



October 27, 2016

Cleveland Township  
Floodplain Administrator  
46 Jefferson Road  
Elysburg, PA 17824

Re: Atlantic Sunrise Project  
Central Penn Line South  
Cleveland Township, Columbia County  
Floodplain Management Analysis

Dear Sir or Madam:

Transcontinental Gas Pipeline Company, LLC (Transco) proposes to construct and operate the Atlantic Sunrise Project (Project) to provide 1.7 million dekatherms per day of incremental firm transportation of natural gas from the Marcellus Shale production areas in northern Pennsylvania (PA) to its existing market areas, extending to as far south as the Station 85 Pooling Point in Choctaw County, Alabama. The Project includes modifications to the existing Transco Mainline System to reverse the direction of flow, enabling new north-to-south capabilities (bi-directional flow) to transport this new source of natural gas to existing markets. The Project consists of the following primary components within PA:

- Installing greenfield pipeline facilities of approximately 58.6 miles of new 30-inch-diameter pipe from Susquehanna County, PA to Columbia County, PA.
- Installing greenfield pipeline facilities of approximately 127.3 miles of 42-inch-diameter pipe from Columbia County, PA to Lancaster County, PA.;
- Installing two pipeline loops (pipeline laid parallel to existing facilities):
  - 8.56 miles of 42-inch pipeline loop located in Lycoming County, PA known as the Unity Loop;
  - 2.50 miles of 36-inch pipeline in Clinton County, PA, known as the Chapman Loop;
- Constructing two new compressor stations, one in Wyoming County and one in Columbia County, PA;
- Additional ancillary facilities, such as mainline valves, cathodic protection, communication facilities, and internal inspection device (e.g., pig) launchers and receivers;
- Two new meter stations and three new regulator stations with interconnecting piping;
- Additional compression and related modifications to one existing compressor station; and,
- Modification to an existing meter station for use of shared facilities with a new meter station.

Transco's consultants, BL Companies and TRC Solutions (TRC), have completed an analysis of potential impacts on FEMA delineated floodways from the Project in accordance with 25 Pa. Code § 105.13. The analysis for Cleveland Township is provided below for your review and comment.

Cleveland Township  
October 27, 2016  
BL Project No. 14C4909  
Page 1 of 3

**ATLANTIC SUNRISE PROJECT  
FEMA FLOODPLAIN CROSSINGS  
CLEVELAND TOWNSHIP, COLUMBIA COUNTY, PENNSYLVANIA**

Description of Impact	Structure Type and Dimensions	Resource ID	Resource Name	Chapter 93 Classification, Wetland Classification (EV or Other), or Floodway Type	Floodway Fill (cu. yds.)	Impact area (acres)		Latitude	Longitude
						Temporary	Permanent		
Utility Pipeline Crossing	Equipment Access and E&S Controls	WW-T45-11001	Floodway to South Branch Roaring Creek	FEMA Detailed	N/A	0.593	0.0073 <sup>2</sup>	40.83992	-76.50717
Utility Pipeline Crossing	Equipment Access and E&S Controls	WW-T47-11001	Floodway to UNT to South Branch Roaring Creek	FEMA Detailed <sup>1</sup>	N/A	0.2658	0.0262 <sup>2</sup>	40.84917	-76.50304
Utility Pipeline Crossing	Equipment Access and E&S Controls	WW-T44-11001	Floodway to South Branch Roaring Creek	FEMA Detailed <sup>1</sup>	N/A	0.5611	0.0492 <sup>2</sup>	40.85479	-76.49852
Utility Pipeline Crossing	Equipment Access and E&S Controls	WW-T04-11001	Floodway to Mugser Run	FEMA Detailed <sup>1</sup>	N/A	2.2649	0.1666 <sup>2</sup>	40.87835	-76.48641

Notes:

<sup>1</sup> Multiple streams are included in these calculations as the floodways overlap.

<sup>2</sup> Permanent impacts associated with utility pipeline crossings are based on the permanent pipe footprint within the floodplain (pipe trench width x pipe crossing length). No permanent alternation to the floodway contours and elevation is associated with these permanent impacts.

The floodway crossings listed above are depicted on the enclosed plans from the Project's PADEP Chapter 105 Permit Application.

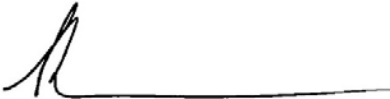
Please note that construction activities are not expected to create permanent loss of flood storage capacity or hydraulic capacity, as all pre-construction surface elevations will be re-established during restoration. The temporary and permanent impacts noted above are associated with vegetation management, underground pipe installation, and temporary contractor staging area use only, and do not represent a permanent modification of ground elevation or loss of flood storage capacity or hydraulic capacity. No structures are proposed within the FEMA 100-year floodplain, no fill will be placed in the floodways, and no increase in 100-year flood elevation is anticipated as a result of the proposed Project.

On behalf of Transco, BL and TRC respectfully request that Cleveland Township review this analysis and, if applicable, provide comments to:

Steve Crescenzo  
TRC Environmental Corporation  
2200 Liberty Avenue, Suite 100  
Pittsburgh, PA 15222

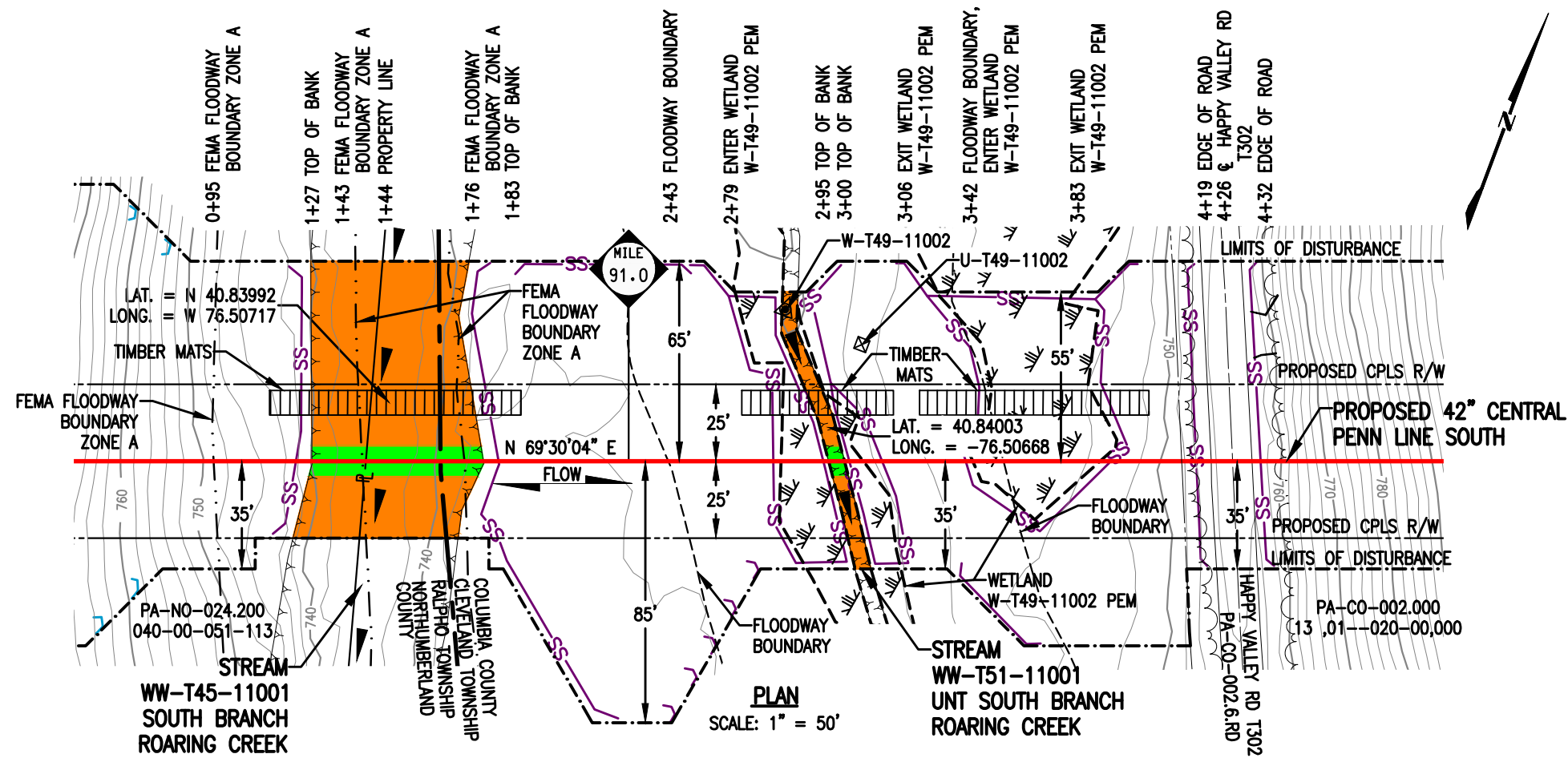
**Please do not send comments directly to the PADEP**, as we must include them with our permit application. Should you have any questions or concerns regarding this notification, please contact Al Busher at (717)-651-9850 or via email at [abusher@blcompanies.com](mailto:abusher@blcompanies.com).

Sincerely,

A handwritten signature in black ink, appearing to be 'Alaric J. Busher', followed by a long horizontal line extending to the right.

Alaric J. Busher, PE  
Senior Engineer

Enclosures: Water Obstruction and Encroachment Permit Impact Maps



**STREAM DISTURBANCE:**

STREAM WW-T45-11001 (HQ)	ACRE
TEMPORARY STREAM DISTURBANCE	0.0946
PERMANENT STREAM DISTURBANCE	0.0127
<b>TOTAL STREAM DISTURBANCE</b>	<b>0.1073</b>
TEMPORARY FLOODWAY DISTURBANCE	0.0593
PERMANENT FLOODWAY DISTURBANCE	0.0073
<b>TOTAL FLOODWAY DISTURBANCE</b>	<b>0.0666</b>

STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	55.71
STREAM LENGTH	90.49

STREAM WW-T51-11001 (HQ)	ACRE
TEMPORARY STREAM DISTURBANCE	0.0096
PERMANENT STREAM DISTURBANCE	0.0012
<b>TOTAL STREAM DISTURBANCE</b>	<b>0.0108</b>
TEMPORARY FLOODWAY DISTURBANCE	0.1860
PERMANENT FLOODWAY DISTURBANCE	0.0168
<b>TOTAL FLOODWAY DISTURBANCE</b>	<b>0.2028</b>

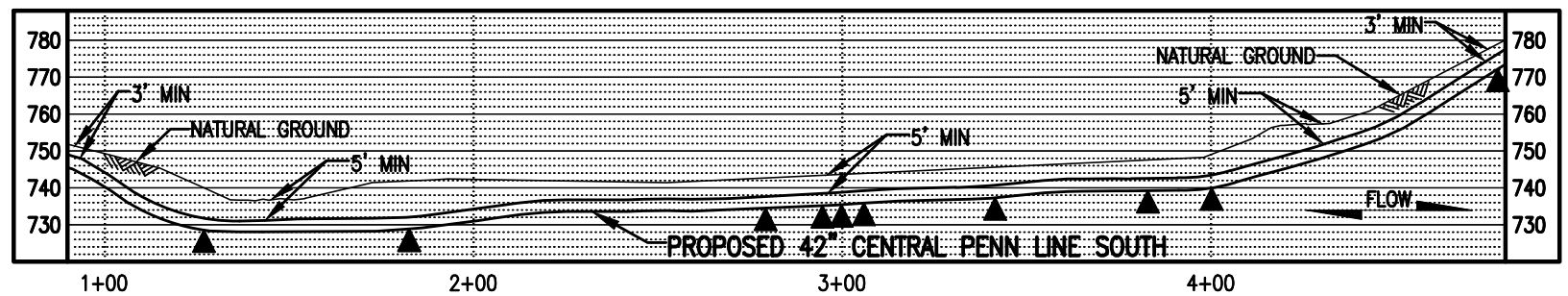
STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	5.16
STREAM LENGTH	93.88

**GENERAL NOTES:**

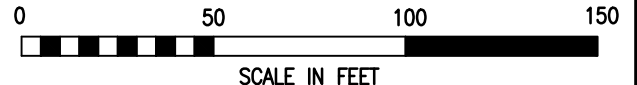
1. STREAM CROSSING METHOD SHALL BE DAM AND PUMP (DPX). EQUIPMENT TO CROSS STREAM UTILIZING A BRIDGE EQUIPMENT CROSSING (BEC).
2. WATERBODIES WITHOUT A FEMA-ESTABLISHED FLOODPLAIN, THE FLOODWAY IS COINCIDENT WITH A 50-FOOT OFFSET MEASURED LATERALLY FROM THE PHYSICAL TOP OF BANK OF THE WATERBODY. (PERTAINS TO STREAM WW-T51-11001)
3. THIS STREAM WW-T45-1101 IS LOCATED WITHIN THE 100 YEAR FLOOD PLAIN PER FEMA FLOOD MAP DATA.
4. STATION 1+00 SHOWN IS EQUAL TO STATION 4803+50 ON THE EROSION AND SEDIMENT CONTROL PLAN.

**SURVEY NOTES:**

1. T.B.M. SURVEY CONTROL POINT - 79' RT. OF M.P. 90.98, ELEV. = 750.51' (NAVD88).



**PROFILE**  
SCALE: 1" = 50' HORIZONTAL  
1" = 50' VERTICAL

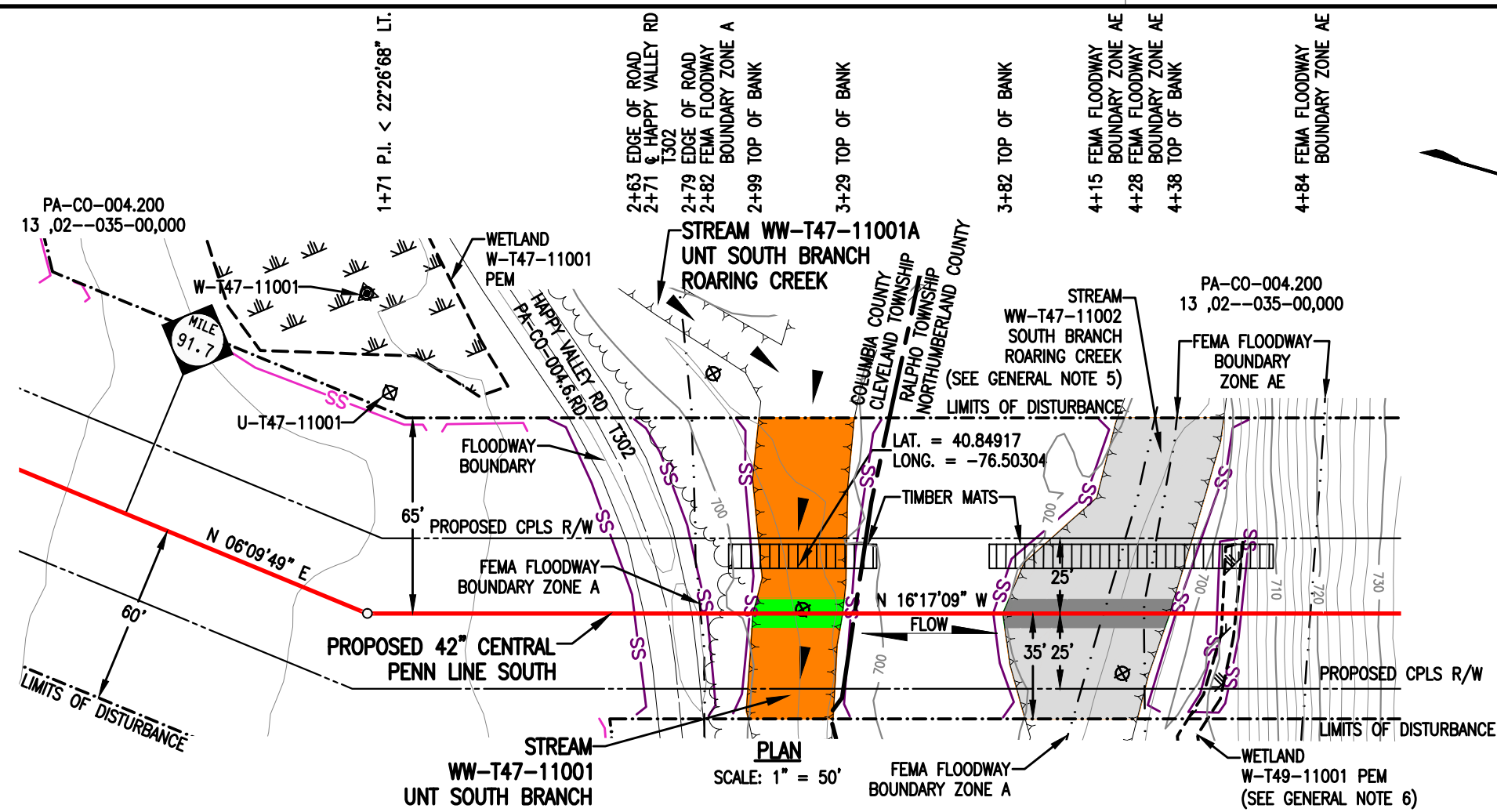


**LEGEND**

	PROPOSED 42" CENTRAL PENN LINE SOUTH		WETLAND FLAGS
	EXISTING PIPELINES		PHOTO DATA POINT
	EXISTING TGPL R/W		WETLAND DATA POINT
	LIMITS OF DISTURBANCE		UPLAND DATA POINT
	PROPOSED CPLS R/W		WELL POINT
	PROPERTY LINE		TRENCH PLUG
	FOREIGN PIPELINE		WATERBODY
	WETLAND AREA		TREE LINE
	STREAM FLOW		FLOODWAY BOUNDARY
	EXISTING POWER LINE		FEMA FLOODWAY BOUNDARY
	EXISTING FENCE		PERMANENT STREAM IMPACT
			TEMPORARY STREAM IMPACT

**WOOD GROUP MUSTANG, INC.**

DRAWING NO.	REFERENCE TITLE	TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC WATER OBSTRUCTION AND ENCROACHMENT PERMIT IMPACT MAPS ATLANTIC SUNRISE PROJECT PROPOSED 42" CENTRAL PENN LINE SOUTH STREAM CROSSING WW-T45-11001 @ M.P. 90.99 & WW-T51-11001 @ M.P. 91.01 CLEVELAND TOWNSHIP, COLUMBIA COUNTY, PENNSYLVANIA								
NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.	DRAWN BY: THL	DATE: 05/18/15	ISSUED FOR BID:	SCALE: 1" = 50'
0	08/20/15	THL	ISSUED FOR PADEP 105 PERMIT	1161503	CLR	MJH	CHECKED BY: JM	DATE: 06/05/15	ISSUED FOR CONSTRUCTION:	REVISION: 2
1	03/03/16	LN	ISSUED FOR INTERNAL USE	1161503	CLR	MJH	APPROVED BY: MJH	DATE: 06/08/15	DRAWING NUMBER: 24-1600-70-09-A/90.99-01	SHEET 1
2	10/25/16	AT	ISSUED FOR PADEP SUBMITTAL #2	1161503	CLR	MJH	IWO: 1161503	DATE: 10/5/2016	1161503	OF 1



**STREAM DISTURBANCE:**

STREAM WW-T47-11001 (HQ)	ACRE
TEMPORARY STREAM DISTURBANCE	0.0614
PERMANENT STREAM DISTURBANCE	0.0068
TOTAL STREAM DISTURBANCE	0.0682
TEMPORARY FLOODWAY DISTURBANCE	0.2658
PERMANENT FLOODWAY DISTURBANCE	0.0262
TOTAL FLOODWAY DISTURBANCE	0.2920

STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	29.75
STREAM LENGTH	100.52

STREAM WW-T47-11001A	ACRE
TEMPORARY STREAM DISTURBANCE	0.0000
PERMANENT STREAM DISTURBANCE	0.0000
TOTAL STREAM DISTURBANCE	0.0000
TEMPORARY FLOODWAY DISTURBANCE	0.0220
PERMANENT FLOODWAY DISTURBANCE	0.0000
TOTAL FLOODWAY DISTURBANCE	0.0220

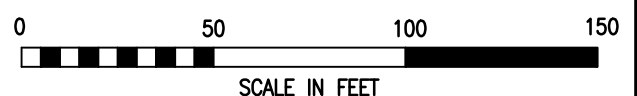
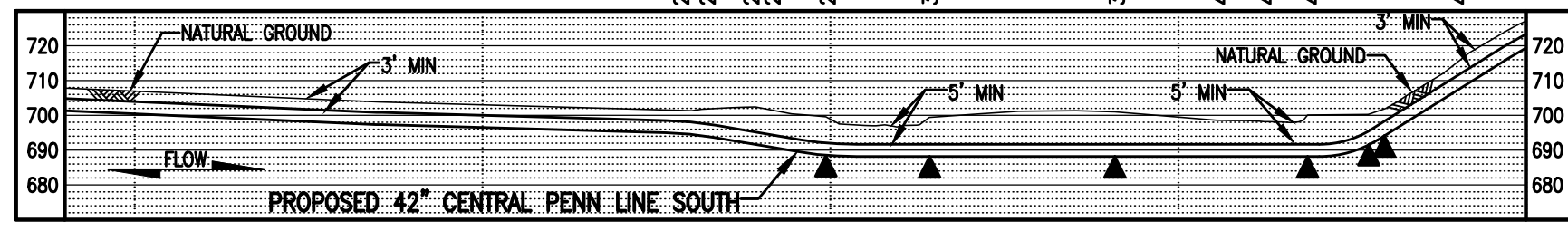
STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	0.00
STREAM LENGTH	0.00

**GENERAL NOTES:**

1. STREAM CROSSING METHOD FOR WW-T47-11001 SHALL BE DAM AND PUMP (DPX). EQUIPMENT TO CROSS STREAM UTILIZING A BRIDGE EQUIPMENT CROSSING (BEC).
2. STREAM WW-T47-11001A DOES NOT CROSS PROPOSED PIPELINE.
3. THIS SITE IS WITHIN THE 100 YEAR FLOOD PLAIN PER FEMA FLOOD MAP DATA.
4. STATION 2+00 SHOWN IS EQUAL TO STATION 4842+92 ON THE EROSION AND SEDIMENT CONTROL PLAN.
5. IMPACT FOR STREAM WW-T47-11002 IS SHOWN ON DRAWING 24-1600-70-09-A/91.74-01 IN NORTHUMBERLAND PACKAGE.
6. IMPACT FOR WETLAND W-T49-11001 IS SHOWN ON DRAWING 24-1600-70-20-A/91.77 IN NORTHUMBERLAND PACKAGE.

**SURVEY NOTES:**

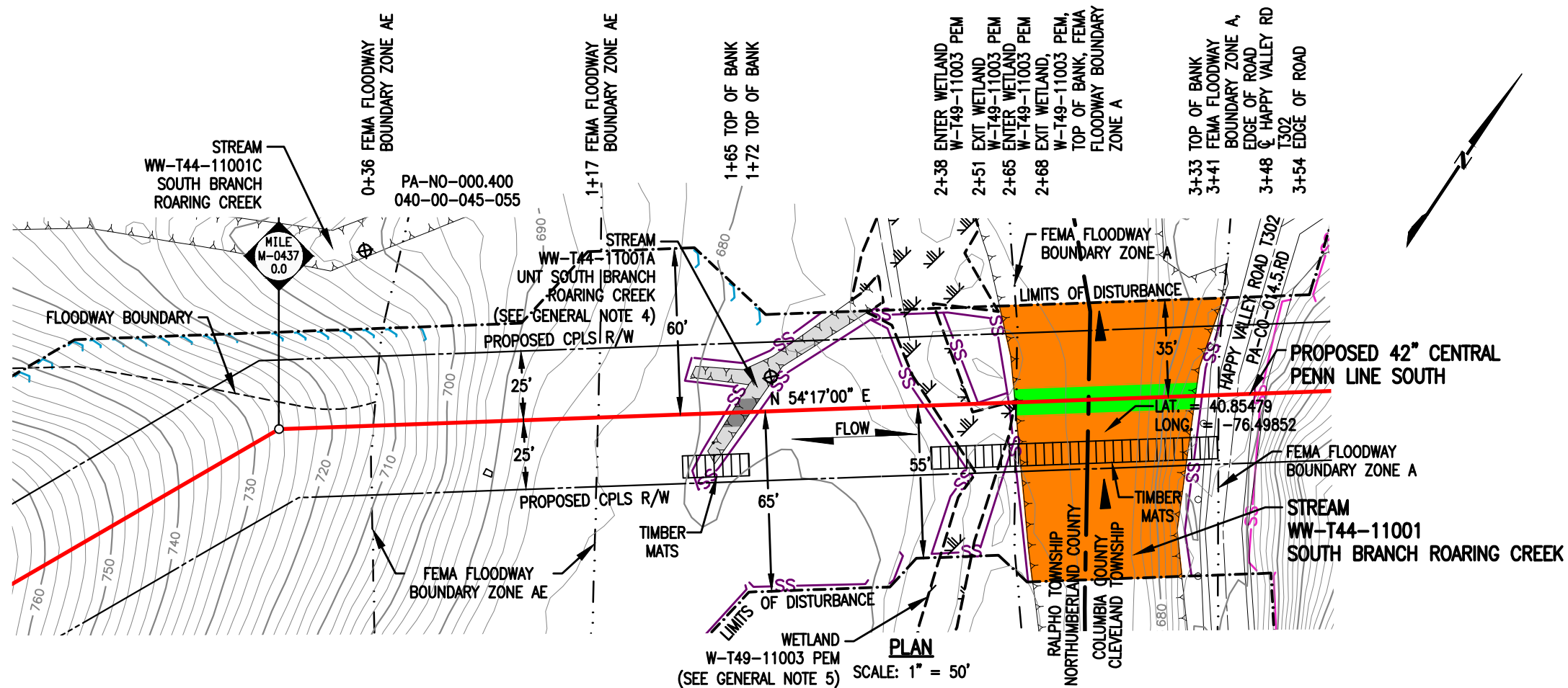
1. T.B.M. SURVEY CONTROL POINT - 21' LT. OF M.P. 91.77, ELEV. = 700.28' (NAVD88).



**LEGEND**

	PROPOSED 42" CENTRAL PENN LINE SOUTH		WETLAND FLAGS		<b>WOOD GROUP MUSTANG, INC.</b>
	EXISTING PIPELINES		PHOTO DATA POINT		12" SEDIMENT BARRIER
	EXISTING TGPL R/W		WETLAND DATA POINT		18" SEDIMENT BARRIER
	LIMITS OF DISTURBANCE		UPLAND DATA POINT		24" SEDIMENT BARRIER
	PROPOSED CPLS R/W		WELL POINT		32" SEDIMENT BARRIER
	PROPERTY LINE		TRENCH PLUG		TOP OF BANK
	FOREIGN PIPELINE		WATERBODY		PERMANENT STREAM IMPACT
	WETLAND AREA		TREE LINE		TEMPORARY STREAM IMPACT
	STREAM FLOW		FLOODWAY BOUNDARY		
	EXISTING POWER LINE		FEMA FLOODWAY BOUNDARY		
	EXISTING FENCE				

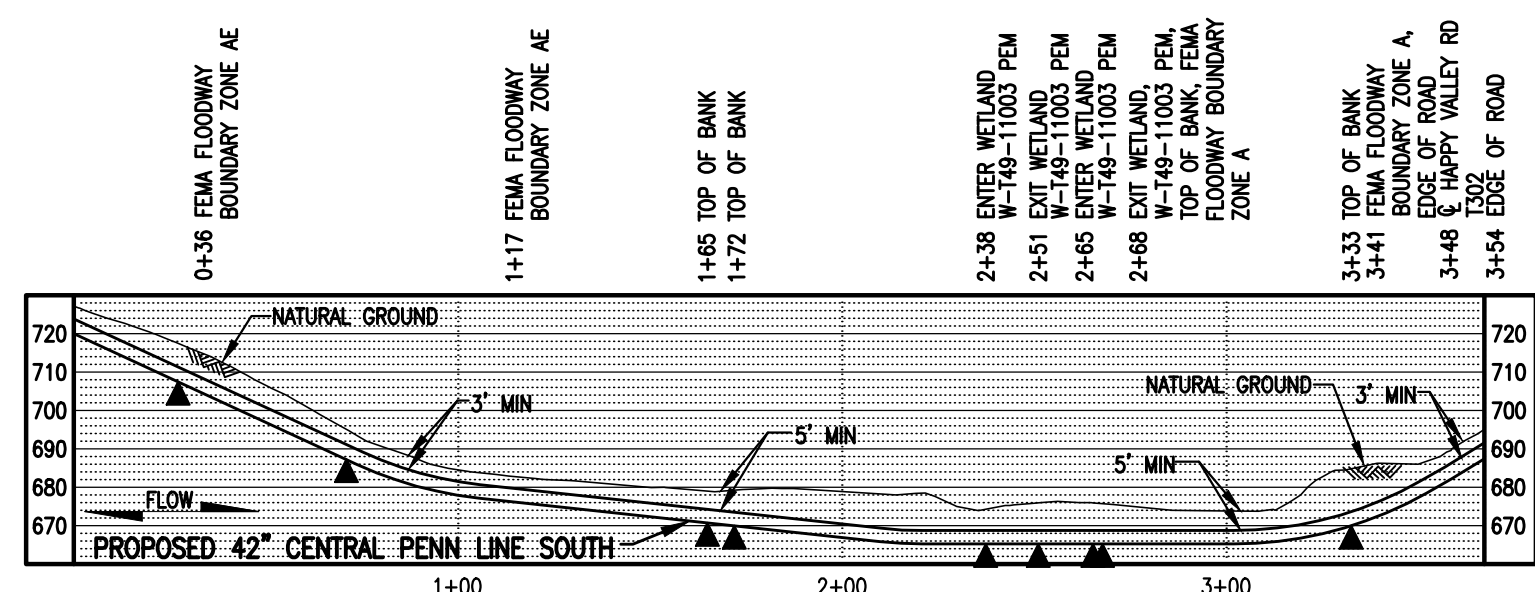
DRAWING NO.		REFERENCE TITLE		TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC WATER OBSTRUCTION AND ENCROACHMENT PERMIT IMPACT MAPS ATLANTIC SUNRISE PROJECT PROPOSED 42" CENTRAL PENN LINE SOUTH STREAM CROSSINGS WW-T47-11001A @ M.P. 91.73 & WW-T47-11001 @ M.P. 91.74 CLEVELAND TOWNSHIP, COLUMBIA COUNTY, PENNSYLVANIA	
NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK. APPR.
0	10/25/16	AT	ISSUED FOR PADEP SUBMITTAL #2	1161503	CLR MJH
DRAWN BY: <b>PJM</b>		DATE: <b>06/23/16</b>	ISSUED FOR BID:	SCALE: 1" = 50'	
CHECKED BY: <b>JM</b>		DATE: <b>06/23/16</b>	ISSUED FOR CONSTRUCTION:	REVISION: 0	
APPROVED BY: <b>MJH</b>		DATE: <b>06/23/16</b>	DRAWING NUMBER: <b>24-1600-70-09-A/91.73-01</b>	SHEET 1	
IWO: 1161503		9/30/2016 jlibeast		OF 1	



**STREAM DISTURBANCE:**

STREAM WW-T44-11001 (HQ)	ACRE
TEMPORARY STREAM DISTURBANCE	0.1294
PERMANENT STREAM DISTURBANCE	0.0150
<b>TOTAL STREAM DISTURBANCE</b>	<b>0.1444</b>
TEMPORARY FLOODWAY DISTURBANCE	0.5611
PERMANENT FLOODWAY DISTURBANCE	0.0492
<b>TOTAL FLOODWAY DISTURBANCE</b>	<b>0.6103</b>

STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	65.13
STREAM LENGTH	100.10



**GENERAL NOTES:**

1. STREAM CROSSING METHOD FOR WW-T44-11001 SHALL BE DAM AND PUMP (DPX). EQUIPMENT TO CROSS STREAM UTILIZING A BRIDGE EQUIPMENT CROSSING (BEC).
2. THIS SITE IS LOCATED WITHIN THE 100 YEAR FLOOD PLAIN PER FEMA FLOOD MAP DATA.
3. STATION 1+00 SHOWN IS EQUAL TO M-0437 STATION 0+98 ON THE EROSION AND SEDIMENT CONTROL PLAN.
4. IMPACT FOR STREAM WW-T44-11001A IS SHOWN ON DRAWING NUMBER 24-1600-70-09-A/M-0437-0.03-01 IN NORTHUMBERLAND PACKAGE.
5. IMPACT FOR WETLAND W-T49-11003 IS SHOWN ON DRAWING 24-1600-70-20-A/M-0437-0.05-01 IN NORTHUMBERLAND PACKAGE.

**SURVEY NOTES:**

1. T.B.M. SURVEY CONTROL POINT - 176' RT. OF M-0437 M.P. 0.00, ELEV. = 679.48' (NAVD88).



**LEGEND**

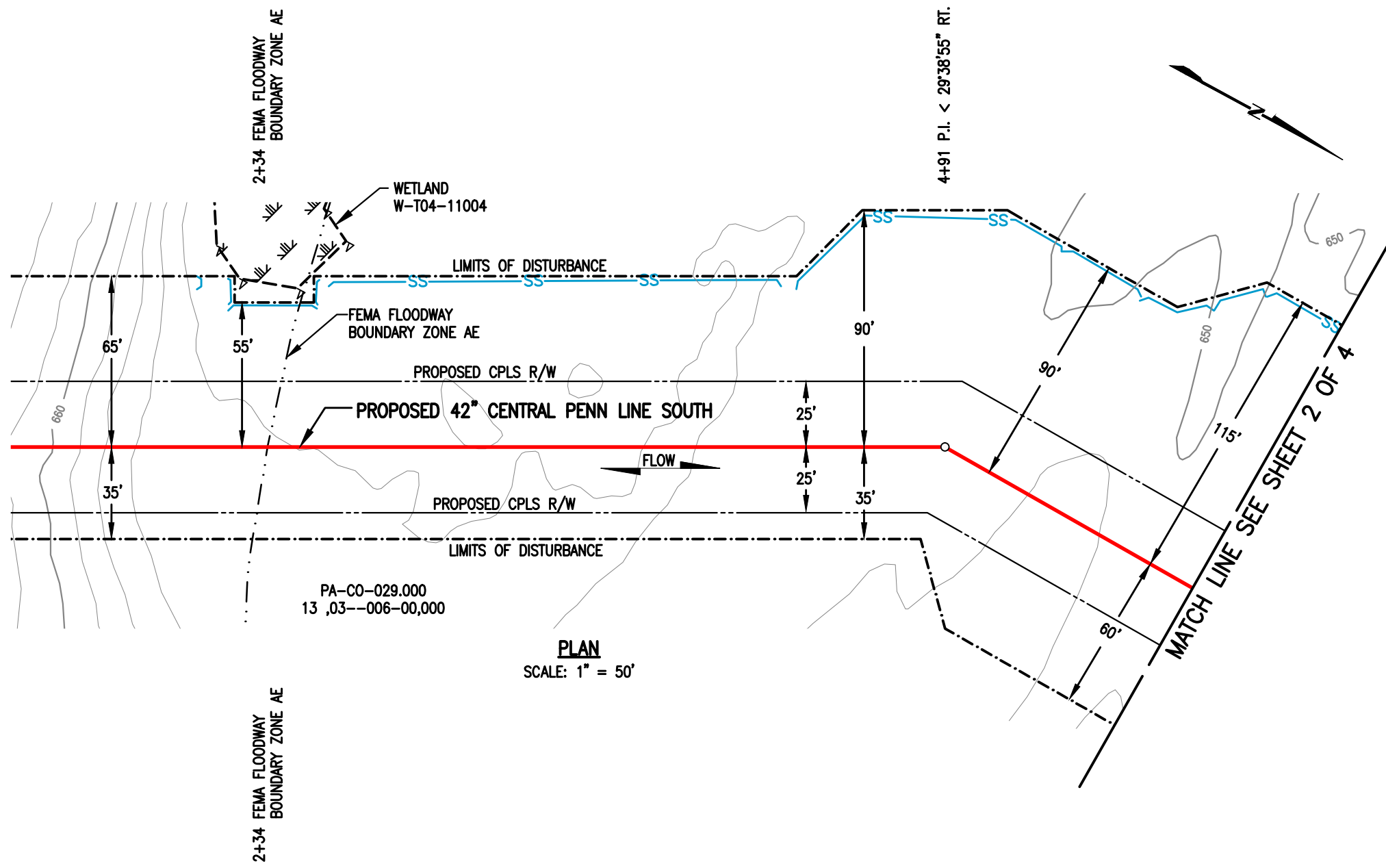
	PROPOSED 42" CENTRAL PENN LINE SOUTH		WETLAND FLAGS
	EXISTING PIPELINES		PHOTO DATA POINT
	EXISTING TGPL R/W		WETLAND DATA POINT
	LIMITS OF DISTURBANCE		UPLAND DATA POINT
	PROPOSED CPLS R/W		WELL POINT
	PROPERTY LINE		TRENCH PLUG
	FOREIGN PIPELINE		WATERBODY
	WETLAND AREA		TREE LINE
	STREAM FLOW		FLOODWAY BOUNDARY
	EXISTING POWER LINE		FEMA FLOODWAY BOUNDARY
	EXISTING FENCE		12" SEDIMENT BARRIER
			18" SEDIMENT BARRIER
			24" SEDIMENT BARRIER
			32" SEDIMENT BARRIER
			TOP OF BANK
			PERMANENT STREAM IMPACT
			TEMPORARY STREAM IMPACT

DRAWING NO.	REFERENCE TITLE
0	ISSUED FOR PADEP SUBMITTAL #2

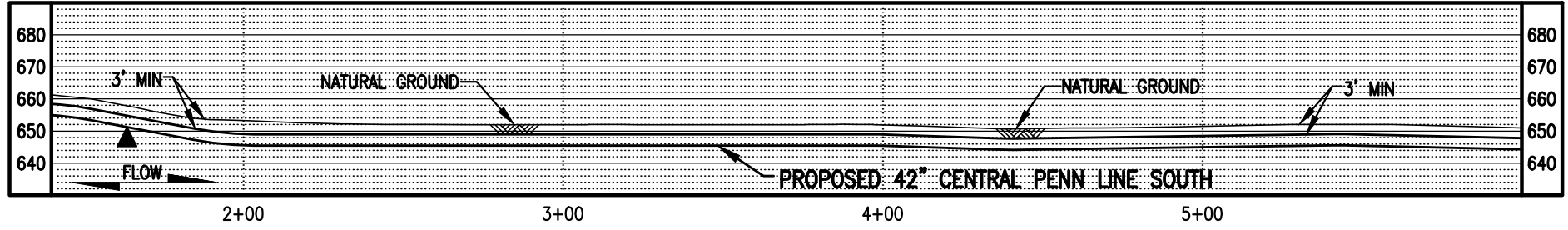
**TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC**  
**WATER OBSTRUCTION AND ENCROACHMENT PERMIT IMPACT MAPS**  
**ATLANTIC SUNRISE PROJECT**  
**PROPOSED 42" CENTRAL PENN LINE SOUTH**  
**STREAM CROSSING WW-T44-11001**  
**@ M-0437 M.P. 0.06**  
**CLEVELAND TOWNSHIP, COLUMBIA COUNTY, PENNSYLVANIA**

**Williams**

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.	DRAWN BY: THL	DATE: 01/28/16	ISSUED FOR BID:	SCALE: 1" = 50'
0	10/25/16	AT	ISSUED FOR PADEP SUBMITTAL #2	1161503	CLR	MJH	CHECKED BY: CLR	DATE: 01/30/16	ISSUED FOR CONSTRUCTION:	REVISION: 0
							APPROVED BY: MJH	DATE: 02/03/16	DRAWING NUMBER: 24-1600-70-09-A/M-0437-0.06-01	SHEET 1
							W.O. NO: 1161503			OF 1



**PLAN**  
SCALE: 1" = 50'



**PROFILE**  
SCALE: 1" = 50' HORIZONTAL  
1" = 50' VERTICAL

**STREAM DISTURBANCE:**

STREAM WW-T04-11001 (HQ)	ACRE
TEMPORARY STREAM DISTURBANCE	0.0455
PERMANENT STREAM DISTURBANCE	0.0065
TOTAL STREAM DISTURBANCE	0.0520
TEMPORARY FLOODWAY DISTURBANCE	2.2043
PERMANENT FLOODWAY DISTURBANCE	0.1666
TOTAL FLOODWAY DISTURBANCE	2.3709

STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	28.07
STREAM LENGTH	95.65

STREAM WW-T04-11001A (HQ)	ACRE
TEMPORARY STREAM DISTURBANCE	0.0070
PERMANENT STREAM DISTURBANCE	0.0030
TOTAL STREAM DISTURBANCE	0.0100
TEMPORARY FLOODWAY DISTURBANCE	0.0000
PERMANENT FLOODWAY DISTURBANCE	0.0000
TOTAL FLOODWAY DISTURBANCE	0.0000

STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	13.94
STREAM LENGTH	44.79

**GENERAL NOTES:**

1. STREAM CROSSING METHOD FOR WW-T04-11001 & WW-T04-11001A SHALL BE DAM AND PUMP (DPX). EQUIPMENT TO CROSS STREAM UTILIZING A BRIDGE EQUIPMENT CROSSING (BEC).
2. THIS SITE IS LOCATED WITHIN THE 100 YEAR FLOOD PLAIN PER FEMA MAP DATA.
3. STATION 2+00 SHOWN IS EQUAL TO STATION 4979+84 ON THE EROSION AND SEDIMENT CONTROL PLAN.

**SURVEY NOTES:**

1. T.B.M. SURVEY CONTROL POINT - 27' RT. OF M.P. 94.42, ELEV. = 650.74' (NAVD88).

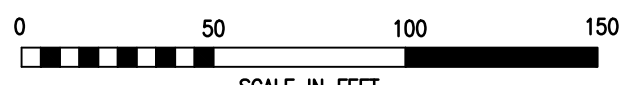
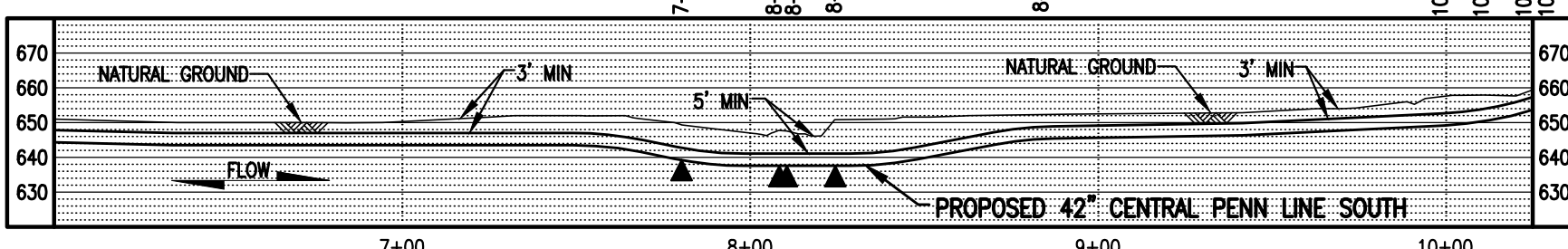
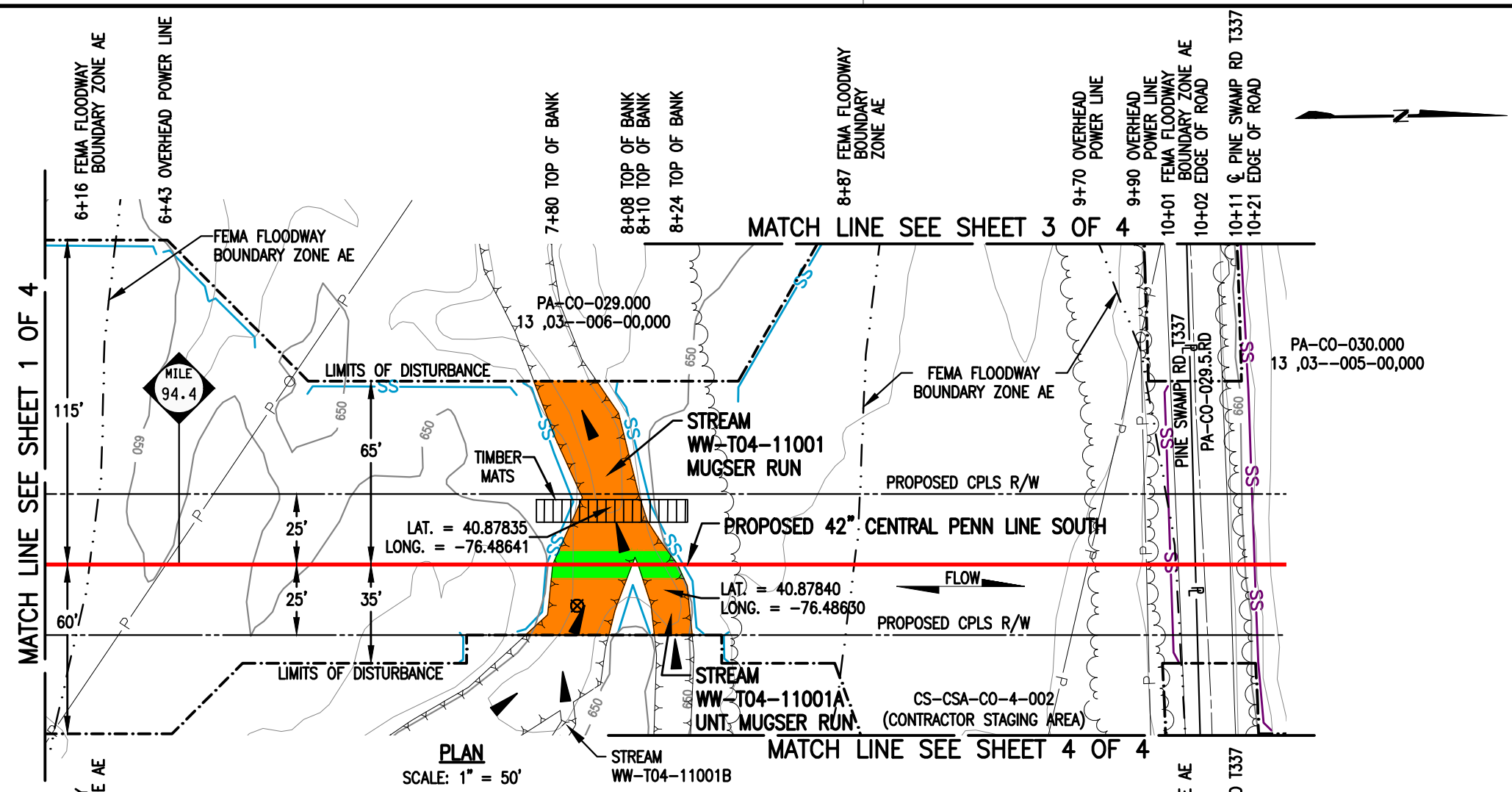


**LEGEND**

	PROPOSED 42" CENTRAL PENN LINE SOUTH		WETLAND FLAGS		<b>WOOD GROUP MUSTANG, INC.</b>
	EXISTING PIPELINES		PHOTO DATA POINT		12" SEDIMENT BARRIER
	EXISTING TGPL R/W		WETLAND DATA POINT		18" SEDIMENT BARRIER
	LIMITS OF DISTURBANCE		UPLAND DATA POINT		24" SEDIMENT BARRIER
	PROPOSED CPLS R/W		WELL POINT		32" SEDIMENT BARRIER
	PROPERTY LINE		TRENCH PLUG		TOP OF BANK
	FOREIGN PIPELINE		WATERBODY		PERMANENT STREAM IMPACT
	WETLAND AREA		TREE LINE		TEMPORARY STREAM IMPACT
	STREAM FLOW		FLOODWAY BOUNDARY		
	EXISTING POWER LINE		FEMA FLOODWAY BOUNDARY		
	EXISTING FENCE				

DRAWING NO.		REFERENCE TITLE		<b>TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC</b> <b>WATER OBSTRUCTION AND ENCROACHMENT PERMIT IMPACT MAPS</b> <b>ATLANTIC SUNRISE PROJECT</b> <b>PROPOSED 42" CENTRAL PENN LINE SOUTH</b> <b>STREAM CROSSINGS WW-T04-11001, WW-T04-11001A</b> <b>© M.P. 94.43</b> <b>CLEVELAND TOWNSHIP, COLUMBIA COUNTY, PENNSYLVANIA</b>						
NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.	DRAWN BY: MH	DATE: 05/18/15	ISSUED FOR BID:	SCALE: 1" = 50'
0	10/25/16	AT	ISSUED FOR PADEP SUBMITTAL #2	1161503	CLR	MJH	CHECKED BY: CLR	DATE: 05/20/15	ISSUED FOR CONSTRUCTION:	REVISION: 0
							APPROVED BY: MJH	DATE: 08/04/15	DRAWING NUMBER: 24-1600-70-09-A/94.43-01	SHEET 1
							IWO: 1161503		9/30/2016 jlibeast	OF 4

STREAM DISTURBANCE:  
SEE TABLE ON SHEET 1 OF 4



LEGEND		WOOD GROUP MUSTANG, INC.	
	PROPOSED 42" CENTRAL PENN LINE SOUTH		WETLAND FLAGS
	EXISTING PIPELINES		PHOTO DATA POINT
	EXISTING TGPL R/W		WETLAND DATA POINT
	LIMITS OF DISTURBANCE		UPLAND DATA POINT
	PROPOSED CPLS R/W		WELL POINT
	PROPERTY LINE		TRENCH PLUG
	FOREIGN PIPELINE		WATERBODY
	WETLAND AREA		TREE LINE
	STREAM FLOW		FLOODWAY BOUNDARY
	EXISTING POWER LINE		FEMA FLOODWAY BOUNDARY
	EXISTING FENCE		PERMANENT STREAM IMPACT
			TEMPORARY STREAM IMPACT
			12" SEDIMENT BARRIER
			18" SEDIMENT BARRIER
			24" SEDIMENT BARRIER
			32" SEDIMENT BARRIER
			TOP OF BANK

