



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: #19-541

Date Approved: March 11, 2019

Expires: March 11, 2020

Issued to: Columbia Gas Transmission

POC: Anthony Capp

Company Address: 455 Racetrack Road Washington, PA 15301

Project Address: Various Locations

Firm: 54017C0130C

Lat/Long: 39.341920N, -80.693985W

Purpose of Development: Renewal of FP Permit #18-500

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

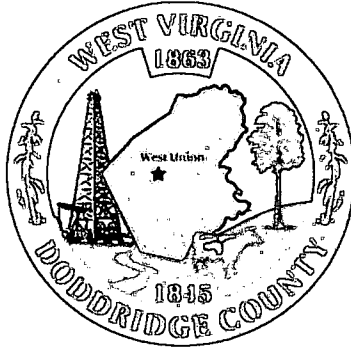
Date: March 11, 2019

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

FLOODPLAIN PERMIT #19-541

Columbia Gas MXP-Pipeline Various locations / Renewal of FP#18-500 / 39.341920N, -80.693985W

TASK	COMPLETE (DATE)	NOTES
<i>CHECK RECEIVED</i>	1/30/2019	
<i>US ARMY CORP. ENGINEERS (USACE)</i>		
<i>US FISH & WILDLIFE SERVICES (USFWS)</i>		
<i>WV DEPT. NATURAL RESOURCES (WVDNR)</i>		
<i>WV DEPT. ENVIROMENTAL PROTECTION (WVDEP)</i>		
<i>STATE HISTORIC & PRESERVATION OFFICE (SHPO)</i>		
<i>OFFICE of LAND & STREAM (OLS)</i>		
<i>DATE OF COMMISSION READING</i>		
<i>DATE AVAILABLE TO BE GRANTED</i>	3/11/2019	
<i>PERMIT GRANTED</i>		
<i>COMPLETE</i>		



Doddridge County Floodplain Permits

(Week of February 4, 2019)

Please take notice that on the **(25th) of (January), 2019, (Columbia Gas)** filed an application for a Floodplain Permit **(#19-541)** to develop land located at or about **(Various Locations in Doddridge County); Coordinates: 39.341920N, -80.693985W**. The Application is on file with the Floodplain Manager of the County and may be inspected or copied during regular business hours in accordance to WV Code Chapter 29B Freedom of Information, Article 1 Public Records and county policy and procedures. Any interested persons who desire to comment shall present the same in writing by **(March 11, 2019)** (20 calendar days after the announcement at the regularly scheduled Doddridge County Commission Meeting) delivered to the Floodplain Manager of the County at 105 Court Street, Suite #3, West Union, WV 26456. **This project is a renewal of FP#18-500 Mountaineer Xpress Pipeline for completion of work.**


GEORGE C. EIDEL, CFM

Doddridge County Floodplain Manager

Floodplain Permit Application RENEWAL

For the installation of:

Mountaineer Xpress Project

Natural Gas Transmission Facilities

Doddridge County, West Virginia

Prepared for:



Columbia Pipeline Group

700 Louisiana Street

Houston, TX 77002

Submitted by:

Stahl Sheaffer Engineering, LLC

5000 Waterdam Plaza, Suite 120

McMurray, PA 15317

December, 2017

RENEWAL January, 2019



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 #: 17-500 (90 Day Extension)

Date Approved: January 18, 2019

Expires: April 18, 2019

Issued to: Columbia Gas Transmissions

POC: Karen Gleeson

Company Address: 5000 Waterdam Plaza Drive, Suite 120, McMurray, PA 15317

Project Address: Various Location, see permit

Firm: 54017C0130C

Lat/Long: 39.341920N/-80.693985W

Purpose of development: Mountaineer Express Pipeline

Issued by: George C. Eidel, Doddridge County FPM (or designee)

Date: 1/18/2019

For additional information regarding this permit, please contact
Doddridge County Floodplain Manager at 304.873.1343, or via email at
doddridgecountyfpm@gmail.com

105 Court Street Suite 3; West Union, WV 26456

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- Erosion and Sediment Pollution Control Plan sheets for areas within regulated floodplains
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Property Owners

Floodplain Permit Application



Permit#

19-541

Project Name:

Mountaineer Xpress
Pipeline Renewal

Permittees Name:

Columbia Gas

JAN 23 2019 4:02 PM

Doddridge County, WV

Floodplain Development Permit Application

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

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

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

APPLICANT'S SIGNATURE

WV Gas, Under Project review

DATE January 25, 2019

Doddridge County Commercial/Industrial
Floodplain Development Permit Application

Applicant Information:

Please provide all pertinent data.

Applicant Information		
Responsible Company Name: Columbia Gas Transmission		
Corporate Mailing Address: 700 Louisiana Street		
City: Houston	State: TX	Zip: 77002
Corporate Point of Contact (POC): Anthony Capp		
Corporate POC Title:		
Corporate POC Primary Phone: 304-670-5156		
Corporate POC Primary Email:		
Corporate FEIN:	Corporate DUNS:	
Corporate Website:		
Local Mailing Address: 455 Racetrack Rd		
City: Washington	State: PA	Zip: 15301
Local Project Manager (PM): Anthony Capp		
Local PM Primary Phone:		
Local PM Secondary Phone:		
Local PM Primary Email: anthony_capp@transcanda.com		
Person Filing Application:		
Applicant Title:		
Applicant Primary Phone:		
Applicant Secondary Phone:		
Applicant Primary Email:		

Doddridge County Commercial/Industrial
Floodplain Development Permit Application

Project Narrative:

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

Project Narrative:
See enclosed description of work.
The following is remaining and ongoing work within the County for the renewal request:
Spread 2: Clearing, grading and stringing operations are complete. Trenching, welding, lowering-in, and backfill operations continue. Construction is complete between MPs 29 to MP38.3. Hydrostatic testing is complete between MP 30.0 and MP 38.3. Clean up and winterization crews are active between MP 30.0 and MP 38.3.
Spread 3: Clearing, grading, stringing, bending, coating, lowering-in, backfilling and tie-ins are complete. Cleanup (87%) and restoration (43%) are making progress. The hydrotesting is complete for the spread. Hydroseeding of the ROW by helicopter is ongoing. All resource crossings have been completed.
MXP-200 (Sherwood Lateral): Clearing, grading, ditching, stringing, welding, bending, coating, lowering-in, backfilling, and tie-ins are complete. Cleanup (93%) and restoration (81%) are making progress. Hydrostatic testing is complete along the entire MXP-200 Line. All resource crossings are complete.
Spread 4: Clearing, grading, ditching, stringing, welding, bending, lowering-in, backfilling and tie-ins are now 100% complete. Clean up (56%) and restoration (51%) are ongoing. Hydrostatic testing is complete along the entire length of Spread 4.
The remaining cost to complete the construction in the floodplains is less than \$100,000.
The permit renewal fee of \$1000 has been based on the cost to completion of \$100,000.

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: ____ of ____

Site/Property Information:		
Legal Description: See attached for list of property addresses in the floodplain.		
Physical Address/911 Address:		
Decimal Latitude/Longitude:		
DMS Latitude/Longitude:		
District:	Map:	Parcel:
Land Book Description:		
Deed Book Reference:		
Tax Map Reference:		
Existing Buildings/Use of 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

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: ____ of ____

Property Owner Data:		
Name of Primary Owner (PO): See attached list of property owners.		
PO Address:		
City:	State:	Zip:
PO Primary Phone:		
PO Secondary Phone:		
PO Primary Email:		

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: Associated Pipe Line Contractors, Inc.		
C/SC WV License Number: WV049235		
C/SC FEIN:	C/SC DUNS:	
Local C/SC Point of Contact (POC):		
Local C/SC POC Title:		
C/SC Mailing Address: 3535 Briarpark Drive, Suite 135		
City: Houston	State: TX	Zip-Code: 77042
Local C/SC Office Phone:		
Local C/SC POC Phone:		
Local C/SC POC E-Mail:		

Engineer Firm Information:		
Engineer Firm Name: Stahl Sheaffer Engineering		
Engineer WV License Number:		
Engineer Firm FEIN:	Engineer Firm DUNS:	
Engineer Firm Primary Point of Contact (POC): Karen Gleason		
Engineer Firm Primary POC Title: Senior Permitting		
Engineer Firm Mailing Address: 6000 Town Center Boulevard		
City: Canonsburg	State: PA	Zip-Code: 15317
Engineer Firm Office Phone: 724-960-1111		
Engineer Firm Primary POC Phone:		
Engineer Firm Primary POC E-Mail: kgleason@sse-llc.com		

Adjacent and/or Affected Landowners Data

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

Adjacent Property Owner Data: Upstream		
Name of Primary Owner (PO): See attached for list of property owners within the floodplain.		
Physical Address:		
City:	State:	Zip:
PO Primary Phone:		
PO Secondary Phone:		
PO Primary Email:		

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

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

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

Site Plan

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

A SITE PLAN MUST CONTAIN THE FOLLOWING INFORMATION:

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

Applicant

Please read print name, sign and date below:

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

Applicant Signature: Anthony Capp, Land Project Manager Date: 1/25/19

Applicant Printed Name: Anthony Capp / Land Project Manager

Description of Work Narrative

Description of Work to be completed: (Doddridge County)

Columbia Gas Transmission, LLC (Columbia) is proposing to construct, modify, operate, and maintain various natural gas transmission pipeline facilities in West Virginia, referred to as the Mountaineer XPress Project (Project or MXP). The Project will involve the construction and operation of approximately 170.9 miles of various diameter pipeline, modifications to one existing compressor station and two new compressor stations being constructed as part of other Columbia projects, construction of three new compressor stations, three new regulating stations, and other modifications at a number of aboveground facility sites, all of which occur in West Virginia. The Project is regulated by the Federal Energy Regulatory Commission (FERC) under Section 7(c) of the Natural Gas Act.

Within Doddridge County, the Project will consist of the construction of the pipeline, temporary access roads, pipe yards or storage facilities, MXP 4 valve site, Sherwood Compressor station, MXP-200 tie in, MXP-5 valve site access road ARDO003. This application for a floodplain permit is for temporary impacts to the floodplains associated with the construction of the pipeline, temporary access roads, pipe yards or storage facilities and any permanent above ground facilities within the regulated FEMA floodplains or flood hazard areas. MLV-4 and ARDO003 are permanent above ground facilities within FEMA regulated floodplains proposed in Doddridge County. Any grading or fill associated with the pipeline right of way, temporary access roads, and pipe yards is anticipated to be temporary and will be restored in accordance with Columbia's ECS, environmental permit requirements, landowner agreements, or to existing conditions upon completion of construction.

For temporary construction through floodplains which require a stream crossing, during the clearing and grading phase of construction, temporary equipment crossings (bridges) will typically be installed across waterbodies to allow construction equipment and personnel to cross. The bridges may include clean rock fill over culverts, timber mats supported by flumes, railcar flatbeds, flexi-float apparatuses, or other types of spans. Temporary bridges will be constructed in accordance with Columbia's ECS to minimize the potential for sediment, grease, oil, or other pollutants to enter the waterbody. The clearing crew and related equipment, as well as equipment necessary for installation of temporary equipment crossings, will be allowed a single pass through a waterbody prior to installation of the equipment crossing unless restricted by other federal, state, or local agency requirements, to allow for the proper preparation of the bridge location. All other construction equipment will be required to use the bridges. Temporary bridges will be installed to withstand the highest flow expected to occur while the structure is in place and will be removed when construction and restoration activities are complete. Due to the anticipated duration of temporary impacts to the floodplains associated with construction of the pipeline, access roads, and yards, adverse impacts are not anticipated to the regulated floodplains.

For temporary pipe yards in floodplains, the contractor will be de-top soiling and applying gravel in order to stabilize the storage area. A top soil berm is proposed on the high side of the yard to direct runoff around the site. The contractor will place silt fence around the yard to keep debris from getting outside of the LOD's. If possible, material will be stored outside of the floodplain boundary. Material will either be removed from the yard in the event of a flood, or the contractor will tie the material down, either with a net or tying the material together with cables. When the yard is no longer needed for construction, the temporary pipe and storage yards will be restored in accordance with Columbia's ECS, environmental permit requirements, landowner agreements or to existing conditions so as not to alter or impact the floodplain under proposed conditions.

For temporary access road improvements or access road construction within a floodplain, access roads may need to be upgraded or constructed for use by the contractor during construction. Any upgrades to existing roads or newly constructed access roads within the regulated floodplains indicated on the figures provided will be removed after the completion of construction and the sites restored to

existing conditions or in accordance with landowner agreements. The temporary access roads will not adversely impact the FEMA regulated floodplains under proposed or permanent conditions.

MLV4 is a proposed permanent main line valve site for the project. The FEMA WSEL is shown at 763 on the FEMA FIRM map and will remain at 763 under proposed conditions. The site presents a minimal or negligible obstruction to flow of water along McElroy Creek. There are no printed sections available for McElroy Creek so a comparison of cross sectional area based on survey and LIDAR has been made. The proposed grading plan results in a 12.62% decrease in floodplain cross-sectional area and negligible increase to the 100-year floodway elevation (i.e., 0.0031444 ft.). Additionally, grading below the BFE results in a net placement of earth (79.48 square feet) within the approximated 100-year floodplain. When compared to the overall cross-sectional area of the entire 100-year floodplain (i.e., smaller cross-sectional area than the surveyed floodway cross-sectional area), grading within the 100-year floodplain results in a negligible increase to the BFE and only a shift of the boundary within the project area. It is approximated that the appurtenant structures are located outside of the floodplain through the placement of fill for the pad. All other disturbance within this vicinity for construction of the pipeline is temporary, and will be restored as practical to the existing conditions. Therefore, no rise to the BFE or floodway elevations on McElroy Creek will occur as a result of the proposed grading plan. The flood boundary will remain similar to existing conditions at the site and will not adversely impact adjacent property owners, velocities, or channel capacity along McElroy Creek.

ARDO003 an existing access road proposed for permanent use by the MXP project. ARDO003 is an existing roadway that will have minimal to no improvements for the proposed condition. For temporary use, a temporary equipment crossing in compliance with the environmental permits for the project, will be placed across Flint Run to allow for use of the stream crossing by larger equipment. The existing ford crossing of Flint Run will be restored or maintained after construction is complete and the temporary equipment crossing removed. Gravel placed for resurfacing or improving the road is not to exceed 6" above existing grade. Flint Run does not have published or printed sections or discharges determined within the FEMA FIS. Flint Run at the site of ARDO003 is located in Zone A, or studied by approximate methods. The maintenance of the existing access road, ARDO003, for permanent use will not have any impact on the flood boundary shown for Flint Run on the FEMA FIRM map.

FLOODWAY "NO-RISE / NO-IMPACT" CERTIFICATION

This document is to certify that I am duly qualified engineer licensed to practice in the State of

West Virginia
(State)

. It is to further certify that the attached technical data supports

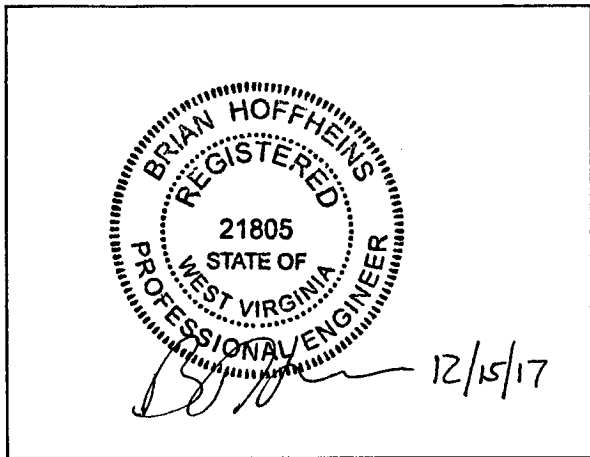
the fact that proposed Mountaineer Xpress Project will not adversely impact the base
(Name of Development)

Flood elevations, floodway elevations and widths on McElroy Creek and Flint Run at published
(Name of Stream)

cross sections in the Flood Insurance Study for, Doddridge County, dated October 4, 2011
(Name of community) *(Date)*

and will not impact the base flood elevations, floodway elevations, and floodway widths at the

unpublished cross-sections in the area of the proposed development.



SEAL, SIGNATURE AND DATE

Brian Hoffheins

Name

Project Manager

Title

Stahl Sheaffer Engineering

301 Science Park Rd

Address

State College PA 16801

FOR COMMUNITY USE ONLY:

Community Approval

Approved

Disapproved

Community Official's Name

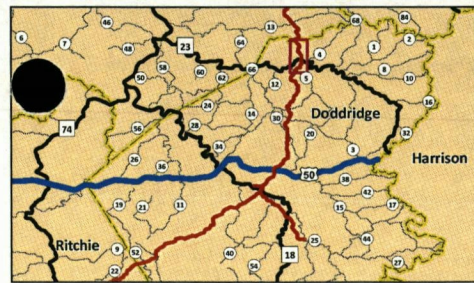
Community Official's Signature

Title

Project Mapping



MAP OVERVIEW



Flood Zone Hazard

- 0.2 PCT ANNUAL CHANCE FLOOD HAZARD
- AE
- A
- X
- AREA NOT INCLUDED

ROW

- Permanent Workspace
- Temporary Workspace
- Additional Workspace

West Virginia Roads

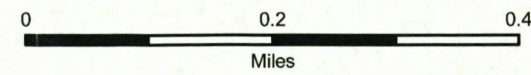
- Interstate
- US
- WV
- CR
- CR Subroute

Pipeline Facilities

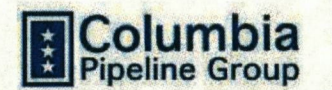
- Compressor Station
- Valve Site

**MOUNTIANEER XPRESS PROJECT
FEMA FLOODPLAINS AND FLOOD HAZARD AREAS**

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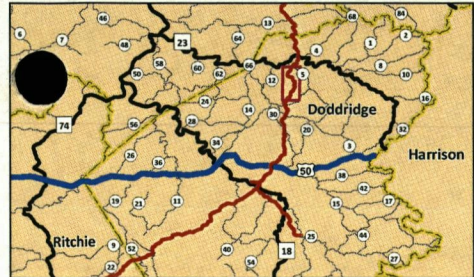


Date: 12/20/2017





MAP OVERVIEW

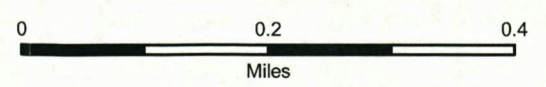


- Flood Zone Hazard**
- 0.2 PCT ANNUAL CHANCE FLOOD HAZARD
 - AE
 - A
 - X
 - AREA NOT INCLUDED

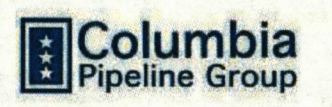
- ROW**
- Permanent Workspace
 - Temporary Workspace
 - Additional Workspace

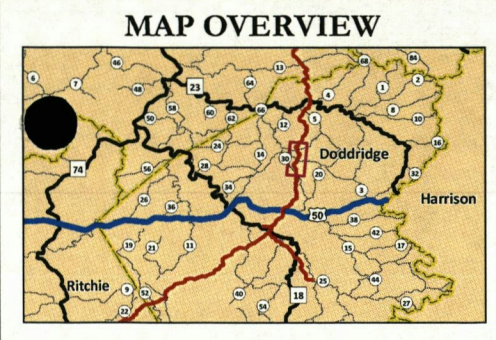
- West Virginia Roads**
- Access Roads
 - Pipeline Centerline
 - Pipeline Variance
 - Proposed Yards
- CR**
- CR Subroute
- Pipeline Facilities**
- Compressor Station
 - Valve Site

**MOUNTAINEER XPRESS PROJECT
FEMA FLOODPLAINS AND FLOOD HAZARD AREAS**
Doddridge County, West Virginia - Page 15 of 64



Date: 12/20/2017





Flood Zone Hazard 0.2 PCT ANNUAL CHANCE FLOOD HAZARD AE A X AREA NOT INCLUDED	Mile Post Access Roads Pipeline Centerline Pipeline Variance Proposed Yards ROW Permanent Workspace Temporary Workspace Additional Workspace	West Virginia Roads Interstate US WV CR CR Subroute Pipeline Facilities Compressor Station Valve Site

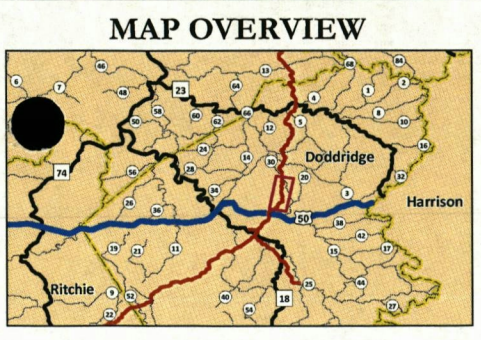
MOUNTIANEER XPRESS PROJECT

FEMA FLOODPLAINS AND FLOOD HAZARD AREAS

Doddridge County, West Virginia - Page 16 of 64

Miles

Date: 12/20/2017

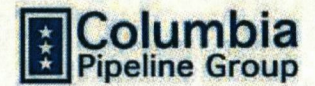



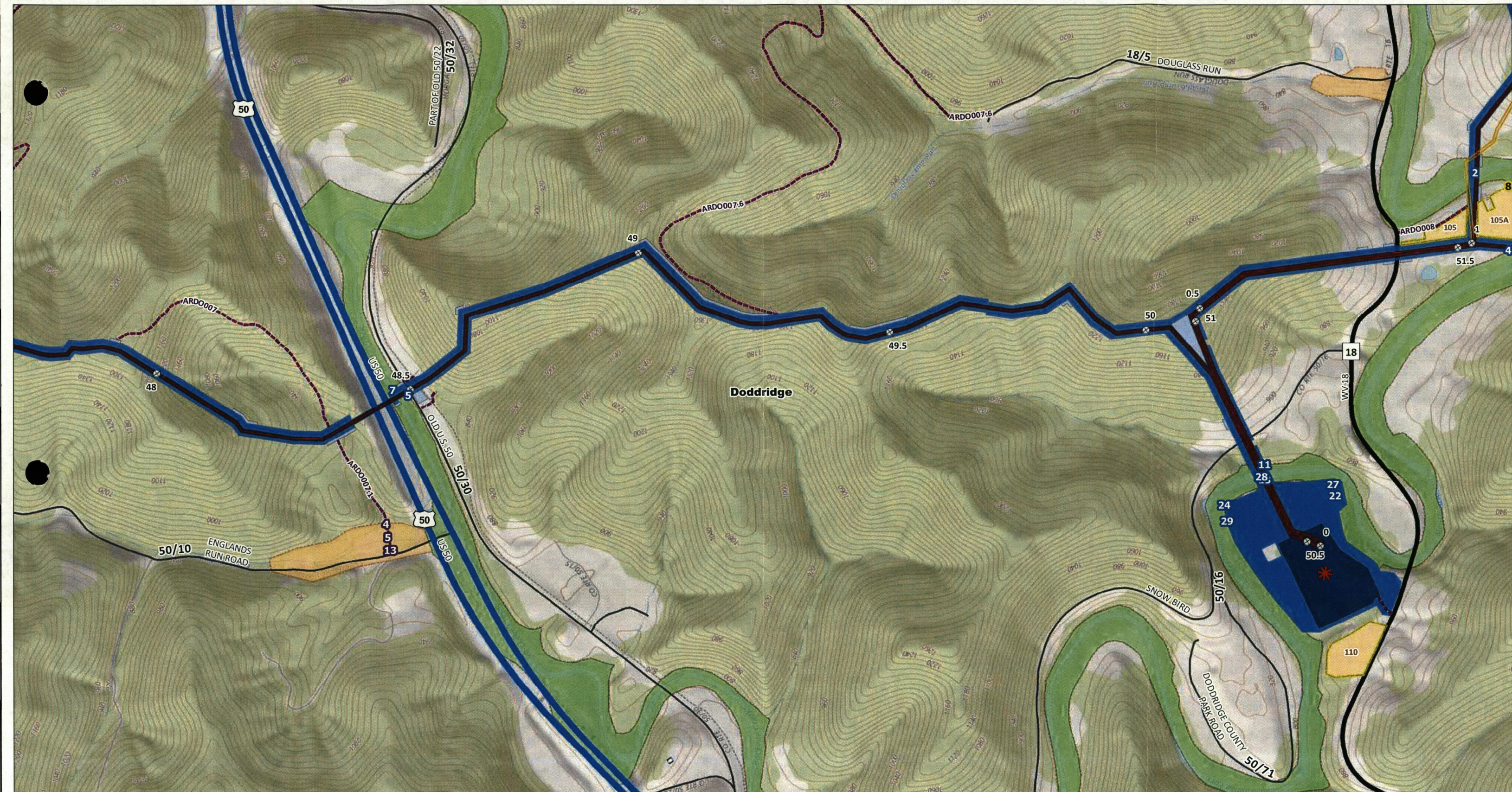
<p>Flood Zone Hazard</p> <ul style="list-style-type: none"> 0.2 PCT ANNUAL CHANCE FLOOD HAZARD AE A X AREA NOT INCLUDED 	<p>ROW</p> <ul style="list-style-type: none"> Permanent Workspace Temporary Workspace Additional Workspace 	<p>West Virginia Roads</p> <ul style="list-style-type: none"> Interstate US WV CR CR Subroute <p>Pipeline Facilities</p> <ul style="list-style-type: none"> Compressor Station Valve Site 	<p>+ Mile Post</p> <ul style="list-style-type: none"> Access Roads Pipeline Centerline Pipeline Variance Proposed Yards
			<p>Flood Zone Hazard</p> <ul style="list-style-type: none"> 0.2 PCT ANNUAL CHANCE FLOOD HAZARD AE A X AREA NOT INCLUDED

MOUNTIANEER XPRESS PROJECT
FEMA FLOODPLAINS AND FLOOD HAZARD AREAS
 Doddridge County, West Virginia - Page 17 of 64

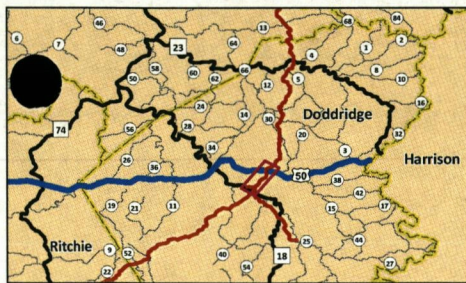
0 0.2 0.4
 Miles

Z



 Date: 12/20/2017



MAP OVERVIEW



Flood Zone Hazard

- 0.2 PCT ANNUAL CHANCE FLOOD HAZARD
- AE
- A
- X
- AREA NOT INCLUDED

ROW

- Permanent Workspace
- Temporary Workspace
- Additional Workspace

West Virginia Roads

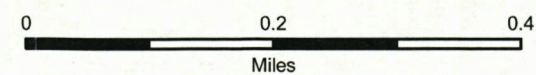
- Interstate
- US
- WV
- CR
- CR Subroute

Pipeline Facilities

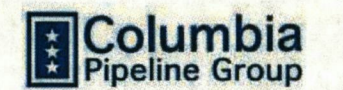
- Compressor Station
- Valve Site

**MOUNTAINEER XPRESS PROJECT
FEMA FLOODPLAINS AND FLOOD HAZARD AREAS**

Doddridge County, West Virginia - Page 18 of 64

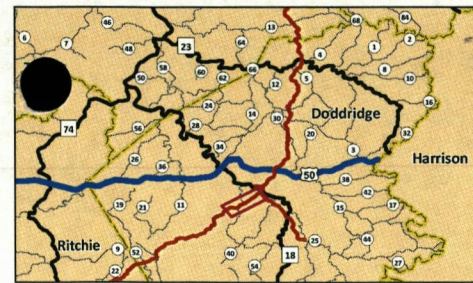


Date: 12/20/2017





MAP OVERVIEW



Flood Zone Hazard

- 0.2 PCT ANNUAL CHANCE FLOOD HAZARD
- AE
- A
- X
- AREA NOT INCLUDED

ROW

- Permanent Workspace
- Temporary Workspace
- Additional Workspace

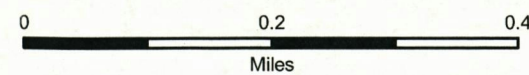
West Virginia Roads

- Interstate
- US
- WV
- CR
- CR Subroute

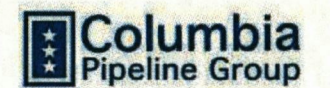
Pipeline Facilities

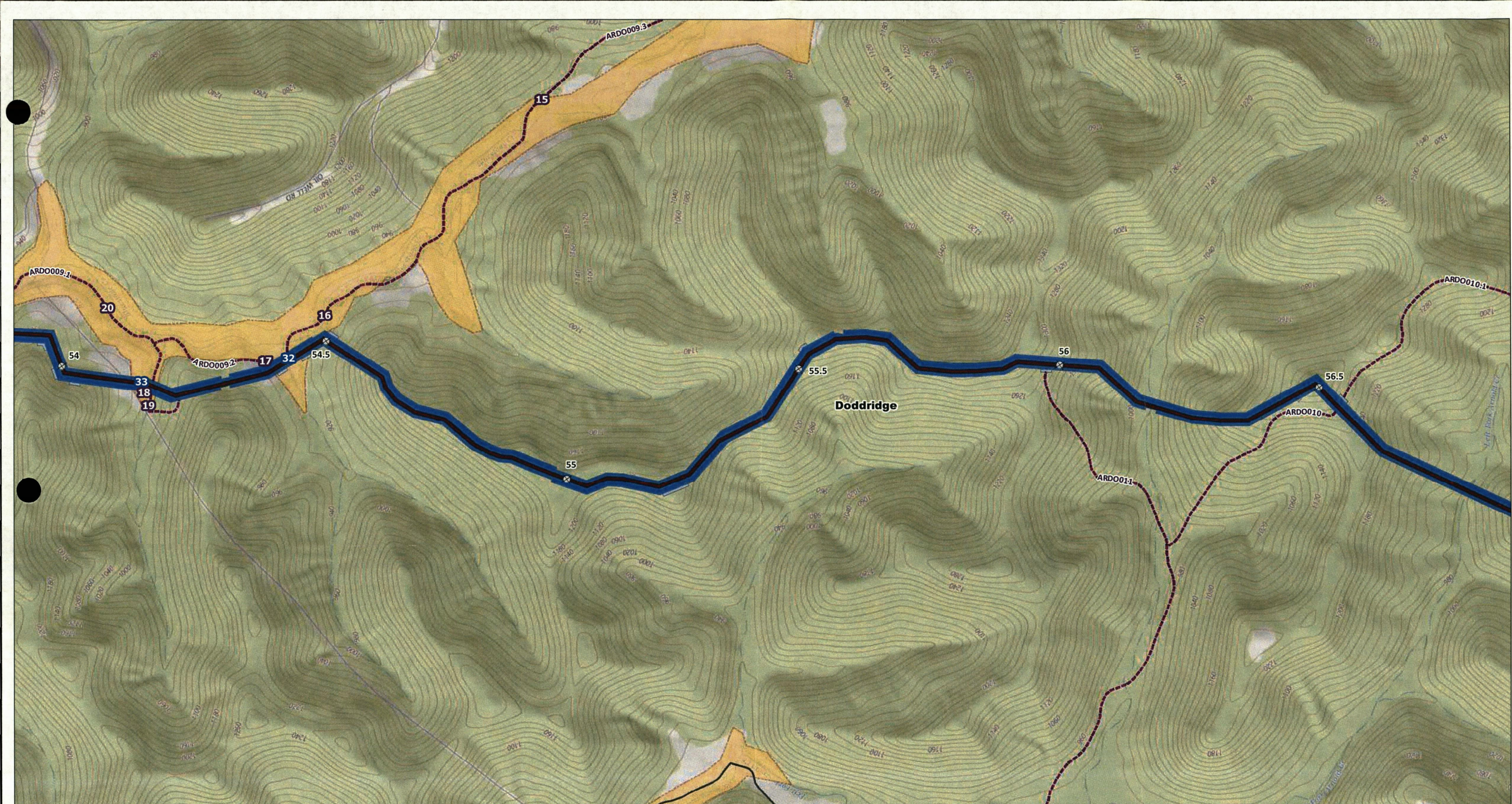
- Compressor Station
- Valve Site

**MOUNTIANEER XPRESS PROJECT
FEMA FLOODPLAINS AND FLOOD HAZARD AREAS**
Doddridge County, West Virginia - Page 19 of 64

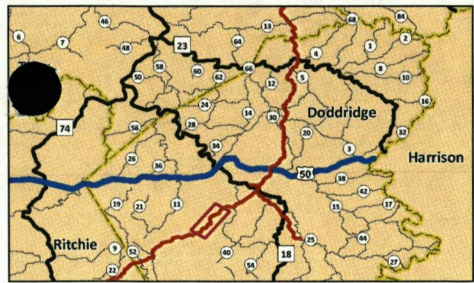


Date: 12/20/2017





MAP OVERVIEW

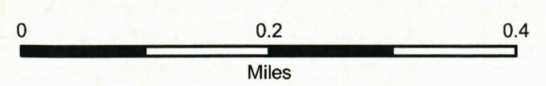


- Flood Zone Hazard**
- 0.2 PCT ANNUAL CHANCE FLOOD HAZARD
 - AE
 - A
 - X
 - AREA NOT INCLUDED

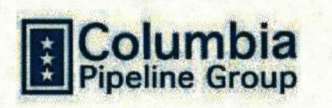
- ROW**
- Permanent Workspace
 - Temporary Workspace
 - Additional Workspace

- West Virginia Roads**
- Interstate
 - US
 - WV
 - CR
 - CR Subroute
- Pipeline Facilities**
- Compressor Station
 - Valve Site

**MOUNTIANEER XPRESS PROJECT
FEMA FLOODPLAINS AND FLOOD HAZARD AREAS**
Doddridge County, West Virginia - Page 20 of 64

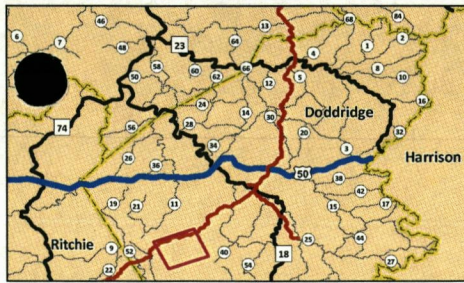


Date: 12/20/2017





MAP OVERVIEW



Flood Zone Hazard

- 0.2 PCT ANNUAL CHANCE FLOOD HAZARD
- AE
- A
- X
- AREA NOT INCLUDED

ROW

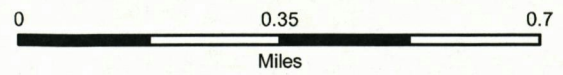
- Permanent Workspace
- Temporary Workspace
- Additional Workspace

West Virginia Roads

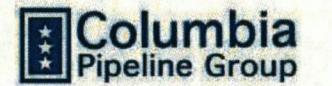
- Interstate
 - US
 - WV
 - CR
 - CR Subroute
- Pipeline Facilities**
- Compressor Station
 - Valve Site

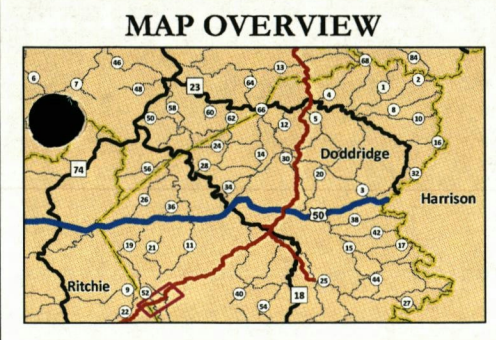
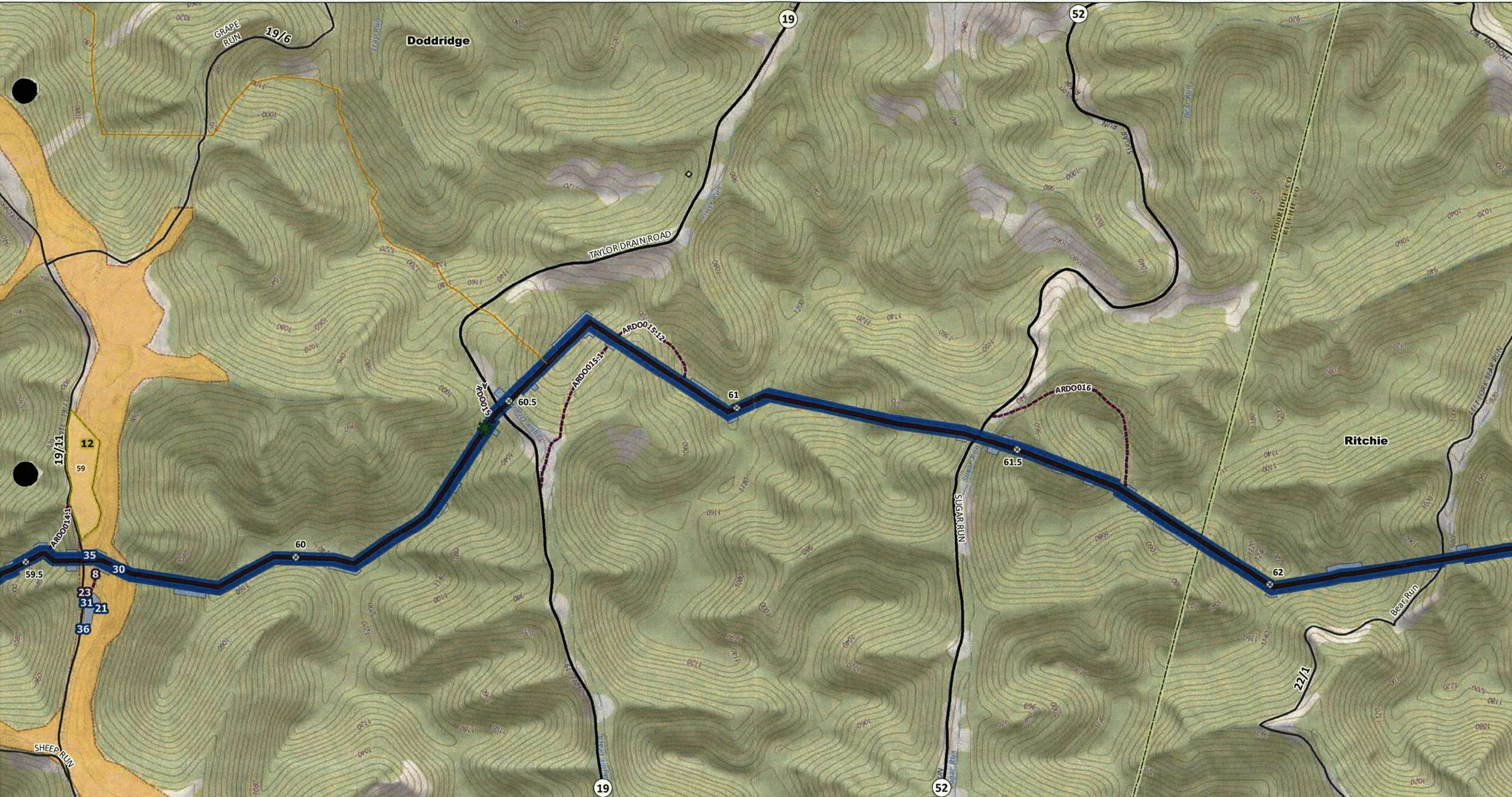
**MOUNTAINEER XPRESS PROJECT
FEMA FLOODPLAINS AND FLOOD HAZARD AREAS**

