



## Pennsylvania Fish & Boat Commission

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August 6, 2019

WHM Consulting, Inc  
ATTN Paul Fisher, PWS  
2525 Green Tech Drive, Suite B  
State College, PA 16803

I have reviewed the recently submitted Aids to Navigation Plan for the Leidy South Project, Young Woman's Creek, Chapman Twp., Clinton County. The Plan is acceptable as submitted and has been approved. All signage/buoys must be installed prior to construction and inspected frequently to ensure it is always visible to boaters. Any changes to this plan must be submitted directly to this office for further review. If buoys are to be utilized PFBC-277 Application to Install Floating Structures/Private Aids to Navigation must be submitted and approved prior to installation.

I will share the approved ATON plan with the PA Fish & Boat Commission Division of Environmental Services and the Regional Law Enforcement Office to ensure they are aware of the project. Please advise the contractor that the project site may be inspected at any time by Bureau of Law Enforcement personnel for compliance with this plan. A copy of the approved plan along with this letter should be available for inspection if requested.

Please feel free to contact me if you have any questions concerning this project or the PA Fish & Boat Commission Aids to Navigation program in general.

Sincerely,

Clyde Warner, Captain  
Bureau of Law Enforcement

Cc: (electronic) SE Region BLE-DES

### Our Mission:

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

*To protect, conserve and enhance the Commonwealth's aquatic resources and provide fishing and boating opportunities.*



***Transcontinental Gas Pipe Line Company, LLC***

***AIDS TO NAVIGATION PLAN  
Young Womans Creek (S1-T4-HL)***

***LEIDY SOUTH PROJECT  
Chapman Township  
Clinton County, Pennsylvania***

***Submitted to:  
Pennsylvania Fish and Boat Commission  
P.O. Box 67000  
Harrisburg PA 17106***

***August 2019***

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*Leidy South Project – PFBC Aids to Navigation Plan*  
*Transcontinental Gas Pipe Line Company, LLC*  
*Young Womans Creek: S1-T4-HL*

## **ATTACHMENT A**

### **PROJECT NARRATIVE**

### Project Description

Transcontinental Gas Pipe Line Company, LLC (Transco), a subsidiary of The Williams Companies, Inc. (Williams) is proposing the Leidy South Project (Project). The Project is an expansion of Transco's existing natural gas transmission system and an extension of Transco's system through a capacity lease with National Fuel Gas Supply Corporation. The Project will enable Transco to provide 582,400 dekatherms per day (Dth/d) of incremental firm transportation capacity for abundant supplies of natural gas from northern and western Pennsylvania to existing and growing markets in Transco's Zone 6

Per Chapter 113.1 of the Pennsylvania Administrative Code (Title 58 Recreation), the Pennsylvania Fish and Boat Commission regulates the placement of aids to navigation (ATON) within waters not marked by the United States Coast Guard. The Pennsylvania Fish and Boat Commission requires, "persons, including clubs, individuals, State agencies, municipalities and other groups, wishing to establish an aid shall apply for permission from the Commission." To that end, Transco is submitting this application for the placement of aids to navigation within Young Womans Creek (S1-T4-HL) associated with the construction of the Project.

A component of the Project is the Hilltop Loop. The Hilltop Loop will cross S1-T4-HL between mile post 184.9 and 185.0 in Chapman Township, Clinton County. Attachment B includes a United States Geologic Survey 7.5-Minute topographic map depicting the location of the Project's crossing. S1-T4-HL is approximately 100 feet wide at the proposed crossing location. Photographs of the proposed crossing are shown in Attachment C. Construction activities include the installation of a 36-inch natural gas pipeline with a minimum of four feet of cover over the pipeline, below the streambed, unless in shallow bedrock.

### Construction Schedule

Construction of the Project is anticipated to commence in winter 2020/2021. A final construction schedule for the Project has not been determined at this time. The Pennsylvania Fish and Boat Commission will be notified 60 days prior to the start of construction activities at the crossing of S1-T4-HL. Aid to Navigation Plan (ATON), Sign Details, and Timing

### Construction Methods

Transco proposes to utilize a dry-crossing construction method (Dam-and-Pump or Cofferdam) at the S1-T4-HL crossing. Dry-crossing construction methods are described as follows:

#### *Dam-and-Pump*

The dam-and-pump construction method is employed to temporarily divert stream flow around the construction area and discharge the water downstream. This method allows downstream flow to be maintained at all times, while also creating a dry work area. Multiple discharge pumps may be required to keep the area dry and maintain adequate flow, to avoid flooding upstream. Pumps and hoses will be sized to accommodate flow, in accordance with the applicable regulations. After the pump or pumps are installed, damming structures such as concrete jersey barriers, water bladders, port-a-dams, steel plates, and/or sand bags, are installed upstream and downstream of the proposed pipeline trench. At the time of construction, the stream will be evaluated and depending on the stream's depth, flow velocity, channel width, streambed material, and flow type, one of the above damming structures will be used.

Once the dam-and-pump and damming structures are in place, the trench will be excavated, and the pipe installed in the dry ditch. Following the installation of the pipeline, the trench will be backfilled with natural streambed material to pre-existing elevations and the dam-and-pump will be removed to allow natural flow to resume within the stream channel.

#### *Cofferdam*

The cofferdam construction method involves the installation of temporary dam that extends from one stream bank to approximately the center of the stream channel, which allows for the diversion of stream flow to the opposite half of the stream channel; thereby, maintaining downstream flow at all times. Prior to excavation, sandbags, sandbag/plastic sheeting diversion structures, metal road plates or the equivalent, will be used to develop an effective seal, and to divert stream flow through to the opposite side of the stream channel.

During excavation, equipment will only work within the dry area behind the cofferdam, while regular flow is maintained outside of this area within the remaining portion of the stream channel. The pipeline will be placed approximately halfway across the stream, and the trench will be

backfilled to pre-existing elevations with natural streambed material. The coffer dam will remain in place and be maintained until restoration of the waterbody is complete for that portion of the installation. Following restoration, the cofferdam will be removed and installed from the opposite bank for the remaining half of the pipeline installation, which will follow the above-referenced procedures.

The Young Womans Creek, at the project location, is not large enough for motorized boats, therefore the plan is developed to provide safety for non-motorized boats (canoes and kayaks) which will travel in a southwestern direction with flow. To enable navigation safely around the work area, signage will be placed as shown on the attached plan and will include warning, portage, and exit signs (as needed). Details for each sign are attached. Signs will be placed at least two weeks prior to commencement of the crossing and will remain in place for the duration of the construction. Upon completion of all work, the signs will be removed.

#### Signage / Plan Routing Details

Proposed signage will be placed in accordance with U.S. Coast Guard and Pennsylvania Fish and Boat Commission specifications and will consist of rectangular information signs showing the location of the submerged pipeline and the portage area. Signage will be placed at least two weeks prior to the commencement of the crossing and will remain in place for the duration of construction. Canoers and kayakers will be instructed to exit on the right side facing downstream of the creek above and below the project area.

A plan view of the proposed signage locations are shown in Attachments D & E. Signs will be worded as follows:

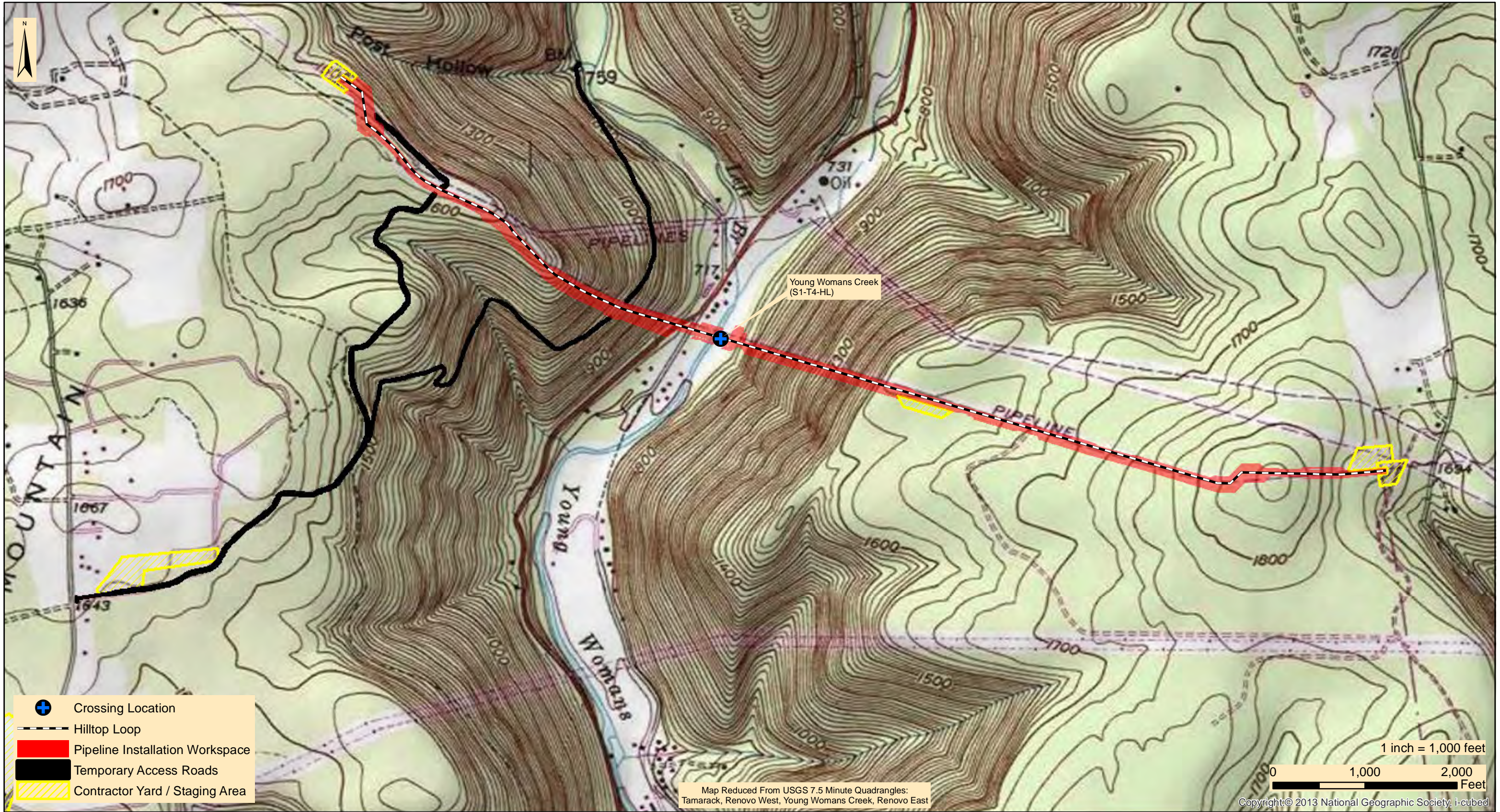
1. WARNING – PIPELINE CONSTRUCTION USE EXTREME CAUTION WHEN BOATING IN THIS AREA.
2. PORTAGE 200 FEET AHEAD
3. PORTAGE – ALL BOATS EXIT HERE
4. BOATS KEEP OUT
5. PORTAGE – ALL BOATS RE-ENTER HERE

*Leidy South Project – PFBC Aids to Navigation Plan*  
*Transcontinental Gas Pipe Line Company, LLC*  
*Young Womans Creek: S1-T4-HL*

## **ATTACHMENT B**

### **PROJECT CROSSING LOCATION MAP**





2525 Green Tech Drive, Suite B,  
State College, PA 16803  
Tele: 814.689.1650 Fax: 814.689.1557

## TRANSCONTNENTAL GAS PIPE LINE COMPANY, LLC LEIDY SOUTH PROJECT

LEIDY LINE D 36" HILLTOP LOOP  
AIDS TO NAVIGATION PLAN  
PROJECT CROSSING LOCATION MAP

CHAPMAN TOWNSHIP

CLINTON COUNTY

PENNSYLVANIA

Date:	07/30/19
WHM DRAWING NUMBER:	WILLIAMS201B002
Drawn By:	KMC
Figure Number:	1



*Leidy South Project – PFBC Aids to Navigation Plan*  
*Transcontinental Gas Pipe Line Company, LLC*  
*Young Womans Creek: S1-T4-HL*

## **ATTACHMENT C**

## **PHOTOGRAPHS**



ID: Photo 1

Date: 4/04/2019

Taken by: DW

Comments:  
This photo depicts a northwestern view looking across Young Womans Creek.



