



October 26, 2016

Dallas Township  
Floodplain Administrator  
2919 State Route 309 Highway  
Dallas, PA 18612

Re: Atlantic Sunrise Project  
Central Penn Line North  
Dallas 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 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 Dallas Township is provided below for your review and comment.

Dallas Township  
October 26, 2016  
BL Project No. 14C4909  
Page 1 of 2

**ATLANTIC SUNRISE PROJECT  
FEMA FLOODPLAIN CROSSINGS  
DALLAS TOWNSHIP, LUZERNE 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		
Temporary Road Crossing	Equipment Access and E&S Controls	WW-T24-18001	Floodway to Paint Spring Run	FEMA Detailed	11.94 <sup>1</sup>	0.0033	0.0	41.37692	-76.08008

Notes:  
<sup>1</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 Dallas 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,



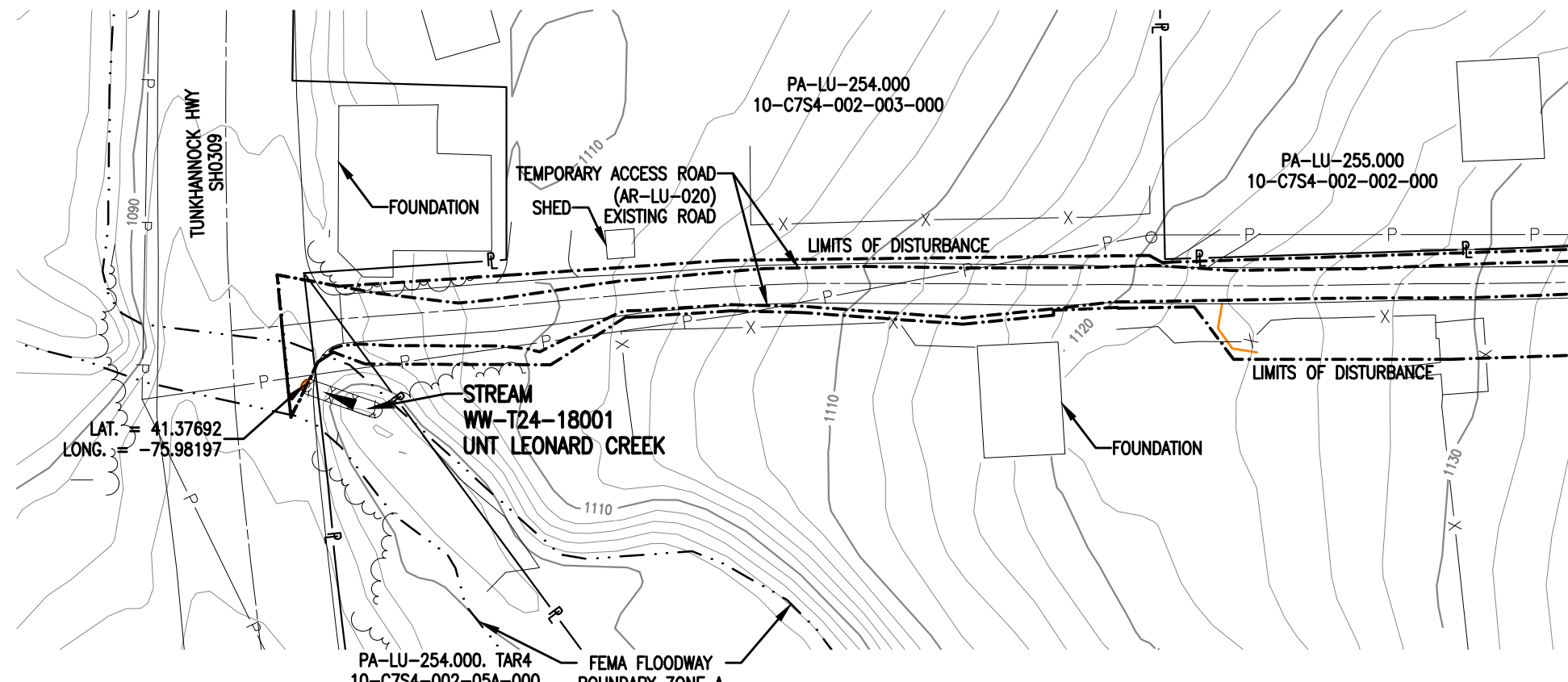
Alaric J. Busher, PE  
 Senior Engineer

Enclosures: Water Obstruction and Encroachment Permit Impact Maps

**STREAM DISTURBANCE:**

STREAM WW-T24-18001 (HQ)	ACRE
TEMPORARY STREAM DISTURBANCE	0.0001
PERMANENT STREAM DISTURBANCE	0.0000
TOTAL STREAM DISTURBANCE	0.0001
TEMPORARY FLOODWAY DISTURBANCE	0.0033
PERMANENT FLOODWAY DISTURBANCE	0.0000
TOTAL FLOODWAY DISTURBANCE	0.0033

STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	1.49
STREAM LENGTH	4.56



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

**GENERAL NOTES:**

1. STREAM DOES NOT CROSS PROPOSED ACCESS ROAD.
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 - 19' LT. OF M.P. 25.55, ELEV. = 1116.75' (NAVD88).



**LEGEND**

	PROPOSED 30" CENTRAL PENN LINE NORTH		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 CPLN 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 30" CENTRAL PENN LINE NORTH</b> <b>STREAM CROSSING WW-T24-18001</b> <b>M-0142 M.P. 0.00</b> <b>DALLAS TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA</b>	
NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK. APPR.
0	10/19/16	LL	ISSUED FOR PADEP SUBMITTAL #2	1161481	CLR MJH
DRAWN BY: LL		DATE: 07/06/16	ISSUED FOR BID:	SCALE: 1" = 50'	
CHECKED BY: ML		DATE: 07/06/16	ISSUED FOR CONSTRUCTION:	REVISION: 0	
APPROVED BY: MJH		DATE: 07/06/16	DRAWING NUMBER: 24-1601-70-09-A/AR-LU-020-01	SHEET 1	
WC: 1161481		10/25/2016	t3le	OF 1	



October 26, 2016

Fairmount Township  
Floodplain Administrator  
362 Municipal Road  
Benton, PA 17814

Re: Atlantic Sunrise Project  
Central Penn Line North  
Fairmount 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 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 Chapman Township is provided below for your review and comment.

Fairmount Township  
August 31, 2015  
BL Project No. 14C4909  
Page 1 of 3

**ATLANTIC SUNRISE PROJECT  
FEMA FLOODPLAIN CROSSINGS  
FAIRMOUNT TOWNSHIP, LUZERNE 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
						Permanent	Temporary		
Utility Pipeline Crossing	Equipment Access and E&S Controls	WW-T02-15016	Floodway to Marsh Run	FEMA Detailed	N/A	0.0200 <sup>2</sup>	0.0004	41.28429	-76.31139
Utility Pipeline Crossing	Equipment Access and E&S Controls	WW-T02-15017	Floodway to Maple Run	FEMA Detailed <sup>1</sup>	N/A	0.4061 <sup>2</sup>	0.0142	41.28609	-76.29438
Utility Pipeline Crossing	Equipment Access and E&S Controls	WW-T02-15018	Floodway to Kitchen Creek	FEMA Detailed	N/A	0.0219 <sup>2</sup>	0.0006	41.29065	-76.27004
Utility Pipeline Crossing	Equipment Access and E&S Controls	WW-T24-15001	Floodway to Crooked Creek	FEMA Detailed	N/A	0.0628 <sup>2</sup>	0.0056	41.29122	-76.26780
Utility Pipeline Crossing	Equipment Access and E&S Controls	WW-T02-16002	Floodway to Phillips Creek	FEMA Detailed	N/A	0.1275 <sup>2</sup>	0.0057	41.29814	-76.23494
Utility Pipeline Crossing	Equipment Access and E&S Controls	WW-T05-16003	Floodway to Lick Branch	FEMA Detailed	N/A	0.1599 <sup>2</sup>	0.0187	41.30103	-76.21739

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 alteration 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 Fairmount 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, 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-T02-15016	ACRE
TEMPORARY STREAM DISTURBANCE	0.0939
PERMANENT STREAM DISTURBANCE	0.0080
TOTAL STREAM DISTURBANCE	0.1019
TEMPORARY FLOODWAY DISTURBANCE	0.0188
PERMANENT FLOODWAY DISTURBANCE	0.0004
TOTAL FLOODWAY DISTURBANCE	0.0192

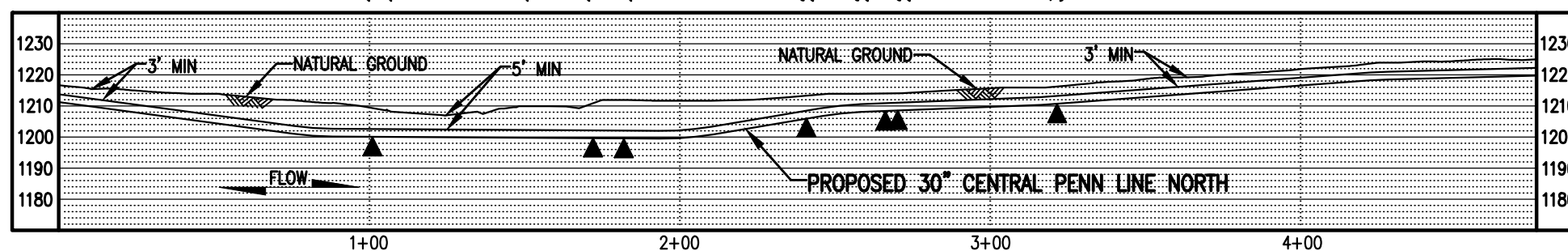
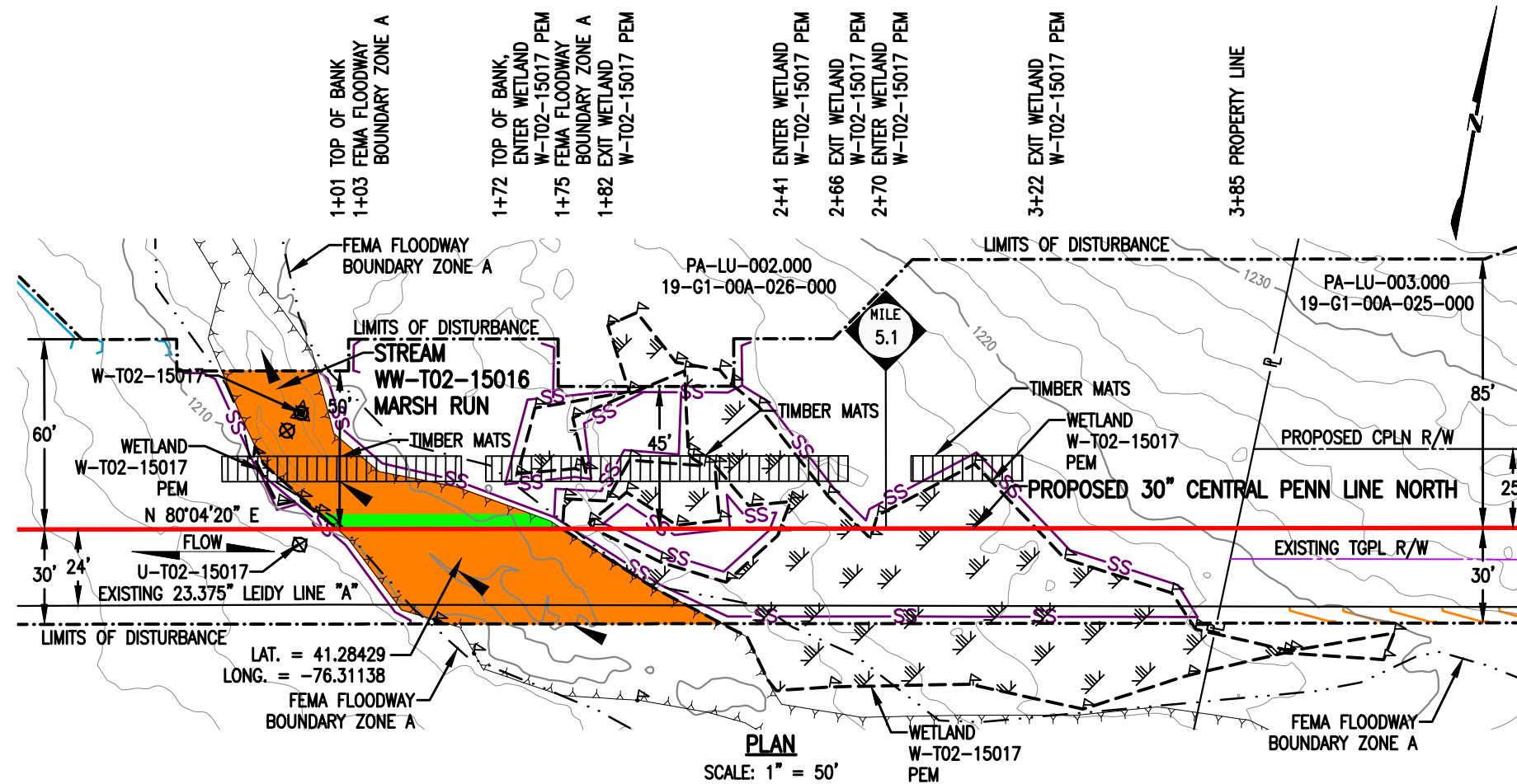
STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	71.08
STREAM LENGTH	113.92

**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 267+54 ON THE EROSION AND SEDIMENT CONTROL PLAN.

**SURVEY NOTES:**

1. T.B.M. SURVEY CONTROL POINT - 27' RT. OF M.P. 4.87, ELEV. = 1211.72' (NAVD88).



**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

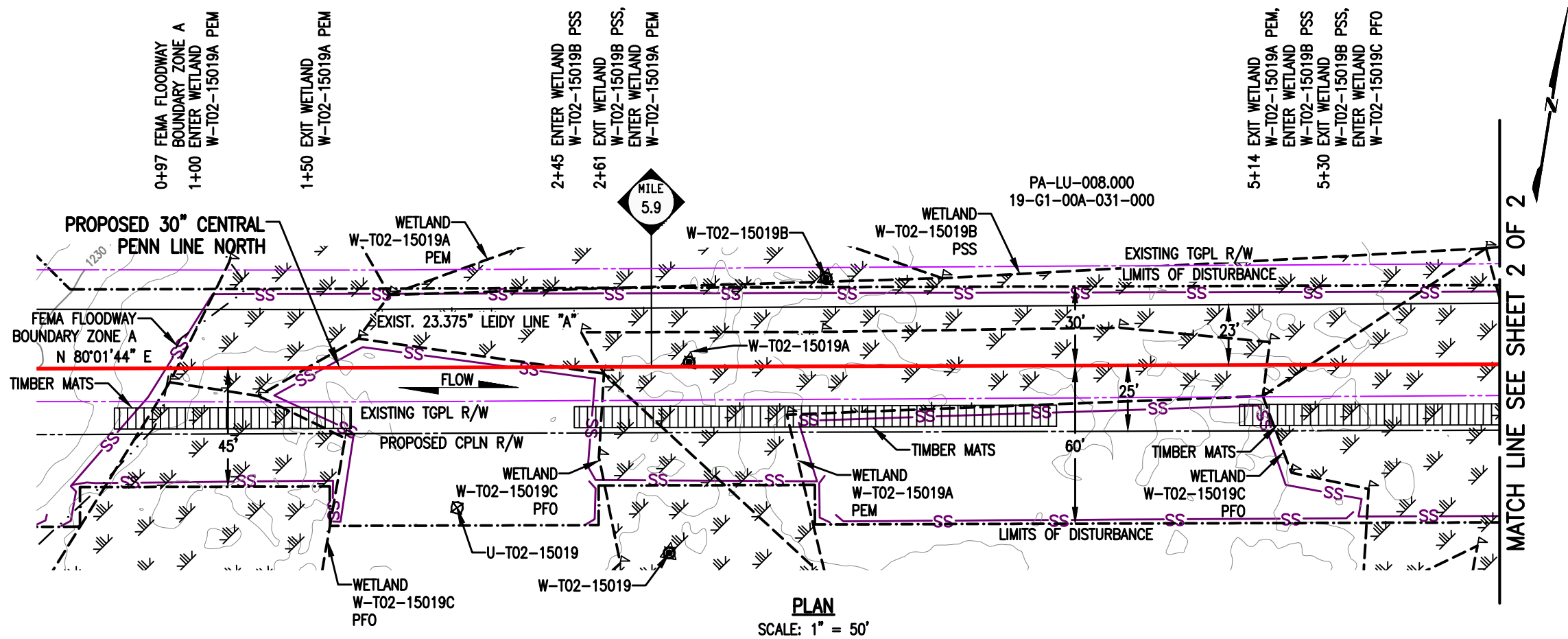


DRAWING NO.	REFERENCE TITLE					
NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.
0	08/19/15	THL	ISSUED FOR PADEP 105 PERMIT	1161481	CLR	MJH
1	10/19/16	AT	ISSUED FOR PADEP SUBMITTAL #2	1161481	CLR	MJH

**TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC**  
**WATER OBSTRUCTION AND ENCROACHMENT PERMIT IMPACT MAPS**  
**ATLANTIC SUNRISE PROJECT**  
**PROPOSED 30" CENTRAL PENN LINE NORTH**  
**STREAM CROSSING WW-T02-15016**  
**M.P. 5.07**  
**FAIRMOUNT TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA**

**Williams**

DRAWN BY: TL	DATE: 03/02/15	ISSUED FOR BID:	SCALE: 1" = 50'
CHECKED BY: ML	DATE: 03/04/15	ISSUED FOR CONSTRUCTION:	REVISION: 1
APPROVED BY: MJH	DATE: 06/03/16	DRAWING NUMBER: <b>24-1601-70-09-A/5.07-01</b>	SHEET 1
IWO: 1161481		9/26/2016 cIgilch	OF 1



**STREAM DISTURBANCE:**

STREAM WW-T02-15017 (HQ)	ACRE
TEMPORARY STREAM DISTURBANCE	0.0490
PERMANENT STREAM DISTURBANCE	0.0014
TOTAL STREAM DISTURBANCE	0.0504
TEMPORARY FLOODWAY DISTURBANCE	0.4061
PERMANENT FLOODWAY DISTURBANCE	0.0142
TOTAL FLOODWAY DISTURBANCE	0.4203

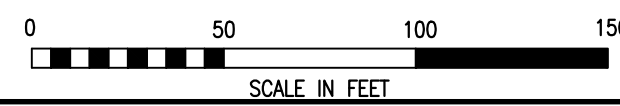
STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	12.53
STREAM LENGTH	216.62

STREAM WW-T02-15017A (HQ)	ACRE
TEMPORARY STREAM DISTURBANCE	0.0131
PERMANENT STREAM DISTURBANCE	0.0015
TOTAL STREAM DISTURBANCE	0.0146
TEMPORARY FLOODWAY DISTURBANCE	0.0000
PERMANENT FLOODWAY DISTURBANCE	0.0000
TOTAL FLOODWAY DISTURBANCE	0.0000

STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	13.46
STREAM LENGTH	95.35

- GENERAL NOTES:**
1. STREAM CROSSING METHOD SHALL DAM AND PUMP (DPX). EQUIPMENT TO CROSS STREAM UTILIZING A BRIDGE EQUIPMENT CROSSING (BEC).
  2. THIS SITE IS LOCATED WITHIN THE 100 YEAR FLOOD PLAN PER FEMA FLOOD MAP DATA.
  3. STATION 1+00 SHOWN IS EQUAL TO STATION 309+72 ON THE EROSION AND SEDIMENT CONTROL PLAN.

- SURVEY NOTES:**
1. T.B.M. SURVEY CONTROL POINT - 7' LT. OF M.P. 5.89, ELEV. = 1223.82' (NAVD88).