Doddridge County, West Virginia - Page 21 of 64



Date: 12/20/2017



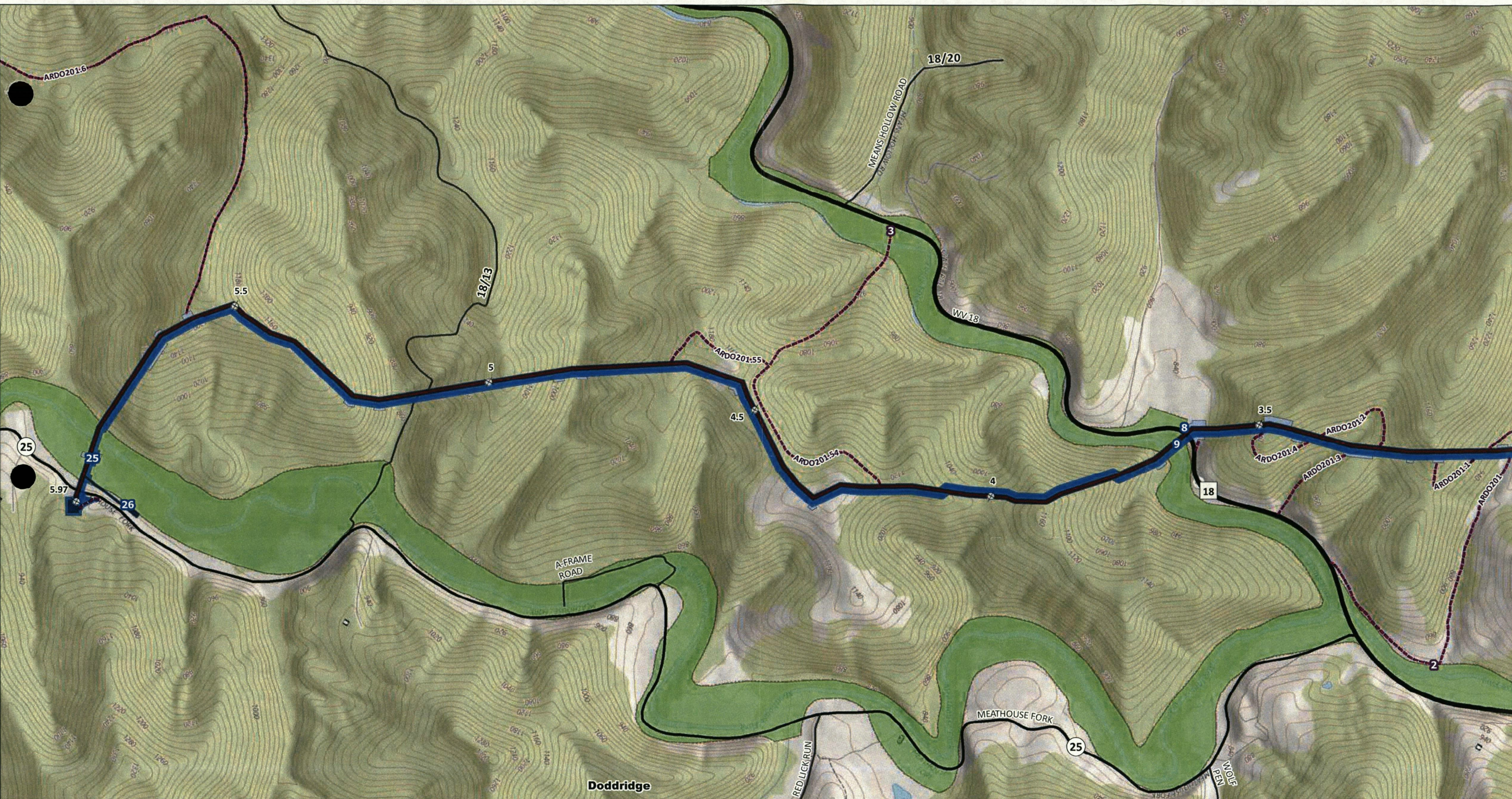


<p>Flood Zone Hazard</p> <ul style="list-style-type: none"> 0.2 PCT ANNUAL CHANCE FLOOD HAZARD AE A X AREA NOT INCLUDED 	<ul style="list-style-type: none"> + Mile Post Access Roads Pipeline Centerline Pipeline Variance Proposed Yards 	<p>West Virginia Roads</p> <ul style="list-style-type: none"> Interstate US WV CR CR Subroute
	<p>ROW</p> <ul style="list-style-type: none"> Permanent Workspace Temporary Workspace Additional Workspace 	<p>Pipeline Facilities</p> <ul style="list-style-type: none"> Compressor Station Valve Site

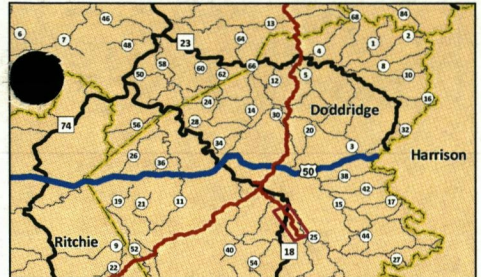
**MOUNTIANEER XPRESS PROJECT
FEMA FLOODPLAINS AND FLOOD HAZARD AREAS**

Doddridge County, West Virginia - Page 22 of 64

Date: 12/20/2017



MAP OVERVIEW

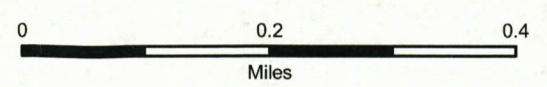


- Flood Zone Hazard**
- 0.2 PCT ANNUAL CHANCE FLOOD HAZARD
 - AE
 - A
 - X
 - AREA NOT INCLUDED

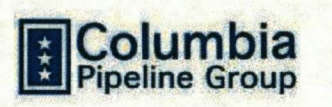
- ROW**
- Permanent Workspace
 - Temporary Workspace
 - Additional Workspace

- West Virginia Roads**
- Interstate
 - US
 - WV
 - CR
 - CR Subroute
- Pipeline Facilities**
- Compressor Station
 - Valve Site

**SHERWOOD LATERAL PROJECT
FEMA FLOODPLAINS AND FLOOD HAZARD AREAS**
Doddridge County, West Virginia - Page 62 of 64

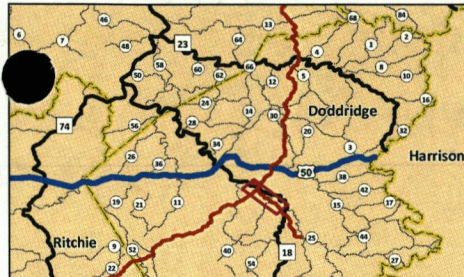


Date: 12/20/2017





MAP OVERVIEW

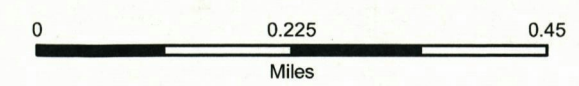


- Flood Zone Hazard**
- 0.2 PCT ANNUAL CHANCE FLOOD HAZARD
 - AE
 - A
 - X
 - AREA NOT INCLUDED

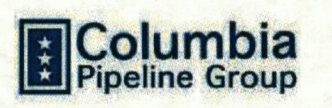
- ROW**
- Permanent Workspace
 - Temporary Workspace
 - Additional Workspace

- West Virginia Roads**
- Interstate
 - US
 - WV
 - CR
 - CR Subroute
- Pipeline Facilities**
- Compressor Station
 - Valve Site

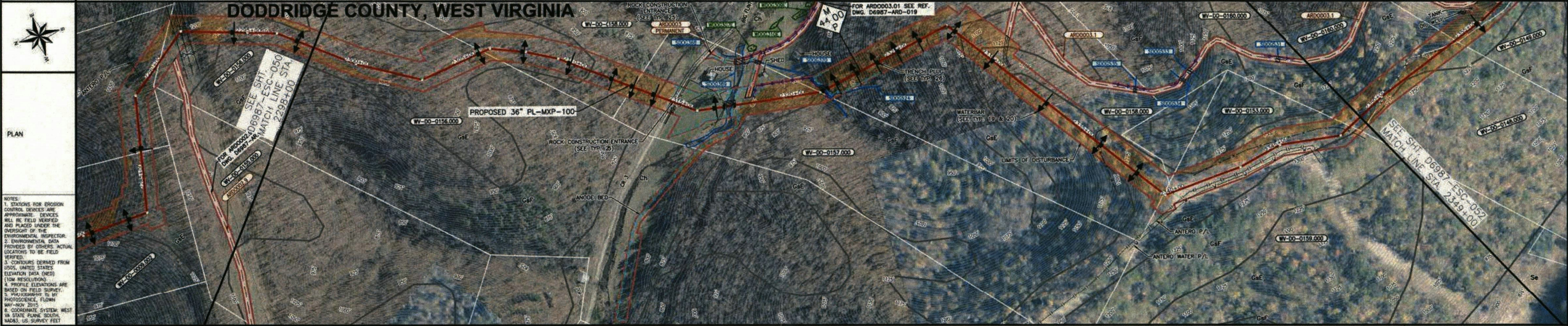
**SHERWOOD LATERAL PROJECT
FEMA FLOODPLAINS AND FLOOD HAZARD AREAS**
Doddridge County, West Virginia - Page 63 of 64



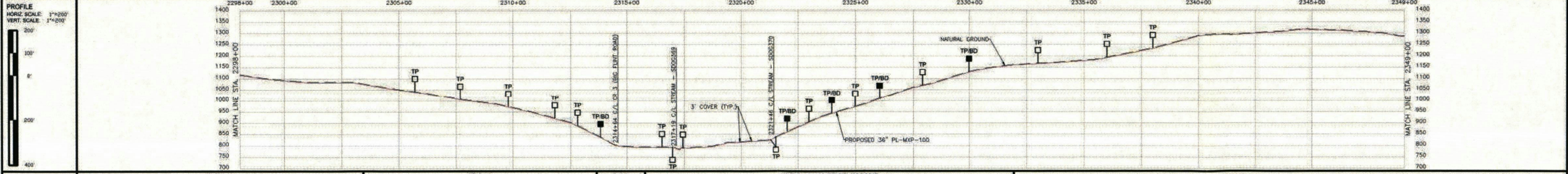
Date: 12/20/2017



ISSUE	DRAWING NUMBER	OWNERSHIP	2298+00	2300+00	2305+00	2310+00	2315+00	2320+00	2325+00	2330+00	2335+00	2340+00	2345+00	2349+00
	D6987-ESC-051 P6		790 FEET	689 FEET	643 FEET	843 FEET	1833 FEET	887 FEET	56 FEET					
STATIONING			2298+00 MATCH LINE	2300+00 P.L. & 800' E.P. LT.	2305+00 P.L. & 300' E.P. LT.	2310+00 P.L. & 300' E.P. RT.	2315+00 P.L. & 300' E.P. RT.	2320+00 P.L. & 800' E.P. LT.	2325+00 P.L. & 800' E.P. LT.	2330+00 P.L. & 800' E.P. LT.	2335+00 P.L. & 800' E.P. LT.	2340+00 P.L. & 800' E.P. LT.	2345+00 P.L. & 800' E.P. LT.	2349+00 MATCH LINE
ENVIRONMENTAL														
DEPTH OF COVER														



MATERIAL														
SOIL TYPE														
CLASS LOCATION FOR CONST. PURPOSES														
DESIGN FACTOR														
HYDROTEST														



ITEM NUMBER	INSERVICE DATE	MATERIALS		QUANTITY	DESCRIPTION	CASING		INDUCTION BENDS & SEGMENTABLE ELBOWS									
		OUTSIDE DIAMETER	WALL THICKNESS			ITEM NUMBER	INSERVICE DATE	OUTSIDE DIAMETER	WALL THICKNESS	GRADE	DEGREE	RADIUS	COATING	BEVEL			
1		36"	0.510"	X70	3420												
2		36"	0.618"	X70	1800												
3		36"	0.750"	X70	80												
3R SEG		36"			6 EA.												

NOTES:

- PERENNIAL STREAM CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICALS 30, 31, 32, AND 33 ON DRAWING D6987-TYP-004.
- INTERMITTENT STREAM CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICAL 34 ON DRAWING D6987-TYP-004.
- WETLAND CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICAL 36 ON DRAWING D6987-TYP-004.
- HYDROMULCH MAY BE USED AS AN ALTERNATIVE TO EROSION CONTROL BLANKET IN SOME INSTANCES. REFER TO TYPICAL 28 ON DRAWING D6987-TYP-004.
- BROAD BASED DIPS SHALL BE INSTALLED AT A SPACING CORRESPONDING TO THE COLOR CODING SHOWN ON THE ACCESS ROADS. REFER TO TYPICALS 71 & 72 ON DRAWING D6987-TYP-007.
- ADDITIONAL WETLAND MATTING AND/OR EQUIPMENT CROSSINGS MAY BE UTILIZED IF FIELD CONDITIONS NECESSITATE THEIR USE FOR CONSTRUCTION OPERATIONS. THE USE OF ADDITIONAL MATTING AND/OR CROSSINGS SHALL BE REVIEWED WITH THE ENVIRONMENTAL INSPECTOR PRIOR TO INSTALLATION. FOR WETLAND MATTING/EQUIPMENT CROSSINGS REFER TO TYPICALS 30-35 ON DRAWING D6987-TYP-004 AS APPLICABLE.

LEGEND:

- MILEPOST MXP-100
- MILEPOST SHERWOOD LATERAL MXP-200
- COUNTY BORDER
- PROPERTY LINE
- ACCESS ROAD
- WETLAND
- WATERBODY
- FENCE
- UNDERGROUND CABLE
- OVERHEAD POWERLINE
- WATERLINE
- SOIL BOUNDARY
- WATERBAR
- LIMITS OF DISTURBANCE
- SALT FENCE
- SUPER REINFORCED SILT FENCE
- EROSION CONTROL BLANKET OR HYDROMULCH
- EQUIPMENT BRIDGE
- TRENCH PLUG (PLAN)
- TRENCH PLUG (PROFILE)
- TRENCH PLUG W/ BLEEDER DRAIN (PROFILE)

SCALE: 1" = 200'

ISSUED FOR WV DEP REVIEW

PROJECT DELIVERY PROJECT ENGINEERING

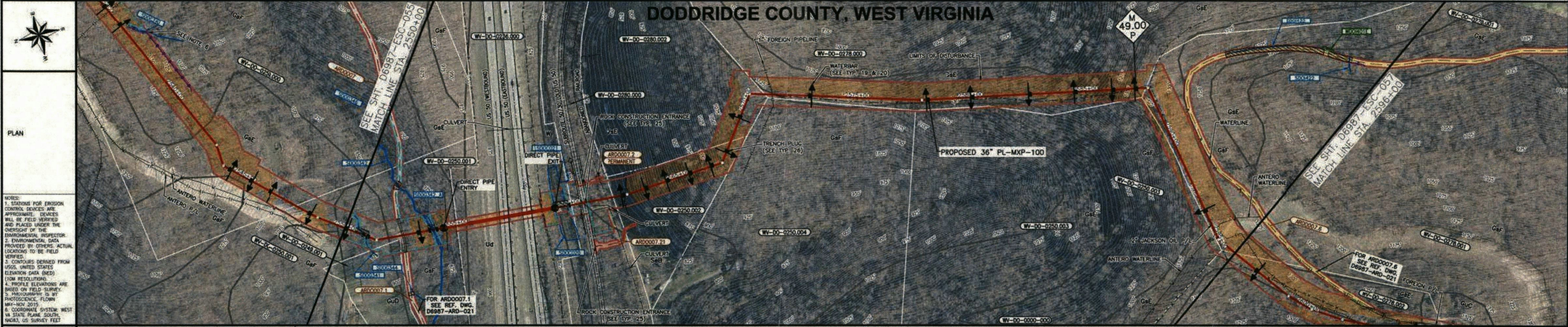
Columbia Gas Transmission

MOUNTAINEER XPRESS PROJECT

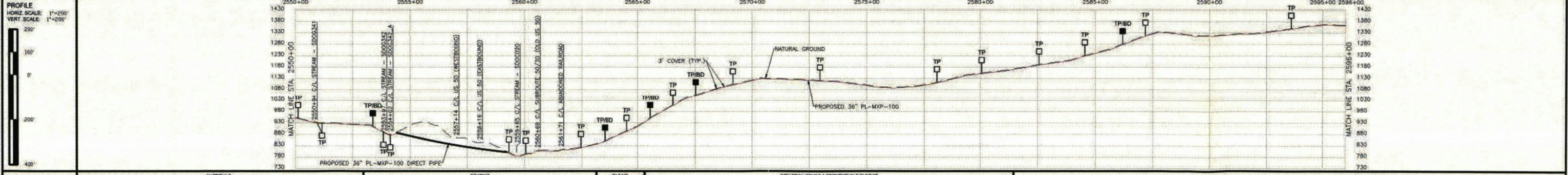
TITLE: PROPOSED 36" PL-MXP-100 PIPELINE EROSION & SEDIMENT CONTROL PLAN DODDRIDGE COUNTY, WEST VIRGINIA

DRAWN BY:	HWK	DATE:	03/03/16	DRAWING NUMBER:	20432	ISSUE:	
DESIGNED BY:	HWK	DATE:	03/03/16	DWG. NO.:	D6987-ESC-051	REFERENCE:	
CHECKED BY:	HWK	DATE:	04/07/17	DWG. NO.:	46130	REFERENCE:	

STATIONING	2550+00	2555+00	2560+00	2565+00	2570+00	2575+00	2580+00	2585+00	2590+00	2595+00
ENVIRONMENTAL	STREAM SDOG341 (EPHEMERAL)	STREAM SDOG342 (INTERMITTENT)	STREAM SDOG342 (INTERMITTENT)	STREAM SDOG020 (PERENNIAL)						
DEPTH OF COVER	1'	1'	1'	15'	5'					



MATERIAL	2550+00	2551+40	2554+46	2557+14	2558+16	2559+45	2561+71	2562+48	2566+40	2567+47	2568+40	2568+72	2569+07	2596+00
SOIL TYPE	GdD	GdF	Ud	W	SdB	We	GdF	GdE	GdF	GdE	GdF	GdE	GdE	GdE
CLASS LOCATION FOR CONST. PURPOSES	CLASS 1													
DESIGN FACTOR	0.72													
HYDROTEST	HYDRO TEST - 3 (MIN TEST PRESSURE = 1800 PSIG)													



MATERIALS				COATING				CASING				INDUCTION BENDS & SEGMENTABLE ELBOWS			
ITEM NUMBER	IN SERVICE DATE	OUTSIDE DIAMETER	WALL THICKNESS	GRADE	QUANTITY	DESCRIPTION	ITEM NUMBER	IN SERVICE DATE	OUTSIDE DIAMETER	WALL THICKNESS	GRADE	DEGREE	RADIUS	COATING	BEVEL
1		36"	0.515"	X70	2950	FBE									
2		36"	0.618"	X70	888	FBE									
3		36"	0.750"	X70	762	FBE, APO									
4		36"			5 EA	36" SEGMENTABLE BENDS									

NOTES:

- PERENNIAL STREAM CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICALS 30.31, 32, AND 33 ON DRAWING D6987-TYP-004.
- INTERMITTENT STREAM CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICAL 34 ON DRAWING D6987-TYP-004.
- WETLAND CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICAL 35 ON DRAWING D6987-TYP-004.
- HYDROMATS MAY BE USED AS AN ALTERNATIVE TO EROSION CONTROL BLANKET IN SOME INSTANCES. REFER TO TYPICAL 28 ON DRAWING D6987-TYP-004.
- BROAD BASED DIPS SHALL BE INSTALLED AT A SPACING CORRESPONDING TO THE COLOR CODING SHOWN ON THE ACCESS ROADS. REFER TO TYPICALS 71 & 72 ON DRAWING D6987-TYP-007.
- ADDITIONAL WETLAND MATTING AND/OR EQUIPMENT CROSSINGS MAY BE UTILIZED IF FIELD CONDITIONS NECESSITATE THEIR USE FOR CONSTRUCTION OPERATIONS. THE USE OF ADDITIONAL MATTING AND/OR CROSSINGS SHALL BE REVIEWED WITH THE ENVIRONMENTAL INSPECTOR PRIOR TO INSTALLATION. FOR WETLAND MATTING/EQUIPMENT CROSSINGS REFER TO TYPICALS 30-35 ON DRAWING D6987-TYP-004 AS APPLICABLE.

LEGEND:

- MILEPOST MXP-100
- MILEPOST SHERWOOD (LATERAL MXP-200)
- COUNTY BORDER
- PROPERTY LINE
- ACCESS ROAD
- WETLAND
- WATERLINE
- FOREIGN PIPELINE
- FENCE
- UNDERGROUND CABLE
- OVERHEAD POWERLINE
- WATERLINE
- WATERBAR
- LIMITS OF DISTURBANCE
- SILT FENCE
- SUPER REINFORCED SILT FENCE
- SOIL BOUNDARY
- WATERBAR
- MATS
- EROSION CONTROL BLANKET OR HYDROMAT
- EQUIPMENT BRIDGE
- TRENCH PLUG (PLAN)
- TRENCH PLUG (PROFILE)
- TRENCH PLUG W/ BLEEDER DRAIN (PROFILE)

SCALE: 1" = 200'

ISSUED FOR WV DEP REVIEW

PROJECT DELIVERY PROJECT ENGINEERING

Columbia Gas Transmission

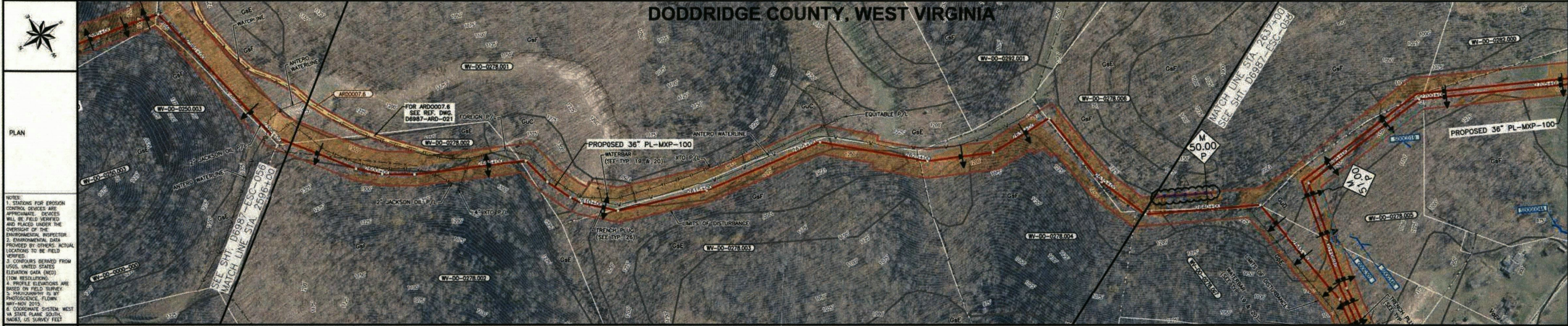
MOUNTAINEER XPRESS PROJECT

PROPOSED 36" PL-MXP-100 PIPELINE EROSION & SEDIMENT CONTROL PLAN DODDRIDGE COUNTY, WEST VIRGINIA

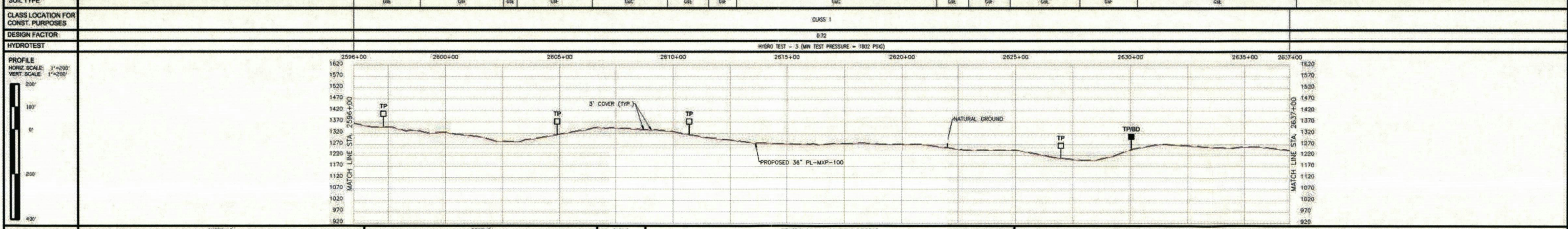
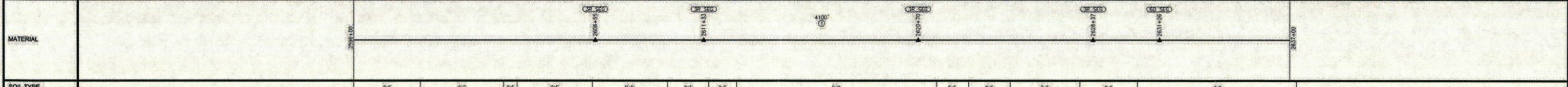
TITLE	PROPOSED 36" PL-MXP-100 PIPELINE EROSION & SEDIMENT CONTROL PLAN DODDRIDGE COUNTY, WEST VIRGINIA
DATE	04/07/17
DRAWN BY	HWK
CHECKED BY	HWK
DATE	03/03/16
DWG. NO.	20432
REFERENCE	D6987-ESC-056
ISSUE	P6

ISSUE	DRAWING NUMBER	OWNERSHIP	2596+00	1031 FEET	2606+31	479 FEET	2611+10	1401 FEET	2628+11	608 FEET	2631+19	581 FEET	2637+00
	D6987-ESC-057												
STATIONING			2596+00 MATCH LINE 2596+00 PROPERTY LINE	2597+54 FENCE, 4" HOOD WIRE	2599+07 P.L. C. 1031'30" E.L.	2600+02 P.L. C. 1031'30" E.L.	2601+64 P.L. C. 1031'30" E.L.	2602+28 7" JACKSON OIL P/L	2603+96 4" XTO PIPELINE	2606+31 PROPERTY LINE 2606+31 P.L. C. 1031'30" E.L.	2607+86 P.L. C. 1031'30" E.L.	2609+10 P.L. C. 1031'30" E.L.	2610+64 P.L. C. 1031'30" E.L.
ENVIRONMENTAL													
DEPTH OF COVER													

DODDRIDGE COUNTY, WEST VIRGINIA



NOTES:
 1. STATIONING FOR EROSION CONTROL DEVICES ARE APPROXIMATE. DEVICES WILL BE FIELD VERIFIED AND PLACED UNDER THE OVERSIGHT OF THE ENVIRONMENTAL INSPECTOR.
 2. ENVIRONMENTAL DATA PROVIDED BY OTHERS. ACTUAL LOCATIONS TO BE FIELD VERIFIED.
 3. CONTOURS DERIVED FROM USGS UNITED STATES ELEVATION DATA (NEO) (10M RESOLUTION).
 4. PROFILE ELEVATIONS ARE BASED ON FIELD SURVEY PHOTOGRAPHY IS BY PHOTOLOGICAL - FLDNRY MAY-NOV 2015.
 5. COORDINATE SYSTEM WEST 84 STATE PLANE SOUTH NAD83, US SURVEY FEET



ITEM NUMBER	IN SERVICE DATE	MATERIALS			QUANTITY	DESCRIPTION	CASING			INDUCTION BENDS & SEGMENTABLE ELBOWS								
		OUTSIDE DIAMETER	WALL THICKNESS	GRADE			ITEM NUMBER	IN SERVICE DATE	OUTSIDE DIAMETER	WALL THICKNESS	GRADE	DEGREE	RADIUS	COATING	BEVEL			
1		36"	0.515"	X70	4100'	0.515" FEE												
2R SEG		36"			4 EA	3R SEGMENTABLE BENDS												
ED SEG		36"			1 EA	ED SEGMENTABLE BENDS												

NOTES:
 1. PERENNIAL STREAM CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICALS 30, 31, 32, AND 33 ON DRAWING D6987-TYP-004.
 2. INTERMITTENT STREAM CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICAL 34 ON DRAWING D6987-TYP-004.
 3. WETLAND CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICAL 35 ON DRAWING D6987-TYP-004.
 4. HYDROMULCH MAY BE USED AS AN ALTERNATIVE TO EROSION CONTROL BLANKET IN SOME INSTANCES. REFER TO TYPICAL 26 ON DRAWING D6987-TYP-004.
 5. BROAD BASED DIPS SHALL BE INSTALLED AT A SPACING CORRESPONDING TO THE COLOR CODING SHOWN ON THE ACCESS ROADS. REFER TO TYPICALS 71 & 72 ON DRAWING D6987-TYP-007.
 6. ADDITIONAL WETLAND MATTING AND/OR EQUIPMENT CROSSINGS MAY BE UTILIZED IF FIELD CONDITIONS NECESSITATE THEIR USE FOR CONSTRUCTION OPERATIONS. THE USE OF ADDITIONAL MATTING AND/OR CROSSINGS SHALL BE REVIEWED WITH THE ENVIRONMENTAL INSPECTOR PRIOR TO INSTALLATION. FOR WETLAND MATTING/EQUIPMENT CROSSINGS REFER TO TYPICALS 30-35 ON DRAWING D6987-TYP-004 AS APPLICABLE.

LEGEND:
 MILEPOST MXP-100
 COUNTY BORDER
 PROPERTY LINE
 ACCESS ROAD
 WETLAND
 WATERBODY
 FENCE
 UNDERGROUND CABLE
 OVERHEAD POWERLINE
 WATERLINE
 SOIL BOUNDARY
 LIMITS OF DISTURBANCE
 SILT FENCE
 SUPER REINFORCED SILT FENCE
 SOIL BOUNDARY
 WATERBAR
 MATS
 EROSION CONTROL BLANKET OR HYDROMULCH
 EQUIPMENT BRIDGE
 TRENCH PLUG (PLAN)
 TRENCH PLUG (PROFILE)
 TRENCH PLUG W/ BLEEDER DRAIN (PROFILE)
 TEMPORARY DIVERSIONS
 SIDE SLOPE BLEEDER DRAIN

ACCESS ROAD BROAD-BASED DIP LEGEND* (SEE NOTE 5)
 * SHADDED SEGMENTS, UPSTREAM ROADSIDE DITCHING AND CULVERTS SHALL BE PROVIDED WHERE THE ACCESS ROADS PARALLEL THE CONTOUR WITHIN THE SHADDED AREAS IN ACCORDANCE WITH TYPICAL DETAIL 48 AND 53.
 ADDITIONAL NOTES:
 A. DITCHING SHALL BE INSTALLED ON THE UPSTREAM SIDE OF NEW ACCESS ROADS, AND EXISTING ACCESS ROADS REQUIRING CONSTRUCTION ACTIVITIES TO CORRECT UPSTREAM FLOW BENEATH THE ACCESS ROAD VIA CROSS DRAINING, DITCHING AND CROSS BRANES SHALL BE INSTALLED IN ACCORDANCE WITH TYPICAL DETAILS 49 AND 53. EXTENT AND LOCATION OF DITCHING AND CROSS BRANES SHALL VARY BASED ON FIELD CONDITIONS DISCOVERED AT THE TIME OF CONSTRUCTION.
 B. IF EXISTING ACCESS ROADS REQUIRING CONSTRUCTION ACTIVITIES, THEN GROTH AND SEGMENT DITCHING SHALL BE INSTALLED IN ACCORDANCE WITH THE TYPICAL DETAILS.

SCALE: 1" = 200'

REVISED FOR WV DEP: 08/14/17
 ISSUED FOR WV DEP REVIEW: 04/07/17

PROJECT DELIVERY PROJECT ENGINEERING
 MOUNTAINEER X-SPRESS PROJECT
 PROPOSED 36" PL-MXP-100 PIPELINE
 EROSION & SEDIMENT CONTROL PLAN
 DODDRIDGE COUNTY, WEST VIRGINIA

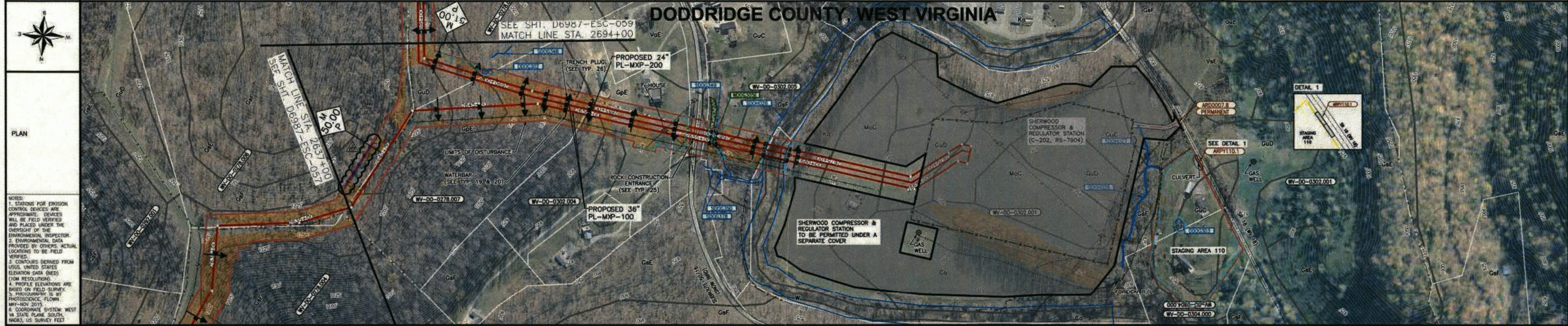
ISSUED FOR WV DEP PERMIT 08/14/17
 Columbia Gas Transmission

NO.	REVISIONS	APPROVED BY	DATE	NO.	REVISIONS	APPROVED BY	DATE	NO.	REVISIONS	APPROVED BY	DATE	DWG. NO.	REFERENCE

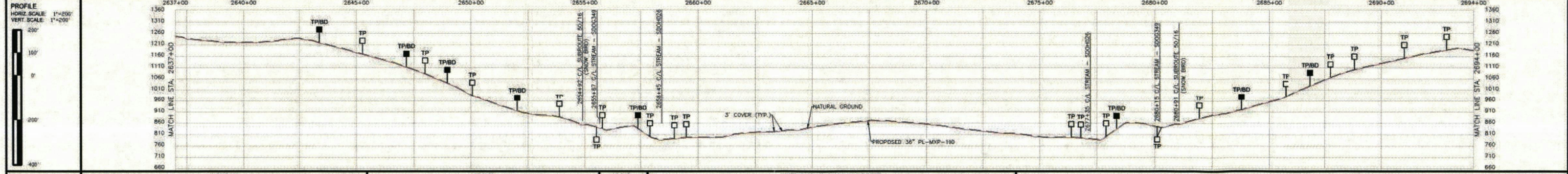
DRAWN BY: HWK
 CHECKED BY: HWK
 DATE: 03/03/16
 DRAWING NUMBER: D6987-ESC-057
 ISSUE: P7

ISSUE	DRAWING NUMBER	OWNERSHIP	WV-DO-0278.006	WV-DO-0278.007	WV-DO-0278.008	WV-DO-0278.009	WV-DO-0278.010	WV-DO-0302.004	WV-DO-0302.005	WV-DO-0302.006	WV-DO-0302.007	WV-DO-0302.008	WV-DO-0302.009	WV-DO-0278.007	WV-DO-0278.008	WV-DO-0278.009		
P7	D6987-ESC-058		2 FEET	404 FEET	129 FEET	756 FEET	2648+91	435 FEET	132 FEET	270 FEET	1972 FEET	2677+70	285 FEET	78 FEET	442 FEET	489 FEET	336 FEET	2694+00

STATIONING	2637+00	2640+00	2645+00	2650+00	2655+00	2660+00	2665+00	2670+00	2675+00	2680+00	2685+00	2690+00	2694+00
ENVIRONMENTAL													
DEPTH OF COVER													



MATERIAL	2637+00	2640+00	2645+00	2650+00	2655+00	2660+00	2665+00	2670+00	2675+00	2680+00	2685+00	2690+00	2694+00				
SOIL TYPE	GcE	GcD	GcE	GcF	GcE	GcF	W	Ka	MvC	GcD	GcC	GcD	GcE	GcD	GcE	GcD	GcE
CLASS LOCATION FOR CONST. PURPOSES	CLASS 1																
DESIGN FACTOR	0.72			0.5			0.72			0.5			0.72				
HYDROTEST	HYDRO TEST - 3 (MIN TEST PRESSURE = 1802 PSIG)																



ITEM NUMBER	INSERVICE DATE	OUTSIDE DIAMETER	WALL THICKNESS	GRADE	QUANTITY	DESCRIPTION	CASING		INDUCTION BENDS & SEGMENTABLE ELBOWS							
							ITEM NUMBER	INSERVICE DATE	OUTSIDE DIAMETER	WALL THICKNESS	GRADE	DEGREE	RADIUS	COATING	BEVEL	
1		36"	0.515"	X70	2130'	FBE										
2		36"	0.618"	X70	2828'	FBE										
4		36"	0.730"	X70	160'	FBE, APD										
3R SEG		36"			7 EA	3R SEGMENTABLE BENDS										
6D SEG		36"			2 EA	6D SEGMENTABLE BENDS										
FAB					58'	36" FACILITIES										

NOTES:

- PERENNIAL STREAM CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICALS 30, 31, 32, AND 33 ON DRAWING D6987-TYP-004.
- INTERMITTENT STREAM CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICAL 34 ON DRAWING D6987-TYP-004.
- WETLAND CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICAL 35 ON DRAWING D6987-TYP-004.
- HYDROMULCH MAY BE USED AS AN ALTERNATIVE TO EROSION CONTROL BLANKET IN SOME INSTANCES. REFER TO TYPICAL 28 ON DRAWING D6987-TYP-004.
- BROAD BASED DIPS SHALL BE INSTALLED AT A SPACING CORRESPONDING TO THE COLOR CODING SHOWN ON THE ACCESS ROADS. REFER TO TYPICALS 71 & 72 ON DRAWING D6987-TYP-007.
- ADDITIONAL WETLAND MATTING AND/OR EQUIPMENT CROSSINGS MAY BE UTILIZED IF FIELD CONDITIONS NECESSITATE THEIR USE FOR CONSTRUCTION OPERATIONS. THE USE OF ADDITIONAL MATTING AND/OR CROSSINGS SHALL BE REVIEWED WITH THE ENVIRONMENTAL INSPECTOR PRIOR TO INSTALLATION. FOR WETLAND MATTING/EQUIPMENT CROSSINGS REFER TO TYPICALS 35, 36 ON DRAWING D6987-TYP-004 AS APPLICABLE.

