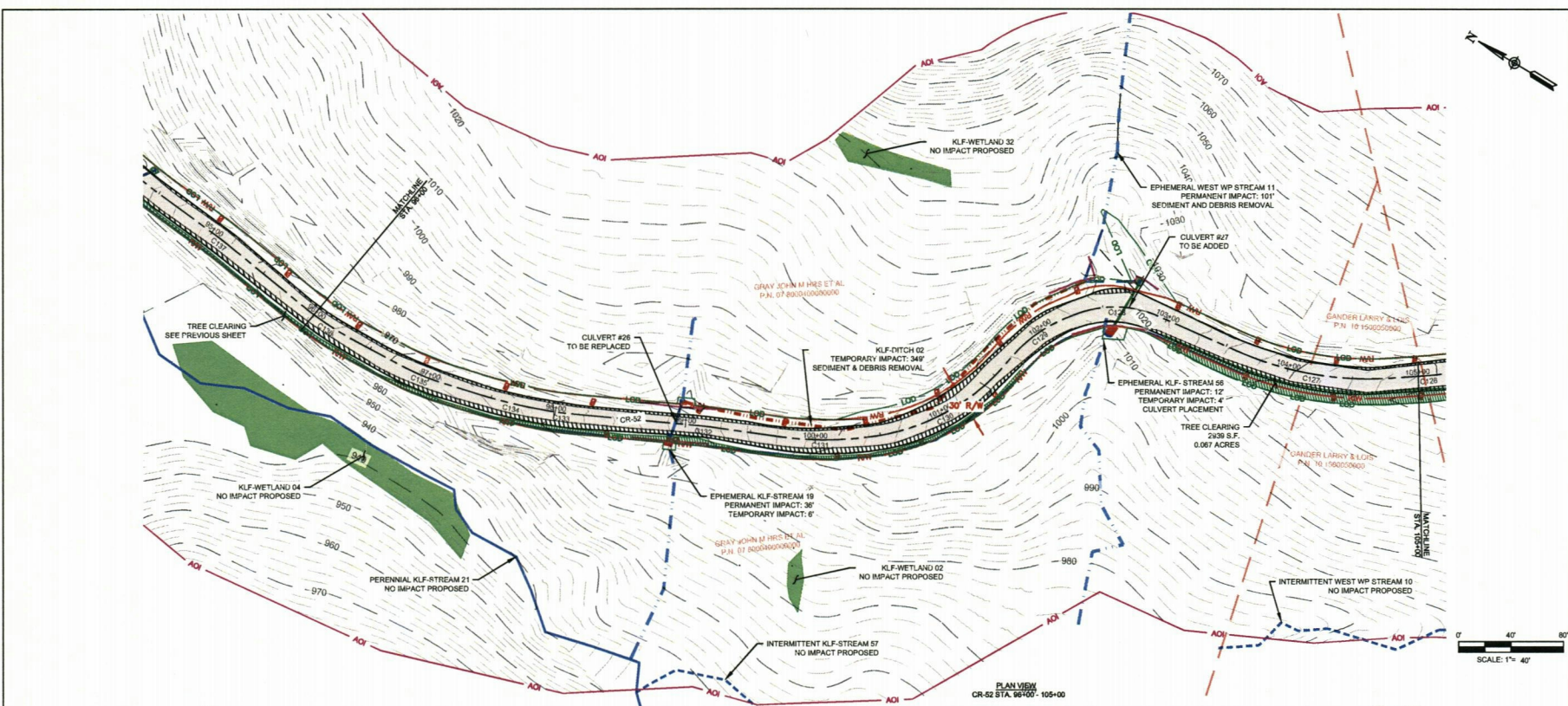
STA. 86+00 TO 96+00
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ANTERO RESOURCES
DISTRICT 4
DOODRIE COUNTY, WEST VIRGINIA

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STA. 96+00 TO 105+00
 SUGAR RUN ROAD (CR-52) ROADWAY IMPROVEMENTS
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 DISTRICT 4
 DODDRIEGE COUNTY, WEST VIRGINIA



CURVE #	RADIUS	ARC LENGTH	DELTA ANGLE	TANGENT	MID ORDINATE	DEGREE OF CURVE	PI
C136	250.00'	47.51'	10°53'18"	23.87	1.13	22.5506	96+13.07
C135	200.00'	38.02'	10°53'46"	19.07'	0.90	28.3852	96+53.53
C134	400.00'	51.81'	7°25'19"	25.94'	0.84	14.1928	97+66.45
C133	200.00'	15.82'	4°28'31"	7.81'	0.15	28.3852	98+04.97
C132	200.00'	9.08'	2°38'00"	4.54'	0.05	28.3852	98+14.10
C131	248.03'	59.76'	13°48'15"	30.02'	1.80	23.0603	100+03.52
C130	183.82'	122.85'	43°01'13"	64.48'	11.40	35.0107	101+03.57
C129	106.30'	51.16'	27°34'25"	26.08'	3.08	53.5404	101+95.71
C128	83.15'	65.46'	45°08'34"	34.53'	6.36	68.5435	102+62.63
C127	250.00'	120.29'	27°34'06"	61.33'	7.20	22.5506	104+20.07
C126	250.00'	8.73'	2°00'05"	4.37'	0.04	22.5506	105+07.91

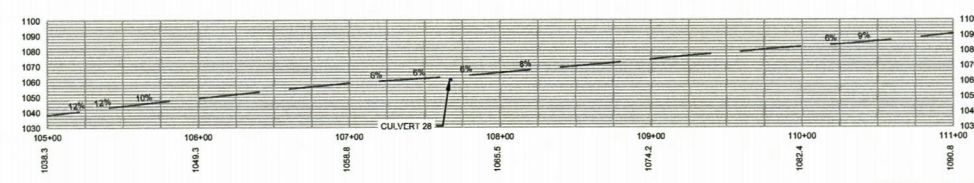
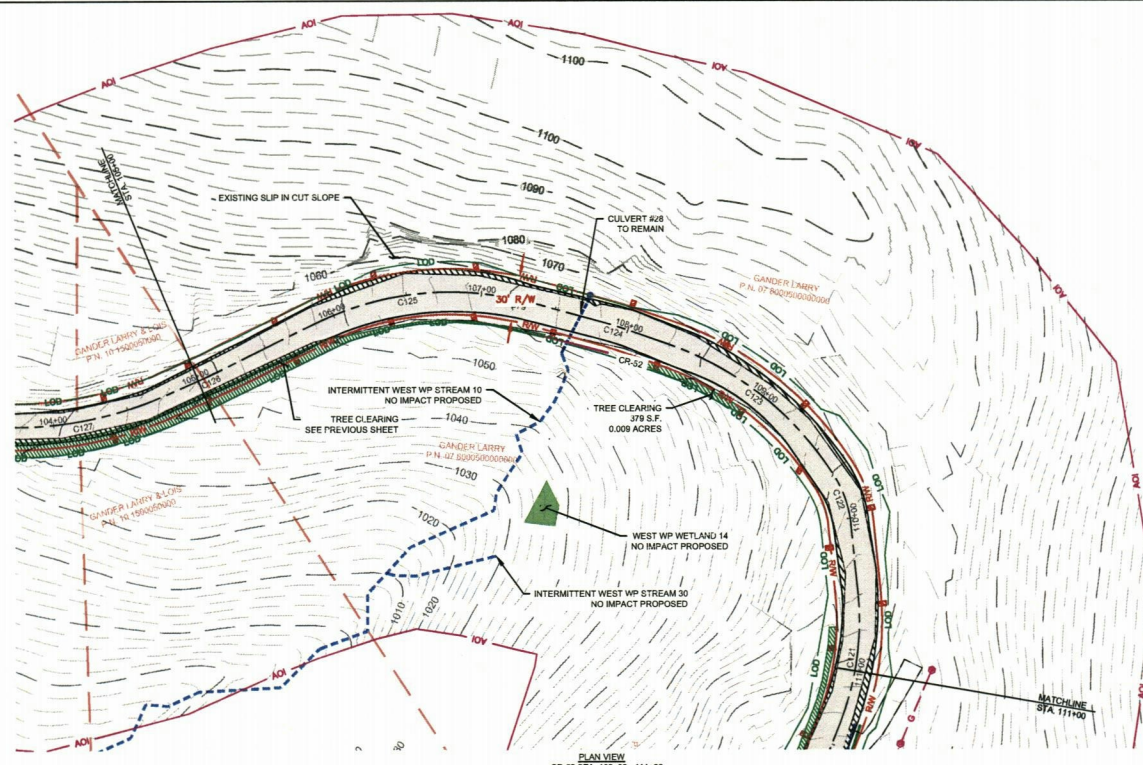
Existing Culvert						Proposed Culvert							
Culvert	Existing Structure	Station	Length (FT.)	Slope	Cover (IN.)	Activity Proposed	Proposed Structure	Length (FT.)	Slope	Inlet FL Elevation	Outlet FL Elevation	Cover (IN.)	Notes
26	18" CMP	98+92	27	4.8%	12	REPLACE	18" CPP	30	4.0%	986.4	985.2	14	
27	N/A	102+67	N/A	N/A	N/A	ADD	18" CPP	38	4.0%	1016.4	1014.9	14	Inlet

LEGEND

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- TELEPHONE SYMBOL
- GUY WIRE
- TELEPHONE BOX
- ELECTRIC SYMBOL

FINAL PLAN

IF SCALE BAR DOES NOT MEASURE 1" DRAWING NOT PLOTTED TO SCALE



CURVE DATA TABLE							
CURVE #	RADIUS	ARC LENGTH	DELTA ANGLE	TANGENT	MID ORDINATE	DEGREE OF CURVE	PI
C125	202.21'	128.81'	38°35'29"	84.90'	9.68'	28.2908'	106+52.31
C79	50.00'	4.91'	5°37'41"	2.46'	0.06'	114.3530'	107+25.49
C124	250.00'	16.12'	3°41'38"	8.06'	0.13'	22.5506'	107+91.11
C123	213.01'	134.51'	38°10'44"	69.58'	10.53'	28.5352'	108+67.93
C122	71.99'	36.36'	28°50'58"	18.57'	2.28'	79.3502'	109+86.34
C121	181.20'	87.35'	27°37'15"	44.54'	5.24'	31.3715'	110+92.78

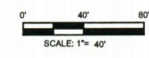
Culvert Table						
Existing Culvert						
Culvert	Existing Structure	Station	Length (FT.)	Slope	Cover (IN.)	Activity Proposed
28	18" CPP	107+67	41	5.8%	10	TO REMAIN

LEGEND

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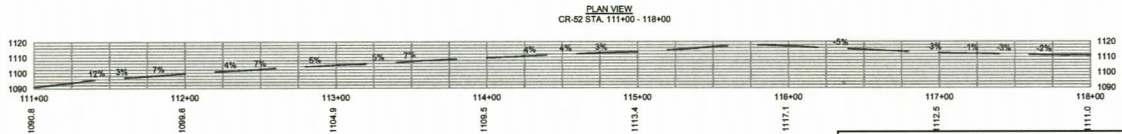
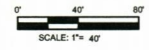
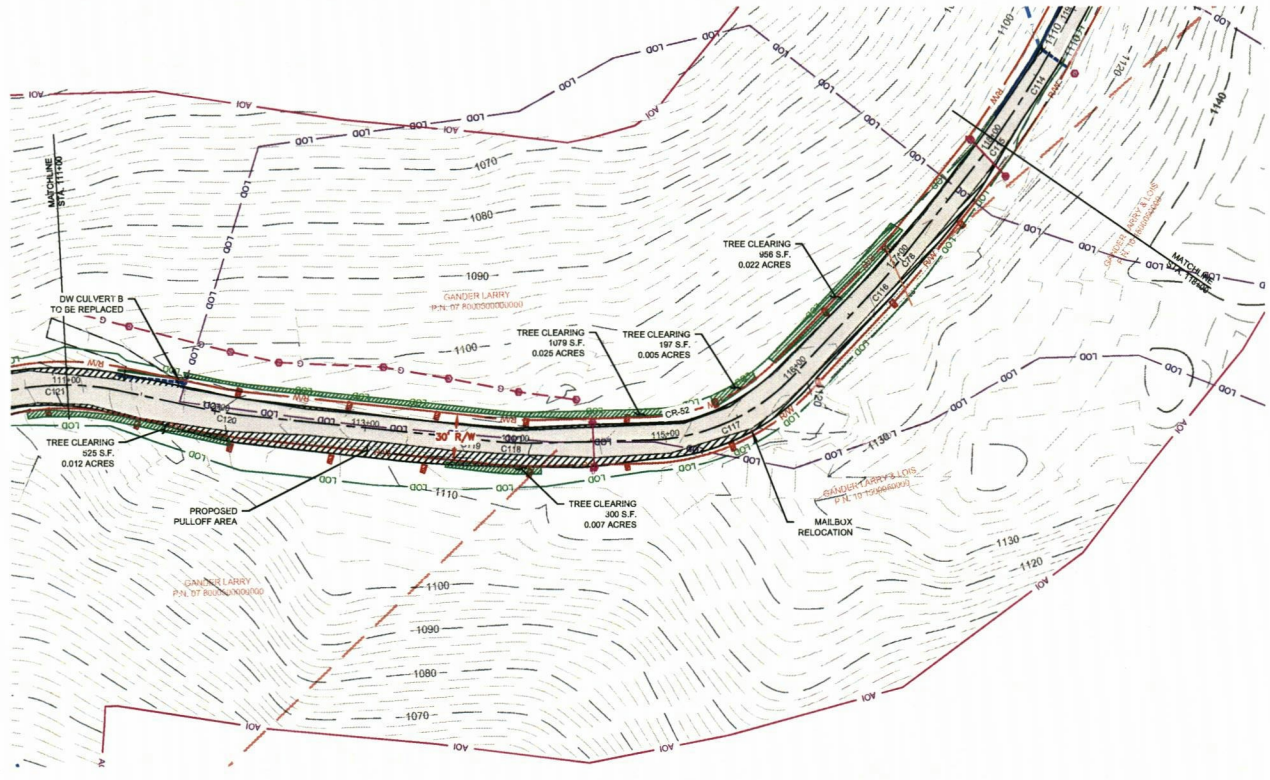


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STA. 105+00 TO 111+00
SUGAR RUN ROAD (CR-52) ROADWAY IMPROVEMENTS
ANTERO RESOURCES
DISTRICT 4
DODDRIEGE COUNTY, WEST VIRGINIA



CURVE DATA TABLE							
CURVE #	RADIUS	ARC LENGTH	DELTA ANGLE	TANGENT	MID ORDINATE	DEGREE OF CURVE	PI
C120	250.00'	25.86'	5°53'32"	12.94'	0.33	22.5506	112+08.34
C119	250.00'	6.35'	1°27'22"	3.18'	0.02	22.5506	113+70.68
C118	250.00'	37.85'	8°40'28"	18.96'	0.72	22.5506	113+97.32
C117	139.87'	109.37'	44°49'31"	57.66'	10.58	40.5904	115+48.06
C116	143.31'	7.10'	2°50'17"	3.55'	0.04	39.5848	118+74.55
C78	50.00'	2.02'	2°19'12"	1.01'	0.01	114.3530	117+02.65
C115	113.36'	8.76'	4°25'33"	4.38'	0.08	50.3209	117+97.10

Overhead Utility Clearance				
Pole #	TO	Pole #	Station	Location
U8-659		UNMARKED	118+93	LT EP

Culvert Table										
Culvert	Existing Culvert				Activity Proposed	Proposed Culvert				
	Station	Length (FT.)	Slope	Cover (IN.)		Proposed Structure	Length (FT.)	Slope	Inlet FL Elevation	Outlet FL Elevation
B	15" RCP	111+50	43	4.0%	REPLACE	15" CPP	43	4.0%	1095.8	1094.1

FINAL PLAN

IF SCALE BAR DOES NOT MEASURE 1" DRAWING NOT PLOTTED TO SCALE

LEGEND

AREA OF INTEREST	PROPERTY LINES	18" FILTER SOCK	PROPOSED ROADWAY	EXISTING BUILDING	TELEPHONE SYMBOL
RIGHT OF WAY	TELEPHONE LINES	PHASE 2 FENCING	JURISDICTIONAL DITCH	GAS SYMBOL	GUY WIRE
LIMITS OF DISTURBANCE	OVERHEAD POWERLINES	FENCE	INTERMITTENT STREAM	WATER MARKER	TELEPHONE BOX
EXISTING CONTOURS	GAS LINES	PROPOSED CULVERT	PERENNIAL STREAM	MAILBOX	ELECTRIC SYMBOL
PROPOSED CONTOURS	EXISTING GRAVEL ROADWAY	EXISTING CULVERT	EPHEMERAL STREAM	ROCK CHECK DAM	OUTLET PROTECTION
FLOODPLAIN	EXISTING DIRT ROADWAY	WETLAND			

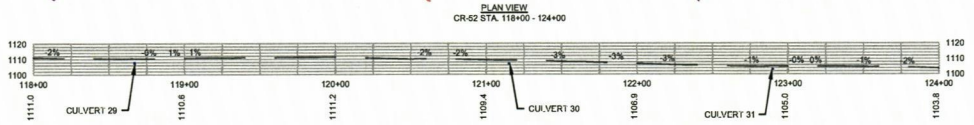
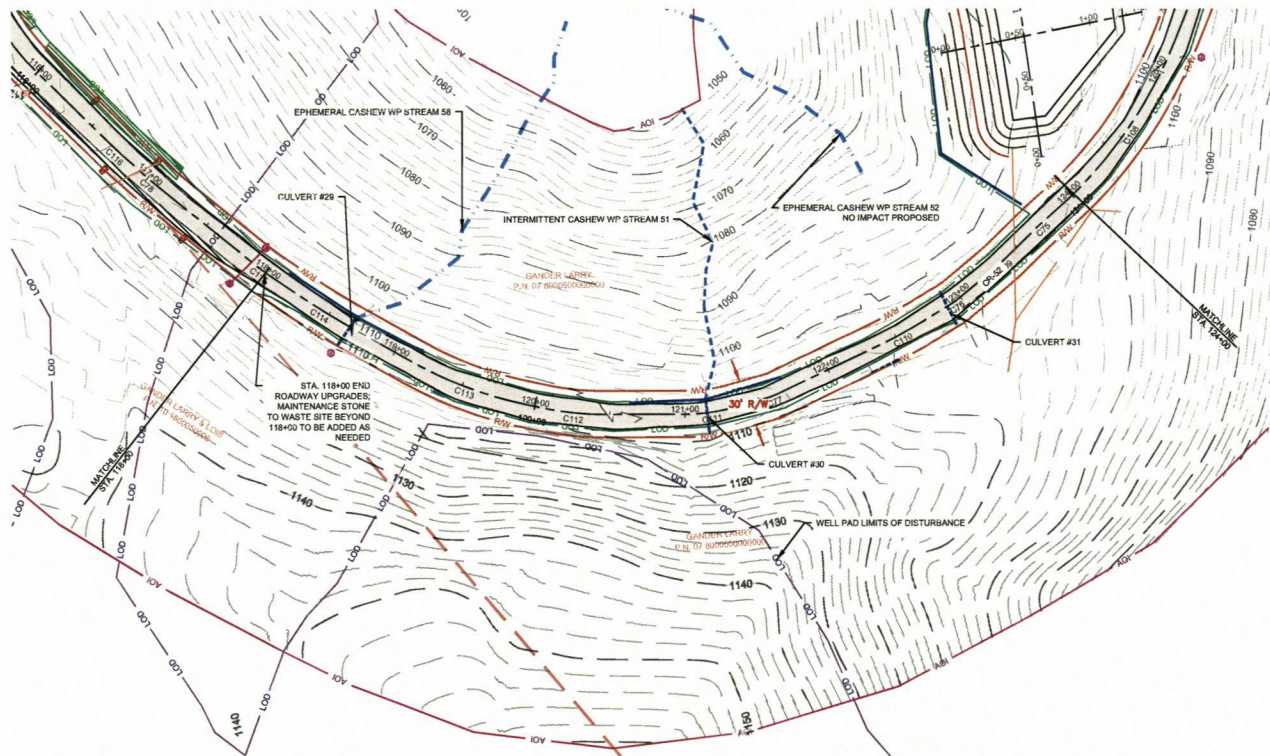
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STA. 111+00 TO 118+00
SUGAR RUN ROAD (CR-52) ROADWAY IMPROVEMENTS
DISTRICT 4
ANTERO RESOURCES
DODDRIEGE COUNTY, WEST VIRGINIA



CURVE DATA TABLE							
CURVE #	RADIUS	ARC LENGTH	DELTA ANGLE	TANGENT	MID ORDINATE	DEGREE OF CURVE	PI
C114	500.00'	44.14'	5°03'31"	22.09'	0.49	11.2733	118+45.04
C113	260.73'	78.86'	17°19'47"	39.73'	2.98	21.5830	119+53.29
C112	201.24'	42.04'	11°58'09"	21.09'	1.10	28.2815	120+26.13
C111	120.22'	32.55'	15°30'52"	16.38'	1.10	47.3935	121+17.19
C77	50.00'	8.39'	9°37'09"	4.21'	0.18	14.3530	121+59.54
C110	893.69'	30.35'	5°55'11"	15.19'	0.39	19.3033	122+53.02
C78	50.00'	7.45'	8°32'22"	3.73'	0.14	14.3530	122+94.40
C109	250.00'	20.58'	4°43'04"	10.30'	0.21	22.5508	123+33.94
C75	50.00'	2.40'	2°44'57"	1.20'	0.01	14.3530	123+70.41

Overhead Utility Clearance				
Pole #	TO	Pole #	Station	Location
U6-662	-	UNMARKED	123+50	LTEP

Culvert Table				
Existing Culvert				
Culvert	Existing Structure	Station	Length (FT.)	Cover (IN.)
29	12" RCP	116+67	21	24
30	8" STEEL	121+15	22	18
31	8" STEEL	122+90	23	13

LEGEND

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FINAL PLAN

IF SCALE BAR DOES NOT MEASURE 1", DRAWING NOT PLOTTED TO SCALE

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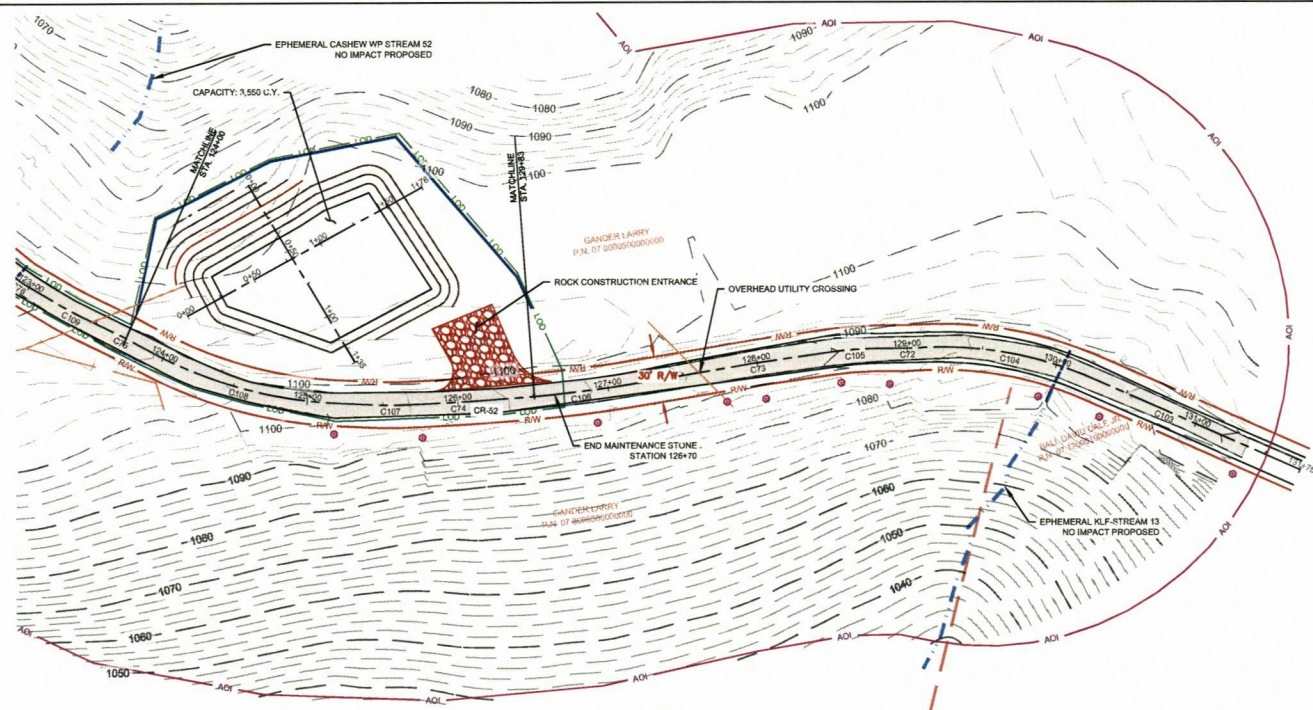


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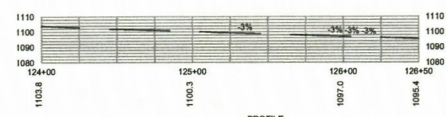
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STA. 118+00 TO 124+00
SUGAR RUN ROAD (CR-52) ROADWAY IMPROVEMENTS
DISTRICT 4
ANTERO RESOURCES
DODDRIE COUNTY, WEST VIRGINIA



PLAN VIEW
CR-52 STA. 124+00 - END



PROFILE
STA. 124+00 - END
HORIZONTAL SCALE: 1"=40'
VERTICAL SCALE: 1"=40'

Overhead Utility Clearance					
Pole #	TO	Pole #	Station	Location	Height
U6-663		UNMARKED	127+80	CL	28'

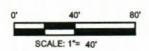
CURVE DATA TABLE							
CURVE #	RADIUS	ARC LENGTH	DELTA ANGLE	TANGENT	MID ORDINATE	DEGREE OF CURVE	PI
C108	291.41'	130.35	29°37'41"	66.28'	7.26	19.3941	124+55.78
C107	250.00'	21.86'	5°07'39"	10.94'	0.24	22.5508	125+55.16
C74	1889.78'	66.70'	2°01'55"	33.36'	0.30	3.0247	126+99.90

LEGEND

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- TELEPHONE BOX
- ELECTRIC SYMBOL

FINAL PLAN

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SCALE BAR DOES NOT MEASURE 1" DRAWING NOT PLOTTED TO SCALE



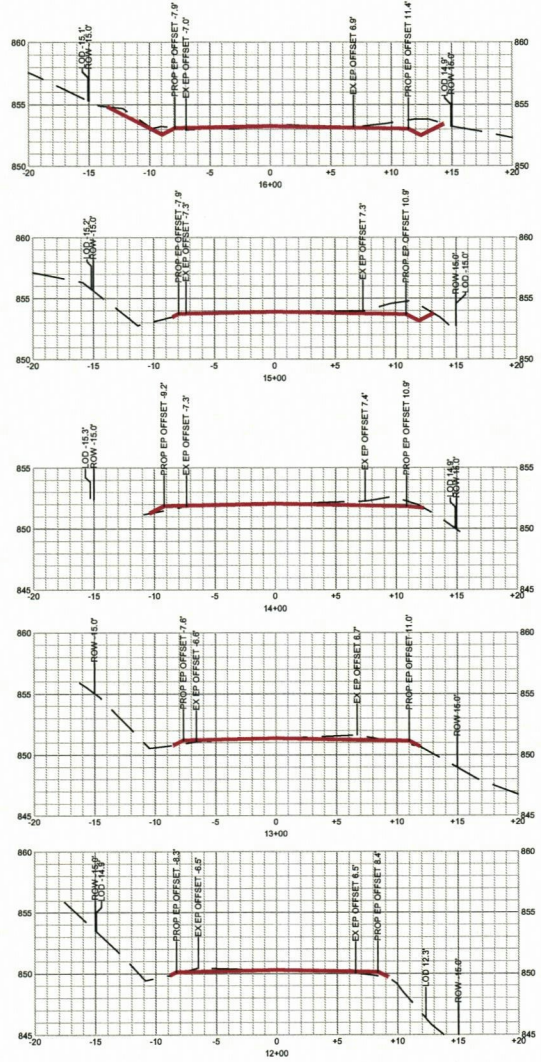
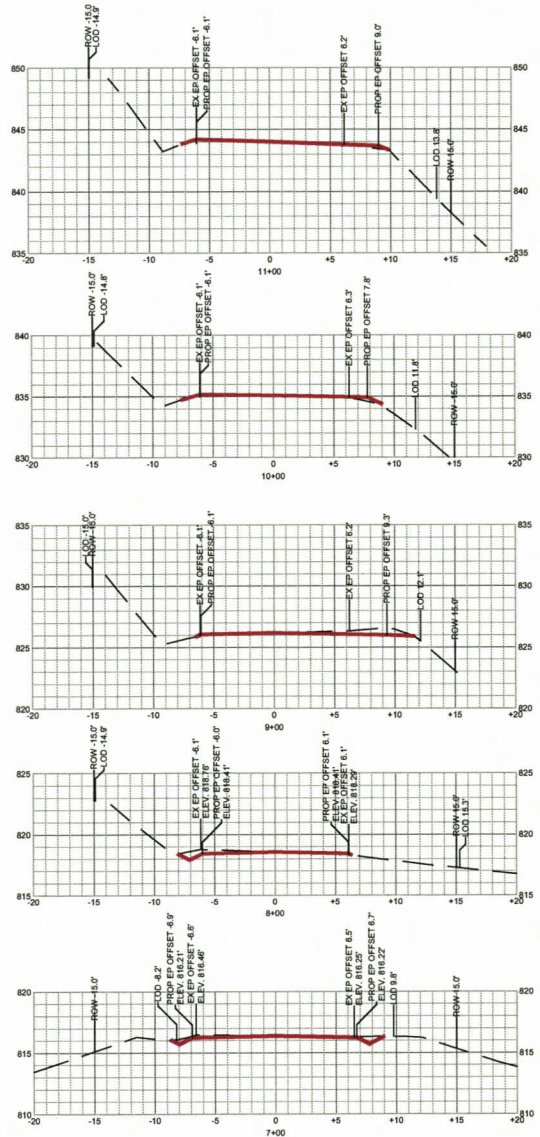
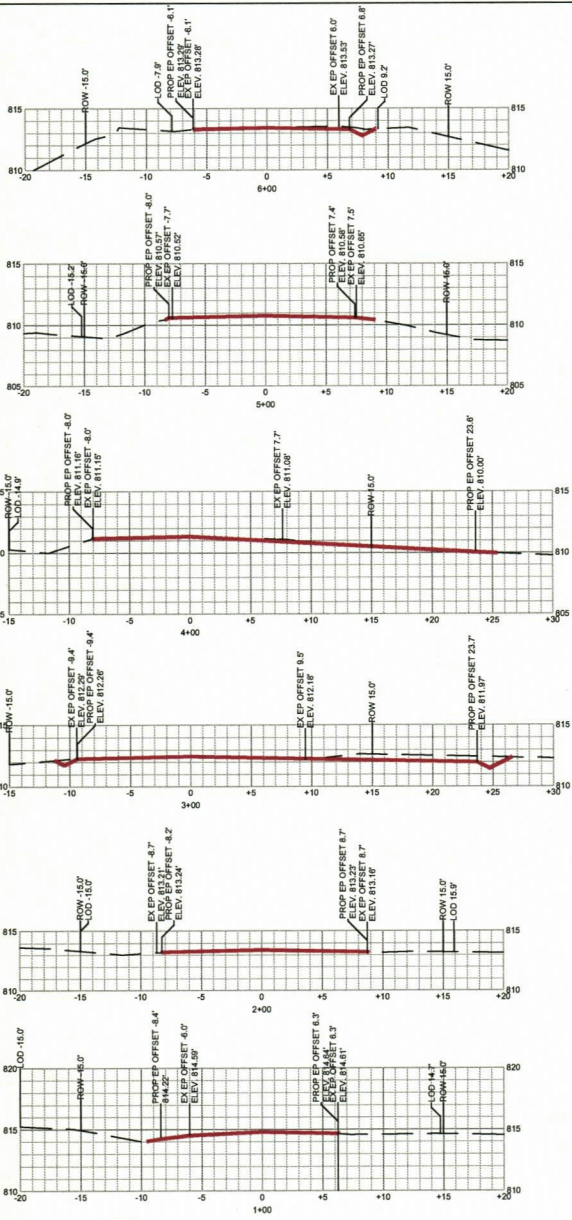
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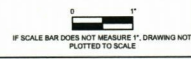
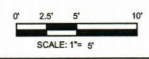
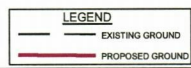
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STA. 124+00 TO END
SUGAR RUN ROAD (CR-52) ROADWAY IMPROVEMENTS
ANTERO RESOURCES
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FINAL PLAN



CROSS SECTIONS STATION 1+00 TO 16+00
 SUGAR RUN ROAD (CR-52) ROADWAY IMPROVEMENTS
 DISTRICT 4
 ANTERO RESOURCES
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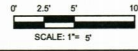
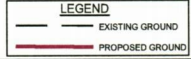
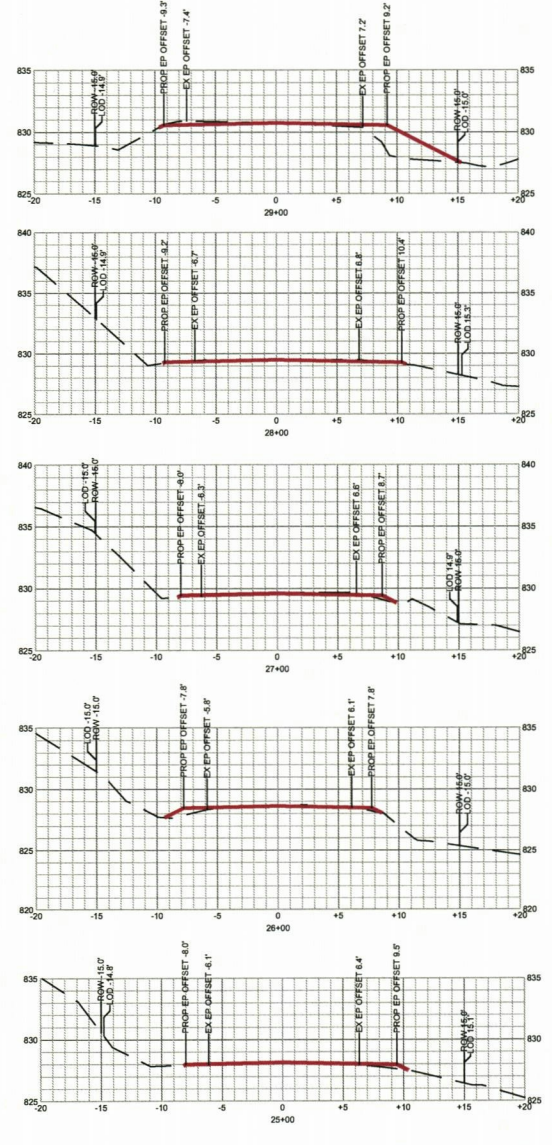
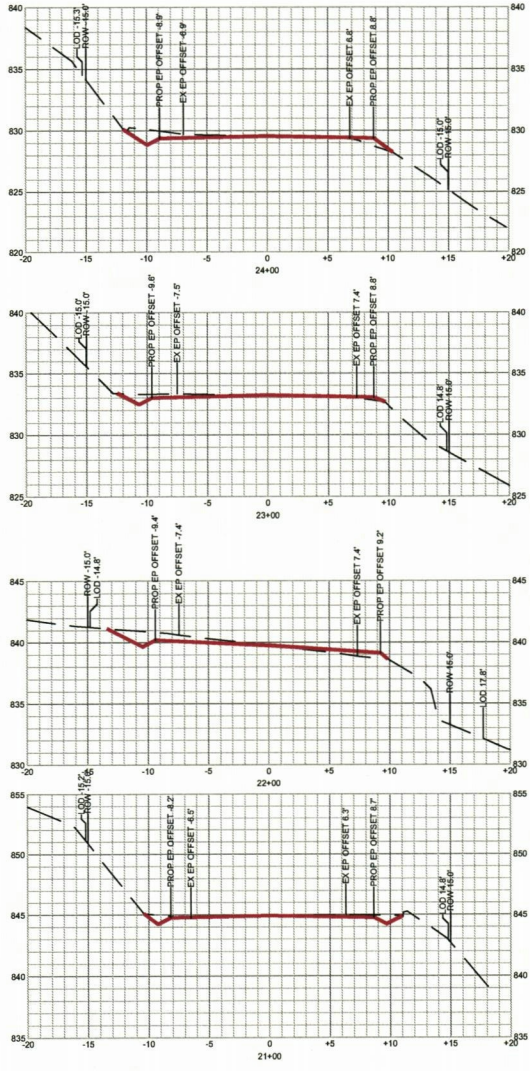
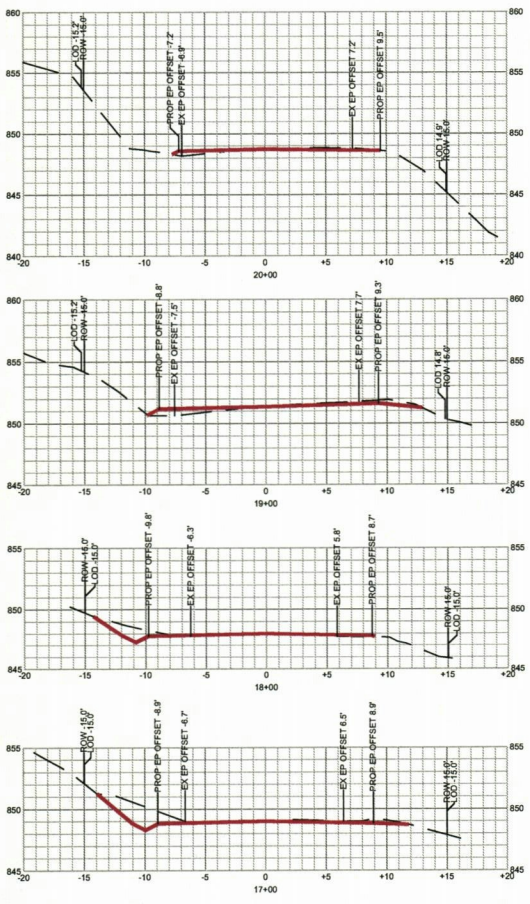
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Antero Resources