**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	08/19/15	THL	ISSUED FOR PADEP 105 PERMIT	1161481	CLR	MJH
1	10/19/16	AT	ISSUED FOR PADEP SUBMITTAL #2	1161481	CLR	MJH

**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 30" CENTRAL PENN LINE NORTH**  
**STREAM CROSSINGS WW-T02-15017 @ M.P. 6.00 &**  
**WW-T02-15017A @ M.P. 6.02**  
**FAIRMOUNT TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA**

SCALE: 1" = 50'

REVISION: 1

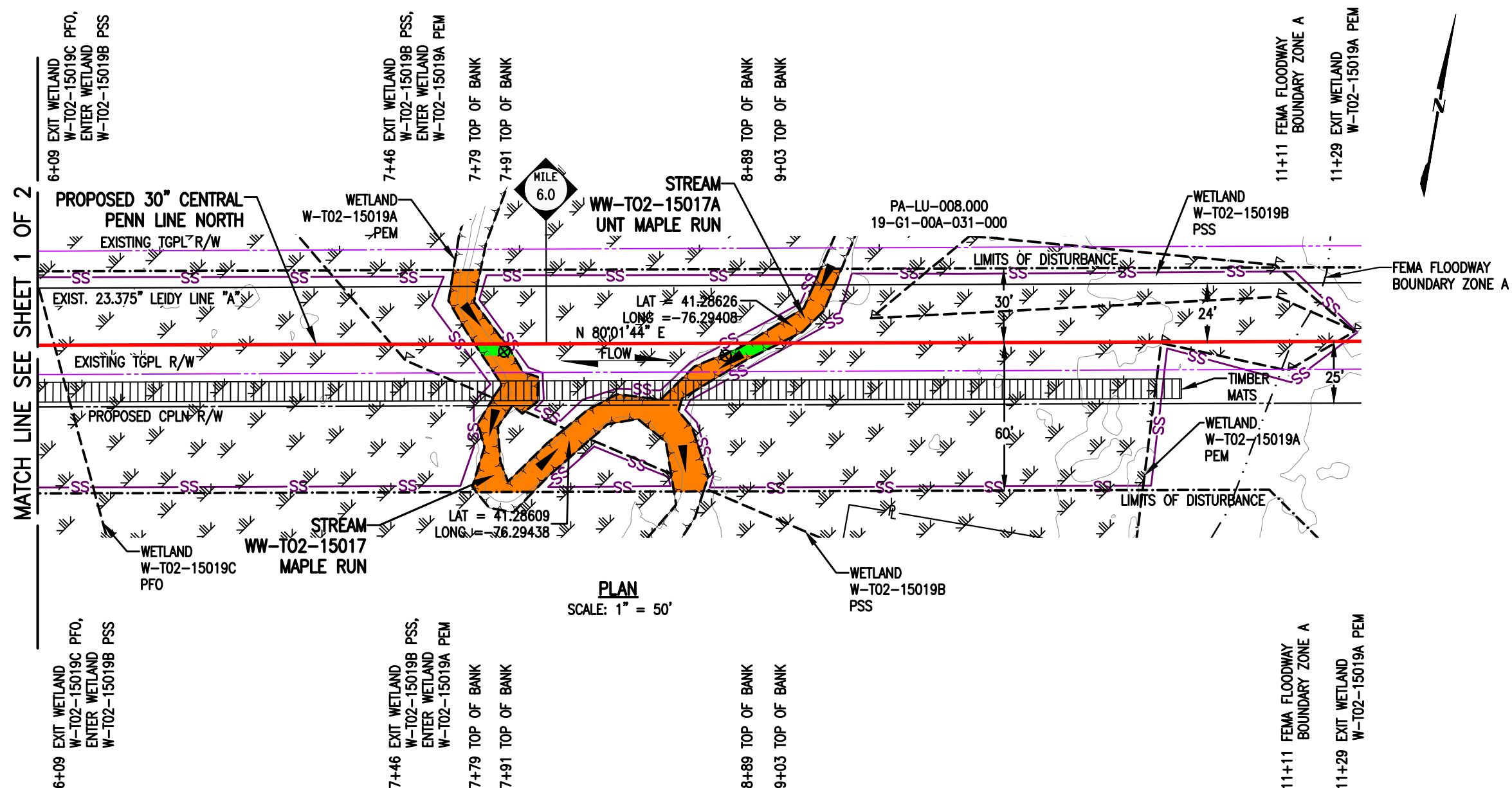
DRAWING NUMBER: **24-1601-70-09-A/5.99-01** SHEET 1 OF 2

DATE: 08/12/14 ISSUED FOR BID: \_\_\_\_\_  
 DATE: 08/14/14 ISSUED FOR CONSTRUCTION: \_\_\_\_\_  
 DATE: 06/08/15

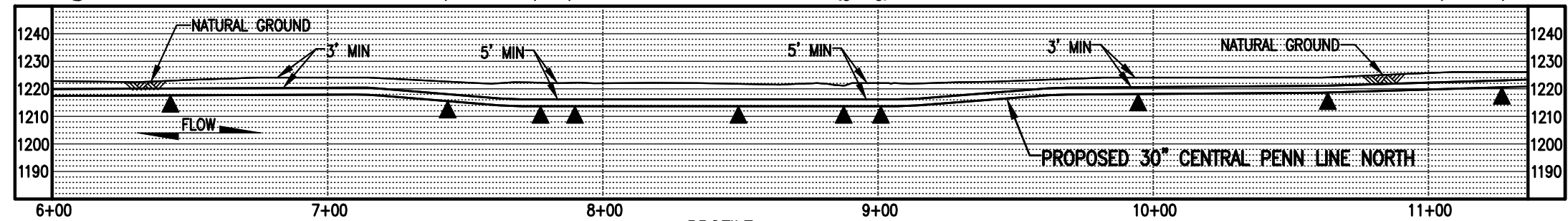
DRAWN BY: TL  
 CHECKED BY: ML  
 APPROVED BY: MJH

W.O. NUMBER: 1161481

9/26/2016 c:\gitch  
 K:\103646-CPLN\Mapping\Waterbodies\Revised 105\24-1601-70-09-A-5.99-01.dwg



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



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



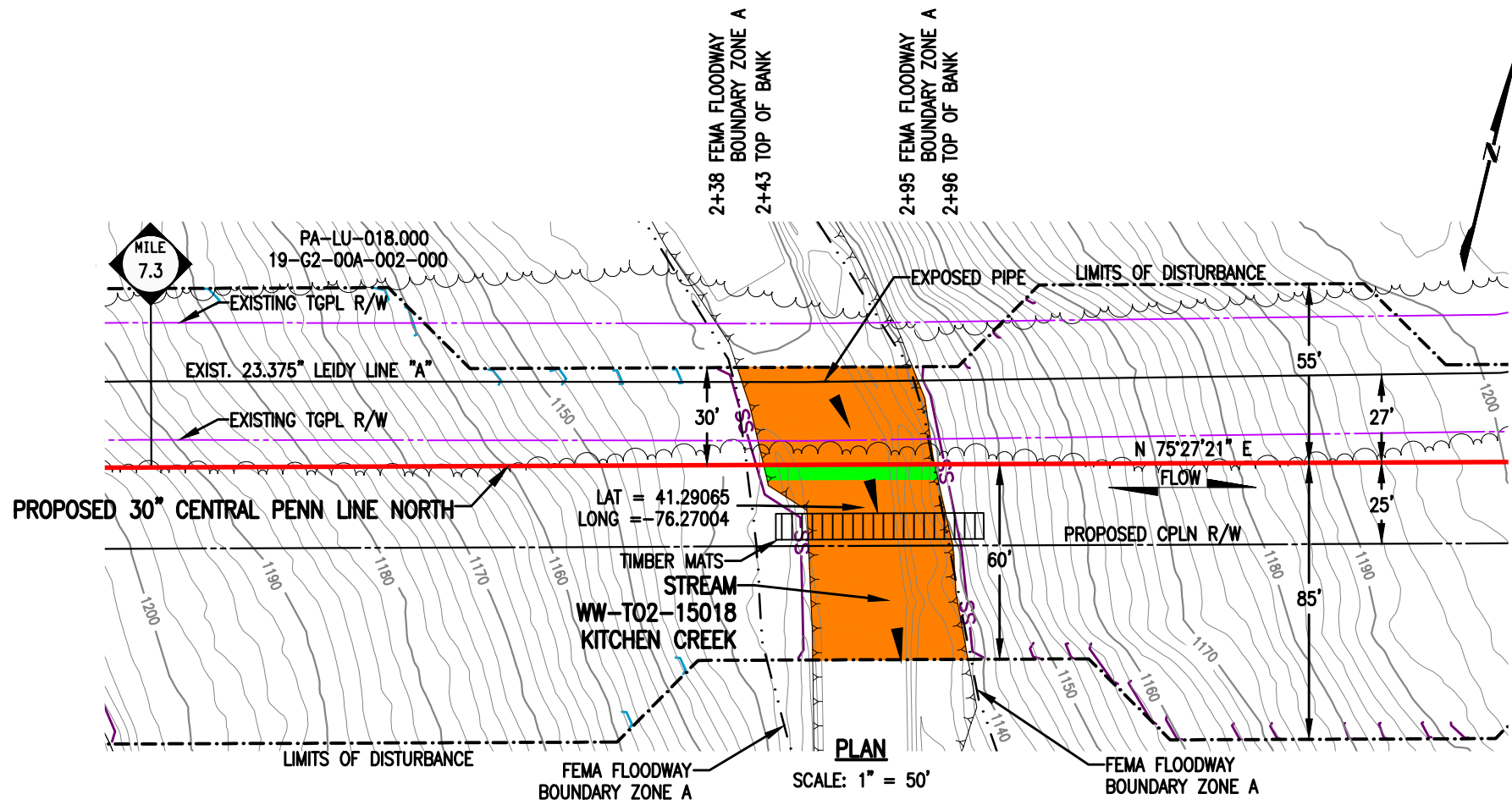
LEGEND		WOOD GROUP MUSTANG, INC.	
	PROPOSED 30" CENTRAL PENN LINE NORTH		WETLAND FLAGS
	EXISTING PIPELINES		PHOTO DATA POINT
	EXISTING TGPL R/W		WETLAND DATA POINT
	LIMITS OF DISTURBANCE		UPLAND DATA POINT
	PROPOSED CPLN R/W		WELL POINT
	PROPERTY LINE		TRENCH PLUG
	FOREIGN PIPELINE		WATERBODY
	WETLAND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

DRAWING NO.	REFERENCE TITLE					
NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.
0	08/19/15	THL	ISSUED FOR PADEP 105 PERMIT	1161481	CLR	MJH
1	10/19/16	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-T02-15017 @ M.P. 6.00 &**  
**WW-T02-15017A @ M.P. 6.02**  
**FAIRMOUNT TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA**

**Williams**

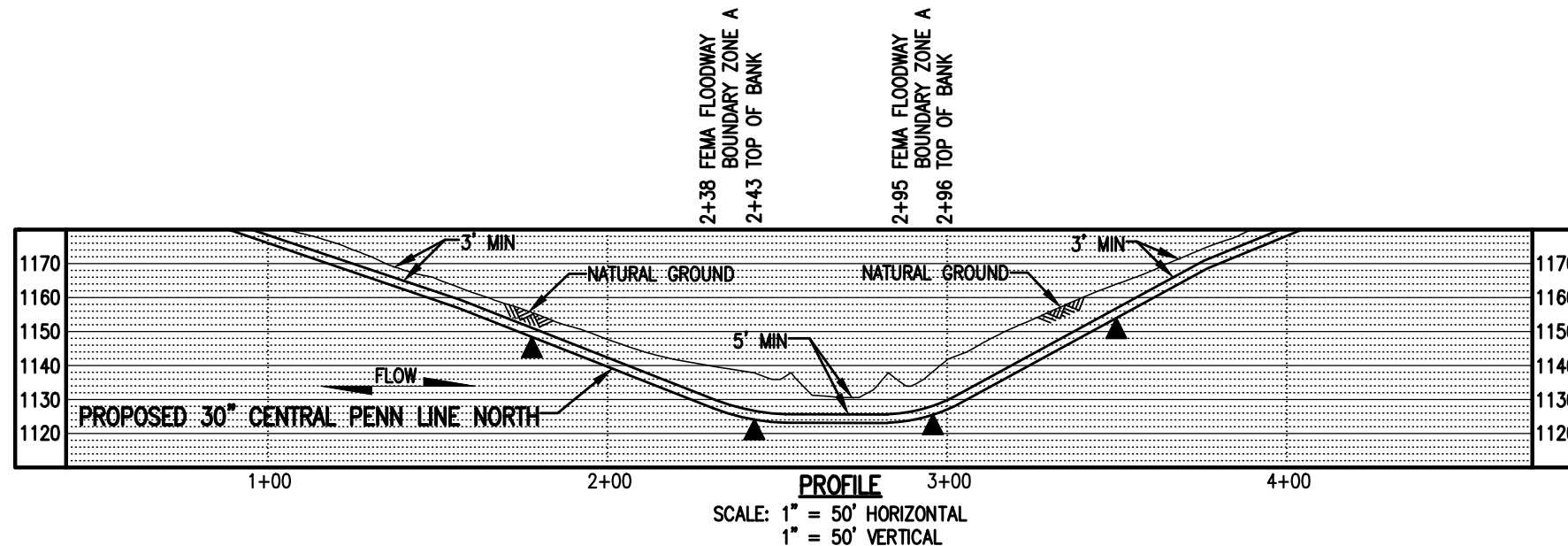
DRAWN BY: TL	DATE: 08/12/14	ISSUED FOR BID:	SCALE: 1" = 50'
CHECKED BY: ML	DATE: 08/14/14	ISSUED FOR CONSTRUCTION:	REVISION: 1
APPROVED BY: MJH	DATE: 06/08/15	DRAWING NUMBER: <b>24-1601-70-09-A/5.99-01</b>	SHEET 2
WC: 1161481		12:41pm 9/26/2016 c1gltch	OF 2



**STREAM DISTURBANCE:**

STREAM WW-T02-15018 (HQ)	ACRE
TEMPORARY STREAM DISTURBANCE	0.0943
PERMANENT STREAM DISTURBANCE	0.0060
<b>TOTAL STREAM DISTURBANCE</b>	<b>0.1003</b>
TEMPORARY FLOODWAY DISTURBANCE	0.0219
PERMANENT FLOODWAY DISTURBANCE	0.0006
<b>TOTAL FLOODWAY DISTURBANCE</b>	<b>0.0225</b>

STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	52.52
STREAM LENGTH	98.38



**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 2+00 SHOWN IS EQUAL TO STATION 386+89 ON THE EROSION AND SEDIMENT CONTROL PLAN.

**SURVEY NOTES:**

1. T.B.M. SURVEY CONTROL POINT - 29' LT. OF M.P. 7.33, ELEV. = 1140' (NAVD88).



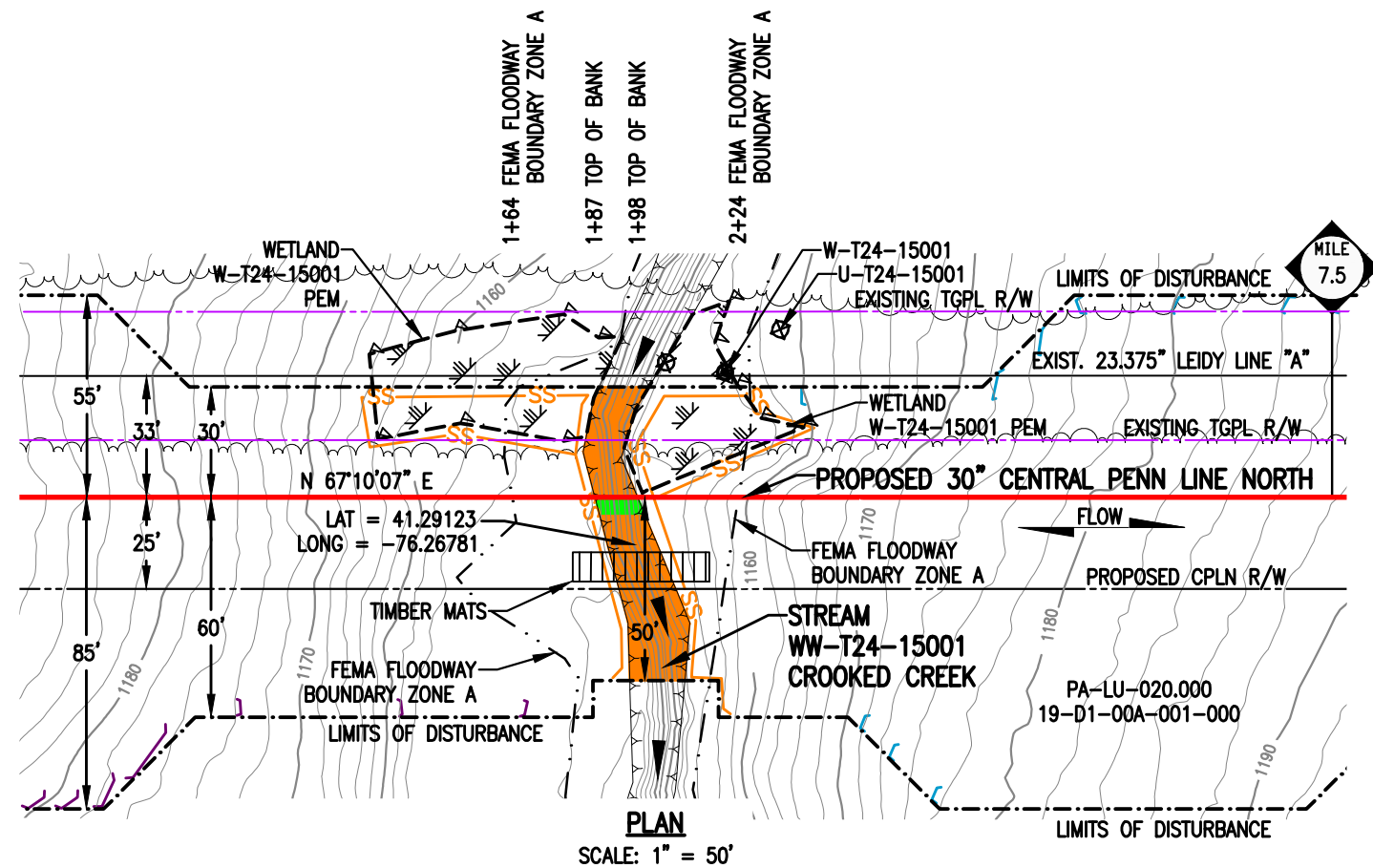
**LEGEND**

	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

DRAWING NO.	REFERENCE TITLE					
NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.
0	08/19/15	VT	ISSUED FOR PADEP 105 PERMIT	1161481	CLR	MJH
1	10/19/16	VC	ISSUED FOR PADEP SUBMITTAL #2	1161481	CLR	MJH

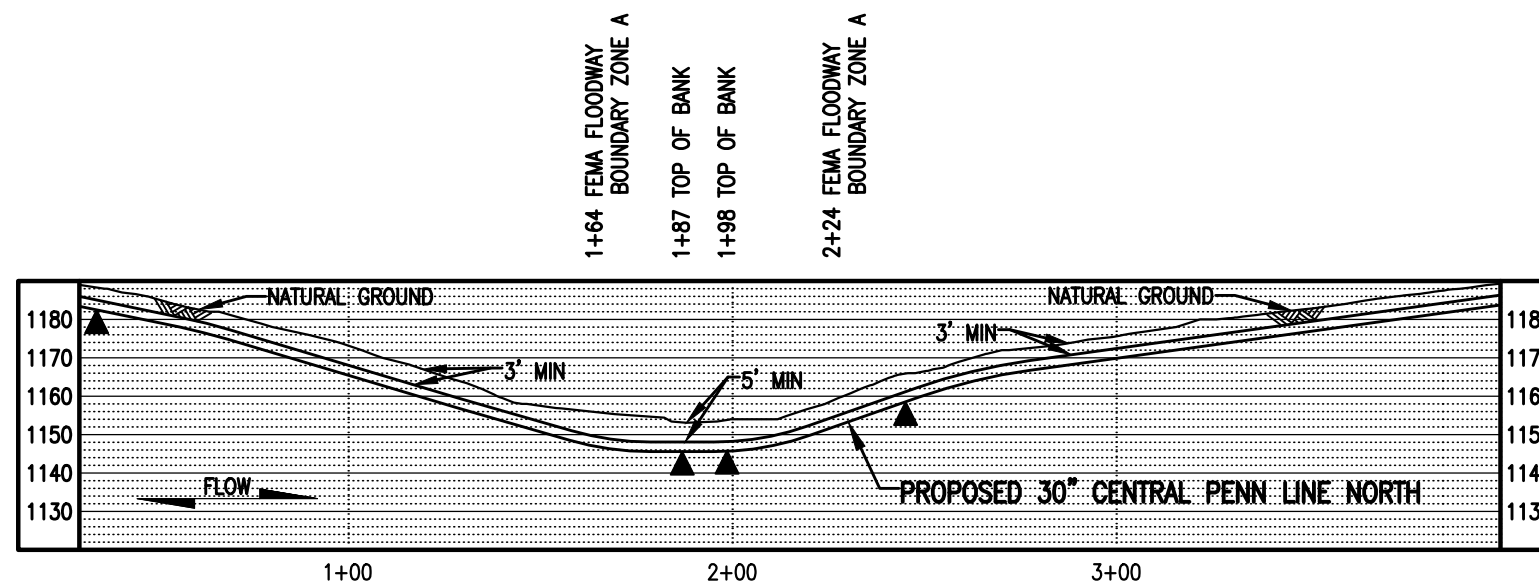
**TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC**  
**WATER OBSTRUCTION AND ENCROACHMENT PERMIT IMPACT MAPS**  
**ATLANTIC SUNRISE PROJECT**  
**PROPOSED 30" CENTRAL PENN LINE NORTH**  
**STREAM CROSSING WW-T02-15018**  
**M.P. 7.34**  
**FAIRMOUNT TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA**

DRAWN BY: TL	DATE: 08/14/14	ISSUED FOR BID:	SCALE: 1" = 50'
CHECKED BY: ML	DATE: 08/18/14	ISSUED FOR CONSTRUCTION:	REVISION: 1
APPROVED BY: MJH	DATE: 06/03/15	DRAWING NUMBER: <b>24-1601-70-09-A/7.34-01</b>	SHEET 1
WC: 1161481		9/26/2016 c1gltch	OF 1



**STREAM DISTURBANCE:**

STREAM WW-T24-15001 (HQ)	ACRE
TEMPORARY STREAM DISTURBANCE	0.0235
PERMANENT STREAM DISTURBANCE	0.0014
TOTAL STREAM DISTURBANCE	0.0249
TEMPORARY FLOODWAY DISTURBANCE	0.0590
PERMANENT FLOODWAY DISTURBANCE	0.0056
TOTAL FLOODWAY DISTURBANCE	0.0646
STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	11.67
STREAM LENGTH	80.25



**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 393+12 ON THE EROSION AND SEDIMENT CONTROL PLAN.

**SURVEY NOTES:**

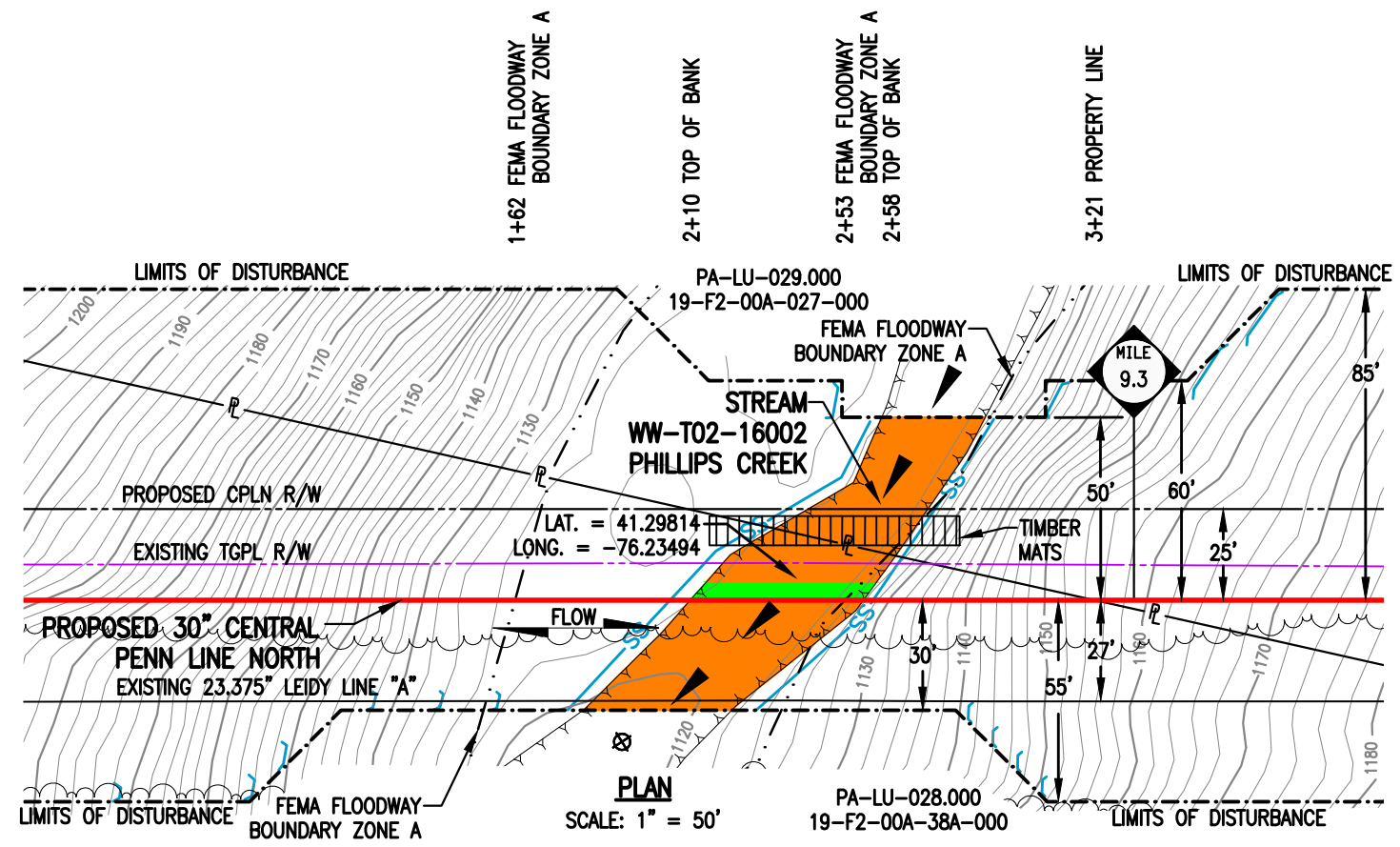
1. T.B.M. SURVEY CONTROL POINT - 45' LT. OF M.P. 7.27, ELEV. = 1157.79' (NAVD88).



