

# TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC ATLANTIC SUNRISE PROJECT PROPOSED 42" CENTRAL PENN LINE SOUTH

## BEST MANAGEMENT PRACTICES AND QUANTITIES PLAN SET

SOUTH LONDONDERRY, SOUTH ANNVILLE, NORTH ANNVILLE, EAST HANOVER, UNION, SWATARA, NORTH LEBANON  
TOWNSHIPS

LEBANON COUNTY

### BMP DETAIL SUMMARY

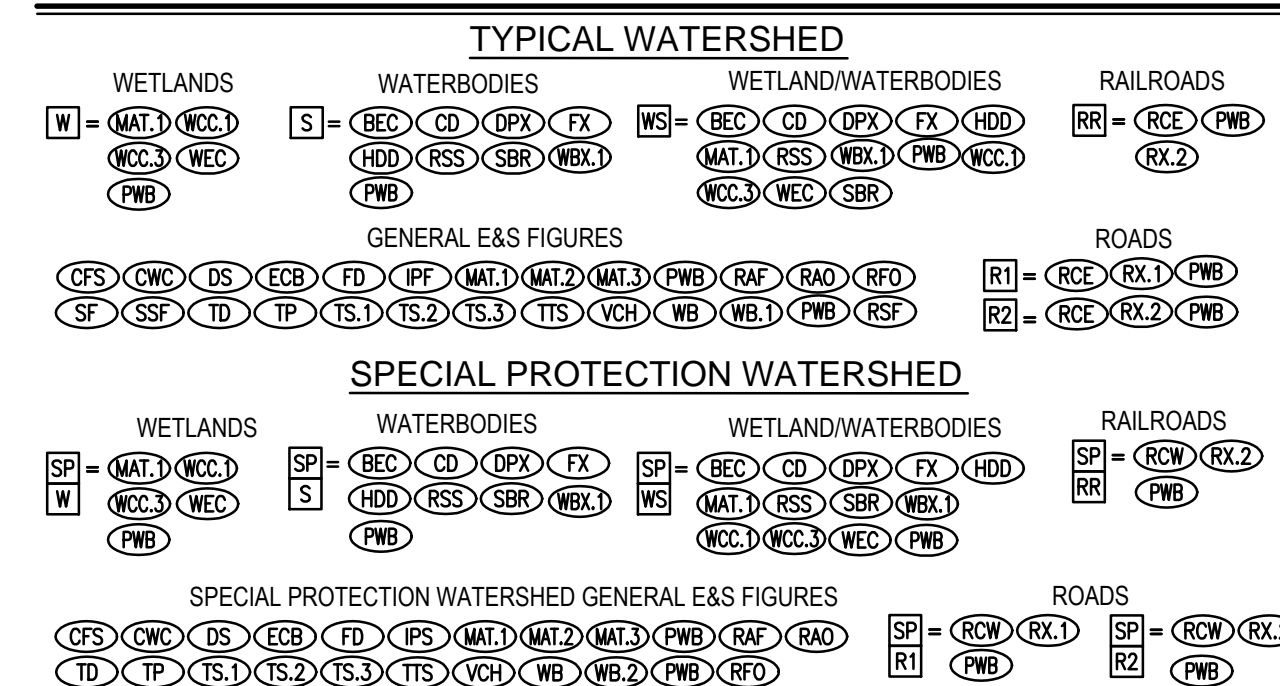
FIGURE	FIGURE TITLE	SHEET NO.
ARF	ABACT ROCK FILTER	1
BBB	BROAD-BASED BMP	
BEC	BRIDGE EQUIPMENT CROSSING	
CD	COFFERDAM STREAM CROSSING	
GBM	GHEEK-DAM	2
GFS	COMPOST FILTER SOCK	
CS	CLEANOUT STAKE	
CST	COMPOST SOCK SEDIMENT TRAP	
CWC	CLEAN WATER CROSSING	3
DPX	DAM AND PUMP STREAM CROSSING	
DS	HYDROSTATIC DEWATERING STRUCTURE	
ECB	EROSION CONTROL BLANKET	
FD	FILTER SOCK DIVERSION	4
FEN	CONSTRUCTION FENCE	
FX	FLUME STREAM CROSSING	
HDD	HORIZONTAL DIRECTIONAL DRILL	
IPF	FILTER BAG INLET PROTECTION - TYPE M	5
IPS	STONE AND CONCRETE INLET PROTECTION - TYPE M	
MAT.1	TIMBER MATTING CONSTRUCTION	
MAT.2	TIMBER MATTING WITH FILL OVER EXISTING PIPELINES	
MAT.3	TIMBER MATTING AIR BRIDGE	6
PWB	PUMP WATER FILTER BAG	
RAO	RIP RAP APRON AT PIPE OUTLET WITHOUT FLARED END SECTION	
RAP	RIP RAP GRADATION	
RCE	ROCK CONSTRUCTION ENTRANCE	7
RCW	ROCK CONSTRUCTION ENTRANCE WITH WASH RACK	
RFO	ROCK FILTER OUTLET	
RSF	REINFORCED SILT FENCE (30" HIGH)	
RSS	RIP RAP STREAM BANK STABILIZATION	8
RX.1	TRENCHED ROAD CROSSING	
RX.2	BORED ROAD/RAILROAD CROSSING	
SBR	STREAM BANK STABILIZATION WITH REINFORCEMENT BLANKET	
SF	STANDARD SILT FENCE (18" HIGH)	9
SSF	SUPER SILT FENCE (33" HIGH)	
TD	TRENCH DEWATERING	
TP	TRENCH PLUG INSTALLATION	
TRV	TRASH-RACK AND ANTI-VORTEX-DEWEGE	10
TS.1	TOPSOIL SEGREGATION (1)	
TS.2	TOPSOIL SEGREGATION (2)	
TS.3	TOPSOIL SEGREGATION (3)	
TTS	SIDE SLOPE (TWO-TONE) CONSTRUCTION PROCEDURE	11
VCH	VEGETATED CHANNEL	
WB	WATERBAR	
WB.1	WATERBAR LAYOUT DETAIL	
WB.2	COMPOST FILTER SOCK AND SUMP (PADEP APPROVED ALTERNATE DETAIL) AT WATERBAR DISCHARGE	11
WBX.1	BORED WATERBODY CROSSING	
WCC.1	WETLAND INSTALLATION PROCEDURE	
WCC.3	"INUNDATED WETLAND" INSTALLATION PROCEDURE	
WD	WATER-DEFLECTOR	11
WEC	WETLAND EQUIPMENT CROSSING	

DETAILS THAT ARE NOT UTILIZED IN THIS COUNTY ARE STRUCK THROUGH IN THIS TABLE. THESE DETAILS ARE ALSO CROSSED OUT WITH A NOTE THAT READS "DETAILS ARE NOT UTILIZED IN THIS COUNTY" ON THEIR RESPECTIVE SHEET.

### DRAWING INDEX

DRAWING NUMBER	SHEET NO.	DRAWING NAME
24-1600-70-28-A/LL113_9-BMP	1-1	COVER SHEET
ASR-BMP-GN	1-3	GENERAL NOTES
ASR-BMP	1-11	BEST MANAGEMENT PRACTICES STANDARD CONSTRUCTION DETAILS
24-1601-70-28-A/LL113_9-BMP-LE-TB	1-6	QUANTITY, CROSSING, AND ACIDIC SOIL TABLES

### E&S DETAIL GROUP LEGEND FOR PIPELINE CROSSINGS



DETAILS IN THIS LEGEND ARE NOT COMPREHENSIVE AND ONLY REFER TO BMPs RELATED TO PIPELINE CROSSINGS. ADDITIONAL BMPs ARE PROVIDED FOR ACCESS ROADS.  
E&S DETAIL GROUP LEGEND IS ALSO PROVIDED ON THE PIPELINE E&S PLANS. LEGEND IS SHOWN HERE FOR COORDINATION PURPOSES.



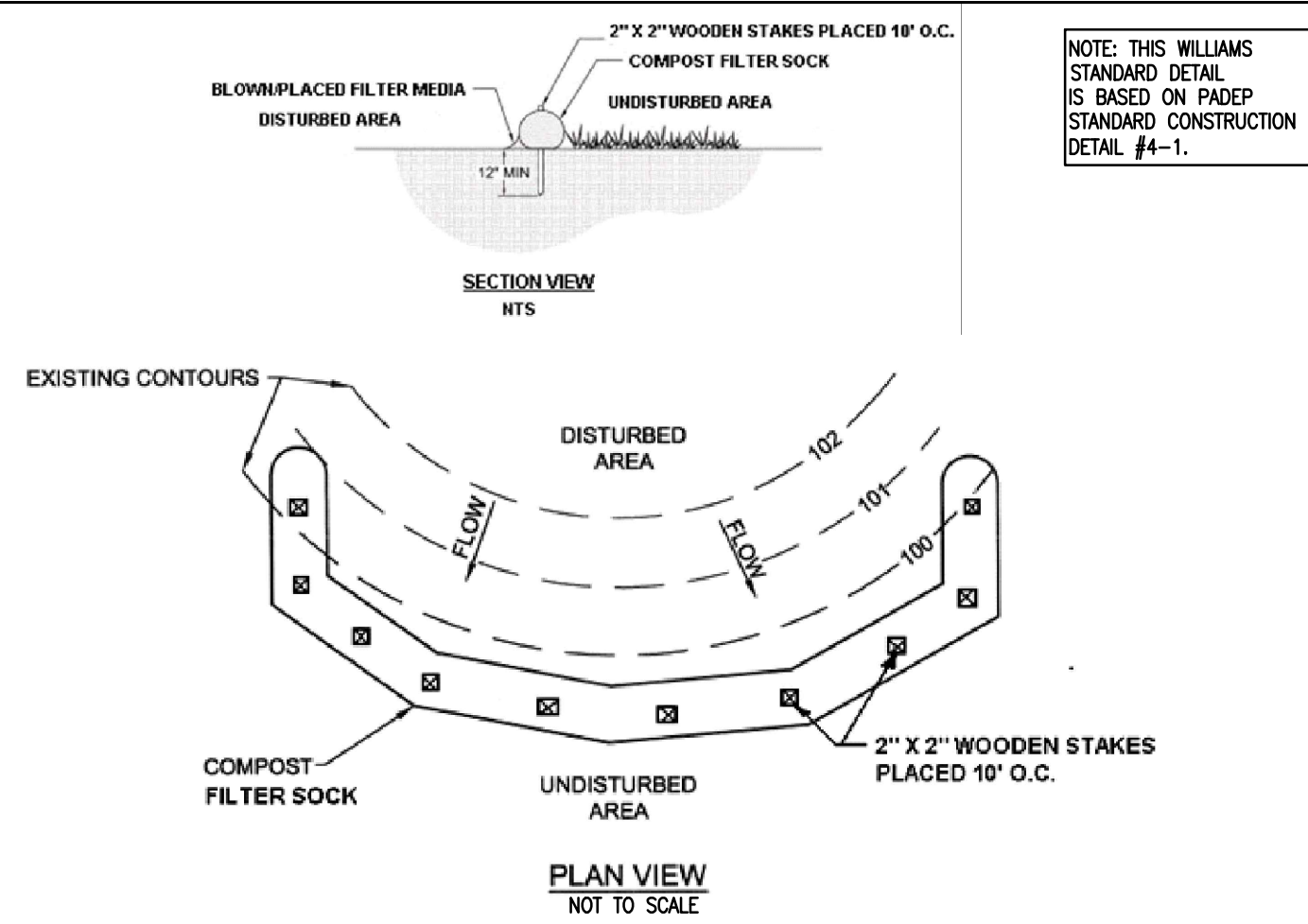
REVISIONS					
NO.	DATE	BY	DESCRIPTION	W.O. NO.	CHK. APP.
0	08/26/2015	BL	ISSUED FOR PADEP SUBMITTAL	W0572385	JLK SMK
1	12/02/2015	BL	ISSUED FOR PADEP RESUBMITTAL	W0572385	JLK SMK
2	02/04/2016	BL	ISSUED FOR PADEP RESUBMITTAL	W0572385	JLK SMK
3	3/28/2016	BL	ISSUED FOR PADEP RESUBMITTAL	W0572385	JLK AJB
4	Oct. 2016	BL	PADEP TECHNICAL DEFICIENCY RESPONSE #1	W0572385	JLK SMK
5	April 2017	BL	PADEP TECHNICAL DEFICIENCY RESPONSE #2	W0572385	JLK AJB
6	AUG. 2017	BL	PADEP TECHNICAL DEFICIENCY RESPONSE #3	W0572385	JLK AJB