28

PLOT DATE: June 8, 2020

FINAL PLAN



HANMONTREE & ASSOCIATES, LTD.
 ENGINEERING, PLANNING, SURVEYING
 104 NEWELL AVENUE
 SUITE 100
 FARMERSVILLE, VA 22434
 TEL: 540-825-2722
 WWW.HANMONTREE-ENGINEERS.COM

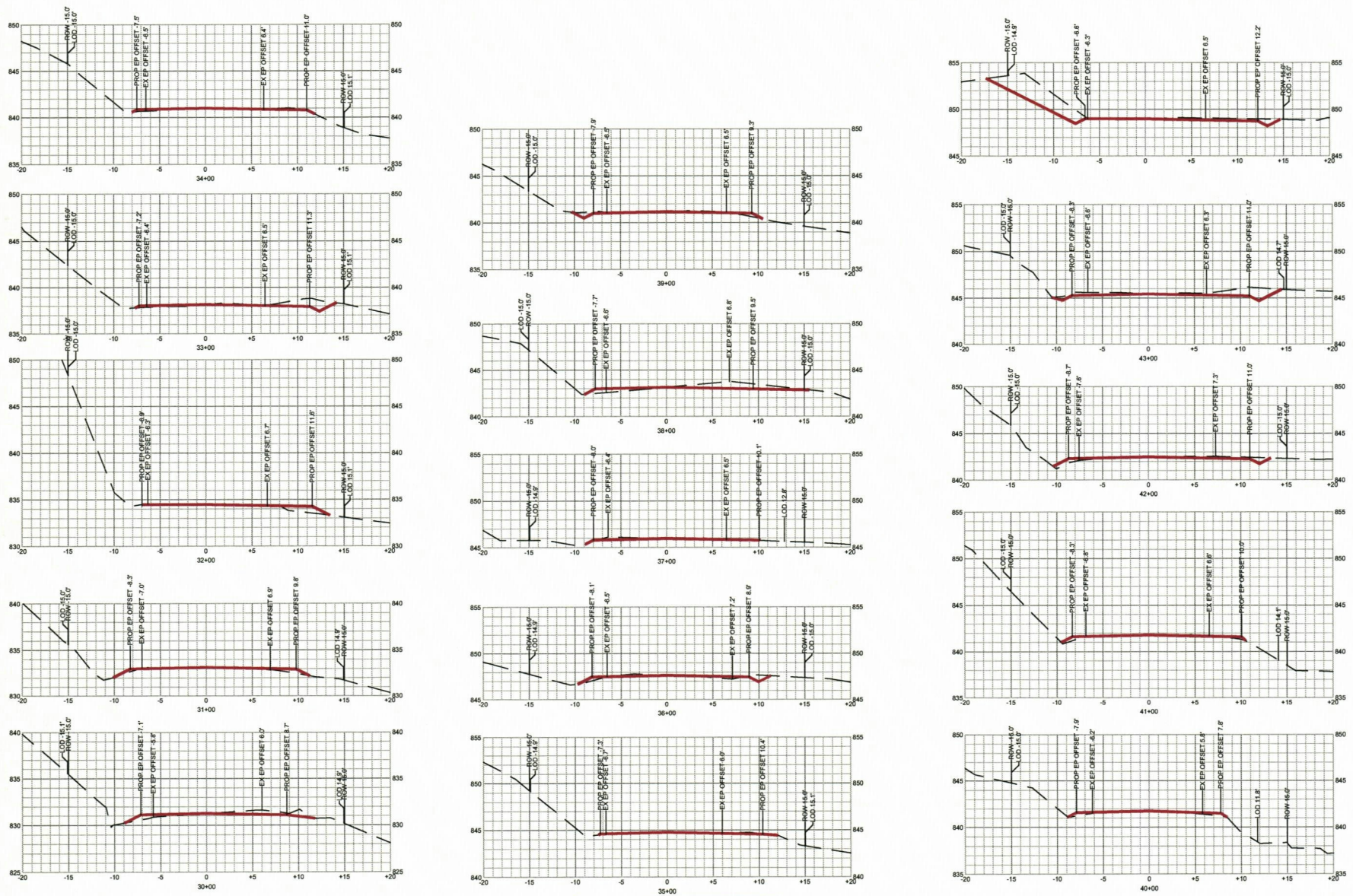


Antero
 Resources

DESK:	DATE:	REV. BY:	DATE:
DESK:	DATE:	REV. BY:	DATE:
DESK:	DATE:	REV. BY:	DATE:
DESK:	DATE:	REV. BY:	DATE:

CROSS SECTIONS STATION 17+00 TO 24+00
 SUGAR RUN ROAD (CR-52) ROADWAY IMPROVEMENTS
 ANTERO RESOURCES
 DISTRICT 4
 DODDRIDGE COUNTY, WEST VIRGINIA

FINAL PLAN



LEGEND
 - - - - - EXISTING GROUND
 ———— PROPOSED GROUND

0 2.5' 5' 10'
 SCALE: 1" = 20'

0 1'
 # SCALE BAR DOES NOT MEASURE 1". DRAWING NOT PLOTTED TO SCALE

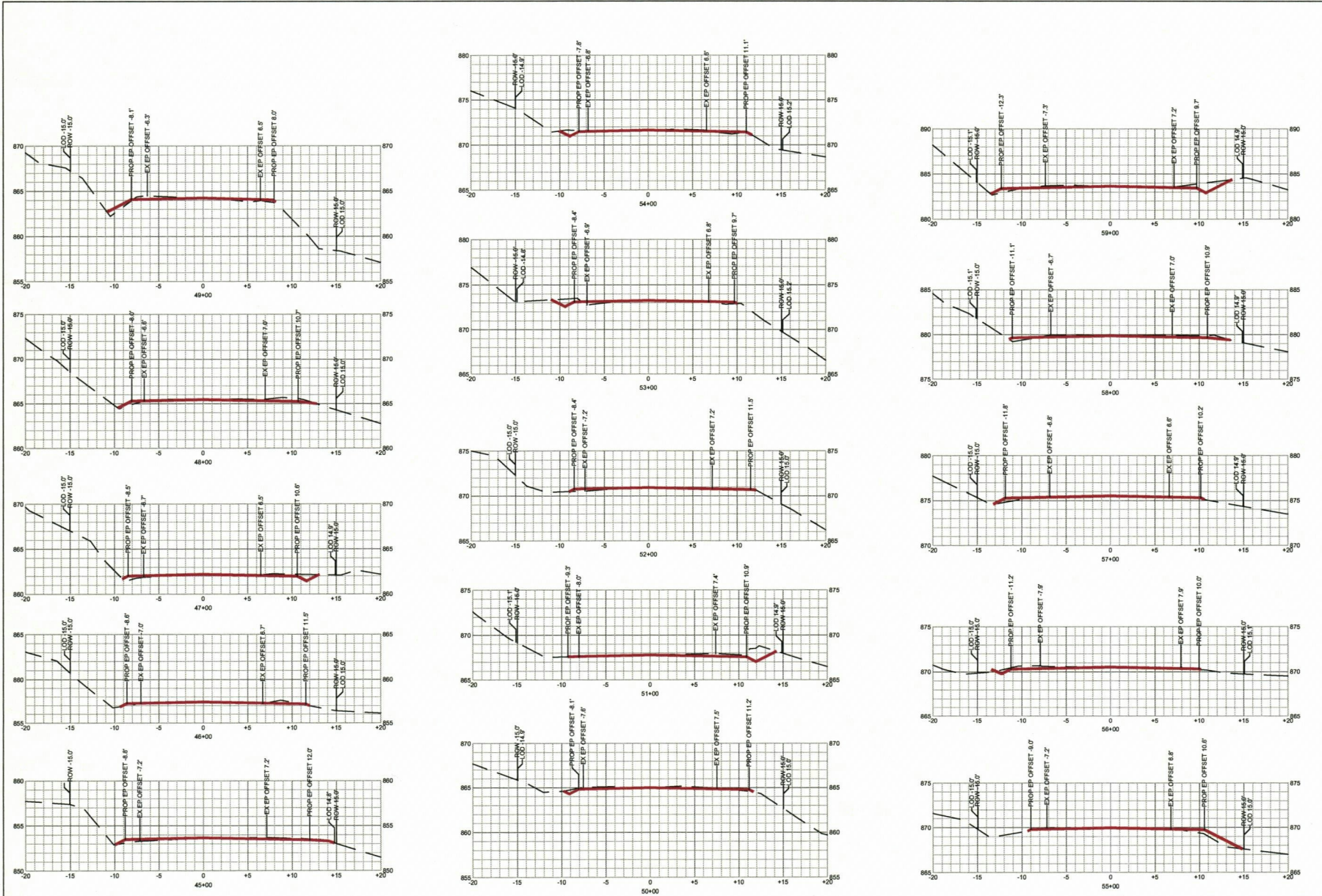
HAMMONTREE & ASSOCIATES, LTD.
 ENGINEERS, PLANNERS, SURVEYORS
 90 N. WILLOW AVE.
 SUITE 100
 FAYETTEVILLE, NC 28404
 PHONE: 704.336.7272
 WWW.HAMMONTREE-ENGINEERS.COM



DESIGN BY: JMT	REV. BY: JMT	DATE: 02/26/2020	DESK: JMT
DRAWN BY: JMT	REV. BY: JMT	DATE: 02/26/2020	DESK: JMT
PLT BY: JMT	REV. BY: JMT	DATE: 02/26/2020	DESK: JMT
DATE: 02/26/2020	REV. BY: JMT	DATE: 02/26/2020	DESK: JMT

CROSS SECTIONS STATION 30+00 TO 44+00
 SUGAR RUN ROAD (CR-52) ROADWAY IMPROVEMENTS
 ANTERO RESOURCES
 DISTRICT 4
 DODDRIDGE COUNTY, WEST VIRGINIA

FINAL PLAN



LEGEND
 — EXISTING GROUND
 — PROPOSED GROUND

0 2.5' 5' 10'
 SCALE: 1" = 5'

0 1'
 # SCALE BAR DOES NOT MEASURE 1" DRAWING NOT PLOTTED TO SCALE

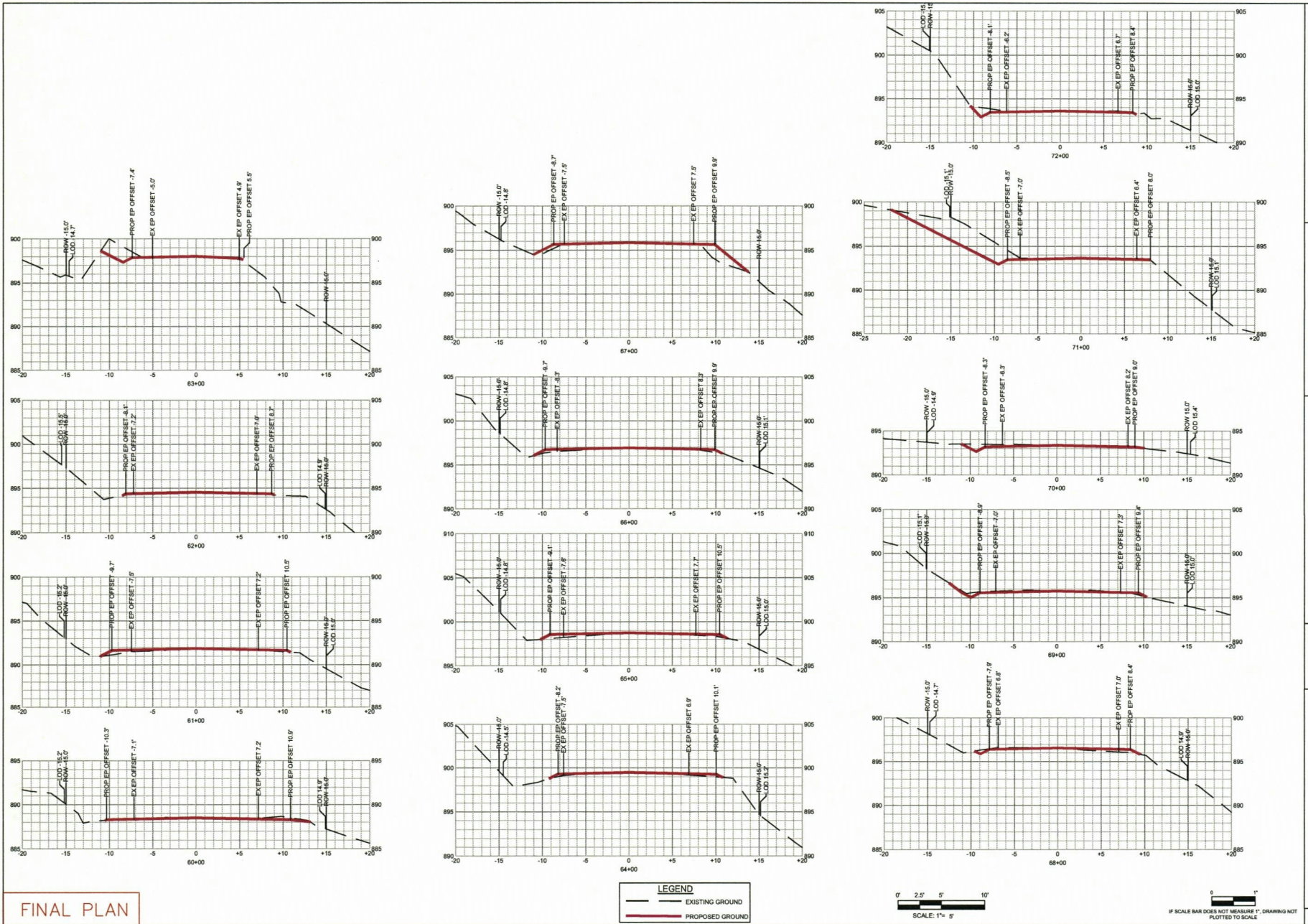
HAMMONTREE & ASSOCIATES, LTD.
 ENGINEERS, PLANNERS, SURVEYORS
 20 N. HILL AVENUE
 SUITE 100
 FAYETTEVILLE, NC 28404
 PHONE: (704) 785-7277
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 Resources

DESIGNED BY:	JMI	DATE:	02/28/2020
REVIEWED BY:	ZSE	DATE:	
DESIGNED BY:	JMI	DATE:	
REVIEWED BY:	ZSE	DATE:	

CROSS SECTIONS STATION 45+00 TO 58+00
 SUGAR RUN ROAD (CR-52) ROADWAY IMPROVEMENTS
 ANTERO RESOURCES
 DISTRICT 4
 DODDGE COUNTY, WEST VIRGINIA

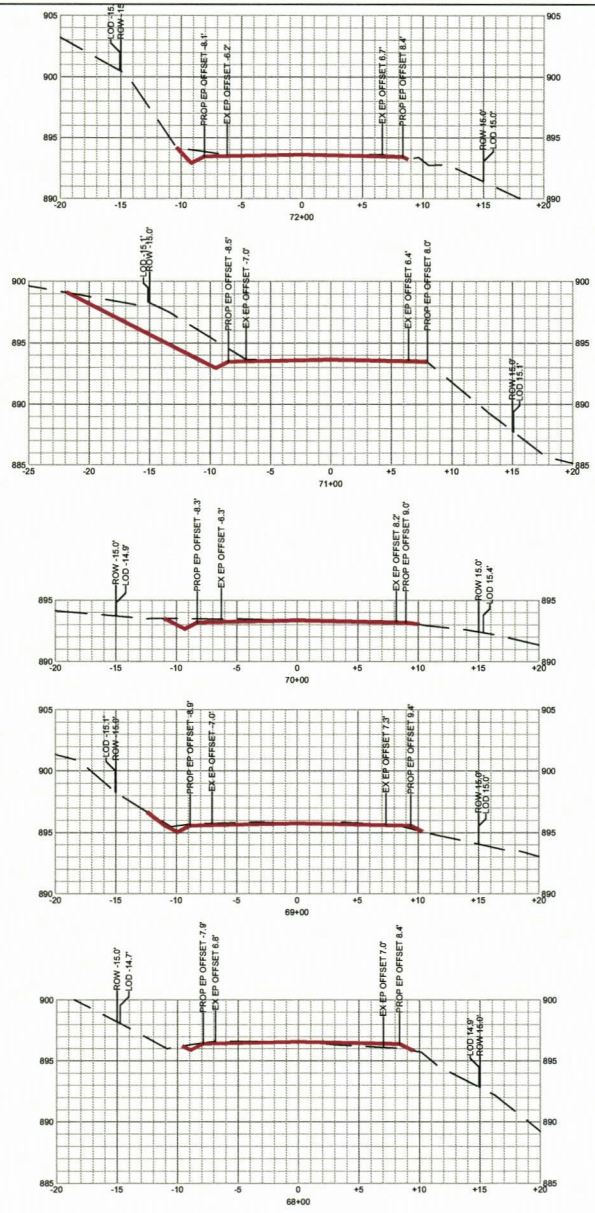


FINAL PLAN

LEGEND
 ——— EXISTING GROUND
 - - - EXISTING GROUND
 ——— PROPOSED GROUND

0' 2.5' 5' 10'
 SCALE: 1" = 5'

0' 1'
 IF SCALE BAR DOES NOT MEASURE 1" DRAWING NOT PLOTTED TO SCALE



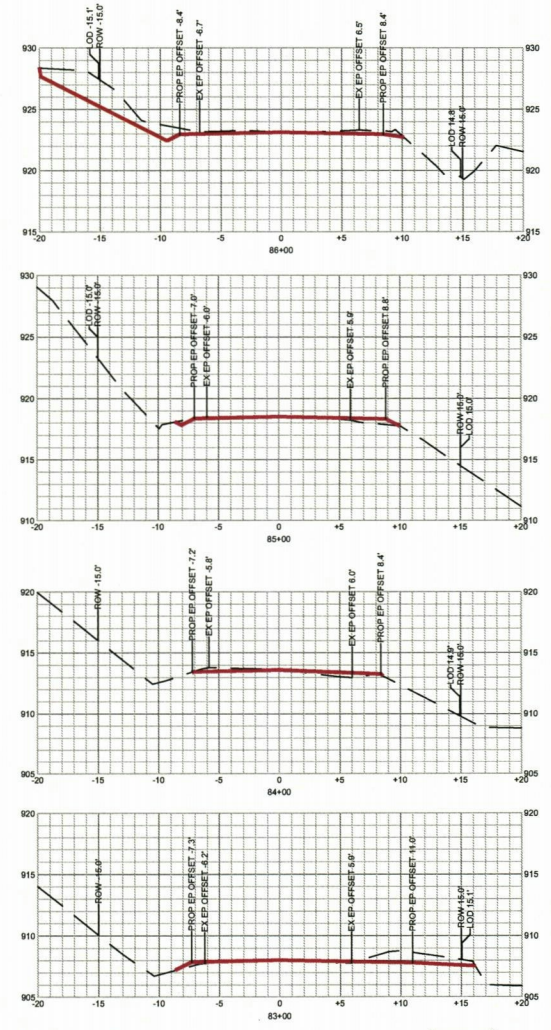
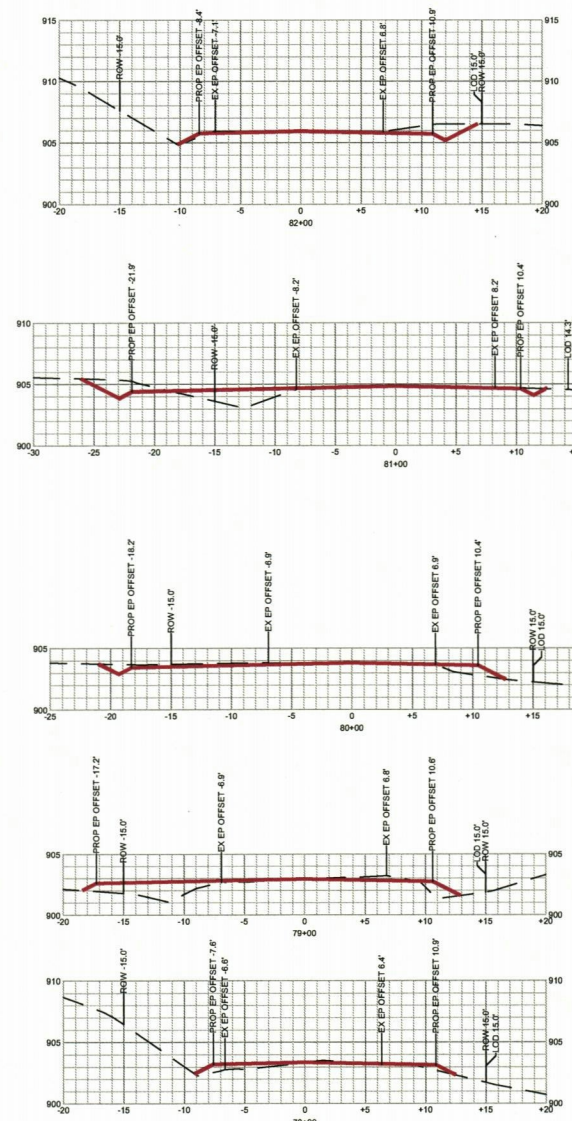
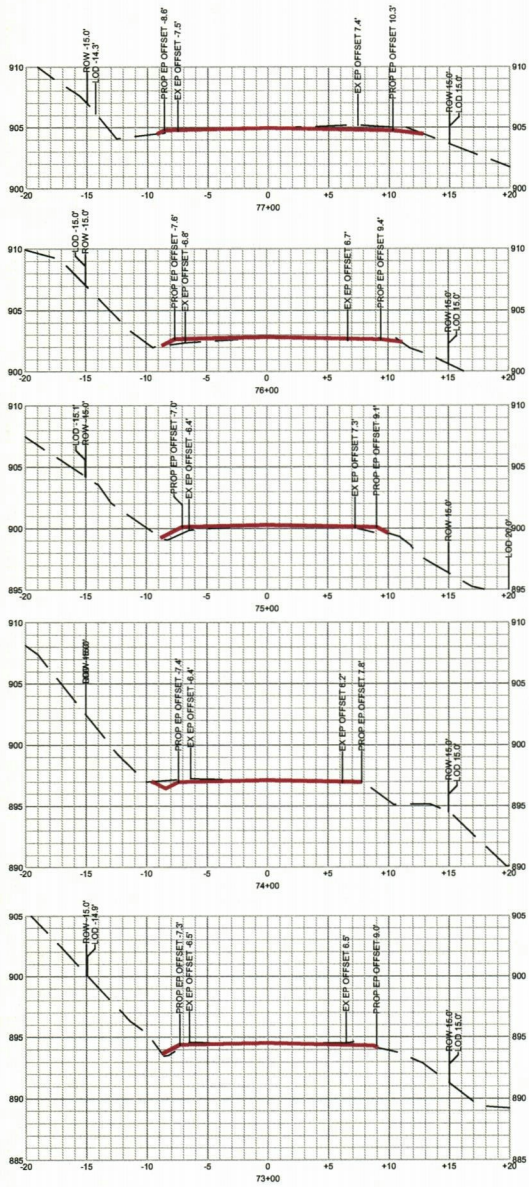
HAMMONTREE & ASSOCIATES, LTD.
 ENGINEERS, PLANNERS, SURVEYORS
 90 N. HILL AVENUE
 ST. PAUL, MN 55102-2700
 www.hammontree-engineers.com



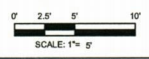
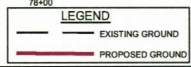
Antero
 Resources

DESIGN BY:	DATE:	DESC:
DRAWN BY:	DATE:	DESC:
PROJECT NO.:	DATE:	DESC:
REV. BY:	DATE:	DESC:
DATE:	02/22/2020	

CROSS SECTIONS STATION 60+00 TO 72+00
 SUGAR RUN ROAD (CR-52) ROADWAY IMPROVEMENTS
 ANTERO RESOURCES
 DISTRICT 4
 DOUGLASS COUNTY, WEST VIRGINIA



FINAL PLAN



IF SCALE BAR DOES NOT MEASURE 1". DRAWING NOT PLOTTED TO SCALE

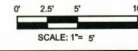
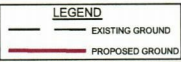
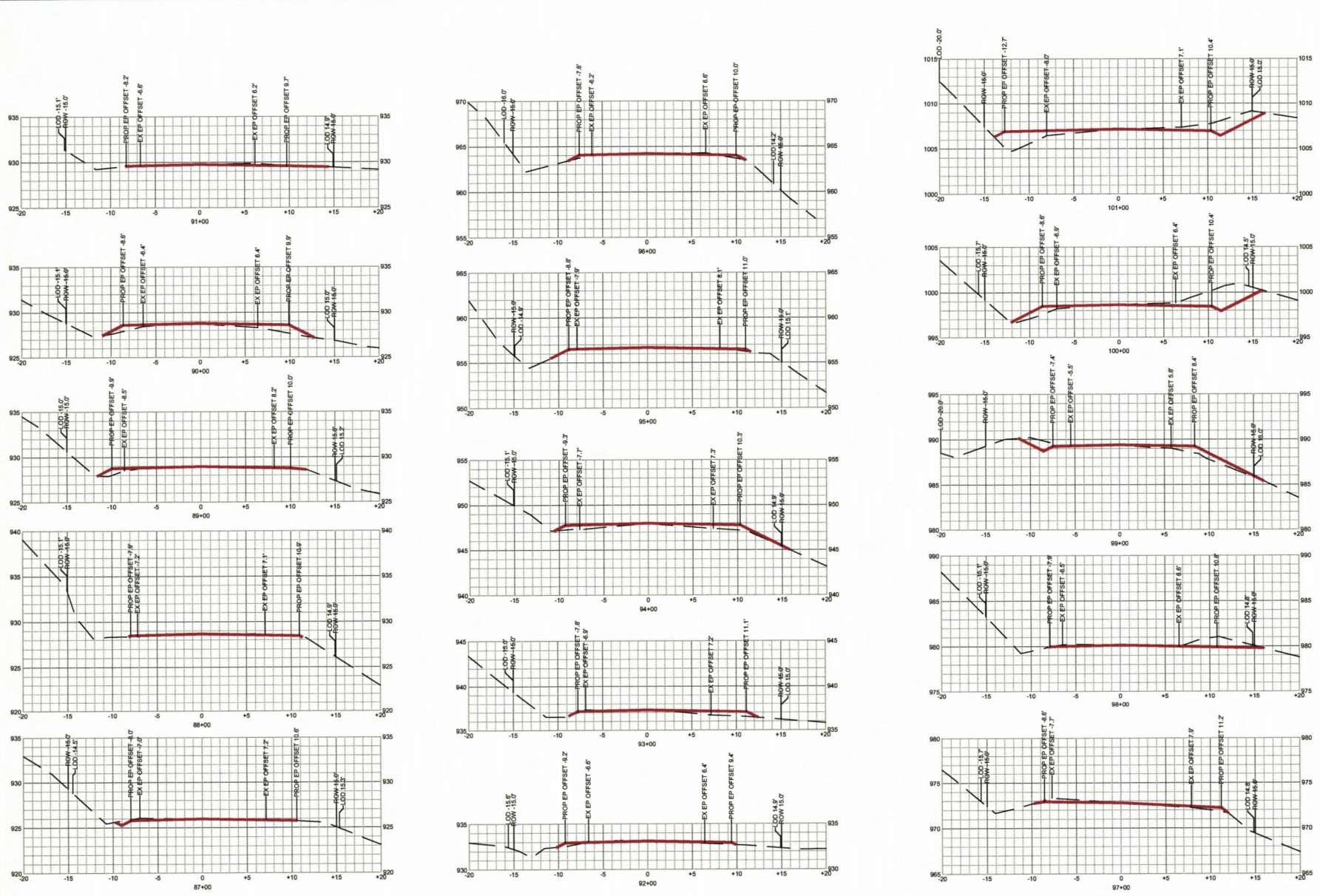
HAMMONTREE & ASSOCIATES, LTD.
100 N. WELLS AVENUE
SUITE 200
FARMINGTON, CT 06030
PHONE: (860) 271-2207
WWW.HAMMONTREEENGINEERS.COM



DESIGN BY:	JMT	DATE:	02/28/2020
DRAWN BY:	JMB	DATE:	
FIELD BY:		DATE:	
REVISION BY:		DATE:	
REVISION BY:		DATE:	
REVISION BY:		DATE:	

CROSS SECTIONS STATION 73+00 TO 88+00
SUGAR RUN ROAD (CR-52) ROADWAY IMPROVEMENTS
ANTERO RESOURCES
DISTRICT 4
DODDRIE COUNTY, WEST VIRGINIA

FINAL PLAN



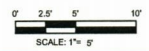
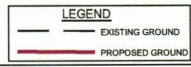
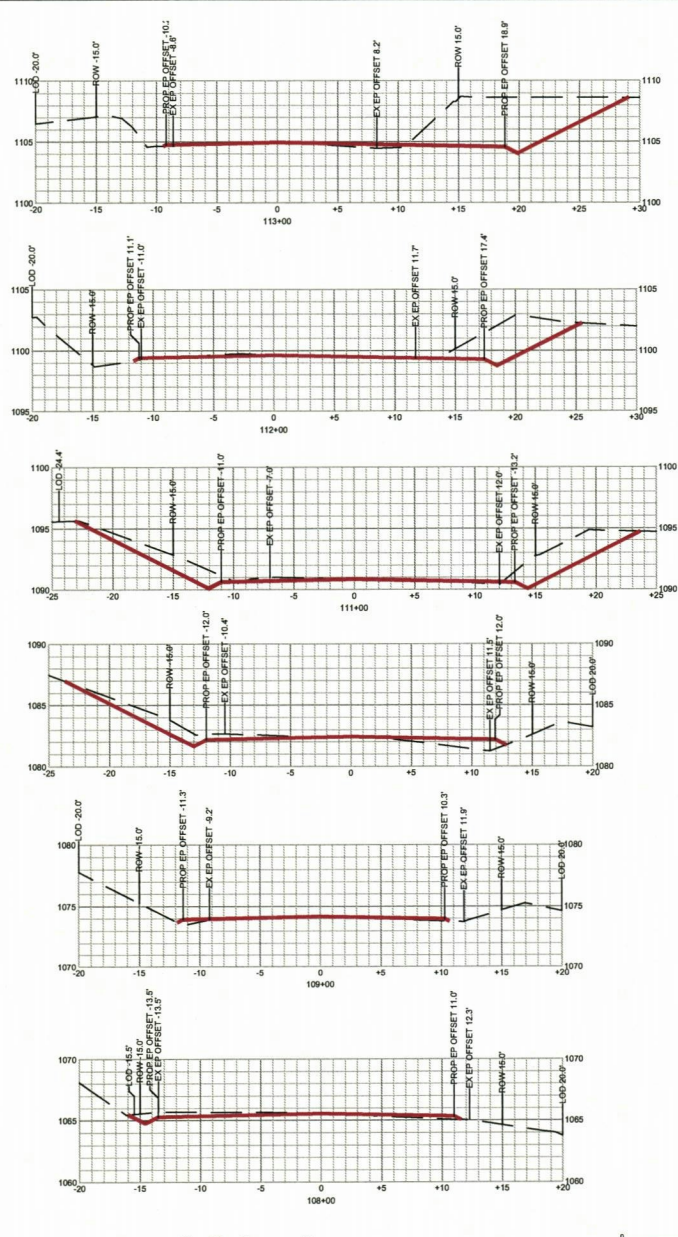
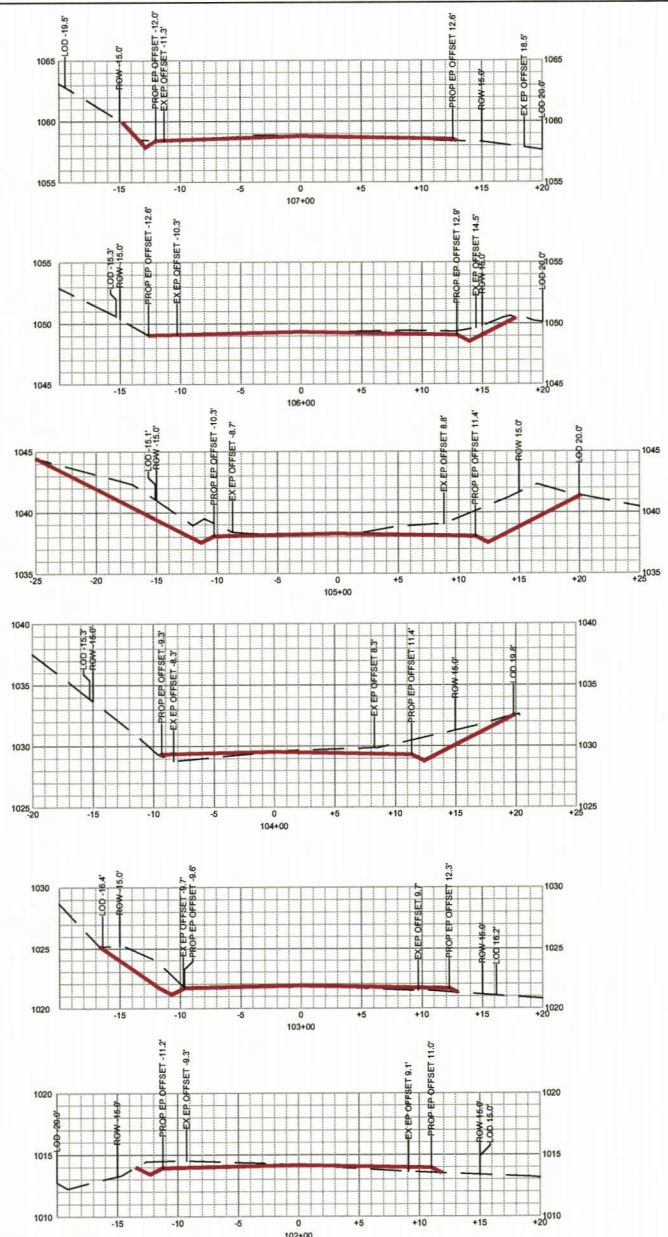
IF SCALE BAR DOES NOT MEASURE 1", DRAWING NOT PLOTTED TO SCALE



DESIGN BY:	MSJ	REV. BY:	DATE:	DESC.:
DRAWN BY:	MSJ	REV. BY:	DATE:	DESC.:
FLD BK:	AMB	REV. BY:	DATE:	DESC.:
BK PG:	02282002	REV. BY:	DATE:	DESC.:

CROSS SECTIONS STATION 87+00 TO 101+00
SUGAR RUN ROAD (CR-52) ROADWAY IMPROVEMENTS
ANTERO RESOURCES
DISTRICT 4
DODDRIDGE COUNTY, WEST VIRGINIA
PLOT DATE: June 8, 2020

FINAL PLAN



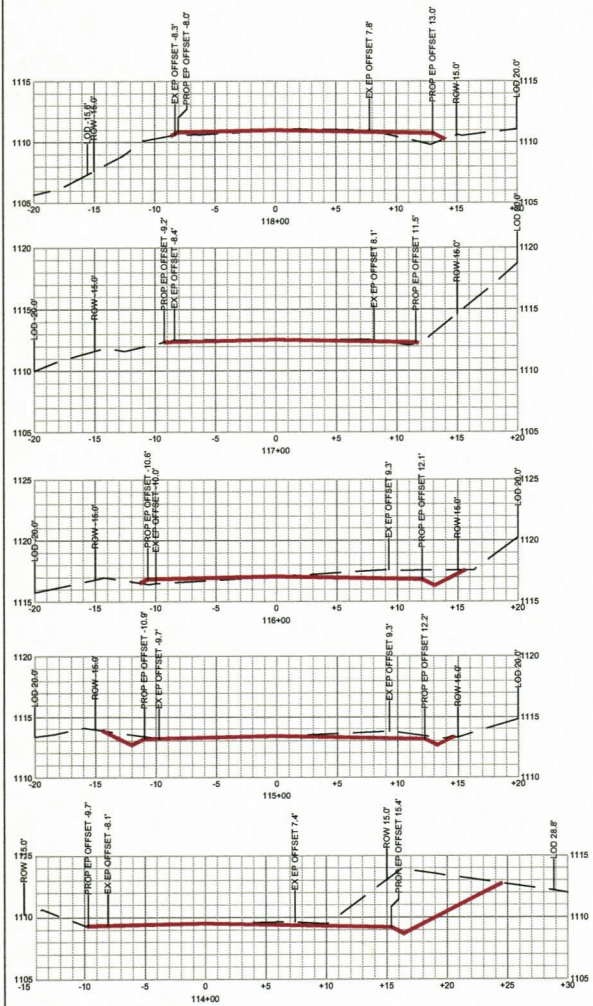
HAMMONTREE & ASSOCIATES, LTD.
 ENGINEERS, PLANNERS, SURVEYORS
 1000 W. HARRIS AVE.
 SUITE 100
 FAYETTEVILLE, NC 28403
 PHONE: 704.336.2227
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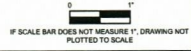
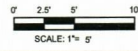
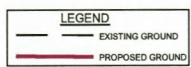
Antero Resources

DESIGN BY: JMB	REV. BY: JMB	DATE: 02/22/2023	DESC: SUGAR RUN ROAD (CR-52) ROADWAY IMPROVEMENTS DISTRICT 4
DRAWN BY: JMB	REV. BY: JMB	DATE: 02/22/2023	DESC: SUGAR RUN ROAD (CR-52) ROADWAY IMPROVEMENTS DISTRICT 4
FIELD BY: JMB	REV. BY: JMB	DATE: 02/22/2023	DESC: SUGAR RUN ROAD (CR-52) ROADWAY IMPROVEMENTS DISTRICT 4
CHK'D BY: JMB	REV. BY: JMB	DATE: 02/22/2023	DESC: SUGAR RUN ROAD (CR-52) ROADWAY IMPROVEMENTS DISTRICT 4

CROSS SECTIONS STATION 102+00 TO 113+00
 SUGAR RUN ROAD (CR-52) ROADWAY IMPROVEMENTS
 DISTRICT 4
 ANTERO RESOURCES
 DODDRIEGE COUNTY, WEST VIRGINIA