**LEGEND**

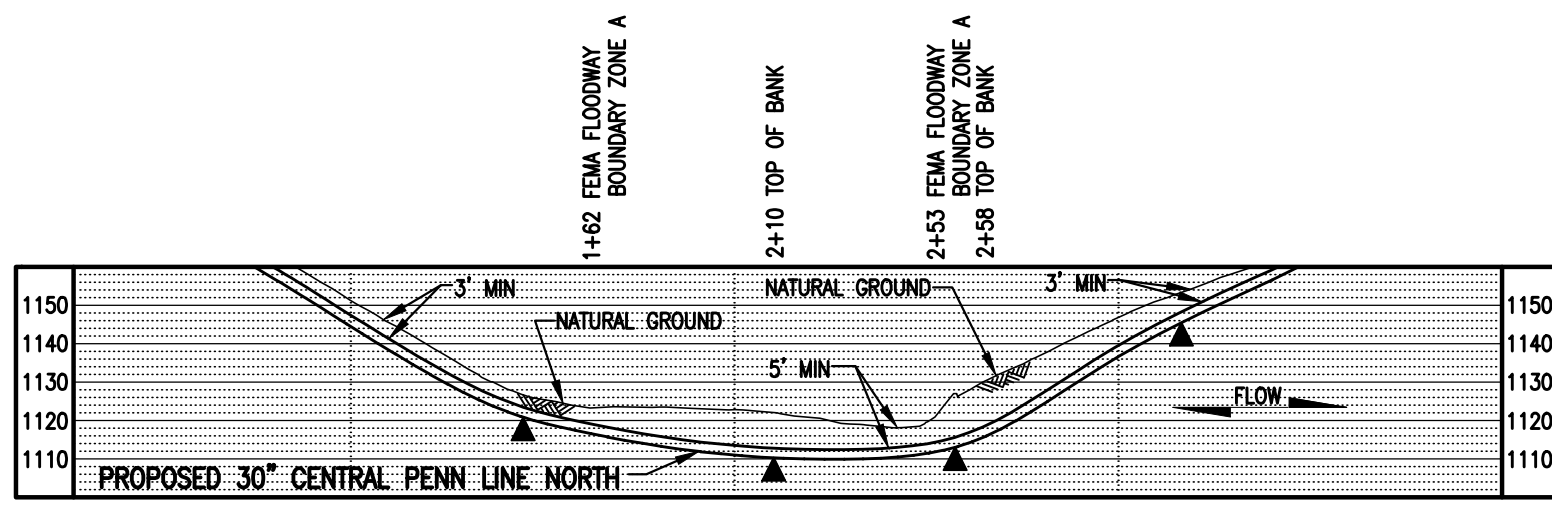
	PROPOSED 30" CENTRAL PENN LINE NORTH		WETLAND FLAGS		<b>WOOD GROUP MUSTANG, INC.</b>
	EXISTING PIPELINES		PHOTO DATA POINT		12" SEDIMENT BARRIER
	EXISTING TGPL R/W		WETLAND DATA POINT		18" SEDIMENT BARRIER
	LIMITS OF DISTURBANCE		UPLAND DATA POINT		24" SEDIMENT BARRIER
	PROPOSED CPLN R/W		WELL POINT		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 30" CENTRAL PENN LINE NORTH</b> <b>STREAM CROSSING WW-T24-15001</b> <b>M.P. 7.46</b> <b>FAIRMOUNT TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA</b>						
NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.	DRAWN BY: TL	DATE: 08/15/14	ISSUED FOR BID:	SCALE: 1" = 50'
0	08/19/15	VT	ISSUED FOR PADEP 105 PERMIT	1161481	CLR	MJH	CHECKED BY: ML	DATE: 08/18/14	ISSUED FOR CONSTRUCTION:	REVISION: 1
1	10/19/16	VC	ISSUED FOR PADEP SUBMITAL #2	1161481	CLR	MJH	APPROVED BY: MJH	DATE: 06/03/15	DRAWING NUMBER: 24-1601-70-09-A/7.46-01	SHEET 1
						IW: 1161481 9/26/2016 c:lgilch K:\103646-CPLN\Mapping\Waterbodies\Revised 105\24-1601-70-09-A_7.46-01.dwg				OF 1



**STREAM DISTURBANCE:**

STREAM WW-T02-16002 (HQ)	ACRE
TEMPORARY STREAM DISTURBANCE	0.0653
PERMANENT STREAM DISTURBANCE	0.0054
TOTAL STREAM DISTURBANCE	0.0707
TEMPORARY FLOODWAY DISTURBANCE	0.1275
PERMANENT FLOODWAY DISTURBANCE	0.0057
TOTAL FLOODWAY DISTURBANCE	0.1332
STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	47.33
STREAM LENGTH	105.96



**GENERAL NOTES:**

1. STREAM CROSSING METHOD SHALL BE DAM AND PUMP (DPX). EQUIPMENT TO CROSS STREAM UTILIZING A BRIDGE EQUIPMENT CROSSING (BEC). PLEASE SEE BEC TYPICAL DRAWING.
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 488+73 ON THE EROSION AND SEDIMENT CONTROL PLAN.

**SURVEY NOTES:**

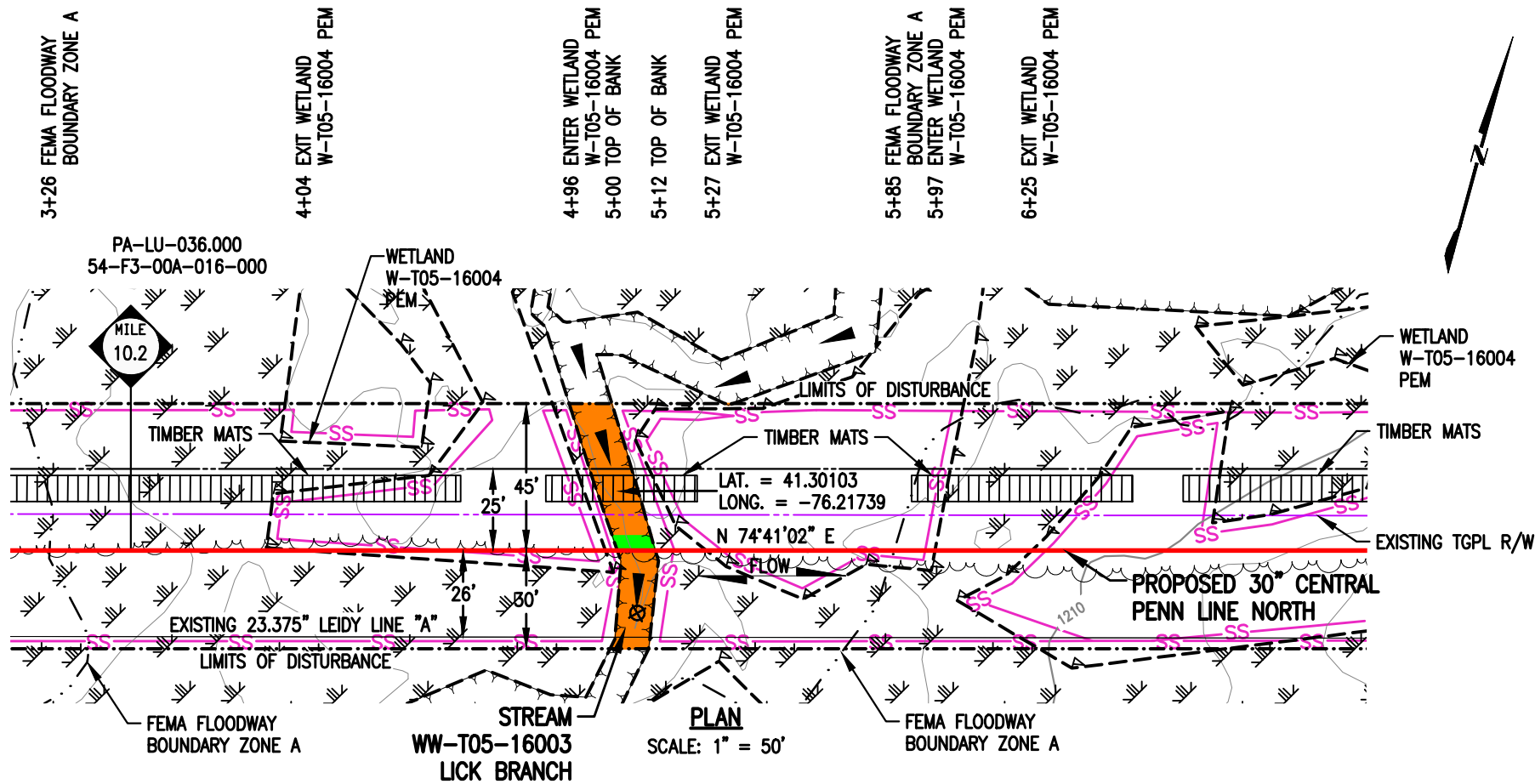
1. T.B.M. SURVEY CONTROL POINT - 35.8' RT. OF M.P. 9.28, ELEV. = 1124.82' (NAVD88).



**LEGEND**

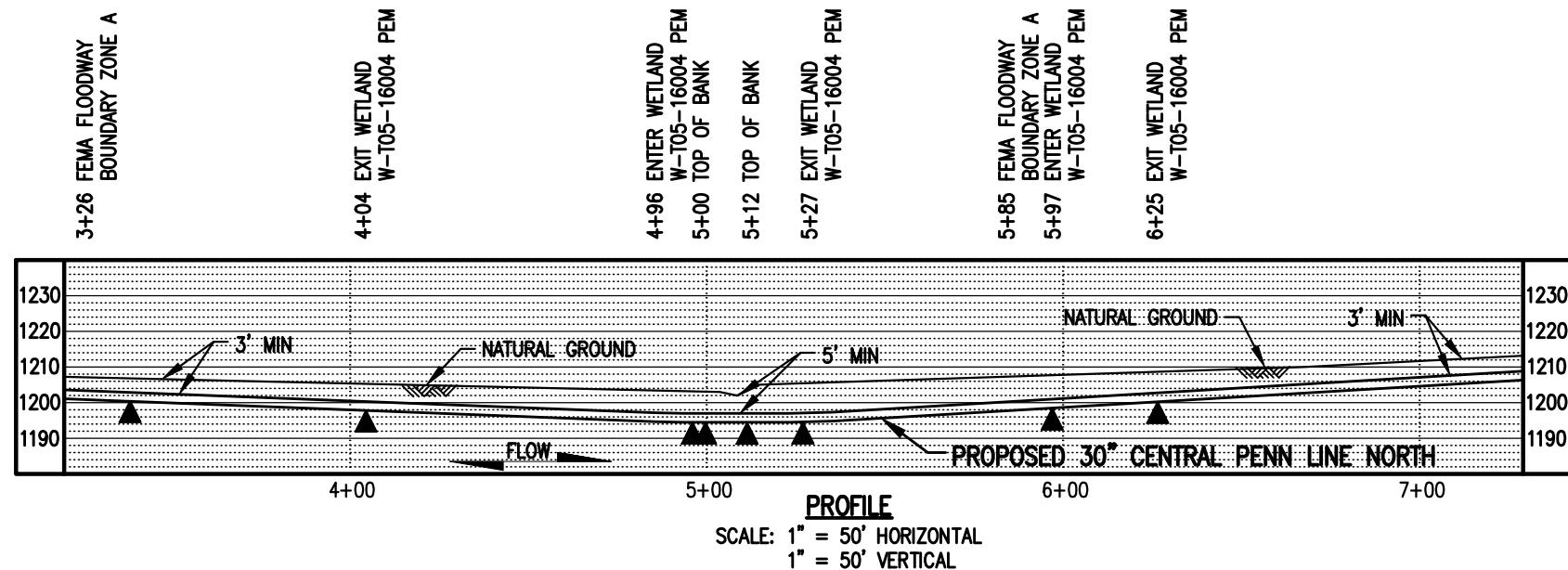
	PROPOSED 30" CENTRAL PENN LINE NORTH		WETLAND FLAGS		<b>WOOD GROUP MUSTANG, INC.</b>
	EXISTING PIPELINES		PHOTO DATA POINT		12" SEDIMENT BARRIER
	EXISTING TGPL R/W		WETLAND DATA POINT		18" SEDIMENT BARRIER
	LIMITS OF DISTURBANCE		UPLAND DATA POINT		24" SEDIMENT BARRIER
	PROPOSED CPLN R/W		WELL POINT		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 30" CENTRAL PENN LINE NORTH STREAM CROSSING WW-T02-16002 M.P. 9.28 FAIRMOUNT TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA	
NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK. APP.
0	08/19/15	VT	ISSUED FOR PADEP 105 PERMIT	1161481	CLR MJH
1	10/19/16	AT	ISSUED FOR PADEP SUBMITTAL #2	1161481	CLR MJH
DRAWN BY: TL		DATE: 08/14/14	ISSUED FOR BID:	SCALE: 1" = 50'	
CHECKED BY: ML		DATE: 08/18/14	ISSUED FOR CONSTRUCTION:	REVISION: 1	
APPROVED BY: MJH		DATE: 06/03/15	DRAWING NUMBER: 24-1601-70-09-A/9.28-01	SHEET 1	
W.O. NUMBER: 1161481		9/26/2016	c:\gltch	OF 1	



**STREAM DISTURBANCE:**

STREAM WW-T05-16003 (HQ)	ACRE
TEMPORARY STREAM DISTURBANCE	0.0194
PERMANENT STREAM DISTURBANCE	0.0014
TOTAL STREAM DISTURBANCE	0.0208
TEMPORARY FLOODWAY DISTURBANCE	0.1599
PERMANENT FLOODWAY DISTURBANCE	0.0187
TOTAL FLOODWAY DISTURBANCE	0.1786
STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	11.64
STREAM LENGTH	78.92



**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 4+00 SHOWN IS EQUAL TO STATION 539+06 ON THE EROSION AND SEDIMENT CONTROL PLAN.

**SURVEY NOTES:**

1. T.B.M. SURVEY CONTROL POINT - 31' RT. OF M.P. 10.24, ELEV. = 1206.75' (NAVD88).



**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

**WOOD GROUP MUSTANG, INC.**

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

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 30" CENTRAL PENN LINE NORTH</b> <b>STREAM CROSSING WW-T05-16003</b> <b>© M.P. 10.23</b> <b>FAIRMOUNT TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA</b>	
NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK. APP.
0	08/19/15	MA	ISSUED FOR PADEP 105 PERMIT	1161481	CLR MJH
1	10/19/16	AT	ISSUED FOR PADEP SUBMITTAL #2	1161481	CLR MJH
DRAWN BY: TL		DATE: 05/20/15	ISSUED FOR BID:	SCALE: 1" = 50'	
CHECKED BY: ML		DATE: 05/27/15	ISSUED FOR CONSTRUCTION:	REVISION: 1	
APPROVED BY: MJH		DATE: 06/03/15	DRAWING NUMBER: 24-1601-70-09-A/10.23-01	SHEET 1	
WO: 1161481			9/26/2016 c:lgitch	OF 1	



October 26, 2016

Lake Township  
Floodplain Administrator  
488 State Route 29  
Harvey's Lake, PA 18618

Re: Atlantic Sunrise Project  
Central Penn Line North  
Lake 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 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 Lake Township is provided below for your review and comment.

Lake Township  
October 26, 2016  
BL Project No. 14C4909  
Page 1 of 3

**ATLANTIC SUNRISE PROJECT  
FEMA FLOODPLAIN CROSSINGS  
LAKE TOWNSHIP, LUZERNE 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-T03-17008	Floodway to Pikes Creek	FEMA Detailed <sup>1</sup>	N/A	0.1475	0.0067 <sup>3</sup>	41.31990	-76.09825
Utility Pipeline Crossing	Equipment Access and E&S Controls	WW-T03-17005	Floodway to Paint Spring Run	FEMA Detailed	N/A	0.0788	0.0065 <sup>3</sup>	41.32433	-76.07999
Temporary Road Crossing	Equipment Access and E&S Controls	WW-T03-17005	Floodway to Paint Spring Run	FEMA Detailed	28.69 <sup>2</sup>	0.0116	0.0	41.32450	-76.08008
Utility Pipeline Crossing	Equipment Access and E&S Controls	WW-T03-17004	Floodway to Harveys Creek	FEMA Detailed	N/A	0.0505	0.0028 <sup>3</sup>	41.32608	-76.07080

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 Lake 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).

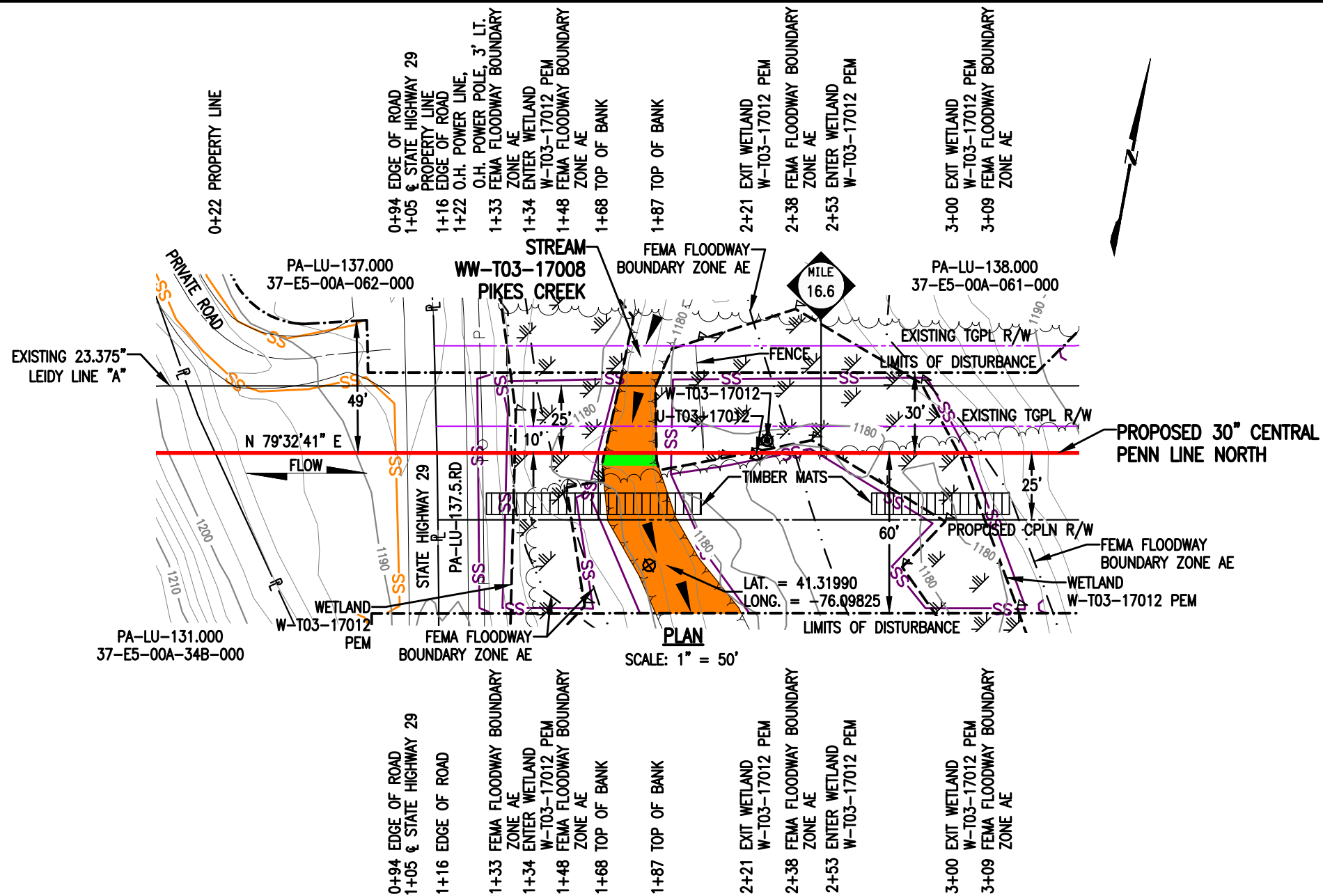
Sincerely,



Lake Township  
October 26, 2016  
BL Project No. 14C4909  
Page 2 of 3

Alaric J. Busher, PE  
Senior Engineer

Enclosures: Water Obstruction and Encroachment Permit Impact Maps

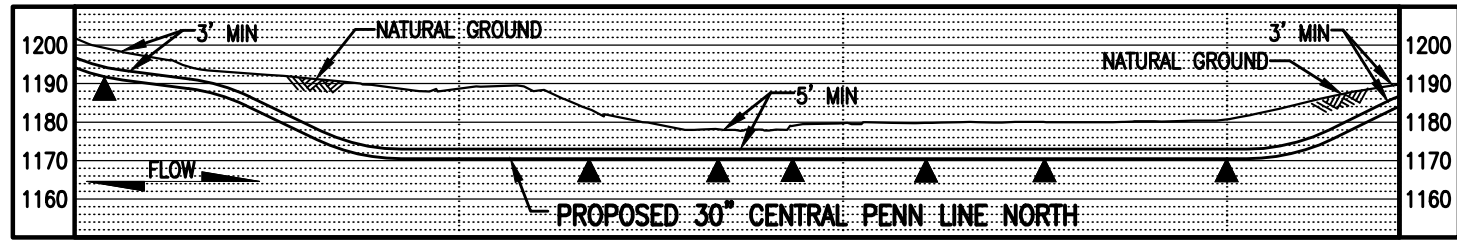


**STREAM DISTURBANCE:**

STREAM WW-T03-17008 (HQ)	ACRE
TEMPORARY STREAM DISTURBANCE	0.0440
PERMANENT STREAM DISTURBANCE	0.0023
TOTAL STREAM DISTURBANCE	0.0463
TEMPORARY FLOODWAY DISTURBANCE	0.1475
PERMANENT FLOODWAY DISTURBANCE	0.0067
TOTAL FLOODWAY DISTURBANCE	0.1542

STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	19.37
STREAM LENGTH	97.05



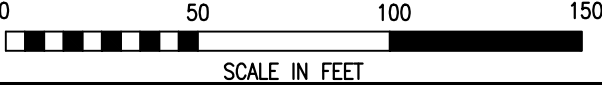
**PROFILE**  
SCALE: 1" = 50' HORIZONTAL  
1" = 50' VERTICAL

**GENERAL NOTES:**

1. STREAM CROSSING METHOD SHALL BE CONVENTIONAL BORE (WBX.1). 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 874+99 ON THE EROSION AND SEDIMENT CONTROL PLAN.