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC			
ATLANTIC SUNRISE PROJECT			
PROPOSED 42" CENTRAL PENN LINE SOUTH			
PENNSYLVANIA BEST MANAGEMENT PRACTICES AND QUANTITIES PLAN SET			
LEBANON COUNTY, PENNSYLVANIA			
COVER SHEET			
DRAWN BY:	ELZ	DATE:	05/15/15
CHECKED BY:	JLK	DATE:	07/02/15
APPROVED BY:	SMK	DATE:	07/08/15
ISSUED FOR:	CONSTRUCTION	ISSUED FOR:	CONSTRUCTION
REVISION:	6	DRAWING NUMBER:	24-1600-70-28-A/LL113_9-BMP
SHEET:	1	OF:	1



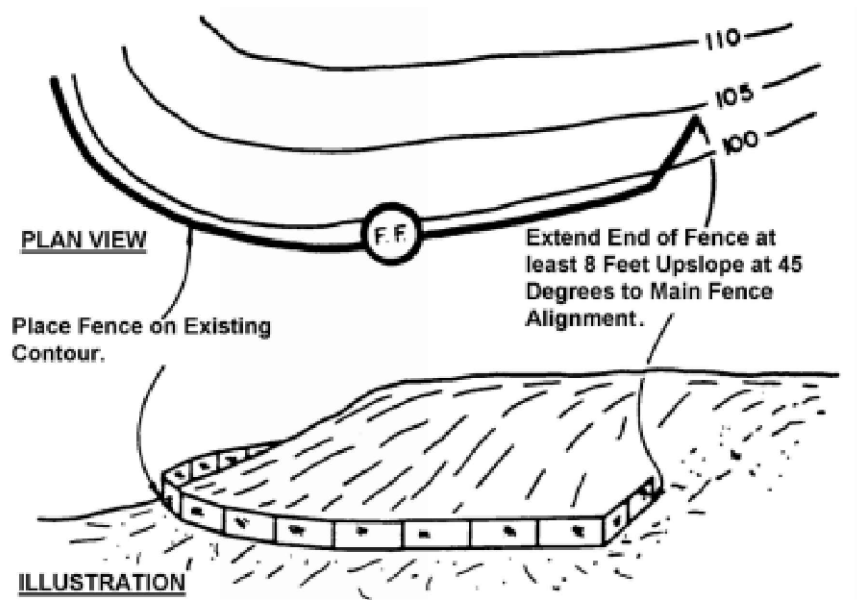






NOTE: THIS WILLIAMS STANDARD DETAIL IS BASED ON PADEP STANDARD CONSTRUCTION DETAIL #4-1.

FIGURE 4.1 Sediment Barrier Alignment



NOT TO SCALE

NO.	DATE	BY	REVISION DESCRIPTION	NO.	NO.	CHK.	APP.
			TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC STANDARD ENVIRONMENTAL DETAIL				
			(CFS) COMPOST FILTER SOCK				



TABLE 4.1 COMPOST SOCK FABRIC MINIMUM SPECIFICATIONS

Material Type	COMPOST SOCK FABRIC MINIMUM SPECIFICATIONS				Heavy Duty Multi-Filament Polypropylene (HDMFPP)
	3 mil HDPE	4 mil HDPE	5 mil HDPE	Multi-Filament Polypropylene (MFPP)	
Material Characteristics	Photo-degradable	Photo-degradable	Bio-degradable	Photo-degradable	Photo-degradable
Sock Diameters	12", 18"	12", 18", 24"	12", 18", 24", 32"	12", 18", 24", 32"	12", 18", 24", 32"
Mesh Opening	3/8"	3/8"	3/8"	3/8"	3/8"
Tensile Strength		26 psi	26 psi	44 psi	202 psi
Ultraviolet 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	6 months	6 months	1 year	2 years

Two-ply systems: HDPE biaxial net, Continuously wound, Fusion-welded junctures, 3/4" X 3/4" Max. aperture size, Composite Polypropylene Fabric (Woven layer and non-woven fleece mechanically fused via needle punch), 3/16" Max. aperture size

Inner Containment Netting: HDPE 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.

TABLE 4.2 COMPOST STANDARDS

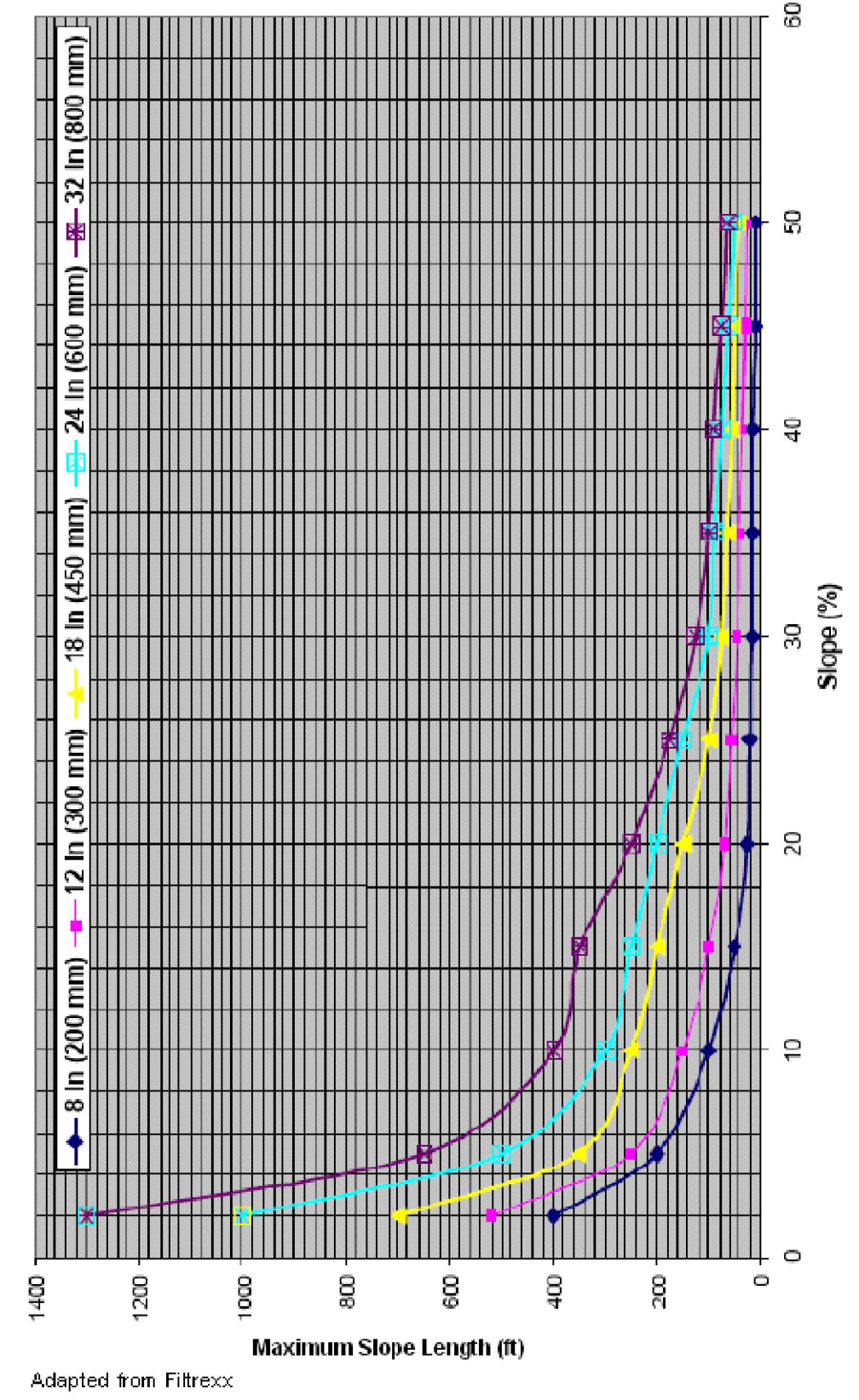
ORGANIC MATTER CONTENT	25%-100% (DRY WEIGHT BASIS)
ORGANIC PORTION	FIBROUS AND ELONGATED
pH	5.5 - 8.5
MOISTURE CONTENT	30% - 60%
PARTICLE SIZE	30%-50% PASS THROUGH 3/8" SIEVE
SOLUBLE SALT CONCENTRATION	5.0 DS/M (MMHOS/CM) MAXIMUM

- NOTES:
- SOCK FABRIC SHALL MEET STANDARDS OF TABLE 4.1. COMPOST SHALL MEET THE STANDARDS OF TABLE 4.2. (SEE SHEET 2 OF 3 OF THIS DETAIL.)
  - COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE SOCK SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN SOCK ALIGNMENT. MAXIMUM SLOPE LENGTH ABOVE ANY SOCK SHALL NOT EXCEED THAT SHOWN ON FIGURE 4.2. (SEE SHEET 3 OF 3 OF THIS DETAIL.) STAKES MAY BE INSTALLED IMMEDIATELY DOWNSLOPE OF THE SOCK IF SO SPECIFIED BY THE MANUFACTURER.
  - TRAFFIC SHALL NOT BE PERMITTED TO CROSS COMPOST FILTER SOCKS.
  - ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES HALF THE ABOVEGROUND HEIGHT OF THE SOCK AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN.
  - 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.
  - BIODEGRADABLE FILTER SOCKS SHALL BE REPLACED AFTER 6 MONTHS; PHOTODEGRADABLE SOCKS AFTER 1 YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
  - 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.
  - SOCKS SHALL BE INSTALLED PARALLEL TO THE CONTOURS, TYPICALLY, IN AREAS WHERE THE SLOPE OF THE CATCHMENT AREA IS LESS THAN FIVE PERCENT, THE SOCKS MAY BE INSTALLED AS NECESSARY TO MINIMIZE THE NUMBER OF SEPARATE SOCK SEGMENTS ALONG THE EDGE OF DISTURBANCE.