ID: Photo 2

Date: 4/04/2019

Taken by: DW

Comments:  
This photo shows a southwestern view looking downstream of Young Womans Creek





ID: Photo 3

Date: 4/04/2019

Taken by: DW

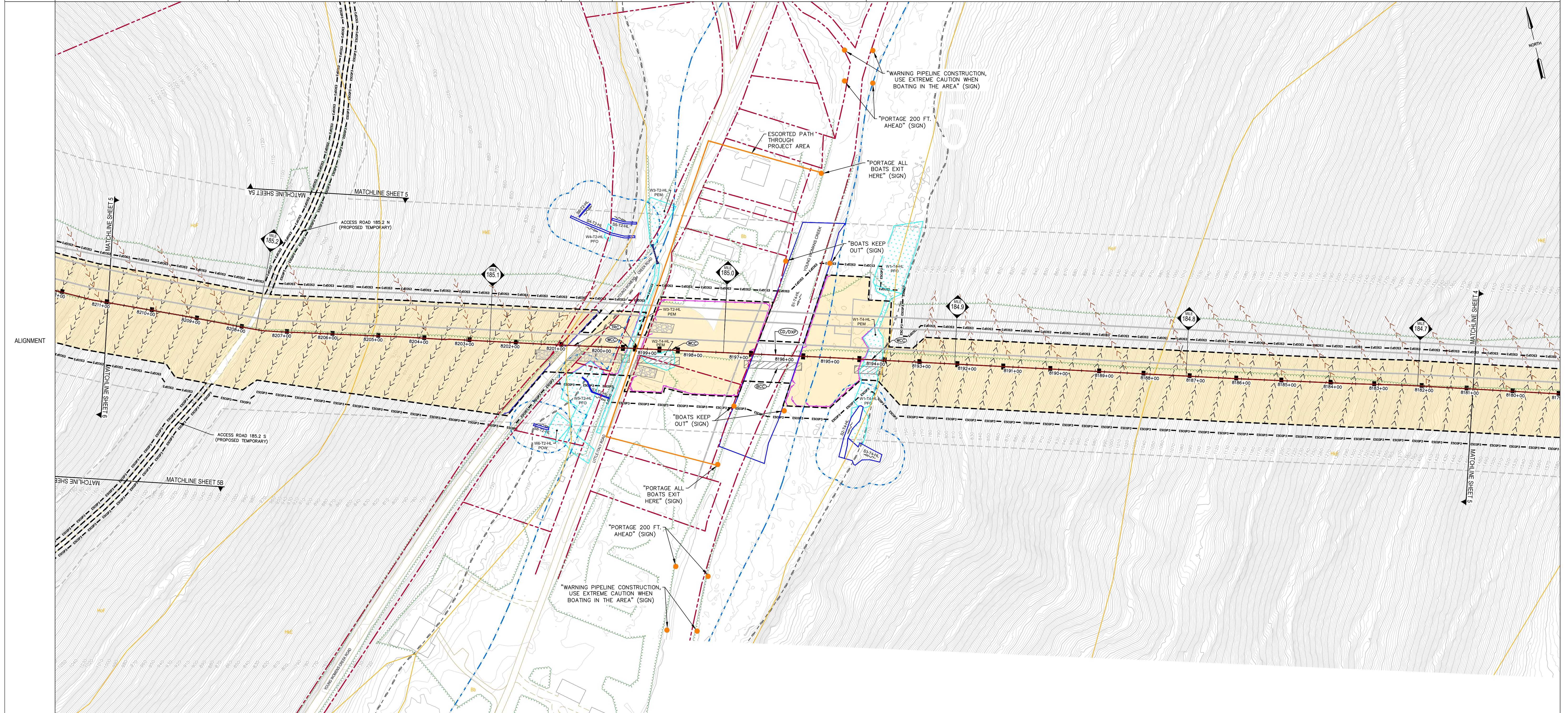
Comments:  
This photo depicts a northern view looking upstream of Young Womans Creek.

*Leidy South Project – PFBC Aids to Navigation Plan*  
*Transcontinental Gas Pipe Line Company, LLC*  
*Young Womans Creek: S1-T4-HL*

**ATTACHMENT D**  
**SITE SPECIFIC PLAN DRAWING**



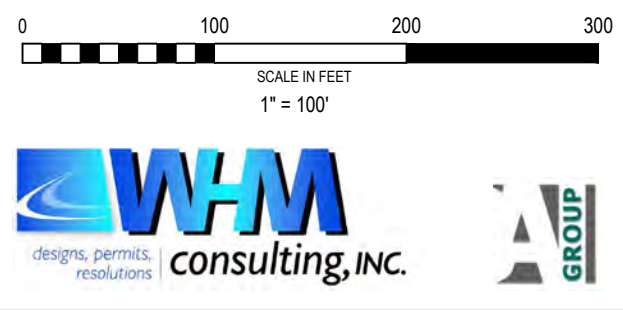
OWNERSHIP & TRACT NUMBER	MARK D. MCALANIS 7-25915										MARK A. JONES 7-3928-33		MARK A. JONES 7-3928-33		THOMAS WILSON 7-3934		MUNICIPAL BOUNDARY		ESTATE OF ROBERT J. GLEICHERT 7-4063																																									
PROFILE (MIN. PIPE DEPTH)	3'										5'		3'		5'		3'		4'		3'																																							
COVER TYPE	MIXED FOREST LAND/MAINTAINED ROW												WETLAND/RESIDENTIAL AREA/MAINTAINED ROW				OPEN WATER				WETLAND		MIXED FOREST LAND/MAINTAINED ROW																																					
SOIL TYPE	HoF										HKE										Bb										HoF										HKE																			
AVERAGE % SLOPE	60%										21%										53%																				<2%										55%									




### LEGEND

->->->-	PROPOSED WATERBAR AND OUTLET STRUCTURE	---	PROPERTY LINE	~~~~~	12" COMPOST FILTER SOCK	Bb	BARBOUR-CRAIGSVILLE COMPLEX
	TRENCH PLUG	---	EXISTING LEIDY / TGPL PIPELINES	~~~~~	18" COMPOST FILTER SOCK	HkE	HAZLETON CHANNERY SANDY LOAM, RUBBLY, 25 TO 80% SLOPES
	EROSION CONTROL BLANKET	---	EXISTING FOREIGN PIPELINES	~~~~~	24" COMPOST FILTER SOCK	Hof	HAZLETON-LAIDIG GRAVELLY LOAM, EXTREMELY STONY, 25 TO 50% SLOPES
	ROCK CONSTRUCTION ENTRANCE	---	EXISTING UTILITY POLE / TOWER	~~~~~	32" COMPOST FILTER SOCK		
	RIPARIAN PLANTING AREAS	---	EXISTING UTILITY LINE	~~~~~	COMPOST FILTER SOCK SEDIMENT TRAP		
---	PROPOSED PIPELINE	---	EXISTING VALVE				
---	ESCCP-3 PERMIT BOUNDARY	---	EXISTING CULVERT				
---	LIMITS OF DISTURBANCE	---	EXISTING FENCE				
---	APPROX. ENVIRONMENTAL STUDY LIMITS	---	PROPOSED FENCE				
---	DELINEATED WETLAND	---	EXISTING STRUCTURE				
---	DELINEATED WATERWAY / STREAM (TOP OF BANK)	---	EXISTING ROAD (GRAVEL)				
---	STREAM FLOW DIRECTION	---	EXISTING ROAD (PAVED)				
---	50'/FEMA FLOODWAY	---	EXISTING GRAVEL AREAS				
---	FEMA 100-YEAR FLOODPLAIN	---	PROPOSED GRAVEL				
---	SOIL BOUNDARY / TYPE	---	EXISTING GRADE CONTOURS (10' C.I.)				
---	EXISTING TREELINE / TREE/SHRUB	---	EXISTING GRADE CONTOURS (2' C.I.)				
---	APPROXIMATE EXISTING WATERBAR						
---	TIMBER MAT/BRIDGE						

### SOIL LEGEND



REVISIONS								
NO.	DATE	BY	DESCRIPTION	W.O. NO.	CHK.	APP.		
							TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC LEIDY SOUTH PROJECT - HILLTOP LOOP YOUNG WOMANS CREEK SITE SPECIFIC CONSTRUCTION PLAN  CHAPMAN TOWNSHIP, CLINTON COUNTY, PENNSYLVANIA	
DRAWN BY:				DATE: 7/22/19		ISSUED FOR BID:		SCALE: 1" = 100'
CHECKED BY:				DATE:		ISSUED FOR CONSTRUCTION:		REVISION:
APPROVED BY:				DATE:				SHEET 1
W.O. 1211227				R.D.		DRAWING NUMBER:		OF 5



PIPELINE WORK SEQUENCE AT YOUNG WOMAN CREEK CROSSING

- MAKE NOTIFICATIONS TO THE PA FISH AND BOAT COMMISSION A MINIMUM OF 10 DAYS PRIOR TO CONSTRUCTION.
- INSTALL APPROPRIATE PFBC AID TO NAVIGATION SIGNAGE.
- PRIOR TO INITIATING CONSTRUCTION OF A STREAM CHANNEL LARGER THAN 10 FEET CONTRACTORS AND ENVIRONMENTAL INSPECTOR SHALL EVALUATE WEATHER FORECASTS FOR ANTICIPATED INCLEMENT WEATHER WHICH MAY RESULT IN FLOW CONDITIONS UNSUITABLE FOR CONSTRUCTION. BEFORE CONSTRUCTION OF A STREAM CROSSING GREATER THAN 10 FEET, ENVIRONMENTAL INSPECTOR, FOREMAN, AND ANY OTHER RESPONSIBLE INDIVIDUAL SHOULD SIGN-OFF THAT THE CROSSING CAN BE CONSTRUCTED DURING THE SPECIFIC TIME FRAME.
- IF INCLEMENT WEATHER IS ANTICIPATED, A CONTINGENCY PLAN WILL BE DISCUSSED TO AVOID THE STREAM CROSSING DURING THE POTENTIALLY UNSUITABLE CONDITIONS.
- AFTER INSTALLATION OF APPROPRIATE E&S BMPs, INSTALL TEMPORARY EQUIPMENT BRIDGE IN ACCORDANCE WITH DETAILS.
- FOR DRY OPEN CUT CROSSINGS, INSTALL DAM AND PUMP OR COFFERDAM AS DESCRIBED IN STREAM CROSSING DETAILS.
- DEWATER WORK AREA. WATER FROM THE EXCAVATION SHALL BE PUMPED TO A SEDIMENT FILTER BAG. WHERE POSSIBLE, EXCAVATION SHALL BE FROM THE TOP OF THE STREAM BANK.
- INSTALL PIPE.
- A UTILITY LINE CROSSING OF A STREAM CHANNEL (DITCHING AND STABILIZATION FROM TOP OF BANK TO TOP OF BANK) SHALL BE COMPLETED WITHIN 24 HOURS FOR STREAM CHANNELS 10 FEET OR LESS AND 48 HOURS FOR STREAM CHANNELS BETWEEN 10 – 100 FEET UNLESS SPECIFICALLY OUTLINED IN THE APPROVED PERMIT OR AUTHORIZED BY PADEP.
- STABILIZE CHANNEL EXCAVATION AND STREAM BANKS PRIOR TO REDIRECTING STREAM FLOW.

WARNING

PIPELINE CONSTRUCTION USE EXTREME CAUTION WHEN BOATING IN THIS AREA

PORTAGE

200 FEET AHEAD

PORTAGE

ALL BOATS EXIT HERE

BOATS

KEEP OUT

PORTAGE

ALL BOATS RE-ENTER HERE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.

ATON AID TO NAVIGATION (ATON) SIGNAGE

PADEP STANDARD NOTES:

- GRUBBING SHALL NOT TAKE PLACE WITHIN 50 FEET OF TOP-OF-BANK UNTIL ALL MATERIALS REQUIRED TO COMPLETE CROSSING ARE ON SITE AND PIPE IS READY FOR INSTALLATION.
- TRENCH PLUG SHALL BE INSTALLED WITHIN THE TRENCH ON BOTH SIDES OF THE WATERBODY CHANNEL.
- WATER ACCUMULATING WITHIN THE WORK AREA SHALL BE PUMPED TO A PUMPED WATER FILTER BAG OR SEDIMENT TRAP PRIOR TO DISCHARGING INTO ANY SURFACE WATER.
- HAZARDOUS OR POLLUTANT MATERIAL STORAGE AREAS SHALL BE LOCATED AT LEAST 100 FEET BACK FROM THE TOP OF WATERBODY BANK.
- ALL EXCESS EXCAVATED MATERIAL SHALL BE IMMEDIATELY REMOVED FROM THE WATERBODY CROSSING AREA.
- ALL DISTURBED AREAS WITHIN 50 FEET OF TOP-OF-BANK SHALL BE BLANKETED OR MATTED WITHIN 24 HOURS OF INITIAL DISTURBANCE FOR MINOR WATERBODIES OR 48 HOURS OF INITIAL DISTURBANCE FOR INTERMEDIATE WATERBODIES UNLESS OTHERWISE AUTHORIZED (SEE INSTREAM CROSSING DURATION TABLE).