**SURVEY NOTES:**

1. T.B.M. SURVEY CONTROL POINT - 12' LT. OF M.P. 16.58, ELEV. = 1187.91' (NAVD88).



**LEGEND**

- PROPOSED 30" CENTRAL PENN LINE NORTH
- EXISTING PIPELINES
- EXISTING TGPL R/W
- LIMITS OF DISTURBANCE
- PROPOSED CPLN 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

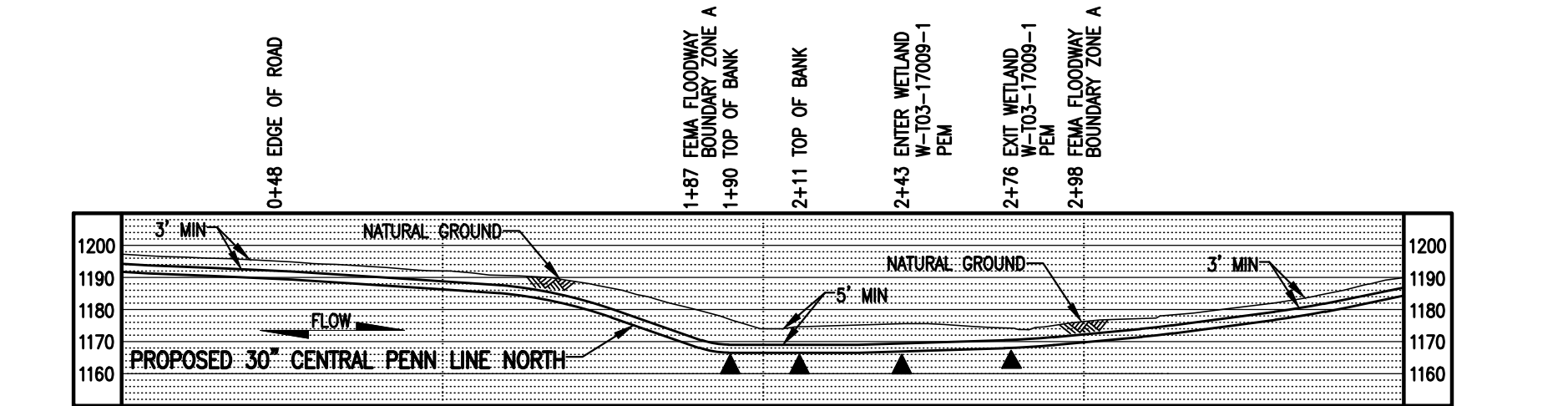
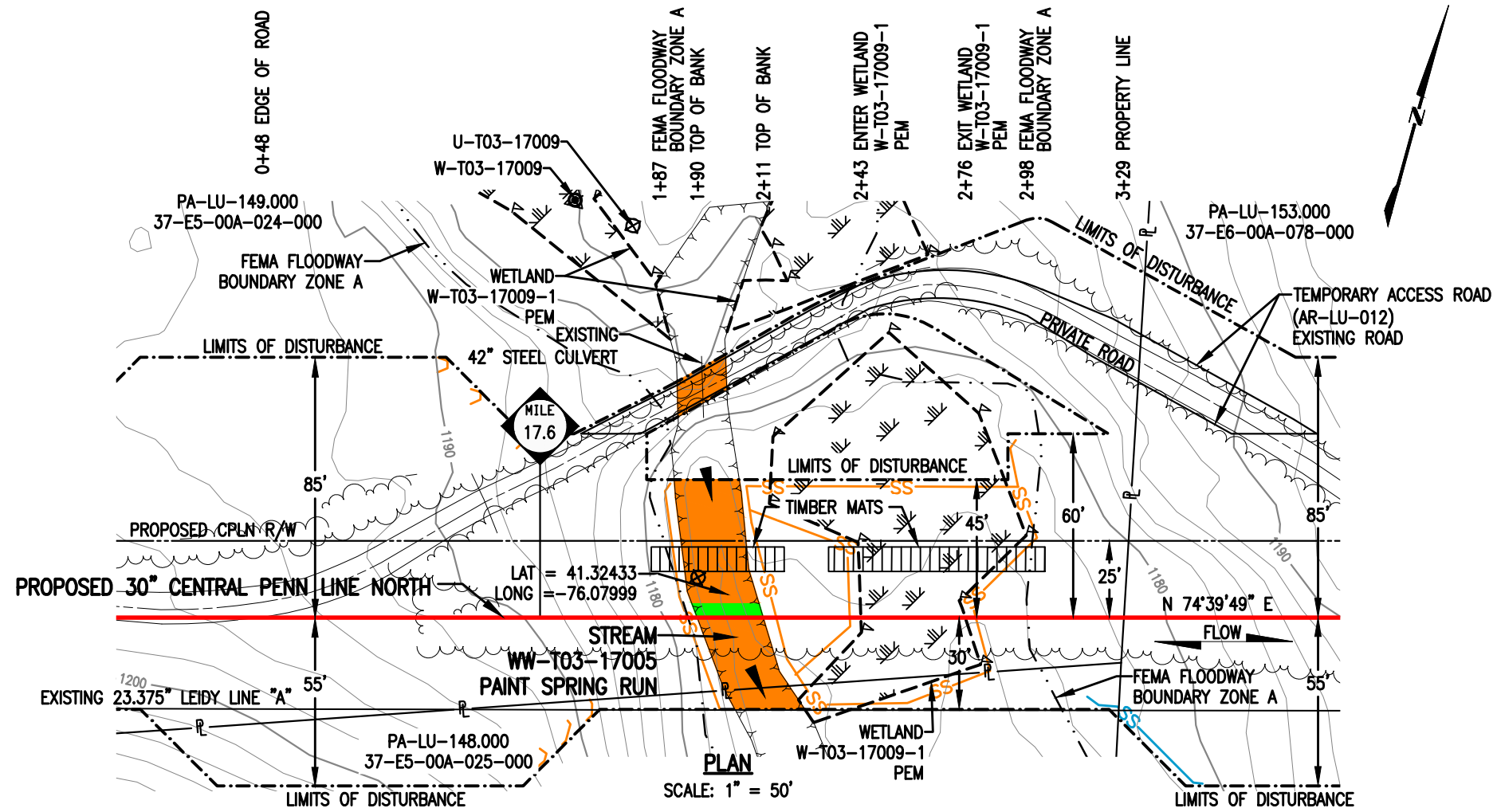


DRAWING NO.	REFERENCE TITLE					
NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.
0	08/19/15	JB	ISSUED FOR PADEP 105 PERMIT	1161481	CLR	MJH
1	10/19/16	KB	ISSUED FOR PADEP SUBMITTAL #2	1161481	CLR	MJH

**TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC**  
**WATER OBSTRUCTION AND ENCROACHMENT PERMIT IMPACT MAPS**  
**ATLANTIC SUNRISE PROJECT**  
**PROPOSED 30" CENTRAL PENN LINE NORTH**  
**STREAM CROSSING WW-T03-17008**  
**© M.P. 16.59**  
**LAKE TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA**

**Williams**

DRAWN BY: WTL	DATE: 05/15/15	ISSUED FOR BID:	SCALE: 1" = 50'
CHECKED BY: ML	DATE: 05/20/15	ISSUED FOR CONSTRUCTION:	REVISION: 1
APPROVED BY: MJH	DATE: 06/03/15	DRAWING NUMBER: 24-1601-70-09-A/16.59-01	SHEET 1
IWO: 1161481	9/26/2016	11:35am	OF 1



**STREAM DISTURBANCE:**

STREAM WW-T03-17005 (HQ)	ACRE
TEMPORARY STREAM DISTURBANCE	0.0343
PERMANENT STREAM DISTURBANCE	0.0025
<b>TOTAL STREAM DISTURBANCE</b>	<b>0.0368</b>
TEMPORARY FLOODWAY DISTURBANCE	0.0788
PERMANENT FLOODWAY DISTURBANCE	0.0065
<b>TOTAL FLOODWAY DISTURBANCE</b>	<b>0.0853</b>

STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	21.57
STREAM LENGTH	81.17

**STREAM DISTURBANCE FOR ACCESS ROAD:**

STREAM WW-T03-17005 (HQ)	ACRE
TEMPORARY STREAM DISTURBANCE	0.0042
PERMANENT STREAM DISTURBANCE	0.0000
<b>TOTAL STREAM DISTURBANCE</b>	<b>0.0042</b>
TEMPORARY FLOODWAY DISTURBANCE	0.0116
PERMANENT FLOODWAY DISTURBANCE	0.0000
<b>TOTAL FLOODWAY DISTURBANCE</b>	<b>0.0116</b>

STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	21.57
STREAM LENGTH	11.22

**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 928+89 ON THE EROSION AND SEDIMENT CONTROL PLAN.

**SURVEY NOTES:**

1. T.B.M. SURVEY CONTROL POINT - 72' LT. OF M.P. 17.61, ELEV. = 1183.63' (NAVD88).



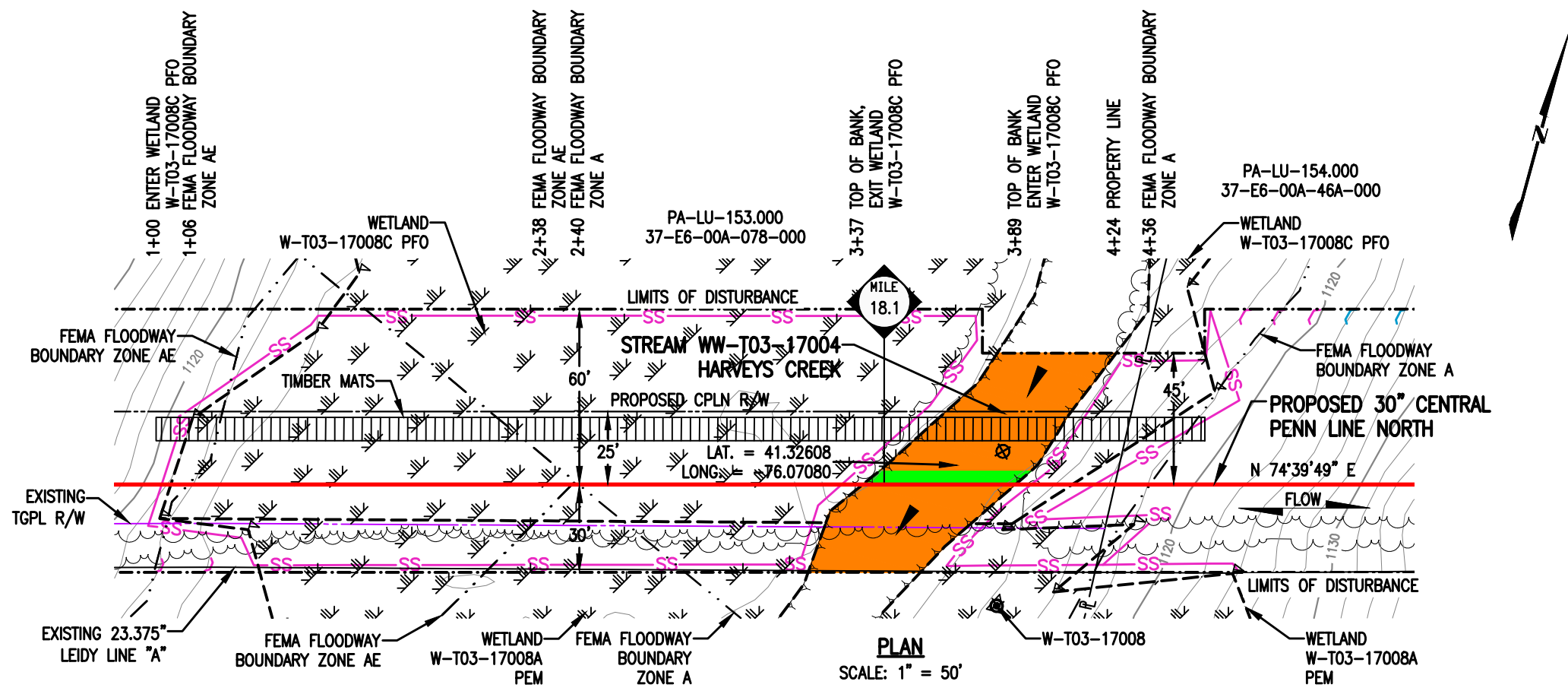
**LEGEND**

	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

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 30" CENTRAL PENN LINE NORTH</b> <b>STREAM CROSSING WW-T03-17005</b> <b>© M.P. 17.61</b> <b>LAKE TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA</b>																					
NO.		DATE		BY		REVISION DESCRIPTION		W.O. NO.		CHK.		APP.		DRAWN BY: LL		DATE: 12/18/14		ISSUED FOR BID:		SCALE: 1" = 50'	
0		08/19/15		JB		ISSUED FOR PADEP 105 PERMIT		1161481		CLR		MJH		CHECKED BY: ML		DATE: 03/07/15		ISSUED FOR CONSTRUCTION:		REVISION: 2	
1		02/03/16		AT		ISSUED FOR INTERNAL USE		1161481		CLR		MJH		APPROVED BY: MJH		DATE: 06/03/15		DRAWING NUMBER: 24-1601-70-09-A/17.61-01		SHEET 1	
2		10/19/16		KB		ISSUED FOR PADEP SUBMITTAL #21161481		21161481		CLR		MJH		IWO: 1161481		9/28/2016		11ro.jal		OF 1	



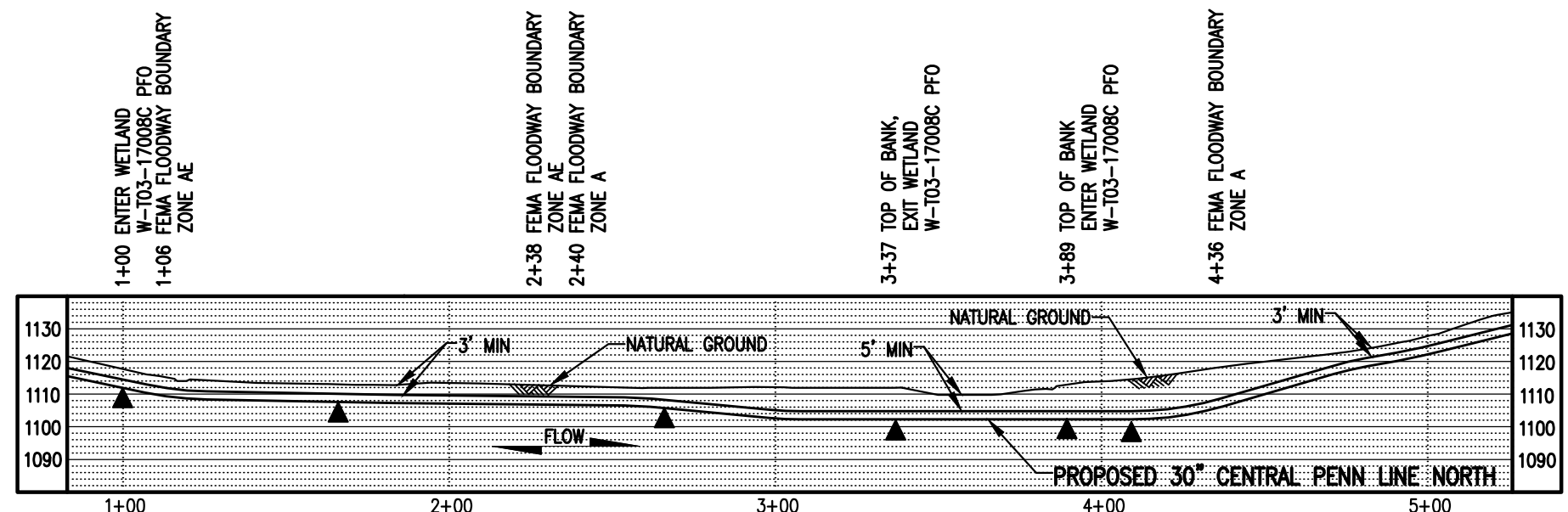
**STREAM DISTURBANCE:**

STREAM WW-T03-17004 (HQ)	ACRE
TEMPORARY STREAM DISTURBANCE	0.0734
PERMANENT STREAM DISTURBANCE	0.0060
TOTAL STREAM DISTURBANCE	0.0794
TEMPORARY FLOODWAY DISTURBANCE	0.0505
PERMANENT FLOODWAY DISTURBANCE	0.0028
TOTAL FLOODWAY DISTURBANCE	0.0533

STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	52.37
STREAM LENGTH	90.78

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



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

- 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 3+00 SHOWN IS EQUAL TO STATION 955+24 ON THE EROSION AND SEDIMENT CONTROL PLAN.

- SURVEY NOTES:**
1. T.B.M. SURVEY CONTROL POINT - 31' RT. OF M.P. 18.11, ELEV. = 1112.79' (NAVD88).



**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

**WOOD GROUP MUSTANG, INC.**

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

DRAWING NO.		REFERENCE TITLE											
NO.		DATE		BY		REVISION DESCRIPTION		W.O. NO.		CHK.		APP.	
0		08/19/15		CR		ISSUED FOR PADEP 105 PERMIT		1161481		CLR		MJH	
1		10/19/16		KB		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 CROSSING WW-T03-17004**  
**© M.P. 18.11**  
**LAKE TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA**

**Williams**

DRAWN BY: LL	DATE: 12/19/14	ISSUED FOR BID:	SCALE: 1" = 50'
CHECKED BY: ML	DATE: 03/07/15	ISSUED FOR CONSTRUCTION:	REVISION: 1
APPROVED BY: MJH	DATE: 06/03/16	DRAWING NUMBER: 24-1601-70-09-A/18.10-01	SHEET 1
WC: 1161481		9/26/2016 s1ninh	OF 1



Liberty Technology Center  
2200 Liberty Avenue, Suite 100  
Pittsburgh, PA 15222

412.713.7100 PHONE  
412.471.2348 FAX

[www.trcsolutions.com](http://www.trcsolutions.com)

October 26, 2016

Plains Township Board of Commissioners  
Attn: Kathleen O'Boyle, Secretary  
126 North Main Street  
Plains, PA 18705  
(570) 829-3439

Re: Atlantic Sunrise Project  
PADEP Application No. E40-769  
Plains Township, Luzerne County  
Stormwater Management Consistency

Dear Plains Township Commissioners:

On behalf of the Transcontinental Gas Pipeline Company, LLC, a subsidiary of Williams Partners L.P. (Williams) TRC Solutions and BL Companies, Inc. (BL) are providing one copy each of the Erosion and Sediment Control (E&SC) Plans, Site Restoration Plan (SR) Plan, and related narrative for Williams' Atlantic Sunrise Project (Project) temporary contractor yard CY-LU-2-05 that is located within Plains Township, Luzerne County. These plans and narrative are planned to be submitted to the Pennsylvania Department of Environmental Protection (PADEP) and Luzerne County Conservation District as part of Williams' Erosion and Sediment Control General Permit 2 and Chapter 105 Water Obstruction and Encroachment packages for the proposed Project.

A stormwater management consistency letter from Plains Township commenting on the stormwater management analysis is required as part of the Chapter 105 Application package; therefore, we respectfully request that Plains Township review the attached plans and narratives and provide a response within 30 days of the receipt of this letter indicating consistency with respect to the Township's stormwater management ordinances. Should you have any questions or comments, please contact Al Busher of BL at (717) 651-9850 or [abusher@blcompanies.com](mailto:abusher@blcompanies.com) or me at (412) 713-7117 or [screscenzo@trcsolutions.com](mailto:screscenzo@trcsolutions.com).

