

9069 695T 1562 695T 1000 043E 5T02

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) \$ **2.80**

Return Receipt (electronic) \$ _____

Certified Mail Restricted Delivery \$ _____

Adult Signature Required \$ _____

Adult Signature Restricted Delivery \$ _____

Postage
 \$ **.49**

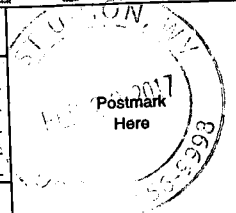
Total Postage and Fees
 \$ **6.74**

Sent To

Street and Apt. No., or PO Box No.

City, State, ZIP+4®

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



ET69 695T 1562 695T 1000 043E 5T02

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0269 695T 1562 695T 1000 043E 5T02

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Adult Signature Restricted Delivery \$ _____

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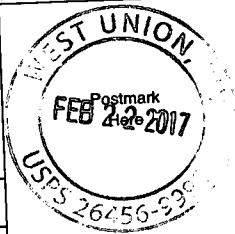
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Adult Signature Restricted Delivery \$ _____

Postage
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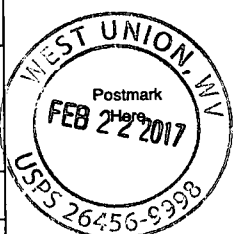
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Adult Signature Required \$ _____

Adult Signature Restricted Delivery \$ _____

Postage
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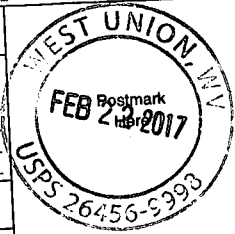
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City, State, ZIP+4®

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



4469 695T 1562 695T 1000 043E 5T02

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

Return Receipt (hardcopy) \$ **2.80**

Return Receipt (electronic) \$ _____

Certified Mail Restricted Delivery \$ _____

Adult Signature Required \$ _____

Adult Signature Restricted Delivery \$ _____

Postage
 \$ **.49**

Total Postage and Fees
 \$ **6.74**

Sent To

Street and Apt. No., or PO Box No.

City, State, ZIP+4®

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



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.

Jason S. & Jennifer L. Powers
3960 Salem Long Run Rd.
Salem, WV 26426

17-455



9590 9402 1888 6104 9698 35

2. Article Number (Transfer from service label)

HIS SECTION ON DELIVERY

- A. Signature Agent Addressee
Jason S. Powers
- 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

FEB 27 2017

3. Service Type **USPS** Priority Mail Express®
 Adult Signature Registered Mail™
 Adult Signature Restricted Delivery Registered Mail Restricted Delivery
 Certified Mail® Return Receipt for Merchandise
 Certified Mail Restricted Delivery Signature Confirmation™
 Collect on Delivery Signature Confirmation Restricted Delivery
 Collect on Delivery Restricted Delivery Insured Mail
 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.

Nancy Dianne Stamm
104 George Street
Salem, WV 26426

17-455



9590 9402 1888 6104 9698 66

2. Article Number (Transfer from service label)

COMPLETE THIS SECTION ON DELIVERY

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

FEB 25 2017

3. Service Type Priority Mail Express®
 Adult Signature Registered Mail™
 Adult Signature Restricted Delivery Registered Mail Restricted Delivery
 Certified Mail® Return Receipt for Merchandise
 Certified Mail Restricted Delivery Signature Confirmation™
 Collect on Delivery Signature Confirmation Restricted Delivery
 Collect on Delivery Restricted Delivery Insured Mail
 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.

Mary J. Williams
4160 Salem Long Run Rd.
Salem, WV 26426

17-455



9590 9402 1888 6104 9698 59

2. Article Number (Transfer from service label)

COMPLETE THIS SECTION ON DELIVERY

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

MAR - 7 2017

3. Service Type Priority Mail Express®
 Adult Signature Registered Mail™
 Adult Signature Restricted Delivery Registered Mail Restricted Delivery
 Certified Mail® Return Receipt for Merchandise
 Certified Mail Restricted Delivery Signature Confirmation™
 Collect on Delivery Signature Confirmation Restricted Delivery
 Collect on Delivery Restricted Delivery Insured Mail
 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.

WV Railroad Maintenance Authority

PO Box 470

Moorefield, WV 26836

17-455



9590 9402 1888 6104 9698 28

2. Article Number (Transfer from service label)

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X *Tammy Cooper* Agent
 Addressee

B. Received by (Printed Name)

Tammy Cooper

C. Date of Delivery

2-27-17

address different from item 1? Yes
 or 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) | |

USPS TRACKING #



First-Class Mail
Postage & Fees Paid
USPS
Permit No. G-10

9590 9402 1888 6104 9698 28

United States
Postal Service

• Sender: Please print your name

George Eidel
Doddridge County OEM/CFM
108 Court St. Ste 1
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.

Mark Vincent & Mark Christopher Schumacher
PO Box 1122
Bridgeport, WV 26330

17-455



9590 9402 1888 6104 9698 73

2. Article Number (Transfer from service label)

COMPLETE THIS SECTION ON DELIVERY

A. Signature

[Handwritten Signature]

Agent

Addressee

B. Received by (Printed Name)

ROBERT SCOT APDIO

C. Date of Delivery

2/23/17

address different from item 1? Yes

or 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) | |

USPS TRACKING #



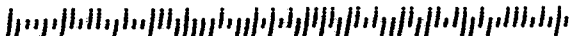
First-Class Mail
Postage & Fees Paid
USPS
Permit No. G-10

9590 9402 1888-6104 9698 73

**United States
Postal Service**

• Sender: Please print your name, address, and ZIP+4® in this box•

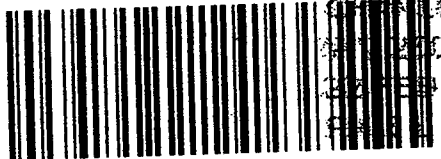
George Eidel
Doddridge County OEM/CFM
108 Court St. Ste 1
West Union, WV 26456



-209501

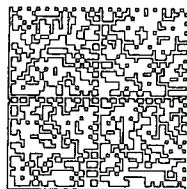
CERTIFIED MAIL

George Eidel
Doddridge County OEM/CFM
108 Court St. Ste 1
West Union, WV 26456



7015 3430 0001 1569 6913

CHILDESTON
26426
02 FEB '17



HASLER

\$006.74⁰

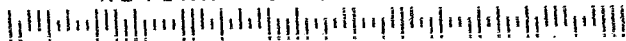
02/22/2017 ZIP 26456
012E14643162

US POSTAGE

Juanita Davis
4124 Salem Long Run Rd.
Salem WV 26426

250 N7E 1 61510002/22/17
FORWARD TIME EXP RTN TO SEND
DAVIS JUANITA R
8 BREEZY LN
NEW CUMBERLAND WV 26047-1888

RETURN TO SENDER



26426-1888

PLACE STICKER AT TOP OF ENVELOPE TO THE RIGHT
OF THE RETURN ADDRESS. FOLD AT DOTTED LINE

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 Davis
 4124 Salem Long Run Rd.
 Salem, WV 26426

17-455



9590 9402 1888 6104 9698 42

2. Article Number (Transfer from service label)

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X

- 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

- Adult Signature
- Adult Signature Restricted Delivery
- Certified Mail®
- Certified Mail Restricted Delivery
- Collect on Delivery
- Collect on Delivery Restricted Delivery
- Insured Mail
- Insured Mail Restricted Delivery (over \$500)
- Priority Mail Express®
- Registered Mail™
- Registered Mail Restricted Delivery
- Return Receipt for Merchandise
- Signature Confirmation™
- Signature Confirmation Restricted Delivery

Doddridge County Office of
Emergency Management/Floodplain Management
108 Court Street Suite 1
Tel 304-873-1343
doddridgecountyfpm@gmail.com



FEBRUARY 22, 2017

Dear Sir or Ma'am,

You are receiving this letter because you have been identified as a land surface and/or mineral rights owner for property or adjacent property related to the proposed development/project identified by the following page.

No action is required of you. This letter is simply to inform you of the proposed development.

If you would like to comment on this proposed project, or would like additional information, you may contact the Doddridge County Floodplain Manager at the above address.

Respectfully yours,

A handwritten signature in cursive script that reads "George Eidel".

George Eidel, CFM, OEM Director/Floodplain Manager



Doddridge County Floodplain Permits

(Week of March 6, 2017)

Please take notice that on the **17th** day of **February, 2017**, **Antero Midstream LLC** filed an application for a Floodplain Permit **#17-455** to develop land located at or about **39.276189N, 80.634111W to 39.279394N, 80.610814W**. The Application is on file with the Clerk of the County Court and may be inspected or copied during regular business hours. Any interested persons who desire to comment shall present the same in writing by **March 26, 2017** (20 calendar days after the announcement at the regularly scheduled Doddridge County Commission Meeting) delivered to the Clerk of the County Court at 108 Court Street Ste. 1, West Union, WV 26456. **This project is Bluestone Gathering Pipeline Reroute.**



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: #17-455

Bluestone Gathering Pipeline Reroute

Date Approved: March 27, 2017

Expires: March 27, 2018

Issued to: Antero Midstream, LLC

POC: Rachel Grzybek
304-842-4008

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

Project Address: South of US RT50 near Salem

Firm: 145C & 165C

Lat/Long: 39.276189N, 80.634111W to
39.279394N, 80.610814W

Purpose of development: installation of HDPE gas line

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

Date: March 27, 2017

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



ANTERO MIDSTREAM
1615 WYNKOOP STREET
DENVER, COLORADO 80202

Vendor Name	Vendor No.	Date	Check Number	Check Total
DODDRIDGE COUNTY COMMISSION	43312	Mar-03-2017	106252	\$500.00

INV #	INV DATE	DESCRIPTION	AMOUNT	DISCOUNTS	NET AMOUNT
MR030117	03/01/17	FLOODPLAIN PERMIT - BLUESTONE GATH	500.00	0.00	500.00

#17-455

COP

TOTAL INVOICES PAID ==> 500.00 0.00 500.00

DETACH AND RETAIN FOR TAX PURPOSES

THIS CHECK HAS A COLORED FACE ON WHITE STOCK AND AN ARTIFICIAL WATERMARK ON THE BACK



ANTERO MIDSTREAM
1615 WYNKOOP STREET
DENVER, COLORADO 80202

Wells Fargo
Denver, CO

Check No. 106252

11-24
412

800 - AP ACCT WELLS FARGO

Void After 90 Days

CHECK NUMBER	DATE	PAY EXACTLY
106252	Mar-03-2017	\$500.00

PAY EXACTLY \$500dols00cts
Five Hundred Dollars and Zero Cents

TO
THE
ORDER
OF

DODDRIDGE COUNTY COMMISSION
BETH A ROGERS, CLERK-118 EAST COURT STREET-ROOM 10
2
WEST UNION, WV 26456

COPY

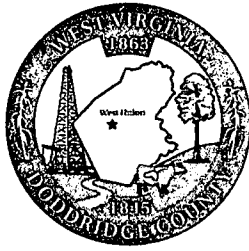
[Handwritten Signature]

⑈ 106252⑈ ⑆041203824⑆ 9657481710⑈

FLOODPLAIN PERMIT #17-455

Antero/Bluestone Gathering PL Reroute

TASK	COMPLETE (DATE)	NOTES
CHECK RECEIVED	x	500.00 3/3/17
US ARMY CORP. ENGINEERS (USACE)		
US FISH & WILDLIFE SERVICES (USFWS)		
WV DEPT. NATURAL RESOURCES (WVDNR)		
WV DEPT. ENVIROMENTAL PROTECTION (WVDEP)		
STATE HISTORIC & PRESERVATION OFFICE (SHPO)	X	
OFFICE of LAND & STREAM (OLS)		
DATE OF COMMISSION READING	04-07-17	
DATE AVAILABLE TO BE GRANTED	04-27-17	
PERMIT GRANTED		
COMPLETE		



Doddridge County Floodplain Permits

(Week of March 6, 2017)

Please take notice that on the **17th day of February, 2017, Antero Midstream LLC** filed an application for a Floodplain Permit **#17-455** to develop land located at or about **39.276189N, 80.634111W to 39.279394N, 80.610814W**. The Application is on file with the Clerk of the County Court and may be inspected or copied during regular business hours. Any interested persons who desire to comment shall present the same in writing by **March 26, 2017** (20 calendar days after the announcement at the regularly scheduled Doddridge County Commission Meeting) delivered to the Clerk of the County Court at 108 Court Street Ste. 1, West Union, WV 26456. **This project is Bluestone Gathering Pipeline Reroute.**



The Culture Center
1900 Kanawha Blvd., E.
Charleston, WV 25305-0300

Randall Reid-Smith, Commissioner

Phone 304.558.0220 • www.wvculture.org
Fax 304.558.2779 • TDD 304.558.3562
EEO/AA Employer

March 8, 2017

RECEIVED
MAR 13 2017

Mr. Seth Mitchell
Project Manager
SWCA Environmental Consultants
200 Bursca Drive, Suite 207
Bridgeville, Pennsylvania 15017

RE: Bluestone Gathering Reroute Project – Antero Midstream, LLC
FR#: 17-352-DO

Dear Mr. Mitchell:

We have reviewed the above mentioned project to determine its effects to cultural resources. As required by Section 106 of the National Historic Preservation Act of 1966, as amended, and its implementing regulations, 36 CFR 800: "Protection of Historic Properties," we submit our comments.

According to the submitted information, Antero Midstream, LLC proposes to construct the Bluestone Gathering Reroute natural gas pipeline located west of Industrial, Doddridge County. The Bluestone Gathering Reroute pipeline will measure approximately 1.4 miles in length and will consist of a 3-inch-diameter, high-density polyethylene (HDPE) low-pressure (LP) line. The pipeline will tie into existing pipelines at the western and eastern termini and will be accessed via County Route 38. The excavation trench will measure approximately one-foot wide and 5.25-feet deep. No tree clearing or aboveground facilities will be required. The project's limit-of-disturbance, which equals the direct Area of Potential Effects, encompasses 4.2 acres. We understand that a permit from the US Army Corps of Engineers (USACE) will be required for this project.

Archaeological Resources:

As indicated in the submitted materials, our records indicate that no recorded archaeological sites are located within the project's APE. Furthermore, available and submitted information demonstrates that the APE has been previously disturbed, which makes it unlikely that significant archaeological resources would be encountered. We concur with the consultant's determination that the proposed project will have no effect on intact archaeological historic properties. No further consultation is necessary regarding archaeological resources. However, if intact cultural materials are encountered during proposed project activities, please cease all activity in the area of discovery and contact this office immediately.

Architectural Resources:

Submitted information indicates that this project consists of buried pipelines and that there will be no visible above ground or tree removal components to the project. It is our opinion that there are no architectural resources eligible for or included in the National Register of Historic Places that will be affected by the proposed project. No further consultation regarding architectural resources is necessary unless your project changes.

We appreciate the opportunity to be of service. *If you have questions regarding our comments or the Section 106 process, please contact Katie M. Turner, Archaeologist, or Ernest E. Blevins, Structural Historian, at (304) 558-0240.*

Sincerely,

Susan M. Pierce
Deputy State Historic Preservation Officer

SMP/KMT/EEB


Antero
Midstream Partners LP
Antero Midstream, LLC
535 White Oaks Blvd
Bridgeport, WV 26330
Office 304.842.4100
Fax 304.842.4102

January 27, 2017

Doddridge County Commission
Attn: George Eidel, Doddridge County Floodplain Manager
118 East Court Street, Room 102
West Union, WV 26456

FEB21 17 1:29PM

Mr. Eidel:

Antero Midstream LLC would like to submit a Doddridge County Floodplain permit application for our *Bluestone Gathering Pipeline Reroute* project. Our project is located in Doddridge County beginning at coordinates 39.276189N, 80.634111W and continuing to coordinates 39.279394N, 80.610814W. Per the FIRM Maps #54017C0145C, and #54017C0165C this location is in the floodplain.

Attached you will find the following:

- Doddridge County Floodplain Permit Application
- No-Rise Certificate
- WV Flood Tool Map
- FIRM Maps
- Design Plans

If you have any questions please feel free to contact me at (304) 842-4008.

Thank you in advance for your consideration.

Sincerely,



Rachel Grzybek
Environmental Specialist II
Floodplain Engineer
Antero Resources Corporation

Enclosures



February 8, 2017

Doddridge County Commission
Attn: George Eidel, Doddridge County Floodplain Manager
118 East Court Street, Room 102
West Union, WV 26456


Subject: Antero Midstream, LLC.
Bluestone Gathering Reroute
No-Rise Certificate
Doddridge County, West Virginia
CEC Project 170-633

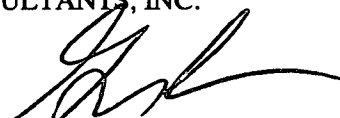
Civil & Environmental Consultants, Inc. (CEC) is pleased to evaluate the potential floodplain impacts for the above referenced project on behalf of Antero Midstream, LLC., 535 White Oaks Blvd, Bridgeport, WV 26330. Antero Midstream, LLC. proposes to install approximately 7,080 feet of 3" HDPE gas line. Proposed erosion and sediment control measures include orange safety fence, silt saver, trench breakers, permanent waterbars, stabilized construction entrances, and erosion control blankets. Portions of the proposed project are located within the Long Run Zone A/Zone AE flood hazard area, according to the Flood Insurance Rate Maps for Doddridge County, Map Panels 54017C0145C and 54017C0165C, both with a map revised date of October 4, 2011. Permanent waterbars will be placed in the floodplain; however, the material needed to construct the berm will be excavated from the up-gradient side of the berm. Therefore, a net loss of floodplain storage is not expected. All other disturbed areas will be returned to existing conditions at the conclusion of the work. As a result, the project will not result in a decrease of the available floodplain storage area and will not adversely affect the existing base flood elevation of Long Run.

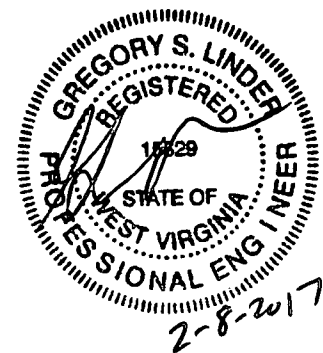
This no-rise certificate is provided in support of the floodplain development permit application. Your time and effort in reviewing this floodplain development permit application is appreciated. Please feel free to contact me at 304-933-3119 or via e-mail at glinder@cecinc.com or contact Ms. Rachel Grzybek at 304-842-4008 or via e-mail at rgrzybek@anteroresources.com if you have questions or need additional information.

Respectfully submitted,

CIVIL & ENVIRONMENTAL CONSULTANTS, INC.


Andrew P. Darnell, E.I.
Assistant Project Manager


Greg S. Linder, P.E.
Senior Project Manager





Permit# # 17-455

Project Name: _____

Permittees Name: _____

Doddridge County, WV

Floodplain Development Permit Application

FEB21 17 1:29PM

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. Development shall not be used or occupied until a Certificate of Compliance is issued.
5. The permit will expire if no work is commenced within six months of issuance.
6. Applicant is hereby informed that other permits may be required to fulfill local, state, and federal requirements.
7. Applicant hereby gives consent to the Floodplain Administrator/Manager or his/her representative to make inspections to verify compliance.
8. 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

Brian L. [Signature]

DATE 2-14-17

Doddridge County Commercial/Industrial
Floodplain Development Permit Application

Applicant Information:

Please provide all pertinent data.

Applicant Information		
Responsible Company Name: Antero Midstream, LLC.		
Corporate Mailing Address: 1615 Wynkoop Street		
City: Denver	State: CO	Zip: 80202
Corporate Point of Contact (POC):		
Corporate POC Title:		
Corporate POC Primary Phone:		
Corporate POC Primary Email:		
Corporate FEIN:	Corporate DUNS:	
Corporate Website: www.anteroresources.com		
Local Mailing Address: 535 White Oaks Boulevard		
City: Bridgeport	State: WV	Zip: 26330
Local Project Manager (PM):		
Local PM Primary Phone:		
Local PM Secondary Phone:		
Local PM Primary Email:		
Person Filing Application: Rachel Grzybek		
Applicant Title: Environmental Specialist II		
Applicant Primary Phone: (304) 842-4008		
Applicant Secondary Phone: (304) 641-2396		
Applicant Primary Email: rgrzybek@anteroresources.com		

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 2

Site/Property Information:		
Legal Description: 41.94 AC Grant District		
Physical Address/911 Address: Off C.R. 38		
Decimal Latitude/Longitude: 39.278483° N, 80.612475° W		
DMS Latitude/Longitude: 39° 16' 42.54" N, 80° 36' 44.91" W		
District: 3 - Grant	Map: 21	Parcel: 34
Land Book Description:		
Deed Book Reference: Book 216, Page 166		
Tax Map Reference: 09-03-0021-0034-0000		
Existing Buildings/Use of Property: The North Bend Rail Trail is located on this property.		

Floodplain Location Data: (to be completed by Floodplain Manager or designee)			
Community:	Number:	Panel:	Suffix:
Location (Lat/Long):		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

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: 2 of 2

Site/Property Information:		
Legal Description: 26.24 AC Grant District		
Physical Address/911 Address: Off C.R. 38		
Decimal Latitude/Longitude: 39.276150° N, 80.633583° W		
DMS Latitude/Longitude: 39° 16' 34.14" N, 80° 38' 00.90" W		
District: 3 - Grant	Map: 20	Parcel: 60
Land Book Description:		
Deed Book Reference: Book 216, Page 166		
Tax Map Reference: 09-03-0020-0060-0000		
Existing Buildings/Use of Property: The North Bend Rail Trail is located on this property.		

Floodplain Location Data: (to be completed by Floodplain Manager or designee)			
Community:	Number:	Panel:	Suffix:
Location (Lat/Long):		Approximate Elevation:	
		Estimated BFE:	
Is the development in the floodway?		Is the development in the floodplain?	
<input type="checkbox"/> Yes <input type="checkbox"/> No		<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: 1 and 2 of 2

Property Owner Data:		
Name of Primary Owner (PO): WV Railroad Maintenance Authority		
PO Address: P.O. Box 470		
City: Moorefield	State: WV	Zip: 26836
PO Primary Phone:		
PO Secondary Phone:		
PO Primary Email: 7015 3430 0001 1569 6937		

Surface Rights Owner Data:		
Name of Primary Owner (PO):		
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):		
PO Address:		
City:	State:	Zip:
PO Primary Phone:		
PO Secondary Phone:		
PO Primary Email:		

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: ____ of ____

Contractor/Sub-Contractor (C/SC) Information:		
C/SC Company Name:		
C/SC WV License Number:		
C/SC FEIN:	C/SC DUNS:	
Local C/SC Point of Contact (POC):		
Local C/SC POC Title:		
C/SC Mailing Address:		
City:	State:	Zip-Code:
Local C/SC Office Phone:		
Local C/SC POC Phone:		
Local C/SC POC E-Mail:		

Engineer Firm Information:		
Engineer Firm Name:		
Engineer WV License Number:		
Engineer Firm FEIN:	Engineer Firm DUNS:	
Engineer Firm Primary Point of Contact (POC):		
Engineer Firm Primary POC Title:		
Engineer Firm Mailing Address:		
City:	State:	Zip-Code:
Engineer Firm Office Phone:		
Engineer Firm Primary POC Phone:		
Engineer Firm Primary POC E-Mail:		

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.

2

Adjacent Property Owner Data: Upstream		
Name of Primary Owner (PO): Nancy Dianne Stamm		
Physical Address: 104 George Street		
City: Salem	State: WV	Zip: 26426
PO Primary Phone:		
PO Secondary Phone:		
PO Primary Email: 7015 3430 0001 1569 6944		

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

3

Adjacent Property Owner Data: Downstream		
Name of Primary Owner (PO): Mark Vincent and Mark Christopher Schumacher		
Physical Address: Rt. 3 Box 233 H PO Box 1122		
City: Bridgeport	State: WV	Zip: 26330
PO Primary Phone:		
PO Secondary Phone:		
PO Primary Email: 7015 3430 0001 1569 6951		

4

Adjacent Property Owner Data: Downstream		
Name of Primary Owner (PO): Mary J. Williams		
Physical Address: 4160 Salem Long Run Rd		
City: Salem	State: WV	Zip: 26426
PO Primary Phone:		
PO Secondary Phone:		
PO Primary Email: 7015 3430 0001 1569 6906		

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):		
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:		

5

Adjacent Property Owner Data: Downstream		
Name of Primary Owner (PO): Juanita Davis		
Physical Address: 4124 Salem Long Run Rd		
City: Salem	State: WV	Zip: 26426
PO Primary Phone:		
PO Secondary Phone:		
PO Primary Email: 7015 3430 0001 1569 6913		

6

Adjacent Property Owner Data: Downstream		
Name of Primary Owner (PO): Jason S. and Jennifer L. Powers (SURV)		
Physical Address: 3960 Salem Long Run Rd		
City: Salem	State: WV	Zip: 26426
PO Primary Phone:		
PO Secondary Phone:		
PO Primary Email: 7015 3430 0001 1569 6920		

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

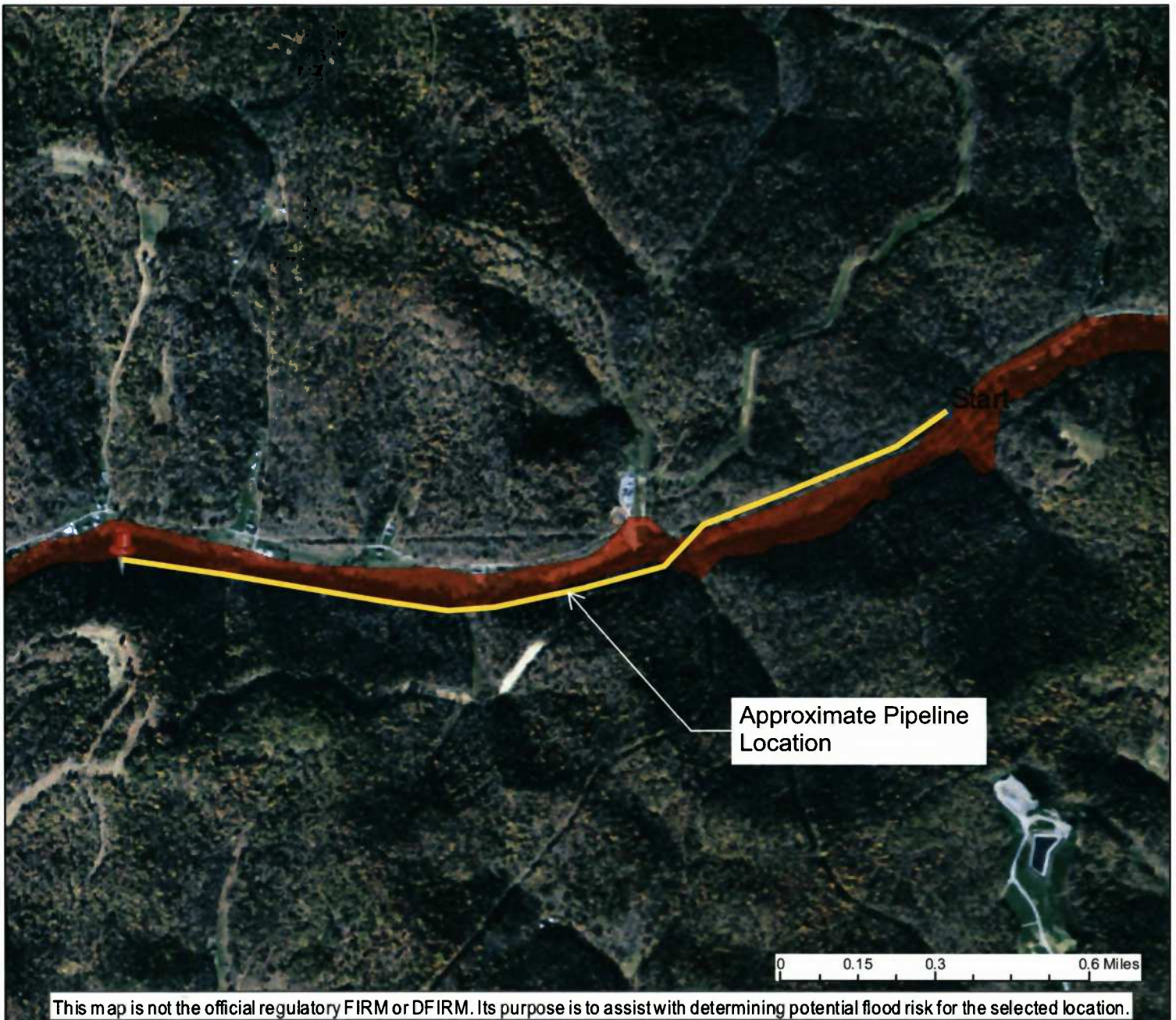
Please read print name, sign and date below:

- 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 been properly attained, are current and valid, and must be presented with this application before a Doddridge County Floodplain Permit may be 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 or 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 at the next scheduled Doddridge County Commission meeting after the date of issuance. 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. A Certificate of Compliance is required upon substantial completion of the project.
- 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 Wirt County Floodplain Manager and that I must stop all construction immediately until discrepancies of actual work vs. proposed work is resolved.

Applicant Signature: Brian Guarnas Date: 2-15-17

Applicant Printed Name: Brian Guarnas

Bluestone Gathering Reroute



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

User Notes:

- Flood Hazard Zone
- Flood Point of Interest

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. To obtain more detailed information in areas where Base Flood Elevations have been determined, users are encouraged to consult the latest Flood Profile data contained in the official flood insurance study. These studies are available online at www.msc.fema.gov.
WV Flood Tool (<http://www.MapWV.gov/flood>) is supported by FEMA, WV NFIP Office, and WV GIS Technical Center.

Map created on February 8, 2017

Flood Hazard Area:

Flood Hazard Area: Location is WITHIN the FEMA 100-year floodplain.

FEMA Issued Flood Map: 54017C0165C

Watershed (HUC8): Little Musringum-Middle Island (5

Elevation: About 945 ft

Location (long, lat): (80.618190 W,39.276302 N)

Location (UTM 17N): (532933, 4347507)

Contacts: Doddridge

CRS Information: N/A

Parcel Number:



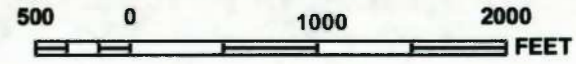
JOINS PANEL 0165

285000 FT

280000 FT



MAP SCALE 1" = 1000'



NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0145C

FIRM
FLOOD INSURANCE RATE MAP
DODDRIDGE COUNTY,
WEST VIRGINIA
AND INCORPORATED AREAS

PANEL 145 OF 325
 (SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
DODDRIDGE COUNTY	540024	0145	C

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.



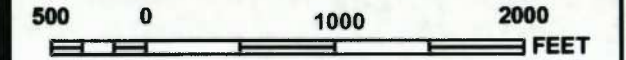
MAP NUMBER
 54017C0145C
 MAP REVISED
 OCTOBER 4, 2011

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov



MAP SCALE 1" = 1000'



PANEL 0165C

FIRM
FLOOD INSURANCE RATE MAP
DODDRIDGE COUNTY,
WEST VIRGINIA
AND INCORPORATED AREAS


PANEL 165 OF 325
 (SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
DODDRIDGE COUNTY	540024	0165	C

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
54017C0165C
MAP REVISED
OCTOBER 4, 2011


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ANTERO MIDSTREAM LLC

ISSUED FOR PERMITTING PLANS FOR THE BLUESTONE GATHERING REROUTE 3" HDPE GAS LINE AFE #A04635 101-050-6138 DODDRIDGE COUNTY, WEST VIRGINIA FEBRUARY 2017

AERIAL MAP



VICINITY MAP
FULL SCALE: 1"=2,000'
HALF SCALE: 1"=4,000'



PHONE: (303) 357-7310 | FAX: (303) 357-7315
1615 WYNKOOP STREET
DENVER, CO 80202

ENGINEER OF RECORD



PHONE: (304) 624-4108 | FAX: (304) 624-7831
600 WHITE OAKS BLVD., P.O. BOX 940
BRIDGEPORT, WV 26330

EXISTING INFORMATION SOURCES

BASE CONTOUR DATA PROVIDED BY BLUE MOUNTAIN, INC. AT TWO FOOT CONTOUR INTERVALS.

SUPPLEMENTAL SPOT ELEVATIONS AND ALIGNMENT PROVIDED BY:

THE THRASHER GROUP
600 WHITE OAKS BLVD., P.O. BOX 940
BRIDGEPORT, WV 26330

BENCHMARK:
HORIZONTAL - NAD 83 WEST VIRGINIA STATE PLANE, NORTH ZONE, US SURVEY FOOT
VERTICAL - NAVD 88 (GEOID12B), US SURVEY FOOT

ROAD DESIGNATIONS OBTAINED FROM WV-DOH
(<http://www.transportation.wv.gov>)

PLAN REPRODUCTION WARNING

THESE PLANS ARE INTENDED TO BE PLOTTED ON ARCH D (24" X 36") SHEETS. FOR REDUCTIONS, REFER TO GRAPHIC SCALE.

THESE PLANS HAVE BEEN CREATED FOR FULL COLOR PLOTTING. ANY SET OF THESE PLANS THAT IS NOT PLOTTED IN FULL COLOR SHALL NOT BE CONSIDERED ADEQUATE FOR CONSTRUCTION PURPOSES.

WARNING: INFORMATION MAY BE LOST IN COPYING AND/OR GRAY SCALE PLOTTING.



Matthew W. Fluharty 1/16/17
MATTHEW W. FLUHARTY, WV P.E. # 16375

ISSUED FOR PERMITS DATE: 1/16/17 BY: *mf*
 ISSUED FOR CONSTRUCTION DATE: _____ BY: _____

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LAYOUT TAG COVER CAD FILE: R:\050-050-050-BLUESTONE GATHERING REROUTE-ANTERO\SURVEY\PLANS\COVER_SHEET.dwg USER: jared.d.jenkins PLOT DATE/TIME: 2/8/2017 7:50 AM

WVDOH GENERAL NOTES

- ALL CONSTRUCTION ON THE DIVISION OF HIGHWAYS RIGHT OF WAY WILL CONFORM TO THE FOLLOWING:
THE FOLLOWING NOTES APPLY TO ALL PROJECT PLAN SHEETS:
1. ALL METER SETTINGS ACROSS PAVED ROADS SHALL BE BORED OR MOLED, UNLESS OPEN CUT HAS BEEN APPROVED BY W.V.D.O.H. AND SPECIFICALLY INDICATED ON PLANS.