LEGEND:

- PROPERTY LINE
- ACCESS ROAD
- WETLAND
- WATERBODY
- FENCE
- UNDERGROUND CABLE
- OVERHEAD POWERLINE
- WATERLINE
- WATERBAR
- LIMITS OF DISTURBANCE
- SILT FENCE
- SUPER REINFORCED SILT FENCE
- SOIL BOUNDARY
- EQUIPMENT BRIDGE
- TRENCH PLUG (PLAN)
- TRENCH PLUG (PROFILE)
- TRENCH PLUG W/ BLEEDER DRAIN (PROFILE)
- TEMPORARY DIMENSIONS
- SIDE SLOPE BLEEDER DRAIN

SCALE: 1" = 200'

ISSUED FOR WV DEP PERMIT 08/14/17

PROJECT DELIVERY PROJECT ENGINEERING

Columbia Gas Transmission

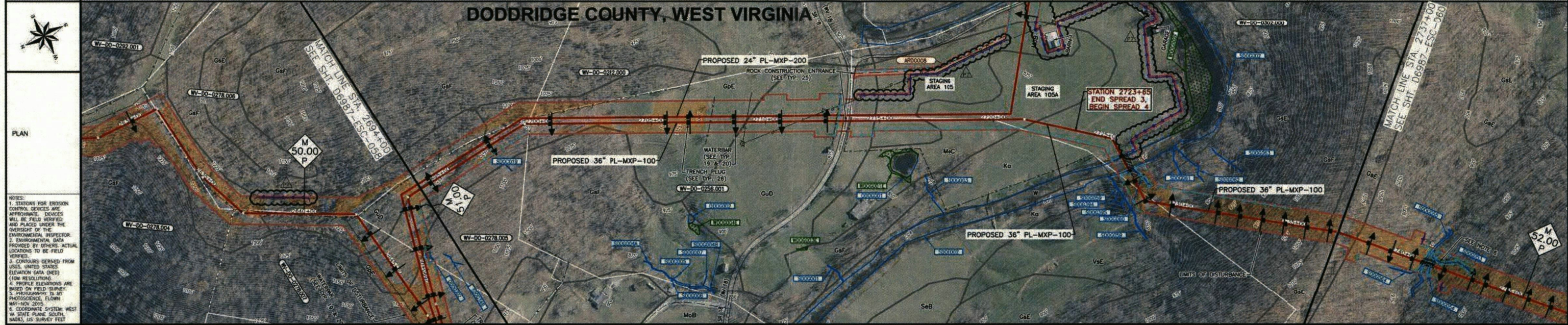
MOUNTAINEER X-PRESS PROJECT

PROPOSED 36" PL-MXP-100 PIPELINE EROSION & SEDIMENT CONTROL PLAN DODDRIDGE COUNTY, WEST VIRGINIA

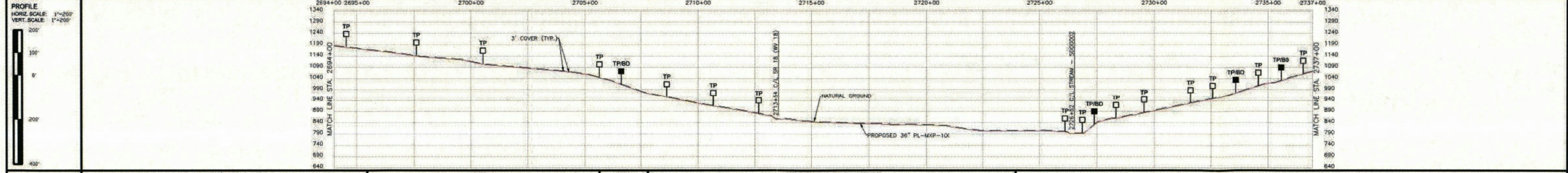
TITLE	PROPOSED 36" PL-MXP-100 PIPELINE EROSION & SEDIMENT CONTROL PLAN DODDRIDGE COUNTY, WEST VIRGINIA
DRAWN BY	HWK
DATE	03/03/16
DRAWING NUMBER	20432
ISSUE	46130

ISSUE	DRAWING NUMBER	OWNERSHIP
P7	D6987-ESC-059	

STATIONING	2694+00	2694+00	2704+00	2704+00	2714+00	2714+00	2724+00	2724+00	2734+00	2734+00
ENVIRONMENTAL										
DEPTH OF COVER										



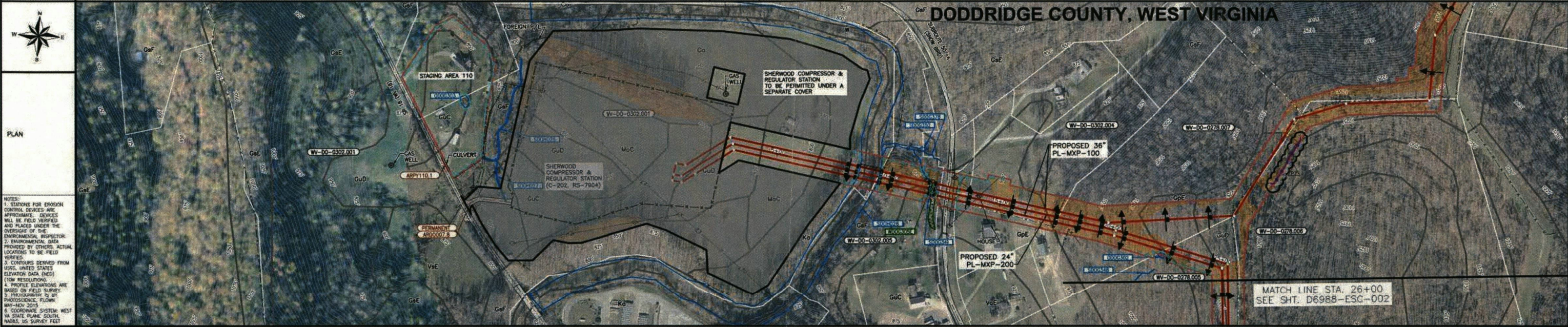
MATERIAL										
SOIL TYPE										
CLASS LOCATION FOR CONST. PURPOSES										
DESIGN FACTOR										
HYDROTEST										



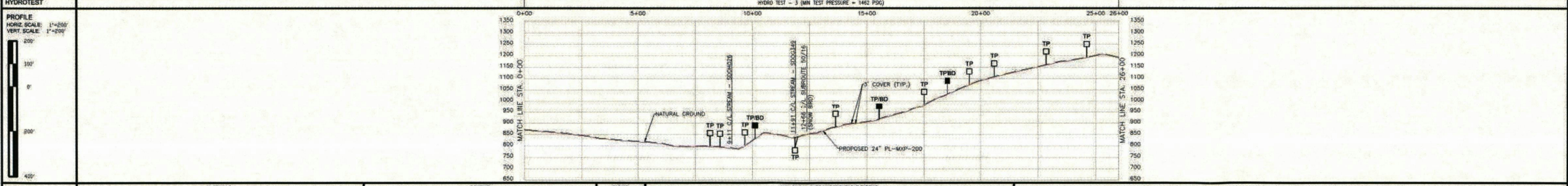
MATERIAL/COATING/CASING	ITEM NUMBER	INSERVICE DATE	OUTSIDE DIAMETER	WALL THICKNESS	GRADE	QUANTITY	DESCRIPTION	ITEM	DIAMETER	ITEM NUMBER	INSERVICE DATE	OUTSIDE DIAMETER	WALL THICKNESS	GRADE	DEGREE	RADIUS	COATING	REVL.	
	1		36"	0.515"	X7D	1688'	FBE												
NOTES	<p>1. PERENNIAL STREAM CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICALS 30, 31, 32, AND 33 ON DRAWING D6987-TYP-004.</p> <p>2. INTERMITTENT STREAM CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICAL 34 ON DRAWING D6987-TYP-004.</p> <p>3. WETLAND CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICAL 35 ON DRAWING D6987-TYP-004.</p> <p>4. HYDROMULCH MAY BE USED AS AN ALTERNATIVE TO EROSION CONTROL BLANKET IN SOME INSTANCES. REFER TO TYPICAL 28 ON DRAWING D6987-TYP-004.</p> <p>5. BROAD BASED DIPS SHALL BE INSTALLED AT A SPACING CORRESPONDING TO THE COLOR CODING SHOWN ON THE ACCESS ROADS. REFER TO TYPICALS 71 & 72 ON DRAWING D6987-TYP-007.</p> <p>6. ADDITIONAL WETLAND MATTING AND/OR EQUIPMENT CROSSINGS MAY BE UTILIZED IF FIELD CONDITIONS NECESSITATE THEIR USE FOR CONSTRUCTION OPERATIONS. THE USE OF ADDITIONAL MATTING AND/OR CROSSINGS SHALL BE REVIEWED WITH THE ENVIRONMENTAL INSPECTOR PRIOR TO INSTALLATION. FOR WETLAND MATTING/EQUIPMENT CROSSINGS REFER TO TYPICALS 35-38 ON DRAWING D6987-TYP-004 AS APPLICABLE.</p>																		
	<p>LEGEND</p> <ul style="list-style-type: none"> MILEPOST MXP-100 MILEPOST SHERWOOD LATERAL MXP-200 COUNTY BORDER PROPERTY LINE ACCESS ROAD ROUTE EXISTING COLUMBIA PIPELINE FOREIGN PIPELINE FENCE UNDERGROUND CABLE OVERHEAD POWERLINE WATERLINE WATERBODY LIMITS OF DISTURBANCE SILT FENCE SUPER REINFORCED SILT FENCE SOIL BOUNDARY EQUIPMENT BRIDGE TRENCH PLUG (PLAN) TRENCH PLUG (PROFILE) TRENCH PLUG W/ BLEEDER DRAIN (PROFILE) TEMPORARY DIVERSIONS SIDE SLOPE BLEEDER DRAIN 																		
<p>SCALE: 1" = 200'</p> <p>PROJECT DELIVERY PROJECT ENGINEERING</p> <p>MOUNTAINEER XPRESS PROJECT</p> <p>PROPOSED 36" PL-MXP-100 PIPELINE EROSION & SEDIMENT CONTROL PLAN DODDRIDGE COUNTY, WEST VIRGINIA</p> <p>ISSUED FOR WV DEP PERMIT 08/14/17</p> <p>COLUMBIA Gas Transmission</p>																			

ISSUE	06988-ESC-001 P7	OWNERSHIP	01+00	04+00	08+00	12+00	16+00	20+00	24+00	28+00	32+00	36+00
STATIONING	952 FEET	278 FEET	124.30	77 FEET	451 FEET	172.68	510 FEET	222.68	332 FEET	264.00		

ENVIRONMENTAL			STREAM SDOH026 (PERENNIAL)	WETLAND WDOG305E (PDM)	STREAM SDOG349 (EMPHYMERAL)							
DEPTH OF COVER	5'	5'	5'	5'	5'	5'	5'	5'	5'	5'	5'	5'



MATERIAL												
SOIL TYPE												
CLASS LOCATION FOR CONST. PURPOSES												
DESIGN FACTOR	0.5		0.72		0.5		0.72					
HYDROTEST	HYDRO TEST - 3 (MIN TEST PRESSURE = 1462 PSIG)											



MATERIALS				COATING				CASING				INDUCTION BENDS & SEGMENTABLE ELBOWS			
ITEM NUMBER	IN SERVICE DATE	OUTSIDE DIAMETER	WALL THICKNESS	GRADE	QUANTITY	DESCRIPTION	ITEM NUMBER	IN SERVICE DATE	OUTSIDE DIAMETER	WALL THICKNESS	GRADE	DEGREE	RADIUS	COATING	BEVEL
1		24"	0.375"	X70	2265	FIBER									
3		24"	0.500"	X70	80	FIRE ARD									
3R SEG		24"			3 EA.	3R SEGMENTABLE BENDS									
74E					250	24" FACILITIES									

NOTES:

- PERENNIAL STREAM CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICALS 30.31, 32, AND 33 ON DRAWING D6987-TYP-004.
- INTERMITTENT STREAM CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICAL 34 ON DRAWING D6987-TYP-004.
- WETLAND CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICAL 35 ON DRAWING D6987-TYP-004.
- HYDROMULCH MAY BE USED AS AN ALTERNATIVE TO EROSION CONTROL BLANKET IN SOME INSTANCES. REFER TO TYPICAL 28 ON DRAWING D6987-TYP-004.
- BROAD BASED DIPS SHALL BE INSTALLED AT A SPACING CORRESPONDING TO THE COLOR CODING SHOWN ON THE ACCESS ROADS. REFER TO TYPICALS 71 & 72 ON DRAWING D6987-TYP-007.
- ADDITIONAL WETLAND MATTING AND/OR EQUIPMENT CROSSINGS MAY BE UTILIZED IF FIELD CONDITIONS NECESSITATE THEIR USE FOR CONSTRUCTION OPERATIONS. THE USE OF ADDITIONAL MATTING AND/OR CROSSINGS SHALL BE REVIEWED WITH THE ENVIRONMENTAL INSPECTOR PRIOR TO INSTALLATION FOR WETLAND MATTING/EQUIPMENT CROSSINGS REFER TO TYPICALS 30-35 ON DRAWING D6987-TYP-004 AS APPLICABLE.

LEGEND:

- MILEPOST MXP-100
- MILEPOST SHERWOOD LATERAL MXP-200
- COUNTY BORDER
- PROPERTY LINE
- ACCESS ROAD
- WETLAND
- WATERBODY
- WATERBAR
- FENCE
- UNDERGROUND CABLE
- OVERHEAD POWERLINE
- WATERLINE
- WATERBAR
- LIMITS OF DISTURBANCE
- SILT FENCE
- SURF REINFORCED SILT FENCE
- SOIL BOUNDARY
- WATERBAR
- EROSION CONTROL BLANKET OR HYDROMULCH
- EQUIPMENT BRIDGE
- TRENCH PLUG (PLAN)
- TRENCH PLUG (PROFILE)
- TRENCH PLUG W/ BLEEDER DRAIN (PROFILE)
- TEMPORARY DIMENSIONS
- SIDE SLOPE BLEEDER DRAIN

SCALE: 1" = 200'

ISSUED FOR WV DEP PERMIT 08/14/17

PROJECT DELIVERY PROJECT ENGINEERING

Columbia Gas Transmission

MOUNTAINEER XPRESS PROJECT

TITLE: PROPOSED 24" PL-MXP-200 PIPELINE EROSION & SEDIMENT CONTROL PLAN DODDRIDGE COUNTY, WEST VIRGINIA

DRAWN BY:	HWK	DATE:	03/17/16	DRAWING NUMBER:	20432	ISSUE:	P7
PROJECT NUMBER:		DATE:		DRAWING NUMBER:	06988-ESC-001	ISSUE:	
DESIGNED BY:		DATE:		DRAWING NUMBER:		ISSUE:	

REVISIONS:

No.	REVISIONS	APPROVED BY	DATE
1	REVISED FOR WV DEP	ARL	08/18/17
2	ISSUED FOR WV DEP REVIEW	ARL	04/07/17

(WV-00-0228.000)	(WV-00-0228.000)	(WV-00-0228.000)	(WV-00-0228.000)	(WV-00-0228.000)	(WV-00-0228.000)	(WV-00-0228.000)	(WV-00-0228.000)	(WV-00-0228.000)	(WV-00-0228.000)	(WV-00-0228.000)	(WV-00-0228.000)
516 FEET	67 FEET	9 FEET	1414 FEET	1414 FEET	994 FEET	994 FEET	994 FEET	994 FEET	994 FEET	994 FEET	994 FEET

STATIONING

26+00 MATCH LINE

31+47 FENCE, 4" HOOD AND BARRIERS
31+48 FENCE, 4" HOOD AND BARRIERS
31+49 FENCE, 4" HOOD AND BARRIERS
31+50 FENCE, 4" HOOD AND BARRIERS
31+51 FENCE, 4" HOOD AND BARRIERS
31+52 FENCE, 4" HOOD AND BARRIERS
31+53 FENCE, 4" HOOD AND BARRIERS
31+54 FENCE, 4" HOOD AND BARRIERS

39+40 FENCE, 3" ELECTRIC
41+40 OVERHEAD POWERLINE
44+40 OVERHEAD POWERLINE
46+44 FENCE, 4" HOOD AND BARRIERS
46+45 FENCE, 4" HOOD AND BARRIERS
46+46 FENCE, 4" HOOD AND BARRIERS
46+47 FENCE, 4" HOOD AND BARRIERS
46+48 FENCE, 4" HOOD AND BARRIERS
46+49 FENCE, 4" HOOD AND BARRIERS

55+03 D.I. < 3071728" LT.
56+00 MATCH LINE

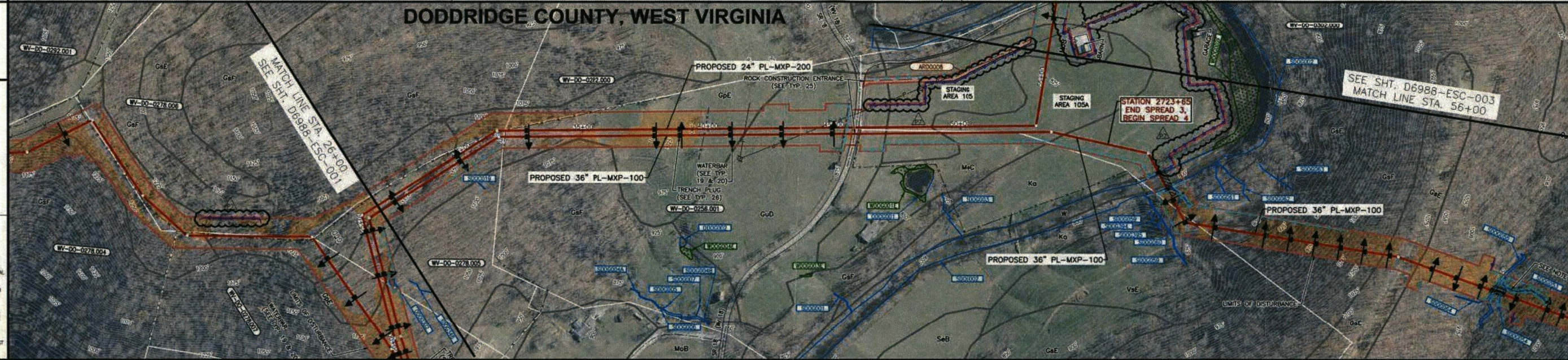
ENVIRONMENTAL

DEPTH OF COVER



PLAN

DODDRIDGE COUNTY, WEST VIRGINIA



NOTES:
1. STATIONS FOR EROSION CONTROL DEVICES ARE APPROXIMATE. DEVICES WILL BE FIELD VERIFIED AND PLACED UNDER THE OVERSIGHT OF THE ENVIRONMENTAL INSPECTOR.
2. ENVIRONMENTAL DATA PROVIDED BY OTHERS. ACTUAL LOCATIONS TO BE FIELD VERIFIED.
3. CONTOURS DERIVED FROM USGS, UNITED STATES ELEVATION DATA (NEE) (10M RESOLUTION).
4. PROFILE ELEVATIONS ARE BASED ON FIELD SURVEY PHOTOGRAPHY, 6" BY 4" PHOTOGRAPHY, FLORENCE, MISSISSIPPI 2010.
5. COORDINATE SYSTEM: WEST VA STATE PLANE SOUTH, NAD83, U.S. SURVEY FEET.

MATERIAL

SOIL TYPE

CLASS LOCATION FOR CONST. PURPOSES

DESIGN FACTOR

HYDROTEST

PROFILE

HORIZ. SCALE: 1"=200'

VERT. SCALE: 1"=200'

200'

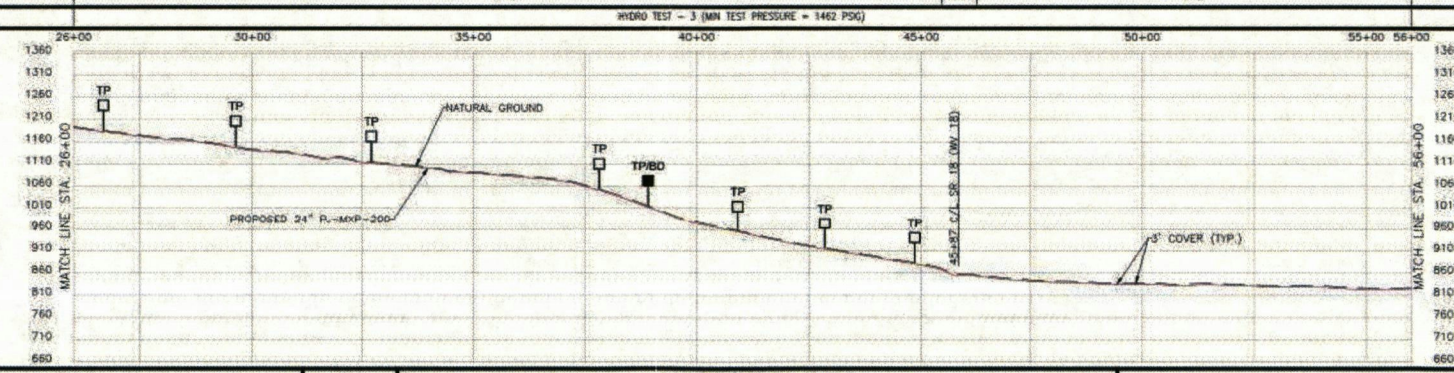
100'

0'

-100'

-200'

-400'



ITEM NUMBER	INSERVICE DATE	OUTSIDE DIAMETER	WALL THICKNESS	GRADE	QUANTITY
1		24"	0.375"	X70	2920'
3		24"	0.500"	X70	80'
SR SEG		24"			2 EA

ITEM NUMBER	INSERVICE DATE	OUTSIDE DIAMETER	WALL THICKNESS	GRADE	DEGREE	RADIUS	COATING	BEVEL

ITEM NUMBER	INSERVICE DATE	OUTSIDE DIAMETER	WALL THICKNESS	GRADE	DEGREE	RADIUS	COATING	BEVEL

ITEM NUMBER	INSERVICE DATE	OUTSIDE DIAMETER	WALL THICKNESS	GRADE	DEGREE	RADIUS	COATING	BEVEL

ITEM NUMBER	INSERVICE DATE	OUTSIDE DIAMETER	WALL THICKNESS	GRADE	DEGREE	RADIUS	COATING	BEVEL

ACCESS ROAD BROAD-BASE DIP LEGEND (SEE NOTE 5)

PROPOSED 24" PL-MXP-200 PIPELINE

PROPOSED 36" PL-MXP-100 PIPELINE

3" COVER (TYP.)

SCALE: 1" = 200'

200' 100' 0' 100' 200' 400'

NOTES:
1. PERMANENT STREAM CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICALS 30, 31, 32, AND 33 ON DRAWING D687-TYP-004.
2. INTERMITTENT STREAM CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICAL 34 ON DRAWING D687-TYP-004.
3. WETLAND CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICAL 35 ON DRAWING D687-TYP-004.
4. HYDROMULCH MAY BE USED AS AN ALTERNATIVE TO EROSION CONTROL BLANKET IN SOME INSTANCES. REFER TO TYPICAL 28 ON DRAWING D687-TYP-004.
5. BROAD BASED DIPS SHALL BE INSTALLED AT A SPACING CORRESPONDING TO THE COLOR CODING SHOWN ON THE ACCESS ROADS. REFER TO TYPICALS 71 & 72 ON DRAWING D687-TYP-007.
6. ADDITIONAL WETLAND MATTING AND/OR EQUIPMENT CROSSINGS MAY BE UTILIZED IF FIELD CONDITIONS NECESSITATE THEIR USE FOR CONSTRUCTION OPERATIONS. THE USE OF ADDITIONAL MATTING AND/OR CROSSINGS SHALL BE REVIEWED WITH THE ENVIRONMENTAL INSPECTOR PRIOR TO INSTALLATION. FOR WETLAND MATTING/EQUIPMENT CROSSINGS REFER TO TYPICALS 30-35 ON DRAWING D687-TYP-004 AS APPLICABLE.

No.	REVISIONS	APPROVED BY	DATE	No.	REVISIONS	APPROVED BY	DATE

No.	REVISIONS	APPROVED BY	DATE	No.	REVISIONS	APPROVED BY	DATE

No.	REVISIONS	APPROVED BY	DATE	No.	REVISIONS	APPROVED BY	DATE

No.	REVISIONS	APPROVED BY	DATE	No.	REVISIONS	APPROVED BY	DATE

DWG. NO.	REFERENCE

ISSUED FOR WV DEP PERMIT
08/14/17

Columbia Gas Transmission

PROJECT DELIVERY PROJECT ENGINEERING

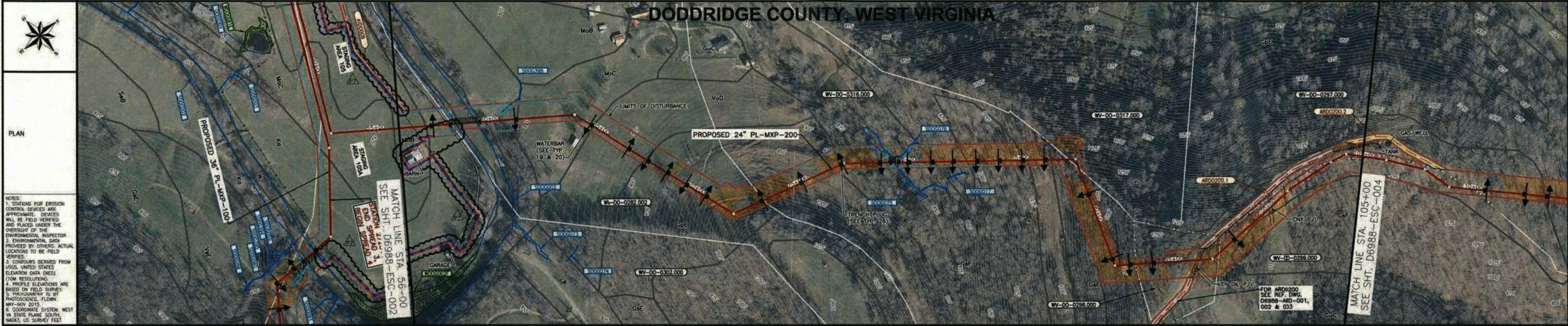
MOUNTAINEER XPRESS PROJECT
EROSION & SEDIMENT CONTROL PLAN
DODDRIDGE COUNTY, WEST VIRGINIA

DRAWN BY:	HWK	DATE:	03/17/16
PROJECT NUMBER:	20432	DRAWING NUMBER:	D6988-ESC-002
ISSUED FOR:	46121	ISSUE:	P7

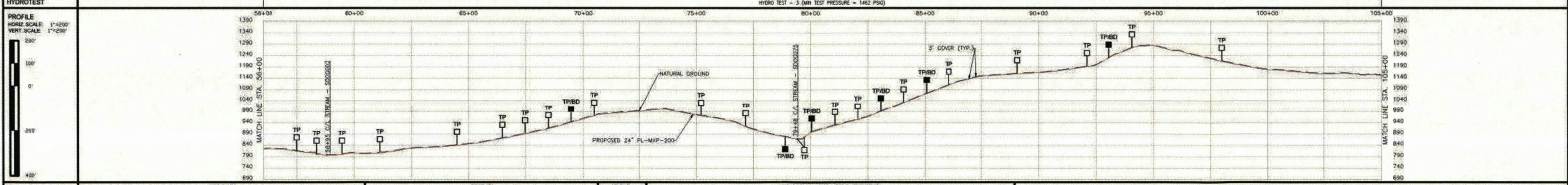
STATIONING	56+00 MATCH LINE 56+40 OVERHEAD POWERLINE 56+16 EDGE OF ROAD (GRAVEL) 56+22 C/L ROAD (GRAVEL) 56+31 PROPERTY LINE 56+40 EDGE OF STREAM - SPOOD002 59+40 EDGE OF STREAM - SPOOD002	62+00 231 FEET 58+31	73+40 1504 FEET	73+40	82+11 72 FEET	87+83 549 FEET	93+32 374 FEET	97+08 661 FEET	103+87 133 FEET	105+00
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ENVIRONMENTAL	STREAM SPOOD002 (PERENNIAL) STREAM SPOOD075 (INTERMITTENT)
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DEPTH OF COVER	3'	5'	5'	5'
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MATERIAL	CR SEG 60+00 71+64 87+41 98+69 104+20
SOIL TYPE	MoB, Ka, W, Ka, MoC, VaD, Gf, Gf, Gf, Gf, Gf, Gf
CLASS LOCATION FOR CONST. PURPOSES	CLASS 1
DESIGN FACTOR	0.72
HYDROTEST	HYDRO TEST - 3 (MIN TEST PRESSURE = 1462 PSIG)



ITEM NUMBER	INSERVICE DATE	MATERIALS		COATING		CASING		INDUCTION BENDS & SEGMENTABLE ELBOWS							
		OUTSIDE DIAMETER	WALL THICKNESS	GRADE	QUANTITY	DESCRIPTION	ITEM NUMBER	INSERVICE DATE	OUTSIDE DIAMETER	WALL THICKNESS	GRADE	DEGREE	RADIUS	COATING	BEVEL
1		24"	0.375"	X70	4900	FE									
2		24"			6 EA	FE									

NOTES:

- PERENNIAL STREAM CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICALS 30, 31, 32, AND 33 ON DRAWING D887-TYP-004.
- INTERMITTENT STREAM CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICAL 34 ON DRAWING D887-TYP-004.
- WETLAND CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICAL 35 ON DRAWING D887-TYP-004.
- HYDROMULCH MAY BE USED AS AN ALTERNATIVE TO EROSION CONTROL BLANKET IN SOME INSTANCES. REFER TO TYPICAL 28 ON DRAWING D887-TYP-004.
- BROAD BASED DIPS SHALL BE INSTALLED AT A SPACING CORRESPONDING TO THE COLOR CODING SHOWN ON THE ACCESS ROADS. REFER TO TYPICALS 71 & 72 ON DRAWING D887-TYP-007.
- ADDITIONAL WETLAND MATTING AND/OR EQUIPMENT CROSSINGS MAY BE UTILIZED IF FIELD CONDITIONS NECESSITATE THEIR USE FOR CONSTRUCTION OPERATIONS. THE USE OF ADDITIONAL MATTING AND/OR CROSSINGS SHALL BE REVIEWED WITH THE ENVIRONMENTAL INSPECTOR PRIOR TO INSTALLATION. FOR WETLAND MATTING/EQUIPMENT CROSSINGS REFER TO TYPICALS 30-35 ON DRAWING D887-TYP-004 AS APPLICABLE.

LEGEND:

- PROPERTY LINE
- ACCESS ROAD
- WETLAND
- WATERBODY
- UNDERGROUND CABLE
- OVERHEAD POWERLINE
- WATERLINE
- WATERBAR
- LIMITS OF DISTURBANCE
- SILT FENCE
- SUPER REINFORCED SILT FENCE
- SOIL BOUNDARY
- WATERBAR
- TRENCH PLUG (PLAN)
- TRENCH PLUG (PROFILE)
- TRENCH PLUG W/ BLEEDER DRAIN (PROFILE)
- TEMPORARY DIMENSIONS
- SIDE SLOPE BLEEDER DRAIN

REVISED FOR WV DEP.	ARL	08/14/17	06988-ARD-003	EROSION & SEDIMENT CONTROL PLAN
ISSUED FOR WV DEP REVIEW	ARL	04/07/17	06988-ARD-001	EROSION & SEDIMENT CONTROL PLAN

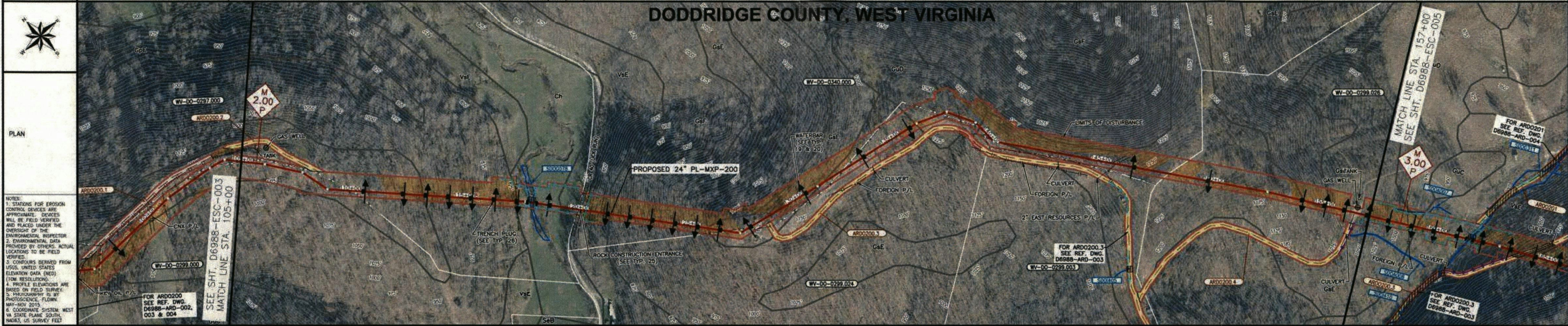
ISSUED FOR WV DEP PERMIT
08/14/17

PROJECT DELIVERY PROJECT ENGINEERING
Columbia Gas Transmission
MOUNTAINEER XPRESS PROJECT
 PROPOSED 24" PL-MXP-200 PIPELINE EROSION & SEDIMENT CONTROL PLAN
 DODDRIDGE COUNTY, WEST VIRGINIA

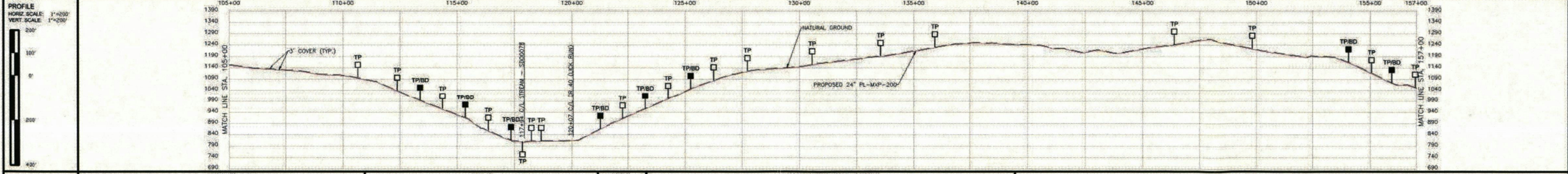
DRG. NO. 06988-ESC-003
 REFERENCE: 06988-ARD-001, 002 & 003
 DRAWING NUMBER: 06988-ESC-003
 ISSUE: P7

ISSUE	DRAWING NUMBER	OWNERSHIP	105+00	105+00	105+00	105+00	105+00	105+00	105+00	105+00	105+00	105+00	105+00	105+00	105+00	105+00							
P6	06988-ESC-004		8 FEET	498 FEET	1104.00	992 FEET	1194.38	670 FEET	1261.68	85 FEET	1274.53	486 FEET	1324.41	505 FEET	1374.46	187 FEET	1434.11	26 FEET	1494.59	839 FEET	1544.35	402 FEET	1574.00

STATIONING	105+00	105+00	105+00	105+00	105+00	105+00	105+00	105+00	105+00	105+00	105+00	105+00	105+00	105+00	105+00	105+00	105+00	105+00	105+00	105+00	105+00	105+00	105+00
ENVIRONMENTAL																							
DEPTH OF COVER																							



MATERIAL																							
SOIL TYPE																							
CLASS LOCATION FOR CONST. PURPOSES																							
DESIGN FACTOR		0.72				0.5																	
HYDROTEST																							



ITEM NUMBER	IN SERVICE DATE	MATERIALS			COATING			CASING			INDUCTION BENDS & SEGMENTABLE ELBOWS						
		ITEM NUMBER	IN SERVICE DATE	OUTSIDE DIAMETER	WALL THICKNESS	GRADE	QUANTITY	DESCRIPTION	ITEM NUMBER	IN SERVICE DATE	OUTSIDE DIAMETER	WALL THICKNESS	GRADE	DEGREE	RADIUS	COATING	REVEL
1		24"	0.375"	X70	5120'		FBE										
2		24"	0.500"	X70	30'		FBE										
3R		24"			5 EA.		3R SEGMENTABLE BENDS										

NOTES:

- PERMANENT STREAM CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICALS 30, 31, 32, AND 33 ON DRAWING D6867-TYP-004.
- INTERMITTENT STREAM CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICAL 34 ON DRAWING D6867-TYP-004.
- WETLAND CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICAL 35 ON DRAWING D6867-TYP-004.
- HYDROMULCH MAY BE USED AS AN ALTERNATIVE TO EROSION CONTROL BLANKET IN SOME INSTANCES. REFER TO TYPICAL 28 ON DRAWING D6867-TYP-004.
- BROAD BASED DIPS SHALL BE INSTALLED AT A SPACING CORRESPONDING TO THE COLOR CODING SHOWN ON THE ACCESS ROADS. REFER TO TYPICALS 71 & 72 ON DRAWING D6867-TYP-004.
- ADDITIONAL WETLAND MATTING AND/OR EQUIPMENT CROSSINGS MAY BE UTILIZED IF FIELD CONDITIONS NECESSITATE THEIR USE FOR CONSTRUCTION OPERATIONS. THE USE OF ADDITIONAL MATTING AND/OR CROSSINGS SHALL BE REVIEWED WITH THE ENVIRONMENTAL INSPECTOR PRIOR TO INSTALLATION. FOR WETLAND MATTING/EQUIPMENT CROSSINGS REFER TO TYPICALS 30-35 ON DRAWING D6867-TYP-004 AS APPLICABLE.