NO.	DATE	BY	REVISION DESCRIPTION	NO.	NO.	CHK.	APP.
			TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC STANDARD ENVIRONMENTAL DETAIL				
			(CFS) COMPOST FILTER SOCK				



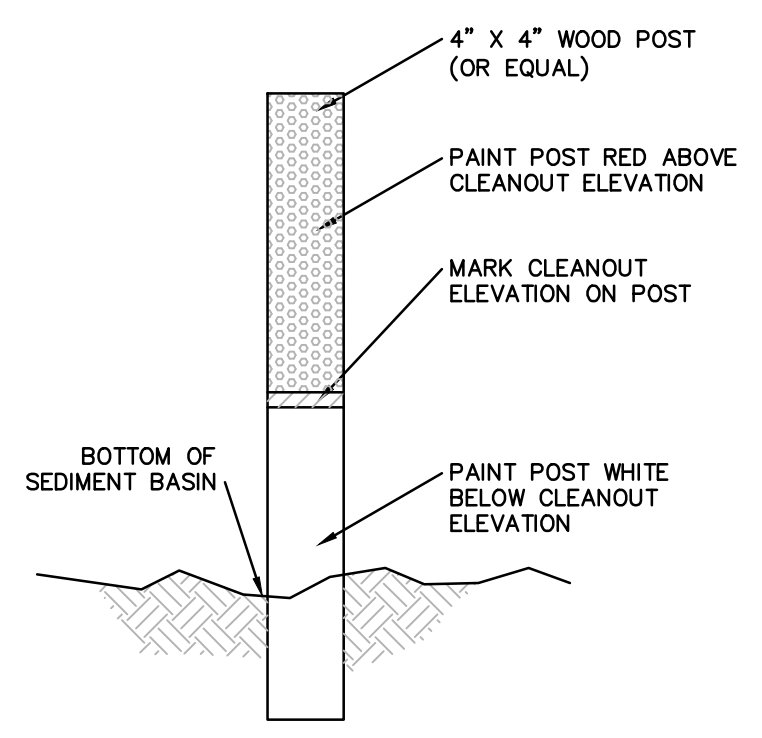
FIGURE 4.2 MAXIMUM PERMISSIBLE SLOPE LENGTH ABOVE COMPOST FILTER SOCKS



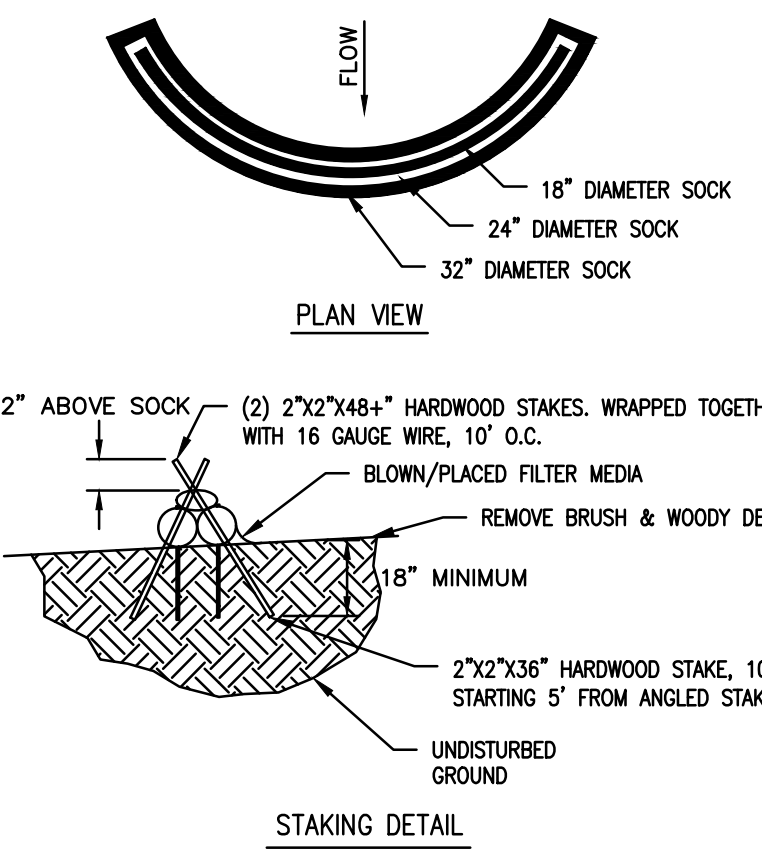
NOTE: 8" diameter socks should only be used to control small (< 1/4 acre) disturbed areas on individual house lots.

Adapted from Filtracx

NO.	DATE	BY	REVISION DESCRIPTION	NO.	NO.	CHK.	APP.
			TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC STANDARD ENVIRONMENTAL DETAIL				
			(CFS) COMPOST FILTER SOCK				



NO.	DATE	BY	REVISION DESCRIPTION	NO.	NO.	CHK.	APP.
			TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC STANDARD ENVIRONMENTAL DETAIL				
			(CS) CLEANOUT STAKE				



NOTE: THIS WILLIAMS STANDARD DETAIL IS BASED ON PADEP STANDARD CONSTRUCTION DETAIL #3-11.

- NOTES:
- SEE COMPOST FILTER SOCK (CFS) DETAIL FOR MORE INFORMATION. SOCK MATERIAL SHALL MEET THE STANDARDS OF TABLE 4.1. COMPOST SHALL MEET THE STANDARDS OF TABLE 4.2.
  - COMPOST SOCK SEDIMENT TRAPS SHALL NOT EXCEED THREE SOCKS IN HEIGHT AND SHALL BE STACKED IN PYRAMIDAL FORM AS SHOWN ABOVE. MINIMUM TRAP HEIGHT IS ONE 24" DIAMETER SOCK. ADDITIONAL STORAGE MAY BE PROVIDED BY MEANS OF AN EXCAVATED SUMP 12" DEEP EXTENDING 1 TO 3 FEET UPSLOPE OF THE SOCKS ALONG THE LOWER SIDE OF THE TRAP.
  - THE MAXIMUM TRIBUTARY DRAINAGE AREA IS 5.0 ACRES. SINCE COMPOST SOCKS ARE "FLOW-THROUGH," NO SPILLWAY IS REQUIRED.
  - COMPOST SOCK SEDIMENT TRAPS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. SEDIMENT SHALL BE REMOVED WHEN IT REACHES 1/3 THE HEIGHT OF THE SOCKS.
  - PHOTODEGRADABLE AND BIODEGRADABLE SOCKS SHALL NOT BE USED FOR MORE THAN 1 YEAR.
  - DESIGN NOTES:
    - COMPOST SOCK SEDIMENT TRAP SHALL BE SIZED TO PROVIDE 2,000 CUBIC FEET OF STORAGE CAPACITY WITH 12" FIBERBOARD FOR EACH ACRE TRIBUTARY TO THE TRAP.
    - MINIMUM BASE WIDTH IS EQUIVALENT TO THE HEIGHT.
    - SEDIMENT ACCUMULATION SHALL NOT EXCEED 1/3 THE TOTAL HEIGHT OF THE TRAP.
    - SOCKS SHALL BE OF LARGER DIAMETER AT THE BASE OF THE TRAP AND DECREASE IN DIAMETER FOR SUCCESSIVE LAYERS AS INDICATED TO THE LEFT.
    - ENDS OF THE TRAP SHALL BE A MINIMUM OF 1 FOOT HIGHER IN ELEVATION THAN THE MID-SECTION, WHICH SHALL BE LOCATED AT THE POINT OF DISCHARGE.

NO.	DATE	BY	REVISION DESCRIPTION	NO.	NO.	CHK.	APP.
			TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC STANDARD ENVIRONMENTAL DETAIL				
			(CST) COMPOST SOCK SEDIMENT TRAP				