UTILITY AGENCIES SERVING PROJECT AREA

- MISS UTILITY
1-800-245-4848
WEST VIRGINIA DIVISION OF HIGHWAYS
WVDOH DIST #4
P.O. BOX 4220
CLARKSBURG, WV 26301-4220
(304) 842-1576
(304) 842-1507 FAX
DAVE SCHEARER - UTILITY SUPERVISOR - CROSSINGS
DENISE RONCONE - PERMIT SUPERVISOR - TEMP. ACSESSES

GENERAL NOTES

- EXISTING UTILITIES SHOWN ON PLANS WHERE EVIDENCE HAS BEEN FOUND OR PROVIDED BY LOCAL UTILITIES. EXACT DEPTH AND LOCATION OF UTILITY LINES NOT KNOWN. CONTRACTOR TO VERIFY UTILITY LOCATIONS PRIOR TO CROSSING BY CONTACTING MISS UTILITY AT 1-800-245-4848 AND LOCAL UTILITY COMPANIES AS LISTED AND/OR NOT LISTED ON THIS SHEET.

LEGEND / ABBREVIATIONS

- EXISTING PIPELINE VENT
EXISTING WELL (AS NOTED)
EXISTING GAS METER
EXISTING RECTIFIERS
EXISTING PIPELINE MARKER
EXISTING GAS VALVE
EXISTING MONUMENT FOUND (AS NOTED)

LAYOUT TAG: GNOTS
CAD FILE: R:\050-0133-0133-BLUESTONE GATHERING REROUTE-ANTERO SURVEY\DWG\GENERAL NOTES SHEETS.dwg
USER: Jerald S. Jenkins
PLOT DATE/TIME: 2/9/2017 7:55 AM

DRAWING INDEX

Table with 3 columns: ID, Description, and Sheet Name. Includes entries like 01 COVER, 02 GNOTS, 03 SPECS, 04 INDEX, 05-17 PLAN1-PLAN13, 18 HTP, 19-20 S&WC1-S&WC2, 21-30 ESCP1-ESCP10.

CONSTRUCTION SEQUENCE OF EVENTS

- CALL MISS UTILITY (1-800-245-4848)
INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES.
CONSTRUCTION OF PIPELINE WITH RESTORATIONS.
TESTING OF PIPELINE AND APPURTENANCES.
PROJECT CLOSE-OUT, PUNCH LIST, CLEAN UP, REPAIRS, FINAL SEEDING AND MULCHING, ETC...

GENERAL INFORMATION

- FIELD DELINEATION PERFORMED AND PROVIDED BY: KLEINFELDER, INC.
THIS SHEET IS INTENDED TO BE PLOTTED ON ARCH D (24" x 36"). FOR REDUCTIONS, REFER TO GRAPHIC SCALE.



BLUESTONE GATHERING REROUTE GENERAL NOTES

PROPOSED 3" HDPE GAS LINE

DODDRIDGE COUNTY, WEST VIRGINIA

Table with project details: DATE: 2/9/2017, SHEET: 02, SHT. NAME: 050-6138\BGR\GNOTS, REV. 4



Know what's at stake? Call 811 BEFORE YOU DIG



ISSUED FOR PERMITTING

DATE: 01/06/2017

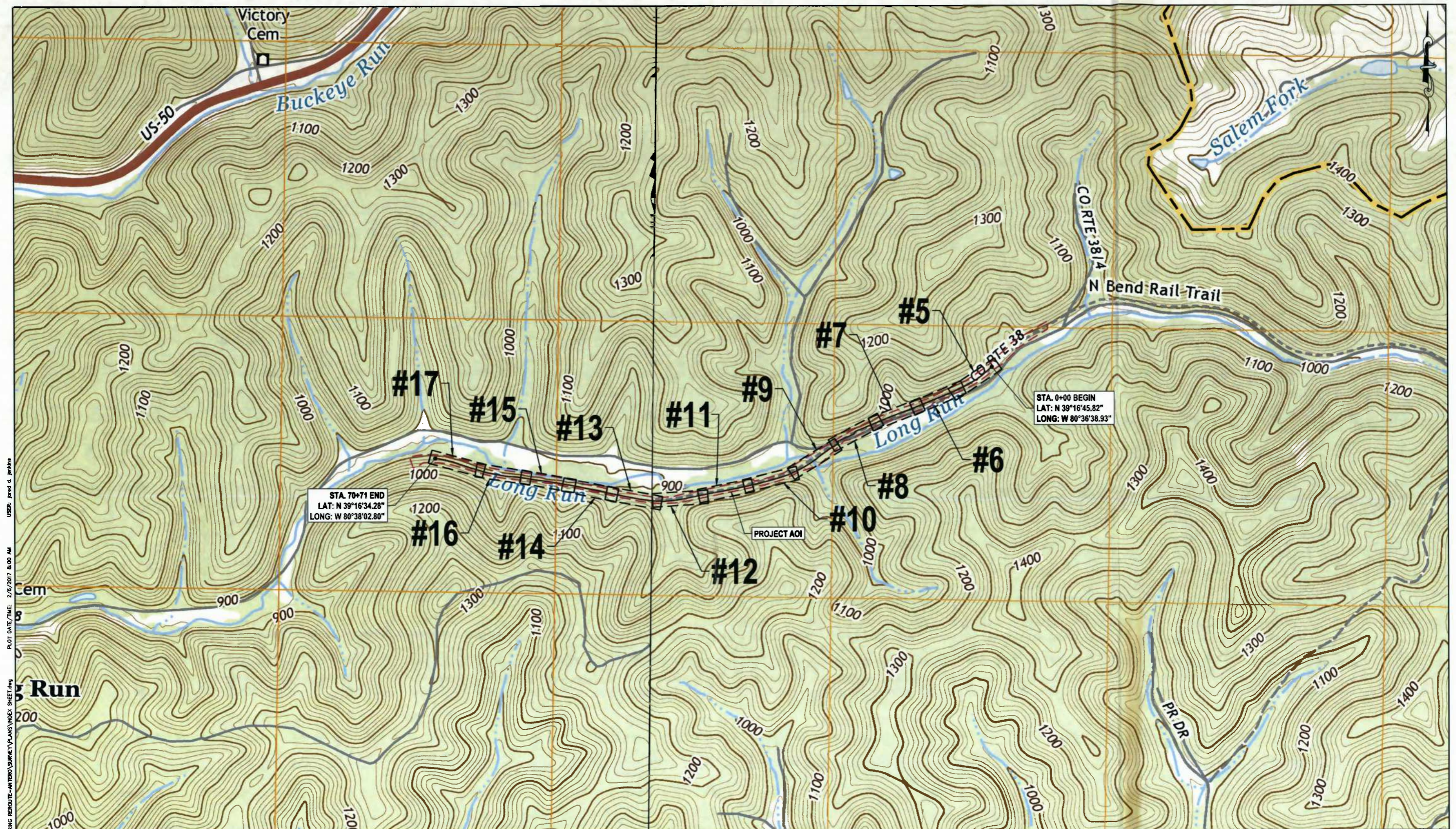
AFE # A04635

SUMMARY OF MATERIALS (3D)

Table with columns: NO., DESCRIPTION, QTY. Includes items like 3" HDPE SDR-7 3408, SILT SAVER BSRF-P1, SILT SAVER BSRF-P2, ORANGE SAFETY FENCE, EARTH TRENCH BREAKERS, PERMANENT WATERBARS, GAS LINE MARKERS, TEST STATIONS.

SUMMARY OF MATERIALS (3D)

Table with columns: NO., DESCRIPTION, QTY. Includes a REVISION table with 4 entries: REVISED PER COMMENTS FROM KLEINFELDER, INC. (1/18/17), REVISED PER COMMENTS FROM KLEINFELDER, INC. (1/28/17), REVISED DUE TO PROJECT NAME CHANGE (1/27/17), REVISED DUE TO ALIGNMENT CHANGE (2/03/17).



LAYOUT: IAR, INDEX
 CAD FILE: R:\050-6138-BLUESTONE GATHERING REROUTE-ANTERO\SURVEY\PLANS\INDEX SHEET.dwg
 PLOT DATE/TIME: 2/6/2017 8:00 AM
 USER: jered d. jenkins

THRASHER

Know what's at stake
Call 811
BEFORE YOU DIG

HORIZ. SCALE IN FEET
0 500 1000

IFP

ISSUED FOR PERMITTING

DATE: 01/06/2017

AFE # A04635

SUMMARY OF MATERIALS (3D)	
NO.	DESCRIPTION

SUMMARY OF MATERIALS (3D)		
NO.	DESCRIPTION	QTY

REVISION		
NO.	DESCRIPTION	DATE BY
1	REVISED PER COMMENTS FROM KLEINFELDER, INC.	1/16/17 JDU
2	REVISED PER COMMENTS FROM KLEINFELDER, INC.	1/26/17 JDU
3	REVISED DUE TO PROJECT NAME CHANGE	1/27/17 JDU
4	REVISED DUE TO ALIGNMENT CHANGE	2/03/17 JDU

GENERAL INFORMATION	
1.	MAPPING SOURCE: WEST UNION, WV USGS 7.5 MINUTE QUADRANGLES DATED 2014.
2.	FIELD DELINEATION PERFORMED AND PROVIDED BY: KLEINFELDER, INC.
3.	COORDINATE SYSTEM USED FOR MAPPING AND TOPOGRAPHY: HORIZONTAL - NAD 83 WEST VIRGINIA STATE PLANE, NORTH ZONE, U.S. SURVEY FOOT VERTICAL - NAVD 88 (GEOID12B), U.S. SURVEY FOOT
4.	THIS SHEET IS INTENDED TO BE PLOTTED ON ARCH D (24" X 36"), FOR REDUCTIONS, REFER TO GRAPHIC SCALE.

Antero
Midstream Partners LP

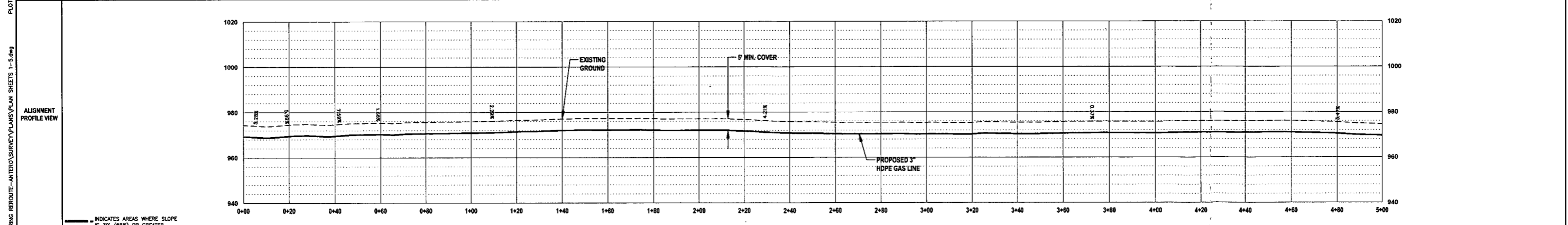
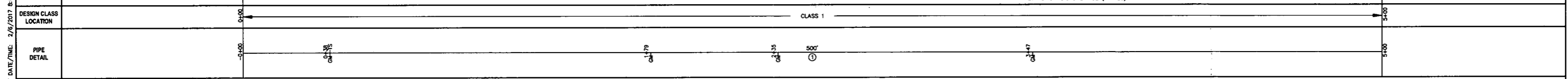
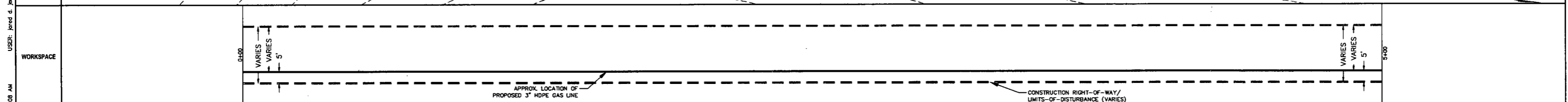
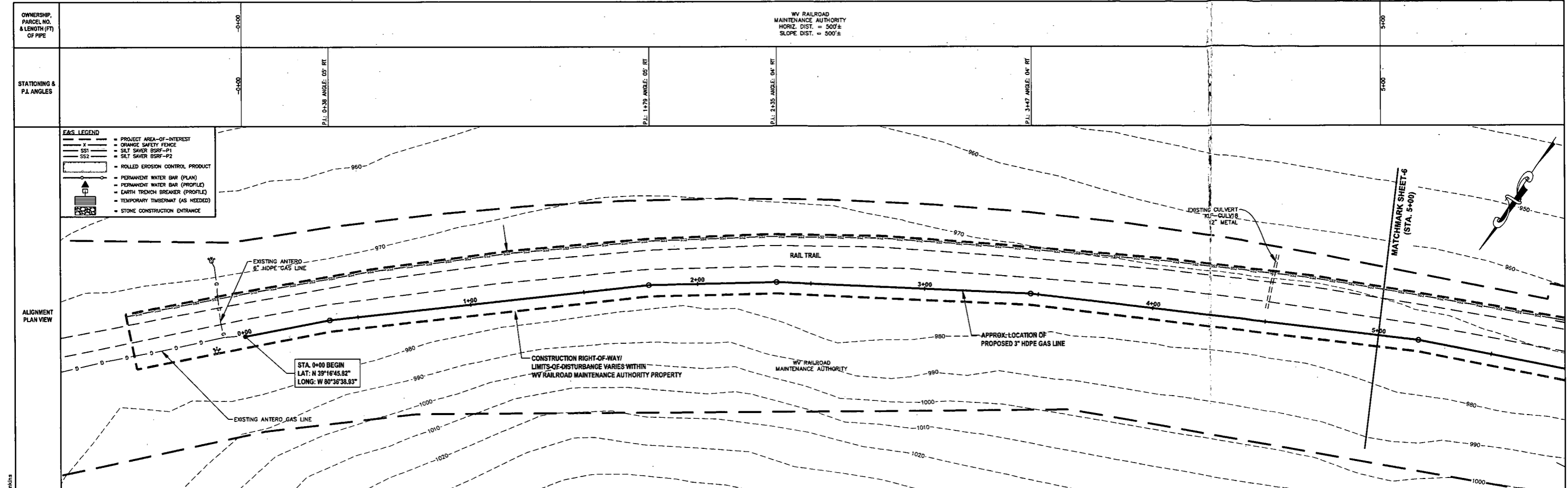
**BLUESTONE GATHERING REROUTE
INDEX SHEET**

PROPOSED 3" HDPE GAS LINE

DODDRIDGE COUNTY, WEST VIRGINIA

SHEET 04

SHT. NAME: 050-6138\BGR\INDEX REV. 4



THRASHER

Know what's at stake
Call 811
BEFORE YOU DIG

DATE: 01/06/2017
AFE # A04635

IFP

ISSUED FOR PERMITTING

DATE: 01/06/2017
AFE # A04635

SUMMARY OF MATERIALS (3D)	
① 3" HDPE SDR-7 3408	500 LF
SS2 SILT SAVER BSRF-P2	556 LF
GM GAS LINE MARKERS	4
TS TEST STATIONS	1

SUMMARY OF MATERIALS (3D)		
NO.	DESCRIPTION	QTY
REVISION		
1	REVISED PER COMMENTS FROM KLEINFELDER, INC.	1/18/17 JDU
2	REVISED PER COMMENTS FROM KLEINFELDER, INC.	1/26/17 JDU
3	REVISED DUE TO PROJECT NAME CHANGE	1/27/17 JDU
4	REVISED DUE TO ALIGNMENT CHANGE	2/03/17 JDU

- GENERAL INFORMATION**
- PROPOSED LOW PRESSURE GAS LINE MAOP = 125 psig
 - COORDINATE SYSTEM USED FOR MAPPING AND TOPOGRAPHY: HORIZONTAL - NAD 83 WEST VIRGINIA STATE PLANE, NORTH ZONE, U.S. SURVEY FOOT VERTICAL - NAVD 88 (GEOID12B), U.S. SURVEY FOOT
 - ALL STATIONING SHOWN IS HORIZONTAL STATIONING.
 - FIELD DELINEATION PERFORMED AND PROVIDED BY: KLEINFELDER, INC.
 - THE BOUNDARY MONUMENTS FOUND AND PROPERTY LINES SHOWN ON THIS DRAWING WERE OBTAINED FROM PARTIAL FIELD SURVEY AND RESEARCHED INFORMATION TAKEN FROM VARIOUS RECORDS ON FILE IN THE LOCAL COUNTY COURTHOUSE. TO OBTAIN A MORE ACCURATE BOUNDARY LINE LOCATION, A FULL PROPERTY SURVEY IS RECOMMENDED.
 - ALL EXISTING FENCES AND ROADS DISTURBED DURING CONSTRUCTION TO BE REPLACED BY CONTRACTOR POST-CONSTRUCTION.
 - ALL SHEET BANDS EXCLUDING ALIGNMENT PLAN VIEW REFERENCE THE ALIGNMENT PROFILE VIEW.
 - THIS SHEET IS INTENDED TO BE PLOTTED ON ARCH D (24" x 36"). FOR REDUCTIONS, REFER TO GRAPHIC SCALE.
 - FOR LEGEND/ABBREVIATION INFORMATION, REFER TO THE GENERAL NOTES SHEET.

Antero
Midstream Partners LP

BLUESTONE GATHERING REROUTE
STA. 0+00 TO STA. 5+00
PROPOSED 3" HDPE GAS LINE

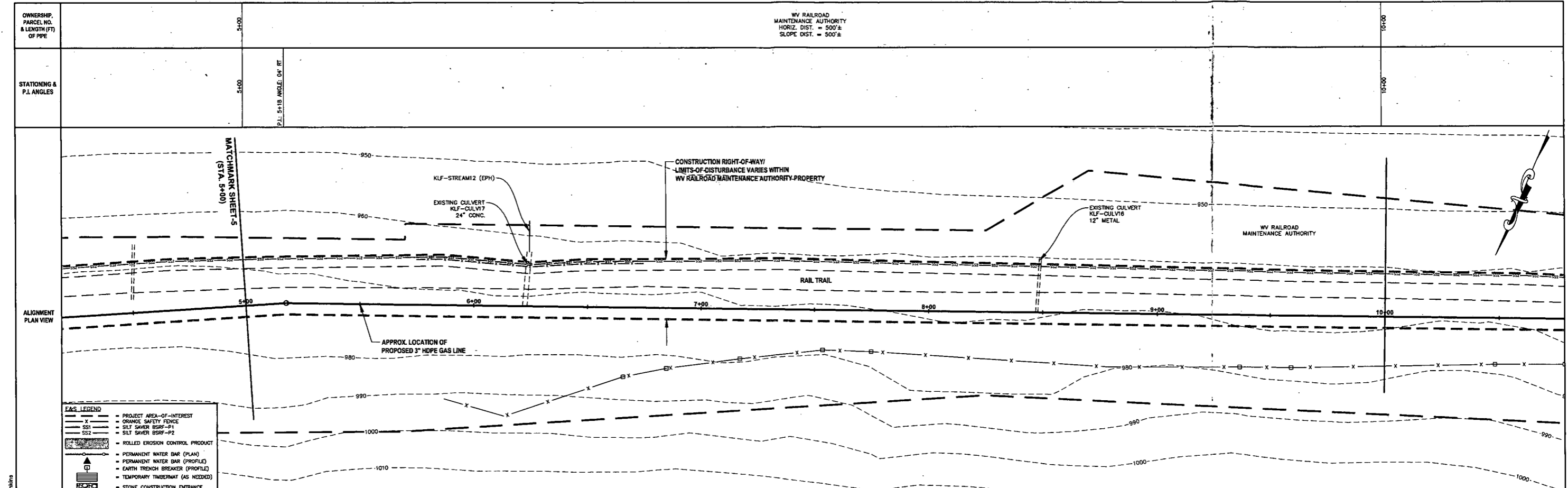
DODDRIDGE COUNTY, WEST VIRGINIA

DATE: 2/17/2017
SCALE: AS SHOWN
DRAWN BY: JDU (TID)
CHECKED: JSM (TID)

SHEET 05

SHT. NAME: 050-6138\BGR\PLAN1 | REV. 4

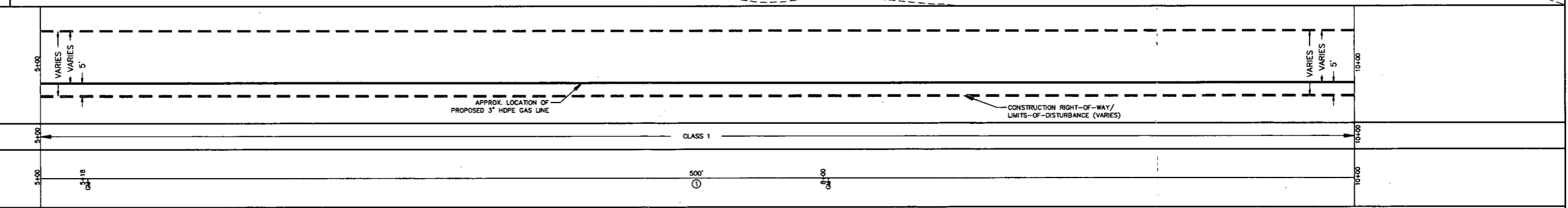
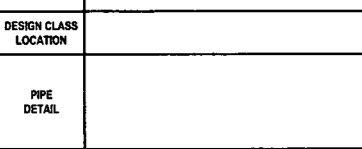
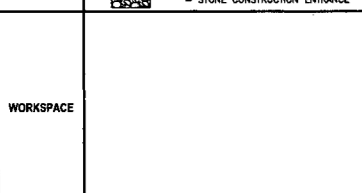
LAYOUT TAB: PLAN
 CAD FILE: R:\050-6138-BLUESTONE GATHERING REROUTE-ANTERO\SURVEY\PLANS\PLAN SHEETS 1-3.dwg
 PLOT DATE/TIME: 2/6/2017 8:08 AM
 USER: herod.g.jenkins



EAS LEGEND

- PROJECT AREA-OF-INTEREST
- ORANGE SAFETY FENCE
- SS1 SILT SAVER BSRF-P1
- SS2 SILT SAVER BSRF-P2
- ROLLED EROSION CONTROL PRODUCT
- PERMANENT WATER BAR (PLAN)
- PERMANENT WATER BAR (PROFILE)
- EARTH TRENCH BREAKER (PROFILE)
- TEMPORARY TIMBERMAT (AS NEEDED)
- STONE CONSTRUCTION ENTRANCE

LAYOUT TAB: PLANS
 CAD FILE: R:\050-6138-BLUESTONE GATHERING REROUTE-ANTERO\SURVEY\PLANS\PLAN SHEETS 1-5.dwg
 PLOT DATE/TIME: 2/8/2017 8:08 AM
 USER: Jared G. Hopkins



Know what's at stake
Call 811
BEFORE YOU DIG

0 20 40
HORIZ. SCALE IN FEET

0 20 40
VERT. SCALE IN FEET

IFP
ISSUED FOR PERMITTING

DATE: 01/06/2017
AFE # A04635

SUMMARY OF MATERIALS (3D)	
① 3" HDPE SDR-7 3408	500 LF
SS1 SILT SAVER BSRF-P1	100 LF
SS2 SILT SAVER BSRF-P2	402 LF
OSF ORANGE SAFETY FENCE	100 LF
GM GAS LINE MARKERS	2

SUMMARY OF MATERIALS (3D)		
NO.	DESCRIPTION	QTY

REVISION			
1	REVISED PER COMMENTS FROM KLEINFELDER, INC.	1/18/17	JDJ
2	REVISED PER COMMENTS FROM KLEINFELDER, INC.	1/26/17	JDJ
3	REVISED DUE TO PROJECT NAME CHANGE	1/27/17	JDJ
4	REVISED DUE TO ALIGNMENT CHANGE	2/03/17	JDJ

- GENERAL INFORMATION**
- PROPOSED LOW PRESSURE GAS LINE MAOP = 125 psig
 - COORDINATE SYSTEM USED FOR MAPPING AND TOPOGRAPHY: HORIZONTAL - NAD 83 WEST VIRGINIA STATE PLANE, NORTH ZONE, U.S. SURVEY FOOT VERTICAL - NAVD 88 (GEOID128), U.S. SURVEY FOOT
 - ALL STATIONING SHOWN IS HORIZONTAL STATIONING.
 - FIELD DELINEATION PERFORMED AND PROVIDED BY: KLEINFELDER, INC.
 - THE BOUNDARY MONUMENTS FOUND AND PROPERTY LINES SHOWN ON THIS DRAWING WERE OBTAINED FROM PARTIAL FIELD SURVEY AND RESEARCHED INFORMATION TAKEN FROM VARIOUS RECORDS ON FILE IN THE LOCAL COUNTY COURTHOUSE. TO OBTAIN A MORE ACCURATE BOUNDARY LINE LOCATION, A FULL PROPERTY SURVEY IS RECOMMENDED.
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 - ALL SHEET BANDS EXCLUDING ALIGNMENT PLAN VIEW REFERENCE THE ALIGNMENT PROFILE VIEW.
 - THIS SHEET IS INTENDED TO BE PLOTTED ON ARCH D (24" x 36"), FOR REDUCTIONS, REFER TO GRAPHIC SCALE.
 - FOR LEGEND/ABBREVIATION INFORMATION, REFER TO THE GENERAL NOTES SHEET.

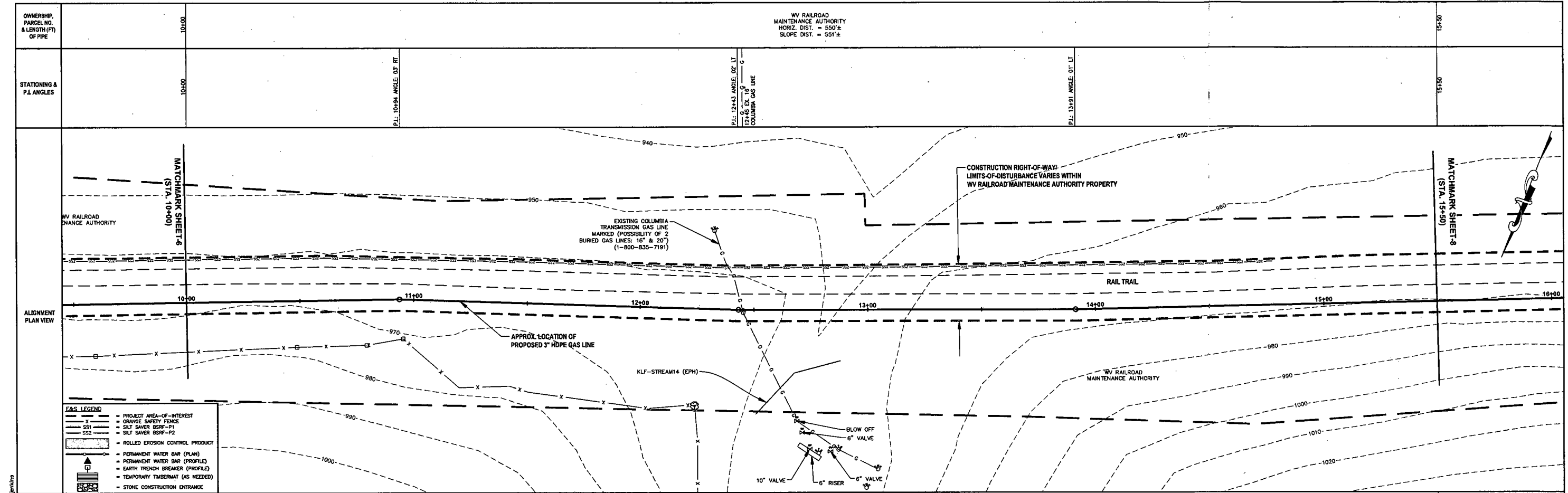
BLUESTONE GATHERING REROUTE
STA. 5+00 TO STA. 10+00
PROPOSED 3" HDPE GAS LINE

DODDRIDGE COUNTY, WEST VIRGINIA

DATE: 2/8/2017
SCALE: AS SHOWN
DRAWN BY: JDJ (TDS)
CHECKED: JSH (TDS)

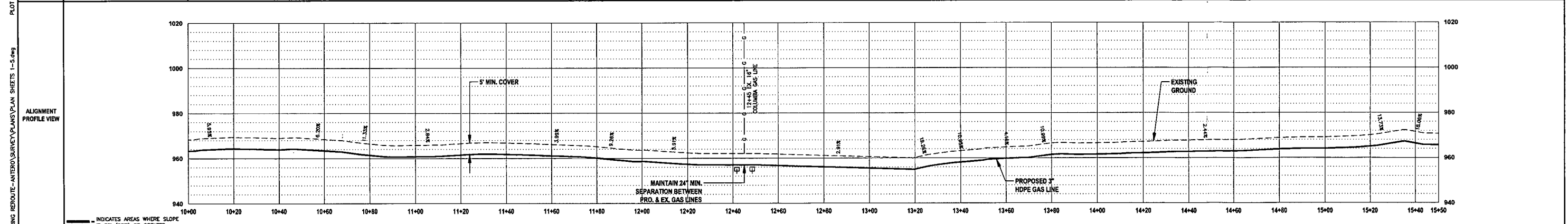
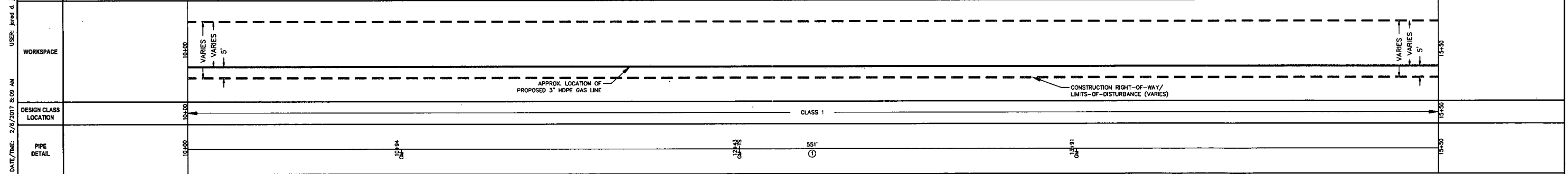
SHEET 06
SHT. NAME: 050-6138\BGR\PLAN2

REV. 4



EG&S LEGEND

- PROJECT AREA-OF-INTEREST
- ORANGE SAFETY FENCE
- SILT SAVER BSRF-P1
- SILT SAVER BSRF-P2
- ROLLED EROSION CONTROL PRODUCT
- PERMANENT WATER BAR (PLAN)
- PERMANENT WATER BAR (PROFILE)
- EARTH TRENCH BREAKER (PROFILE)
- TEMPORARY TIMBERMATS (AS NEEDED)
- STONE CONSTRUCTION ENTRANCE



THRASHER

Know what's at stake
Call 811
BEFORE YOU DIG

0 20 40
HORIZ. SCALE IN FEET

0 20 40
VERT. SCALE IN FEET

IFP

ISSUED FOR PERMITTING

DATE: 01/06/2017

AFE # A04635

SUMMARY OF MATERIALS (3D)

NO.	DESCRIPTION	QTY
1	3" HDPE SDR-7 3408	551 LF
SS2	SILT SAVER BSRF-P2	478 LF
TB	EARTH TRENCH BREAKERS	2
GM	GAS LINE MARKERS	3
TS	TEST STATIONS	1

SUMMARY OF MATERIALS (3D)

NO.	DESCRIPTION	QTY
1	REVISED PER COMMENTS FROM KLEINFELDER, INC.	1/18/17 JDU
2	REVISED PER COMMENTS FROM KLEINFELDER, INC.	1/26/17 JDU
3	REVISED DUE TO PROJECT NAME CHANGE	1/27/17 JDU
4	REVISED DUE TO ALIGNMENT CHANGE	2/03/17 JDU

GENERAL INFORMATION

- PROPOSED LOW PRESSURE GAS LINE MAOP = 125 psig.
- COORDINATE SYSTEM USED FOR MAPPING AND TOPOGRAPHY: HORIZONTAL - NAD 83 WEST VIRGINIA STATE PLANE, NORTH ZONE, U.S. SURVEY FOOT. VERTICAL - NAVD 88 (GEOID128), U.S. SURVEY FOOT.
- ALL STATIONING SHOWN IS HORIZONTAL STATIONING.
- FIELD DELINEATION SHOWN AND PROVIDED BY: KLEINFELDER, INC.
- THE BOUNDARY MONUMENTS FOUND AND PROPERTY LINES SHOWN ON THIS DRAWING WERE OBTAINED FROM PARTIAL FIELD SURVEY AND RESEARCHED INFORMATION TAKEN FROM VARIOUS RECORDS ON FILE IN THE LOCAL COUNTY COURTHOUSE. TO OBTAIN A MORE ACCURATE BOUNDARY LINE LOCATION, A FULL PROPERTY SURVEY IS RECOMMENDED.
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- FOR LEGEND/ABBREVIATION INFORMATION, REFER TO THE GENERAL NOTES SHEET.