FINAL PLAN

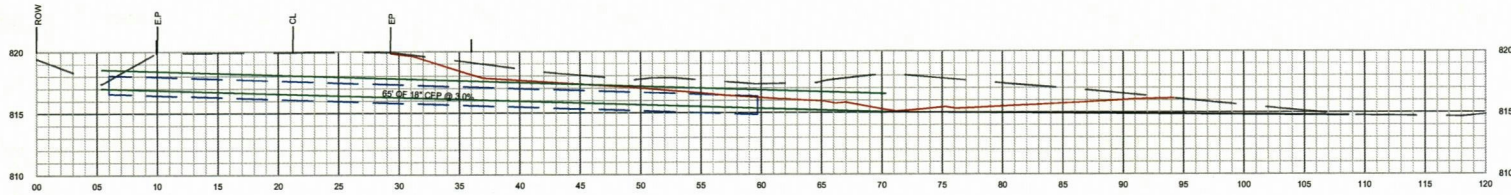


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 50 NEWELL AVENUE
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 FARMERSVILLE, VA 22434
 PHONE: (540) 825-7207
 WWW.HAMMONTREEENGINEERS.COM

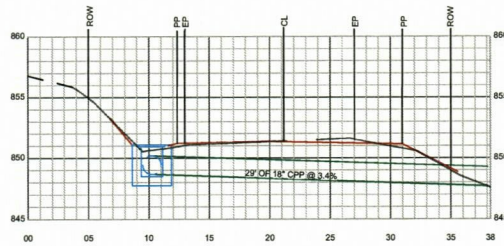


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DESIGNED BY:	_____	DATE:	_____
CHECKED BY:	_____	DATE:	_____
APPROVED BY:	_____	DATE:	_____

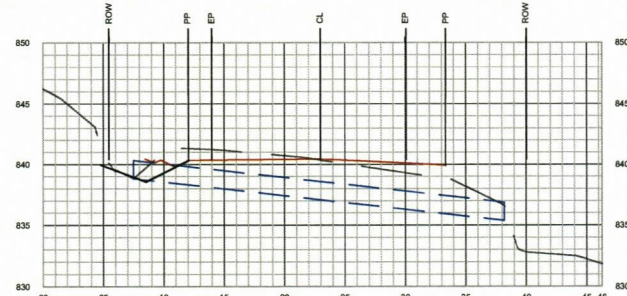
CROSS SECTIONS STATION 114+00 TO 118+00
 SUGAR RUN ROAD (CR-52) ROADWAY IMPROVEMENTS
 ANTERO RESOURCES
 DISTRICT 4
 DODDRIEGE COUNTY, WEST VIRGINIA



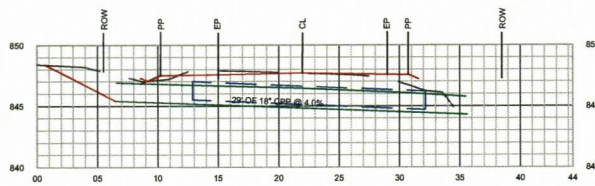
CULVERT 1 CROSS SECTION
 STA. 5+14
 HORIZONTAL SCALE: 1"=5'
 VERTICAL SCALE: 1"=2'



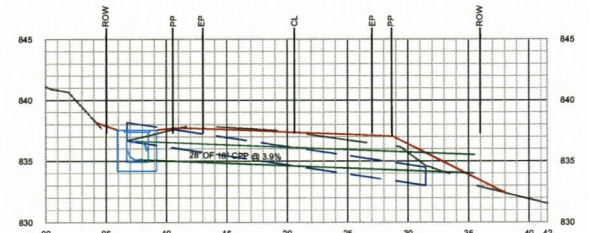
CULVERT 2 CROSS SECTION
 STA. 13+02
 HORIZONTAL SCALE: 1"=5'
 VERTICAL SCALE: 1"=5'



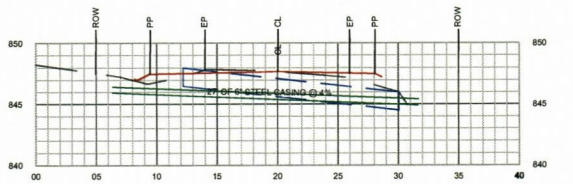
CULVERT 5 CROSS SECTION
 STA. 21+89
 HORIZONTAL SCALE: 1"=5'
 VERTICAL SCALE: 1"=5'



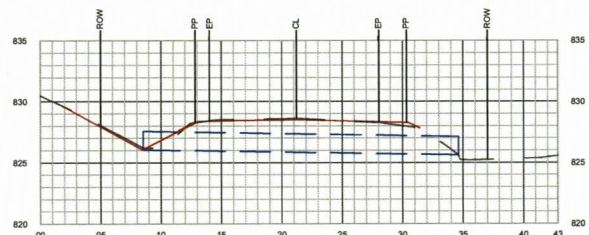
CULVERT 3 CROSS SECTION
 STA. 17+57
 HORIZONTAL SCALE: 1"=5'
 VERTICAL SCALE: 1"=5'



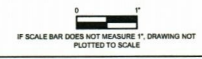
CULVERT 6 CROSS SECTION
 STA. 22+42
 HORIZONTAL SCALE: 1"=5'
 VERTICAL SCALE: 1"=5'



CULVERT 4 CROSS SECTION
 STA. 17+86
 HORIZONTAL SCALE: 1"=5'
 VERTICAL SCALE: 1"=5'



CULVERT 7 CROSS SECTION
 STA. 25+48
 HORIZONTAL SCALE: 1"=5'
 VERTICAL SCALE: 1"=5'



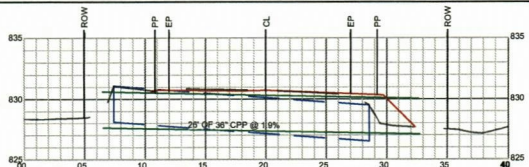
FINAL PLAN

HAMMOTREE & ASSOCIATES, LTD.
 ENGINEERS, PLANNERS, SURVEYORS
 94 NEWELL AVENUE
 ST. PAUL, MISSISSIPPI 39320
 PHONE: (601) 836-2727
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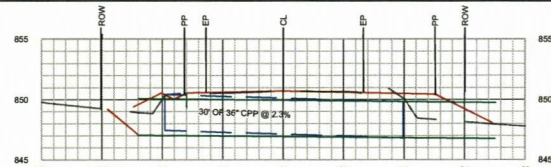


DESIGN BY:	JAGT	DESK:	
DRWN BY:	JAGT	DESK:	
FLD BIC:	JAGT	DESK:	
DATE:	02/28/2020	DESK:	
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REV. BY:		DESK:	
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REV. BY:		DESK:	

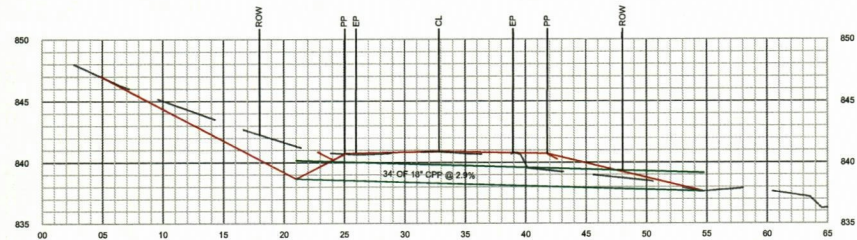
CULVERT CROSS SECTIONS
 SUGAR RUN ROAD (CR-52) ROADWAY IMPROVEMENTS
 ANTERO RESOURCES
 DISTRICT 4
 DODDRIEGE COUNTY, WEST VIRGINIA



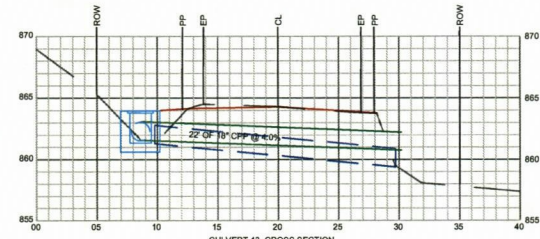
CULVERT 8 CROSS SECTION
STA. 29+00
HORIZONTAL SCALE: 1"=5'
VERTICAL SCALE: 1"=5'



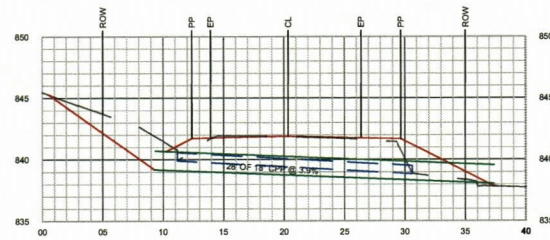
CULVERT 12 CROSS SECTION
STA. 44+35
HORIZONTAL SCALE: 1"=5'
VERTICAL SCALE: 1"=5'



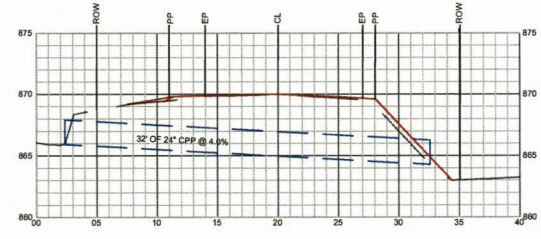
CULVERT 9 CROSS SECTION
STA. 39+47
HORIZONTAL SCALE: 1"=5'
VERTICAL SCALE: 1"=5'



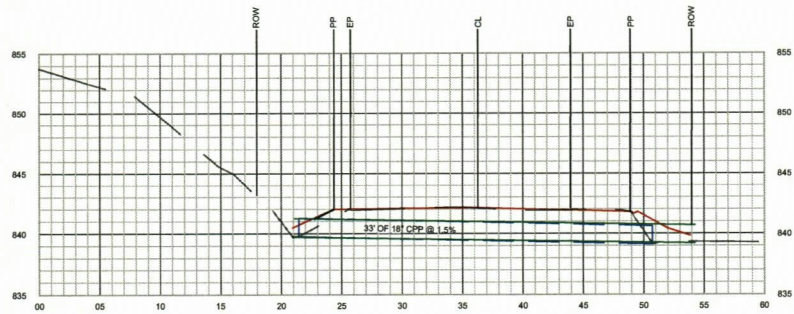
CULVERT 13 CROSS SECTION
STA. 49+10
HORIZONTAL SCALE: 1"=5'
VERTICAL SCALE: 1"=5'



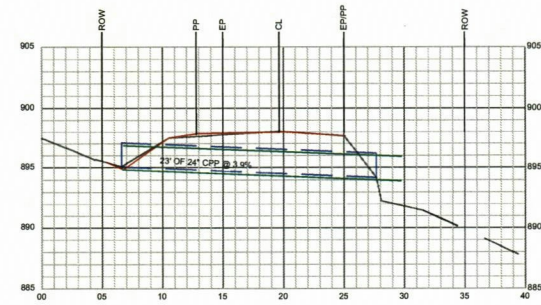
CULVERT 10 CROSS SECTION
STA. 40+82
HORIZONTAL SCALE: 1"=5'
VERTICAL SCALE: 1"=5'



CULVERT 14 CROSS SECTION
STA. 55+15
HORIZONTAL SCALE: 1"=5'
VERTICAL SCALE: 1"=5'



CULVERT 11 CROSS SECTION
STA. 41+63
HORIZONTAL SCALE: 1"=5'
VERTICAL SCALE: 1"=5'

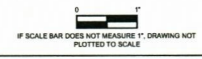


CULVERT 15 CROSS SECTION
STA. 63+00
HORIZONTAL SCALE: 1"=5'
VERTICAL SCALE: 1"=5'

FINAL PLAN

LEGEND

- EXISTING GROUND
- EXISTING CULVERT
- PROPOSED GROUND
- PROPOSED CULVERT

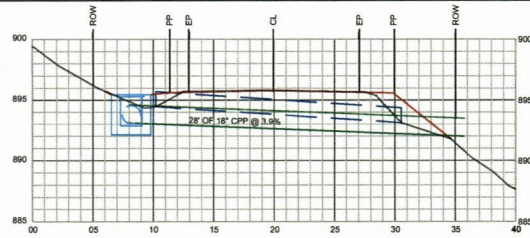


HAMMONTREE & ASSOCIATES, LTD.
AN INTELLECTUAL PROPERTY
ENGINEERS, PLANNERS, SURVEYORS
1000 W. MAIN ST.
SUITE 100
FARMINGTON, CT 06030
PHONE: (860) 646-3377
WWW.HAMMONTREE-ASSOCIATES.COM

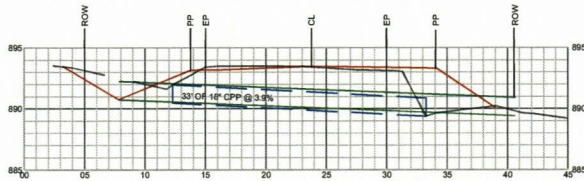


DESIGNED BY:	JML	DATE:	02/28/2020
DRAWN BY:	JML	DATE:	02/28/2020
REVIEWED BY:	JMB	DATE:	03/02/2020
APPROVED BY:	JMB	DATE:	03/02/2020

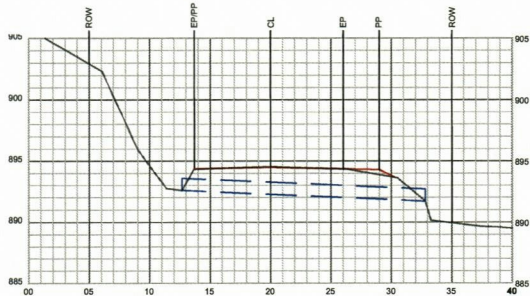
CULVERT CROSS SECTIONS
SUGAR RUN ROAD (CR-52) ROADWAY IMPROVEMENTS
ANTERO RESOURCES
DISTRICT 4
DOODRIDGE COUNTY, WEST VIRGINIA



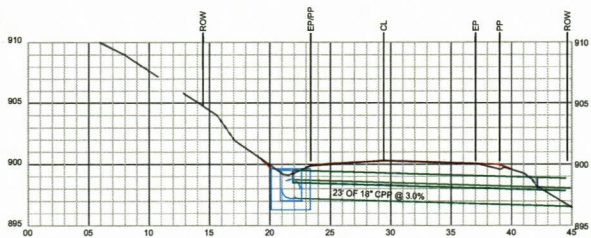
CULVERT 16 CROSS SECTION
STA. 87+00
HORIZONTAL SCALE: 1"=5'
VERTICAL SCALE: 1"=5'



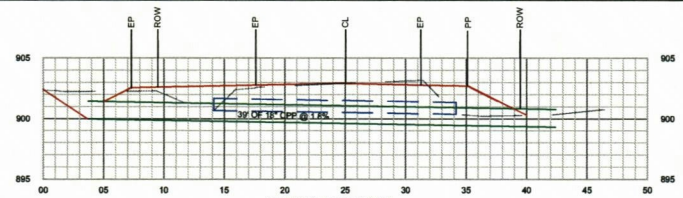
CULVERT 17 CROSS SECTION
STA. 79+18
HORIZONTAL SCALE: 1"=5'
VERTICAL SCALE: 1"=5'



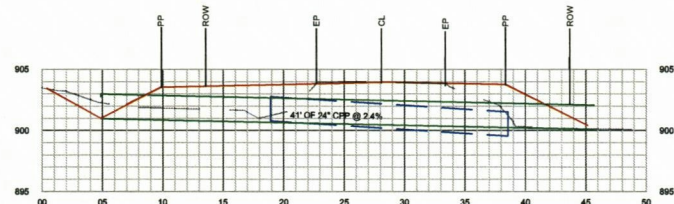
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STA. 72+89
HORIZONTAL SCALE: 1"=5'
VERTICAL SCALE: 1"=5'



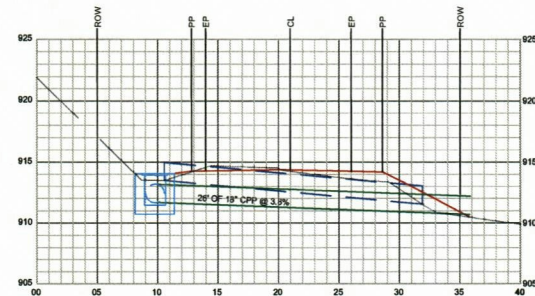
CULVERT 19 CROSS SECTION
STA. 75+00
HORIZONTAL SCALE: 1"=5'
VERTICAL SCALE: 1"=5'



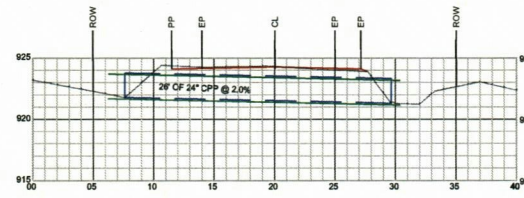
CULVERT 20 CROSS SECTION
STA. 78+94
HORIZONTAL SCALE: 1"=5'
VERTICAL SCALE: 1"=5'



CULVERT 21 CROSS SECTION
STA. 83+11
HORIZONTAL SCALE: 1"=5'
VERTICAL SCALE: 1"=5'



CULVERT 22 CROSS SECTION
STA. 84+11
HORIZONTAL SCALE: 1"=5'
VERTICAL SCALE: 1"=5'



CULVERT 23 CROSS SECTION
STA. 86+18
HORIZONTAL SCALE: 1"=5'
VERTICAL SCALE: 1"=5'

LEGEND

EXISTING GROUND	PROPOSED GROUND
EXISTING CULVERT	PROPOSED CULVERT

0 5 10
IF SCALE BAR DOES NOT MEASURE 1", DRAWING NOT PLOTTED TO SCALE

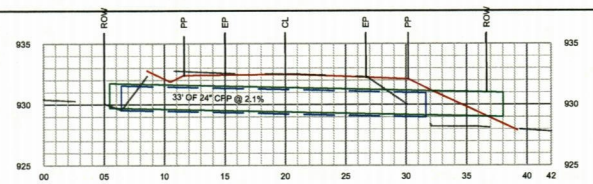
FINAL PLAN

HAMMONTREE & ASSOCIATES, LTD.
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50 N. HERRING ST.
FAYETTEVILLE, NC 28404
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WWW.HAMMONTREE-ENGINEERS.COM

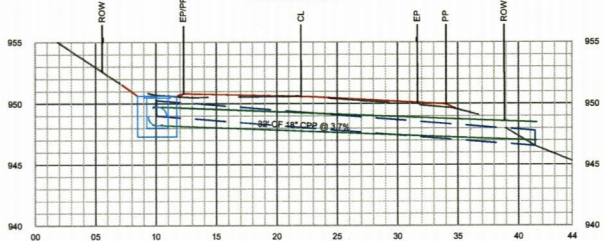


DESN BY:	DATE:	DESC:
DRWN BY:	DATE:	DESC:
CHKD BY:	DATE:	DESC:
DATE:	DATE:	DESC:

CULVERT CROSS SECTIONS
SUGAR RUN ROAD (CR-52) ROADWAY IMPROVEMENTS
DISTRICT 4
ANTERO RESOURCES
DOUGHERT COUNTY, WEST VIRGINIA



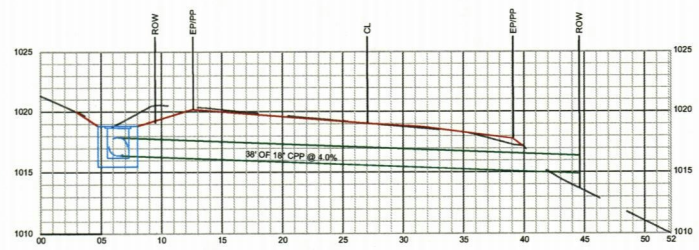
CULVERT 24 CROSS SECTION
STA. 91+73
HORIZONTAL SCALE: 1"=5'
VERTICAL SCALE: 1"=5'



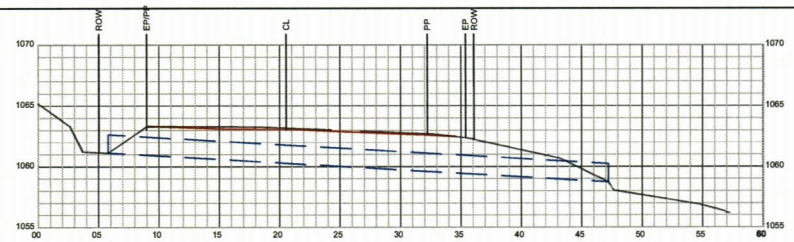
CULVERT 25 CROSS SECTION
STA. 94+30
HORIZONTAL SCALE: 1"=5'
VERTICAL SCALE: 1"=5'



CULVERT 26 CROSS SECTION
STA. 98+02
HORIZONTAL SCALE: 1"=5'
VERTICAL SCALE: 1"=5'



CULVERT 27 CROSS SECTION
STA. 102+87
HORIZONTAL SCALE: 1"=5'
VERTICAL SCALE: 1"=5'



CULVERT 28 CROSS SECTION
STA. 107+47
HORIZONTAL SCALE: 1"=5'
VERTICAL SCALE: 1"=5'

LEGEND

<p>— — — — — EXISTING GROUND</p> <p>— — — — — EXISTING CULVERT</p>	<p>— — — — — PROPOSED GROUND</p> <p>— — — — — PROPOSED CULVERT</p>
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1" SCALE BAR DOES NOT MEASURE 1". DRAWING NOT PLOTTED TO SCALE

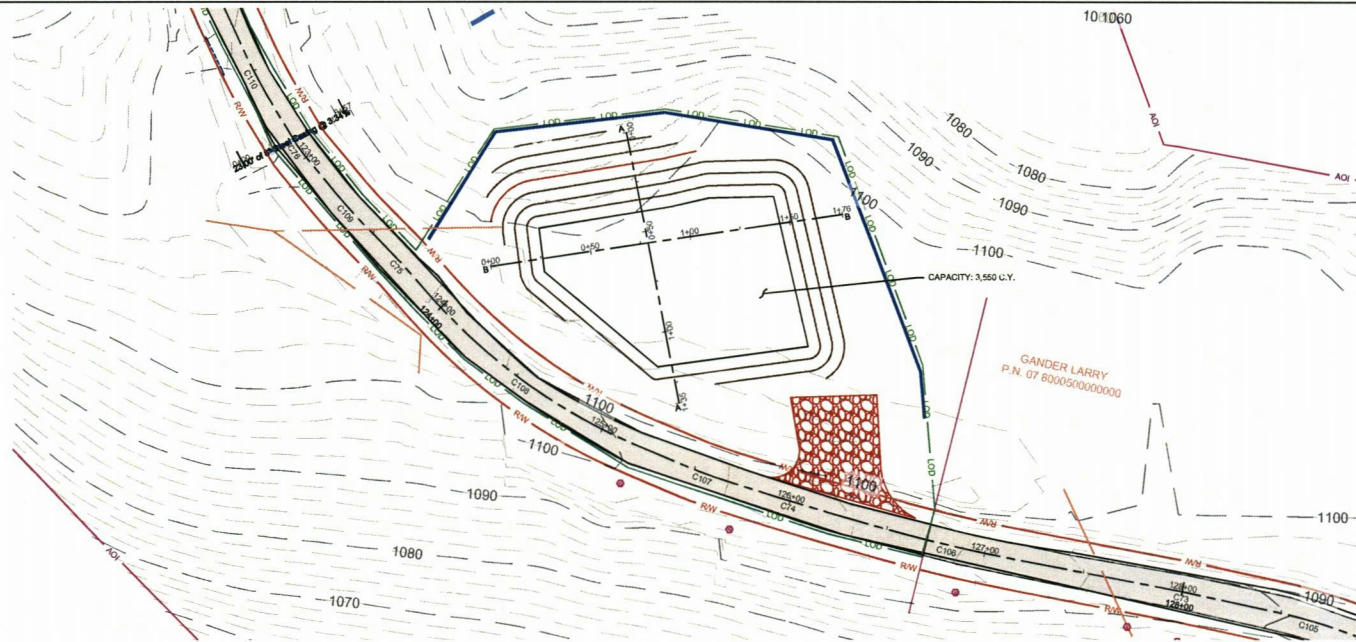
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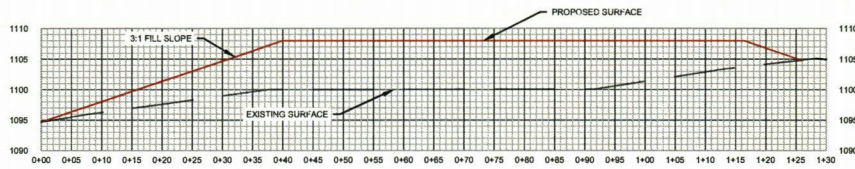


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DRAWN BY: JMS		REVISION 2: JMS	DATE: 03/01/2023	REVISED FOR COMMENTS
CHKD BY: JMS		REVISION 3: JMS	DATE: 03/01/2023	REVISED FOR COMMENTS
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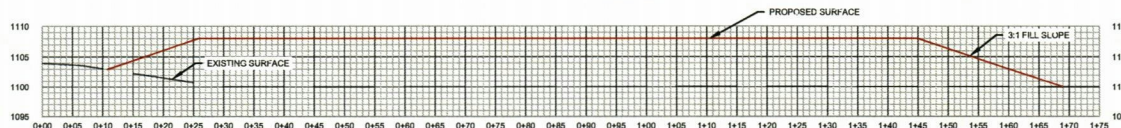
CULVERT CROSS SECTIONS
 SUGAR RUN ROAD (CR-52) ROADWAY IMPROVEMENTS
 ANTERO RESOURCES
 DISTRICT # 1 WEST VIRGINIA
 DODDRIEGE COUNTY, WEST VIRGINIA



WASTE SITE PLAN VIEW



WASTESITE A-A
HORIZONTAL SCALE: 1"=10'
VERTICAL SCALE: 1"=10'



WASTESITE B-B
HORIZONTAL SCALE: 1"=10'
VERTICAL SCALE: 1"=10'

LEGEND					
	AOI	AREA OF INTEREST		R/W	RIGHT OF WAY
	L/D	LIMITS OF DISTURBANCE		EXISTING CONTOURS	PROPOSED CONTOURS
	FLOOPLAIN			PROPERTY LINES	TELEPHONE LINES
	T	OVERHEAD POWERLINES		G	GAS LINES
	EXISTING GRAVEL ROADWAY				EXISTING DIRT ROADWAY
	EXISTING CULVERT			18" FILTER SOCK	
	JURISDICTIONAL DITCH			INTERMITTENT STREAM	PERENNIAL STREAM
	EPHEMERAL STREAM			PROPOSED CULVERT	EXISTING CULVERT
	WETLAND			PROPOSED ROADWAY	EXISTING BUILDING
	GAS SYMBOL			WATER MARKER	MAILBOX
	TELEPHONE SYMBOL			GUY WIRE	TELEPHONE BOX
	ELECTRIC SYMBOL			ROCK CHECK DAM	OUTLET PROTECTION

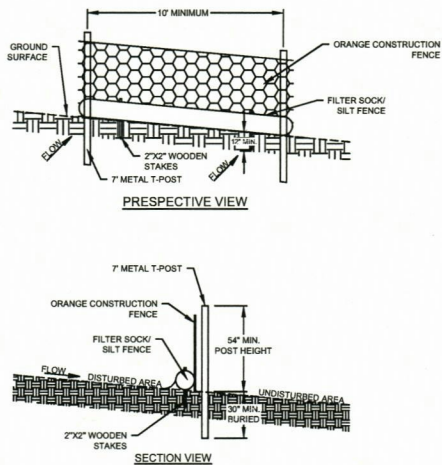
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DATE: 02/28/2020

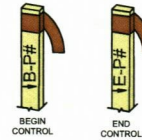
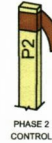


- NOTES:
1. ALL MATERIAL SHOULD BE INSTALLED PER MANUFACTURERS RECOMMENDATIONS.
 2. SILT FENCE MAY BE SUBSTITUTED FOR FILTER SOCK AT THE DISCRETION OF THE ON-SITE ENVIRONMENTAL FIELD COORDINATOR.

PHASE 2-ORANGE CONSTRUCTION FENCE, & SILT FENCE/FILTER SOCK
N.T.S.

GENERAL GUIDELINES FOR INSTALLATION

1. ALL FEATURES WHICH ARE INSIDE OR IMMEDIATELY ADJACENT TO THE WORK AREA/LOD SHALL BE PROTECTED.
2. HEADWATERS OF ANY STREAMS(INSIDE THE LOD SHOULD BE HORSESHOED WITH THE PROJECTION EXTENDING DOWN TO THE LOD AND FLARED OUT A MINIMUM OF 50'.
3. ALL WETLANDS NOT SLATED FOR IMPACT INSIDE THE LOD SHOULD BE COMPLETELY WRAPPED WITH PROTECTION.
4. ALL STREAMS WHICH BEGIN OUTSIDE THE LOD OR ARE PARALLEL TO THE LOD WILL HAVE PROTECTIONS ANYTIME THE FEATURE IS WITHIN 100 FEET OF THE LOD AND CONSTRUCTION ACTIVITY.
5. ALL WETLANDS WITHIN CLOSE PROXIMITY TO THE LOD SHOULD HAVE PROTECTIONS INSTALLED ALONG THE LOD TO PROTECT THE FEATURE.
6. NO IMPACTS ARE AUTHORIZED TO ANY FEATURES OUTSIDE THE LOD.
7. PROTECTIONS SHOULD BE PROVIDED FOR ANY AND ALL SPECIAL SITUATIONS (I.E. NEARBY CEMETERIES, HOUSES, TREES) TO BE SAVED, WATER WELL, ETC.)



404 CONTROL STAKING DETAILS
N.T.S.

STREAM AND WETLAND FLAGGING PROTOCOL

- JURISDICTIONAL AQUATIC FEATURES THAT ARE LOCATED WITHIN THE LOD AND WITHIN THE PROPOSED GRADING LIMITS AND HAVE BEEN AUTHORIZED FOR THE DISCHARGE OF PERMANENT FILL OR DREDGED MATERIAL SHOULD BE STAKED AND MARKED WITH LIME GREEN-PERMANENT IMPACT EXTENT FLAGGING AS SHOWN IN FIGURE 1. ADDITIONALLY, STAKES INSTALLED AT THE AUTHORIZED EXTENTS (UPSTREAM AND DOWNSTREAM) SHOULD BE CONNECTED BY LIME GREEN-PERMANENT IMPACT EXTENT FLAGGING AS SHOWN IN THE TYPICAL FLAGGING SCHEME (FIGURE 5).
- JURISDICTIONAL AQUATIC FEATURES THAT ARE LOCATED WITHIN THE LOD, BUT ARE LOCATED OUTSIDE OF THE PROPOSED GRADING LIMITS AND HAVE NOT BEEN AUTHORIZED FOR THE DISCHARGE OF PERMANENT FILL OR DREDGED MATERIAL BUT MAY BE SUBJECT TO TEMPORARY DISTURBANCE RESULTING FROM CONSTRUCTION ACTIVITIES. THESE FEATURES SHOULD BE STAKED AND MARKED WITH RED-TEMPORARY DISTURBANCE FLAGGING AS SHOWN IN FIGURE 2. ADDITIONALLY, STAKES INSTALLED AT THE EDGE OF THE LOD SHOULD BE CONNECTED BY RED-TEMPORARY DISTURBANCE FLAGGING AS SHOWN IN THE TYPICAL FLAGGING SCHEME (FIGURE 5). IF TEMPORARY DISTURBANCE TO THESE FEATURES IS UNAVOIDABLE DURING CONSTRUCTION, THEY MUST BE PROTECTED BY TEMPORARY MATTING AND EROSION AND SEDIMENT CONTROL MEASURES AND RETURNED TO RE-CONSTRUCTION CONDITIONS ONCE THE TEMPORARY DISTURBANCE HAS CEASED.
- JURISDICTIONAL AQUATIC FEATURES THAT ARE LOCATED OUTSIDE OF THE LOD HAVE NOT BEEN AUTHORIZED FOR THE DISCHARGE OF PERMANENT FILL OR DREDGED MATERIAL AND SHOULD BE AVOIDED. FEATURES THAT ARE WITHIN 100 FEET OF THE LOD SHOULD BE STAKED AND MARKED WITH PINK-WETLAND DELINEATION FLAGGING AS SHOWN IN FIGURE 3. STAKES INSTALLED ON THESE FEATURES WITHIN 25 FEET OF THE LOD SHOULD BE CONNECTED WITH VISIBLE PINK-WETLAND DELINEATION FLAGGING.
- THE LOD AROUND AQUATIC FEATURES SHOULD BE CLEARLY STAKED AND MARKED WITH BLUE AND WHITE STRIPED FLAGGING AS SHOWN IN FIGURE 4. STAKES INSTALLED AS THE LOD MARKER SHOULD BE CONNECTED WITH BLUE AND WHITE STRIPED FLAGGING AS SHOWN IN THE TYPICAL FLAGGING SCHEME (FIGURE 5). FEATURES LOCATED BEYOND THE LOD FLAGGING SHOULD BE PROTECTED UPSTREAM WITH PROPER EROSION AND SEDIMENT CONTROL MEASURES TO PREVENT THE TRANSPORT OF SEDIMENT INTO DOWNSTREAM WATERS OF THE UNITED STATES.

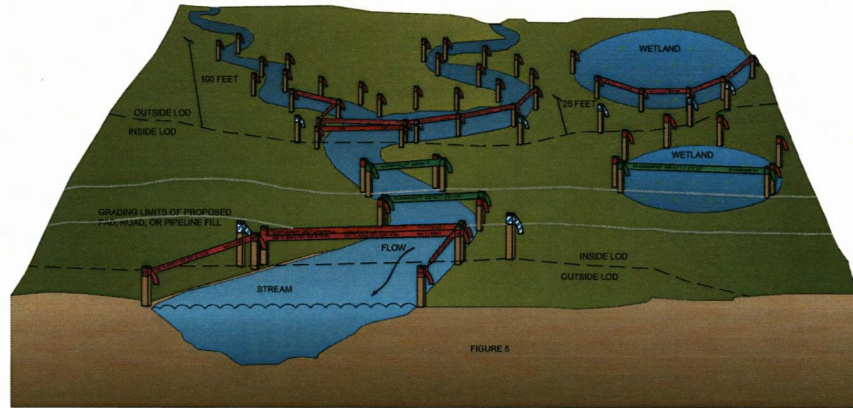


FIGURE 5

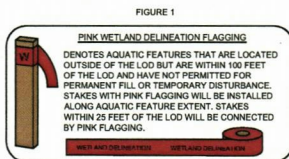


FIGURE 1

PINK WETLAND DELINEATION FLAGGING

DENOTES AQUATIC FEATURES THAT ARE LOCATED OUTSIDE OF THE LOD BUT ARE WITHIN 100 FEET OF THE LOD AND HAVE NOT PERMITTED FOR PERMANENT FILL OR TEMPORARY DISTURBANCE. STAKES WITH PINK FLAGGING WILL BE INSTALLED ALONG AQUATIC FEATURE EXTENT. STAKES WITHIN 25 FEET OF THE LOD WILL BE CONNECTED BY PINK FLAGGING.

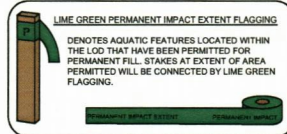


FIGURE 2

LIME GREEN PERMANENT IMPACT EXTENT FLAGGING

DENOTES AQUATIC FEATURES LOCATED WITHIN THE LOD THAT HAVE BEEN PERMITTED FOR PERMANENT FILL. STAKES AT EXTENT OF AREA PERMITTED WILL BE CONNECTED BY LIME GREEN FLAGGING.

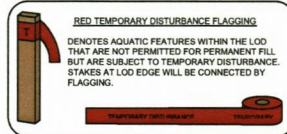


FIGURE 3

RED TEMPORARY DISTURBANCE FLAGGING

DENOTES AQUATIC FEATURES WITHIN THE LOD THAT ARE NOT PERMITTED FOR PERMANENT FILL BUT ARE SUBJECT TO TEMPORARY DISTURBANCE. STAKES AT LOD EDGE WILL BE CONNECTED BY FLAGGING.

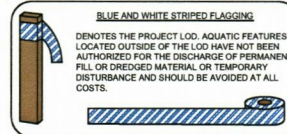


FIGURE 4

BLUE AND WHITE STRIPED FLAGGING

DENOTES THE PROJECT LOD. AQUATIC FEATURES LOCATED OUTSIDE OF THE LOD HAVE NOT BEEN AUTHORIZED FOR THE DISCHARGE OF PERMANENT FILL OR DREDGED MATERIAL OR TEMPORARY DISTURBANCE AND SHOULD BE AVOIDED AT ALL COSTS.