Sincerely,

Steve Crescenzo  
Senior Environmental Scientist

Enclosures: E&SC Plans, Site Restoration Plan, and Related Narrative (Luzerne County, Appendix E.2)

## **E.2**

### **CN-CY-LU-2-05 Contractor Yard – Site Specific Narrative and Calculations**

## **Site Specific Narrative**

### **Topographic Features**

A USGS Topographic Map is provided as a part of this Contractor Yard's Appendix.

### **Soil Characteristics**

The NRCS Soils Map is provided following this narrative as part of this Contractor Yard's Appendix. Refer to the E&SC Plans for more information on the Site soils.

### **Earth Disturbance Activity**

#### Proposed Improvements and Land Use

The Phase 1 Contractor Yard will be constructed in Plains Township, Luzerne County. The Contractor Yard will include the reuse of an existing construction yard for temporary material storage and staging area during pipeline construction. The Contractor Yard will be used for construction material storage, preparation and staging, and for construction equipment storage. No earthmoving activity is anticipated and no impervious area will result from the Project.

#### Present/Past Land Use

The Site is currently located in a gravel construction yard with pockets of vegetation. The existing vegetation will remain and is not to be disturbed. Refer to Section 1.3 of this report for details of the land uses of this Contractor Yard.

### **Project Site Runoff**

#### Act 167 Summary

Site is located within a current, PADEP approved Act 167 Stormwater Management Watershed Plan. No new impervious area is proposed for the Site and existing vegetated areas will remain in a vegetated condition. The approximate original contours of the Contractor Yard will remain, which will maintain the pre-construction drainage patterns. No change in the runoff rate or volume is anticipated for the 1-year through 100-year storm event.

### **Surface Water Classification**

The attached drawings depict the locations of the streams and wetlands in and near the LOD for the Project. The Project area surface water runoff drains to the Susquehanna River and Mill Creek. The receiving waters are designated as Warm Water Fishery (WWF) and Cold Water Fishery (CWF) under PA Code 25 Chapter 93 respectively.

The Susquehanna River watershed is listed as impaired in the PADEP Chapter 93 Integrated List; Source unknown – Mercury, PCB and Abandoned Mine Drainage. The Mill Creek watershed is listed as impaired in the PADEP Chapter 93 Integrated List; Urban Runoff/StormSewers-Water/Flow variability and Abandoned Mine Drainage.

### **BMP Description Narrative**

As no earth disturbance is proposed, there are no proposed BMPs for this site.

### **BMP Installation Sequence of Construction**

1. Make notifications according to permit requirements.
2. Hold pre-construction conference with environmental inspectors.
3. If applicable, install security fence. The necessity of a security fence will be at the discretion of the Contractor.
4. Remove security & construction fence after the Site is no longer of use.

### **Maintenance Program**

#### **Monitoring**

Transcontinental Gas Pipe Line Company LLC's (Transco's) personnel (Operations) will perform an annual visual inspection until permit closure, by qualified personnel, trained and experienced in E&SC, to ascertain that the Site remained stable and to ensure the Site erosion is causing no undue burden on the property owner or adjacent owners.

#### **Maintenance**

Maintenance of the Site will be consistent with the maintenance program for the Project. Refer to Sections 1.10 and 1.11 of this report for the specific maintenance program for the Site.

### **Soil Conditions and Geologic Formations**

Refer to Section 1.12 of this report for soil conditions and geologic formations for the Contractor Yard. Soils within the site LOD are not known to potentially produce acidic stormwater runoff. In the event that unanticipated acid runoff producing soils are encountered, refer to Acid Producing Soils and Bedrock Control Plan, located in the Best Management Practices and Quantities Plan set for material handling requirements

### **Thermal Impacts**

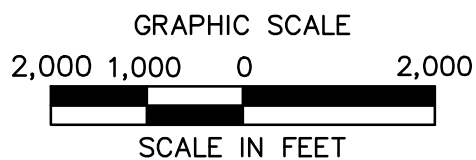
The Pre-Developed and Post-Developed surface will remain similar. No change in thermal impacts are expected

### **Riparian Forest Buffer**

There are no regulated riparian buffers within the Contractor Yard area.

### **Antidegradation Requirements**

The Project is not located in a special protection watershed but is in a siltation impaired watershed. No new proposed impervious cover is proposed for the Site. As a result, no additional stormwater runoff and no degradation of the watershed is anticipated.



**BL** ARCHITECTURE  
ENGINEERING  
ENVIRONMENTAL  
LAND SURVEYING  
Companies

ATLANTIC SUNRISE PROJECT  
CN-CY-LU-2-05 CONTRACTOR YARD  
AERIAL LOCATION MAP  
PLAINS TOWNSHIP  
LUZERNE COUNTY, PENNSYLVANIA



NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.	DRAWN BY:	DATE:	ISSUED FOR BID:	SCALE:	
0	08-28-15	BL	ISSUED FOR PADEP PERMIT SUBMITTAL	1161481	SMK		BWM	04/03/15		1"=2,000'	
1	12-02-15	BL	ISSUED FOR PADEP RESUBMITTAL	1161481	AJB		AOE	04/03/15			
2	09-01-16	BL	MOD 1 ISSUED FOR PADEP SUBMITTAL	1161481	AJB		AJB	04/03/15			
3	Oct. 2016	BL	PADEP TECHNICAL DEFICIENCY RESPONSE #1	1161481	AJB						
							WO:	1161481	DRAWING NUMBER:	CN-CY-LU-2-05 LOCATION	
										SHEET	1 OF 1



## Worksheet 1. General Site Information

INSTRUCTIONS: Fill out Worksheet 1 for each watershed

Date: 16-Mar-15

Project Name: Atlantic Sunrise Pipeline - CN-CY-LU-2-05 Contractor Yard

Municipality: Plains Township

County: Luzerne County

Total Area (acres): 16.89

Major River Basin: Susquehanna River

<http://www.dep.state.pa.us/dep/depupdate/watermgt/wc/default.htm#newtopics>

Watershed: Toby-Wapwallopen Creeks

Sub-Basin: N/A

Nearest Surface Water(s) to Receive Runoff: Mill Creek

Chapter 93 - Designated Water Use: CWF

<http://www.pacode.com/secure/data/025/chapter93/chap93toc.html>

Impaired according to Chapter 303(d) List? Yes

<http://www.dep.state.pa.us/dep/deputate/watermgt/wqp/wqstandards/303d-Report.htm> No

List Causes of Impairment: Urban Runoff/Storm Sewers, Abandoned Mine Drainage

*Is project subject to, or part of:*

Municipal Separate Storm Sewer System (MS4) Requirements? Yes

[http://www.dep.state.pa.us/dep/deputate/watermgt/wc/Subjects/StormwaterM](http://www.dep.state.pa.us/dep/deputate/watermgt/wc/Subjects/StormwaterManagement/GeneralPermits/default.htm) No

[anagement/GeneralPermits/default.htm](http://www.dep.state.pa.us/dep/deputate/watermgt/wc/Subjects/StormwaterManagement/GeneralPermits/default.htm)

Existing or planned drinking water supply? Yes

No

If yes, distance from proposed discharge (miles): \_\_\_\_\_

Approved Act 167 Plan? Yes

[http://www.dep.state.pa.us/dep/deputate/watermgt/wc/Subjects/StormwaterM](http://www.dep.state.pa.us/dep/deputate/watermgt/wc/Subjects/StormwaterManagement/Approved_1.html) No

[anagement/Approved\\_1.html](http://www.dep.state.pa.us/dep/deputate/watermgt/wc/Subjects/StormwaterManagement/Approved_1.html)

Existing River Conservation Plan? Yes

<http://www.dcnr.state.pa.us/brc/rivers/riversconservation/planningprojects/> No

## Worksheet 1. General Site Information

**INSTRUCTIONS:** Fill out Worksheet 1 for each watershed

**Date:** 16-Mar-15

**Project Name:** Atlantic Sunrise Pipeline - CN-CY-LU-2-05 Contractor Yard

**Municipality:** Plains Township

**County:** Luzerne County

**Total Area (acres):** 17.53

**Major River Basin:** Susquehanna River

<http://www.dep.state.pa.us/dep/depupdate/watermgt/wc/default.htm#newtopics>

**Watershed:** Toby-Wapwallopen Creeks

**Sub-Basin:** N/A

**Nearest Surface Water(s) to Receive Runoff:** Susquehanna River

**Chapter 93 - Designated Water Use:** WWF

<http://www.pacode.com/secure/data/025/chapter93/chap93toc.html>

**Impaired according to Chapter 303(d) List?** Yes

<http://www.dep.state.pa.us/dep/deputate/watermgt/wqp/wqstandards/303d-Report.htm> No

**List Causes of Impairment:** Source Unknown-Mercury, PCB; Abandoned Mine Drainage

*Is project subject to, or part of:*

**Municipal Separate Storm Sewer System (MS4) Requirements?** Yes

<http://www.dep.state.pa.us/dep/deputate/watermgt/wc/Subjects/StormwaterManagement/GeneralPermits/default.htm> No

**Existing or planned drinking water supply?** Yes

No

**If yes, distance from proposed discharge (miles):** \_\_\_\_\_

**Approved Act 167 Plan?** Yes

[http://www.dep.state.pa.us/dep/deputate/watermgt/wc/Subjects/StormwaterManagement/Approved\\_1.html](http://www.dep.state.pa.us/dep/deputate/watermgt/wc/Subjects/StormwaterManagement/Approved_1.html) No

**Existing River Conservation Plan?** Yes

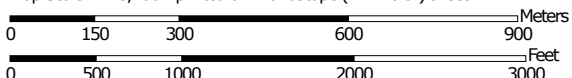
<http://www.dcnr.state.pa.us/brc/rivers/riversconservation/planningprojects/> No



# Custom Soil Resource Report Soil Map



Map Scale: 1:13,400 if printed on A landscape (11" x 8.5") sheet.




Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84


# Custom Soil Resource Report


## MAP LEGEND


### Area of Interest (AOI)

 Area of Interest (AOI)


### Soils


 Soil Map Unit Polygons


 Soil Map Unit Lines


 Soil Map Unit Points

### Special Point Features

 Blowout

 Borrow Pit

 Clay Spot


 Closed Depression

 Gravel Pit

 Gravelly Spot


 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry


 Miscellaneous Water


 Perennial Water

 Rock Outcrop


 Saline Spot

 Sandy Spot

 Severely Eroded Spot


 Sinkhole


 Slide or Slip


 Sodic Spot


 Spoil Area

 Stony Spot


 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

### Water Features

 Streams and Canals


### Transportation

 Rails


 Interstate Highways

 US Routes

 Major Roads

 Local Roads

### Background

 Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
 Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>  
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

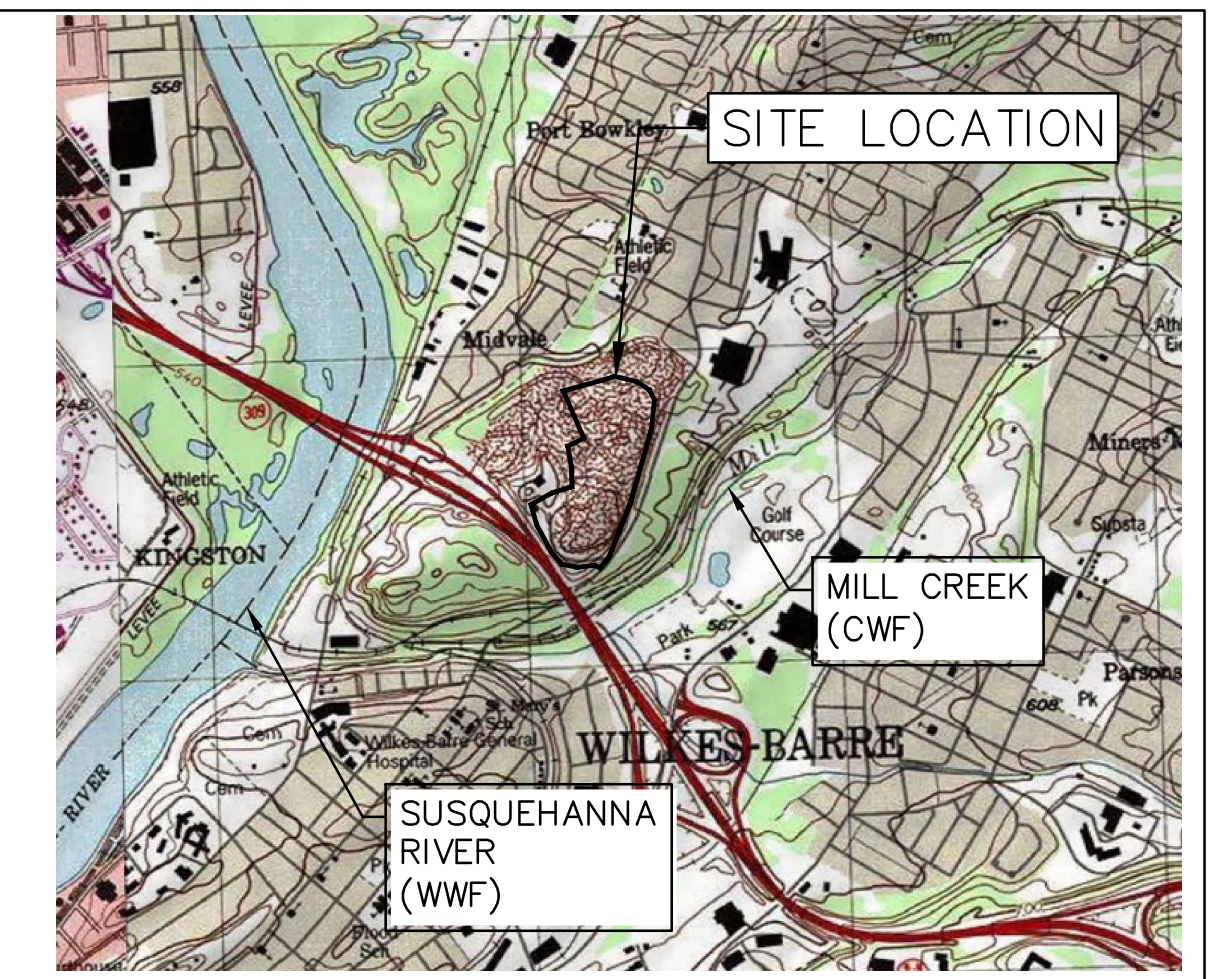
This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Luzerne County, Pennsylvania  
 Survey Area Data: Version 8, Nov 16, 2015

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 14, 2011—May 10, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.



**LOCATION MAP**

USGS PITTSBURGH QUADRANGLE  
SCALE: 1"=2,000'

**LEGEND**

**EXISTING FEATURES**

- PROPERTY BOUNDARY LINE (APPROXIMATE)
- EXISTING MAJOR CONTOUR (10' INTERVAL)
- EXISTING MINOR CONTOUR (2' INTERVAL)
- FENCE
- STONE ROW
- SOIL BOUNDARY
- TREELINE
- CENTERLINE STREAM/EDGE WATERBODY
- DELINEATED WETLANDS
- SPOT ELEVATION
- TREE OR BUSH
- UTILITY POLE AND UTILITY LINE
- GUY POLE
- GUY POLE OR ANCHOR
- POST
- SIGN
- WATER WELL
- UTILITY BOX
- MONUMENT (PROPERTY BOUNDARY MARKER)
- IRON PIPE OR PIN (PROPERTY BOUNDARY MARKER)
- SOIL TYPE DESIGNATION
- EXTENT OF EXISTING GRAVEL YARD

**PROPOSED FEATURES**

- LIMIT OF DISTURBANCE (OVERALL PIPELINE PROJECT)
- ESCGP-2 PERMIT BOUNDARY

**ESCGP-2 PERMIT TABLE\***

LIMIT OF ESCGP-2 PERMIT BOUNDARY/SITE AREA FOR CN-CY-LU-2-05	INCLUDED IN OVERALL PERMIT AREA
LIMITS OF DISTURBANCE FOR CONTRACTOR YARD	34.42 AC.
AREA OF PROTECTED /SENSITIVE VALUE FEATURES	0.00 AC.
AREA OF RIPARIAN FOREST BUFFER PROTECTION	0.00 AC.
AREA OF MINIMUM DISTURBANCE/REDUCED GRADING	0.00 AC.
STORMWATER MANAGEMENT AREA N/A*	N/A*
DISTURBED AREA CONTROLLED BY BMPS	N/A*

\*THE CONTRACTOR YARD IS A TEMPORARY STAGING AREA AND WILL BE MAINTAINED AT EXISTING GRADE THROUGHOUT AND AT THE COMPLETION OF CONSTRUCTION.

PHASE 1 CPLN CONTRACTOR YARD SPREAD 2 OPTION 5 - PLAINS TOWNSHIP  
CN-CY-LU-2-05



**RECEIVING WATERCOURSE - CHAPTER 93 DESIGNATION**

THE RECEIVING WATERCOURSE IS THE SUSQUEHANNA RIVER (WWF) AND MILL CREEK (CWF).

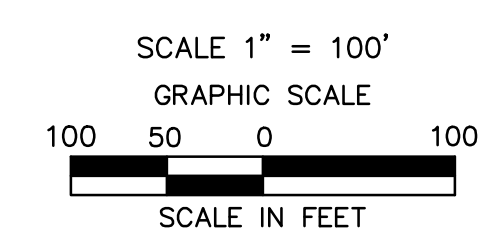
**SITE SOIL TYPES**

- Mg** MINE DUMP
- OXF** OQUAGA AND LORDSTOWN EXTREMELY STONY SILT LOAMS, STEEP
- Sm** STRIP MINE
- WB** WURTSBORO CHANNERY LOAM, 3 TO 8 PERCENT SLOPES

\* SOILS WITHIN SITE LOD ARE KNOWN TO POTENTIALLY PRODUCE ACIDIC STORMWATER RUNOFF. REFER TO ACID PRODUCING SOILS AND BEDROCK CONTROL PLAN, LOCATED IN THE BEST MANAGEMENT PRACTICES AND QUANTITIES PLAN SET FOR MATERIAL HANDLING REQUIREMENTS.

**NOTES**

- THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY WILLIAMS AND ITS ENGINEER OF ANY CONDITIONS THAT VARY FROM WHAT IS DEPICTED ON THIS PLAN.
- THE CONTRACTOR SHALL CONTACT PA ONE CALL A MINIMUM OF 72 HOURS PRIOR TO BEGINNING CONSTRUCTION.



Date	Description	By
05/29/15	Internal QA/QC	AJB
05/29/15	Internal Review	DAK
05/23/16	Internal Review	AJB
09/16/16	Internal Review	AJB
10/03/16	Internal Review	DK/TH

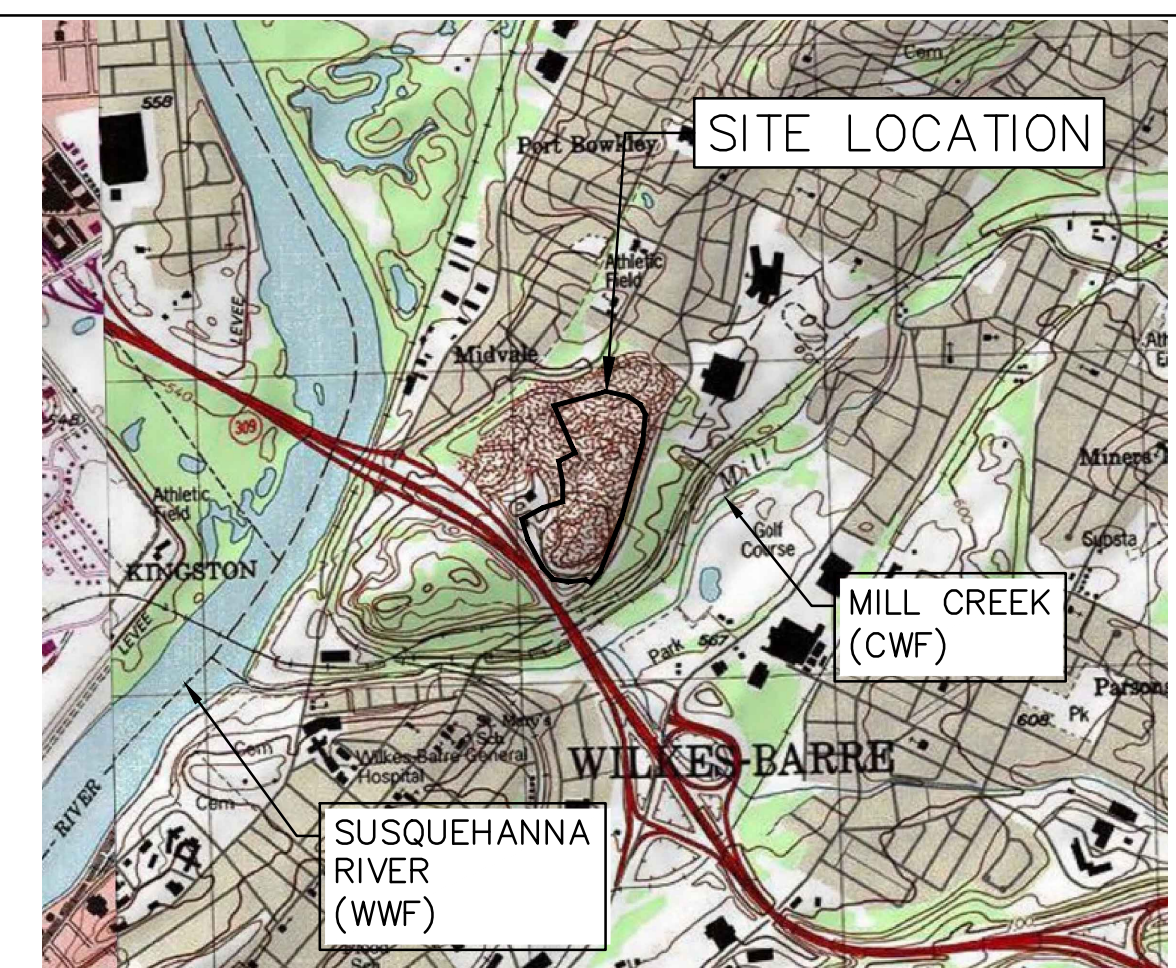
REVISIONS						
NO.	DATE	BY	DESCRIPTION	W.O. NO.	CHK.	APP.
0	08/28/2015	BL	ISSUED FOR PADEP SUBMITTAL	W0161481	SMK	
1	12/02/2015	BL	ISSUED FOR PADEP RESUBMITTAL	W0161481	SMK	
2	09/01/2016	BL	MODIFICATION 1 ISSUED FOR PADEP SUBMITTAL	W0161481	AJB	
3	Oct. 2016	BL	PADEP TECHNICAL DEFICIENCY RESPONSE #1	W0161481	AJB	AJB