REFER TO THE QUANTITY, CROSSING AND ACIDIC SOIL TABLES FOR DETAIL AND DESIGN

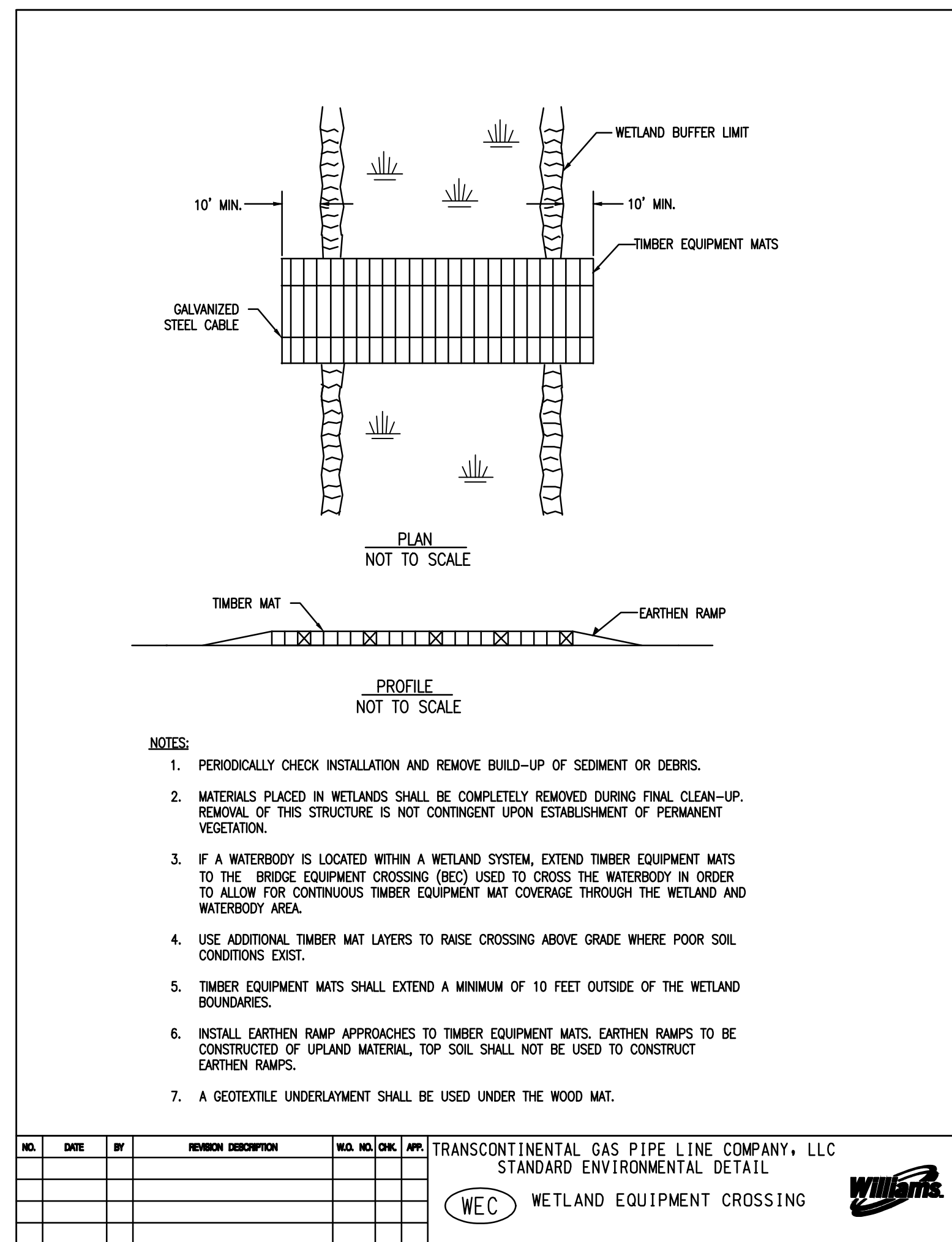
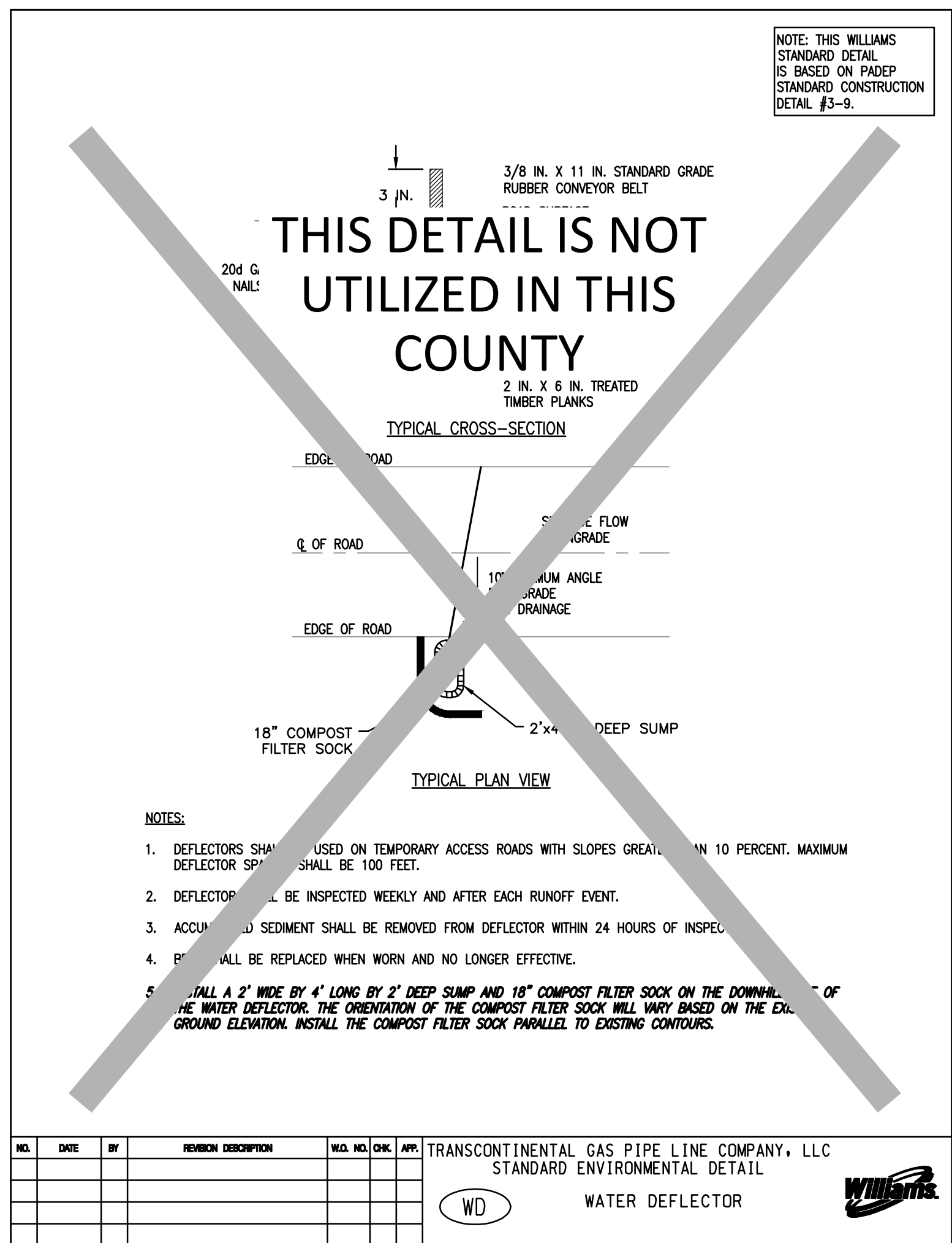
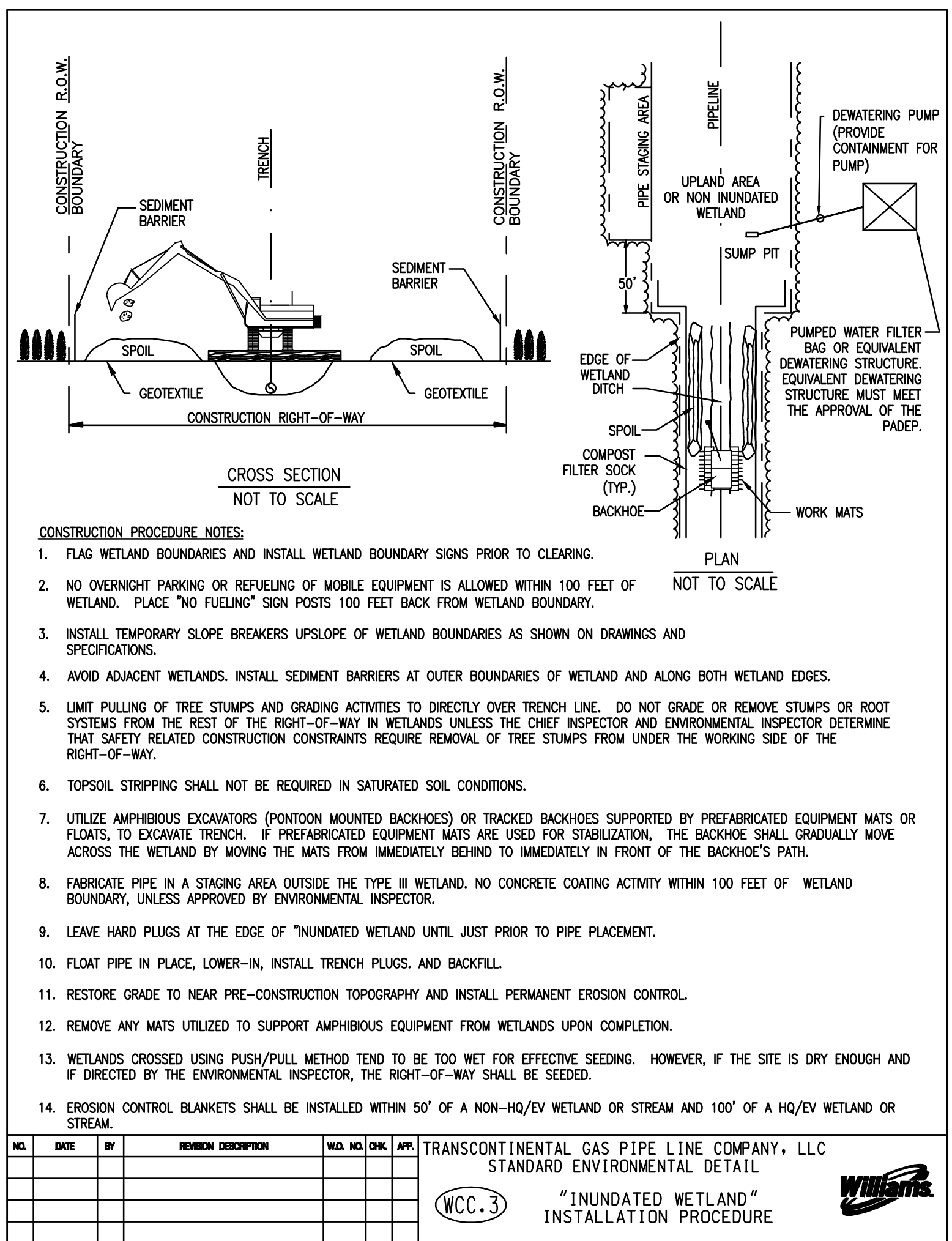
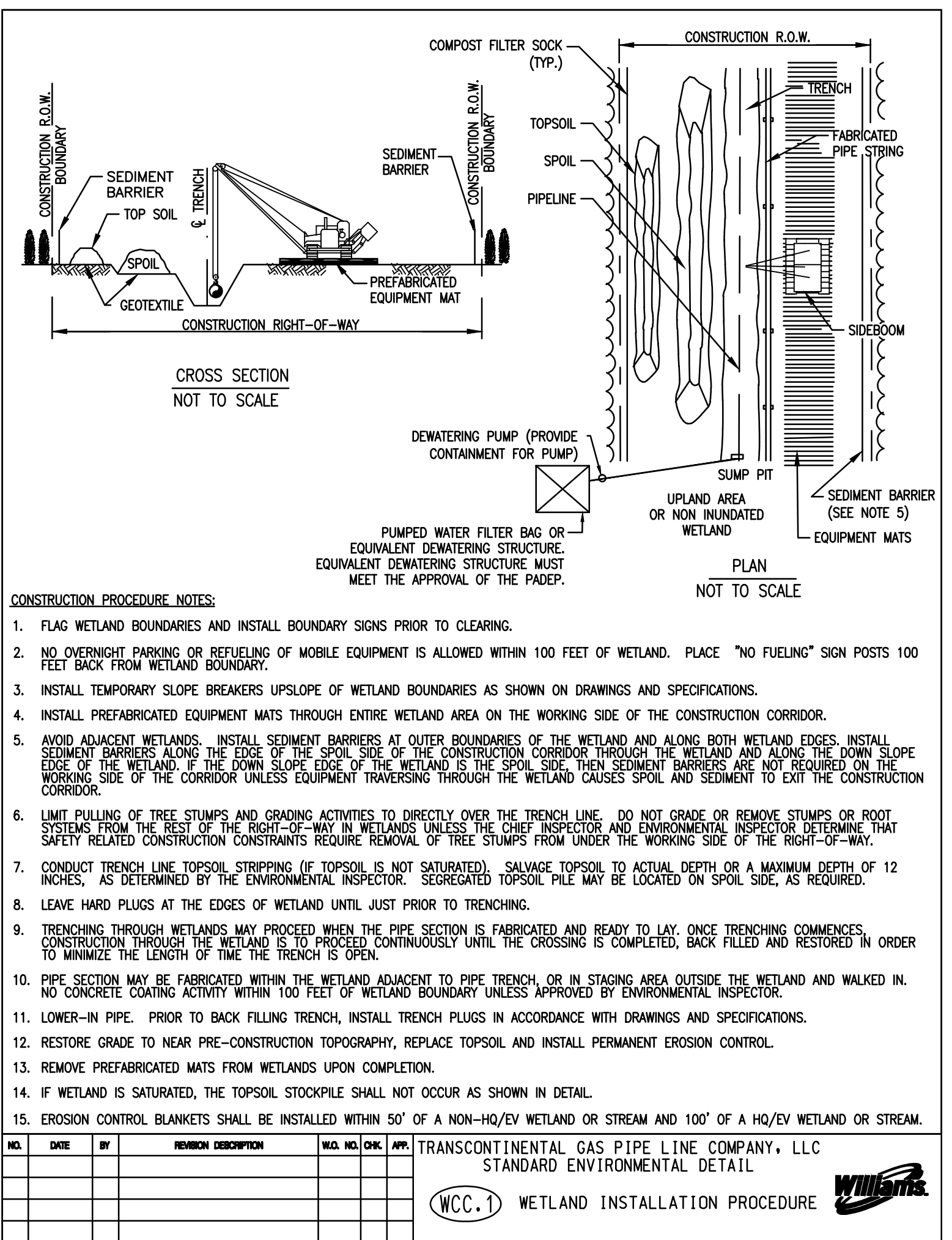
NO.	DATE	BY	REVISION DESCRIPTION	NO.	NO.	CHK.	APP.
			TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC STANDARD ENVIRONMENTAL DETAIL				
			(CWC) CLEAN WATER CROSSING				