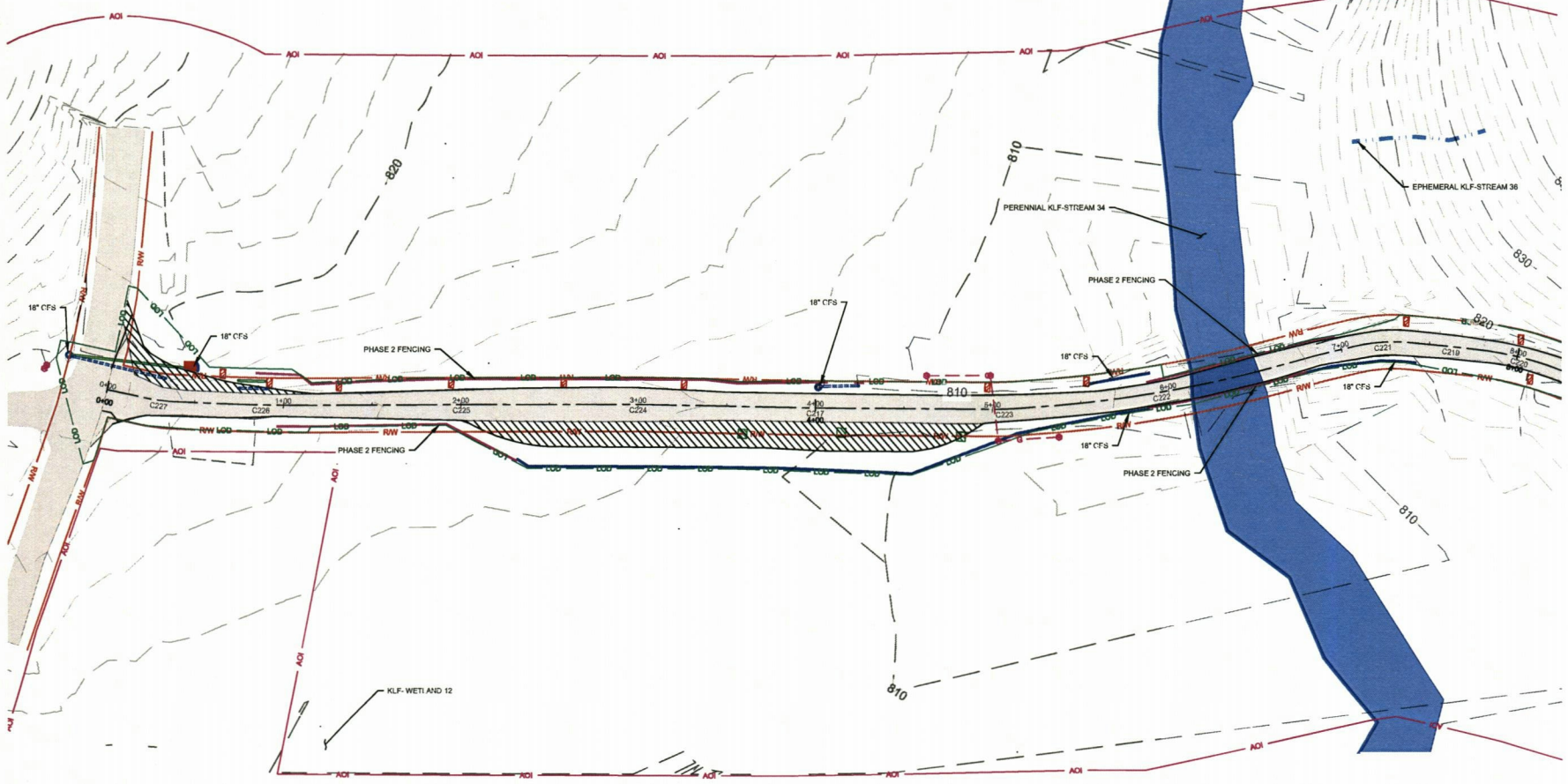
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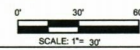
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EROSION AND SEDIMENT CONTROL DETAILS
SUGAR RUN ROAD (CR-52) ROADWAY IMPROVEMENTS
ANTERO RESOURCES
DODDRIDGE COUNTY, WEST VIRGINIA



PLAN VIEW
CR-52 STA. 5400 - 6400



FINAL PLAN

0 1'
IF SCALE BAR DOES NOT MEASURE 1", DRAWING NOT PLOTTED TO SCALE

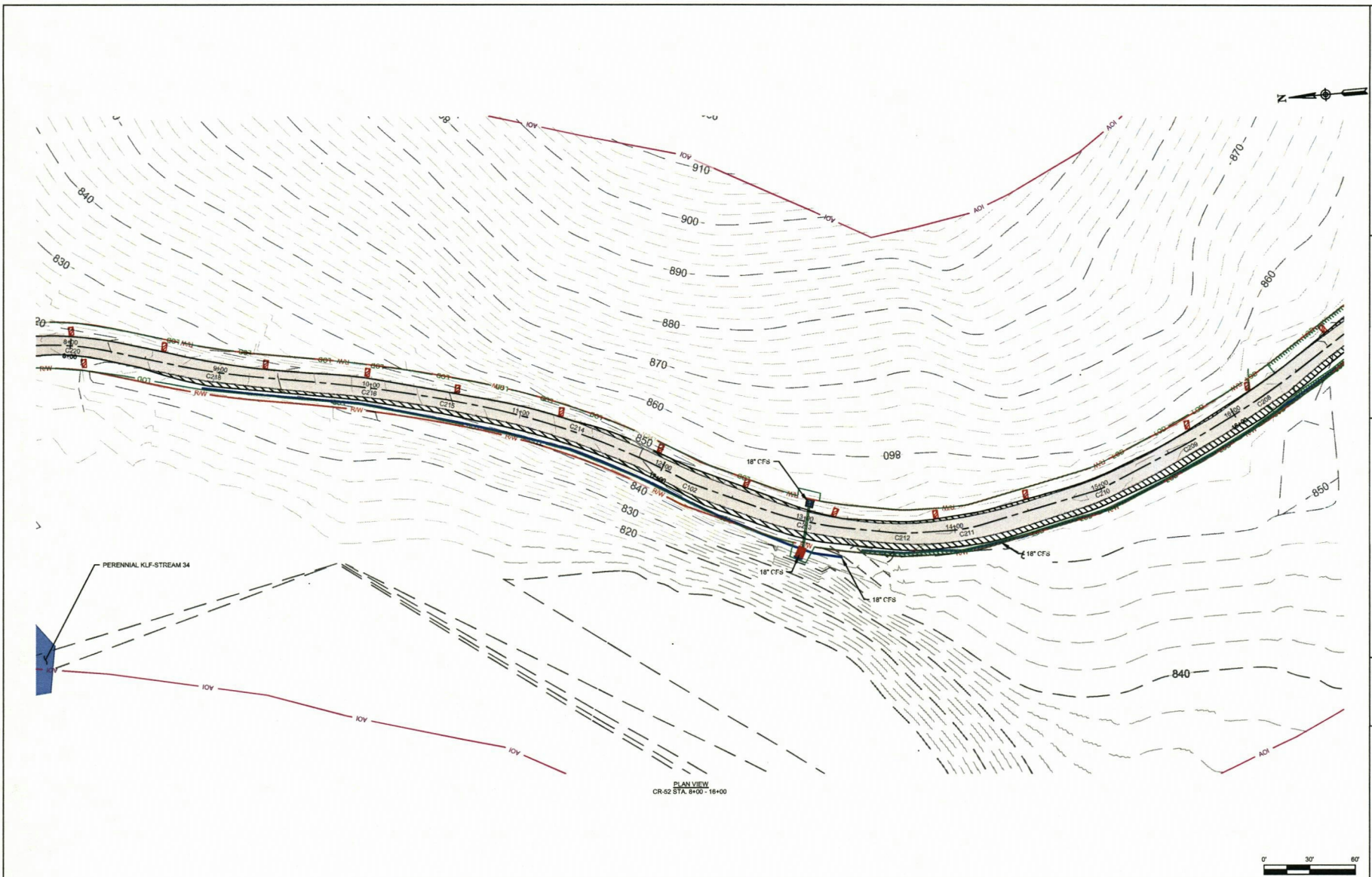
LEGEND			
AOI	AREA OF INTEREST	Ephemeral Stream	18" FILTER SOCK
LOD	LIMITS OF DISTURBANCE	Intermittent Stream	EXISTING CULVERT
EXISTING CONTOURS		Perennial Stream	FABRIC CHECK DAM
PROPOSED CONTOURS		DRAINAGE AREA	LEVEL SPREADER
PROPOSED WIDENING		PHASE 2 FENCING	ROCK CHECK DAM
EXISTING VEGETATION		PROPOSED CULVERT	OUTLET PROTECTION

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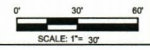


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STA. 6400 TO 18400
SUGAR RUN ROAD (CR-52) ROADWAY IMPROVEMENTS
ANTERO RESOURCES
DISTRICT 4
DODDRIEGE COUNTY, WEST VIRGINIA



PLAN VIEW
CR-52 STA. 6+00 - 16+00



FINAL PLAN

IF SCALE BAR DOES NOT MEASURE 1", DRAWING NOT PLOTTED TO SCALE

LEGEND			
AOI	AREA OF INTEREST	E	EDGE OF SHOULDER
LOD	LIMITS OF DISTURBANCE	ES	EPHEMERAL STREAM
EC	EXISTING CONTOURS	IS	INTERMITTENT STREAM
PC	PROPOSED CONTOURS	PS	PERENNIAL STREAM
PW	PROPOSED WIDENING	JD	JURISDICTIONAL DITCH
VA	EXISTING VEGETATION	FS	18" FILTER SOCK
DA	DRAINAGE AREA	EC	EXISTING CULVERT
P2F	PHASE 2 FENCING	FC	FABRIC CHECK DAM
PC	PROPOSED CULVERT	RC	ROCK CHECK DAM
CS	CONCRETE SPREADER	OP	OUTLET PROTECTION
LS	LEVEL SPREADER		

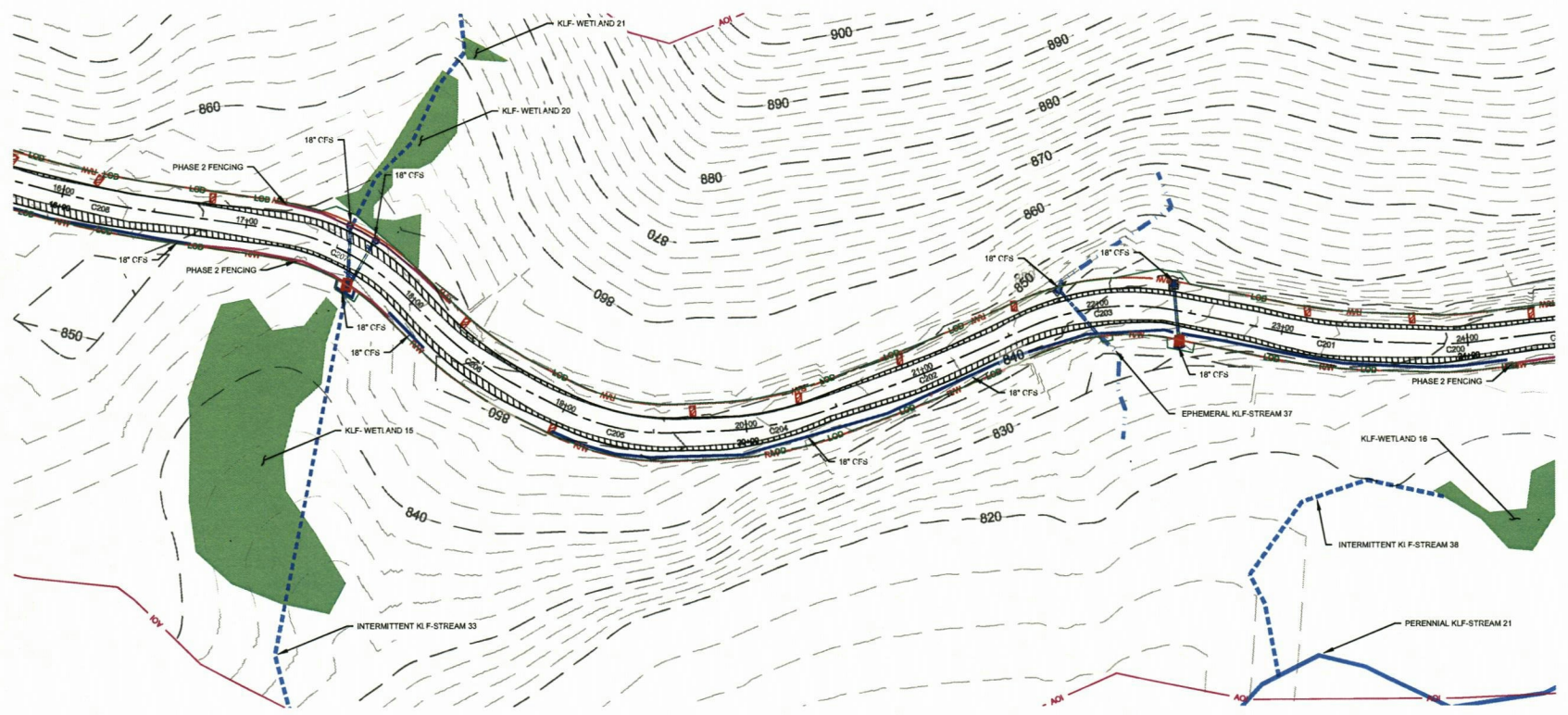
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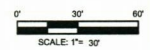
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DATE: 02/28/2020			

STA. 6+00 TO 16+00
SUGAR RUN ROAD (CR-52) ROADWAY IMPROVEMENTS
ANTERO RESOURCES
DISTRICT 4
DODDRIEGE COUNTY, WEST VIRGINIA

46
PLOT DATE: June 8, 2020



PLAN VIEW
CR-52 STA. 16+00 - 24+00



FINAL PLAN

0 1'
IF SCALE BAR DOES NOT MEASURE 1", DRAWING NOT
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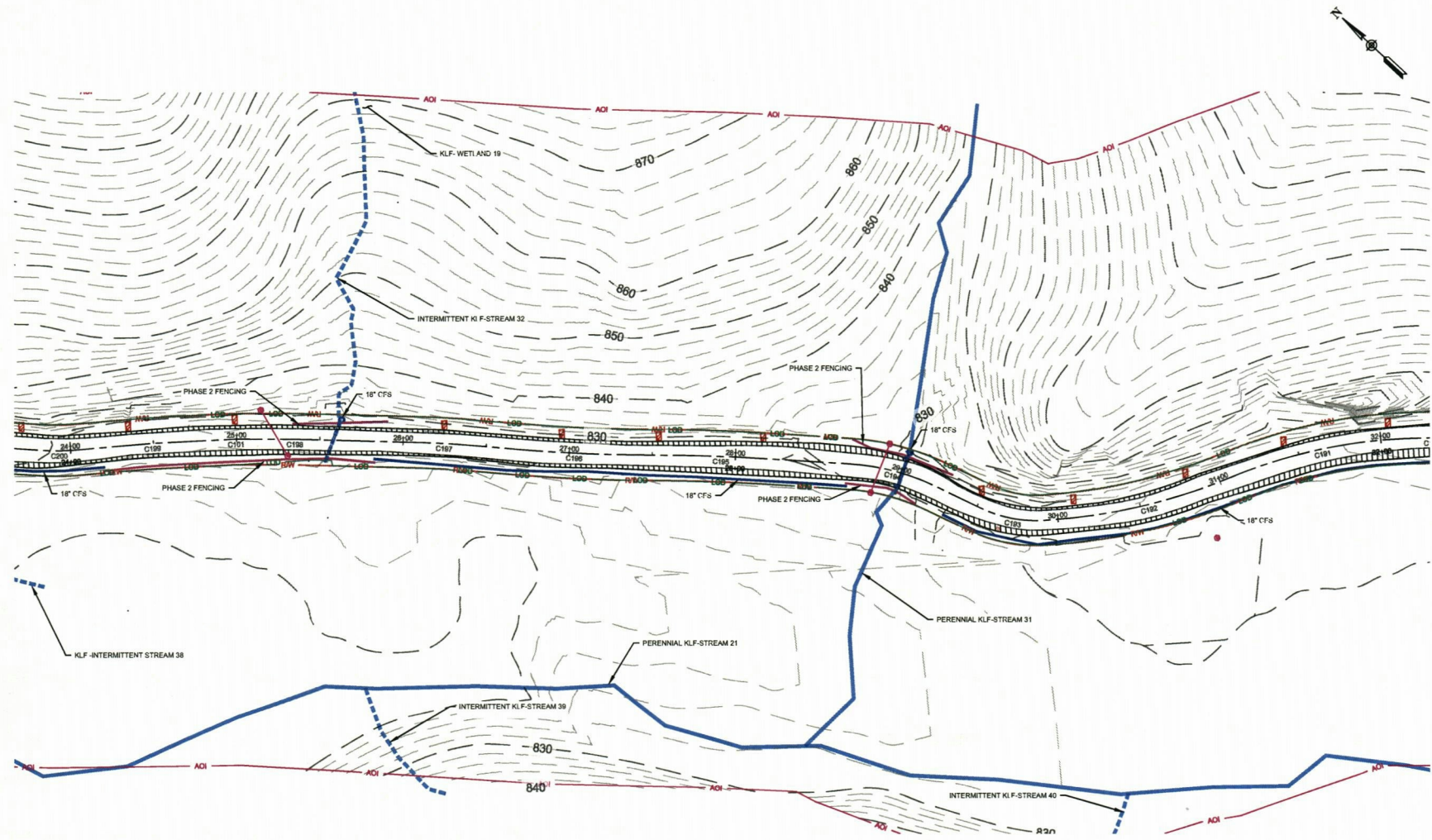
LEGEND			
AREA OF INTEREST	EDGE OF SHOULDER	JURISDICTIONAL DITCH	18" FILTER SOCK
LIMITS OF DISTURBANCE	EPHEMERAL STREAM	PROPOSED WIDENING	EXISTING CULVERT
EXISTING CONTOURS	INTERMITTENT STREAM	EXISTING VEGETATION	PHASE 2 FENCING
PROPOSED CONTOURS	PERENNIAL STREAM	DRAINAGE AREA	PROPOSED CULVERT
		ROCK CHECK DAM	FABRIC CHECK DAM
		OUTLET PROTECTION	LEVEL SPREADER

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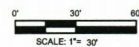


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STA. 16+00 TO 24+00
SUGAR RUN ROAD (CR-52) ROADWAY IMPROVEMENTS
ANTERO RESOURCES
DISTRICT 4
DODDRIEGE COUNTY, WEST VIRGINIA



PLAN VIEW
CR-52 STA. 24+00 - 32+00



FINAL PLAN

IF SCALE BAR DOES NOT MEASURE 1", DRAWING NOT PLOTTED TO SCALE.

LEGEND			
AOI	AREA OF INTEREST	18" FILTER SOCK	EXISTING CULVERT
LOD	LIMITS OF DISTURBANCE	EPHEMERAL STREAM	PERENNIAL STREAM
EXISTING CONTOURS		INTERMITTENT STREAM	PERENNIAL STREAM
PROPOSED CONTOURS		PERENNIAL STREAM	PERENNIAL STREAM
PROPOSED WIDENING	PROPOSED WIDENING	PERENNIAL STREAM	PERENNIAL STREAM
EXISTING VEGETATION	EXISTING VEGETATION	PERENNIAL STREAM	PERENNIAL STREAM
DRAINAGE AREA	DRAINAGE AREA	PERENNIAL STREAM	PERENNIAL STREAM
JURISDICTIONAL DITCH	JURISDICTIONAL DITCH	PERENNIAL STREAM	PERENNIAL STREAM
EDGE OF SHOULDER	EDGE OF SHOULDER	PERENNIAL STREAM	PERENNIAL STREAM
PHASE 2 FENCING	PHASE 2 FENCING	PERENNIAL STREAM	PERENNIAL STREAM
PROPOSED CULVERT	PROPOSED CULVERT	PERENNIAL STREAM	PERENNIAL STREAM
FABRIC CHECK DAM	FABRIC CHECK DAM	PERENNIAL STREAM	PERENNIAL STREAM
LEVEL SPREADER	LEVEL SPREADER	PERENNIAL STREAM	PERENNIAL STREAM
ROCK CHECK DAM	ROCK CHECK DAM	PERENNIAL STREAM	PERENNIAL STREAM
OUTLET PROTECTION	OUTLET PROTECTION	PERENNIAL STREAM	PERENNIAL STREAM

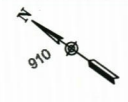
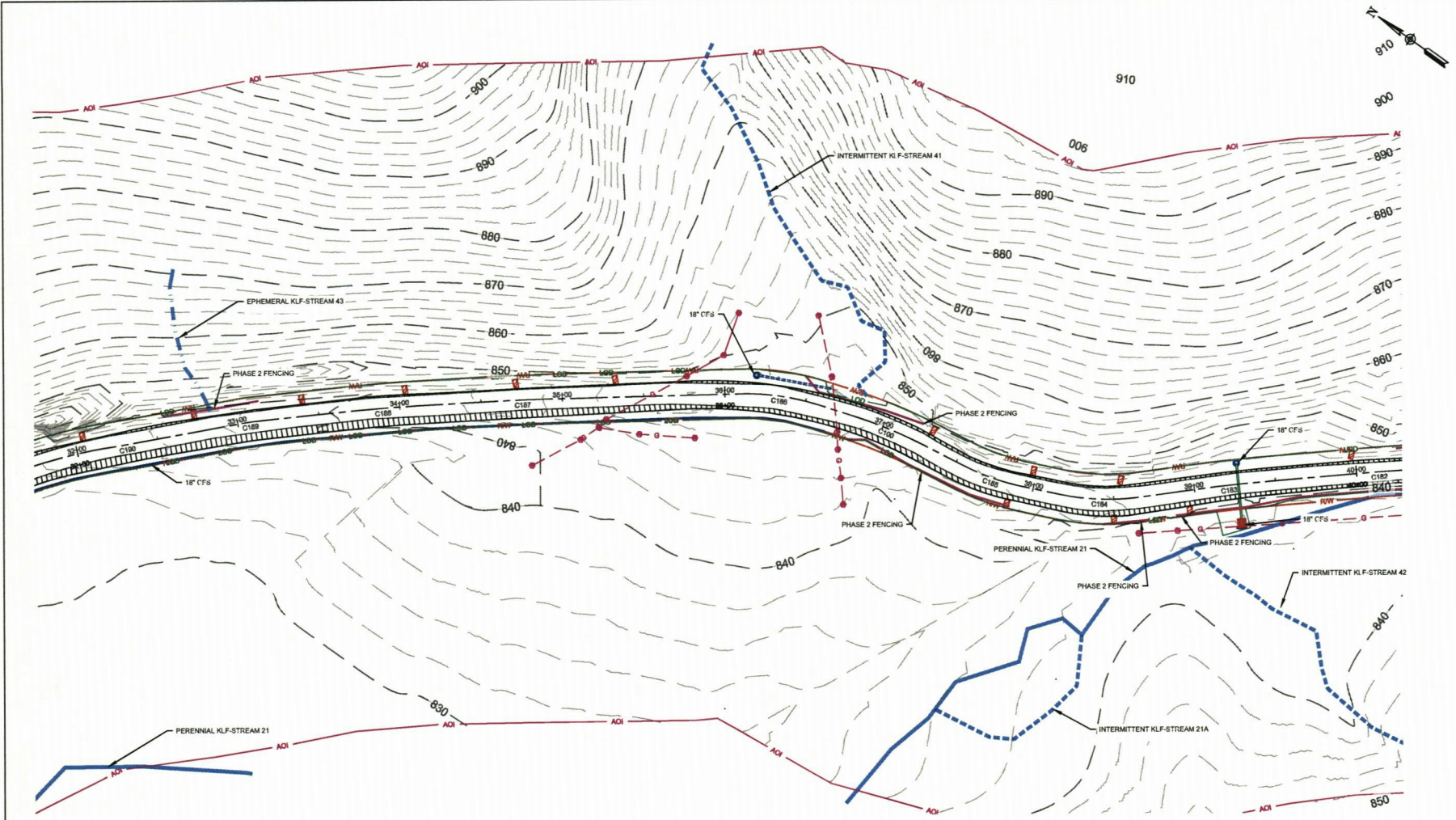
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STA. 18+00 TO 32+00
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19	02/08/2020	REVISED FOR COMMENTS
20	02/08/2020	REVISED FOR COMMENTS

STA. 32+00 TO 40+00
 SUGAR RUN ROAD (CR-52) ROADWAY IMPROVEMENTS
 ANTERO RESOURCES
 DISTRICT 4
 DODDRIEGE COUNTY, WEST VIRGINIA

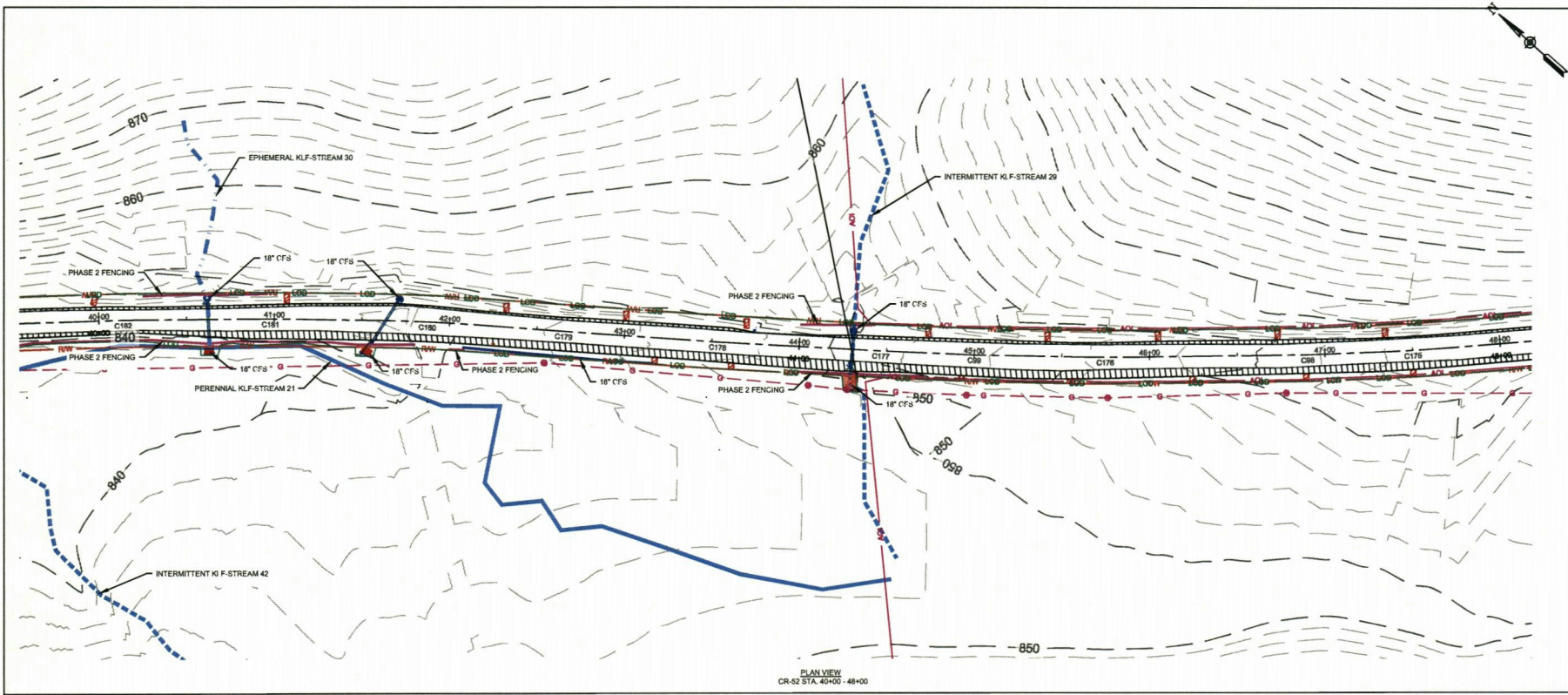
FINAL PLAN

1" = 30'
 IF SCALE BAR DOES NOT MEASURE 1", DRAWING NOT PLOTTED TO SCALE

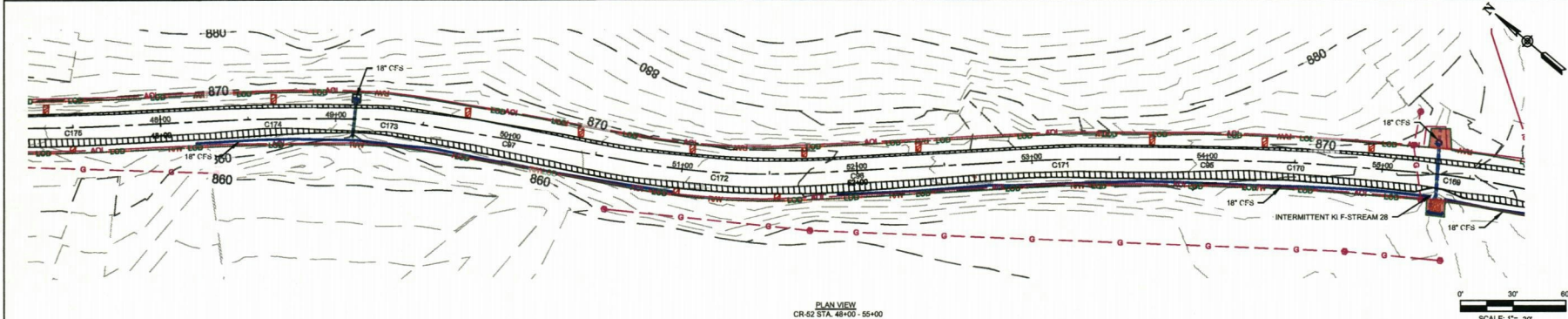
PLAN VIEW
 CR-52 STA. 32+00 - 40+00

0' 30' 60'
 SCALE: 1" = 30'

LEGEND			
	AREA OF INTEREST		16" FILTER SOCK
	LIMITS OF DISTURBANCE		EXISTING CULVERT
	EXISTING CONTOURS		FABRIC CHECK DAM
	PROPOSED CONTOURS		LEVEL SPREADER
	EDGE OF SHOULDER		ROCK CHECK DAM
	EPHEMERAL STREAM		OUTLET PROTECTION
	INTERMITTENT STREAM		
	PERENNIAL STREAM		
	JURISDICTIONAL DITCH		
	PROPOSED WIDENING		
	EXISTING VEGETATION		
	DRAINAGE AREA		
	PHASE 2 FENCING		
	PROPOSED CULVERT		



PLAN VIEW
CR-52 STA. 40+00 - 48+00



PLAN VIEW
CR-52 STA. 48+00 - 55+00


LEGEND			
AREA OF INTEREST	EDGE OF SHOULDER	JURISDICTIONAL DITCH	18" FILTER SOCK
LIMITS OF DISTURBANCE	EPHEMERAL STREAM	PROPOSED WIDENING	EXISTING CULVERT
EXISTING CONTOURS	INTERMITTENT STREAM	EXISTING VEGETATION	PHASE 2 FENCING
PROPOSED CONTOURS	PERENNIAL STREAM	DRAINAGE AREA	PROPOSED CULVERT
		ROCK CHECK DAM	FABRIC CHECK DAM
		OUTLET PROTECTION	LEVEL SPREADER

FINAL PLAN

IF SCALE BAR DOES NOT MEASURE 1", DRAWING NOT PLOTTED TO SCALE

SCALE: 1" = 30'

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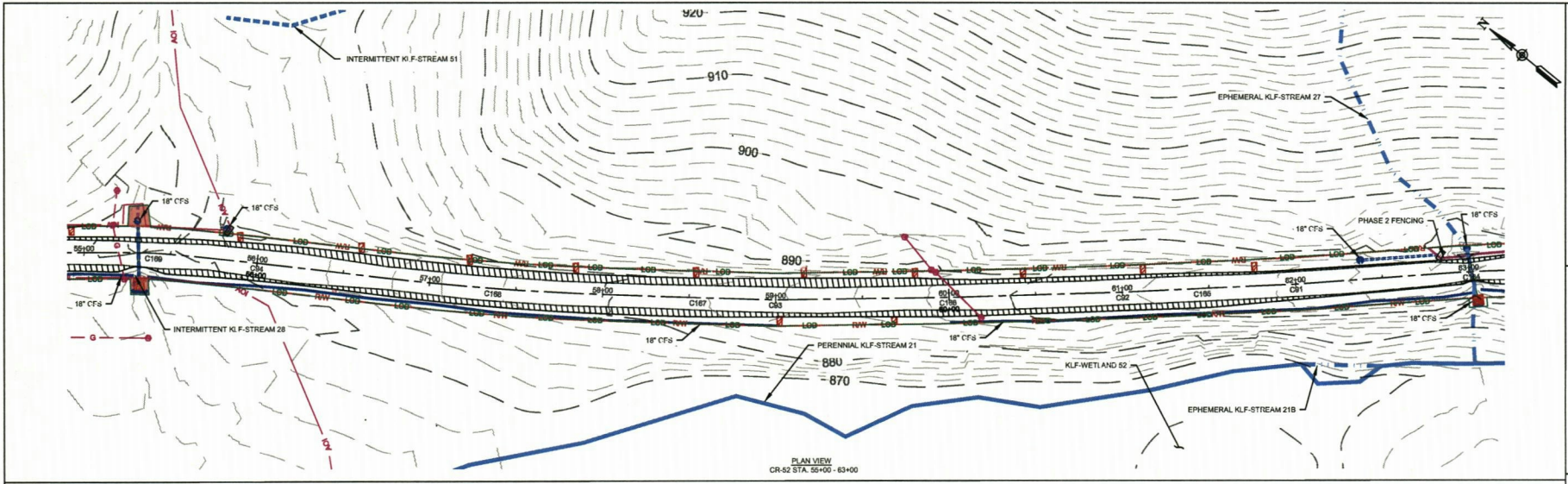


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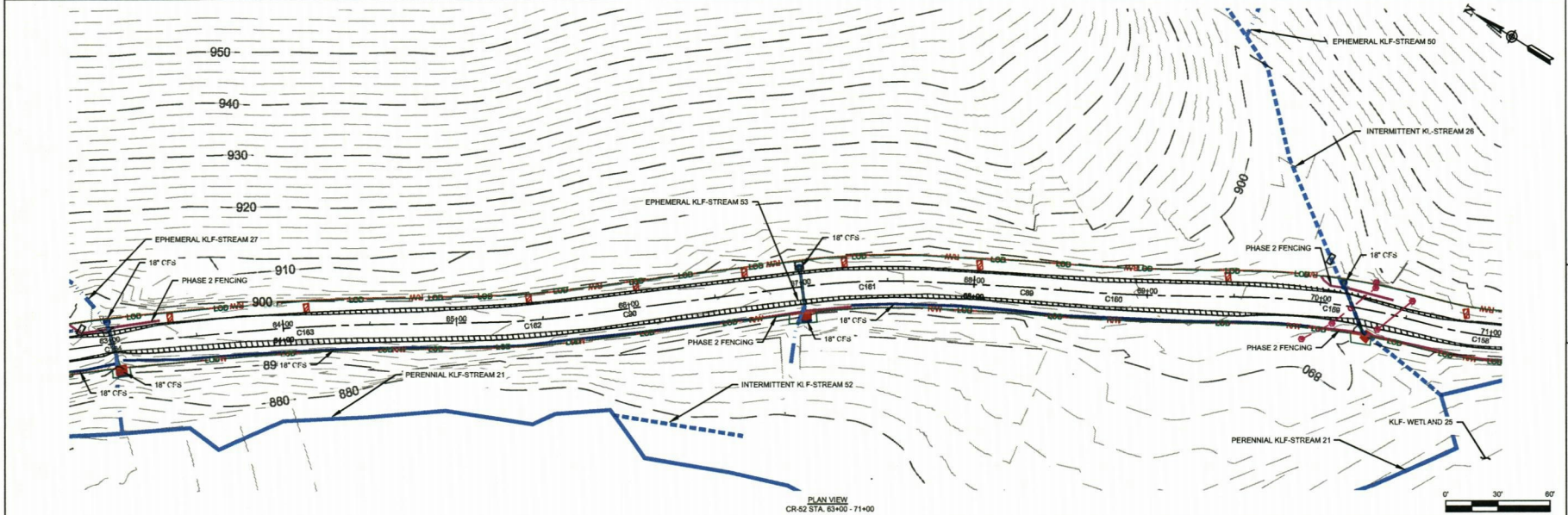
STA. 48+00 TO 55+00
SUGAR RUN ROAD (CR-52) ROADWAY IMPROVEMENTS
ANTERO RESOURCES
DISTRICT 4
DODDRIEGE COUNTY, WEST VIRGINIA

50

PLOT DATE: June 8, 2020



PLAN VIEW
CR-52 STA. 55+00 - 63+00



PLAN VIEW
CR-52 STA. 63+00 - 71+00

LEGEND			
AREA OF INTEREST	EDGE OF SHOULDER	JURISDICTIONAL DITCH	18" FILTER SOCK
LIMITS OF DISTURBANCE	EPHEMERAL STREAM	PROPOSED WIDENING	EXISTING CULVERT
EXISTING CONTOURS	INTERMITTENT STREAM	EXISTING VEGETATION	PERENNIAL STREAM
PROPOSED CONTOURS	PERENNIAL STREAM	DRAINAGE AREA	PHASE 2 FENCING
		PROPOSED CULVERT	ROCK CHECK DAM
			OUTLET PROTECTION
			FABRIC CHECK DAM
			LEVEL SPREADER

FINAL PLAN

IF SCALE BAR DOES NOT MEASURE 1" DRAWING NOT PLOTTED TO SCALE

SCALE: 1" = 30'