Antero
MidstreamPartners LP

BLUESTONE GATHERING REROUTE
STA. 10+00 TO STA. 15+50
PROPOSED 3" HDPE GAS LINE

DODDRIDGE COUNTY, WEST VIRGINIA

DATE: 3/7/2017 AFE No: A04635

SCALE: AS SHOWN

DRAWN BY: JDU (TTS)

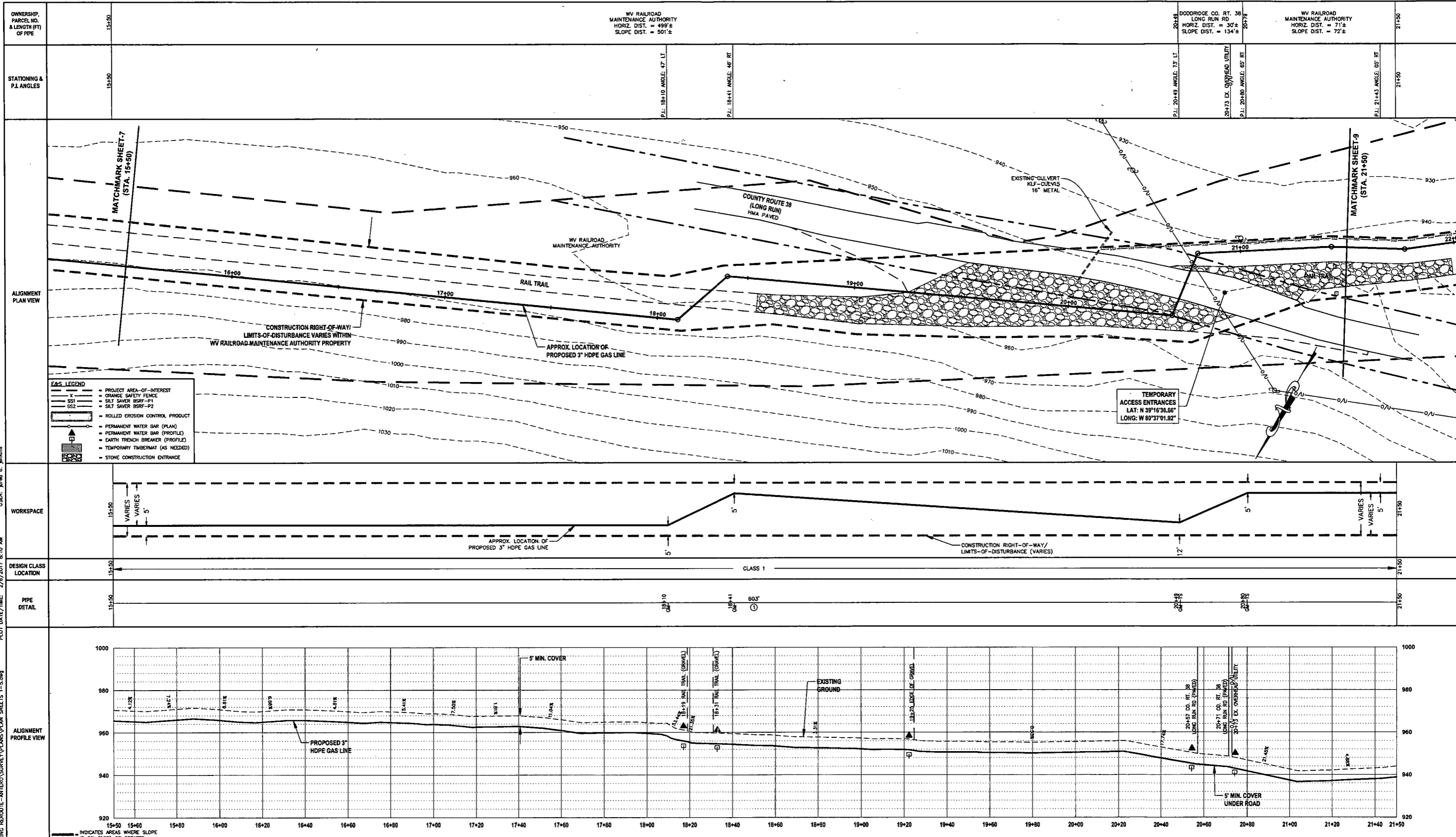
CHECKED BY: JDU (TTS)

SHEET 07

SHT. NAME: 050-6138\BGR\PLAN3

REV. 4

LAYOUT FILE PLANS CAD FILE: R:\050-6138-BLUESTONE GATHERING REROUTE-ANTERO\SURVEY\PLANS\PLAN SHEETS 1-5.dwg USER: jared.d.jenkins PLOT DATE/TIME: 2/6/2017 8:09 AM



LAYOUT FILE: R:\050-6138-BLUESTONE GATHERING REROUTE-ANTERO\SURVEY\PLANS\PLAN SHEETS 1-5.dwg
 PLOT DATE/TIME: 2/9/2017 8:10 AM
 USER: jkind 4...

Know what's at stake
Call 811
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0 20 40
HORIZ. SCALE IN FEET
0 20 40
VERT. SCALE IN FEET

IFP
ISSUED FOR PERMITTING

DATE: 01/06/2017

AFE # A04635

SUMMARY OF MATERIALS (3D)		SUMMARY OF MATERIALS (3D)	
NO.	DESCRIPTION	QTY	NO.
1	3" HDPE SDR-7 3408	603 LF	
2	SILT SAVER BSRF-P2	115 LF	
3	EARTH TRENCH BREAKERS	5	
4	PERMANENT WATERBARS	5	
5	GAS LINE MARKERS	4	
6	TEST STATIONS	2	

REVISION			
NO.	DESCRIPTION	DATE	BY
1	REVISED PER COMMENTS FROM KLEINFELDER, INC.	1/18/17	JKU
2	REVISED PER COMMENTS FROM KLEINFELDER, INC.	1/26/17	JKU
3	REVISED DUE TO PROJECT NAME CHANGE	1/27/17	JKU
4	REVISED DUE TO ALIGNMENT CHANGE	2/03/17	JKU

- GENERAL INFORMATION**
- PROPOSED LOW PRESSURE GAS LINE MAOP = 125 psig.
 - COORDINATE SYSTEM USED FOR MAPPING AND TOPOGRAPHY: HORIZONTAL - NAD 83 WEST VIRGINIA STATE PLANE, NORTH ZONE, U.S. SURVEY FOOT VERTICAL - NAVD 80 (GEOID129), U.S. SURVEY FOOT
 - ALL STATIONING SHOWN IS HORIZONTAL STATIONING.
 - FIELD DELINEATION PERFORMED AND PROVIDED BY: KLEINFELDER, INC.
 - THE BOUNDARY MONUMENTS FOUND AND PROPERTY LINES SHOWN ON THIS DRAWING WERE OBTAINED FROM PARTIAL FIELD SURVEY AND RESEARCHED INFORMATION TAKEN FROM VARIOUS RECORDS ON FILE IN THE LOCAL COUNTY COURTHOUSE. TO OBTAIN A MORE ACCURATE BOUNDARY LINE LOCATION, A FULL PROPERTY SURVEY IS RECOMMENDED.
 - ALL EXISTING FENCES AND ROADS DISTURBED DURING CONSTRUCTION TO BE REPLACED BY CONTRACTOR POST-CONSTRUCTION.
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 - FOR LEGEND/ABBREVIATION INFORMATION, REFER TO THE GENERAL NOTES SHEET.

BLUESTONE GATHERING REROUTE STA. 15+50 TO STA. 21+50

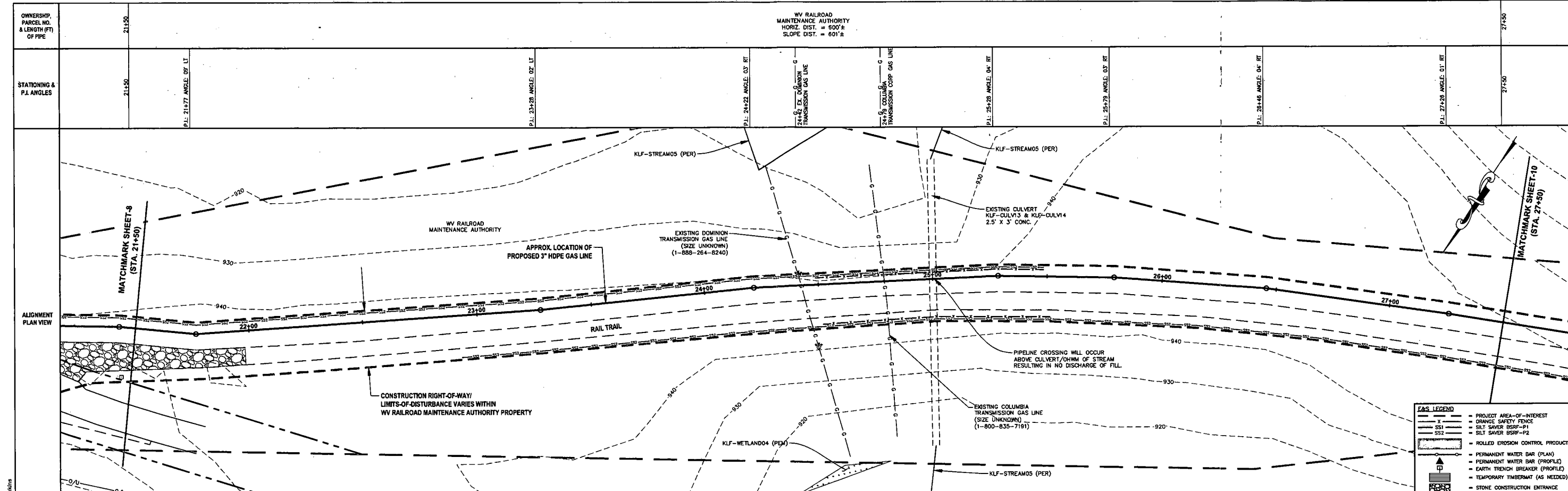
PROPOSED 3" HDPE GAS LINE

DODDRIDGE COUNTY, WEST VIRGINIA

DATE: 2/9/2017
SCALE: AS SHOWN
DRAWN BY: JKU (TTS)
CHECKED BY: JKU (TTS)

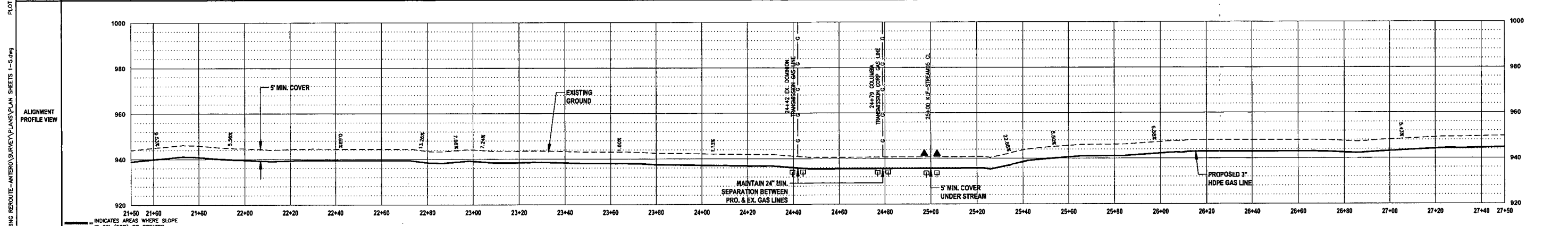
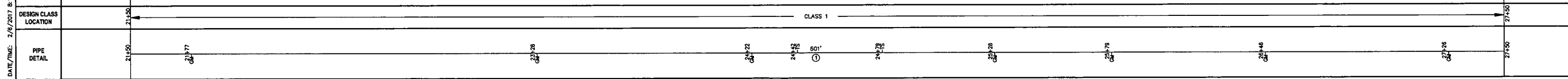
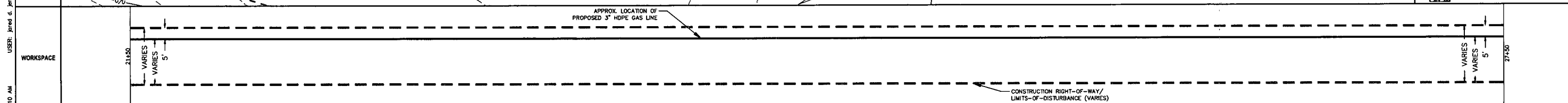
SHEET 08
SHT. NAME: 050-6138_BGR\PLAN4

REV. 4



GAS LEGEND

- PROJECT AREA-OF-INTEREST
- ORANGE SAFETY FENCE
- SILT SAVER BSRF-P1
- SILT SAVER BSRF-P2
- ROLLED EROSION CONTROL PRODUCT
- PERMANENT WATER BAR (PLAN)
- PERMANENT WATER BAR (PROFILE)
- EARTH TRENCH BREAKER (PROFILE)
- TEMPORARY TIMBERMAT (AS NEEDED)
- STONE CONSTRUCTION ENTRANCE



THRASHER

Know what's at stake
Call 811
BEFORE YOU DIG

0 20 40
HORIZ. SCALE IN FEET

0 20 40
VERT. SCALE IN FEET

IFP

ISSUED FOR PERMITTING

DATE: 01/06/2017

AFE # A04635

SUMMARY OF MATERIALS (3D)

NO.	DESCRIPTION	QTY
1	3" HDPE SDR-7 3408	601 LF
2	SS2 SILT SAVER BSRF-P2	852 LF
3	OSF ORANGE SAFETY FENCE	200 LF
4	TB EARTH TRENCH BREAKERS	6
5	WB PERMANENT WATERBARS	2
6	GM GAS LINE MARKERS	7
7	TS TEST STATIONS	3

SUMMARY OF MATERIALS (3D)

NO.	DESCRIPTION	QTY
1	REVISED PER COMMENTS FROM KLEINFELDER, INC.	1/18/17
2	REVISED PER COMMENTS FROM KLEINFELDER, INC.	1/26/17
3	REVISED DUE TO PROJECT NAME CHANGE	1/27/17
4	REVISED DUE TO ALIGNMENT CHANGE	2/03/17

GENERAL INFORMATION

- PROPOSED LOW PRESSURE GAS LINE MAOP = 125 psig.
- COORDINATE SYSTEM USED FOR MAPPING AND TOPOGRAPHY: HORIZONTAL - NAD 83 WEST VIRGINIA STATE PLANE, NORTH ZONE, U.S. SURVEY FOOT; VERTICAL - NAVD 88 (GEOID128), U.S. SURVEY FOOT.
- ALL STATIONING SHOWN IS HORIZONTAL STATIONING.
- FIELD DELINEATION PERFORMED AND PROVIDED BY: KLEINFELDER, INC.
- THE BOUNDARY MONUMENTS FOUND AND PROPERTY LINES SHOWN ON THIS DRAWING WERE OBTAINED FROM PARTIAL FIELD SURVEY AND RESEARCHED INFORMATION TAKEN FROM VARIOUS RECORDS ON FILE IN THE LOCAL COUNTY COURTHOUSE. TO OBTAIN A MORE ACCURATE BOUNDARY LINE LOCATION, A FULL PROPERTY SURVEY IS RECOMMENDED.
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- FOR LEGEND/ABBREVIATION INFORMATION, REFER TO THE GENERAL NOTES SHEET.

Antero
MidstreamPartners LP

BLUESTONE GATHERING REROUTE
STA. 21+50 TO STA. 27+50
PROPOSED 3" HDPE GAS LINE

DODDRIDGE COUNTY, WEST VIRGINIA

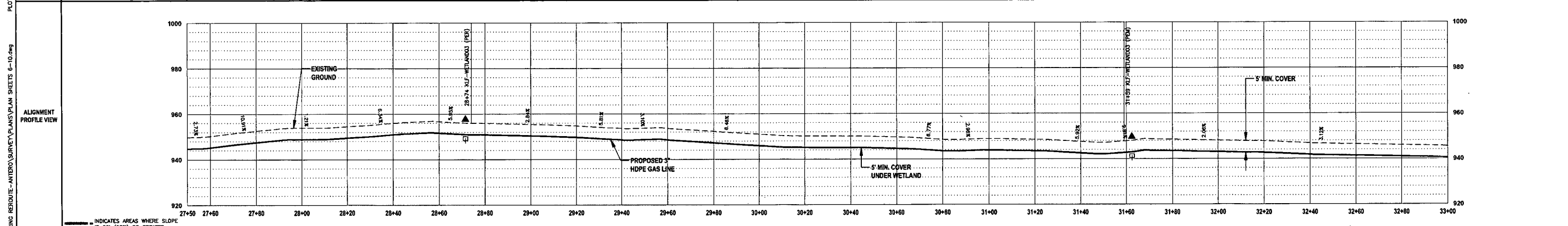
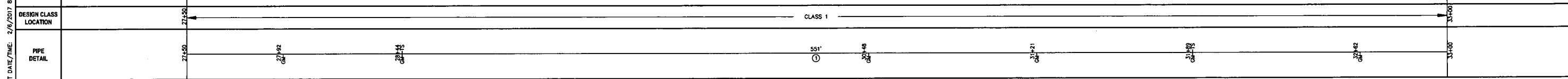
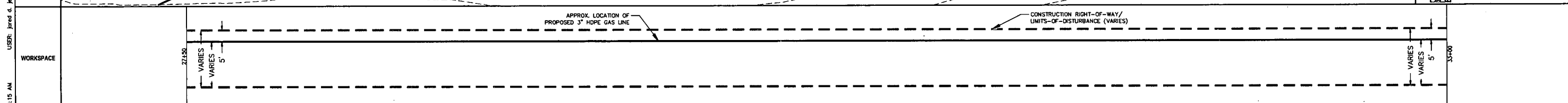
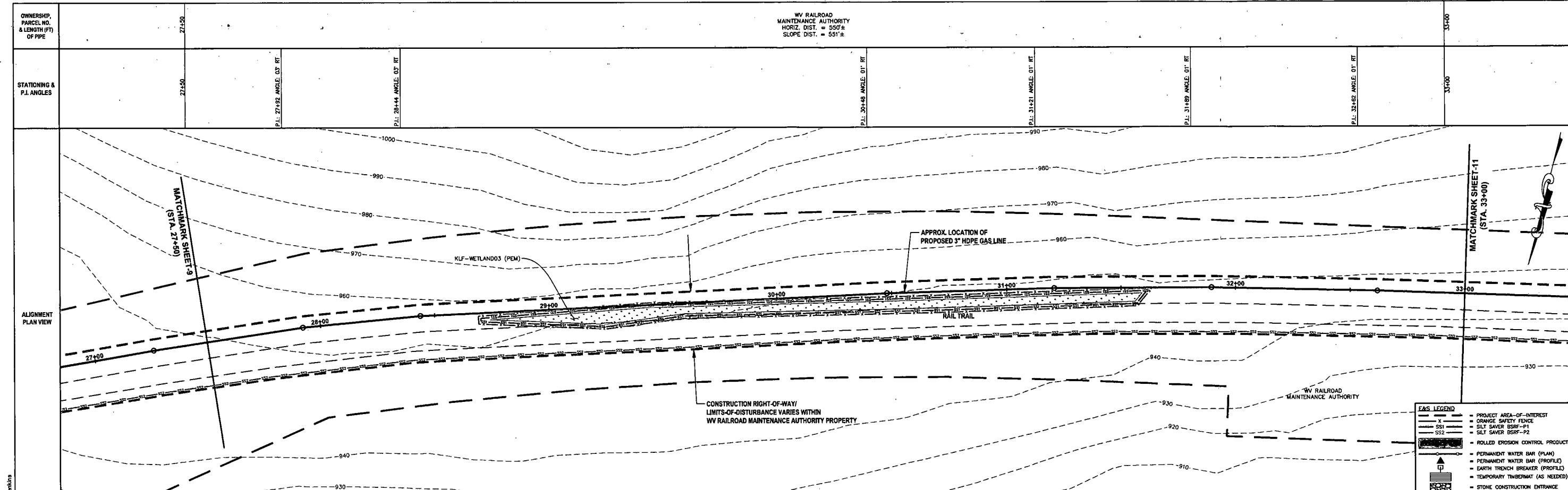
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SCALE: AS SHOWN
DRAWN BY: JDU (TTS)
CHECKED: JDU (TTS)

SHEET 09

SHT. NAME: 050-6138\BGR\PLANS

REV. 4

LAYOUT FILE: PLANS; CAD FILE: R:\050-6138-BLUESTONE GATHERING REROUTE-ANTERO\SURVEY\PLANS\PLAN SHEETS 1-5.dwg; PLOT DATE/TIME: 2/6/2017 8:10 AM; USER: jared.d.jenkins



EAS LEGEND

- PROJECT AREA-OF-INTEREST
- ORANGE SAFETY FENCE
- SILT SAVER BSRF-P1
- SILT SAVER BSRF-P2
- ROLLED EROSION CONTROL PRODUCT
- PERMANENT WATER BAR (PLAN)
- PERMANENT WATER BAR (PROFILE)
- EARTH TRENCH BREAKER (PROFILE)
- TEMPORARY TIMBERMAT (AS NEEDED)
- STONE CONSTRUCTION ENTRANCE

THRASHER

Know what's at stake
Call 811
BEFORE YOU DIG

0 20 40
HORIZ. SCALE IN FEET
0 20 40
VERT. SCALE IN FEET

IFP

ISSUED FOR PERMITTING

DATE: 01/06/2017

AFE # A04635

SUMMARY OF MATERIALS (3D)

NO.	DESCRIPTION	QTY
1	3" HDPE SDR-7 3408	551 LF
SS1	SILT SAVER BSRF-P1	596 LF
SS2	SILT SAVER BSRF-P2	546 LF
OSF	ORANGE SAFETY FENCE	596 LF
TB	EARTH TRENCH BREAKERS	2
WB	PERMANENT WATERBARS	2
GM	GAS LINE MARKERS	6
TS	TEST STATIONS	2

SUMMARY OF MATERIALS (3D)

NO.	DESCRIPTION	QTY
1	REVISED PER COMMENTS FROM KLEINFELDER, INC.	1/18/17 JJJ
2	REVISED PER COMMENTS FROM KLEINFELDER, INC.	1/26/17 JJJ
3	REVISED DUE TO PROJECT NAME CHANGE	1/27/17 JJJ
4	REVISED DUE TO ALIGNMENT CHANGE	2/03/17 JJJ

GENERAL INFORMATION

- PROPOSED LOW PRESSURE GAS LINE MAOP = 125 psig
- COORDINATE SYSTEM USED FOR MAPPING AND TOPOGRAPHY: HORIZONTAL - NAD 83 WEST VIRGINIA STATE PLANE, NORTH ZONE, U.S. SURVEY FOOT; VERTICAL - NAVD 83 (GEOID12B), U.S. SURVEY FOOT
- ALL STATIONING SHOWN IS HORIZONTAL STATIONING.
- FIELD DELINEATION PERFORMED AND PROVIDED BY: KLEINFELDER, INC.
- THE BOUNDARY MONUMENTS FOUND AND PROPERTY LINES SHOWN ON THIS DRAWING WERE OBTAINED FROM PARTIAL FIELD SURVEY AND RESEARCHED INFORMATION TAKEN FROM VARIOUS RECORDS ON FILE IN THE LOCAL COUNTY COURTHOUSE. TO OBTAIN A MORE ACCURATE BOUNDARY LINE LOCATION, A FULL PROPERTY SURVEY IS RECOMMENDED.
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- FOR LEGEND/ABBREVIATION INFORMATION, REFER TO THE GENERAL NOTES SHEET.

Antero
Midstream Partners LP

BLUESTONE GATHERING REROUTE
STA. 27+50 TO STA. 33+00
PROPOSED 3" HDPE GAS LINE

DODDRIDGE COUNTY, WEST VIRGINIA

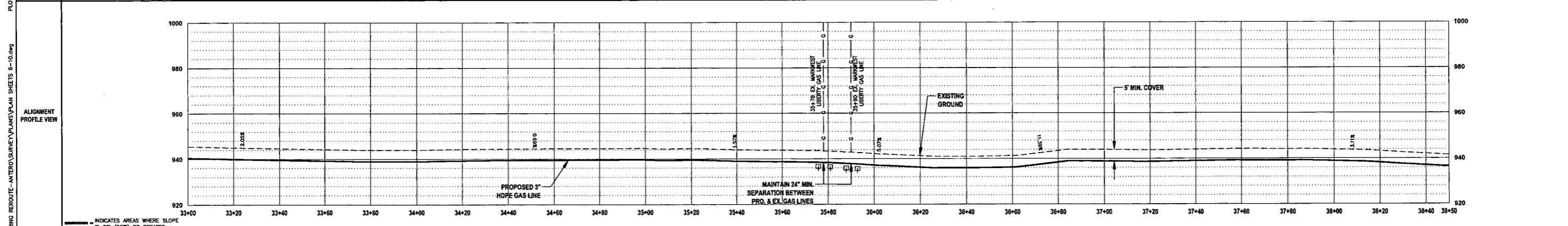
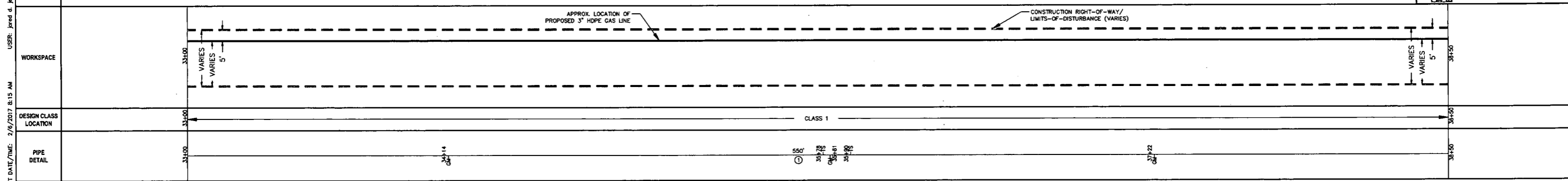
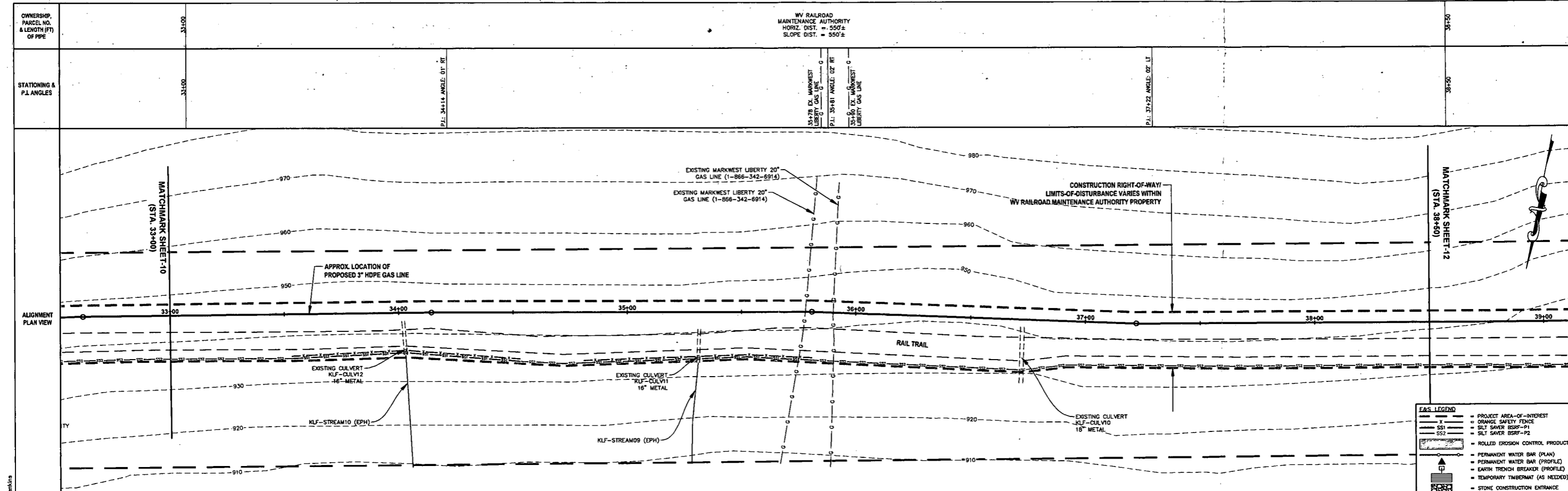
DATE: 2/6/2017
SCALE: AS SHOWN
DRAWN BY: JJJ (TJD)
CHECKED: JJJ (TJD)

SHEET 10

SHT. NAME: 050-6138\BGR\PLAN6

REV. 4

LAYOUT FILE: PLANS
CAD FILE: R:\050-6138-BLUESTONE GATHERING REROUTE-ANTERO\SURVEY\PLANS\PLAN SHEETS 6-10.dwg
PLOT DATE/TIME: 2/6/2017 8:15 AM
USER: Jared A. Jenkins



EAS LEGEND

- PROJECT AREA-OF-INTEREST
- ORANGE SAFETY FENCE
- SILT SAVER BSRF-P1
- SILT SAVER BSRF-P2
- ROLLED EROSION CONTROL PRODUCT
- PERMANENT WATER BAR (PLAN)
- PERMANENT WATER BAR (PROFILE)
- EARTH TRENCH BREAKER (PROFILE)
- TEMPORARY TIMBERMAT (AS NEEDED)
- STONE CONSTRUCTION ENTRANCE

THRASHER

Know what's at stake
Call 811
BEFORE YOU DIG

HORIZ. SCALE IN FEET
0 20 40

VERT. SCALE IN FEET
0 20 40

IFP

ISSUED FOR PERMITTING

DATE: 01/06/2017

AFE # A04635

SUMMARY OF MATERIALS (3D)

① 3" HDPE SDR-7 3408	550 LF
SS1 SILT SAVER BSRF-P1	200 LF
SS2 SILT SAVER BSRF-P2	350 LF
OSF ORANGE SAFETY FENCE	200 LF
TB EARTH TRENCH BREAKERS	4
GM GAS LINE MARKERS	3
TS TEST STATIONS	2

SUMMARY OF MATERIALS (3D)

NO.	DESCRIPTION	QTY
1	REVISED PER COMMENTS FROM KLEINFELDER, INC.	1/18/17 JDU
2	REVISED PER COMMENTS FROM KLEINFELDER, INC.	1/29/17 JDU
3	REVISED DUE TO PROJECT NAME CHANGE	1/27/17 JDU
4	REVISED DUE TO ALIGNMENT CHANGE	2/03/17 JDU

GENERAL INFORMATION

- PROPOSED LOW PRESSURE GAS LINE MAOP = 125 psig.
- COORDINATE SYSTEM USED FOR MAPPING AND TOPOGRAPHY: HORIZONTAL - NAD 83 WEST VIRGINIA STATE PLANE, NORTH ZONE, U.S. SURVEY FOOT. VERTICAL - NAVD 88 (GEOID28), U.S. SURVEY FOOT.
- ALL STATIONING SHOWN IS HORIZONTAL STATIONING.
- FIELD DELINEATION PERFORMED AND PROVIDED BY: KLEINFELDER, INC.
- THE BOUNDARY MONUMENTS FOUND AND PROPERTY LINES SHOWN ON THIS DRAWING WERE OBTAINED FROM PARTIAL FIELD SURVEY AND RESEARCHED INFORMATION TAKEN FROM VARIOUS RECORDS ON FILE IN THE LOCAL COUNTY COURTHOUSE. TO OBTAIN A MORE ACCURATE BOUNDARY LINE LOCATION, A FULL PROPERTY SURVEY IS RECOMMENDED.
- ALL EXISTING FENCES AND ROADS DISTURBED DURING CONSTRUCTION TO BE REPLACED BY CONTRACTOR POST-CONSTRUCTION.
- ALL SHEET BANDS EXCLUDING ALIGNMENT PLAN VIEW REFERENCE THE ALIGNMENT PROFILE VIEW.
- THIS SHEET IS INTENDED TO BE PLOTTED ON ARCH D (24" X 36") FOR REDUCTIONS, REFER TO GRAPHIC SCALE.
- FOR LEGEND/ABBREVIATION INFORMATION, REFER TO THE GENERAL NOTES SHEET.