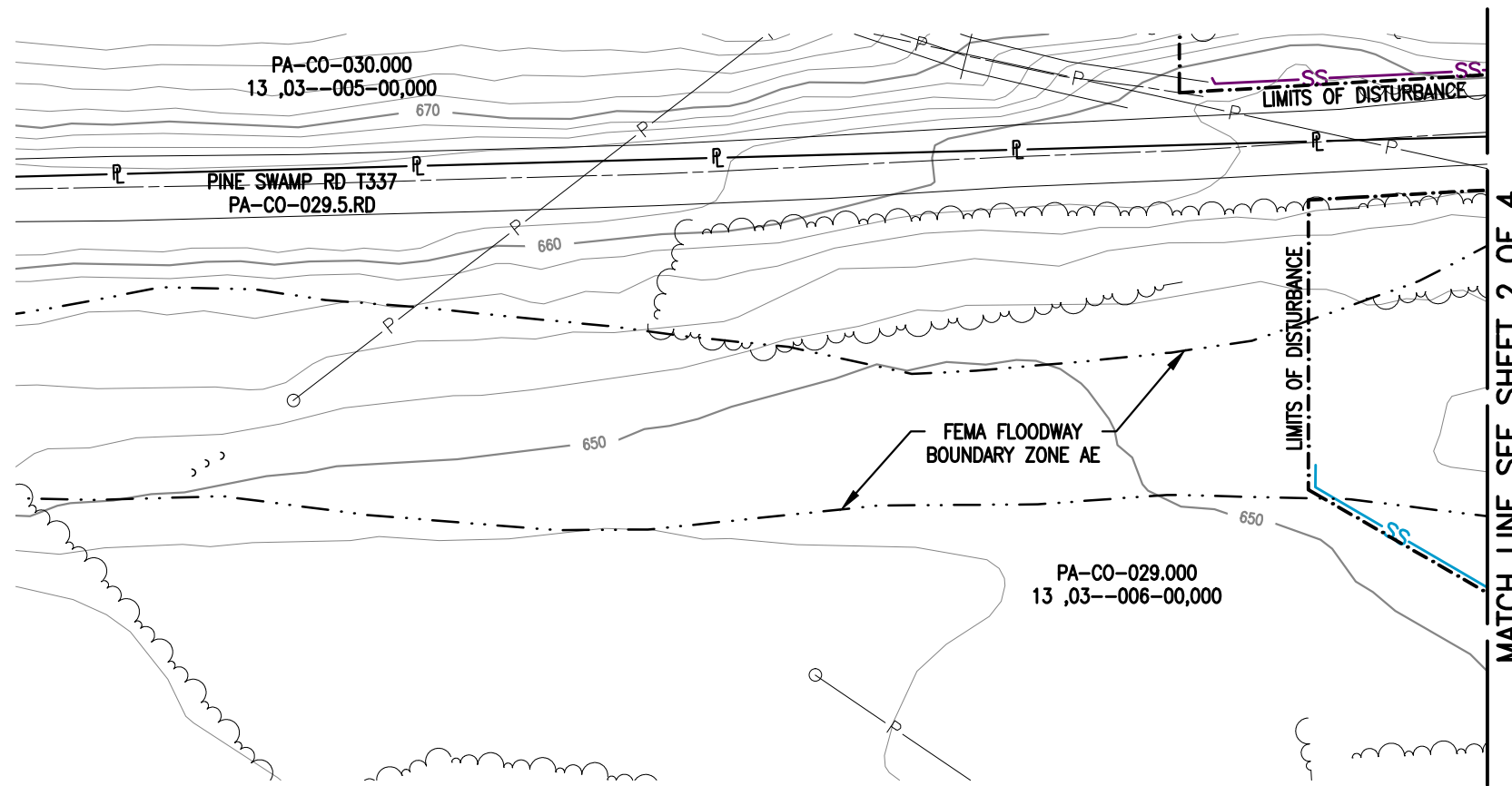
DRAWING NO.	REFERENCE TITLE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.
0	08/20/15	LL	ISSUED FOR PADEP 105 PERMIT	1161503	CLR	MJH
1	02/03/16	LN	ISSUED FOR INTERNAL USE	1161503	CLR	MJH
2	10/25/16	AT	ISSUED FOR PADEP SUBMITTAL #2	1161503	CLR	MJH

**TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC**  
**WATER OBSTRUCTION AND ENCROACHMENT PERMIT IMPACT MAPS**  
**ATLANTIC SUNRISE PROJECT**  
**PROPOSED 42" CENTRAL PENN LINE SOUTH**  
**STREAM CROSSINGS WW-T04-11001, WW-T04-11001A**  
**© M.P. 94.43**  
**CLEVELAND TOWNSHIP, COLUMBIA COUNTY, PENNSYLVANIA**

DRAWN BY: MH	DATE: 05/18/15	ISSUED FOR BID:	SCALE: 1" = 50'
CHECKED BY: CLR	DATE: 05/20/15	ISSUED FOR CONSTRUCTION:	REVISION: 2
APPROVED BY: MJH	DATE: 08/04/15	DRAWING NUMBER: <b>24-1600-70-09-A/94.43-01</b>	SHEET 2
W.O. NO.: 1161503		10/5/2016 jlibeast	OF 4

STREAM DISTURBANCE:  
SEE TABLE ON SHEET 1 OF 4



MATCH LINE SEE SHEET 2 OF 4



**LEGEND**

	PROPOSED 42" CENTRAL PENN LINE SOUTH		WETLAND FLAGS
	EXISTING PIPELINES		PHOTO DATA POINT
	EXISTING TGPL R/W		WETLAND DATA POINT
	LIMITS OF DISTURBANCE		UPLAND DATA POINT
	PROPOSED CPLS R/W		WELL POINT
	PROPERTY LINE		TRENCH PLUG
	FOREIGN PIPELINE		WATERBODY
	WETLAND AREA		TREE LINE
	STREAM FLOW		FLOODWAY BOUNDARY
	EXISTING POWER LINE		FEMA FLOODWAY BOUNDARY
	EXISTING FENCE		PERMANENT STREAM IMPACT
			TEMPORARY STREAM IMPACT



DRAWING NO.		REFERENCE TITLE	
NO.	DATE	BY	REVISION DESCRIPTION
0	08/20/15	LL	ISSUED FOR PADEP 105 PERMIT
1	10/25/16	AT	ISSUED FOR PADEP SUBMITTAL #2

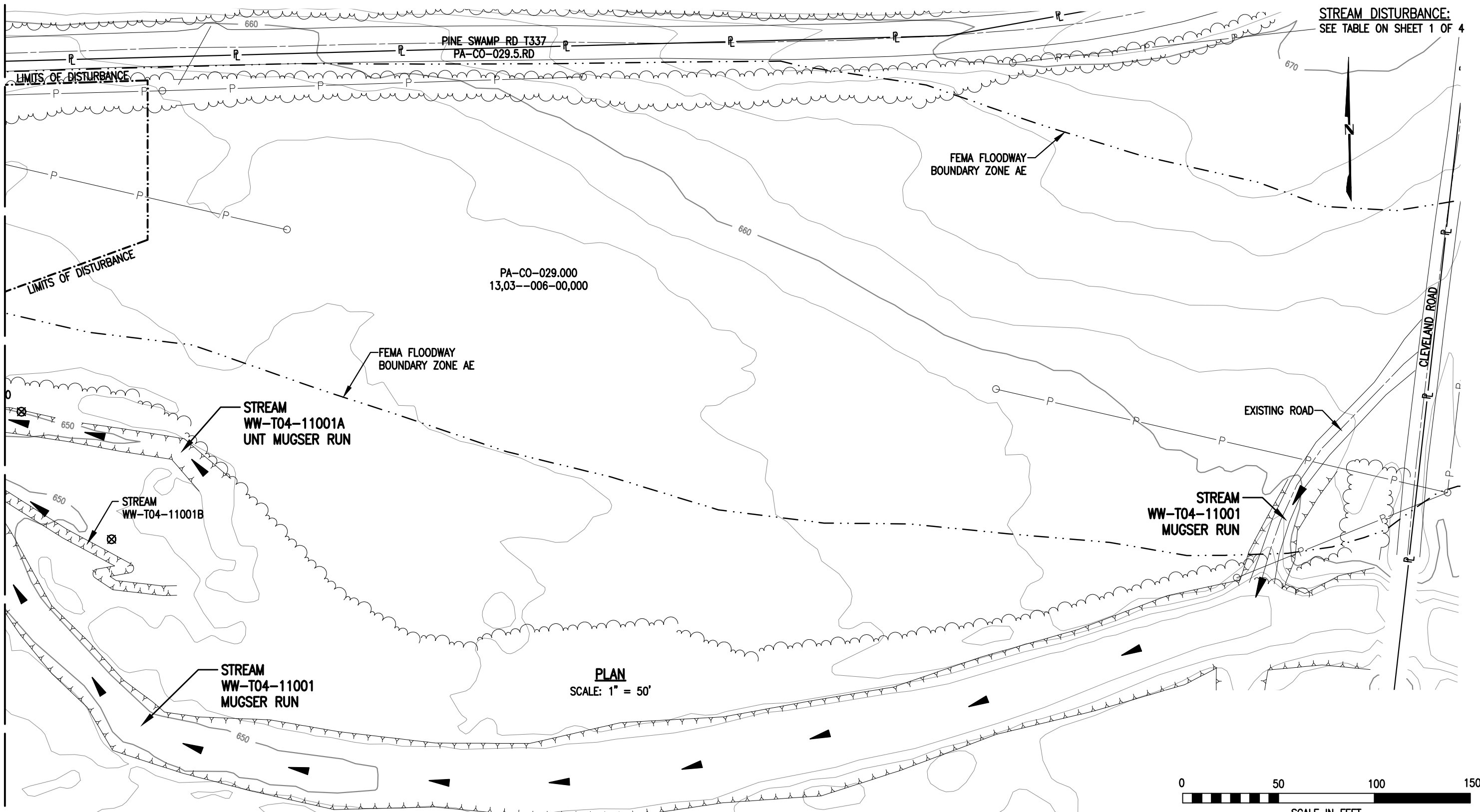
**TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC**  
**WATER OBSTRUCTION AND ENCROACHMENT PERMIT IMPACT MAPS**  
**ATLANTIC SUNRISE PROJECT**  
**PROPOSED 42" CENTRAL PENN LINE SOUTH**  
**STREAM CROSSINGS WW-T04-11001, WW-T04-11001A**  
**M.P. 94.43**  
**CLEVELAND TOWNSHIP, COLUMBIA COUNTY, PENNSYLVANIA**

**Williams**

DRAWN BY: MH	DATE: 05/18/15	ISSUED FOR BID:	SCALE: 1" = 50'
CHECKED BY: CLR	DATE: 05/20/15	ISSUED FOR CONSTRUCTION:	REVISION: 1
APPROVED BY: MJH	DATE: 08/04/15	DRAWING NUMBER: 24-1600-70-09-A/94.43-01	SHEET 3
IWO: 1161503		10/5/2016 jlibeasl	OF 4

STREAM DISTURBANCE:  
SEE TABLE ON SHEET 1 OF 4

MATCH LINE SEE SHEET 2 OF 4



**PLAN**  
SCALE: 1" = 50'

**LEGEND**

- |  |                                      |  |                        |  |                                 |
|--|--------------------------------------|--|------------------------|--|---------------------------------|
|  | PROPOSED 42" CENTRAL PENN LINE SOUTH |  | WETLAND FLAGS          |  | <b>WOOD GROUP MUSTANG, INC.</b> |
|  | EXISTING PIPELINES                   |  | PHOTO DATA POINT       |  | 12" SEDIMENT BARRIER            |
|  | EXISTING TGPL R/W                    |  | WETLAND DATA POINT     |  | 18" SEDIMENT BARRIER            |
|  | LIMITS OF DISTURBANCE                |  | UPLAND DATA POINT      |  | 24" SEDIMENT BARRIER            |
|  | PROPOSED CPLS R/W                    |  | WELL POINT             |  | 32" SEDIMENT BARRIER            |
|  | PROPERTY LINE                        |  | TRENCH PLUG            |  | PERMANENT STREAM IMPACT         |
|  | FOREIGN PIPELINE                     |  | WATERBODY              |  | TEMPORARY STREAM IMPACT         |
|  | WETLAND AREA                         |  | TREE LINE              |  |                                 |
|  | STREAM FLOW                          |  | FLOODWAY BOUNDARY      |  |                                 |
|  | EXISTING POWER LINE                  |  | FEMA FLOODWAY BOUNDARY |  |                                 |
|  | EXISTING FENCE                       |  |                        |  |                                 |

DRAWING NO.		REFERENCE TITLE				
NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.
0	08/20/15	LL	ISSUED FOR PADEP 105 PERMIT	1161503	CLR	MJH
1	10/25/16	AT	ISSUED FOR PADEP SUBMITTAL #2	1161503	CLR	MJH

**TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC**  
**WATER OBSTRUCTION AND ENCROACHMENT PERMIT IMPACT MAPS**  
**ATLANTIC SUNRISE PROJECT**  
**PROPOSED 42" CENTRAL PENN LINE SOUTH**  
**STREAM CROSSINGS WW-T04-11001, WW-T04-11001A**  
**© M.P. 94.43**  
**CLEVELAND TOWNSHIP, COLUMBIA COUNTY, PENNSYLVANIA**

DRAWN BY: MH	DATE: 05/18/15	ISSUED FOR BID:	SCALE: 1" = 50'
CHECKED BY: CLR	DATE: 05/20/15	ISSUED FOR CONSTRUCTION:	REVISION: 1
APPROVED BY: MJH	DATE: 08/04/15	DRAWING NUMBER: <b>24-1600-70-09-A/94.43-01</b>	SHEET 4
WO: 1161503		10/5/2016 jlibeasl	OF 4



October 27, 2016

Franklin Township  
Floodplain Administrator  
313 Mt. Zion Road  
Catawissa, PA 17820

Re: Atlantic Sunrise Project  
Central Penn Line South  
Franklin Township, Luzerne County  
Floodplain Management Analysis

Dear Sir or Madam:

Transcontinental Gas Pipeline Company, LLC (Transco) proposes to construct and operate the Atlantic Sunrise Project (Project) to provide 1.7 million dekatherms per day of incremental firm transportation of natural gas from the Marcellus Shale production areas in northern Pennsylvania (PA) to its existing market areas, extending to as far south as the Station 85 Pooling Point in Choctaw County, Alabama. The Project includes modifications to the existing Transco Mainline System to reverse the direction of flow, enabling new north-to-south capabilities (bi-directional flow) to transport this new source of natural gas to existing markets. The Project consists of the following primary components within PA:

- Installing greenfield pipeline facilities of approximately 57.3 miles of new 30-inch-diameter pipe from Susquehanna County, PA to Columbia County, PA.
- Installing greenfield pipeline facilities of approximately 125.2 miles of 42-inch-diameter pipe from Columbia County, PA to Lancaster County, PA.;
- Installing two pipeline loops (pipeline laid parallel to existing facilities):
  - 8.56 miles of 42-inch pipeline loop located in Lycoming County, PA known as the Unity Loop;
  - 2.92 miles of 36-inch pipeline in Clinton County, PA, known as the Chapman Loop;
- Constructing two new compressor stations, one in Wyoming County and one in Columbia County, PA;
- Additional ancillary facilities, such as mainline valves, cathodic protection, communication facilities, and internal inspection device (e.g., pig) launchers and receivers;
- Two new meter stations and three new regulator stations with interconnecting piping;
- Additional compression and related modifications to one existing compressor station; and,
- Modification to an existing meter station for use of shared facilities with a new meter station.

Transco's consultants, BL Companies and TRC Solutions (TRC), have completed an analysis of potential impacts on FEMA delineated floodways from the Project in accordance with 25 Pa. Code § 105.13. The analysis for Franklin Township is provided below for your review and comment.

Franklin Township  
October 27, 2016  
BL Project No. 14C4909  
Page 1 of 3

**ATLANTIC SUNRISE PROJECT  
FEMA FLOODPLAIN CROSSINGS  
FRANKLIN TOWNSHIP, COLUMBIA COUNTY, PENNSYLVANIA**

Description of Impact	Structure Type and Dimensions	Resource ID	Resource Name	Chapter 93 Classification, Wetland Classification (EV or Other), or Floodway Type	Floodway Fill (cu. yds.)	Impact area (acres)		Latitude	Longitude
						Temporary	Permanent		
Utility Pipeline Crossing	Equipment Access and E&S Controls	WW-T35-11001	Floodway to Roaring Creek	FEMA Detailed <sup>1</sup>	N/A	1.4601	0.1372 <sup>2</sup>	40.89862	-76.48735
Temporary Water Withdrawal	Equipment Access and E&S Controls	WW-RS-99108	Floodway to Susquehanna Riverk	FEMA Detailed	N/A	0.2046	0.00	40.95352	-76.46625

Notes:  
<sup>1</sup> Multiple streams are included in these calculations as the floodways overlap.  
<sup>2</sup> Permanent impacts associated with utility pipeline crossings are based on the permanent pipe footprint within the floodplain (pipe trench width x pipe crossing length). No permanent alternation to the floodway contours and elevation is associated with these permanent impacts.

The floodway crossing listed above is depicted on the enclosed plans from the Project's PADEP Chapter 105 Permit Application.

Please note that construction activities are not expected to create permanent loss of flood storage capacity or hydraulic capacity, as all pre-construction surface elevations will be re-established during restoration. The temporary and permanent impacts noted above are associated with vegetation management and underground pipe installation only, and do not represent a permanent modification of ground elevation or loss of flood storage capacity or hydraulic capacity. No structures are proposed within the FEMA 100-year floodplain, no fill will be placed in the floodways, and no increase in 100-year flood elevation is anticipated as a result of the proposed Project.

On behalf of Transco, BL and TRC respectfully request that Franklin Township review this analysis and, if applicable, provide comments to:

Steve Crescenzo  
 TRC Environmental Corporation  
 2200 Liberty Avenue, Suite 100  
 Pittsburgh, PA 15222

**Please do not send comments directly to the PADEP**, as we must include them with our permit application. Should you have any questions or concerns regarding this notification, please contact Al Busher at (717)-651-9850 or via email at [abusher@blcompanies.com](mailto:abusher@blcompanies.com).

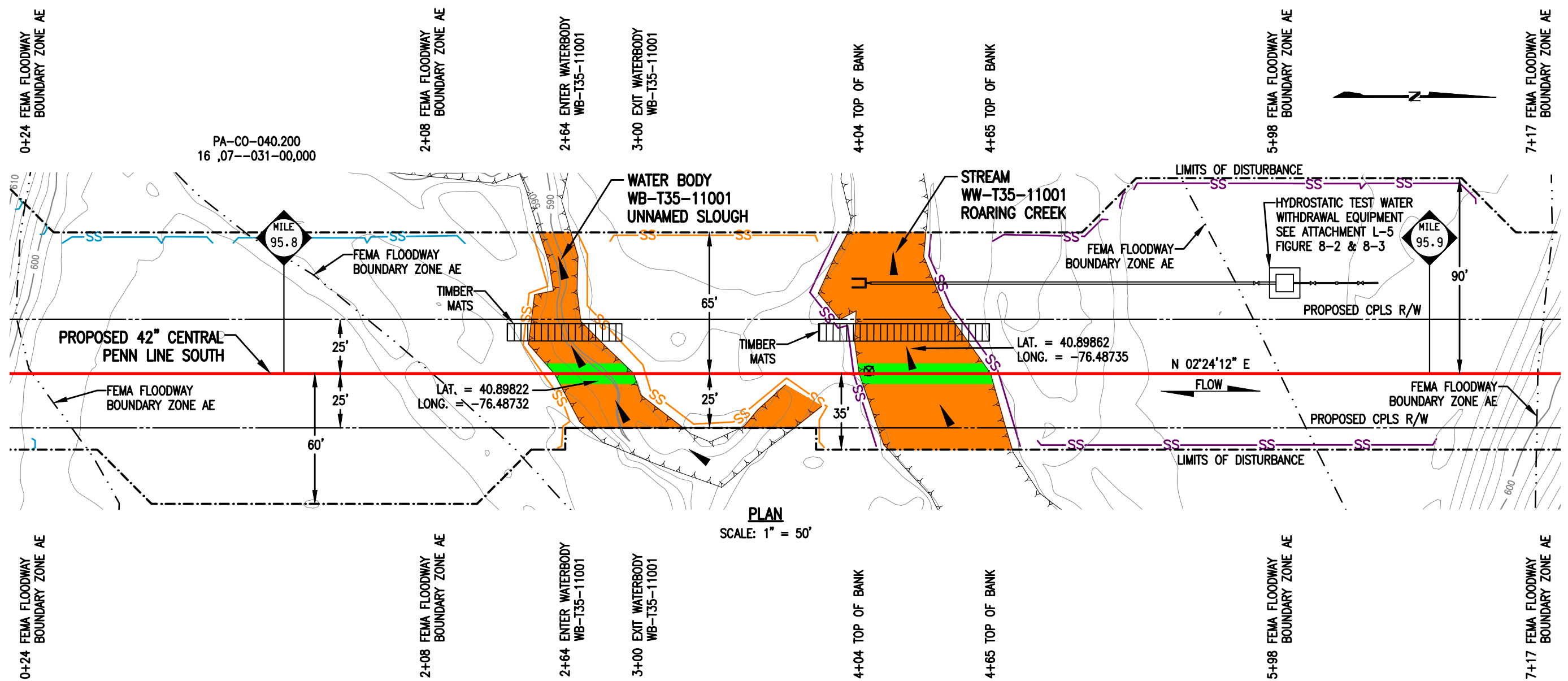
Sincerely,



Alaric J. Busher, PE  
 Senior Engineer

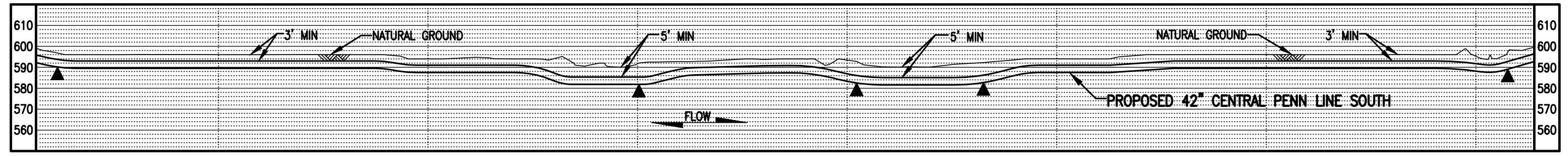
Franklin Township  
 October 27, 2016  
 BL Project No. 14C4909  
 Page 2 of 3

Enclosures: Water Obstruction and Encroachment Permit Impact Maps



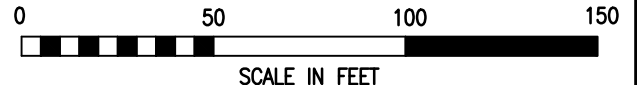
**PLAN**

SCALE: 1" = 50'



**PROFILE**

SCALE: 1" = 50' HORIZONTAL  
1" = 50' VERTICAL



**LEGEND**

	PROPOSED 42" CENTRAL PENN LINE SOUTH		WETLAND FLAGS
	EXISTING PIPELINES		PHOTO DATA POINT
	EXISTING TGPL R/W		WETLAND DATA POINT
	LIMITS OF DISTURBANCE		UPLAND DATA POINT
	PROPOSED CPLS R/W		WELL POINT
	PROPERTY LINE		TRENCH PLUG
	FOREIGN PIPELINE		WATERBODY
	WETLAND AREA		TREE LINE
	STREAM FLOW		FLOODWAY BOUNDARY
	EXISTING POWER LINE		FEMA FLOODWAY BOUNDARY
	EXISTING FENCE		12" SEDIMENT BARRIER
			18" SEDIMENT BARRIER
			24" SEDIMENT BARRIER
			32" SEDIMENT BARRIER
			TOP OF BANK
			PERMANENT STREAM IMPACT
			TEMPORARY STREAM IMPACT



DRAWING NO.		REFERENCE TITLE				
NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.
0	08/20/15	AKB	ISSUED FOR PADEP 105 PERMIT	1161503	CLR	MJH
1	10/25/16	AT	ISSUED FOR PADEP SUBMITTAL #2	1161503	CLR	MJH

**TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC**  
**WATER OBSTRUCTION AND ENCROACHMENT PERMIT IMPACT MAPS**  
**ATLANTIC SUNRISE PROJECT**  
**PROPOSED 42" CENTRAL PENN LINE SOUTH**  
**STREAM CROSSINGS WB-T35-11001 @ M.P. 95.83**  
**WW-T35-11001 @ M.P. 95.85**  
**FRANKLIN TOWNSHIP, COLUMBIA COUNTY, PENNSYLVANIA**

DRAWN BY: LL	DATE: 05/18/15	ISSUED FOR BID:	SCALE: 1" = 50'
CHECKED BY: ML	DATE: 06/05/15	ISSUED FOR CONSTRUCTION:	REVISION: 1
APPROVED BY: MJH	DATE: 06/08/15	DRAWING NUMBER: 24-1600-70-09-A/95.85-01	SHEET 1
WO: 1161503			OF 2

STREAM DISTURBANCE:

POND WB-T35-11001	ACRE
TEMPORARY POND DISTURBANCE	0.0554
PERMANENT POND DISTURBANCE	0.0083
<b>TOTAL POND DISTURBANCE</b>	<b>0.0637</b>
TEMPORARY FLOODWAY DISTURBANCE	0.0000
PERMANENT FLOODWAY DISTURBANCE	0.0000
<b>TOTAL FLOODWAY DISTURBANCE</b>	<b>0.0000</b>

POND DIMENSION	FT.
POND WIDTH (TOB TO TOB)	36.56
POND LENGTH	195.14

STREAM WW-T35-11001	ACRE
TEMPORARY STREAM DISTURBANCE	0.1072
PERMANENT STREAM DISTURBANCE	0.0137
<b>TOTAL STREAM DISTURBANCE</b>	<b>0.1209</b>
TEMPORARY FLOODWAY DISTURBANCE	1.4504
PERMANENT FLOODWAY DISTURBANCE	0.1372
<b>TOTAL FLOODWAY DISTURBANCE</b>	<b>1.5876</b>

STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	60.50
STREAM LENGTH	107.41

GENERAL NOTES:

- CROSSING METHOD FOR POND WB-T35-11001 SHALL BE DAM AND PUMP (DPX) AND FOR STREAM WW-T35-11001 SHALL BE DAM AND PUMP (DPX). EQUIPMENT TO CROSS STREAM UTILIZING A BRIDGE EQUIPMENT CROSSING (BEC).
- THIS SITE IS LOCATED WITHIN THE 100 YEAR FLOOD PLAIN PER FEMA FLOOD MAP DATA.
- STATION 2+00 SHOWN IS EQUAL TO STATION 5058+85 ON THE EROSION AND SEDIMENT CONTROL PLAN.

SURVEY NOTES:

- T.B.M. SURVEY CONTROL POINT - 19' RT. OF M.P. 95.83, ELEV. = 593.61' (NAVD88).



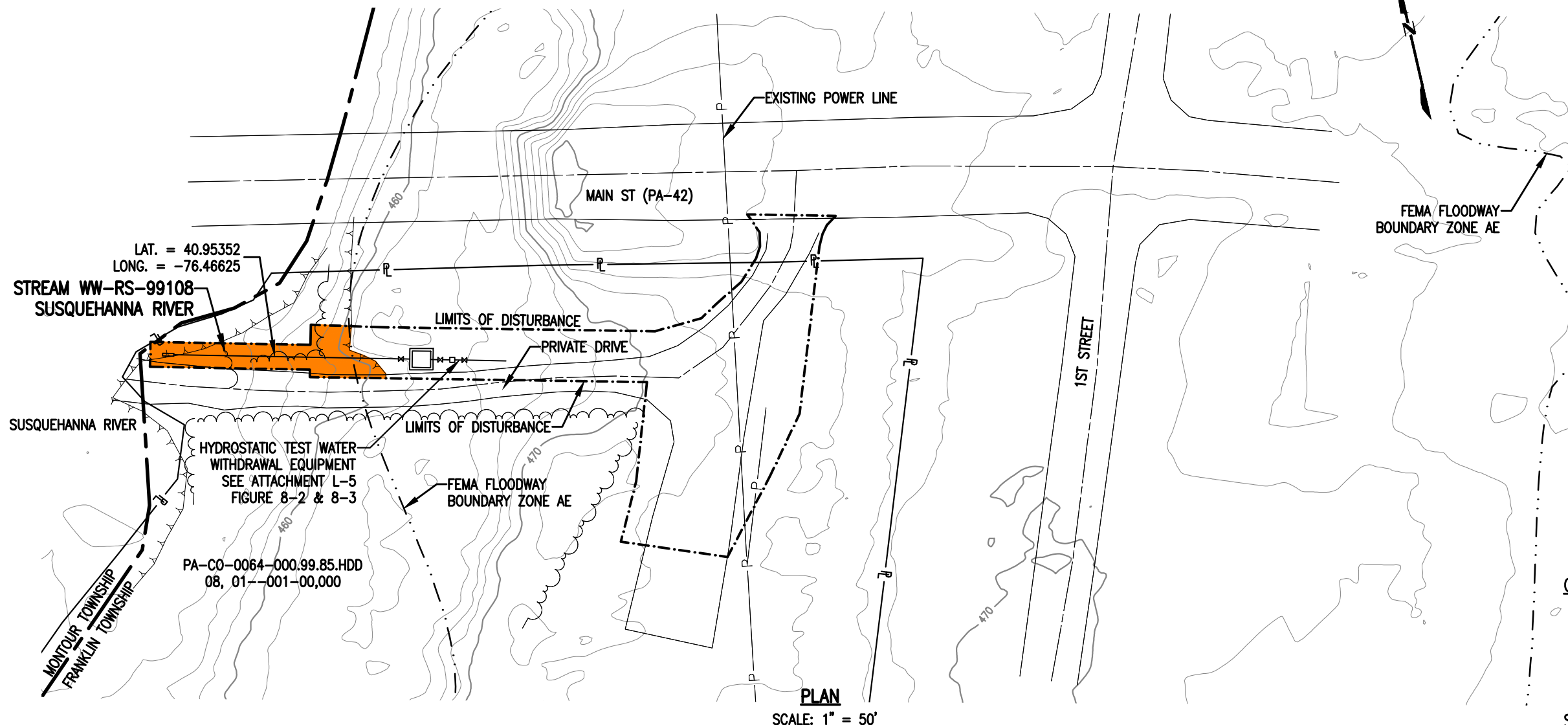
LEGEND

	PROPOSED 42" CENTRAL PENN LINE SOUTH		WETLAND FLAGS		<b>WOOD GROUP MUSTANG, INC.</b>
	EXISTING PIPELINES		PHOTO DATA POINT		
	EXISTING TGPL R/W		WETLAND DATA POINT		
	LIMITS OF DISTURBANCE		UPLAND DATA POINT		
	PROPOSED CPLS R/W		WELL POINT		
	PROPERTY LINE		TRENCH PLUG		
	FOREIGN PIPELINE		WATERBODY		
	WETLAND AREA		TREE LINE		
	STREAM FLOW		FLOODWAY BOUNDARY		
	EXISTING POWER LINE		FEMA FLOODWAY BOUNDARY		
	EXISTING FENCE		PERMANENT STREAM IMPACT		TEMPORARY STREAM IMPACT

DRAWING NO.		REFERENCE TITLE								
		<b>TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC</b> <b>WATER OBSTRUCTION AND ENCROACHMENT PERMIT IMPACT MAPS</b> <b>ATLANTIC SUNRISE PROJECT</b> <b>PROPOSED 42" CENTRAL PENN LINE SOUTH</b> <b>STREAM CROSSINGS WB-T35-11001 @ M.P. 95.83</b> <b>WW-T35-11001 @ M.P. 95.85</b> <b>FRANKLIN TOWNSHIP, COLUMBIA COUNTY, PENNSYLVANIA</b>								
NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.	DRAWN BY: LL	DATE: 05/18/15	ISSUED FOR BID:	SCALE: NONE
0	08/20/15	LL	ISSUED FOR PADEP 105 PERMIT	1161503	CLR	MJH	CHECKED BY: ML	DATE: 06/05/15	ISSUED FOR CONSTRUCTION:	REVISION: 2
1	02/03/16	LN	ISSUED FOR INTERNAL USE	1161503	CLR	MJH	APPROVED BY: MJH	DATE: 06/08/15	DRAWING NUMBER: 24-1600-70-09-A/95.85-01	SHEET 2
2	10/25/16	AT	ISSUED FOR PADEP SUBMITTAL #2	1161503	CLR	MJH	W.O. NUMBER: 1161503	DATE: 06/08/15	9/30/2016 12:17pm jlibeasl	OF 2

**STREAM DISTURBANCE FOR HYDROSTATIC TEST WATER WITHDRAWAL EQUIPMENT:**

STREAM WW-RS-99108	ACRE
TEMPORARY STREAM DISTURBANCE	0.0250
PERMANENT STREAM DISTURBANCE	0.0000
TOTAL STREAM DISTURBANCE	0.0250
TEMPORARY FLOODWAY DISTURBANCE	0.2046
PERMANENT FLOODWAY DISTURBANCE	0.0000
TOTAL FLOODWAY DISTURBANCE	0.2046
STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	21.07
STREAM LENGTH	95.01

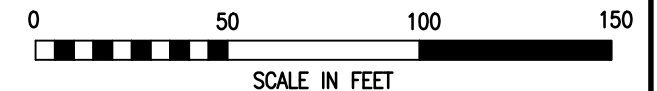


**GENERAL NOTES:**

1. THIS STREAM DOES NOT CROSS PIPELINE.
2. THIS SITE IS LOCATED WITHIN THE 100 YEAR FLOOD PLAIN PER FEMA FLOOD MAP DATA.

**SURVEY NOTES:**

1. T.B.M. SURVEY CONTROL POINT - 26' LT. OF M.P. 99.84, ELEV. = 466.22' (NAVD88).



LEGEND		WOOD GROUP MUSTANG, INC.	
	PROPOSED 42" CENTRAL PENN LINE SOUTH		WETLAND FLAGS
	EXISTING PIPELINES		PHOTO DATA POINT
	EXISTING TGPL R/W		WETLAND DATA POINT
	LIMITS OF DISTURBANCE		UPLAND DATA POINT
	PROPOSED CPLS R/W		WELL POINT
	PROPERTY LINE		TRENCH PLUG
	FOREIGN PIPELINE		WATERBODY
	WETLAND AREA		TREE LINE
	STREAM FLOW		FLOODWAY BOUNDARY
	EXISTING POWER LINE		FEMA FLOODWAY BOUNDARY
	EXISTING FENCE		PERMANENT STREAM IMPACT
			TEMPORARY STREAM IMPACT
			12" SEDIMENT BARRIER
			18" SEDIMENT BARRIER
			24" SEDIMENT BARRIER
			32" SEDIMENT BARRIER
			TOP OF BANK

DRAWING NO.		REFERENCE TITLE	
		TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC WATER OBSTRUCTION AND ENCROACHMENT PERMIT IMPACT MAPS ATLANTIC SUNRISE PROJECT PROPOSED 42" CENTRAL PENN LINE SOUTH STREAM CROSSING WW-RS-99108 M.P. 99.63 FRANKLIN TOWNSHIP, COLUMBIA COUNTY, PENNSYLVANIA	
NO.	DATE	BY	REVISION DESCRIPTION
0	10/25/16	JB	ISSUED FOR PADEP SUBMITTAL #2
DRAWN BY: JB		DATE: 09/23/16	ISSUED FOR BID:
CHECKED BY: CLR		DATE: 09/23/16	ISSUED FOR CONSTRUCTION:
APPROVED BY: MJH		DATE: 09/23/16	DRAWING NUMBER: 24-1600-70-09-A/99.63-01
W.O. NO. 1161503		CHK. CLR	APP. MJH
SCALE: 1" = 50'		REVISION: 0	
SHEET 1		OF 1	



October 27, 2016

Greenwood Township  
Floodplain Administrator  
90 Shed Road  
Millville, PA 17846

Re: Atlantic Sunrise Project  
Central Penn Line South  
Greenwood Township, Columbia County  
Floodplain Management Analysis

Dear Sir or Madam:

Transcontinental Gas Pipeline Company, LLC (Transco) proposes to construct and operate the Atlantic Sunrise Project (Project) to provide 1.7 million dekatherms per day of incremental firm transportation of natural gas from the Marcellus Shale production areas in northern Pennsylvania (PA) to its existing market areas, extending to as far south as the Station 85 Pooling Point in Choctaw County, Alabama. The Project includes modifications to the existing Transco Mainline System to reverse the direction of flow, enabling new north-to-south capabilities (bi-directional flow) to transport this new source of natural gas to existing markets. The Project consists of the following primary components within PA:

- Installing greenfield pipeline facilities of approximately 58.6 miles of new 30-inch-diameter pipe from Susquehanna County, PA to Columbia County, PA.
- Installing greenfield pipeline facilities of approximately 127.3 miles of 42-inch-diameter pipe from Columbia County, PA to Lancaster County, PA.;
- Installing two pipeline loops (pipeline laid parallel to existing facilities):
  - 8.56 miles of 42-inch pipeline loop located in Lycoming County, PA known as the Unity Loop;
  - 2.50 miles of 36-inch pipeline in Clinton County, PA, known as the Chapman Loop;
- Constructing two new compressor stations, one in Wyoming County and one in Columbia County, PA;
- Additional ancillary facilities, such as mainline valves, cathodic protection, communication facilities, and internal inspection device (e.g., pig) launchers and receivers;
- Two new meter stations and three new regulator stations with interconnecting piping;
- Additional compression and related modifications to one existing compressor station; and,
- Modification to an existing meter station for use of shared facilities with a new meter station.

Transco's consultants, BL Companies and TRC Solutions (TRC), have completed an analysis of potential impacts on FEMA delineated floodways from the Project in accordance with 25 Pa. Code § 105.13. The analysis for Greenwood Township is provided below for your review and comment.

Greenwood Township  
October 27, 2016  
BL Project No. 14C4909  
Page 1 of 3

**ATLANTIC SUNRISE PROJECT  
FEMA FLOODPLAIN CROSSINGS  
GREENWOOD TOWNSHIP, COLUMBIA COUNTY, PENNSYLVANIA**

Description of Impact	Structure Type and Dimensions	Resource ID	Resource Name	Chapter 93 Classification, Wetland Classification (EV or Other), or Floodway Type	Floodway Fill (cu. yds.)	Impact area (acres)		Latitude	Longitude
						Temporary	Permanent		
Utility Pipeline Crossing	Equipment Access and E&S Controls	WW-T21-13001	Floodway to Mud Run	FEMA Detailed	N/A	0.6618	0.0670 <sup>1</sup>	41.11986	-76.45089
Utility Pipeline Crossing	Equipment Access and E&S Controls	WW-T21-13001A	Floodway to UNT to Mud Run	FEMA Detailed	N/A	1.2988	0.1036 <sup>1</sup>	41.12093	-76.44939
Utility Pipeline Crossing	Equipment Access and E&S Controls	WW-T16-14003	Floodway to Little Green Creek	FEMA Detailed	N/A	0.5509	0.0644 <sup>1</sup>	41.14459	-76.43671

Notes:  
<sup>1</sup> Permanent impacts associated with utility pipeline crossings are based on the permanent pipe footprint within the floodplain (pipe trench width x pipe crossing length). No permanent alternation to the floodway contours and elevation is associated with these permanent impacts.

The floodway crossings listed above are depicted on the enclosed plans from the Project's PADEP Chapter 105 Permit Application.

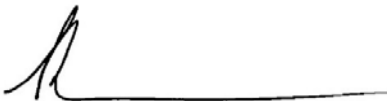
Please note that construction activities are not expected to create permanent loss of flood storage capacity or hydraulic capacity, as all pre-construction surface elevations will be re-established during restoration. The temporary and permanent impacts noted above are associated with vegetation management and underground pipe installation only, and do not represent a permanent modification of ground elevation or loss of flood storage capacity or hydraulic capacity. No structures are proposed within the FEMA 100-year floodplain, no fill will be placed in the floodways, and no increase in 100-year flood elevation is anticipated as a result of the proposed Project.

On behalf of Transco, BL and TRC respectfully request that Greenwood Township review this analysis and, if applicable, provide comments to:

Steve Crescenzo  
 TRC Environmental Corporation  
 2200 Liberty Avenue, Suite 100  
 Pittsburgh, PA 15222

**Please do not send comments directly to the PADEP**, as we must include them with our permit application. Should you have any questions or concerns regarding this notification, please contact Al Busher at (717)-651-9850 or via email at abusher@blcompanies.com.

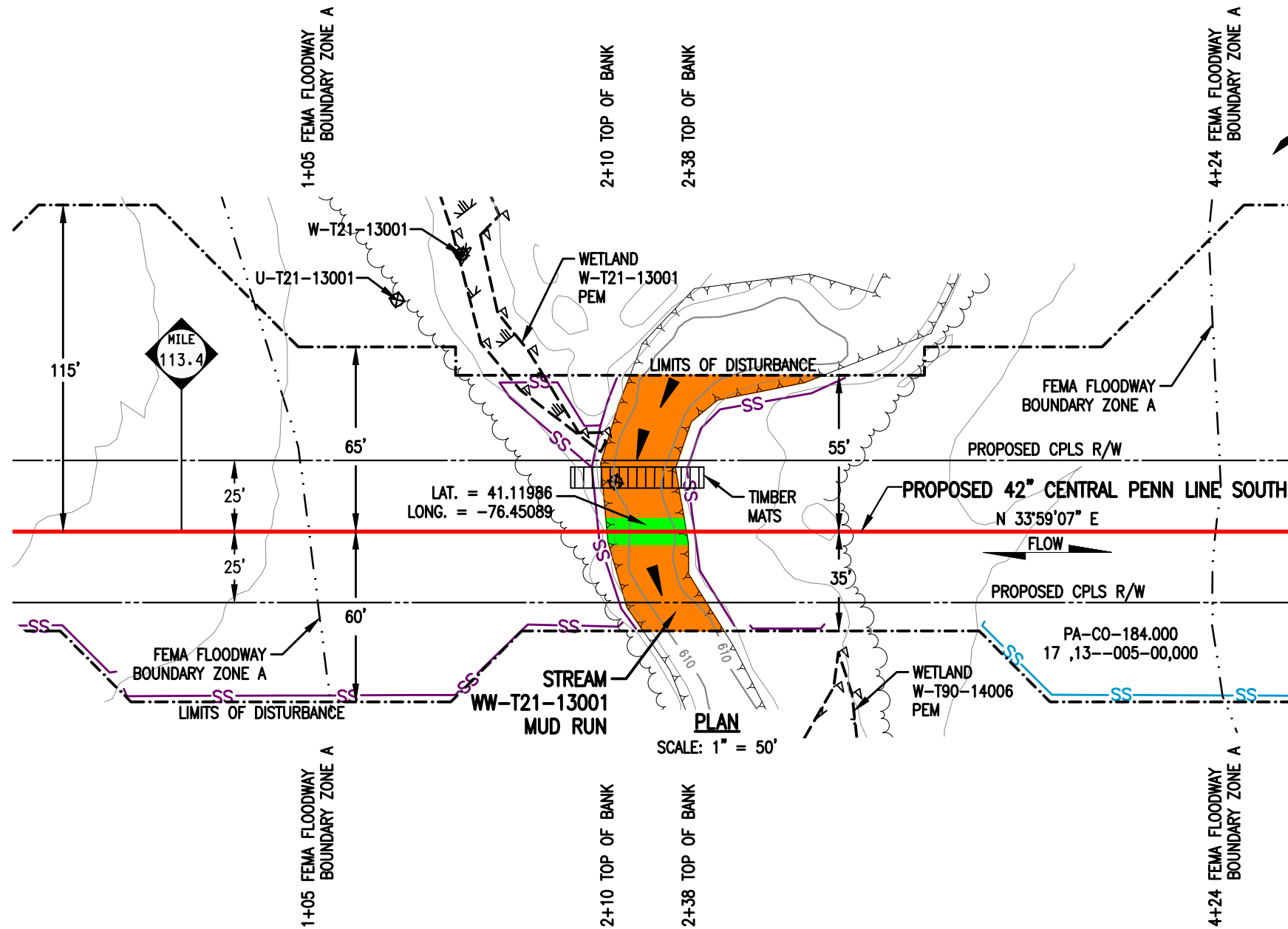
Sincerely,



Alaric J. Busher, PE  
 Senior Engineer

Greenwood Township  
 October 27, 2016  
 BL Project No. 14C4909  
 Page 2 of 3

Enclosures: Water Obstruction and Encroachment Permit Impact Maps



**STREAM DISTURBANCE:**

STREAM WW-T21-13001	ACRE
TEMPORARY STREAM DISTURBANCE	0.0557
PERMANENT STREAM DISTURBANCE	0.0064
TOTAL STREAM DISTURBANCE	0.0621
TEMPORARY FLOODWAY DISTURBANCE	0.6618
PERMANENT FLOODWAY DISTURBANCE	0.0670
TOTAL FLOODWAY DISTURBANCE	0.7288

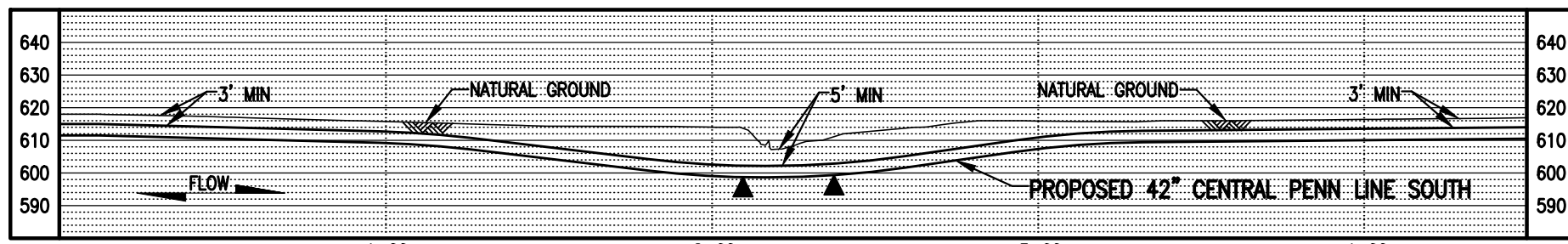
STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	27.92
STREAM LENGTH	94.25

**GENERAL NOTES:**

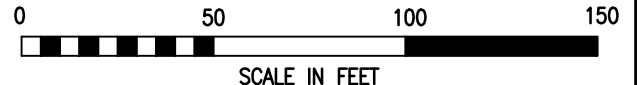
1. STREAM CROSSING METHOD WW-T21-13001 SHALL BE DAM AND PUMP (DPX). EQUIPMENT TO CROSS STREAM UTILIZING A BRIDGE EQUIPMENT CROSSING (BEC).
2. THIS SITE IS LOCATED WITHIN THE 100 YEAR FLOOD PLAIN PER FEMA FLOOD MAP DATA.
3. STATION 1+00 SHOWN IS EQUAL TO STATION 5987+92 ON THE EROSION AND SEDIMENT CONTROL PLAN.