REVISIONS							
NO.	DATE	BY	DESCRIPTION	W.O. NO.	CHK.	APP.	
0	08/26/2015	BL	ISSUED FOR PADEP SUBMITTAL	W0572385	JLK	SMK	
1	12/02/2015	BL	ISSUED FOR PADEP RESUBMITTAL	W0572385	JLK	SMK	
2	Oct. 2016	BL	PADEP TECHNICAL DEFICIENCY RESPONSE #1	W0572385	JLK	SMK	
3	April 2017	BL	PADEP TECHNICAL DEFICIENCY RESPONSE #2	W0572385	JLK	SMK	
4	AUG 2017	BL	PADEP TECHNICAL DEFICIENCY RESPONSE #3	W0572385	JLK	SMK	

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC ATLANTIC SUNRISE PROJECT							
BEST MANAGEMENT PRACTICES AND QUANTITIES PLAN SET							
BEST MANAGEMENT PRACTICES DETAILS							
DRAWN BY:	ELZ	DATE:	05/15/15	ISSUED FOR BID:		SCALE:	
CHECKED BY:	JLK	DATE:	07/02/15	ISSUED FOR CONSTRUCTION:		REVISION:	4
APPROVED BY:	SMK	DATE:	07/08/15	DRAWING NUMBER:	ASR-BMP	SHEET	2
W.O.:						OF	11





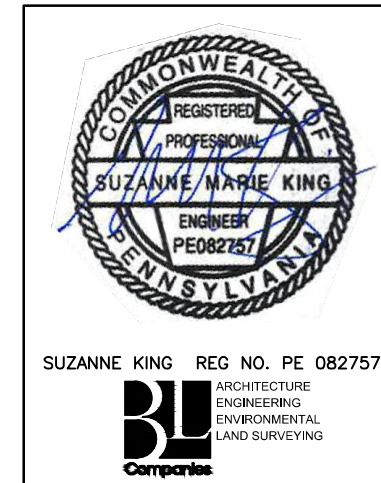
NO.	DATE	BY	REVISION DESCRIPTION	W.D.	NO.	CHK.	APP.
			TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC STANDARD ENVIRONMENTAL DETAIL				
			(WCC-1) WETLAND INSTALLATION PROCEDURE				

NO.	DATE	BY	REVISION DESCRIPTION	W.D.	NO.	CHK.	APP.
			TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC STANDARD ENVIRONMENTAL DETAIL				
			(WCC-3) "INUNDATED WETLAND" INSTALLATION PROCEDURE				

NO.	DATE	BY	REVISION DESCRIPTION	W.D.	NO.	CHK.	APP.
			TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC STANDARD ENVIRONMENTAL DETAIL				
			(WD) WATER DEFLECTOR				

NO.	DATE	BY	REVISION DESCRIPTION	W.D.	NO.	CHK.	APP.
			TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC STANDARD ENVIRONMENTAL DETAIL				
			(WEC) WETLAND EQUIPMENT CROSSING				

Drawn By & Date/Time: CScanzello Jul 27, 2017 - 4:37pm  
 Drawing Location & Name: G:\JOBS\14\14C\14C4909\DWG\BMPs&DETAILS\PL\_DNT14C4909(205)\_LE\_BMP-11.dwg



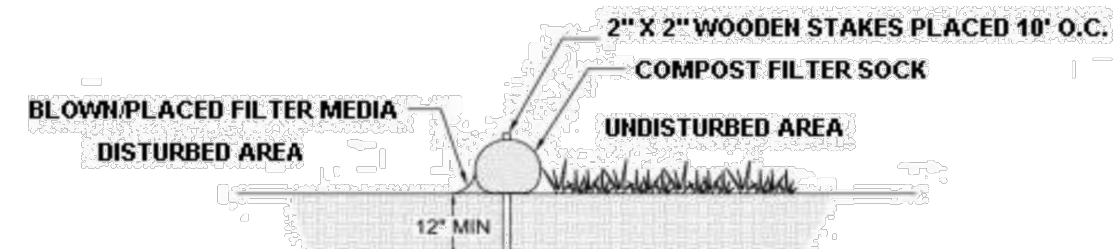
REVISIONS							
NO.	DATE	BY	DESCRIPTION	W.D.	NO.	CHK.	APP.
0	08/26/2015	BL	ISSUED FOR PADEP SUBMITTAL		W0572385	JLK	SMK
1	12/02/2015	BL	ISSUED FOR PADEP RESUBMITTAL		W0572385	JLK	SMK
2	Oct. 2016	BL	PADEP TECHNICAL DEFICIENCY RESPONSE #1		W0572385	JLK	SMK
3	April 2017	BL	PADEP TECHNICAL DEFICIENCY RESPONSE #2		W0572385	JLK	SMK
4	AUG 2017	BL	PADEP TECHNICAL DEFICIENCY RESPONSE #3		W0572385	JLK	SMK

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC				ATLANTIC SUNRISE PROJECT			
BEST MANAGEMENT PRACTICES AND QUANTITIES PLAN SET							
BEST MANAGEMENT PRACTICES DETAILS							
DRAWN BY:	ELZ	DATE:	05/15/15	ISSUED FOR BID:		SCALE:	
CHECKED BY:	JLK	DATE:	07/02/15	ISSUED FOR CONSTRUCTION:		REVISION:	4
APPROVED BY:	SMK	DATE:	07/08/15	DRAWING NUMBER:	ASR-BMP		
W.D.							



TABLE 1: SEDIMENT BARRIER SUMMARY

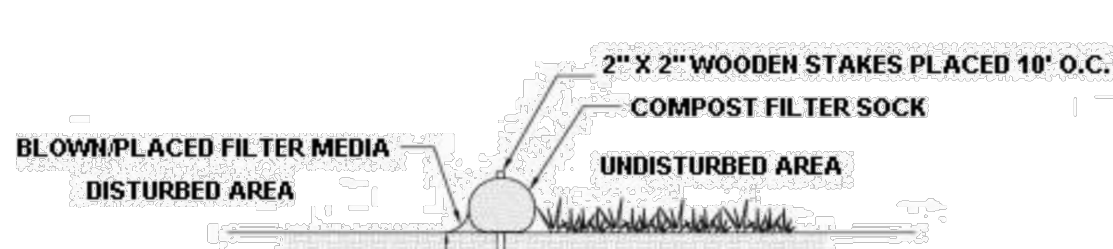
**E&S WORKSHEET #1**  
**Compost Filter Sock**  
 PROJECT NAME: ATLANTIC SUNRISE PROPOSED GAS PIPELINE  
 LOCATION: LEBANON COUNTY  
 PREPARED BY: ESS DATE: 03/25/2017  
 CHECKED BY: AJB DATE: 04/10/2017



MILEPOST NO.	Dia. In.	LOCATION	SLOPE PERCENT	SLOPE LENGTH ABOVE BARRIER (FT)
BEGIN STA.	END STA.	TYPE		
36	24	1929+00 to 1936+25	2	314
	12	1936+00 to 1937+00	2	135
	24	1937+50 to 1946+75	8	155
	12	1947+00 to 1951+75	Stream	100
37	18	1952+25 to 1954+00	Road	60
	12	1954+00 to 1957+50	4	280
	18	1957+50 to 1958+75	6	109
	24	1958+75 to 1961+75	15	90
	12	1961+50 to 1963+00	11	95
	24	1963+00 to 1966+50	33	28
	12	1966+75 to 1967+75	Stream	115
	12	1968+00 to 1974+50	5	100
	12	1974+50 to 1978+50	Road	4
	12	1978+50 to 1980+25	6	101
	12	1980+50 to 1980+75	Road	4
	12	1981+00 to 1982+25	Wetland/Stream	4
	24	1982+25 to 1987+00	2	50
	12	1987+00 to 1990+50	2	477
	24	1990+50 to 1992+00	4	183
	32	1992+25 to 1995+25	2	1229
	24	1995+25 to 1998+00	3	127
	12	1998+00 to 1999+50	2	50
	24	1998+25 to 2006+00	5	271
38	12	2005+75 to 2009+50	2	470
	32	2012+00 to 2014+50	5	513
	32	2017+00 to 2024+00	4	700
	18	2024+00 to 2024+50	Road	5
	18	2024+50 to 2032+25	6	308
	18	2032+50 to 2034+00	Wetland	2
	24	2034+00 to 2040+00	3	751
	12	2038+50 to 2039+00	Wetland	3
	24	2040+00 to 2044+25	3	137
	32	2044+25 to 2048+75	5	571
	24	2048+75 to 2052+00	5	293
	24	2053+00 to 2059+00	7	90
39	24	2059+00 to 2067+50	5	402
M-030	12	2067+50 to 0+00	2	186

Reroute Area  
 SOURCE: Pennsylvania Erosion and Sediment Pollution Control Manual, Page 372

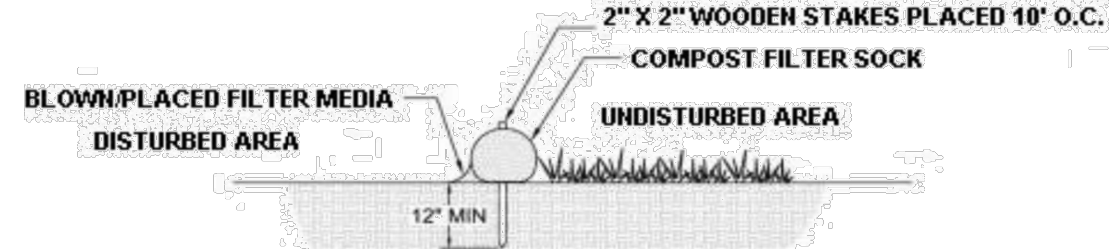
**E&S WORKSHEET #1**  
**Compost Filter Sock**  
 PROJECT NAME: ATLANTIC SUNRISE PROPOSED GAS PIPELINE  
 LOCATION: LEBANON COUNTY  
 PREPARED BY: ESS DATE: 03/25/2017  
 CHECKED BY: AJB DATE: 04/10/2017