WILLIAMS STANDARD NOTES:

- THE WATERBODY CROSSING WILL GENERALLY BE COMPLETED IN 2 STAGES. THE DETAIL DEPICTS STAGE 1. STAGE 2 WILL GENERALLY BE COMPLETED USING THE SAME CONFIGURATION FROM THE OPPOSITE BANK;
- CONSTRUCTION OF THE STREAM CROSSING (FROM CLEARING OF VEGETATION TO FINAL RESTORATION) SHOULD BE CONDUCTED "AS QUICKLY AS POSSIBLE";
- THE 24-48 HOUR TIMEFRAME FOR MINOR AND MAJOR WATERBODY CROSSINGS BEGINS WHEN DITCHING OCCURS WITHIN THE STREAM TOP OF BANK;
- THE PROVIDED "INSTREAM CROSSING DURATION" TABLE OUTLINES STREAM CROSSING ASSOCIATED WITH THE PROJECT AND SPECIFIES CERTAIN CROSSINGS WHERE DITCHING IN STREAMS IS EXPECTED TO TAKE LONGER THAN THE 24 OR 48 HOURS. APPROVAL OF THIS PERMIT INCLUDES THE AUTHORIZATION TO EXCEED 24-48 HOUR TIMEFRAMES WHERE SPECIFIED.
- SANDBAG DAM MAY BE SUBSTITUTED WITH METAL/ROAD PLATE(S) OR EQUIVALENT.

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC  
STANDARD ENVIRONMENTAL DETAIL

CD COFFERDAM STREAM CROSSING

Williams

STANDARD CONSTRUCTION DETAIL #13-2  
Typical Utility Line Stream Crossing with Pump Bypass

PA DEP

Grubbing shall not take place within 50 feet of top-of-bank until all materials required to complete crossing are on site and pipe is ready for installation.

Bypass pump intake shall be maintained a sufficient distance from the bottom to prevent pumping of channel bottom materials.

Trench plugs shall be installed within the trench on both sides of the stream channel (Standard Construction Detail #13-4).

Water accumulating within the work area shall be pumped to a pumped water filter bag or sediment trap prior to discharging into any receiving surface water.

Hazardous or pollutant material storage areas shall be located at least 100 feet back from the top of streambank.

All excess excavated material shall be immediately removed from the stream crossing area.

All disturbed areas within 50 feet of top-of-bank shall be blanketed or matted within 24 hours of initial disturbance for minor streams or 48 hours of initial disturbance for major streams unless otherwise authorized.

Appropriate streambank protection shall be provided within the channel.

(SEE INSTREAM CROSSING DURATION TABLE).

WILLIAMS STANDARD NOTES:

- CONSTRUCTION OF THE STREAM CROSSING (FROM CLEARING OF VEGETATION TO FINAL RESTORATION) SHOULD BE CONDUCTED "AS QUICKLY AS POSSIBLE";
- THE 24-48 HOUR TIMEFRAME FOR MINOR AND MAJOR WATERBODY CROSSINGS BEGINS WHEN DITCHING OCCURS WITHIN THE STREAM TOP OF BANK;
- THE PROVIDED "INSTREAM CROSSING DURATION" TABLE OUTLINES STREAM CROSSING ASSOCIATED WITH THE PROJECT AND SPECIFIES CERTAIN CROSSINGS WHERE DITCHING IN STREAMS IS EXPECTED TO TAKE LONGER THAN THE 24 OR 48 HOURS. APPROVAL OF THIS PERMIT INCLUDES THE AUTHORIZATION TO EXCEED 24-48 HOUR TIMEFRAMES WHERE SPECIFIED.
- DAM-AND-PUMPS MAY ONLY BE IN THE STREAM FOR TWO WEEKS.
- SANDBAG DAM MAY BE SUBSTITUTED WITH METAL/ROAD PLATE(S) OR EQUIVALENT.

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC  
STANDARD ENVIRONMENTAL DETAIL

DPX DAM AND PUMP STREAM CROSSING

Williams

NOTES:

- SEED AND SOIL AMENDMENTS SHALL BE APPLIED ACCORDING TO THE RATES IN THE PLAN DRAWINGS PRIOR TO INSTALLING THE BLANKET.
- PROVIDE ANCHOR TRENCH AT TOE OF SLOPE IN SIMILAR FASHION AS AT TOP OF SLOPE.
- SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS, AND GRASS.
- BLANKET SHALL HAVE GOOD CONTINUOUS CONTACT WITH UNDERLYING SOIL THROUGHOUT ENTIRE LENGTH. LAY BLANKET LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH SOIL. DO NOT STRETCH BLANKET.
- STAPLING OF THE BLANKET SHALL BE DONE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- BLANKETED AREAS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT UNTIL PERENNIAL VEGETATION IS ESTABLISHED TO A MINIMUM UNIFORM 70% COVERAGE THROUGHOUT THE BLANKETED AREA. DAMAGED OR DISPLACED BLANKETS SHALL BE RESTORED OR REPLACED WITHIN 4 CALENDAR DAYS.
- BIODEGRADABLE STAPLES SHALL BE USED.

WILLIAMS SUPPLEMENTAL NOTES:

- CONTRACTOR SHALL USE SINGLE MAT STRAW FOR SLOPES FLATTER THAN 3:1.
- HYDRAULIC APPLIED EROSION CONTROL BLANKETS MAY BE USED IN LIEU OF ECB.
- EROSION CONTROL MATS SHOULD CONSIST OF NATURAL MATERIALS. NO PLASTIC OR SYNTHETIC MATERIALS SHALL BE USED. MATTING SUCH AS NORTH AMERICAN GREEN S150BN OR EQUIVALENT SHALL BE USED.

NOTE: THIS WILLIAMS STANDARD DETAIL IS BASED ON PADEP STANDARD CONSTRUCTION DETAIL #11-1.

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC  
STANDARD ENVIRONMENTAL DETAIL

ECB EROSION CONTROL BLANKET

Williams

NOTES:

- THIS TYPE OF BRIDGE IS GENERALLY USED FOR INTERMEDIATE TO LARGE STREAM CROSSINGS GREATER THAN 20' IN WIDTH IN COMBINATION WITH A PROPER STREAM BANK CONFIGURATION.
- BOTTOM CHORD OF BRIDGE STRUCTURE SHALL BE CONSTRUCTED ABOVE ORDINARY HIGH WATER MARK/TOP OF BANK.
- BRIDGE TO REMAIN IN PLACE UNTIL THE COMPLETION OF FINAL RESTORATION.
- A "SKIRT" FORMED OF GEOTEXTILE FABRIC OR EQUIVALENT SHALL BE PLACED ON THE SIDES AND BOTTOM OF THE BRIDGE TO TRAP SEDIMENT.
- INDIVIDUAL MATS SHALL BE ANCHORED AND BUTTED TIGHTLY TO MINIMIZE THE INTRODUCTION OF SEDIMENT TO THE WATER BODY.
- COMPOST FILTER SOCK WILL BE PLACED AT THE EDGE OF EQUIPMENT BRIDGE AT THE END OF THE WORK DAY TO PREVENT EROSION BUT WILL BE REMOVED DURING CONSTRUCTION ACTIVITY.
- CONTRACTOR SHALL EXTEND TIMBER MAT BRIDGE A MINIMUM OF 10' BEYOND TOP OF STREAM BANK. ABUTMENTS MAY BE KEYED INTO BANK WHERE NEEDED TO INSURE SAFETY.
- BRIDGES SHALL BE ADEQUATELY ANCHORED AT BOTH ENDS.
- PERIODICALLY CHECK BRIDGE INSTALLATION AND REMOVE BUILD-UP OF SEDIMENT OR DEBRIS ON BRIDGE.
- BRIDGE APPROACHES SHALL BE TIMBER EQUIPMENT MATS.
- MATERIALS PLACED ALONG STREAM CHANNEL SHALL BE COMPLETELY REMOVED DURING FINAL CLEANUP. REMOVAL OF THIS STRUCTURE IS NOT CONTINGENT UPON ESTABLISHMENT OF PERMANENT VEGETATION.
- RUNOFF FROM ROADWAY SHALL BE DIVERTED OFF THE ROADWAY AND INTO A SEDIMENT REMOVAL BMP BEFORE IT REACHES THE ROCK APPROACH TO THE CROSSING.
- INSTALLATION AND REMOVAL OF INSTREAM SUPPORT SHALL ADHERE TO TIME OF YEAR RESTRICTIONS.

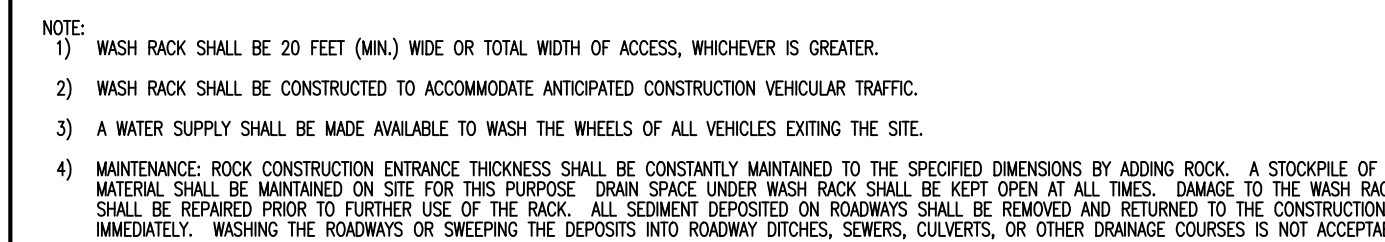
NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC  
STANDARD ENVIRONMENTAL DETAIL