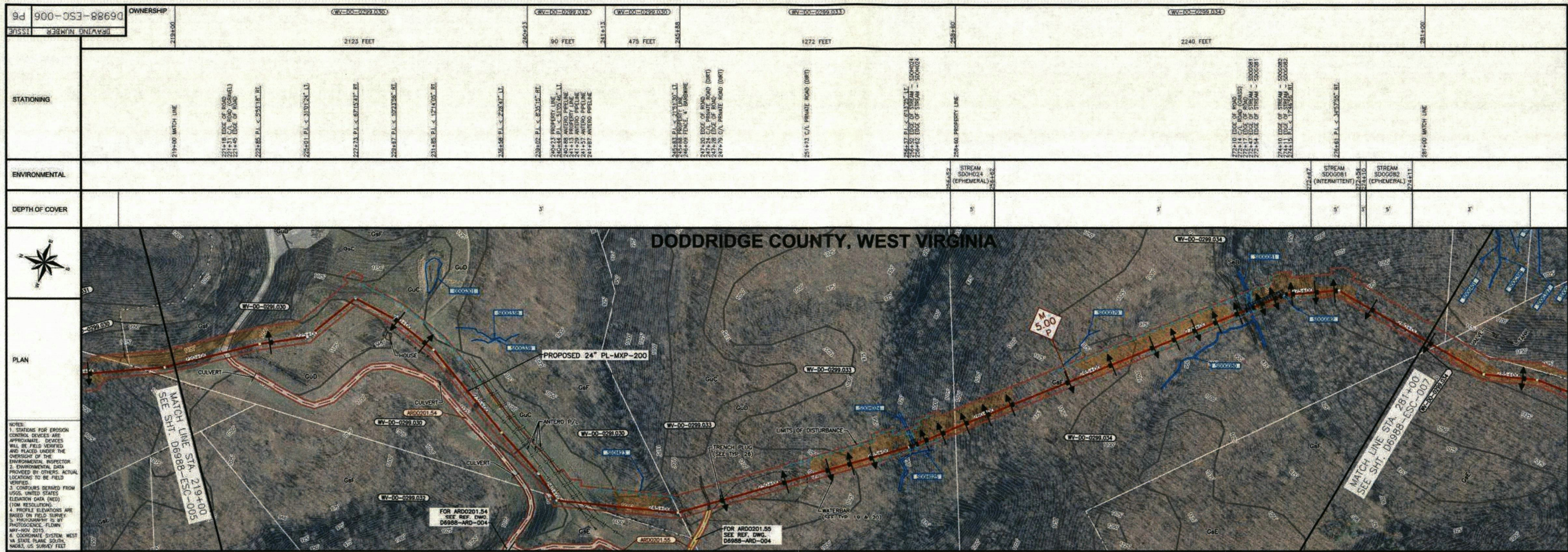
LEGEND:

- MILEPOST MXP-100
- MILEPOST SHERWOOD LATERAL MXP-200
- COUNTY BORDER
- PROPERTY LINE
- ACCESS ROAD
- WETLAND
- WATERBODY
- FENCE
- UNDERGROUND CABLE
- OVERHEAD POWERLINE
- WATERLINE
- WATERBAR
- LINES OF DISTURBANCE
- SILT FENCE
- SUPER REINFORCED SILT FENCE
- EROSION CONTROL BLANKET OR HYDROMULCH
- SOIL BOUNDARY
- MATS
- EQUIPMENT BRIDGE
- TRENCH PLUG (PLAN)
- TRENCH PLUG (PROFILE)
- TRENCH PLUG W/ BLEEDER DRAIN (PROFILE)

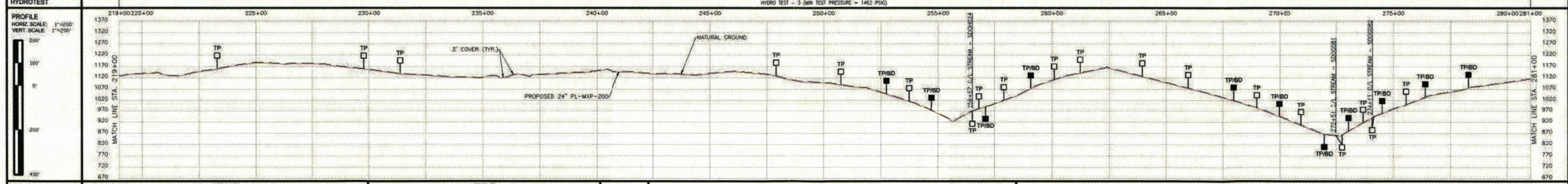
SCALE: 1" = 200'

No.	REVISIONS	APPROVED BY	DATE	No.	REVISIONS	APPROVED BY	DATE	No.	REVISIONS	APPROVED BY	DATE	DWG. NO.	REFERENCE	PROJECT DELIVERY PROJECT ENGINEERING	TITLE	PROJECT NUMBER	DRAWING NUMBER	ISSUE
												06988-ARD-003	EROSION & SEDIMENT CONTROL PLAN	Columbia Gas Transmission	PROPOSED 24" PL-MXP-200 PIPELINE EROSION & SEDIMENT CONTROL PLAN DODDRIDGE COUNTY, WEST VIRGINIA	20432	06988-ESC-004	P6

ISSUED FOR WV DEP REVIEW 04/07/17



MATERIAL	219+00	225+00	227+35	227+35	230+00	237+00	237+00	240+00	247+00	257+00	257+00	265+00	272+00	272+00	276+00	281+00
SOIL TYPE	G40	G40	G40	G40	G40	G40	G40	G40	G40	G40	G40	G40	G40	G40	G40	G40
CLASS LOCATION FOR CONST. PURPOSES	CLASS 1															
DESIGN FACTOR	0.72															
HYDROTEST	HYDRO TEST - 3 (MIN TEST PRESSURE = 1462 PSIG)															



MATERIALS				COATING				CASING				INDUCTION BENDS & SEGMENTABLE ELBOWS					
ITEM NUMBER	INSERVICE DATE	OUTSIDE DIAMETER	WALL THICKNESS	GRADE	QUANTITY	DESCRIPTION	ITEMS	DIAMETER	ITEM NUMBER	INSERVICE DATE	OUTSIDE DIAMETER	WALL THICKNESS	GRADE	DEGREE	RADIUS	COATING	BEVEL
1		24"	0.375"	X70	6120	FBE											
2		24"	0.500"	X70	80	FBE											
3R SEC		24"			4 EA	3R SEGMENTABLE BENDS											

NOTES:

- PERMANENT STREAM CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICALS 30, 31, 32, AND 33 ON DRAWING D6987-TYP-004.
- INTERMITTENT STREAM CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICAL 34 ON DRAWING D6987-TYP-004.
- WETLAND CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICAL 35 ON DRAWING D6987-TYP-004.
- HYDROMULCH MAY BE USED AS AN ALTERNATIVE TO EROSION CONTROL BLANKET IN SOME INSTANCES. REFER TO TYPICAL 36 ON DRAWING D6987-TYP-004.
- BROAD BASED DPS SHALL BE INSTALLED AT A SPACING CORRESPONDING TO THE COLOR CODING SHOWN ON THE ACCESS ROADS. REFER TO TYPICALS 71 & 72 ON DRAWING D6987-TYP-007.
- ADDITIONAL WETLAND MATTING AND/OR EQUIPMENT CROSSINGS MAY BE UTILIZED IF FIELD CONDITIONS NECESSITATE THEIR USE FOR CONSTRUCTION OPERATIONS. THE USE OF ADDITIONAL MATTING AND/OR CROSSINGS SHALL BE REVIEWED WITH THE ENVIRONMENTAL INSPECTOR PRIOR TO INSTALLATION. FOR WETLAND MATTING/EQUIPMENT CROSSINGS REFER TO TYPICALS 36-38 ON DRAWING D6987-TYP-004 AS APPLICABLE.

LEGEND:

- MILEPOST MXP-100
- MILEPOST SHERWOOD LATERAL MXP-200
- ROUTE
- EXISTING COLUMBIA PIPELINE
- FOREIGN PIPELINE
- COUNTY BORDER
- PROPERTY LINE
- ACCESS ROAD
- WETLAND
- WATERBODY
- FENCE
- UNDERGROUND CABLE
- OVERHEAD POWERLINE
- WATERLINE
- SILT FENCE
- SURER REINFORCED SILT FENCE
- SOL BOUNDARY
- WATERBAR
- MATS
- EROSION CONTROL BLANKET OR HYDROMULCH
- EQUIPMENT BRIDGE
- TRENCH PLUG (PLAN)
- TRENCH PLUG (PROFILE)
- TRENCH PLUG W/ BLEEDER DRAIN (PROFILE)

SCALE: 1" = 200'

ISSUED FOR WV DEP REVIEW 04/07/17

PROJECT DELIVERY PROJECT ENGINEERING

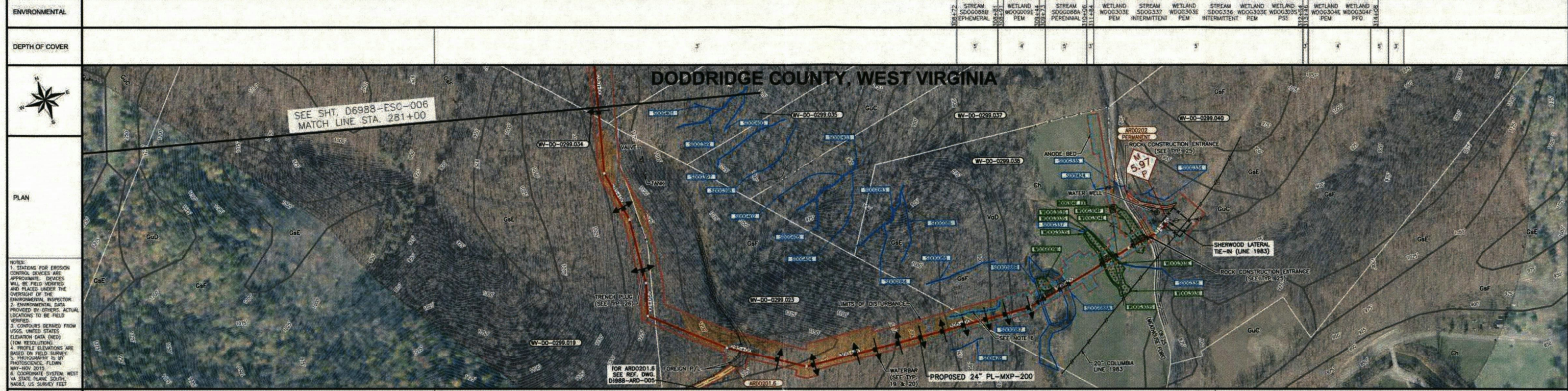
Columbia Gas Transmission

MOUNTAINEER XPRESS PROJECT

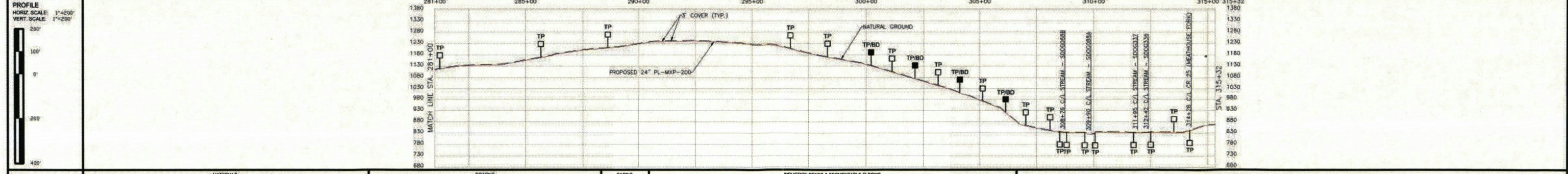
TITLE: PROPOSED 24" PL-MXP-200 PIPELINE EROSION & SEDIMENT CONTROL PLAN, DODDRIDGE COUNTY, WEST VIRGINIA

DRAWN BY:	HWK	DATE:	03/17/16	DWG. NO.:	D6988-ARD-004	PROJECT:	EROSION & SEDIMENT CONTROL PLAN
PROJECT NUMBER:	5	ISSUED FOR:	WV DEP REVIEW	DATE:	04/07/17	DRAWING NUMBER:	D6988-ESC-006
REVISIONS:		APPROVED BY:	ARL	DATE:	04/07/17	REFERENCE:	46121

OWNERSHIP	D6988-ESC-007 P6										
STATIONING	281+00	281+48	281+96	282+44	282+92	283+40	283+88	284+36	284+84	285+32	285+80
ENVIRONMENTAL											
DEPTH OF COVER											



MATERIAL	281+00	283+43	285+00	286+01	288+01	289+00	290+00	291+00	292+00	293+00	294+00	295+00	296+00	297+00	298+00	299+00	300+00	301+00	302+00	303+00	304+00	305+00	306+00	307+00	308+00	309+00	310+00	311+00	312+00	313+00	314+00	315+00	315+32
SOIL TYPE	G0E																																
CLASS LOCATION FOR CONST. PURPOSES	CLASS 1																																
DESIGN FACTOR	0.72																																
HYDROTEST	HYDRO TEST - 3 (MIN TEST PRESSURE = 1462 PSI)																																



MATERIALS				COATING				CASING				INDUCTION BENDS & SEGMENTABLE ELBOWS					
ITEM NUMBER	INSERVICE DATE	OUTSIDE DIAMETER	WALL THICKNESS	GRADE	QUANTITY	DESCRIPTION	ITEM	DIAMETER	ITEM NUMBER	INSERVICE DATE	OUTSIDE DIAMETER	WALL THICKNESS	GRADE	DEGREE	RADIUS	COATING	BEVEL
1		24"	0.375"	X70	3,332	FBE											
2		24"	0.500"	X70	80	FBE ARO											
3R SEC		24"			3 EA.	3R SEGMENTABLE BENDS											
FAB					20	24" FACILITIES											

NOTES:

- PERMANENT STREAM CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICALS 30, 31, 32, AND 33 ON DRAWING D687-TYP-004.
- INTERMITTENT STREAM CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICAL 34 ON DRAWING D687-TYP-004.
- WETLAND CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICAL 35 ON DRAWING D687-TYP-004.
- HYDROMULCH MAY BE USED AS AN ALTERNATIVE TO EROSION CONTROL BLANKET IN SOME INSTANCES. REFER TO TYPICAL 28 ON DRAWING D687-TYP-004.
- BROAD BASED DIPS SHALL BE INSTALLED AT A SPACING CORRESPONDING TO THE COLOR CODING SHOWN ON THE ACCESS ROADS. REFER TO TYPICALS 71 & 72 ON DRAWING D687-TYP-007.
- ADDITIONAL WETLAND MATTING AND/OR EQUIPMENT CROSSINGS MAY BE UTILIZED IF FIELD CONDITIONS NECESSITATE THEIR USE FOR CONSTRUCTION OPERATIONS. THE USE OF ADDITIONAL MATTING AND/OR CROSSINGS SHALL BE REVIEWED WITH THE ENVIRONMENTAL INSPECTOR PRIOR TO INSTALLATION. FOR WETLAND MATTING/EQUIPMENT CROSSINGS REFER TO TYPICALS 30-35 ON DRAWING D687-TYP-004 AS APPLICABLE.

LEGEND:

- MILEPOST MXP-100
- MILEPOST SHERWOOD LATERAL MXP-200
- COUNTY BORDER
- PROPERTY LINE
- ACCESS ROAD
- WETLAND
- WATERBODY
- FENCE
- UNDERGROUND CABLE
- OVERHEAD POWERLINE
- WATERLINE
- WATERBAR
- LIMITS OF DISTURBANCE
- SILT FENCE
- SURER REINFORCED SILT FENCE
- SOIL BOUNDARY
- WATERBAR
- MATS
- EROSION CONTROL BLANKET OR HYDROMULCH
- EQUIPMENT BRIDGE
- TRENCH PLUG (PLAN)
- TRENCH PLUG (PROFILE)
- TRENCH PLUG W/BLEEDER DRAIN (PROFILE)

SCALE: 1" = 200'

ISSUED FOR WV DEP REVIEW

PROJECT DELIVERY PROJECT ENGINEERING

Columbia Gas Transmission

MOUNTAINEER XPRESS PROJECT

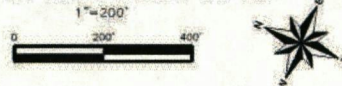
PROPOSED 24" PL-MXP-200 PIPELINE EROSION & SEDIMENT CONTROL PLAN DODDRIDGE COUNTY, WEST VIRGINIA

DRAWN BY	HWK	DATE	03/17/16	DRAWING NUMBER	20432	ISSUE	P6
APPROVED BY	ARL	DATE	04/07/17	DWG. NO.	D6988-003	REFERENCE	

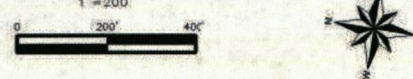
ACCESS ROAD DETAILS AR0002.9 & AR0003.01



ACCESS ROAD AR0002.9
DODDRIDGE CO., WV
REF. ALIGNMENT: D6987-ESC-050
1"=200'



ACCESS ROAD AR0003.01
DODDRIDGE CC., WV
REF. ALIGNMENT: D6987-ESC-051
1"=200'



**ACCESS ROAD
BROAD-BASE DIP LEGEND***
(SEE NOTE 5)

PERCENT SLOPE	DIP SPACING
0-2%	300 FEET
2-5%	150 FEET
5-15%	100 FEET
>15%	75 FEET
NO BROAD-BASE DIPS REQUIRED	

* SHADED SEGMENTS, UPGRADIENT ROADSIDE DITCHING AND CULVERTS SHALL BE PROVIDED WHERE THE ACCESS ROADS PARALLEL THE CONTOUR WITHIN THE SHADED AREAS IN ACCORDANCE WITH TYPICAL DETAIL 49 AND 93.

ADDITIONAL NOTES:
A. DITCHING SHALL BE INSTALLED ON THE UPGRADIENT SIDE OF NEW ACCESS ROADS AND EXISTING ACCESS ROADS REQUIRING CONSTRUCTION ACTIVITIES TO CONVEY UPGRADIENT FLOW BENEATH THE ACCESS ROAD VIA CROSS DRAINS. DITCHING AND CROSS DRAINS SHALL BE INSTALLED IN ACCORDANCE WITH TYPICAL DETAILS 49 AND 93. EXTENT AND LOCATION OF DITCHING AND CROSS DRAINS MAY VARY BASED ON FIELD CONDITIONS ENCOUNTERED AT THE TIME OF CONSTRUCTION.
B. IF EXISTING ACCESS ROADS REQUIRE CONSTRUCTION ACTIVITIES, THEN EROSION AND SEDIMENT CONTROLS SHALL BE INSTALLED IN ACCORDANCE WITH THE TYPICAL DETAILS.

- NOTES:**
- PERENNIAL STREAM CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICALS 30, 31, 32, AND 33 ON DRAWING D6987-TYP-004.
 - INTERMITTENT STREAM CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICAL 34 ON DRAWING D6987-TYP-004.
 - WETLAND CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICAL 35 ON DRAWING D6987-TYP-004.
 - HYDROMULCH MAY BE USED AS AN ALTERNATIVE TO EROSION CONTROL BLANKET IN SOME INSTANCES. REFER TO TYPICAL 28 ON DRAWING D6987-TYP-004.
 - BROAD BASED DIPS SHALL BE INSTALLED AT A SPACING CORRESPONDING TO THE COLOR CODING SHOWN ON THE ACCESS ROADS. REFER TO TYPICALS 71 & 72 ON DRAWING D6987-TYP-007.
 - ADDITIONAL WETLAND MATTING AND/OR EQUIPMENT CROSSINGS MAY BE UTILIZED IF FIELD CONDITIONS NECESSITATE THEIR USE FOR CONSTRUCTION OPERATIONS. THE USE OF ADDITIONAL MATTING AND/OR CROSSINGS SHALL BE REVIEWED WITH THE ENVIRONMENTAL INSPECTOR PRIOR TO INSTALLATION. FOR WETLAND MATTING/EQUIPMENT CROSSINGS REFER TO TYPICALS 30-35 ON DRAWING D6987-TYP-004 AS APPLICABLE.

LEGEND		LEGEND		LEGEND	
	MILEPOST LATERAL MXP-200		COUNTY BORDER		FENCE
	ROUTE		PROPERTY LINE		UNDERGROUND CABLE
	EXISTING COLUMBIA PIPELINE		ACCESS ROAD		OVERHEAD POWERLINE
	FOREIGN PIPELINE		WETLAND		WATERLINE
	SOIL BOUNDARY		WATERBODY		WATERBAR
	LIMITS OF DISTURBANCE		MATS		TRENCH PLUG (PLAN)
	EROSION CONTROL BLANKET OR HYDROMULCH		EQUIPMENT BRIDGE		TRENCH PLUG (PROFILE)
	SILT FENCE		SUPER REINFORCED SILT FENCE		TRENCH PLUG W/BLEEDER DRAIN (PROFILE)

No.	REVISIONS	APPROVED BY	DATE	No.	REVISIONS	APPROVED BY	DATE	No.	REVISIONS	APPROVED BY	DATE
1	ISSUED FOR BID	JHE	05/05/17	1	ISSUED FOR WV DEP REVIEW	ARL	09/22/17	1			
2	ADDED LEGEND AND NOTES	ARL	09/22/17								

PROJECT DELIVERY PROJECT ENGINEERING		Columbia Gas Transmission	
MOUNTAINEER XPRESS PROJECT			
TITLE EROSION & SEDIMENT CONTROL PLAN DODDRIDGE COUNTY, WEST VIRGINIA			
DESIGNED BY	DATE	DRAWING NUMBER	ISSUE
PM	05/27/16	D6987-ARD-019	P1
PROJECT NUMBER	20432		
DATE PLOTTED	46130		

**ISSUED FOR
WV DEP PERMIT**
09/22/17

ACCESS ROAD DETAILS

ARDO005.1, ARDO005.6, ARDO005.8, ARDO006, ARDO006.1, & ARDO006.8 1-2 OF 2



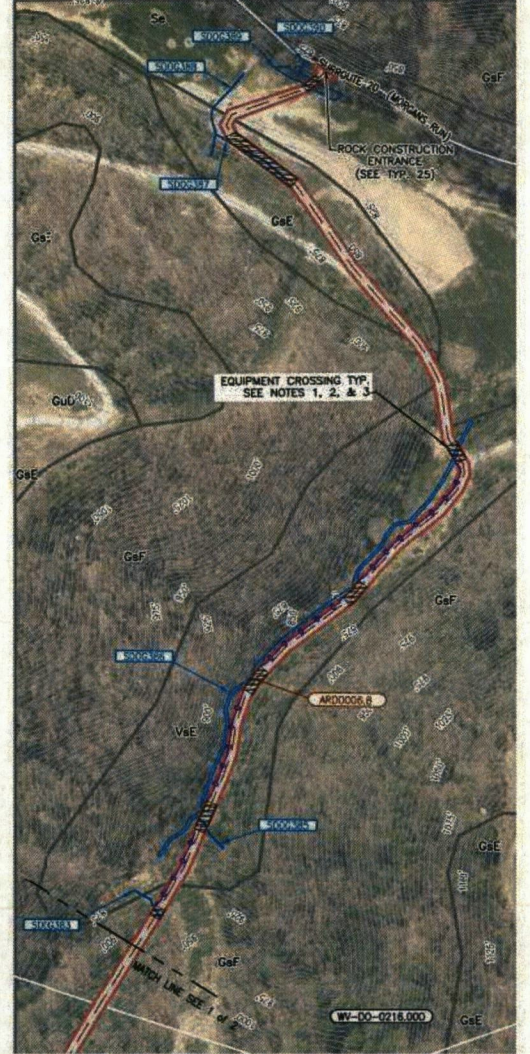
ACCESS ROAD ARDO005.1
DODDRIDGE CO., WV
REF. ALIGNMENT: D6987-ESC-053
1"=200'
0 200' 400'



ACCESS ROAD ARDO005.6, ARDO005.8, ARDO006 & ARDO006.1
DODDRIDGE CO., WV
REF. ALIGNMENT: D6987-ESC-053
1"=200'
0 200' 400'



ACCESS ROAD ARDO006.8 1 of 2
DODDRIDGE CO., WV
REF. ALIGNMENT: D6987-ESC-055
1"=200'
0 200' 400'



ACCESS ROAD ARDO006.8 2 of 2
DODDRIDGE CO., WV
REF. ALIGNMENT: D6987-ESC-055
1"=200'
0 200' 400'

ACCESS ROAD BROAD-BASE DIP LEGEND* (SEE NOTE 5)

PERCENT SLOPE	DIP SPACING
0-2%	300 FEET
2-5%	150 FEET
5-15%	100 FEET
>15%	75 FEET
NO BROAD-BASE DIPS REQUIRED	

* SHADED SEGMENTS, UPGRADIENT ROADSIDE DITCHING AND CULVERTS SHALL BE PROVIDED WHERE THE ACCESS ROADS PARALLEL THE CONTOUR WITHIN THE SHADED AREAS IN ACCORDANCE WITH TYPICAL DETAIL 48 AND 93.

ADDITIONAL NOTES:
A. DITCHING SHALL BE INSTALLED ON THE UPGRADIENT SIDE OF NEW ACCESS ROADS AND EXISTING ACCESS ROADS REQUIRING CONSTRUCTION ACTIVITIES TO CONVEY UPGRADIENT FLOW BENEATH THE ACCESS ROAD VIA CROSS DRAINS. DITCHING AND CROSS DRAINS SHALL BE INSTALLED IN ACCORDANCE WITH TYPICAL DETAILS 48 AND 93. EXTENT AND LOCATION OF DITCHING AND CROSS DRAINS MAY VARY BASED ON FIELD CONDITIONS ENCOUNTERED AT THE TIME OF CONSTRUCTION.
B. IF EXISTING ACCESS ROADS REQUIRE CONSTRUCTION ACTIVITIES, THEN EROSION AND SEDIMENT CONTROLS SHALL BE INSTALLED IN ACCORDANCE WITH THE TYPICAL DETAILS.

NOTES:
1. PERENNIAL STREAM CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICALS 30, 31, 32 AND 33 ON DRAWING D6987-TYP-004.
2. INTERMITTENT STREAM CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICAL 34 ON DRAWING D6987-TYP-004.
3. WETLAND CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICAL 35 ON DRAWING D6987-TYP-004.
4. HYDROMULCH MAY BE USED AS AN ALTERNATIVE TO EROSION CONTROL BLANKET IN SOME INSTANCES. REFER TO TYPICAL 28 ON DRAWING D6987-TYP-004.
5. BROAD BASED DIPS SHALL BE INSTALLED AT A SPACING CORRESPONDING TO THE COLOR CODING SHOWN ON THE ACCESS ROADS. REFER TO TYPICALS 71 & 72 ON DRAWING D6987-TYP-007.
6. ADDITIONAL WETLAND MATTING AND/OR EQUIPMENT CROSSINGS MAY BE UTILIZED IF FIELD CONDITIONS NECESSITATE THEIR USE FOR CONSTRUCTION OPERATIONS. THE USE OF ADDITIONAL MATTING AND/OR CROSSINGS SHALL BE REVIEWED WITH THE ENVIRONMENTAL INSPECTOR PRIOR TO INSTALLATION. FOR WETLAND MATTING/EQUIPMENT CROSSINGS REFER TO TYPICALS 30-36 ON DRAWING D6987-TYP-004 AS APPLICABLE.

LEGEND		REVISIONS	
	MILEPOST MXP-100		ADDED LEGEND AND NOTES
	MILEPOST MXP-200		REVISED FOR WV DEP
	COUNTY BORDER		PROPERTY LINE
	ACCESS ROAD		FENCE
	EXISTING COLUMBIA PIPELINE		UNDERGROUND CABLE
	FOREIGN PIPELINE		OVERHEAD POWERLINE
	WETLAND		WATERLINE
	WATERBODY		SOIL BOUNDARY
	PROPERTY TRACT NUMBER		WATERBAR
	LIMITS OF DISTURBANCE		TRENCH PLUG (PLAN)
	SILT FENCE		TRENCH PLUG (PROFILE)
	EROSION CONTROL BLANKET OR HYDROMULCH		TRENCH PLUG W/ BLEEDER DRAIN (PROFILE)
	EQUIPMENT MATS		TEMPORARY DIVERSIONS
	EQUIPMENT BRIDGE		SIDE SLOPE BLEEDER DRAIN

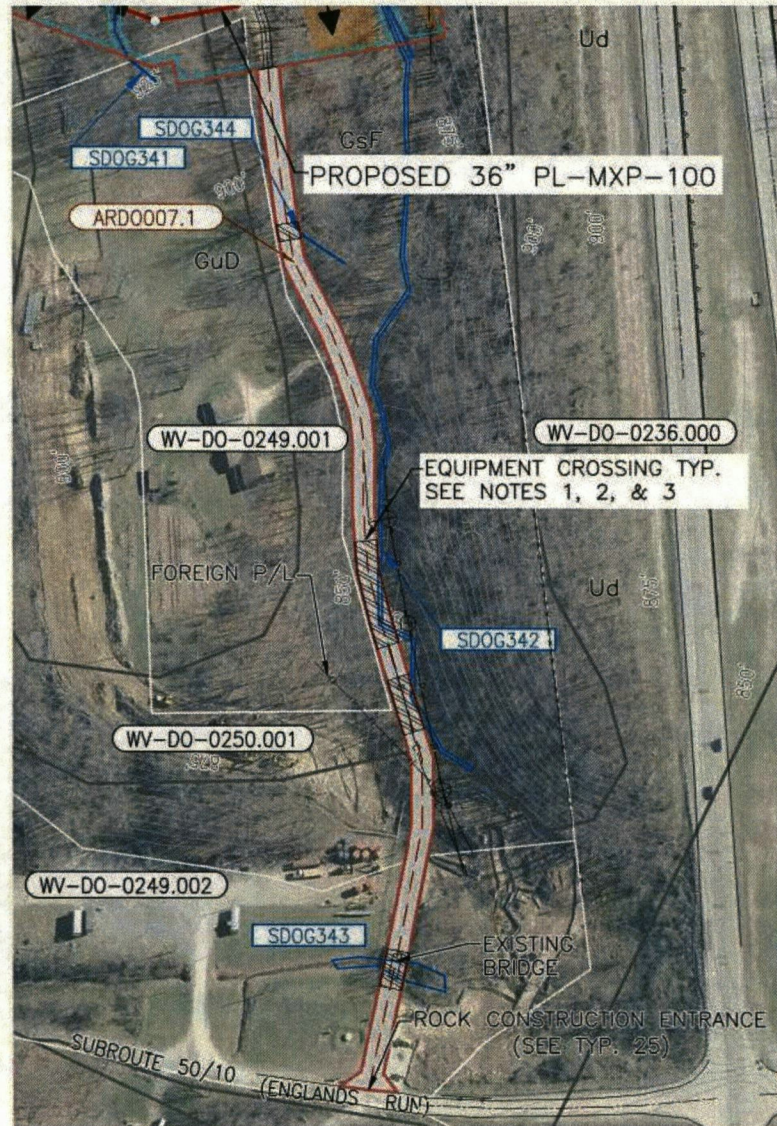
REVISIONS		REVISIONS	
No.	REVISIONS	No.	REVISIONS
1	ADDED LEGEND AND NOTES	1	ISSUED FOR BID
2	REVISED FOR WV DEP	2	ISSUED FOR WV DEP REVIEW

PROJECT DELIVERY PROJECT ENGINEERING		Columbia Gas Transmission	
MOUNTAINEER XPRESS PROJECT			
TITLE EROSION & SEDIMENT CONTROL PLAN DODDRIDGE COUNTY, WEST VIRGINIA			
DESIGNED BY	DATE	DRAWING NUMBER	ISSUE
PM	03/17/16	D6987-ARD-020	P2
PROJECT NUMBER	20432		
DATE PLOTTED	46130		

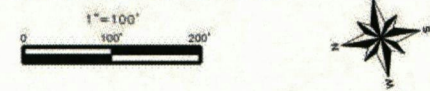
ISSUED FOR WV DEP PERMIT
09/22/17

ACCESS ROAD DETAILS

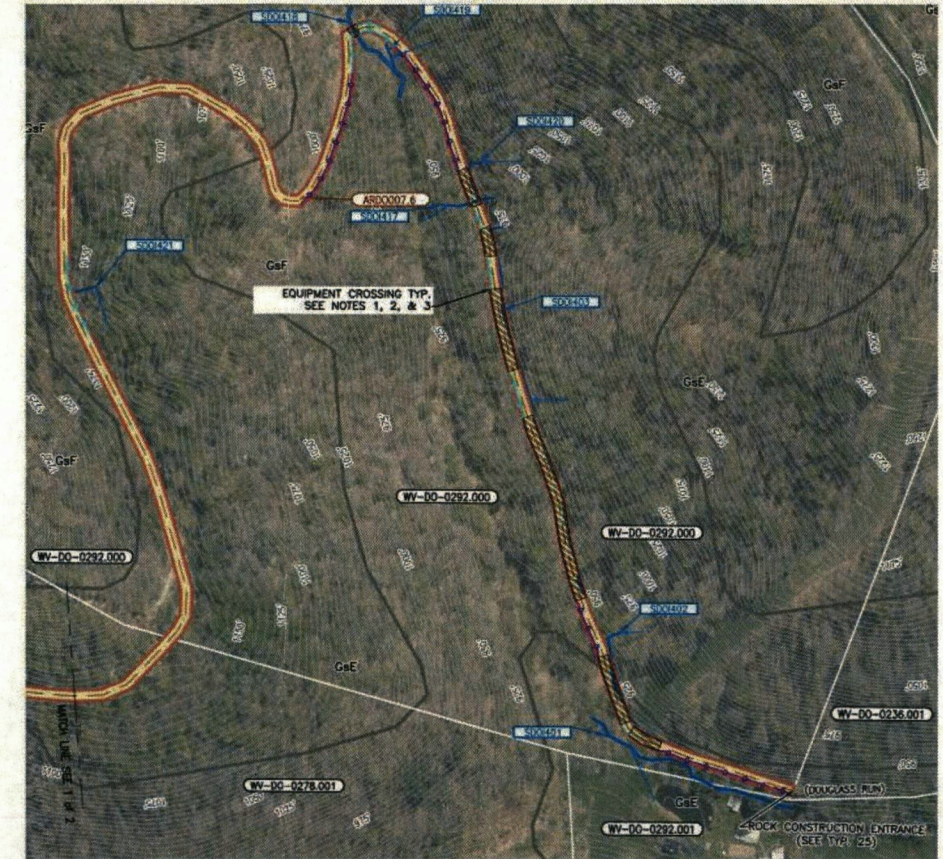
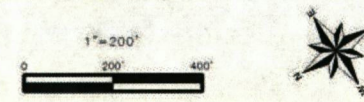
ARDO007.1 & ARDO007.6 1-2 OF 2



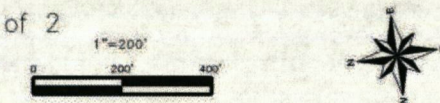
ACCESS ROAD ARDO007.1
DODDRIDGE CO., WV
REF. ALIGNMENT: D6987-ESC-056



ACCESS ROAD ARDO007.6 1 of 2
DODDRIDGE CO., WV
REF. ALIGNMENT: D6987-ESC-057



ACCESS ROAD ARDO007.6 2 of 2
DODDRIDGE CO., WV
REF. ALIGNMENT: D6987-ESC-057



- ACCESS ROAD BROAD-BASE DIP LEGEND* (SEE NOTE 5)**
- | PERCENT SLOPE | DIP SPACING |
|-----------------------------|-------------|
| 0-2% | 300 FEET |
| 2-5% | 150 FEET |
| 5-15% | 100 FEET |
| >15% | 75 FEET |
| NO BROAD-BASE DIPS REQUIRED | |
- ADDITIONAL NOTES:**
- A. DITCHING SHALL BE INSTALLED ON THE UPGRADIENT SIDE OF NEW ACCESS ROADS AND EXISTING ACCESS ROADS REQUIRING CONSTRUCTION ACTIVITIES TO CONVEY UPGRADIENT FLOW BENEATH THE ACCESS ROAD VIA CROSS DRAINS. DITCHING AND CROSS DRAINS SHALL BE INSTALLED IN ACCORDANCE WITH TYPICAL DETAILS 40 AND 93. EXTENT AND LOCATION OF DITCHING AND CROSS DRAINS MAY VARY BASED ON FIELD CONDITIONS ENCOUNTERED AT THE TIME OF CONSTRUCTION.
 - B. IF EXISTING ACCESS ROADS REQUIRE CONSTRUCTION ACTIVITIES, THEN EROSION AND SEDIMENT CONTROLS SHALL BE INSTALLED IN ACCORDANCE WITH THE TYPICAL DETAILS.
- * SHADED SEGMENTS, UPGRADIENT ROADSIDE DITCHING AND CULVERTS SHALL BE PROVIDED WHERE THE ACCESS ROADS PARALLEL THE CONTOUR WITHIN THE SHADED AREAS IN ACCORDANCE WITH TYPICAL DETAILS 40 AND 93.

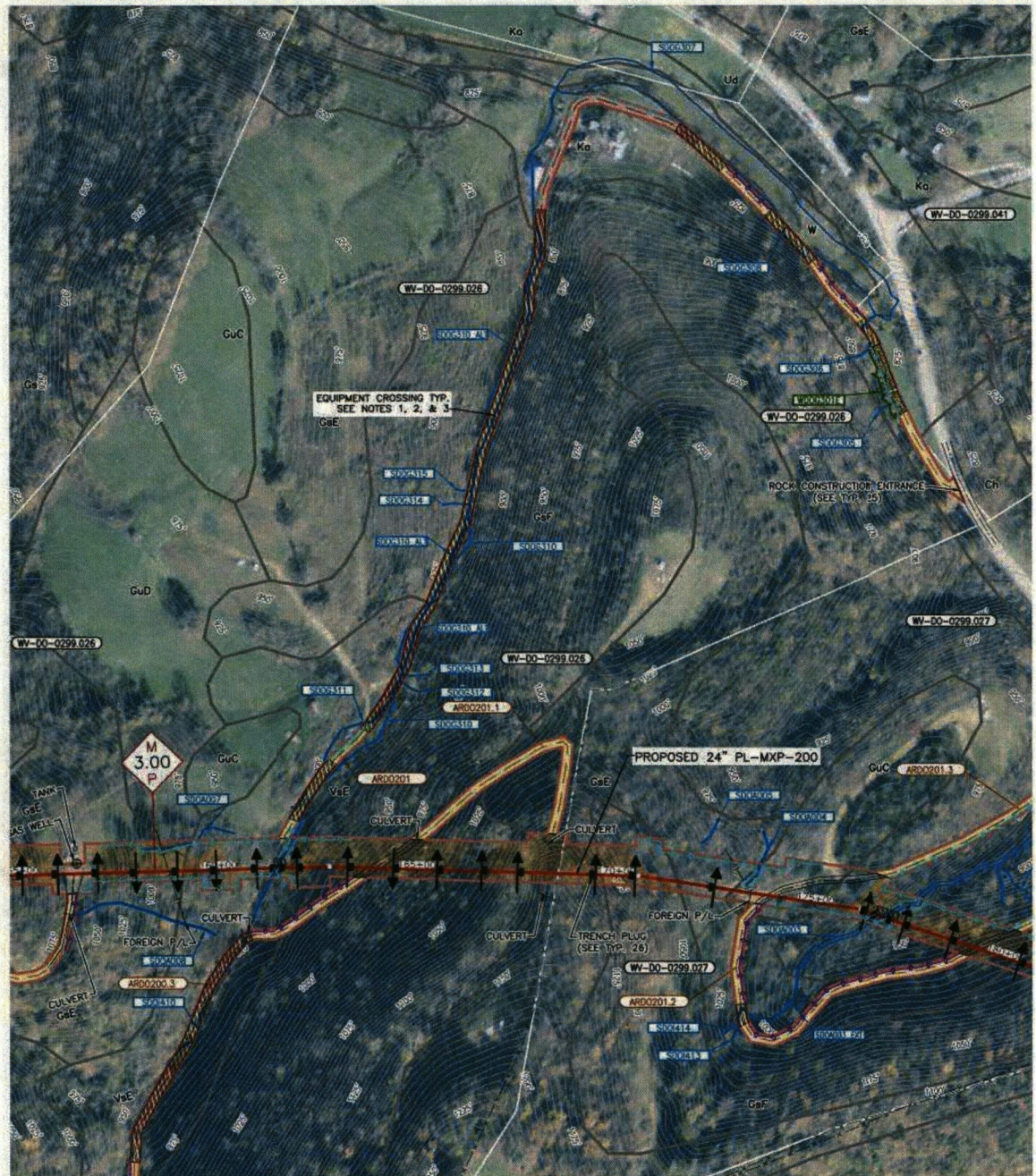
- NOTES:**
- PERENNIAL STREAM CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICALS 30, 31, 32, AND 33 ON DRAWING D6987-TYP-004.
 - INTERMITTENT STREAM CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICAL 34 ON DRAWING D6987-TYP-004.
 - WETLAND CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICAL 35 ON DRAWING D6987-TYP-004.
 - HYDROMULCH MAY BE USED AS AN ALTERNATIVE TO EROSION CONTROL BLANKET IN SOME INSTANCES. REFER TO TYPICAL 28 ON DRAWING D6987-TYP-004.
 - BROAD BASED DIPS SHALL BE INSTALLED AT A SPACING CORRESPONDING TO THE COLOR CODING SHOWN ON THE ACCESS ROADS. REFER TO TYPICALS 71 & 72 ON DRAWING D6987-TYP-007.
 - ADDITIONAL WETLAND MATTING AND/OR EQUIPMENT CROSSINGS MAY BE UTILIZED IF FIELD CONDITIONS NECESSITATE THEIR USE FOR CONSTRUCTION OPERATIONS. THE USE OF ADDITIONAL MATTING AND/OR CROSSINGS SHALL BE REVIEWED WITH THE ENVIRONMENTAL INSPECTOR PRIOR TO INSTALLATION. FOR WETLAND MATTING EQUIPMENT CROSSINGS REFER TO TYPICALS 30-35 ON DRAWING D6987-TYP-004 AS APPLICABLE.