TRANSCONTINENTAL GAS PIPELINE COMPANY LLC  
ATLANTIC SUNRISE PROJECT- PROPOSED 30" NATURAL GAS PIPELINE  
POST CONSTRUCTION STORMWATER MANAGEMENT PLANS FOR  
ABOVE GROUND FACILITIES & ASSOCIATED PERMANENT ACCESS ROADS

LUZERNE COUNTY, PENNSYLVANIA  
SITE RESTORATION PLAN

DRAWN BY: HFT DATE: 04/03/15 ISSUED FOR BID: SCALE: AS NOTED  
CHECKED BY: AJB DATE: 04/03/15 ISSUED FOR CONSTRUCTION: REVISION: 3  
APPROVED BY: AJB DATE: 04/03/15 DRAWING NUMBER: 24-1601-70-28-A/1683\_3 SHEET 3 OF 3  
W.O. NUMBER: 1161481

Drawn By & Date/Time: bmetzger Oct 01, 2016 - 1:13pm  
 Drawing Location & Name: G:\0851A\14C\14C4909\DWG\010-CPLN\CY\_EC14C4909(10)\_LU-2-05.dwg



**LOCATION MAP**

USGS PITTSTON QUADRANGLE  
 SCALE: 1" = 2,000'

**LEGEND**

**EXISTING FEATURES**

- PROPERTY BOUNDARY LINE (APPROXIMATE)
- EXISTING MAJOR CONTOUR (10' INTERVAL)
- EXISTING MINOR CONTOUR (2' INTERVAL)
- FENCE
- STONE ROW
- SOIL BOUNDARY
- TREELINE
- CENTERLINE STREAM/EDGE WATERBODY
- DELINEATED WETLANDS
- SPOT ELEVATION
- TREE OR BUSH
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- GUY POLE
- GUY POLE OR ANCHOR
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- MONUMENT (PROPERTY BOUNDARY MARKER)
- IRON PIPE OR PIN (PROPERTY BOUNDARY MARKER)
- SOIL TYPE DESIGNATION
- EXTENT OF EXISTING GRAVEL YARD

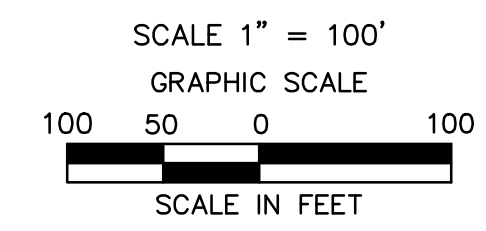
**PROPOSED FEATURES**

- PROPOSED TEMPORARY MAJOR CONTOUR (10' INTERVAL)
- PROPOSED TEMPORARY MINOR CONTOUR (2' INTERVAL)
- LIMIT OF DISTURBANCE (OVERALL PIPELINE PROJECT)
- ESCGP-2 PERMIT BOUNDARY
- SEDIMENT BARRIER
- FILTER SOCK DIVERSION
- ORANGE CONSTRUCTION FENCE
- BREAKLINE
- SWALE LINING/EROSION CONTROL BLANKET
- ROCK OUTLET/RIPRAP APRON
- SEDIMENT BARRIER DESIGNATION

**SITE SOIL TYPES**

- Mg** MINE DUMP
- OXF** OQUAGA AND LORDSTOWN EXTREMELY STONY SILT LOAMS, STEEP
- Sm** STRIP MINE
- WrB** WURTSBORO CHANNERY LOAM, 3 TO 8 PERCENT SLOPES

\* SOILS WITHIN SITE LOD ARE KNOWN TO POTENTIALLY PRODUCE ACIDIC STORMWATER RUNOFF. REFER TO ACID PRODUCING SOILS AND BEDROCK CONTROL PLAN, LOCATED IN THE BEST MANAGEMENT PRACTICES AND QUANTITIES PLAN SET FOR MATERIAL HANDLING REQUIREMENTS.



**LIMIT OF DISTURBANCE**

AREA OF THE LIMIT OF DISTURBANCE IS:  
 ±1,499,214 SF / 32.42 AC.

**PHASE 1 CPLN CONTRACTOR YARD SPREAD 2 OPTION 5 - PLAINS TOWNSHIP  
 CN-CY-LU-2-05**

Date			Description			By			REVISIONS				
NO.	DATE	BY	DESCRIPTION	W.O. NO.	CHK.	APP.	NO.	DATE	BY	DESCRIPTION	W.O. NO.	CHK.	APP.
0	08/28/2015	BL	ISSUED FOR PADEP SUBMITTAL	W0161481	SMK								
1	12/02/2015	BL	ISSUED FOR PADEP RESUBMITTAL	W0161481	SMK								
2	09/01/2016	BL	MODIFICATION 1 ISSUED FOR PADEP SUBMITTAL	W0161481	AJB								
3	Oct 2016	BL	PADEP TECHNICAL DEFICIENCY RESPONSE #1	W0161481	AJB	AJB							

TRANSCONTINENTAL GAS PIPELINE COMPANY LLC											
ATLANTIC SUNRISE PROJECT- PROPOSED 30" NATURAL GAS PIPELINE											
SOIL EROSION & SEDIMENT CONTROL AND LAYOUT PLANS FOR											
ABOVE GROUND FACILITIES & ASSOCIATED PERMANENT ACCESS ROADS											
LUZERNE COUNTY, PENNSYLVANIA											
SOIL EROSION AND SEDIMENT CONTROL PLAN											
DRAWN BY: HFT			DATE: 04/03/15			ISSUED FOR BID:			SCALE: AS NOTED		
CHECKED BY: AJB			DATE: 04/03/15			ISSUED FOR CONSTRUCTION:			REVISION: 3		
APPROVED BY: AJB			DATE: 04/03/15			DRAWING NUMBER: 24-1601-70-28-A/1683_3			SHEET 1 OF 3		
WG: 1161481						CY-CN-CY-LU-2-05					

ALARIC J. BUSHER REG. NO. PE 60320



**EARTH DISTURBANCE ACTIVITY - PAST, PRESENT, AND FUTURE LAND USES**

THE LAND USES FOUND WITHIN THE PROJECT AREA IS A GRAVEL CONSTRUCTION YARD. ACCORDING TO THE IMAGERY PROVIDED BY THE PENNSYLVANIA GEOLOGICAL SURVEY, THE LAND USES WITHIN THE PROJECT AREA REMAINED SIMILAR OVER THE PAST YEARS. FUTURE LAND USE WOULD INVOLVE MINIMAL IMPACT WITH THE CONTINUED USE AS A TEMPORARY CONTRACTOR YARD.

**RECEIVING WATERCOURSE - CHAPTER 93 DESIGNATION**

THE RECEIVING WATERCOURSE IS THE SUSQUEHANNA RIVER (WWF) AND MILL CREEK (CWF).

**THERMAL IMPACT ANALYSIS**

THE PRE-DEVELOPED AND POST-DEVELOPED SURFACE WILL REMAIN SIMILAR. NO CHANGE IN THERMAL IMPACTS ARE EXPECTED.

**SEQUENCE OF CONSTRUCTION**

1. MAKE NOTIFICATIONS ACCORDING TO PERMIT REQUIREMENTS.
2. HOLD PRE-CONSTRUCTION CONFERENCE WITH ENVIRONMENTAL INSPECTORS.
3. IF APPLICABLE, INSTALL SECURITY FENCE. THE NECESSITY OF A SECURITY FENCE WILL BE AT THE DISCRETION OF THE CONTRACTOR.
4. REMOVE SECURITY FENCE AND COMPOST FILTER SOCK AFTER THE SITE IS NO LONGER OF USE.


Drawn By & Date/Time: bmetzger Oct 01, 2016 - 1:14pm  
Drawing Location & Name: G:\OBST14\14C\14C4909\DWG\010-CPLN\CY\_EC14C4909(10)\_LU-2-05.dwg

**PHASE 1 CPLN CONTRACTOR YARD SPREAD 2 OPTION 5 - PLAINS TOWNSHIP  
CN-CY-LU-2-05**

Date	Description	By	REVISIONS						
			NO.	DATE	BY	DESCRIPTION	W.O. NO.	CHK.	APP.
05/29/15	Internal QA/QC	AJB	0	08/28/2015	BL	ISSUED FOR PADEP SUBMITTAL	W0161481	SMK	
05/29/15	Internal Review	DAK	1	12/02/2015	BL	ISSUED FOR PADEP RESUBMITTAL	W0161481	SMK	
05/23/16	Internal Review	AJB	2	09/01/2016	BL	MODIFICATION 1 ISSUED FOR PADEP SUBMITTAL	W0161481	AJB	
09/16/16	Internal Review	AJB	3	Oct 2016	BL	PADEP TECHNICAL DEFICIENCY RESPONSE #1	W0161481	AJB	AJB
10/03/16	Internal Review	DK/TH							

TRANSCONTINENTAL GAS PIPELINE COMPANY LLC ATLANTIC SUNRISE PROJECT- PROPOSED 30" NATURAL GAS PIPELINE SOIL EROSION & SEDIMENT CONTROL AND LAYOUT PLANS FOR ABOVE GROUND FACILITIES & ASSOCIATED PERMANENT ACCESS ROADS LUZERNE COUNTY, PENNSYLVANIA SOIL EROSION & SEDIMENT CONTROL NOTES AND DETAILS										
DRAWN BY:		HFT	DATE:	04/03/15	ISSUED FOR BID:		SCALE:			AS NOTED
CHECKED BY:		AJB	DATE:	04/03/15	ISSUED FOR CONSTRUCTION:		REVISION:			3
APPROVED BY:		AJB	DATE:	04/03/15	DRAWING NUMBER:		24-1601-70-28-A/1683_3		SHEET 2	
WG:		1161481		CY-CN-CY-LU-2-05				OF 3		

ALARIC J. BUSHER REG NO. PE 60320  
 ARCHITECTURE  
 ENGINEERING  
 ENVIRONMENTAL  
 LAND SURVEYING





October 26, 2016

Ross Township  
Floodplain Administrator  
72 Broadway Road  
P.O. Box 330  
Sweet Valley, PA 18656

Re: Atlantic Sunrise Project  
Central Penn Line North  
Ross 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 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 Ross Township is provided below for your review and comment.

Ross Township  
October 26, 2016  
BL Project No. 14C4909  
Page 1 of 3

**ATLANTIC SUNRISE PROJECT  
FEMA FLOODPLAIN CROSSINGS  
ROSS TOWNSHIP, LUZERNE 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-T11-16001	Floodway to Arnold Creek	FEMA Detailed <sup>1</sup>	N/A	0.3503	0.0223 <sup>2</sup>	41.30406	-76.19877
Utility Pipeline Crossing	Equipment Access and E&S Controls	WW-T13-16001	Floodway to Shingle Run	FEMA Detailed	N/A	0.0810	0.0060 <sup>2</sup>	41.30557	-76.18063
Utility Pipeline Crossing	Equipment Access and E&S Controls	WW-T05-16001	Floodway to Mitchler Run	FEMA Detailed <sup>1</sup>	N/A	0.2737	0.0174 <sup>2</sup>	41.30724	-76.16320
Utility Pipeline Crossing	Equipment Access and E&S Controls	WW-T03-16003C	Floodway to UNT to Huntington Creek	FEMA Detailed <sup>1</sup>	N/A	0.0138	0.0027 <sup>2</sup>	41.31104	-76.14836
Utility Pipeline Crossing	Equipment Access and E&S Controls	WW-T03-16003A	Floodway to UNT to Huntington Creek	FEMA Detailed	N/A	0.0001	0.0000	41.31134	-76.14706
Utility Pipeline Crossing	Equipment Access and E&S Controls	WW-T03-16003	Floodway to UNT to Huntington Creek	FEMA Detailed <sup>1</sup>	N/A	0.8062	0.0360 <sup>2</sup>	41.31281	-76.13759

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 Ross Township review this analysis and, if applicable, provide comments to:

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

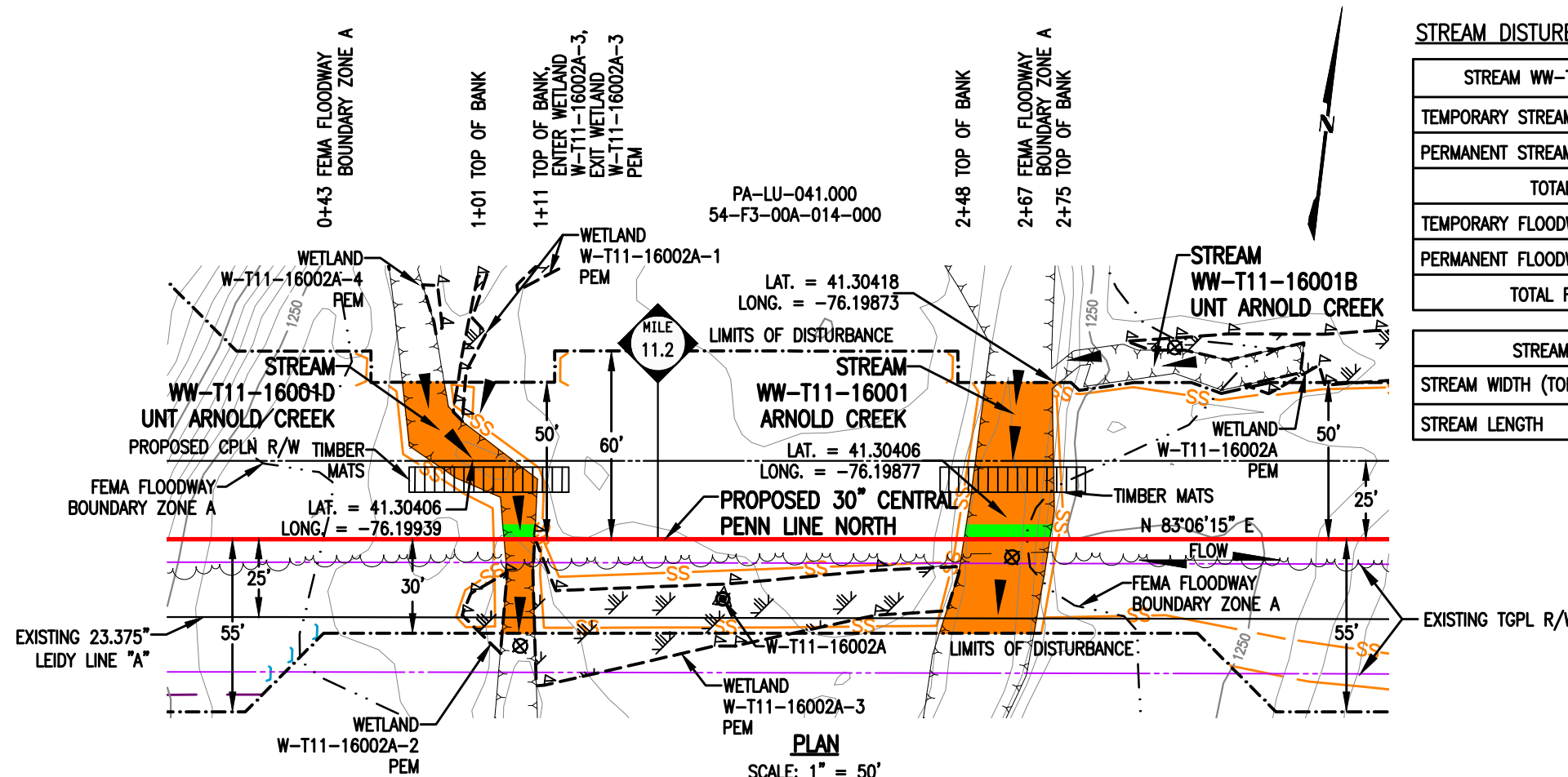
**Please do not send comments directly to the PADEP**, as we must include them with our permit application. Should you have any questions or concerns regarding this notification, please contact Al Busher at (717)-651-9850 or via email at [abusher@blcompanies.com](mailto:abusher@blcompanies.com).

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



PA-LU-041.000  
54-F3-00A-014-000

LAT. = 41.30418  
LONG. = -76.19873

LAT. = 41.30406  
LONG. = -76.19877

LAT. = 41.30406  
LONG. = -76.19939

PLAN  
SCALE: 1" = 50'

**STREAM DISTURBANCE:**

STREAM WW-T11-16001D (HQ)	ACRE
TEMPORARY STREAM DISTURBANCE	0.0253
PERMANENT STREAM DISTURBANCE	0.0012
TOTAL STREAM DISTURBANCE	0.0265
TEMPORARY FLOODWAY DISTURBANCE	0.0000
PERMANENT FLOODWAY DISTURBANCE	0.0000
TOTAL FLOODWAY DISTURBANCE	0.0000

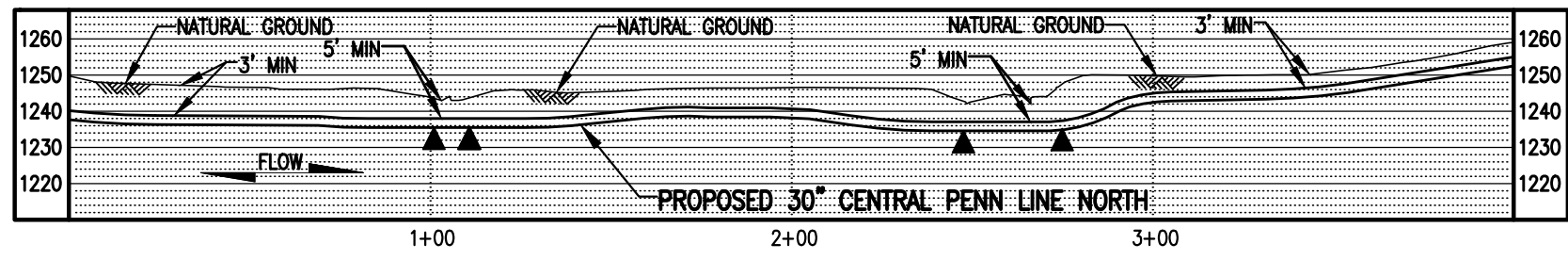
STREAM WW-T11-16001 (HQ)	ACRE
TEMPORARY STREAM DISTURBANCE	0.0447
PERMANENT STREAM DISTURBANCE	0.0031
TOTAL STREAM DISTURBANCE	0.0478
TEMPORARY FLOODWAY DISTURBANCE	0.3503
PERMANENT FLOODWAY DISTURBANCE	0.0223
TOTAL FLOODWAY DISTURBANCE	0.3726

STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	9.69
STREAM LENGTH	89.80

STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	27.28
STREAM LENGTH	80.08

STREAM WW-T11-16001B (HQ)	ACRE
TEMPORARY STREAM DISTURBANCE	0.0001
PERMANENT STREAM DISTURBANCE	0.0000
TOTAL STREAM DISTURBANCE	0.0001
TEMPORARY FLOODWAY DISTURBANCE	0.0000
PERMANENT FLOODWAY DISTURBANCE	0.0000
TOTAL FLOODWAY DISTURBANCE	0.0000

STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	1.49
STREAM LENGTH	17.58



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

**GENERAL NOTES:**

1. STREAM CROSSING METHOD FOR STREAM WW-T11-16001D AND STREAM WW-T11-16001 SHALL BE DAM AND PUMP (DPX). EQUIPMENT TO CROSS STREAM UTILIZING A BRIDGE EQUIPMENT CROSSING (BEC).
2. STREAM WW-T11-16001B DOES NOT CROSS PROPOSED PIPELINE. STREAM WILL BE MATTED DURING CONSTRUCTION.
3. THIS SITE IS LOCATED WITHIN THE 100 YEAR FLOOD PLAIN PER FEMA FLOOD MAP DATA.
4. STATION 1+00 SHOWN IS EQUAL TO STATION 590+86 ON THE EROSION AND SEDIMENT CONTROL PLAN.

**SURVEY NOTES:**

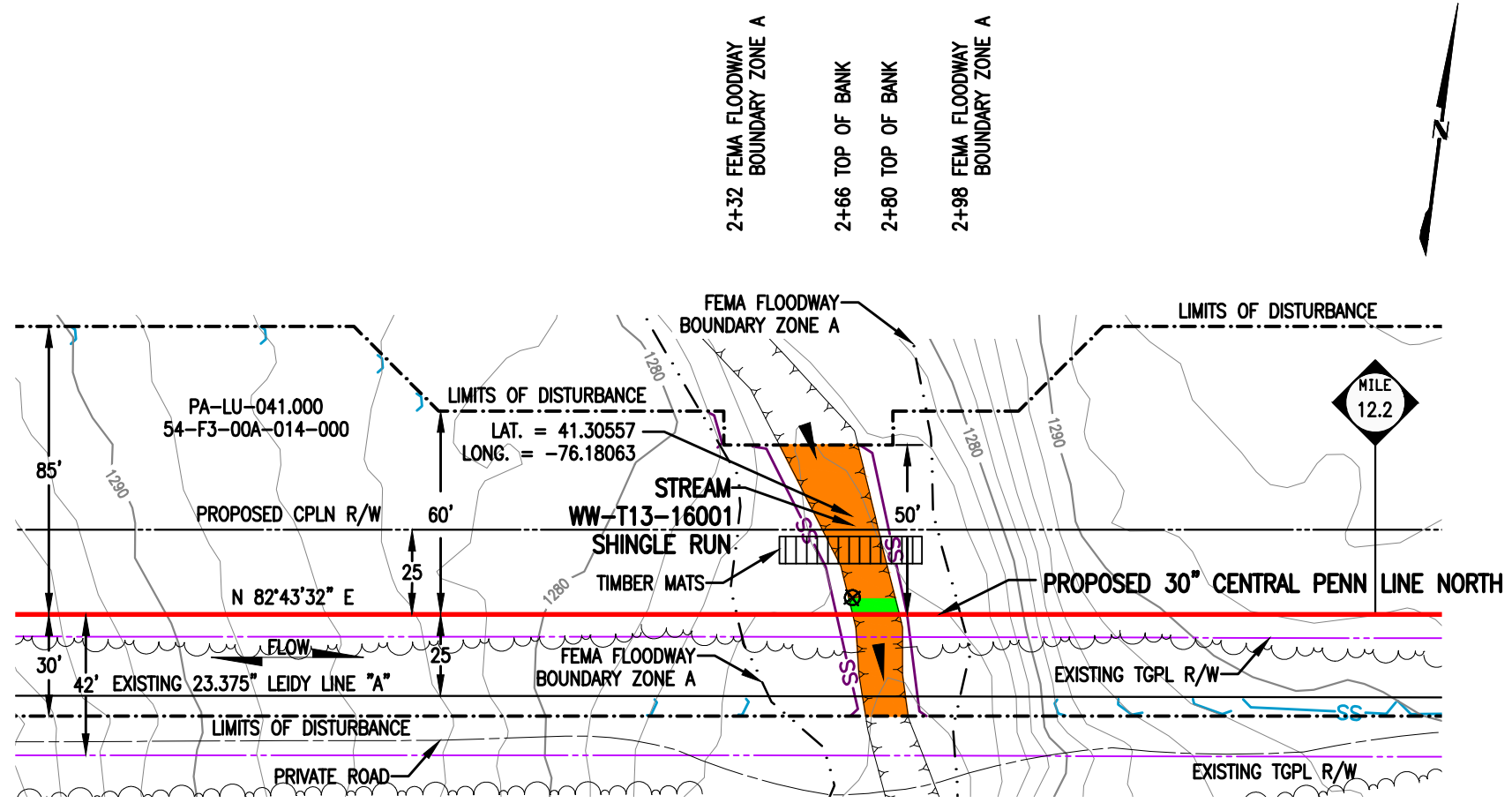
1. T.B.M. SURVEY CONTROL POINT - 53' RT. OF M.P. 11.19, ELEV. = 1242.01' (NAVD88).