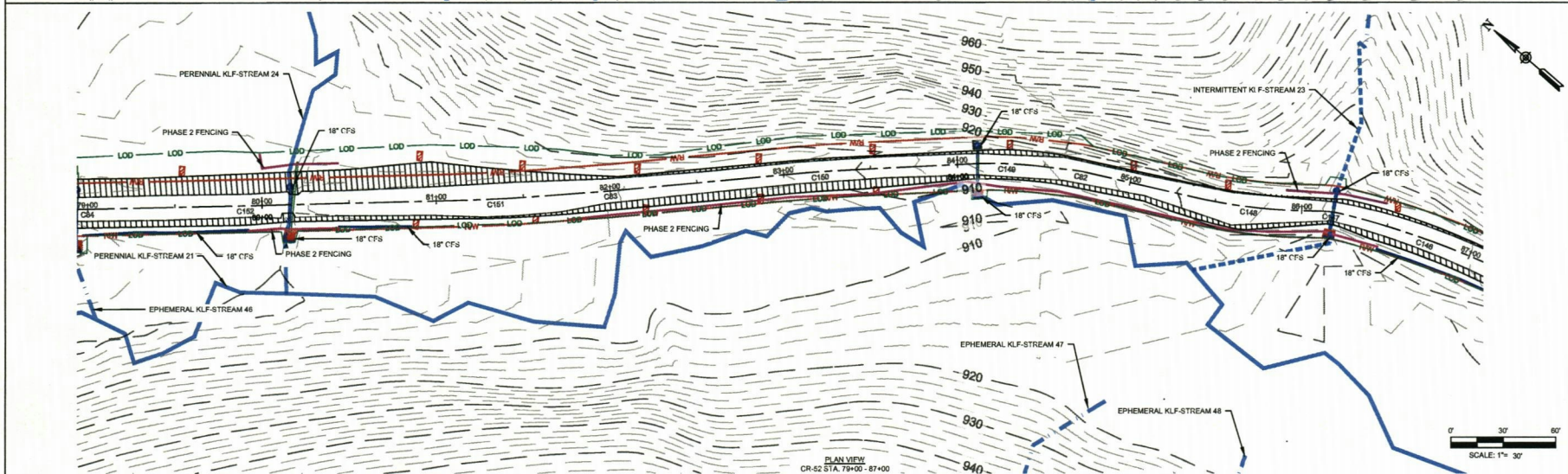
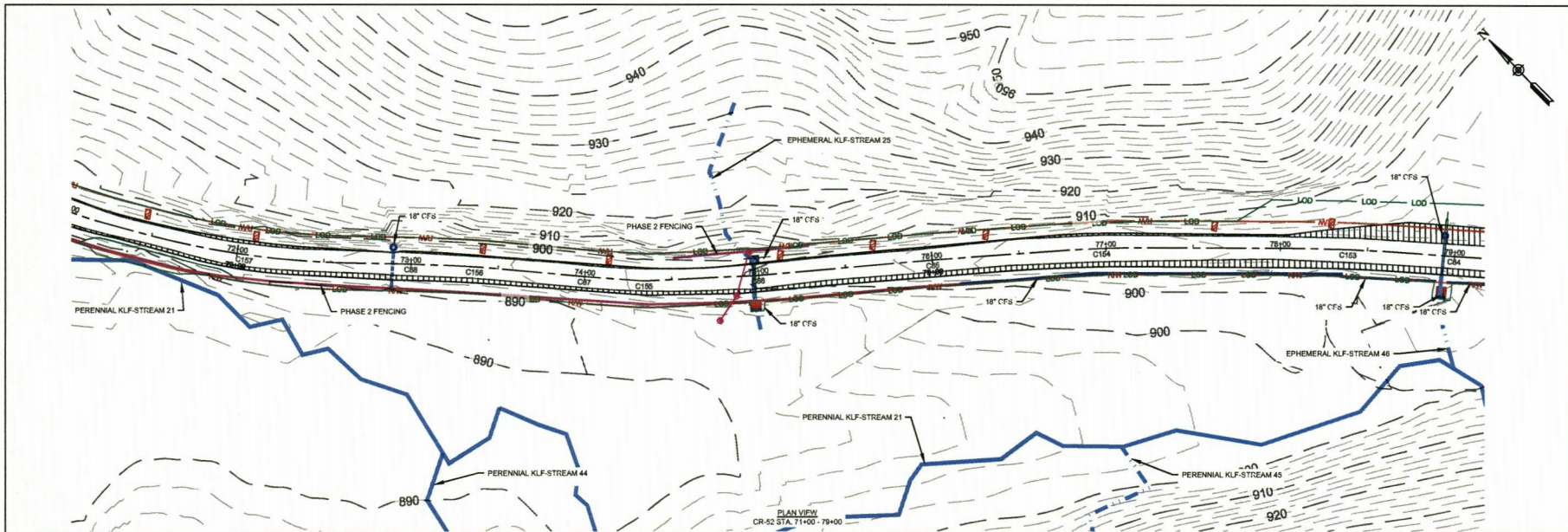
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ENGINEERS, PLANNERS, SURVEYORS
104 BELL WHEEL
ST. CHARLES, MO 63105
PH: (314) 863-2722
www.hammontree.com



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STA. 55+00 TO 71+00
SUGAR RUN ROAD (CR-52) ROADWAY IMPROVEMENTS
ANTERO RESOURCES
DISTRICT 4
DODDRIEGE COUNTY, WEST VIRGINIA

PLOT DATE: June 8, 2020



FINAL PLAN

0 1"
 IF SCALE BAR DOES NOT MEASURE 1", DRAWING NOT
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LEGEND			
AREA OF INTEREST	EDGE OF SHOULDER	JURISDICTIONAL DITCH	18" FILTER SOCK
LIMITS OF DISTURBANCE	EPHEMERAL STREAM	PROPOSED WIDENING	EXISTING CULVERT
EXISTING CONTOURS	INTERMITTENT STREAM	EXISTING VEGETATION	FABRIC CHECK DAM
PROPOSED CONTOURS	PERENNIAL STREAM	DRAINAGE AREA	LEVEL SPREADER
		PHASE 2 FENCING	ROCK CHECK DAM
		PROPOSED CULVERT	OUTLET PROTECTION

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ST. PAUL, VA. 22432
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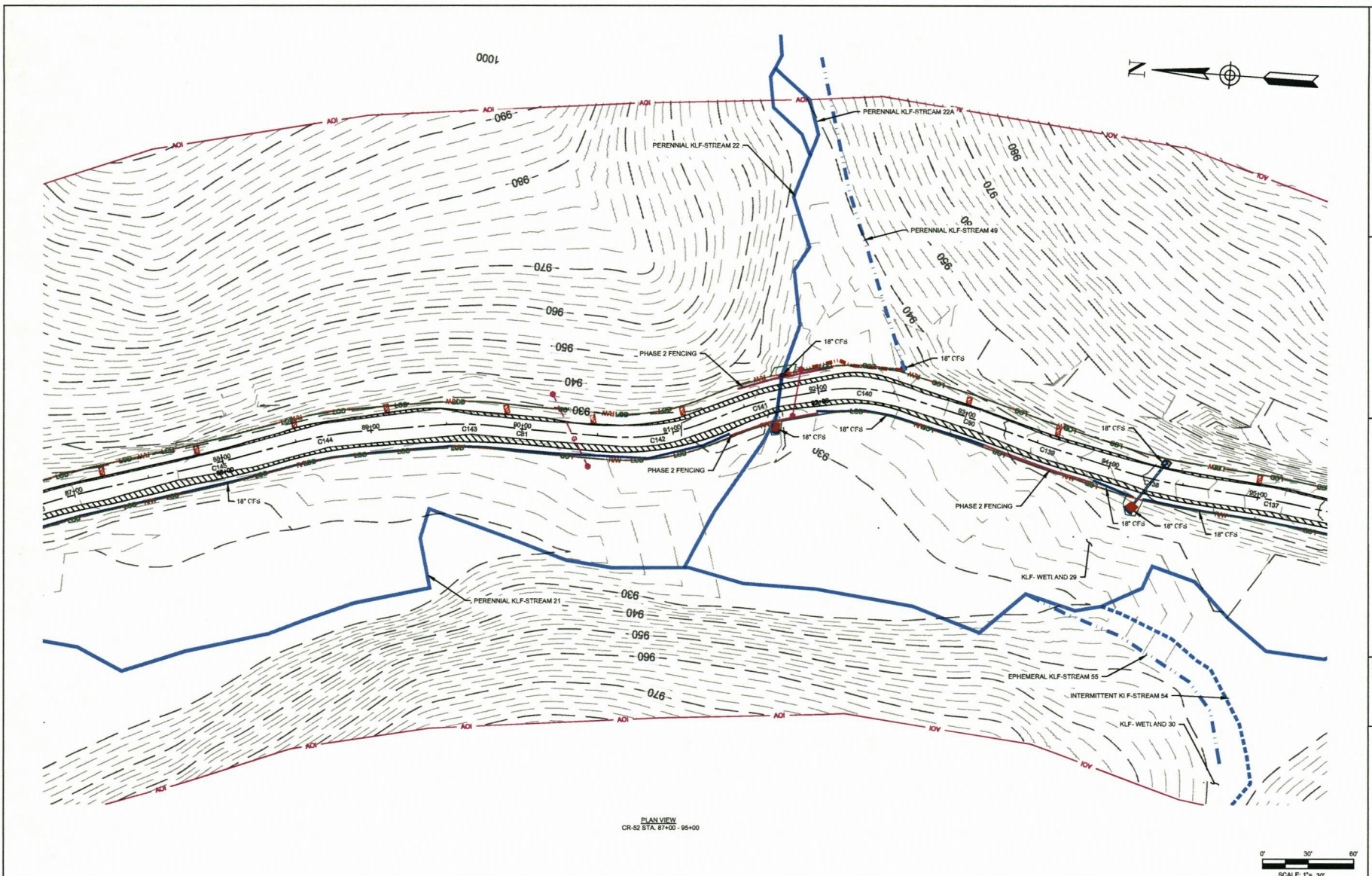


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02/20/20		JAS			JAS

STA. 71+00 TO 87+00
SUGAR RUN ROAD (CR-52) ROADWAY IMPROVEMENTS
ANTERO RESOURCES
DISTRICT 4
DODDRIE COUNTY, WEST VIRGINIA

DESN BY: JAS
DRWN BY: JAS
FLD B/C: JAS
CHK'D BY: JAS
DATE: 02/20/20

PLOT DATE: June 8, 2020



PLAN VIEW
CR-52 STA. 87+00 - 95+00

FINAL PLAN

IF SCALE BAR DOES NOT MEASURE 1" DRAWING NOT PLOTTED TO SCALE

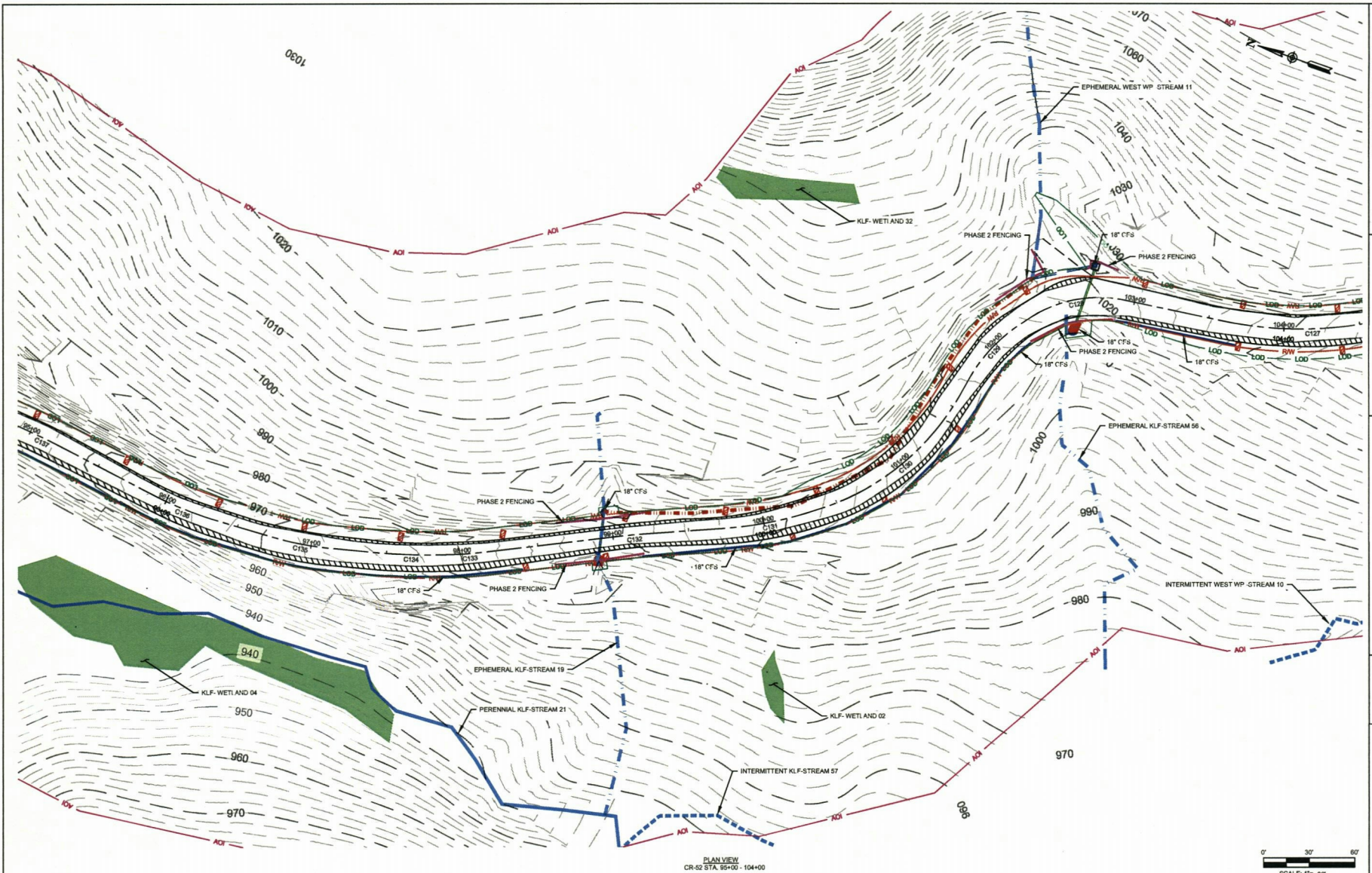
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	PROPOSED CONTOURS		PERENNIAL STREAM
	PROPOSED WIDENING		JURISDICTIONAL DITCH
	EXISTING VEGETATION		18" FILTER SOCK
	DRAINAGE AREA		PHASE 2 FENCING
	EXISTING CULVERT		PROPOSED CULVERT
	EXISTING CULVERT		ROCK CHECK DAM
	EXISTING CULVERT		OUTLET PROTECTION
	EXISTING CULVERT		FABRIC CHECK DAM
	EXISTING CULVERT		LEVEL SPREADER

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100 N. HENRI WALKER
ST. PAUL, MN 55102-2727
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DESIGNED BY:	DATE:	DESK:
JML	02/28/2020	
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STA. 87+00 TO 95+00
SUGAR RUN ROAD (CR-52) ROADWAY IMPROVEMENTS
ANTERO RESOURCES
DISTRICT 4
DODDGE COUNTY, WEST VIRGINIA



PLAN VIEW
CR-52 STA. 95+00 - 104+00

FINAL PLAN

IF SCALE BAR DOES NOT MEASURE 1" DRAWING NOT PLOTTED TO SCALE

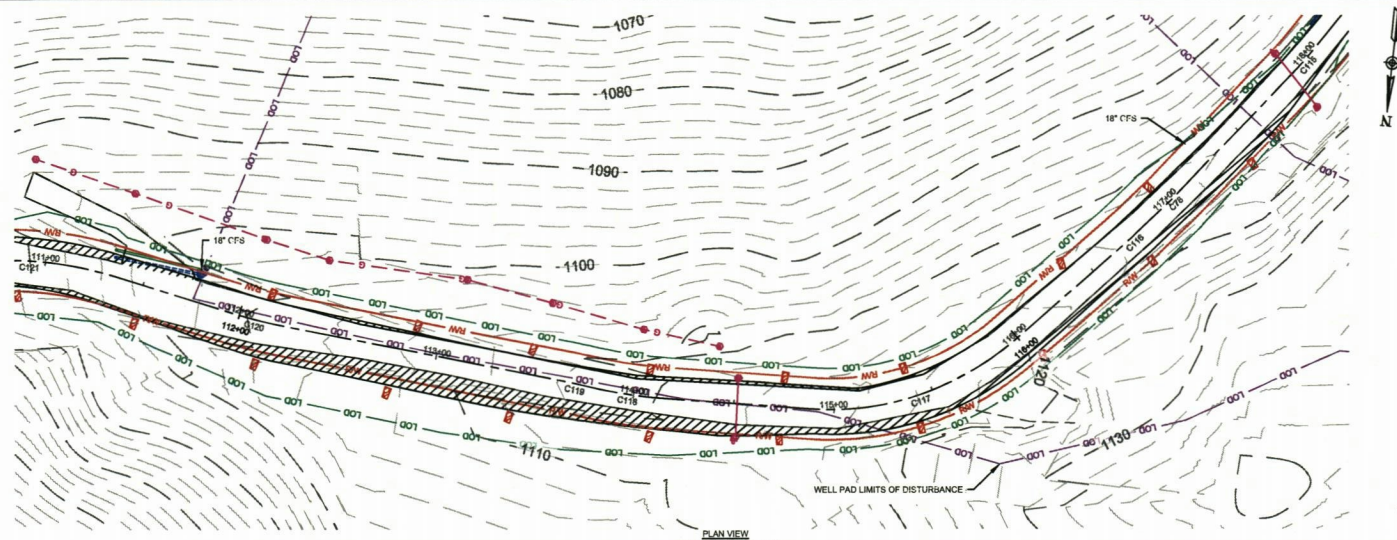
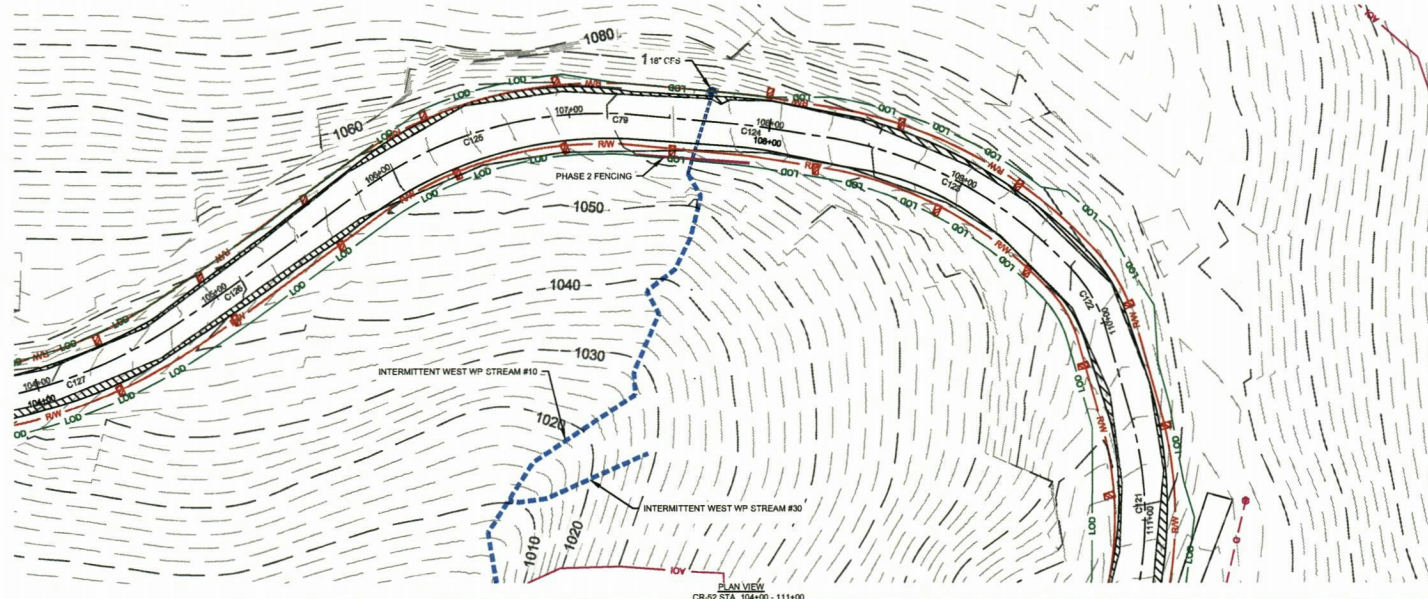
LEGEND			
AREA OF INTEREST	EDGE OF SHOULDER	JURISDICTIONAL DITCH	18" FILTER SOCK
LIMITS OF DISTURBANCE	EPHEMERAL STREAM	PROPOSED WIDENING	EXISTING CULVERT
EXISTING CONTOURS	INTERMITTENT STREAM	EXISTING VEGETATION	FABRIC CHECK DAM
PROPOSED CONTOURS	PERENNIAL STREAM	DRAINAGE AREA	LEVEL SPREADER
		PHASE 2 FENCING	ROCK CHECK DAM
		PROPOSED CULVERT	OUTLET PROTECTION

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100 HENRIEL AVENUE
ST. PAUL, NC 28137
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STA. 95+00 TO 105+00
SUGAR RUN ROAD (CR-52) ROADWAY IMPROVEMENTS
ANTERO RESOURCES
DISTRICT 4
DODDRIEGE COUNTY, WEST VIRGINIA



LEGEND

AREA OF INTEREST	EDGE OF SHOULDER	JURISDICTIONAL DITCH	18" FILTER SOCK	EXISTING CULVERT	FABRIC CHECK DAM
LIMITS OF DISTURBANCE	EPHEMERAL STREAM	PROPOSED WIDENING	PHASE 2 FENCING	ROCK CHECK DAM	LEVEL SPREADER
EXISTING CONTOURS	INTERMITTENT STREAM	EXISTING VEGETATION	PROPOSED CULVERT	OUTLET PROTECTION	
PROPOSED CONTOURS	PERENNIAL STREAM	DRAINAGE AREA			

FINAL PLAN

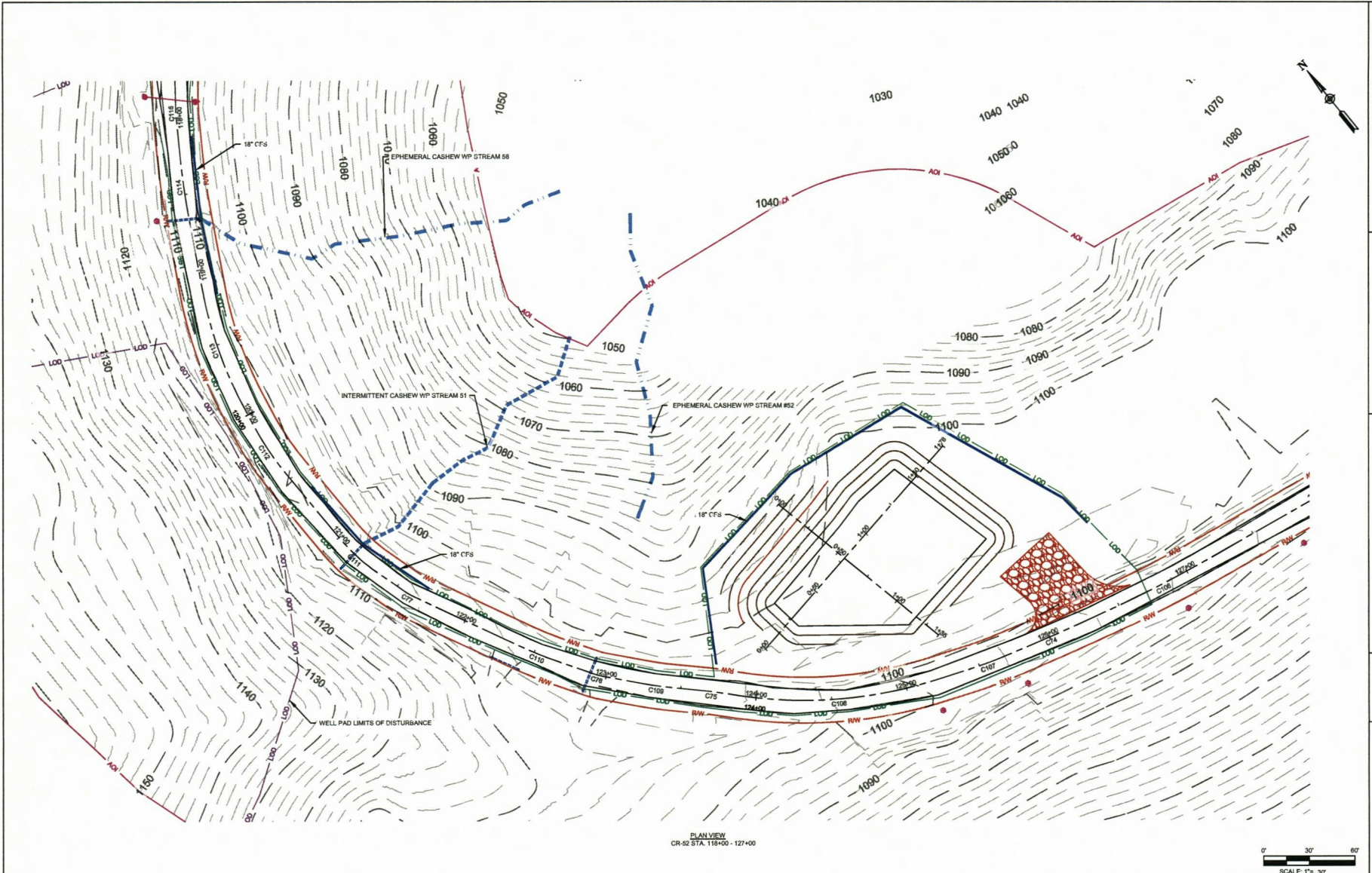
IF SCALE BAR DOES NOT MEASURE 1" DRAWING NOT PLOTTED TO SCALE

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ST. PETERSBURG, FL 34780
PH: (813) 938-2722
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DESIGN BY: JML	REV. BY: JML	DATE: 02/28/2020	DESK: JML
DRAWN BY: JMB	REV. BY: JMB	DATE: 02/28/2020	DESK: JMB
FILED BY: JMB	REV. BY: JMB	DATE: 02/28/2020	DESK: JMB
DATE: 02/28/2020			

STA. 105+00 TO 118+00
SUGAR RUN ROAD (CR-52) ROADWAY IMPROVEMENTS
ANTERO RESOURCES
DISTRICT 4
DODDRIEGE COUNTY, WEST VIRGINIA



FINAL PLAN

IF SCALE BAR DOES NOT MEASURE 1" DRAWING NOT PLOTTED TO SCALE

LEGEND			
	AREA OF INTEREST		EPHEMERAL STREAM
	EDGE OF SHOULDER		INTERMITTENT STREAM
	LIMITS OF DISTURBANCE		PERENNIAL STREAM
	EXISTING CONTOURS		JURISDICTIONAL DITCH
	PROPOSED CONTOURS		PROPOSED WIDENING
			EXISTING VEGETATION
			DRAINAGE AREA
	18" FILTER SOCK		EXISTING CULVERT
			PROPOSED CULVERT
	FABRIC CHECK DAM		ROCK CHECK DAM
	LEVEL SPREADER		OUTLET PROTECTION

SCALE: 1" = 30'

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DESIGN	DATE	REVISION	DATE
DESIGNED BY: JMS	DATE: 02/28/2020	REVISION BY: JMS	DATE: 02/28/2020
DRAWN BY: JMS		REVISION BY: JMS	
FILED BY: JMS		REVISION BY: JMS	
DATE: 02/28/2020		REVISION BY: JMS	

STA. 119+00 TO 127+00
SUGAR RUN ROAD (CR-52) ROADWAY IMPROVEMENTS
ANTERO RESOURCES
DISTRICT 4
DODDRIEGE COUNTY, WEST VIRGINIA

56
PLOT DATE: June 8, 2020



ATTACHMENT E
NO-RISE CERTIFICATE

West Virginia Engineering No-Rise Certificate

Project Information

<u>Doddridge</u> County	<u>4/8/2020</u> Date
<u>CR-52 (Sugar Run Road)</u> Road	<u>39.204838, -80.864770</u> Approx. Coordinates
<u>Roadway widening and overlay</u> Description of work	

Flood Insurance Rate Map (FIRM) Information

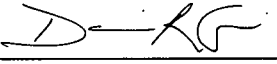
<u>5017C0225C</u> Panel Number	<u>October 4, 2011</u> Effective Date
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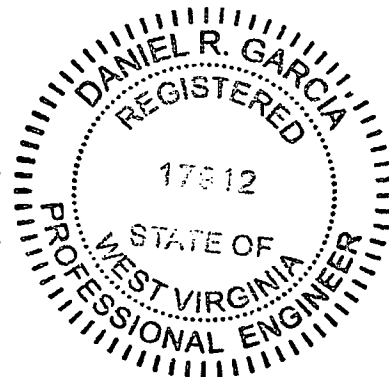
Comments

There is no fill or material to be placed within the floodplain above any existing elevations. Roadway will be excavated prior to placement of gravel and stone in order to maintain elevations. No hydraulic analysis is required based on email from George C. Eidel, CFM, OEM Director/Floodplain Manager dated 2/28/2020.

Certification

This is to certify that I am a duly qualified engineer licensed to practice in the state of West Virginia. I further certify that the attached engineering data supports the fact the proposed development described above and within the construction drawings will not create any increase to the base flood heights during the occurrence of the base flood discharge (100-year flood) at published cross sections listed in the flood insurance study for the panel listed above dated 10/4/2011 and will not create any increase to the 100-year flood elevations at unpublished cross-section in the vicinity of the proposed development.

<u>Daniel R. Garcia</u> Engineer Name	
<u>Hammontree & Associates</u> Company Name	<u>17912</u> License Number
<u></u> Signature	<u>04/08/2020</u> Date
<u>Project Manager</u> Title	





ATTACHMENT F PERMITTING AND COORDINATION

Permitting and Coordination

Permitting Agency	Permit/Coordination Required	Submitted	Received (Anticipated)	Status
USACE ¹	Nationwide Permit #14	2/22/2021	(4/8/2021)	Pending
USFWS ²	Threatened and Endangered Species Coordination	3/27/2020	6/2/2020	Approved
USFWS	LOD Modification Email Correspondence	4/21/2020		
WVSHPO ³	Section 106 Consultation	USACE to Initiate Consultation with WVSHPO. The Cultural Resources Assessment is Included in this Nationwide Permit Submittal (Attachment E).		Pending
WVDNR-OLS ⁴	Stream Activity Application	To Be Submitted	To Be Submitted	To Be Submitted
WVDNR-OLS	Spawning Waiver	To Be Submitted	To Be Submitted	To Be Submitted
WVDNR-WRS ⁵	State Lands Threatened and Endangered Species Coordination	3/27/2020	4/3/2020	Approved
WVDNR-WRS	LOD Modification Email Correspondence	4/9/2020	4/9/2020	
Doddridge County Floodplain Manager	Floodplain Permit	To Be Submitted	To Be Submitted	To Be Submitted
WVDEP ⁶	Construction Stormwater General Permit	4/13/2020	6/16/2020	Approved

- 1 United States Army Corps of Engineers
- 2 United States Fish and Wildlife Service
- 3 West Virginia Division of Culture and History, State Historic Preservation Office
- 4 West Virginia Division of Natural Resources - Office of Land and Streams
- 5 West Virginia Division of Natural Resources – Wildlife Resource Section
- 6 West Virginia Department of Environmental Protection



west virginia department of environmental protection

Division of Waster and Water Management
601 57th Street SE
Charleston West Virginia 25304-2345
Phone: 304-926-0495
Fax: 304-926-0496

Austin Caperton, Cabinet Secretary
dep.wv.gov

June 16, 2020

ANTERO RESOURCES CORPORATION
SETH YOHO
535 WHITE OAKS BLVD.
BRIDGEPORT, WV 26330

Re: General Permit Registration No.
WVR311512, Doddridge County
Sugar Run Road Roadway
Improvements
Acres (10.03)

Dear Permittee:

You are now authorized to operate under General Permit No. WV0116815 to discharge stormwater associated with Oil and Gas related construction activities. This registration form should be kept with your copy of the General Permit. You should carefully read the contents of the permit and become familiar with all requirements needed to remain in compliance.

Although you should be aware of all the terms and conditions of this permit, we wish to advise you of the following important requirements:

1. In accordance with Section G.4 of the General Permit, you have developed a complete storm water pollution prevention plan. This plan is to be retained on site and be available for review by the Director or the Director's authorized representative as of the date of your coverage by the General Permit, which is the date of this letter.
2. The erosion control measures approved by this Agency for this project shall be maintained in proper condition to individually and collectively perform the functions for which they were designed. In order to ensure the efficiency and proper maintenance of these measures, the permittee shall make sufficiently frequent, periodic inspections to detect any impairment of the designed stability, capacity or environmental requirements of the approved measures. The permittee shall take immediate steps to correct any such impairment found to exist.
3. If this Stormwater Pollution Prevention Plan (SWPPP) proves to be ineffective in controlling erosion and the sediment in storm water discharges associated with industrial/construction activities, or site conditions change, the Permittee shall amend the SWPPP and install appropriate sediment and/or control devices in accordance with Section G.4.c. of this permit and the application instructions

Promoting a healthy environment.

4. Permit coverage expires on April 23rd, 2021. If you wish to continue an activity authorized by this permit after the expiration date of the permit, provisions for coverage will be made during the public notice process for any new General Permit to be issued at that time.

5. Final stabilization means disturbed areas shall be covered by the appropriate permanent protection. Final stabilization includes: pavement; buildings; stable waterways (riprap, concrete, grass or pipe); a healthy, vigorous stand of perennial grass that uniformly covers at least 70 percent of the ground; stable outlet channels with velocity dissipation which directs site runoff to a natural watercourse; and any other approved structure or material.

You will be invoiced for your annual permit fees one month prior to the anniversary date of today's date. Failure to submit the annual fee within 90 days of the due date will render your permit void upon the date you are mailed a certified written notice to that effect. Please be advised that a pro-rated annual permit fee may be assessed upon the completion date and proper stabilization.

Issuance of this registration does not authorize any injury to persons or property or invasion of other private rights, or any infringement of federal, state or local law or rules.

The validity of this General Permit Registration is contingent upon payment of the applicable annual permit fee, as required by Chapter 22, Article 11, Section 10 of the Code of West Virginia.

Issuance of this registration does not authorize any injury to persons or property or invasion of other private rights, or any infringement of federal, state or local law or rules.

Your efforts toward preventing the degradation of our natural resources are greatly appreciated. If you have any questions, please contact **Joseph Cochran** at (304) 414-3793 or by email at joseph.w.cochran@wv.gov.

Kathy Emery
Acting Director
WV DEP-Division of Water & Waste Mgt.
601 57th St SE
Charleston, WV 25304-2345
Phone: (304) 414-3830
Fax: (304) 926-0463



United States Department of the Interior



FISH AND WILDLIFE SERVICE

West Virginia Field Office
6263 Appalachian Highway
Davis, West Virginia 26260

June 2, 2020

Mr. Tyler Streb
Antero Resources Corporation
1615 Wynkoop Street
Denver, Colorado 80202

Re: Antero Resources Corporation – Sugar Run Road (CR-52) Roadway Improvements
Project, Doddridge County, West Virginia
(FWS File Number 2020-I-0667)

Dear Mr. Streb:

This letter responds to your March 27, 2020, and April 21, 2020, request for information regarding the potential occurrence of federally listed endangered and threatened species and their designated critical habitats within the proposed project area. The project is located near the town of Oxford in Doddridge County, West Virginia.

It is the U.S. Fish and Wildlife Service's (Service) understanding that Antero Resources Corporation (Antero) proposes roadway improvements along Sugar Run Road (CR-52) to allow for larger truck traffic associated with the oil and gas operations in the area, specifically to provide access to the Cashew Well Pad project. The roadway improvements will require a 10.031-acre limit of disturbance, including approximately 0.80-acre of tree removal.

The comments below are provided pursuant to the Endangered Species Act (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*). This project has been assigned FWS File Number 2020-I-0667 and all future correspondence should clearly reference this FWS File Number.

The Service has determined that the endangered Indiana bat (*Myotis sodalis*), snuffbox mussel (*Epioblasma triquetra*), and clubshell mussel (*Pleurobema clava*), and the threatened northern long-eared bat (*Myotis septentrionalis*) may occur within the project area and may be affected by the construction of this project.

Federally Listed Bats

The Indiana bat and northern long-eared bat may use the project area for foraging and roosting between April 1 and November 15. Indiana bat summer foraging habitats are generally defined as riparian, bottomland, upland forest, and old fields or pastures with scattered trees. Roosting and maternity habitat consists primarily of live or dead hardwood tree species which have exfoliating bark that provides space for bats to roost between the bark and the bole of the tree.

Tree cavities, crevices, splits, or hollow portions of tree boles and limbs also provide roost sites. In West Virginia, the Service considers all forested habitat containing trees greater than or equal to 5 inches in diameter at breast height to be potentially suitable as summer roosting and foraging habitat for the Indiana bat. Indiana bats feed on emerged aquatic and terrestrial flying insects. Moths, caddisflies, flies, mosquitoes, and midges are major prey items. Aquatic insects that have concentrated emergences or that form large mating aggregations above or near water appear to be preferred prey items. As a result, streams, wetlands, and associated riparian forests are often preferred foraging habitats for pregnant and lactating Indiana bats. Indiana bats also forage within the canopy of upland forests, over clearings with early successional vegetation (e.g., old fields), along the borders of croplands, along wooded fencerows, and over farm ponds in pastures. Increased erosion and sedimentation of streams reduces diversity and biomass of benthic insects, which are prey for both bat species.

Similar to the Indiana bat, northern long-eared bat foraging habitat includes forested hillsides and ridges, and small ponds or streams. Northern long-eared bat are typically associated with large tracts of mature, upland forests with more canopy cover than is preferred by Indiana bats. Northern long-eared bat seem to be flexible in selecting roosts. They choose roost trees based on suitability to retain bark or provide cavities or crevices, and this species is known to use a wider variety of roost types than the Indiana bat. Males and non-reproductive females may also roost in cooler places like caves and mines. Although rare, this bat has also been found roosting in structures like barns and sheds.

Indiana bats and northern long-eared bat use caves or mine portals for winter hibernation between November 15 and March 31. These species also use the hibernacula and the areas around them for fall-swarmling and spring-staging activity (August 15 to November 14 and April 1 to May 14, respectively). Some males have been known to stay close to the hibernacula during the summer and may use the hibernacula as summer roosts. There may be other landscape features being used as hibernacula by northern long-eared bat during the winter that have yet to be documented.

The Service has reviewed the number of acres of potentially suitable foraging and roosting habitat on the West Virginia landscape available to each Indiana bat, versus the total acreage of forest. On that basis, we have determined that small projects, more than 10 miles from a known Priority 1 or 2 Indiana bat hibernaculum, more than five miles from a known Priority 3 or 4 Indiana bat hibernaculum, or more than 2.5 miles from any known maternity roost, or more than five miles from summer detection sites where no roosts were identified, that affect less than 17 acres of forested habitat, and will not affect any potential hibernacula, will have a very small chance of resulting in direct or indirect effects to the Indiana bat, and therefore these effects are considered discountable. As new information becomes available, the Service may review and update this assessment.

The Service does not anticipate that this project is likely to adversely affect the Indiana bat because your project: 1) will affect less than 17 acres of potential Indiana bat foraging or roosting habitat; 2) is not within any of the Indiana bat hibernacula or summer use buffers described above; 3) will not affect any potential caves or mines that could be used as hibernacula for this species; and 4) effects to aquatic features used for foraging habitat will be insignificant.