LEGEND		LEGEND		LEGEND		LEGEND		LEGEND	
	MILEPOST MXP-100		COUNTY BORDER		FENCE		LIMITS OF DISTURBANCE		TRENCH PLUG (PLAN)
	MILEPOST LATERAL MXP-200		PROPERTY LINE		UNDERGROUND CABLE		EROSION CONTROL BLANKET OR HYDROMULCH		TRENCH PLUG (PROFILE)
	ROUTE		ACCESS ROAD		OVERHEAD POWERLINE		SUPER REINFORCED SILT FENCE		TRENCH PLUG W/BLEEDER DRAIN (PROFILE)
	EXISTING COLUMBIA PIPELINE		WATERBODY		WATERLINE		SOIL BOUNDARY		
	FOREIGN PIPELINE		WETLAND		WATERBAR		EQUIPMENT BRIDGE		
	PROPERTY TRACT NUMBER								

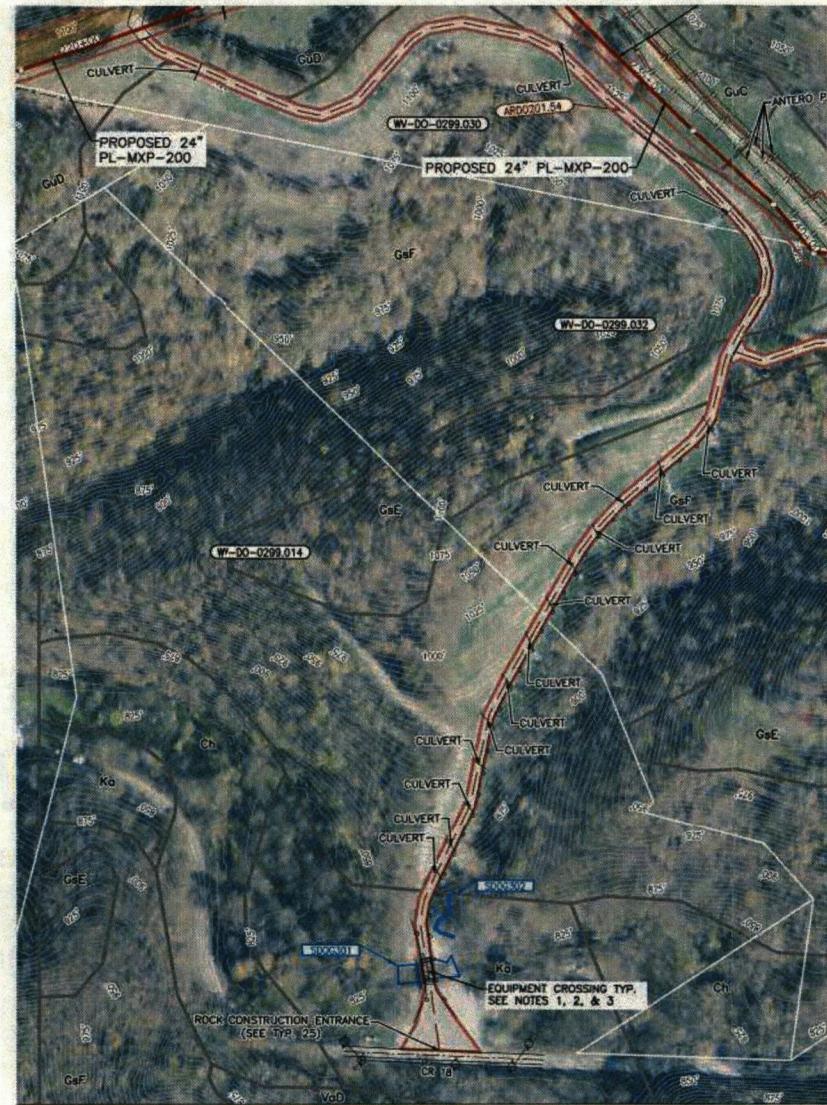
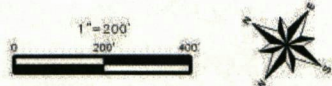
ISSUED FOR BIO		JHE	05/05/17	D6987-ESC-057	EROSION & SEDIMENT CONTROL PLAN	PROJECT DELIVERY PROJECT ENGINEERING		Columbia Gas Transmission	
ISSUED FOR WV DEP REVIEW		ARL	09/22/17	D6987-ESC-058	EROSION & SEDIMENT CONTROL PLAN	MOUNTAINEER XPRESS PROJECT		TITLE	
						EROSION & SEDIMENT CONTROL PLAN		DODDRIDGE COUNTY, WEST VIRGINIA	
REVISIONS		APPROVED BY	DATE	DWG. NO.	REFERENCE	PROJECT NUMBER	DATE	DRAWING NUMBER	ISSUE
No.	REVISIONS					20432	05/27/16	D6987-ARD-021	P1

ISSUED FOR WV DEP PERMIT
09/22/17

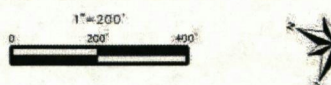
ACCESS ROAD DETAILS ARDO201, ARDO201.54 & ARDO201.55



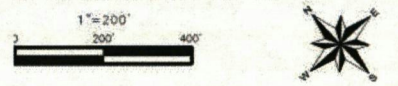
ACCESS ROAD ARDO201
DODDRIDGE CO., WV
REF. ALIGNMENT: D6988-ESC-005



ACCESS ROAD ARDO201.54
DODDRIDGE CO., WV
REF. ALIGNMENT: D6988-ESC-006



ACCESS ROAD ARDO201.54
DODDRIDGE CO., WV
REF. ALIGNMENT: D6988-ESC-006



ACCESS ROAD BROAD-BASE DIP LEGEND* (SEE NOTE 5)

PERCENT	DIP
0-2%	300 FEET
2-5%	150 FEET
5-15%	100 FEET
>15%	75 FEET
NO BROAD-BASE DIPS REQUIRED	

* SHADED SEGMENTS, UPGRADIENT ROADSIDE DITCHING AND CULVERTS SHALL BE PROVIDED WHERE THE ACCESS ROADS PARALLEL THE CONTOUR WITHIN THE SHADED AREAS IN ACCORDANCE WITH TYPICAL DETAIL 48 AND 93.

ADDITIONAL NOTES:
A. DITCHING SHALL BE INSTALLED ON THE UPGRADIENT SIDE OF NEW ACCESS ROADS AND EXISTING ACCESS ROADS REQUIRING CONSTRUCTION ACTIVITIES TO CONVEY UPGRADIENT FLOW BENEATH THE ACCESS ROAD VIA CROSS DRAINS. DITCHING AND CROSS DRAINS SHALL BE INSTALLED IN ACCORDANCE WITH TYPICAL DETAILS 48 AND 93. EXTENT AND LOCATION OF DITCHING AND CROSS DRAINS MAY VARY BASED ON FIELD CONDITIONS ENCOUNTERED AT THE TIME OF CONSTRUCTION.
B. IF EXISTING ACCESS ROADS REQUIRE CONSTRUCTION ACTIVITIES, THEN EROSION AND SEDIMENT CONTROLS SHALL BE INSTALLED IN ACCORDANCE WITH THE TYPICAL DETAILS.

- NOTES:
- PERENNIAL STREAM CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICALS 30, 31, 32, AND 33 ON DRAWING D6987-TYP-004.
 - INTERMITTENT STREAM CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICAL 34 ON DRAWING D6987-TYP-004.
 - WETLAND CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICAL 35 ON DRAWING D6987-TYP-004.
 - HYDROMULCH MAY BE USED AS AN ALTERNATIVE TO EROSION CONTROL BLANKET IN SOME INSTANCES. REFER TO TYPICAL 28 ON DRAWING D6987-TYP-004.
 - BROAD BASED DIPS SHALL BE INSTALLED AT A SPACING CORRESPONDING TO THE COLOR CODING SHOWN ON THE ACCESS ROADS. REFER TO TYPICALS 71 & 72 ON DRAWING D6987-TYP-007.
 - ADDITIONAL WETLAND MATTING AND/OR EQUIPMENT CROSSINGS MAY BE UTILIZED IF FIELD CONDITIONS NECESSITATE THEIR USE FOR CONSTRUCTION OPERATIONS. THE USE OF ADDITIONAL MATTING AND/OR CROSSINGS SHALL BE REVIEWED WITH THE ENVIRONMENTAL INSPECTOR PRIOR TO INSTALLATION FOR WETLAND MATTING/EQUIPMENT CROSSINGS REFER TO TYPICALS 30-35 ON DRAWING D6987-TYP-004 AS APPLICABLE.

LEGEND		REVISIONS	
	MILEPOST MXP-100		PROPERTY LINE
	MILEPOST MXP-200		ACCESS ROAD
	EXISTING COLUMBIA PIPELINE		WETLAND
	FOREIGN PIPELINE		WATERLINE
	COUNTY BORDER		FENCE
	PROPERTY LINE		UNDERGROUND CABLE
	ACCESS ROAD		OVERHEAD POWERLINE
	WETLAND		WATERLINE
	WATERBODY		SOL BOUNDARY
	PROPERTY TRACT NUMBER		WATERBAR
	MATS		TRENCH PLUG (PLAN)
	EROSION CONTROL BLANKET OR HYDROMULCH		TRENCH PLUG (PROFILE)
	EQUIPMENT BRIDGE		TRENCH PLUG W/SLEEPER DRAIN (PROFILE)

REVISIONS		REVISIONS	
No.	REVISIONS	No.	REVISIONS
1	ISSUED FOR BID	1	ISSUED FOR BID
2	ADDED LEGEND AND NOTES	2	ADDED LEGEND AND NOTES

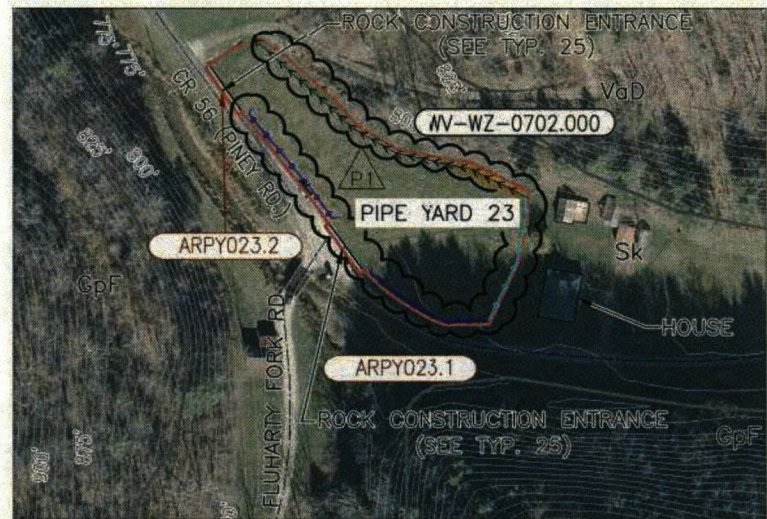
PROJECT DELIVERY PROJECT ENGINEERING		Columbia Gas Transmission	
MOUNTAINEER XPRESS PROJECT			
TITLE: EROSION & SEDIMENT CONTROL PLAN DODDRIDGE COUNTY, WEST VIRGINIA			
DATE	05/09/16	DRAWING NUMBER	D6988-ARD-004
ISSUE	09/22/17	ISSUE	P1

ISSUED FOR WV DEP PERMIT
09/22/17

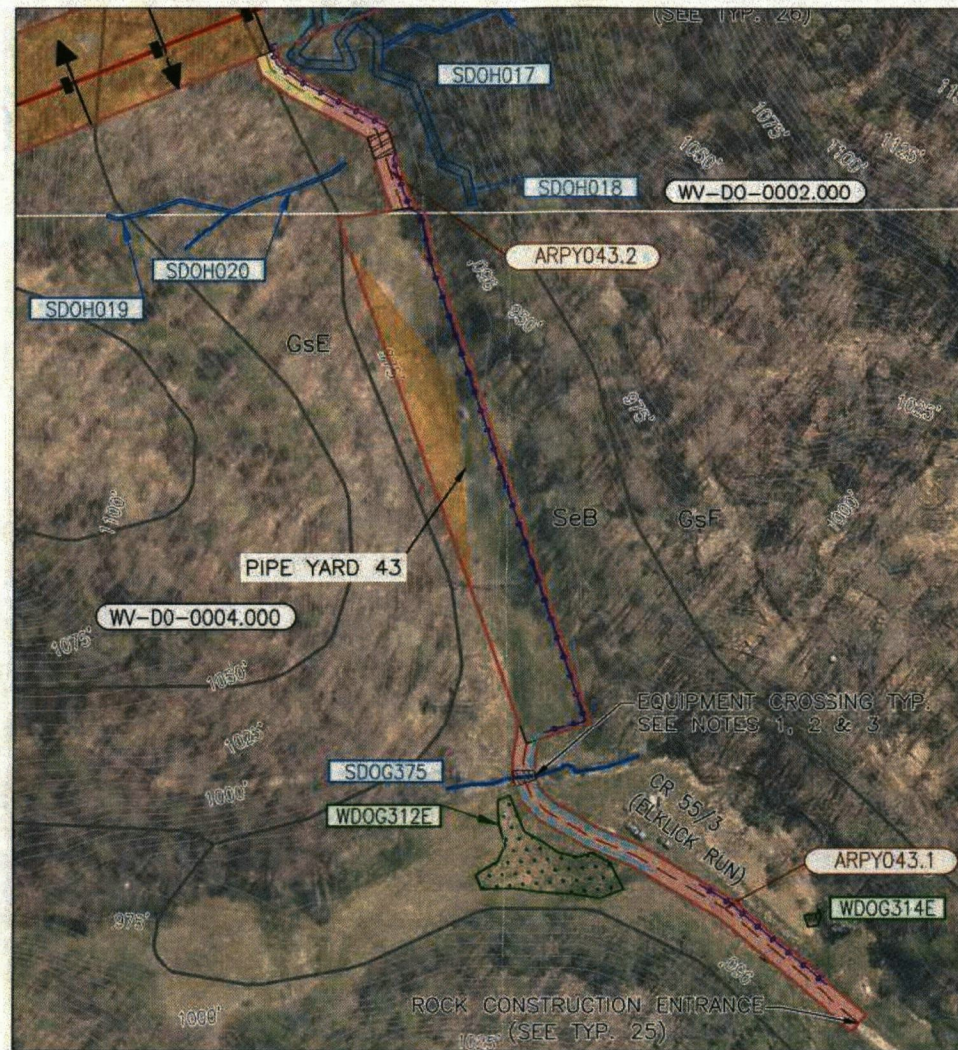
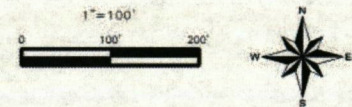
PIPE YARD DETAILS

PIPE YARDS 23, 43 & 141

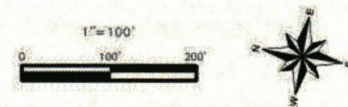
ACCESS ROADS ARPY023.1, ARPY023.2 ARPY043.1, ARPY043.2 & ARPY141.1



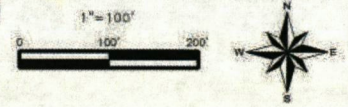
PIPE YARD 23, ARPY023.1 & ARPY023.2
WETZEL CO., WV



PIPE YARD 43, ARPY043.1 & ARPY043.2
DODDRIDGE CO., WV
REF. ALIGNMENT: D6987-ESC-043



PIPE YARD 141, ARPY141.1
DODDRIDGE CO., WV



ACCESS ROAD BROAD-BASE DIP LEGEND* (SEE NOTE 5)

PERCENT SLOPE	DIP SPACING
0-2%	300 FEET
2-5%	150 FEET
5-15%	100 FEET
>15%	75 FEET

* NO BROAD-BASE DIPS REQUIRED

ADDITIONAL NOTES:

A. DITCHING SHALL BE INSTALLED ON THE UPGRADIENT SIDE OF NEW ACCESS ROADS AND EXISTING ACCESS ROADS REQUIRING CONSTRUCTION ACTIVITIES TO CONVEY UPGRADIENT FLOW BENEATH THE ACCESS ROAD VIA CROSS DRAINS. DITCHING AND CROSS DRAINS SHALL BE INSTALLED IN ACCORDANCE WITH TYPICAL DETAILS 40 AND 93. EXTENT AND LOCATION OF DITCHING AND CROSS DRAINS MAY VARY BASED ON FIELD CONDITIONS ENCOUNTERED AT THE TIME OF CONSTRUCTION.

B. IF EXISTING ACCESS ROADS REQUIRE CONSTRUCTION ACTIVITIES, THEN EROSION AND SEDIMENT CONTROLS SHALL BE INSTALLED IN ACCORDANCE WITH THE TYPICAL DETAILS.

- NOTES:**
- PERENNIAL STREAM CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICALS 30, 31, 32, AND 33 ON DRAWING D687-TYP-004.
 - INTERMITTENT STREAM CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICAL 34 ON DRAWING D687-TYP-004.
 - WETLAND CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICAL 35 ON DRAWING D687-TYP-004.
 - HYDROMULCH MAY BE USED AS AN ALTERNATIVE TO EROSION CONTROL BLANKET IN SOME INSTANCES. REFER TO TYPICAL 28 ON DRAWING D687-TYP-004.
 - BROAD BASED DIPS SHALL BE INSTALLED AT A SPACING CORRESPONDING TO THE COLOR CODING SHOWN ON THE ACCESS ROADS. REFER TO TYPICALS 71 & 72 ON DRAWING D687-TYP-007.
 - ADDITIONAL WETLAND MATTING AND/OR EQUIPMENT CROSSINGS MAY BE UTILIZED IF FIELD CONDITIONS NECESSITATE THEIR USE FOR CONSTRUCTION OPERATIONS. THE USE OF ADDITIONAL MATTING AND/OR CROSSINGS SHALL BE REVIEWED WITH THE ENVIRONMENTAL INSPECTOR PRIOR TO INSTALLATION. FOR WETLAND MATTING/EQUIPMENT CROSSINGS REFER TO TYPICALS 30-35 ON DRAWING D687-TYP-004 AS APPLICABLE.

LEGEND		ADDED LEGEND AND NOTES	
	MILEPOST MWP-100		MILEPOST MWP-200
	COUNTY BORDER		PROPERTY LINE
	ACCESS ROAD		WETLAND
	FOREIGN PIPELINE		WATERBODY
	FENCE		LIMITS OF DISTURBANCE
	UNDERGROUND CABLE		SILTY FENCE
	OVERHEAD POWERLINE		SUPER REINFORCED SILTY FENCE
	WATERLINE		SOL BOUNDARY
	WATERBAR		EQUIPMENT BRIDGE
	TRENCH PLUG (PLAN)		TEMPORARY DIVERSIONS
	TRENCH PLUG (PROFILE)		SIDE SLOPE BLEEDER DRAIN
	TRENCH PLUG W/ BLEEDER DRAIN (PROFILE)		

PROJECT DELIVERY PROJECT ENGINEERING		Columbia Gas Transmission	
MOUNTAINEER XPRESS PROJECT			
TITLE: EROSION & SEDIMENT CONTROL PLAN WETZEL & DODDRIDGE COUNTIES, WEST VIRGINIA			
DESIGNED BY:	PM	DATE: 10/12/16	DRAWING NUMBER:
PROJECT NUMBER:		20432	D6987-PYD-003
ISSUED BY:		DATE: 09/22/17	ISSUE:
			P2

ISSUED FOR WV DEP PERMIT
09/22/17

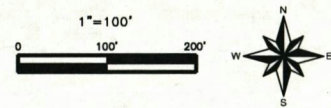
PIPE YARD DETAILS

PIPE YARDS 47, 90 & 90A

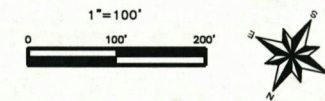
ACCESS ROADS ARPY047.1 & ARPY047.2



PIPE YARD 47, ARPY047.1 & ARPY047.2
DODDRIDGE CO., WV



PIPE YARD 90 & 90A, ARD0013.1
DODDRIDGE CO., WV
REF. ALIGNMENT: D6987-ESC-066



ACCESS ROAD
BROAD-BASE DIP LEGEND*
(SEE NOTE 5)

PERCENT SLOPE	DIP SPACING
0-2%	300 FEET
2-5%	150 FEET
5-15%	100 FEET
>15%	75 FEET
NO BROAD-BASE DIPS REQUIRED	

* SHADED SEGMENTS, UPGRADIENT ROADSIDE DITCHING AND CULVERTS SHALL BE PROVIDED WHERE THE ACCESS ROADS PARALLEL THE CONTOUR WITHIN THE SHADED AREAS IN ACCORDANCE WITH TYPICAL DETAIL 48 AND 93.

ADDITIONAL NOTES:
A. DITCHING SHALL BE INSTALLED ON THE UPGRADIENT SIDE OF NEW ACCESS ROADS AND EXISTING ACCESS ROADS REQUIRING CONSTRUCTION ACTIVITIES TO CONVEY UPGRADIENT FLOW BENEATH THE ACCESS ROAD VIA CROSS DRAINS. DITCHING AND CROSS DRAINS SHALL BE INSTALLED IN ACCORDANCE WITH TYPICAL DETAILS 48 AND 93. EXTENT AND LOCATION OF DITCHING AND CROSS DRAINS MAY VARY BASED ON FIELD CONDITIONS ENCOUNTERED AT THE TIME OF CONSTRUCTION.
B. IF EXISTING ACCESS ROADS REQUIRE CONSTRUCTION ACTIVITIES, THEN EROSION AND SEDIMENT CONTROLS SHALL BE INSTALLED IN ACCORDANCE WITH THE TYPICAL DETAILS.

**ISSUED FOR
WV DEP PERMIT**
09/22/17

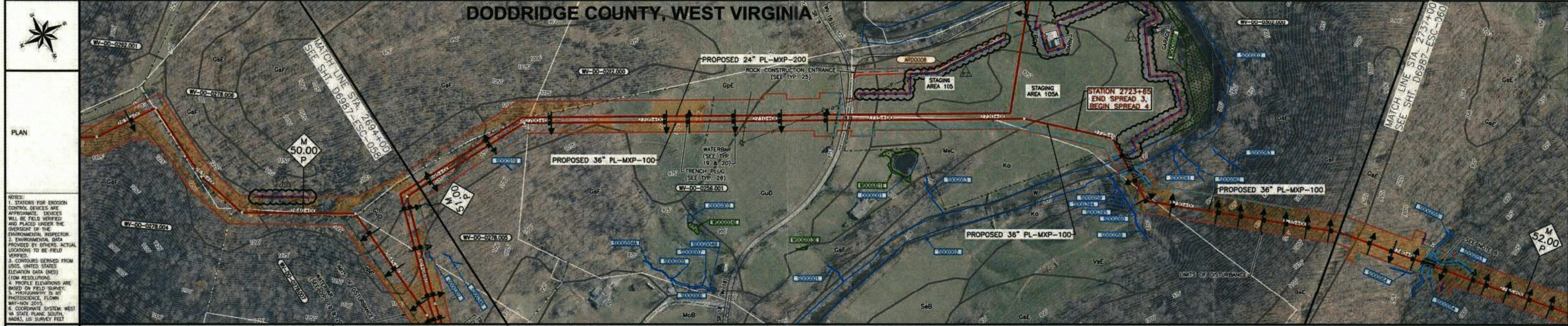
- NOTES:
- PERENNIAL STREAM CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICALS 30, 31, 32, AND 33 ON DRAWING D6987-TYP.004.
 - INTERMITTENT STREAM CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICAL 34 ON DRAWING D6987-TYP.004.
 - WETLAND CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICAL 35 ON DRAWING D6987-TYP.004.
 - HYDROMULCH MAY BE USED AS AN ALTERNATIVE TO EROSION CONTROL BLANKET IN SOME INSTANCES. REFER TO TYPICAL 28 ON DRAWING D6987-TYP.004.
 - BROAD BASED DIPS SHALL BE INSTALLED AT A SPACING CORRESPONDING TO THE COLOR CODING SHOWN ON THE ACCESS ROADS. REFER TO TYPICALS 71 & 72 ON DRAWING D6987-TYP.007.
 - ADDITIONAL WETLAND MATTING AND/OR EQUIPMENT CROSSINGS MAY BE UTILIZED IF FIELD CONDITIONS NECESSITATE THEIR USE FOR CONSTRUCTION OPERATIONS. THE USE OF ADDITIONAL MATTING AND/OR CROSSINGS SHALL BE REVIEWED WITH THE ENVIRONMENTAL INSPECTOR PRIOR TO INSTALLATION. FOR WETLAND MATTING/EQUIPMENT CROSSINGS REFER TO TYPICALS 30, 35 ON DRAWING D6987-TYP.004 AS APPLICABLE.

LEGEND		COUNTY BORDER		FENCE		LIMITS OF DISTURBANCE		MATS		TRENCH PLUG (PLAN)		TEMPORARY DIVERSIONS	
	MILEPOST MXP-100		COUNTY BORDER		FENCE		LIMITS OF DISTURBANCE		MATS		TRENCH PLUG (PLAN)		TEMPORARY DIVERSIONS
	MILEPOST SHERWOOD LATERAL MXP-200		PROPERTY LINE		UNDERGROUND CABLE		SILT FENCE		EROSION CONTROL BLANKET OR HYDROMULCH		TRENCH PLUG (PROFILE)		SIDE SLOPE BLEEDER DRAIN
	ROUTE		ACCESS ROAD		SUPER REINFORCED SILT FENCE		EQUIPMENT BRIDGE		TRENCH PLUG W/ BLEEDER DRAIN (PROFILE)		TEMPORARY DIVERSIONS		TEMPORARY DIVERSIONS
	EXISTING COLUMBIA PIPELINE		WETLAND		WATERLINE		SOIL BOUNDARY		TRENCH PLUG W/ BLEEDER DRAIN (PROFILE)		TEMPORARY DIVERSIONS		TEMPORARY DIVERSIONS
	FOREIGN PIPELINE		WATERBODY		WATERBAR		PROPERTY TRACT NUMBER		TEMPORARY DIVERSIONS		TEMPORARY DIVERSIONS		TEMPORARY DIVERSIONS

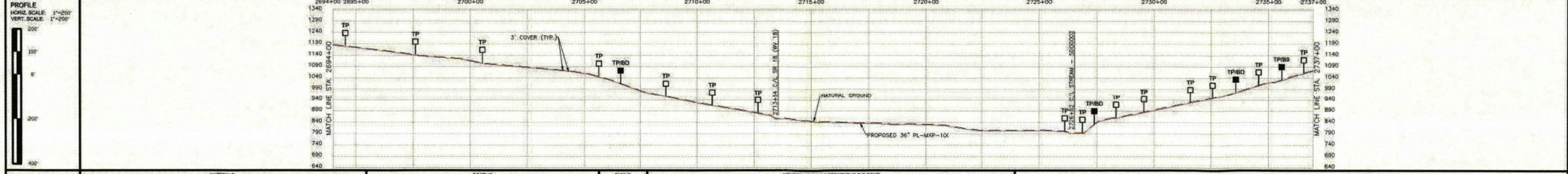
No.	REVISIONS	APPROVED BY	DATE	No.	REVISIONS	APPROVED BY	DATE	No.	REVISIONS	APPROVED BY	DATE
				2	ADDED LEGEND AND NOTES	ARL	09/22/17	1	ISSUED FOR BID	JHE	05/05/17
				1	REVISED FOR WV DEP	ARL	08/14/17	1	ISSUED FOR WV DEP REVIEW	ARL	04/07/17

PROJECT DELIVERY		PROJECT ENGINEERING		Columbia Gas Transmission	
MOUNTAINEER XPRESS PROJECT					
TITLE: EROSION & SEDIMENT CONTROL PLAN DODDRIDGE COUNTY, WEST VIRGINIA					
CHANGED BY:	PM	DATE:	01-19-17	DRAWING NUMBER:	
PROJECT NUMBER:	20432	DWG. NO.:	D6987-PYD-004	ISSUE:	P2
REVISED NUMBER:	46130				

ISSUE	DRAWING NUMBER	OWNERSHIP	2694+00	2699+61	2704+15	2709+45	2714+45	2719+09	2724+00	2729+00	2734+00	2737+00
	06987-ESC-059		561 FEET		2038 FEET			267 FEET		103 FEET		811 FEET
STATIONING			2694+00 MATCH LINE	2699+61 PROPERTY LINE 2699+61 FENCE, 3' BARBER	2704+15 ELECTRIC 2704+15 BURIED POWER CABLE	2709+45 BURIED POWER CABLE	2714+45 BURIED POWER CABLE 2714+45 FENCE, 4' HOG AND BARBER 2714+45 DOG OF ROAD 2714+45 DOG OF ROAD 2714+45 FENCE, 4' HOG AND BARBER 2714+45 FENCE, 4' HOG AND BARBER	2719+09 PROPERTY LINE	2724+00 PROPERTY LINE	2729+00 STREAM 2729+00 PERENNIAL	2734+00 FENCE, 4' HOG AND BARBER 2734+00 FENCE, 4' HOG AND BARBER 2734+00 FENCE, 4' HOG AND BARBER	2737+00 MATCH LINE
ENVIRONMENTAL												
DEPTH OF COVER												



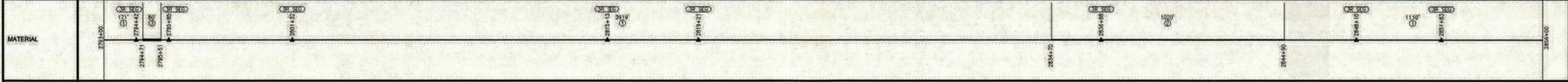
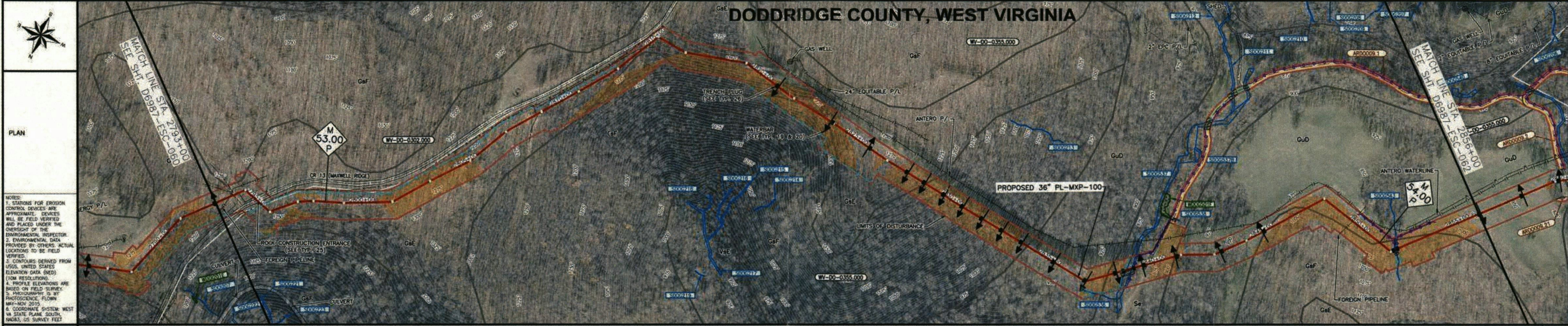
MATERIAL												
SOIL TYPE												
CLASS LOCATION FOR CONST. PURPOSES												
DESIGN FACTOR												
HYDROTEST												



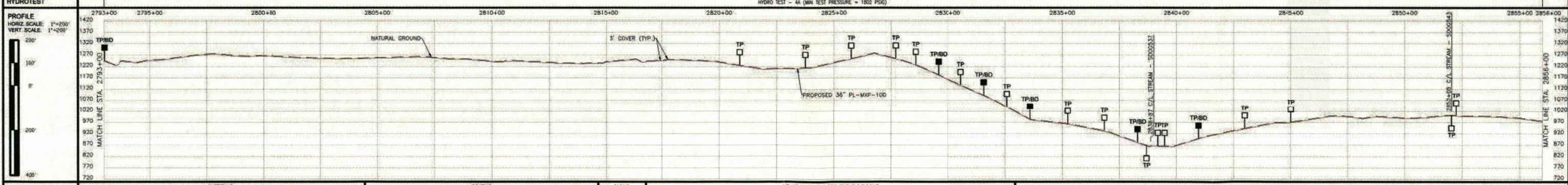
MATERIAL/COATING/CASING	ITEM NUMBER	INSERVICE DATE	OUTSIDE DIAMETER	WALL THICKNESS	GRADE	QUANTITY	DESCRIPTION	ITEM	DIAMETER	ITEM NUMBER	INSERVICE DATE	OUTSIDE DIAMETER	WALL THICKNESS	GRADE	DEGREE	RADIUS	COATING	REVL.	
	1		36"	0.515"	X70	1658	FBE												
NOTES	<p>1. PERENNIAL STREAM CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICALS 30, 31, 32, AND 33 ON DRAWING D687-TYP-004.</p> <p>2. INTERMITTENT STREAM CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICAL 34 ON DRAWING D687-TYP-004.</p> <p>3. WETLAND CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICAL 35 ON DRAWING D687-TYP-004.</p> <p>4. HYDROMULCH MAY BE USED AS AN ALTERNATIVE TO EROSION CONTROL BLANKET IN SOME INSTANCES. REFER TO TYPICAL 28 ON DRAWING D687-TYP-004.</p> <p>5. BROAD BASED DIPS SHALL BE INSTALLED AT A SPACING CORRESPONDING TO THE COLOR CODING SHOWN ON THE ACCESS ROADS. REFER TO TYPICALS 71 & 72 ON DRAWING D687-TYP-007.</p> <p>6. ADDITIONAL WETLAND MATTING AND/OR EQUIPMENT CROSSINGS MAY BE UTILIZED IF FIELD CONDITIONS NECESSITATE THEIR USE FOR CONSTRUCTION OPERATIONS. THE USE OF ADDITIONAL MATTING AND/OR CROSSINGS SHALL BE REVIEWED WITH THE ENVIRONMENTAL INSPECTOR PRIOR TO INSTALLATION. FOR WETLAND MATTING/EQUIPMENT CROSSINGS REFER TO TYPICALS 30-35 ON DRAWING D687-TYP-004 AS APPLICABLE.</p>																		
	<p>LEGEND</p> <ul style="list-style-type: none"> MILEPOST SHERWOOD LATERAL MXP-200 ROUTE EXISTING COLUMBIA PIPELINE FOREIGN PIPELINE COUNTY BORDER PROPERTY LINE ACCESS ROAD WETLAND WATERBODY FENCE UNDERGROUND CABLE OVERHEAD POWERLINE WATERLINE WATERBAR LIMITS OF DISTURBANCE SILT FENCE SUPER REINFORCED SILT FENCE SOIL BOUNDARY WATERBAR MATS EROSION CONTROL BLANKET OR HYDROMULCH EQUIPMENT BRIDGE TRENCH PLUG (PLAN) TRENCH PLUG (PROFILE) TRENCH PLUG W/ BLEEDER DRAIN (PROFILE) TEMPORARY OVERSIGHTS SIDE SLOPE BLEEDER DRAIN 																		
<p>SCALE: 1" = 200'</p> <p>ISSUED FOR WV DEP PERMIT 08/14/17</p> <p>PROJECT DELIVERY PROJECT ENGINEERING</p> <p>Columbia Gas Transmission</p> <p>MOUNTAINEER XPRESS PROJECT</p> <p>PROPOSED 36" PL-MXP-100 PIPELINE EROSION & SEDIMENT CONTROL PLAN DODDRIDGE COUNTY, WEST VIRGINIA</p> <p>TITLE</p> <p>REVISED FOR WV DEP: ARL 08/14/17</p> <p>ISSUED FOR WV DEP REVIEW: ARL 04/07/17</p> <p>DRAWN BY: HWK DATE: 03/03/16 DRAWING NUMBER: 20432 ISSUE: P7</p> <p>PROJECT NUMBER: 46130</p> <p>D687-ESC-059</p>																			

ISSUE NUMBER	DRAWING NUMBER	OWNERSHIP	PROJECT NUMBER	SCALE
P6	D6987-ESC-061	WV-00-0302.000	WV-00-0355.000	241 FEET
STATIONING	2793+00 2795+00 2800+00 2805+00 2810+00 2815+00 2820+00 2825+00 2830+00 2835+00 2840+00 2845+00 2850+00 2855+00 2860+00			
ENVIRONMENTAL	2793+00 MATCH LINE 2793+00 CULVERT 2793+00 FENCE 2793+00 FENCE 2794+00 CULVERT 2794+00 FENCE 2794+00 FENCE 2795+00 CULVERT 2795+00 FENCE 2795+00 FENCE 2796+00 CULVERT 2796+00 FENCE 2796+00 FENCE 2797+00 CULVERT 2797+00 FENCE 2797+00 FENCE 2798+00 CULVERT 2798+00 FENCE 2798+00 FENCE 2799+00 CULVERT 2799+00 FENCE 2799+00 FENCE 2800+00 CULVERT 2800+00 FENCE 2800+00 FENCE 2801+00 CULVERT 2801+00 FENCE 2801+00 FENCE 2802+00 CULVERT 2802+00 FENCE 2802+00 FENCE 2803+00 CULVERT 2803+00 FENCE 2803+00 FENCE 2804+00 CULVERT 2804+00 FENCE 2804+00 FENCE 2805+00 CULVERT 2805+00 FENCE 2805+00 FENCE 2806+00 CULVERT 2806+00 FENCE 2806+00 FENCE 2807+00 CULVERT 2807+00 FENCE 2807+00 FENCE 2808+00 CULVERT 2808+00 FENCE 2808+00 FENCE 2809+00 CULVERT 2809+00 FENCE 2809+00 FENCE 2810+00 CULVERT 2810+00 FENCE 2810+00 FENCE 2811+00 CULVERT 2811+00 FENCE 2811+00 FENCE 2812+00 CULVERT 2812+00 FENCE 2812+00 FENCE 2813+00 CULVERT 2813+00 FENCE 2813+00 FENCE 2814+00 CULVERT 2814+00 FENCE 2814+00 FENCE 2815+00 CULVERT 2815+00 FENCE 2815+00 FENCE 2816+00 CULVERT 2816+00 FENCE 2816+00 FENCE 2817+00 CULVERT 2817+00 FENCE 2817+00 FENCE 2818+00 CULVERT 2818+00 FENCE 2818+00 FENCE 2819+00 CULVERT 2819+00 FENCE 2819+00 FENCE 2820+00 CULVERT 2820+00 FENCE 2820+00 FENCE 2821+00 CULVERT 2821+00 FENCE 2821+00 FENCE 2822+00 CULVERT 2822+00 FENCE 2822+00 FENCE 2823+00 CULVERT 2823+00 FENCE 2823+00 FENCE 2824+00 CULVERT 2824+00 FENCE 2824+00 FENCE 2825+00 CULVERT 2825+00 FENCE 2825+00 FENCE 2826+00 CULVERT 2826+00 FENCE 2826+00 FENCE 2827+00 CULVERT 2827+00 FENCE 2827+00 FENCE 2828+00 CULVERT 2828+00 FENCE 2828+00 FENCE 2829+00 CULVERT 2829+00 FENCE 2829+00 FENCE 2830+00 CULVERT 2830+00 FENCE 2830+00 FENCE 2831+00 CULVERT 2831+00 FENCE 2831+00 FENCE 2832+00 CULVERT 2832+00 FENCE 2832+00 FENCE 2833+00 CULVERT 2833+00 FENCE 2833+00 FENCE 2834+00 CULVERT 2834+00 FENCE 2834+00 FENCE 2835+00 CULVERT 2835+00 FENCE 2835+00 FENCE 2836+00 CULVERT 2836+00 FENCE 2836+00 FENCE 2837+00 CULVERT 2837+00 FENCE 2837+00 FENCE 2838+00 CULVERT 2838+00 FENCE 2838+00 FENCE 2839+00 CULVERT 2839+00 FENCE 2839+00 FENCE 2840+00 CULVERT 2840+00 FENCE 2840+00 FENCE 2841+00 CULVERT 2841+00 FENCE 2841+00 FENCE 2842+00 CULVERT 2842+00 FENCE 2842+00 FENCE 2843+00 CULVERT 2843+00 FENCE 2843+00 FENCE 2844+00 CULVERT 2844+00 FENCE 2844+00 FENCE 2845+00 CULVERT 2845+00 FENCE 2845+00 FENCE 2846+00 CULVERT 2846+00 FENCE 2846+00 FENCE 2847+00 CULVERT 2847+00 FENCE 2847+00 FENCE 2848+00 CULVERT 2848+00 FENCE 2848+00 FENCE 2849+00 CULVERT 2849+00 FENCE 2849+00 FENCE 2850+00 CULVERT 2850+00 FENCE 2850+00 FENCE 2851+00 CULVERT 2851+00 FENCE 2851+00 FENCE 2852+00 CULVERT 2852+00 FENCE 2852+00 FENCE 2853+00 CULVERT 2853+00 FENCE 2853+00 FENCE 2854+00 CULVERT 2854+00 FENCE 2854+00 FENCE 2855+00 CULVERT 2855+00 FENCE 2855+00 FENCE 2856+00 CULVERT 2856+00 FENCE 2856+00 FENCE 2857+00 CULVERT 2857+00 FENCE 2857+00 FENCE 2858+00 CULVERT 2858+00 FENCE 2858+00 FENCE 2859+00 CULVERT 2859+00 FENCE 2859+00 FENCE 2860+00 MATCH LINE			
DEPTH OF COVER	3' 5'			

DODDRIDGE COUNTY, WEST VIRGINIA



CLASS LOCATION FOR CONST. PURPOSES	CLASS 1	
DESIGN FACTOR	0.72	0.5
HYDROTEST	HYDRO TEST - 48 (MIN TEST PRESSURE = 1800 PSIG)	



ITEM NUMBER	INSERVICE DATE	MATERIALS		QUANTITY	DESCRIPTION	CASING		INDUCTION BENDS & SEGMENTABLE ELBOWS								
		OUTSIDE DIAMETER	WALL THICKNESS			ITEM	DIAMETER	ITEM NUMBER	INSERVICE DATE	OUTSIDE DIAMETER	WALL THICKNESS	GRADE	DEGREE	RADIUS	COATING	REVEL
1		36"	0.515"	X70	5200	FIBRE										
2		36"	0.618"	X70	1020	FIBRE										
3		36"	0.750"	X70	80	FIBRE										
3R SEG		36"			B-5A											

NOTES:

- PERENNIAL STREAM CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICALS 30, 31, 32, AND 33 ON DRAWING D6987-TYP-004.
- INTERMITTENT STREAM CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICAL 34 ON DRAWING D6987-TYP-004.
- WETLAND CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICAL 35 ON DRAWING D6987-TYP-004.
- HYDROMULCH MAY BE USED AS AN ALTERNATIVE TO EROSION CONTROL BLANKET IN SOME INSTANCES. REFER TO TYPICAL 28 ON DRAWING D6987-TYP-004.
- BROAD BASED DIPS SHALL BE INSTALLED AT A SPACING CORRESPONDING TO THE COLOR CODING SHOWN ON THE ACCESS ROADS. REFER TO TYPICALS 71 & 72 ON DRAWING D6987-TYP-007.
- ADDITIONAL WETLAND MATTING AND/OR EQUIPMENT CROSSINGS MAY BE UTILIZED IF FIELD CONDITIONS NECESSITATE THEIR USE FOR CONSTRUCTION OPERATIONS. THE USE OF ADDITIONAL MATTING AND/OR CROSSINGS SHALL BE REVIEWED WITH THE ENVIRONMENTAL INSPECTOR PRIOR TO INSTALLATION. FOR WETLAND MATTING/EQUIPMENT CROSSINGS REFER TO TYPICALS 30-35 ON DRAWING D6987-TYP-004 AS APPLICABLE.