**SURVEY NOTES:**

1. T.B.M. SURVEY CONTROL POINT - 77' LT. OF M.P. 113.45, ELEV. = 616.77' (NAVD88).



**PROFILE**  
SCALE: 1" = 50' HORIZONTAL  
1" = 50' VERTICAL

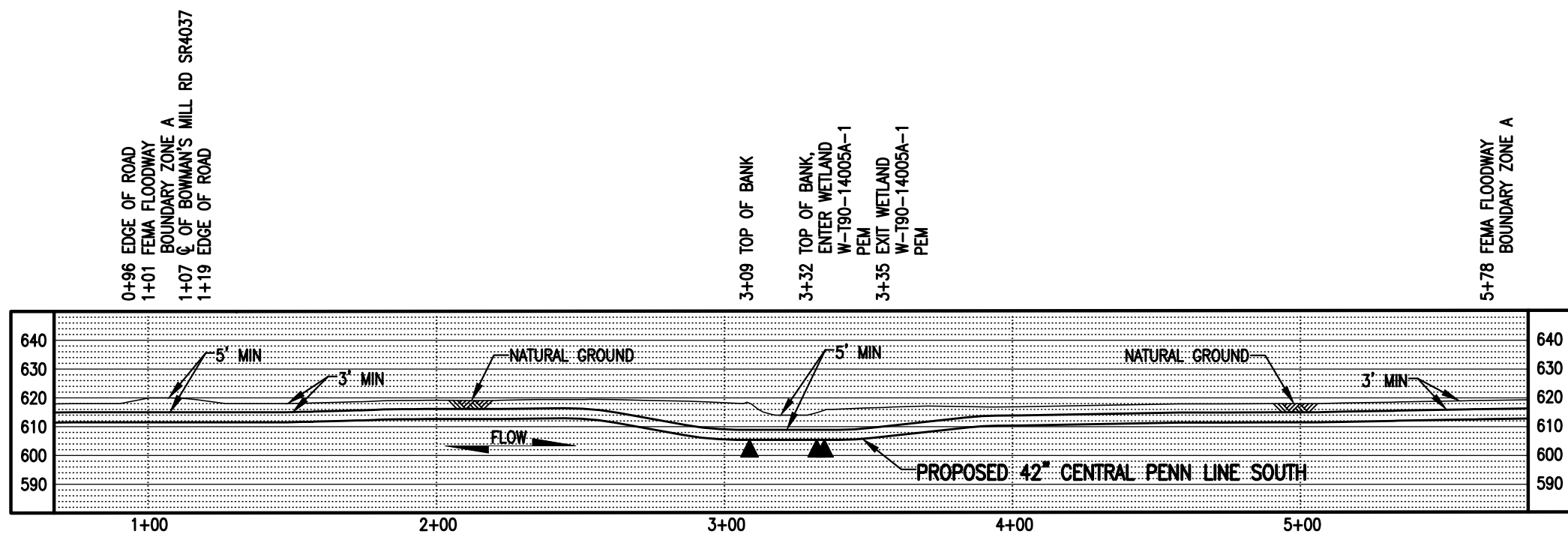


**LEGEND**

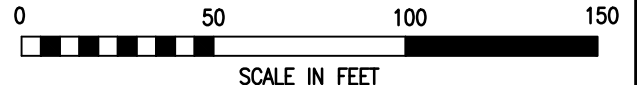
	PROPOSED 42" CENTRAL PENN LINE SOUTH		WETLAND FLAGS		<b>WOOD GROUP MUSTANG, INC.</b>
	EXISTING PIPELINES		PHOTO DATA POINT		12" SEDIMENT BARRIER
	EXISTING TGPL R/W		WETLAND DATA POINT		18" SEDIMENT BARRIER
	LIMITS OF DISTURBANCE		UPLAND DATA POINT		24" SEDIMENT BARRIER
	PROPOSED CPLS R/W		WELL POINT		32" SEDIMENT BARRIER
	PROPERTY LINE		TRENCH PLUG		TOP OF BANK
	FOREIGN PIPELINE		WATERBODY		PERMANENT STREAM IMPACT
	WETLAND AREA		TREE LINE		TEMPORARY STREAM IMPACT
	STREAM FLOW		FLOODWAY BOUNDARY		
	EXISTING POWER LINE		FEMA FLOODWAY BOUNDARY		
	EXISTING FENCE				

DRAWING NO.		REFERENCE TITLE		<b>TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC</b> <b>WATER OBSTRUCTION AND ENCROACHMENT PERMIT IMPACT MAPS</b> <b>ATLANTIC SUNRISE PROJECT</b> <b>PROPOSED 42" CENTRAL PENN LINE SOUTH</b> <b>STREAM CROSSING WW-T21-13001</b> <b>M.P. 113.43</b> <b>GREENWOOD TOWNSHIP, COLUMBIA COUNTY, PENNSYLVANIA</b>						
NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.	DRAWN BY: FH	DATE: 03/31/15	ISSUED FOR BID:	SCALE: 1" = 50'
0	08/20/15	AT	ISSUED FOR PAPEP 105 PERMIT	1161503	CLR	MJH	CHECKED BY: JM	DATE: 06/08/15	ISSUED FOR CONSTRUCTION:	REVISION: 2
1	02/03/16	LN	ISSUED FOR INTERNAL USE	1161503	CLR	MJH	APPROVED BY: MJH	DATE: 06/08/15	DRAWING NUMBER: 24-1600-70-09-A/113.43-01	SHEET 1
2	10/25/16	AD	ISSUED FOR PADEP SUBMITTAL #2	1161503	CLR	MJH	IWO: 1161503		10/7/2016	OF 1





**PROFILE**  
 SCALE: 1" = 50' HORIZONTAL  
 1" = 50' VERTICAL



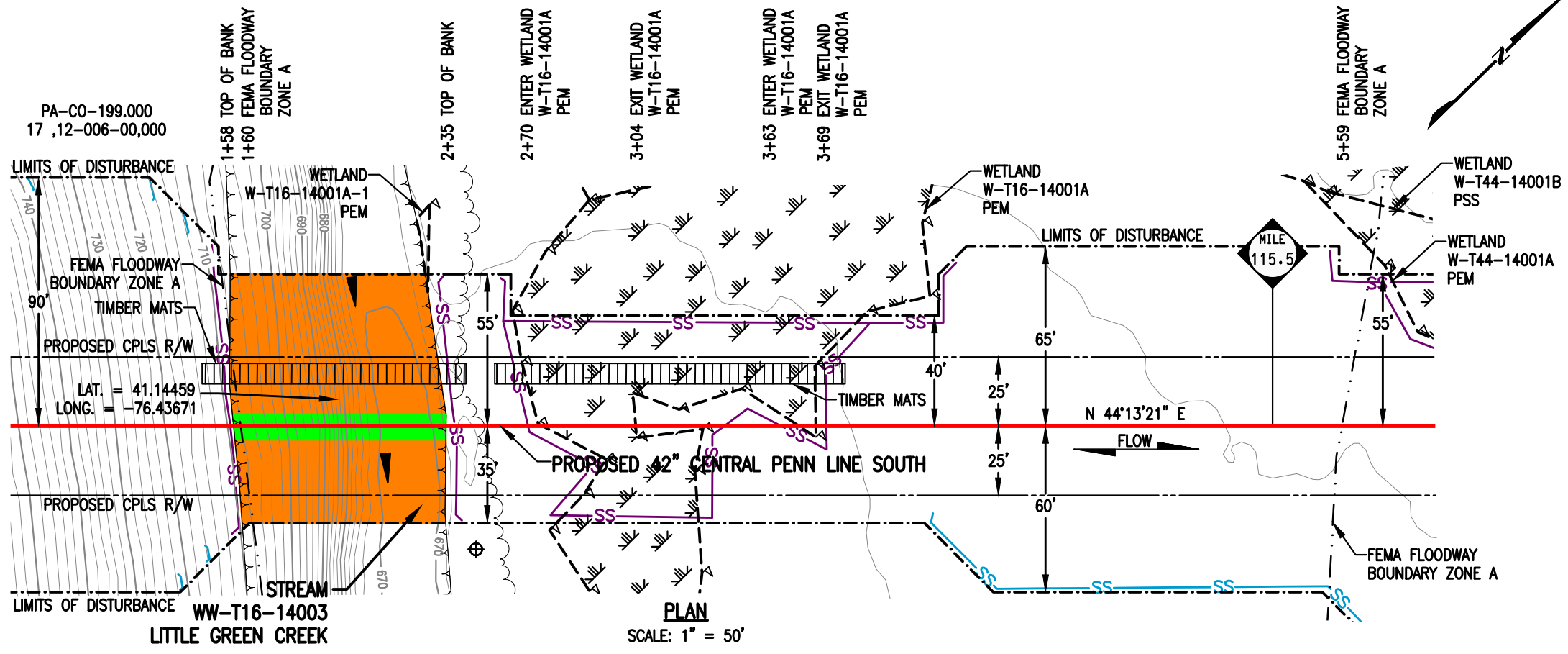
**LEGEND**

	PROPOSED 42" CENTRAL PENN LINE SOUTH		WETLAND FLAGS		<b>WOOD GROUP MUSTANG, INC.</b>
	EXISTING PIPELINES		PHOTO DATA POINT		12" SEDIMENT BARRIER
	EXISTING TGPL R/W		WETLAND DATA POINT		18" SEDIMENT BARRIER
	LIMITS OF DISTURBANCE		UPLAND DATA POINT		24" SEDIMENT BARRIER
	PROPOSED CPLS R/W		WELL POINT		32" SEDIMENT BARRIER
	PROPERTY LINE		TRENCH PLUG		TOP OF BANK
	FOREIGN PIPELINE		WATERBODY		PERMANENT STREAM IMPACT
	WETLAND AREA		TREE LINE		TEMPORARY STREAM IMPACT
	STREAM FLOW		FLOODWAY BOUNDARY		
	EXISTING POWER LINE		FEMA FLOODWAY BOUNDARY		
	EXISTING FENCE				

DRAWING NO.		REFERENCE TITLE				
NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.
0	10/25/16	MP	ISSUED FOR PADEP SUBMITTAL #2	1161503	CLR	MJH

**TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC**  
 WATER OBSTRUCTION AND ENCROACHMENT PERMIT IMPACT MAPS  
 ATLANTIC SUNRISE PROJECT  
 PROPOSED 42" CENTRAL PENN LINE SOUTH  
 STREAM CROSSING WW-T21-13001A  
 M.P. 113.54  
 GREENWOOD TOWNSHIP, COLUMBIA COUNTY, PENNSYLVANIA

DRAWN BY: MP	DATE: 07/06/16	ISSUED FOR BID:	SCALE: 1" = 50'
CHECKED BY: CLR	DATE: 07/06/16	ISSUED FOR CONSTRUCTION:	REVISION: 0
APPROVED BY: MJH	DATE: 07/06/16	DRAWING NUMBER: 24-1600-70-09-A/113.54-01	SHEET 2
WO: 1161503		10/4/2016 jlibeast	OF 2

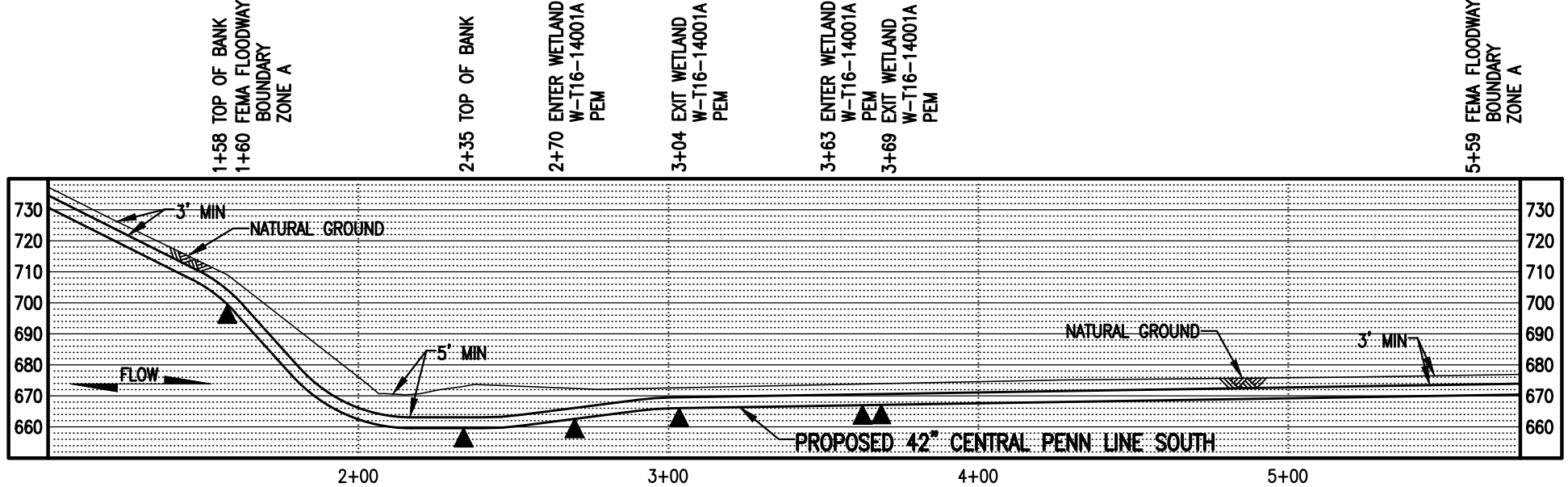


**STREAM DISTURBANCE:**

STREAM WW-T16-14003	ACRE
TEMPORARY STREAM DISTURBANCE	0.1369
PERMANENT STREAM DISTURBANCE	0.0177
<b>TOTAL STREAM DISTURBANCE</b>	<b>0.1546</b>
TEMPORARY FLOODWAY DISTURBANCE	0.5509
PERMANENT FLOODWAY DISTURBANCE	0.0644
<b>TOTAL FLOODWAY DISTURBANCE</b>	<b>0.6153</b>

STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	76.95
STREAM LENGTH	91.24



**GENERAL NOTES:**

1. STREAM CROSSING METHOD FOR WW-T16-14003 SHALL BE DAM AND PUMP (DPX). EQUIPMENT TO CROSS STREAM UTILIZING A BRIDGE EQUIPMENT CROSSING (BEC).
2. THIS SITE IS LOCATED WITHIN THE 100 YEAR FLOOD PLAIN PER FEMA FLOOD MAP DATA.
3. STATION 2+00 SHOWN IS EQUAL TO STATION 6095+06 ON THE EROSION AND SEDIMENT CONTROL PLAN.

**SURVEY NOTES:**

1. T.B.M. SURVEY CONTROL POINT - 7' LT. OF M.P. 115.43, ELEV. = 670.85' (NAVD88).



**LEGEND**

	PROPOSED 42" CENTRAL PENN LINE SOUTH		WETLAND FLAGS
	EXISTING PIPELINES		PHOTO DATA POINT
	EXISTING TGPL R/W		WETLAND DATA POINT
	LIMITS OF DISTURBANCE		UPLAND DATA POINT
	PROPOSED CPLS R/W		WELL POINT
	PROPERTY LINE		TRENCH PLUG
	FOREIGN PIPELINE		WATERBODY
	WETLAND AREA		TREE LINE
	STREAM FLOW		FLOODWAY BOUNDARY
	EXISTING POWER LINE		FEMA FLOODWAY BOUNDARY
	EXISTING FENCE		PERMANENT STREAM IMPACT
			TEMPORARY STREAM IMPACT

**WOOD GROUP MUSTANG, INC.**

12" SEDIMENT BARRIER (SS)  
 18" SEDIMENT BARRIER (SS)  
 24" SEDIMENT BARRIER (SS)  
 32" SEDIMENT BARRIER (SS)

1" = 50' HORIZONTAL  
 1" = 50' VERTICAL

DRAWING NO.		REFERENCE TITLE	
<b>TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC</b> <b>WATER OBSTRUCTION AND ENCROACHMENT PERMIT IMPACT MAPS</b> <b>ATLANTIC SUNRISE PROJECT</b> <b>PROPOSED 42" CENTRAL PENN LINE SOUTH</b> <b>STREAM CROSSING WW-T16-14003</b> <b>© M.P. 115.44</b> <b>GREENWOOD TOWNSHIP, COLUMBIA COUNTY, PENNSYLVANIA</b>			
NO.	DATE	BY	REVISION DESCRIPTION
0	08/20/15	AT	ISSUED FOR PADEP 105 PERMIT
1	02/03/16	LN	ISSUED FOR INTERNAL USE
2	10/25/16	KB	ISSUED FOR PADEP SUBMITTAL #2
W.O. NO.	CHK.	APP.	DRAWN BY: FH
1161503	CLR	MJH	DATE: 04/22/15
1161503	CLR	MJH	ISSUED FOR BID:
1161503	CLR	MJH	DATE: 04/22/15
			ISSUED FOR CONSTRUCTION:
			DATE: 06/08/15
			DRAWING NUMBER: 24-1600-70-09-A/115.44-01
			SCALE: 1" = 50'
			REVISION: 2
			DRAWING NUMBER: 24-1600-70-09-A/115.44-01 SHEET 1
			OF 1



October 27, 2016

Hemlock Township  
Floodplain Administrator  
26 Firehall Road  
Bloomsburg, PA 17815

Re: Atlantic Sunrise Project  
Central Penn Line South  
Hemlock Township, Columbia County  
Floodplain Management Analysis

Dear Sir or Madam:

Transcontinental Gas Pipeline Company, LLC (Transco) proposes to construct and operate the Atlantic Sunrise Project (Project) to provide 1.7 million dekatherms per day of incremental firm transportation of natural gas from the Marcellus Shale production areas in northern Pennsylvania (PA) to its existing market areas, extending to as far south as the Station 85 Pooling Point in Choctaw County, Alabama. The Project includes modifications to the existing Transco Mainline System to reverse the direction of flow, enabling new north-to-south capabilities (bi-directional flow) to transport this new source of natural gas to existing markets. The Project consists of the following primary components within PA:

- Installing greenfield pipeline facilities of approximately 58.6 miles of new 30-inch-diameter pipe from Susquehanna County, PA to Columbia County, PA.
- Installing greenfield pipeline facilities of approximately 127.3 miles of 42-inch-diameter pipe from Columbia County, PA to Lancaster County, PA.;
- Installing two pipeline loops (pipeline laid parallel to existing facilities):
  - 8.56 miles of 42-inch pipeline loop located in Lycoming County, PA known as the Unity Loop;
  - 2.50 miles of 36-inch pipeline in Clinton County, PA, known as the Chapman Loop;
- Constructing two new compressor stations, one in Wyoming County and one in Columbia County, PA;
- Additional ancillary facilities, such as mainline valves, cathodic protection, communication facilities, and internal inspection device (e.g., pig) launchers and receivers;
- Two new meter stations and three new regulator stations with interconnecting piping;
- Additional compression and related modifications to one existing compressor station; and,
- Modification to an existing meter station for use of shared facilities with a new meter station.

Transco's consultants, BL Companies and TRC Solutions (TRC), have completed an analysis of potential impacts on FEMA delineated floodways from the Project in accordance with 25 Pa. Code § 105.13. The analysis for Hemlock Township is provided below for your review and comment.

Hemlock Township  
October 27, 2016  
BL Project No. 14C4909  
Page 1 of 3

**ATLANTIC SUNRISE PROJECT  
FEMA FLOODPLAIN CROSSINGS  
HEMLOCK TOWNSHIP, COLUMBIA COUNTY, PENNSYLVANIA**

Description of Impact	Structure Type and Dimensions	Resource ID	Resource Name	Chapter 93 Classification, Wetland Classification (EV or Other), or Floodway Type	Floodway Fill (cu. yds.)	Impact area (acres)		Latitude	Longitude
						Temporary	Permanent		
Utility Pipeline Crossing	Equipment Access and E&S Controls	WW-T70-12003	Floodway to Hemlock Creek	FEMA Detailed <sup>1</sup>	N/A	0.3256	0.0389 <sup>3</sup>	41.00323	-76.49387
Temporary Road Crossing	Equipment Access and E&S Controls	WW-T70-12003	Floodway to Hemlock Creek	FEMA Detailed	1599.81	0.3256	0.00	41.00471	-76.49468
Temporary Road Crossing	Equipment Access and E&S Controls	WW-T70-12006	Floodway to Fishing Creek	FEMA Detailed	2005.81	0.6912	0.00	41.01555	-76.47570
Utility Pipeline Crossing	Equipment Access and E&S Controls	WW-T01-12006	Floodway to Fishing Creek	FEMA Detailed <sup>1</sup>	N/A	10.6305	0.5135 <sup>3</sup>	41.02241	-76.47834
Temporary Water Withdrawal	Equipment Access and E&S Controls	WW-T01-12006	Floodway to Fishing Creek	FEMA Detailed	N/A	0.0290	0.00	41.01647	-76.47557
Utility Pipeline Crossing	Equipment Access and E&S Controls	WW-T70-12010-1	Floodway to Little Fishing Creek	FEMA Detailed	N/A	0.0079	0.000	41.04721	-76.48758
Utility Pipeline Crossing	Equipment Access and E&S Controls	WW-RS-T70-12002	Floodway to Little Fishing Creek	FEMA Detailed	N/A	8.1447	0.7028	41.04131	-76.48522

Notes:  
<sup>1</sup> Multiple streams are included in these calculations as the floodways overlap.  
<sup>2</sup> Floodway fill is associated with a temporary access road. Pre development contours will be restored prior to permit termination.  
<sup>3</sup> Permanent impacts associated with utility pipeline crossings are based on the permanent pipe footprint within the floodplain (pipe trench width x pipe crossing length). No permanent alternation to the floodway contours and elevation is associated with these permanent impacts.

The floodway crossings listed above are depicted on the enclosed plans from the Project’s PADEP Chapter 105 Permit Application.

Please note that construction activities are not expected to create permanent loss of flood storage capacity or hydraulic capacity, as all pre-construction surface elevations will be re-established during restoration. The temporary and permanent impacts noted above are associated with vegetation management and underground pipe installation and temporary access road grading only, and do not represent a permanent modification of ground elevation or loss of flood storage capacity or hydraulic capacity. No structures are proposed within the FEMA 100-year floodplain, no permanent fill will be placed in the floodways, and no increase in 100-year flood elevation is anticipated as a result of the proposed Project.

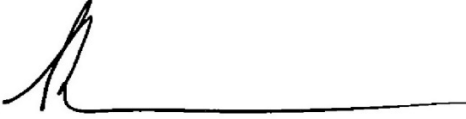
On behalf of Transco, BL and TRC respectfully request that Hemlock Township review this analysis and, if applicable, provide comments to:

Steve Crescenzo  
TRC Environmental Corporation  
2200 Liberty Avenue, Suite 100  
Pittsburgh, PA 15222

**Please do not send comments directly to the PADEP,** as we must include them with our permit application. Should you

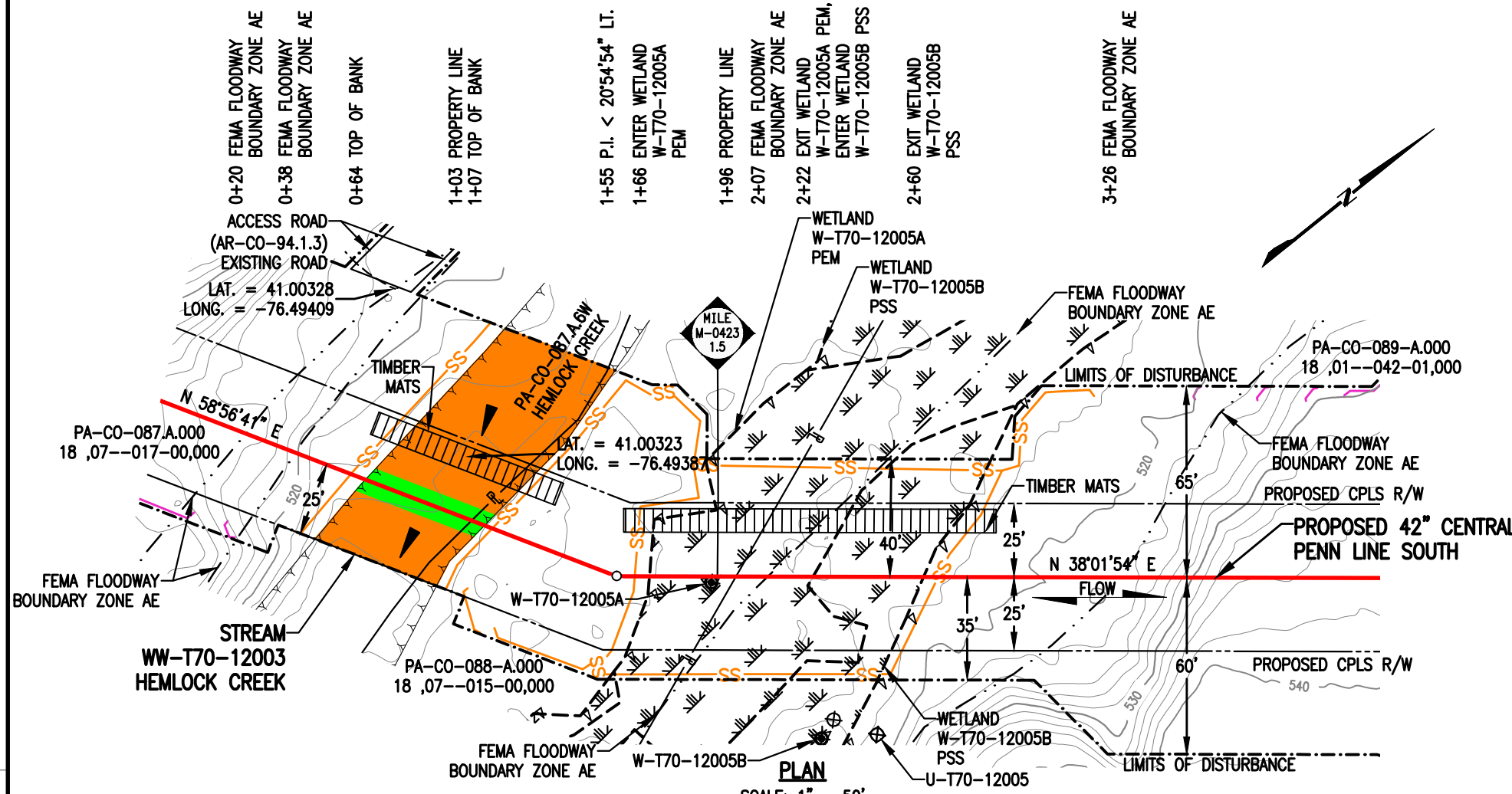
have any questions or concerns regarding this notification, please contact Al Busher at (717)-651-9850 or via email at abusher@blcompanies.com.

Sincerely,

A handwritten signature in black ink, consisting of a stylized 'A' followed by a long horizontal line extending to the right.

Alaric J. Busher, PE  
Senior Engineer

Enclosures: Water Obstruction and Encroachment Permit Impact Maps



**STREAM DISTURBANCE:**

STREAM WW-T70-12003A	ACRE
TEMPORARY STREAM DISTURBANCE	0.0000
PERMANENT STREAM DISTURBANCE	0.0000
TOTAL STREAM DISTURBANCE	0.0000
TEMPORARY FLOODWAY DISTURBANCE	0.0001
PERMANENT FLOODWAY DISTURBANCE	0.0000
TOTAL FLOODWAY DISTURBANCE	0.0001

STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	0.00
STREAM LENGTH	0.00

STREAM WW-T70-12003	ACRE
TEMPORARY STREAM DISTURBANCE	0.0788
PERMANENT STREAM DISTURBANCE	0.0099
TOTAL STREAM DISTURBANCE	0.0887
TEMPORARY FLOODWAY DISTURBANCE	0.3256
PERMANENT FLOODWAY DISTURBANCE	0.0389
TOTAL FLOODWAY DISTURBANCE	0.3645

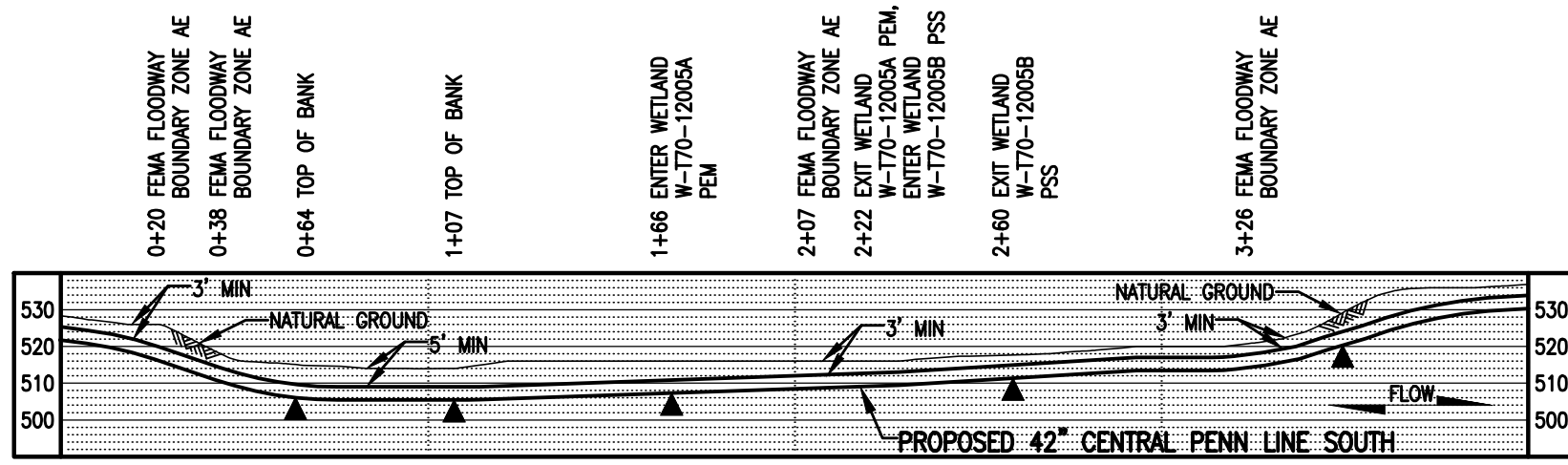
STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	43.28
STREAM LENGTH	93.85

**GENERAL NOTES:**

1. STREAM CROSSING METHOD SHALL BE DAM AND PUMP (DPX). EQUIPMENT TO CROSS STREAM UTILIZING A BRIDGE EQUIPMENT CROSSING (BEC).
2. THIS SITE IS LOCATED WITHIN THE 100 YEAR FLOODPLAIN PER FEMA FLOOD MAP DATA.
3. STATION 1+00 SHOWN IS EQUAL TO M-0423 STATION 78+31 ON THE EROSION AND SEDIMENT CONTROL PLAN.

**SURVEY NOTES:**

1. T.B.M. SURVEY CONTROL POINT - 37' RT. OF M-0423 M.P. 1.48, ELEV. = 512.14' (NAVD88).



**LEGEND**

	PROPOSED 42" CENTRAL PENN LINE SOUTH		WETLAND FLAGS
	EXISTING PIPELINES		PHOTO DATA POINT
	EXISTING TGPL R/W		WETLAND DATA POINT
	LIMITS OF DISTURBANCE		UPLAND DATA POINT
	PROPOSED CPLS R/W		WELL POINT
	PROPERTY LINE		TRENCH PLUG
	FOREIGN PIPELINE		WATERBODY
	WETLAND AREA		TREE LINE
	STREAM FLOW		FLOODWAY BOUNDARY
	EXISTING POWER LINE		FEMA FLOODWAY BOUNDARY
	EXISTING FENCE		PERMANENT STREAM IMPACT
			TEMPORARY STREAM IMPACT

**WOOD GROUP MUSTANG, INC.**

DRAWING NO.	REFERENCE TITLE	TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC WATER OBSTRUCTION AND ENCROACHMENT PERMIT IMPACT MAPS ATLANTIC SUNRISE PROJECT PROPOSED 42" CENTRAL PENN LINE SOUTH STREAM CROSSING WW-T70-12003A & WW-T70-12003 @ M-0423 M.P. 1.47 HEMLOCK TOWNSHIP, COLUMBIA COUNTY, PENNSYLVANIA								
NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.	DRAWN BY: JB	DATE: 07/15/16	ISSUED FOR BID:	SCALE: 1" = 50'
0	10/25/16	JB	ISSUED FOR PADEP SUBMITTAL #2	1161503	CLR	MJH	CHECKED BY: CLR	DATE: 07/15/16	ISSUED FOR CONSTRUCTION:	REVISION: 0
							APPROVED BY: MJH	DATE: 07/15/16	DRAWING NUMBER: 24-1600-70-09-A/M-0423-1.47-01	SHEET 1
							W.O. NO: 1161503		10/5/2016	OF 1

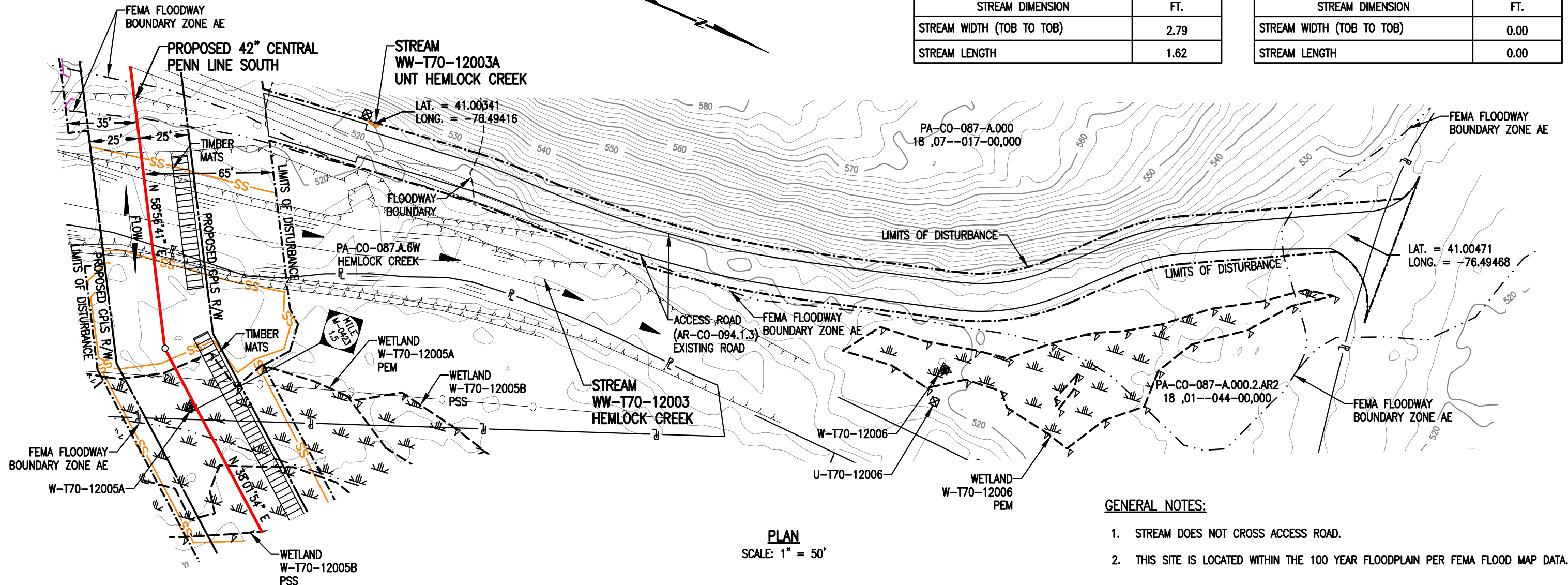
**STREAM DISTURBANCE:**

STREAM WW-T70-12003A	ACRE
TEMPORARY STREAM DISTURBANCE	0.0003
PERMANENT STREAM DISTURBANCE	0.0000
<b>TOTAL STREAM DISTURBANCE</b>	<b>0.0003</b>
TEMPORARY FLOODWAY DISTURBANCE	0.0570
PERMANENT FLOODWAY DISTURBANCE	0.0000
<b>TOTAL FLOODWAY DISTURBANCE</b>	<b>0.0570</b>

STREAM WW-T70-12003	ACRE
TEMPORARY STREAM DISTURBANCE	0.0000
PERMANENT STREAM DISTURBANCE	0.0000
<b>TOTAL STREAM DISTURBANCE</b>	<b>0.0000</b>
TEMPORARY FLOODWAY DISTURBANCE	0.0471
PERMANENT FLOODWAY DISTURBANCE	0.0000
<b>TOTAL FLOODWAY DISTURBANCE</b>	<b>0.0471</b>

STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	2.79
STREAM LENGTH	1.62

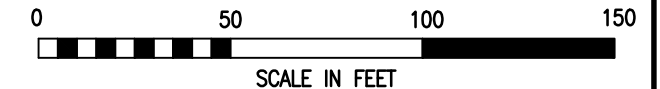
STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	0.00
STREAM LENGTH	0.00



**PLAN**  
SCALE: 1" = 50'

**GENERAL NOTES:**

1. STREAM DOES NOT CROSS ACCESS ROAD.
2. THIS SITE IS LOCATED WITHIN THE 100 YEAR FLOODPLAIN PER FEMA FLOOD MAP DATA.



**LEGEND**

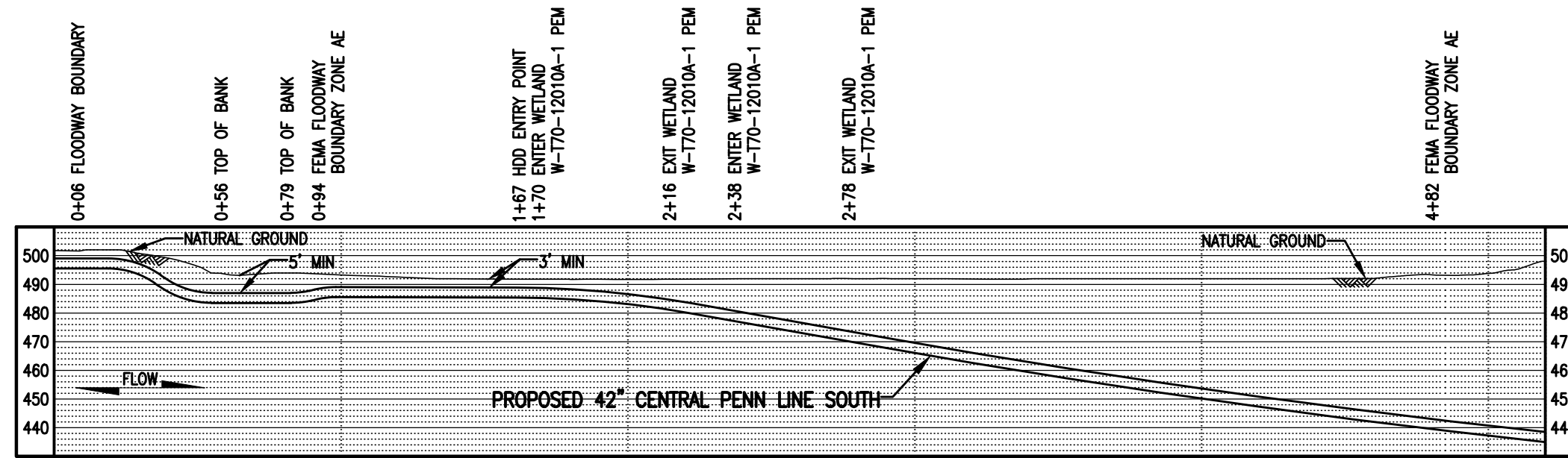
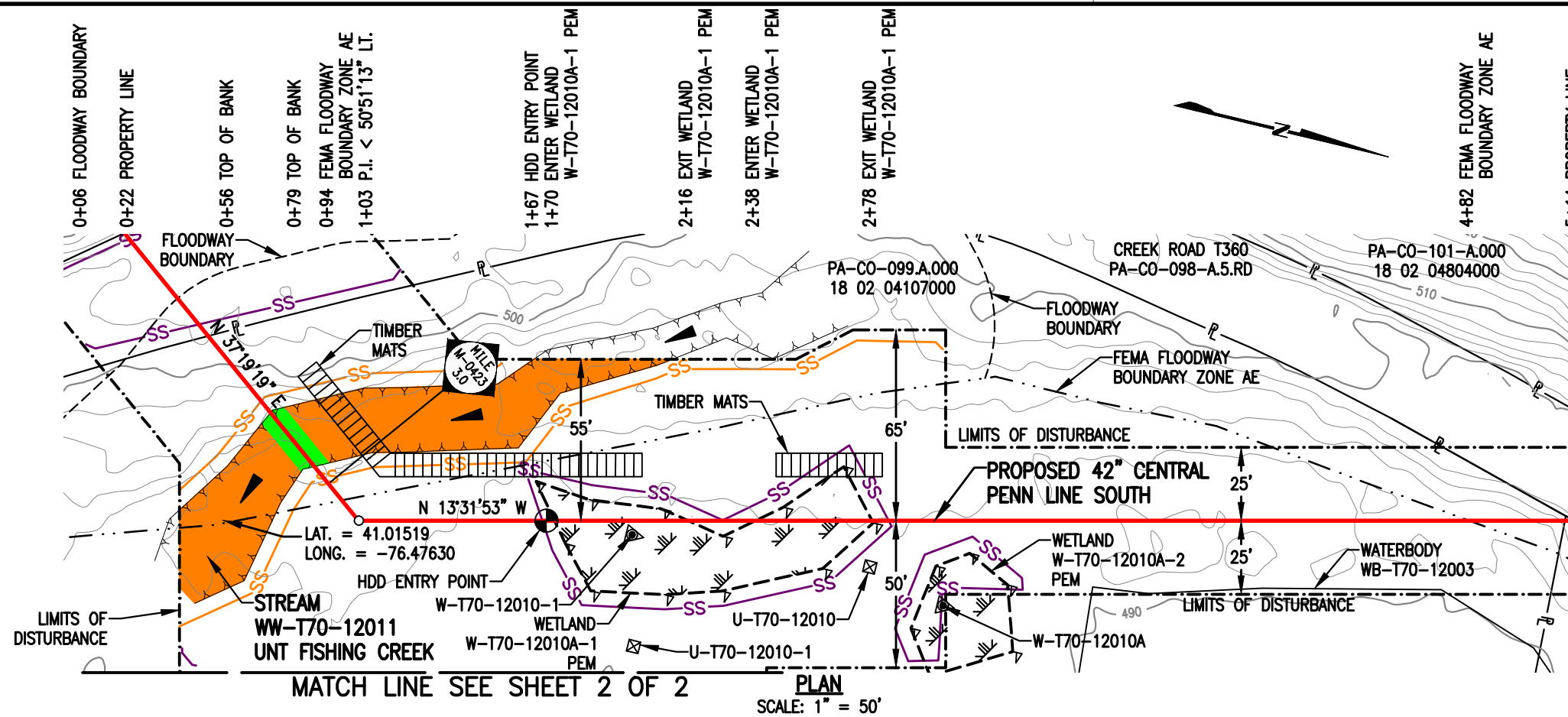
- PROPOSED 42" CENTRAL PENN LINE SOUTH
- EXISTING PIPELINES
- EXISTING TGPL R/W
- - - LIMITS OF DISTURBANCE
- PROPOSED CPLS R/W
- P — PROPERTY LINE
- F — FOREIGN PIPELINE
- W — WETLAND AREA
- S — STREAM FLOW
- P — EXISTING POWER LINE
- X — EXISTING FENCE

- ▲ WETLAND FLAGS
- ⊗ PHOTO DATA POINT
- ⊠ WETLAND DATA POINT
- ⊡ UPLAND DATA POINT
- ☀ WELL POINT
- ▲ TRENCH PLUG
- WATERBODY
- TREE LINE
- - - FLOODWAY BOUNDARY
- - - FEMA FLOODWAY BOUNDARY

**WOOD GROUP MUSTANG, INC.**

- SS — 12" SEDIMENT BARRIER
- SS — 18" SEDIMENT BARRIER
- SS — 24" SEDIMENT BARRIER
- SS — 32" SEDIMENT BARRIER
- Y — TOP OF BANK
- PERMANENT STREAM IMPACT
- TEMPORARY STREAM IMPACT

DRAWING NO.		REFERENCE TITLE		<p><b>TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC</b>  <b>WATER OBSTRUCTION AND ENCROACHMENT PERMIT IMPACT MAPS</b>  <b>ATLANTIC SUNRISE PROJECT</b>  <b>PROPOSED 42" CENTRAL PENN LINE SOUTH</b>  <b>STREAM CROSSINGS WW-T70-12003A &amp; M-0423</b>  <b>&amp; WW-T70-12003 &amp; M-0423 M.P. 1.47</b>  <b>HEMLOCK TOWNSHIP, COLUMBIA COUNTY, PENNSYLVANIA</b></p>	
NO.		DATE			
0		10/25/16		JB	
REVISION DESCRIPTION		W.O. NO.		CHK.	
ISSUED FOR PADEP SUBMITTAL #2		1161503		CLR MJH	
DRAWN BY: JB		DATE: 07/19/16		ISSUED FOR BID:	
CHECKED BY: CLR		DATE: 07/19/16		ISSUED FOR CONSTRUCTION:	
APPROVED BY: MJH		DATE: 07/20/16		DRAWING NUMBER: 24-1600-70-09-A/AR-CO-094.1.3-01 SHEET 1	
W.O. NUMBER: 1161503		10/11/2016		a1traha	
				OF 1	



**STREAM DISTURBANCE:**

STREAM WW-T70-12011	ACRE
TEMPORARY STREAM DISTURBANCE	0.0799
PERMANENT STREAM DISTURBANCE	0.0053
TOTAL STREAM DISTURBANCE	0.0852
TEMPORARY FLOODWAY DISTURBANCE	0.2063
PERMANENT FLOODWAY DISTURBANCE	0.0150
TOTAL FLOODWAY DISTURBANCE	0.2213

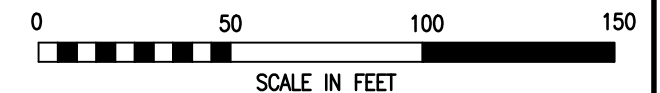
STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	23.60
STREAM LENGTH	165.14

**GENERAL NOTES:**

1. STREAM CROSSING METHOD SHALL BE DAM AND PUMP (DPX). EQUIPMENT TO CROSS STREAM UTILIZING A BRIDGE EQUIPMENT CROSSING (BEC).
2. THIS SITE IS LOCATED WITHIN THE 100 YEAR FLOOD PLAIN PER FEMA FLOOD MAP DATA.
3. STATION 1+00 SHOWN IS EQUAL TO M-0423 STATION 158+53 ON THE EROSION AND SEDIMENT CONTROL PLAN.