**LEGEND**

	PROPOSED 30" CENTRAL PENN LINE NORTH		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 CPLN 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 30" CENTRAL PENN LINE NORTH</b> <b>STREAM CROSSINGS WW-T11-16001D @ M.P. 11.19 &amp;</b> <b>WW-T11-16001 @ M.P. 11.22 &amp; WW-T11-16001B @ M.P. 11.24</b> <b>ROSS TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA</b>						
NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.	DRAWN BY: LL	DATE: 12/12/14	ISSUED FOR BID:	SCALE: 1" = 50'
0	08/19/15	MA	ISSUED FOR PADEP 105 PERMIT	1161481	CLR	MJH	CHECKED BY: CLR	DATE: 06/01/15	ISSUED FOR CONSTRUCTION:	REVISION: 1
1	10/19/16	AT	ISSUED FOR PADEP SUBMITTAL #2	1161481	CLR	MJH	APPROVED BY: MJH	DATE: 06/03/15	DRAWING NUMBER: 24-1601-70-09-A/11.19-01	SHEET 1
				W.O. NO.:	CHK.:	APP.:	W.O. NO.:	CHK.:	APP.:	OF 1



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

**STREAM DISTURBANCE:**

STREAM WW-T13-16001 (HQ)	ACRE
TEMPORARY STREAM DISTURBANCE	0.0270
PERMANENT STREAM DISTURBANCE	0.0016
<b>TOTAL STREAM DISTURBANCE</b>	<b>0.0286</b>
TEMPORARY FLOODWAY DISTURBANCE	0.0810
PERMANENT FLOODWAY DISTURBANCE	0.0060
<b>TOTAL FLOODWAY DISTURBANCE</b>	<b>0.0870</b>

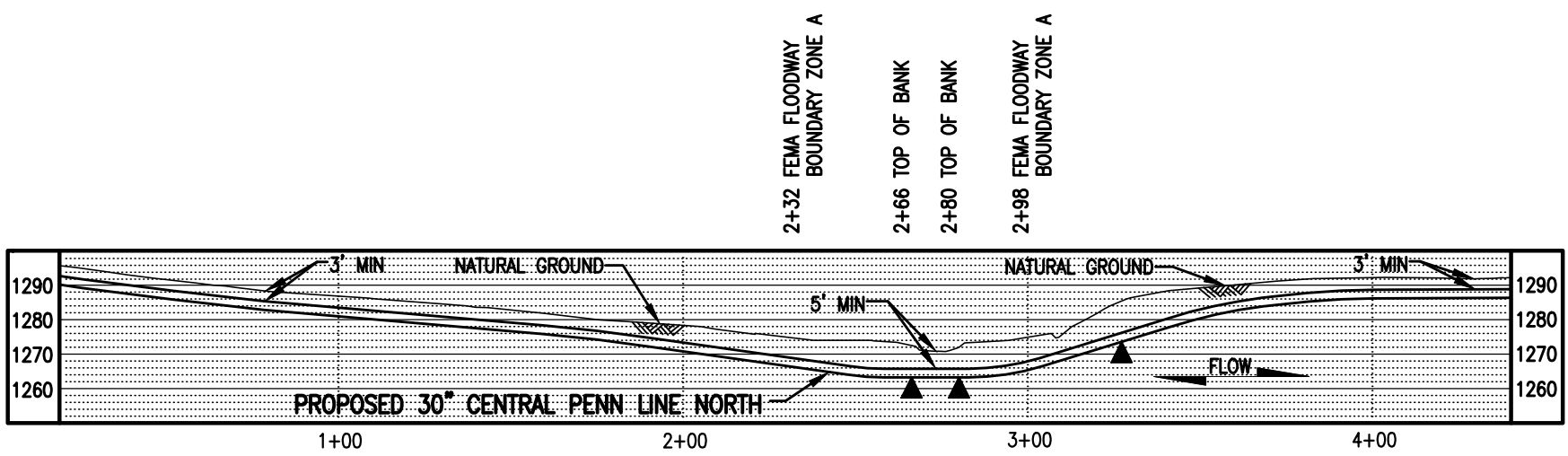
STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	13.72
STREAM LENGTH	83.90

**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 PLAN PER FEMA FLOOD MAP DATA.
3. STATION 2+00 SHOWN IS EQUAL TO STATION 641+95 ON THE EROSION AND SEDIMENT CONTROL PLAN.

**SURVEY NOTES:**

1. T.B.M. SURVEY CONTROL POINT - 29' RT. OF M.P. 12.18, ELEV. = 1272.33' (NAVD88).



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



**LEGEND**

	PROPOSED 30" CENTRAL PENN LINE NORTH		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 CPLN 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 30" CENTRAL PENN LINE NORTH</b> <b>STREAM CROSSING WW-T13-16001</b> <b>© M.P. 12.17</b> <b>ROSS TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA</b>	
NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK. APP.
0	08/19/15	LL	ISSUED FOR PADEP 105 PERMIT	1161481	CLR MJH
1	10/19/16	AT	ISSUED FOR PADEP SUBMITTAL #2	1161481	CLR MJH
DRAWN BY: LL		DATE: 12/13/14	ISSUED FOR BID:	SCALE: 1" = 50'	
CHECKED BY: CLR		DATE: 06/01/15	ISSUED FOR CONSTRUCTION:	REVISION: 1	
APPROVED BY: MJH		DATE: 06/03/15	DRAWING NUMBER: 24-1601-70-09-A/12.17-01	SHEET 1	
WO: 1161481			6/19am K:\103646-CPLN\Mapping\Waterbodies\Revised 105\24-1601-70-09-A-12.17-01.dwg	OF 1	

**STREAM DISTURBANCE:**

STREAM WW-T05-16001 (HQ)	ACRE
TEMPORARY STREAM DISTURBANCE	0.0289
PERMANENT STREAM DISTURBANCE	0.0017
TOTAL STREAM DISTURBANCE	0.0306
TEMPORARY FLOODWAY DISTURBANCE	0.2737
PERMANENT FLOODWAY DISTURBANCE	0.0174
TOTAL FLOODWAY DISTURBANCE	0.2911

STREAM WW-T05-16001A (HQ)	ACRE
TEMPORARY STREAM DISTURBANCE	0.0144
PERMANENT STREAM DISTURBANCE	0.0008
TOTAL STREAM DISTURBANCE	0.0152
TEMPORARY FLOODWAY DISTURBANCE	0.0000
PERMANENT FLOODWAY DISTURBANCE	0.0000
TOTAL FLOODWAY DISTURBANCE	0.0000

STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	13.35
STREAM LENGTH	82.17

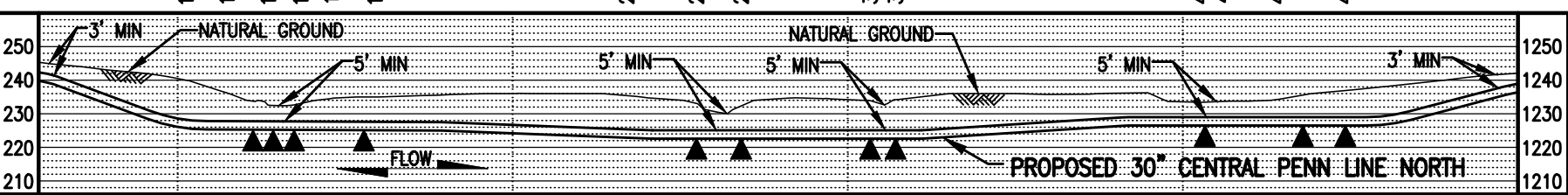
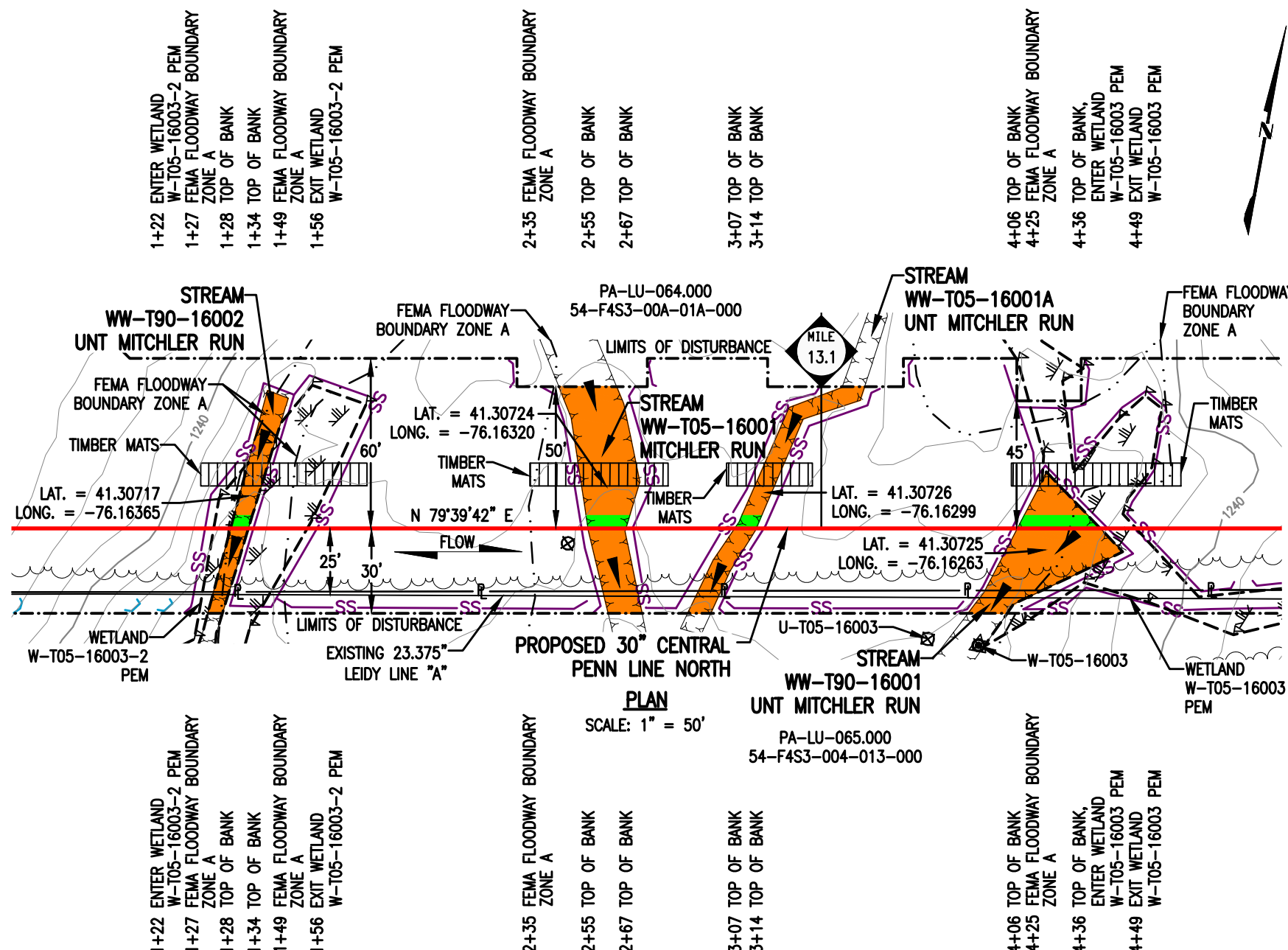
STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	7.56
STREAM LENGTH	96.45

STREAM WW-T90-16001 (HQ)	ACRE
TEMPORARY STREAM DISTURBANCE	0.0230
PERMANENT STREAM DISTURBANCE	0.0029
TOTAL STREAM DISTURBANCE	0.0259
TEMPORARY FLOODWAY DISTURBANCE	0.0000
PERMANENT FLOODWAY DISTURBANCE	0.0000
TOTAL FLOODWAY DISTURBANCE	0.0000

STREAM WW-T90-16002 (HQ)	ACRE
TEMPORARY STREAM DISTURBANCE	0.0110
PERMANENT STREAM DISTURBANCE	0.0007
TOTAL STREAM DISTURBANCE	0.0117
TEMPORARY FLOODWAY DISTURBANCE	0.0000
PERMANENT FLOODWAY DISTURBANCE	0.0000
TOTAL FLOODWAY DISTURBANCE	0.0000

STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	29.26
STREAM LENGTH	51.40

STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	6.30
STREAM LENGTH	78.87



**GENERAL NOTES:**

1. STREAM CROSSING METHODS FOR STREAMS WW-T90-16002, WW-T90-16001, WW-T05-16001 & WW-T05-16001A 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 690+30 ON THE EROSION AND SEDIMENT CONTROL PLAN.

**SURVEY NOTES:**

1. T.B.M. SURVEY CONTROL POINT - 33' RT. OF M.P. 13.14, ELEV. = 1245.17' (NAVD88).



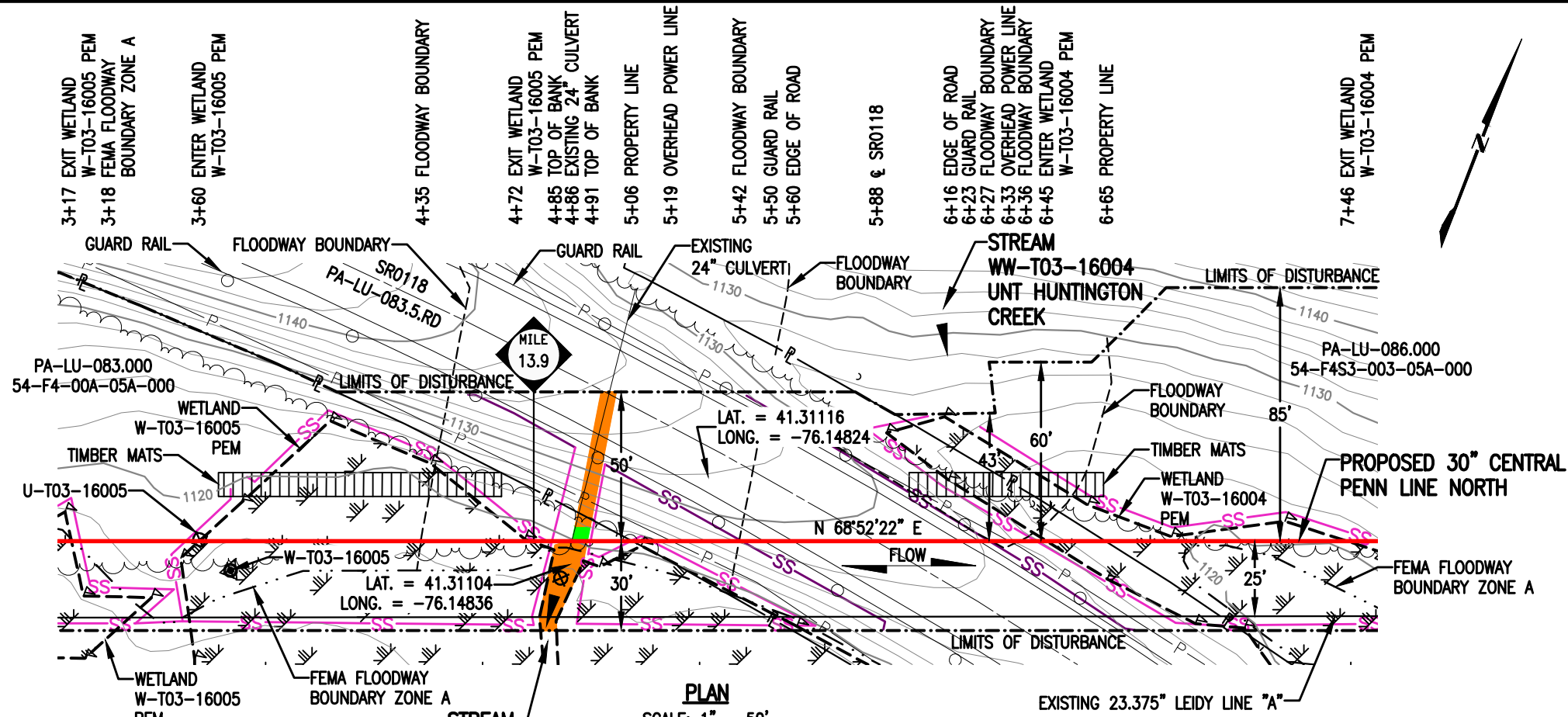
**LEGEND**

- PROPOSED 30" CENTRAL PENN LINE NORTH
- EXISTING PIPELINES
- EXISTING TGPL R/W
- - - LIMITS OF DISTURBANCE
- - - PROPOSED CPLN R/W
- P — PROPERTY LINE
- FOREIGN PIPELINE
- WETLAND AREA
- ▲ STREAM FLOW
- P — EXISTING POWER LINE
- X — EXISTING FENCE

**WOOD GROUP MUSTANG, INC.**

- ▲ WETLAND FLAGS
- ⊗ PHOTO DATA POINT
- ⊠ WETLAND DATA POINT
- ⊡ UPLAND DATA POINT
- ☀ WELL POINT
- ▲ TRENCH PLUG
- ▲ WATERBODY
- TREE LINE
- - - FLOODWAY BOUNDARY
- - - FEMA FLOODWAY BOUNDARY
- SS — 12" SEDIMENT BARRIER
- SS — 18" SEDIMENT BARRIER
- SS — 24" SEDIMENT BARRIER
- SS — 32" SEDIMENT BARRIER
- 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 30" CENTRAL PENN LINE NORTH</b> <b>STREAM CROSSINGS WW-T90-16002 @ M.P. 13.06, WW-T05-16001 @ M.P. 13.09</b> <b>WW-T05-16001A @ M.P. 13.09 &amp; WW-T90-16001 @ M.P. 13.11</b> <b>ROSS TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA</b>	
NO.		REVISION DESCRIPTION			
0	08/19/15	LL	ISSUED FOR PADEP 105 PERMIT	1161481	CLR MJH
1	10/19/16	DG	ISSUED FOR PADEP SUBMITTAL #2	1161481	CLR MJH
DRAWN BY: LL		DATE: 12/13/14		ISSUED FOR BID:	
CHECKED BY: CLR		DATE: 06/01/15		ISSUED FOR CONSTRUCTION:	
APPROVED BY: MJH		DATE: 06/03/16		DRAWING NUMBER: 24-1601-70-09-A/13.09-01	
SCALE: 1" = 50'		REVISION: 1		SHEET 1 OF 1	



**STREAM DISTURBANCE:**

STREAM WW-T03-16003C (HQ)	ACRE
TEMPORARY STREAM DISTURBANCE	0.0110
PERMANENT STREAM DISTURBANCE	0.0006
TOTAL STREAM DISTURBANCE	0.0116
TEMPORARY FLOODWAY DISTURBANCE	0.0138
PERMANENT FLOODWAY DISTURBANCE	0.0027
TOTAL FLOODWAY DISTURBANCE	0.0165

STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	5.79
STREAM LENGTH	81.27

STREAM WW-T03-16004	ACRE
TEMPORARY STREAM DISTURBANCE	0.0000
PERMANENT STREAM DISTURBANCE	0.0000
TOTAL STREAM DISTURBANCE	0.0000
TEMPORARY FLOODWAY DISTURBANCE	0.1689
PERMANENT FLOODWAY DISTURBANCE	0.0099
TOTAL FLOODWAY DISTURBANCE	0.1788

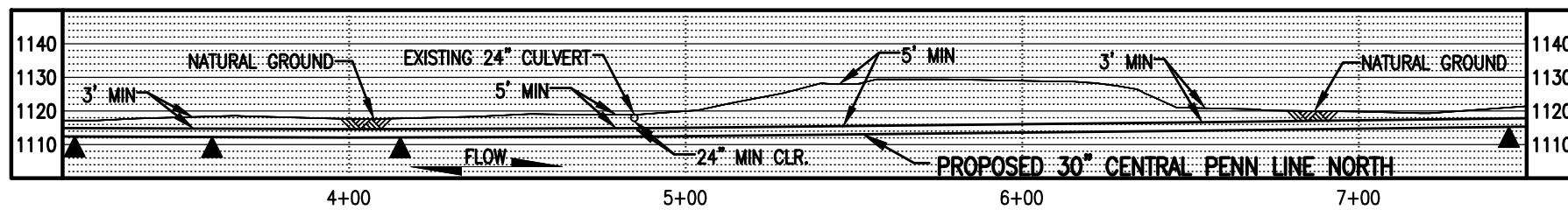
STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	0.00
STREAM LENGTH	0.00

**GENERAL NOTES:**

1. STREAM CROSSING METHOD FOR STREAM WW-T03-16003C SHALL BE CONVENTIONAL BORE (WBX.1) EQUIPMENT TO CROSS STREAM UTILIZING A BRIDGE EQUIPMENT CROSSING (BEC).
2. STREAM WW-T03-16004 DOES NOT CROSS PROPOSED PIPELINE. STREAM WILL BE MATTED DURING CONSTRUCTION.
3. THIS SITE IS LOCATED WITHIN THE 100 YEAR FLOOD PLAN FEMA FLOOD MAP DATA.
4. STATION 4+00 SHOWN IS EQUAL TO STATION 733+19 ON THE EROSION AND SEDIMENT CONTROL PLAN.