The northern long-eared bat may occur within the range of the proposed project, and may be affected by the proposed construction and operation of this project. Any take of northern long-eared bat occurring in conjunction with these activities that complies with the conservation measures (as outlined in the 4(d) rule), as necessary, is exempted from ESA Section 9 prohibitions by the 4(d) rule and does not require site specific incidental take authorization. Note that the 4(d) rule does not exempt take that may occur as a result of adverse effects to hibernacula and that no conservation measures are required as part of the 4(d) rule unless the proposed project: 1) involves tree removal within 0.25 miles of known northern long-eared bat hibernacula; or 2) cuts or destroys known, occupied maternity roost trees or any other trees within a 150-foot radius around known, occupied maternity tree during the pup season (June 1 to July 31). This proposed project is not located within any of these radii around known hibernacula or roost trees and will not affect any known northern long-eared bat hibernacula, therefore any take of northern long-eared bat associated with this project is exempted under the 4(d) rule and no conservation measures are required.

Freshwater Mussels

The proposed project occurs within the vicinity of the South Fork Hughes River, which provides habitat for the federally listed snuffbox and clubshell mussels. Freshwater mussels feed by filtering food particles from the water column. Juvenile and adult freshwater mussels have been documented to feed on detritus, diatoms, phytoplankton, and zooplankton. Freshwater mussels rely on fish to complete their lifecycles. When mussel larvae (glochidia) are released into the water by adult females, they must attach themselves within a few days to an appropriate fish host, which they then parasitize for a short time while developing into juvenile mussels. The loss of many historic populations and the continuing degradation of current populations are due to the impacts of impoundments, navigation projects, water quality degradation from agricultural and industrial wastes, and deforestation and other forms of habitat alteration, including gravel and sand dredging. Impacts that directly affect the species also include reduction or elimination of fish hosts.

Freshwater mussels play a key role in the health of aquatic environments by helping to maintain water quality, cycle nutrients, stabilize substrates, remove suspended sediments, and create habitat complexity (Anderson and Kreeger 2010). Mussels remove suspended particulates from water by filter-feeding, which involves straining water over gills to remove microscopic food particles. Filter-feeding makes mussels very sensitive to excessive sedimentation caused by runoff from streambank and upland activities. Excessive sedimentation into a stream reduces suitable habitat for mussels and can smother them, causing death. Excessive suspended sediments can also impair feeding processes of mussels, leading to acute short-term or chronic long-term stress. Both excessive sedimentation and excessive suspended sediments can lead to reduced populations of mussels and therefore reduced benefits to the ecosystem (Anderson and Kreeger 2010; Box and Mossa 1999; Ellis 1931; Ellis 1936; Houpp 1993).

Due to the proximity of the project to the South Fork Hughes River, the project could cause increased sedimentation that could adversely affect mussels. In correspondence dated, March 27, 2020, and April 21, 2020, Antero stated their commitment to implement stringent erosion and sedimentation controls. These best management practices will help minimize the adverse effects of sedimentation and erosion to waterways that provide habitat to federally listed mussels near

Mr. Tyler Streb
June 2, 2020

4

the project area. In addition, the applicant will comply with the requirements set forth in the West Virginia Department of Environmental Protections 2006 Best Management Protection Manual.

Based on Antero's commitment to implement erosion and sedimentation controls, and because no fill is proposed within the South Fork Hughes River, the Service does not anticipate that this project is likely to adversely affect any federally listed mussels.

Summary

Based on the information provided, the Service does not anticipate this project is likely to adversely affect any federally listed species and that any take of northern long-eared bats associated with this project is exempted under the 4(d) rule.

This letter provides technical assistance only and does not serve as a completed ESA Section 7 consultation document. If there is a Federal nexus for the project (e.g., Federal funding provided, Federal permits required to construct), no tree clearing or any project construction activities on any portion of the parcel should occur until consultation under Section 7 of the ESA, between the Service and the Federal action agency, is completed. Section 7 consultation is not complete until the Federal action agency submits a determination of effects to this office, and the Service concurs with the Federal action agency's determination. If there is no Federal nexus associated with this project, then no further coordination with this office is required. All measures should be implemented as proposed.

If the project plans change or amendments be proposed that we have not considered in your proposed action, or if additional information on listed and proposed species becomes available, or if new species become listed or critical habitat is designated, this determination may be reconsidered.

If you have any questions regarding this letter, please contact Tiernan Lennon on my team at (304) 866-3858, Ext. 1615, or at the letterhead address.

Sincerely,



Jennifer L. Norris
Field Supervisor

LITERATURE CITED

- Anderson, R. M. and D. A. Kreeger. 2010. Potential for impairment of freshwater mussel populations in DRBC special protection waters as a consequence of natural gas exploratory well development. Unpublished report prepared for U.S. Fish and Wildlife Service and the Partnership for the Delaware Estuary. State College, Pennsylvania.
- Box, J. M. and J. Mossa. 1999. Sediment, land use, and freshwater mussels: prospects and problems. *Journal of the North American Benthological Society*. 18:99-117.
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Mr. Tyler Streb
June 2, 2020

6

cc:

Project File

Reader File

ES:WVFO:TLennon:skd:6/2/2020

Filename: C:\Users\sheiladavis\Desktop\MAIL\Letters\June 2 2020\OneDrive_3_6-2-2020\2020-I-0667_Sugar Run Rd_4.27.20jln.docx

From: Sargent, Barbara D <Barbara.D.Sargent@wv.gov>
Sent: Thursday, April 9, 2020 1:38 PM
To: John Lewis <JALewis@kleinfelder.com>
Cc: Tyler Streb <tstreb@anteroresources.com>; Matthew Albright <MAlbright@kleinfelder.com>
Subject: Re: [External] Antero Resources Corp: Sugar Run Road (CR-52) Roadway Improvements - WVDNR Consultation Letter

External Email.

John--

That is correct. An updated letter is not needed. Thank you for contacting us regarding the revision.

If you have any other questions, let me know.

Barb

Barbara Sargent
WVDNR - Wildlife Resources Section
Operations Unit
Environmental Coordination
738 Ward Road
PO Box 67
Ward Road
Elkins, WV 26241
304-637-0245

<http://www.wvdnr.gov/>

From: John Lewis <JALewis@kleinfelder.com>
Sent: Thursday, April 9, 2020 12:36 PM
To: Sargent, Barbara D <Barbara.D.Sargent@wv.gov>
Cc: Tyler Streb <tstreb@anteroresources.com>; Matthew Albright <MAlbright@kleinfelder.com>
Subject: RE: [External] Antero Resources Corp: Sugar Run Road (CR-52) Roadway Improvements - WVDNR Consultation Letter

Hi Barbra,

This email is in summary of our phone conversation we had earlier today.

Since submitting the Sugar Run Road (CR-52) Roadway Improvements consultation letter, design changes have occurred that potentially propose to add rip-rap outlet protection around a culvert. The LOD expansion consist of an approximate 0.002 acre area adjacent to the existing Department of Highways right-of-way and does not anticipate additional tree clearing.

Per our conversation, you have reviewed our original consultation letter, and based on the information we discussed regarding the design modification, it has been determined that no additional action/revised documentation is necessary to submit to WVDNR-WRS as it is understood that minor modifications tend to occur.

Please do not hesitate to reach out if you have any questions.

Thanks!

John A. Lewis

d| 724.200.7512

m| 412.848.7376



DIVISION OF NATURAL RESOURCES

**Wildlife Resources Section
Elkins Operations Center
738 Ward Rd., PO Box 67
Elkins, WV 26241
Telephone 304-637-0245
Fax 304-637-0250**

**Stephen S. McDaniel
Director**

April 3, 2020

Mr. Tyler Streb
Antero Resources Corporation
1615 Wynkoop Street
Denver, CO 80202

Dear Mr. Streb:

We have reviewed Natural Heritage Program files for information on rare, threatened and endangered (RTE) species and sensitive habitats for the area of the proposed Sugar Run Road (CR 52) Roadway Improvements project in Doddridge County, WV.

We have no known records of any RTE species or sensitive habitats within the project area. The Wildlife Resources Section knows of no surveys that have been conducted in the area for rare species or rare species habitat. Consequently, this response is based on information currently available and should not be considered a comprehensive survey of the area under review. This response is valid for two years.

The information provided above is the product of a database search and retrieval. This information does not satisfy other consultation or permitting requirements for disturbances to the natural resources of the state, and further consultation may be required. Additionally, any concurrence requirements for federally listed species must come from the US Fish and Wildlife Service.

Thank you for your inquiry, and should you have any questions please feel free to contact me at the above number, or barbara.d.sargent@wv.gov. Enclosed please find an invoice.

Sincerely,

**Barbara Sargent
Environmental Resources Specialist
Environmental Coordination
Operations Unit**

cc: John Lewis - Kleinfelder

enclosure

S:\Monthly\BSargent\Invoices\Antero.doc

WEST VIRGINIA
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
AGREEMENT
ANTERO RESOURCES
DODDRIDGE COUNTY ROUTE 52 SLS
SUGAR RUN ROADWAY IMPROVEMENTS

APR 21 11:47 AM

THIS AGREEMENT, executed in duplicate, made and entered into this 16 day of MARCH, 2021, by and between the West Virginia Department of Transportation, Division of Highways, hereinafter called "Department," and Antero Resources Corporation, 1615 Wynkoop Street, Denver CO 80202, hereinafter called "Company,"

WHEREAS, to improve access to oil and gas operations in the vicinity of Oxford in Doddridge County, West Virginia, Company desires to improve a portion of Doddridge County Route 52 SLS by performing certain construction activities within and adjacent to Department's right-of-way; and

WHEREAS, Department considers it to be in the public interest to cooperate with Company to facilitate Company's implementation of the highway improvement, as it pertains to the State Highway System;

NOW, THEREFORE, in consideration of the faithful performance of each party of the mutual covenants hereinafter set forth, Department and Company agree as follows:

- I. Company shall first obtain Department's approval regarding the proposed activities Company desires to implement within or which directly or indirectly affect the State Highway System and Company shall comply with the provisions described throughout this Agreement. Company acknowledges that execution of this Agreement does not constitute Department's approval of any part of Company's proposed work nor does execution of this Agreement represent Department's Notice to Proceed. Further, Company acknowledges that any work performed by Company, including work solely within Company's property that will directly or indirectly affect Department's right-of-way, prior to receipt of Department's approval and Notice to Proceed with work pertaining to the State Highway System, is performed by Company with the understanding that subsequent review by Department of Company's plans and studies may result in necessary additional modifications to be performed at no cost to Department.
- II. Unless otherwise directed by Department, Company is to submit for Department's review and approval appropriate construction plans and related documents, including appropriate right-of-way, utility, and maintenance of traffic plans, which collectively are referred to as the "Plans," prepared in accordance with Department's Directives, criteria, guidelines and publications, for the performance of work that will occur within or that will directly or indirectly affect Department's right-of-way of affected County Route(s). Department's approvals shall be in writing. Unless otherwise directed by Department, Company shall provide Department with five (5) copies of the approved Plans and as-built Plans, as appropriate.
- III. The scope of Company's work, hereinafter called "Project," as it pertains to the State Highway System, is to consist primarily of, but may not be limited to, widening Doddridge CR 52 (MP 5.20 to MP 2.75), improve drainage, 12" soil cement stabilization and 3.75" HMA surface, as shown on plans for this project designed by Hammontree & Associates, LTD.
- IV. After receipt of Department's written approval of the Plans pertaining to the State Highway System and Department's authorization to proceed with construction and related work, Company then shall be authorized to construct Project as shown on the approved Plans, in accordance with Department's Standard Specifications Roads and Bridges, adopted 2017, at no cost to Department. Company shall complete Project within one year of the date of this agreement. For duration of Project, Company shall be responsible for providing full-time construction inspection, materials

acceptance, and traffic control. Company will reimburse Department for any inspection or materials acceptance costs incurred by Department for this project. Department's authorization to proceed is contingent upon receipt of any Federal Highway Administration approval and authorization that may be required and upon Company's compliance with the other stipulations and requirements set forth herein.

- V. Prior to construction of Project, Department and Company shall review and document, as appropriate, the existing condition of the State Highway System to be affected by Project. Department shall be notified of Company's anticipated construction schedule and Department shall have the right, at all times, to inspect the work pertaining to Project. If the results of Department's inspection indicate that the work is not being performed in accordance with the approved Plans and/or specifications, Department then will report such fact to Company for appropriate remedial action. Department shall perform an inspection of the work within thirty (30) days after receipt by Department of notice from Company that the remedial work is complete. Upon completion of said inspection, Department shall, in writing, accept the completed remedial work associated with Project or reject the work. If rejected, any deficiencies in the construction performed by Company, which are disclosed by Department's inspection, shall be promptly corrected by and at the expense of Company. Without limiting any other legal remedies of Department, if within a reasonable time after notice to Company of any deficiencies in the work, Company fails or refuses to correct any deficiencies and complete the work as provided in the approved Plans, Department may, but is not required to, correct the deficiencies and complete the work in accordance with the approved Plans. Department may invoice Company for all costs associated therewith, and Company agrees in that event to reimburse Department for all such costs within thirty (30) days of receipt of such invoice. Neither Department's review of Company's Plans nor its inspection of Company's construction relieves Company of the duty imposed by West Virginia Code Section 17-16-1 et seq. to refrain from casting water upon the public road.
- VI. Company shall secure the approvals and/or permits, if any, required by other governmental agencies, and shall comply with all applicable Federal, State, and local environmental regulations including, but not limited to, the National Environmental Policy Act, Section 404 of the Clean Water Act, Section 106 of the National Historic Preservation Act, Rare, Threatened and Endangered Species Act, State 401 Water Quality Certification, and hazardous waste requirements. Company shall furnish Department with acceptable documentation of such approvals, permits, and compliance.
- VII. Company's implementation of Project may necessitate the conveyance to Department of additional right-of-way and/or easements. Any additional right-of-way and any easements necessary for Project shall be clearly indicated on the approved Plans. Company will obtain all right-of-way and easements necessary for Project which instruments shall be assignable and which shall be placed of record in the Office of the County Clerk of Doddridge County, West Virginia; prepare for Department's approval legal descriptions and plats of the easements and rights of way; after obtaining Department's approval of legal descriptions and plats, and Department's acceptance of the work convey to Department by deed such right-of-way and easements.
- VIII. Company shall be responsible, at no cost to Department, for all necessary installation, relocation or adjustment of utilities associated with Project. All utility work within Department's existing and proposed right-of-way shall be performed in accordance with the West Virginia Division of Highways manual entitled, "Accommodation of Utilities on Highway Right of Way and Adjustment and Relocation of Utility Facilities on Highway Projects, June 2007," or later version. Prior to any conveyance to Department of any right-of-way or easements associated with Project, Company shall not install or allow to be installed any utilities within the area that is to be conveyed to Department. If Company installs or allows to be installed any such utility prior to conveyance to Department of the right-of-way or easements associated with Project, Company shall provide to Department a written commitment that Company and any successors or assigns of Company shall be fully responsible for all the financial obligations regarding any relocation of such utility that may be necessary in the future as part of any project implemented by Department.
- IX. In the performance of Company's work, no construction equipment shall be permitted on the travel lanes or shoulders of any County Routes, except as shown on Plans approved by Department. Company shall submit for Department's approval as part of Plans Company's maintenance of traffic plans regarding all affected highways. Company shall provide Department with documentation that

Company has appropriately coordinated Project implementation and traffic control with any affected County Board of Education concerning school bus traffic and with all public transit agencies and 911 Centers affected by Project. After approval of Plans by Department and for duration of Project, Company shall:

- A. Implement such maintenance of traffic plan;
- B. Ensure that public travel is adequately maintained within the Project limits;
- C. Ensure that access to all other properties within Project construction limits is maintained at all times;
- D. Coordinate traffic control, as necessary and appropriate, with any events, festivals, sporting events or other similar activities, public or private, that may be affected by Company's construction of Project; and
- E. Promptly repair, at Company's total expense, any and all damage to the State Highway System that is directly attributable to Company's implementation of Project.

Company shall identify as part of the Plans and submit for Department's approval any anticipated temporary closure of any lane(s) of any State highway associated with the implementation of Project. In the event that Company's implementation of Project results in the closure of any lane(s) of any State highway, which closure is not identified on the Plans as approved by Department, Company then shall:

- A. Pay one hundred percent (100%) of the cost associated with the manufacture and/or installation of all signing and other traffic control devices Department installs to address the closure;
- B. Provide the name and phone number of Company's contact person regarding Project, which shall be provided to the public so that Company may timely address questions and concerns of the public regarding such closure; and
- C. Pay one hundred percent (100%) of the cost associated with notice to local media and any other public notice Company must provide to notify the public of the closure, the purpose of the closure, the anticipated duration of the closure, and the alternate routing that may be used during closure.

- X. To the fullest extent permitted by law, Company at all times do, and shall, assume all risks of damage to its property, and property of others, and injury or death to all persons (including, but not limited to, any employee or agent of Company, any Contractor or any Subcontractor) resulting directly, indirectly or otherwise by (a) the actions or omissions of Company, any Contractor or any Subcontractor, or their respective agents and employees, (b) by any condition of the property, (c) by any failure of Company, any Contractor or any Subcontractor, or their respective agents and employees, to comply with any applicable law, rule, regulations or order of any governmental authority, or to comply with any provision of this Agreement, or (d) by any other cause related to Company's, any Contractor's or any Subcontractor's performance of work hereunder, including maintenance of the roadway or failure to maintain the roadway as required by this Agreement. Company at all times hereby fully assumes the risk of and shall defend, indemnify and hold harmless the Department, its officers, employees and agents (the Department and such persons collectively "Department's Indemnified Persons"), and shall reimburse Department's Indemnified Persons for, from and against each and every demand, claim, suit, loss (which shall include any diminution in value), liability, damage, cost and expense (including, without limitation, interest, fines, penalties, and investigation, and any and all reasonable fees, disbursements and expenses of attorneys, accountants and other professional advisors) (collectively, "Losses") imposed on, incurred by or asserted against the Department's Indemnified Persons, (individually or jointly) directly or indirectly, relating to, resulting from, or arising out of Company's work, services, or other activities performed under this Agreement, including failure to maintain the roadway pursuant to the terms of this Agreement. These covenants of indemnity shall survive cancellation, termination, or expiration of this Agreement, Company hereby acknowledges that the allocation of risk set forth in this provision of the Agreement is a part of the consideration to be provided to Department by Company for performance of this Agreement.

Upon written request by any Department Indemnified Persons, Company shall defend the same (if requested by any Department Indemnified Person, in the name of the Department Indemnified Person) by attorneys and other professionals approved by the Department Indemnified Persons. Notwithstanding the foregoing, any Department Indemnified Persons may, in their sole and absolute discretion, engage their own attorneys and other professionals to defend or assist them, and, at the option of Department Indemnified Persons, their attorneys shall control the resolution

of any claim or proceeding, provided that no compromise or settlement shall be entered without Company's consent, which consent shall not be unreasonably withheld. Upon written demand, Company shall pay or, in the sole and absolute discretion of the Department Indemnified Persons, reimburse, the Department Indemnified Persons for the payment of reasonable fees and disbursements of attorneys, accountants and other professional advisors in connection therewith.


- XI. Company and its contractors and subcontractors, shall furnish evidence of having at least the minimum amounts of insurance required of the Contractor in Section 103.6 through and including Section 103.6.5 of the "West Virginia Division of Highways, Standard Specifications, Roads and Bridges, Adopted 2017," and supplements thereto for any work arising from, relating to or pertaining to, in any way, to the Project. Company shall also require that any contractor(s) and subcontractor(s) have a current license and be licensed to conduct business in West Virginia. The Company shall name the Department as an additional insured on all policies of insurance required by the aforementioned Specifications, except for worker's compensation. The Company shall also require that its contractor(s) and subcontractor(s) include the Department as an additional insured on all policies of insurance, except worker's compensation.
- XII. This Agreement shall be binding upon the successors and assigns of each party thereto. After obtaining prior written consent of Department and after the bond requirements described in this Agreement have been fulfilled, this Agreement may be assigned by Company to any Affiliate or entity providing financing for the Project.
- XIII. Division may terminate this Agreement upon thirty (30) days' written notice to Company. Upon termination, Company shall be liable only for payment in accordance with the terms of this Agreement for work performed prior to the effective date of termination and for any cost Division incurs to adequately restore the State Highway System to its previous condition.
- XIV. Any and all matters in dispute between the parties to this Agreement, whether arising from or relating to the Agreement itself, or arising from alleged extra-contractual facts prior to, during, or subsequent to the Agreement, including, without limitation, fraud, misrepresentation, negligence or any other alleged tort or violation of the contract, shall be governed by, construed and enforced in accordance with the laws of the State of West Virginia, regardless of the legal theory upon which such matter is asserted.

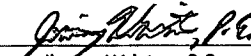
(Left Blank Intentionally)

IN WITNESS, WHEREOF, the parties hereto have caused their respective names to be signed by their duly authorized officers.

ATTEST:

WEST VIRGINIA
DEPARTMENT OF TRANSPORTATION,
DIVISION OF HIGHWAYS



Title: Administrative Secretary


By: Jimmy Wriston, P.E.
Deputy Secretary/
Deputy Commissioner

ATTEST:

ANTERO RESOURCES CORPORATION

SVP Operations
Title:


By: Diana O. Hoff

Approved as to Form This
26th Day of February 2020
Attorney Legal Division
West Virginia Dept. of Transportation
Division of Highways


By Electronic Signature # 2102137

(To be executed in duplicate)

Distribution: Master File
Company



FP #21-591

TRANSMITTAL

To:

Mr. George Eidel
Floodplain Manager
105 Court Street, Suite #3
West Union, WV 26456

Date: September 15, 2021

SEP 16 21 10:29PM

cc: Project File

Subject:	Floodplain Permit Modification (Permit: # 21-591) Antero Resources Corporation Sugar Run Road (CR-52) Roadway Improvements Doddridge County, West Virginia
<input checked="" type="checkbox"/> Attached <input type="checkbox"/> Under separate cover	

Via:

- Messenger/Courier
- First Class Mail
- FedEx
- United Parcel
- DHL
- Lone Star Overnight
- Freight
- Other

Transmitted:

- As Requested
- For Approval
- For Your Use
- For Review & Comment

Remarks:

Per your email correspondence with John Lewis of Kleinfelder on August 31, 2021 (Attachment 1), we are providing a No-Rise Certification (Attachment 2) for the additional work proposed on Antero Resources Corporation's Sugar Run Road (CR-52) Roadway Improvements near the intersection of Sugar Run Road and South Fork of Hughes River Road.

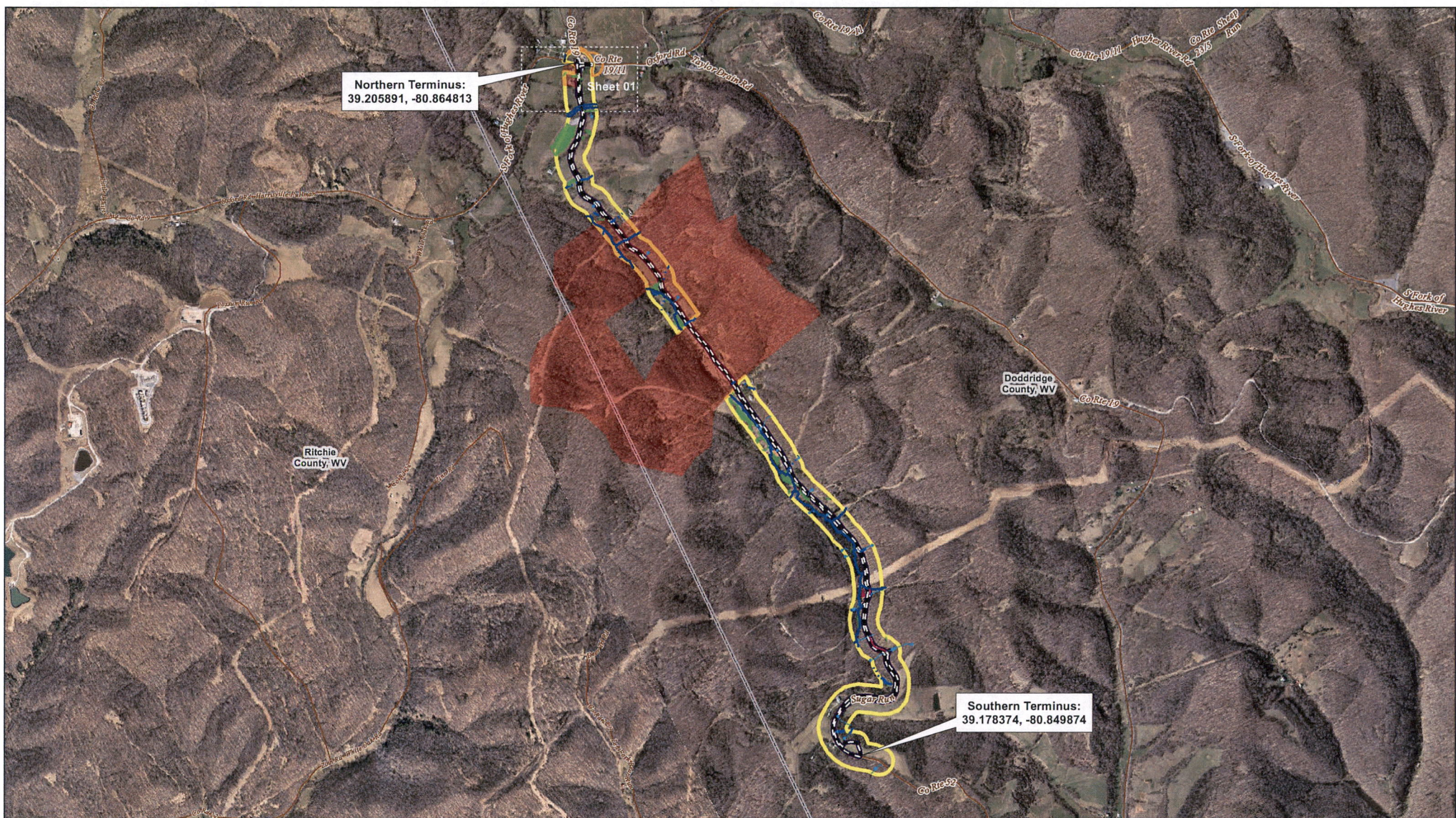
Please let us know if you should need additional information to make a determination that the additional proposed work will not effect the floodplain.

By:

Matt Albright
Project Manager
51 Dutilh Rd., Suite 240
Cranberry Township, PA 16066
MAlbright@Kleinfelder.com
m| 609.947.5296



ATTACHMENT 1
EMAIL CORRESPONDENCE



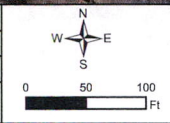
<p>KLEINFELDER Bright People. Right Solutions. www.kleinfelder.com</p>	PROJECT NO. -			Doddridge County West Virginia Aerial Imagery: ESRI				<ul style="list-style-type: none"> Permitted AOI (112.26 ac) AOI Pending Delineation (1.25 ac) Permitted LOD (10.031 ac) Proposed LOD (10.055 ac) Ditch Ephemeral Stream Intermittent Stream Perennial Stream PEM Wetland PFO Wetland PSS Wetland PUB Wetland Unacquired Parcel Existing Road County Boundary 				Antero Resources Corporation Attachment B Discharge of Fill Material Mapping For Jurisdictional Waters Sugar Run Road (CR-52) Roadway Improvements			
	DRAWN BY: SMW CHECKED BY: JAL FILE NAME: SugarRun_WWP_ABB_ldx			Date: 8/25/2021				Index Map							



KLEINFELDER
Right People. Right Solutions.
www.kleinfelder.com

THE INFORMATION CONTAINED ON THIS PLAN OR MAP WAS OBTAINED FROM SOURCES BELIEVED TO BE RELIABLE. HOWEVER, THE ENGINEER HAS NOT CONDUCTED A FIELD SURVEY TO VERIFY THE ACCURACY OF THE INFORMATION. THE ENGINEER ASSUMES NO LIABILITY FOR ANY ERRORS OR OMISSIONS. THE USER OF THIS PLAN OR MAP SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR VERIFYING THE ACCURACY OF THE INFORMATION. THE ENGINEER'S LIABILITY IS LIMITED TO THE PROFESSIONAL SERVICES PROVIDED BY THE ENGINEER.

PROJECT NO. 20203227
 DRAWN BY: SMW
 CHECKED BY: JAL
 FILE NAME: SugarRun_WWP_AIB_Mod1



Doddridge County West Virginia
 Aerial Imagery: ESRI

- Permitted AOI (112.26 ac)
- AOI Pending Delineation (1.25 ac)
- Permitted LOD (10.031 ac)
- Proposed LOD (10.055 ac)
- Bridge
- Existing Culvert
- ▲ Groundwater - Seep
- Ditch
- Ephemeral Stream
- - - Intermittent Stream
- Perennial Stream
- PEM Wetland
- PFO Wetland
- PSS Wetland
- PUB Wetland
- Existing Road
- ↗ Feature Continues
- < Stream Flow

- Unacquired Parcel

Antero Resources Corporation
 Attachment B
 Discharge of Fill Material Mapping
 For Jurisdictional Waters
 Sugar Run Road (CR-52)
 Roadway Improvements

Date: 8/25/2021 Sheet 1 of 1



George Eidel <doddridgecountyfpm@gmail.com>

Antero Resources Corporation: Sugar Run Road (CR-52) Roadway Improvements - Floodplain Permit Modification

1 message

John Lewis <JALewis@kleinfelder.com>

Wed, Aug 25, 2021 at 12:43 PM

To: George Eidel <doddridgecountyfpm@gmail.com>

Cc: Matthew Albright <MAAlbright@kleinfelder.com>, Daniel Bulian <dbulian@anteroresources.com>

Hi George,

On April 5, 2021, you issued Antero Resources Corporation (Antero) a Floodplain Development Permit (Permit: # 21-591) for the Sugar Run Road (CR-52) Roadway Improvements project located in Doddridge County, WV (attached). Since receipt of this approval, design changes have occurred resulting in the need to expand and reduce select areas of the limits-of-disturbance (LOD) within the FEMA 100-year floodplain (floodplain). As seen in the revised aerial imagery map and design plans (links below), the LOD decreased by 0.19-acre in some areas while increasing by 0.21-acre in others. The changes will result in a net increase of 47.55 cubic yards of fill within the floodplain. After reviewing the material provided below, please let us know if this email notification sufficiently addresses the change in scope and can be added to the file on record; or if we will need to update the floodplain application to address the changes.

A breakdown of the general design changes include:

- Roadside ditch along South Fork of Hughes River Road – Installation of culvert and rock (Design Sheet 14)
 - LOD acreage increase of 0.21-acre.
 - Approximately 29.41 cubic yards of fill material.
 - Ditch fill will range in depth from 12-24 inches.
- Pavement transitions and grading at the intersection of Sugar Run Road & South Fork of Hughes River Road (Design Sheet 14)
 - This area is located within the original LOD.
 - Approximately 18.14 cubic yards of fill material.
 - Intersection pavement transitions and grading will result in approximately 0" to 6" of rise.
- LOD reductions within Floodplain (Design Sheet 14)
 - LOD acreage decrease of 0.19-acre.
 - Pull-off / staging area within the floodplain has been reduced to DOH ROW (~Station 2+00 to 5+00)
 - LOD pulled in to avoid Church property.

No tree clearing and or aquatic feature impacts are necessary for this additional work. Revised aerial imagery mapping and design plans can be downloaded at the links below:

1. [20210825_Sugar Run Road Improvement_NWP_AttB_Mod1_v0.pdf](https://kleinfelder.filegenius.com/downloadPublic/6myvtp852h657bc/odba344v7pds4ct) (4.04 MB) in Lewis_John_

2. [20210824_Sugar Run Road Improvement_Design Plans.pdf](https://kleinfelder.filegenius.com/downloadPublic/y9mto1ykgw58cfu/3y7er89471yewm2) (14.76 MB) in Lewis_John_

These links will expire on **09/04/21 at 08:43 am PDT**

Thanks,

8/25/2021

Gmail - Antero Resources Corporation: Sugar Run Road (CR-52) Roadway Improvements - Floodplain Permit Modification

John A. Lewis, PWS
Project Professional

51 Dutilh Rd., Suite 240
Cranberry Township, PA 16066
d| 724.200.7512
o| 724.772.7072
m| 412.848.7376



This email may contain confidential information. If you have received this email—including any attachments—in error, please notify the sender promptly and delete the email and any attachments from all of your systems.

 **FP 21-591 Antero Sugar Run Rd Improvement.pdf**
386K

Matthew Albright

From: George Eidel <doddridgecountyfpm@gmail.com>
Sent: Tuesday, August 31, 2021 8:54 AM
To: John Lewis
Subject: Re: Antero Resources Corporation: Sugar Run Road (CR-52) Roadway Improvements - Floodplain Permit Modification

External Email

John,

Sorry I haven't gotten back with you sooner. In looking at what you are doing and my main concern is the additional fill. As long as you can show that there will be no impact from the new fill and a certificate showing such our office will be okay with the changes. Also can you send us hard copies of everything?

Thank You,

George

On Wed, Aug 25, 2021 at 12:43 PM John Lewis <JALewis@kleinfelder.com> wrote:

Hi George,

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<https://kleinfelder.filegenius.com/downloadPublic/6myvtp852h657bc/odba344v7pds4ct>

2. **20210824_Sugar Run Road Improvement_Design Plans.pdf** (14.76 MB) in Lewis_John_
<https://kleinfelder.filegenius.com/downloadPublic/y9mto1ykgw58cfu/3y7er89471yewm2>

These links will expire on **09/04/21 at 08:43 am PDT**

Thanks,

John A. Lewis, PWS
Project Professional

51 Dutilh Rd., Suite 240
Cranberry Township, PA 16066
d| 724.200.7512
o| 724.772.7072
m| 412.848.7376



This email may contain confidential information. If you have received this email—including any attachments—in error, please notify the sender promptly and delete the email and any attachments from all of your systems.

--

George C. Eidel, CFM, OEM Director/Floodplain Manager

Doddridge County Office of Emergency Management

101 Church Street Suite 102

West Union, WV 26456-2095

Work Phone: 1-304-873-1343

Mobile Phone: 1-304-281-7407

Fax: 1-304-873-1840

doddridgecountyfpm@gmail.com

--

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John Lewis

From: George Eidel <doddridgecountyfpm@gmail.com>
Sent: Thursday, September 30, 2021 8:46 AM
To: John Lewis
Cc: John Angiulli; Daniel Bulian (dbulian@anteroresources.com); Matthew Albright
Subject: Re: Antero Resources Corporation: Sugar Run Road (CR-52) Roadway Improvements - Floodplain Permit Modification

External Email

Yes, your permit will still be valid.

On Wed, Sep 29, 2021 at 9:04 PM John Lewis <JALewis@kleinfelder.com> wrote:

Hi George,

On August 25, 2021 an email notification was submitted to you summarizing design changes that occurred on the Sugar Run Road (CR-52) Roadway Improvements Project (Permit: # 21-591) that resulted in the modification of the limits of disturbance (LOD) within the floodplain (email correspondence below). An updated floodplain permit application dated September 15, 2021 was subsequently provided for the LOD expansion area that proposed the placement of fill material within the designated floodplain, which you approved on September 28, 2021.

One of the other design changes outlined in the August 25, 2021 email notification included the reduction of the LOD to DOH right-of-way through the removal of a proposed pull-off/staging area between stations 2+00 and 5+00. Since providing that email notification, a landowner along Sugar Run Road (CR-52) has come to an agreement with Antero that will allow for construction of the proposed pull-off/staging. Therefore, Antero would like to include this area under the existing permit. As described in the original floodplain application dated March 1, 2021 and approved on April 5, 2021, the proposed pull-off/staging area does not propose permanent fill above the existing floodplain elevation; which was verified through the original no-rise certificate. Inclusion of this area will increase the LOD from 10.055 acres to 10.184 acres. Please find attached the applicable updated design sheet and impact map for your records.

Antero is requesting confirmation that the floodplain permit issued on April 5, 2021 is still valid for the proposed pull-off/staging within the floodplain. Please let us know if you have any questions.

Thank you!

John A. Lewis, PWS

d| 724.200.7512

m| 412.848.7376



From: George Eidel <doddridgecountyfpm@gmail.com>

Sent: Tuesday, September 28, 2021 7:59 AM

To: John Lewis <JALewis@kleinfelder.com>

Subject: Re: Antero Resources Corporation: Sugar Run Road (CR-52) Roadway Improvements - Floodplain Permit Modification

External Email

John,

Good morning, since the permit has already been approved and the impact to the floodplain was minimal with a no rise certificate attached I did not run it back through. You are good to go, I will be out to that area periodically to check on the progress. If you have to make any other changes just let me know.

Thanks,

George

On Tue, Sep 28, 2021 at 6:51 AM John Lewis <JALewis@kleinfelder.com> wrote:

Morning George,

Just wanted to follow-up on the floodplain application that was mailed to your office on 9.16.21 and see if you needed anything else from our end?

Since the original portion of the project is under construction, curious if you are able to provide a rough date on when you think approval would be received so I can update our construction folks? I generally remember discussing with you previously that the Doddridge County Floodplain Commissions meetings are held twice a month (1st and 3rd Tuesday's). Once read and approved at the meeting, there is a 20 day comment period before issuing the permit. Since this is a modification of the original project, does this modification still go through this process?

Thank you!

John A. Lewis, PWS

d| 724.200.7512
m| 412.848.7376



From: George Eidel <doddridgecountyfpm@gmail.com>

Sent: Tuesday, August 31, 2021 8:54 AM

To: John Lewis <JALewis@kleinfelder.com>

Subject: Re: Antero Resources Corporation: Sugar Run Road (CR-52) Roadway Improvements - Floodplain Permit Modification

External Email

John,

Sorry I haven't gotten back with you sooner. In looking at what you are doing and my main concern is the additional fill. As long as you can show that there will be no impact from the new fill and a certificate showing such our office will be okay with the changes. Also can you send us hard copies of everything?