**SURVEY NOTES:**

1. T.B.M. SURVEY CONTROL POINT - 12' RT. OF M-0423 M.P. 3.01, ELEV. = 491.36' (NAVD88).



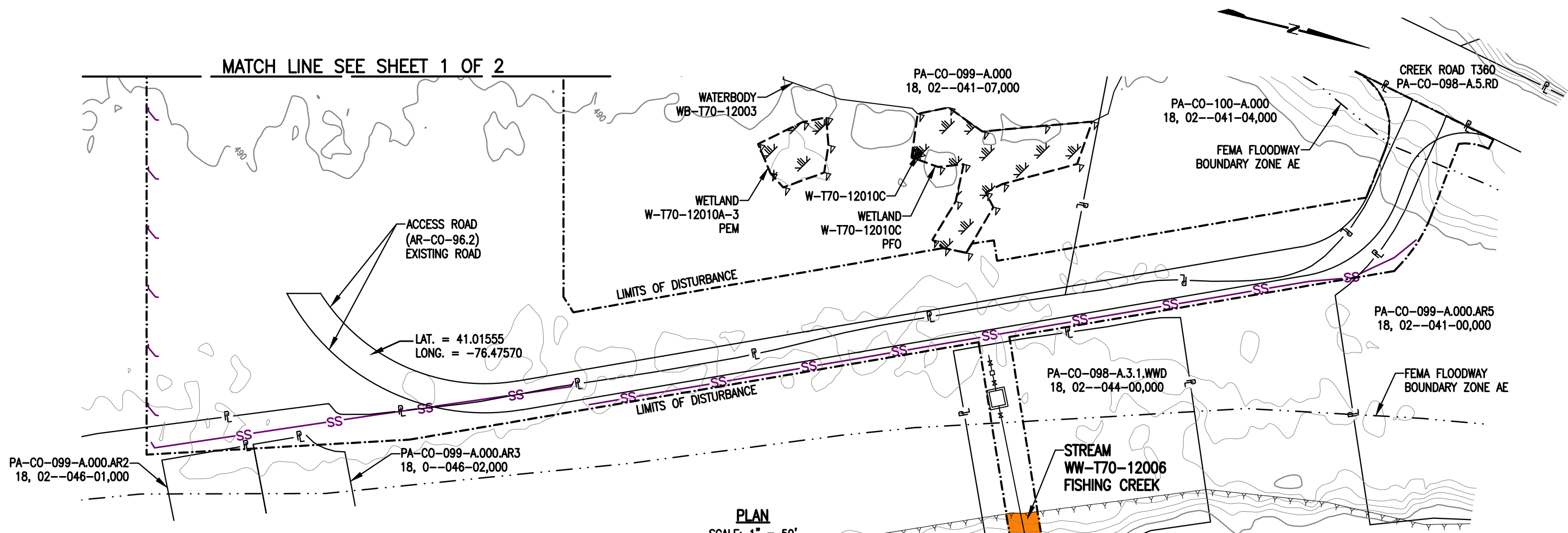
**LEGEND**

	PROPOSED 42" CENTRAL PENN LINE SOUTH		WETLAND FLAGS
	EXISTING PIPELINES		PHOTO DATA POINT
	EXISTING TGPL R/W		WETLAND DATA POINT
	LIMITS OF DISTURBANCE		UPLAND DATA POINT
	PROPOSED CPLS R/W		WELL POINT
	PROPERTY LINE		TRENCH PLUG
	FOREIGN PIPELINE		WATERBODY
	WETLAND AREA		TREE LINE
	STREAM FLOW		FLOODWAY BOUNDARY
	EXISTING POWER LINE		FEMA FLOODWAY BOUNDARY
	EXISTING FENCE		PERMANENT STREAM IMPACT
			TEMPORARY STREAM IMPACT

**WOOD GROUP MUSTANG, INC.**

	12" SEDIMENT BARRIER
	18" SEDIMENT BARRIER
	24" SEDIMENT BARRIER
	32" SEDIMENT BARRIER
	TOP OF BANK

DRAWING NO.	REFERENCE TITLE	TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC WATER OBSTRUCTION AND ENCROACHMENT PERMIT IMPACT MAPS ATLANTIC SUNRISE PROJECT PROPOSED 42" CENTRAL PENN LINE SOUTH STREAM CROSSINGS WW-T70-12011 @ M-0423 M.P. 3.00 & WW-T70-12006 @ M-0423 M.P. 3.07 HEMLOCK TOWNSHIP, COLUMBIA COUNTY, PENNSYLVANIA								
NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.	DRAWN BY: CM	DATE: 07/25/16	ISSUED FOR BID:	SCALE: 1" = 50'
0	10/25/16	CM	ISSUED FOR PADEP SUBMITTAL #2	1161503	CLR	MJH	CHECKED BY: CLR	DATE: 07/26/16	ISSUED FOR CONSTRUCTION:	REVISION: 0
							APPROVED BY: MJH	DATE: 07/06/16	DRAWING NUMBER: 24-1600-70-09-A/M-0423-3.00-01	SHEET 1
							W.O. NUMBER: 1161503		6:42am 10/11/2016 jibeast	OF 2



PLAN  
SCALE: 1" = 50'

**STREAM DISTURBANCE FOR HYDROSTATIC TEST WATER WITHDRAWAL EQUIPMENT:**

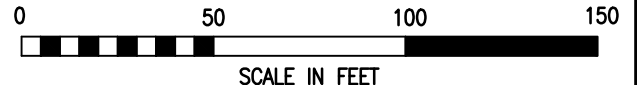
STREAM WW-T70-12006	ACRE
TEMPORARY STREAM DISTURBANCE	0.0258
PERMANENT STREAM DISTURBANCE	0.0000
<b>TOTAL STREAM DISTURBANCE</b>	<b>0.0258</b>
TEMPORARY FLOODWAY DISTURBANCE	0.0290
PERMANENT FLOODWAY DISTURBANCE	0.0000
<b>TOTAL FLOODWAY DISTURBANCE</b>	<b>0.0290</b>

STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	24.96
STREAM LENGTH	76.83

**STREAM DISTURBANCE FOR ACCESS ROAD:**

STREAM WW-T70-12006	ACRE
TEMPORARY STREAM DISTURBANCE	0.0000
PERMANENT STREAM DISTURBANCE	0.0000
<b>TOTAL STREAM DISTURBANCE</b>	<b>0.0000</b>
TEMPORARY FLOODWAY DISTURBANCE	0.6912
PERMANENT FLOODWAY DISTURBANCE	0.0000
<b>TOTAL FLOODWAY DISTURBANCE</b>	<b>0.6912</b>

STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	0.00
STREAM LENGTH	0.00



**LEGEND**

	PROPOSED 42" CENTRAL PENN LINE SOUTH		WETLAND FLAGS
	EXISTING PIPELINES		PHOTO DATA POINT
	EXISTING TGPL R/W		WETLAND DATA POINT
	LIMITS OF DISTURBANCE		UPLAND DATA POINT
	PROPOSED CPLS R/W		WELL POINT
	PROPERTY LINE		TRENCH PLUG
	FOREIGN PIPELINE		WATERBODY
	WETLAND AREA		TREE LINE
	STREAM FLOW		FLOODWAY BOUNDARY
	EXISTING POWER LINE		FEMA FLOODWAY BOUNDARY
	EXISTING FENCE		PERMANENT STREAM IMPACT
			TEMPORARY STREAM IMPACT

**WOOD GROUP MUSTANG, INC.**

DRAWING NO.	REFERENCE TITLE

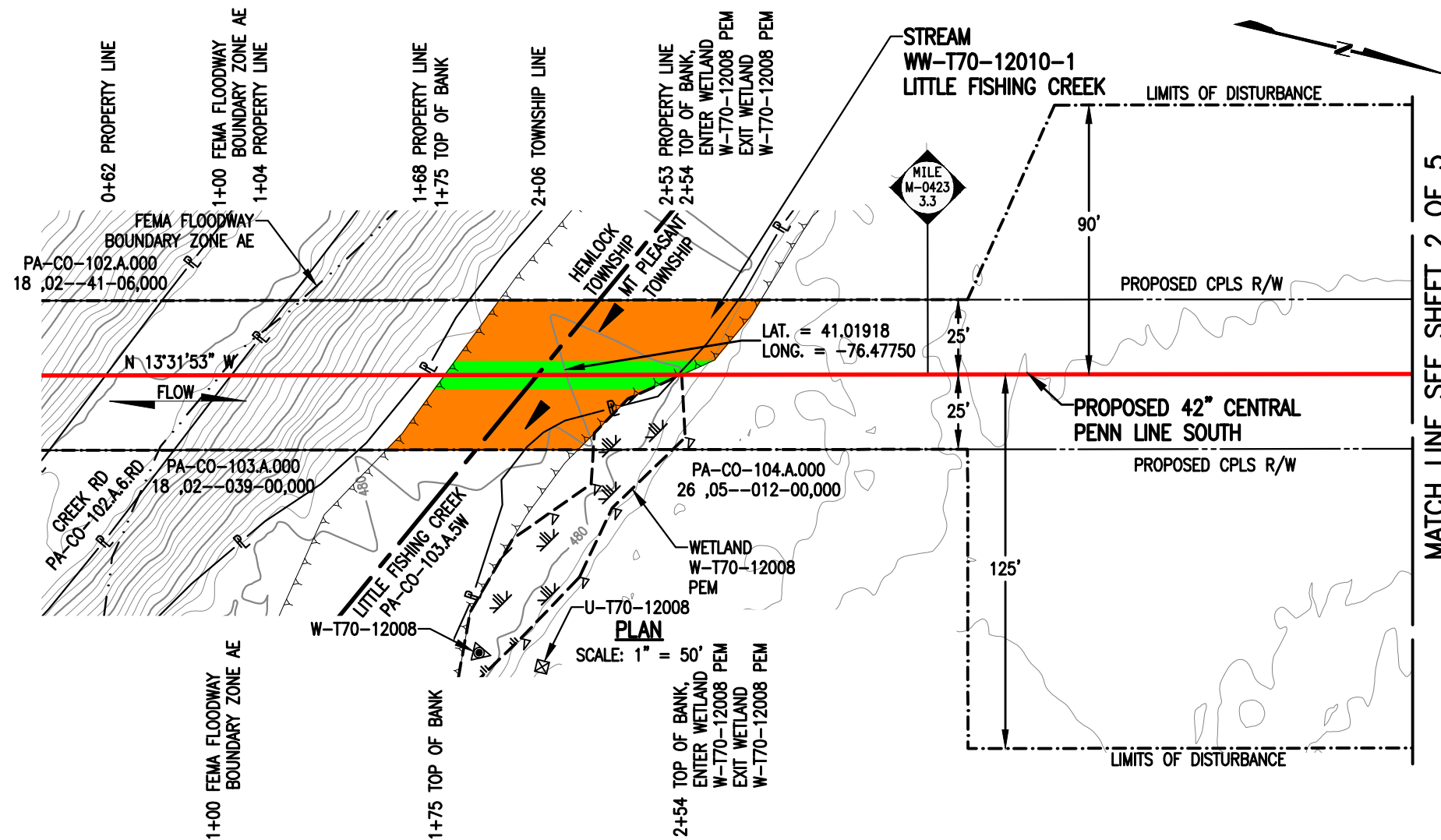
**TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC**  
**WATER OBSTRUCTION AND ENCROACHMENT PERMIT IMPACT MAPS**  
**ATLANTIC SUNRISE PROJECT**  
**PROPOSED 42" CENTRAL PENN LINE SOUTH**  
**STREAM CROSSINGS WW-T70-12011 @ M-0423 M.P. 3.00**  
**& WW-T70-12006 @ M-0423 M.P. 3.07**  
**HEMLOCK TOWNSHIP, COLUMBIA COUNTY, PENNSYLVANIA**

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.	DRAWN BY:	DATE:	ISSUED FOR BID:	SCALE:
0	10/25/16	CM	ISSUED FOR PADEP SUBMITTAL #2	1161503	CLR	MJH	CM	07/25/16		1" = 50'

CHECKED BY:	DATE:	ISSUED FOR CONSTRUCTION:	REVISION:
CLR	07/26/16		0

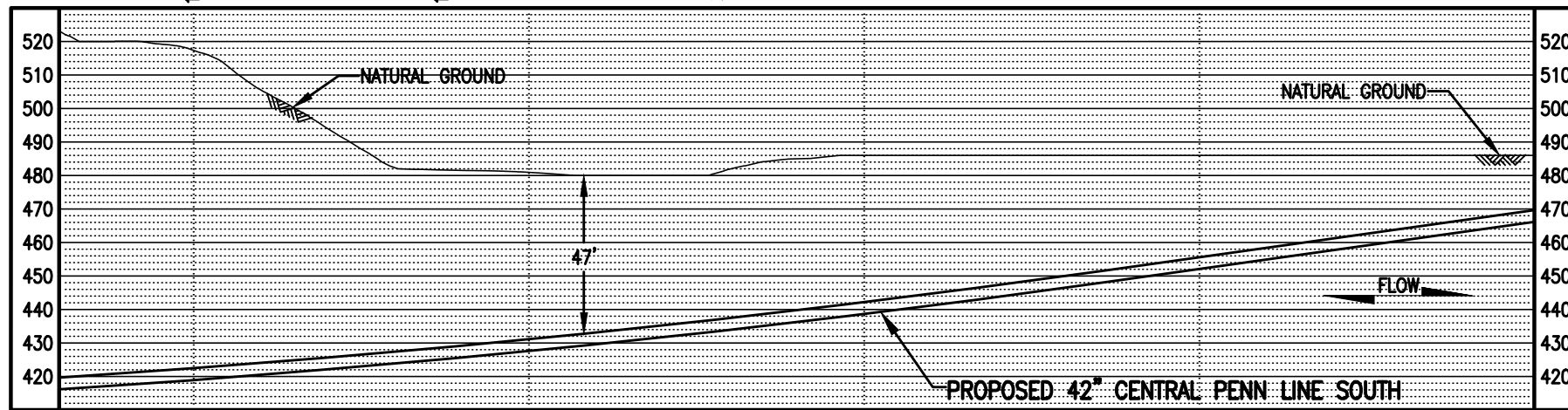
APPROVED BY:	DATE:	DRAWING NUMBER:	SHEET
MJH	07/06/16	24-1600-70-09-A/M-0423-3.00-01	2

W.O. NUMBER: 1161503  
 DATE: 10/12/2016  
 TIME: 2:33pm  
 FILE: K:\103643-CPLS\Maping\Waterbodies\CPLS\_PAN\Revised 105\24-1600-70-09-A\_M-0423-3.00-01.dwg



**STREAM DISTURBANCE:**

STREAM WW-T70-12010-1	ACRE
TEMPORARY STREAM DISTURBANCE	0.0703
PERMANENT STREAM DISTURBANCE	0.0182
TOTAL STREAM DISTURBANCE	0.0885
TEMPORARY FLOODWAY DISTURBANCE	0.0000
PERMANENT FLOODWAY DISTURBANCE	0.0000
TOTAL FLOODWAY DISTURBANCE	0.0000
STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	79.09
STREAM LENGTH	65.22



**GENERAL NOTES:**

1. STREAM CROSSING METHOD FOR STREAM WW-T70-12010-1 SHALL BE HDD. STREAM CROSSING METHOD FOR STREAM WW-T70-12010 SHALL BE DAM AND PUMP (DPX).
2. NO PHYSICAL SURFACE IMPACT ARE PROPOSED TO STREAM WW-T70-12010-1 DUE TO HDD CROSSING METHOD.
3. THIS SITE IS LOCATED WITHIN THE 100 YEAR FLOOD PLAIN PER FEMA FLOOD MAP DATA.
4. STATION 1+00 SHOWN IS EQUAL TO M-0423 STATION 171+87 ON THE EROSION AND SEDIMENT CONTROL PLAN.
5. FLOODWAY IMPACTS FOR STREAM WW-T70-12010-1 ARE INCLUDED IN FLOODWAY IMPACT OF STREAMS WW-T70-12006 ON DWG. 24-1600-70-09-A/M-0423-3.00-01.

**SURVEY NOTES:**

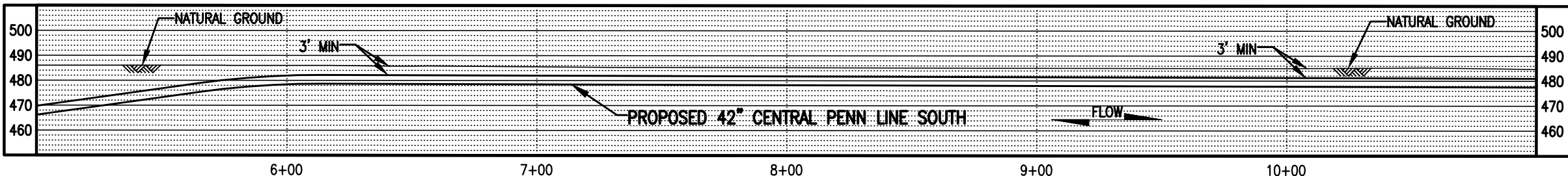
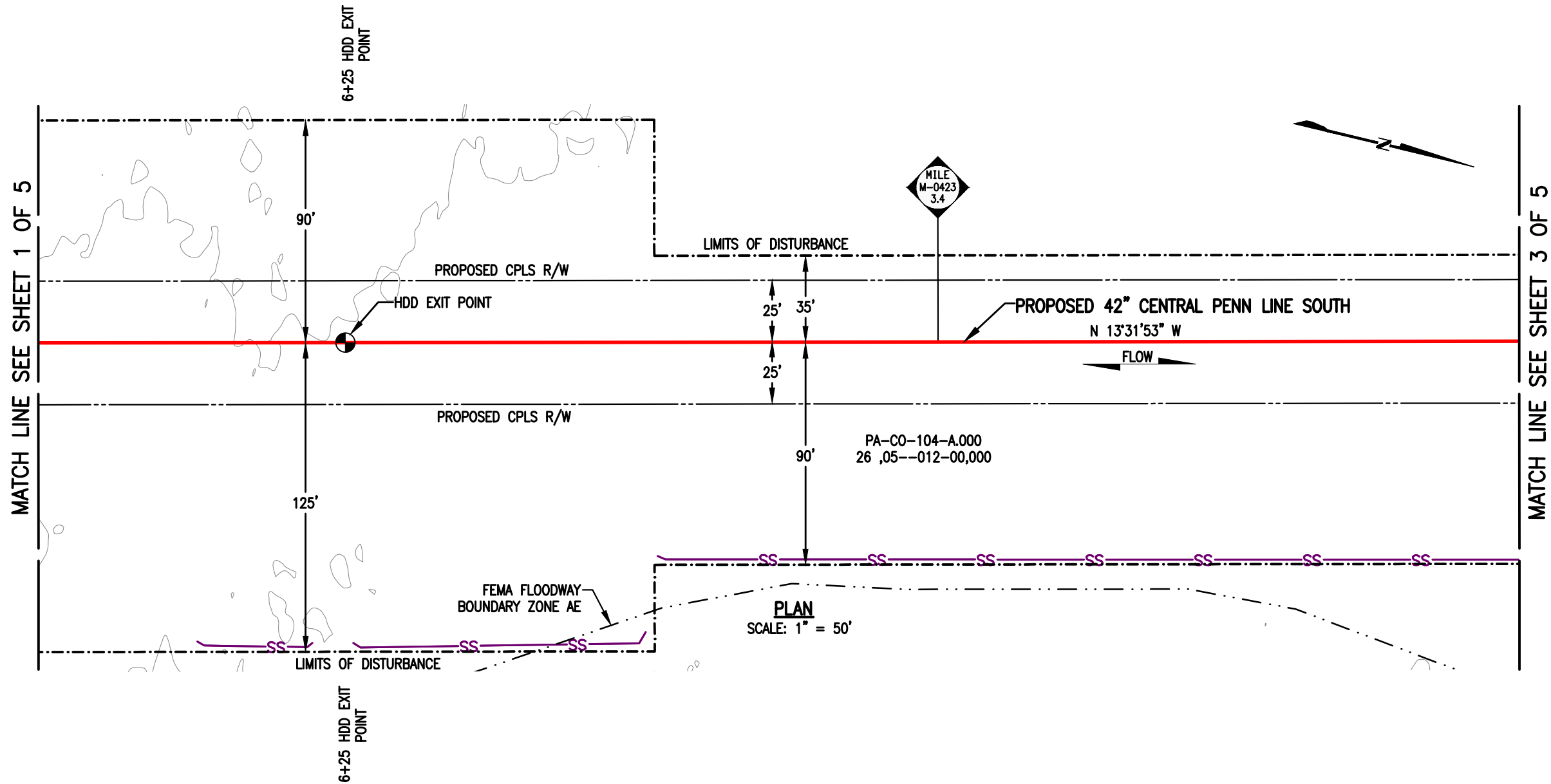
1. T.B.M. IRON ROD - 96' RT. OF M-0423 M.P. 3.16, ELEV. = 513.13' (NAVD88).



**LEGEND**

	PROPOSED 42" CENTRAL PENN LINE SOUTH		WETLAND FLAGS		<b>WOOD GROUP MUSTANG, INC.</b>
	EXISTING PIPELINES		PHOTO DATA POINT		12" SEDIMENT BARRIER
	EXISTING TGPL R/W		WETLAND DATA POINT		18" SEDIMENT BARRIER
	LIMITS OF DISTURBANCE		UPLAND DATA POINT		24" SEDIMENT BARRIER
	PROPOSED CPLS R/W		WELL POINT		32" SEDIMENT BARRIER
	PROPERTY LINE		TRENCH PLUG		TOP OF BANK
	FOREIGN PIPELINE		WATERBODY		PERMANENT STREAM IMPACT
	WETLAND AREA		TREE LINE		TEMPORARY STREAM IMPACT
	STREAM FLOW		FLOODWAY BOUNDARY		
	EXISTING POWER LINE		FEMA FLOODWAY BOUNDARY		
	EXISTING FENCE				

DRAWING NO.		REFERENCE TITLE		TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC						
				WATER OBSTRUCTION AND ENCROACHMENT PERMIT IMPACT MAPS						
				ATLANTIC SUNRISE PROJECT						
				PROPOSED 42" CENTRAL PENN LINE SOUTH						
				STREAM CROSSINGS WW-T70-12010-1 @ M-0423 M.P. 3.28						
				& WW-T70-12010 @ M-0423 M.P. 3.58						
				HEMLOCK & MT PLEASANT TOWNSHIPS, COLUMBIA COUNTY, PENNSYLVANIA						
NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.	DRAWN BY: JB	DATE: 07/22/16	ISSUED FOR BID:	SCALE: 1" = 50'
0	10/25/16	JB	ISSUED FOR PADEP SUBMITTAL #2	1161503	CLR	MJH	CHECKED BY: CLR	DATE: 07/22/16	ISSUED FOR CONSTRUCTION:	REVISION: 0
							APPROVED BY: MJH	DATE: 07/22/16	DRAWING NUMBER: 24-1600-70-09-A/M-0423-3.28-01	SHEET 1
							WC: 1161503	10/12/2016	t2le	OF 5



**LEGEND**

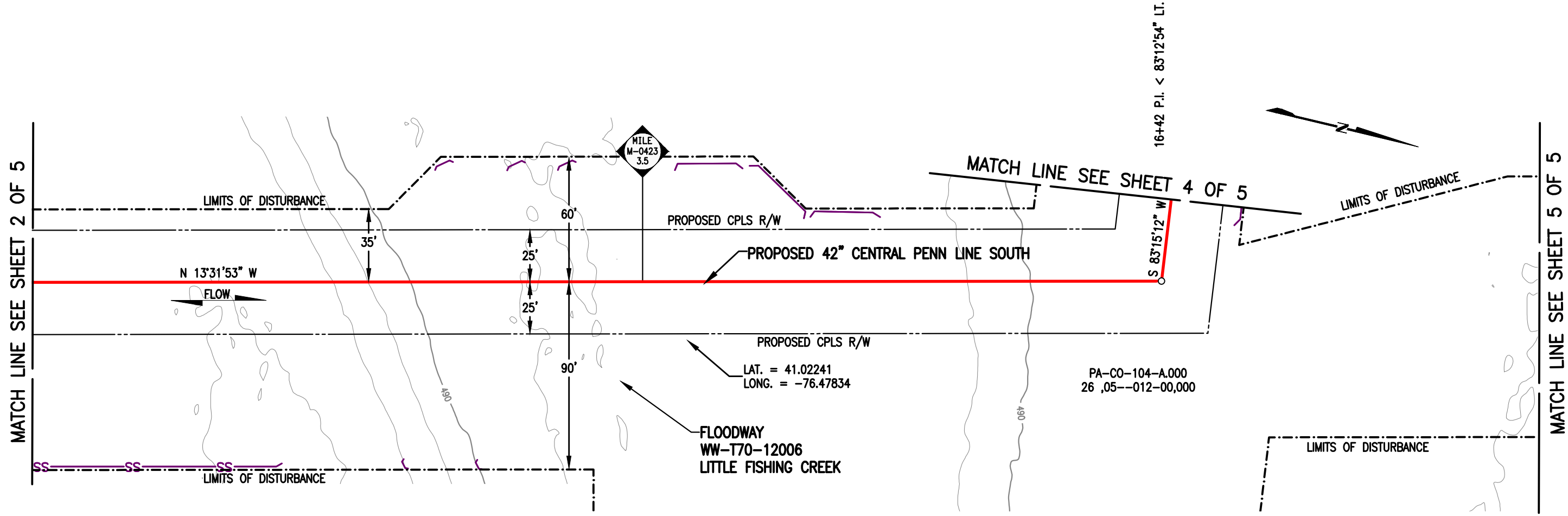
- PROPOSED 42" CENTRAL PENN LINE SOUTH
- EXISTING PIPELINES
- EXISTING TGPL R/W
- LIMITS OF DISTURBANCE
- PROPOSED CPLS R/W
- PROPERTY LINE
- FOREIGN PIPELINE
- WETLAND AREA
- STREAM FLOW
- EXISTING POWER LINE
- EXISTING FENCE
- WETLAND FLAGS
- PHOTO DATA POINT
- WETLAND DATA POINT
- UPLAND DATA POINT
- WELL POINT
- TRENCH PLUG
- WATERBODY
- FLOODWAY BOUNDARY
- FEMA FLOODWAY BOUNDARY
- 12" SEDIMENT BARRIER
- 18" SEDIMENT BARRIER
- 24" SEDIMENT BARRIER
- 32" SEDIMENT BARRIER
- TOP OF BANK
- PERMANENT STREAM IMPACT
- TEMPORARY STREAM IMPACT



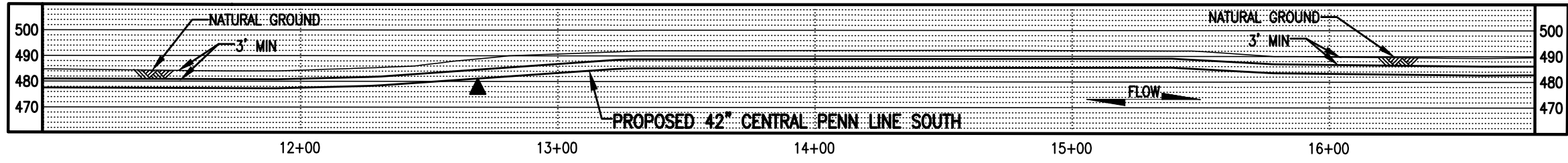
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NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.
0	10/25/16	JB	ISSUED FOR PADEP SUBMITTAL #2	1161503	CLR	MJH

**TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC**  
**WATER OBSTRUCTION AND ENCROACHMENT PERMIT IMPACT MAPS**  
**ATLANTIC SUNRISE PROJECT**  
**PROPOSED 42" CENTRAL PENN LINE SOUTH**  
**STREAM CROSSINGS WW-T70-12010-1 @ M-0423 M.P. 3.28,**  
**WW-T70-12006 @ M-0423 M.P. 3.50 & WW-T70-12010 @ M-0423 M.P. 3.58**  
**HEMLOCK & MT PLEASANT TOWNSHIPS, COLUMBIA COUNTY, PENNSYLVANIA**

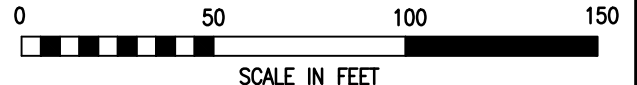
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CHECKED BY: CLR	DATE: 07/22/16	ISSUED FOR CONSTRUCTION:	REVISION: 0
APPROVED BY: MJH	DATE: 07/22/16	DRAWING NUMBER: 24-1600-70-09-A/M-0423-3.28-01	SHEET 2
WO: 1161503		10/20/2016 t3le	OF 5



**PLAN**  
SCALE: 1" = 50'



**PROFILE**  
SCALE: 1" = 50' HORIZONTAL  
1" = 50' VERTICAL



LEGEND	
	PROPOSED 42" CENTRAL PENN LINE SOUTH
	EXISTING PIPELINES
	EXISTING TGPL R/W
	LIMITS OF DISTURBANCE
	PROPOSED CPLS R/W
	PROPERTY LINE
	FOREIGN PIPELINE
	WETLAND AREA
	STREAM FLOW
	EXISTING POWER LINE
	EXISTING FENCE
	WETLAND FLAGS
	PHOTO DATA POINT
	WETLAND DATA POINT
	UPLAND DATA POINT
	WELL POINT
	TRENCH PLUG
	WATERBODY
	TREE LINE
	FLOODWAY BOUNDARY
	FEMA FLOODWAY BOUNDARY
	PERMANENT STREAM IMPACT
	TEMPORARY STREAM IMPACT
	12" SEDIMENT BARRIER
	18" SEDIMENT BARRIER
	24" SEDIMENT BARRIER
	32" SEDIMENT BARRIER
	TOP OF BANK

**WOOD GROUP MUSTANG, INC.**

DRAWING NO.	REFERENCE TITLE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.
0	10/25/16	JB	ISSUED FOR PADEP SUBMITTAL #2	1161503	CLR	MJH

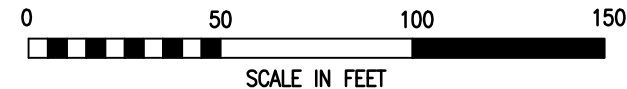
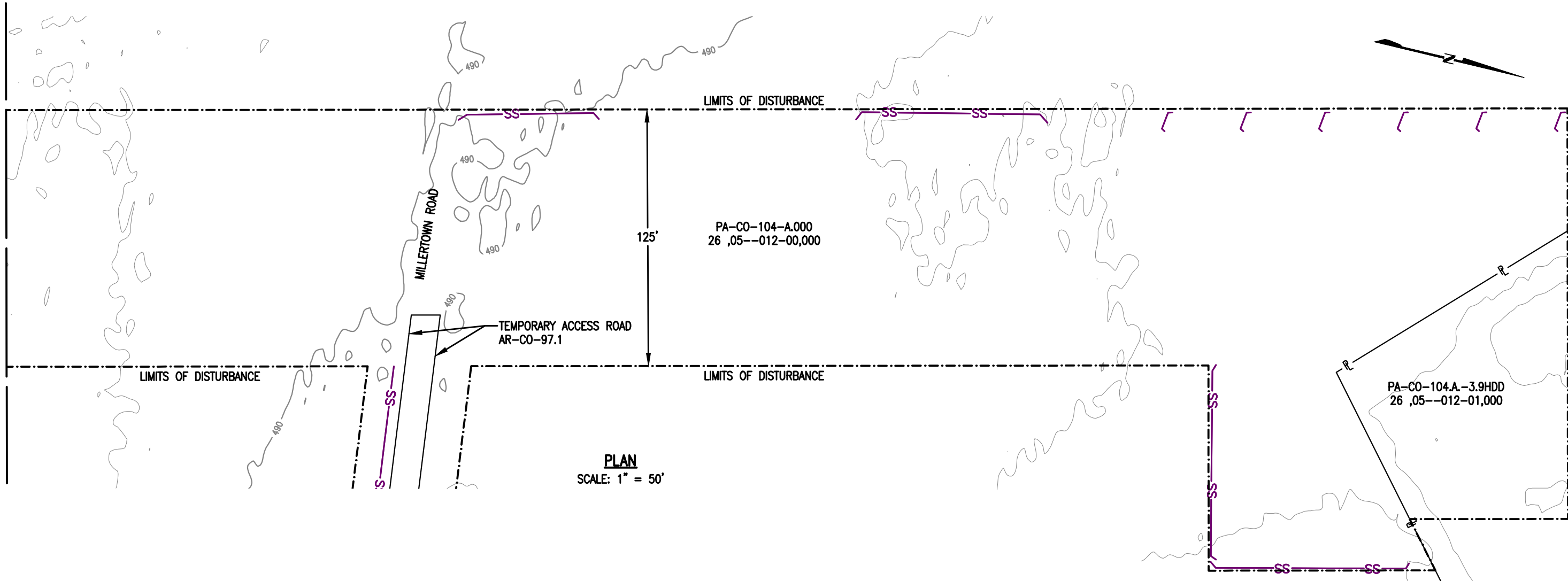
**TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC**  
**WATER OBSTRUCTION AND ENCROACHMENT PERMIT IMPACT MAPS**  
**ATLANTIC SUNRISE PROJECT**  
**PROPOSED 42" CENTRAL PENN LINE SOUTH**  
**STREAM CROSSINGS WW-T70-12010-1 @ M-0423 M.P. 3.28,**  
**WW-T70-12006 @ M-0423 M.P. 3.50 & WW-T70-12010 @ M-0423 M.P. 3.58**  
**HEMLOCK & MT PLEASANT TOWNSHIPS, COLUMBIA COUNTY, PENNSYLVANIA**

**Williams**

DRAWN BY: JB	DATE: 07/26/16	ISSUED FOR BID:	SCALE: 1" = 50'
CHECKED BY: CLR	DATE: 07/26/16	ISSUED FOR CONSTRUCTION:	REVISION: 0
APPROVED BY: MJH	DATE: 07/27/16	DRAWING NUMBER: 24-1600-70-09-A/M-0423-3.28-01	SHEET 3
WO: 1161503	10/11/2016	7:56am	OF 5



MATCH LINE SEE SHEET 3 OF 5



LEGEND		WOOD GROUP MUSTANG, INC.	
	PROPOSED 42" CENTRAL PENN LINE SOUTH		WETLAND FLAGS
	EXISTING PIPELINES		PHOTO DATA POINT
	EXISTING TGPL R/W		WETLAND DATA POINT
	LIMITS OF DISTURBANCE		UPLAND DATA POINT
	PROPOSED CPLS R/W		WELL POINT
	PROPERTY LINE		TRENCH PLUG
	FOREIGN PIPELINE		WATERBODY
	WETLAND AREA		TREE LINE
	STREAM FLOW		FLOODWAY BOUNDARY
	EXISTING POWER LINE		FEMA FLOODWAY BOUNDARY
	EXISTING FENCE		12" SEDIMENT BARRIER
			18" SEDIMENT BARRIER
			24" SEDIMENT BARRIER
			32" SEDIMENT BARRIER
			PERMANENT STREAM IMPACT
			TEMPORARY STREAM IMPACT

DRAWING NO.		REFERENCE TITLE	
NO.	DATE	BY	REVISION DESCRIPTION
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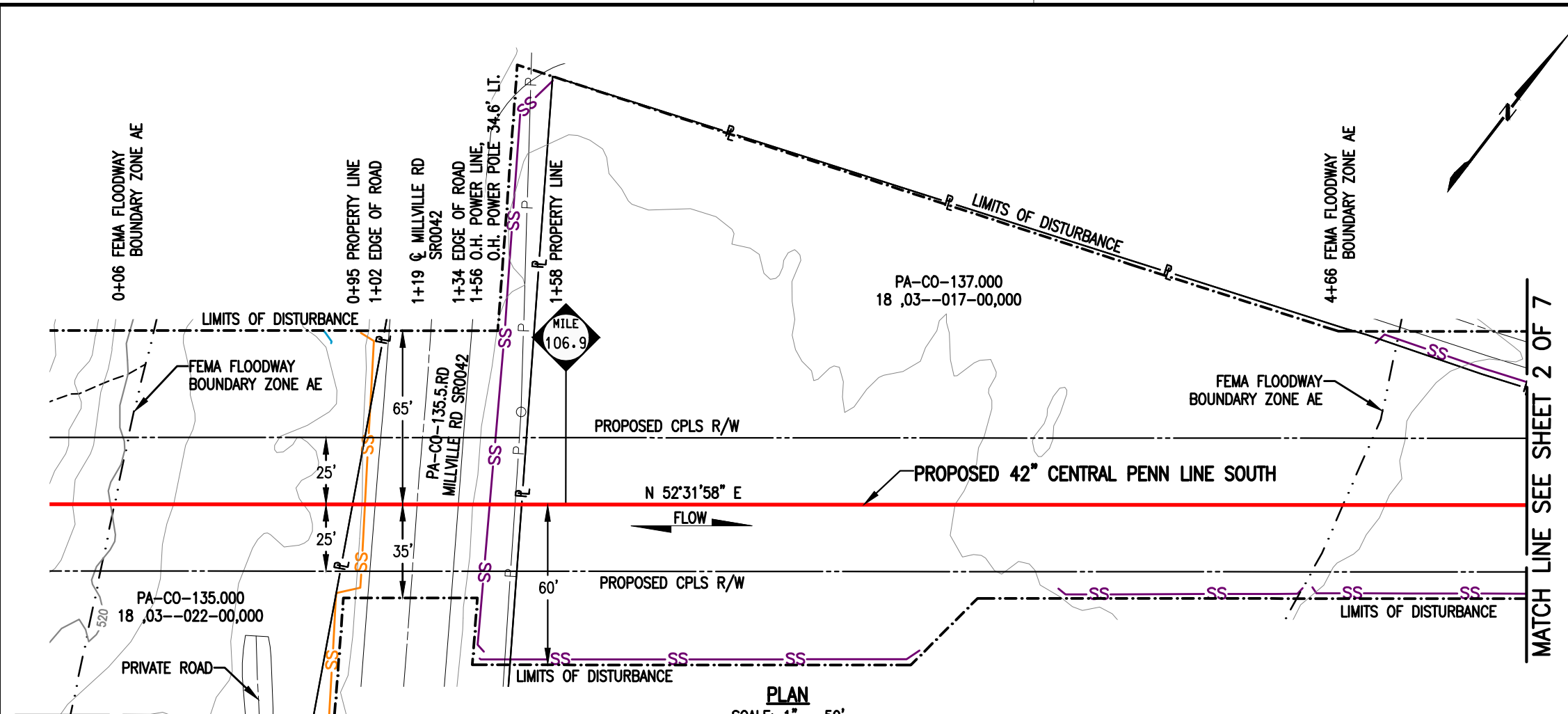
**TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC**  
**WATER OBSTRUCTION AND ENCROACHMENT PERMIT IMPACT MAPS**  
**ATLANTIC SUNRISE PROJECT**  
**PROPOSED 42" CENTRAL PENN LINE SOUTH**  
**STREAM CROSSINGS WW-T70-12010-1 @ M-0423 M.P. 3.28,**  
**WW-T70-12006 @ M-0423 M.P. 3.50 & WW-T70-12010 @ M-0423 M.P. 3.58**  
**HEMLOCK & MT PLEASANT TOWNSHIPS, COLUMBIA COUNTY, PENNSYLVANIA**

**Williams**

DRAWN BY: JB	DATE: 07/22/16	ISSUED FOR BID:	SCALE: 1" = 50'
CHECKED BY: CLR	DATE: 07/22/16	ISSUED FOR CONSTRUCTION:	REVISION: 0
APPROVED BY: MJH	DATE: 07/22/16	DRAWING NUMBER: 24-1600-70-09-A/M-0423-3.28-01	SHEET 5
WO: 1161503			OF 5

10/11/2016 jlibeast  
K:\103643-CPLS\Mapping\Waterbodies\CPLS\_PAN\Revised 105\24-1600-70-09-A\_M-0423-3.28-01.dwg





**FLOODWAY DISTURBANCE:**

STREAM WW-RS-12002	ACRE
TEMPORARY STREAM DISTURBANCE	0.1506
PERMANENT STREAM DISTURBANCE	0.0166
TOTAL STREAM DISTURBANCE	0.1672
TEMPORARY FLOODWAY DISTURBANCE	8.1447
PERMANENT FLOODWAY DISTURBANCE	0.7028
TOTAL FLOODWAY DISTURBANCE	8.8475
STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	72.19
STREAM LENGTH	102.35

MATCH LINE SEE SHEET 7 OF 7

MATCH LINE SEE SHEET 2 OF 7

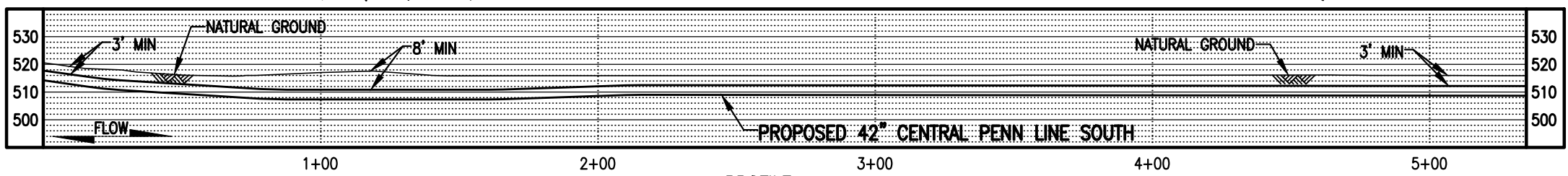
**PLAN**  
SCALE: 1" = 50'

**GENERAL NOTES:**

1. STREAM CROSSING METHODS FOR WW-RS-12002, WW-RS-99103, WW-T52-13001 AND WW-T52-13001C SHALL BE DAM AND PUMP (DPX). STREAM CROSSING METHOD FOR WW-RS-99108 SHALL BE FLUME (FX). EQUIPMENT TO CROSS STREAM UTILIZING A BRIDGE EQUIPMENT CROSSING (BEC).
2. THIS SITE IS LOCATED WITHIN THE 100 YEAR FLOOD MAP DATA.
3. STATION 1+00 SHOWN IS EQUAL TO STATION 5643+57 ON THE EROSION AND SEDIMENT CONTROL PLAN.
4. IMPACTS FOR STREAM WW-T52-13001, STREAM WW-T52-13001C, STREAM WW-RS-99103 AND STREAM WW-RS-99104 ARE SHOWN ON SHEET 6 OF 7.

**SURVEY NOTES:**

1. T.B.M. SURVEY CONTROL POINT - 24' RT. OF M.P. 106.99, ELEV. = 514.99' (NAVD88).



**PROFILE**  
SCALE: 1" = 50' HORIZONTAL  
1" = 50' VERTICAL



**LEGEND**

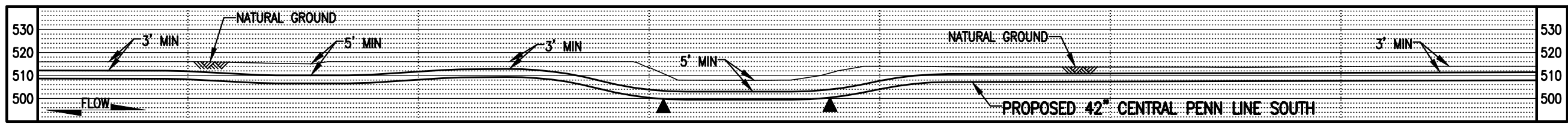
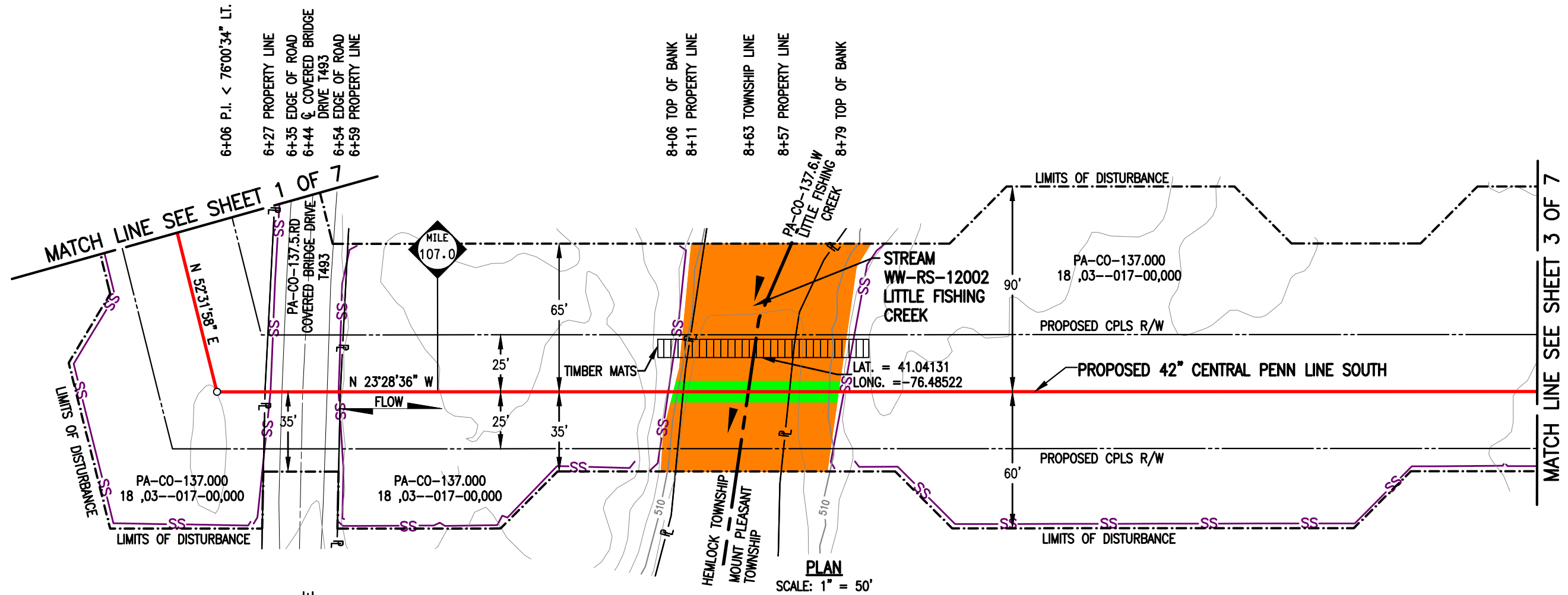
<p>— PROPOSED 42" CENTRAL PENN LINE SOUTH</p> <p>— EXISTING PIPELINES</p> <p>— EXISTING TGPL R/W</p> <p>--- LIMITS OF DISTURBANCE</p> <p>--- PROPOSED CPLS R/W</p> <p>— P — PROPERTY LINE</p> <p>— FOREIGN PIPELINE</p> <p>WETLAND AREA</p> <p>▲ STREAM FLOW</p> <p>— P — EXISTING POWER LINE</p> <p>— X — EXISTING FENCE</p>	<p>▽ WETLAND FLAGS</p> <p>⊗ PHOTO DATA POINT</p> <p>⊠ WETLAND DATA POINT</p> <p>⊡ UPLAND DATA POINT</p> <p>☼ WELL POINT</p> <p>▲ TRENCH PLUG</p> <p>WATERBODY</p> <p>— TREE LINE</p> <p>--- FLOODWAY BOUNDARY</p> <p>--- FEMA FLOODWAY BOUNDARY</p>	<p>SS 12" SEDIMENT BARRIER</p> <p>SS 18" SEDIMENT BARRIER</p> <p>SS 24" SEDIMENT BARRIER</p> <p>SS 32" SEDIMENT BARRIER</p> <p>— Y — Y — Y — Y — Y — TOP OF BANK</p> <p>PERMANENT STREAM IMPACT</p> <p>TEMPORARY STREAM IMPACT</p>	<p><b>WOOD GROUP MUSTANG, INC.</b></p>
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DRAWING NO.	REFERENCE TITLE	<p><b>TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC</b>  <b>WATER OBSTRUCTION AND ENCROACHMENT PERMIT IMPACT MAPS</b>  <b>ATLANTIC SUNRISE PROJECT</b>  <b>PROPOSED 42" CENTRAL PENN LINE SOUTH</b>  <b>STREAM CROSSINGS WW-RS-12002 M.P. 107.03, WW-RS-99103 M-0214 M.P. 0.16,</b>  <b>WW-T52-13001C, WW-T52-13001, WW-RS-99104 @ M-0214 M.P. 0.17</b>  <b>HEMLOCK TOWNSHIP, COLUMBIA COUNTY, PENNSYLVANIA</b></p>										
NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.	DRAWN BY:	THL	DATE:	08/06/16	ISSUED FOR BID:	SCALE: 1" = 50'
0	10/25/16	JB	ISSUED FOR PADEP SUBMITTAL #2	1161503	CLR	MJH	CHECKED BY:	CLR	DATE:	08/06/16	ISSUED FOR CONSTRUCTION:	REVISION: 0
							APPROVED BY:	MJH	DATE:	08/06/16	DRAWING NUMBER:	24-1600-70-09-A/107.02-01 SHEET 1
							WO:	1161503			6-02am 10/6/2016 K:\103643-CPLS\Mapping\Va\terribodies\CPLS_PAN\Revised 105\RS\24-1600-70-09-A_107.02-01.dwg	OF 7

**STREAM DISTURBANCE:**  
SEE TABLE ON SHEET 1 OF 7

**GENERAL NOTES:**  
SEE SHEET 1 OF 7

**SURVEY NOTES:**  
SEE SHEET 1 OF 7



**LEGEND**

	PROPOSED 42" CENTRAL PENN LINE SOUTH		WETLAND FLAGS
	EXISTING PIPELINES		PHOTO DATA POINT
	EXISTING TGPL R/W		WETLAND DATA POINT
	LIMITS OF DISTURBANCE		UPLAND DATA POINT
	PROPOSED CPLS R/W		WELL POINT
	PROPERTY LINE		TRENCH PLUG
	FOREIGN PIPELINE		WATERBODY
	WETLAND AREA		TREE LINE
	STREAM FLOW		FLOODWAY BOUNDARY
	EXISTING POWER LINE		FEMA FLOODWAY BOUNDARY
	EXISTING FENCE		PERMANENT STREAM IMPACT
			TEMPORARY STREAM IMPACT

DRAWING NO.		REFERENCE TITLE				
NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.
0	10/25/16	JB	ISSUED FOR PADEP SUBMITTAL #2	1161503	CLR	MJH

**TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC**  
**WATER OBSTRUCTION AND ENCROACHMENT PERMIT IMPACT MAPS**  
**ATLANTIC SUNRISE PROJECT**  
**PROPOSED 42" CENTRAL PENN LINE SOUTH**  
**STREAM CROSSINGS WW-RS-12002 M.P. 107.03, WW-RS-99103 M-0214 M.P. 0.16,**  
**WW-T52-13001C, WW-T52-13001, WW-RS-99104 @ M-0214 M.P. 0.17**  
**HEMLOCK & MOUNT PLEASANT TOWNSHIPS, COLUMBIA COUNTY, PENNSYLVANIA**

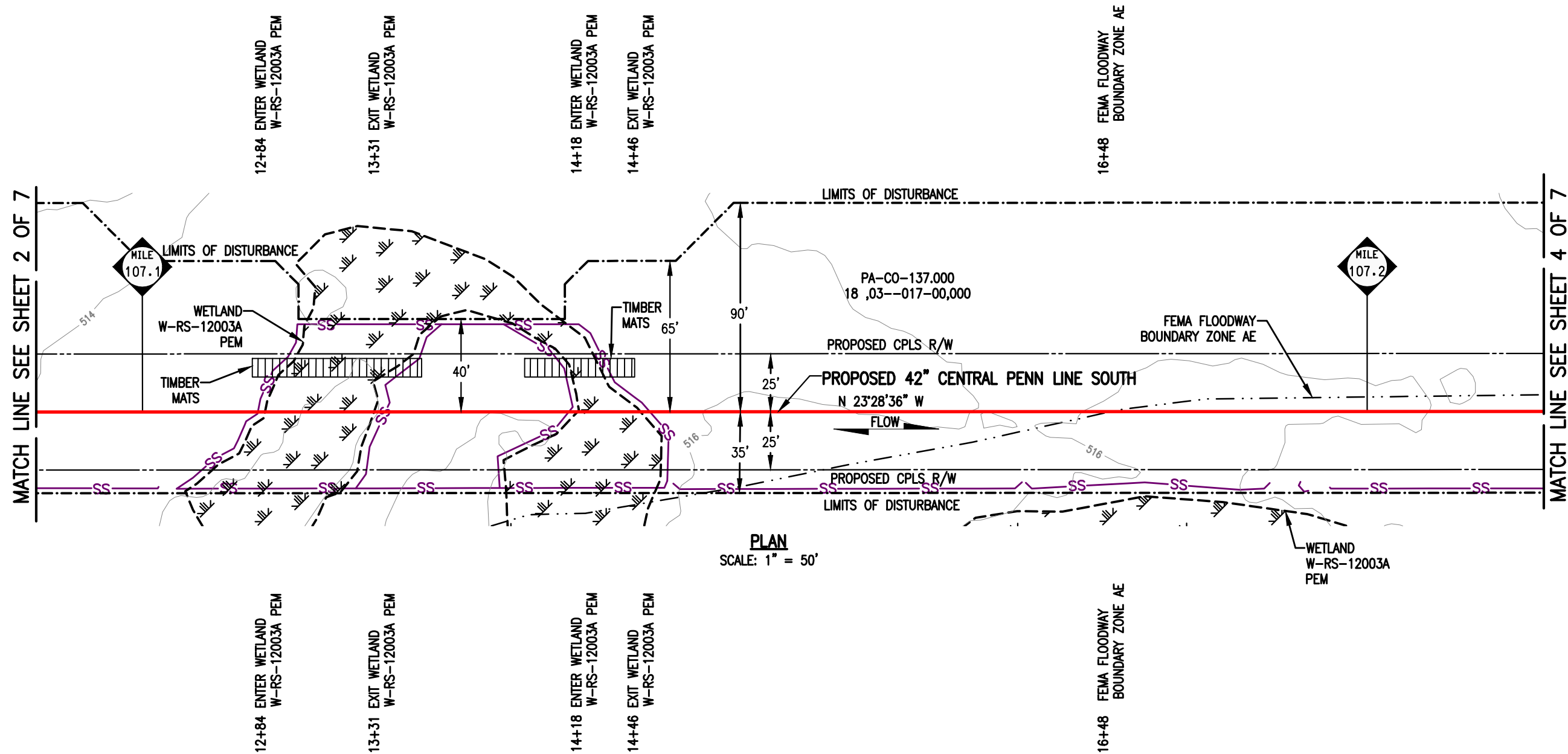
**Williams**

DRAWN BY: JB	DATE: 08/05/16	ISSUED FOR BID:	SCALE: 1" = 50'
CHECKED BY: CLR	DATE: 08/05/16	ISSUED FOR CONSTRUCTION:	REVISION: 0
APPROVED BY: MJH	DATE: 08/05/16	DRAWING NUMBER: 24-1600-70-09-A/107.02-01	SHEET 2 OF 7
W.O. NO.: 1161503	10/6/2016	jlibeast	