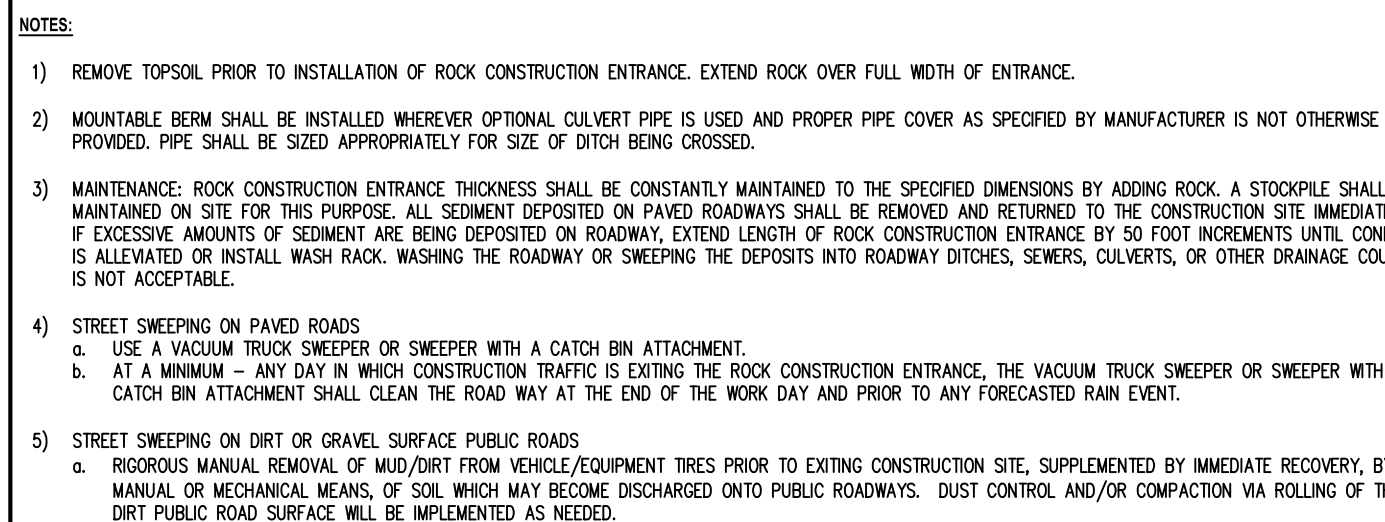
BCC BRIDGE EQUIPMENT CROSSING WITH CENTERED OR MULTIPLE SUPPORTS

Williams

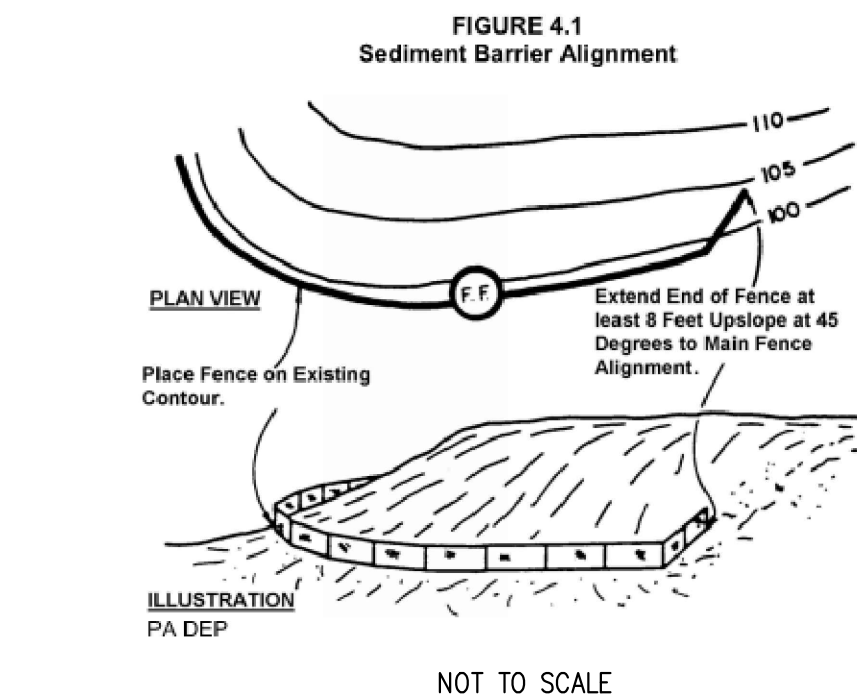




### Example Alternative Rock Construction Entrance



## PENNsylvania

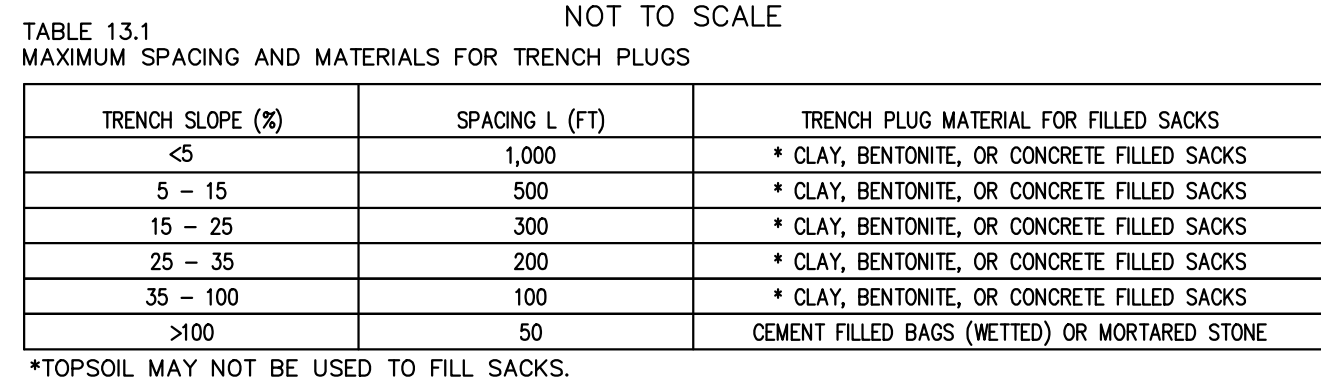
[illegible]

NOT TO SCALE

- NOTES:**
1. ALL MATERIAL TO MEET MANUFACTURER SPECIFICATIONS.
  2. COMPOST FILTER SOCK FILL TO MEET APPLICATION REQUIREMENTS.
  3. COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY CONSTRUCTION CONTRACTOR.
  4. COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE SOCK SHALL BE EXTENDED AT LEAST 10 FEET UP SLOPE AT 45 DEGREES TO THE MAIN SOCK ALIGNMENT.
  5. TRAFFIC SHALL NOT BE PERMITTED TO CROSS FILTER SOCKS.
  6. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES 1/2 THE ABOVE GROUND HEIGHT OF THE SOCK AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN.
  7. SOCKS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION WITH ADDITIONAL SOCK OR ROCK FILLER.
  8. BIODEGRADABLE FILTER SOCK SHALL BE REPLACED AFTER 6 MONTHS; PHOTODEGRADABLE SOCKS AFTER 1 YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
  9. UPON STABILIZATION OF THE AREA TRIBUTARY TO THE SOCK, STAKES SHALL BE REMOVED. THE SOCK MAY BE LEFT IN PLACE AND VEGETATED OR REMOVED. IN THE LATTER CASE, THE MESH SHALL BE CUT OPEN AND THE MULCH SPREAD AS A SOIL SUPPLEMENT.

ORGANIC MATTER CONTENT	25% - 100% (DRY WEIGHT BASIS)
ORGANIC PORTION	FIBROUS AND ELONGATED
pH	5.5 - 8.5
MOISTURE CONTENT	30% - 60%
PARTICLE SIZE	30% - 50% PASS THROUGH 3/8" SIEVE
SOLUBLE SALT CONCENTRATION	5.0 dS/m (mmhos/cm) MAXIMUM

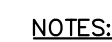
MATERIAL TYPE	3 mil HDPE	5 mil HDPE	5 mil HDPE	MULTI-FILAMENT POLYPROPYLENE (MEPP)	HEAVY-DUTY MULTI-FILAMENT POLYPROPYLENE (HDMEPP)
MATERIAL CHARACTERISTICS	PHOTO- DEGRADABLE	PHOTO- DEGRADABLE	BIO- DEGRADABLE	PHOTO- DEGRADABLE	PHOTO- DEGRADABLE
SOCK DIAMETERS	12" 18"	12" 18" 24" 32"	12" 18" 24" 32"	12" 18" 24" 32"	12" 18" 24" 32"
MESH OPENING	3/8"	3/8"	3/8"	3/8"	1/8"
TENSILE STRENGTH		26 psi	26 psi	44 psi	202 psi
ULTRAMOLECULAR STABILITY & ORIGINAL STRENGTH (ASTM G-155)	23% at 1000 hr.	23% at 1000 hr.		100% at 1000 hr.	100% at 1000 hr.
MINIMUM FUNCTIONAL LONGEVITY	6 MONTHS	9 MONTHS	6 MONTHS	1 YEAR	2 YEARS
TWO-PLY SYSTEMS					
INNER CONTAINMENT NETTING	HOPE BIAxIAL NET CONTINUOUSLY WOUND				
	FUSION-WELDED JUNCTURES 3/4" x 3/4" MAX. APERTURE SIZE				
OUTER FILTRATION MESH	COMPOSITE POLYPROPYLENE FABRIC (WOVEN LAYER AND NON-WOVEN FLEECE MECHANICALLY FUSED VIA NEEDLE PUNCH)				
	3/16" MAX. APERTURE SIZE				
SOCK FABRICS COMPOSED OF BURLAP MAY BE USED ON PROJECTS LASTING 6 MONTHS OR LESS.					

[illegible]

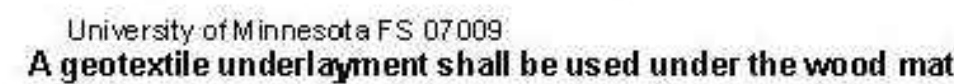
NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC  
STANDARD ENVIRONMENTAL DETAIL

TP TRENCH PLUG INSTALLATION




1. 10 LINEAR FEET OF 18 INCH COMPOST FILTER SOCK (CFS) SHALL BE INSTALLED WITH ONE END RESTING ON THE WATERBAY AS PER DETAIL CFS, ALLOWING FOR 8 FEET OF EFFECTIVE LENGTH AND A SPECIFIED FLOW THROUGH RATE OF 15 GALLONS PER MINUTE PER LINEAR FOOT, A PASS THROUGH FLOW OF 0.26 CUBIC FEET PER SECOND CAN BE ACCOMMODATED THROUGH THE FILTER SOCK. THIS FLOW RATE IS ADEQUATE FOR 20,000 SQUARE FEET OF DRAINAGE AREA FOR THE 2-YEAR, 24-HOUR STORM. 5 MINUTE TIME OF CONCENTRATION (RATIONAL METHOD).
2. CONSTRUCTION OF A 24" WIDE AND 24" DEEP SUMP AT THE DISCHARGE END OF THE WATERBAY WILL REDUCE VELOCITY AND PROVIDE A SHEET FLOW CONDITION TO THE CFS. THE SUMP SHALL BE MAINTAINED AND CLEANEDOUT WHEN IT BECOMES A MINIMUM OF 12" DEEP. THE SUMP SHALL BE FILLED AND STABILIZED WHEN THE CFS IS REMOVED AFTER SITE STABILIZATION.
3. TRAFFIC SHALL NOT BE PERMITTED TO CROSS FILTER SOCKS.
4. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES HALF THE ABOVEGROUND HEIGHT OF THE SOCK AND DISPOSED IN ACCORDANCE WITH WILLIAMS STANDARD. SOCKS DAMAGED BY INSPECTION SHALL BE REPLACED AFTER EACH RUNOFF EVENT. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION.
5. BIODEGRADABLE FILTER SOCK SHALL BE REPLACED AFTER 6 MONTHS. PHOTODEGRADABLE SOCKS AFTER 1 YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

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TRANSCONTINENTAL GAS PIPE LINE CORPORATION  
STANDARD ENVIRONMENTAL DETAIL



MAT.1

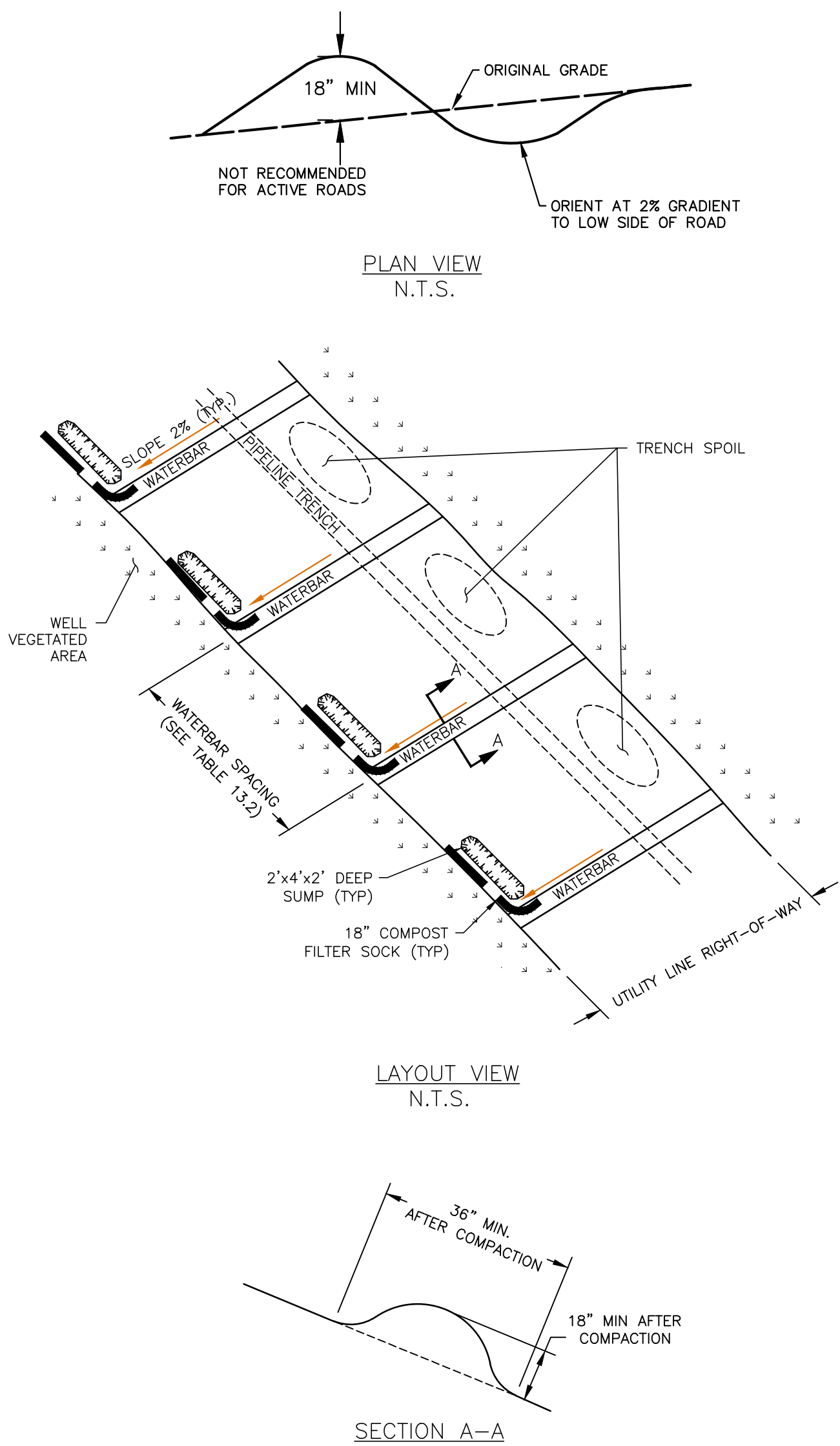
TIMBER MATTING CONSTRUCTION

KEYN CLARK, P.E.	REVISIONS							TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC LEIDY SOUTH PROJECT - HILLTOP LOOP YOUNG WOMANS CREEK SITE SPECIFIC CONSTRUCTION PLAN DETAILS <b>CHAPMAN TOWNSHIP, CLINTON COUNTY, PENNSYLVANIA</b>  
	NO.	DATE	BY	DESCRIPTION	W.O. NO.	CHK.	APP.	