**SURVEY NOTES:**

1. T.B.M. SURVEY CONTROL POINT - 65' LT. OF M.P. 13.91, ELEV. = 1134.87' (NAVD88).



**LEGEND**

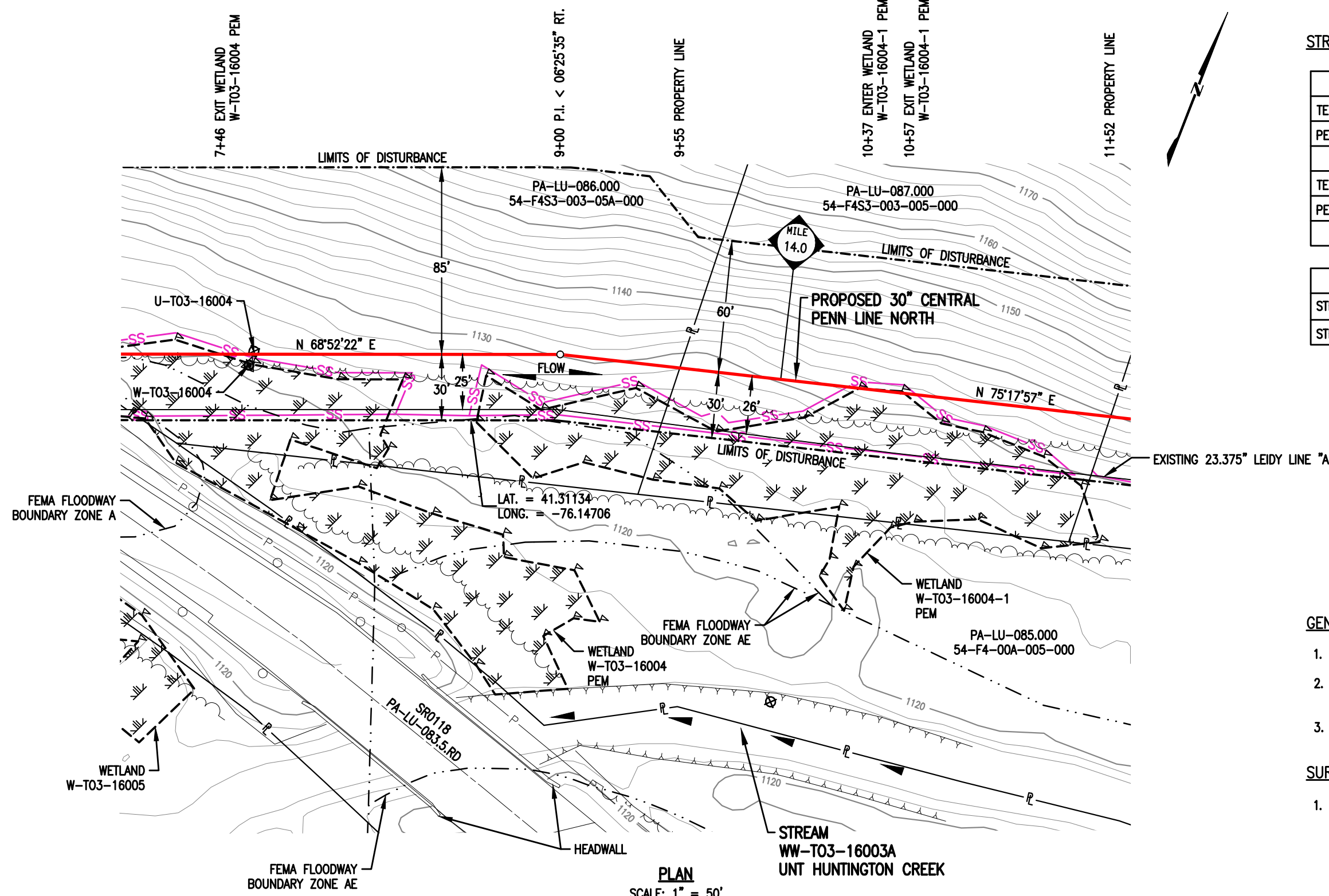
- PROPOSED 30" CENTRAL PENN LINE NORTH
- EXISTING PIPELINES
- EXISTING TGPL R/W
- LIMITS OF DISTURBANCE
- PROPOSED CPLN R/W
- PROPERTY LINE
- FOREIGN PIPELINE
- WETLAND AREA
- STREAM FLOW
- EXISTING POWER LINE
- EXISTING FENCE
- WETLAND FLAGS
- PHOTO DATA POINT
- WETLAND DATA POINT
- UPLAND DATA POINT
- 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 30" CENTRAL PENN LINE NORTH  
STREAM CROSSINGS WW-T03-16003C @ M.P. 13.90 &  
WW-T03-16004 @ M.P. 13.93  
ROSS TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA

**Williams**

DRAWING NO.	REFERENCE TITLE	NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.	DRAWN BY: LL	DATE: 12/15/14	ISSUED FOR BID:	SCALE: 1" = 50'
		0	08/19/15	THL	ISSUED FOR PADEP 105 PERMIT	1161481	CLR	MJH	CHECKED BY: CLR	DATE: 06/01/15	ISSUED FOR CONSTRUCTION:	REVISION: 2
		1	02/03/16	MH	ISSUED FOR INTERNAL USE	1161481	CLR	MJH	APPROVED BY: MJH	DATE: 06/03/16	DRAWING NUMBER: 24-1601-70-09-A/13.90-01	SHEET 1
		2	10/19/16	KB	ISSUED FOR PADEP SUBMITTAL #2	1161481	CLR	MJH	IWO: 1161481		7-11am 9/27/2016 c:\gltch K:\103646-CPLN\Mapping\Waterbodies\Revised 105\24-1601-70-09-A_13.90-01.dwg	OF 1



**STREAM DISTURBANCE:**

STREAM WW-T03-16003A	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

- GENERAL NOTES:**
1. STREAM WW-T03-16003A DOES NOT CROSS PROPOSED PIPELINE.
  2. THIS SITE IS LOCATED WITHIN THE 100 YEAR FLOOD PLAIN PER FEMA FLOOD MAP DATA.
  3. STATION 10+00 SHOWN IS EQUAL TO STATION 739+19 ON THE EROSION AND SEDIMENT CONTROL PLAN.
- SURVEY NOTES:**
1. T.B.M. SURVEY CONTROL POINT - 25' RT. OF M.P. 13.92, ELEV. = 1126.1' (NAVD88).



**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		

	12" SEDIMENT BARRIER
	18" SEDIMENT BARRIER
	24" SEDIMENT BARRIER
	32" SEDIMENT BARRIER
	PERMANENT STREAM IMPACT
	TEMPORARY STREAM IMPACT

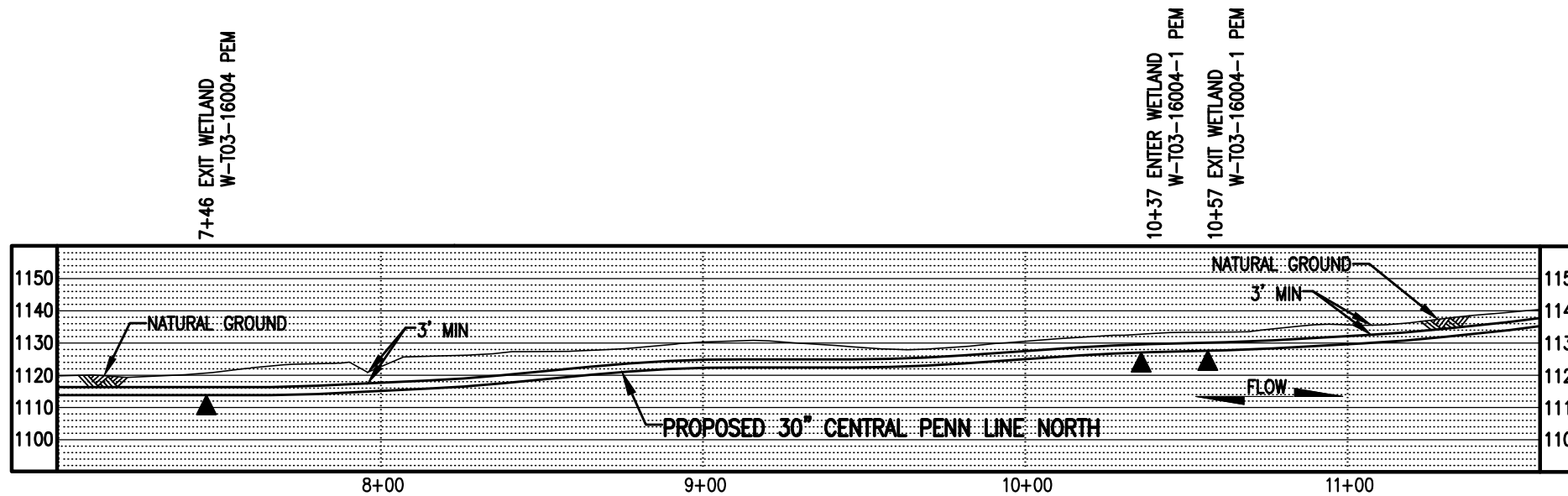
**WOOD GROUP MUSTANG, INC.**

DRAWING NO.	REFERENCE TITLE					
NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.
0	08/19/15	TL	ISSUED FOR PADEP 105 PERMIT	1161481	CLR	MJH
1	10/19/16	DG	ISSUED FOR PADEP SUBMITAL #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 CROSSING WW-T03-16003A**  
**● M.P. 13.97**  
**ROSS TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA**

**Williams**

DRAWN BY: AT	DATE: 08/13/15	ISSUED FOR BID:	SCALE: 1" = 50'
CHECKED BY: CLR	DATE: 08/13/15	ISSUED FOR CONSTRUCTION:	REVISION: 1
APPROVED BY: MJH	DATE: 08/13/15	DRAWING NUMBER: 24-1601-70-09-A/13.97-01	SHEET 1
W.O. NO.: 1161481	DATE: 9/28/2016	FILE: K:\103646-CPLN\Mapping\Waterbodies\Revised 105\24-1601-70-09-A_13.97-01.dwg	OF 2



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



**LEGEND**

	PROPOSED 30" CENTRAL PENN LINE NORTH
	EXISTING PIPELINES
	EXISTING TGPL R/W
	LIMITS OF DISTURBANCE
	PROPOSED CPLN R/W
	PROPERTY LINE
	FOREIGN PIPELINE
	WETLAND AREA
	STREAM FLOW
	EXISTING POWER LINE
	EXISTING FENCE

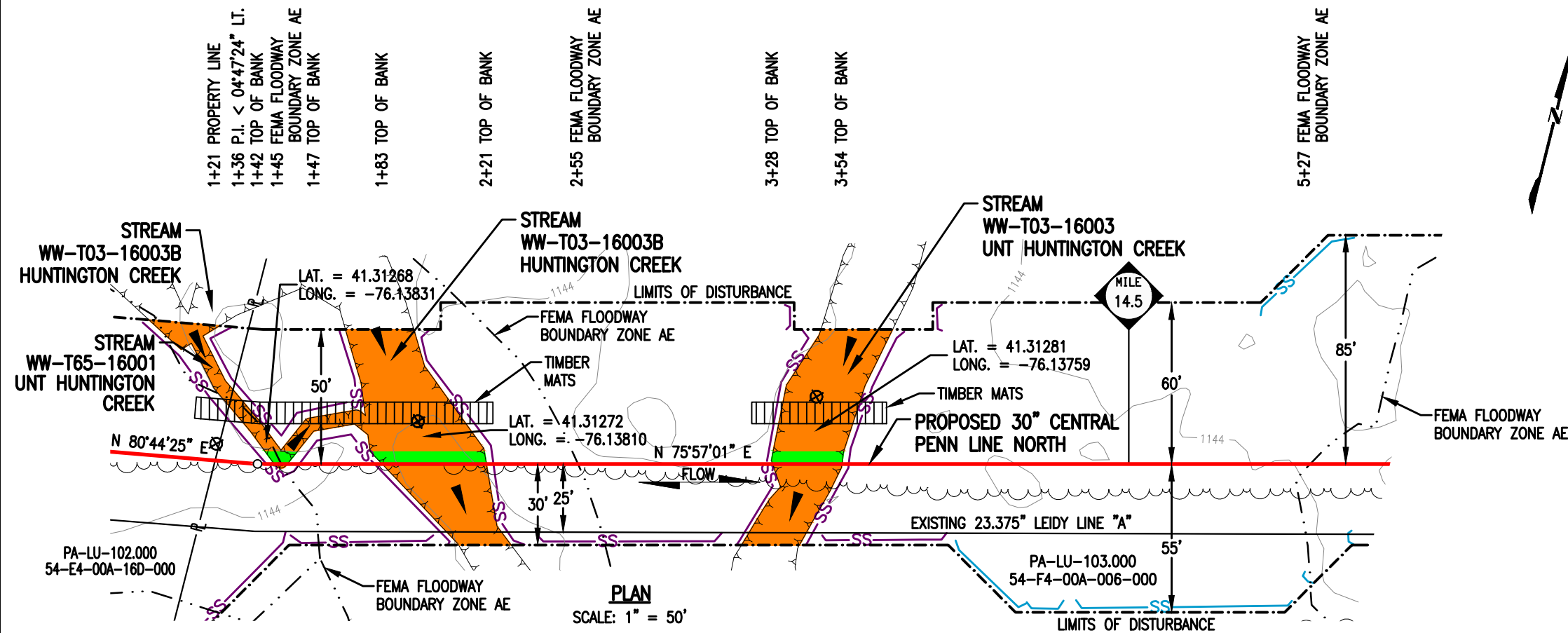
	WETLAND FLAGS
	PHOTO DATA POINT
	WETLAND DATA POINT
	UPLAND DATA POINT
	WELL POINT
	TRENCH PLUG
	WATERBODY
	TREE LINE
	FLOODWAY BOUNDARY
	FEMA FLOODWAY BOUNDARY

	<b>WOOD GROUP MUSTANG, INC.</b>
	12" SEDIMENT BARRIER
	18" SEDIMENT BARRIER
	24" SEDIMENT BARRIER
	32" SEDIMENT BARRIER
	TOP OF BANK
	PERMANENT STREAM IMPACT
	TEMPORARY STREAM IMPACT

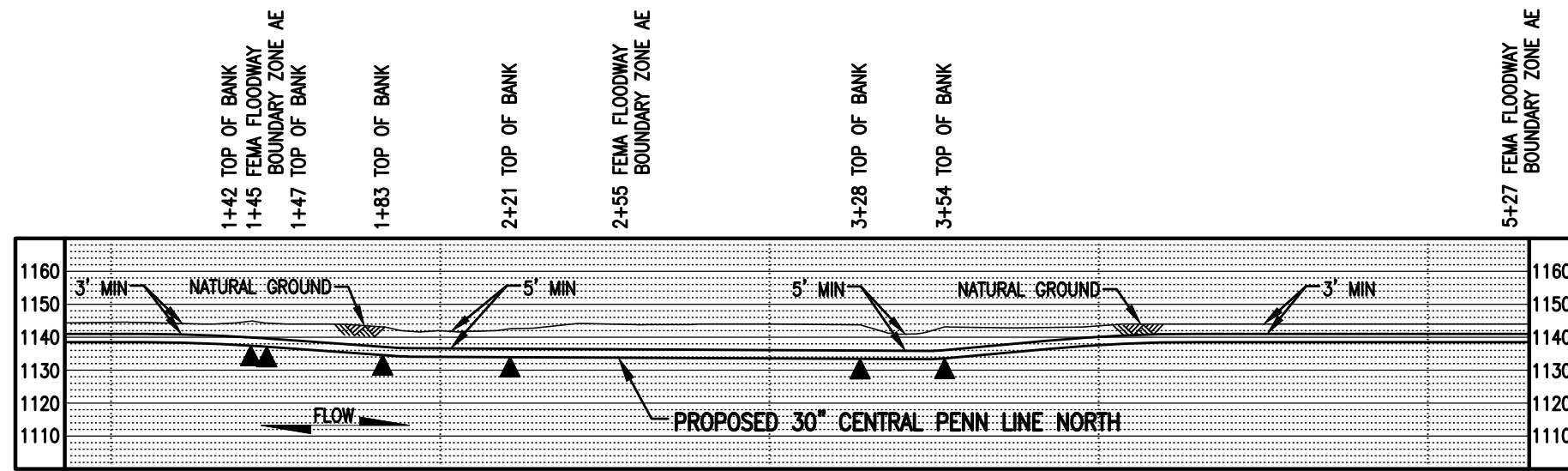
DRAWING NO.		REFERENCE TITLE	
NO.	DATE	BY	REVISION DESCRIPTION
0	08/19/15	TL	ISSUED FOR PADEP 105 PERMIT
1	10/19/16	DG	ISSUED FOR PADEP SUBMITTAL #2

**TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC**  
 WATER OBSTRUCTION AND ENCROACHMENT PERMIT IMPACT MAPS  
 ATLANTIC SUNRISE PROJECT  
 PROPOSED 30" CENTRAL PENN LINE NORTH  
 STREAM CROSSING WW-T03-16003A  
 @ M.P. 13.97  
 ROSS TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA

DRAWN BY: AT	DATE: 08/13/15	ISSUED FOR BID:	SCALE: 1" = 50'
CHECKED BY: CLR	DATE: 08/13/15	ISSUED FOR CONSTRUCTION:	REVISION: 1
APPROVED BY: MJH	DATE: 08/13/15	DRAWING NUMBER: 24-1601-70-09-A/13.97-01	SHEET 2
WO: 1161481		9/28/2016 c1gltch	OF 2



STREAM DISTURBANCE:  
SEE TABLE ON PAGE 2 OF 2



**GENERAL NOTES:**

1. STREAM CROSSING METHOD SHALL BE DAM AND PUMP (DPX). EQUIPMENT TO CROSS STREAMS 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 762+00 ON THE EROSION AND SEDIMENT CONTROL PLAN.

**SURVEY NOTES:**

1. T.B.M. SURVEY CONTROL POINT - 29.81' RT. OF M.P. 14.46, ELEV. = 1141.82' (NAVD88).



**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

DRAWING NO.		REFERENCE TITLE	
NO.	DATE	BY	REVISION DESCRIPTION
0	08/19/15	TL	ISSUED FOR PADEP 105 PERMIT
1	10/19/16	KB	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-T65-16001 @ M.P. 14.44,**  
**WW-T03-16003B @ M.P. 14.45 & WW-T03-16003 @ M.P. 14.48**  
**ROSS TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA**

**Williams**

DRAWN BY: LL	DATE: 05/15/15	ISSUED FOR BID:	SCALE: 1" = 50'
CHECKED BY: ML	DATE: 05/20/15	ISSUED FOR CONSTRUCTION:	REVISION: 1
APPROVED BY: MJH	DATE: 06/03/15	DRAWING NUMBER: 24-1601-70-09-A/14.45-01	SHEET 1
WO: 1161481		7:46am 9/27/2016 c:\gltch	OF 2

**STREAM DISTURBANCE:**

STREAM WW-T03-16003 (HQ)	ACRE
TEMPORARY STREAM DISTURBANCE	0.0433
PERMANENT STREAM DISTURBANCE	0.0030
TOTAL STREAM DISTURBANCE	0.0463
TEMPORARY FLOODWAY DISTURBANCE	0.8062
PERMANENT FLOODWAY DISTURBANCE	0.0360
TOTAL FLOODWAY DISTURBANCE	0.8422

STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	25.70
STREAM LENGTH	86.14

STREAM WW-T03-16003B (HQ)	ACRE
TEMPORARY STREAM DISTURBANCE	0.0541
PERMANENT STREAM DISTURBANCE	0.0047
TOTAL STREAM DISTURBANCE	0.0588
TEMPORARY FLOODWAY DISTURBANCE	0.0000
PERMANENT FLOODWAY DISTURBANCE	0.0000
TOTAL FLOODWAY DISTURBANCE	0.0000

STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	38.64
STREAM LENGTH	92.08

STREAM WW-T65-16001 (HQ)	ACRE
TEMPORARY STREAM DISTURBANCE	0.0098
PERMANENT STREAM DISTURBANCE	0.0010
TOTAL STREAM DISTURBANCE	0.0108
TEMPORARY FLOODWAY DISTURBANCE	0.0000
PERMANENT FLOODWAY DISTURBANCE	0.0000
TOTAL FLOODWAY DISTURBANCE	0.0000

STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	4.67
STREAM LENGTH	111.16



**LEGEND**

- PROPOSED 30" CENTRAL PENN LINE NORTH
- EXISTING PIPELINES
- EXISTING TGPL R/W
- LIMITS OF DISTURBANCE
- PROPOSED CPLN 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

- 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

DRAWING NO.		REFERENCE TITLE				
NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.
0	10/19/16	KB	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-T65-16001 @ M.P. 14.44,**  
**WW-T03-16003B @ M.P. 14.45 & WW-T03-16003 @ M.P. 14.48**  
**ROSS TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA**

DRAWN BY: LL	DATE: 05/15/15	ISSUED FOR BID:	SCALE: 1" = 50'
CHECKED BY: ML	DATE: 05/20/15	ISSUED FOR CONSTRUCTION:	REVISION: 0
APPROVED BY: MJH	DATE: 06/03/15	DRAWING NUMBER: 24-1601-70-09-A/14.45-01	SHEET 2
WO: 1161481	7:47am 9/27/2016 c:lgitch	OF 2	

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