MILEPOST NO.	Dia. In.	LOCATION	SLOPE PERCENT	SLOPE LENGTH ABOVE BARRIER (FT)	
BEGIN STA.	END STA.	TYPE			
M-030	24	4+50 to 6+75	2	108	
	12	6+75 to 8+75	2	201	
	12	12+00 to 12+00	Road	12	
	12	12+25 to 12+25	Road	6	
	24	13+50 to 16+00	14	114	
	12	16+25 to 17+75	Stream/Wetland	14	
	12	18+00 to 2095+00	14	130	
	24	2095+25 to 2100+50	5	138	
	24	2100+50 to 2110+75	6	177	
	40	12	2113+50 to 2114+00	Road	5
	24	2263+50 to 2269+50	4	382	
M-026	18	2114+00 to 0+50	2	260	
	32	0+50 to 4+75	4	670	
	18	8+00 to 12+00	10	145	
	24	12+00 to 2129+50	5	171	
	24	2129+75 to 2134+25	2	237	
M-0435	12	2134+25 to 6+25	2	103	
	12	6+50 to 12+00	9	130	
M-0228	18	12+00 to 2158+50	11	148	
	24	2158+75 to 2167+00	12	97	
	41	32	2167+25 to 2169+00	Stream	10
	18	2169+00 to 2171+25	16	156	
	18	2171+50 to 2172+50	Stream	18	
	24	2172+25 to 2178+00	6	106	
M-0436	24	2178+00 to 2+00	6	131	
	18	2+00 to 2+25	Road	8	
	12	2+25 to 3+25	7	109	
	24	3+25 to 3+75	Stream/Wetland	6	
	12	3+75 to 5+75	6	114	
	24	6+00 to 2189+00	8	136	
	12	2189+00 to 2192+00	9	130	
	24	2193+00 to 2203+00	8	124	
	12	2203+00 to 2204+00	2	346	
	12	2204+00 to 2204+25	Road	5	
	24	2204+25 to 2213+50	18	118	
	24	2213+50 to 2214+50	Stream	24	
	18	2214+75 to 2217+00	Road	20	
	18	2215+00 to 2217+00	23	79	

Reroute Area  
 SOURCE: Pennsylvania Erosion and Sediment Pollution Control Manual, Page 372

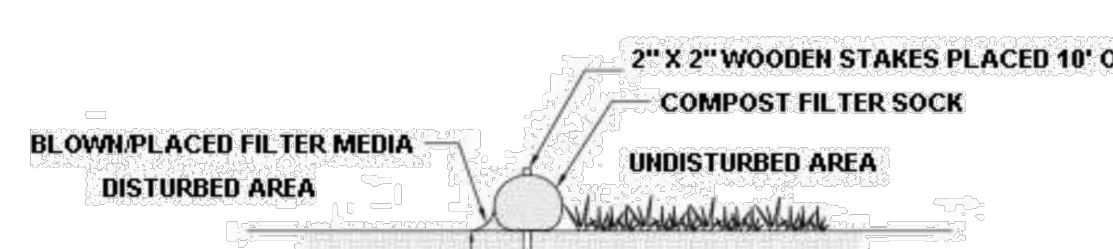
**E&S WORKSHEET #1**  
**Compost Filter Sock**  
 PROJECT NAME: ATLANTIC SUNRISE PROPOSED GAS PIPELINE  
 LOCATION: LEBANON COUNTY  
 PREPARED BY: ESS DATE: 03/25/2017  
 CHECKED BY: AJB DATE: 04/10/2017



MILEPOST NO.	Dia. In.	LOCATION	SLOPE PERCENT	SLOPE LENGTH ABOVE BARRIER (FT)
BEGIN STA.	END STA.	TYPE		
42	24	2217+00 to 2228+00	29	55
	18	2218+00 to 2222+75	12	150
	12	2218+50 to 2219+50	Stream/Wetland	16
	24	2222+75 to 2229+50	4	585
	32	2234+00 to 2234+00	4	585
	24	2234+50 to 2248+00	Stream	2
	12	2248+00 to 2248+50	2	100
	12	2248+50 to 2250+50	1	170
	12	2250+50 to 2251+00	Road	2
	12	2251+25 to 2251+00	5	237
	24	2261+50 to 2263+50	6	146
	24	2263+50 to 2269+50	3	687
43	24	2269+50 to 2277+50	7	132
	18	2281+50 to 2282+25	3	487
	24	2284+50 to 2289+50	5	199
	18	2290+00 to 2298+75	2	862
	24	2298+75 to 2301+00	2	241
	12	2301+00 to 2304+00	2	120
	12	2304+00 to 2304+25	Road	2
	18	2304+25 to 2307+00	3	427
	12	2307+00 to 2310+25	2	317
	24	2310+25 to 2316+00	4	99
	18	2316+00 to 2319+00	2	680
	24	2319+25 to 2320+50	6	129
	12	2320+75 to 2338+50	3	152
	24	2338+25 to 2344+00	3	174
	18	2344+00 to 2348+00	5	589
	12	2348+00 to 2354+00	2	183
	12	2356+50 to 2357+75	2	228
M-0424	24	2357+75 to 1+25	4	167
	12	1+25 to 1+75	Road	6
	12	1+75 to 18+00	2	345
	24	18+00 to 26+00	2	975
	12	26+75 to 31+00	5	210
	12	31+00 to 41+75	3	376
	24	41+75 to 41+75	3	616
	12	44+50 to 44+50	4	100

Reroute Area  
 SOURCE: Pennsylvania Erosion and Sediment Pollution Control Manual, Page 372

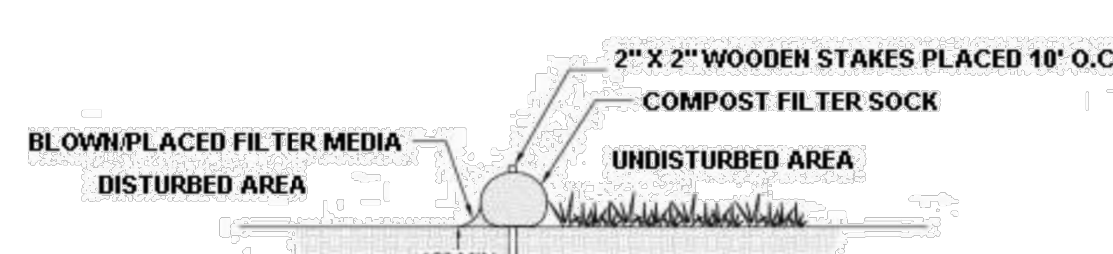
**E&S WORKSHEET #1**  
**Compost Filter Sock**  
 PROJECT NAME: ATLANTIC SUNRISE PROPOSED GAS PIPELINE  
 LOCATION: LEBANON COUNTY  
 PREPARED BY: ESS DATE: 03/25/2017  
 CHECKED BY: AJB DATE: 04/10/2017



MILEPOST NO.	Dia. In.	LOCATION	SLOPE PERCENT	SLOPE LENGTH ABOVE BARRIER (FT)
BEGIN STA.	END STA.	TYPE		
M-0459	12	1+00 to 9+75	2	136
	12	1+00 to 1+25	Road	4
	12	10+00 to 10+25	Road	2
	18	15+50 to 17+25	Road	3
	12	16+25 to 17+50	Road	2
	12	17+75 to 27+00	3	188
	12	28+00 to 30+00	Road	9
M-0211	12	3+52 to 6+00	9	113
	18	6+75 to 7+50	15	119
	12	8+25 to 8+75	Road	7
	12	8+75 to 11+00	10	134
	12	46+75 to 46+75	3	280
	12	48+00 to 48+00	ATWS	4
	12	48+50 to 49+00	Road	12
	12	49+25 to 54+50	8	67
	12	54+25 to 54+25	Road	32
	12	55+00 to 56+00	Railroad	2
	24	58+50 to 67+50	7	161
	12	67+50 to 72+00	Wetland/Stream	7
	12	71+25 to 72+00	Road	9
	24	72+25 to 77+25	6	147
	12	77+25 to 84+50	6	254
	12	81+75 to 82+00	Wetland	6
	12	84+00 to 84+50	Stream	5
	12	84+50 to 88+25	6	103
	24	88+25 to 2477+50	23	107
	12	2477+50 to 2480+50	2	302
	12	2480+50 to 2481+00	Road	3
	24	2481+00 to 2482+50	8	106
	24	2483+25 to 2484+75	5	408
	12	2486+00 to 2486+50	9	156
	24	2486+50 to 2490+75	14	122
	12	2490+75 to 2493+50	4	159
	24	2493+50 to 2498+00	10	151
	24	2501+75 to 2508+00	2	1164
	24	2503+50 to 2508+00	6	155
	18	2508+00 to 2511+25	10	163

Reroute Area  
 SOURCE: Pennsylvania Erosion and Sediment Pollution Control Manual, Page 372

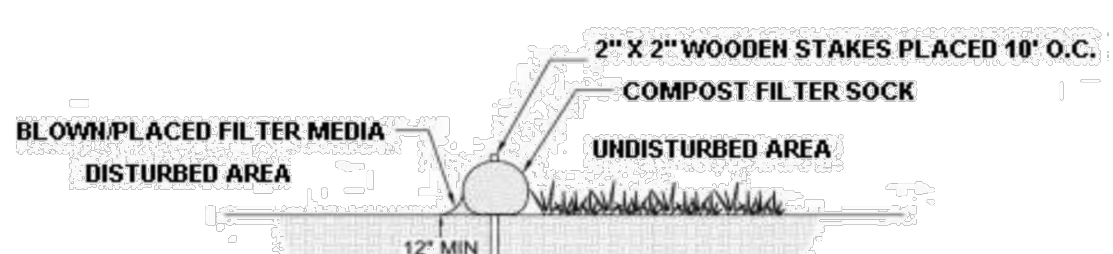
**E&S WORKSHEET #1**  
**Compost Filter Sock**  
 PROJECT NAME: ATLANTIC SUNRISE PROPOSED GAS PIPELINE  
 LOCATION: LEBANON COUNTY  
 PREPARED BY: ESS DATE: 03/25/2017  
 CHECKED BY: AJB DATE: 04/10/2017



MILEPOST NO.	Dia. In.	LOCATION	SLOPE PERCENT	SLOPE LENGTH ABOVE BARRIER (FT)
BEGIN STA.	END STA.	TYPE		
47	12	2513+50 to 2513+75	7	50
	24	2513+75 to 2517+25	4	458
	24	2517+25 to 2526+00	12	107
	12	2527+00 to 2537+50	Road	10
	18	2527+50 to 2528+50	Wetland	16
	18	2528+50 to 2529+50	27	63
48	24	2529+50 to 2541+50	8	155
	24	2541+50 to 2542+00	Wetland/Stream	22
	24	2542+00 to 2545+00	21	104
	18	2545+00 to 2550+75	8	265
	24	2551+00 to 2552+00	8	138
	12	2552+25 to 2553+50	3	201
	24	2553+75 to 2563+25	7	150
	12	2563+25 to 2564+25	Wetland/Stream	67
	24	2564+25 to 2566+50	19	88
	12	2566+50 to 2567+00	Road	28
	24	2567+25 to 2575+00	15	120
	12	2575+00 to 2576+00	Wetland/Stream	31
	18	2576+00 to 2579+50	10	170
	12	2582+25 to 2583+00	2	140
	24	2583+00 to 2583+50	9	79
	24	2585+00 to 2589+75	10	152
49	12	2589+50 to 2590+00	Road	8
	12	2590+00 to 2593+00	6	139
	24	2593+00 to 2595+00	15	170
	32	2595+50 to 2598+25	8	376
	24	2598+25 to 2600+25	10	110
	12	2602+50 to 2604+25	Stream	31
	12	2604+25 to 2605+25	Stream	1
	12	2605+25 to 2605+75	Road	3
	24	2605+75 to 2621+75	5	134
M-0229	12	2621+75 to 2623+50	2	186
	12	2623+50 to 2623+50	Road	2
	12	2623+50 to 2634+00	2	412
	24	2634+00 to 2636+50	2	271
	18	2636+50 to 2642+25	4	360
	24	2642+25 to 2643+00	34	52