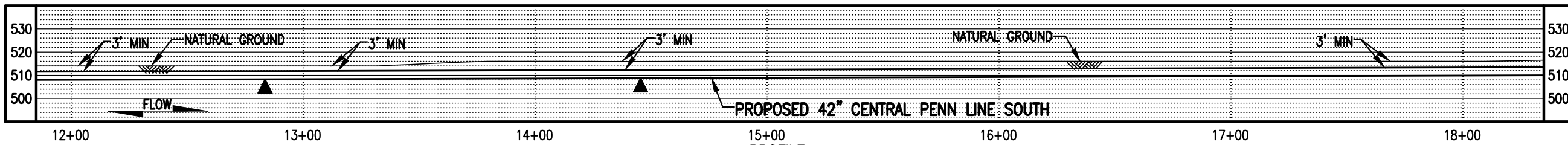
**STREAM DISTURBANCE:**  
SEE TABLE ON SHEET 1 OF 7

**GENERAL NOTES:**  
SEE SHEET 1 OF 7

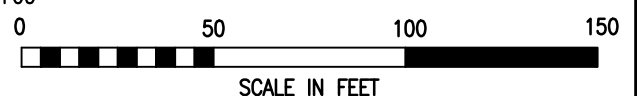
**SURVEY NOTES:**  
SEE SHEET 1 OF 7



**PLAN**  
SCALE: 1" = 50'



**PROFILE**  
SCALE: 1" = 50' HORIZONTAL  
1" = 50' VERTICAL



LEGEND		WOOD GROUP MUSTANG, INC.	
	PROPOSED 42" CENTRAL PENN LINE SOUTH		WETLAND FLAGS
	EXISTING PIPELINES		PHOTO DATA POINT
	EXISTING TGPL R/W		WETLAND DATA POINT
	LIMITS OF DISTURBANCE		UPLAND DATA POINT
	PROPOSED CPLS R/W		WELL POINT
	PROPERTY LINE		TRENCH PLUG
	FOREIGN PIPELINE		WATERBODY
	WETLAND AREA		TREE LINE
	STREAM FLOW		FLOODWAY BOUNDARY
	EXISTING POWER LINE		FEMA FLOODWAY BOUNDARY
	EXISTING FENCE		PERMANENT STREAM IMPACT
			TEMPORARY STREAM IMPACT

DRAWING NO.	REFERENCE TITLE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.
0	10/25/16	JB	ISSUED FOR PADEP SUBMITTAL #2	1161503	CLR	MJH

**TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC**  
**WATER OBSTRUCTION AND ENCROACHMENT PERMIT IMPACT MAPS**  
**ATLANTIC SUNRISE PROJECT**  
**PROPOSED 42" CENTRAL PENN LINE SOUTH**  
**STREAM CROSSINGS WW-RS-12002 M.P. 107.03, WW-RS-99103 M-0214 M.P. 0.16,**  
**WW-T52-13001C, WW-T52-13001, WW-RS-99104 @ M-0214 M.P. 0.17**  
**MOUNT PLEASANT TOWNSHIP, COLUMBIA COUNTY, PENNSYLVANIA**

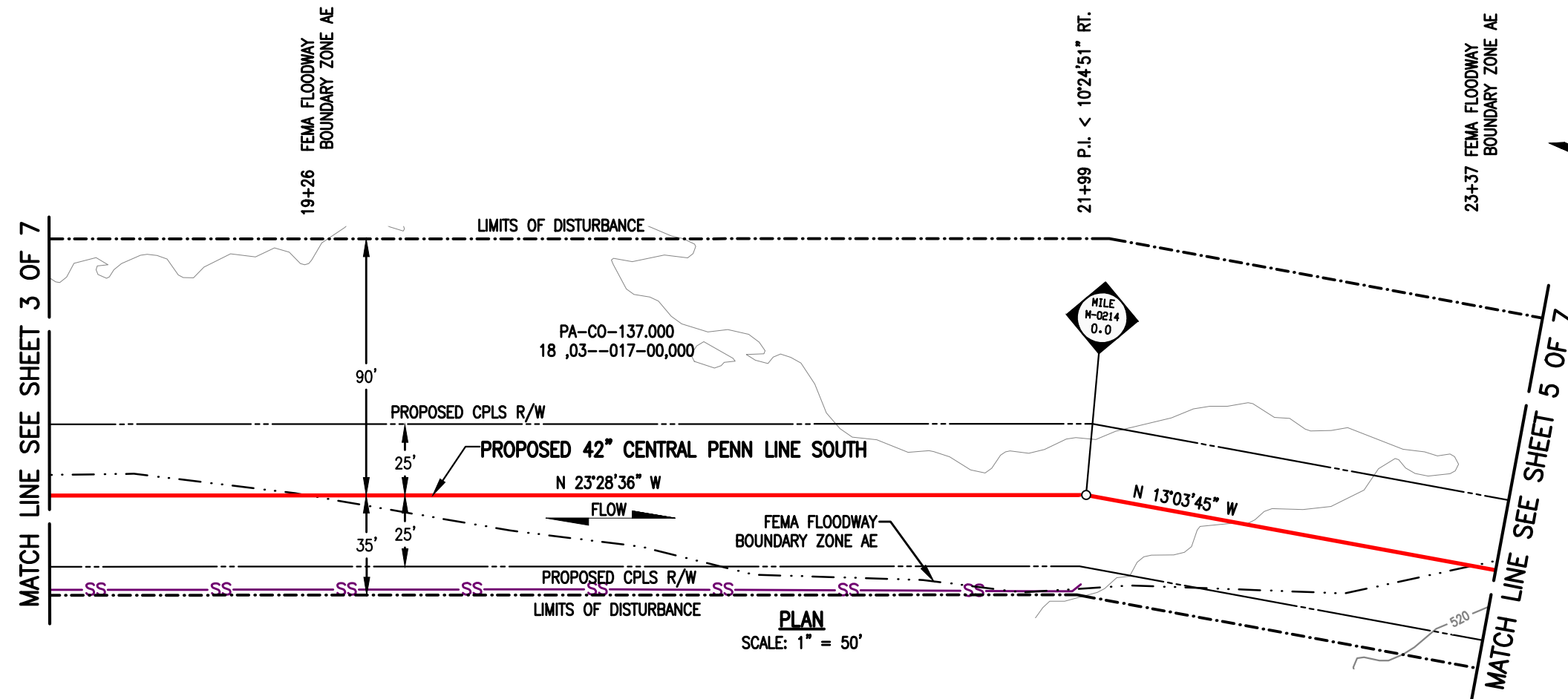
**Williams**

DRAWN BY: JB	DATE: 08/05/16	ISSUED FOR BID:	SCALE: 1" = 50'
CHECKED BY: CLR	DATE: 08/05/16	ISSUED FOR CONSTRUCTION:	REVISION: 0
APPROVED BY: MJH	DATE: 08/05/16	DRAWING NUMBER:	24-1600-70-09-A/107.02-01 SHEET 3
W.O. NUMBER: 1161503	10/6/2016	5-SSBm	OF 7

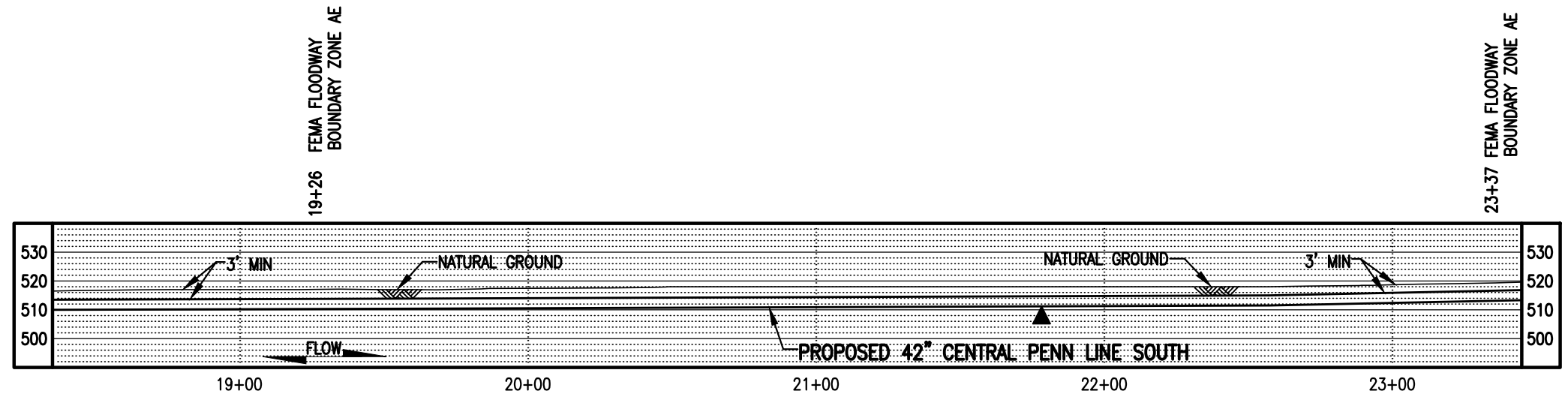
**STREAM DISTURBANCE:**  
SEE TABLE ON SHEET 1 OF 7

**GENERAL NOTES:**  
SEE SHEET 1 OF 7

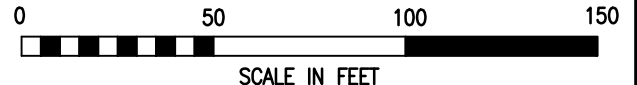
**SURVEY NOTES:**  
SEE SHEET 1 OF 7



**PLAN**  
SCALE: 1" = 50'



**PROFILE**  
SCALE: 1" = 50' HORIZONTAL  
1" = 50' VERTICAL



LEGEND		WOOD GROUP MUSTANG, INC.	
	PROPOSED 42" CENTRAL PENN LINE SOUTH		WETLAND FLAGS
	EXISTING PIPELINES		PHOTO DATA POINT
	EXISTING TGPL R/W		WETLAND DATA POINT
	LIMITS OF DISTURBANCE		UPLAND DATA POINT
	PROPOSED CPLS R/W		WELL POINT
	PROPERTY LINE		TRENCH PLUG
	FOREIGN PIPELINE		WATERBODY
	WETLAND AREA		TREE LINE
	STREAM FLOW		FLOODWAY BOUNDARY
	EXISTING POWER LINE		FEMA FLOODWAY BOUNDARY
	EXISTING FENCE		PERMANENT STREAM IMPACT
			TEMPORARY STREAM IMPACT

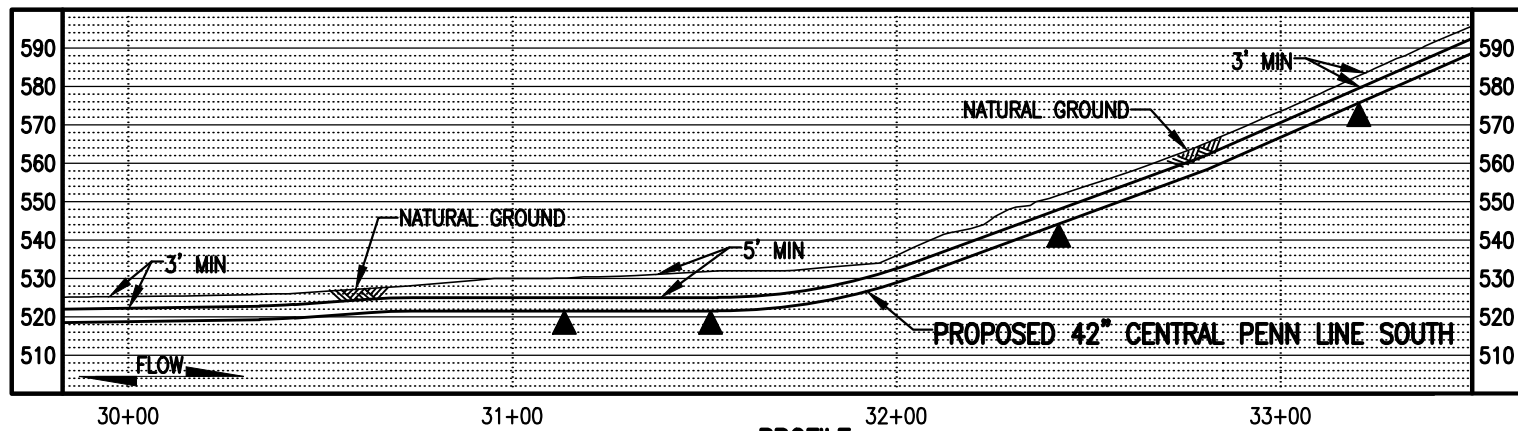
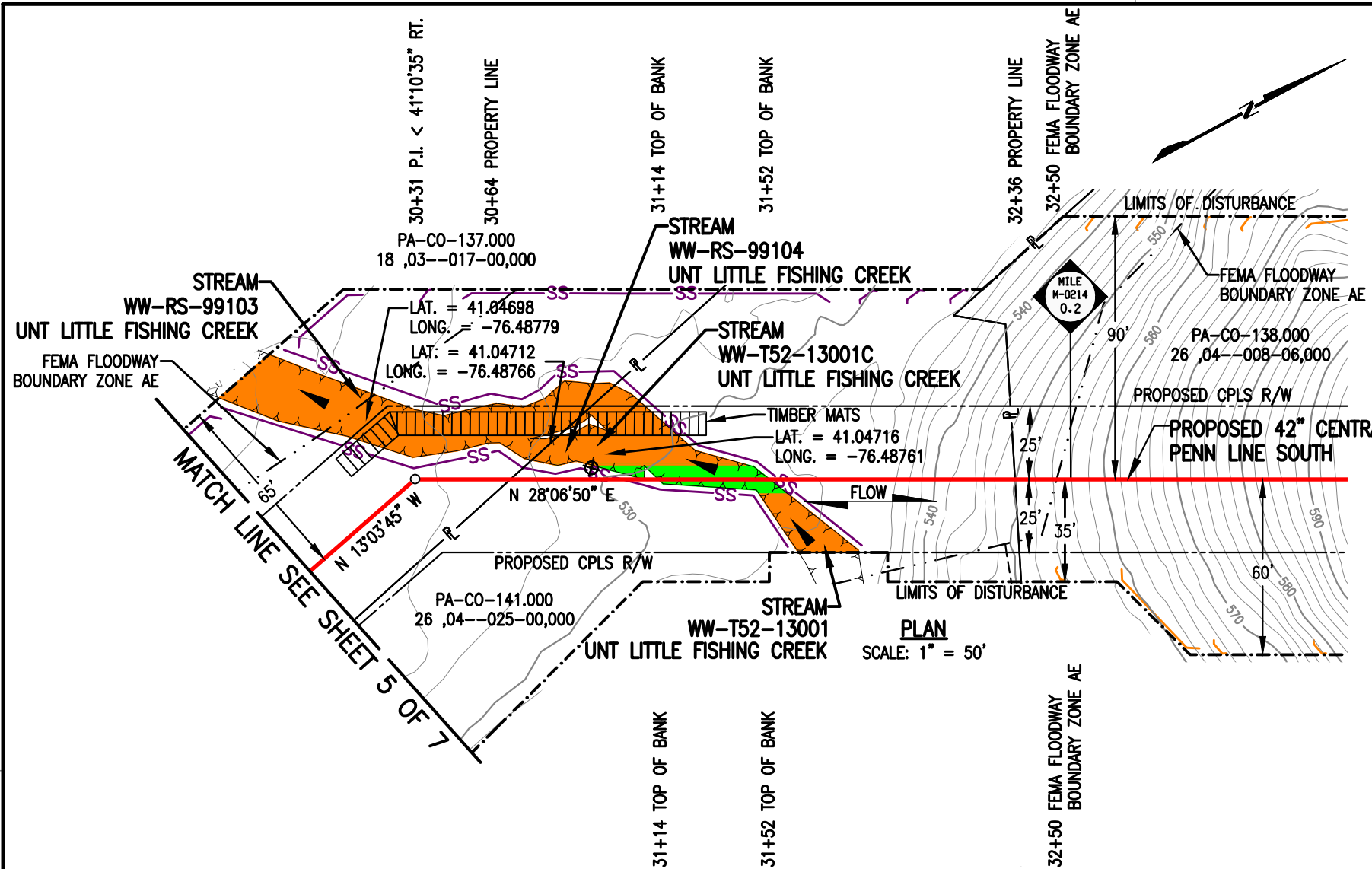
DRAWING NO.		REFERENCE TITLE	
NO.	DATE	BY	REVISION DESCRIPTION
0	10/25/16	JB	ISSUED FOR PADEP SUBMITTAL #2

**TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC**  
**WATER OBSTRUCTION AND ENCROACHMENT PERMIT IMPACT MAPS**  
**ATLANTIC SUNRISE PROJECT**  
**PROPOSED 42" CENTRAL PENN LINE SOUTH**  
 STREAM CROSSINGS WW-RS-12002 M.P. 107.03, WW-RS-99103 M-0214 M.P. 0.16, WW-T52-13001C, WW-T52-13001, WW-RS-99104 @ M-0214 M.P. 0.17  
**MOUNT PLEASANT TOWNSHIP, COLUMBIA COUNTY, PENNSYLVANIA**

**Williams**

DRAWN BY: JB	DATE: 08/05/16	ISSUED FOR BID:	SCALE: 1" = 50'
CHECKED BY: CLR	DATE: 08/05/16	ISSUED FOR CONSTRUCTION:	REVISION: 0
APPROVED BY: MJH	DATE: 08/05/16	DRAWING NUMBER: 24-1600-70-09-A/107.02-01	SHEET 4
WO: 1161503		10/6/2016	OF 7





**PROFILE**  
SCALE: 1" = 50' HORIZONTAL  
1" = 50' VERTICAL

**STREAM DISTURBANCE:**

STREAM WW-T52-13001C	ACRE
TEMPORARY STREAM DISTURBANCE	0.0042
PERMANENT STREAM DISTURBANCE	0.0011
TOTAL STREAM DISTURBANCE	0.0053
TEMPORARY FLOODWAY DISTURBANCE	0.0000
PERMANENT FLOODWAY DISTURBANCE	0.0000
TOTAL FLOODWAY DISTURBANCE	0.0000
STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	13.29
STREAM LENGTH	48.49

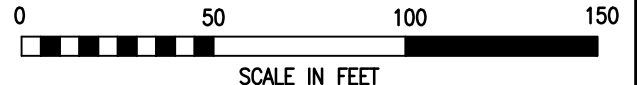
STREAM WW-T52-13001	ACRE
TEMPORARY STREAM DISTURBANCE	0.0184
PERMANENT STREAM DISTURBANCE	0.0071
TOTAL STREAM DISTURBANCE	0.0255
TEMPORARY FLOODWAY DISTURBANCE	0.2999
PERMANENT FLOODWAY DISTURBANCE	0.0354
TOTAL FLOODWAY DISTURBANCE	0.3353
STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	38.04
STREAM LENGTH	92.83

STREAM WW-RS-99103	ACRE
TEMPORARY STREAM DISTURBANCE	0.0459
PERMANENT STREAM DISTURBANCE	0.0000
TOTAL STREAM DISTURBANCE	0.0459
TEMPORARY FLOODWAY DISTURBANCE	0.0000
PERMANENT FLOODWAY DISTURBANCE	0.0000
TOTAL FLOODWAY DISTURBANCE	0.0000
STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	30.98
STREAM LENGTH	132.99

STREAM WW-RS-99104	ACRE
TEMPORARY STREAM DISTURBANCE	0.0046
PERMANENT STREAM DISTURBANCE	0.0000
TOTAL STREAM DISTURBANCE	0.0046
TEMPORARY FLOODWAY DISTURBANCE	0.0000
PERMANENT FLOODWAY DISTURBANCE	0.0000
TOTAL FLOODWAY DISTURBANCE	0.0000
STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	11.56
STREAM LENGTH	38.36

**GENERAL NOTES:**  
SEE SHEET 1 OF 7

**SURVEY NOTES:**  
SEE SHEET 1 OF 7



**LEGEND**

- PROPOSED 42" CENTRAL PENN LINE SOUTH
- EXISTING PIPELINES
- EXISTING TGPL R/W
- LIMITS OF DISTURBANCE
- PROPOSED CPLS R/W
- PROPERTY LINE
- FOREIGN PIPELINE
- WETLAND AREA
- STREAM FLOW
- EXISTING POWER LINE
- EXISTING FENCE
- WETLAND FLAGS
- PHOTO DATA POINT
- WETLAND DATA POINT
- UPLAND DATA POINT
- WELL POINT
- TRENCH PLUG
- WATERBODY
- TREE LINE
- FLOODWAY BOUNDARY
- FEMA FLOODWAY BOUNDARY
- 12" SEDIMENT BARRIER
- 18" SEDIMENT BARRIER
- 24" SEDIMENT BARRIER
- 32" SEDIMENT BARRIER
- TOP OF BANK
- PERMANENT STREAM IMPACT
- TEMPORARY STREAM IMPACT

**WOOD GROUP MUSTANG, INC.**

**TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC**  
WATER OBSTRUCTION AND ENCROACHMENT PERMIT IMPACT MAPS  
ATLANTIC SUNRISE PROJECT  
PROPOSED 42" CENTRAL PENN LINE SOUTH  
STREAM CROSSINGS WW-RS-12002 M.P. 107.03, WW-RS-99103 M-0214 M.P. 0.16,  
WW-T52-13001C, WW-T52-13001, WW-RS-99104 @ M-0214 M.P. 0.17  
MOUNT PLEASANT TOWNSHIP, COLUMBIA COUNTY, PENNSYLVANIA

**Williams**

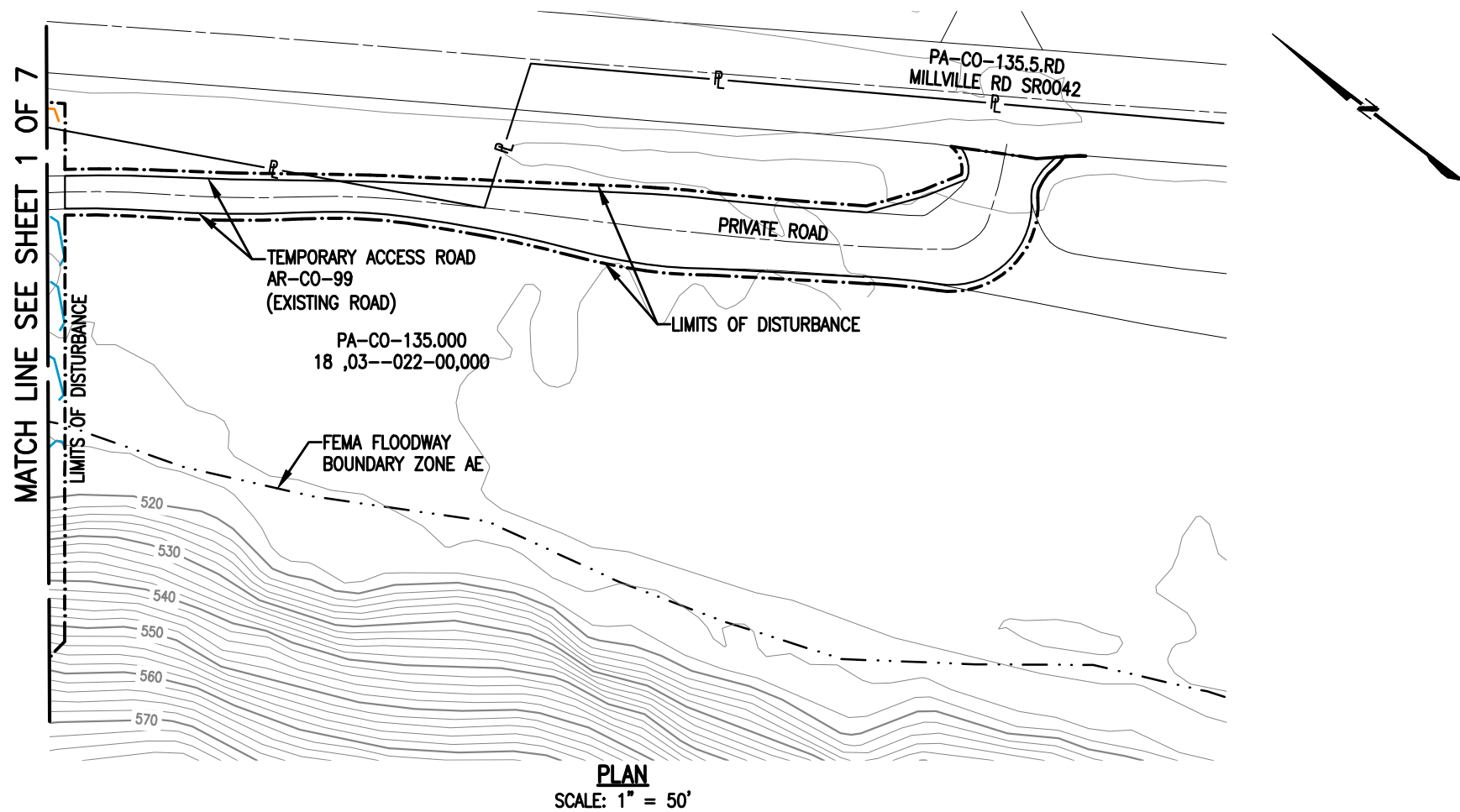
NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.	DRAWN BY:	DATE:	ISSUED FOR BID:	SCALE:
0	10/25/16	JB	ISSUED FOR PADEP SUBMITTAL #2	1161503	CLR	MJH	JB	08/05/16		1" = 50'

APPROVED BY: MJH DATE: 08/05/16  
ISSUED FOR CONSTRUCTION: REVISION: 0  
DRAWING NUMBER: 24-1600-70-09-A/107.02-01 SHEET 6  
WC: 1161503  
10/6/2016 jibeast  
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**STREAM DISTURBANCE:**  
SEE TABLE ON SHEET 1 OF 7

**GENERAL NOTES:**  
SEE SHEET 1 OF 7

**SURVEY NOTES:**  
SEE SHEET 1 OF 7



LEGEND		WOOD GROUP MUSTANG, INC.	
	PROPOSED 42" CENTRAL PENN LINE SOUTH		WETLAND FLAGS
	EXISTING PIPELINES		PHOTO DATA POINT
	EXISTING TGPL R/W		WETLAND DATA POINT
	LIMITS OF DISTURBANCE		UPLAND DATA POINT
	PROPOSED CPLS R/W		WELL POINT
	PROPERTY LINE		TRENCH PLUG
	FOREIGN PIPELINE		WATERBODY
	WETLAND AREA		TREE LINE
	STREAM FLOW		FLOODWAY BOUNDARY
	EXISTING POWER LINE		FEMA FLOODWAY BOUNDARY
	EXISTING FENCE		12" SEDIMENT BARRIER
			18" SEDIMENT BARRIER
			24" SEDIMENT BARRIER
			32" SEDIMENT BARRIER
			TOP OF BANK
			PERMANENT STREAM IMPACT
			TEMPORARY STREAM IMPACT

DRAWING NO.		REFERENCE TITLE	
NO.	DATE	BY	REVISION DESCRIPTION
0	10/25/16	JB	ISSUED FOR PADEP SUBMITTAL #2

TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC			
WATER OBSTRUCTION AND ENCROACHMENT PERMIT IMPACT MAPS			
ATLANTIC SUNRISE PROJECT			
PROPOSED 42" CENTRAL PENN LINE SOUTH			
STREAM CROSSINGS WW-RS-12002 M.P. 107.03, WW-RS-99103 M-0214 M.P. 0.16, WW-T52-13001, WW-T52-13001C, WW-RS-99104 M-0214 M.P. 0.17			
HEMLOCK TOWNSHIP, COLUMBIA COUNTY, PENNSYLVANIA			
DRAWN BY:	JB	DATE:	08/05/16
CHECKED BY:	CLR	DATE:	08/05/16
APPROVED BY:	MJH	DATE:	08/05/16
ISSUED FOR BID:		SCALE:	1" = 50'
ISSUED FOR CONSTRUCTION:		REVISION:	0
DRAWING NUMBER:	24-1600-70-09-A/107.02-01 SHEET 7		
W.O. NO.:	1161503	CHK.:	CLR
APP.:	MJH	DATE:	10/6/2016



October 27, 2016

Jackson Township  
Floodplain Administrator  
862 Waller Divide Road  
Benton, PA 17814

Re: Atlantic Sunrise Project  
Central Penn Line South  
Jackson Township, Columbia County  
Floodplain Management Analysis

Dear Sir or Madam:

Transcontinental Gas Pipeline Company, LLC (Transco) proposes to construct and operate the Atlantic Sunrise Project (Project) to provide 1.7 million dekatherms per day of incremental firm transportation of natural gas from the Marcellus Shale production areas in northern Pennsylvania (PA) to its existing market areas, extending to as far south as the Station 85 Pooling Point in Choctaw County, Alabama. The Project includes modifications to the existing Transco Mainline System to reverse the direction of flow, enabling new north-to-south capabilities (bi-directional flow) to transport this new source of natural gas to existing markets. The Project consists of the following primary components within PA:

- Installing greenfield pipeline facilities of approximately 58.6 miles of new 30-inch-diameter pipe from Susquehanna County, PA to Columbia County, PA.
- Installing greenfield pipeline facilities of approximately 127.3 miles of 42-inch-diameter pipe from Columbia County, PA to Lancaster County, PA.;
- Installing two pipeline loops (pipeline laid parallel to existing facilities):
  - 8.56 miles of 42-inch pipeline loop located in Lycoming County, PA known as the Unity Loop;
  - 2.50 miles of 36-inch pipeline in Clinton County, PA, known as the Chapman Loop;
- Constructing two new compressor stations, one in Wyoming County and one in Columbia County, PA;
- Additional ancillary facilities, such as mainline valves, cathodic protection, communication facilities, and internal inspection device (e.g., pig) launchers and receivers;
- Two new meter stations and three new regulator stations with interconnecting piping;
- Additional compression and related modifications to one existing compressor station; and,
- Modification to an existing meter station for use of shared facilities with a new meter station.

Transco's consultants, BL Companies and TRC Solutions (TRC), have completed an analysis of potential impacts on FEMA delineated floodways from the Project in accordance with 25 Pa. Code § 105.13. The analysis for Jackson Township is provided below for your review and comment.

Jackson Township  
October 27, 2016  
BL Project No. 14C4909  
Page 1 of 2

**ATLANTIC SUNRISE PROJECT  
FEMA FLOODPLAIN CROSSINGS  
JACKSON TOWNSHIP, COLUMBIA COUNTY, PENNSYLVANIA**

Description of Impact	Structure Type and Dimensions	Resource ID	Resource Name	Chapter 93 Classification, Wetland Classification (EV or Other), or Floodway Type	Floodway Fill (cu. yds.)	Impact area (acres)		Latitude	Longitude
						Temporary	Permanent		
Utility Pipeline Crossing	Equipment Access and E&S Controls	WW-T06-14001	Floodway to West Creek	FEMA Detailed <sup>1</sup>	N/A	1.2574	0.1110 <sup>2</sup>	41.26719	-76.41055

Notes:  
<sup>1</sup> Multiple streams are included in these calculations as the floodways overlap.  
<sup>2</sup> Permanent impacts associated with utility pipeline crossings are based on the permanent pipe footprint within the floodplain (pipe trench width x pipe crossing length). No permanent alternation to the floodway contours and elevation is associated with these permanent impacts.

The floodway crossing listed above is depicted on the enclosed plans from the Project’s PADEP Chapter 105 Permit Application.

Please note that construction activities are not expected to create permanent loss of flood storage capacity or hydraulic capacity, as all pre-construction surface elevations will be re-established during restoration. The temporary and permanent impacts noted above are associated with vegetation management and underground pipe installation only, and do not represent a permanent modification of ground elevation or loss of flood storage capacity or hydraulic capacity. No structures are proposed within the FEMA 100-year floodplain, no fill will be placed in the floodways, and no increase in 100-year flood elevation is anticipated as a result of the proposed Project.

On behalf of Transco, BL and TRC respectfully request that Jackson Township review this analysis and, if applicable, provide comments to:

Steve Crescenzo  
 TRC Environmental Corporation  
 2200 Liberty Avenue, Suite 100  
 Pittsburgh, PA 15222

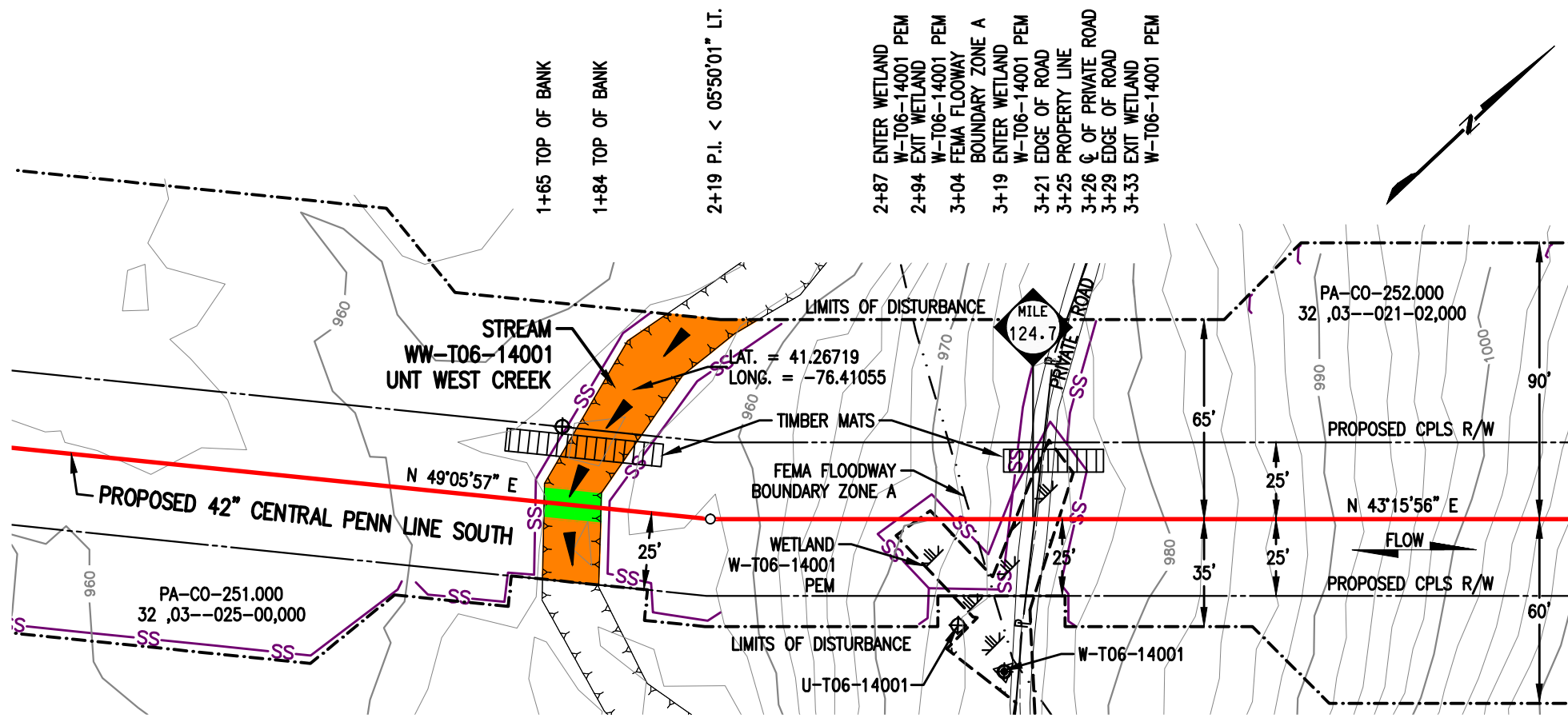
**Please do not send comments directly to the PADEP**, as we must include them with our permit application. Should you have any questions or concerns regarding this notification, please contact Al Busher at (717)-651-9850 or via email at [abusher@blcompanies.com](mailto:abusher@blcompanies.com).

Sincerely,

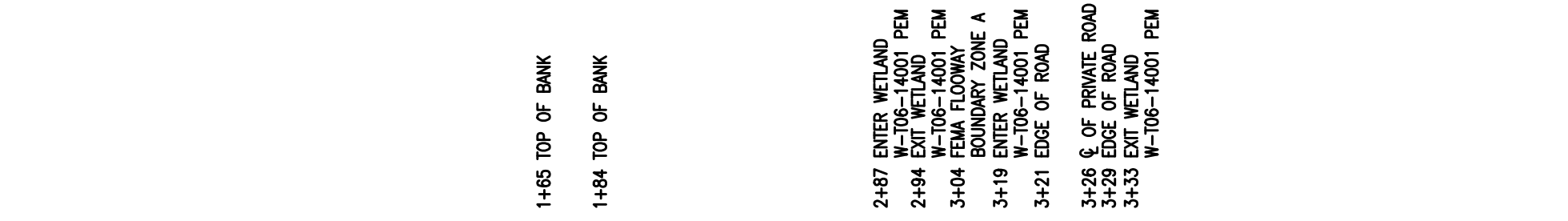


Alaric J. Busher, PE  
 Senior Engineer

Enclosures: Water Obstruction and Encroachment Permit Impact Maps



**PLAN**  
SCALE: 1" = 50'



**PROFILE**  
SCALE: 1" = 50' HORIZONTAL  
1" = 50' VERTICAL

**STREAM DISTURBANCE:**

STREAM WW-T06-14001	ACRE
TEMPORARY STREAM DISTURBANCE	0.0403
PERMANENT STREAM DISTURBANCE	0.0043
TOTAL STREAM DISTURBANCE	0.0446
TEMPORARY FLOODWAY DISTURBANCE	1.2574
PERMANENT FLOODWAY DISTURBANCE	0.1110
TOTAL FLOODWAY DISTURBANCE	1.3684

STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	18.60
STREAM LENGTH	99.81

**GENERAL NOTES:**

1. STREAM CROSSING METHOD SHALL BE DAM AND PUMP (DPX). EQUIPMENT TO CROSS STREAM UTILIZING A BRIDGE EQUIPMENT CROSSING (BEC).
2. THIS SITE IS LOCATED WITHIN THE 100 YEAR FLOOD PLAIN PER FEMA FLOOD MAP DATA.
3. STATION 1+00 SHOWN IS EQUAL TO STATION 6581+92 ON THE EROSION AND SEDIMENT CONTROL PLAN.

**SURVEY NOTES:**

1. T.B.M. SURVEY CONTROL POINT - 45' RT. OF M.P. 124.70, ELEV. = 974.50' (NAVD88).

**LEGEND**

	PROPOSED 42" CENTRAL PENN LINE SOUTH		WETLAND FLAGS
	EXISTING PIPELINES		PHOTO DATA POINT
	EXISTING TGPL R/W		WETLAND DATA POINT
	LIMITS OF DISTURBANCE		UPLAND DATA POINT
	PROPOSED CPLS R/W		WELL POINT
	PROPERTY LINE		TRENCH PLUG
	FOREIGN PIPELINE		WATERBODY
	WETLAND AREA		TREE LINE
	STREAM FLOW		FLOODWAY BOUNDARY
	EXISTING POWER LINE		FEMA FLOODWAY BOUNDARY
	EXISTING FENCE		PERMANENT STREAM IMPACT
			TEMPORARY STREAM IMPACT

**WOOD GROUP MUSTANG, INC.**

DRAWING NO.	REFERENCE TITLE	TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC WATER OBSTRUCTION AND ENCROACHMENT PERMIT IMPACT MAPS ATLANTIC SUNRISE PROJECT PROPOSED 42" CENTRAL PENN LINE SOUTH STREAM CROSSING WW-T06-14001 M.P. 124.67 JACKSON TOWNSHIP, COLUMBIA COUNTY, PENNSYLVANIA								
NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.	DRAWN BY: FH	DATE: 03/31/15	ISSUED FOR BID:	SCALE: 1" = 50'
0	08/20/15	FH	ISSUED FOR PADEP 105 PERMIT	1161503	CLR	MJH	CHECKED BY: ELR	DATE: 03/31/15	ISSUED FOR CONSTRUCTION:	REVISION: 2
1	02/03/16	LN	ISSUED FOR INTERNAL USE	1161503	CLR	MJH	APPROVED BY: MJH	DATE: 06/08/15	DRAWING NUMBER: 24-1600-70-09-A/124.67-01	SHEET 1
2	10/25/16	AT	ISSUED FOR PADEP SUBMITTAL #2	1161503	CLR	MJH	IWO: 1161503		6-S4am 10/4/2016 K:\03643-CPLS\Mapping\Waterbodies\CPLS_PAN\Revised 105\24-1600-70-09-A_124.67-01.dwg	OF 1



October 27, 2016

Montour Township  
195 Rupert Drive  
Bloomsburg, PA 17815

Re: Atlantic Sunrise Project  
Central Penn Line South  
Montour Township, Columbia County  
Floodplain Management Analysis

Dear Sir or Madam:

Transcontinental Gas Pipeline Company, LLC (Transco) proposes to construct and operate the Atlantic Sunrise Project (Project) to provide 1.7 million dekatherms per day of incremental firm transportation of natural gas from the Marcellus Shale production areas in northern Pennsylvania (PA) to its existing market areas, extending to as far south as the Station 85 Pooling Point in Choctaw County, Alabama. The Project includes modifications to the existing Transco Mainline System to reverse the direction of flow, enabling new north-to-south capabilities (bi-directional flow) to transport this new source of natural gas to existing markets. The Project consists of the following primary components within PA:

- Installing greenfield pipeline facilities of approximately 58.6 miles of new 30-inch-diameter pipe from Susquehanna County, PA to Columbia County, PA.
- Installing greenfield pipeline facilities of approximately 127.3 miles of 42-inch-diameter pipe from Columbia County, PA to Lancaster County, PA.;
- Installing two pipeline loops (pipeline laid parallel to existing facilities):
  - 8.56 miles of 42-inch pipeline loop located in Lycoming County, PA known as the Unity Loop;
  - 2.50 miles of 36-inch pipeline in Clinton County, PA, known as the Chapman Loop:
- Constructing two new compressor stations, one in Wyoming County and one in Columbia County, PA;
- Additional ancillary facilities, such as mainline valves, cathodic protection, communication facilities, and internal inspection device (e.g., pig) launchers and receivers;
- Two new meter stations and three new regulator stations with interconnecting piping;
- Additional compression and related modifications to one existing compressor station; and,
- Modification to an existing meter station for use of shared facilities with a new meter station.

Transco's consultants, BL Companies and TRC Solutions (TRC), have completed an analysis of potential impacts on FEMA delineated floodways from the Project in accordance with 25 Pa. Code § 105.13. The analysis for Montour Township is provided below for your review and comment.

Montour Township  
October 27, 2016  
BL Project No. 14C4909  
Page 1 of 3

**ATLANTIC SUNRISE PROJECT  
FEMA FLOODPLAIN CROSSINGS  
MONTOUR TOWNSHIP, COLUMBIA COUNTY, PENNSYLVANIA**

Description of Impact	Structure Type and Dimensions	Resource ID	Resource Name	Chapter 93 Classification, Wetland Classification (EV or Other), or Floodway Type	Floodway Fill (cu. yds.)	Impact area (acres)		Latitude	Longitude
						Temporary	Permanent		
Utility Pipeline Crossing	Equipment Access and E&S Controls	WW-T04-12001	Floodway to Susquehanna River	FEMA Detailed	N/A	0.7714	0.1920 <sup>2</sup>	40.95028	-76.48468
Utility Pipeline Crossing	Equipment Access and E&S Controls	WW-T04-12005	Floodway to Montour Run	FEMA Detailed <sup>3</sup>	N/A	0.1677	0.0259 <sup>2</sup>	40.97699	-76.49838

Notes:  
<sup>1</sup> Multiple streams are included in these calculations as the floodways overlap.  
<sup>2</sup> Permanent impacts associated with utility pipeline crossings are based on the permanent pipe footprint within the floodplain (pipe trench width x pipe crossing length). No permanent alternation to the floodway contours and elevation is associated with these permanent impacts.

The floodway crossings listed above are depicted on the enclosed plans from the Project’s PADEP Chapter 105 Permit Application.

Please note that construction activities are not expected to create permanent loss of flood storage capacity or hydraulic capacity, as all pre-construction surface elevations will be re-established during restoration. The temporary and permanent impacts noted above are associated with vegetation management and underground pipe installation only, and do not represent a permanent modification of ground elevation or loss of flood storage capacity or hydraulic capacity. No structures are proposed within the FEMA 100-year floodplain, no fill will be placed in the floodways, and no increase in 100-year flood elevation is anticipated as a result of the proposed Project.

On behalf of Transco, BL and TRC respectfully request that Montour Township review this analysis and, if applicable, provide comments to:

Steve Crescenzo  
 TRC Environmental Corporation  
 2200 Liberty Avenue, Suite 100  
 Pittsburgh, PA 15222

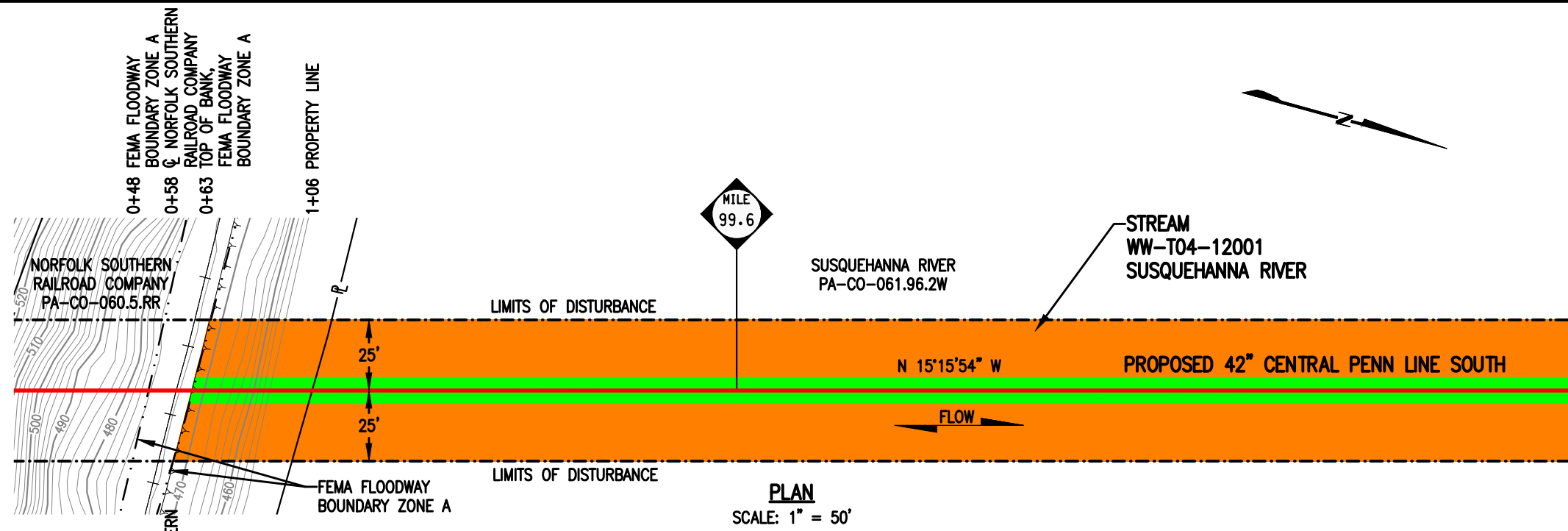
**Please do not send comments directly to the PADEP,** as we must include them with our permit application. Should you have any questions or concerns regarding this notification, please contact Al Busher at (717)-651-9850 or via email at [abusher@blcompanies.com](mailto:abusher@blcompanies.com).

Sincerely,



Alaric J. Busher, PE  
 Senior Engineer

Enclosures: Water Obstruction and Encroachment Permit Impact Maps



MATCH LINE SEE SHEET 2 OF 4

**STREAM DISTURBANCE:**

STREAM WW-T04-12001	ACRE
TEMPORARY STREAM DISTURBANCE	0.9213
PERMANENT STREAM DISTURBANCE	0.2303
<b>TOTAL STREAM DISTURBANCE</b>	<b>1.1516</b>
TEMPORARY FLOODWAY DISTURBANCE	0.7714
PERMANENT FLOODWAY DISTURBANCE	0.1920
<b>TOTAL FLOODWAY DISTURBANCE</b>	<b>0.9634</b>

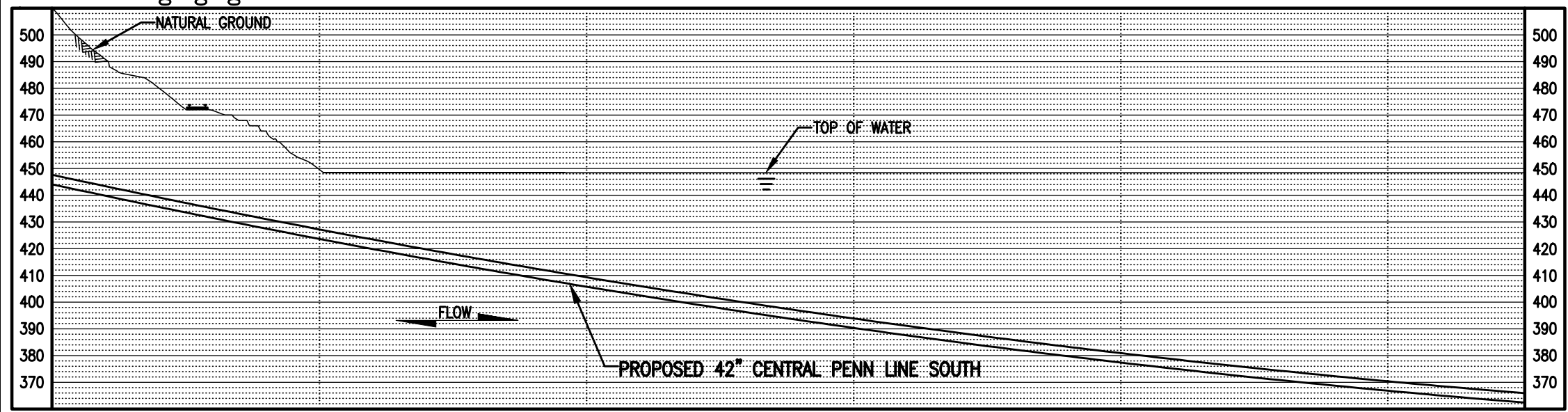
STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	1003.29
STREAM LENGTH	54.73

**GENERAL NOTES:**

1. STREAM WW-T04-12001 CROSSING METHOD SHALL BE HDD. NO PHYSICAL SURFACE IMPACTS ARE PROPOSED TO THIS FEATURE DUE TO HDD CROSSING METHOD.
2. THIS SITE IS LOCATED WITHIN THE 100 YEAR FLOOD PLAIN PER FEMA FLOOD MAP DATA.
3. STATION 1+00 SHOWN IS EQUAL TO STATION 5257+32 ON THE EROSION AND SEDIMENT CONTROL PLAN.