Antero
Midstream Partners LP

BLUESTONE GATHERING REROUTE
STA. 33+00 TO STA. 38+50
PROPOSED 3" HDPE GAS LINE

DODDRIDGE COUNTY, WEST VIRGINIA

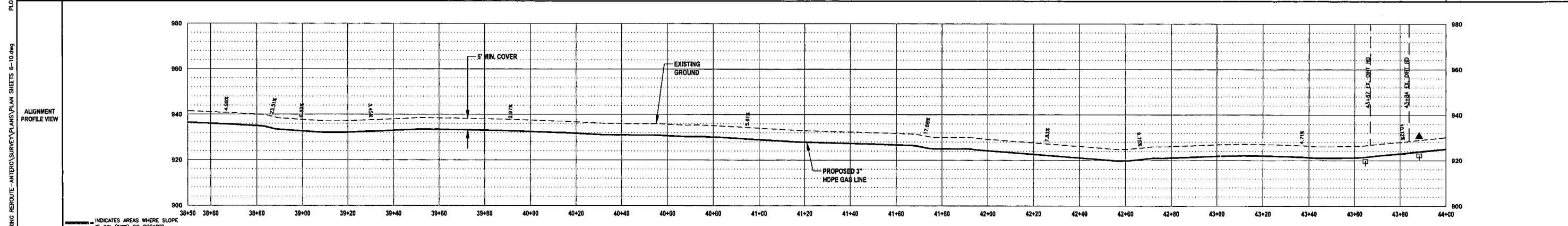
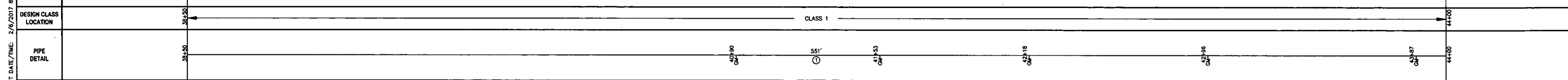
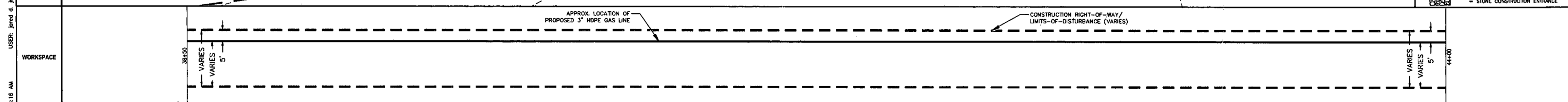
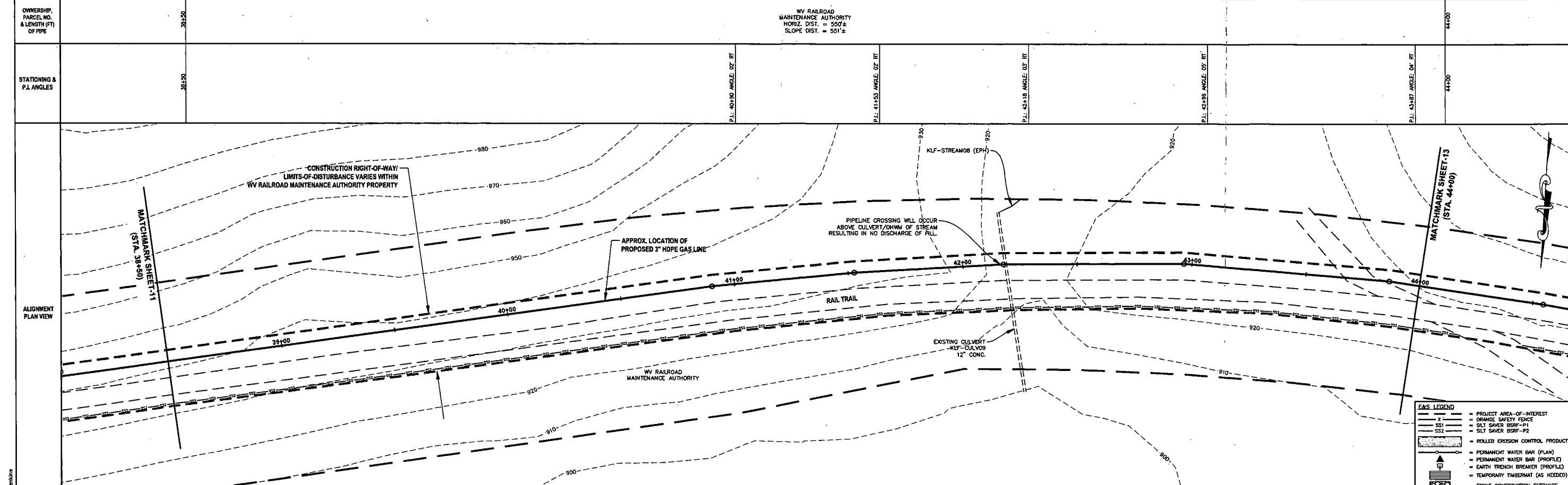
DATE: 1/18/17
SCALE: AS SHOWN
DRAWN BY: JDU (T10)
CHECKED: JDU (T10)

SHEET 11

SHT. NAME: 050-6138\BGR\PLAN7

REV. 4

LAYOUT FILE: BGR_050-6138-BLUESTONE GATHERING REROUTE-ANTERO SURVEY PLANS PLAN SHEETS 6-10.dwg
PLOT DATE/TIME: 2/6/2017 8:15 AM
USER: jred 4 jenkins



LEGEND

- - - PROJECT AREA-OF-INTEREST
- - - ORANGE SAFETY FENCE
- SS1 SILT SAVER BSRF-P1
- SS2 SILT SAVER BSRF-P2
- - - ROLLED EROSION CONTROL PRODUCT
- - - PERMANENT WATER BAR (PLAN)
- - - PERMANENT WATER BAR (PROFILE)
- - - EARTH TRENCH BREAKER (PROFILE)
- - - TEMPORARY TIMBERMAT (AS NEEDED)
- - - STONE CONSTRUCTION ENTRANCE

LAYOUT FILE: PLANS CAD FILE: R:\0509-0139-BLUESTONE GATHERING REROUTE-ANTERO\SURVEY\PLANS\PLAN SHEETS 6-10.dwg PLOT DATE/TIME: 2/6/2017 8:16 AM USER: jrod d. jenkins

Know what's at stake
Call 811
BEFORE YOU DIG

0 20 40
HORIZ. SCALE IN FEET

0 20 40
VERT. SCALE IN FEET

IFP
ISSUED FOR PERMITTING

DATE: 01/06/2017

AFE # A04635

SUMMARY OF MATERIALS (3D)	
① 3" HDPE SDR-7 3408	551 LF
SS2 SILT SAVER BSRF-P2	546 LF
TB EARTH TRENCH BREAKERS	2
WB PERMANENT WATERBARS	1
GM GAS LINE MARKERS	5

SUMMARY OF MATERIALS (3D)		
NO.	DESCRIPTION	QTY
1	REVISED PER COMMENTS FROM KLEINFELDER, INC.	1/18/17 JDJ
2	REVISED PER COMMENTS FROM KLEINFELDER, INC.	1/26/17 JDJ
3	REVISED DUE TO PROJECT NAME CHANGE	1/27/17 JDJ
4	REVISED DUE TO ALIGNMENT CHANGE	2/03/17 JDJ

REVISION			
NO.	DESCRIPTION	DATE	BY
1	REVISED PER COMMENTS FROM KLEINFELDER, INC.	1/18/17	JDJ
2	REVISED PER COMMENTS FROM KLEINFELDER, INC.	1/26/17	JDJ
3	REVISED DUE TO PROJECT NAME CHANGE	1/27/17	JDJ
4	REVISED DUE TO ALIGNMENT CHANGE	2/03/17	JDJ

Antero
MidstreamPartners LP

BLUESTONE GATHERING REROUTE
STA. 38+50 TO STA. 44+00

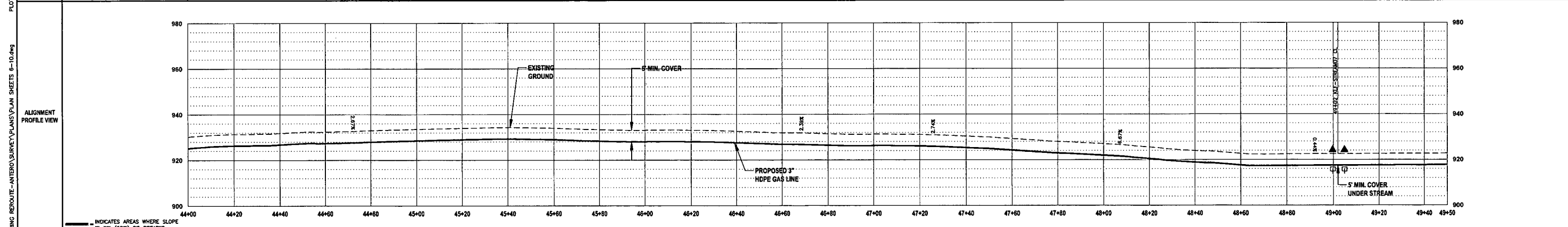
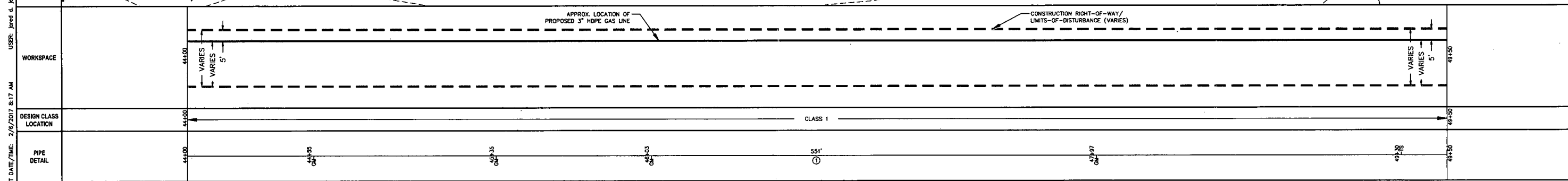
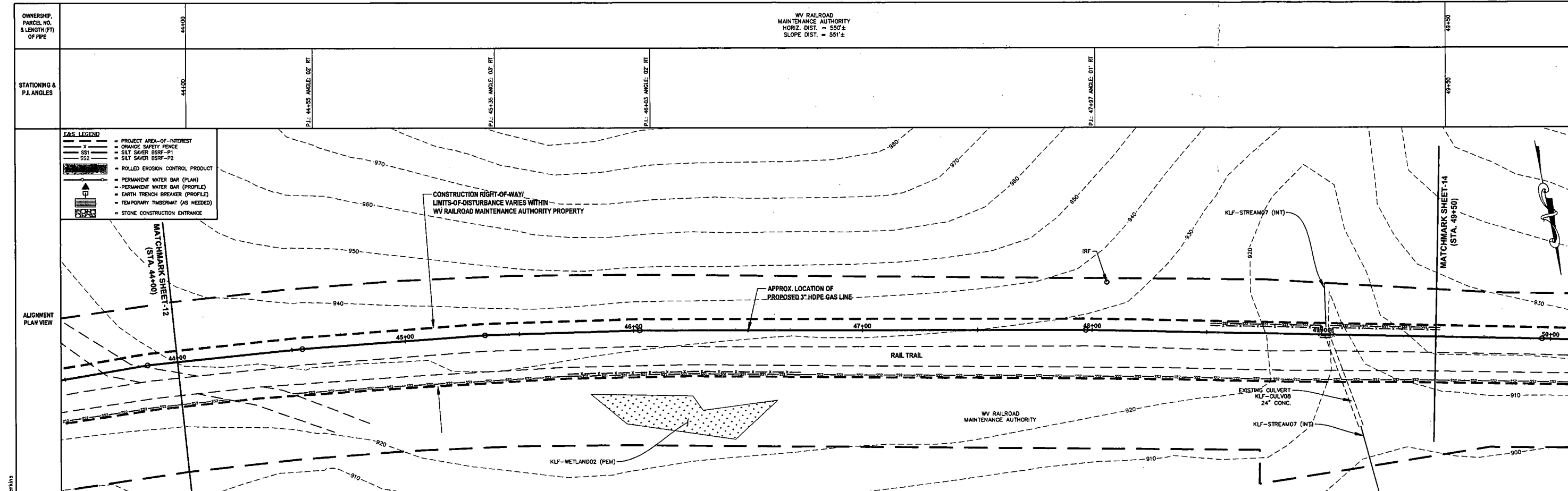
PROPOSED 3" HDPE GAS LINE

DODDRIDGE COUNTY, WEST VIRGINIA

DATE: 2/6/2017 AFE No.: A04635
SCALE: AS SHOWN
DRAWN BY: JRN (TJD)
CHECKED: JRN (TJD)

SHEET 12

SHT. NAME: 050-6138\BGR\PLAN8 REV. 4



THRASHER

Know what's at stake
Call 811
BEFORE YOU DIG

0 20 40
HORIZ. SCALE IN FEET

0 20 40
VERT. SCALE IN FEET

IFP

ISSUED FOR PERMITTING

DATE: 01/06/2017

AFE # A04635

SUMMARY OF MATERIALS (3D)	
① 3" HDPE SDR-7 3408	551 LF
SS1 SILT SAVER BSRF-P1	211 LF
SS2 SILT SAVER BSRF-P2	416 LF
OSF ORANGE SAFETY FENCE	211 LF
TB EARTH TRENCH BREAKERS	2
WB PERMANENT WATERBARS	2
GM GAS LINE MARKERS	4
TS TEST STATIONS	1

SUMMARY OF MATERIALS (3D)		
NO.	DESCRIPTION	QTY

REVISION	
1	REVISED PER COMMENTS FROM KLEINFELDER, INC. 1/18/17 JJJ
2	REVISED PER COMMENTS FROM KLEINFELDER, INC. 1/28/17 JJJ
3	REVISED DUE TO PROJECT NAME CHANGE 1/27/17 JJJ
4	REVISED DUE TO ALIGNMENT CHANGE 2/03/17 JJJ

- GENERAL INFORMATION**
- PROPOSED LOW PRESSURE GAS LINE MAOP = 125 psig.
 - COORDINATE SYSTEM USED FOR MAPPING AND TOPOGRAPHY: HORIZONTAL - NAD 83 WEST VIRGINIA STATE PLANE, NORTH ZONE, U.S. SURVEY FOOT. VERTICAL - NAVD 88 (GEOID28), U.S. SURVEY FOOT.
 - ALL STATIONING SHOWN IS HORIZONTAL STATIONING.
 - FIELD DELINEATION PERFORMED AND PROVIDED BY: KLEINFELDER, INC.
 - THE BOUNDARY MONUMENTS FOUND AND PROPERTY LINES SHOWN ON THIS DRAWING WERE OBTAINED FROM PARTIAL FIELD SURVEY AND RESEARCHED INFORMATION TAKEN FROM VARIOUS RECORDS ON FILE IN THE LOCAL COUNTY COURTHOUSE. TO OBTAIN A MORE ACCURATE BOUNDARY LINE LOCATION, A FULL PROPERTY SURVEY IS RECOMMENDED.
 - ALL EXISTING FENCES AND ROADS DISTURBED DURING CONSTRUCTION TO BE REPLACED BY CONTRACTOR POST-CONSTRUCTION.
 - ALL SHEET BANDS EXCLUDING ALIGNMENT PLAN VIEW REFERENCE THE ALIGNMENT PROFILE VIEW.
 - THIS SHEET IS INTENDED TO BE PLOTTED ON ARCH D (24" x 36") FOR REDUCTIONS. REFER TO GRAPHIC SCALE.
 - FOR LEGEND/ABBREVIATION INFORMATION, REFER TO THE GENERAL NOTES SHEET.

Antero
MidstreamPartners LP

BLUESTONE GATHERING REROUTE
STA. 44+00 TO STA. 49+50
PROPOSED 3" HDPE GAS LINE

DODDRIDGE COUNTY, WEST VIRGINIA

DATE: 7/20/2017 JFF No. 404635

SCALE: AS SHOWN

DRAWN BY: JJJ (TTS)

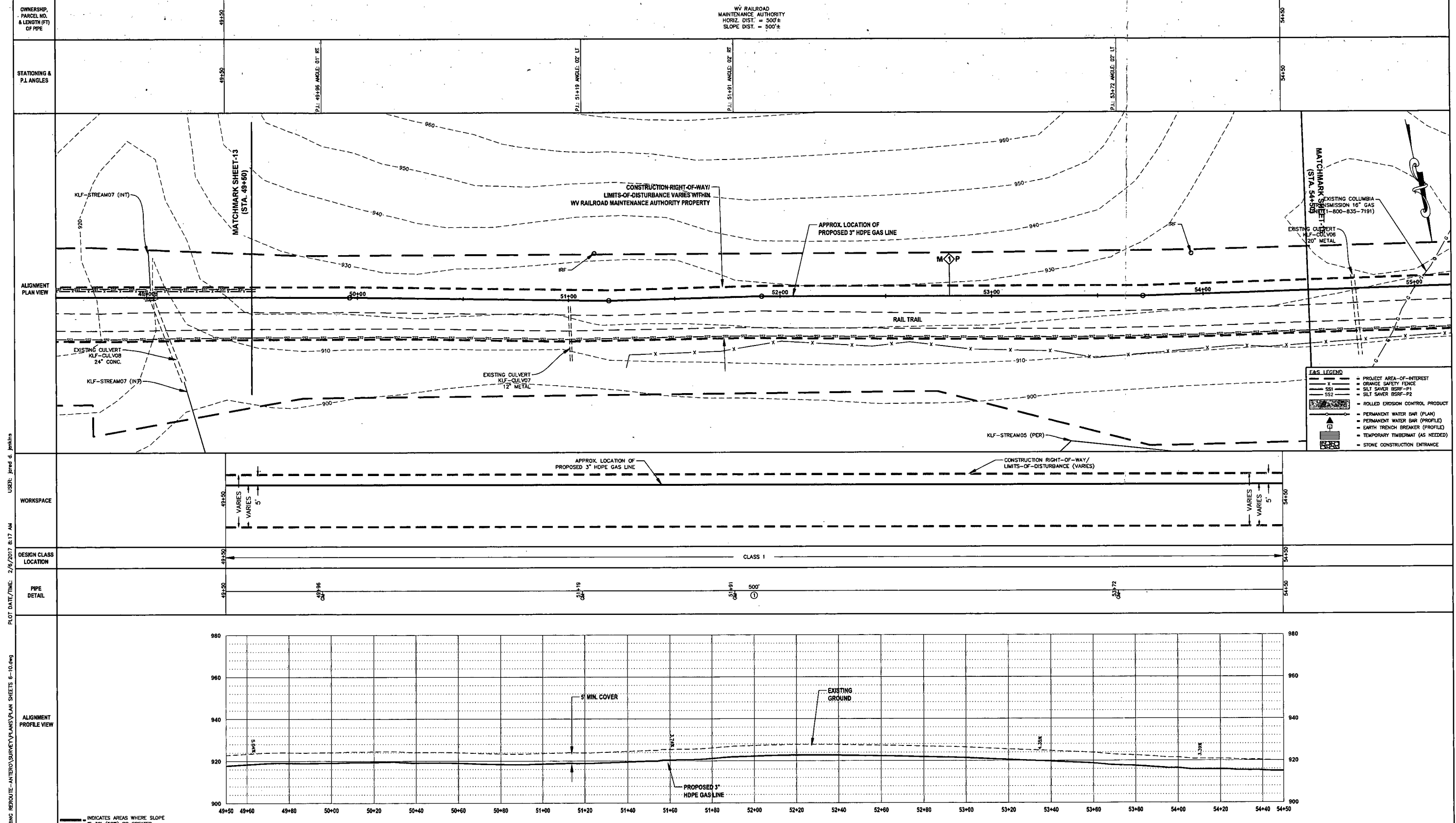
CHECKED BY: JJJ (TTS)

SHEET 13

SHT. NAME: 050-6138\BGR\PLANS

REV. 4

LAYOUT FILE: R:\050-6138\BGR\PLANS\PLAN SHEETS 6-10.dwg USER: Jared A. Jenkins PLOT DATE/TIME: 2/6/2017 8:17 AM



LAYOUT FILE: PLANS; GSD FILE: R:\050-6138-BLUESTONE GATHERING REROUTE-ANTERO\SURVEY\PLANS\PLAN SHEETS 6-10.dwg
 PLOT DATE/TIME: 2/6/2017 8:17 AM
 USER: jared d. jenkins

Know what's at stake
Call 811
BEFORE YOU DIG

DATE: 01/06/2017
AFE # A04635

0 20 40
HORIZ. SCALE IN FEET
0 20 40
VERT. SCALE IN FEET

IFP
ISSUED FOR PERMITTING
DATE: 01/06/2017
AFE # A04635

SUMMARY OF MATERIALS (3D)		
NO.	DESCRIPTION	QTY
1	3" HDPE SDR-7 3408	500 LF
SS2	SILT SAVER BSRF-P2	501 LF
GM	GAS LINE MARKERS	4

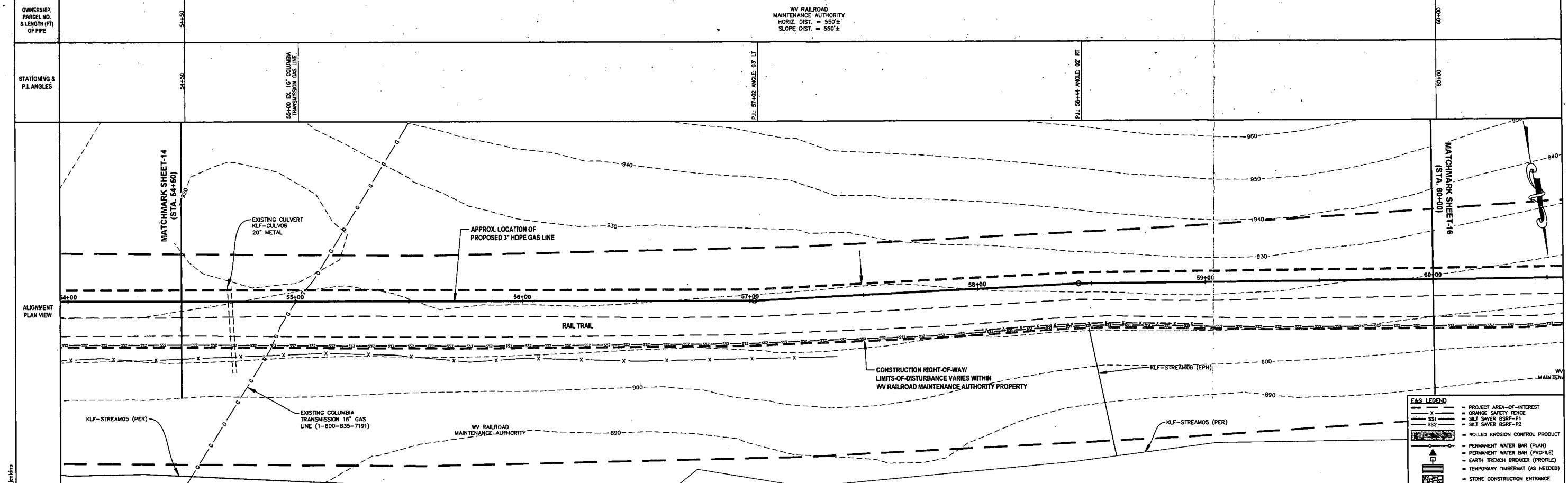
SUMMARY OF MATERIALS (3D)		
NO.	DESCRIPTION	QTY
REVISION		
1	REVISED PER COMMENTS FROM KLEINFELDER, INC.	1/16/17 JDJ
2	REVISED PER COMMENTS FROM KLEINFELDER, INC.	1/28/17 JDJ
3	REVISED DUE TO PROJECT NAME CHANGE	1/27/17 JDJ
4	REVISED DUE TO ALIGNMENT CHANGE	2/02/17 JDJ

GENERAL INFORMATION

- PROPOSED LOW PRESSURE GAS LINE MAOP = 125 psig.
- COORDINATE SYSTEM USED FOR MAPPING AND TOPOGRAPHY: HORIZONTAL - NAD 83 WEST VIRGINIA STATE PLANE, NORTH ZONE, U.S. SURVEY FOOT. VERTICAL - NAVD 88 (GEOID28), U.S. SURVEY FOOT.
- ALL STATIONING SHOWN IS HORIZONTAL STATIONING.
- FIELD DELINEATION PERFORMED AND PROVIDED BY: KLEINFELDER, INC.
- THE BOUNDARY MONUMENTS FOUND AND PROPERTY LINES SHOWN ON THIS DRAWING WERE OBTAINED FROM PARTIAL FIELD SURVEY AND RESEARCHED INFORMATION TAKEN FROM VARIOUS RECORDS ON FILE IN THE LOCAL COUNTY COURTHOUSE. TO OBTAIN A MORE ACCURATE BOUNDARY LINE LOCATION, A FULL PROPERTY SURVEY IS RECOMMENDED.
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- ALL SHEET BANDS EXCLUDING ALIGNMENT PLAN VIEW REFERENCE THE ALIGNMENT PROFILE VIEW.
- THIS SHEET IS INTENDED TO BE PLOTTED ON ARCH D (24" x 36"), FOR REDUCTIONS, REFER TO GRAPHIC SCALE.
- FOR LEGEND/ABBREVIATION INFORMATION, REFER TO THE GENERAL NOTES SHEET.

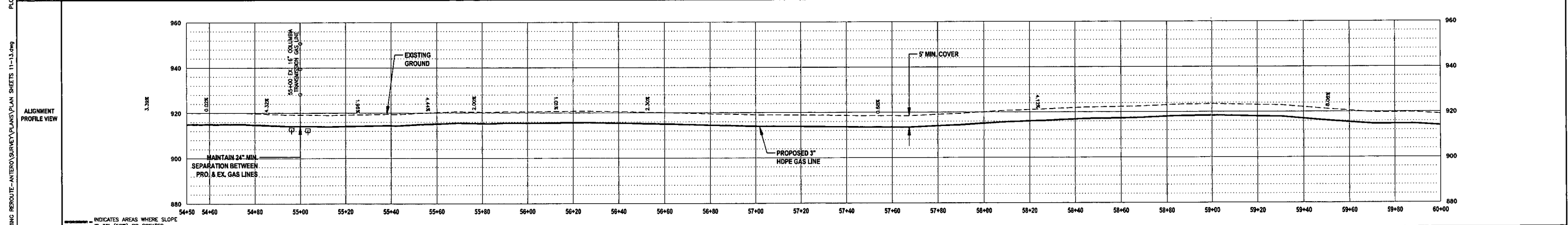
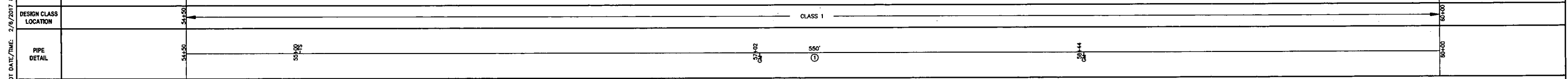
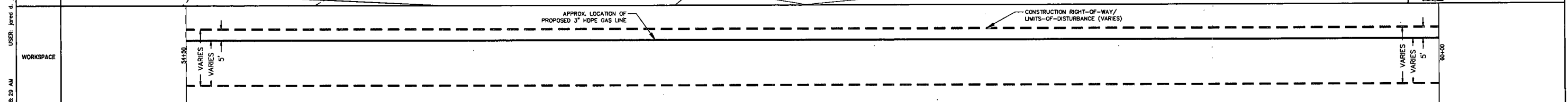
BLUESTONE GATHERING REROUTE
STA. 49+50 TO STA. 54+50
PROPOSED 3" HDPE GAS LINE
DODDRIDGE COUNTY, WEST VIRGINIA

DATE: 2/6/2017
SCALE: AS SHOWN
DRAWN BY: JDD (TJD)
CHECKED: JDD (TJD)
SHEET 14
SHT. NAME: 050-6138\BGR\PLAN10 REV. 4



E&S LEGEND

- PROJECT AREA-OF-INTEREST
- ORANGE SAFETY FENCE
- SILT SAVER BSRF-P1
- SILT SAVER BSRF-P2
- ROLLED EROSION CONTROL PRODUCT
- PERMANENT WATER BAR (PLAN)
- PERMANENT WATER BAR (PROFILE)
- EARTH TRENCH BREAKER (PROFILE)
- TEMPORARY TIMBERMAT (AS NEEDED)
- STONE CONSTRUCTION ENTRANCE



THRASHER

Know what's at stake
Call 811
BEFORE YOU DIG

DATE: 01/06/2017
AFE # A04635

IFP

ISSUED FOR PERMITTING

DATE: 01/06/2017
AFE # A04635

SUMMARY OF MATERIALS (3D)

NO.	DESCRIPTION	QTY
1	3" HDPE SDR-7 3408	550 LF
2	SS1 SILT SAVER BSRF-P1	100 LF
3	SS2 SILT SAVER BSRF-P2	450 LF
4	OSF ORANGE SAFETY FENCE	100 LF
5	TB EARTH TRENCH BREAKERS	2
6	GM GAS LINE MARKERS	2
7	TS TEST STATIONS	1

SUMMARY OF MATERIALS (3D)

NO.	DESCRIPTION	QTY
1	REVISED PER COMMENTS FROM KLENFELDER, INC.	1/18/17
2	REVISED PER COMMENTS FROM KLENFELDER, INC.	1/28/17
3	REVISED DUE TO PROJECT NAME CHANGE	1/27/17
4	REVISED DUE TO ALIGNMENT CHANGE	2/03/17

GENERAL INFORMATION

- PROPOSED LOW PRESSURE GAS LINE MAOP = 125 psig
- COORDINATE SYSTEM USED FOR MAPPING AND TOPOGRAPHY: HORIZONTAL - NAD 83 WEST VIRGINIA STATE PLANE, NORTH ZONE, U.S. SURVEY FOOT; VERTICAL - NAVD 88 (GEOID28), U.S. SURVEY FOOT
- ALL STATIONING SHOWN IS HORIZONTAL STATIONING.
- FIELD DELINEATION PERFORMED AND PROVIDED BY: KLENFELDER, INC.
- THE BOUNDARY MONUMENTS FOUND AND PROPERTY LINES SHOWN ON THIS DRAWING WERE OBTAINED FROM PARTIAL FIELD SURVEY AND RESEARCHED INFORMATION TAKEN FROM VARIOUS RECORDS ON FILE IN THE LOCAL COUNTY COURTHOUSE. TO OBTAIN A MORE ACCURATE BOUNDARY LINE LOCATION, A FULL PROPERTY SURVEY IS RECOMMENDED.
- ALL EXISTING FENCES AND ROADS DISTURBED DURING CONSTRUCTION TO BE REPLACED BY CONTRACTOR POST-CONSTRUCTION.
- ALL SHEET BANDS EXCLUDING ALIGNMENT PLAN VIEW REFERENCE THE ALIGNMENT PROFILE VIEW.
- THIS SHEET IS INTENDED TO BE PLOTTED ON ARCH D (24" x 36"), FOR REDUCTIONS, REFER TO GRAPHIC SCALE.
- FOR LEGEND/ABBREVIATION INFORMATION, REFER TO THE GENERAL NOTES SHEET.

Antero
Midstream Partners LP

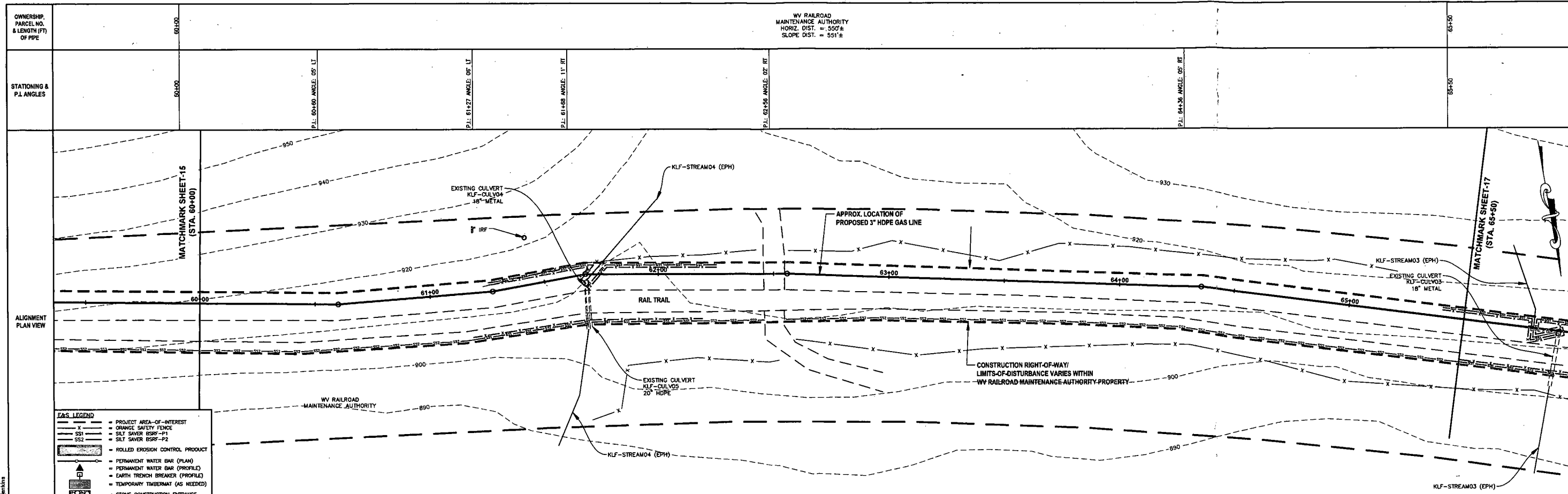
BLUESTONE GATHERING REROUTE
STA. 54+50 TO STA. 60+00
PROPOSED 3" HDPE GAS LINE

DODDRIDGE COUNTY, WEST VIRGINIA

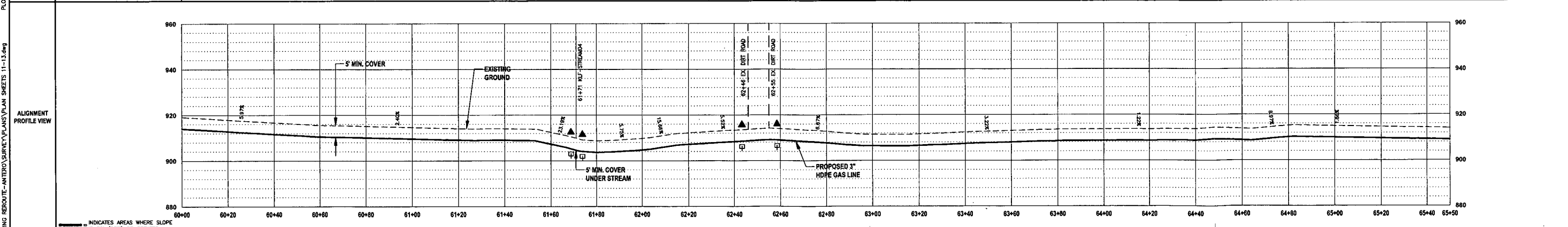
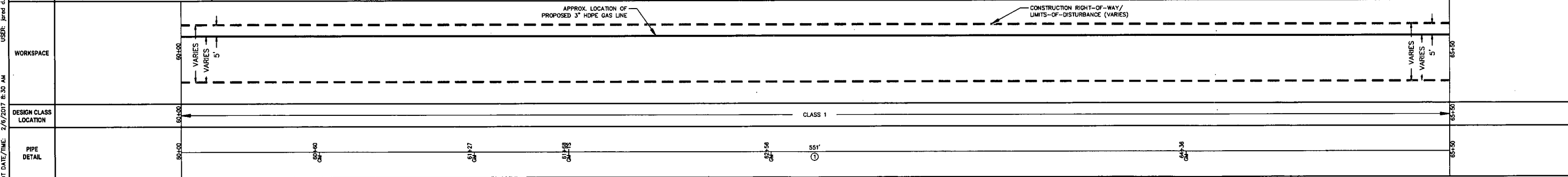
DATE: 1/2/2017
SCALE: AS SHOWN
DRAWN BY: JAJ (TJD)
CHECKED: JAJ (TJD)

SHEET 15
SHT. NAME: 050-6138\BGR\PLAN11 REV. 4

LAYOUT FILE: PLAN11
 CAD FILE: 050-6138-BLUESTONE GATHERING REROUTE-ANTERO\SURVEY\PLANS\PLAN SHEETS 11-13.dwg
 PLOT DATE/TIME: 2/6/2017 8:29 AM
 USER: jared.d.jenkins



- PLAN LEGEND**
- PROJECT AREA-OF-INTEREST
 - ORANGE SAFETY FENCE
 - SILT SAVER BSRF-P1
 - SILT SAVER BSRF-P2
 - ROLLED EROSION CONTROL PRODUCT
 - PERMANENT WATER BAR (PLAN)
 - PERMANENT WATER BAR (PROFILE)
 - EARTH TRENCH BREAKER (PROFILE)
 - TEMPORARY TIMBERMAT (AS NEEDED)
 - STONE CONSTRUCTION ENTRANCE



THRASHER

Know what's at stake
Call 811
BEFORE YOU DIG

0 20 40
HORIZ. SCALE IN FEET

0 20 40
VERT. SCALE IN FEET

IFP

ISSUED FOR PERMITTING

DATE: 01/06/2017

AFE # A04635

SUMMARY OF MATERIALS (3D)		
NO.	DESCRIPTION	QTY
①	3" HDPE SDR-7 3408	551 LF
SS1	SILT SAVER BSRF-P1	228 LF
SS2	SILT SAVER BSRF-P2	439 LF
OSF	ORANGE SAFETY FENCE	228 LF
TB	EARTH TRENCH BREAKERS	4
WB	PERMANENT WATERBARS	4
GM	GAS LINE MARKERS	5
TS	TEST STATIONS	1

SUMMARY OF MATERIALS (3D)		
NO.	DESCRIPTION	QTY
1	REVISED PER COMMENTS FROM KLEINFELDER, INC.	1/15/17 JDU
2	REVISED PER COMMENTS FROM KLEINFELDER, INC.	1/25/17 JDU
3	REVISED DUE TO PROJECT NAME CHANGE	1/27/17 JDU
4	REVISED DUE TO ALIGNMENT CHANGE	2/05/17 JDU

- GENERAL INFORMATION**
- PROPOSED LOW PRESSURE GAS LINE MAOP = 125 psig
 - COORDINATE SYSTEM USED FOR MAPPING AND TOPOGRAPHY: HORIZONTAL - NAD 83 WEST VIRGINIA STATE PLANE, NORTH ZONE, U.S. SURVEY FOOT; VERTICAL - NAVD 88 (GEOID28), U.S. SURVEY FOOT
 - ALL STATIONING SHOWN IS HORIZONTAL STATIONING.
 - FIELD DELINEATION PERFORMED AND PROVIDED BY: KLEINFELDER, INC.
 - THE BOUNDARY MONUMENTS FOUND AND PROPERTY LINES SHOWN ON THIS DRAWING WERE OBTAINED FROM PARTIAL FIELD SURVEY AND RESEARCHED INFORMATION TAKEN FROM VARIOUS RECORDS ON FILE IN THE LOCAL COUNTY COURTHOUSE. TO OBTAIN A MORE ACCURATE BOUNDARY LINE LOCATION, A FULL PROPERTY SURVEY IS RECOMMENDED.
 - ALL EXISTING FENCES AND ROADS DISTURBED DURING CONSTRUCTION TO BE REPLACED BY CONTRACTOR POST-CONSTRUCTION.
 - ALL SHEET BANDS EXCLUDING ALIGNMENT PLAN VIEW REFERENCE THE ALIGNMENT PROFILE VIEW.
 - THIS SHEET IS INTENDED TO BE PLOTTED ON ARCH D (24" X 36") FOR REDUCTIONS, REFER TO GRAPHIC SCALE.
 - FOR LEGEND/ABBREVIATION INFORMATION, REFER TO THE GENERAL NOTES SHEET.