Reroute Area  
 SOURCE: Pennsylvania Erosion and Sediment Pollution Control Manual, Page 372

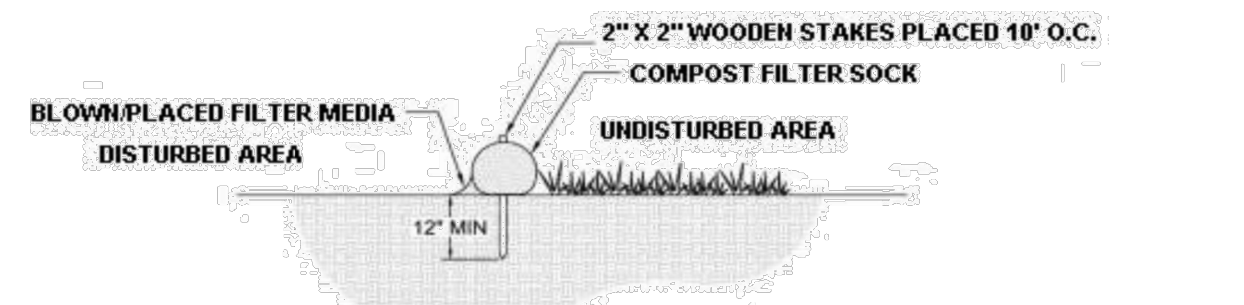
**E&S WORKSHEET #1**  
**Compost Filter Sock**  
 PROJECT NAME: ATLANTIC SUNRISE PROPOSED GAS PIPELINE  
 LOCATION: LEBANON COUNTY  
 PREPARED BY: ESS DATE: 03/25/2017  
 CHECKED BY: AJB DATE: 04/10/2017



MILEPOST NO.	Dia. In.	LOCATION	SLOPE PERCENT	SLOPE LENGTH ABOVE BARRIER (FT)
BEGIN STA.	END STA.	TYPE		
50	12	2643+00 to 2643+75	Wetland/Stream	8
	24	2644+00 to 2646+00	3	230
	18	2646+00 to 2646+25	Road	4
	18	2646+25 to 2649+00	4	345
	24	2650+75 to 2655+25	4	189
	24	2654+75 to 2658+50	4	600
	24	2658+50 to 2666+25	9	142
	12	2666+25 to 2666+50	Stream	24
	18			

TABLE 1: SEDIMENT BARRIER SUMMARY (CONTINUED)

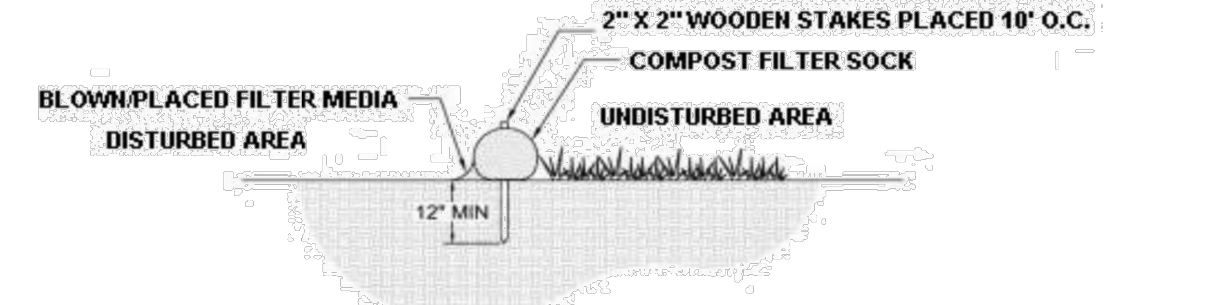
**E&S WORKSHEET #1**  
Compost Filter Sock  
PROJECT NAME: ATLANTIC SUNRISE PROPOSED GAS PIPELINE  
LOCATION: LEBANON COUNTY  
PREPARED BY: ESS DATE: 03/25/2017  
CHECKED BY: AJB DATE: 04/10/2017



MILEPOST NO.	Dia. In.	BEGIN STA.	END STA.	LOCATION TYPE	SLOPE PERCENT	SLOPE LENGTH ABOVE BARRIER (FT)
56	32	2971+50	2972+00	Wetland	2	117
	12	2972+50	2973+75	Road	2	384
	12	2973+75	2973+75	Road	2	340
	12	2974+00	2974+00	Road	2	434
	12	2974+50	2986+25	Road	2	444
	12	2986+25	2986+50	Road	2	401
	12	2986+75	2987+25	Road	2	491
	18	2988+25	2991+25	Wetland/Stream	2	521
	12	2991+25	2994+25	Wetland	30	201
	12	2994+25	2994+50	Wetland	4	84
	12	2994+75	2996+00	Wetland	4	137
	32	2996+50	2998+50	Road	2	1074
	12	2998+50	2998+50	Wetland	3	115
	24	2999+75	2999+75	Road	2	990
	32	2999+50	3004+00	Wetland/Stream	2	994
	32	3003+50	3003+50	Stream	3	975
	24	3004+00	3006+50	Road	2	987
M-0205	18	0+00	2+00	Stream	5	270
	12	1+00	3+75	Road	9	119
	12	3+75	4+75	Road	18	37
	12	4+25	4+25	Road	13	43
	12	10+50	14+50	Road	12	97
	18	19+50	20+50	Road	20	83
	18	21+00	3030+75	Road	20	86
	18	21+25	3030+75	Road	19	79
	24	3030+75	3036+50	Road	21	175
M-0230	18	1+00	2+50	Road	17	87
	12	2+50	2+75	Road	6	80
	18	2+75	4+00	Road	18	88
	32	10+00	10+00	Road	21	199
	12	11+00	12+00	Road	5	56
	18	13+75	3088+75	Road	38	46
	24	3088+75	3090+75	Wetland/Stream	6	273
	12	3090+75	3098+00	Road	6	271
	18	3098+25	3098+25	Road	8	178
	18	3098+50	3098+50	Road	2	660
	18	3098+50	3100+25	Road	2	630

-Reroute Area  
SOURCE: Pennsylvania Erosion and Sediment Pollution Control Manual, Page 372

**E&S WORKSHEET #1**  
Compost Filter Sock  
PROJECT NAME: ATLANTIC SUNRISE PROPOSED GAS PIPELINE  
LOCATION: LEBANON COUNTY  
PREPARED BY: ESS DATE: 03/25/2017  
CHECKED BY: AJB DATE: 04/10/2017



MILEPOST NO.	Dia. In.	BEGIN STA.	END STA.	LOCATION TYPE	SLOPE PERCENT	SLOPE LENGTH ABOVE BARRIER (FT)	
58	18	3100+25	3101+25	Wetland	3	453	
	18	3101+75	3102+00	Stream	4	399	
	18	3102+25	3107+00	Wetland	2	566	
	24	3107+25	3113+75	Stream/Road	3	143	
	18	3113+75	3120+25	Stream	6	250	
	24	3120+75	3125+00	Road	3	135	
	12	3126+00	3126+00	Road	2	156	
	12	3126+25	3126+25	Road	2	111	
	24	3126+25	3129+75	Road	4	178	
	12	3130+25	3131+25	Wetland	11	108	
	12	3131+25	3132+25	Stream/Road	3	1	
M-0176	24	3132+50	3125	Stream	12	226	
	32	1+75	3+50	Stream	11	345	
	18	4+75	5+75	Stream	11	207	
	18	5+00	8+25	Road	11	207	
	32	12+25	16+50	Road	4	675	
	18	16+50	17+75	Road	7	212	
	18	17+00	18+25	Road	9	178	
	24	17+00	21+00	Road	10	251	
	59	18	3155+00	3156+50	Road	6	228
	18	3156+75	3158+75	Road	5	246	
M-0200	18	3158+25	0+00	Road	8	182	
	12	0+75	3+25	Road	4	244	
	18	3+50	3+50	Road	7	210	
	12	3+75	5+00	Road	3	265	
	18	5+25	12+00	Road	6	228	
	18	12+50	13+75	Road	18	133	
	18	13+75	14+50	Stream	14	115	
	18	14+25	15+25	Road	5	270	
	12	15+25	15+75	Wetland	6	127	
	24	15+75	25+50	Road	15	205	
	24	26+50	39+25	Road	5	496	
	18	39+50	3201+75	Wetland/Stream	2	199	
	12	3201+75	3203+50	Wetland/Stream	2	143	
	12	3202+50	3203+00	Road	11	54	
	18	3204+00	3204+00	Road	5	252	
61	12	3204+25	3227+00	Road	4	244	

-Reroute Area  
SOURCE: Pennsylvania Erosion and Sediment Pollution Control Manual, Page 372

TABLE 4: WETLANDS CROSSED BY CPLS PIPELINE AND ACCESS ROADS IN LEBANON COUNTY

Wetland ID	Milepost	County	Township	Wetland Classes Impacted	
W-T14-5008A	50.07	Lebanon	East Hanover	PEM	
W-T14-5010-1	50.53	Lebanon	East Hanover	PEM	
W-T14-5014	52.64	Lebanon	East Hanover	PEM	
W-T43-5004	M-0183.1.35	Lebanon	North Annville	PEM	
W-T43-5003	M-0183.1.55	Lebanon	North Annville	PEM	
W-T14-5002	47.88	Lebanon	North Annville	PEM	
W-T14-5003	48.14	Lebanon	North Annville	PEM	
W-T14-5005A	48.77	Lebanon	North Annville	PEM	
W-T14-5005C	48.78	Lebanon	North Annville	PFO	
W-T13-4002	41.93	Lebanon	South Annville	PSS	
W-T43-4001	42.04	Lebanon	South Annville	PEM	
W-T96-4003A	37.53	Lebanon	South Londonderry	PEM	
W-T11-4004	37.85	Lebanon	South Londonderry	PEM	
W-T11-4003	38.51	Lebanon	South Londonderry	PEM	
W-T18-4003	38.61	Lebanon	South Londonderry	PEM	
W-T32-4001	M-0300.0.32	Lebanon	South Londonderry	PEM	
W-T14-5015A	53.04	Lebanon	Union	PEM	
W-T14-5015B	53.04	Lebanon	Union	PSS	
W-T13-6002	53.46	Lebanon	Union	PEM	
W-T10-6004	53.57	Lebanon	Union	PEM	
W-T10-6003A/W-T10-6003A-1	53.75	Lebanon	Union	PEM	
W-T10-6003B	53.78	Lebanon	Union	PSS	
W-T10-6002C	M-0489.0.03	Lebanon	Union	PFO	
W-T10-6002A	M-0489.0.02	Lebanon	Union	PEM	
W-T69-6001	54.95	Lebanon	Union	PEM	
W-T30-6001	55.48	Lebanon	Union	PFO	
W-T30-6003	55.92	Lebanon	Union	PEM	
W-T32-6001	56.28	Lebanon	Union	PEM	
W-T67-6001	56.62	Lebanon	Union	PEM	
W-T67-6002	56.69	Lebanon	Union	PEM	
W-T40-6001A	56.84	Lebanon	Union	PEM	
W-T40-6001C	56.86	Lebanon	Union	PFO	
W-T43-6002	58.51	Lebanon	Union	PEM	
W-T23-6002A-2	58.73	Lebanon	Union	PEM	
W-T23-6002C	58.80	Lebanon	Union	PFO	
W-T33-6001	59.29	Lebanon	Union	PEM	
W-T44-7001	M-0200.0.30	Lebanon	Union	PEM	
W-T23-6001C	60.66	Lebanon	Union	PFO	
W-T20-7001	61.17	Lebanon	Union	PFO	
Access Roads	W-T33-6001	AR-LE-052.1	Lebanon	Union	PEM