**SURVEY NOTES:**

1. T.B.M. SURVEY CONTROL POINT - 57' RT. OF M.P. 99.56, ELEV. = 467.94' (NAVD88).



**PROFILE**  
SCALE: 1" = 50' HORIZONTAL  
1" = 50' VERTICAL

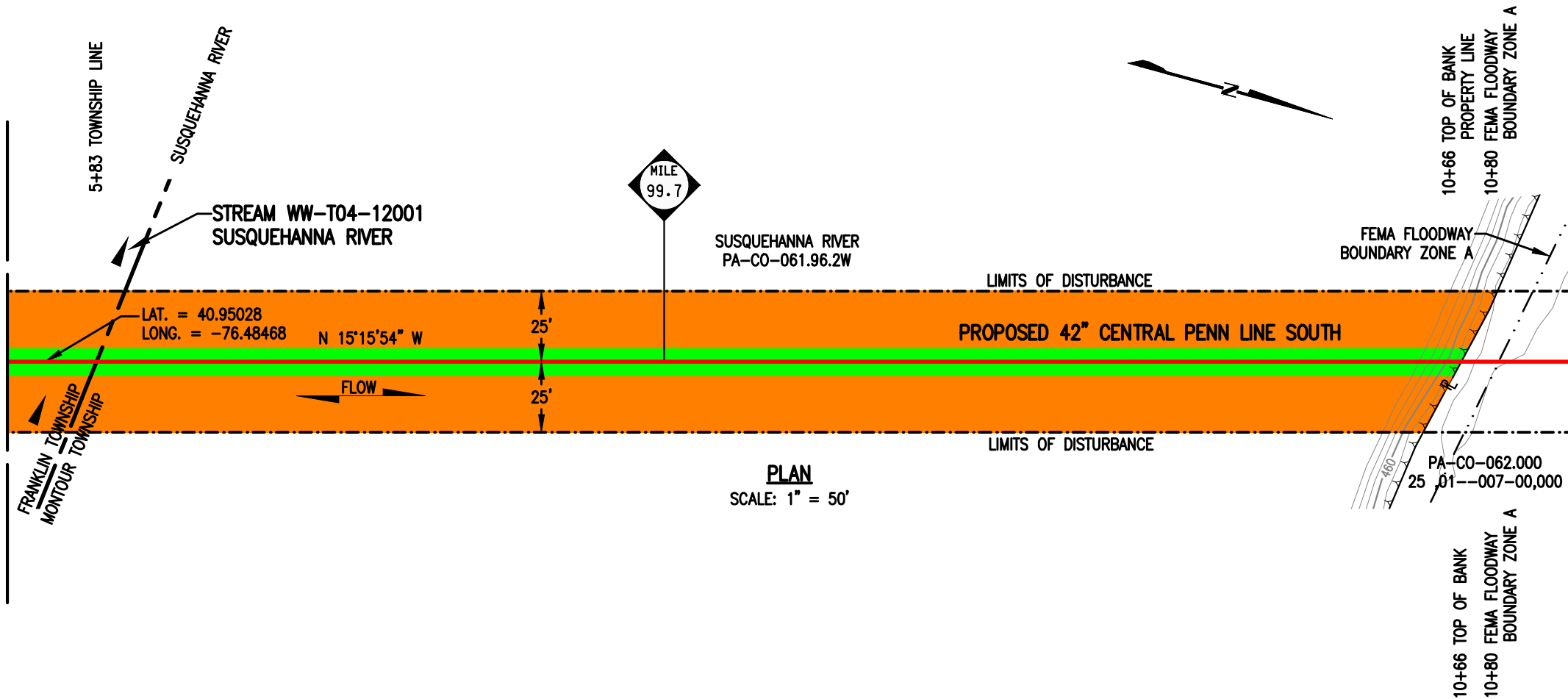


**LEGEND**

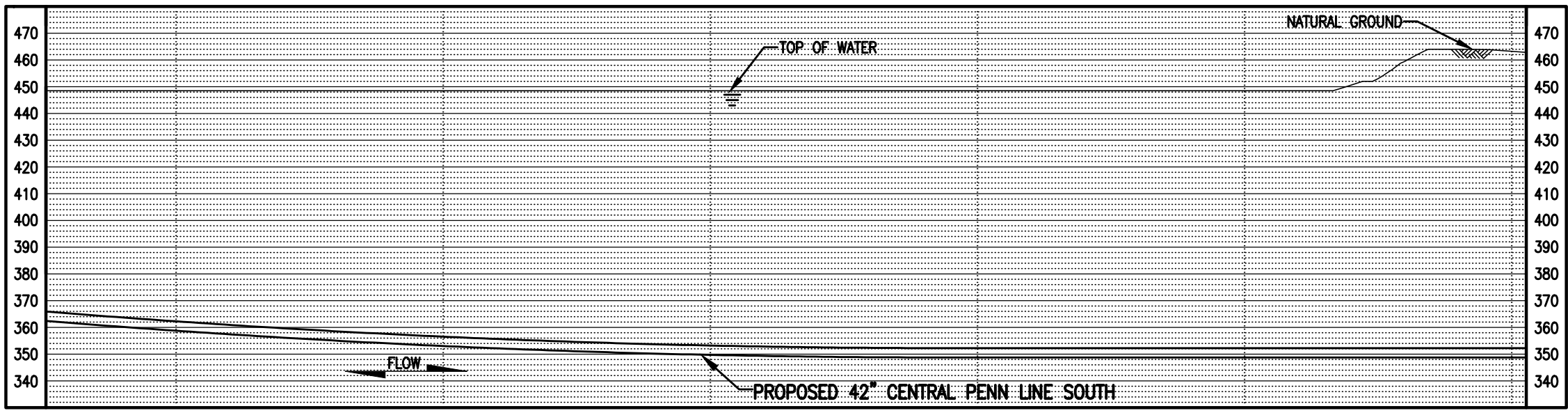
	PROPOSED 42" CENTRAL PENN LINE SOUTH		WETLAND FLAGS		<b>WOOD GROUP MUSTANG, INC.</b>
	EXISTING PIPELINES		PHOTO DATA POINT		12" SEDIMENT BARRIER
	EXISTING TGPL R/W		WETLAND DATA POINT		18" SEDIMENT BARRIER
	LIMITS OF DISTURBANCE		UPLAND DATA POINT		24" SEDIMENT BARRIER
	PROPOSED CPLS R/W		WELL POINT		32" SEDIMENT BARRIER
	PROPERTY LINE		TRENCH PLUG		TOP OF BANK
	FOREIGN PIPELINE		WATERBODY		PERMANENT STREAM IMPACT
	WETLAND AREA		TREE LINE		TEMPORARY STREAM IMPACT
	STREAM FLOW		FLOODWAY BOUNDARY		
	EXISTING POWER LINE		FEMA FLOODWAY BOUNDARY		
	EXISTING FENCE				

DRAWING NO.		REFERENCE TITLE		<b>TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC</b> <b>WATER OBSTRUCTION AND ENCROACHMENT PERMIT IMPACT MAPS</b> <b>ATLANTIC SUNRISE PROJECT</b> <b>PROPOSED 42" CENTRAL PENN LINE SOUTH</b> <b>STREAM CROSSING WW-T04-12001</b> <b>M.P. 99.66</b> <b>FRANKLIN TOWNSHIP, COLUMBIA COUNTY, PENNSYLVANIA</b>			
NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.	DRAWN BY: LL DATE: 05/18/15 ISSUED FOR BID: SCALE: 1" = 50' CHECKED BY: ML DATE: 06/05/15 ISSUED FOR CONSTRUCTION: REVISION: 1 APPROVED BY: MJH DATE: 06/08/15 DRAWING NUMBER: 24-1600-70-09-A/99.66-01 SHEET 1 W.O. NUMBER: 1161503
0	08/20/15	LL	ISSUED FOR PADEP 105 PERMIT	1161503	CLR	MJH	
1	10/25/16	AT	ISSUED FOR PADEP SUBMITTAL #2	1161503	CLR	MJH	

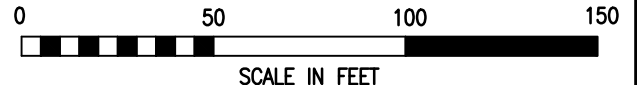
MATCH LINE SEE SHEET 1 OF 4



MATCH LINE SEE SHEET 3 OF 4



**PROFILE**  
SCALE: 1" = 50' HORIZONTAL  
1" = 50' VERTICAL



LEGEND		WOOD GROUP MUSTANG, INC.	
	PROPOSED 42" CENTRAL PENN LINE SOUTH		WETLAND FLAGS
	EXISTING PIPELINES		PHOTO DATA POINT
	EXISTING TGPL R/W		WETLAND DATA POINT
	LIMITS OF DISTURBANCE		UPLAND DATA POINT
	PROPOSED CPLS R/W		WELL POINT
	PROPERTY LINE		TRENCH PLUG
	FOREIGN PIPELINE		WATERBODY
	WETLAND AREA		TREE LINE
	STREAM FLOW		FLOODWAY BOUNDARY
	EXISTING POWER LINE		FEMA FLOODWAY BOUNDARY
	EXISTING FENCE		TOP OF BANK
	PERMANENT STREAM IMPACT		TEMPORARY STREAM IMPACT

DRAWING NO.	REFERENCE TITLE					
NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.
0	08/20/15	LL	ISSUED FOR PADEP 105 PERMIT	1161503	CLR	MJH
1	10/25/16	AT	ISSUED FOR PADEP SUBMITTAL #2	1161503	CLR	MJH

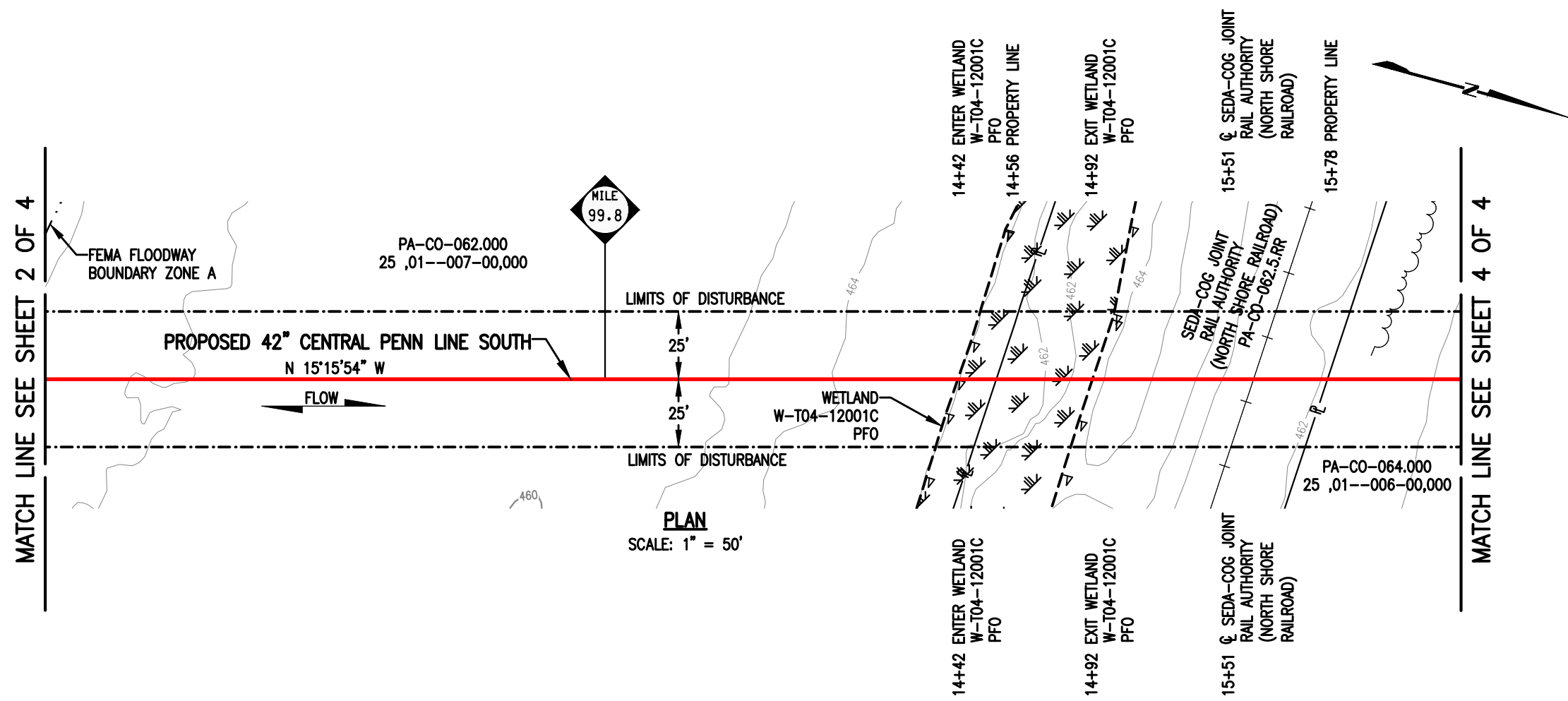
**TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC**  
**WATER OBSTRUCTION AND ENCROACHMENT PERMIT IMPACT MAPS**  
**ATLANTIC SUNRISE PROJECT**  
**PROPOSED 42" CENTRAL PENN LINE SOUTH**  
**STREAM CROSSING WW-T04-12001**  
**© M.P. 99.66**  
**FRANKLIN & MONTOUR TOWNSHIPS, COLUMBIA COUNTY, PENNSYLVANIA**

**Williams**

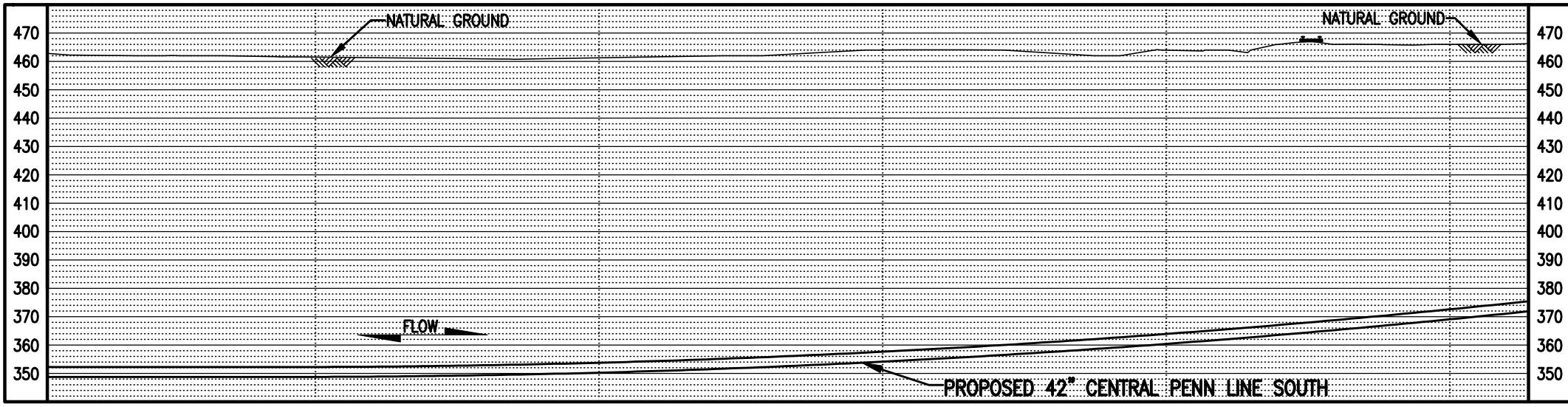
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CHECKED BY: ML	DATE: 06/05/15	ISSUED FOR CONSTRUCTION:	REVISION: 1
APPROVED BY: MJH	DATE: 06/08/15	DRAWING NUMBER: 24-1600-70-09-A/99.66-01	SHEET 2
W.O. NO.: 1161503	DATE: 9/30/2016	FILED: jlibeast	OF 4

MATCH LINE SEE SHEET 2 OF 4

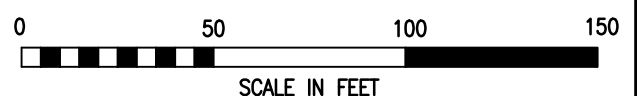
MATCH LINE SEE SHEET 4 OF 4



**PLAN**  
SCALE: 1" = 50'



**PROFILE**  
SCALE: 1" = 50' HORIZONTAL  
1" = 50' VERTICAL



LEGEND		WOOD GROUP MUSTANG, INC.	
	PROPOSED 42" CENTRAL PENN LINE SOUTH		WETLAND FLAGS
	EXISTING PIPELINES		PHOTO DATA POINT
	EXISTING TGPL R/W		WETLAND DATA POINT
	LIMITS OF DISTURBANCE		UPLAND DATA POINT
	PROPOSED CPLS R/W		WELL POINT
	PROPERTY LINE		TRENCH PLUG
	FOREIGN PIPELINE		WATERBODY
	WETLAND AREA		TREE LINE
	STREAM FLOW		FLOODWAY BOUNDARY
	EXISTING POWER LINE		FEMA FLOODWAY BOUNDARY
	EXISTING FENCE		PERMANENT STREAM IMPACT
			TEMPORARY STREAM IMPACT
			12" SEDIMENT BARRIER
			18" SEDIMENT BARRIER
			24" SEDIMENT BARRIER
			32" SEDIMENT BARRIER
			TOP OF BANK

DRAWING NO.		REFERENCE TITLE	
NO.	DATE	BY	REVISION DESCRIPTION
0	08/20/15	LL	ISSUED FOR PADEP 105 PERMIT
1	10/25/16	AT	ISSUED FOR PADEP SUBMITTAL #2

**TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC**  
**WATER OBSTRUCTION AND ENCROACHMENT PERMIT IMPACT MAPS**  
**ATLANTIC SUNRISE PROJECT**  
**PROPOSED 42" CENTRAL PENN LINE SOUTH**  
**STREAM CROSSING WW-T04-12001**  
**© M.P. 99.66**  
**MONTOUR TOWNSHIP, COLUMBIA COUNTY, PENNSYLVANIA**

DRAWN BY: LL	DATE: 05/18/15	ISSUED FOR BID:	SCALE: 1" = 50'
CHECKED BY: ML	DATE: 06/05/15	ISSUED FOR CONSTRUCTION:	REVISION: 1
APPROVED BY: MJH	DATE: 06/08/15	DRAWING NUMBER: 24-1600-70-09-A/99.66-01	SHEET 3
WO: 1161503			OF 4

MATCH LINE SEE SHEET 3 OF 4

LIMITS OF DISTURBANCE

PROPOSED 42" CENTRAL PENN LINE SOUTH

N 15°15'54" W

FLOW

LIMITS OF DISTURBANCE

PA-CO-064.000  
25,01--00-600,000

PLAN

SCALE: 1" = 50'

18+45 FEMA FLOODWAY  
BOUNDARY ZONE A

19+03 FEMA FLOODWAY  
BOUNDARY ZONE A

20+10 FEMA FLOODWAY  
BOUNDARY ZONE A

18+45 FEMA FLOODWAY  
BOUNDARY ZONE A

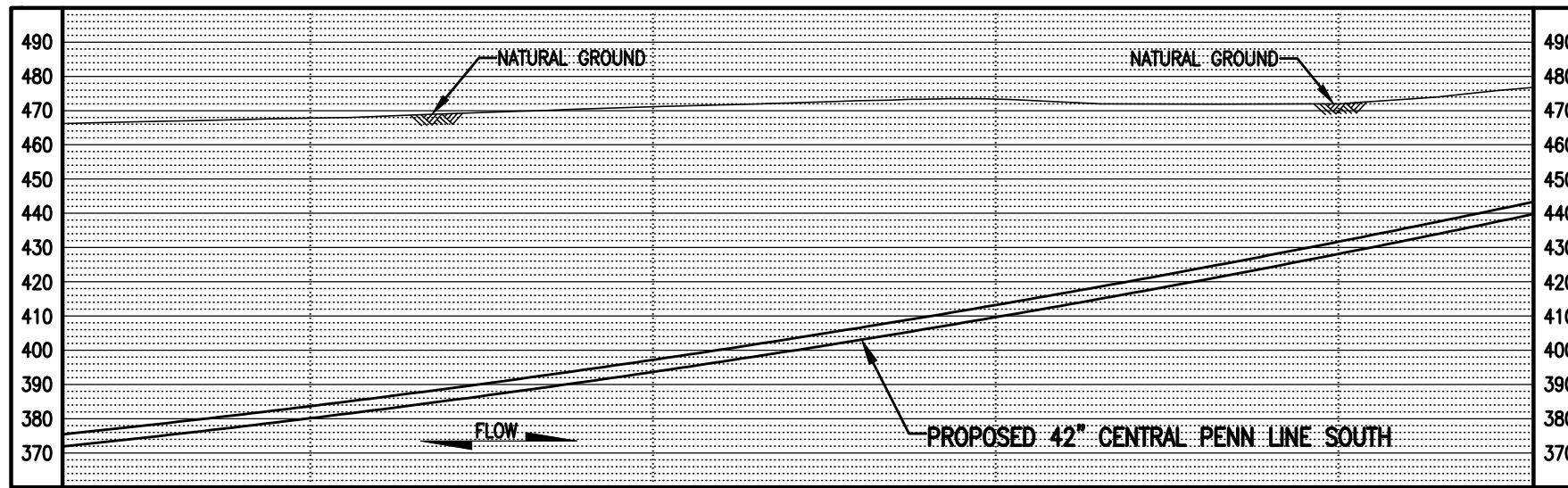
19+03 FEMA FLOODWAY  
BOUNDARY ZONE A

20+10 FEMA FLOODWAY  
BOUNDARY ZONE A

MILE  
99.9

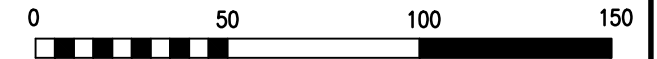
FEMA FLOODWAY  
BOUNDARY ZONE A

FEMA FLOODWAY  
BOUNDARY ZONE A



PROFILE

SCALE: 1" = 50' HORIZONTAL  
1" = 50' VERTICAL



SCALE IN FEET

LEGEND

- PROPOSED 42" CENTRAL PENN LINE SOUTH
- EXISTING PIPELINES
- EXISTING TGPL R/W
- LIMITS OF DISTURBANCE
- PROPOSED CPLS R/W
- PROPERTY LINE
- FOREIGN PIPELINE
- WETLAND AREA
- STREAM FLOW
- EXISTING POWER LINE
- EXISTING FENCE
- WETLAND FLAGS
- PHOTO DATA POINT
- WETLAND DATA POINT
- UPLAND DATA POINT
- WELL POINT
- TRENCH PLUG
- WATERBODY
- TREE LINE
- FLOODWAY BOUNDARY
- FEMA FLOODWAY BOUNDARY
- 12" SEDIMENT BARRIER
- 18" SEDIMENT BARRIER
- 24" SEDIMENT BARRIER
- 32" SEDIMENT BARRIER
- TOP OF BANK
- PERMANENT STREAM IMPACT
- TEMPORARY STREAM IMPACT

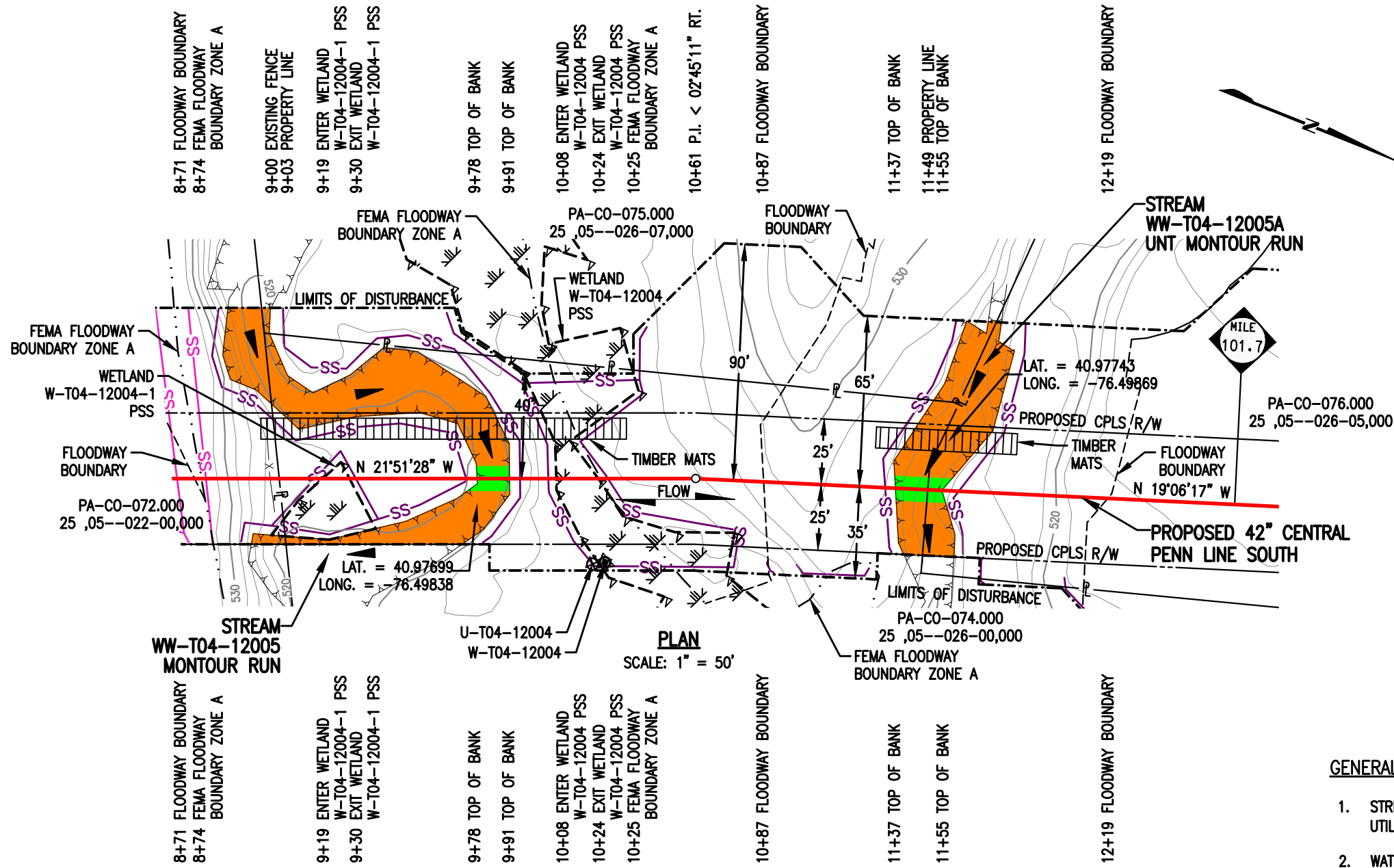
**WOOD GROUP  
MUSTANG, INC.**

DRAWING NO.		REFERENCE TITLE				
NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.
0	08/20/15	LL	ISSUED FOR PADEP 105 PERMIT	1161503	CLR	MJH
1	10/25/16	AT	ISSUED FOR PADEP SUBMITTAL #2	1161503	CLR	MJH

**TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC**  
**WATER OBSTRUCTION AND ENCROACHMENT PERMIT IMPACT MAPS**  
**ATLANTIC SUNRISE PROJECT**  
**PROPOSED 42" CENTRAL PENN LINE SOUTH**  
**STREAM CROSSING WW-T04-12001**  
**© M.P. 99.66**  
**MONTOUR TOWNSHIP, COLUMBIA COUNTY, PENNSYLVANIA**

**Williams**

DRAWN BY: LL	DATE: 05/18/15	ISSUED FOR BID:	SCALE: 1" = 50'
CHECKED BY: ML	DATE: 06/05/15	ISSUED FOR CONSTRUCTION:	REVISION: 1
APPROVED BY: MJH	DATE: 06/08/15	DRAWING NUMBER: <b>24-1600-70-09-A/99.66-01</b>	SHEET 4
WO: 1161503		9/30/2016 jibeast	OF 4



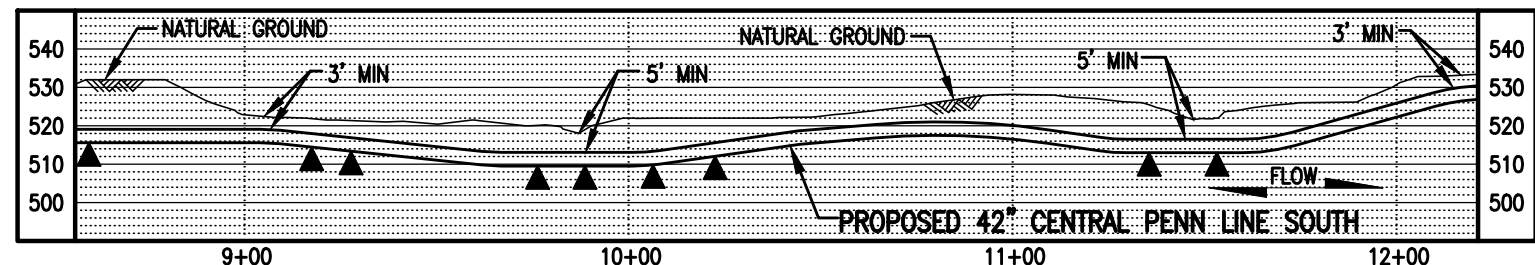
**STREAM DISTURBANCE:**

STREAM WW-T04-12005	ACRE
TEMPORARY STREAM DISTURBANCE	0.0700
PERMANENT STREAM DISTURBANCE	0.0030
<b>TOTAL STREAM DISTURBANCE</b>	<b>0.0730</b>
TEMPORARY FLOODWAY DISTURBANCE	0.1677
PERMANENT FLOODWAY DISTURBANCE	0.0259
<b>TOTAL FLOODWAY DISTURBANCE</b>	<b>0.1936</b>

STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	12.33
STREAM LENGTH	160.38

STREAM WW-T04-12005A	ACRE
TEMPORARY STREAM DISTURBANCE	0.0414
PERMANENT STREAM DISTURBANCE	0.0044
<b>TOTAL STREAM DISTURBANCE</b>	<b>0.0458</b>
TEMPORARY FLOODWAY DISTURBANCE	0.2131
PERMANENT FLOODWAY DISTURBANCE	0.0257
<b>TOTAL FLOODWAY DISTURBANCE</b>	<b>0.2388</b>

STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	17.67
STREAM LENGTH	95.87



**GENERAL NOTES FOR STREAMS WW-T04-12005 & WW-T04-12005A:**

1. STREAM CROSSING METHODS SHALL BE DAM AND PUMP (DPX). EQUIPMENT TO CROSS STREAM UTILIZING A BRIDGE EQUIPMENT CROSSING (BEC).
2. WATERBODIES WITHOUT A FEMA-ESTABLISHED FLOODPLAIN, THE FLOODWAY IS COINCIDENT WITH A 50-FOOT OFFSET MEASURED Laterally FROM THE PHYSICAL TOP OF BANK OF THE WATERBODY.
3. STREAM WW-T04-12005 IS WITHIN THE 100 YEAR FLOOD PLAIN PER FEMA FLOOD MAP DATA.
4. STATION 9+00 SHOWN IS EQUAL TO STATION 5366+09 ON THE EROSION AND SEDIMENT CONTROL PLAN.

**SURVEY NOTES:**

1. T.B.M. SURVEY CONTROL POINT - 11' LT. OF M.P. 101.63, ELEV. = 522.16' (NAVD88).



**LEGEND**

	PROPOSED 42" CENTRAL PENN LINE SOUTH		WETLAND FLAGS
	EXISTING PIPELINES		PHOTO DATA POINT
	EXISTING TGPL R/W		WETLAND DATA POINT
	LIMITS OF DISTURBANCE		UPLAND DATA POINT
	PROPOSED CPLS R/W		WELL POINT
	PROPERTY LINE		TRENCH PLUG
	FOREIGN PIPELINE		WATERBODY
	WETLAND AREA		TREE LINE
	STREAM FLOW		FLOODWAY BOUNDARY
	EXISTING POWER LINE		FEMA FLOODWAY BOUNDARY
	EXISTING FENCE		PERMANENT STREAM IMPACT
			TEMPORARY STREAM IMPACT

**WOOD GROUP MUSTANG, INC.**

	12" SEDIMENT BARRIER
	18" SEDIMENT BARRIER
	24" SEDIMENT BARRIER
	32" SEDIMENT BARRIER
	TOP OF BANK

DRAWING NO.		REFERENCE TITLE	

**TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC**  
**WATER OBSTRUCTION AND ENCROACHMENT PERMIT IMPACT MAPS**  
**ATLANTIC SUNRISE PROJECT**  
**PROPOSED 42" CENTRAL PENN LINE SOUTH**  
**STREAM CROSSINGS WW-T04-12005 @ M.P. 101.65**  
**& WW-T04-12005A @ M.P. 101.68**  
**MONTOUR TOWNSHIP, COLUMBIA COUNTY, PENNSYLVANIA**

**Williams**

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.	DRAWN BY:	LL	DATE:	05/18/15	ISSUED FOR BID:	SCALE: 1" = 50'
0	08/20/15	TL	ISSUED FOR PADEP 105 PERMIT	1161503	CLR	MJH	CHECKED BY:	ML	DATE:	06/05/15	ISSUED FOR CONSTRUCTION:	REVISION: 2
1	02/03/16	LN	ISSUED FOR INTERNAL USE	1161503	CLR	MJH	APPROVED BY:	MJH	DATE:	06/08/15	DRAWING NUMBER:	24-1600-70-09-A/101.64-01 SHEET 1
2	10/25/16	AT	ISSUED FOR PADEP SUBMITTAL #2	1161503	CLR	MJH	IWO:	1161503	10/5/2016	11beosl	OF 1	



October 27, 2016

Mount Pleasant Township  
Floodplain Administrator  
558 Millertown Road  
Bloomsburg, PA 17815

Re: Atlantic Sunrise Project  
Central Penn Line South  
Mount Pleasant Township, Columbia County  
Floodplain Management Analysis

Dear Sir or Madam:

Transcontinental Gas Pipeline Company, LLC (Transco) proposes to construct and operate the Atlantic Sunrise Project (Project) to provide 1.7 million dekatherms per day of incremental firm transportation of natural gas from the Marcellus Shale production areas in northern Pennsylvania (PA) to its existing market areas, extending to as far south as the Station 85 Pooling Point in Choctaw County, Alabama. The Project includes modifications to the existing Transco Mainline System to reverse the direction of flow, enabling new north-to-south capabilities (bi-directional flow) to transport this new source of natural gas to existing markets. The Project consists of the following primary components within PA:

- Installing greenfield pipeline facilities of approximately 58.6 miles of new 30-inch-diameter pipe from Susquehanna County, PA to Columbia County, PA.
- Installing greenfield pipeline facilities of approximately 127.3 miles of 42-inch-diameter pipe from Columbia County, PA to Lancaster County, PA.;
- Installing two pipeline loops (pipeline laid parallel to existing facilities):
  - 8.56 miles of 42-inch pipeline loop located in Lycoming County, PA known as the Unity Loop;
  - 2.50 miles of 36-inch pipeline in Clinton County, PA, known as the Chapman Loop;
- Constructing two new compressor stations, one in Wyoming County and one in Columbia County, PA;
- Additional ancillary facilities, such as mainline valves, cathodic protection, communication facilities, and internal inspection device (e.g., pig) launchers and receivers;
- Two new meter stations and three new regulator stations with interconnecting piping;
- Additional compression and related modifications to one existing compressor station; and,
- Modification to an existing meter station for use of shared facilities with a new meter station.

Transco's consultants, BL Companies and TRC Solutions (TRC), have completed an analysis of potential impacts on FEMA delineated floodways from the Project in accordance with 25 Pa. Code § 105.13. The analysis for Mount Pleasant Township is provided below for your review and comment.

Mount Pleasant Township  
October 27, 2016  
BL Project No. 14C4909  
Page 1 of 3

**ATLANTIC SUNRISE PROJECT  
FEMA FLOODPLAIN CROSSINGS  
MOUNT PLEASANT TOWNSHIP, COLUMBIA COUNTY, PENNSYLVANIA**

Description of Impact	Structure Type and Dimensions	Resource ID	Resource Name	Chapter 93 Classification, Wetland Classification (EV or Other), or Floodway Type	Floodway Fill (cu. yds.)	Impact area (acres)		Latitude	Longitude
						Temporary	Permanent		
Utility Pipeline Crossing	Equipment Access and E&S Controls	WW-T52-13001	Floodway to UNT to Little Fishing Creek	FEMA Detailed <sup>1</sup>	N/A	0.0079	0.000	41.04721	-76.48758
Utility Pipeline Crossing	Equipment Access and E&S Controls	WW-RS-T70-12002	Floodway to Little Fishing Creek	FEMA Detailed	N/A	8.1447	0.7028	41.04131	-76.48522
Utility Pipeline Crossing	Equipment Access and E&S Controls	WW-T70-12010-1	Floodway to Little Fishing Creek	FEMA Detailed	N/A	0.0079	0.000	41.04721	-76.48758
Temporary Road Crossing	Equipment Access and E&S Controls	WW-T70-12006	Floodway to Fishing Creek	FEMA Detailed	1465.55 <sup>2</sup>	0.6069	0.00	41.02414	-76.47776

Notes:  
<sup>1</sup> Multiple streams are included in these calculations as the floodways overlap.  
<sup>2</sup> Floodway fill is associated with a temporary access road. Pre development contours will be restored prior to permit termination.

The floodway crossings listed above are depicted on the enclosed plans from the Project's PADEP Chapter 105 Permit Application.


Please note that construction activities are not expected to create permanent loss of flood storage capacity or hydraulic capacity, as all pre-construction surface elevations will be re-established during restoration. The temporary and permanent impacts noted above are associated with vegetation management and underground pipe installation and temporary access road grading only, and do not represent a permanent modification of ground elevation or loss of flood storage capacity or hydraulic capacity. No structures are proposed within the FEMA 100-year floodplain, no permanent fill will be placed in the floodways, and no increase in 100-year flood elevation is anticipated as a result of the proposed Project.

On behalf of Transco, BL and TRC respectfully request that Hemlock Township review this analysis and, if applicable, provide comments to:

Steve Crescenzo  
 TRC Environmental Corporation  
 2200 Liberty Avenue, Suite 100  
 Pittsburgh, PA 15222

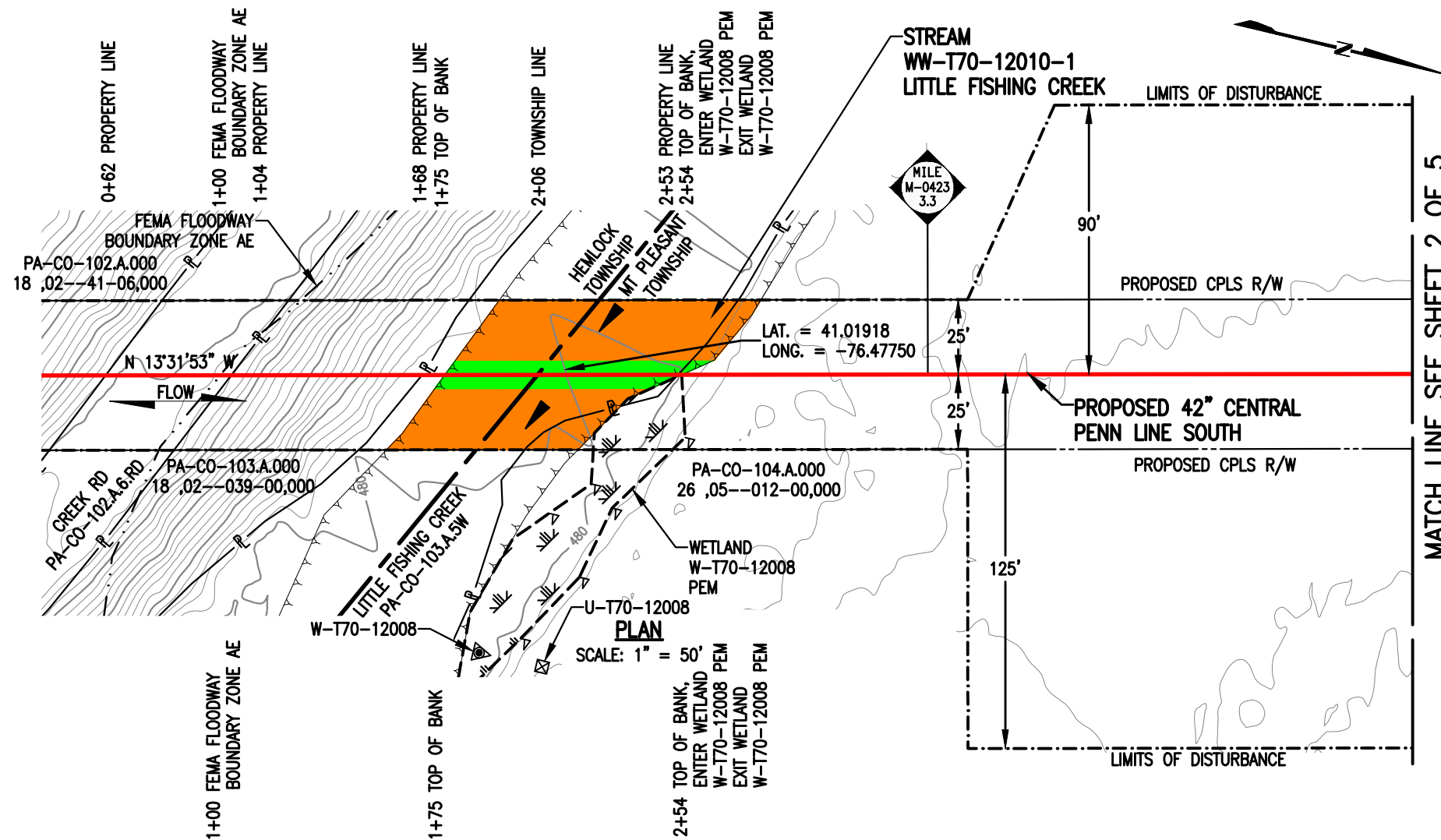
**Please do not send comments directly to the PADEP.** as we must include them with our permit application. Should you have any questions or concerns regarding this notification, please contact Al Busher at (717)-651-9850 or via email at abusher@blcompanies.com.

Sincerely,



Alaric J. Busher, PE  
Senior Engineer

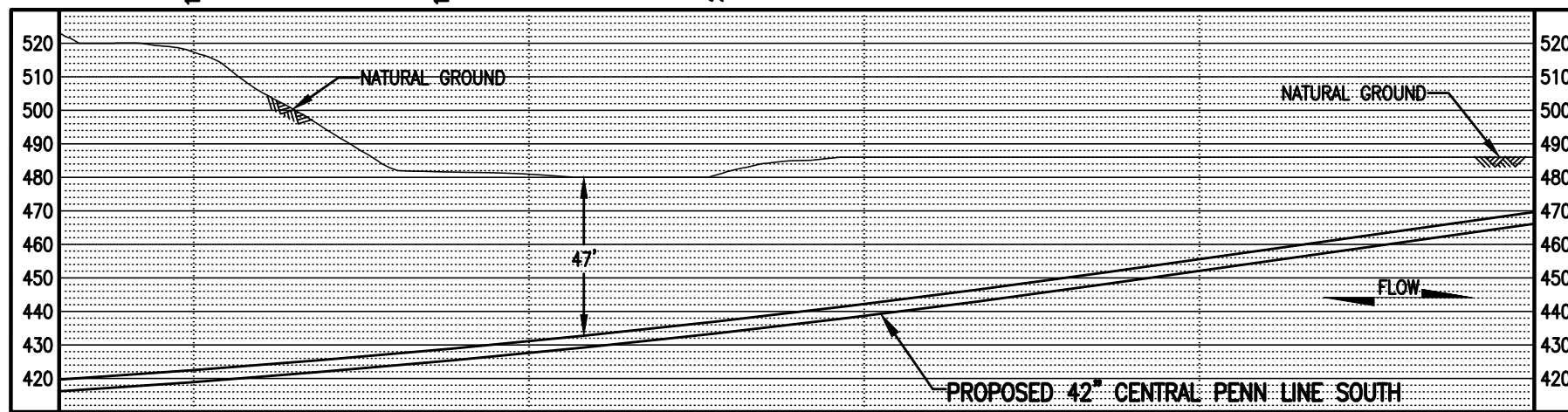
Enclosures: Water Obstruction and Encroachment Permit Impact Maps



**STREAM DISTURBANCE:**

STREAM WW-T70-12010-1	ACRE
TEMPORARY STREAM DISTURBANCE	0.0703
PERMANENT STREAM DISTURBANCE	0.0182
TOTAL STREAM DISTURBANCE	0.0885
TEMPORARY FLOODWAY DISTURBANCE	0.0000
PERMANENT FLOODWAY DISTURBANCE	0.0000
TOTAL FLOODWAY DISTURBANCE	0.0000
STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	79.09
STREAM LENGTH	65.22

MATCH LINE SEE SHEET 2 OF 5



**PROFILE**  
SCALE: 1" = 50' HORIZONTAL  
1" = 50' VERTICAL

**GENERAL NOTES:**

1. STREAM CROSSING METHOD FOR STREAM WW-T70-12010-1 SHALL BE HDD. STREAM CROSSING METHOD FOR STREAM WW-T70-12010 SHALL BE DAM AND PUMP (DPX).
2. NO PHYSICAL SURFACE IMPACT ARE PROPOSED TO STREAM WW-T70-12010-1 DUE TO HDD CROSSING METHOD.
3. THIS SITE IS LOCATED WITHIN THE 100 YEAR FLOOD PLAIN PER FEMA FLOOD MAP DATA.
4. STATION 1+00 SHOWN IS EQUAL TO M-0423 STATION 171+87 ON THE EROSION AND SEDIMENT CONTROL PLAN.
5. FLOODWAY IMPACTS FOR STREAM WW-T70-12010-1 ARE INCLUDED IN FLOODWAY IMPACT OF STREAMS WW-T70-12006 ON DWG. 24-1600-70-09-A/M-0423-3.00-01.