Thank You,

George

On Wed, Aug 25, 2021 at 12:43 PM John Lewis <JALewis@kleinfelder.com> wrote:

Hi George,

On April 5, 2021, you issued Antero Resources Corporation (Antero) a Floodplain Development Permit (Permit: # 21-591) for the Sugar Run Road (CR-52) Roadway Improvements project located in Doddridge County, WV (attached). Since receipt of this approval, design changes have occurred resulting in the need to expand and reduce select areas of the limits-of-disturbance (LOD) within the FEMA 100-year floodplain (floodplain). As seen in the revised aerial imagery map and design plans (links below), the LOD decreased by 0.19-acre in some areas while increasing by 0.21-acre in others. The changes will result in a net increase of 47.55 cubic yards of fill within the floodplain. After reviewing the material provided below, please let us know if this email notification sufficiently addresses the change in scope and can be added to the file on record; or if we will need to update the floodplain application to address the changes.

A breakdown of the general design changes include:

- Roadside ditch along South Fork of Hughes River Road – Installation of culvert and rock (Design Sheet 14)
 - LOD acreage increase of 0.21-acre.
 - Approximately 29.41 cubic yards of fill material.
 - Ditch fill will range in depth from 12-24 inches.

- Pavement transitions and grading at the intersection of Sugar Run Road & South Fork of Hughes River Road (Design Sheet 14)
 - This area is located within the original LOD.
 - Approximately 18.14 cubic yards of fill material.
 - Intersection pavement transitions and grading will result in approximately 0" to 6" of rise.

- LOD reductions within Floodplain (Design Sheet 14)
 - LOD acreage decrease of 0.19-acre.
 - Pull-off / staging area within the floodplain has been reduced to DOH ROW (~Station 2+00 to 5+00)
 - LOD pulled in to avoid Church property.

No tree clearing and or aquatic feature impacts are necessary for this additional work. Revised aerial imagery mapping and design plans can be downloaded at the links below:

1. **20210825_Sugar Run Road Improvement_NWP_AttB_Mod1_v0.pdf** (4.04 MB) in Lewis_John_
<https://kleinfelder.filegenius.com/downloadPublic/6myvtp852h657bc/odba344v7pds4ct>

2. **20210824_Sugar Run Road Improvement_Design Plans.pdf** (14.76 MB) in Lewis_John_
<https://kleinfelder.filegenius.com/downloadPublic/y9mto1ykgw58cfu/3y7er89471yewm2>

These links will expire on **09/04/21 at 08:43 am PDT**

Thanks,

John A. Lewis, PWS
Project Professional

51 Dutilh Rd., Suite 240
Cranberry Township, PA 16066
d | 724.200.7512
o | 724.772.7072
m | 412.848.7376



This email may contain confidential information. If you have received this email—including any attachments—in error, please notify the sender promptly and delete the email and any attachments from all of your systems.

--

George C. Eidel, CFM, OEM Director/Floodplain Manager

Doddridge County Office of Emergency Management

101 Church Street Suite 102

West Union, WV 26456-2095

Work Phone:1-304-873-1343

Mobile Phone: 1-304-281-7407

Fax: 1-304-873-1840

doddridgecountyfpm@gmail.com

--

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Thanks!

John A. Lewis, PWS

d| 724.200.7512
m| 412.848.7376



[Quoted text hidden]

George Eidel <doddridgecountyfpm@gmail.com>
To: John Lewis <JALewis@kleinfelder.com>

Mon, Jan 10, 2022 at 8:18 AM

John,

Yes, our office will need an updated design change along with a no rise for the new changes. Since there will be more work there will be additional cost, an adjustment will need to be made in permit fees due to the additional cost of the project, I am attaching the fee schedule so you can adjust as needed. The permit is only good until April, my question will the additional work add time thus extending when this project will be finished? If so you may need to have a 90 day extension added or if you feel that the project will extend well beyond that then a permit renewal may need to be done. I know we have about 3 more months to go but something to think about as you move forward. Thank you for sending our office the updates so we can keep track of the work being done within the floodplain here in Doddridge County. If you need any help or have any other questions please let me know.

George

[Quoted text hidden]

2 NEW Floodplain Permit FEES.pdf
107K



ATTACHMENT 2
NO-RISE CERTIFICATION

West Virginia Engineering No-Rise Certificate

Project Information

<u>Doddrige</u> County	<u>4/8/2020</u> Date
<u>CR-52 (Sugar Run Road)</u> Road	<u>39.204838, -80.864770</u> Approx. Coordinates
<u>Roadway widening and overlay</u> Description of work	

Flood Insurance Rate Map (FIRM) Information

<u>5017C0225C</u> Panel Number	<u>October 4, 2011</u> Effective Date
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Comments

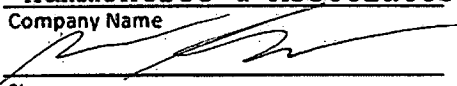
Newly placed fill at the intersection with Oxford Road & Sugar Run Road is outside of the 100-year flood area as shown by the hydraulic analysis. Base flood elevations in this area are 810.8. No fill is being placed below elevation 814.0

Certification

This is to certify that I am a duly qualified engineer licensed to practice in the state of West Virginia. I further certify that the attached engineering data supports the fact the proposed development described above and within the construction drawings will not create any increase to the base flood heights during the occurrence of the base flood discharge (100-year flood) at published cross sections listed in the flood insurance study for the panel listed above dated 10/4/2011 and will not create any increase to the 100-year flood elevations at unpublished cross-section in the vicinity of the proposed development.

Michael G. Thompson
Engineer Name

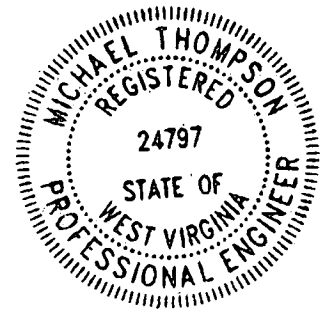
Hammtree & Associates
Company Name


Signature

Project Manager
Title

24797
License Number




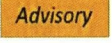

9/10/2021
Date

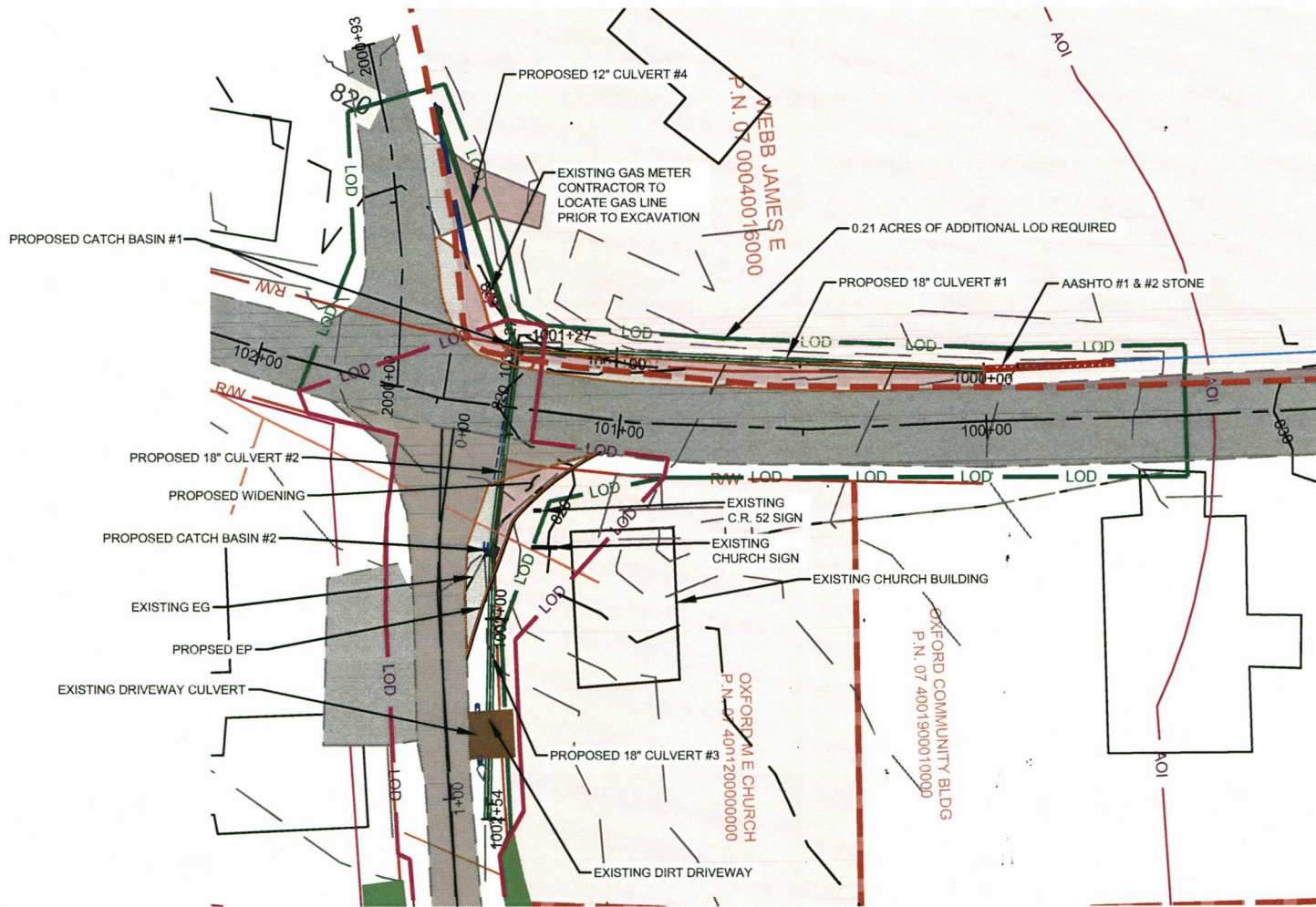


WV Flood Map



This map is not the official regulatory FIRM or DFIRM. Its purpose is to assist with determining potential flood risk for the selected location.

HIGH RISK ADVISORY  1-Percent-Annual-Chance Flood Hazard Area With Base Flood Elevation (BFE)  Regulatory Floodway in AE Zone  1-Percent-Annual-Chance Flood Hazard Area Without BFE (may have Advisory Flood Heights)  1-Percent-Annual-Chance High Risk Advisory	 Flood Info Location Map created on 9/10/2021																									
	<table border="1"> <tr> <td>User Notes</td> <td></td> </tr> <tr> <td>Flood Hazard Area</td> <td>Location is WITHIN the FEMA 100-year floodplain. Advisory Flood Heights available.</td> </tr> <tr> <td>Flood Zone</td> <td>A (Advisory Flood Heights available)</td> </tr> <tr> <td>Stream</td> <td>South Fork Hughes River</td> </tr> <tr> <td>Watershed (HUC8)</td> <td>Little Kanawha (5030203)</td> </tr> <tr> <td>Flood Height</td> <td>Flood Height 4 About 810.8 ft (Source: AFH) NAVD88</td> </tr> <tr> <td>Water Depth</td> <td>About 5.6 ft (Source: HEC-RAS)</td> </tr> <tr> <td>Elevation</td> <td>805.6 ft (Source: SAMS 2003) (NAVD88)</td> </tr> <tr> <td>Community & ID</td> <td>Doddridge County (ID: 540024)</td> </tr> <tr> <td>FEMA Map & Date</td> <td>54017C0225C; Effective Date: 10/4/2011</td> </tr> <tr> <td>Location (lat, long)</td> <td>(39.204265, -80.863999) (WGS84)</td> </tr> <tr> <td>Parcel ID</td> <td>09-07-0004-0019-0003</td> </tr> <tr> <td>E-911 Address</td> <td>5645 OXFORD RD, WEST UNION, WV, 26456</td> </tr> </table>	User Notes		Flood Hazard Area	Location is WITHIN the FEMA 100-year floodplain. Advisory Flood Heights available.	Flood Zone	A (Advisory Flood Heights available)	Stream	South Fork Hughes River	Watershed (HUC8)	Little Kanawha (5030203)	Flood Height	Flood Height 4 About 810.8 ft (Source: AFH) NAVD88	Water Depth	About 5.6 ft (Source: HEC-RAS)	Elevation	805.6 ft (Source: SAMS 2003) (NAVD88)	Community & ID	Doddridge County (ID: 540024)	FEMA Map & Date	54017C0225C; Effective Date: 10/4/2011	Location (lat, long)	(39.204265, -80.863999) (WGS84)	Parcel ID	09-07-0004-0019-0003	E-911 Address
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<p>Download the Full Legend for all flood tool symbols https://www.mapwv.gov/flood/map/docs/wv_flood_tool_legend.pdf</p> <p>Disclaimer: The online map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. Refer to the official Flood Insurance Study (FIS) for detailed flood elevation data in flood profiles and data tables. WV Flood Tool (https://www.mapwv.gov/flood) is supported by FEMA, WV NFIP Office, and WV GIS Technical Center.</p>																										

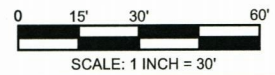


WEBB JAMES E
P.N. 07 00040016000

OXFORD M E CHURCH
P.N. 07 4001200000000

OXFORD COMMUNITY BLDG
P.N. 07 4001900010000

- LEGEND**
- RIGHT OF WAY
 - PROPOSED LIMITS OF DISTURBANCE
 - EXISTING LIMITS OF DISTURBANCE
 - EXISTING CONTOURS
 - PROPOSED CONTOURS
 - PROPERTY LINES
 - FENCE
 - EXISTING GRAVEL ROADWAY
 - EXISTING ASPHALT ROADWAY
 - PROPOSED ROADWAY
 - EXISTING BUILDING
 - WETLAND
 - KEEP OFF PROPERTY
 - Ⓢ GAS SYMBOL

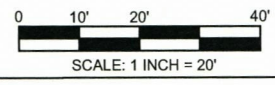
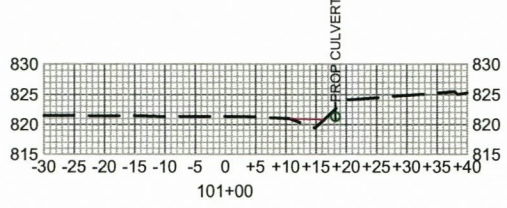
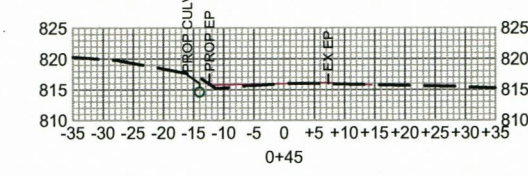
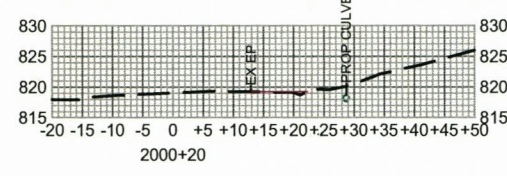
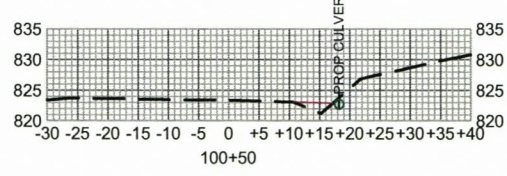
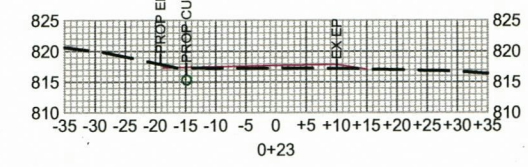
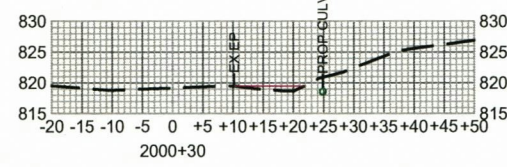
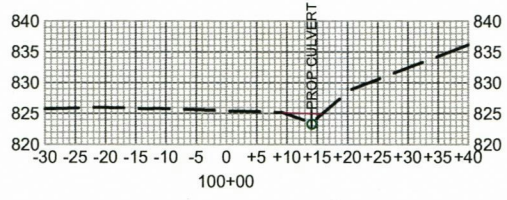
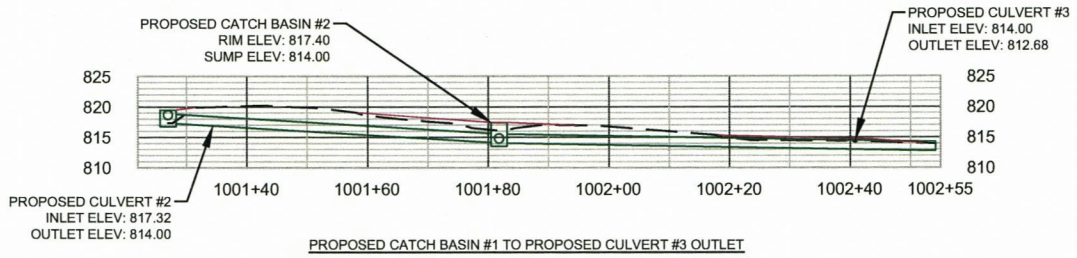
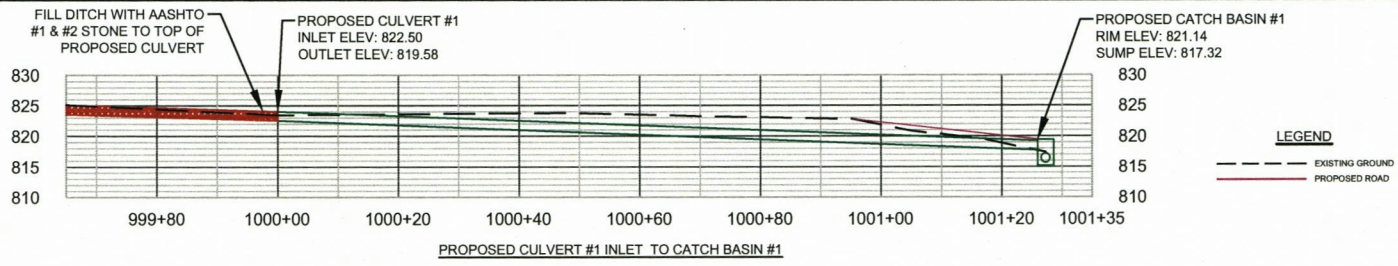


HAMMONTREE & ASSOCIATES, LTD.
ENGINEERS, PLANNERS, SURVEYORS
104 NEWELL AVENUE
ST. PETERSBURG, FL 34780
P. 813.740.2200
F. 813.740.2202
www.hammontree-engineers.com



DESIGN BY:	DATE:	REVISION BY:	DATE:	DESIGN BY:	DATE:	REVISION BY:	DATE:

OXFORD M E CHURCH
SUGAR RUN ROAD (CR-52) ROADWAY IMPROVEMENTS
ANTERO RESOURCES
DISTRICT 4
DODD BRIDGE COUNTY, WEST VIRGINIA
EXHIBIT 1A

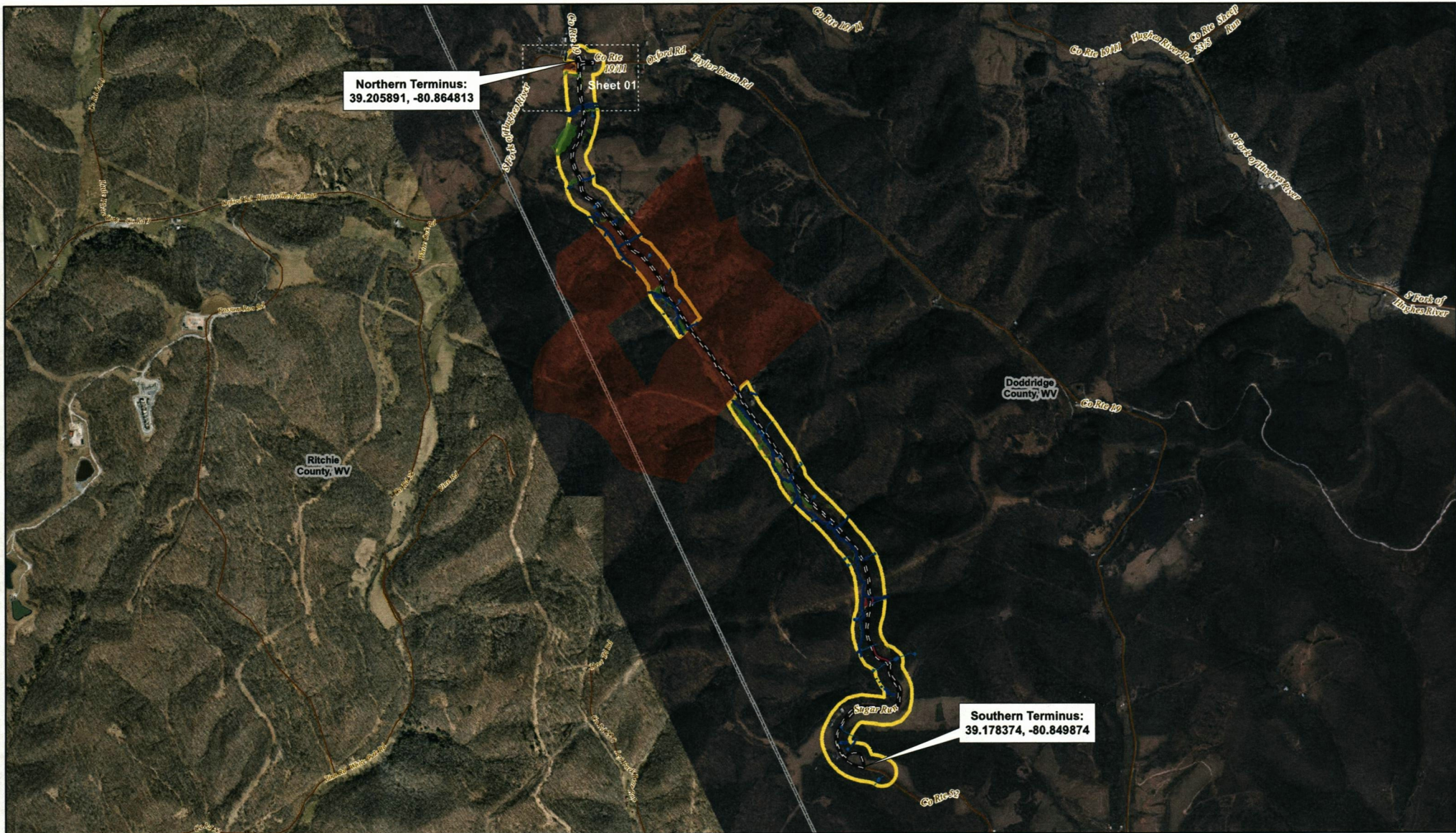


HAMMONTREE & ASSOCIATES, LTD.
 ENGINEERS, PLANNERS, SURVEYORS
 104 NEWELL AVENUE
 ST. CHARLES, OHIO 43080
 PH: 614.265.4400
 WWW.HAMMONTREE-ENG.COM

DESIGN BY:	JML	DATE:	08/02/2021
DRWN BY:	JML	DATE:	
CHKD BY:	JML	DATE:	
INSP BY:	JML	DATE:	
DATE:	08/02/2021	DATE:	

OXFORD M E CHURCH
 SUGAR RUN ROAD (CR-82) ROADWAY IMPROVEMENTS
 ANTERO RESOURCES
 DISTRICT 4
 DODDRIDGE COUNTY, WEST VIRGINIA

EXHIBIT 1B



Northern Terminus:
39.205891, -80.864813

Sheet 01

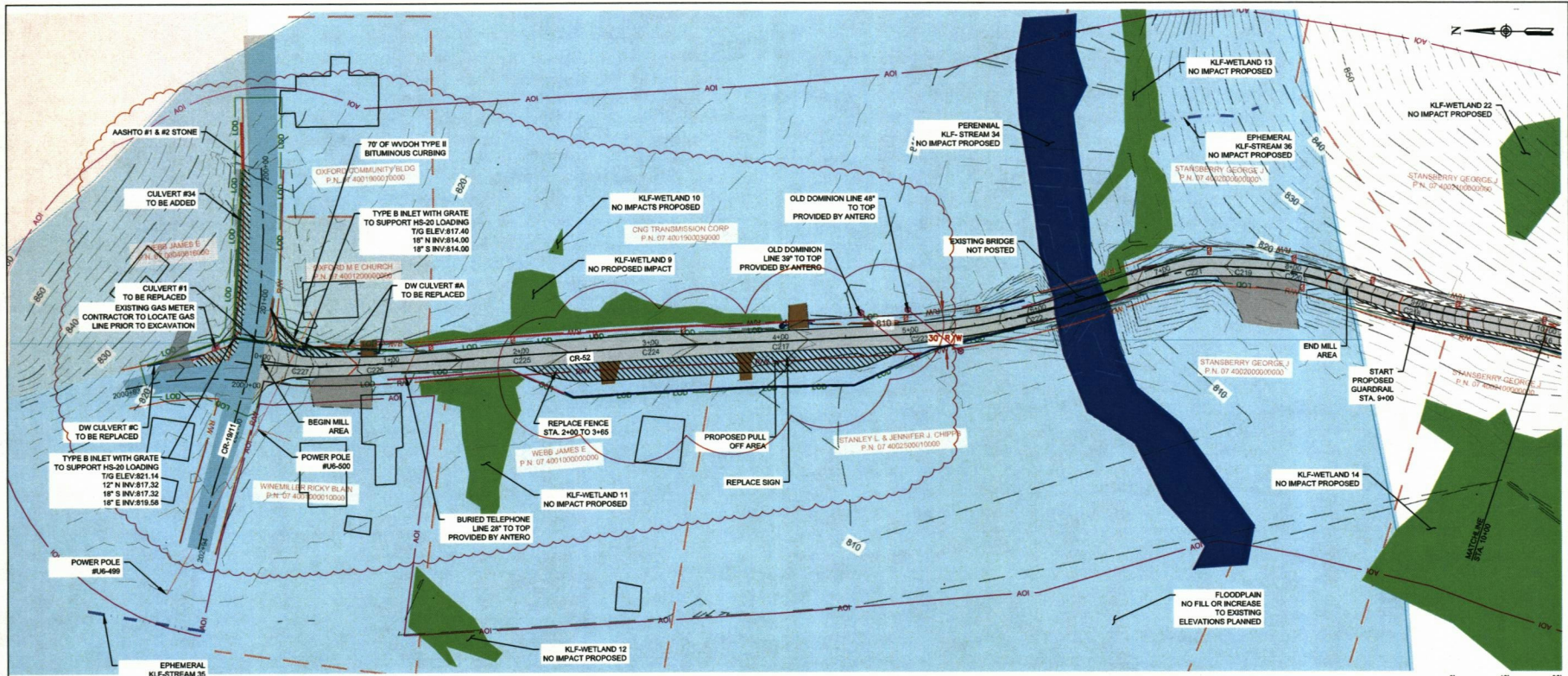
Southern Terminus:
39.178374, -80.849874

	PROJECT NO. -			Doddridge County West Virginia <small>Aerial Imagery: ESRI</small>			AOI (113.44 ac)	Ephemeral Stream	PFO Wetland	Existing Road
	DRAWN BY: SMW			Proposed LOD (10.184)	Intermittent Stream	PSS Wetland	County Boundary			
CHECKED BY: JAL	Permitted LOD (10.055 ac)	Perennial Stream	PUB Wetland	PUB Wetland	Unacquired Parcel					
FILE NAME: SugarRun_NWP_AIR_Mat2_1dtx	Ditch									

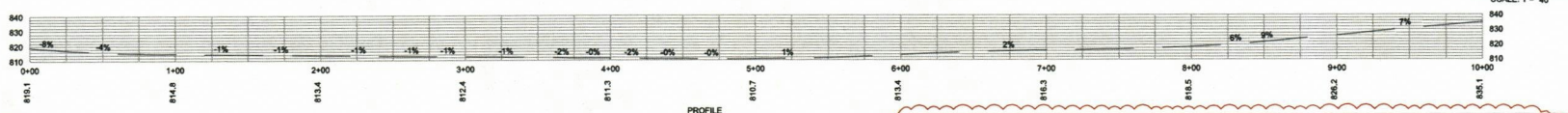
Antero Resources Corporation

Attachment B
 Discharge of Fill Material Mapping
 For Jurisdictional Waters
 Sugar Run Road (CR-52)
 Roadway Improvements

Date: 9/29/2021 Index Map



PLAN VIEW
CR-52 STA. 0+00 - 10+00



PROFILE
STA. 0+00 - 10+00
HORIZONTAL SCALE: 1"=40'
VERTICAL SCALE: 1"=4'

CURVE DATA TABLE							
CURVE #	RADIUS	ARC LENGTH	DELTA ANGLE	TANGENT	MID ORDINATE	DEGREE OF CURVE	PI
C227	103.54'	17.29'	9°33'55"	8.66'	0.36'	55.2004	0+30.01
C226	1290.49'	63.70'	2°48'41"	31.86'	0.39'	4.2823	0+87.42
C225	1000.00'	3.17'	0°10'54"	1.58'	0.00'	5.4346	2+00.37
C224	480.72'	9.96'	1°11'15"	4.88'	0.03'	11.5508	2+99.97
C217	50.00'	0.67'	0°45'48"	0.33'	0.00'	114.3530	3+99.98
C223	227.39'	18.33'	4°37'10"	9.17'	0.18'	25.1148	5+06.59
C222	699.82'	133.49'	10°50'45"	66.85'	3.18'	8.1114	5+95.65
C221	100.00'	33.05'	18°56'06"	16.69'	1.36'	57.1745	7+23.44
C219	147.14'	2.41'	0°56'23"	1.21'	0.00'	38.5627	7+82.40
C220	183.44'	46.85'	14°38'00"	23.55'	1.49'	31.1402	8+01.87
C218	523.00'	63.02'	6°54'14"	31.55'	0.95'	10.5719	8+96.49

Overhead Utility Clearance			
Pole #	TO Pole #	Station	Location
UNMARKED	US-500	0+22	LT EP

Existing Culvert		Culvert Table		Proposed Culvert								
Culvert	Existing Structure	Station	Length (FT.)	Slope	Cover (IN.)	Activity Proposed	Proposed Structure	Length (FT.)	Slope	Inlet FL Elevation	Outlet FL Elevation	Cover (IN.)
1	18" CPP	0+00	54	3.2%	22	REPLACE	18" CPP	55	3.6%	817.3	814.0	15.0
34		200+00				ADD	18" CPP	128	3.5%	822.5	817.3	15.0
A	12" CPP	0+80	16	5.3%		REPLACE	18" CPP	72	1.8%	814.0	812.7	
C	12" CPP	2000+73	44	2.4%		REPLACE	12" CPP	70	3.8%	819.8	817.3	

LEGEND

- AOI - AREA OF INTEREST
- RW - RIGHT OF WAY
- LOD - LIMITS OF DISTURBANCE
- EXISTING CONTOURS
- PROPOSED CONTOURS
- FLOODPLAIN
- PROPERTY LINES
- TELEPHONE LINES
- OVERHEAD POWERLINES
- GAS LINES
- EXISTING GRAVEL ROADWAY
- EXISTING DIRT ROADWAY
- 18" FILTER SOCK
- PHASE 2 FENCING
- FENCE
- PROPOSED CULVERT
- EXISTING CULVERT
- JURISDICTIONAL DITCH
- INTERMITTENT STREAM
- PERENNIAL STREAM
- EPHEMERAL STREAM
- WETLAND
- EXISTING BUILDING
- GAS SYMBOL
- WATER MARKER
- MAILBOX
- ROCK CHECK DAM
- OUTLET PROTECTION
- TELEPHONE SYMBOL
- TELEPHONE BOX
- ELECTRIC SYMBOL

FINAL PLAN

IF SCALE BAR DOES NOT MEASURE 1" DRAWING NOT PLOTTED TO SCALE

HAMMONTREE & ASSOCIATES, LTD.
ENGINEERS, PLANNERS, SURVEYORS
100 W. WILLOW AVE
DODDGE COUNTY, WI 53005
PHONE: (262) 662-2327
WWW.HAMMONTREE-ENGINEERS.COM

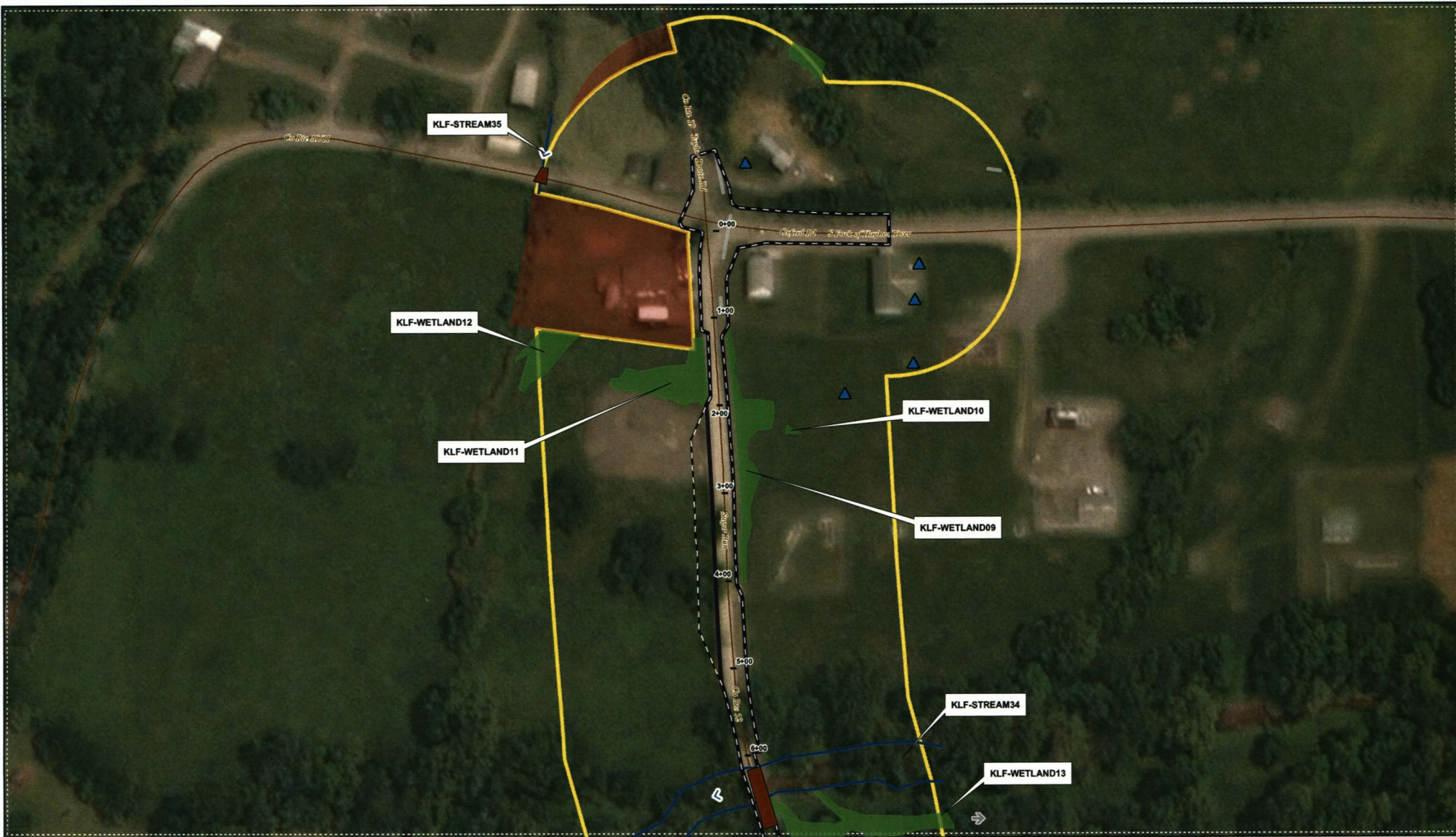
Antero Resources

DESIGN: AMJ DATE: 8-15-2021 DESC: INTERSECTIONAL CHANGE
 DRAWN BY: AMJ REV. BY: JMB DATE: 8-23-2021 DESC: PULL OFF
 FIELD BY: JMB DATE: DATE: DESC:
 DATE: JMB DATE: DATE: DESC:

STA. 0+00 TO 10+00
SUGAR RUN ROAD (CR-52) ROADWAY IMPROVEMENTS
ANTERO RESOURCES
DISTRICT 4
DODDGE COUNTY, WEST VIRGINIA

14

PLOT DATE: September 29, 2021



KLEINFELDER
 Right Place. Right Solutions.
 www.kleinfelder.com

PROJECT NO.	20203227
DRAWN BY:	SMW
CHECKED BY:	JAL
FILE NAME:	SugarRun_NWP_ABB_Mod2

N
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0 50 100
 Ft



**Doddridge County
 West Virginia**
 Aerial Imagery: ESRI

- AOI (113.44 ac)
- Proposed LOD (10.184)
- Permitted LOD (10.055 ac)
- Bridge
- Existing Culvert

- ▲ Groundwater - Seep
- Ditch
- Ephemeral Stream
- - - Intermittent Stream
- Perennial Stream