Antero
Midstream Partners LP

BLUESTONE GATHERING REROUTE
STA. 60+00 TO STA. 65+50

PROPOSED 3" HDPE GAS LINE

DODDRIDGE COUNTY, WEST VIRGINIA

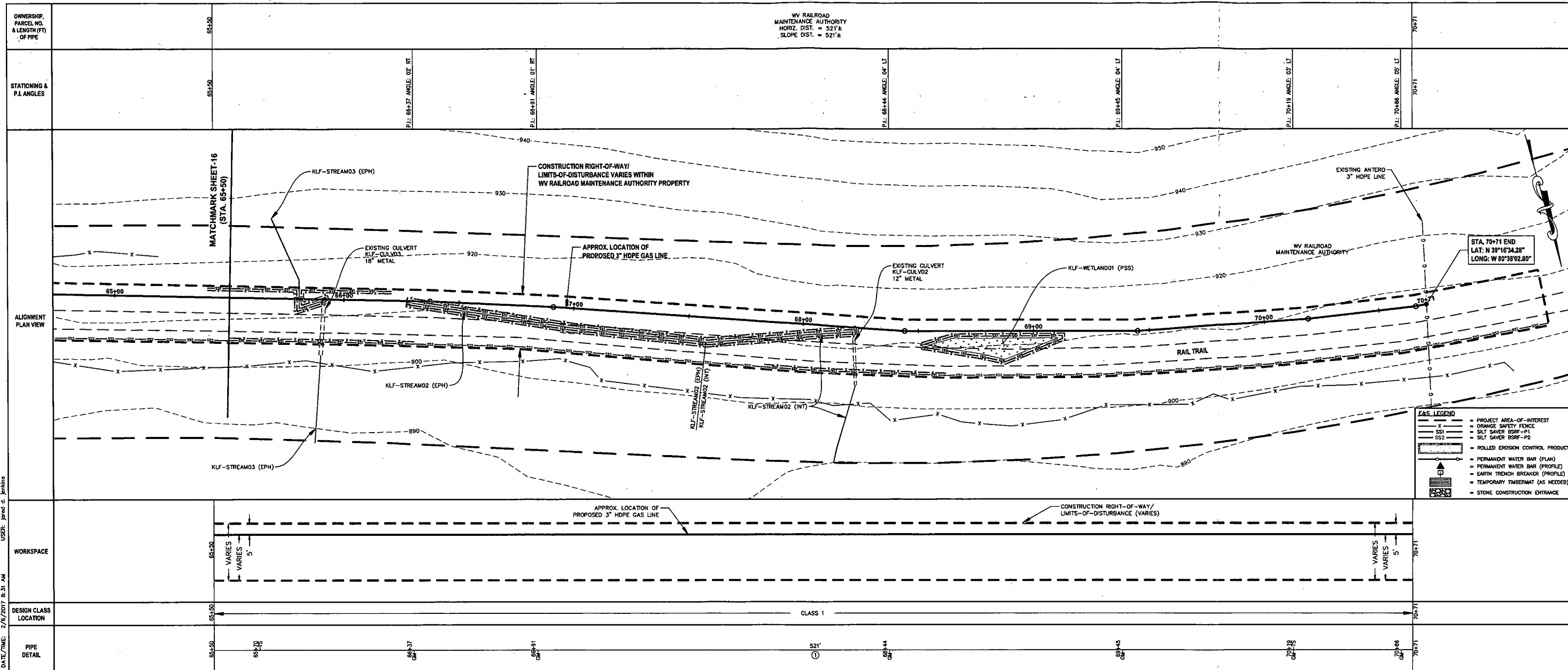
DATE: 2/6/2017
SCALE: AS SHOWN
DRAWN BY: JDU (TIT)
CHECKED BY: JSM (TIT)

SHEET 16

SHT. NAME: 050-6138\BGR\PLAN12

REV. 4

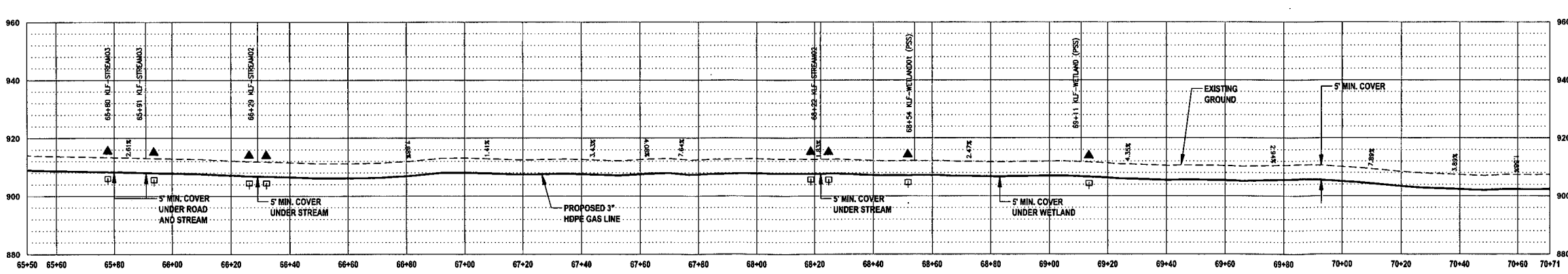
LAYOUT TAB: PLAN12; CAD FILE: R:\050-6138-BLUESTONE GATHERING REROUTE-ANTERO\SURVEY\PLAN\PLAN SHEETS\11-13.dwg; PLOT DATE/TIME: 2/6/2017 8:30 AM; USER: jared.d.jenkins



FAST LEGEND

- PROJECT AREA-OF-INTEREST
- - - ORANGE SAFETY FENCE
- SS1 SILT SAVER BSRF-P1
- SS2 SILT SAVER BSRF-P2
- ROLLED EROSION CONTROL PRODUCT
- PERMANENT WATER BAR (PLAN)
- PERMANENT WATER BAR (PROFILE)
- EARTH TRENCH BREAKER (PROFILE)
- TEMPORARY TIMBERMAT (AS NEEDED)
- STONE CONSTRUCTION ENTRANCE

USER: jared.d.jenkins
 PLOT DATE/TIME: 2/6/2017 8:31 AM
 LAYOUT TAB: PLAN13
 CAD FILE: R:\050-6138-BLUESTONE GATHERING REROUTE-ANTERO\SURVEY\PLANS\PLAN SHEETS\11-13.dwg



Know what's at stake?
Call 811
BEFORE YOU DIG

DATE: 01/06/2017
AFE # A04635

IFP
ISSUED FOR PERMITTING

DATE: 01/06/2017
AFE # A04635

SUMMARY OF MATERIALS (3D)	
① 3" HDPE SDR-7 3408	521 LF
SS1 SILT SAVER BSRF-P1	793 LF
SS2 SILT SAVER BSRF-P2	415 LF
OSF ORANGE SAFETY FENCE	793 LF
TD EARTH TRENCH BREAKERS	8
WB PERMANENT WATERBARS	8
GM GAS LINE MARKERS	6
TS TEST STATIONS	2

SUMMARY OF MATERIALS (3D)	
NO.	DESCRIPTION

REVISION	
1	REVISED PER COMMENTS FROM KLEINFELDER, INC. 1/18/17 JDU
2	REVISED PER COMMENTS FROM KLEINFELDER, INC. 1/26/17 JDU
3	REVISED DUE TO PROJECT NAME CHANGE 1/27/17 JDU
4	REVISED DUE TO ALIGNMENT CHANGE 2/03/17 JDU

GENERAL INFORMATION

- PROPOSED LOW PRESSURE GAS LINE MAOP = 125 psig.
- COORDINATE SYSTEM USED FOR MAPPING AND TOPOGRAPHY: HORIZONTAL - NAD 83 WEST VIRGINIA STATE PLANE, NORTH ZONE, U.S. SURVEY FOOT VERTICAL - NAVD 83 (GEOID12B), U.S. SURVEY FOOT.
- ALL STATIONING SHOWN IS HORIZONTAL STATIONING.
- FIELD DELINEATION PERFORMED AND PROVIDED BY: KLEINFELDER, INC.
- THE BOUNDARY MONUMENTS FOUND AND PROPERTY LINES SHOWN ON THIS DRAWING WERE OBTAINED FROM PARTIAL FIELD SURVEY AND RESEARCHED INFORMATION TAKEN FROM VARIOUS RECORDS ON FILE IN THE LOCAL COUNTY COURTHOUSE. TO OBTAIN A MORE ACCURATE BOUNDARY LINE LOCATION, A FULL PROPERTY SURVEY IS RECOMMENDED.
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- ALL SHEET BANDS EXCLUDING ALIGNMENT PLAN VIEW REFERENCE THE ALIGNMENT PROFILE VIEW.
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- FOR LEGEND/ABBREVIATION INFORMATION, REFER TO THE GENERAL NOTES SHEET.

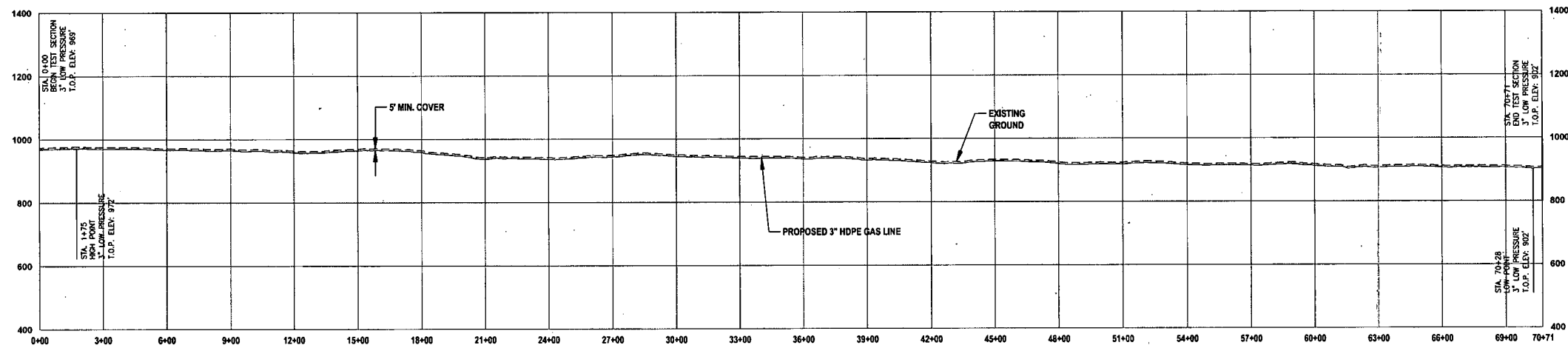
BLUESTONE GATHERING REROUTE
STA. 65+50 TO STA. 70+71
PROPOSED 3" HDPE GAS LINE

DODDRIDGE COUNTY, WEST VIRGINIA

DATE: 2/6/2017
SCALE: AS SHOWN
DRAWN BY: JDU (TDS)
CHECKED: JDU (TDS)

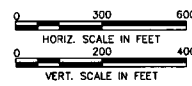
SHEET 17
SHT. NAME: 050-6138\BGR\PLAN13 REV. 4

LAYOUT FILE: R:\050-6138-BLUESTONE GATHERING REROUTE-ANTERO\SURVEY\PLANS\HYDROSTATIC PROFILE SHEET.dwg
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 PLOT DATE/TIME: 2/6/2017 8:40 AM
 USER: Jared d. Jenkins



HYDROSTATIC TEST	Station	Elevation (ft msl)
Start Point	0+00	969
Low Point (SDR-7)	70+28	902
High Point (SDR-7)	1+75	972
End Point	70+71	902
Differential (SDR-7)	70	
Static Head Pressure @ 902' (SDR-7) PSI	30.331	

THRASHER



Know what's at stake
Call 811
 BEFORE YOU DIG

IFP

ISSUED FOR PERMITTING

DATE: 01/06/2017

AFE # A04635

SUMMARY OF MATERIALS (3D)

NO.	DESCRIPTION	QTY

SUMMARY OF MATERIALS (3D)

NO.	DESCRIPTION	QTY

GENERAL INFORMATION

1. PROPOSED LOW PRESSURE GAS LINE MAOP = X,XXX psig
2. REFER TO ANTERO MIDSTREAM PRESSURE TESTING PROCEDURE.
3. COORDINATE SYSTEM USED FOR MAPPING AND TOPOGRAPHY:
 HORIZONTAL - NAD 83 WEST VIRGINIA STATE PLANE, NORTH ZONE, U.S. SURVEY FOOT
 VERTICAL - NAVD 88 (GEOID12B), U.S. SURVEY FOOT
4. ALL STATIONING SHOWN IS HORIZONTAL STATIONING.
5. THIS SHEET IS INTENDED TO BE PLOTTED ON ARCH D (24" X 36"). FOR REDUCTIONS, REFER TO GRAPHIC SCALE.

Antero
 Midstream Partners LP

BLUESTONE GATHERING REROUTE HYDROSTATIC TEST PROFILE

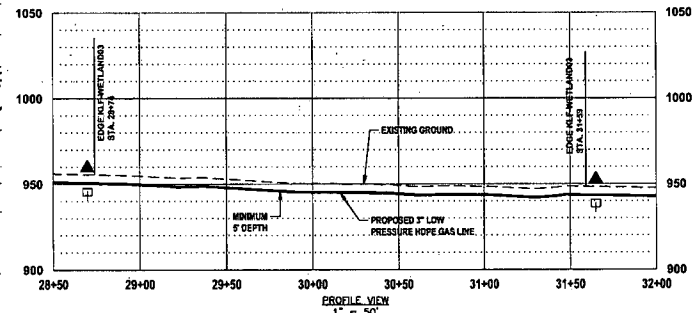
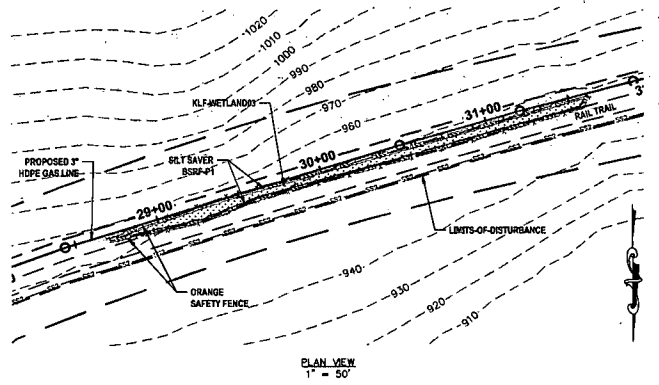
PROPOSED 3" HDPE GAS LINE

DODDRIDGE COUNTY, WEST VIRGINIA

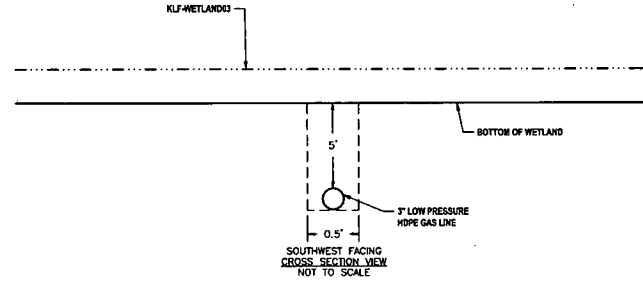
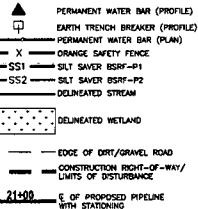
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SCALE: AS SHOWN		
DRAWN BY: JDU (TTS)	SHEET 18	
CHECKED: JDU (TTS)		
SHT. NAME: 050-6138\BGR\HTP		REV. 4

USER: jared d. jenkins
 PLOT DATE/TIME: 2/6/2017 8:48 AM
 LAYOUT FILE NAME: C:\Users\jared\Documents\ANTERO\SURVEY\PLANS\STREAM AND WETLAND CROSSING SHEETS.dwg

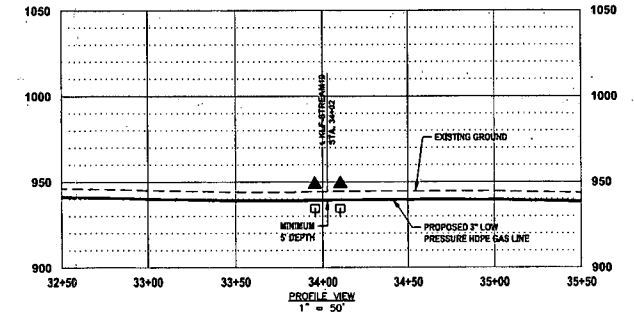
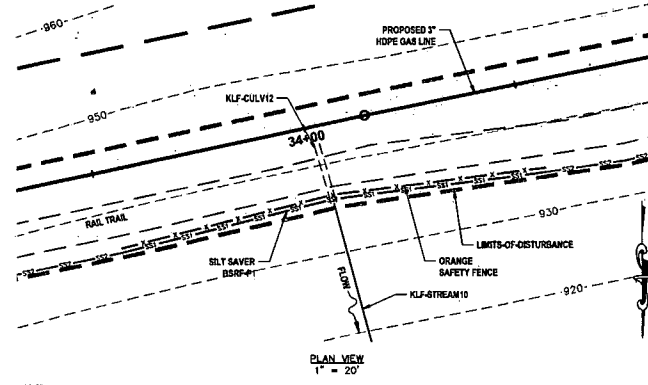
WETLAND CROSSING 1 KLF-WETLAND03



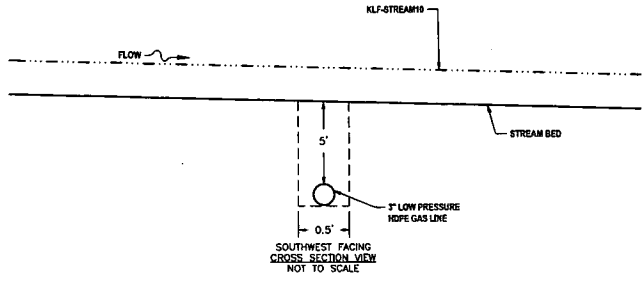
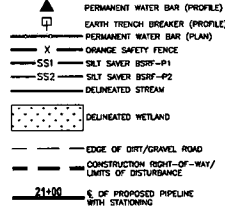
- NOTES:**
- ORANGE SAFETY FENCE TO BE INSTALLED AT THE EDGE OF THE PROPOSED LIMITS OF CONSTRUCTION TO PREVENT ACCESS INTO STREAM OR WETLAND.
 - CONTRACTOR TO MAINTAIN 5' DEPTH AT STREAM OR WETLAND CROSSING.
 - ANY SLOPES GREATER THAN 30% SHALL HAVE ROLLED EROSION CONTROL MATTING INSTALLED DURING FINAL RESTORATION.
- WETLAND CLASSIFICATION:** PALLISTRINE EMERGENT
PROPOSED METHOD OF CONSTRUCTION: OPEN CUT



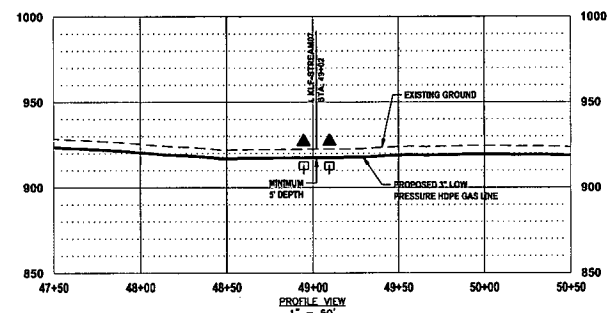
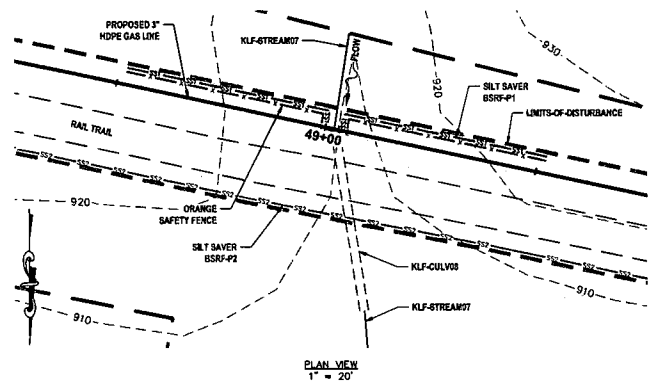
STREAM CROSSING 1 KLF-STREAM10



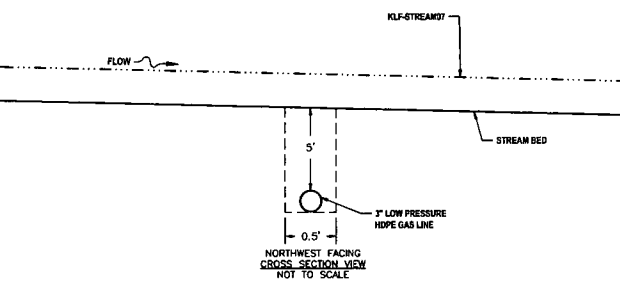
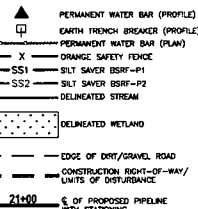
- NOTES:**
- ORANGE SAFETY FENCE TO BE INSTALLED AT THE EDGE OF THE PROPOSED LIMITS OF CONSTRUCTION TO PREVENT ACCESS INTO STREAM OR WETLAND.
 - CONTRACTOR TO MAINTAIN 5' DEPTH AT STREAM OR WETLAND CROSSING.
 - ANY SLOPES GREATER THAN 30% SHALL HAVE ROLLED EROSION CONTROL MATTING INSTALLED DURING FINAL RESTORATION.
- STREAM CLASSIFICATION:** EPHEMERAL
STREAM TOP OF BANK WIDTH: 4.0'
PROPOSED METHOD OF CONSTRUCTION: OPEN CUT



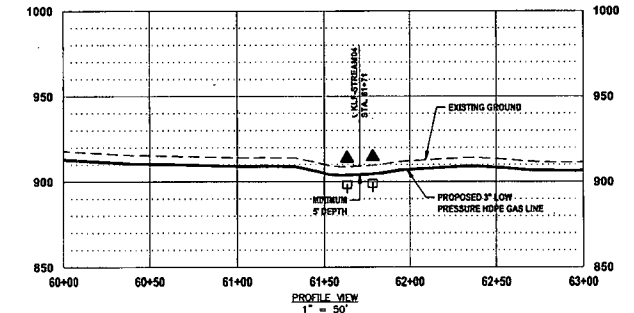
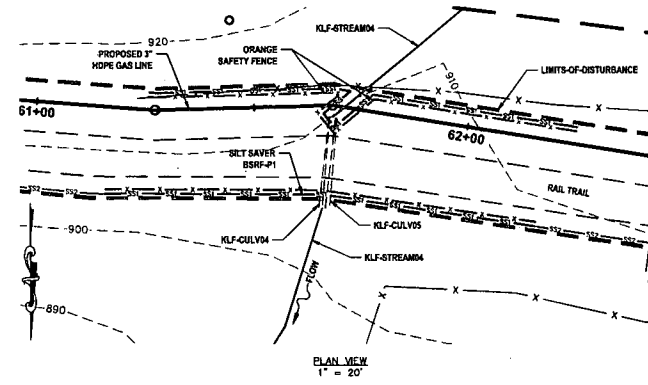
STREAM CROSSING 2 KLF-STREAM07



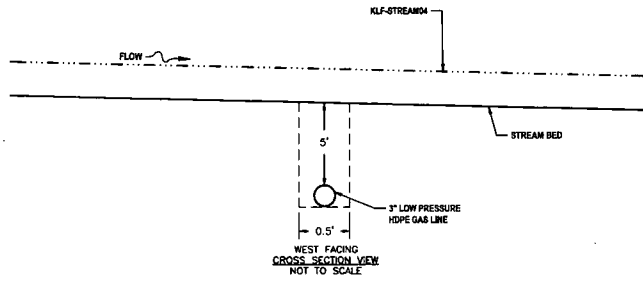
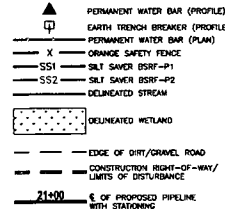
- NOTES:**
- ORANGE SAFETY FENCE TO BE INSTALLED AT THE EDGE OF THE PROPOSED LIMITS OF CONSTRUCTION TO PREVENT ACCESS INTO STREAM OR WETLAND.
 - CONTRACTOR TO MAINTAIN 5' DEPTH AT STREAM OR WETLAND CROSSING.
 - ANY SLOPES GREATER THAN 30% SHALL HAVE ROLLED EROSION CONTROL MATTING INSTALLED DURING FINAL RESTORATION.
- STREAM CLASSIFICATION:** INTERMITTENT
STREAM TOP OF BANK WIDTH: 2.0'
PROPOSED METHOD OF CONSTRUCTION: OPEN CUT



STREAM CROSSING 3 KLF-STREAM04



- NOTES:**
- ORANGE SAFETY FENCE TO BE INSTALLED AT THE EDGE OF THE PROPOSED LIMITS OF CONSTRUCTION TO PREVENT ACCESS INTO STREAM OR WETLAND.
 - CONTRACTOR TO MAINTAIN 5' DEPTH AT STREAM OR WETLAND CROSSING.
 - ANY SLOPES GREATER THAN 30% SHALL HAVE ROLLED EROSION CONTROL MATTING INSTALLED DURING FINAL RESTORATION.
- STREAM CLASSIFICATION:** EPHEMERAL
STREAM TOP OF BANK WIDTH: 2.5'
PROPOSED METHOD OF CONSTRUCTION: OPEN CUT



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IFP

ISSUED FOR PERMITTING

DATE: 01/06/2017

AFE # A04635

SUMMARY OF MATERIALS (3D)

NO.	DESCRIPTION	QTY

SUMMARY OF MATERIALS (3D)

NO.	DESCRIPTION	QTY

GENERAL INFORMATION

- PROPOSED LOW PRESSURE GAS LINE MAOP = 125 psig
- COORDINATE SYSTEM USED FOR MAPPING AND TOPOGRAPHY:
HORIZONTAL - NAD 83 WEST VIRGINIA STATE PLANE, NORTH ZONE, U.S. SURVEY FOOT
VERTICAL - NAVD 88 (GEOID128), U.S. SURVEY FOOT
- FIELD DELINEATION PERFORMED AND PROVIDED BY: KLEINFELDER, INC.
- ALL STATIONING SHOWN IS HORIZONTAL STATIONING.
- THIS SHEET IS INTENDED TO BE PLOTTED ON ARCH D (24" X 36"). FOR REDUCTIONS, REFER TO GRAPHIC SCALE.
- FOR LEGEND/ABBREVIATION INFORMATION, REFER TO THE GENERAL NOTES SHEET.