LEGEND:

- PROPERTY LINE
- ACCESS ROAD
- WETLAND
- WATERLINE
- WATERBODY
- COUNTY BORDER
- FENCE
- UNDERGROUND CABLE
- OVERHEAD POWERLINE
- WATERLINE
- WATERBAR
- LIMITS OF DISTURBANCE
- SILT FENCE
- SUPER REINFORCED SILT FENCE
- EROSION CONTROL BLANKET OR HYDROMULCH
- EQUIPMENT BRIDGE
- TRENCH PLUG (PLAN)
- TRENCH PLUG (PROFILE)
- TRENCH PLUG W/ BLEEDER DRAIN (PROFILE)

SCALE: 1" = 200'

PROJECT DELIVERY PROJECT ENGINEERING
MOUNTAINEER XPRESS PROJECT
EROSION & SEDIMENT CONTROL PLAN
DODDRIDGE COUNTY, WEST VIRGINIA

ISSUED FOR WV DEP REVIEW
04/07/17

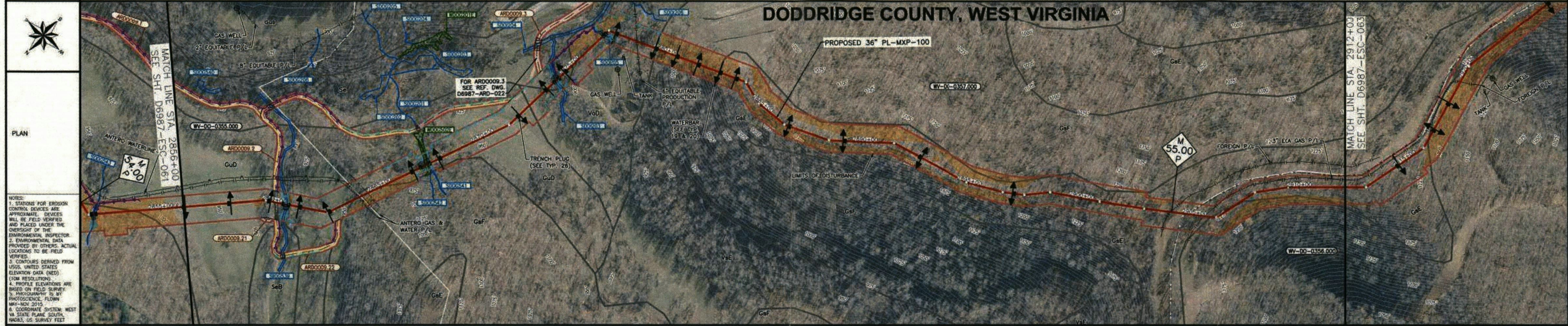
Columbia Gas Transmission

NO.	REVISIONS	APPROVED BY	DATE	NO.	REVISIONS	APPROVED BY	DATE	NO.	REVISIONS	APPROVED BY	DATE

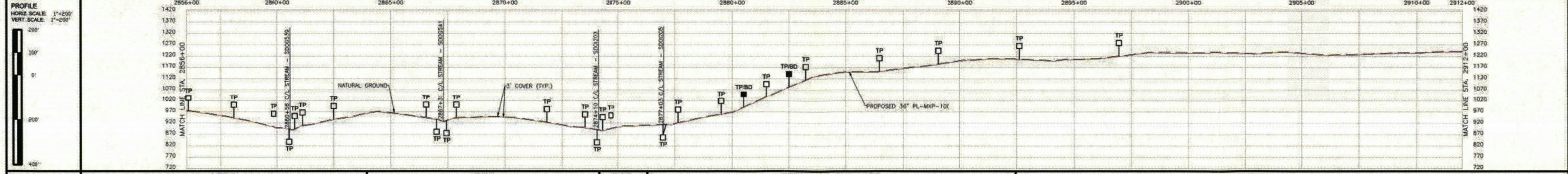
ISSUED FOR WV DEP REVIEW
APR 04/07/17

DRAWN BY	HWK	DATE	DRAWING NUMBER	ISSUE
		03/03/16	D6987-ESC-061	P6

OWNERSHIP	084 FEET	4060 FEET	736 FEET
STATIONING	2854+00	2854+00	2912+00
ENVIRONMENTAL	STREAM 5006539 (INTERMITTENT)	WETLAND 5006541 (PERM) (INTERMITTENT)	STREAM 5006541 (INTERMITTENT)
DEPTH OF COVER	3'	5'	5'



MATERIAL	CLASS 1
SOIL TYPE	Gd0, GdF, GdE, GdH
CLASS LOCATION FOR CONST. PURPOSES	CLASS 1
DESIGN FACTOR	0.72
HYDROTEST	HYDRO TEST - 4A (MIN TEST PRESSURE = 1800 PSIG)



MATERIALS				COATING				CASING				INDUCTION BENDS & SEGMENTABLE ELBOWS			
ITEM NUMBER	INSERVICE DATE	OUTSIDE DIAMETER	QUANTITY	DESCRIPTION	ITEM NUMBER	INSERVICE DATE	OUTSIDE DIAMETER	WALL THICKNESS	GRADE	DEGREE	RADIUS	CASING	BEVEL		
1		36"	3260'	FBE											
2		36"	2340'	FBE											
3R SEG		36"	6 EA.	3R SEGMENTABLE BENDS											

NOTES:

- PERMANENT STREAM CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICALS 30, 31, 32, AND 33 ON DRAWING D6987-TYP-004.
- INTERMITTENT STREAM CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICAL 34 ON DRAWING D6987-TYP-004.
- WETLAND CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICAL 35 ON DRAWING D6987-TYP-004.
- HYDROMAT/BLANKET MAY BE USED AS AN ALTERNATIVE TO EROSION CONTROL BLANKET IN SOME INSTANCES. REFER TO TYPICAL 28 ON DRAWING D6987-TYP-004.
- BROAD BASED DIPS SHALL BE INSTALLED AT A SPACING CORRESPONDING TO THE COLOR CODING SHOWN ON THE ACCESS ROADS. REFER TO TYPICALS 71 & 72 ON DRAWING D6987-TYP-007.
- ADDITIONAL WETLAND MATTING AND/OR EQUIPMENT CROSSINGS MAY BE UTILIZED IF FIELD CONDITIONS NECESSITATE THEIR USE FOR CONSTRUCTION OPERATIONS. THE USE OF ADDITIONAL MATTING AND/OR CROSSINGS SHALL BE REVIEWED WITH THE ENVIRONMENTAL INSPECTOR PRIOR TO INSTALLATION. FOR WETLAND MATTING/EQUIPMENT CROSSINGS REFER TO TYPICALS 30-35 ON DRAWING D6987-TYP-004 AS APPLICABLE.

LEGEND:

- MILEPOST MXP-100
- MILEPOST SHERWOOD LATERAL MXP-200
- COUNTY BORDER
- PROPERTY LINE
- ACCESS ROAD
- WETLAND
- WATERBODY
- FENCE
- UNDERGROUND CABLE
- OVERHEAD POWERLINE
- WATERLINE
- WATERBAR
- LIMITS OF DISTURBANCE
- SILT FENCE
- SUPER REINFORCED SILT FENCE
- EROSION CONTROL BLANKET OR HYDROMAT/BLANKET
- EQUIPMENT BRIDGE
- TRENCH PLUG (PLAN)
- TRENCH PLUG (PROFILE)
- TRENCH PLUG W/ BLEEDER DRAIN (PROFILE)
- TEMPORARY DIMENSIONS
- SIDE SLOPE BLEEDER DRAIN

SCALE: 1" = 200'

ISSUED FOR WV DEP PERMIT 09/22/17

PROJECT DELIVERY PROJECT ENGINEERING

Columbia Gas Transmission

MOUNTAINEER X-SPRESS PROJECT

PROPOSED 36" PL-MXP-100 PIPELINE EROSION & SEDIMENT CONTROL PLAN DODDRIDGE COUNTY, WEST VIRGINIA

TITLE

DWG. NO. 0887-N0-002

REFERENCE

DATE 08/22/17

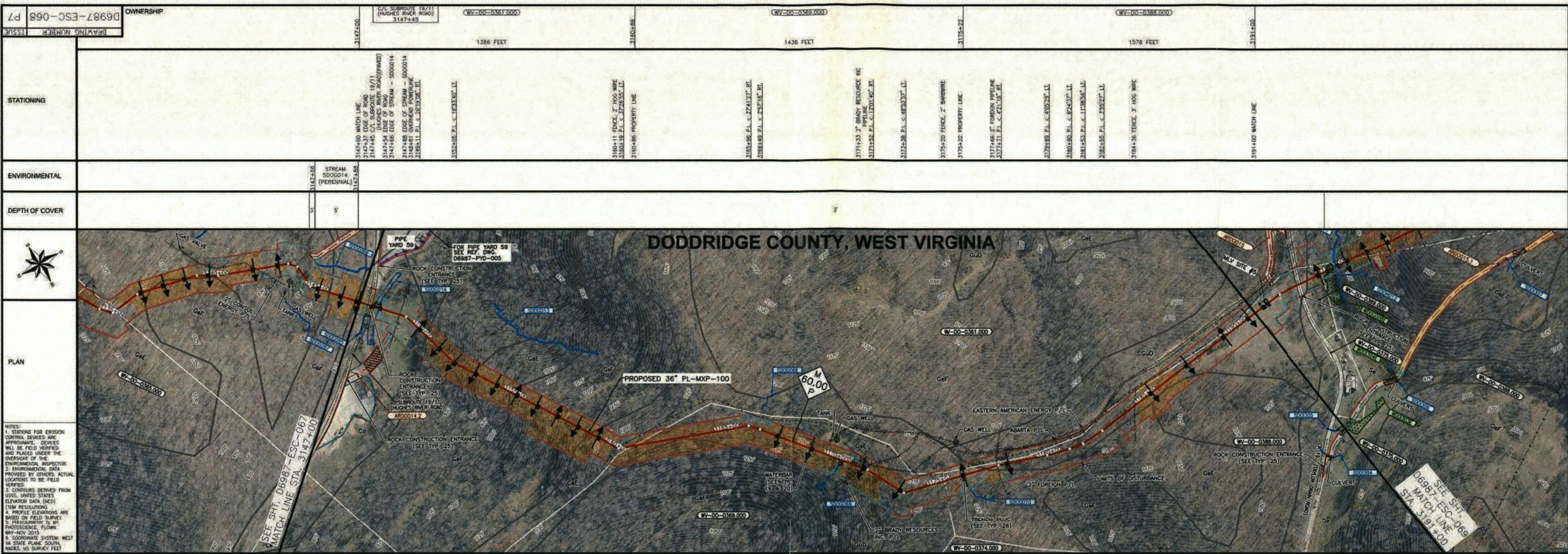
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DATE 03/03/16

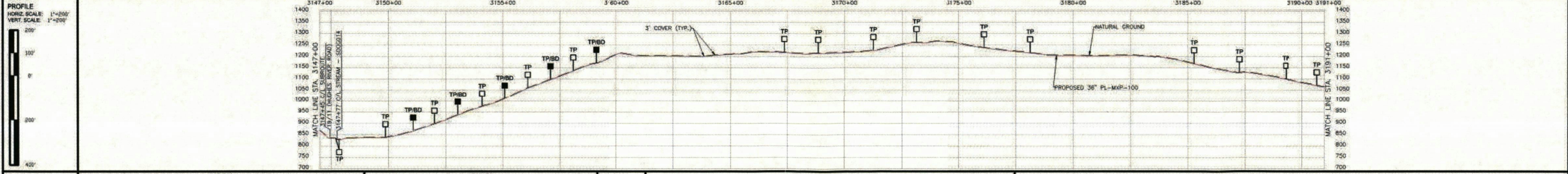
DRAWING NUMBER 20432

DRAWING NUMBER 06987-ESC-062

ISSUE P7



ENVIRONMENTAL	STREAM 5000014 (PERENNIAL)
DEPTH OF COVER	3'
PLAN	SEE SHT. D6987-ESC-067 MATCH LINE STA. 3147+00
NOTES:	1. STATIONS FOR EROSION CONTROL DEVICES ARE APPROXIMATE. DEVICES WILL BE FIELD VERIFIED AND PLACED UNDER THE OVERSIGHT OF THE ENVIRONMENTAL INSPECTOR. 2. ENVIRONMENTAL DATA PROVIDED BY OTHERS. ACTUAL LOCATIONS TO BE FIELD VERIFIED. 3. CONTIGUOUS RELEVANT FROM USGS UNITED STATES ELEVATION DATA (NED) (10M RESOLUTION). 4. PROFILE ELEVATIONS ARE BASED ON FIELD SURVEY. 5. PHOTOGRAPHY TO BE PHOTOGRAPHED FROM MAY-MAY 2015. 6. COORDINATE SYSTEM: WEST VA STATE PLANE SOUTH, NAD83, US SURVEY FEET
MATERIAL	3147+00, 3147+05, 3147+10, 3147+15, 3154+20, 3160+10, 3160+15, 3160+20, 3170+00, 3175+00, 3180+00, 3185+00, 3190+00, 3191+00
SOIL TYPE	Ga, Gc, Gd, Ge, Gf, Gg, Gh, Gi, Gj, Gk, Gl, Gm, Gn, Go, Gp, Gq, Gr, Gs, Gt, Gu, Gv, Gw, Gx, Gy, Gz
CLASS LOCATION FOR CONST. PURPOSES	CLASS 1
DESIGN FACTOR	0.72, 0.5
HYDROTEST	HYDRO TEST - 4A (MIN TEST PRESSURE = 1800 PSIG)
PROFILE	HORIZ. SCALE: 1"=200' VERT. SCALE: 1"=200'



MATERIALS				COATING				CASING				INDUCTION BENDS & SEGMENTABLE ELBOWS			
ITEM NUMBER	INSERVICE DATE	OUTSIDE DIAMETER	WALL THICKNESS	GRADE	QUANTITY	DESCRIPTION	ITEM NUMBER	INSERVICE DATE	OUTSIDE DIAMETER	WALL THICKNESS	GRADE	DEGREE	RADIUS	COATING	BEVEL
1		36"	0.515"	X70	3800	PIPE									
2		36"	0.618"	X70	640	PIPE									
3		36"	0.750"	X70	80	PIPE									
3R SEG					4 EA	3R SEGMENTABLE BENDS									

NOTES:

- PERENNIAL STREAM CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICALS 30, 31, 32, AND 33 ON DRAWING D6987-TYP-004.
- INTERMITTENT STREAM CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICAL 34 ON DRAWING D6987-TYP-004.
- WETLAND CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICAL 35 ON DRAWING D6987-TYP-004.
- HYDROMULCH MAY BE USED AS AN ALTERNATIVE TO EROSION CONTROL BLANKET IN SOME INSTANCES. REFER TO TYPICAL 28 ON DRAWING D6987-TYP-004.
- BROAD BASED DIPS SHALL BE INSTALLED AT A SPACING CORRESPONDING TO THE COLOR CODING SHOWN ON THE ACCESS ROADS. REFER TO TYPICALS 71 & 72 ON DRAWING D6987-TYP-007.
- ADDITIONAL WETLAND MATTING AND/OR EQUIPMENT CROSSINGS MAY BE UTILIZED IF FIELD CONDITIONS NECESSITATE THEIR USE FOR CONSTRUCTION OPERATIONS. THE USE OF ADDITIONAL MATTING AND/OR CROSSINGS SHALL BE REVIEWED WITH THE ENVIRONMENTAL INSPECTOR PRIOR TO INSTALLATION. FOR WETLAND MATTING/EQUIPMENT CROSSINGS REFER TO TYPICALS 30-35 ON DRAWING D6987-TYP-004 AS APPLICABLE.

LEGEND:

- MILEPOST MXP-100
- SHERWOOD LATERAL MXP-200
- EXISTING
- ROUING, COLUMBIA PIPELINE
- FOREIGN PIPELINE
- COUNTY BORDER
- PROPERTY LINE
- ACCESS ROAD
- WETLAND
- WATERBODY
- FENCE
- UNDERGROUND CABLE
- OVERHEAD POWERLINE
- WATERLINE
- WATERBAR
- LIMITS OF DISTURBANCE
- SILT FENCE
- SUR REINFORCED SILT FENCE
- EQUIPMENT BRIDGE
- EROSION CONTROL BLANKET OR HYDROMULCH
- TRENCH PLUG (PLAN)
- TRENCH PLUG (PROFILE)
- TRENCH PLUG W/ BLEEDER DRAIN (PROFILE)
- TEMPORARY DIVERSIONS
- SIDE SLOPE BLEEDER DRAIN

SCALE: 1" = 200'

ISSUED FOR WV DEP PERMIT 09/22/17

PROJECT DELIVERY PROJECT ENGINEERING

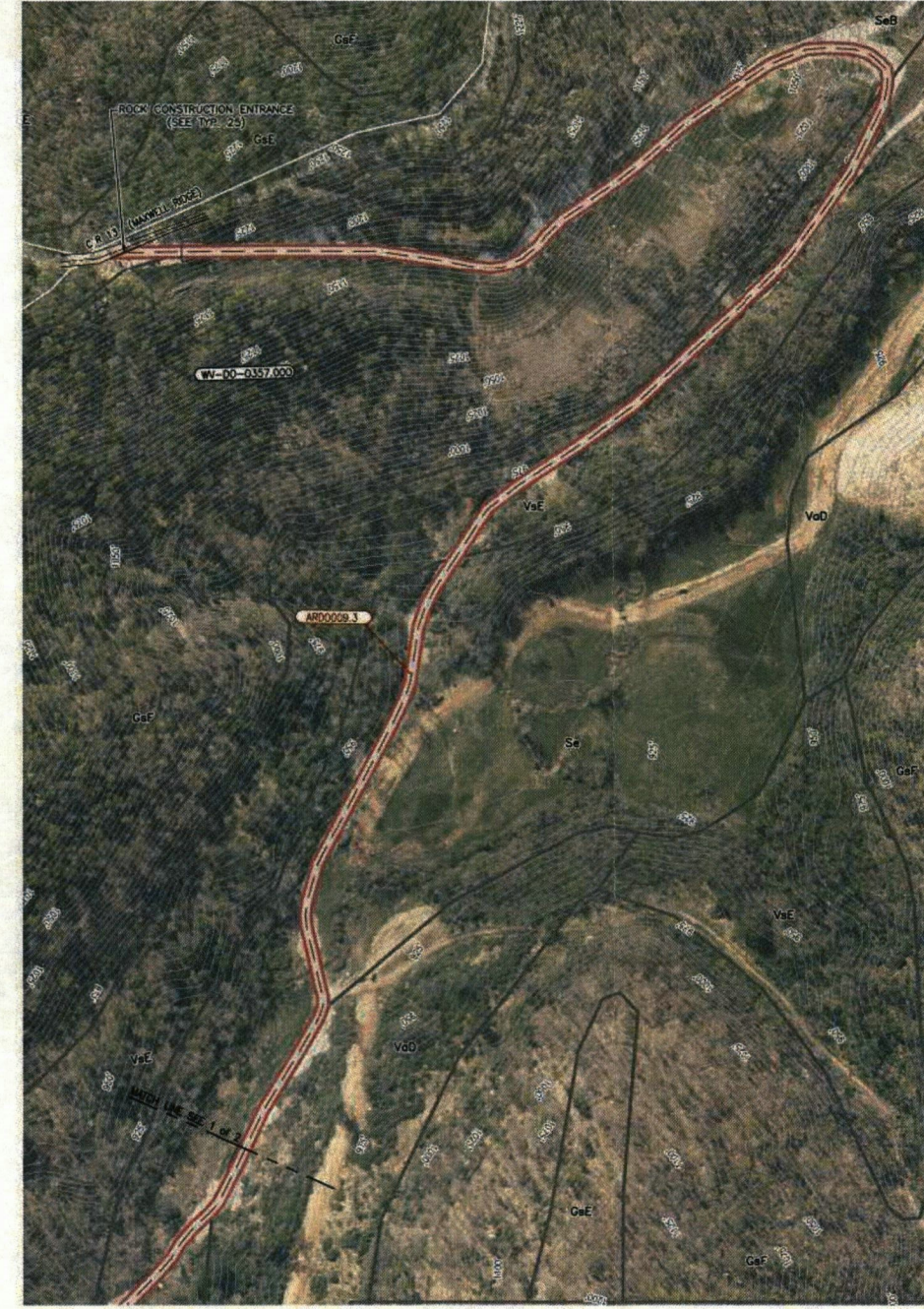
MOUNTAINEER X-PRESS PROJECT

TITLE: PROPOSED 36" PL-MXP-100 PIPELINE EROSION & SEDIMENT CONTROL PLAN DODDRIDGE COUNTY, WEST VIRGINIA

APPROVED BY	DATE	APPROVED BY	DATE	APPROVED BY	DATE

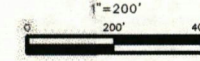
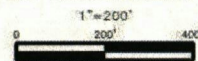
DWG. NO.	REFERENCE
20432	
46130	

ACCESS ROAD DETAILS ARDO009.3 1 & 2 OF 2



ACCESS ROAD ARDO009.3 1 of 2
DODDRIDGE CO., WV
REF. ALIGNMENT: D6987-ESC-062

ACCESS ROAD ARDO009.3 2 of 2
DODDRIDGE CO., WV
REF. ALIGNMENT: D6987-ESC-062



ACCESS ROAD
BROAD-BASE DIP LEGEND*
(SEE NOTE 5)

PERCENT SLOPE	DIP SPACING
0-2%	300 FEET
2-5%	150 FEET
5-15%	100 FEET
>15%	75 FEET
NO BROAD-BASE DIPS REQUIRED	

* SHADED SEGMENTS, UPGRADIENT ROADSIDE DITCHING AND CULVERTS SHALL BE PROVIDED WHERE THE ACCESS ROADS PARALLEL THE CONTOUR WITHIN THE SHADED AREAS IN ACCORDANCE WITH TYPICAL DETAIL 48 AND 93.

ADDITIONAL NOTES:
A. DITCHING SHALL BE INSTALLED ON THE UPGRADIENT SIDE OF NEW ACCESS ROADS AND EXISTING ACCESS ROADS REQUIRING CONSTRUCTION ACTIVITIES TO CONVEY UPGRADIENT FLOW BENEATH THE ACCESS ROAD OR CROSS DRAINS. DITCHING AND CROSS DRAINS SHALL BE INSTALLED IN ACCORDANCE WITH TYPICAL DETAILS 48 AND 93. EXTENT AND LOCATION OF DITCHING AND CROSS DRAINS MAY VARY BASED ON FIELD CONDITIONS ENCOUNTERED AT THE TIME OF CONSTRUCTION.
B. IF EXISTING ACCESS ROADS REQUIRE CONSTRUCTION ACTIVITIES, THEN EROSION AND SEDIMENT CONTROLS SHALL BE INSTALLED IN ACCORDANCE WITH THE TYPICAL DETAILS.

NOTES:
1. PERENNIAL STREAM CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICALS 30, 31, 32, AND 33 ON DRAWING D6867-TYP-004.
2. INTERMITTENT STREAM CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICAL 34 ON DRAWING D6867-TYP-004.
3. WETLAND CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICAL 35 ON DRAWING D6867-TYP-004.
4. HYDROMULCH MAY BE USED AS AN ALTERNATIVE TO EROSION CONTROL BLANKET IN SOME INSTANCES. REFER TO TYPICAL 28 ON DRAWING D6867-TYP-004.
5. BROAD BASED DIPS SHALL BE INSTALLED AT A SPACING CORRESPONDING TO THE COLOR CODING SHOWN ON THE ACCESS ROADS. REFER TO TYPICALS 71 & 72 ON DRAWING D6867-TYP-002.
6. ADDITIONAL WETLAND MATTING AND/OR EQUIPMENT CROSSINGS MAY BE UTILIZED IF FIELD CONDITIONS NECESSITATE THEIR USE FOR CONSTRUCTION OPERATIONS. THE USE OF ADDITIONAL MATTING AND/OR CROSSINGS SHALL BE REVIEWED WITH THE ENVIRONMENTAL INSPECTOR PRIOR TO INSTALLATION. FOR WETLAND MATTING/EQUIPMENT CROSSINGS REFER TO TYPICALS 30-35 ON DRAWING D6867-TYP-004 AS APPLICABLE.

LEGEND		PROPERTY TRACT NUMBER	
	MILEPOST MXP-100		PROPERTY TRACT NUMBER
	COUNTY BORDER		FENCE
	PROPERTY LINE		UNDERGROUND CABLE
	ACCESS ROAD		OVERHEAD POWERLINE
	EXISTING COLUMBIA PIPELINE		SOIL BOUNDARY
	WETLAND		WATERBAR
	WATERBODY		LIMITS OF DISTURBANCE
	FOREIGN PIPELINE		MATS
	EQUIPMENT BRIDGE		EROSION CONTROL BLANKET OR HYDROMULCH
	TRENCH PLUG (PLAN)		SUPER REINFORCED SILT FENCE
	TRENCH PLUG (PROFILE)		TRENCH PLUG W/BLEEDER DRAIN (PROFILE)

No.	REVISIONS	APPROVED BY	DATE	No.	REVISIONS	APPROVED BY	DATE

PROJECT DELIVERY PROJECT ENGINEERING		Columbia Gas Transmission	
MOUNTAINEER XPRESS PROJECT			
TITLE EROSION & SEDIMENT CONTROL PLAN DODDRIDGE COUNTY, WEST VIRGINIA			
DESIGNED BY	DATE	DRAWING NUMBER	ISSUE
PM	03/17/16	D6987-ARD-022	P1
PROJECT NUMBER	20432		
REVISED NUMBER	46130		

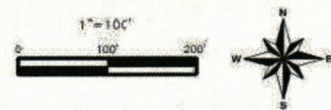
ISSUED FOR
WV DEP PERMIT
09/22/17

PIPE YARD DETAILS
 PIPE YARDS 47, 90 & 90A
 ACCESS ROADS ARPY047.1 & ARPY047.2

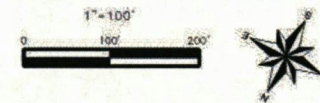
D6987-PYD-004 P2
 DRAWING NUMBER
 ISSUE



PIPE YARD 47, ARPY047.1 & ARPY047.2
 DODDRIDGE CO., WV



PIPE YARD 90 & 90A, ARD0013.1
 DODDRIDGE CO., WV
 REF. ALIGNMENT: D6987-ESC-066



ACCESS ROAD
 BROAD-BASE DIP LEGEND*
 (SEE NOTE 5)

PERCENT SLOPE	DIP SPACING
0-2%	300 FEET
2-5%	150 FEET
5-15%	100 FEET
>15%	75 FEET
NO BROAD-BASE DIPS REQUIRED	

* SHADED SEGMENTS, UPGRADIENT ROADSIDE DITCHING AND CULVERTS SHALL BE PROVIDED WHERE THE ACCESS ROADS PARALLEL THE CONTOUR WITHIN THE SHADED AREAS IN ACCORDANCE WITH TYPICAL DETAIL 40 AND 93.

ADDITIONAL NOTES:
 A. DITCHING SHALL BE INSTALLED ON THE UPGRADIENT SIDE OF NEW ACCESS ROADS AND EXISTING ACCESS ROADS REQUIRING CONSTRUCTION ACTIVITIES TO CONVEY UPGRADIENT FLOW BENEATH THE ACCESS ROAD VIA CROSS DRAINS. DITCHING AND CROSS DRAINS SHALL BE INSTALLED IN ACCORDANCE WITH TYPICAL DETAILS 40 AND 93. EXTENT AND LOCATION OF DITCHING AND CROSS DRAINS MAY VARY BASED ON FIELD CONDITIONS ENCOUNTERED AT THE TIME OF CONSTRUCTION.
 B. IF EXISTING ACCESS ROADS REQUIRE CONSTRUCTION ACTIVITIES, THEN EROSION AND SEDIMENT CONTROLS SHALL BE INSTALLED IN ACCORDANCE WITH THE TYPICAL DETAILS.

ISSUED FOR
 WV DEP PERMIT
 09/22/17

NOTES:
 1. PERENNIAL STREAM CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICALS 30, 31, 32, AND 33 ON DRAWING D6987-TYP-004.
 2. INTERMITTENT STREAM CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICAL 34 ON DRAWING D6987-TYP-004.
 3. WETLAND CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICAL 35 ON DRAWING D6987-TYP-004.
 4. HYDROMULCH MAY BE USED AS AN ALTERNATIVE TO EROSION CONTROL BLANKET IN SOME INSTANCES. REFER TO TYPICAL 28 ON DRAWING D6987-TYP-004.
 5. BROAD BASED DIPS SHALL BE INSTALLED AT A SPACING CORRESPONDING TO THE COLOR CODING SHOWN ON THE ACCESS ROADS. REFER TO TYPICALS 71 & 72 ON DRAWING D6987-TYP-007.
 6. ADDITIONAL WETLAND MATTING AND/OR EQUIPMENT CROSSINGS MAY BE UTILIZED IF FIELD CONDITIONS NECESSITATE THEIR USE FOR CONSTRUCTION OPERATIONS. THE USE OF ADDITIONAL MATTING AND/OR CROSSINGS SHALL BE REVIEWED WITH THE ENVIRONMENTAL INSPECTOR PRIOR TO INSTALLATION. FOR WETLAND MATTING/EQUIPMENT CROSSINGS REFER TO TYPICALS 30-35 ON DRAWING D6987-TYP-004 AS APPLICABLE.

No.	REVISIONS	APPROVED BY	DATE	No.	REVISIONS	APPROVED BY	DATE	No.	REVISIONS	APPROVED BY	DATE
				1	ADDED LEGEND AND NOTES	ARL	09/22/17	1	ISSUED FOR BID	JHE	05/05/17
				2	REVISED FOR WV DEP	ARL	08/14/17	2	ISSUED FOR WV DEP REVIEW	ARL	04/07/17

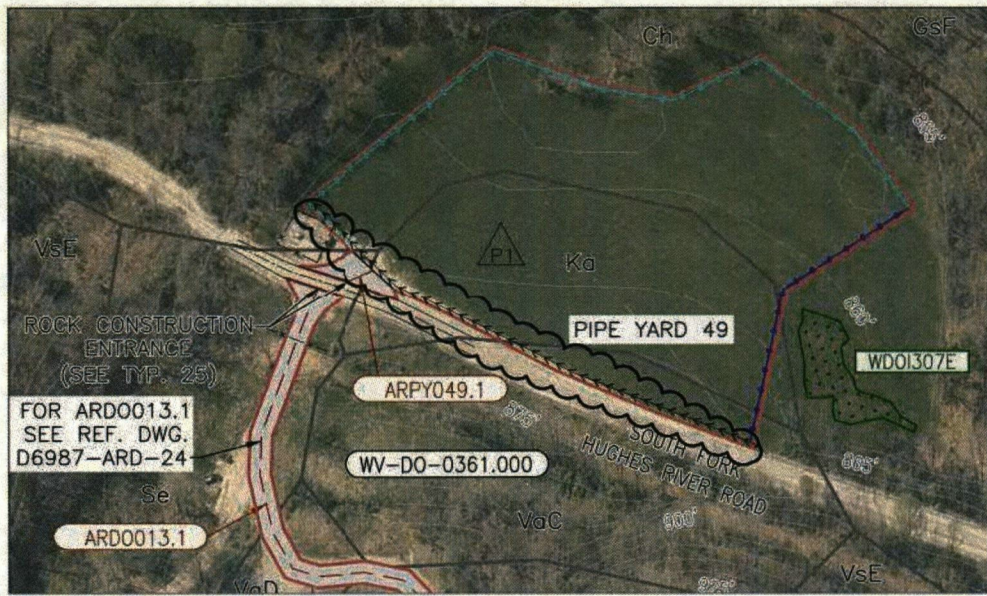
DWG. NO.	REFERENCE
D6987-ARD-24	EROSION & SEDIMENT CONTROL PLAN
D6987-ESC-066	EROSION & SEDIMENT CONTROL PLAN

PROJECT DELIVERY PROJECT ENGINEERING		Columbia Gas Transmission	
MOUNTAINEER XPRESS PROJECT			
TITLE EROSION & SEDIMENT CONTROL PLAN DODDRIDGE COUNTY, WEST VIRGINIA			
DESIGNED BY	DATE	DRAWING NUMBER	ISSUE
PM	01-19-17	D6987-PYD-004	P2
PROJECT NUMBER	20432		
DATE PLOTTED	46130		

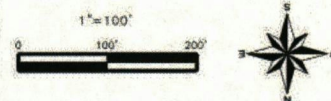
PIPE YARD DETAILS

PIPE YARDS 49, 50 & 59

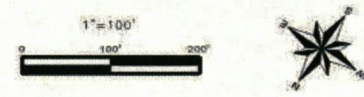
ACCESS ROADS ARPY049.1, ARPY050.1 & ARPY059.1



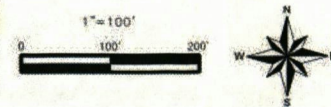
PIPE YARD 49, ARPY049.1
DODDRIDGE CO., WV



PIPE YARD 59, ARPY059.1
DODDRIDGE CO., WV
REF. ALIGNMENT: D6987-ESC-068



PIPE YARD 50, ARPY050.1
DODDRIDGE CO., WV



ACCESS ROAD BROAD-BASE DIP LEGEND* (SEE NOTE 5)

PERCENT	DIP
0-2%	300 FEET
2-5%	150 FEET
5-15%	100 FEET
>15%	75 FEET
NO BROAD-BASE DIPS REQUIRED	

* SHADED SEGMENTS, UPGRADIENT ROADSIDE DITCHING AND CULVERTS SHALL BE PROVIDED WHERE THE ACCESS ROADS PARALLEL THE CONTOUR WITHIN THE SHADED AREAS IN ACCORDANCE WITH TYPICAL DETAIL 48 AND 93.

ADDITIONAL NOTES:
A. DITCHING SHALL BE INSTALLED ON THE UPGRADIENT SIDE OF NEW ACCESS ROADS AND EXISTING ACCESS ROADS REQUIRING CONSTRUCTION ACTIVITIES TO CONVEY UPGRADIENT FLOW BENEATH THE ACCESS ROAD VIA CROSS DRAINS. DITCHING AND CROSS DRAINS SHALL BE INSTALLED IN ACCORDANCE WITH TYPICAL DETAILS 48 AND 93. EXTENT AND LOCATION OF DITCHING AND CROSS DRAINS MAY VARY BASED ON FIELD CONDITIONS ENCOUNTERED AT THE TIME OF CONSTRUCTION.
B. IF EXISTING ACCESS ROADS REQUIRE CONSTRUCTION ACTIVITIES, THEN EROSION AND SEDIMENT CONTROLS SHALL BE INSTALLED IN ACCORDANCE WITH THE TYPICAL DETAILS.