- PEM Wetland
- PFO Wetland
- PSS Wetland
- PUB Wetland
- Unacquired Parcel

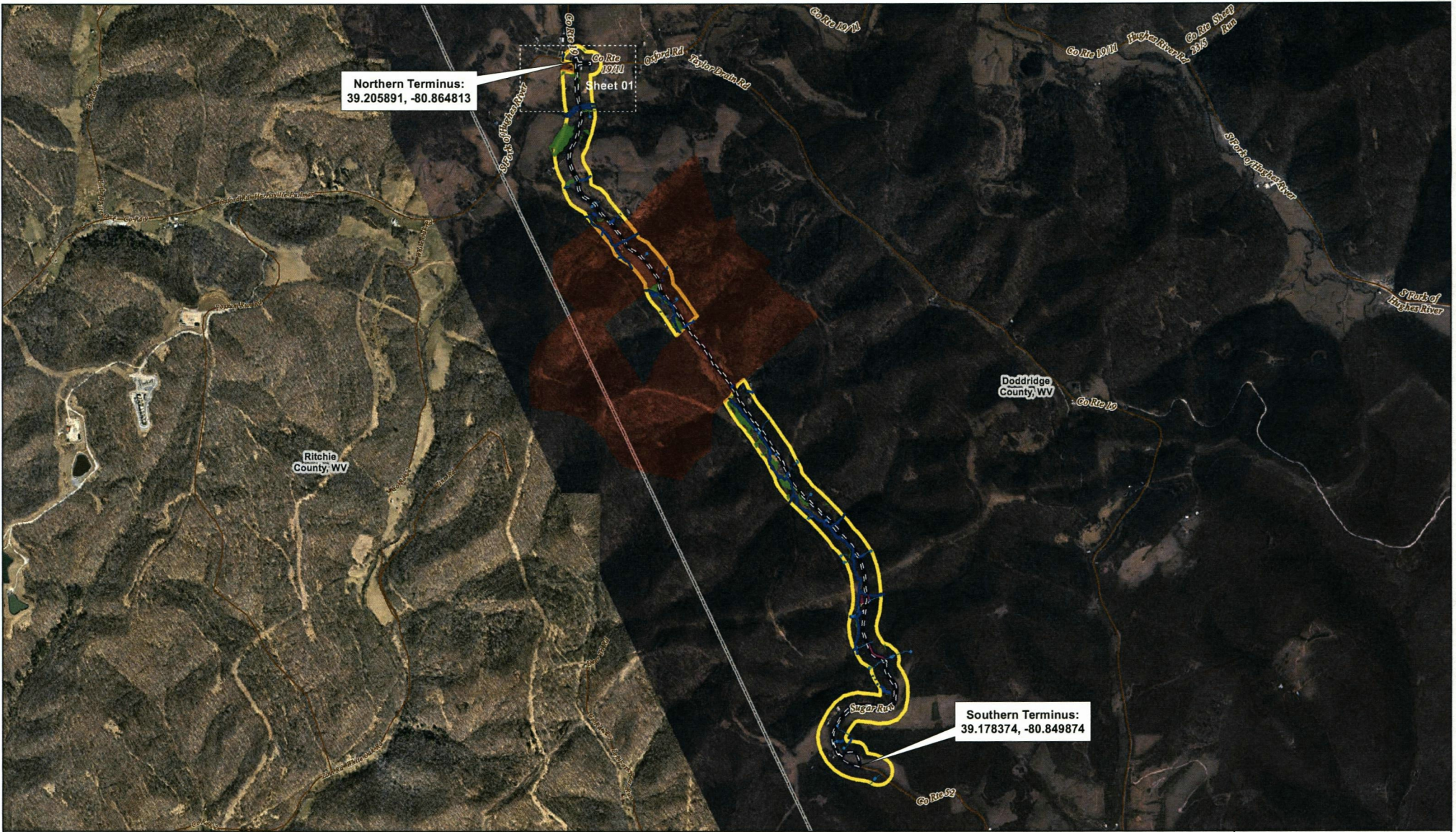
- Existing Road
- ↑ Feature Continues
- ← Stream Flow

Antero Resources Corporation
 Attachment B
 Discharge of Fill Material Mapping
 For Jurisdictional Waters
 Sugar Run Road (CR-52)
 Roadway Improvements

Date: 9/29/2021	Sheet 1 of 1
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ATTACHMENT 2
REVISED DESIGN SHEET



Northern Terminus:
39.205891, -80.864813

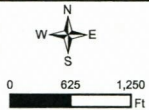
Southern Terminus:
39.178374, -80.849874

Ritchie
County, WV

Doddridge
County, WV



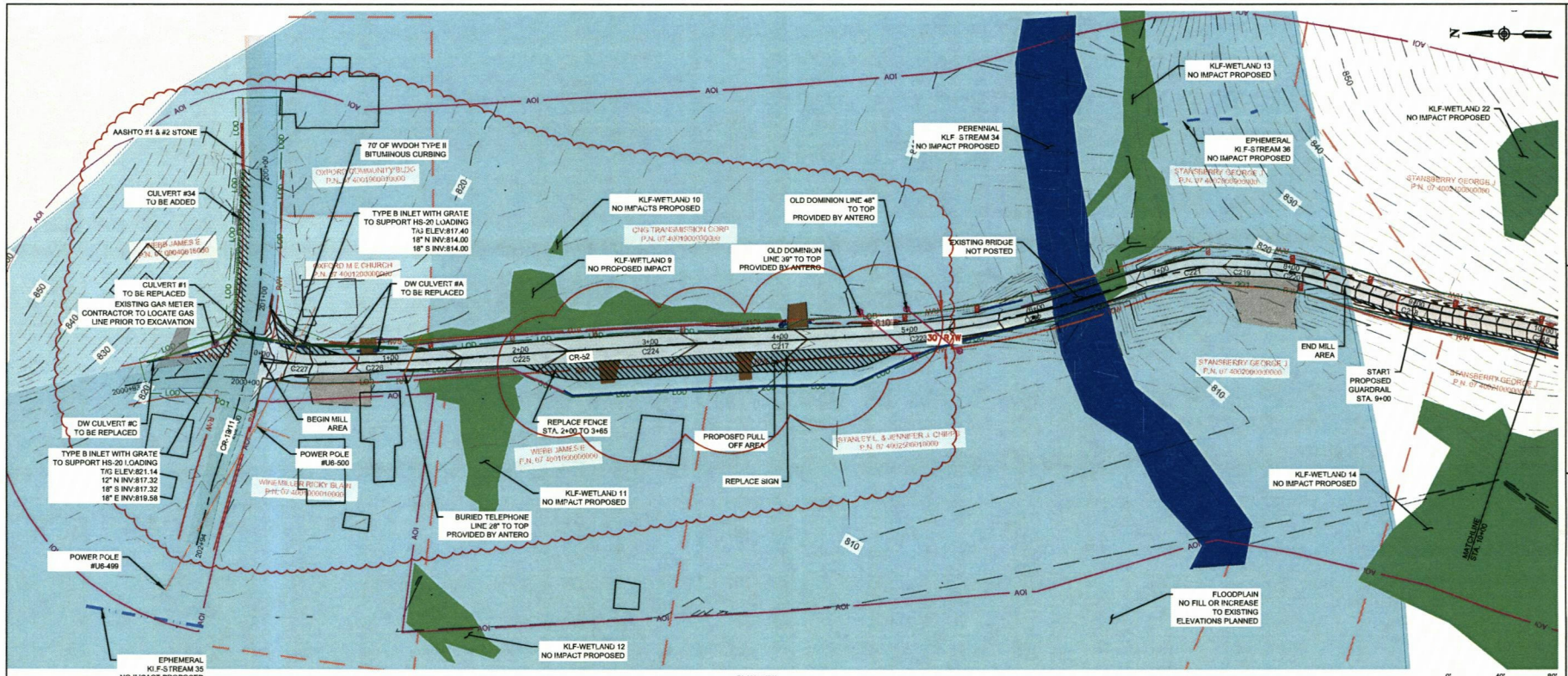
PROJECT NO. -
DRAWN BY: SMW
CHECKED BY: JAL
FILE NAME:
SugarRun_NWP_A8B_Mod2_idx



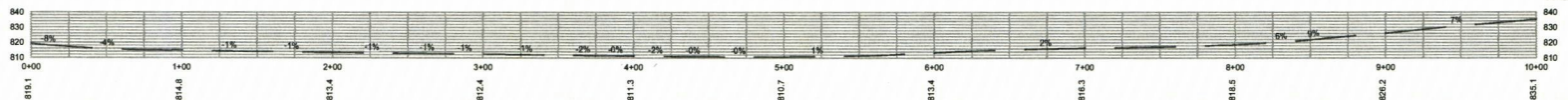
**Doddridge
County
West Virginia**
Aerial Imagery: ESRI

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Antero Resources Corporation
Attachment B
Discharge of Fill Material Mapping
For Jurisdictional Waters
Sugar Run Road (CR-52)
Roadway Improvements
Date: 9/29/2021 Index Map



PLAN VIEW
CR-52 STA. 0+00 - 10+00

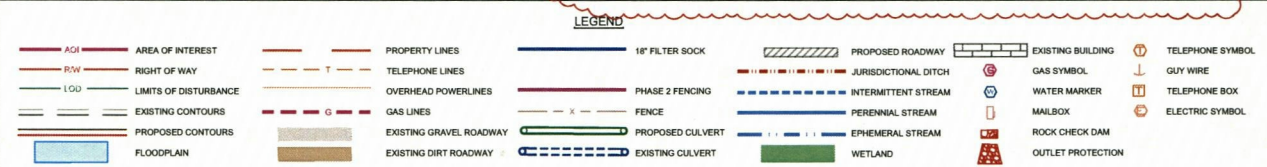


PROFILE
STA. 0+00 - 10+00
HORIZONTAL SCALE: 1"=40'
VERTICAL SCALE: 1"=40'

CURVE DATA TABLE							
CURVE #	RADIUS	ARC LENGTH	DELTA ANGLE	TANGENT	MID ORDINATE	DEGREE OF CURVE	PI
C227	103.54'	17.29'	9°37'58"	8.86'	0.38	55.2004	0+30.01
C228	1290.49'	63.70'	2°49'41"	31.88'	0.39	4.2623	0+47.42
C225	1000.00'	3.17'	0°10'54"	1.58'	0.00	5.4346	2+00.37
C224	480.72'	9.98'	1°11'15"	4.98'	0.03	11.5508	2+99.97
C217	50.00'	0.67'	0°45'48"	0.33'	0.00	114.3530	3+99.98
C223	227.39'	18.33'	4°37'10"	9.17'	0.18	25.1148	5+06.59
C222	698.82'	133.49'	10°50'45"	66.95'	3.18	8.1114	5+95.85
C221	100.00'	33.05'	18°50'06"	16.68'	1.36	97.1745	7+23.44
C219	147.14'	2.41'	0°59'23"	1.21'	0.00	38.5627	7+62.40
C220	183.44'	46.85'	14°36'00"	23.55'	1.49	31.1402	8+01.87
C218	523.00'	63.02'	6°54'14"	31.55'	0.95	10.5719	8+96.49

Overhead Utility Clearance					
Pole #	TO	Pole #	Station	Location	Height
UNMARKED		US-500	0+22	LT EP	18'

Existing Culvert		Culvert Table					Proposed Culvert					
Culvert	Existing Structure	Station	Length (FT.)	Slope	Cover (IN.)	Activity Proposed	Proposed Structure	Length (FT.)	Slope	Inlet FL Elevation	Outlet FL Elevation	Cover (IN.)
1	18" CPP	0+00	54	3.2%	22	REPLACE	18" CPP	55	3.6%	817.3	814.0	15.0
34		200+00				ADD	18" CPP	128	3.5%	822.5	817.3	15.0
A	12" CPP	0+80	16	5.3%		REPLACE	18" CPP	72	1.8%	814.0	812.7	
C	12" CPP	2000+73	44	2.4%		REPLACE	12" CPP	70	3.6%	819.8	817.3	



FINAL PLAN

IF SCALE BAR DOES NOT MEASURE 1" DRAWING NOT PLOTTED TO SCALE

HAMMONTREE & ASSOCIATES, LTD.
ENGINEERS, PLANNERS, SURVEYORS
100 N. HERRL AVENUE
ST. CHARLES, MO 63043
www.hammtree.com

Antero
RESOURCES

DESIGN BY: JMT DATE: 8-18-2021
DRAWN BY: JMS DATE: 8-29-2021
FIELD BY: JMS DATE: 8-29-2021
DATE: 8-29-2021

INTERSECTION CHANGE
PULL OFF

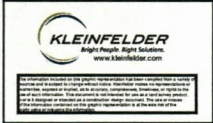
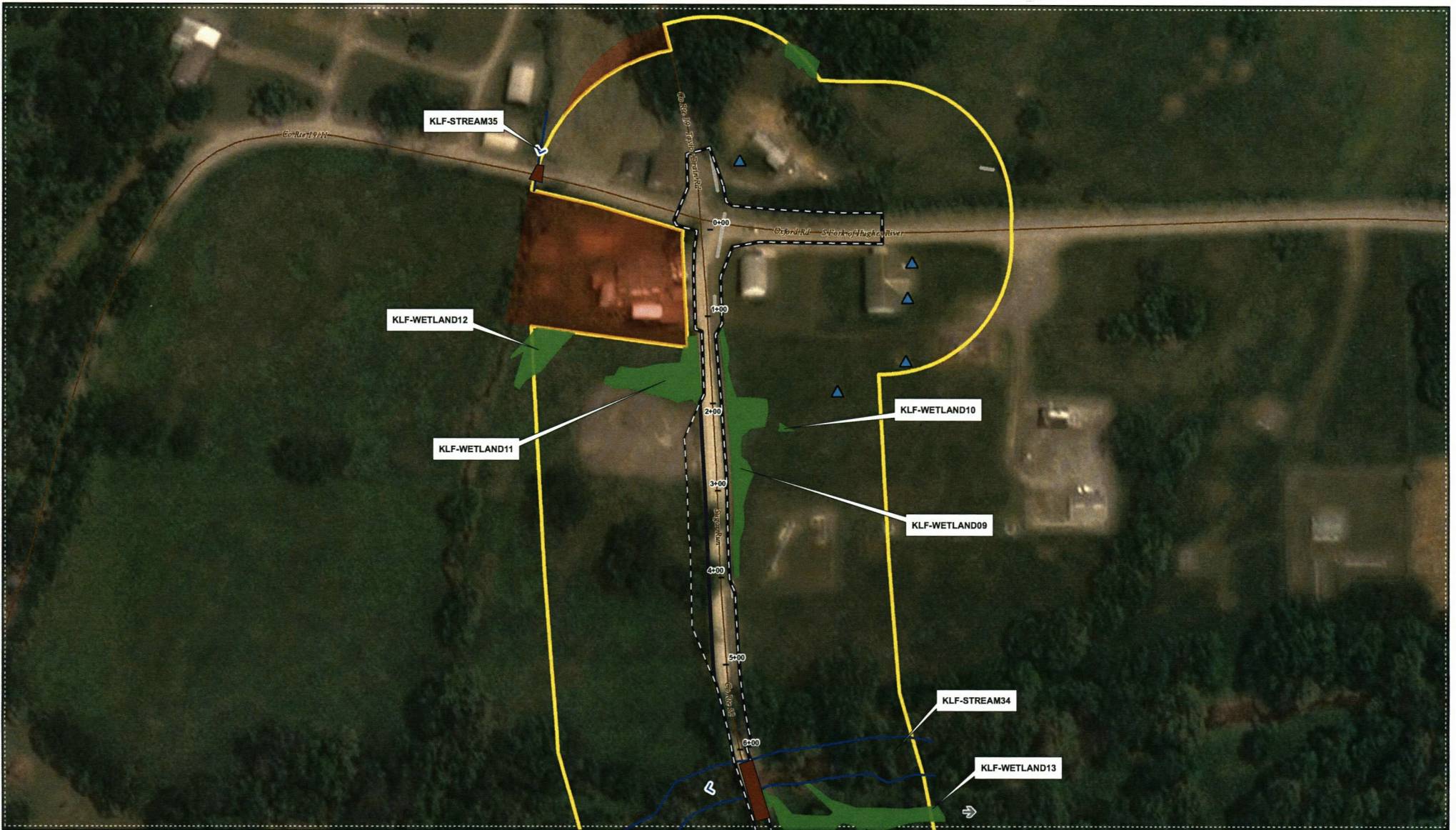
STA. 0+00 TO 0+00
SUGAR RUN ROAD (CR-52) ROADWAY IMPROVEMENTS
DISTRICT 4
ANTERO RESOURCES
DOODRIDGE COUNTY, WEST VIRGINIA

14

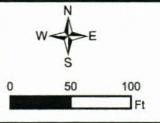
PLOT DATE: September 29, 2021



ATTACHMENT 3
REVISED DISCHARGE OF FILL MATERIAL
MAPPING



PROJECT NO. 20203227
 DRAWN BY: SMW
 CHECKED BY: JAL
 FILE NAME:
 SugarRun_NWP_ABB_Mod2



Doddridge County West Virginia
 Aerial Imagery: ESRI

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Antero Resources Corporation
 Attachment B
 Discharge of Fill Material Mapping
 For Jurisdictional Waters
 Sugar Run Road (CR-52)
 Roadway Improvements
 Date: 9/29/2021 Sheet 1 of 1



Floodplain Development Permit

Doddridge County, WV Floodplain Management

This permit gives approval for the development/ project listed that impacts the FEMA-designated floodplain and/or floodway of Doddridge County, WV, pursuant to the rules and regulations established by all applicable Federal, State and local laws and ordinances, including the Doddridge County Floodplain Ordinance. This permit must be posted at the site of work as to be clearly visible and must remain posted during entirety of development.

Permit: #21-591

Date Approved: April 5, 2021

Expires: April 5, 2022

Issued to: Antero Resources Corporation

POC: Daniel Bulian

Company Address: 535 White Oaks Blvd. Bridgeport, WV 26330

Project Address: Sugar Run Road

Firm: 54017C0225C

Lat/Long: 39.204808N, -80.864754W

Purpose of Development: Road Improvement Project

Issued by: George C. Eidel, CFM, OEM Director/Doddridge County FPM (or designee)

Date: April 5, 2021

For additional information regarding this permit, please contact
Doddridge County Floodplain Manager at 304.873.2631, or via email at
doddridgecountyfpm@gmail.com
118 East Court Street; West Union, WV 26456



west virginia department of environmental protection

Division of Waster and Water Management
601 57th Street SE
Charleston West Virginia 25304-2345
Phone: 304-926-0495
Fax: 304-926-0496

Austin Caperton, Cabinet Secretary
dep.wv.gov

June 16, 2020

ANTERO RESOURCES CORPORATION
SETH YOHO
535 WHITE OAKS BLVD.
BRIDGEPORT, WV 26330

Re: General Permit Registration No.
WVR311512, Doddridge County
Sugar Run Road Roadway
Improvements
Acres (10.03)

Dear Permittee:

You are now authorized to operate under General Permit No. WV0116815 to discharge stormwater associated with Oil and Gas related construction activities. This registration form should be kept with your copy of the General Permit. You should carefully read the contents of the permit and become familiar with all requirements needed to remain in compliance.

Although you should be aware of all the terms and conditions of this permit, we wish to advise you of the following important requirements:

1. In accordance with Section G.4 of the General Permit, you have developed a complete storm water pollution prevention plan. This plan is to be retained on site and be available for review by the Director or the Director's authorized representative as of the date of your coverage by the General Permit, which is the date of this letter.

2. The erosion control measures approved by this Agency for this project shall be maintained in proper condition to individually and collectively perform the functions for which they were designed. In order to ensure the efficiency and proper maintenance of these measures, the permittee shall make sufficiently frequent, periodic inspections to detect any impairment of the designed stability, capacity or environmental requirements of the approved measures. The permittee shall take immediate steps to correct any such impairment found to exist.

3. If this Stormwater Pollution Prevention Plan (SWPPP) proves to be ineffective in controlling erosion and the sediment in storm water discharges associated with industrial/construction activities, or site conditions change, the Permittee shall amend the SWPPP and install appropriate sediment and/or control devices in accordance with Section G.4.c. of this permit and the application instructions

Promoting a healthy environment.

4. Permit coverage expires on April 23rd, 2021. If you wish to continue an activity authorized by this permit after the expiration date of the permit, provisions for coverage will be made during the public notice process for any new General Permit to be issued at that time.

5. Final stabilization means disturbed areas shall be covered by the appropriate permanent protection. Final stabilization includes: pavement; buildings; stable waterways (riprap, concrete, grass or pipe); a healthy, vigorous stand of perennial grass that uniformly covers at least 70 percent of the ground; stable outlet channels with velocity dissipation which directs site runoff to a natural watercourse; and any other approved structure or material.

You will be invoiced for your annual permit fees one month prior to the anniversary date of today's date. Failure to submit the annual fee within 90 days of the due date will render your permit void upon the date you are mailed a certified written notice to that effect. Please be advised that a pro-rated annual permit fee may be assessed upon the completion date and proper stabilization.

Issuance of this registration does not authorize any injury to persons or property or invasion of other private rights, or any infringement of federal, state or local law or rules.

The validity of this General Permit Registration is contingent upon payment of the applicable annual permit fee, as required by Chapter 22, Article 11, Section 10 of the Code of West Virginia.

Issuance of this registration does not authorize any injury to persons or property or invasion of other private rights, or any infringement of federal, state or local law or rules.

Your efforts toward preventing the degradation of our natural resources are greatly appreciated. If you have any questions, please contact **Joseph Cochran** at (304) 414-3793 or by email at joseph.w.cochran@wv.gov.

Kathy Emery
Acting Director
WV DEP-Division of Water & Waste Mgt.
601 57th St SE
Charleston, WV 25304-2345
Phone: (304) 414-3830
Fax: (304) 926-0463

John Lewis

From: Dickson, Nancy J <Nancy.J.Dickson@wv.gov>
Sent: Wednesday, March 31, 2021 1:05 PM
To: John Lewis
Cc: Daniel Bulian; Matthew Albright
Subject: Sugar Run Road (CR-52) Roadway Improvements PCN

External Email

Mr. Lewis

The West Virginia Department of Environmental Protection-Division of Water and Waste Management has received the amended pre-construction notification for the following project:

Company: Antero Resources Corporations
Project: Sugar Run Road (CR-52) Roadway Improvements
County: Doddridge

This fulfills the requirement of Standard Condition 1 for prior written notification for these nationwide permits. All other applicable standard conditions for nationwide permits remain in force until the project is complete.

Feel free to contact me should you have any additional questions or concerns.

Thank you,

Nancy J. Dickson
Environmental Resources Specialist 3
West Virginia Department of Environmental Protection
Division of Water and Waste Management
401 Certification Program

601 57th Street, SE
Charleston, WV 25304
Telephone: (304) 414-3834
Email: nancy.j.dickson@wv.gov

**WEST VIRGINIA
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
AGREEMENT
ANTERO RESOURCES
DODDRIDGE COUNTY ROUTE 52 SLS
SUGAR RUN ROADWAY IMPROVEMENTS**

THIS AGREEMENT, executed in duplicate, made and entered into this 16 day of MARCH, 2021, by and between the West Virginia Department of Transportation, Division of Highways, hereinafter called "Department," and Antero Resources Corporation, 1615 Wynkoop Street, Denver CO 80202, hereinafter called "Company,"

WHEREAS, to improve access to oil and gas operations in the vicinity of Oxford in Doddridge County, West Virginia, Company desires to improve a portion of Doddridge County Route 52 SLS by performing certain construction activities within and adjacent to Department's right-of-way; and

WHEREAS, Department considers it to be in the public interest to cooperate with Company to facilitate Company's implementation of the highway improvement, as it pertains to the State Highway System;

NOW, THEREFORE, in consideration of the faithful performance of each party of the mutual covenants hereinafter set forth, Department and Company agree as follows:

- I. Company shall first obtain Department's approval regarding the proposed activities Company desires to implement within or which directly or indirectly affect the State Highway System and Company shall comply with the provisions described throughout this Agreement. Company acknowledges that execution of this Agreement does not constitute Department's approval of any part of Company's proposed work nor does execution of this Agreement represent Department's Notice to Proceed. Further, Company acknowledges that any work performed by Company, including work solely within Company's property that will directly or indirectly affect Department's right-of-way, prior to receipt of Department's approval and Notice to Proceed with work pertaining to the State Highway System, is performed by Company with the understanding that subsequent review by Department of Company's plans and studies may result in necessary additional modifications to be performed at no cost to Department.
- II. Unless otherwise directed by Department, Company is to submit for Department's review and approval appropriate construction plans and related documents, including appropriate right-of-way, utility, and maintenance of traffic plans, which collectively are referred to as the "Plans," prepared in accordance with Department's Directives, criteria, guidelines and publications, for the performance of work that will occur within or that will directly or indirectly affect Department's right-of-way of affected County Route(s). Department's approvals shall be in writing. Unless otherwise directed by Department, Company shall provide Department with five (5) copies of the approved Plans and as-built Plans, as appropriate.
- III. The scope of Company's work, hereinafter called "Project," as it pertains to the State Highway System, is to consist primarily of, but may not be limited to, widening Doddridge CR 52 (MP 5.20 to MP 2.75), improve drainage, 12" soil cement stabilization and 3.75" HMA surface, as shown on plans for this project designed by Hammontree & Associates, LTD.
- IV. After receipt of Department's written approval of the Plans pertaining to the State Highway System and Department's authorization to proceed with construction and related work, Company then shall be authorized to construct Project as shown on the approved Plans, in accordance with Department's Standard Specifications Roads and Bridges, adopted 2017, at no cost to Department. Company shall complete Project within one year of the date of this agreement. For duration of Project, Company shall be responsible for providing full-time construction inspection, materials

acceptance, and traffic control. Company will reimburse Department for any inspection or materials acceptance costs incurred by Department for this project. Department's authorization to proceed is contingent upon receipt of any Federal Highway Administration approval and authorization that may be required and upon Company's compliance with the other stipulations and requirements set forth herein.

- V. Prior to construction of Project, Department and Company shall review and document, as appropriate, the existing condition of the State Highway System to be affected by Project. Department shall be notified of Company's anticipated construction schedule and Department shall have the right, at all times, to inspect the work pertaining to Project. If the results of Department's inspection indicate that the work is not being performed in accordance with the approved Plans and/or specifications, Department then will report such fact to Company for appropriate remedial action. Department shall perform an inspection of the work within thirty (30) days after receipt by Department of notice from Company that the remedial work is complete. Upon completion of said inspection, Department shall, in writing, accept the completed remedial work associated with Project or reject the work. If rejected, any deficiencies in the construction performed by Company, which are disclosed by Department's inspection, shall be promptly corrected by and at the expense of Company. Without limiting any other legal remedies of Department, if within a reasonable time after notice to Company of any deficiencies in the work, Company fails or refuses to correct any deficiencies and complete the work as provided in the approved Plans, Department may, but is not required to, correct the deficiencies and complete the work in accordance with the approved Plans. Department may invoice Company for all costs associated therewith, and Company agrees in that event to reimburse Department for all such costs within thirty (30) days of receipt of such invoice. Neither Department's review of Company's Plans nor its inspection of Company's construction relieves Company of the duty imposed by West Virginia Code Section 17-16-1 et seq. to refrain from casting water upon the public road.
- VI. Company shall secure the approvals and/or permits, if any, required by other governmental agencies, and shall comply with all applicable Federal, State, and local environmental regulations including, but not limited to, the National Environmental Policy Act, Section 404 of the Clean Water Act, Section 106 of the National Historic Preservation Act, Rare, Threatened and Endangered Species Act, State 401 Water Quality Certification, and hazardous waste requirements. Company shall furnish Department with acceptable documentation of such approvals, permits, and compliance.
- VII. Company's implementation of Project may necessitate the conveyance to Department of additional right-of-way and/or easements. Any additional right-of-way and any easements necessary for Project shall be clearly indicated on the approved Plans. Company will obtain all right-of-way and easements necessary for Project which instruments shall be assignable and which shall be placed of record in the Office of the County Clerk of Doddridge County, West Virginia; prepare for Department's approval legal descriptions and plats of the easements and rights of way; after obtaining Department's approval of legal descriptions and plats, and Department's acceptance of the work convey to Department by deed such right-of-way and easements.
- VIII. Company shall be responsible, at no cost to Department, for all necessary installation, relocation or adjustment of utilities associated with Project. All utility work within Department's existing and proposed right-of-way shall be performed in accordance with the West Virginia Division of Highways manual entitled, "Accommodation of Utilities on Highway Right of Way and Adjustment and Relocation of Utility Facilities on Highway Projects, June 2007," or later version. Prior to any conveyance to Department of any right-of-way or easements associated with Project, Company shall not install or allow to be installed any utilities within the area that is to be conveyed to Department. If Company installs or allows to be installed any such utility prior to conveyance to Department of the right-of-way or easements associated with Project, Company shall provide to Department a written commitment that Company and any successors or assigns of Company shall be fully responsible for all the financial obligations regarding any relocation of such utility that may be necessary in the future as part of any project implemented by Department.
- IX. In the performance of Company's work, no construction equipment shall be permitted on the travel lanes or shoulders of any County Routes, except as shown on Plans approved by Department. Company shall submit for Department's approval as part of Plans Company's maintenance of traffic plans regarding all affected highways. Company shall provide Department with documentation that

Company has appropriately coordinated Project implementation and traffic control with any affected County Board of Education concerning school bus traffic and with all public transit agencies and 911 Centers affected by Project. After approval of Plans by Department and for duration of Project, Company shall:

- A. Implement such maintenance of traffic plan;
- B. Ensure that public travel is adequately maintained within the Project limits;
- C. Ensure that access to all other properties within Project construction limits is maintained at all times;
- D. Coordinate traffic control, as necessary and appropriate, with any events, festivals, sporting events or other similar activities, public or private, that may be affected by Company's construction of Project; and
- E. Promptly repair, at Company's total expense, any and all damage to the State Highway System that is directly attributable to Company's implementation of Project.

Company shall identify as part of the Plans and submit for Department's approval any anticipated temporary closure of any lane(s) of any State highway associated with the implementation of Project. In the event that Company's implementation of Project results in the closure of any lane(s) of any State highway, which closure is not identified on the Plans as approved by Department, Company then shall:

- A. Pay one hundred percent (100%) of the cost associated with the manufacture and/or installation of all signing and other traffic control devices Department installs to address the closure;
- B. Provide the name and phone number of Company's contact person regarding Project, which shall be provided to the public so that Company may timely address questions and concerns of the public regarding such closure; and
- C. Pay one hundred percent (100%) of the cost associated with notice to local media and any other public notice Company must provide to notify the public of the closure, the purpose of the closure, the anticipated duration of the closure, and the alternate routing that may be used during closure.

- X. To the fullest extent permitted by law, Company at all times do, and shall, assume all risks of damage to its property, and property of others, and injury or death to all persons (including, but not limited to, any employee or agent of Company, any Contractor or any Subcontractor) resulting directly, indirectly or otherwise by (a) the actions or omissions of Company, any Contractor or any Subcontractor, or their respective agents and employees, (b) by any condition of the property, (c) by any failure of Company, any Contractor or any Subcontractor, or their respective agents and employees, to comply with any applicable law, rule, regulations or order of any governmental authority, or to comply with any provision of this Agreement, or (d) by any other cause related to Company's, any Contractor's or any Subcontractor's performance of work hereunder, including maintenance of the roadway or failure to maintain the roadway as required by this Agreement. Company at all times hereby fully assumes the risk of and shall defend, indemnify and hold harmless the Department, its officers, employees and agents (the Department and such persons collectively "Department's Indemnified Persons"), and shall reimburse Department's Indemnified Persons for, from and against each and every demand, claim, suit, loss (which shall include any diminution in value), liability, damage, cost and expense (including, without limitation, interest, fines, penalties, and investigation, and any and all reasonable fees, disbursements and expenses of attorneys, accountants and other professional advisors) (collectively, "Losses") imposed on, incurred by or asserted against the Department's Indemnified Persons, (individually or jointly) directly or indirectly, relating to, resulting from, or arising out of Company's work, services, or other activities performed under this Agreement, including failure to maintain the roadway pursuant to the terms of this Agreement. These covenants of indemnity shall survive cancellation, termination, or expiration of this Agreement, Company hereby acknowledges that the allocation of risk set forth in this provision of the Agreement is a part of the consideration to be provided to Department by Company for performance of this Agreement.

Upon written request by any Department Indemnified Persons, Company shall defend the same (if requested by any Department Indemnified Person, in the name of the Department Indemnified Person) by attorneys and other professionals approved by the Department Indemnified Persons. Notwithstanding the foregoing, any Department Indemnified Persons may, in their sole and absolute discretion, engage their own attorneys and other professionals to defend or assist them, and, at the option of Department Indemnified Persons, their attorneys shall control the resolution

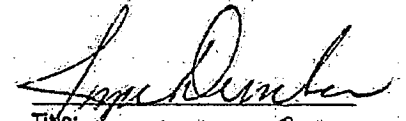
of any claim or proceeding, provided that no compromise or settlement shall be entered without Company's consent, which consent shall not be unreasonably withheld. Upon written demand, Company shall pay or, in the sole and absolute discretion of the Department Indemnified Persons, reimburse, the Department Indemnified Persons for the payment of reasonable fees and disbursements of attorneys, accountants and other professional advisors in connection therewith.

- XI. Company and its contractors and subcontractors, shall furnish evidence of having at least the minimum amounts of insurance required of the Contractor in Section 103.6 through and including Section 103.6.5 of the "West Virginia Division of Highways, Standard Specifications, Roads and Bridges, Adopted 2017," and supplements thereto for any work arising from, relating to or pertaining to, in any way, to the Project. Company shall also require that any contractor(s) and subcontractor(s) have a current license and be licensed to conduct business in West Virginia. The Company shall name the Department as an additional insured on all policies of insurance required by the aforementioned Specifications, except for worker's compensation. The Company shall also require that its contractor(s) and subcontractor(s) include the Department as an additional insured on all policies of insurance, except worker's compensation.
- XII. This Agreement shall be binding upon the successors and assigns of each party thereto. After obtaining prior written consent of Department and after the bond requirements described in this Agreement have been fulfilled, this Agreement may be assigned by Company to any Affiliate or entity providing financing for the Project.
- XIII. Division may terminate this Agreement upon thirty (30) days' written notice to Company. Upon termination, Company shall be liable only for payment in accordance with the terms of this Agreement for work performed prior to the effective date of termination and for any cost Division incurs to adequately restore the State Highway System to its previous condition.
- XIV. Any and all matters in dispute between the parties to this Agreement, whether arising from or relating to the Agreement itself, or arising from alleged extra-contractual facts prior to, during, or subsequent to the Agreement, including, without limitation, fraud, misrepresentation, negligence or any other alleged tort or violation of the contract, shall be governed by, construed and enforced in accordance with the laws of the State of West Virginia, regardless of the legal theory upon which such matter is asserted.


(Left Blank Intentionally)

IN WITNESS, WHEREOF, the parties hereto have caused their respective names to be signed by their duly authorized officers:

ATTEST:


Title: Administrative Secretary

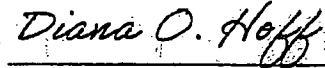
WEST VIRGINIA
DEPARTMENT OF TRANSPORTATION,
DIVISION OF HIGHWAYS


By: Jimmy Wriston, P.E.
Deputy Secretary/
Deputy Commissioner

ATTEST:

SVP Operations
Title:

ANTERO RESOURCES CORPORATION


By: Diana O. Hoff

Approved as to Form This
26th Day of February 2020
Attorney Legal Division
West Virginia Dept. of Transportation
Division of Highways


By Electronic Signature # 2102137

(To be executed in duplicate)

Distribution: Master File
Company

PCL XL Error

Subsystem:

I/O

Error:

InputReadError

Operator:

LineRelPath

Position:

6589356



TRANSMITTAL

To:

Mr. George Eidel
Floodplain Manager
101 Church Street, Suite #102
West Union, WV 26456-2095

Date: February 8, 2022

FEB 9 22 1:03PM

cc: Project File

Subject:

Floodplain Permit #21-591 - Renewal and Modification
Antero Resources Corporation
Sugar Run Road (CR-52) Roadway Improvements
Doddridge County, West Virginia



Attached



Under separate cover

Via:

- Messenger/Courier
- First Class Mail
- FedEx
- United Parcel
- DHL
- Lone Star Overnight
- Freight
- Other

Transmitted:

- As Requested
- For Approval
- For Your Use
- For Review & Comment

Remarks:

Enclosed please find the following documents to facilitate your review of the above referenced application:

- Attachment A – Floodplain Application
- Attachment B – Table of Adjacent Property Owners
- Attachment C – Floodplain Map
- Attachment D – Location Exhibit
- Attachment E – Site Plans
- Attachment F – No-Rise Certificate
- Attachment G – Permitting & Coordination

Check #11739 was previously provided for the original permit fee in the amount of \$1,474.08.

The check for fee associated with additional work is \$1,125.00. The site budget within the Floodplain is \$125,000.00 bringing the permit fee to \$1,125.00.

By: **Matt Albright**
Project Manager
51 Dutilh Rd., Suite 240
Cranberry Township, PA 16066
MAlbright@Kleinfelder.com
m | 609.947.5296

11759

KLEINFELDER OFFICE CHECKING

550 WEST C STREET SUITE 1200
SAN DIEGO, CA 92101

DATE 2/4/2022

19-10/1250

PAY TO THE ORDER OF Doddridge County Commission \$ 1,125.00

One thousand one hundred twenty-five and 00/100 DOLLARS



FOR 20203227.001A ①-0000

Denise D. Hann

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STATE of WEST VIRGINIA;
COUNTY OF DODDRIDGE, TO WIT:

Doddridge County Floodplain Permits
(Week of FEBRUARY 14, 2022)

Please take notice that on the (9TH) of (FEBRUARY), 2022, (ANTERO RESOURCES) filed an application for a Floodplain Permit (#22-610) to develop land located at or about (SUGAR RUN ROAD IMPROVEMENT); Coordinates: 39.205872, -80.865064. The Application is on file with the Floodplain Manager of the County and may be inspected or copied during regular business hours in accordance to WV Code Chapter 29B Freedom of Information, Article 1 Public Records and county policy and procedures. Any interested persons who desire to comment shall present the same in writing by (MARCH 7, 2022) (20 calendar days after the announcement at the regularly scheduled Doddridge County Commission Meeting) delivered to the Floodplain Manager of the County at 105 Court Street, Suite #3, West Union, WV 26456. This project is A RENEWAL OF PERMIT 21-592 ROAD IMPROVEMENT

George C. Eidel, CFM
Doddridge County Floodplain Manager

2/16x2XB

I, Tamela B. Beamer, Editor of THE HERALD RECORD, a certified weekly newspaper published regularly in Doddridge County, West Virginia, DO Hereby Certify Upon Oath that the accompanying Legal Notice entitled:

Floodplain Permit Application

22-#610

was published in said paper for 2 successive weeks beginning with the issue of 2/16, 2022 and ending with the issue of 2/23, 2022 that contains 184 word space at 115 cents per word and amounts to the sum of \$ 21.26 FOR THE FIRST PUBLICATION.

SECOND PUBLICATION IS 75% OF THE FIRST PUBLICATION and each other publication thereafter \$ 15.87 for the TOTAL OF: \$ 37.05.

Editor,

Tamela B. Beamer

SWORN TO AND SUBSCRIBED BEFORE ME THIS
THE 23rd day of February,
2022

NOTARY PUBLIC

Natalie Cronin