DRAWN BY:	DATE: 7/22/19	ISSUED FOR BID:	SCALE: 1" = 1"
CHECKED BY:	DATE:	ISSUED FOR CONSTRUCTION:	REVISION:
APPROVED BY:	DATE:	DRAWING NUMBER:	SHEET 3 OF 5
WO: 1211227	RID:		

PENNSYLVANIA PROFESSIONAL ENGINEERS' NO.  
P.E. NO. \_\_\_\_\_





- NOTES:
1. DURING CONSTRUCTION, WATERBARS SHALL BE PREPARED AT THE END OF EACH WORK DAY AND PRIOR TO STORM EVENTS.
  2. AFTER EARTH DISTURBING WORK HAS BEGUN, WATERBARS SHALL BE INSTALLED AT THE SPACING SHOWN IN THE ABOVE TABLE OR AS SHOWN ON THE DRAWINGS. WATERBARS SHALL BE IMMEDIATELY STABILIZED WITH EROSION CONTROL BLANKET.
  3. TEMPORARY AND PERMANENT WATERBARS ARE REQUIRED AT ALL WATERBODY CROSSINGS AND UPSLOPE FROM ALL WETLAND BOUNDARIES.
  4. THE WATERBAR OUTLET SHALL BE LOCATED WHERE RUNOFF WILL BE RELEASED ONTO AN EXISTING WELL-VEGETATED AREA. AN OUTLET STRUCTURE (OS) MUST BE INSTALLED AT THE WATERBAR OUTLET.
  5. WHEREVER EDIBLE SOILS ARE PRESENT, OR WHERE THERE IS NOT A SUFFICIENT VEGETATIVE FILTER STRIP BETWEEN THE WATERBAR AND A RECEIVING SURFACE WATER, THE WATERBAR SHOULD BE PROVIDED WITH A TEMPORARY PROTECTIVE LINER.

TABLE 3.1 - MAXIMUM WATERBAR SPACING

PERCENT SLOPE	SPACING (FT)
<5	250
5-15	150
>15-30	100
>30	50

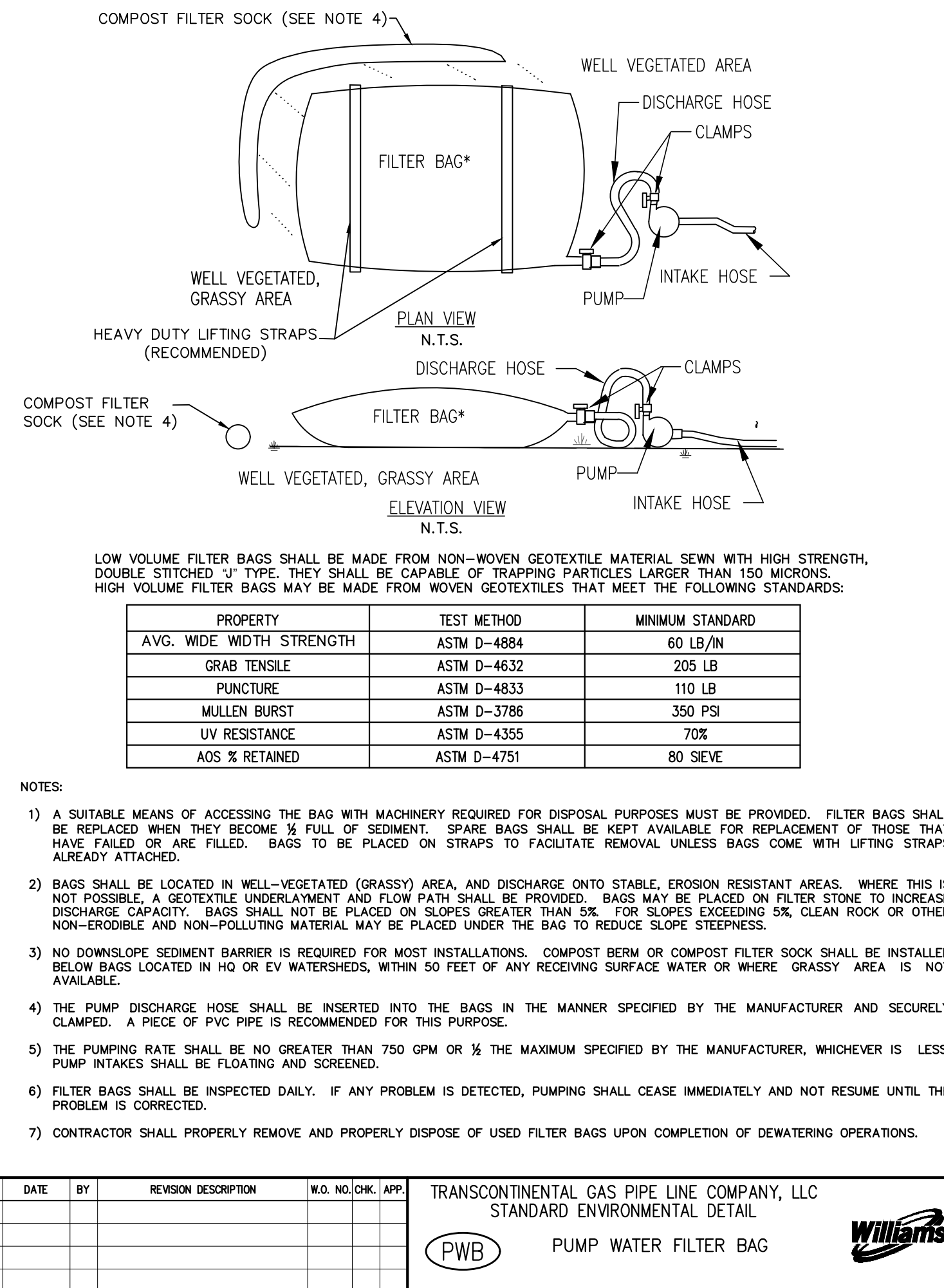
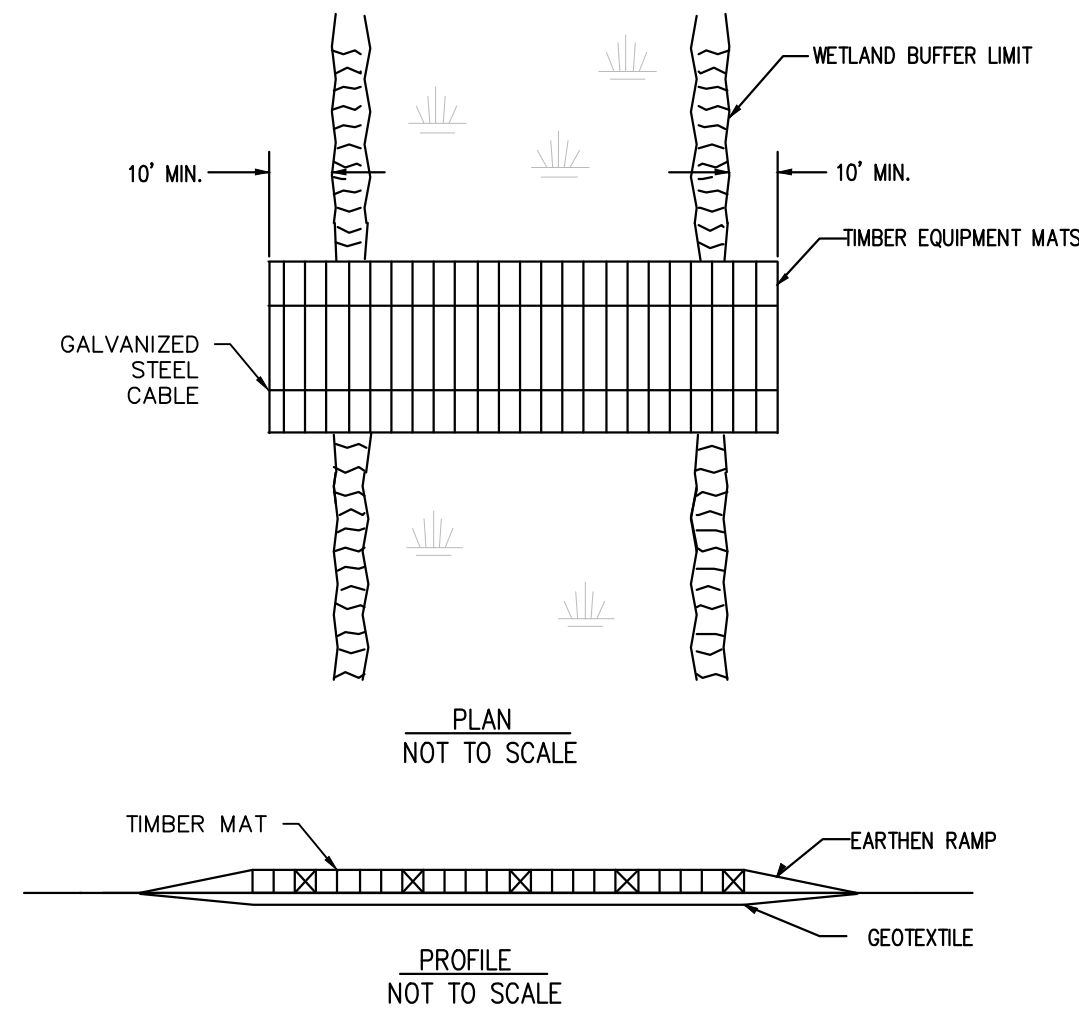
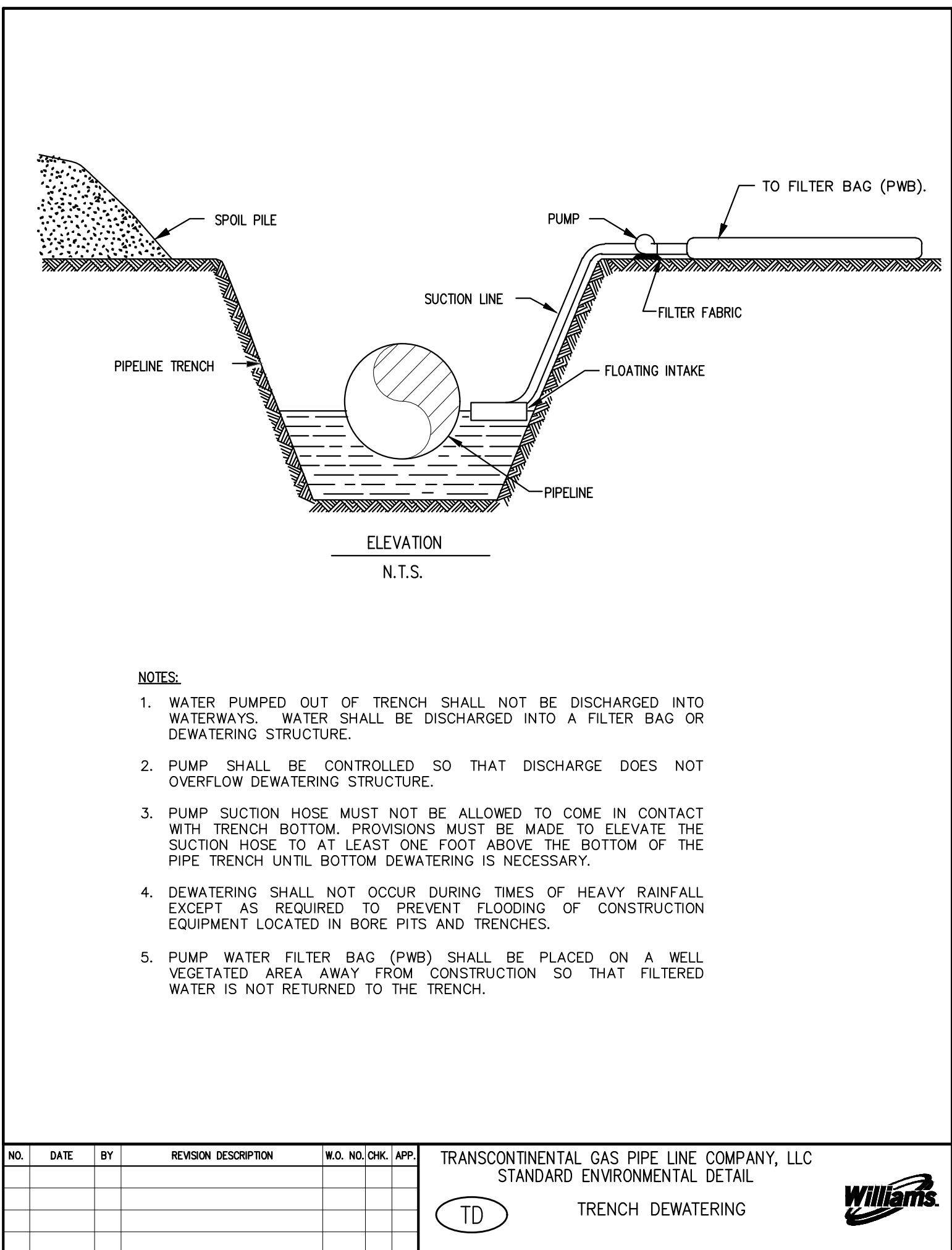
NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC  
STANDARD ENVIRONMENTAL DETAIL