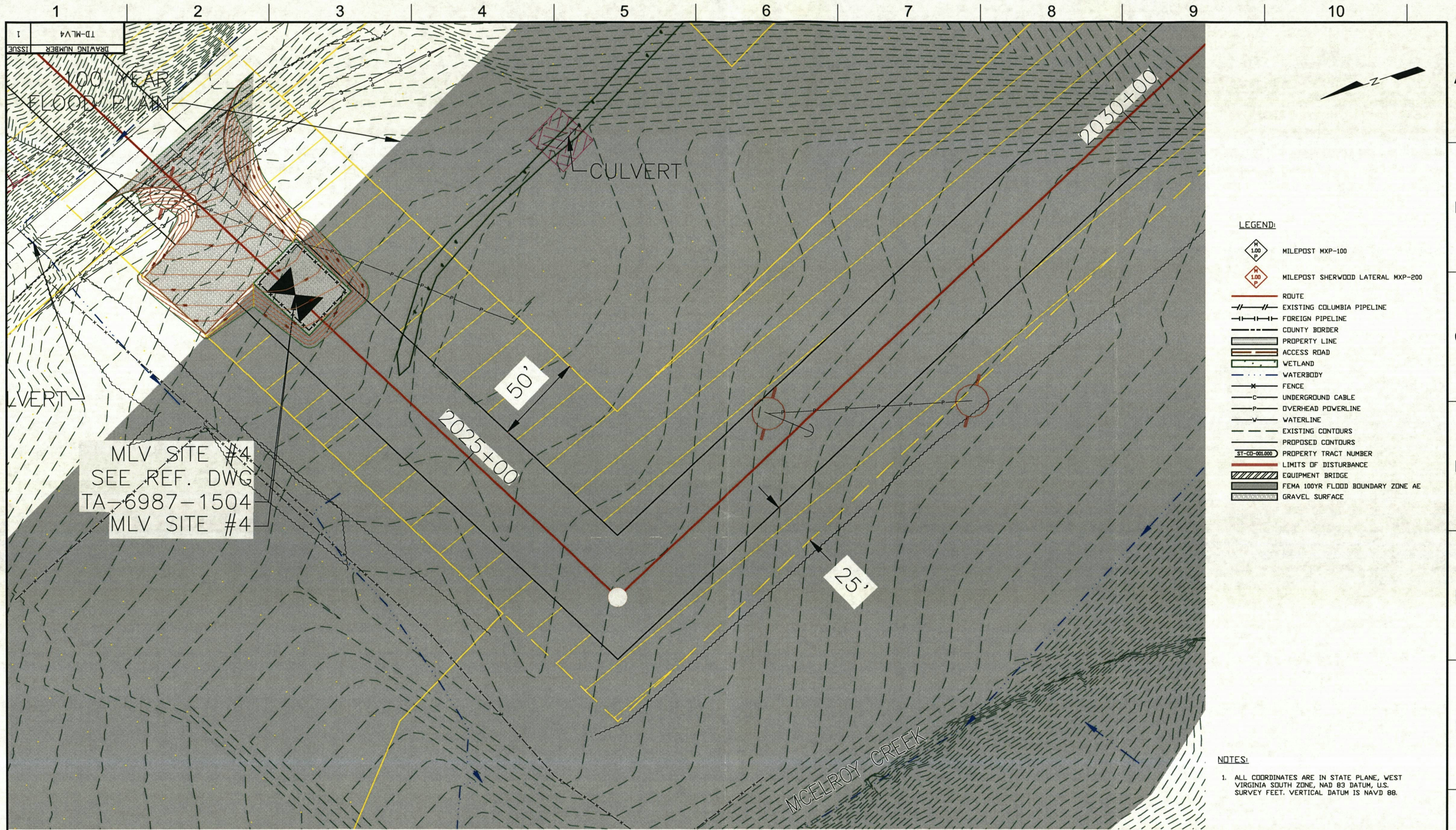
ISSUED FOR WV DEP PERMIT
09/22/17

NOTES:
1. PERENNIAL STREAM CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICALS 30, 31, 32, AND 33 ON DRAWING D6987-TYP-004.
2. INTERMITTENT STREAM CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICAL 34 ON DRAWING D6987-TYP-004.
3. WETLAND CROSSINGS SHALL BE CONDUCTED IN ACCORDANCE WITH TYPICAL 35 ON DRAWING D6987-TYP-004.
4. HYDROMULCH MAY BE USED AS AN ALTERNATIVE TO EROSION CONTROL BLANKET IN SOME INSTANCES. REFER TO TYPICAL 28 ON DRAWING D6987-TYP-004.
5. BROAD BASED DIPS SHALL BE INSTALLED AT A SPACING CORRESPONDING TO THE COLOR CODING SHOWN ON THE ACCESS ROADS. REFER TO TYPICALS 71 & 72 ON DRAWING D6987-TYP-007.
6. ADDITIONAL WETLAND MATTING AND/OR EQUIPMENT CROSSINGS MAY BE UTILIZED IF FIELD CONDITIONS NECESSITATE THEIR USE FOR CONSTRUCTION OPERATIONS. THE USE OF ADDITIONAL MATTING AND/OR CROSSINGS SHALL BE REVIEWED WITH THE ENVIRONMENTAL INSPECTOR PRIOR TO INSTALLATION. FOR WETLAND MATTING/EQUIPMENT CROSSINGS REFER TO TYPICALS 30-35 ON DRAWING D6987-TYP-004 AS APPLICABLE.

No.	REVISIONS	APPROVED BY	DATE	No.	REVISIONS	APPROVED BY	DATE
				1	ADDED LEGEND AND NOTES	ARL	09/22/17
				2	REVISED FOR WV DEP	ARL	09/14/17

DWG. NO.	REFERENCE	APPROVED BY	DATE	No.	REVISIONS	APPROVED BY	DATE
				1	ISSUED FOR BID	JHE	05/05/17
				2	ISSUED FOR WV DEP REVIEW	ARL	04/07/17

PROJECT DELIVERY		PROJECT ENGINEERING		Columbia Gas Transmission	
MOUNTAINEER XPRESS PROJECT					
TITLE: EROSION & SEDIMENT CONTROL PLAN DODDRIDGE COUNTY, WEST VIRGINIA					
DESIGNED BY:	DATE:	PM:	DATE:	DRAWING NUMBER:	ISSUE:
	03/17/16		03/17/16	D6987-PYD-005	P2



1
1
TD-MLV4
DRAWING NUMBER
ISSUE

100 YEAR
FLOOD PLAN

CULVERT

2030+00

2025+00

25'

50'

MLV SITE #4
SEE REF. DWG
TA-6987-1504
MLV SITE #4

LEGEND:

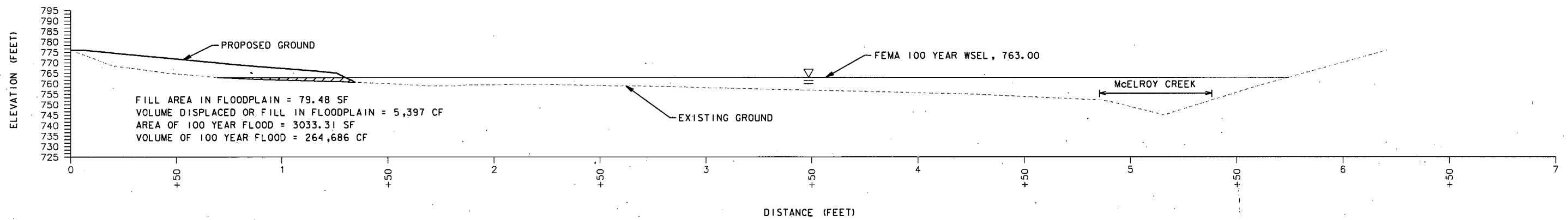
- MILEPOST MXP-100
- MILEPOST SHERWOOD LATERAL MXP-200
- ROUTE
- EXISTING COLUMBIA PIPELINE
- FOREIGN PIPELINE
- COUNTY BORDER
- PROPERTY LINE
- ACCESS ROAD
- WETLAND
- WATERBODY
- FENCE
- UNDERGROUND CABLE
- OVERHEAD POWERLINE
- WATERLINE
- EXISTING CONTOURS
- PROPOSED CONTOURS
- PROPERTY TRACT NUMBER
- LIMITS OF DISTURBANCE
- EQUIPMENT BRIDGE
- FEMA 100YR FLOOD BOUNDARY ZONE AE
- GRAVEL SURFACE

NOTES:

1. ALL COORDINATES ARE IN STATE PLANE, WEST VIRGINIA SOUTH ZONE, NAD 83 DATUM, U.S. SURVEY FEET. VERTICAL DATUM IS NAVD 88.

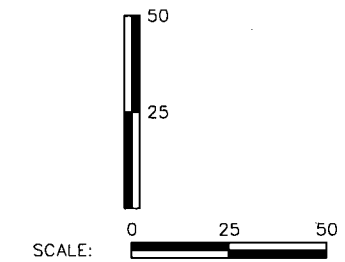
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CERTIFICATE TO THE BEST OF MY KNOWLEDGE, ALL COMPONENTS OF THIS DRAWING ARE DESIGNED IN ACCORDANCE WITH APPLICABLE COLUMBIA GUIDELINES AND SPECIFICATIONS. NOTE: ANY CHANGES TO THE DESIGN SHOWN ON THIS DRAWING MUST BE APPROVED BY THE DESIGN ENGINEER.		DESIGN ENGINEER _____ DATE _____ DWG. NO. _____ REFERENCE _____		DODDRIDGE COUNTY MLV #4 FLOODPLAIN BOUNDARY SITE PLAN																				
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>NO.</th> <th>REVISIONS</th> <th>BY</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>		NO.	REVISIONS	BY	DATE					<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>NO.</th> <th>REVISIONS</th> <th>BY</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>		NO.	REVISIONS	BY	DATE					<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td> DRAWN BY: SSE PROJECT NUMBER: 15-238 </td> <td> DATE: 12-01-17 DRAWING NUMBER: TD-MLV4 </td> <td> ISSUE: 1 </td> </tr> </table>		DRAWN BY: SSE PROJECT NUMBER: 15-238	DATE: 12-01-17 DRAWING NUMBER: TD-MLV4	ISSUE: 1
NO.	REVISIONS	BY	DATE																					
NO.	REVISIONS	BY	DATE																					
DRAWN BY: SSE PROJECT NUMBER: 15-238	DATE: 12-01-17 DRAWING NUMBER: TD-MLV4	ISSUE: 1																						

CROSS SECTION MLV4

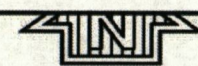
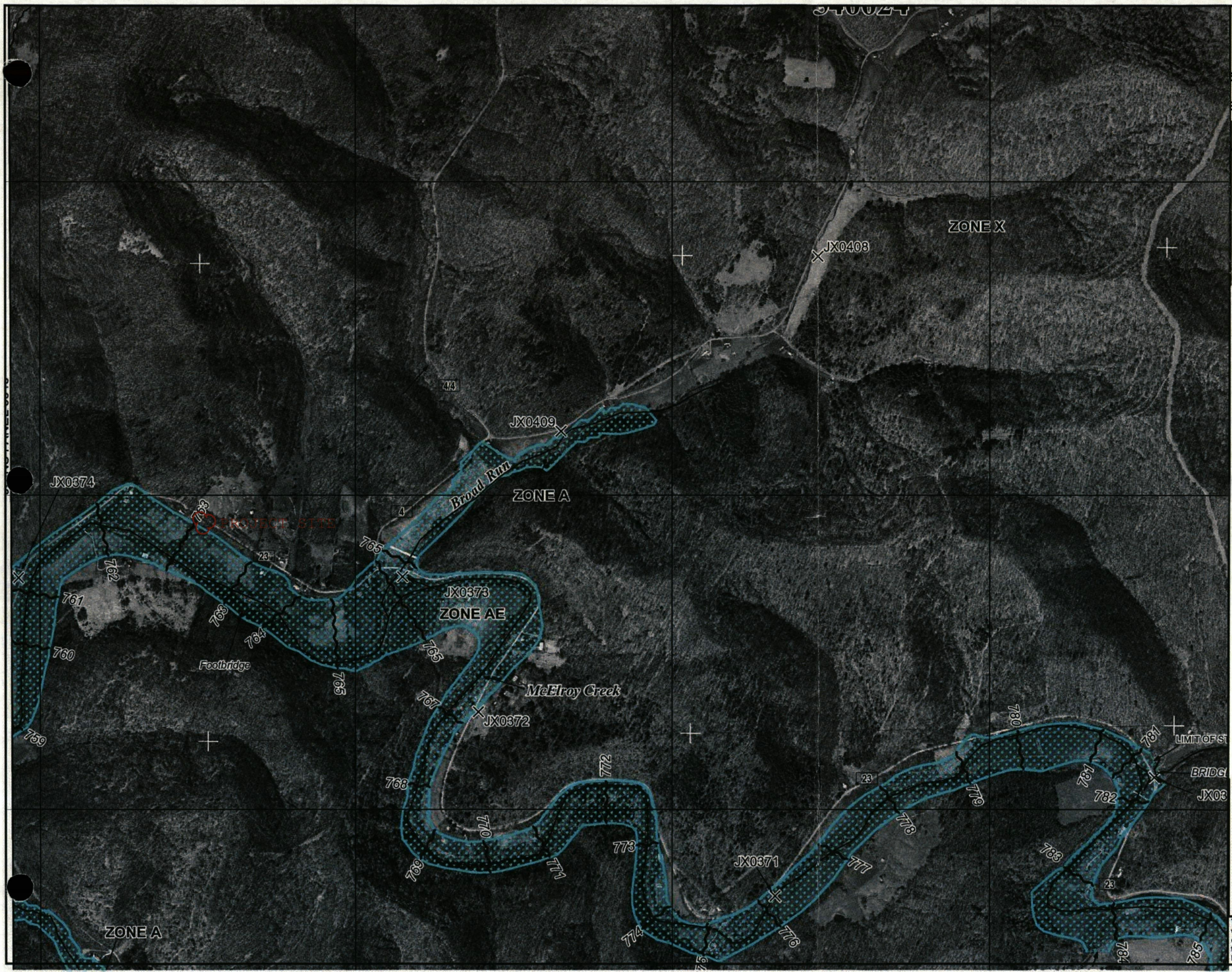


NOTES:

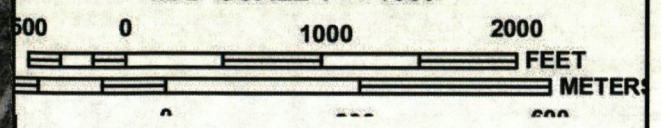
1. FLOOD DATA IS BASED ON DODDRIDGE COUNTY FEMA MAP NUMBER 54017C0045C, OCTOBER 4, 2011
2. EXISTING AND PROPOSED GRADE IS BASED ON SURVEY AND LIDAR MAPPING.
3. FEMA 100 YEAR WSEL IS BASED ON FEMA DELINEATED APPROXIMATE BOUNDARY LOCATION AND EXISTING CONTOUR INFORMATION



				DESIGN PRESSURE _____ PSIG AT _____ 'F (_____ DESIGN FACTOR) MAXIMUM HOOP STRESS LEVEL _____ AT _____ PSIG _____ % SMYS. BASED ON _____ MAOP OF _____ PSIG AT _____ 'F IS LIMITED BY _____ MINIMUM TEST PRESSURE _____ PSIG. MAXIMUM TEST PRESSURE _____ PSIG TEST LIMITED BY _____ TEST PERIOD _____ HOURS. TEST MEDIUM _____ SERVICE _____ NONDESTRUCTIVE INSPECTION REQUIREMENTS _____								
				CERTIFICATE TO THE BEST OF MY KNOWLEDGE, ALL COMPONENTS OF THIS DRAWING ARE DESIGNED IN ACCORDANCE WITH APPLICABLE COLUMBIA GUIDELINES AND SPECIFICATIONS. _____ DESIGN ENGINEER _____ DATE _____ NOTE: ANY CHANGES TO THE DESIGN SHOWN ON THIS DRAWING MUST BE APPROVED BY THE DESIGN ENGINEER.						CABELL COUNTY MLV4 FLOODPLAIN CROSS SECTION		
NO.	REVISIONS	BY	DATE	NO.	REVISIONS	BY	DATE	DWG. NO.	REFERENCE	DRAWN BY: SSE PROJECT NUMBER: 15-238	DATE: 12-08-17 DRAWING NUMBER SURFACE	ISSUE
		APPROVED	DATE			APPROVED	DATE			15-238		0



MAP SCALE 1" = 1000'



NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0045C

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

PANEL 45 OF 325
 (SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
DODDRIDGE COUNTY	540024	0045	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
 54017C0045C
 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

CLIENT:	Columbia	JOB NUMBER:	15-238
SUBJECT:	BASE FLOOD ELEVATION EVALUATION - MCELROY CREEK		
MLV4			
BASED ON:	FEMA Flood Insurance Study Number	DRAWING NUMBERS:	
BY:	KMG	CHECKED BY:	
APPROVED BY:			
Date:	12/13/17	DATE:	

PURPOSE:

The purpose of this calculation is to evaluate the change in Floodway and base flood elevation (BFE) resulting from the proposed work at the MLV7, Wirt County, West Virginia.

APPROACH:

Determine the proposed percent change in cross-sectional area of the floodway at the proposed grading location. Then, use the flow rate equation to determine the change in velocity based on the proposed change in river cross-sectional area. Finally, relate change in velocity to change in head using the velocity head equation (i.e., part of the energy equation). The change in head describes the change in 100-year floodway elevation due to the proposed development. Then, describe net change in cross-sectional area of the floodplain by comparing the area filled below the BFE to the area cut below the BFE. Because the area is an approximate study area, the FEMA FIS does not contain printed sections therefore sections were taken based on LIDAR and survey mapping.

CALCULATIONS:

Percent Change in Floodplain/BFE Cross-Sectional Area:

$$A_{\text{regrade}} = 79.48 \text{ sq. ft.}$$

$$A_1 = 3033.31 \text{ sq. ft.}$$

Reference:
[Figure]
[Figure]

Where:

A_{regrade} = cross-sectional area change of proposed grading within Floodway

A_1 = cross-sectional area pre-development within Floodway (sq. ft.)

A_2 = cross-sectional area post-development within Floodway (sq. ft.)

$$A_2 = A_1 + A_{\text{regrade}} = 2593.83 \text{ sq. ft.}$$

$$\% \text{ change} = \frac{A_2 - A_1}{A_1} * 100 = 2.62\%$$

Flow Rate Equation:

$$Q_1 = V_1 A_1$$

$$Q_2 = V_2 A_2$$

$$Q_1 = Q_2 = Q$$

$$\Delta V = V_2 - V_1 = \left(\frac{Q}{A_2} - \frac{Q}{A_1} \right)$$

$$\Delta V = \left(\frac{8300 \text{ cfs}}{2593.83 \text{ sq ft.}} - \frac{8300 \text{ cfs}}{3033.31 \text{ sq ft.}} \right) = 3.19 \text{ fps} - 2.74 \text{ fps}$$

$$\Delta V = 0.45 \text{ fps}$$

[Handbook of Hydrology]

Where:

Q_1 = average flow rate pre-development (cfs)

Q_2 = average flow rate post-development (cfs)

V_1 = average velocity pre-development (ft./s)

V_2 = average velocity post-development (ft./s)

A_1 = cross-sectional area pre-development (sq. ft.)

A_2 = cross-sectional area post-development (sq. ft.)

Velocity Head Equation:

$$\Delta h = \frac{1}{2} * \frac{\Delta V^2}{g}$$

$$\Delta h = \frac{1}{2} * \frac{(0.45 \text{ fps})^2}{32.2 \text{ ft./s}^2}$$

$$\Delta h = 0.0031444 \text{ ft (0.03773 inch)}$$

[Handbook of Hydrology]

Where:

Δh = proposed change in head (ft.)

ΔV = change in average velocity fps

CONCLUSION:

The proposed grading plan results in a 2.62% decrease in floodway cross-sectional area and negligible increase to the 100-year floodway elevation (i.e., 0.0031444 ft.). Additionally, grading below the BFE results in a net placement of fill (79.48 square feet) within the 100-year floodplain. When compared to the overall cross-sectional area of the entire 100-year floodplain (i.e., smaller cross-sectional area than the surveyed floodway cross-sectional area), grading within the 100-year floodplain results in a negligible increase to the BFE. Therefore, no rise to the BFE or floodway elevations on McElroy Creek will occur as a result of the proposed grading plan.

REFERENCES:

Federal Emergency Management Agency. Flood Insurance Study Doddridge County, West Virginia and Incorporated Areas. Rep. No. 54017CV000A.

Maidment, David R. Handbook of Hydrology. New York: McGraw-Hill, 1993; Energy Equation.

3.1 Hydrologic Analyses

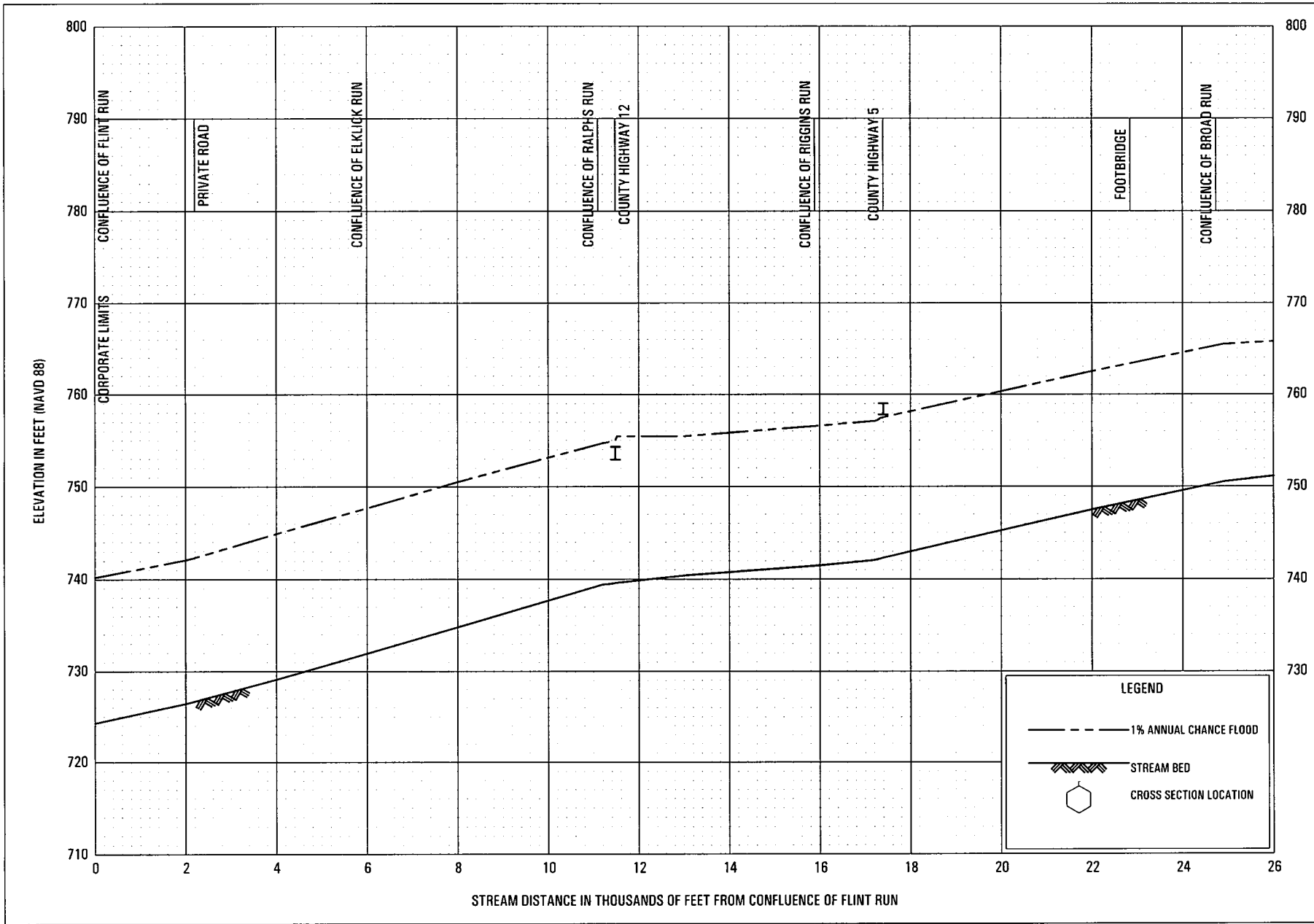
Hydrologic analyses were carried out to establish the peak discharge-frequency relationships for each flooding source studied in detail affecting the county.

Discharge-frequency curves were developed on a regional basis that applies to West Virginia (References 3 and 4). For the streams studied by detailed methods, 1-percent-annual-chance flood elevations were determined through discharge-frequency relations and the Manning equation. Within the Town of West Union, flood elevations were determined through streamflow-station data relationships and the Manning's equation.

Peak discharge-drainage area relationships for each stream studied by detailed methods are presented in Table 2, "Summary of Discharges".

Table 2 – Summary of Discharges

<u>FLOODING SOURCE AND LOCATION</u>	<u>DRAINAGE AREA (SQ. MILES)</u>	<u>PEAK DISCHARGE (CFS) 1-PERCENT-ANNUAL- CHANCE</u>
MIDDLE ISLAND CREEK		
Upstream of Doddridge-Tyler County boundary	134.78	15,200
Approximately 0.1 mile downstream of confluence of Piggin Run	120.06	13,080
BUCKEYE CREEK		
At confluence with Middle Island Creek	38.62	7,350
Downstream of confluence of Long Run	22.62	5,150
Upstream of confluence of Greenbrier Creek	9.41	3,050
Downstream of confluence of Traugh Fork	1.52	1,310
MEATHOUSE FORK		
At confluence with Middle Island Creek	66.84	9,600
Downstream of confluence of Toms Fork	50.47	8,200
Downstream of confluence of Brushy Fork	29.87	6,050
Downstream of confluence of Laurel Run and Big Isaac Creek	3.76	2,230
MCELROY CREEK		
Upstream of confluence of Flint Run	61.95	9,250
Upstream of confluence of Rigging Run	51.23	8,300
Downstream of confluence of Talkington Fork	39.18	7,100
Downstream of confluence of Robinson Fork and Big Battle Run	20.75	4,900



FLOOD PROFILES

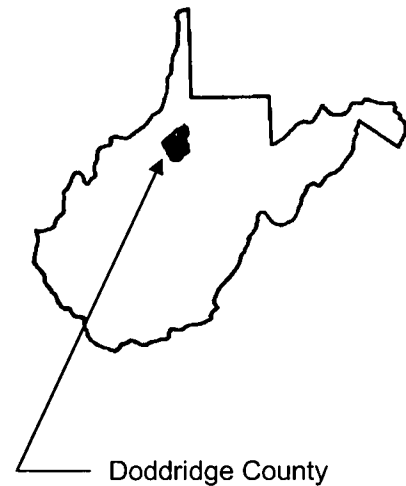
MCELROY CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY
 DODDRIDGE COUNTY, WV
 AND INCORPORATED AREAS

FLOOD INSURANCE STUDY



DODDRIDGE COUNTY, WEST VIRGINIA AND INCORPORATED AREAS



COMMUNITY NAME

WEST UNION, TOWN OF
DODDRIDGE COUNTY (UNINCORPORATED
AREAS)

COMMUNITY NUMBER

540025
540024

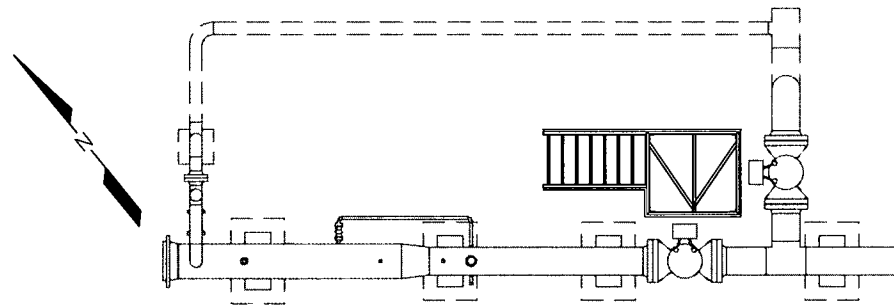


Effective: October 4, 2011

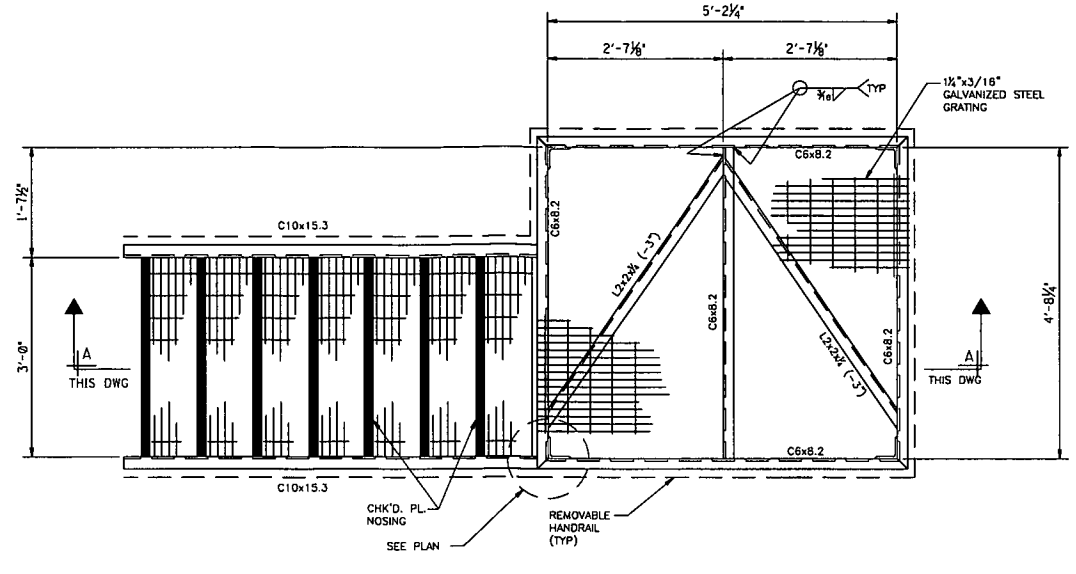
Federal Emergency Management Agency

**FLOOD INSURANCE STUDY NUMBER
54017CV000A**

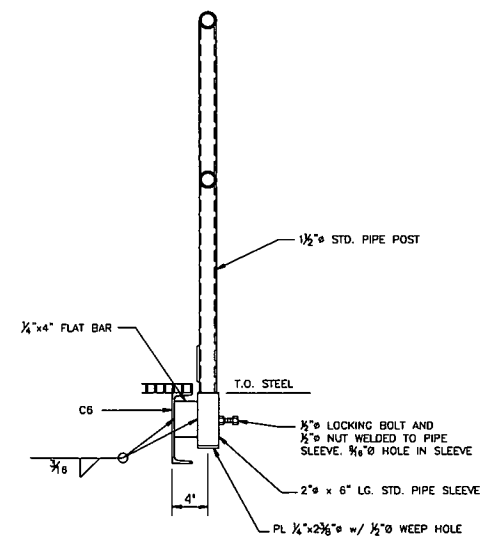
A
B
C
D
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F
G
H



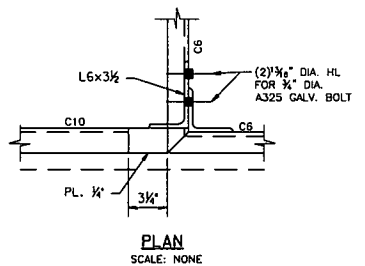
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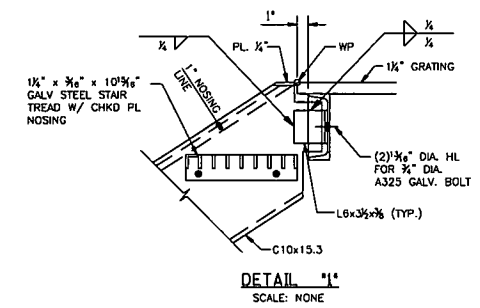
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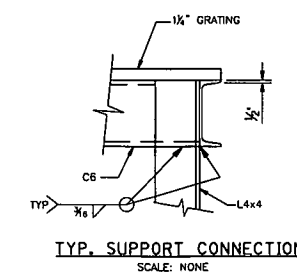
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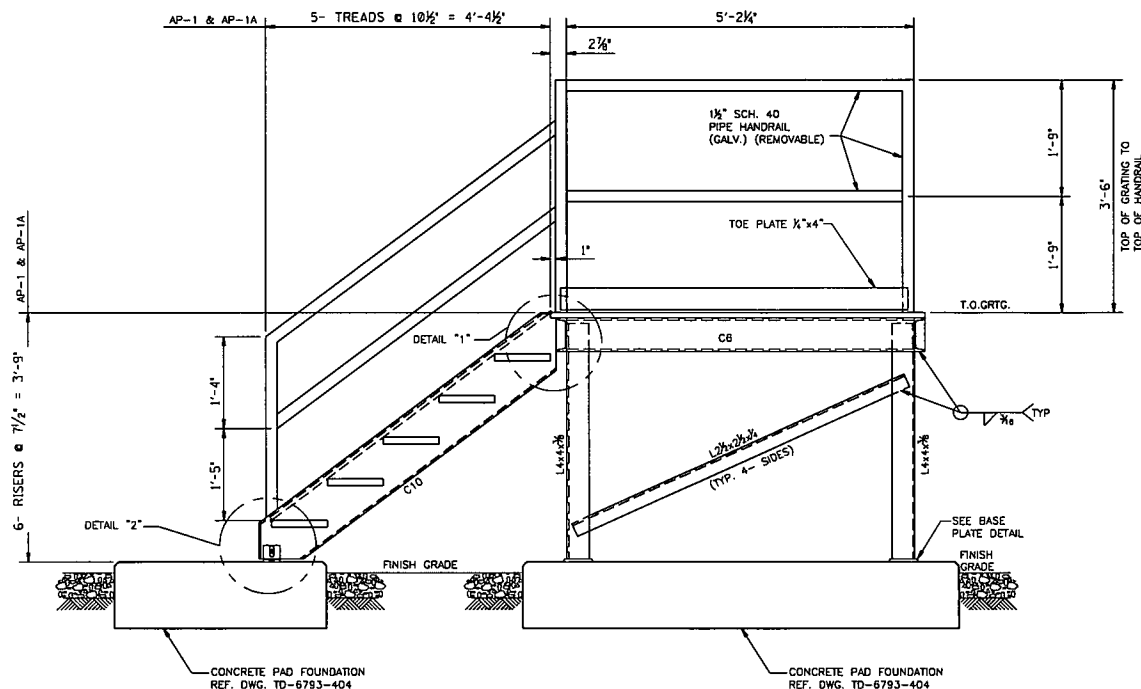
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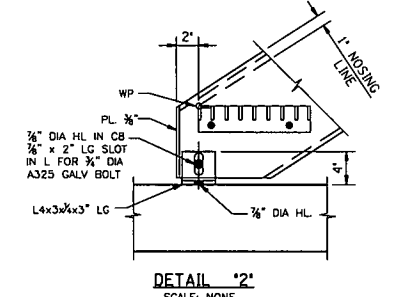
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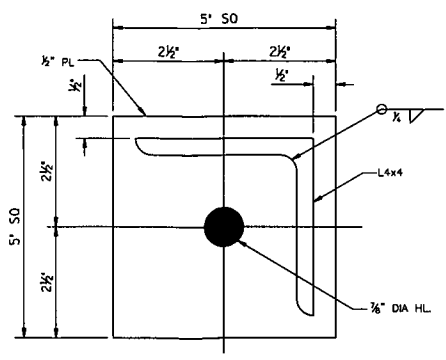
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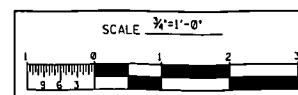
DETAIL "2"
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BASE PLATE DETAIL
SCALE: NONE

- NOTES:
1. FOR CIVIL/STRUCTURAL GENERAL NOTES SEE DWG. TD-6793-CNOTES.
2. FOR LOCATIONS SEE DWG. TD-6793-1105.