**SURVEY NOTES:**

1. T.B.M. IRON ROD - 96' RT. OF M-0423 M.P. 3.16, ELEV. = 513.13' (NAVD88).



**LEGEND**

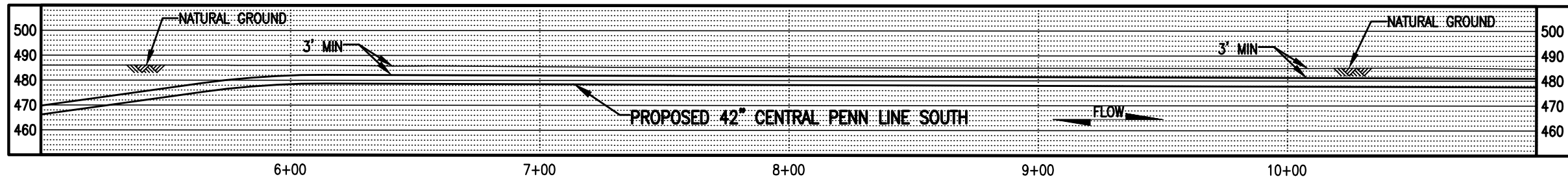
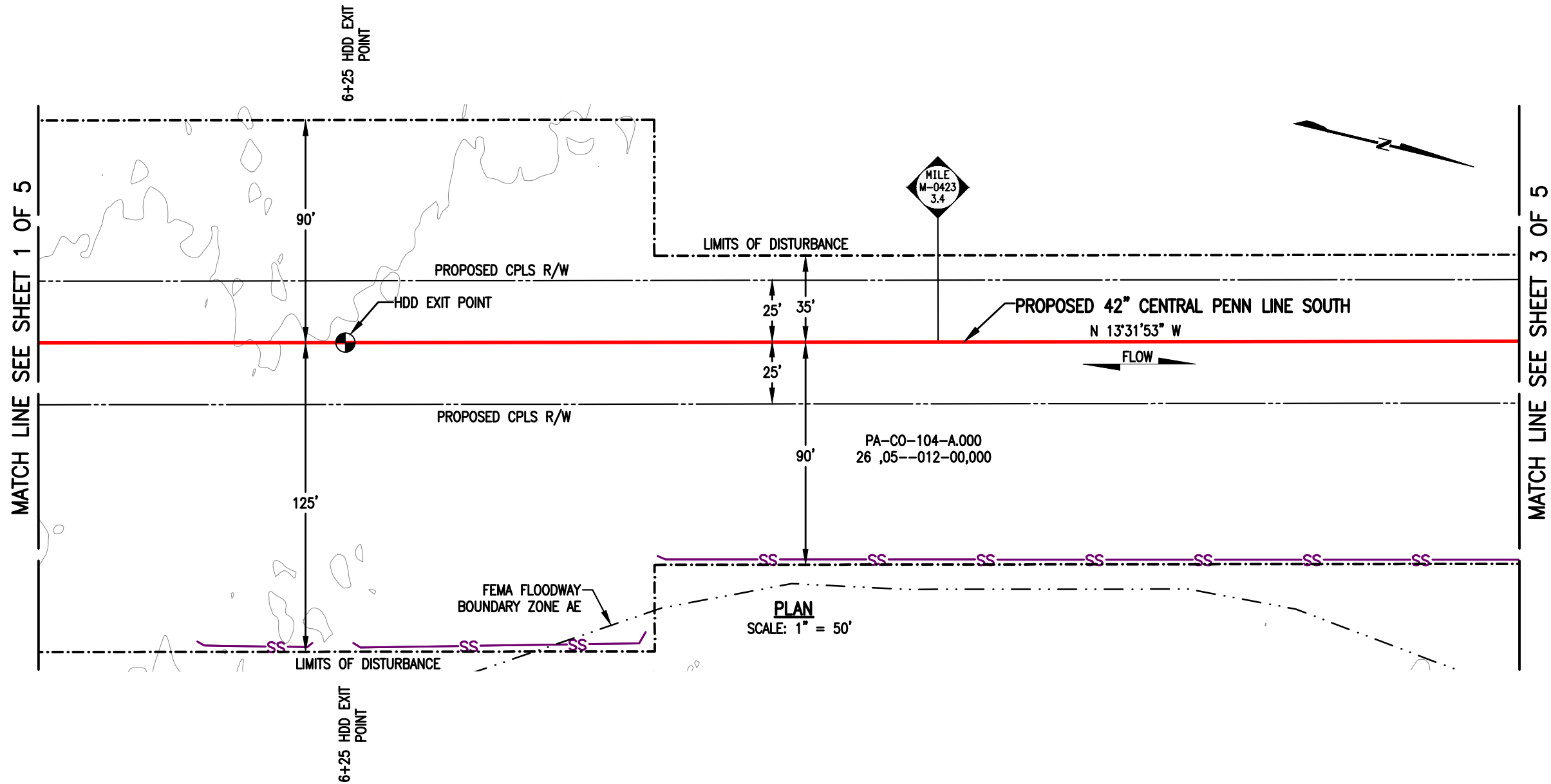
- PROPOSED 42" CENTRAL PENN LINE SOUTH
- EXISTING PIPELINES
- EXISTING TGPL R/W
- - - - - LIMITS OF DISTURBANCE
- - - - - PROPOSED CPLS R/W
- P — PROPERTY LINE
- FOREIGN PIPELINE
- WETLAND AREA
- ▲ STREAM FLOW
- P — EXISTING POWER LINE
- X — EXISTING FENCE

- ▽ WETLAND FLAGS
- ⊗ PHOTO DATA POINT
- ⊠ WETLAND DATA POINT
- ⊡ UPLAND DATA POINT
- ☀ WELL POINT
- ▲ TRENCH PLUG
- WATERBODY
- TREE LINE
- - - - - FLOODWAY BOUNDARY
- - - - - FEMA FLOODWAY BOUNDARY

**WOOD GROUP MUSTANG, INC.**

- SS — 12" SEDIMENT BARRIER
- SS — 18" SEDIMENT BARRIER
- SS — 24" SEDIMENT BARRIER
- SS — 32" SEDIMENT BARRIER
- Y — Y — Y — TOP OF BANK
- PERMANENT STREAM IMPACT
- TEMPORARY STREAM IMPACT

DRAWING NO.		REFERENCE TITLE		<b>TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC</b> <b>WATER OBSTRUCTION AND ENCROACHMENT PERMIT IMPACT MAPS</b> <b>ATLANTIC SUNRISE PROJECT</b> <b>PROPOSED 42" CENTRAL PENN LINE SOUTH</b> <b>STREAM CROSSINGS WW-T70-12010-1 @ M-0423 M.P. 3.28</b> <b>&amp; WW-T70-12010 @ M-0423 M.P. 3.58</b> <b>HEMLOCK &amp; MT PLEASANT TOWNSHIPS, COLUMBIA COUNTY, PENNSYLVANIA</b>						
NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.	DRAWN BY: JB	DATE: 07/22/16	ISSUED FOR BID:	SCALE: 1" = 50'
0	10/25/16	JB	ISSUED FOR PADEP SUBMITTAL #2	1161503	CLR	MJH	CHECKED BY: CLR	DATE: 07/22/16	ISSUED FOR CONSTRUCTION:	REVISION: 0
							APPROVED BY: MJH	DATE: 07/22/16	DRAWING NUMBER: 24-1600-70-09-A/M-0423-3.28-01	SHEET 1
							WC: 1161503	10/12/2016	t2le	OF 5



**LEGEND**

- PROPOSED 42" CENTRAL PENN LINE SOUTH
- EXISTING PIPELINES
- EXISTING TGPL R/W
- LIMITS OF DISTURBANCE
- PROPOSED CPLS R/W
- PROPERTY LINE
- FOREIGN PIPELINE
- WETLAND AREA
- STREAM FLOW
- EXISTING POWER LINE
- EXISTING FENCE
- WETLAND FLAGS
- PHOTO DATA POINT
- WETLAND DATA POINT
- UPLAND DATA POINT
- WELL POINT
- TRENCH PLUG
- WATERBODY
- FLOODWAY BOUNDARY
- FEMA FLOODWAY BOUNDARY
- 12" SEDIMENT BARRIER
- 18" SEDIMENT BARRIER
- 24" SEDIMENT BARRIER
- 32" SEDIMENT BARRIER
- TOP OF BANK
- PERMANENT STREAM IMPACT
- TEMPORARY STREAM IMPACT

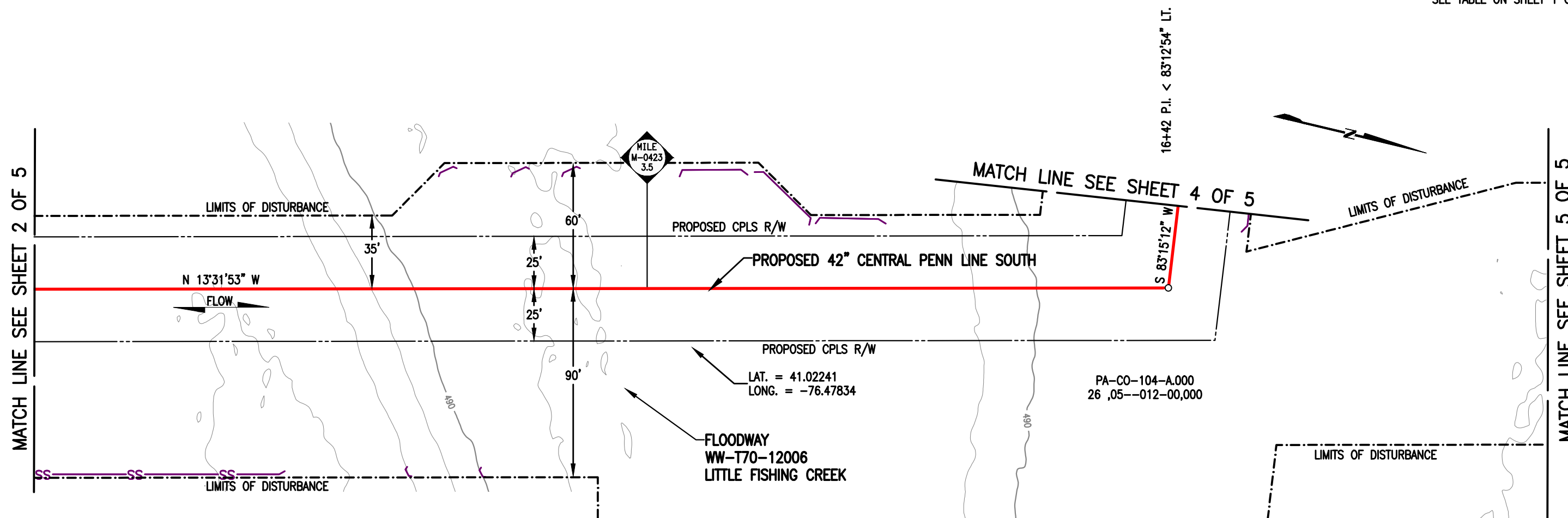


DRAWING NO.		REFERENCE TITLE				
NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.
0	10/25/16	JB	ISSUED FOR PADEP SUBMITTAL #2	1161503	CLR	MJH

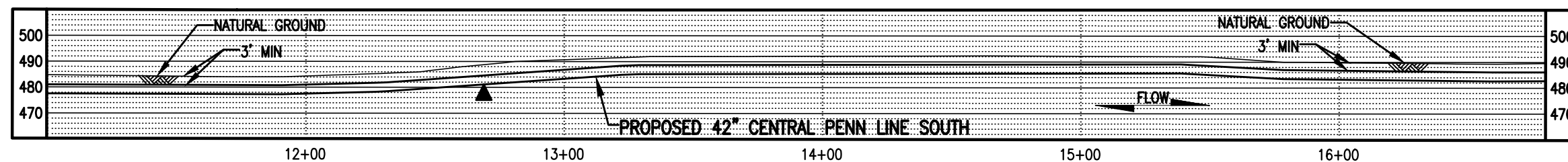
**TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC**  
**WATER OBSTRUCTION AND ENCROACHMENT PERMIT IMPACT MAPS**  
**ATLANTIC SUNRISE PROJECT**  
**PROPOSED 42" CENTRAL PENN LINE SOUTH**  
**STREAM CROSSINGS WW-T70-12010-1 @ M-0423 M.P. 3.28,**  
**WW-T70-12006 @ M-0423 M.P. 3.50 & WW-T70-12010 @ M-0423 M.P. 3.58**  
**HEMLOCK & MT PLEASANT TOWNSHIPS, COLUMBIA COUNTY, PENNSYLVANIA**

**Williams**

DRAWN BY: JB	DATE: 07/22/16	ISSUED FOR BID:	SCALE: 1" = 50'
CHECKED BY: CLR	DATE: 07/22/16	ISSUED FOR CONSTRUCTION:	REVISION: 0
APPROVED BY: MJH	DATE: 07/22/16	DRAWING NUMBER: 24-1600-70-09-A/M-0423-3.28-01	SHEET 2
WO: 1161503		10/20/2016 t3le	OF 5



**PLAN**  
SCALE: 1" = 50'



**PROFILE**  
SCALE: 1" = 50' HORIZONTAL  
1" = 50' VERTICAL



LEGEND	
	PROPOSED 42" CENTRAL PENN LINE SOUTH
	EXISTING PIPELINES
	EXISTING TGPL R/W
	LIMITS OF DISTURBANCE
	PROPOSED CPLS R/W
	PROPERTY LINE
	FOREIGN PIPELINE
	WETLAND AREA
	STREAM FLOW
	EXISTING POWER LINE
	EXISTING FENCE
	WETLAND FLAGS
	PHOTO DATA POINT
	WETLAND DATA POINT
	UPLAND DATA POINT
	WELL POINT
	TRENCH PLUG
	WATERBODY
	TREE LINE
	FLOODWAY BOUNDARY
	FEMA FLOODWAY BOUNDARY
	PERMANENT STREAM IMPACT
	TEMPORARY STREAM IMPACT
	12" SEDIMENT BARRIER
	18" SEDIMENT BARRIER
	24" SEDIMENT BARRIER
	32" SEDIMENT BARRIER
	TOP OF BANK

DRAWING NO.	REFERENCE TITLE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.
0	10/25/16	JB	ISSUED FOR PADEP SUBMITTAL #2	1161503	CLR	MJH

**TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC**  
**WATER OBSTRUCTION AND ENCROACHMENT PERMIT IMPACT MAPS**  
**ATLANTIC SUNRISE PROJECT**  
**PROPOSED 42" CENTRAL PENN LINE SOUTH**  
**STREAM CROSSINGS WW-T70-12010-1 @ M-0423 M.P. 3.28,**  
**WW-T70-12006 @ M-0423 M.P. 3.50 & WW-T70-12010 @ M-0423 M.P. 3.58**  
**HEMLOCK & MT PLEASANT TOWNSHIPS, COLUMBIA COUNTY, PENNSYLVANIA**

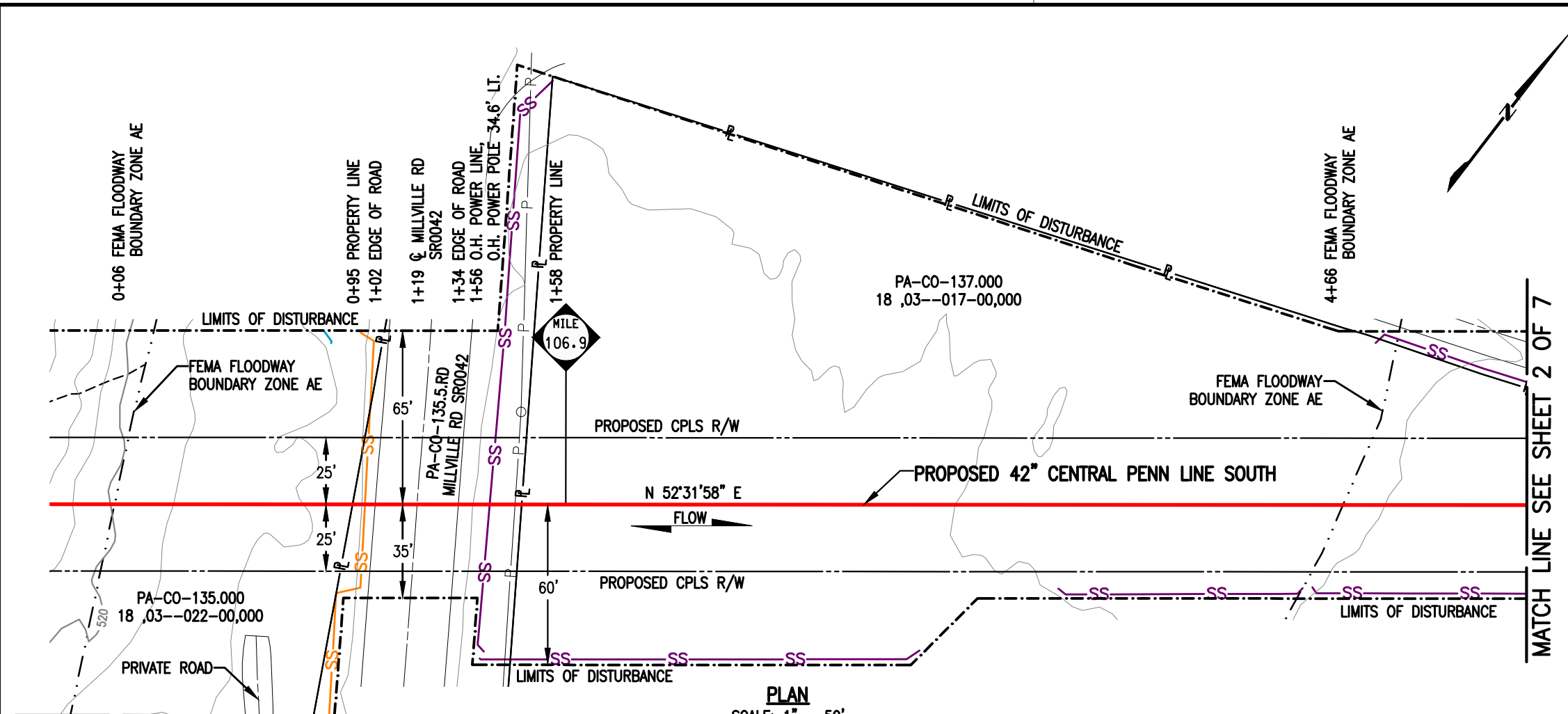
**Williams**

DRAWN BY: JB	DATE: 07/26/16	ISSUED FOR BID:	SCALE: 1" = 50'
CHECKED BY: CLR	DATE: 07/26/16	ISSUED FOR CONSTRUCTION:	REVISION: 0
APPROVED BY: MJH	DATE: 07/27/16	DRAWING NUMBER: 24-1600-70-09-A/M-0423-3.28-01	SHEET 3
W.O. NO.: 1161503			OF 5









**FLOODWAY DISTURBANCE:**

STREAM WW-RS-12002	ACRE
TEMPORARY STREAM DISTURBANCE	0.1506
PERMANENT STREAM DISTURBANCE	0.0166
TOTAL STREAM DISTURBANCE	0.1672
TEMPORARY FLOODWAY DISTURBANCE	8.1447
PERMANENT FLOODWAY DISTURBANCE	0.7028
TOTAL FLOODWAY DISTURBANCE	8.8475
STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	72.19
STREAM LENGTH	102.35

MATCH LINE SEE SHEET 7 OF 7

MATCH LINE SEE SHEET 2 OF 7

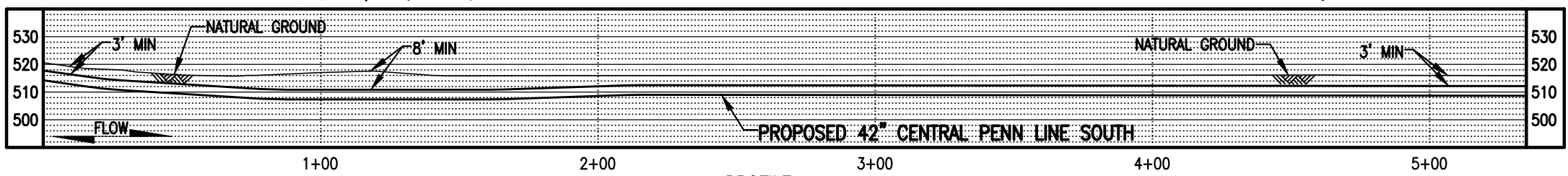
**PLAN**  
SCALE: 1" = 50'

**GENERAL NOTES:**

1. STREAM CROSSING METHODS FOR WW-RS-12002, WW-RS-99103, WW-T52-13001 AND WW-T52-13001C SHALL BE DAM AND PUMP (DPX). STREAM CROSSING METHOD FOR WW-RS-99108 SHALL BE FLUME (FX). EQUIPMENT TO CROSS STREAM UTILIZING A BRIDGE EQUIPMENT CROSSING (BEC).
2. THIS SITE IS LOCATED WITHIN THE 100 YEAR FLOOD MAP DATA.
3. STATION 1+00 SHOWN IS EQUAL TO STATION 5643+57 ON THE EROSION AND SEDIMENT CONTROL PLAN.
4. IMPACTS FOR STREAM WW-T52-13001, STREAM WW-T52-13001C, STREAM WW-RS-99103 AND STREAM WW-RS-99104 ARE SHOWN ON SHEET 6 OF 7.

**SURVEY NOTES:**

1. T.B.M. SURVEY CONTROL POINT - 24' RT. OF M.P. 106.99, ELEV. = 514.99' (NAVD88).



**PROFILE**  
SCALE: 1" = 50' HORIZONTAL  
1" = 50' VERTICAL



**LEGEND**

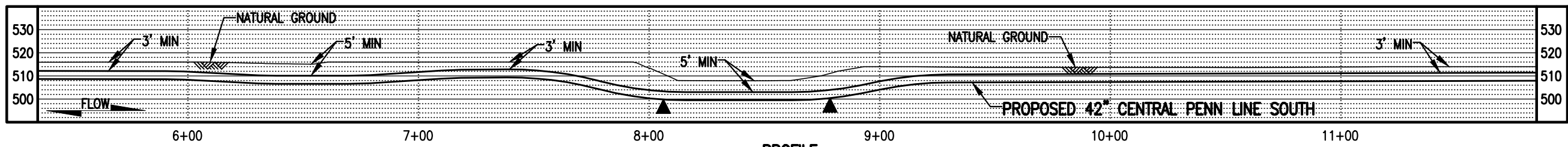
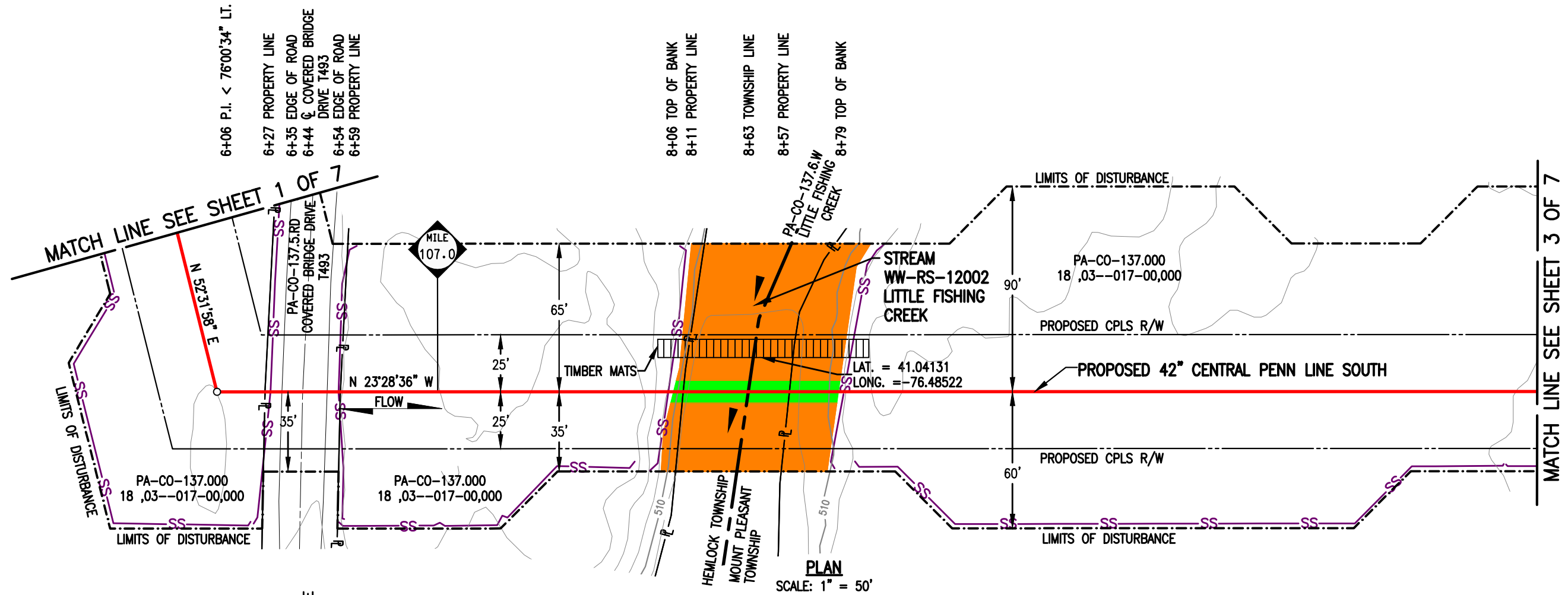
	PROPOSED 42" CENTRAL PENN LINE SOUTH		WETLAND FLAGS		<b>WOOD GROUP MUSTANG, INC.</b>
	EXISTING PIPELINES		PHOTO DATA POINT		12" SEDIMENT BARRIER
	EXISTING TGPL R/W		WETLAND DATA POINT		18" SEDIMENT BARRIER
	LIMITS OF DISTURBANCE		UPLAND DATA POINT		24" SEDIMENT BARRIER
	PROPOSED CPLS R/W		WELL POINT		32" SEDIMENT BARRIER
	PROPERTY LINE		TRENCH PLUG		PERMANENT STREAM IMPACT
	FOREIGN PIPELINE		WATERBODY		TEMPORARY STREAM IMPACT
	WETLAND AREA		TREE LINE		
	STREAM FLOW		FLOODWAY BOUNDARY		
	EXISTING POWER LINE		FEMA FLOODWAY BOUNDARY		
	EXISTING FENCE				

DRAWING NO.		REFERENCE TITLE		<b>TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC</b> <b>WATER OBSTRUCTION AND ENCROACHMENT PERMIT IMPACT MAPS</b> <b>ATLANTIC SUNRISE PROJECT</b> <b>PROPOSED 42" CENTRAL PENN LINE SOUTH</b> <b>STREAM CROSSINGS WW-RS-12002 M.P. 107.03, WW-RS-99103 M-0214 M.P. 0.16,</b> <b>WW-T52-13001C, WW-T52-13001, WW-RS-99104 @ M-0214 M.P. 0.17</b> <b>HEMLOCK TOWNSHIP, COLUMBIA COUNTY, PENNSYLVANIA</b>						
NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.	DRAWN BY: THL	DATE: 08/06/16	ISSUED FOR BID:	SCALE: 1" = 50'
0	10/25/16	JB	ISSUED FOR PADEP SUBMITTAL #2	1161503	CLR	MJH	CHECKED BY: CLR	DATE: 08/06/16	ISSUED FOR CONSTRUCTION:	REVISION: 0
APPROVED BY: MJH		DATE: 08/06/16		DRAWING NUMBER: 24-1600-70-09-A/107.02-01		SHEET 1				
WO: 1161503		10/6/2016		jibeast		OF 7				

**STREAM DISTURBANCE:**  
SEE TABLE ON SHEET 1 OF 7

**GENERAL NOTES:**  
SEE SHEET 1 OF 7

**SURVEY NOTES:**  
SEE SHEET 1 OF 7



**LEGEND**

	PROPOSED 42" CENTRAL PENN LINE SOUTH		WETLAND FLAGS
	EXISTING PIPELINES		PHOTO DATA POINT
	EXISTING TGPL R/W		WETLAND DATA POINT
	LIMITS OF DISTURBANCE		UPLAND DATA POINT
	PROPOSED CPLS R/W		WELL POINT
	PROPERTY LINE		TRENCH PLUG
	FOREIGN PIPELINE		WATERBODY
	WETLAND AREA		TREE LINE
	STREAM FLOW		FLOODWAY BOUNDARY
	EXISTING POWER LINE		FEMA FLOODWAY BOUNDARY
	EXISTING FENCE		12" SEDIMENT BARRIER
			18" SEDIMENT BARRIER
			24" SEDIMENT BARRIER
			32" SEDIMENT BARRIER
			TOP OF BANK
			PERMANENT STREAM IMPACT
			TEMPORARY STREAM IMPACT

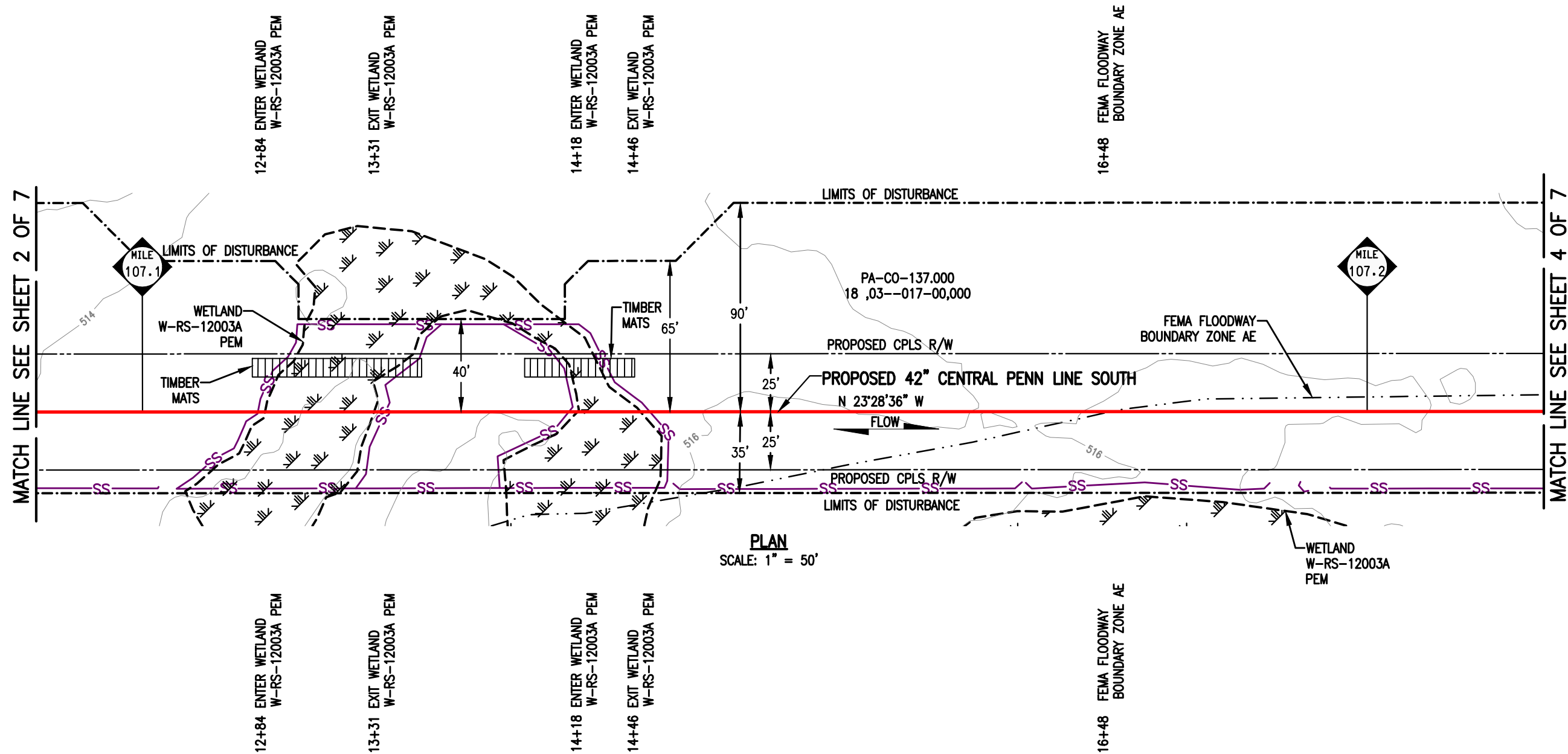
**WOOD GROUP MUSTANG, INC.**

DRAWING NO.	REFERENCE TITLE	TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC WATER OBSTRUCTION AND ENCROACHMENT PERMIT IMPACT MAPS ATLANTIC SUNRISE PROJECT PROPOSED 42" CENTRAL PENN LINE SOUTH STREAM CROSSINGS WW-RS-12002 M.P. 107.03, WW-RS-99103 M-0214 M.P. 0.16, WW-T52-13001C, WW-T52-13001, WW-RS-99104 @ M-0214 M.P. 0.17 HEMLOCK & MOUNT PLEASANT TOWNSHIPS, COLUMBIA COUNTY, PENNSYLVANIA								
NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.	DRAWN BY: JB	DATE: 08/05/16	ISSUED FOR BID:	SCALE: 1" = 50'
0	10/25/16	JB	ISSUED FOR PADEP SUBMITTAL #2	1161503	CLR	MJH	CHECKED BY: CLR	DATE: 08/05/16	ISSUED FOR CONSTRUCTION:	REVISION: 0
							APPROVED BY: MJH	DATE: 08/05/16	DRAWING NUMBER: 24-1600-70-09-A/107.02-01	SHEET 2
							WO: 1161503		10/6/2016	OF 7

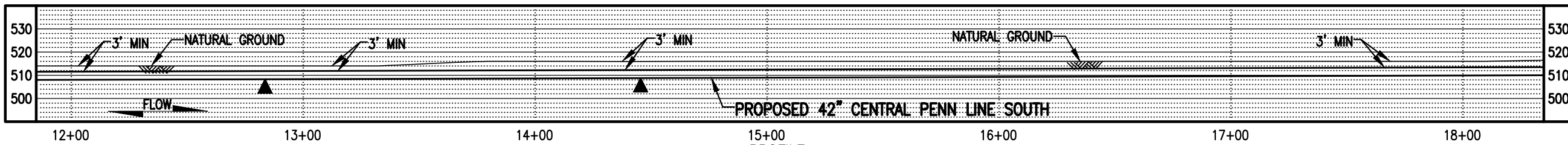
**STREAM DISTURBANCE:**  
SEE TABLE ON SHEET 1 OF 7

**GENERAL NOTES:**  
SEE SHEET 1 OF 7

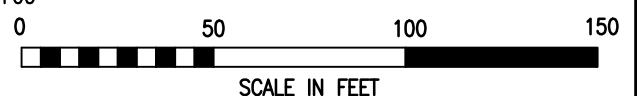
**SURVEY NOTES:**  
SEE SHEET 1 OF 7



**PLAN**  
SCALE: 1" = 50'



**PROFILE**  
SCALE: 1" = 50' HORIZONTAL  
1" = 50' VERTICAL



LEGEND		WOOD GROUP MUSTANG, INC.	
	PROPOSED 42" CENTRAL PENN LINE SOUTH		WETLAND FLAGS
	EXISTING PIPELINES		PHOTO DATA POINT
	EXISTING TGPL R/W		WETLAND DATA POINT
	LIMITS OF DISTURBANCE		UPLAND DATA POINT
	PROPOSED CPLS R/W		WELL POINT
	PROPERTY LINE		TRENCH PLUG
	FOREIGN PIPELINE		WATERBODY
	WETLAND AREA		TREE LINE
	STREAM FLOW		FLOODWAY BOUNDARY
	EXISTING POWER LINE		FEMA FLOODWAY BOUNDARY
	EXISTING FENCE		PERMANENT STREAM IMPACT
			TEMPORARY STREAM IMPACT

DRAWING NO.	REFERENCE TITLE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.
0	10/25/16	JB	ISSUED FOR PADEP SUBMITTAL #2	1161503	CLR	MJH

**TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC**  
**WATER OBSTRUCTION AND ENCROACHMENT PERMIT IMPACT MAPS**  
**ATLANTIC SUNRISE PROJECT**  
**PROPOSED 42" CENTRAL PENN LINE SOUTH**  
**STREAM CROSSINGS WW-RS-12002 M.P. 107.03, WW-RS-99103 M-0214 M.P. 0.16,**  
**WW-T52-13001C, WW-T52-13001, WW-RS-99104 @ M-0214 M.P. 0.17**  
**MOUNT PLEASANT TOWNSHIP, COLUMBIA COUNTY, PENNSYLVANIA**

**Williams**

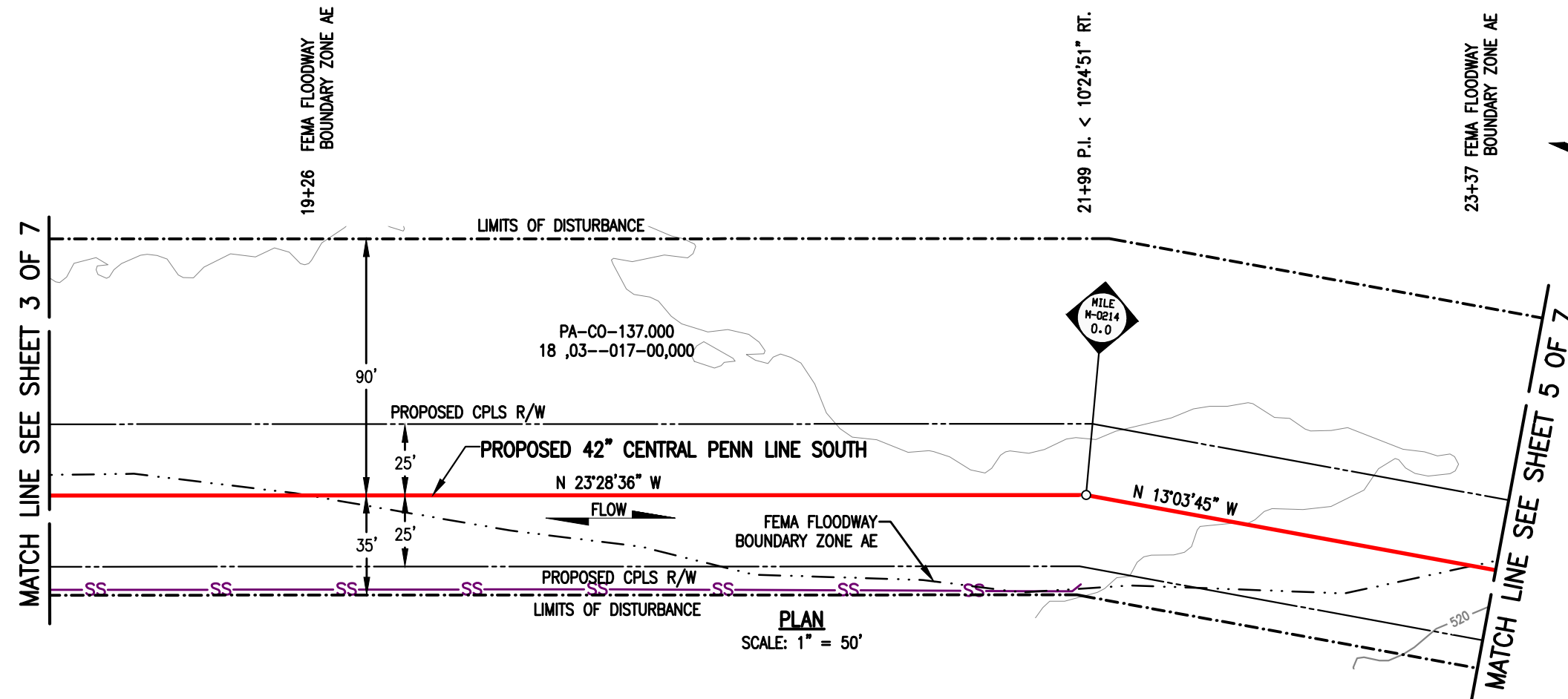
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CHECKED BY: CLR	DATE: 08/05/16	ISSUED FOR CONSTRUCTION:	REVISION: 0
APPROVED BY: MJH	DATE: 08/05/16	DRAWING NUMBER:	24-1600-70-09-A/107.02-01 SHEET 3
WO: 1161503		DRAWING NUMBER:	OF 7

10/6/2016 jibeast  
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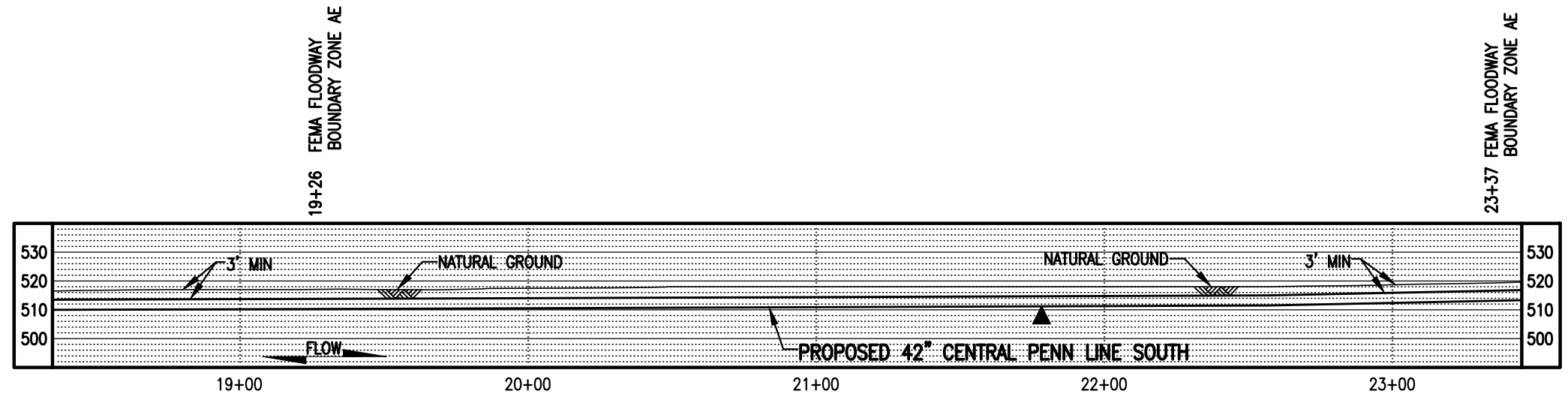
**STREAM DISTURBANCE:**  
SEE TABLE ON SHEET 1 OF 7

**GENERAL NOTES:**  
SEE SHEET 1 OF 7

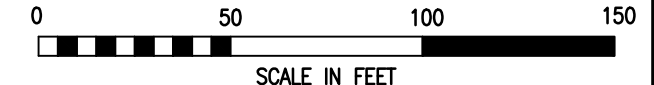
**SURVEY NOTES:**  
SEE SHEET 1 OF 7



**PLAN**  
SCALE: 1" = 50'



**PROFILE**  
SCALE: 1" = 50' HORIZONTAL  
1" = 50' VERTICAL



LEGEND		WOOD GROUP MUSTANG, INC.	
	PROPOSED 42" CENTRAL PENN LINE SOUTH		WETLAND FLAGS
	EXISTING PIPELINES		PHOTO DATA POINT
	EXISTING TGPL R/W		WETLAND DATA POINT
	LIMITS OF DISTURBANCE		UPLAND DATA POINT
	PROPOSED CPLS R/W		WELL POINT
	PROPERTY LINE		TRENCH PLUG
	FOREIGN PIPELINE		WATERBODY
	WETLAND AREA		TREE LINE
	STREAM FLOW		FLOODWAY BOUNDARY
	EXISTING POWER LINE		FEMA FLOODWAY BOUNDARY
	EXISTING FENCE		PERMANENT STREAM IMPACT
			TEMPORARY STREAM IMPACT

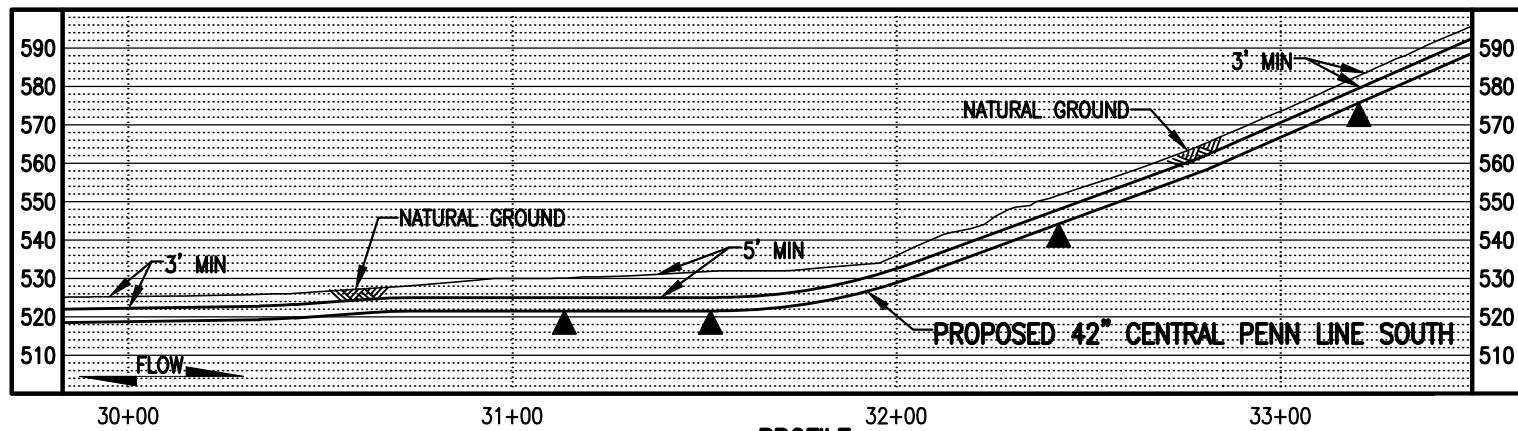
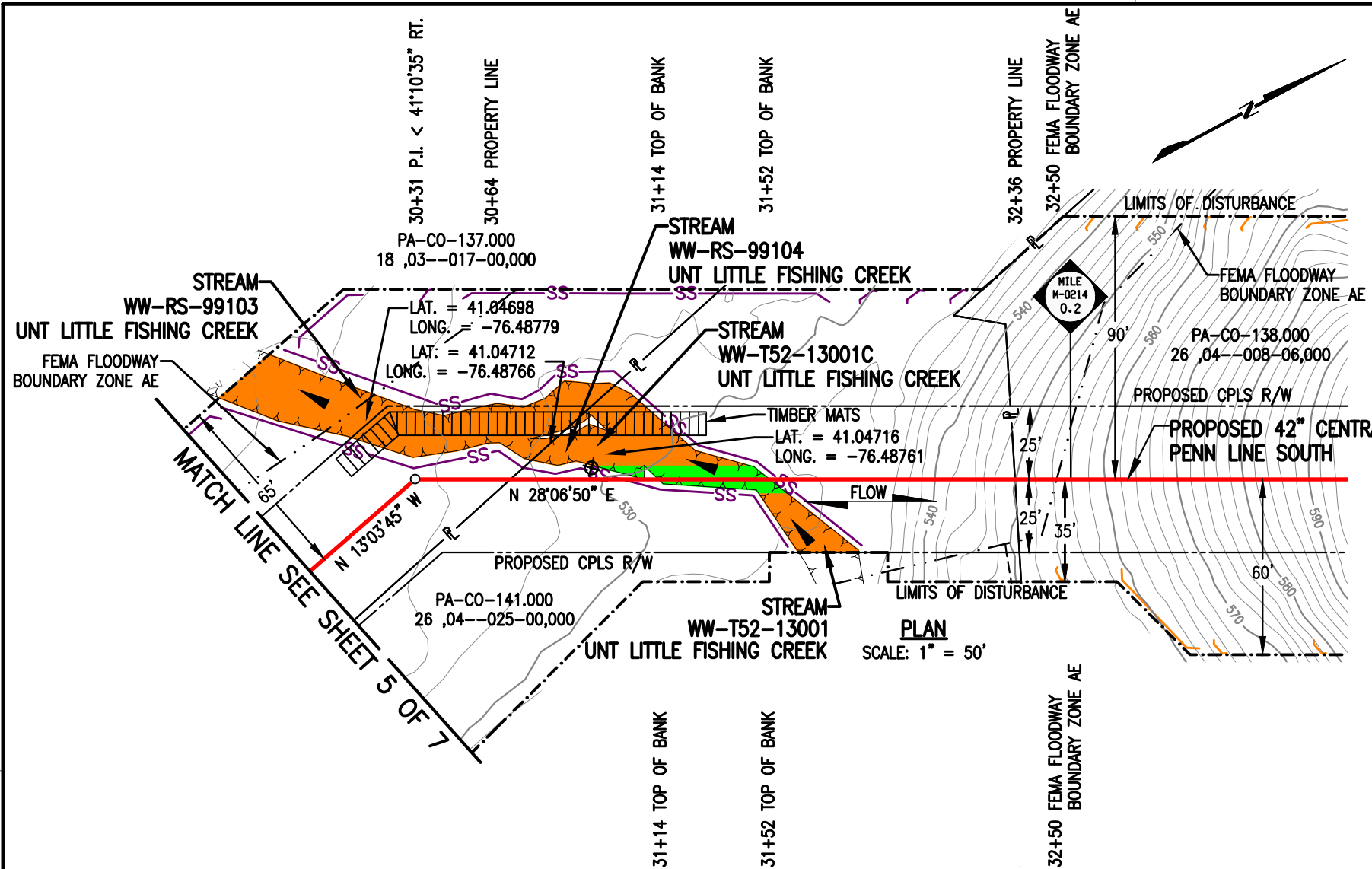
DRAWING NO.		REFERENCE TITLE	
NO.	DATE	BY	REVISION DESCRIPTION
0	10/25/16	JB	ISSUED FOR PADEP SUBMITTAL #2

**TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC**  
**WATER OBSTRUCTION AND ENCROACHMENT PERMIT IMPACT MAPS**  
**ATLANTIC SUNRISE PROJECT**  
**PROPOSED 42" CENTRAL PENN LINE SOUTH**  
 STREAM CROSSINGS WW-RS-12002 M.P. 107.03, WW-RS-99103 M-0214 M.P. 0.16, WW-T52-13001C, WW-T52-13001, WW-RS-99104 @ M-0214 M.P. 0.17  
**MOUNT PLEASANT TOWNSHIP, COLUMBIA COUNTY, PENNSYLVANIA**

**Williams**

DRAWN BY: JB	DATE: 08/05/16	ISSUED FOR BID:	SCALE: 1" = 50'
CHECKED BY: CLR	DATE: 08/05/16	ISSUED FOR CONSTRUCTION:	REVISION: 0
APPROVED BY: MJH	DATE: 08/05/16	DRAWING NUMBER: 24-1600-70-09-A/107.02-01	SHEET 4
WO: 1161503			OF 7





**STREAM DISTURBANCE:**

STREAM WW-T52-13001C	ACRE
TEMPORARY STREAM DISTURBANCE	0.0042
PERMANENT STREAM DISTURBANCE	0.0011
TOTAL STREAM DISTURBANCE	0.0053
TEMPORARY FLOODWAY DISTURBANCE	0.0000
PERMANENT FLOODWAY DISTURBANCE	0.0000
TOTAL FLOODWAY DISTURBANCE	0.0000
STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	13.29
STREAM LENGTH	48.49

STREAM WW-T52-13001	ACRE
TEMPORARY STREAM DISTURBANCE	0.0184
PERMANENT STREAM DISTURBANCE	0.0071
TOTAL STREAM DISTURBANCE	0.0255
TEMPORARY FLOODWAY DISTURBANCE	0.2999
PERMANENT FLOODWAY DISTURBANCE	0.0354
TOTAL FLOODWAY DISTURBANCE	0.3353
STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	38.04
STREAM LENGTH	92.83

STREAM WW-RS-99103	ACRE
TEMPORARY STREAM DISTURBANCE	0.0459
PERMANENT STREAM DISTURBANCE	0.0000
TOTAL STREAM DISTURBANCE	0.0459
TEMPORARY FLOODWAY DISTURBANCE	0.0000
PERMANENT FLOODWAY DISTURBANCE	0.0000
TOTAL FLOODWAY DISTURBANCE	0.0000
STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	30.98
STREAM LENGTH	132.99

STREAM WW-RS-99104	ACRE
TEMPORARY STREAM DISTURBANCE	0.0046
PERMANENT STREAM DISTURBANCE	0.0000
TOTAL STREAM DISTURBANCE	0.0046
TEMPORARY FLOODWAY DISTURBANCE	0.0000
PERMANENT FLOODWAY DISTURBANCE	0.0000
TOTAL FLOODWAY DISTURBANCE	0.0000
STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	11.56
STREAM LENGTH	38.36