Antero
Midstream Partners LP

**BLUESTONE GATHERING REROUTE
STREAM & WETLAND CROSSINGS**

PROPOSED 3" HDPE GAS LINE

DODDRIDGE COUNTY, WEST VIRGINIA

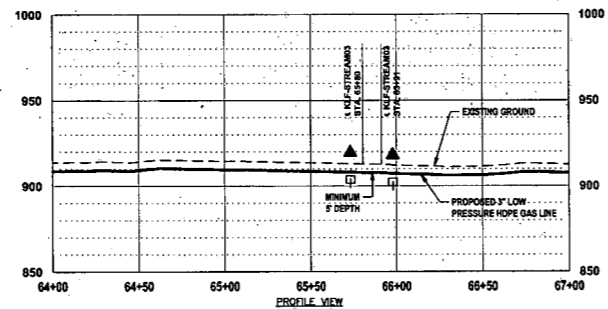
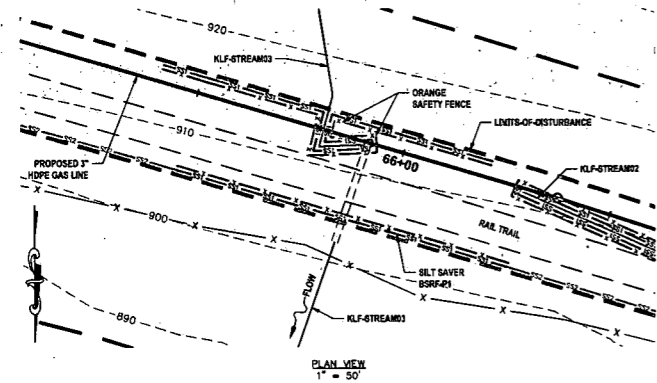
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DRAWN BY: JDU (TJD)	DRAWN BY: JDU (TJD)	DRAWN BY: JDU (TJD)	DRAWN BY: JDU (TJD)	DRAWN BY: JDU (TJD)
CHECKED: JBL (TJD)	CHECKED: JBL (TJD)	CHECKED: JBL (TJD)	CHECKED: JBL (TJD)	CHECKED: JBL (TJD)

SHEET 19

SHT. NAME: 050-6138\BGR\S\WC1

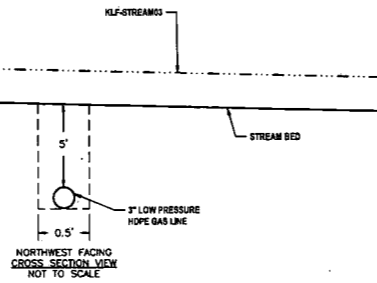
REV. 4

**STREAM CROSSING 4
KLF-STREAM03**

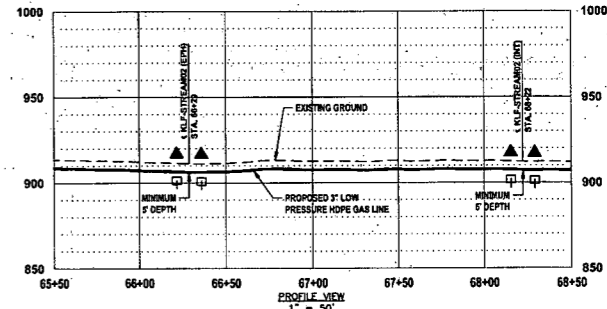
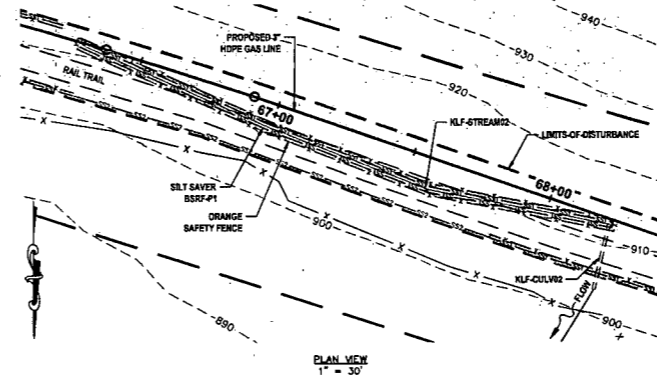


- NOTES:**
- ORANGE SAFETY FENCE TO BE INSTALLED AT THE EDGE OF THE PROPOSED LIMITS OF CONSTRUCTION TO PREVENT ACCESS INTO STREAM OR WETLAND.
 - CONTRACTOR TO MAINTAIN 5' DEPTH AT STREAM OR WETLAND CROSSING.
 - ANY SLOPES GREATER THAN 30% SHALL HAVE ROLLED EROSION CONTROL MATTING INSTALLED DURING FINAL RESTORATION.
- STREAM CLASSIFICATION: EPHEMERAL
STREAM TOP OF BANK WIDTH: 1.5'
PROPOSED METHOD OF CONSTRUCTION: OPEN CUT

- ▲ PERMANENT WATER BAR (PROFILE)
- EARTH TRENCH BREAKER (PROFILE)
- PERMANENT WATER BAR (PLAN)
- X ORANGE SAFETY FENCE
- SS1 SILT SAVER BSRP-P1
- SS2 SILT SAVER BSRP-P2
- DELINEATED STREAM
- DELINEATED WETLAND
- EDGE OF DIRT/GRAVEL ROAD
- CONSTRUCTION RIGHT-OF-WAY/ LIMITS OF DISTURBANCE
- 21+00 E OF PROPOSED PIPELINE WITH STATIONING

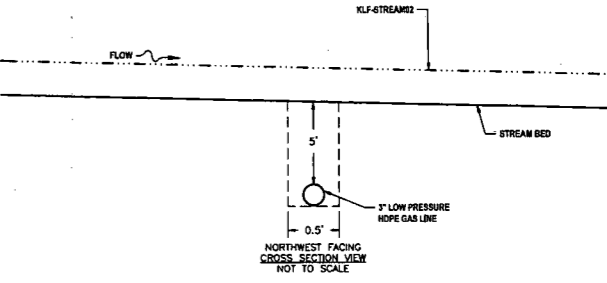


**STREAM CROSSINGS 5 & 6
KLF-STREAM02 (EPH) & KLF-STREAM02 (INT)**

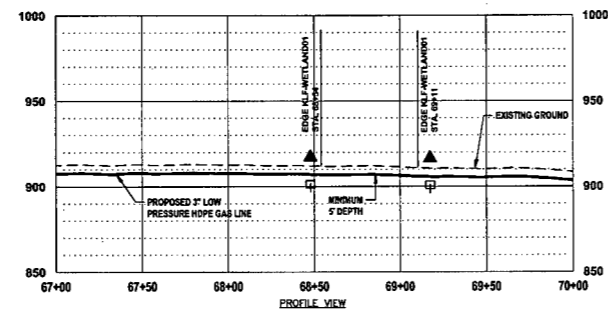
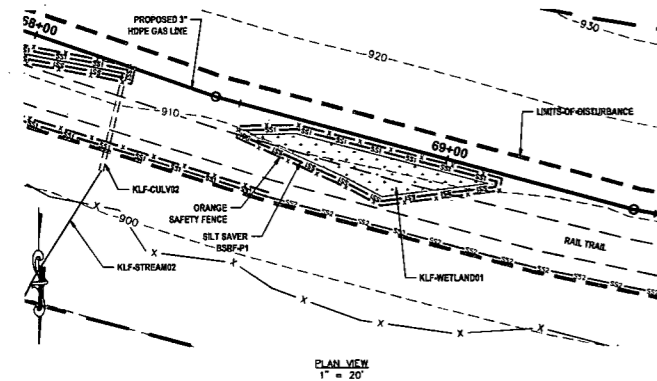


- NOTES:**
- ORANGE SAFETY FENCE TO BE INSTALLED AT THE EDGE OF THE PROPOSED LIMITS OF CONSTRUCTION TO PREVENT ACCESS INTO STREAM OR WETLAND.
 - CONTRACTOR TO MAINTAIN 5' DEPTH AT STREAM OR WETLAND CROSSING.
 - ANY SLOPES GREATER THAN 30% SHALL HAVE ROLLED EROSION CONTROL MATTING INSTALLED DURING FINAL RESTORATION.
- STREAM CLASSIFICATION: EPHEMERAL/INTERMITTENT
STREAM TOP OF BANK WIDTH: 2.0'
PROPOSED METHOD OF CONSTRUCTION: OPEN CUT

- ▲ PERMANENT WATER BAR (PROFILE)
- EARTH TRENCH BREAKER (PROFILE)
- PERMANENT WATER BAR (PLAN)
- X ORANGE SAFETY FENCE
- SS1 SILT SAVER BSRP-P1
- SS2 SILT SAVER BSRP-P2
- DELINEATED STREAM
- DELINEATED WETLAND
- EDGE OF DIRT/GRAVEL ROAD
- CONSTRUCTION RIGHT-OF-WAY/ LIMITS OF DISTURBANCE
- 21+00 E OF PROPOSED PIPELINE WITH STATIONING

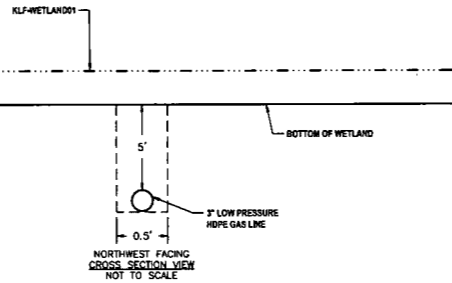


**WETLAND CROSSING 2
KLF-WETLAND01**



- NOTES:**
- ORANGE SAFETY FENCE TO BE INSTALLED AT THE EDGE OF THE PROPOSED LIMITS OF CONSTRUCTION TO PREVENT ACCESS INTO STREAM OR WETLAND.
 - CONTRACTOR TO MAINTAIN 5' DEPTH AT STREAM OR WETLAND CROSSING.
 - ANY SLOPES GREATER THAN 30% SHALL HAVE ROLLED EROSION CONTROL MATTING INSTALLED DURING FINAL RESTORATION.
- WETLAND CLASSIFICATION: PALUSTRINE SCRUB-SHRUB
PROPOSED METHOD OF CONSTRUCTION: OPEN CUT

- ▲ PERMANENT WATER BAR (PROFILE)
- EARTH TRENCH BREAKER (PROFILE)
- PERMANENT WATER BAR (PLAN)
- X ORANGE SAFETY FENCE
- SS1 SILT SAVER BSRP-P1
- SS2 SILT SAVER BSRP-P2
- DELINEATED STREAM
- DELINEATED WETLAND
- EDGE OF DIRT/GRAVEL ROAD
- CONSTRUCTION RIGHT-OF-WAY/ LIMITS OF DISTURBANCE
- 21+00 E OF PROPOSED PIPELINE WITH STATIONING



THRASHER

Know what's at stake
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BEFORE YOU DIG

IFP

ISSUED FOR PERMITTING

DATE: 01/06/2017

AFE # A04635

SUMMARY OF MATERIALS (3D)

NO.	DESCRIPTION	QTY

SUMMARY OF MATERIALS (3D)

NO.	DESCRIPTION	QTY

GENERAL INFORMATION

- PROPOSED LOW PRESSURE GAS LINE MAOP = 125 psig
- COORDINATE SYSTEM USED FOR MAPPING AND TOPOGRAPHY:
HORIZONTAL - NAD 83 WEST VIRGINIA STATE PLANE, NORTH ZONE, U.S. SURVEY FOOT
VERTICAL - NAVD 88 (GEOID12B), U.S. SURVEY FOOT
- FIELD DELINEATION PERFORMED AND PROVIDED BY: KLEINFELDER, INC.
- ALL STATIONING SHOWN IS HORIZONTAL STATIONING.
- THIS SHEET IS INTENDED TO BE PLOTTED ON ARCH D (24" X 36"). FOR REDUCTIONS, REFER TO GRAPHIC SCALE.
- FOR LEGEND/ABBREVIATION INFORMATION, REFER TO THE GENERAL NOTES SHEET.

Antero
Midstream Partners LP

**BLUESTONE GATHERING REROUTE
STREAM & WETLAND CROSSINGS**

PROPOSED 3" HDPE GAS LINE

DODDRIDGE COUNTY, WEST VIRGINIA

DATE: 2/6/2017
SCALE: AS SHOWN
DRAWN BY: JBJ (TIG)
CHECKED: JBJ (TIG)

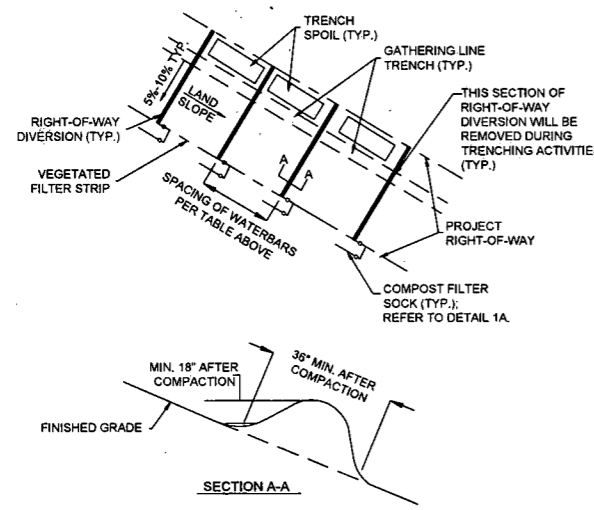
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SHT. NAME: 050-6138\BGR\S&WC2 REV. 4

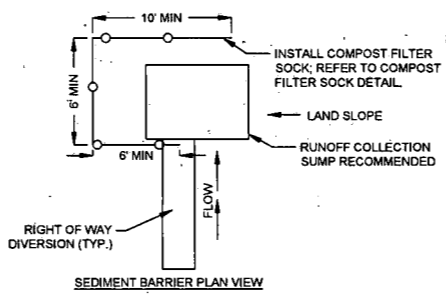
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PIPELINE GRADE	> 200' FROM STREAM	< 200' FROM STREAM
2-5 %	400	200
6-12 %	300	150
13-21 %	200	100
22-34 %	100	50
35-50 %	50	25

* IT IS DIFFICULT TO INSTALL DIVERSIONS ON SLOPES STEEPER THAN 35%, THE DIVISION OF WATER AND WASTE MANAGEMENT WILL ALLOW GREATER DISTANCES BETWEEN DIVERSIONS ON EXTREME SLOPES

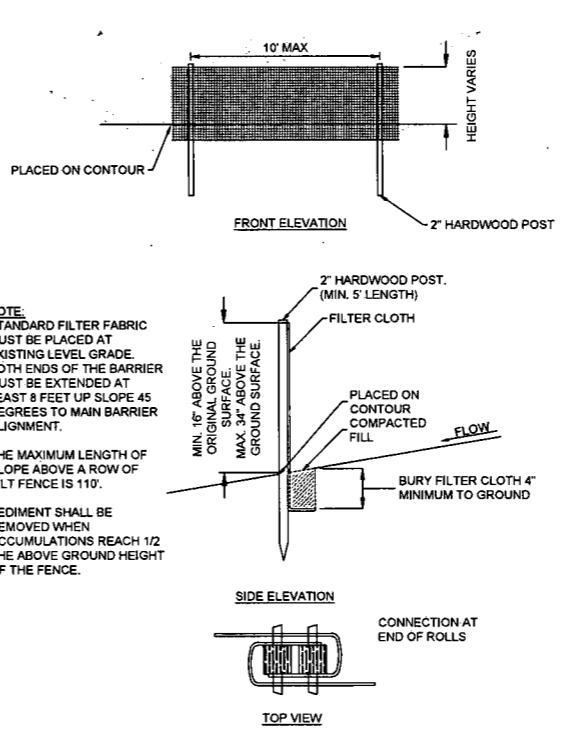


1 RIGHT OF WAY DIVERSION OUTLET (WATERBAR)
NTS

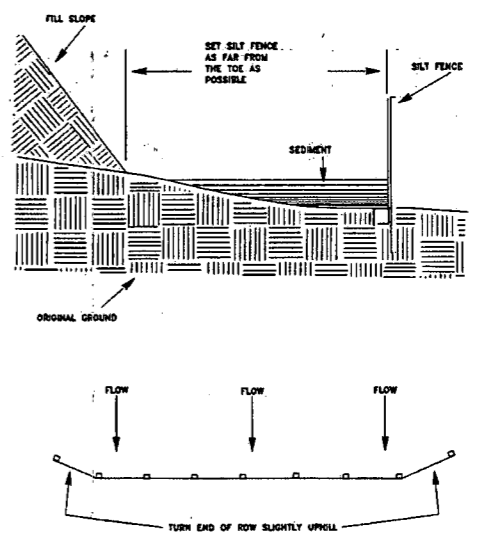


- NOTES:**
- RIGHT-OF-WAY DIVERSIONS SHOULD BE INSTALLED ACROSS THE ENTIRE RIGHT-OF-WAY ON ALL SLOPES GREATER THAN 5%.
 - RIGHT-OF-WAY DIVERSIONS SHALL BE PLACED AT 5% TO 10% SLOPE DOWNHILL. THEY SHALL BE SPACED AT THE INCREMENTS AS SHOWN IN DETAIL 1, AND IN ACCORDANCE WITH WVDEP E&S STANDARDS.
 - RIGHT-OF-WAY DIVERSIONS SHOULD BE CONSTRUCTED TO DISCHARGE TO A WELL-VEGETATED AREA. RIGHT-OF-WAY DIVERSIONS SHOULD NOT DISCHARGE INTO AN OPEN TRENCH. RIGHT-OF-WAY DIVERSIONS SHOULD BE ORIENTED SO THAT THE DISCHARGE DOES NOT FLOW BACK INTO THE RIGHT-OF-WAY. 12" COMPOST FILTER SOCK SHOULD BE LOCATED BELOW THE DISCHARGE END OF THE RIGHT-OF-WAY DIVERSIONS.
 - BSRF CAN BE SUBSTITUTED IN PLACE OF CFS WITH APPROVAL FROM ANTERO.
 - SUMPS TO BE USED DURING CONSTRUCTION (TEMPORARY).
- MAINTENANCE:**
- RIGHT-OF-WAY DIVERSIONS SHALL BE INSPECTED WEEKLY (DAILY ON ACTIVE ROADS) AND AFTER EACH RUNOFF EVENT. DAMAGED OR ERODED RIGHT-OF-WAY DIVERSIONS SHALL BE RESTORED TO ORIGINAL DIMENSIONS WITHIN 24 HOURS OF INSPECTION.
 - MAINTENANCE OF RIGHT-OF-WAY DIVERSIONS SHALL BE PROVIDED UNTIL RIGHT-OF-WAY HAS ACHIEVED PERMANENT STABILIZATION.
 - RIGHT-OF-WAY DIVERSIONS ON RETIRED RIGHT-OF-WAYS SHALL BE LEFT IN PLACE AFTER PERMANENT STABILIZATION HAS BEEN ACHIEVED.

1A RIGHT OF WAY DIVERSION OUTLET (WATERBAR)
NTS

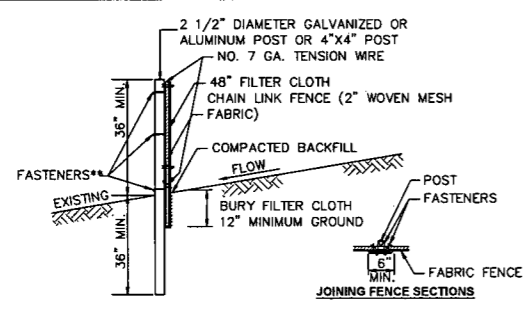


2 SILT FENCE
NTS



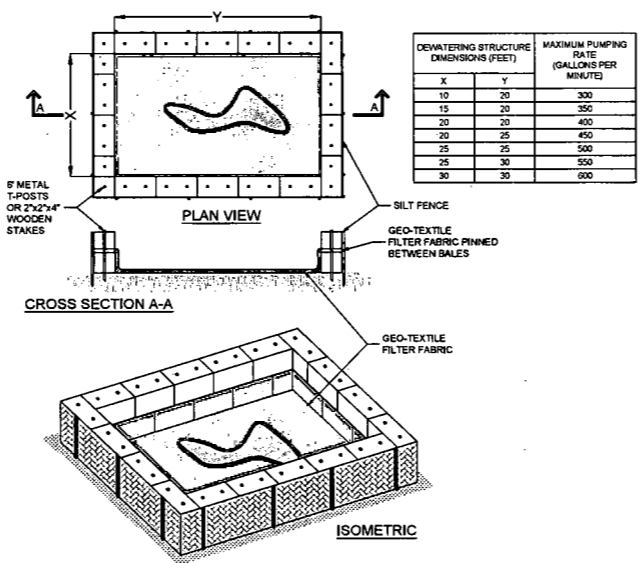
Slope - Percent	Maximum Slope Length (ft) Above Fence		
	Standard (18" High) Silt Fence	Reinforced (30" High) Silt Fence	Super Silt Fence
2 (or less)	150	500	1000
5	100	250	500
10	50	150	300
15	35	100	210
20	25	70	150
25	20	55	130
30	15	45	100
35	12	40	85
40	10	35	75
45	8	30	65
50	6	25	55

2A SILT FENCE PLACEMENT
NTS



- * POSTS SPACED @ 10' MAX. USE 2 1/2" DIA. GALVANIZED OR ALUMINUM POSTS OR 4" x 4" POST.
- ** CHAIN LINK FENCE SHALL BE FASTENED SECURELY TO THE FENCE POST WITH WIRE TIES OR STAPLES. GEOTEXTILE FABRIC SHALL BE FASTENED SECURELY TO THE CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID-SECTIONS.
- NO. 7 GA. TENSION WIRE INSTALLED HORIZONTALLY AT TOP AND BOTTOM OF CHAIN-LINK FENCE.
- FILTER FABRIC FENCE SHOULD BE PLACED AS CLOSE TO THE CONTOUR AS POSSIBLE.
- THE LENGTH OF SLOPE ABOVE THE FENCE SHALL NOT EXCEED 400 FEET IN STEEP TERRAIN. IN FLATTER AREAS THE LENGTH CAN BE EXTENDED WITH THE APPROVAL OF THE ENGINEER.
- NO SECTION OF SILT FENCE SHOULD EXCEED A GRADE OF 5% FOR MORE THAN A DISTANCE OF 20 FEET.
- SEDIMENT MUST BE REMOVED WHEN ACCUMULATIONS REACH 1/2 THE ABOVE GROUND HEIGHT OF THE FENCE.

3 SUPER SILT FENCE
NTS



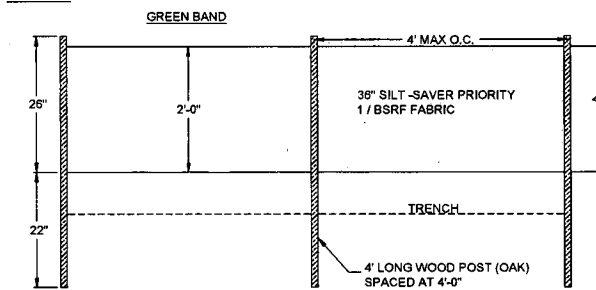
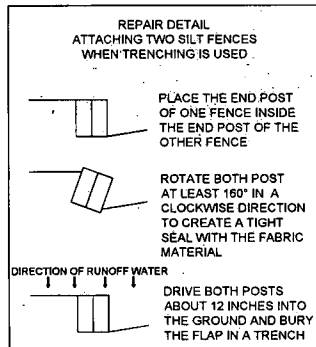
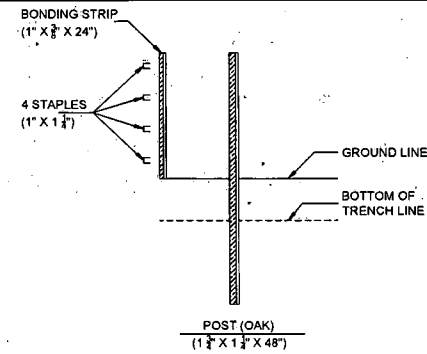
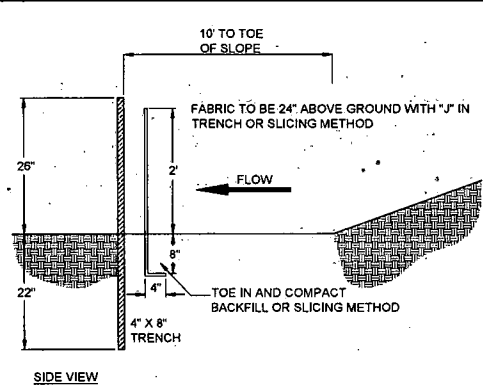
4 STRAW BALE DEWATERING
NTS

- STRAW BALES SHOULD BE PLACED ON THEIR SIDES WITH THE TWINE FACING OUT.
- STRAW BALES SHOULD BE STACKED TWO HIGH WITH GEO-TEXTILE FABRIC PINNED BETWEEN BALES.
- SEAMS OF GEOTEXTILE FABRIC SHOULD BE SEWN TOGETHER.
- 6 FOOT METAL T-POSTS ARE RECOMMENDED, DRIVEN THROUGH BOTH STRAW BALES. IF METAL T-POSTS ARE NOT AVAILABLE, WOODEN STAKES SHOULD BE A MINIMUM OF 2"X2"X 4". STAKES SHOULD BE DRIVEN AROUND THE PERIMETER OF THE STRAW BALES AS STRUCTURAL SUPPORT AS WELL AS THROUGH THE BALES TO HELP PIN THE GEO-TEXTILE FABRIC IN PLACE.
- DEWATERING STRUCTURE DIMENSIONS SHOULD BE DESIGNED TO ACCOMMODATE THE SIZE OF THE WATER PUMP BEING UTILIZED.
- DEWATERING STRUCTURE DIMENSIONS MAY NEED TO BE ADJUSTED TO SUIT THE VARIOUS SIZES OF FILTER BAGS, THOUGH SQUARE FOOTAGE SPECIFICATIONS SHOULD STILL BE MAINTAINED. THE STRUCTURE SHOULD COMPLETELY ENCOMPASS THE BAG BEING UTILIZED.
- WHEN PUMPING LARGE AMOUNTS OF WATER FOR AN EXTENDED PERIOD OF TIME, (LARGE BELL HOLES, ETC.) INTERVAL PUMPING MAY BE NECESSARY TO AVOID OVERPOWERING THE DEWATERING STRUCTURE.
- USE OF MULTIPLE DEWATERING STRUCTURES MAY BE NECESSARY UNDER SPECIAL CIRCUMSTANCES.
- FOR STREAM CROSSINGS, WHEN PUMPING OUT THE TRENCH WITH A 2 INCH TRASH PUMP AT 1/4 THROTTLE, A STANDARD 10' BY 10' DEWATERING STRUCTURE WITH A COMPARABLE FILTER BAG SHOULD BE ADEQUATE. FIELD ADJUSTMENTS WILL BE MADE IF FLOW IS OVERPOWERING THE STRUCTURE.
- ADDITIONAL EROSION CONTROLS MAY BE UTILIZED DOWNSLOPE OF DEWATERING STRUCTURES WHERE NEEDED.
- DEWATERING STRUCTURE WILL BE PLACED TO MAXIMIZE AVAILABLE VEGETATIVE STRIP.

4A STRAW BALE DEWATERING
NTS

LAYOUT FILE: ESCP2 CAD FILE: R:\050-6138-BLUESTONE GATHERING REROUTE-ANTERO\SURVEY\PLANS\ESCP2 DETAIL SHEETS.dwg USER: jared.d. jenkins PLOT DATE/TIME: 2/16/2017 8:55 AM

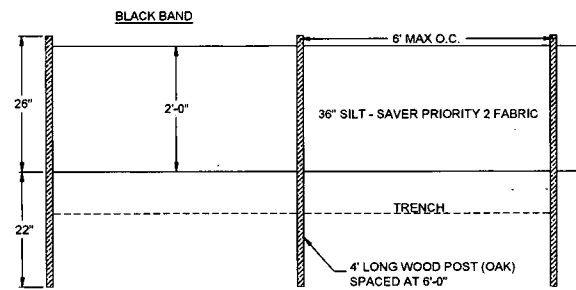
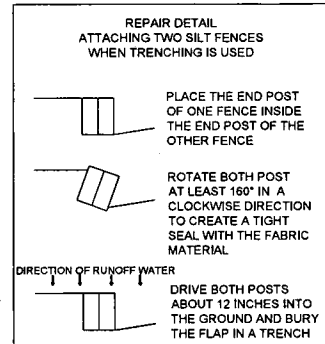
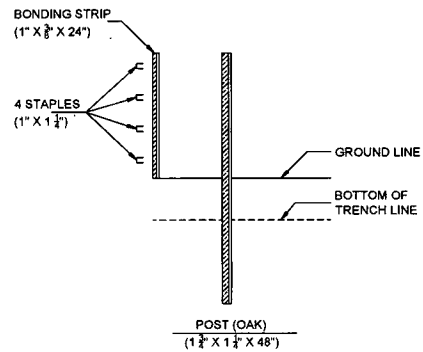
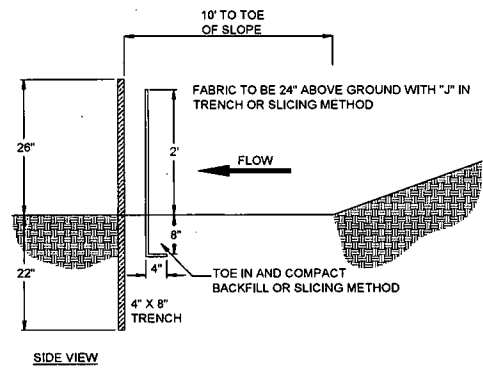
<p>Know what's at stake Call 811 BEFORE YOU DIG</p>	<p>ISSUED FOR PERMITTING</p> <p>DATE: 01/06/2017</p> <p>AFE # A04635</p>	<p>SUMMARY OF MATERIALS (3D)</p> <table border="1"> <thead> <tr> <th>NO.</th> <th>DESCRIPTION</th> <th>QTY</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	NO.	DESCRIPTION	QTY				<p>SUMMARY OF MATERIALS (3D)</p> <table border="1"> <thead> <tr> <th>NO.</th> <th>DESCRIPTION</th> <th>QTY</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	NO.	DESCRIPTION	QTY				<p>GENERAL INFORMATION</p> <p>1. THIS SHEET IS INTENDED TO BE PLOTTED ON ARCH D (24" X 36"). FOR REDUCTIONS, REFER TO GRAPHIC SCALE.</p>	<p>BLUESTONE GATHERING REROUTE ESCP2 DETAILS</p> <p>PROPOSED 3" HDPE GAS LINE</p> <p>DODDRIDGE COUNTY, WEST VIRGINIA</p> <p>DATE: 2/16/2017 SCALE: AS SHOWN DRAWN BY: JDU (TTS) CHECKED: JRI (TTS)</p> <p>SHEET 22</p> <p>SHT. NAME: 050-6138\BGR\ESCP2 REV. 4</p>				
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NOTE:
POST HOLES MAY NEED TO BE DRILLED IN ROCKY SOIL OR AREAS WHERE CONVENTIONAL INSTALLATION IS DIFFICULT TO ACHIEVE REQUIRED DEPTH.

MINIMUM OVERLAP OF 18" IS TO BE PROVIDED AT ALL SPLICE JOINTS

5A SILT SAVER SILT FENCE PRIORITY 1
NTS



NOTE:
POST HOLES MAY NEED TO BE DRILLED IN ROCKY SOIL OR AREAS WHERE CONVENTIONAL INSTALLATION IS DIFFICULT TO ACHIEVE REQUIRED DEPTH.

MINIMUM OVERLAP OF 18" IS TO BE PROVIDED AT ALL SPLICE JOINTS

5B SILT SAVER SILT FENCE PRIORITY 2
NTS

LAYOUT FILE: ESCP3 CAD FILE: R:\DCCP-0138-BLUESTONE GATHERING REROUTE-ANTERO\SURVEY\PLANS\ESCP DETAIL SHEETS.dwg PLOT DATE/TIME: 2/6/2017 8:55 AM USER: jared.d.jenkins

Know what's at stake
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IFP
ISSUED FOR PERMITTING
DATE: 01/06/2017
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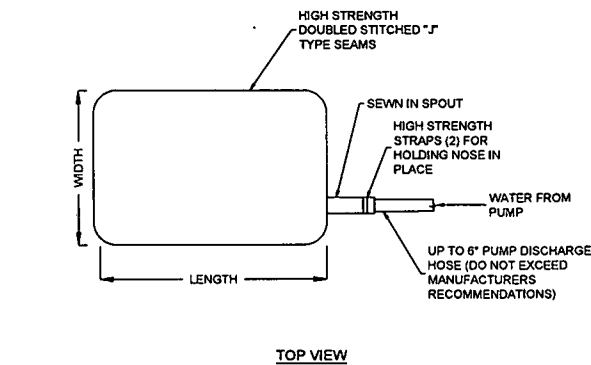
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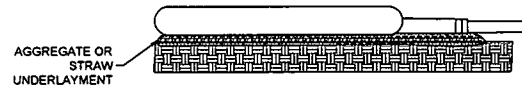
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3	REVISED DUE TO PROJECT NAME CHANGE	1/27/17 .DJJ
4	REVISED DUE TO ALIGNMENT CHANGE	2/03/17 .DJJ

Antero
Midstream Partners LP
BLUESTONE GATHERING REROUTE ESCP DETAILS
PROPOSED 3" HDPE GAS LINE
DODDRIDGE COUNTY, WEST VIRGINIA

DATE: 2/6/2017 AFE No: A04635
SCALE: AS SHOWN
DRAWN BY: DJJ (TIG) SHEET 23
CHECKED: JBL (TIG)
SHT. NAME: 050-6138\BGR\ESCP3 REV. 4



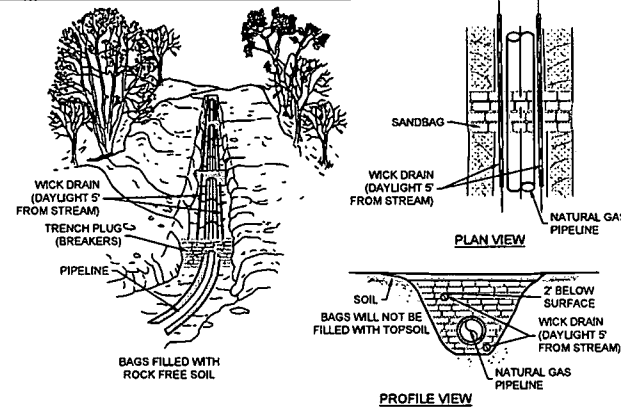
TOP VIEW



SIDE VIEW

- NOTES:
1. UTILIZE VEGETATED STRIP WHERE APPLICABLE.
 2. MAXIMIZE DISTANCE BETWEEN LOCATION OF FILTER BAG AND AQUATIC FEATURE.
 3. FILTER BAG MUST BE PLACED ON FLAT SURFACE.

6 FILTER BAG
NTS

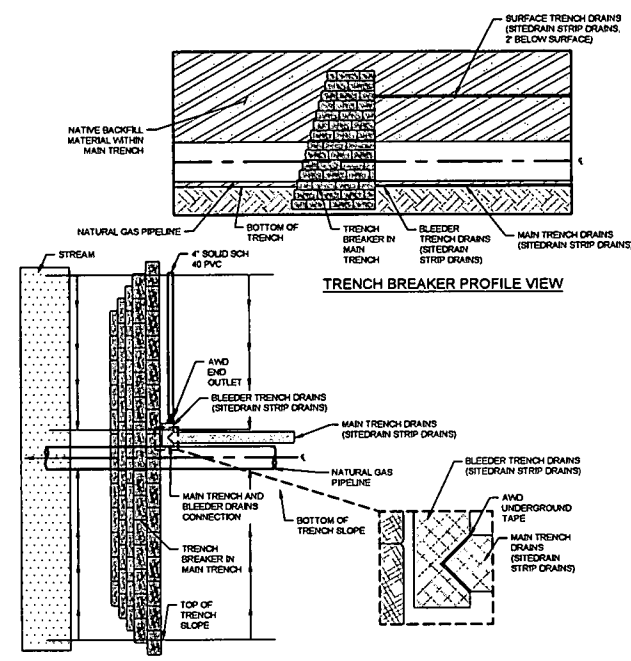


TRENCH BREAKER (PLUG) SPACING (FEET)

ALIGNMENT SLOPE %*	SPACING L (FT)	PLUG MATERIAL
< 5 %	1 000	** EARTH FILLED BAGS
5-15 %	500	** EARTH FILLED BAGS
15-25 %	300	** EARTH FILLED BAGS
25-35 %	200	** EARTH FILLED BAGS
35-100 %	100	** EARTH FILLED BAGS
>100 %	50	*** USE CEMENT FILLED BAGS (WETTED) OR MOSTAGED STONE

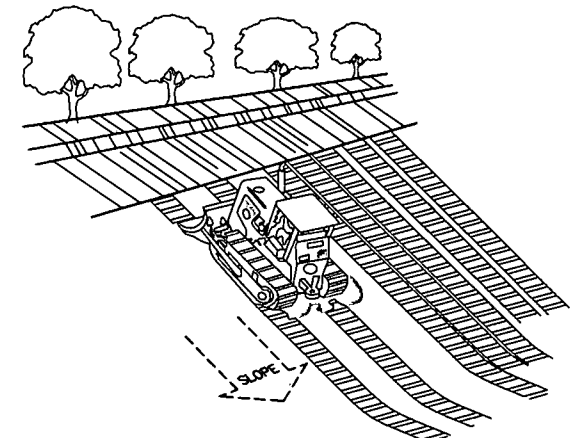
* TRENCH BREAKERS (PLUGS) ARE REQUIRED AT ALL STREAM, RIVER, OR WATER-BODY CROSSINGS REGARDLESS OF TRENCH SLOPE.
 ** TOP SOIL MAY NOT BE USED TO FILL BAGS. TRENCH BREAKERS (PLUGS) WITH CEMENT FILLED BAGS SHALL BE INSTALLED AND ALLOWED TO CURE WITHOUT ANY SURFACE WATER COMING INTO CONTACT WITH THEM. CONTRACTOR SHALL VERIFY CEMENT HAS CURED AND HARDENED PRIOR TO REMOVING ANY BMPs AROUND THE TRENCH BREAKER (PLUG) AREA.
 *** TRENCH BREAKERS WITH CEMENT FILLED BAGS SHALL BE INSTALLED AND ALLOWED TO CURE WITHOUT ANY SURFACE WATER COMING INTO CONTACT WITH THEM. CONTRACTOR SHALL VERIFY CEMENT HAS CURED AND HARDENED PRIOR TO REMOVING ANY BMPs AROUND THE TRENCH BREAKER AREA.