WB

WATERBAR

Williams  
GAS PIPELINE



KEVIN CLARK, P.E.

REVISIONS


NO.	DATE	BY	DESCRIPTION	W.O. NO.	CHK.	APP.

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC  
LEIDY SOUTH PROJECT - HILLTOP LOOP  
YOUNG WOMANS CREEK  
SITE SPECIFIC CONSTRUCTION PLAN  
DETAILS  
CHAPMAN TOWNSHIP, CLINTON COUNTY, PENNSYLVANIA

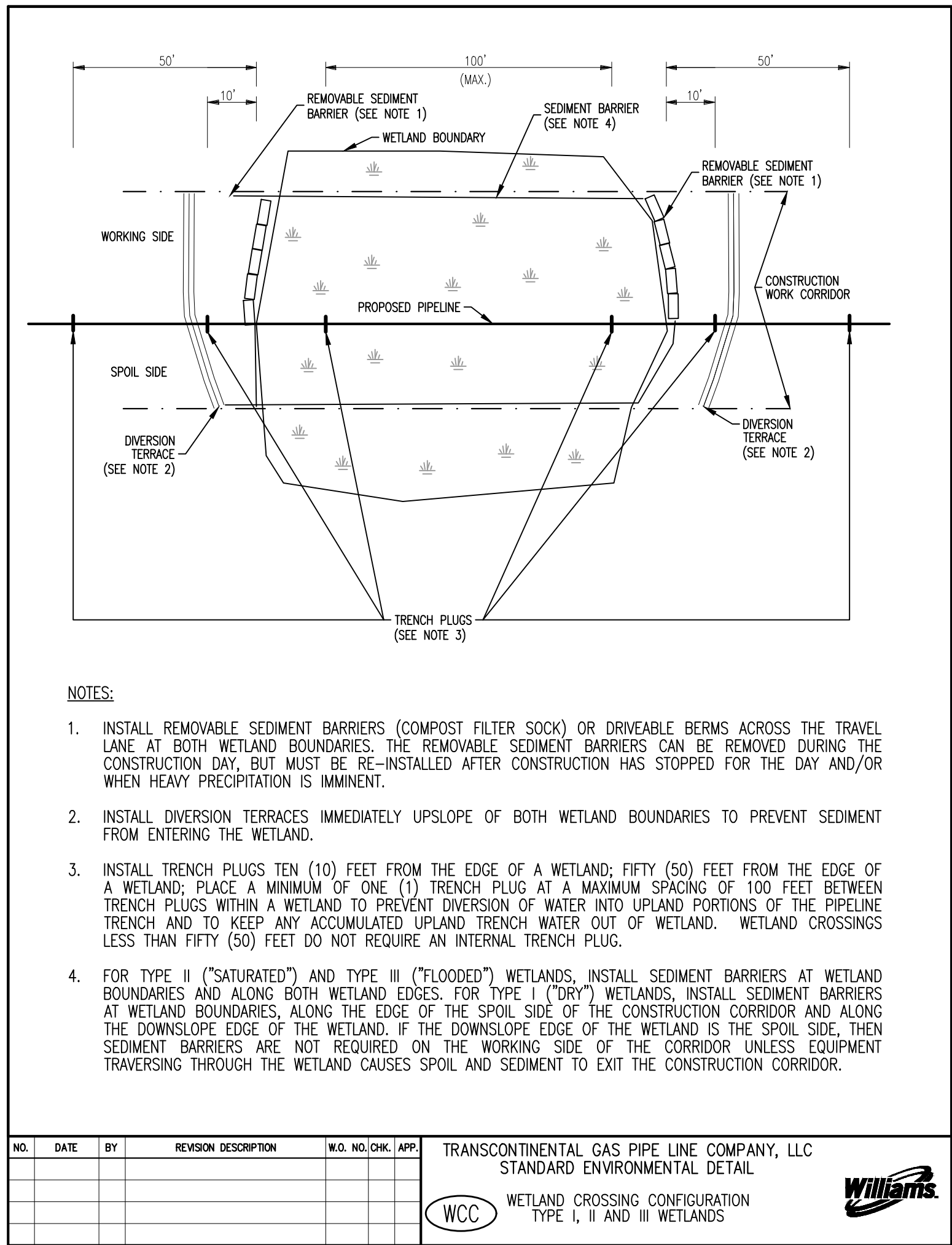
DRAWN BY:	DATE: 7/22/19	ISSUED FOR BID:	SCALE: 1" = 1"
CHECKED BY:	DATE:	ISSUED FOR CONSTRUCTION:	REVISION:
APPROVED BY:	DATE:		
WO: 1211227	RID:	DRAWING NUMBER	SHEET 4 OF 5

PENNSYLVANIA PROFESSIONAL ENGINEERS NO.

P.E. NO. \_\_\_\_\_







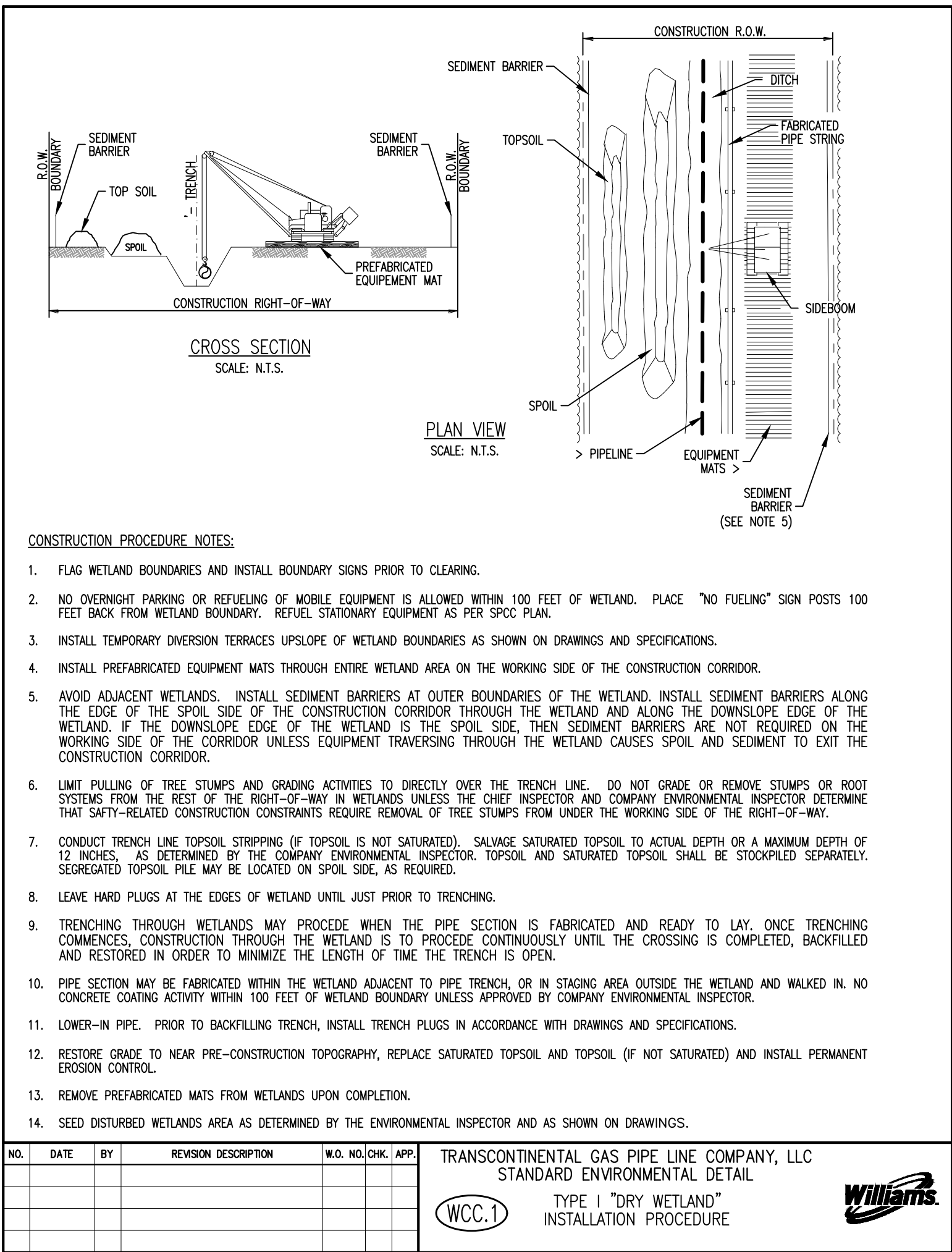
NOTES:

1. INSTALL REMOVABLE SEDIMENT BARRIERS (COMPOST FILTER SOCK) OR DRIVEABLE BERMS ACROSS THE TRAVEL LANE AT BOTH WETLAND BOUNDARIES. THE REMOVABLE SEDIMENT BARRIERS CAN BE REMOVED DURING THE CONSTRUCTION DAY, BUT MUST BE RE-INSTALLED AFTER CONSTRUCTION HAS STOPPED FOR THE DAY AND/OR WHEN HEAVY PRECIPITATION IS IMMINENT.
2. INSTALL DIVERSION TERRACES IMMEDIATELY UPSLOPE OF BOTH WETLAND BOUNDARIES TO PREVENT SEDIMENT FROM ENTERING THE WETLAND.
3. INSTALL TRENCH PLUGS TEN (10) FEET FROM THE EDGE OF A WETLAND; FIFTY (50) FEET FROM THE EDGE OF A WETLAND; PLACE A MINIMUM OF ONE (1) TRENCH PLUG AT A MAXIMUM SPACING OF 100 FEET BETWEEN TRENCH PLUGS WITHIN A WETLAND TO PREVENT DIVERSION OF WATER INTO UPLAND PORTIONS OF THE PIPELINE TRENCH AND TO KEEP ANY ACCUMULATED UPLAND TRENCH WATER OUT OF WETLAND. WETLAND CROSSINGS LESS THAN FIFTY (50) FEET DO NOT REQUIRE AN INTERNAL TRENCH PLUG.
4. FOR TYPE II ("SATURATED") AND TYPE III ("FLOODED") WETLANDS, INSTALL SEDIMENT BARRIERS AT WETLAND BOUNDARIES AND ALONG BOTH WETLAND EDGES. FOR TYPE I ("DRY") WETLANDS, INSTALL SEDIMENT BARRIERS AT WETLAND BOUNDARIES, ALONG THE EDGE OF THE SPOIL SIDE OF THE CONSTRUCTION CORRIDOR AND ALONG THE DOWNSLOPE EDGE OF THE WETLAND. IF THE DOWNSLOPE EDGE OF THE WETLAND IS THE SPOIL SIDE, THEN SEDIMENT BARRIERS ARE NOT REQUIRED ON THE WORKING SIDE OF THE CORRIDOR UNLESS EQUIPMENT TRAVERSING THROUGH THE WETLAND CAUSES SPOIL AND SEDIMENT TO EXIT THE CONSTRUCTION CORRIDOR.