ISSUED FOR CONSTRUCTION
02-09-15



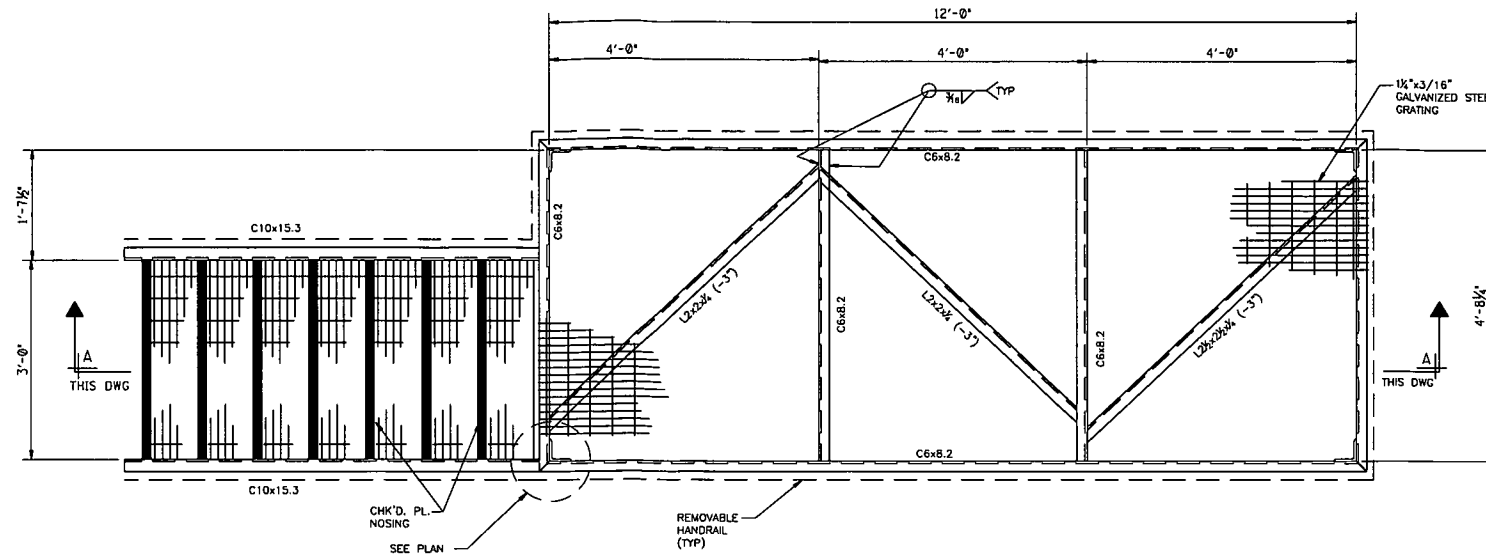
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AT — PSIG — % SMYS. BASED ON
MAOP OF — PSIG AT — F IS LIMITED BY
MINIMUM TEST PRESSURE — PSIG MAXIMUM TEST PRESSURE — PSIG
TEST LIMITED BY — SERVICE TEST PERIOD — HOURS
TEST MEDIUM —
NONDESTRUCTIVE INSPECTION REQUIREMENTS —

CERTIFICATE
TO THE BEST OF MY KNOWLEDGE, ALL COMPONENTS OF THIS DRAWING ARE DESIGNED IN ACCORDANCE WITH APPLICABLE ACTS, REGULATIONS AND SPECIFICATIONS.
SHAY OWENS 02-09-15
DESIGN ENGINEER DATE
NOTE: ANY CHANGES TO THE DESIGN SHOWN ON THIS DRAWING MUST BE APPROVED BY THE DESIGN ENGINEER

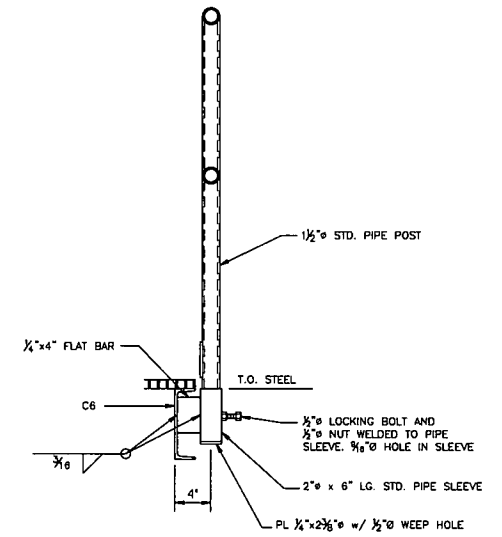
No.	REVISIONS	BY	DATE	No.	REVISIONS	BY	DATE	No.	REVISIONS	BY	DATE

Dwg. No.	REFERENCE	PROJECT DELIVERY PROJECT ENGINEERING	Columbia Gas Transmission
TITLE	STRUCTURAL STEEL ACCESS PLATFORM	LINE 1547	
DATE	08-26-14	DRAWING NUMBER	TD-6793-301
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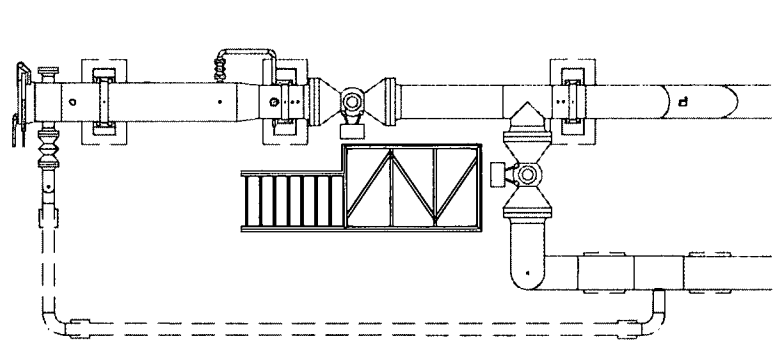
TD-6793-301 02/04/2015



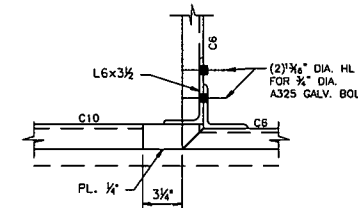
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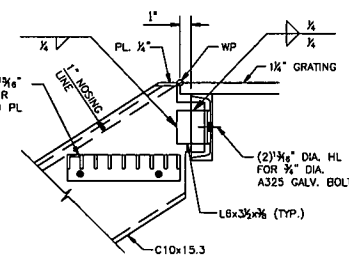
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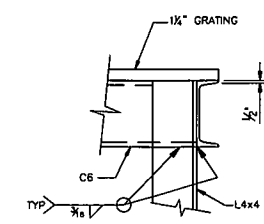
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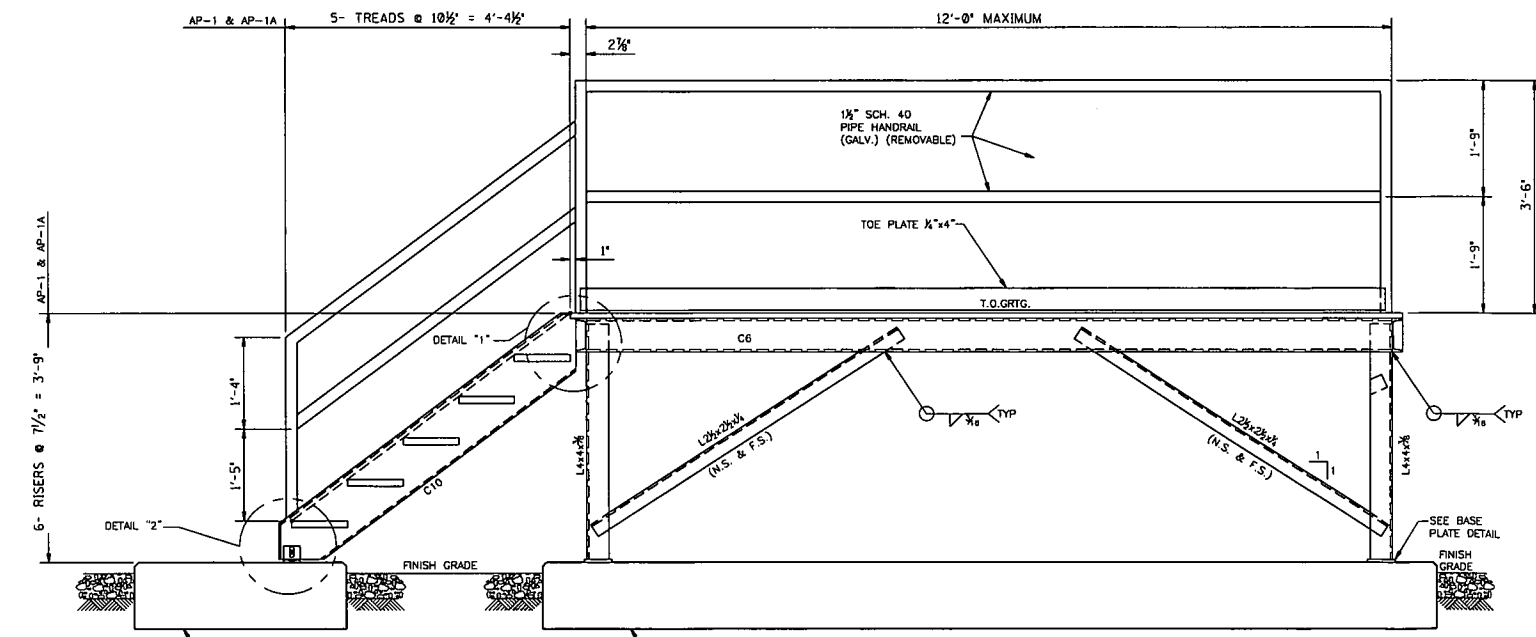
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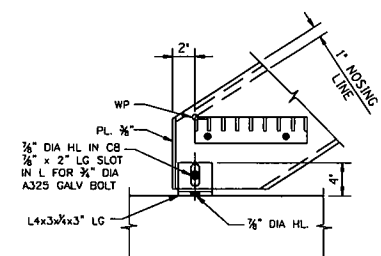
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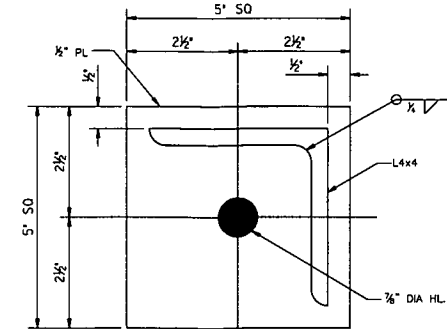
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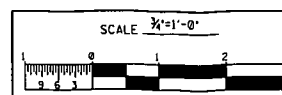
DETAIL '2'
SCALE: NONE



BASE PLATE DETAIL
SCALE: NONE

- NOTES:
1. FOR CIVIL/STRUCTURAL GENERAL NOTES SEE DWG. TD-6793-CNOTES.
2. FOR LOCATIONS SEE DWG. TD-6793-1103.

ISSUED FOR CONSTRUCTION
02-09-15



DESIGN PRESSURE — PSIG AT — °F (— DESIGN FACTOR) MAXIMUM HOOP STRESS LEVEL
AT — PSIG — % SMYS BASED ON
MAOP OF — PSIG AT — °F IS LIMITED BY
MINIMUM TEST PRESSURE — PSIG. MAXIMUM TEST PRESSURE — PSIG.
TEST LIMITED BY — PSIG. TEST PERIOD — HOURS.
TEST MEDIUM — SERVICE
NONDESTRUCTIVE INSPECTION REQUIREMENTS

CERTIFICATE
TO THE BEST OF MY KNOWLEDGE, ALL COMPONENTS OF THIS DRAWING ARE DESIGNED IN ACCORDANCE WITH APPLICABLE NOTES, SPECIFICATIONS AND REQUIREMENTS.
SHAY OWENS 02-09-15
DESIGN ENGINEER DATE

NOTE: ANY CHANGES TO THE DESIGN SHOWN ON THIS DRAWING MUST BE APPROVED BY THE DESIGN ENGINEER

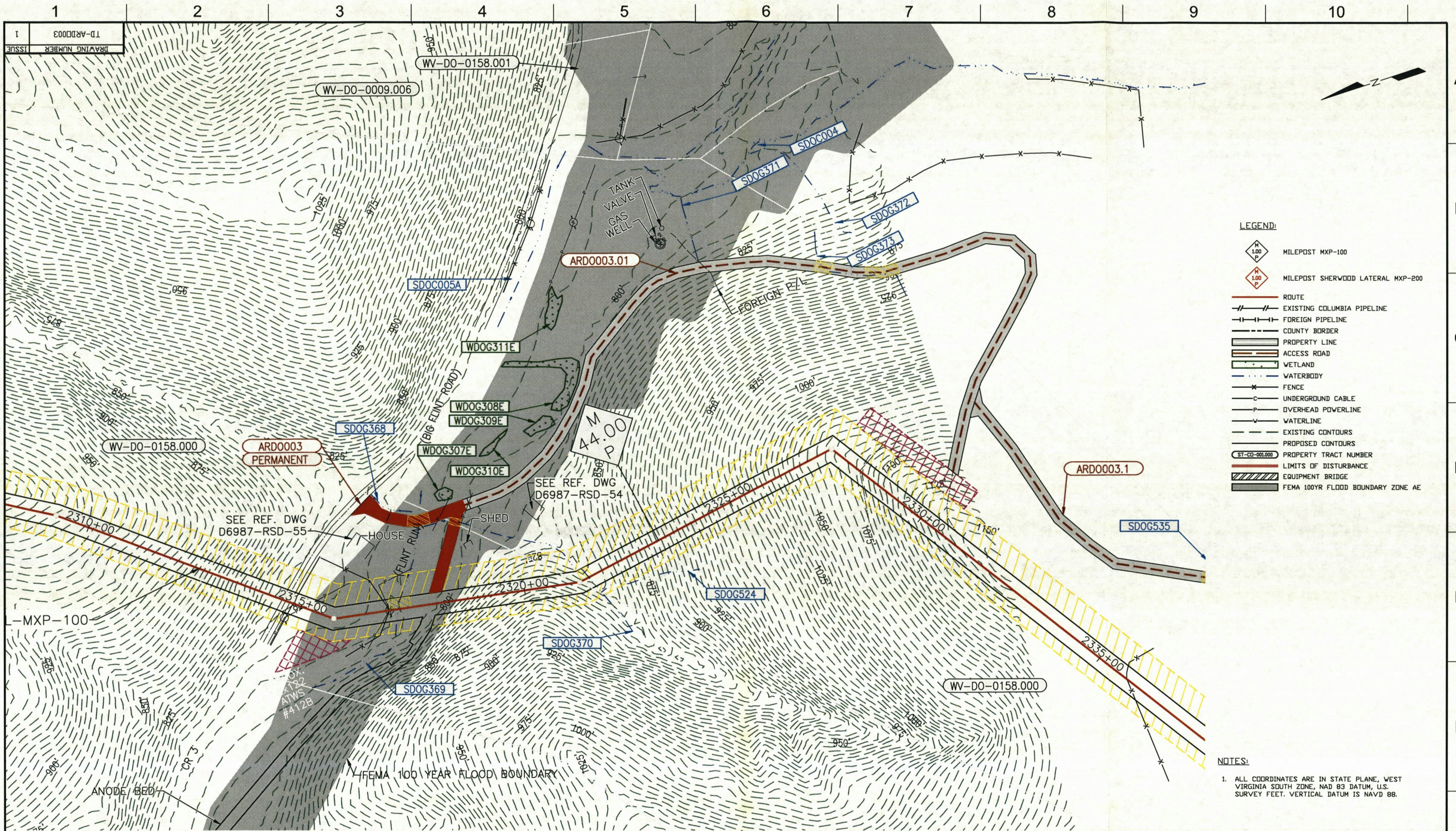
PROJECT DELIVERY PROJECT ENGINEERING P.O. BOX 1273 CHARLESTON, WV 25302-1273 1100 WASHINGTON AVENUE, CHARLESTON, WV 25301		Columbia Gas Transmission A NISOURCE COMPANY	
TITLE STRUCTURAL STEEL ACCESS PLATFORM		DATE 11-13-14	DRAWING NUMBER TD-6793-302
ISSUED FOR CONSTRUCTION	TRW	ISSUE	
Dwg. No.	REFERENCE	TCO PROJECT NUMBER: 17959	ISSUE
		TCO W.O. NUMBER: 44054	

TD-6793-302
8:50:00 AM
02/04/2015
CF/CRT

No.	REVISIONS	BY	DATE	No.	REVISIONS	BY	DATE

No.	REVISIONS	BY	DATE	No.	REVISIONS	BY	DATE

No.	REVISIONS	BY	DATE	No.	REVISIONS	BY	DATE



- LEGEND:**
- MILEPOST MXP-100
 - MILEPOST SHERWOOD LATERAL MXP-200
 - ROUTE
 - EXISTING COLUMBIA PIPELINE
 - FOREIGN PIPELINE
 - COUNTY BORDER
 - PROPERTY LINE
 - ACCESS ROAD
 - WETLAND
 - WATERBODY
 - FENCE
 - UNDERGROUND CABLE
 - OVERHEAD POWERLINE
 - WATERLINE
 - EXISTING CONTOURS
 - PROPOSED CONTOURS
 - PROPERTY TRACT NUMBER
 - LIMITS OF DISTURBANCE
 - EQUIPMENT BRIDGE
 - FEMA 100YR FLOOD BOUNDARY ZONE AE

NOTES:

- ALL COORDINATES ARE IN STATE PLANE, WEST VIRGINIA SOUTH ZONE, NAD 83 DATUM, U.S. SURVEY FEET. VERTICAL DATUM IS NAVD 88.

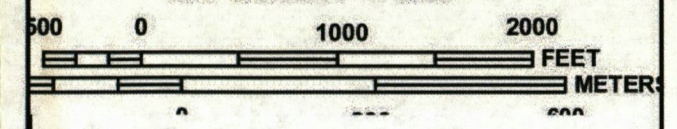
		SCALE: 1" = 100'-0" 	DESIGN PRESSURE _____ PSIG AT _____ 'F (_____ DESIGN FACTOR). MAXIMUM HOOP STRESS LEVEL _____ AT _____ PSIG _____ % SMYS. BASED ON _____ MAOP OF _____ PSIG AT _____ 'F IS LIMITED BY _____ MINIMUM TEST PRESSURE _____ PSIG. MAXIMUM TEST PRESSURE _____ PSIG. TEST LIMITED BY _____ TEST PERIOD _____ HOURS. TEST MEDIUM _____ SERVICE _____ NONDESTRUCTIVE INSPECTION REQUIREMENTS _____				
TO THE BEST OF MY KNOWLEDGE, ALL COMPONENTS OF THIS DRAWING ARE DESIGNED IN ACCORDANCE WITH APPLICABLE COLUMBIA GUIDELINES AND SPECIFICATIONS.			CERTIFICATE		DODDRIDGE COUNTY ARD0003 ACCESS ROAD FLOODPLAIN BOUNDARY SITE PLAN		
NO. _____ REVISIONS _____ BY _____ DATE _____ APPROVED _____ DATE _____		NO. _____ REVISIONS _____ BY _____ DATE _____ APPROVED _____ DATE _____		DWG. NO. _____ REFERENCE _____		DRAWN BY: SSE DATE: 12-01-17 DRAWING NUMBER: TD-ARD003 ISSUE: 1 PROJECT NUMBER: 15-238	



JOINS PANEL 0135



MAP SCALE 1" = 1000'



NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0130C

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

PANEL 130 OF 325
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
DODDRIDGE COUNTY	540024	0130	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
54017C0130C
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

WV Flood Map



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

<p> Location of flood information</p> <p>User Notes: ARDO003</p> <p>— Cross Section (XS) Lines</p> <p>Base Flood Elevation (BFE) Lines</p> <p> Rule_1</p> <p> Floodway</p> <p>Flood Hazard Zone</p> <p> Approximate Study (Zone A)</p> <p> Detailed Study (AE, AH, AO)</p> <p>Disclaimer: The online map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. 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. <i>WV Flood Tool</i> (http://www.MapWV.gov/flood) is supported by FEMA, WV NFIP Office, and WV GIS Technical Center.</p>	<p style="text-align: right;"><i>Map created on December 15, 2017</i></p> <p>Flood Hazard Area: Flood Hazard Area: Location is WITHIN an advisory floodplain but NOT a regulatory floodplain.</p> <p>Flood Hazard Zone: Advisory A</p> <p>Stream: Flint Run</p> <p>FEMA Issued Flood Map: 54017C0130C</p> <p>Watershed (HUC8): Little Musringum-Middle Island (5030)</p> <p>Advisory Flood Height: About 799 ft</p> <p>Water Depth: About 0.6 ft (Source: HEC-RAS)</p> <p>Elevation: About 796 ft</p> <p>Location (long, lat): (80.693985 W, 39.341920 N)</p> <p>Location (UTM 17N): (526371, 4354765)</p> <p>Contacts: Doddridge</p> <p>CRS Information: N/A</p> <p>Flood Profile: N/A</p> <p>HEC-RAS Model: Flint Run</p> <p>Parcel Number: 09-03-0009-0009-0000</p>
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Property Owners

OBJECTID *	OWNER	ADDR	CITY	STATE	ZIP	Latitude	Longitude
Right of Way Corridor							
1	Ash, Terry	57 Breezy Lane Blvd.	Fairmont	WV	26554	39.405053	-80.679946
2	BOWYER DAVID E	12088 Middle Island Road	Alma	WV	26320	39.260328	-80.724106
4	Spiker, Sue Ann	166 Linden Lane	Jane Lew	WV	26378	39.260413	-80.727356
5	WV Railroad Maintenance Authority	P.O. Box 470	Moorefield	WV	26836	39.285818	-80.710134
6	Maxwell, Robert S. & Mildred	3556 Nevada Street	Allentown	PA	18103	39.260516	-80.727854
7	WV Department of Highways	624 Depot Street	Parkersburg	WV	26101	39.286083	-80.710198
8	Bowyer, David E.	12088 Middle Island Road	Alma	WV	26320	39.23474	-80.696763
9	J. H. Lowther Heirs	2017 8th Avenue	Moorehead	MN	56560	39.234702	-80.696153
11	Hamilton, William & Linda	1648 Snowbird Road	West Union	WV	26456	39.269164	-80.72808
13	Yerkey, Ronald & Debra	37 McMillan Farm Road	West Union	WV	26456	39.342124	-80.694874
14	Glaspell, Shawn A. & LaRessa A.	5512 Riggins Run Road	West Union	WV	26456	39.395175	-80.687188
15	Yerkey, Ronald & Debra	37 McMillan Farm Road	West Union	WV	26456	39.341476	-80.694705
18	Yerkey, Ronald & Debra	37 McMillan Farm Road	West Union	WV	26456	39.343535	-80.696555
19	Davis, Kelly & Denise	4160 WV Route 18 South	West Union	WV	26456	39.250278	-80.711296
21	Dominion Transmission	ROUTE 23	WEST UNION	WV	26456	39.203108	-80.831703
22	Columbia Gas	1700 MacCorkle AVE SW	Charleston	WV	25314	39.268098	-80.730785
23	Columbia Gas	1700 MacCorkle AVE SW	Charleston	WV	25314	39.269193	-80.728464
24	Columbia Gas	1700 MacCorkle AVE SW	Charleston	WV	25314	39.270586	-80.73059
25	Davis, Dorothy Mae	5190 Port Tobacco Road	Nanjemoy	MD	20662	39.211042	-80.67896
26	Davis, Dorothy Mae	5190 Port Tobacco Road	Nanjemoy	MD	20662	39.212539	-80.678061
27	Columbia Gas	ST RT 18	WEST UNION	WV	26456	39.268098	-80.730785
28	Columbia Gas	ST RT 18	WEST UNION	WV	26456	39.269193	-80.728464
29	Columbia Gas	ST RT 18	WEST UNION	WV	26456	39.270586	-80.73059
30	Dominion Transmission, Inc.	ROUTE 23	WEST UNION	WV	26456	39.202099	-80.83131
31	Dominion Transmission, Inc.	ROUTE 23	WEST UNION	WV	26456	39.203036	-80.831472
32	The Mary H. Holland Revocable Living Trust	225 Watchung Rd	Westfield	NJ	7090	39.238917	-80.765382
33	The Mary H. Holland Revocable Living Trust	225 Watchung Rd	Westfield	NJ	7090	39.2424	-80.763401
34	The Mary H. Holland Revocable Living Trust	225 Watchung Rd	Westfield	NJ	7090	39.245263	-80.758189
35	Morris, I. L.	P.O. Box 397	Glenville	WV	26351	39.202175	-80.830589
36	Morris, I. L.	P.O. Box 397	Glenville	WV	26351	39.203426	-80.831771
Pipe Yards							
1	Mayle, Sarah L.	ST RT 23	CENTER POINT	WV	26339	39.394486	-80.70526
2	Lemasters, James Michael	666 Elk Lick Run	West Union	WV	26456	39.406374	-80.681237
3	Kimball, Donald C. & Mary K.	13527 Route 23 N	West Union	WV	26456	39.406232	-80.682142
4	Travis, Jason	14305 WV Route 23	West Union	WV	26456	39.397949	-80.693751
5	Ash, Terry	57 Breezy Lane Blvd.	Fairmont	WV	26554	39.405388	-80.679553
6	Ash, Terry	57 Breezy Lane Blvd.	Fairmont	WV	26554	39.405986	-80.680882
8	Spiker, Sue Ann	166 Linden Lane	Jane Lew	WV	26378	39.259491	-80.725528
9	Spiker, Sue Ann	166 Linden Lane	Jane Lew	WV	26378	39.259838	-80.726927
10	Stansberry, George	290 Sugar Run Road	West Union	WV	26456	39.203675	-80.865743
11	Morris, I. L.	P.O. Box 397	Glenville	WV	26351	39.19547	-80.80671
12	Morris, I. L.	P.O. Box 397	Glenville	WV	26351	39.200762	-80.828668
13	Stansberry, George	290 Sugar Run Road	West Union	WV	26456	39.201806	-80.867429
14	Stansberry, George	290 Sugar Run Road	West Union	WV	26456	39.203438	-80.866595
Access Roads							

OBJECTID *	OWNER	ADDR	CITY	STATE	ZIP	Latitude	Longitude
1	Mayle, Sarah L.	ST RT 23	CENTER POINT	WV	26339	39.394634	-80.705334
2	Bowyer, David E.	12088 Middle Island Road	Alma	WV	26320	39.243095	-80.693951
3	Phillips, Ruth E.	1739 Pear Street	Harrisonburg	VA	22801	39.225876	-80.697738
4	Wasmer, Rodney L. & Deanna C.	2220 Coralthorn Road	Middle River	MD	21220	39.288062	-80.713453
5	Hall Drilling LLC	981 Washington Avenue	Ellenboro	WV	<Null>	39.28823	-80.713918
6	Yerkey, Ronald & Debra	37 McMillan Farm Road	West Union	WV	26456	39.341681	-80.694688
7	Yerkey, Ronald & Debra	37 McMillan Farm Road	West Union	WV	26456	39.340734	-80.693753
8	Dominion Transmission, Inc.	ROUTE 23	WEST UNION	WV	26456	39.202767	-80.83119
11	Leatherman, Delbert E. & Stephanie	3009 Dogwood Road	Bridgeport	WV	26330	39.286658	-80.689312
12	Murphy, Pamela I. & Gregory V., Sr.					39.348342	-80.700428
13	WV Department of Highways	624 Depot Street	Parkersburg	WV	26101	39.288368	-80.714272
14	Stansberry, George	290 Sugar Run Road	West Union	WV	26456	39.203753	-80.864617
15	The Mary H. Holland Revocable Living Trust	225 Watchung Rd	Westfield	NJ	7090	39.232618	-80.764108
16	The Mary H. Holland Revocable Living Trust	225 Watchung Rd	Westfield	NJ	7090	39.237495	-80.76483
17	The Mary H. Holland Revocable Living Trust	225 Watchung Rd	Westfield	NJ	7090	39.239475	-80.76505
18	The Mary H. Holland Revocable Living Trust	225 Watchung Rd	Westfield	NJ	7090	39.24249	-80.763631
19	The Mary H. Holland Revocable Living Trust	225 Watchung Rd	Westfield	NJ	7090	39.242549	-80.763914
20	The Mary H. Holland Revocable Living Trust	225 Watchung Rd	Westfield	NJ	7090	39.242335	-80.760569
21	Morris, I. L.	P.O. Box 397	Glenville	WV	26351	39.195699	-80.805696
22	Morris, I. L.	P.O. Box 397	Glenville	WV	26351	39.19584	-80.805488
23	Morris, I. L.	P.O. Box 397	Glenville	WV	26351	39.203023	-80.831158

Upstream and Downstream Adjacent Property Owners in Doddridge County					
OBJECTID *	OWNER	ADDR	CITY	STATE	ZIP
11874	ADRIAN GEORGE W & BARBARA B & (SURV)	ST RT 18	WEST UNION	WV	26456
11918	Antero Resources	1615 WYNKOOP ST	DENVER	CO	80802
11873	BARTEE LILLIAN R	3972 WV RT 18 S	WEST UNION	WV	26456
11929	BIG "D" ENTERPRISES LLC	P O BOX 351	SALEM	WV	26426
11879	BLAND ROBERT C & ARLENE R & (SURV)(LIFE)	4101 WV RT 18 S	WEST UNION	WV	26456
11880	BLAND ROBERT C & ARLENE R & (SURV)(LIFE)	4101 WV RT 18 S	WEST UNION	WV	26456
11893	Blandville ME Church	RT 18-BLANDVILLE	WEST UNION	WV	26456
11868	BLAZER JACK N & JOAN MAY & DICKERSON (SURV)	5938 WV RT 18	NEW MILTON	WV	26411
11869	BLAZER JACK N & JOAN MAY & DICKERSON (SURV)	5938 WV RT 18	NEW MILTON	WV	26411
11870	BLAZER JACK N & JOAN MAY & DICKERSON (SURV)	5938 WV RT 18	NEW MILTON	WV	26411
11915	BLESSING KATHRYN RENEE	69 BLESSING LN	WEST UNION	WV	26456
11856	BLEVINS WILLIAM H & WANDA S (SURV)	141 CHESTERWOOD LN	STAFFORD	VA	22556
11909	BONNELL ARNOLD LEE	5095 RIGGINS RUN RD	SALEM	WV	26426
11910	BONNELL ARNOLD LEE	5095 RIGGINS RUN RD	SALEM	WV	26426
11896	BOWYER DAVID E	12088 MIDDLE ISLAND RD	ALMA	WV	26320
11937	Boyce, Kevin & Edna	4911 SMITHTON RD	WEST UNION	WV	26456
11938	Boyce, Kevin & Edna	4911 SMITHTON RD	WEST UNION	WV	26456
11924	Brian & Dawn McMillan	2748 WYLIE RIDGE RD	WEIRTON	WV	26062
11850	BURLESON TODD A & MICHELLE L & (SURV)	RT 21 RT 23	WEST UNION	WV	26456
11944	CNG Transmission Corp	PITTSBURGH	PA	15221	26456
11876	COGAR LINDA	3640 WV RT 18	WEST UNION	WV	26456
11933	Cone Gathering LLC	1000 CONSOL ENERGY DR	CANONSBURG	PA	15317
11861	Conner, Clarence & Dawn	61 BEAGLE DR	WEST UNION	WV	26456
11866	Cox, Denver & Mary Beth	NEW MILTON R 18	SMITHBURG	WV	26436
11926	DAVIS DEANNA & WILLIAM (SURV)	5891 BIG FLINT RD	WEST UNION	WV	26456
11925	Davis, Jason	PO BOX 249	WEST UNION	WV	26456
11922	Dawn & Brian McMillan	2748 WYLIE RIDGE RD	WEIRTON	WV	26062
11891	Denise W. Davis	181 DAVIS FARM LN	NEW MILTON	WV	26411
11886	Dennis & Glenda Kelley	2633 ELDERSVILLE RD	FOLLANSBEE	WV	26037
11884	Dennis and Glenda Kelley	2633 ELDERSVILLE RD	FOLLANSBEE	WV	26037
11894	DODDRIDGE CO COURT	108 Court St. #4	WEST UNION	WV	26456
11905	DOTSON FREDERICK GREGORY, & CHARLES A & MICHELLE E	SMITHBURG OFF ROUTE 50 16	WEST UNION	WV	26456
11921	DUFFELMEYER WILLIAM M & MELISSA J (SURV)	125 RIGGINS RN	WEST UNION	WV	26456

Upstream and Downstream Adjacent Property Owners in Doddridge County					
OBJECTID *	OWNER	ADDR	CITY	STATE	ZIP
11864	E. S. Childers (Heirs)	3335 CASANEA CT	HUNTINGTOWN	MD	20639
11945	FETTY CHARLES A	5242 ROCK RUN RD	WEST UNION	WV	26456
11930	FOUT NANCY LLC	ENGLANDS RUN	WEST UNION	WV	26456
11881	GAGNON GEORGE L	ROUTE 18	WEST UNION	WV	26456
11858	GAIN DONZIL A & MARY T (SURV)		BRIDGEPORT	WV	26330
11940	George R. Gore	5116 SMITHTON RD	WEST UNION	WV	26456
11947	Gerald Brunner				
11908	GETZ DAVID C & TWYLLA J & (SURV)	13147 WV RT 23N	WEST UNION	WV	26456
11916	GETZ DAVID C & TWYLLA J & (SURV)	13147 WV RT 23N	WEST UNION	WV	26456
11913	GLASPELL MARY LEE	14723 WV ROUTE 23	WEST UNION	WV	26456
11855	GRIFFITH WILLIAM & RONALD & (SURV)	366 CHICKEN FARM RD	CLARKSBURG	WV	26301
11860	Heaster, Charles & Patsy	2898 PUNKIN CENTER RD	WEST UNION	WV	26456
11919	HEINTZELMAN EVELYN & RONALD E & SR & JUDITH L COLL	ROUTE 3	CENTER POINT	WV	26339
11920	HEINTZELMAN EVELYN & RONALD E & SR & JUDITH L COLL	ROUTE 3	CENTER POINT	WV	26339
11851	HENDERSON JUSTIN L (LIFE)	190 SAPPHIRE LN	MEADOWBROOK	WV	26404
11895	HYDE WILLIAM J & RITA I & (SURV)	1273 SNOWBIRD RD	WEST UNION	WV	26456
11888	James A. and Angela J. Bland	4061 WV RT 18 S	WEST UNION	WV	26456
11935	Jamie & Ronald Hass	4061 WV RT 18	WEST UNION	WV	26456
11948	John McMillan	4131 WADSWORTH RD	NORTON	OH	44203
11939	JONES CHARLES EDWARD	RT 50/22	WEST UNION	WV	26456
11890	K. Todd and Kimberly Bland Revocable Trust	RT 18-BLANDVILLE	WEST UNION	WV	26456
11867	Keplinger, Dale W. II & Melissa	82 TRIPLE J RD	GASSAWAY	WV	26624
11859	Lahreche, Tanya		WEST UNION	WV	26456
11897	LAMB VALERIE A	ROUTE 18	WEST UNION	WV	26456
11934	LEATHERMAN DONNA	627 MORGANS RUN RD	WEST UNION	WV	26456
11906	MCCLAIN JOHN H	ST RT 23-ASHLEY	CENTER POINT	WV	26339
11932	MCKINNEY KAREN IRENE SUE	1352 MILETUS RD	SALEM	WV	26426
11946	MCMILLAN GARY L & JEFFREY LYNN & (SURV)	20 FELIX DR	WEST UNION	WV	26456
11904	MORRIS I L (IKE)	ST RT 18	WEST UNION	WV	26456
11863	Nestor, Laura L.	ROUTE 25	NEW MILTON	WV	26411
11853	NICHOLSON ARGIL WAINE	126 PUMPKIN LN	WEST UNION	WV	26456
11898	NICHOLSON ROGER & NORA ANN & (SURV)	1513 SNOWBIRD RD	WEST UNION	WV	26456
11883	Norma & Dale Kelley	4201 WV ROUTE 18	WEST UNION	WV	26456

Upstream and Downstream Adjacent Property Owners in Doddridge County					
OBJECTID *	OWNER	ADDR	CITY	STATE	ZIP
11885	Norma Lee Kelley	4201 WV ROUTE 18	WEST UNION	WV	26456
11849	PARSONS RICHARD P & CHERYL A & (SURV)	ROUTE 23	WEST UNION	WV	26456
11875	POLAN WILMA C	BLANDVILLE RT 18	WEST UNION	WV	26456
11901	PRICE PATRICK L & PENNY L & (SURV)	1543 SNOWBIRD RD	WEST UNION	WV	26456
11902	PRICE PATRICK L & PENNY L & (SURV)	1543 SNOWBIRD RD	WEST UNION	WV	26456
11872	ROLLINS CANDI E ET VIR	ROUTE 18	WEST UNION	WV	26456
11923	Scotty & Martha Ruble	ROUTE 3	SMITHBURG	WV	26436
11942	Secrist, Mary Farr	1884 PUNKIN CENTER RD	WEST UNION	WV	26456
11931	SPURLOCK HOWARD D II & AMY B & (SURV)	192 PIGGIN RUN RD	WEST UNION	WV	26456
11877	Stover, Anderson	ST RT 18	WEST UNION	WV	26456
11914	STUMPF THEODORE J	4805 RAGANS RN	WEST UNION	WV	26456
11900	SUTTON JEREMY W & AMANDA L & (SURV)	PO BOX 57	SMITHBURG	WV	26436
11912	SWIGER LARRY D	ST RT 23	CENTER POINT	WV	26339
11911	SWIGER MICHAEL W & JODI A & (SURV)	5577 RIGGINS RN	WEST UNION	WV	26456
11936	Swisher, Jeffrey	379 DAKOTA LN	WEST UNION	WV	26456
11887	Tim Bland	WV RT 18	WEST UNION	WV	26456
11892	Tim Bland	BLANDVILLE RT 18	WEST UNION	WV	26456
11857	TIMBERLAND TRUST		WEST UNION	WV	26456
11878	TRAVIS MARVIN E & ROBIN E & (SURV)	67 EIBS CAMP RD	NEW MILTON	WV	26411
11889	TRAVIS MARVIN E & ROBIN E & (SURV)	67 EIBS CAMP RD	NEW MILTON	WV	26411
11871	TRAVIS MICHAEL D	5689 WV RT 18 S	WEST UNION	WV	26456
11865	Trent, William	2500 WESTFIELD	ELGIN	IL	60123
11907	TRUSTEES OF GRACE BAPTIST & CHURCH	ST RT 23 ASHLEY	CENTER POINT	WV	26339
11882	UNITED METHODIST CHURCH TRUSTE	ST RT 18-BLANDVILLE	WEST UNION	WV	26456
11854	WAGNER JEFFERY S & RICHARD L & (SURV)	107 TAYLOR SCHOOL RD	BRIDGEPORT	WV	26330
11862	Wellings, Charles & Barbara	1232 WV RT 18	WEST UNION	WV	26456
11899	WELLS ANTHONY J & ROBIN A & (SURV)	9235SE 178TH MADELINE LN	THE VILLAGES	FL	32162
11852	WERNER EDWARD C & FERN F & (SURV)	1 FIRST AMERICAN WAY	WESTLAKE	TX	76262
11943	West, Linda	1602 DOTTERER'S RUN	CHARLESTON	SC	29414
11903	WILLIS MARY MADELYN	ROUTE 18	WEST UNION	WV	26456
11941	WV Railroad Maintenance Authority		MOOREFIELD	WV	26836
11927	Yerkey, Barbara	5891 BIG FLINT RD	WEST UNION	WV	26456
11928	Yerkey, Ronald	37 MCMULLAN FARM RD	WEST UNION	WV	26456

Upstream and Downstream Adjacent Property Owners in Doddridge County					
OBJECTID *	OWNER	ADDR	CITY	STATE	ZIP
11917	ZACK DONALD E JR	ST RT 23	CENTER POINT	WV	26339

**Mountaineer XPress Project
Environmental Permits, Approvals, and Consultations**

Agency	Permit/Approval/Consultation	Filing Date (Anticipated)	Receipt Date (Anticipated)
Federal			
Federal Energy Regulatory Commission	Certificate of Public Convenience and Necessity under Section 7(c) of the Natural Gas Act	April 29, 2016	(December 2017)
U.S. Army Corps of Engineers – Pittsburgh, Huntington Districts	Department of the Army Permits under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act (Joint Permit Application)	July 8, 2016	(December 2017)
U.S. Fish and Wildlife Service – West Virginia Ecological Field Services Office	Consultation under Section 7 of the Endangered Species Act	July 2015 ^a	December 7, 2017
State: West Virginia			
West Virginia Department of Environmental Protection- Division of Air Quality	Air Permit – Title V Permit	April 29, 2016	December 12, 2017
West Virginia Department of Environmental Protection – Division of Water and Waste Management	Water Quality Certificate under Section 401 of the Clean Water Act	July 21, 2016	July, 26, 2017
West Virginia Department of Environmental Protection – Division of Water and Waste Management	West Virginia Water Pollution Control Permit – Stormwater Associated with Oil and Gas Related Construction Activities – WV0116815	April 27, 2017	(December 2017)
West Virginia Department of Environmental Protection – Division of Water and Waste Management	National Pollutant Discharge Elimination System – Water Pollution Control Permit for Hydrostatic Testing Water – WV0113069	(November 2017)	(January 2018)
West Virginia Department of Environmental Protection – Division of Water and Waste Management	Large Quantity Water Use Registration – Registration only	(November 2017)	(January 2018)
West Virginia Division of Culture and History	Consultation under Section 106 of the National Historic Preservation Act	July 2015	December 15, 2017
West Virginia Division of Natural Resources – Natural Heritage Program	Natural Heritage/Protected Species Consultation	July 2015	December 2017 Consultation does not result in a permit. The information from the WVDNR contains privileged species information and will not be provided to the County.
West Virginia Division of Natural Resources – Office of Land and Streams	Stream Activity Permit (Joint Application with the Public Lands Corporation)	October 2017	(December 2017)
^a To comply with the provisions of the Endangered Species Act, Columbia has evaluated and certified that the Project activities are consistent with the U.S. Fish and Wildlife Service approved NiSource/Columbia Multi-Species Habitat Conservation Plan and the resulting programmatic Section 7 consultation. ESA closure is predicated on Columbia receiving FERC authorization for the Project.			



**The Doddridge Independent
PUBLISHER'S CERTIFICATE**

I, Michael D. Zorn, Publisher of The Doddridge Independent, A newspaper of general circulation published in the town of West Union, Doddridge County, West Virginia, do hereby certify that:


Please take notice that on the (25th) of (January), 2019, (Columbia Gas) filed an application for a Floodplain Permit (#19-541) to develop land located at or about (Various Locations in Doddridge County); Coordinates; 39.341920N, -80.693985W. The Application is on file with the Floodplain Manager of the County and may be inspected or copied during regular business hours in accordance to WV Code Chapter 29B Freedom of Information, Article 1 Public Records and county policy and procedures. Any interested persons who desire to comment shall present the same in writing by (March 11, 2019)

was published in The Doddridge Independent
2 times commencing on Friday, February 1, 2019 and
Ending on Friday, February 8, 2019 at the request of:

**George Eidel, Doddridge County Floodplain
Manager & Doddridge County Commission**


Given under my hand this Monday, February 11, 2019

The publisher's fee for said publication is:
\$ 32.29 1st Run/\$ 24.22 Subsequent Runs
This Legal Ad Total: \$ 56.51



Michael D. Zorn
Publisher of The Doddridge Independent

Subscribed to and sworn to before me on
this date: 2 / 11 / 19



Notary Public in and for Doddridge County
My Commission expires on
The 17th day of MAY 20 19

Floodplain Public Notice • Legal Notice
Please take notice that on the (25th) of (January), 2019, (Columbia Gas) filed an application for a Floodplain Permit (#19-541) to develop land located at or about (Various Locations in Doddridge County); Coordinates; 39.341920N, -80.693985W. The Application is on file with the Floodplain Manager of the County and may be inspected or copied during regular business hours in accordance to WV Code Chapter 29B Freedom of Information, Article 1 Public Records and county policy and procedures. Any interested persons who desire to comment shall present the same in writing by (March 11, 2019) (20 calendar days after the announcement at the regularly scheduled Doddridge County Commission Meeting) delivered to the Floodplain Manager of the County at 105 Court Street, Suite #3, West Union, WV 26456. This project is a renewal of FP#18-500 Mountaineer Xpress Pipeline for completion of work. C2 2/1 - 2/8