7 PERMANENT TRENCH BREAKER
NTS



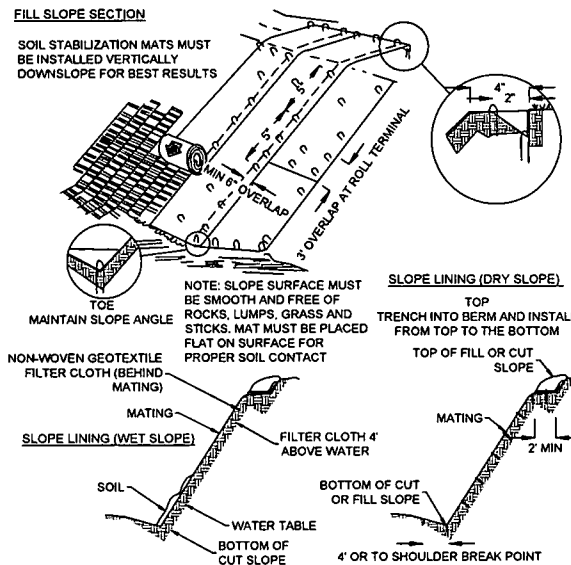
TRENCH BREAKER PLAN VIEW

8 AMERICAN WICK DRAIN DETAIL
NTS

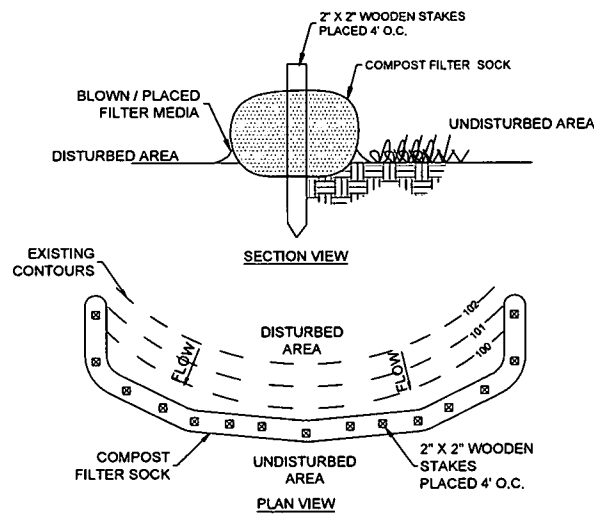


TRACKING SLOPE IS DONE BY RUNNING TRACKED MACHINERY UP AND DOWN THE SLOPE, LEAVING TREAD MARKS PARALLEL TO THE CONTOUR. (NOTE: IF A BULLDOZER IS USED, THE BLADE SHOULD BE UP. CARE SHOULD BE EXERCISED ON SOILS HAVING A HIGH CLAY CONTENT TO AVOID OVER-COMPACTION.)

9 TRACKING
NTS



10 ROLLED EROSION CONTROL PRODUCTS
NTS



11 COMPOST FILTER SOCK
NTS

CONDITIONS WHERE PRACTICE APPLIES:

1. INSTALL ON DISTURBED AREAS THAT REQUIRE IMMEDIATE EROSION PROTECTION.
2. USE ON SLOPES REQUIRING STABILIZATION UNTIL PERMANENT VEGETATION CAN BE ESTABLISHED.
3. CAN BE USED ALONG THE PERIMETER OF A PROJECT, AS A CHECK DAM IN UNLINED DITCHES AND AROUND TEMPORARY STOCKPILES.
4. SOCK CAN BE STAKED TO THE GROUND USING WILLOW CUTTINGS FOR ADDED REVEGETATION.
5. EROSION CAN OCCUR BENEATH AND BETWEEN SOCK IF NOT PROPERLY ENTRENCHED, ALLOWING WATER TO PASS BELOW AND BETWEEN SOCKS. IT IS THEREFORE VERY IMPORTANT TO INSTALL SOCKS CORRECTLY.
6. THEY CAN REPLACE SEDIMENT FENCE ON STEEP SLOPES.
7. ROLLS ARE A SHORT-TERM SOLUTION TO HELP ESTABLISH NATIVE VEGETATION.
8. ROLLS STORE MOISTURE FOR VEGETATION PLANTED IMMEDIATELY UPSLOPE.
9. PLASTIC NETTING WILL EVENTUALLY PHOTO-DEGRADE, ELIMINATING THE NEED FOR RETRIEVAL OF MATERIALS AFTER THE FIBER OR STRAW HAS BROKEN DOWN.

CONSTRUCTION SPECIFICATIONS:

1. IT IS CRITICAL THAT SOCK IS INSTALLED PERPENDICULAR TO THE FLOW DIRECTION AND PARALLEL TO THE SLOPE CONTOUR.
2. NARROW TRENCHES SHOULD BE DUG ACROSS THE SLOPE, ON CONTOUR, TO A DEPTH OF 3 TO 5 INCHES ON CLAY SOILS AND SOILS WITH GRADUAL SLOPES, STEEP SLOPES, AND DURING HIGH RAINFALL EVENTS, THE TRENCHES SHOULD BE DUG TO A DEPTH OF 5 TO 7 INCHES, OR 1/2 TO 2/3 OF THE THICKNESS OF THE SOCK.
3. START CONSTRUCTION OF TRENCHES AND INSTALLING SOCK FROM THE BASE OF THE SLOPE AND WORK UPHILL. EXCAVATED MATERIAL SHOULD BE SPREAD EVENLY ALONG THE UPHILL SLOPE AND COMPACTED USING HAND TAMPING OR OTHER METHOD. CONSTRUCT TRENCHES AT CONTOUR INTERVALS OF 3 TO 30 FEET APART DEPENDING ON THE STEEPNESS OF THE SLOPE, SOIL TYPE, AND RAINFALL. THE STEEPER THE SLOPE THE CLOSER TOGETHER THE TRENCHES SHOULD BE CONSTRUCTED.
4. INSTALL THE SOCK SNUGLY INTO THE TRENCHES AND ABUT TIGHTLY END TO END. DO NOT OVERLAP THE ENDS.
5. INSTALL STAKES AT EACH END OF THE SOCK, AND AT 4-FOOT CENTERS ALONG THE ENTIRE LENGTH OF THE SOCK.
6. IF REQUIRED, INSTALL PILOT HOLES FOR THE STAKES USING A STRAIGHT BAR TO DRIVE HOLES THROUGH THE SOCK AND INTO THE SOIL.
7. AT A MINIMUM, WOODEN STAKES SHOULD BE APPROXIMATELY 2 X 2 X 24 INCHES. WILLOW CUTTINGS OR 3/8-INCH REBAR CAN ALSO BE USED FOR STAKES.
8. STAKES SHOULD BE DRIVEN THROUGH THE MIDDLE OF THE SOCK, LEAVING 2 TO 3 INCHES OF THE STAKE PROTRUDING ABOVE THE SOCK.

11A COMPOST FILTER SOCK
NTS

MAINTENANCE:

1. INSPECT SOCK AT LEAST ONCE A WEEK AND AFTER EACH RAIN EVENT GREATER THAN 0.5 INCH.
2. REPAIR OR REPLACE SPLIT, TORN, RAVELING, OR SLUMPING SOCK.
3. REMOVE SEDIMENT ACCUMULATIONS WHEN EXCEEDING 1/2 THE HEIGHT BETWEEN THE TOP OF THE SOCK AND THE GROUND SURFACE.
4. REPAIR ANY RILLS OR GULLIES PROMPTLY.
5. RESEED OR REPLANT VEGETATION IF NECESSARY UNTIL THE SLOPE IS STABILIZED.

Maximum Slope Length Above Sediment Control in Feet (meters)?

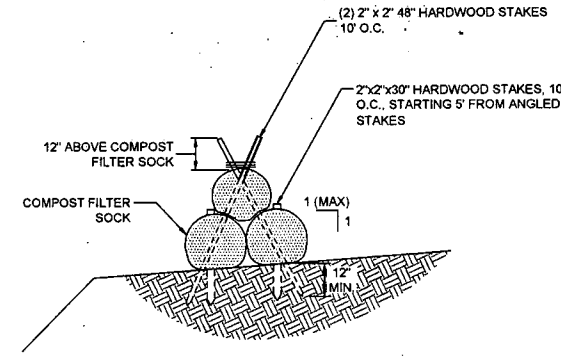
Slope Percent	0 to 200 (0 to 60) m		20 to 40 (6 to 12) m		40 to 60 (12 to 18) m	
	0 to 200 (0 to 60) m	20 to 40 (6 to 12) m	40 to 60 (12 to 18) m	60 to 80 (18 to 24) m	80 to 100 (24 to 30) m	100 to 120 (30 to 36) m
2 (for level)	15.8	31.6	47.4	63.2	79.0	94.8
3	10.4	20.8	31.2	41.6	52.0	62.4
5	6.3	12.6	18.9	25.2	31.5	37.8
10	3.2	6.3	9.4	12.6	15.8	19.0
15	2.1	4.2	6.3	8.4	10.4	12.6
20	1.6	3.2	4.7	6.3	7.9	9.5
25	1.3	2.6	3.9	5.2	6.5	7.8
30	1.1	2.2	3.3	4.4	5.5	6.6
35	1.0	2.0	3.0	4.0	5.0	6.0
40	0.9	1.8	2.7	3.6	4.5	5.4
45	0.8	1.6	2.4	3.2	4.0	4.8
50	0.7	1.4	2.1	2.8	3.5	4.2

* Based on a failure point of 36 in (91.4 cm) super soft fence (wire reinforced) at 1000 h (200 mm) of slope, watershed width equivalent to receiving length of sediment control device, 1 by 24 hr (25 mm/24 hr) rain event.
 ** Effective height of Sediment control after installation and with constant head from runoff as determined by Ohio State University.

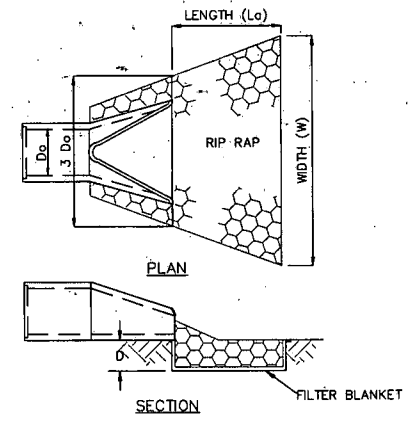
11B COMPOST FILTER SOCK
NTS

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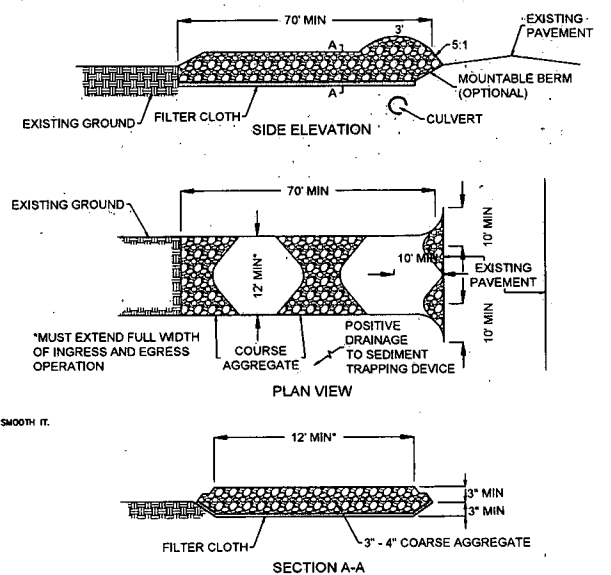


11C TRIPLE STACK FILTER SOCK
NTS



NOTES:
 1. IF FLARED END SECTION IS DISCHARGING INTO DITCH FROM THE SIDE, EXTEND RIP RAP UP DITCH BANK ON OFF-SIDE A MINIMUM OF 4 FEET.
 2. USE WIDE RIP RAP GRADATION AND FILTER BLANKET REQUIREMENTS PER SECTION 3.17 OF THE WEST VIRGINIA EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICE MANUAL.
 3. A SUITABLE NON-WOVEN GEOTEXTILE FABRIC, USED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS, MAY BE SUBSTITUTED FOR FILTER BLANKET STONE UNDER THE RIPRAP.
 4. $d = 1.5$ TIMES THE MAXIMUM STONE DIAMETER BUT NOT LESS THAN 6".

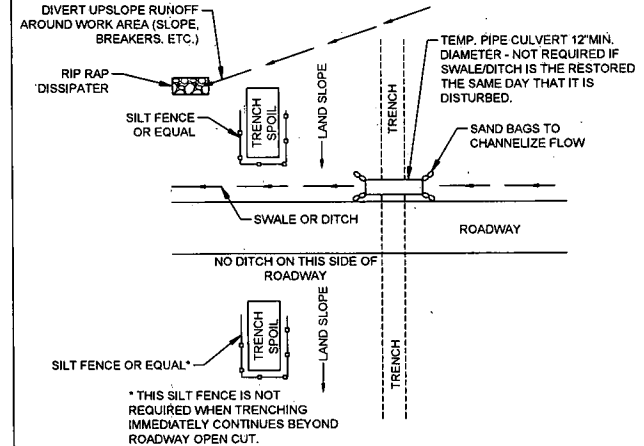
12 RIP RAP APRON
NTS



CONSTRUCTION SPECIFICATIONS:
 1. CLEAR THE ENTRANCE AND EXIT AREA OF ALL VEGETATION, ROOTS, AND OTHER OBJECTIONABLE MATERIAL AND PROPERLY GRADE IT.
 2. PLACE THE 3 INCH GRUSHED ROCK TO MATCH FINISHED GRADE AT THE ROADWAY AND SMOOTH IT.
 3. PROVIDE DRAINAGE WHERE NEEDED TO CARRY WATER TO A SEDIMENT TRAP OR OTHER SATISFACTORY OUTLET.
 4. IT IS RECOMMENDED TO HAVE A STOCKPILE OF STONE ON-SITE.

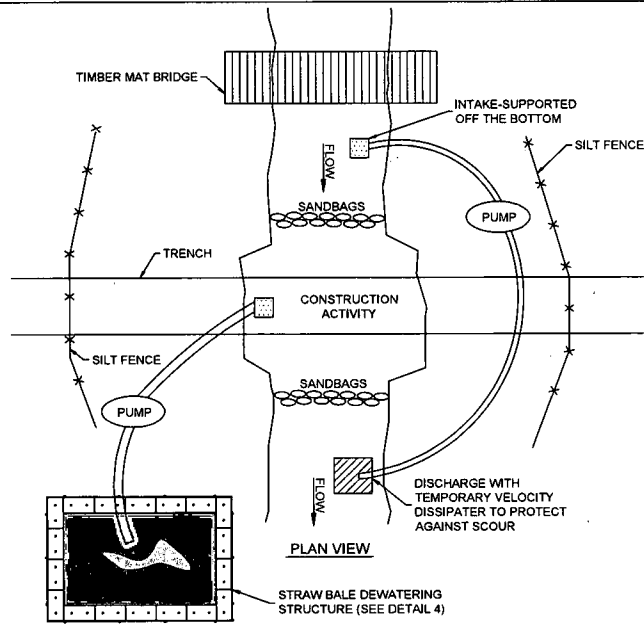
MAINTENANCE:
 MAINTAIN THE GRAVEL PAD IN A CONDITION TO PREVENT MUD OR SEDIMENT FROM LEAVING THE CONSTRUCTION SITE. THIS MAY REQUIRE PERIODIC TOP-DRESSING WITH ADDITIONAL 3 INCH COARSE ROCK. IMMEDIATELY REMOVE ALL OBJECTIONABLE MATERIALS SPILLED, WASHED, OR TRACKED ONTO PUBLIC ROADWAYS. MAINTENANCE SHOULD BE PROVIDED DAILY, BUT AT A MINIMUM EVERY SEVEN DAYS AND AFTER EVERY RAIN OF 0.5 INCH OR GREATER.

13 STABILIZED CONSTRUCTION ENTRANCE
NTS



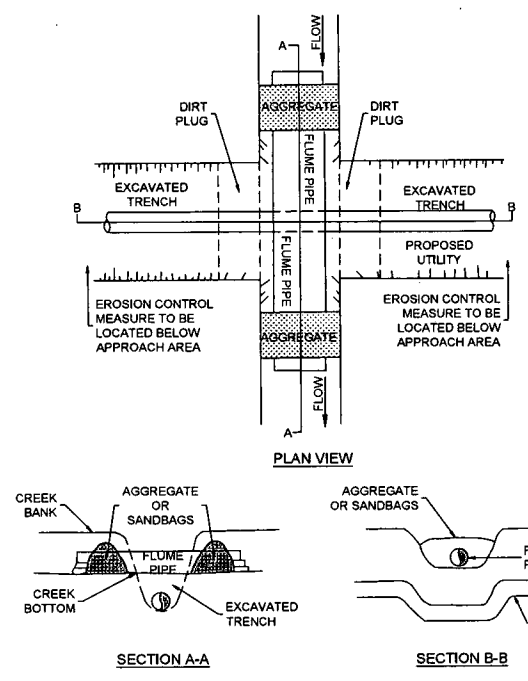
* THIS SILT FENCE IS NOT REQUIRED WHEN TRENCHING IMMEDIATELY CONTIGUOUS BEYOND ROADWAY OPEN CUT.

14 OPEN CUT ROAD CROSSING
NTS

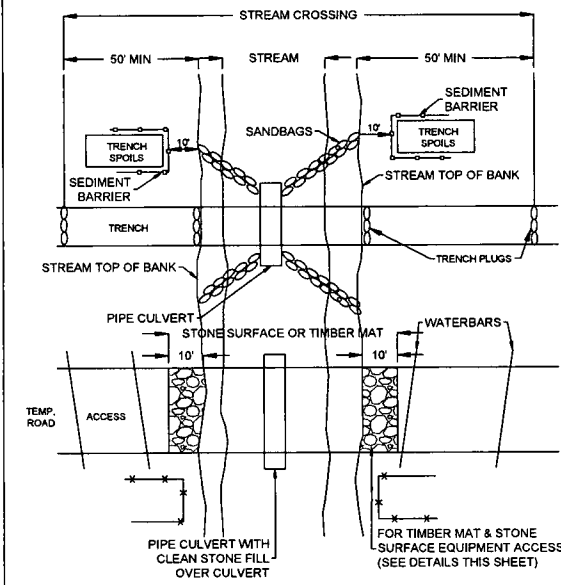


NOTES:
 1. DEWATERING STRUCTURE SHOULD BE PLACED IN WELL VEGETATED STRIP.
 2. TOP 6"-12" OF NATURAL STREAM SUBSTRATE SHOULD BE ISOLATED DURING IN-STREAM TRENCHING AND RESTORED UPON COMPLETION OF FINAL STREAM STABILIZATION.
 3. ENVIRONMENTAL INSPECTOR MUST VERIFY DAM AND PUMP AROUND SETUP.
 4. MUST BE A MINIMUM OF 5 FEET OF COVER FROM TOP OF PIPE TO NATURAL GROUND.
 5. PIPE SAG SECTION SHOULD BE WELDED PRIOR TO TRENCHING ACTIVITY COMMENCES.
 6. ACCUMULATION OF TRENCH WATER MUST BE PUMPED TO DEWATERING STRUCTURE.
 7. IN-STREAM WORK MUST BE COMPLETED WITHIN 24 HOURS (HIGH WATER MARK TO HIGH WATER MARK).
 8. STREAM BUFFER AREA MUST BE RESTORED WITHIN 72 HOURS.

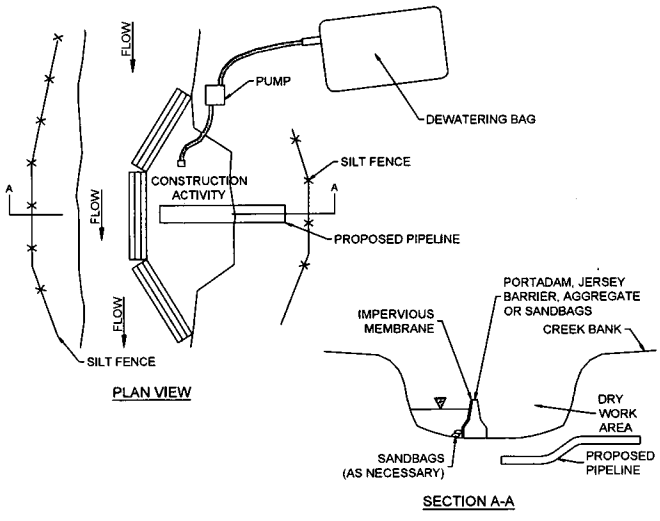
15 OPEN CUT STREAM CROSSING
NTS



16 FLUME PIPE CROSSING
NTS



17 FLUMED STREAM CROSSING WITH ACCESS ROAD
NTS



18 COFFERDAM CROSSING
NTS

THRASHER

Know what's at stake
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IFP

ISSUED FOR PERMITTING
DATE: 01/06/2017
AFE # A04635

SUMMARY OF MATERIALS (3D)

NO.	DESCRIPTION	QTY

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NO.	DESCRIPTION	QTY

GENERAL INFORMATION

1. THIS SHEET IS INTENDED TO BE PLOTTED ON ARCH D (24" X 36"). FOR REDUCTIONS, REFER TO GRAPHIC SCALE.

Antero
Midstream Partners LP

BLUESTONE GATHERING REROUTE ESCP DETAILS

PROPOSED 3" HDPE GAS LINE

DODDRIDGE COUNTY, WEST VIRGINIA

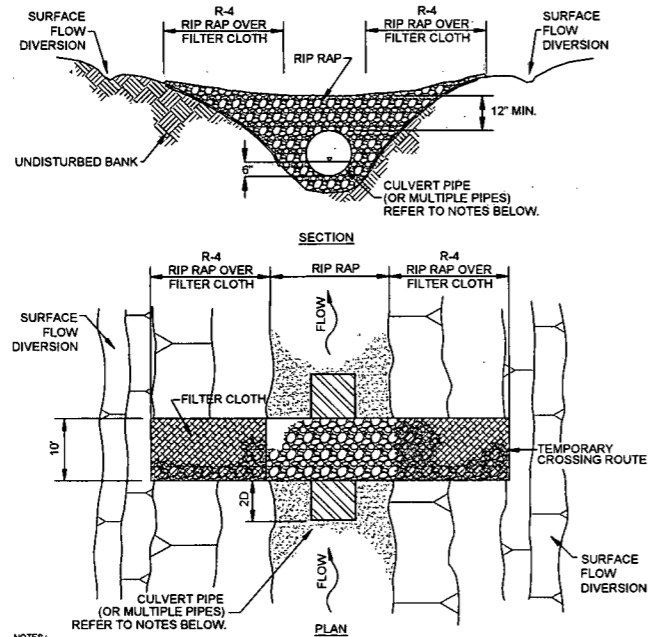
DATE: 2/7/2017
SCALE: AS SHOWN
DRAWN BY: JDU (TIG)
CHECKED BY: JDU (TIG)

SHEET 25

SHT. NAME: 050-6138\BGR\ESCP5

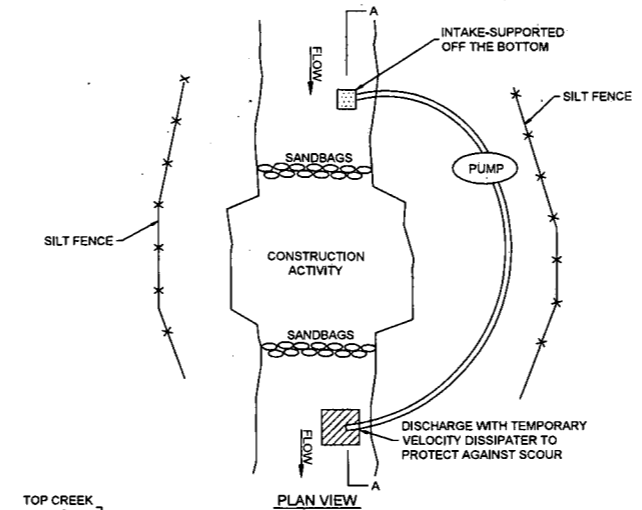
REV. 4

LAYOUT P.L.S. ESCPS
 CAD FILE: R:\050-6138-BLUESTONE GATHERING REROUTE-ANTERO\SURVEY\PLANS\ESCP DETAIL SHEETS.dwg
 USER: jered d. jenkins
 PLOT DATE/TIME: 2/6/2017 8:56 AM

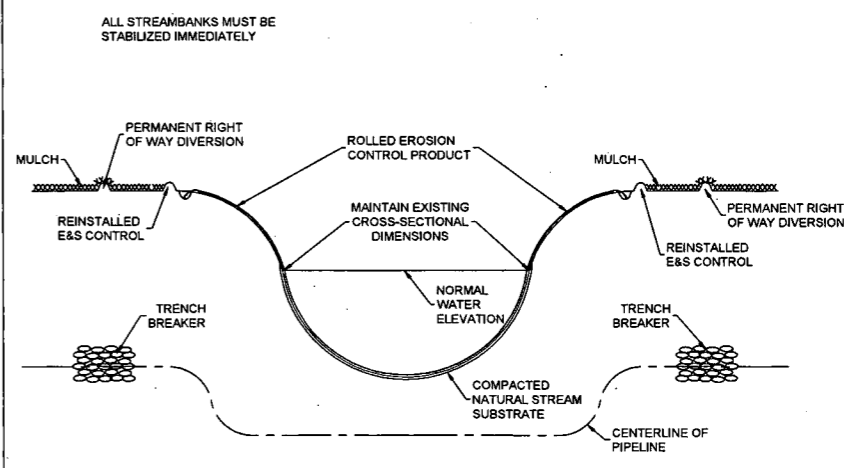


- NOTES:
1. PIPE SHOULD EXTEND BEYOND TOE OF ROADWAY.
 2. ROADWAY SHOULD BE DERESSED OVER CULVERT TO ALLOW FOR OVERFLOW.
 3. CLEAN ROCK FILL SHALL BE USED TO GUARD AGAINST EROSION AND SEDIMENTATION. STREAMBED MATERIAL IS NOT TO BE USED.
 4. MINIMUM SIZE DIAMETER CULVERT TO BE INSTALLED IS 12 INCHES.
 5. APPROACHES TO CROSSINGS ARE NOT TO EXCEED A DEPTH OF 8 INCHES ABOVE ORIGINAL GRADE.
 6. PROPER EROSION AND SEDIMENTATION CONTROL MEASURES MUST BE INSTALLED.

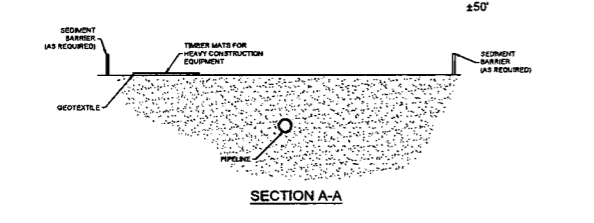
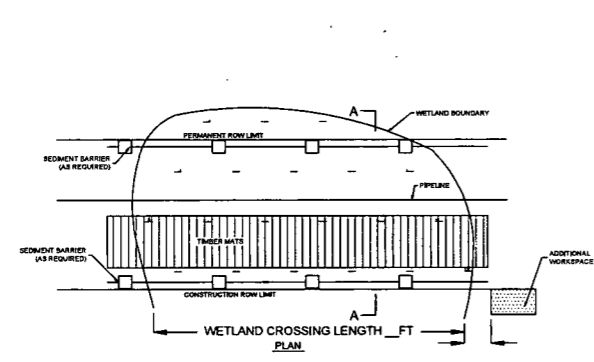
19 ROCK FLUME BRIDGE
NTS



20 DAM & PUMP AROUND
NTS

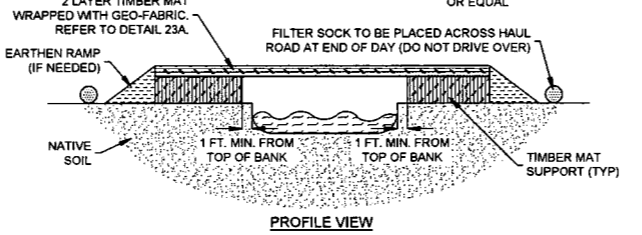
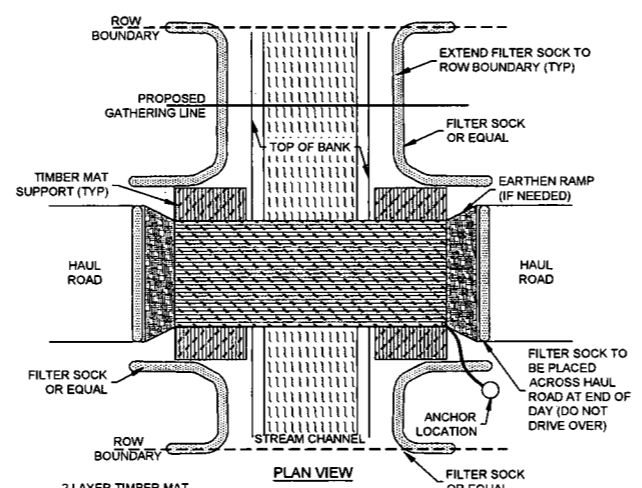


21 STREAM BANK STABILIZATION
NTS

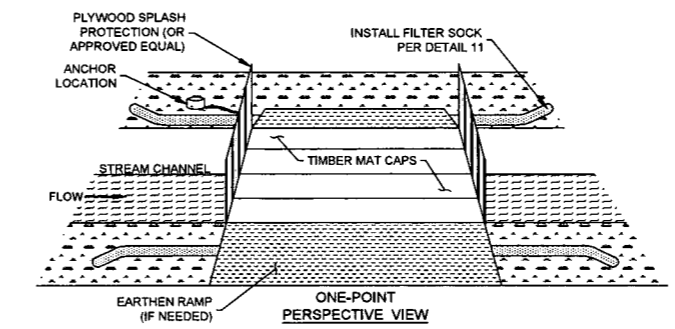
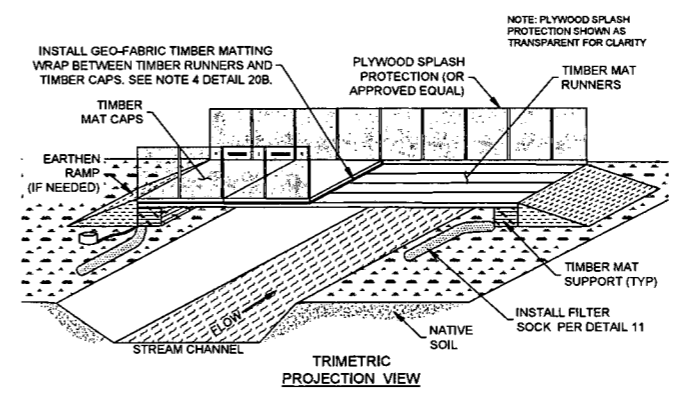


- GENERAL CONSTRUCTION SEQUENCE NOTES:
1. INSTALL TEMPORARY EROSION AND SEDIMENT CONTROLS PRIOR TO EARTH DISTURBANCE.
 2. SEDIMENT BARRIERS WILL BE INSTALLED AT THE EDGE OF THE ROW.
 3. WORKING SIDE WILL BE STABILIZED WITH PRE-FABRICATED MATS. AS NEEDED TO PROVIDE A FIRM SURFACE FOR CONSTRUCTION EQUIPMENT. FOR ALL DELINEATED WETLAND AREAS, GEOTEXTILE SHALL BE PLACED UNDER THE MATS TO PREVENT MOVEMENT OR PUMPING OF THE SOIL THROUGH THE MATS.
 4. WETLAND MATERIAL WILL BE STRIPPED, SEGREGATED, AND RESTORED UPON COMPLETION OF THE CROSSING.