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WCC

WETLAND CROSSING CONFIGURATION  
TYPE I, II AND III WETLANDS



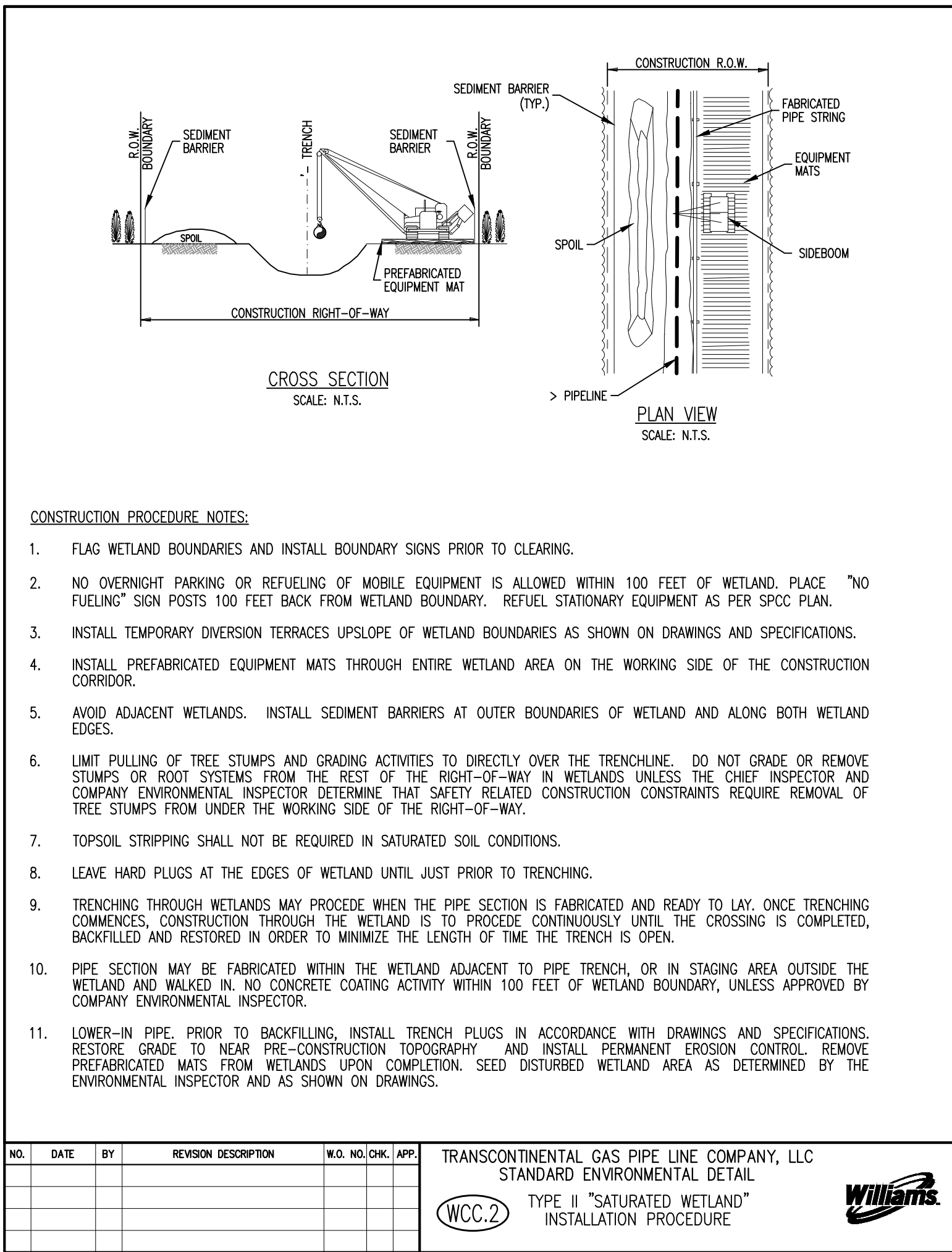
CONSTRUCTION PROCEDURE NOTES:

1. FLAG WETLAND BOUNDARIES AND INSTALL BOUNDARY SIGNS PRIOR TO CLEARING.
2. NO OVERNIGHT PARKING OR REFUELING OF MOBILE EQUIPMENT IS ALLOWED WITHIN 100 FEET OF WETLAND. PLACE "NO FUELING" SIGN POSTS 100 FEET BACK FROM WETLAND BOUNDARY. REFUEL STATIONARY EQUIPMENT AS PER SPOC PLAN.
3. INSTALL TEMPORARY DIVERSION TERRACES UPSLOPE OF WETLAND BOUNDARIES AS SHOWN ON DRAWINGS AND SPECIFICATIONS.
4. INSTALL PREFABRICATED EQUIPMENT MATS THROUGH ENTIRE WETLAND AREA ON THE WORKING SIDE OF THE CONSTRUCTION CORRIDOR.
5. AVOID ADJACENT WETLANDS. INSTALL SEDIMENT BARRIERS AT OUTER BOUNDARIES OF THE WETLAND. INSTALL SEDIMENT BARRIERS ALONG THE EDGE OF THE SPOIL SIDE OF THE CONSTRUCTION CORRIDOR THROUGH THE WETLAND AND ALONG THE DOWNSLOPE EDGE OF THE WETLAND. IF THE DOWNSLOPE EDGE OF THE WETLAND IS THE SPOIL SIDE, THEN SEDIMENT BARRIERS ARE NOT REQUIRED ON THE WORKING SIDE OF THE CORRIDOR UNLESS EQUIPMENT TRAVERSING THROUGH THE WETLAND CAUSES SPOIL AND SEDIMENT TO EXIT THE CONSTRUCTION CORRIDOR.
6. LIMIT PULLING OF TREE STUMPS AND GRADING ACTIVITIES TO DIRECTLY OVER THE TRENCH LINE. DO NOT GRADE OR REMOVE STUMPS OR ROOT SYSTEMS FROM THE REST OF THE RIGHT-OF-WAY IN WETLANDS UNLESS THE CHIEF INSPECTOR AND COMPANY ENVIRONMENTAL INSPECTOR DETERMINE THAT SAFETY-RELATED CONSTRUCTION CONSTRAINTS REQUIRE REMOVAL OF TREE STUMPS FROM UNDER THE WORKING SIDE OF THE RIGHT-OF-WAY.
7. CONDUCT TRENCH LINE TOPSOIL STRIPPING (IF TOPSOIL IS NOT SATURATED). SALVAGE SATURATED TOPSOIL TO ACTUAL DEPTH OR A MAXIMUM DEPTH OF 12 INCHES. AS DETERMINED BY THE COMPANY ENVIRONMENTAL INSPECTOR. TOPSOIL AND SATURATED TOPSOIL SHALL BE STOCKPILED SEPARATELY. SEGREGATED TOPSOIL PILE MAY BE LOCATED ON SPOIL SIDE AS REQUIRED.
8. LEAVE HARD PLUGS AT THE EDGES OF WETLAND UNTIL JUST PRIOR TO TRENCHING.
9. TRENCHING THROUGH WETLANDS MAY PROCEED WHEN THE PIPE SECTION IS FABRICATED AND READY TO LAY. ONCE TRENCHING COMMENCES, CONSTRUCTION THROUGH THE WETLAND IS TO PROCEED CONTINUOUSLY UNTIL THE CROSSING IS COMPLETED, BACKFILLED AND RESTORED IN ORDER TO MINIMIZE THE LENGTH OF TIME THE TRENCH IS OPEN.
10. PIPE SECTION MAY BE FABRICATED WITHIN THE WETLAND ADJACENT TO PIPE TRENCH, OR IN STAGING AREA OUTSIDE THE WETLAND AND WALKED IN. NO CONCRETE COATING ACTIVITY WITHIN 100 FEET OF WETLAND BOUNDARY UNLESS APPROVED BY COMPANY ENVIRONMENTAL INSPECTOR.
11. LOWER-IN PIPE. PRIOR TO BACKFILLING TRENCH, INSTALL TRENCH PLUGS IN ACCORDANCE WITH DRAWINGS AND SPECIFICATIONS.
12. RESTORE GRADE TO NEAR PRE-CONSTRUCTION TOPOGRAPHY, REPLACE SATURATED TOPSOIL AND TOPSOIL (IF NOT SATURATED) AND INSTALL PERMANENT EROSION CONTROL.
13. REMOVE PREFABRICATED MATS FROM WETLANDS UPON COMPLETION.
14. SEED DISTURBED WETLANDS AREA AS DETERMINED BY THE ENVIRONMENTAL INSPECTOR AND AS SHOWN ON DRAWINGS.

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WCC.1

TYPE I "DRY WETLAND"  
INSTALLATION PROCEDURE



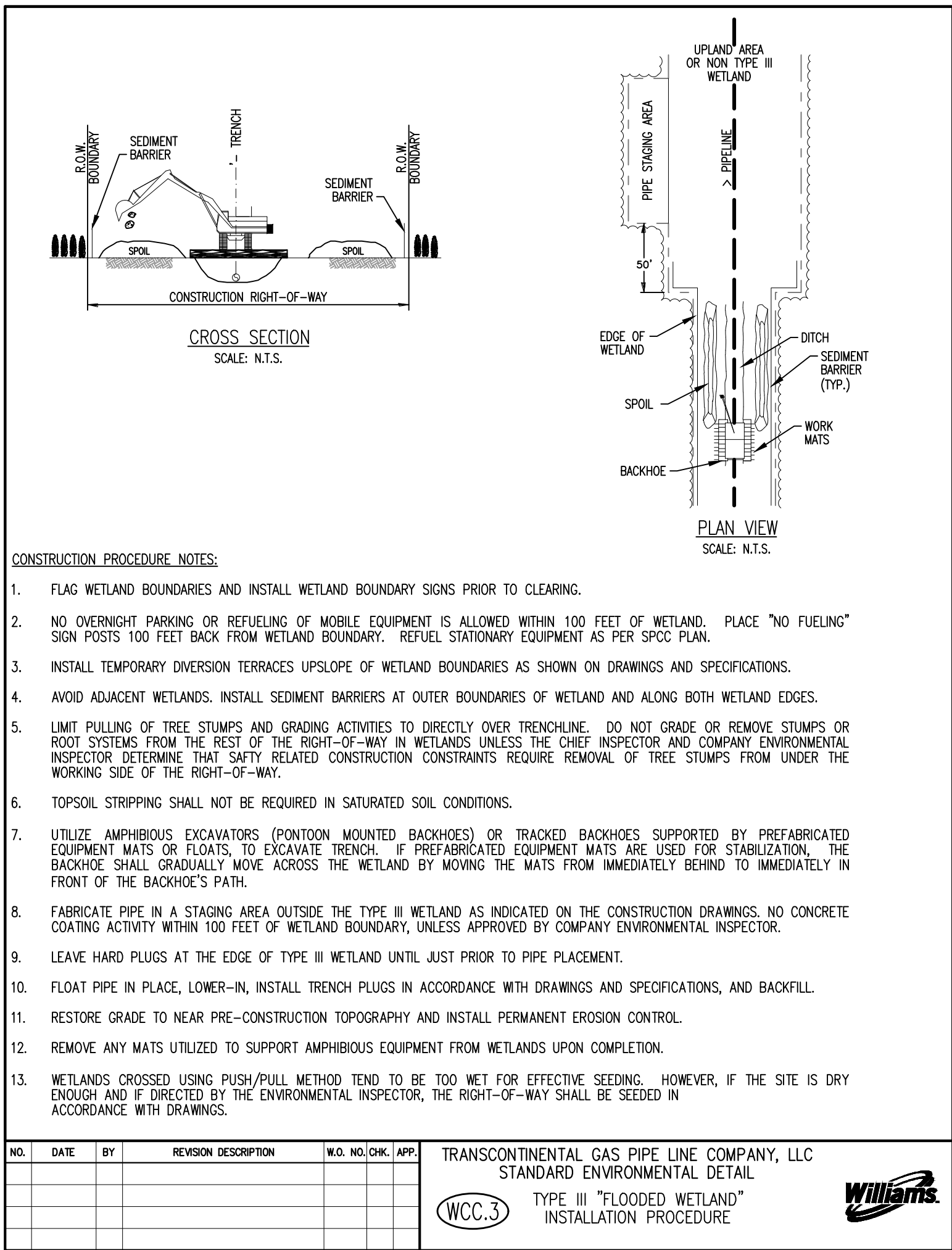
CONSTRUCTION PROCEDURE NOTES:

1. FLAG WETLAND BOUNDARIES AND INSTALL BOUNDARY SIGNS PRIOR TO CLEARING.
2. NO OVERNIGHT PARKING OR REFUELING OF MOBILE EQUIPMENT IS ALLOWED WITHIN 100 FEET OF WETLAND. PLACE "NO FUELING" SIGN POSTS 100 FEET BACK FROM WETLAND BOUNDARY. REFUEL STATIONARY EQUIPMENT AS PER SPOC PLAN.
3. INSTALL TEMPORARY DIVERSION TERRACES UPSLOPE OF WETLAND BOUNDARIES AS SHOWN ON DRAWINGS AND SPECIFICATIONS.
4. INSTALL PREFABRICATED EQUIPMENT MATS THROUGH ENTIRE WETLAND AREA ON THE WORKING SIDE OF THE CONSTRUCTION CORRIDOR.
5. AVOID ADJACENT WETLANDS. INSTALL SEDIMENT BARRIERS AT OUTER BOUNDARIES OF WETLAND AND ALONG BOTH WETLAND EDGES.
6. LIMIT PULLING OF TREE STUMPS AND GRADING ACTIVITIES TO DIRECTLY OVER THE TRENCHLINE. DO NOT GRADE OR REMOVE STUMPS OR ROOT SYSTEMS FROM THE REST OF THE RIGHT-OF-WAY IN WETLANDS UNLESS THE CHIEF INSPECTOR AND COMPANY ENVIRONMENTAL INSPECTOR DETERMINE THAT SAFETY-RELATED CONSTRUCTION CONSTRAINTS REQUIRE REMOVAL OF TREE STUMPS FROM UNDER THE WORKING SIDE OF THE RIGHT-OF-WAY.
7. TOPSOIL STRIPPING SHALL NOT BE REQUIRED IN SATURATED SOIL CONDITIONS.
8. LEAVE HARD PLUGS AT THE EDGES OF WETLAND UNTIL JUST PRIOR TO TRENCHING.
9. TRENCHING THROUGH WETLANDS MAY PROCEED WHEN THE PIPE SECTION IS FABRICATED AND READY TO LAY. ONCE TRENCHING COMMENCES, CONSTRUCTION THROUGH THE WETLAND IS TO PROCEED CONTINUOUSLY UNTIL THE CROSSING IS COMPLETED, BACKFILLED AND RESTORED IN ORDER TO MINIMIZE THE LENGTH OF TIME THE TRENCH IS OPEN.
10. PIPE SECTION MAY BE FABRICATED WITHIN THE WETLAND ADJACENT TO PIPE TRENCH, OR IN STAGING AREA OUTSIDE THE WETLAND AND WALKED IN. NO CONCRETE COATING ACTIVITY WITHIN 100 FEET OF WETLAND BOUNDARY, UNLESS APPROVED BY COMPANY ENVIRONMENTAL INSPECTOR.
11. LOWER-IN PIPE. PRIOR TO BACKFILLING, INSTALL TRENCH PLUGS IN ACCORDANCE WITH DRAWINGS AND SPECIFICATIONS. RESTORE GRADE TO NEAR PRE-CONSTRUCTION TOPOGRAPHY AND INSTALL PERMANENT EROSION CONTROL. REMOVE PREFABRICATED MATS FROM WETLANDS UPON COMPLETION. SEED DISTURBED WETLAND AREA AS DETERMINED BY THE ENVIRONMENTAL INSPECTOR AND AS SHOWN ON DRAWINGS.

NO.	DATE	BY	REVISION DESCRIPTION	W.O.	NO.	CHK.	APP.	TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC STANDARD ENVIRONMENTAL DETAIL

WCC.2

TYPE II "SATURATED WETLAND"  
INSTALLATION PROCEDURE



CONSTRUCTION PROCEDURE NOTES:

1. FLAG WETLAND BOUNDARIES AND INSTALL WETLAND BOUNDARY SIGNS PRIOR TO CLEARING.
2. NO OVERNIGHT PARKING OR REFUELING OF MOBILE EQUIPMENT IS ALLOWED WITHIN 100 FEET OF WETLAND. PLACE "NO FUELING" SIGN POSTS 100 FEET BACK FROM WETLAND BOUNDARY. REFUEL STATIONARY EQUIPMENT AS PER SPOC PLAN.
3. INSTALL TEMPORARY DIVERSION TERRACES UPSLOPE OF WETLAND BOUNDARIES AS SHOWN ON DRAWINGS AND SPECIFICATIONS.
4. AVOID ADJACENT WETLANDS. INSTALL SEDIMENT BARRIERS AT OUTER BOUNDARIES OF WETLAND AND ALONG BOTH WETLAND EDGES.
5. LIMIT PULLING OF TREE STUMPS AND GRADING ACTIVITIES TO DIRECTLY OVER TRENCHLINE. DO NOT GRADE OR REMOVE STUMPS OR ROOT SYSTEMS FROM THE REST OF THE RIGHT-OF-WAY IN WETLANDS UNLESS THE CHIEF INSPECTOR AND COMPANY ENVIRONMENTAL INSPECTOR DETERMINE THAT SAFETY-RELATED CONSTRUCTION CONSTRAINTS REQUIRE REMOVAL OF TREE STUMPS FROM UNDER THE WORKING SIDE OF THE RIGHT-OF-WAY.
6. TOPSOIL STRIPPING SHALL NOT BE REQUIRED IN SATURATED SOIL CONDITIONS.
7. UTILIZE AMPHIBIOUS EXCAVATORS (PONTON MOUNTED BACKHOES) OR TRACKED BACKHOES SUPPORTED BY PREFABRICATED EQUIPMENT MATS OR FLOATS, TO EXCAVATE TRENCH. IF PREFABRICATED EQUIPMENT MATS ARE USED FOR STABILIZATION, THE BACKHOE SHALL GRADUALLY MOVE ACROSS THE WETLAND BY MOVING THE MATS FROM IMMEDIATELY BEHIND TO IMMEDIATELY IN FRONT OF THE BACKHOE'S PATH.
8. FABRICATE PIPE IN A STAGING AREA OUTSIDE THE TYPE III WETLAND AS INDICATED ON THE CONSTRUCTION DRAWINGS. NO CONCRETE COATING ACTIVITY WITHIN 100 FEET OF WETLAND BOUNDARY, UNLESS APPROVED BY COMPANY ENVIRONMENTAL INSPECTOR.
9. LEAVE HARD PLUGS AT THE EDGE OF TYPE III WETLAND UNTIL JUST PRIOR TO PIPE PLACEMENT.
10. FLOAT PIPE IN PLACE, LOWER-IN, INSTALL TRENCH PLUGS IN ACCORDANCE WITH DRAWINGS AND SPECIFICATIONS, AND BACKFILL.
11. RESTORE GRADE TO NEAR PRE-CONSTRUCTION TOPOGRAPHY AND INSTALL PERMANENT EROSION CONTROL.
12. REMOVE ANY MATS UTILIZED TO SUPPORT AMPHIBIOUS EQUIPMENT FROM WETLANDS UPON COMPLETION.
13. WETLANDS CROSSED USING PUSH/PULL METHOD TEND TO BE TOO WET FOR EFFECTIVE SEEDING. HOWEVER, IF THE SITE IS DRY ENOUGH AND IF DIRECTED BY THE ENVIRONMENTAL INSPECTOR, THE RIGHT-OF-WAY SHALL BE SEED IN ACCORDANCE WITH DRAWINGS.

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WCC.3

TYPE III "FLOODED WETLAND"  
INSTALLATION PROCEDURE

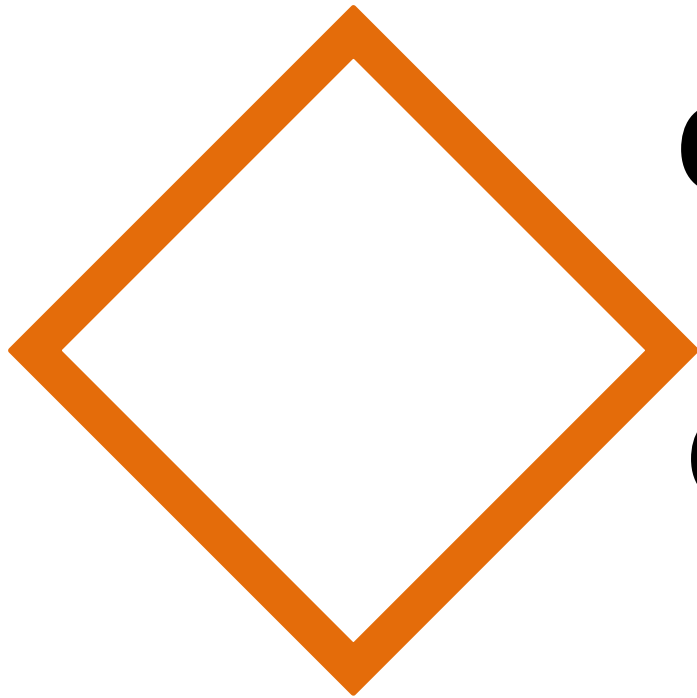
*Leidy South Project – PFBC Aids to Navigation Plan*  
*Transcontinental Gas Pipe Line Company, LLC*  
*Young Womans Creek: S1-T4-HL*

## **ATTACHMENT E**

### **SIGNAGE EXAMPLES**

# **WARNING**

---



**PIPELINE  
CONSTRUCTION  
USE EXTREME  
CAUTION WHEN  
BOATING IN  
THIS AREA**

**PORTAGE**

**200 FEET**

**AHEAD**

# **PORTAGE**

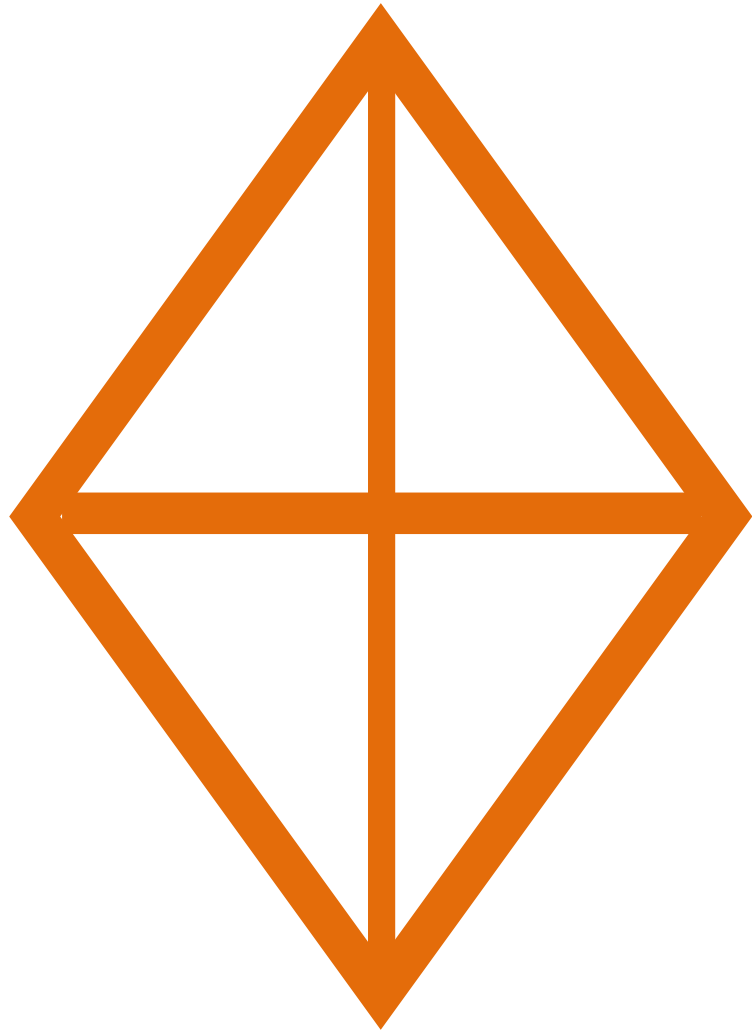
**ALL BOATS EXIT HERE**



# **PORTAGE**

**ALL BOATS RE-ENTER  
HERE**





**BOATS**  
**KEEP**  
**OUT**