**GENERAL NOTES:**

SEE SHEET 1 OF 7

**SURVEY NOTES:**

SEE SHEET 1 OF 7



**LEGEND**

	PROPOSED 42" CENTRAL PENN LINE SOUTH		WETLAND FLAGS		<b>WOOD GROUP MUSTANG, INC.</b>
	EXISTING PIPELINES		PHOTO DATA POINT		12" SEDIMENT BARRIER
	EXISTING TGPL R/W		WETLAND DATA POINT		18" SEDIMENT BARRIER
	LIMITS OF DISTURBANCE		UPLAND DATA POINT		24" SEDIMENT BARRIER
	PROPOSED CPLS R/W		WELL POINT		32" SEDIMENT BARRIER
	PROPERTY LINE		TRENCH PLUG		TOP OF BANK
	FOREIGN PIPELINE		WATERBODY		PERMANENT STREAM IMPACT
	WETLAND AREA		TREE LINE		TEMPORARY STREAM IMPACT
	STREAM FLOW		FLOODWAY BOUNDARY		
	EXISTING POWER LINE		FEMA FLOODWAY BOUNDARY		
	EXISTING FENCE				

DRAWING NO.		REFERENCE TITLE	

**TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC**  
**WATER OBSTRUCTION AND ENCROACHMENT PERMIT IMPACT MAPS**  
**ATLANTIC SUNRISE PROJECT**  
**PROPOSED 42" CENTRAL PENN LINE SOUTH**  
**STREAM CROSSINGS WW-RS-12002 M.P. 107.03, WW-RS-99103 M-0214 M.P. 0.16,**  
**WW-T52-13001C, WW-T52-13001, WW-RS-99104 @ M-0214 M.P. 0.17**  
**MOUNT PLEASANT TOWNSHIP, COLUMBIA COUNTY, PENNSYLVANIA**

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.	DRAWN BY:	DATE:	ISSUED FOR BID:	SCALE:
0	10/25/16	JB	ISSUED FOR PADEP SUBMITTAL #2	1161503	CLR	MJH	JB	08/05/16		1" = 50'

CHECKED BY:	DATE:	ISSUED FOR CONSTRUCTION:	REVISION:
CLR	08/05/16		0

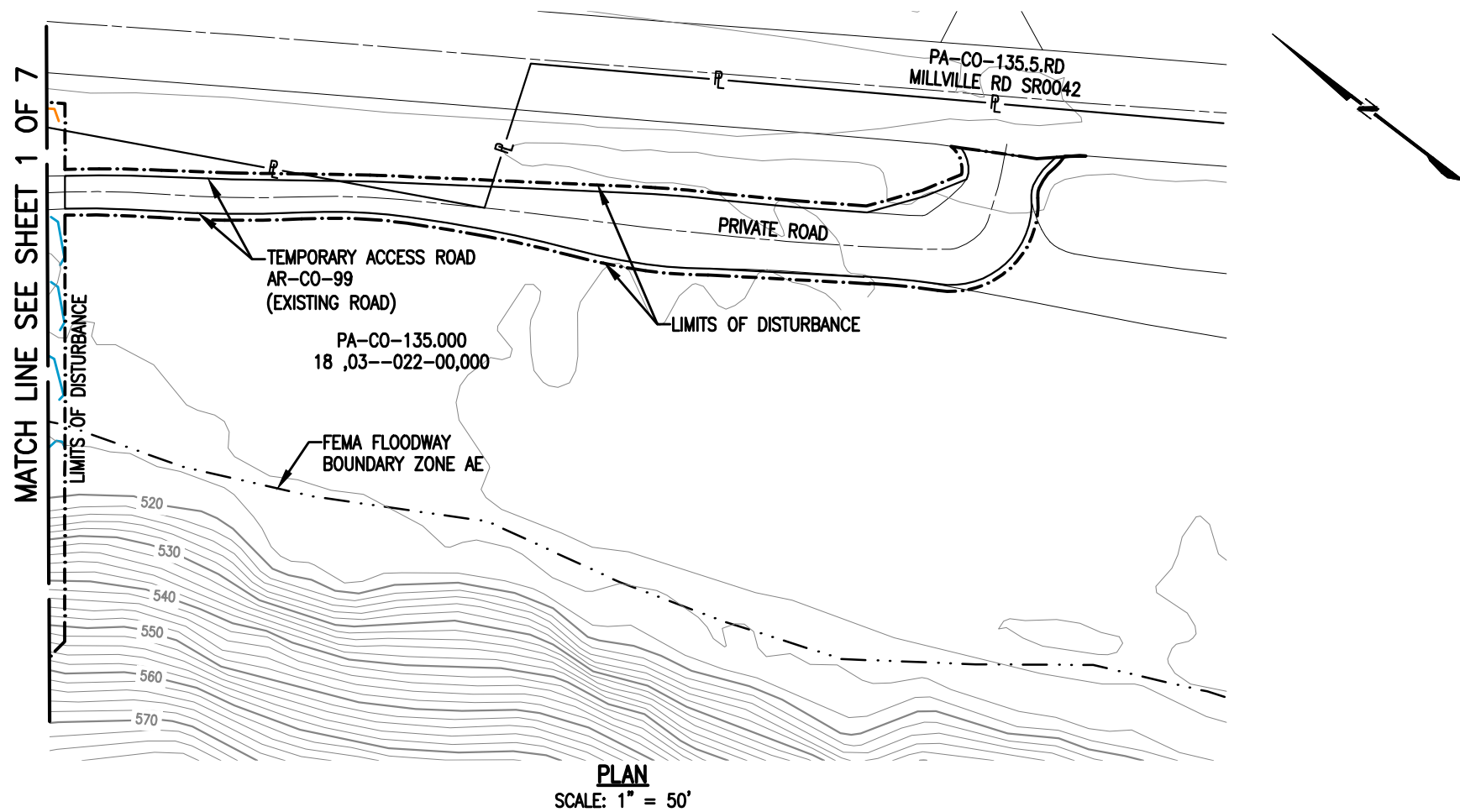
APPROVED BY:	DATE:	DRAWING NUMBER:	SHEET
MJH	08/05/16	24-1600-70-09-A/107.02-01	6

W.O. NUMBER: 1161503  
 DATE: 10/6/2016  
 DRAWN BY: jibeast  
 W.O. NUMBER: 1161503

**STREAM DISTURBANCE:**  
SEE TABLE ON SHEET 1 OF 7

**GENERAL NOTES:**  
SEE SHEET 1 OF 7

**SURVEY NOTES:**  
SEE SHEET 1 OF 7



LEGEND		WOOD GROUP MUSTANG, INC.	
	PROPOSED 42" CENTRAL PENN LINE SOUTH		WETLAND FLAGS
	EXISTING PIPELINES		PHOTO DATA POINT
	EXISTING TGPL R/W		WETLAND DATA POINT
	LIMITS OF DISTURBANCE		UPLAND DATA POINT
	PROPOSED CPLS R/W		WELL POINT
	PROPERTY LINE		TRENCH PLUG
	FOREIGN PIPELINE		WATERBODY
	WETLAND AREA		TREE LINE
	STREAM FLOW		FLOODWAY BOUNDARY
	EXISTING POWER LINE		FEMA FLOODWAY BOUNDARY
	EXISTING FENCE		12" SEDIMENT BARRIER
			18" SEDIMENT BARRIER
			24" SEDIMENT BARRIER
			32" SEDIMENT BARRIER
			TOP OF BANK
			PERMANENT STREAM IMPACT
			TEMPORARY STREAM IMPACT

DRAWING NO.		REFERENCE TITLE	
NO.	DATE	BY	REVISION DESCRIPTION
0	10/25/16	JB	ISSUED FOR PADEP SUBMITTAL #2

TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC			
WATER OBSTRUCTION AND ENCROACHMENT PERMIT IMPACT MAPS			
ATLANTIC SUNRISE PROJECT			
PROPOSED 42" CENTRAL PENN LINE SOUTH			
STREAM CROSSINGS WW-RS-12002 M.P. 107.03, WW-RS-99103 M-0214 M.P. 0.16, WW-T52-13001, WW-T52-13001C, WW-RS-99104 M-0214 M.P. 0.17			
HEMLOCK TOWNSHIP, COLUMBIA COUNTY, PENNSYLVANIA			
DRAWN BY:	JB	DATE:	08/05/16
CHECKED BY:	CLR	DATE:	08/05/16
APPROVED BY:	MJH	DATE:	08/05/16
ISSUED FOR BID:		SCALE:	1" = 50'
ISSUED FOR CONSTRUCTION:		REVISION:	0
DRAWING NUMBER:	24-1600-70-09-A/107.02-01		SHEET 7
W.O. NO.:	1161503	CHK.:	CLR
APP.:	MJH	DATE:	10/6/2016





October 27, 2016

Sugarloaf Township  
Floodplain Administrator  
90 Schoolhouse Road  
Benton, PA 17814

Re: Atlantic Sunrise Project  
Central Penn Line North and Central Penn Line South  
Sugarloaf Township, Columbia County  
Floodplain Management Analysis

Dear Sir or Madam:

Transcontinental Gas Pipeline Company, LLC (Transco) proposes to construct and operate the Atlantic Sunrise Project (Project) to provide 1.7 million dekatherms per day of incremental firm transportation of natural gas from the Marcellus Shale production areas in northern Pennsylvania (PA) to its existing market areas, extending to as far south as the Station 85 Pooling Point in Choctaw County, Alabama. The Project includes modifications to the existing Transco Mainline System to reverse the direction of flow, enabling new north-to-south capabilities (bi-directional flow) to transport this new source of natural gas to existing markets. The Project consists of the following primary components within PA:

- Installing greenfield pipeline facilities of approximately 58.6 miles of new 30-inch-diameter pipe from Susquehanna County, PA to Columbia County, PA.
- Installing greenfield pipeline facilities of approximately 127.3 miles of 42-inch-diameter pipe from Columbia County, PA to Lancaster County, PA.;
- Installing two pipeline loops (pipeline laid parallel to existing facilities):
  - 8.56 miles of 42-inch pipeline loop located in Lycoming County, PA known as the Unity Loop;
  - 2.50 miles of 36-inch pipeline in Clinton County, PA, known as the Chapman Loop;
- Constructing two new compressor stations, one in Wyoming County and one in Columbia County, PA;
- Additional ancillary facilities, such as mainline valves, cathodic protection, communication facilities, and internal inspection device (e.g., pig) launchers and receivers;
- Two new meter stations and three new regulator stations with interconnecting piping;
- Additional compression and related modifications to one existing compressor station; and,
- Modification to an existing meter station for use of shared facilities with a new meter station.

Transco's consultants, BL Companies and TRC Solutions (TRC), have completed an analysis of potential impacts on FEMA delineated floodways from the Project in accordance with 25 Pa. Code § 105.13. The analysis for Sugarloaf Township is provided below for your review and comment.

Sugarloaf Township  
October 27, 2016  
BL Project No. 14C4909  
Page 1 of 2

**ATLANTIC SUNRISE PROJECT  
FEMA FLOODPLAIN CROSSINGS  
SUGARLOAF TOWNSHIP, COLUMBIA COUNTY, PENNSYLVANIA**

Description of Impact	Structure Type and Dimensions	Resource ID	Resource Name	Chapter 93 Classification, Wetland Classification (EV or Other), or Floodway Type	Floodway Fill (cu. yds.)	Impact area (acres)		Latitude	Longitude
						Temporary	Permanent		
Utility Pipeline Crossing	Equipment Access and E&S Controls	WW-T02-15007	Floodway to Fishing Creek	FEMA Detailed	N/A	3.1012	0.2497 <sup>2</sup>	41.27291	-76.38197
Utility Pipeline Crossing	Equipment Access and E&S Controls	WW-T02-15012	Floodway to Coles Creek	FEMA Detailed <sup>1</sup>	N/A	0.3885	0.0251 <sup>2</sup>	41.28169	-76.32906

Notes:  
<sup>1</sup> Multiple streams are included in these calculations as the floodways overlap.  
<sup>2</sup> Permanent impacts associated with utility pipeline crossings are based on the permanent pipe footprint within the floodplain (pipe trench width x pipe crossing length). No permanent alternation to the floodway contours and elevation is associated with these permanent impacts.

The floodway crossings listed above are depicted on the enclosed plans from the Project’s PADEP Chapter 105 Permit Application.

Please note that construction activities are not expected to create permanent loss of flood storage capacity or hydraulic capacity, as all pre-construction surface elevations will be re-established during restoration. The temporary and permanent impacts noted above are associated with vegetation management, underground pipe installation, and temporary contractor staging area usage only, and do not represent a permanent modification of ground elevation or loss of flood storage capacity or hydraulic capacity. No structures are proposed within the FEMA 100-year floodplain, no fill will be placed in the floodways, and no increase in 100-year flood elevation is anticipated as a result of the proposed Project.

On behalf of Transco, BL and TRC respectfully request that Sugarloaf Township review this analysis and, if applicable, provide comments to:

Steve Crescenzo  
 TRC Environmental Corporation  
 2200 Liberty Avenue, Suite 100  
 Pittsburgh, PA 15222

**Please do not send comments directly to the PADEP**, as we must include them with our permit application. Should you have any questions or concerns regarding this notification, please contact Al Busher at (717)-651-9850 or via email at [abusher@blcompanies.com](mailto:abusher@blcompanies.com).

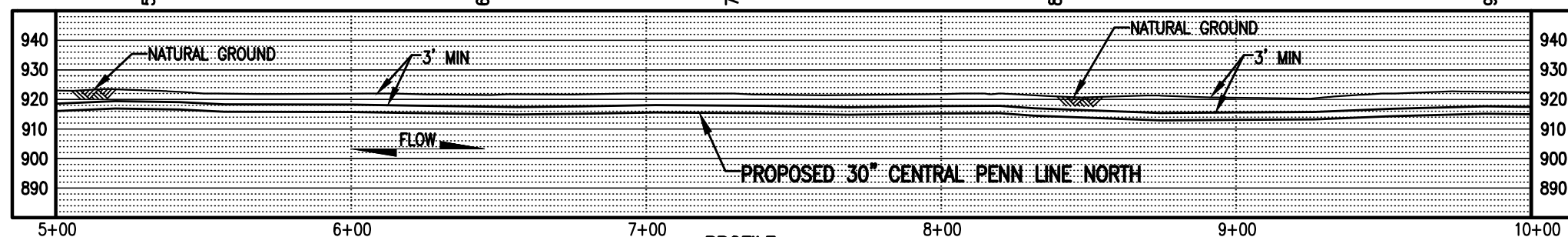
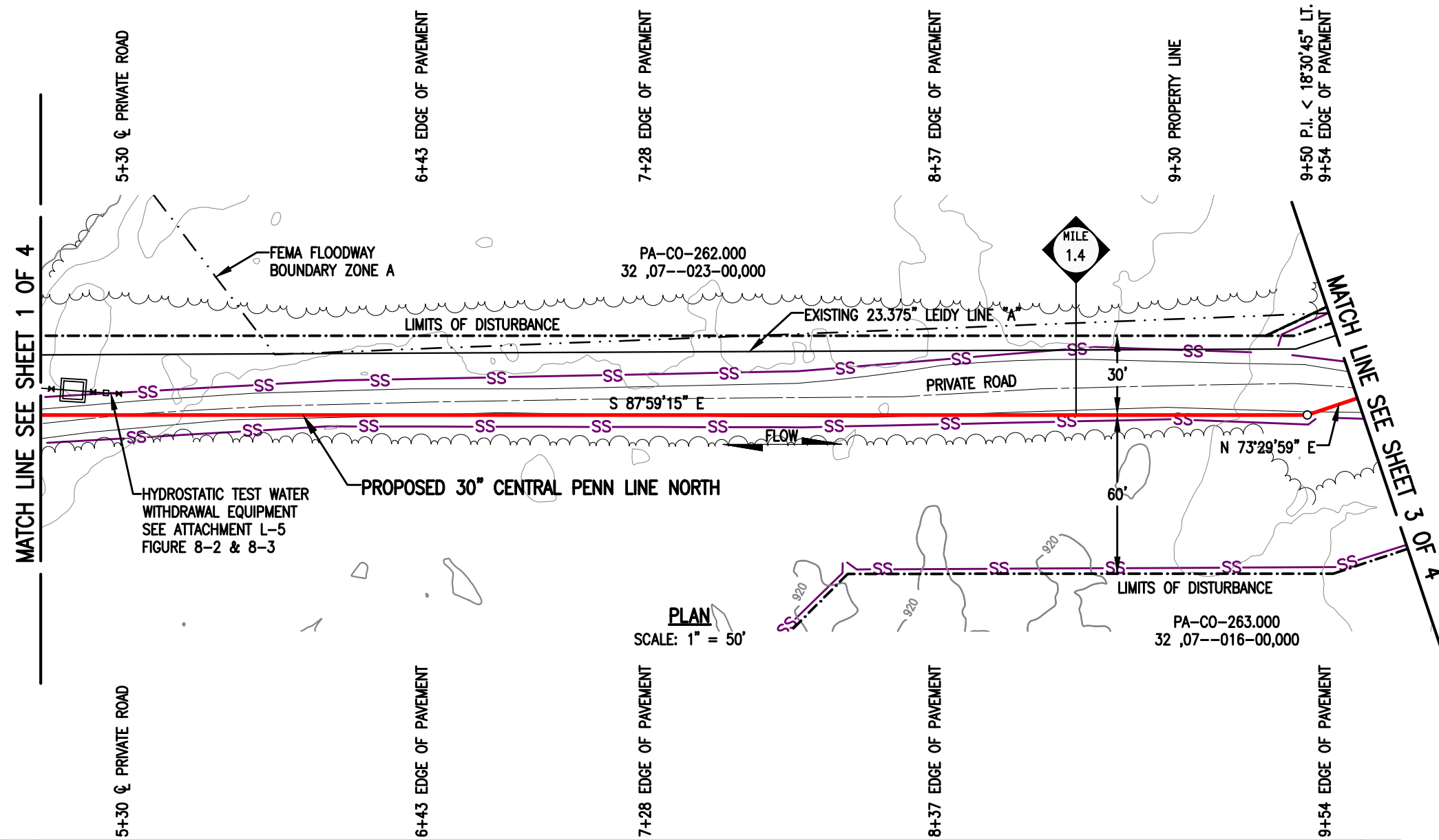
Sincerely,



Alaric J. Busher, PE  
 Senior Engineer

Enclosures: Water Obstruction and Encroachment Permit Impact Maps





**PROFILE**  
SCALE: 1" = 50' HORIZONTAL  
1" = 50' VERTICAL



**LEGEND**

	PROPOSED 30" CENTRAL PENN LINE NORTH		WETLAND FLAGS
	EXISTING PIPELINES		PHOTO DATA POINT
	EXISTING TGPL R/W		WETLAND DATA POINT
	LIMITS OF DISTURBANCE		UPLAND DATA POINT
	PROPOSED CPLN R/W		WELL POINT
	PROPERTY LINE		TRENCH PLUG
	FOREIGN PIPELINE		WATERBODY
	WETLAND AREA		TREE LINE
	STREAM FLOW		FLOODWAY BOUNDARY
	EXISTING POWER LINE		FEMA FLOODWAY BOUNDARY
	EXISTING FENCE		PERMANENT STREAM IMPACT
			TEMPORARY STREAM IMPACT

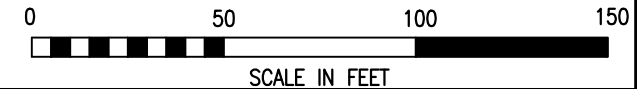
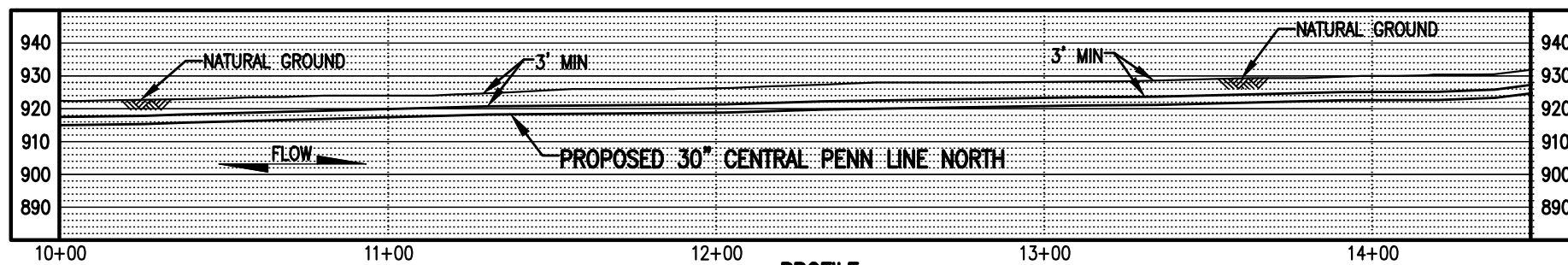
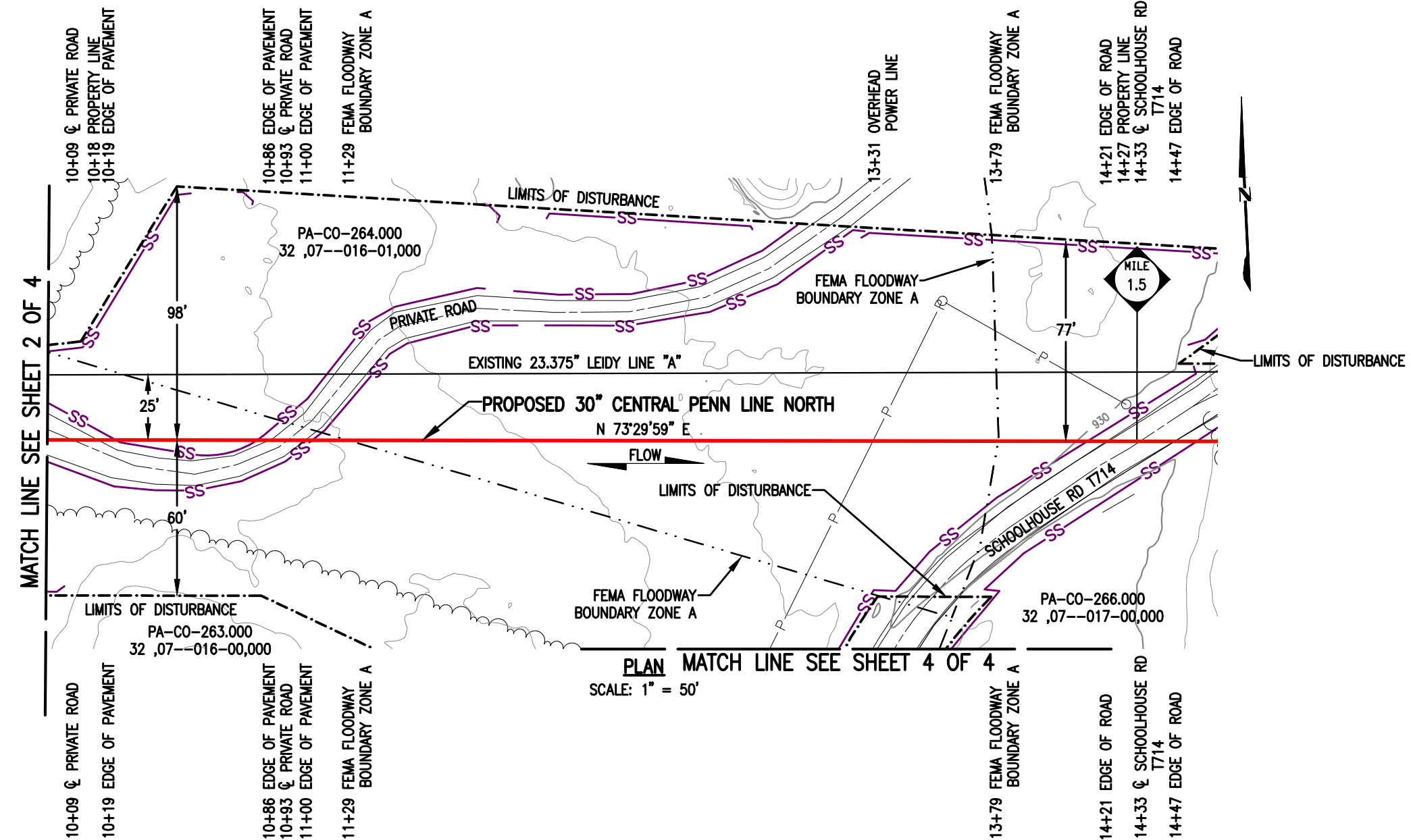


NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.
0	08/20/15	AT	ISSUED FOR PADEP 105 PERMIT	1161481	CLR	MJH
1	02/03/16	MH	ISSUED FOR INTERNAL USE	1161481	CLR	MJH
2	10/25/16	AT	ISSUED FOR PADEP SUBMITTAL #2	1161481	CLR	MJH

**TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC**  
**WATER OBSTRUCTION AND ENCROACHMENT PERMIT IMPACT MAPS**  
**ATLANTIC SUNRISE PROJECT**  
**PROPOSED 30" CENTRAL PENN LINE NORTH**  
**STREAM CROSSINGS WW-T92-15001B @ M.P. 1.26**  
**WW-T02-15007 @ M.P. 1.31**  
**SUGARLOAF TOWNSHIP, COLUMBIA COUNTY, PENNSYLVANIA**

**Williams**

DRAWING NO.	1161481	DATE	12/13/14	ISSUED FOR BID:	SCALE: 1" = 50'
REFERENCE TITLE		CHECKED BY:	CLR	DATE	06/01/15
		APPROVED BY:	MJH	DATE	06/08/15
		ISSUED FOR CONSTRUCTION:		DRAWING NUMBER:	24-1601-70-09-A/1.31-01
				3/04pm	2 OF 4

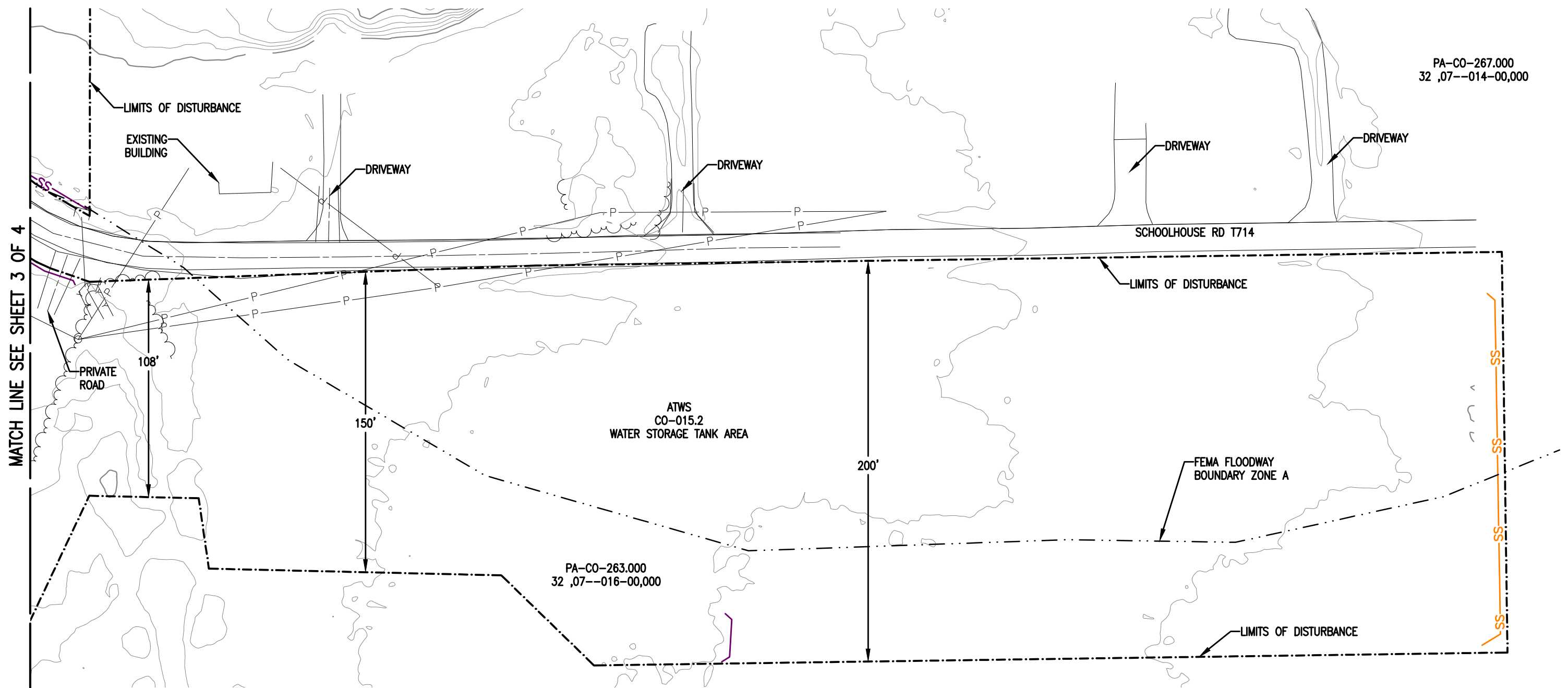


LEGEND		WOOD GROUP MUSTANG, INC.	
	PROPOSED 30" CENTRAL PENN LINE NORTH		WETLAND FLAGS
	EXISTING PIPELINES		PHOTO DATA POINT
	EXISTING TGPL R/W		WETLAND DATA POINT
	LIMITS OF DISTURBANCE		UPLAND DATA POINT
	PROPOSED CPLN R/W		WELL POINT
	PROPERTY LINE		TRENCH PLUG
	FOREIGN PIPELINE		WATERBODY
	WETLAND AREA		TREE LINE
	STREAM FLOW		FLOODWAY BOUNDARY
	EXISTING POWER LINE		FEMA FLOODWAY BOUNDARY
	EXISTING FENCE		PERMANENT STREAM IMPACT
			TEMPORARY STREAM IMPACT
			12" SEDIMENT BARRIER
			18" SEDIMENT BARRIER
			24" SEDIMENT BARRIER
			32" SEDIMENT BARRIER
			TOP OF BANK

DRAWING NO.		REFERENCE TITLE	
		TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC WATER OBSTRUCTION AND ENCROACHMENT PERMIT IMPACT MAPS ATLANTIC SUNRISE PROJECT PROPOSED 30" CENTRAL PENN LINE NORTH STREAM CROSSINGS WW-T92-15001B @ M.P. 1.26 WW-T02-15007 @ M.P. 1.31 SUGARLOAF TOWNSHIP, COLUMBIA COUNTY, PENNSYLVANIA	
NO.	DATE	BY	REVISION DESCRIPTION
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1	02/03/16	MH	ISSUED FOR INTERNAL USE
2	10/25/16	AT	ISSUED FOR PADEP SUBMITTAL #2
W.O. NO.	CHK.	APP.	DRAWN BY: TL
1161481	CLR	MJH	DATE: 12/13/14
1161481	CLR	MJH	ISSUED FOR BID:
1161481	CLR	MJH	SCALE: 1" = 50'
			REVISION: 2
			DRAWING NUMBER: 24-1601-70-09-A/1.31-01
			DATE: 06/01/15
			ISSUED FOR CONSTRUCTION:
			DATE: 06/08/15
			3405pm 9/28/2016 a1traha
			W.C. 1161481
			K:\103646-CPLN\Mapping\Waterbodies\Revised 105\24-1601-70-09-A_1.31-01.dwg
			SHEET 3 OF 4

STREAM DISTURBANCE:  
SEE TABLE ON SHEET 1 OF 4

PA-CO-267.000  
32 ,07--014-00,000



MATCH LINE SEE SHEET 3 OF 4

**PLAN**  
SCALE: 1" = 50'

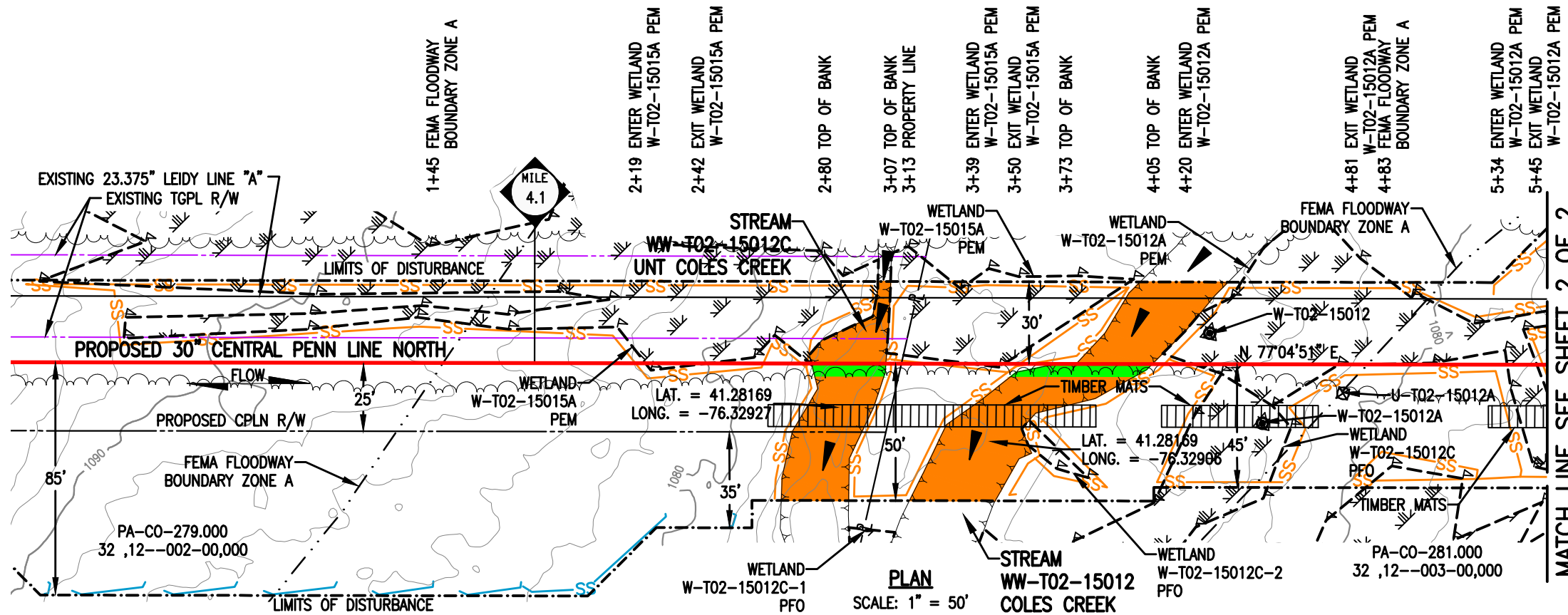


LEGEND		WOOD GROUP MUSTANG, INC.	
	PROPOSED 30" CENTRAL PENN LINE NORTH		WETLAND FLAGS
	EXISTING PIPELINES		PHOTO DATA POINT
	EXISTING TGPL R/W		WETLAND DATA POINT
	LIMITS OF DISTURBANCE		UPLAND DATA POINT
	PROPOSED CPLN R/W		WELL POINT
	PROPERTY LINE		TRENCH PLUG
	FOREIGN PIPELINE		WATERBODY
	WETLAND AREA		TREE LINE
	STREAM FLOW		FLOODWAY BOUNDARY
	EXISTING POWER LINE		FEMA FLOODWAY BOUNDARY
	EXISTING FENCE		12" SEDIMENT BARRIER
			18" SEDIMENT BARRIER
			24" SEDIMENT BARRIER
			32" SEDIMENT BARRIER
			TOP OF BANK
			PERMANENT STREAM IMPACT
			TEMPORARY STREAM IMPACT

DRAWING NO.		REFERENCE TITLE	
NO.	DATE	BY	REVISION DESCRIPTION
0	10/25/16	DJG	ISSUED FOR PADEP SUBMITTAL #2

**TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC**  
**WATER OBSTRUCTION AND ENCROACHMENT PERMIT IMPACT MAPS**  
**ATLANTIC SUNRISE PROJECT**  
**PROPOSED 30" CENTRAL PENN LINE NORTH**  
**STREAM CROSSINGS WW-T92-15001B @ M.P. 1.26**  
**WW-T02-15007 @ M.P. 1.31**  
**SUGARLOAF TOWNSHIP, COLUMBIA COUNTY, PENNSYLVANIA**

DRAWN BY: TL	DATE: 09/23/16	ISSUED FOR BID:	SCALE: 1" = 50'
CHECKED BY: CLR	DATE: 09/23/16	ISSUED FOR CONSTRUCTION:	REVISION: 0
APPROVED BY: MJH	DATE: 09/28/16	DRAWING NUMBER: 24-1601-70-09-A/1.31-01	SHEET 4
WC: 1161481		10/7/2016 jibeast	OF 4



**STREAM DISTURBANCE:**

STREAM WW-T02-15012C (HQ)	ACRE
TEMPORARY STREAM DISTURBANCE	0.0347
PERMANENT STREAM DISTURBANCE	0.0030
TOTAL STREAM DISTURBANCE	0.0377
TEMPORARY FLOODWAY DISTURBANCE	0.0000
PERMANENT FLOODWAY DISTURBANCE	0.0000
TOTAL FLOODWAY DISTURBANCE	0.0000

STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	27.09
STREAM LENGTH	88.22

STREAM WW-T02-15012 (HQ)	ACRE
TEMPORARY STREAM DISTURBANCE	0.0552
PERMANENT STREAM DISTURBANCE	0.0048
TOTAL STREAM DISTURBANCE	0.0600
TEMPORARY FLOODWAY DISTURBANCE	0.3885
PERMANENT FLOODWAY DISTURBANCE	0.0251
TOTAL FLOODWAY DISTURBANCE	0.4136

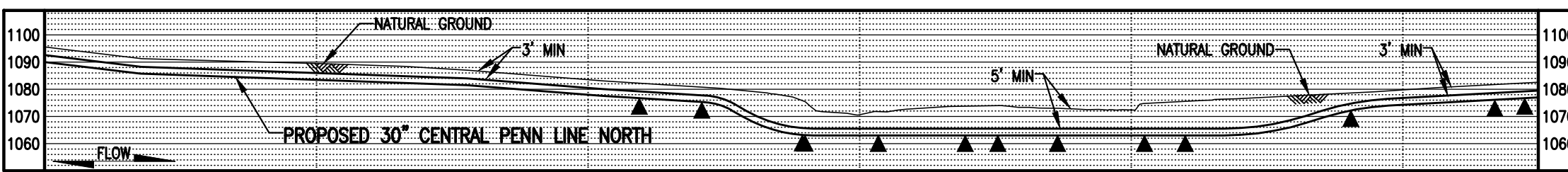
STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	31.10
STREAM LENGTH	120.35

**GENERAL NOTES:**

1. STREAMS CROSSING METHOD SHALL BE DAM AND PUMP (DPX) EQUIPMENT TO CROSS STREAMS UTILIZING A BRIDGE EQUIPMENT CROSSING (BEC).
2. THESE SITES ARE LOCATED WITHIN THE 100 YEAR FLOOD PLAIN PER FEMA FLOOD MAP DATA.
3. STATION 1+00 SHOWN IS EQUAL TO STATION 215+70 ON THE EROSION AND SEDIMENT CONTROL PLAN.

**SURVEY NOTES:**

1. T.B.M. SURVEY CONTROL POINT - 4.67' LT. OF STATION 4.14, ELEV. = 1137.51' (NAVD88).



**PROFILE**  
SCALE: 1" = 50' HORIZONTAL  
1" = 50' VERTICAL



**LEGEND**

	PROPOSED 30" CENTRAL PENN LINE NORTH		WETLAND FLAGS
	EXISTING PIPELINES		PHOTO DATA POINT
	EXISTING TGPL R/W		WETLAND DATA POINT
	LIMITS OF DISTURBANCE		UPLAND DATA POINT
	PROPOSED CPLN R/W		WELL POINT
	PROPERTY LINE		TRENCH PLUG
	FOREIGN PIPELINE		WATERBODY
	WETLAND AREA		TREE LINE
	STREAM FLOW		FLOODWAY BOUNDARY
	EXISTING POWER LINE		FEMA FLOODWAY BOUNDARY
	EXISTING FENCE		

**WOOD GROUP MUSTANG, INC.**

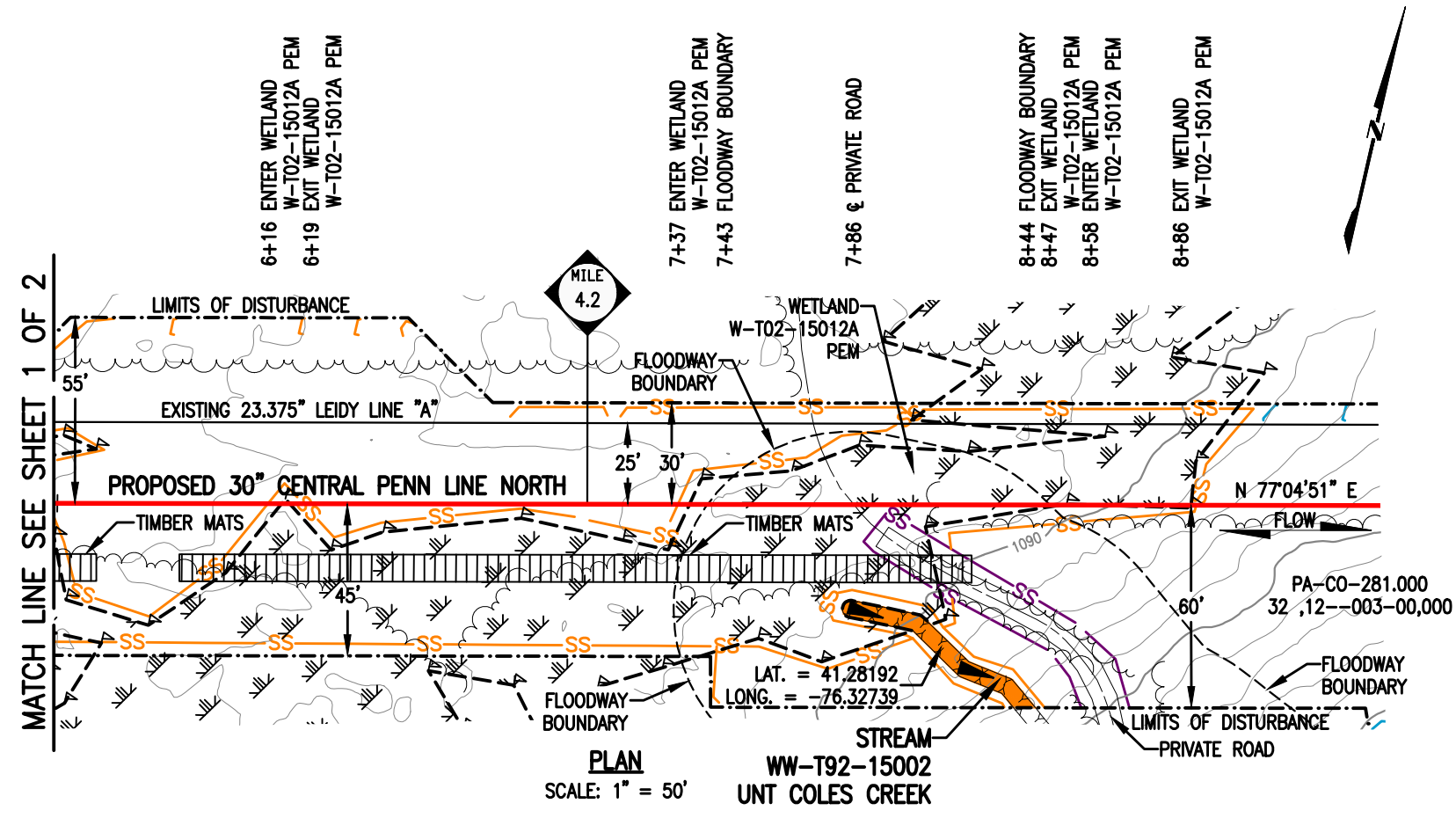
	12" SEDIMENT BARRIER
	18" SEDIMENT BARRIER
	24" SEDIMENT BARRIER
	32" SEDIMENT BARRIER
	TOP OF BANK
	PERMANENT STREAM IMPACT
	TEMPORARY STREAM IMPACT

**TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC**  
WATER OBSTRUCTION AND ENCROACHMENT PERMIT IMPACT MAPS  
ATLANTIC SUNRISE PROJECT  
PROPOSED 30" CENTRAL PENN LINE NORTH  
STREAM CROSSINGS WW-T02-15012 @ M.P. 4.12 &  
WW-T02-15012 @ M.P. 4.13  
SUGARLOAF TOWNSHIP, COLUMBIA COUNTY, PENNSYLVANIA

**Williams**

DRAWING NO.	REFERENCE TITLE	NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.	DRAWN BY:	DATE:	ISSUED FOR BID:	SCALE:
		0	08/20/15	ET	ISSUED FOR PADEP 105 PERMIT	1161481	CLR	MJH	TL	08/11/14		1" = 50'
		1	02/03/16	MH	ISSUED FOR INTERNAL USE	1161481	CLR	MJH	ML	06/05/14		
		2	10/25/16	AT	ISSUED FOR PADEP SUBMITTAL #2	1161481	CLR	MJH	MJH	06/08/15		

ISSUED FOR CONSTRUCTION: 24-1601-70-09-A/4.12-01  
DRAWING NUMBER: 3/26pm 10/20/2016 mll  
SCALE: 1" = 50'  
SHEET 1 OF 2



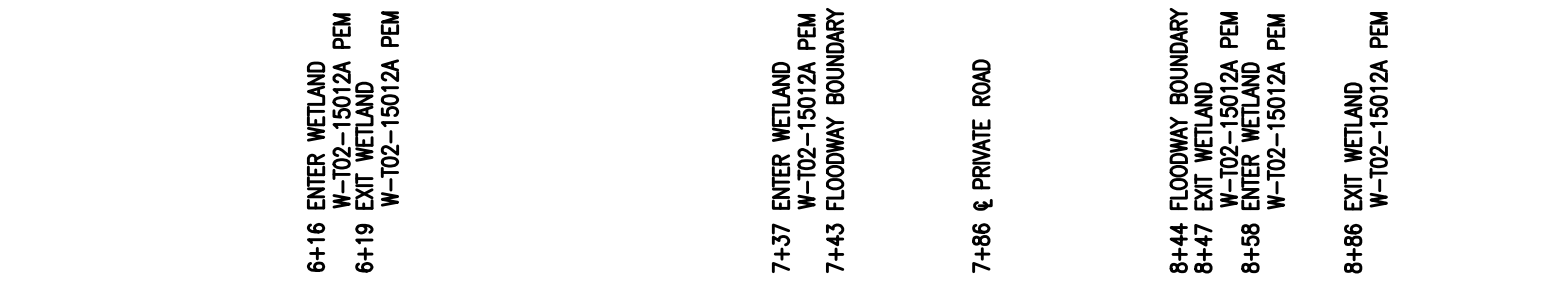
**STREAM DISTURBANCE:**

STREAM WW-T92-15002 (HQ)	ACRE
TEMPORARY STREAM DISTURBANCE	0.0073
PERMANENT STREAM DISTURBANCE	0.0000
TOTAL STREAM DISTURBANCE	0.0073
TEMPORARY FLOODWAY DISTURBANCE	0.1405
PERMANENT FLOODWAY DISTURBANCE	0.0017
TOTAL FLOODWAY DISTURBANCE	0.1422

STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	10.76
STREAM LENGTH	61.38

**GENERAL NOTES:**

1. STREAM WW-T92-15002 DOES NOT CROSS PROPOSED PIPELINE. STREAM WILL BE CROSSED USING BRIDGE EQUIPMENT CROSSING (BEC).
2. WATERBODIES WITHOUT A FEMA-ESTABLISHED FLOODPLAIN, THE FLOODWAY IS COINCIDENT WITH A 50-FOOT OFFSET MEASURED LATERALLY FROM THE PHYSICAL TOP OF BANK OF THE WATERBODY.



**LEGEND**

	PROPOSED 30" CENTRAL PENN LINE NORTH		WETLAND FLAGS
	EXISTING PIPELINES		PHOTO DATA POINT
	EXISTING TGPL R/W		WETLAND DATA POINT
	LIMITS OF DISTURBANCE		UPLAND DATA POINT
	PROPOSED CPLN R/W		WELL POINT
	PROPERTY LINE		TRENCH PLUG
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	STREAM FLOW		FLOODWAY BOUNDARY
	EXISTING POWER LINE		FEMA FLOODWAY BOUNDARY
	EXISTING FENCE		PERMANENT STREAM IMPACT
			TEMPORARY STREAM IMPACT

**WOOD GROUP MUSTANG, INC.**

DRAWING NO.		REFERENCE TITLE								
NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.	DRAWN BY:	DATE:	ISSUED FOR BID:	SCALE:
0	10/25/16	MP	ISSUED FOR PADEP SUBMITTAL #2	1161481	CLR	MJH	TL	08/11/16		1" = 50'
							CLR	06/23/16	ISSUED FOR CONSTRUCTION:	REVISION:
							MJH	06/24/16		0
DRAWING NUMBER:		24-1601-70-09-A/4.12-01		SHEET 2		OF 2				
W.O.:		1161481								

TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC  
WATER OBSTRUCTION AND ENCROACHMENT PERMIT IMPACT MAPS  
ATLANTIC SUNRISE PROJECT  
PROPOSED 30" CENTRAL PENN LINE NORTH  
STREAM CROSSING WW-T92-15002  
M.P. 4.22  
SUGARLOAF TOWNSHIP, COLUMBIA COUNTY, PENNSYLVANIA

**Williams**