22 TYPICAL EROSION AND SEDIMENT CONTROL FOR WETLAND CROSSINGS
NTS



23 TYPICAL EROSION AND SEDIMENT CONTROL FOR STREAM CROSSINGS
NTS



23A TYPICAL EROSION AND SEDIMENT CONTROL FOR STREAM CROSSINGS
NTS

CONSTRUCTION SPECIFICATIONS AND GENERAL SPECIFICATIONS:

1. CROSSING ALIGNMENT SHALL BE AT RIGHT ANGLE TO THE STREAM. WHERE THE APPROACH CONDITIONS DICTATE, THE CROSSING MAY VARY 15 DEGREES FROM THE LINE DRAWN PERPENDICULAR TO THE CENTERLINE OF THE STREAM.
2. TIMBER MATTING RUNNERS SHALL BE PLACED PERPENDICULAR TO STREAM AND ADJACENT TO ONE ANOTHER.
3. TIMBER MATTING CAPS SHALL BE PLACED PARALLEL TO STREAM AND ADJACENT TO ONE ANOTHER FOR THE ENTIRE SPAN OF THE BRIDGE.
4. TIMBER MATTING CAPS SHALL BE WRAPPED UNDERNEATH AND ALONG THE SIDES OF TIMBER MAT WITH GEO-FABRIC MATERIAL OR APPROVED EQUAL. EXTEND GEO-FABRIC MATERIAL AT MINIMUM 5 FEET ON EITHER SIDE TO ALLOW ENOUGH MATERIAL TO WRAP UP AND TIE INTO PLYWOOD SPLASH PROTECTION FENCING (OR APPROVED EQUAL) TO CONTROL SEDIMENT FROM ENTERING STREAM.
5. PLYWOOD SPLASH PROTECTION FENCING (OR APPROVED EQUAL) SHALL BE SECURELY ATTACHED ALONG THE OUTER SIDES OF TIMBER MATTING TO CONTROL SEDIMENT COLLECTION AND ALLOW GEO-FABRIC MATERIAL TO BE STAPLED TO OUTSIDE OF PLYWOOD.
6. BRIDGE SHALL BE CONSTRUCTED MINIMUM 1 FOOT OUTSIDE TOP OF BANK.
7. BRIDGE SHALL BE SECURELY ANCHORED AT ONLY ONE END USING STEEL CABLE OR CHAIN. ACCEPTABLE ANCHORS ARE LARGE TREES, LARGE BOULDERS, OR DRIVEN STEEL ANCHORS. ANCHORING SHALL BE SUFFICIENT TO PREVENT THE BRIDGE FROM FLOATING DOWNSTREAM.
8. ALL AREAS DISTURBED DURING BRIDGE INSTALLATION SHALL BE STABILIZED IMMEDIATELY.
9. PLYWOOD SPLASH PROTECTION (OR APPROVED EQUAL) SHALL BE WELL MAINTAINED, CLEARING SEDIMENT WHEN NECESSARY.
10. FILTER SOCK SHALL BE PLACED ALONG BOTH ENTRANCES OF THE BRIDGE WHEN NOT IN USE FOR MORE THAN 24 HOURS AND/OR PRIOR TO PRECIPITATION EVENTS. DO NOT DRIVE OVER FILTER SOCK.

LAYOUT FILE: ESCP ANTERO SURVEY PLANS/ESCP DETAIL SHEETS.dwg
PLOT DATE/TIME: 2/16/2017 8:56 AM
USER: jared_d_jenkins



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ISSUED FOR PERMITTING
DATE: 01/06/2017
AFE # A04635

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2	REVISD PER COMMENTS FROM KLEINFELDER, INC.	1/28/17
3	REVISD DUE TO PROJECT NAME CHANGE	1/27/17
4	REVISD DUE TO ALIGNMENT CHANGE	2/03/17

Antero
Midstream Partners LP
BLUESTONE GATHERING REROUTE ESCP DETAILS
PROPOSED 3" HDPE GAS LINE
DODDRIDGE COUNTY, WEST VIRGINIA

DATE: 2/16/2017
SCALE: AS SHOWN
DRAWN BY: JDL (TTS)
CHECKED: JDL (TTS)
SHEET 26
SHT. NAME: 050-6138\BGR\ESCP6
REV. 4

LAYOUT FILE: ESCP7 CAD FILE: R:\050-6138-BLUESTONE GATHERING REROUTE-ANTERO\SURVEY\PLANS\ESCP DETAIL SHEETS.dwg USER: jared.d.jenkins PLOT DATE/TIME: 2/8/2017 8:56 AM

Temporary Stabilization Seeding		
March 15 - September 15	Annual Rye	250 - 350 lbs per acre
September 15 - March 15	Annual Winter Wheat	100 - 125 lbs per acre

24 TEMPORARY SEEDING CHART
NTS

Antero Midstream Default Pasture Mix (200 - 225 LBS per Acre)	
Named Variety of Forage Perennial Ryegrass	20%
Named Variety of Forage Tall Fescue (not Fawn)	20%
Climax Timothy	15%
Orchardgrass	10%
Birdsfoot Trefol	10%
Medium Red Clover	5%
Ladino Clover	5%
Kentucky Bluegrass VNS	5%
Alsike Clover	5%
Alfalfa	5%

Antero Midstream Default Wildlife Mix (150 - 175 LBS per Acre)	
Medium Red Clover	20%
Buckwheat	10%
Oats (Spring & Summer) or Wheat (Fall & Winter)	10%
Ladino White Clover	20%
Birdsfoot Trefol	10%
Alfalfa	10%
Named Variety of Forage Perennial Ryegrass	10%
Annual Ryegrass	10%

Antero Midstream General Contractor Mix (200 - 250 LBS per Acre)	
Named Variety of Forage Tall Fescue (not Fawn)	50%
Named Variety of Forage Perennial Ryegrass	20%
Annual Ryegrass	15%
Ladino Clover	5%
Alsike Clover	5%
Birdsfoot Trefol	5%

25 PERMANENT SEEDING CHART
NTS

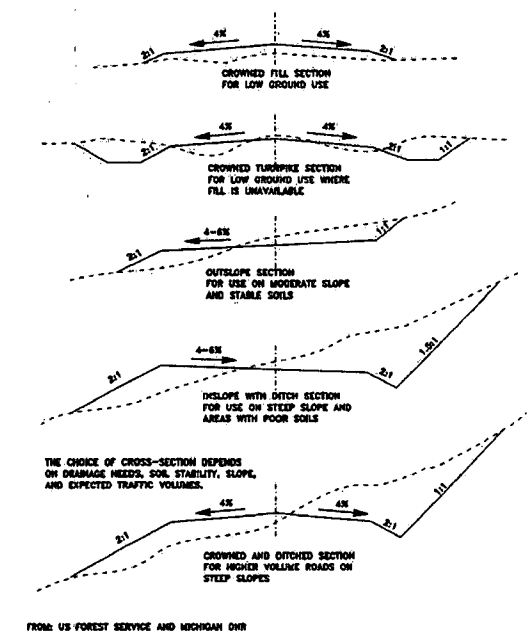
Lime
Pelletized
1.5 tons per acre

Fertilizer
10/20/20
200 lbs per acre

Straw Mulching
2 tons per acre

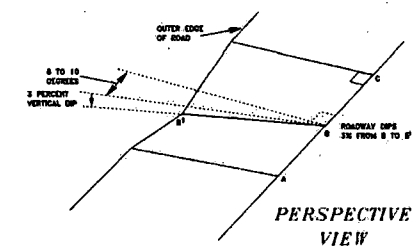
26 LIME, FERTILIZER, AND MULCH CHARTS
NTS

TYPES OF ROAD CROSS-SECTIONS



27 TYPES OF ROAD CROSS-SECTIONS
NTS

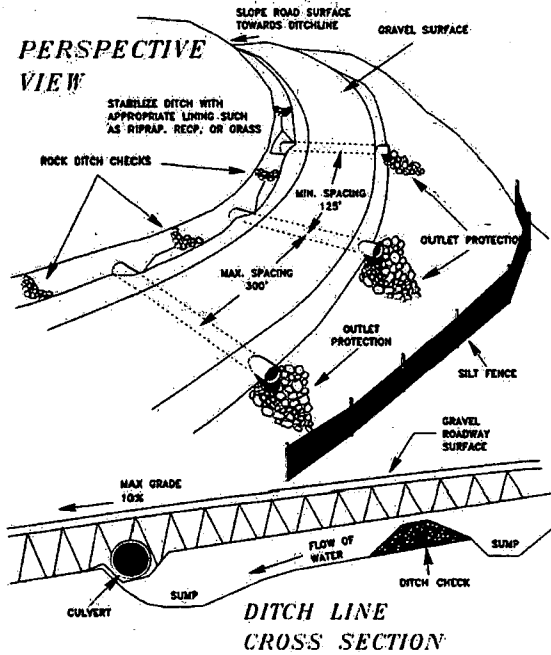
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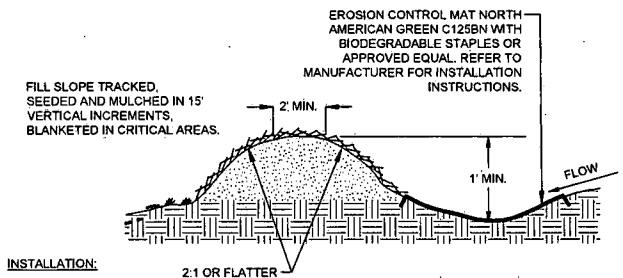
SPACING = 400'/% GRADE + 75'

Drainage Area (Acres)	Average Slope of Watershed		
	1%	4%	25%
1-25	34	25	30
25-50	24	35	35
51-100	30	36	42
101-150	30	42	46
151-200	36	42	48
201-250	42	42	50
251-300	42	42	50
301-350	42	48	60
351-400	42	54	60
401-450	42	54	72
451-500	42	54	72
501-550	48	60	84
551-600	48	60	84
601-640	48	60	72

28 BROAD-BASE DIP
NTS



29 EROSION AND SEDIMENT CONTROL FOR ACCESS ROADS AND DRIVEWAYS
NTS

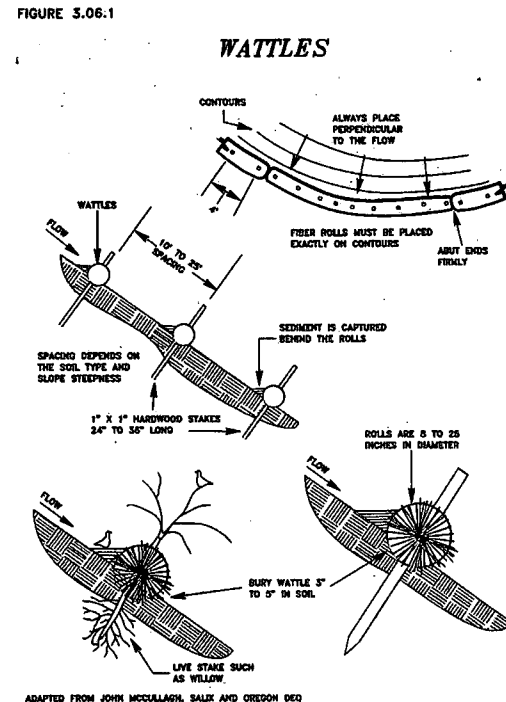


- INSTALLATION:**
- WHEN CLEARING THE LOCATION FOR THE DIVERSION, ONLY CLEAR ENOUGH ROOM FOR CONSTRUCTION AND MAINTENANCE EQUIPMENT ACCESS. DO NOT CLEAR ANY ADDITIONAL AREA UNTIL ALL EROSION CONTROL DEVICES ARE IN PLACE.
 - REMOVE ALL STUMPS, ROOTS, AND OTHER DEBRIS AND DISPOSE OF THEM PROPERLY.
 - INSTALL DIVERSION AND COMPACT AS SHOWN IN DETAIL INSURE POSITIVE DRAINAGE DURING CONSTRUCTION OF BERM.
 - SCARIFY, SEED, MULCH AND TACK DISTURBED AREAS IMMEDIATELY UPON COMPLETION OF BERM.
 - INSTALL EROSION CONTROL MAT NORTH AMERICAN GREEN C125N PER MANUFACTURER'S RECOMMENDATIONS AND KEY INTO SIDES OF CHANNEL TO PREVENT WATER FROM UNDERMINING OR DAMAGING CHANNEL LINER.

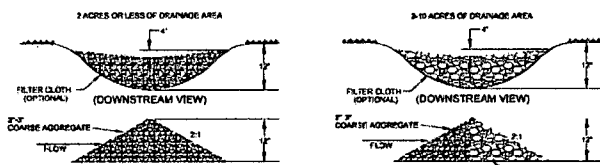
- NOTES:**
- TEMPORARY BERMS SHALL BE PLACED, MAINTAINED, AND ADJUSTED CONTINUOUSLY UNTIL 90% VEGETATIVE GROWTH IS ESTABLISHED ON THE EXTERIOR SLOPES WITH PERMANENT STORM DRAINAGE FACILITIES FUNCTIONING.
 - BERMS SHALL OUTLET TO SLOPE PIPES, CHANNELS, OR OTHER APPROVED MEANS OF CONVEYING RUNOFF TO A SEDIMENT TRAP, SEDIMENT BASIN, OR COLLECTOR CHANNEL.
 - CHANNEL BEHIND BERM SHALL HAVE POSITIVE GRADE TO OUTLET AND AN APPROPRIATE PROTECTIVE LINING.
 - BERM SHALL BE ADEQUATELY COMPACTED TO PREVENT FAILURE.
 - AN ACCEPTABLE ALTERNATIVE TO TOP-OF-SLOPE BERM IS TO CONTINUOUSLY GRADE THE TOP OF FILL TO DIRECT RUNOFF AWAY FROM THE FILL-SLOPE TO A COLLECTOR CHANNEL, SEDIMENT TRAP, OR SEDIMENT BASIN.

MAINTENANCE:
INSPECT TEMPORARY DIVERSIONS ONCE A WEEK AND AFTER EVERY RAINFALL. IMMEDIATELY REMOVE SEDIMENT FROM THE FLOW AREA AND REPAIR THE DIVERSION RIDGE. CAREFULLY CHECK OUTLETS AND MAKE TIMELY REPAIRS. REMOVE THE RIDGE AND THE CHANNEL TO BLEND WITH THE NATURAL GROUND LEVEL AND APPROPRIATELY STABILIZE IT.

30 TEMPORARY DIVERSION BERM FOR OFFSITE WATER
NTS



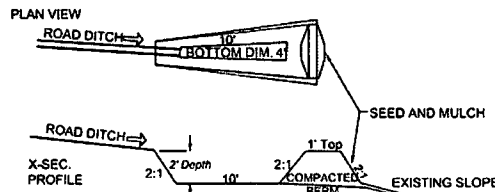
31 WATTLES
NTS



DITCH CHECK DAM DETAILS/
SPACING AS INDICATED ON PROFILES
NTS

NOTES:
DITCH CHECKS WILL BE CONSTRUCTED IN CHANNELS TO MINIMIZE EROSION. THE CONSTRUCTION OF THE DITCH CHECK WILL FOLLOW THE GUIDELINES ABOVE. DITCH CHECKS WILL BE CONSTRUCTED SO THAT THE ELEVATION OF THE TOP OF THE DOWNSTREAM DITCH CHECK IS EQUAL TO THE ELEVATION OF THE BASE OF THE DITCH CHECK ABOVE. THIS CREATES A SITUATION WHERE THE CHANNEL HAS NO CHANNELIZED FLOW PER SE, THE WATER FLOWING DOWN THE DITCH WILL CASCADE FROM THE POOL CREATED BY ONE DITCH CHECK INTO THE POOL CREATED BY THE DOWNSTREAM DITCH CHECK THIS DISSIPATES ENERGY AND SLOWS THE WATER FLOW REDUCING EROSION AND ALLOWING ANY SEDIMENT IN THE DRAINAGE TO FALL OUT.

32 CHECK DAM
NTS
DETAIL PROVIDED BY ANTERO MIDSTREAM LLC

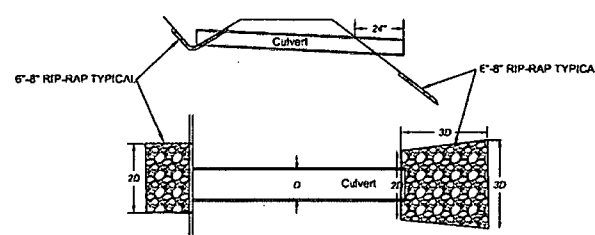


LEVEL SPREADER DETAIL
NTS

NOTE: TO BE PLACED AT THE ENDS OF DITCHES CALLING FOR LEVEL SPREADERS LEVEL SPREADERS WILL BE CUT INTO THE CONTOUR OF THE EXISTING SLOPE.

NOTES:
LEVEL SPREADER TO BE CONSTRUCTED IN AREAS WHERE A CULVERT OR CHANNEL MUST EMPTY ONTO GROUND WITH NO ASSOCIATED CHANNELIZED FLOW. THE PURPOSE OF THE LEVEL SPREADER IS TO DISSIPATE ENERGY AND SPREAD THE FLOW OUT OVER A SIGNIFICANT AREA. THIS WILL TAKE A CHANNELIZED FLOW AND ESSENTIALLY CONVERT IT BACK TO A SHEET FLOW OVER THE GROUND SURFACE. THE SHEET FLOW WILL HAVE LESS CHANCE FOR EROSION CONSIDERING THE LOWER VELOCITIES AND FLOW VOLUMES IN ANY PARTICULAR AREA. THEY MAY BE CONSTRUCTED MUCH LIKE A SUMP WHERE THE CHANNEL OR CULVERT EMPTIES INTO THE SUMP AND THEN OVERTOPS THE BERMED AREA, BUT THEY MAY OFTEN CONTAIN GRAVEL IN THE SUMPED AREA. THEY WILL ALLOW BE CONSTRUCTED ALONG THE GROUND CONTOUR.

33 LEVEL SPREADER
NTS
DETAIL PROVIDED BY ANTERO MIDSTREAM LLC



TYPICAL CULVERT & CULVERT INLET/OUTLET PROTECTION DETAIL
NTS

NOTES:
INLET AND OUTLET PROTECTION IS ESSENTIALLY GRAVELS AND/OR RIP RAP PLACED AT BOTH THE INLET AND OUTLET SIDES OF CULVERTS. THE GRAVELS WILL HELP TO SLOW THE FLOW OF WATER, AND DISSIPATE ENERGY. THIS WILL IN TURN DECREASE THE CHANCES OF EROSION AND ALSO ALLOW ANY SEDIMENT IN THE WATER TO SETTLE OUT.

34 TYPICAL CULVERT & CULVERT INLET/OUTLET PROTECTION
NTS
DETAIL PROVIDED BY ANTERO MIDSTREAM LLC

LAYOUT FILE: ESCP.dwg
CAD FILE: 18_0509-0138-BLUESTONE GATHERING REROUTE-ANTERO SURVEY PLANS ESCP DETAIL SHEETS.dwg
PLOT DATE/TIME: 2/16/2017 8:57 AM
USER: jared.d.jenkins

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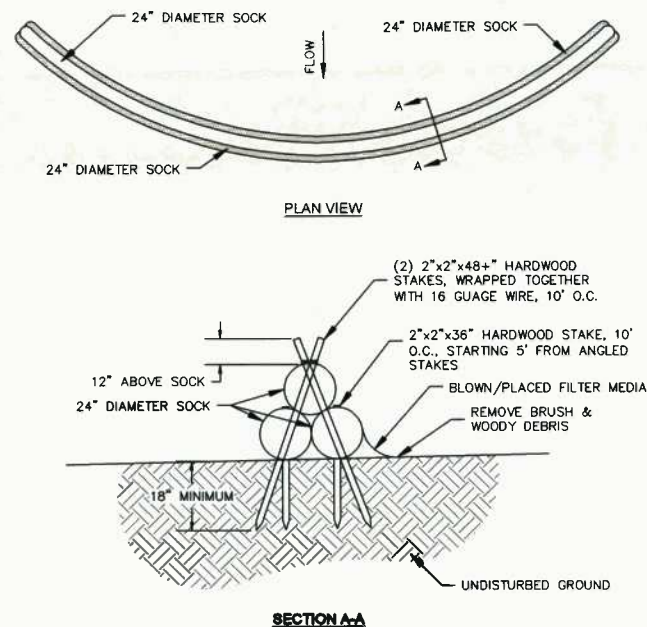
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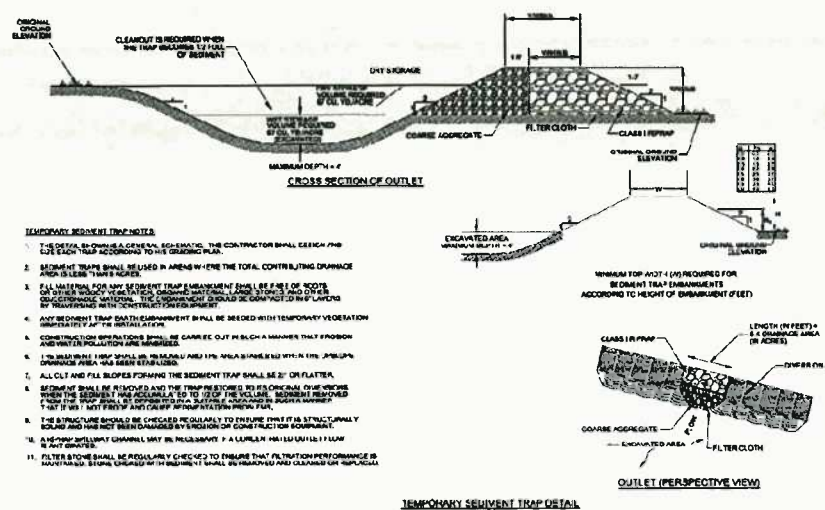
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BLUESTONE GATHERING REROUTE ESCP DETAILS
PROPOSED 3" HOPE GAS LINE
DODDRIDGE COUNTY, WEST VIRGINIA
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SCALE: AS SHOWN
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CHECKED BY: JBI (TJD)
SHEET 28
SHT. NAME: 050-6138\BGR\ESCP8
REV. 4



35 TRIPLE STACK FILTER SOCK SEDIMENT TRAP
NTS



36 TEMPORARY SEDIMENT TRAP
NTS
DETAIL PROVIDED BY ANTERO MIDSTREAM LLC

NOTES:
ON MOST LOCATIONS ANTERO WILL ALSO CONSTRUCT EROSION AND SEDIMENT (E&S) CONTROLS ABOVE AND BEYOND THE E&S CONTROLS LISTED ON THE PLAN SHEETS. THESE CONTROLS WILL BE CATEGORIZED AS PHASE I, PHASE II, AND PHASE III CONTROLS. THESE CONTROLS WILL BE INSTALLED TO BOTH PROVIDE EXTRA E&S PROTECTION, AND TO ELIMINATE THE CHANCES OF MATERIALS SUCH AS SOIL OR GRAVEL BEING PLACED IN A STREAM OR WETLAND. THE SITE PLANS AND DELINEATIONS ARE REVIEWED AND THESE CONTROLS ARE SPECIFIED IN ANTERO'S CONSTRUCTION RELEASE WHICH IS SENT OUT JUST PRIOR TO CONSTRUCTION BEGINNING. THE PHASE I, II, AND III CONTROLS WILL BE CONSTRUCTED AS FOLLOWS:



37A SUPPLEMENTAL 404 CWA BMP CONTROLS
NTS
DETAIL PROVIDED BY ANTERO MIDSTREAM LLC



37B SUPPLEMENTAL 404 CWA BMP CONTROLS
NTS
DETAIL PROVIDED BY ANTERO MIDSTREAM LLC



37C SUPPLEMENTAL 404 CWA BMP CONTROLS
NTS
DETAIL PROVIDED BY ANTERO MIDSTREAM LLC

DEFINITIONS:

RIP RAP - LOOSE STONE USED TO FORM A FOUNDATION FOR A BREAKWATER OR OTHER STRUCTURE. THIS STONE IS TYPICALLY 3 INCHES OR GREATER IN DIAMETER.

FILTER CLOTH - TYPICALLY TYPAR OR ANOTHER SUCH MATERIAL (USUALLY WOVEN) WHICH IS DESIGNED TO ALLOW WATER TO FLOW BUT RETAIN SEDIMENT.

AGGREGATE - TERM USED TO IDENTIFY ANY TYPE SOLID DENSE MATERIAL USED DURING CONSTRUCTION TYPICALLY GRAVELS, SANDS, AND STONES.

EMBANKMENT - A WALL OR BANK OF EARTH OR STONE.

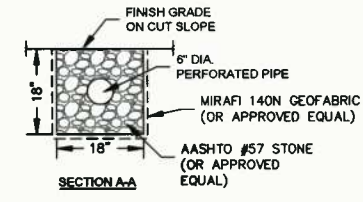
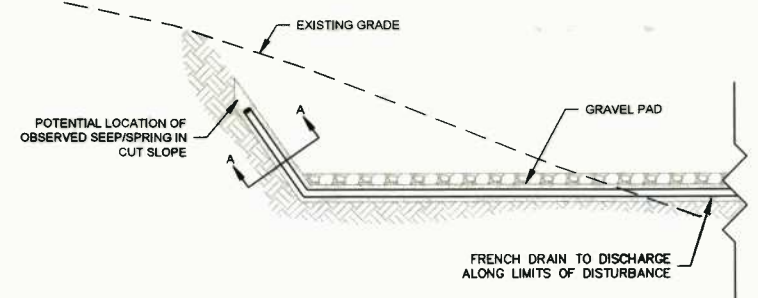
CLASS 1 RIP RAP - TYPICAL RIP RAP WITH STONES OF A DIAMETER BETWEEN 8 AND 18 INCHES.

38 DEFINITIONS
NTS
DETAIL PROVIDED BY ANTERO MIDSTREAM LLC

LAYOUT TAB: ESCP9 CAD FILE: R:\050-0-0130-BLUESTONE GATHERING REROUTE-ANTERO\SURVEY\PLAN\ESCP DETAIL SHEETS.dwg USER: jared.d.pearlins PLOT DATE/TIME: 2/16/2017 8:57 AM

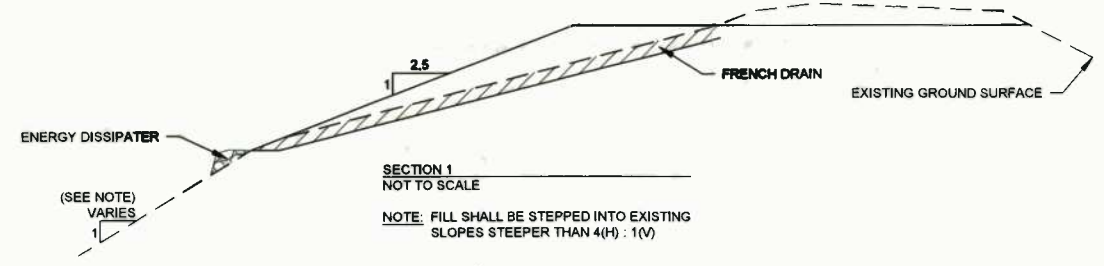
	<p>ISSUED FOR PERMITTING</p> <p>DATE: 01/06/2017</p> <p>AFE # A04635</p>	SUMMARY OF MATERIALS (3D)		SUMMARY OF MATERIALS (3D)		GENERAL INFORMATION																							
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USER: JARED G. JENKINS
 PLOT DATE/TIME: 2/6/2017 8:57 AM
 LAYOUT FILE: ESCP10
 CAD FILE: R:\050-6138-BLUESTONE GATHERING REROUTE-ANTERO\SURVEY\PLANS\ESCP DETAIL SHEETS.dwg



NOTE:
 IF EVIDENCE OF A SEEP/SPRING IN A CUT SLOPE IS OBSERVED, THE CONTRACTOR SHOULD INSTALL A FRENCH DRAIN PER DETAIL 36 ABOVE.

39 FRENCH DRAIN AT OBSERVED SEEP/SPRING IN CUT SLOPES
 NTS



NOTES:

- WHERE SPRINGS OR SEEPS ARE ENCOUNTERED DURING CONSTRUCTION, DRAINABLE FILL AND PERFORATED PIPES (FRENCH DRAINS) SHOULD BE INSTALLED TO PROVIDE A DRAINAGE PATH FOR SEEPAGE FROM THE EXISTING SLOPE.
- THE FRENCH DRAIN SHOULD CONSIST OF A 6 INCH DIAMETER PERFORATED PIPE SURROUNDED BY DRAINABLE FILL, INSTALLED IN AN 18 INCH DEEP TRENCH ALONG THE EXISTING DRAINAGE FEATURE OR SEEP. PRIOR TO DRAINABLE FILL PLACEMENT, THE TRENCH SHOULD BE LINED WITH A LAYER OF GEOFABRIC SUCH AS MIRAFIX 140N, OR APPROVED EQUAL, WITH SUFFICIENT OVERLAP TO PROVIDE AN ENVELOPE AROUND THE PIPE TRENCH TO PREVENT THE MIGRATION OF FINES INTO THE FRENCH DRAIN.
- THE FRENCH DRAIN SHOULD DAYLIGHT BEYOND THE TOE OR SIDE OF THE SLOPE AND EXTEND UP TO THE CREST OF THE SLOPE TO FACILITATE DRAINAGE THROUGH THE FILL SECTION, THE AS-BUILT WIDTH OF THE FRENCH DRAIN SHOULD BE A FUNCTION OF THE WIDTH OF THE SPRING, SEEP OR DRAINAGE FEATURE OBSERVED DURING CONSTRUCTION.
- THE FRENCH DRAIN SHOULD BE CONSTRUCTED TO SPAN THE ENTIRE WIDTH OF THE OBSERVED SPRING OR SEEP.

40 FRENCH DRAIN AND DRAINABLE FILL SECTION AT OBSERVED SEEP/SPRING OR EXISTING DRAINAGE FEATURE LOCATION
 NTS



Typical Polymer Stabilized Fiber Matrix Application Rates

Maximum Rainfall of ≤ 20"							
SLOPE	6:1	5:1	4:1	3:1	2:1	1.5:1	1:1
Soil Stabilizer (gals/acre)	4	5	6	7	8	9	10
Fiber (lb/acre)	1,500	1,500	1,500	1,800	2,000	2,500	3,000

Maximum Rainfall of > 20" and for Site Winterization			
SLOPE	≤5:1	4:1	≥3:1
Soil Stabilizer (gals/acre)	6	8	10
Fiber (lb/acre)	2,000	2,500	3,000

NOTES:

A BONDED FIBER MATRIX (BFM) IS AN EFFECTIVE METHOD OF STABILIZING STEEP SLOPES WHEN USED PROPERLY. BFM MAKE USE OF A CROSS-LINKED HYDROCOLLOID TACKIFIER TO BOND THERMALLY PROCESSED WOOD FIBERS. APPLICATION RATES VARY ACCORDING TO SITE CONDITIONS. FOR SLOPES UP TO 3H:1V THE BFM SHOULD BE APPLIED AT A RATE OF 3,000 LB/ACRE. STEEPER SLOPES MAY NEED AS MUCH AS 4,000 LB/ACRE.

BFM SHOULD ONLY BE USED WHEN NO RAIN IS FORECASTED FOR AT LEAST 48 HOURS FOLLOWING THE APPLICATION. THIS IS TO ALLOW THE TACKIFIER SUFFICIENT TIME TO CURE PROPERLY. ONCE PROPERLY APPLIED, A BFM IS TYPICALLY 80% EFFECTIVE IN PREVENTING ACCELERATED EROSION. BFM SHOULD NOT BE APPLIED BETWEEN SEPTEMBER 30 AND APRIL 1.

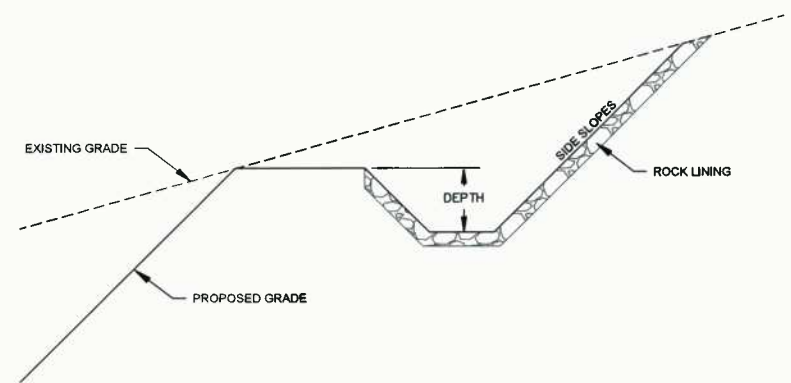
A POLYMER STABILIZED FIBER MATRIX (PSFM) CAN ALSO BE AN EFFECTIVE METHOD OF STABILIZING STEEP SLOPES WHEN USED PROPERLY. PSFM MAKE USE OF A LINEAR SOIL STABILIZING TACKIFIER THAT WORKS DIRECTLY ON SOIL TO MAINTAIN SOIL STRUCTURE, MAINTAIN PORE SPACE CAPACITY AND FLOCCULATE DISLODGED SEDIMENT THAT WILL SIGNIFICANTLY REDUCE RUNOFF TURBIDITY. PROPERLY APPLIED, A PSFM MAY BE AS MUCH AS 99% EFFECTIVE.

NOTES:

UNLIKE ROLLED BLANKETS, THERE IS NO NEED TO SMOOTH THE SLOPE PRIOR TO APPLICATION OF HYDRAULICALLY APPLIED BLANKETS. IN FACT SOME ROUGHENING OF THE SURFACE, EITHER NATURAL OR MECHANICALLY INDUCED, IS PREFERABLE. HOWEVER, LARGE ROCKS, THOSE > 9 INCHES, AND EXISTING RILLS SHOULD BE REMOVED PRIOR TO APPLICATION. TRACKING OR GROOVING OF SLOPES SHOULD BE CONSIDERED TO SLOW WATER FLOWS DURING A STORM EVENT. SLOPE INTERRUPTION DEVICES SUCH AS STAIR STEP GRADING OR BENCHING SHOULD BE APPLIED PRIOR TO THE APPLICATION. MIXING AND APPLICATION RATES SHOULD FOLLOW MANUFACTURER'S RECOMMENDATIONS.

HYDRAULICALLY APPLIED BLANKETS ARE TYPICALLY APPLIED IN TWO STAGES, UNLESS SPECIFICALLY RECOMMENDED TO BE APPLIED IN ONE APPLICATION BY THE MANUFACTURER. THE SEED MIXTURE AND SOIL AMENDMENTS SHOULD BE APPLIED FIRST. IF THE SEED IS APPLIED AT THE SAME TIME AS THE HYDRAULICALLY APPLIED BLANKET, THE BONDED FIBERS MAY KEEP THE SEED FROM MAKING SUFFICIENT CONTACT WITH THE SOIL TO GERMINATE. AFTER THE SEED MIXTURE IS APPLIED, THE BFM, FGM, OR PSFM SHOULD BE SPRAYED OVER THE AREA AT THE REQUIRED APPLICATION RATE. (SEE ABOVE TABLES)

41 BONDED FIBER MATRIX (HYDROMULCH)
 NTS



NOTE:
 DRAINAGE CHANNEL DIMENSIONS AND LINING WILL BE DETERMINED BY ENGINEER AS APPLICABLE.

42 TYPICAL ROCK LINED CHANNEL
 NTS

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