Key:  
PEM = Palustrine Emergent  
PFO = Palustrine Forested  
PSS = Palustrine Scrub-Shrub

MILEPOST NO.	Dia. In.	BEGIN STA.	END STA.	LOCATION TYPE	SLOPE PERCENT	SLOPE LENGTH ABOVE BARRIER (FT)
61	12	3226+25	3226+75	Stream	6	247
	18	3227+25	3227+25	Stream	6	247
	32	3227+50	3229+00	Stream	2	364
	18	3229+00	3229+50	Road	7	159
	12	3229+25	3229+75	Stream	9	157
	18	3229+75	3232+25	Stream	16	115
	32	3232+00	3242+25	Stream/Road	9	409
	12	3242+50	3242+50	Stream/Road	5	141
	12	3243+00	3243+25	Road	26	20
	12	3244+50	3249+75	Road	4	278
	24	3250+00	3252+25	Road	8	304
	24	3252+75	3271+75	Road	23	120
	12	3272+25	3272+50	Stream	12	15
	18	3272+50	3276+75	Road	12	128
	18	3276+50	3277+00	Road	4	368
	18	3276+75	3289+50	Road	10	165
	32	3290+50	3291+25	Road	7	500
	18	3292+00	3298+00	Road	10	165
	18	3298+00	3300+50	Road	29	40
	12	3300+50	3301+25	Stream	7	120
	18	3301+25	3319+25	Road	11	158
	12	3319+50	3326+25	Road	12	109
63	18	3326+50	3359+50	Road	11	167
	18	3362+25	3363+00	Road	18	117
	12	3363+00	3363+25	Stream	15	45
	18	3364+00	3374+25	Road	10	167
	12	3375+25	3375+50	Stream	29	20
	12	3376+75	3379+00	Road	6	129
	18	3379+00	3382+50	Road	15	172
	18	3383+00	3383+25	Stream	13	236
	18	3383+25	3386+25	Road	15	150
	32	3388+00	3393+75	Road	4	518

SOURCE: Pennsylvania Erosion and Sediment Pollution Control Manual, Page 372

Drawn By & Date: CScanzello Jul 28, 2017 - 4:48pm  
Drawing Location & Name: G:\08514\14C\14C4909\DWG\BMPs&DETAILS\PL\_DNT14C4909(205)\_LE-TB.dwg

TABLE 3: WATERBODIES CROSSED BY CPLS PIPELINE AND ACCESS ROADS IN LEBANON COUNTY

Waterbody ID	Waterbody Name	Milepost	County	Township	Stream Type	State Water Quality Use Classification - Designated Use	State Fishery Classification	Crossing Method	Crossing Window
WW-T14-5006	Swatara Creek(WW-T14-5006)	49.30	Lebanon	East Hanover	Perennial	WWF, MF	None	Flume	None
WW-T14-5006A	UNT to Swatara Creek(WW-T14-5006A)	49.34	Lebanon	East Hanover	Intermittent	WWF, MF	None	N/A	None
WW-T14-5007	UNT to Swatara Creek(WW-T14-5007)	50.06	Lebanon	East Hanover	Intermittent	WWF, MF	None	Dam-and-Pump	None
WW-T99-5008A	UNT to Swatara Creek(WW-T99-5008A)	50.50	Lebanon	East Hanover	Perennial	WWF, MF	None	Dam-and-Pump	None
WW-T14-5008	UNT to Swatara Creek(WW-T14-5008)	50.53	Lebanon	East Hanover	Perennial	WWF, MF	None	Dam-and-Pump	None
WW-T14-5009A	UNT to Swatara Creek(WW-T14-5009A)	51.21	Lebanon	East Hanover	Perennial	WWF, MF	None	Dam-and-Pump	None
WW-T44-5001	UNT to Swatara Creek(WW-T44-5001)	M-0423.0.12	Lebanon	East Hanover	Intermittent	WWF, MF	None	Dam-and-Pump	None
WW-T14-5010	UNT to Reeds Creek(WW-T14-5010)	52.65	Lebanon	East Hanover	Intermittent	WWF, MF	None	Dam-and-Pump	None
WW-T14-5011	UNT to Reeds Creek(WW-T14-5011)	52.77	Lebanon	East Hanover	Intermittent	WWF, MF	None	Dam-and-Pump	None
WW-T14-5011A	UNT to Reeds Creek(WW-T14-5011A)	52.78	Lebanon	East Hanover	Intermittent	WWF, MF	None	Dam-and-Pump	None
WW-T43-5003	Quitapahilla Creek(WW-T43-5003)	M-0183.1.32	Lebanon	North Annville	Perennial	TSF, MF	Approved Trout Waters, Trout Stocked Stream	Flume	June 16 through February 28
WW-T43-5001	UNT to Quitapahilla Creek(WW-T43-5001)	M-0183.1.60	Lebanon	North Annville	Intermittent	TSF, MF	Approved Trout Waters	Dam-and-Pump	June 16 through February 28
WW-T14-5003	UNT to Swatara Creek(WW-T14-5003)	48.14	Lebanon	North Annville	Intermittent	WWF, MF	None	Dam-and-Pump	None
WW-T14-5004	UNT to Swatara Creek(WW-T14-5004)	48.55	Lebanon	North Annville	Perennial	WWF, MF	None	Flume	None
WW-T14-5005	UNT to Swatara Creek(WW-T14-5005)	48.78	Lebanon	North Annville	Perennial	WWF, MF	None	Dam-and-Pump	None
WW-T13-4004	UNT to Little Conewago Creek(WW-T13-4004)	M-0470.0.08	Lebanon	South Annville	Perennial	TSF, MF	None	Conventional Bore	None
WW-T13-4003	UNT to Gingrich Run(WW-T13-4003)	41.92	Lebanon	South Annville	Perennial	TSF, MF	None	Dam-and-Pump	None
WW-T33-4001	UNT to Gingrich Run(WW-T33-4001)	42.03	Lebanon	South Annville	Ephemeral	TSF, MF	None	Dam-and-Pump	None
WW-T64-5001	Gingrich Run(WW-T64-5001)	42.58	Lebanon	South Annville	Perennial	TSF, MF	None	Flume	None
WW-T64-4001	UNT to Conewago Creek(WW-T64-4001)	36.95	Lebanon	South Londonderry	Intermittent	TSF, MF	Trout Stocked Stream	Dam-and-Pump	June 16 through February 28
WW-T30-4003	UNT to Conewago Creek(WW-T30-4003)	37.25	Lebanon	South Londonderry	Ephemeral	TSF, MF	Approved Trout Waters, Trout Stocked Stream	Dam-and-Pump	June 16 through February 28
WW-T30-4002	Conewago Creek(WW-T30-4002)	37.54	Lebanon	South Londond					



TABLE 2: TEMPORARY CLEAN WATER DIVERSION SUMMARY

MILE POST	TEMPORARY DIVERSION SUMMARY - LEBANON COUNTY, PENNSYLVANIA										WATERBODY**				TEMP. PIPE (CLEAN WATER) CROSSING					
	DIVERSION ID	DIVERSION TYPE	BOTTOM WIDTH 8 (FT)	DEPTH D (FT)	TOP WIDTH W (FT)	Z1 (FT)	Z2 (FT)	TEMPORARY LINING	PERMANENT LINING	DISCHARGE TYPE	INITIAL WIDTH (FT)	INITIAL LENGTH (FT)	LENGTH (FT)	RIP RAP SIZE***	RIP RAP THICKNESS (IN)	R.O.W. SLOPE (%)	Q (CFS)	TEMPORARY PIPE SIZE DIAMETER (IN)	# OF PIPES	
39	39.01	SWALE	2	2	10.00	2	2	SC150	REINFORCED VEGETATION	TEMP. PIPE	-	-	-	-	-	2	13.28	12	3	
	39.02	SWALE	2	2	10.00	2	2	S75	UNREINFORCED VEGETATION	TEMP. PIPE	-	-	-	-	-	3	6.88	12	2	
40	40.01A	SWALE	2	2	10.00	2	2	S75	UNREINFORCED VEGETATION	TEMP. PIPE	-	-	-	-	-	2	4.8	12	1	
	40.01B	SWALE	2	2	10.00	2	2	S75	UNREINFORCED VEGETATION	TEMP. PIPE	-	-	-	-	-	4	4.48	12	1	
	40.02A	SWALE	2	2	10.00	2	2	SC150	REINFORCED VEGETATION	TEMP. PIPE	-	-	-	-	-	13	7.52	12	2	
	40.02B	SWALE	2	2	10.00	2	2	S75	UNREINFORCED VEGETATION	TEMP. PIPE	-	-	-	-	-	20	7.36	12	2	
	40.03	FILTER SOCK	0	1.25	10.00	0	8	SC150	REINFORCED VEGETATION	TEMP. PIPE	-	-	-	-	-	14	3.68	12	1	
41	41.01A	SWALE	2	2	10.00	2	2	SC150	REINFORCED VEGETATION	WATERBODY	2	2	12	R-4	18	N/A	8	N/A	N/A	
	41.01B	SWALE	2	2	10.00	2	2	C125	REINFORCED VEGETATION	TEMP. PIPE	-	-	-	-	-	6	8	12	2	
	41.02	SWALE	2	2	10.00	2	2	S75	UNREINFORCED VEGETATION	WATERBODY	2	2	8	R-4	18	N/A	6.88	N/A	N/A	
	41.03	SWALE	2	2	10.00	2	2	SC150	REINFORCED VEGETATION	TEMP. PIPE	-	-	-	-	-	8	12.48	12	3	
	41.04	SWALE	2	2	10.00	2	2	W3000	REINFORCED VEGETATION	TEMP. PIPE	-	-	-	-	-	10	11.84	12	2	
42	41.05	FILTER SOCK	0	1.6	6.32	0	4	SC150	REINFORCED VEGETATION	TEMP. PIPE	-	-	-	-	-	11	0.96	12	1	
	42.01A	SWALE	2	2	10.00	2	2	SC150	REINFORCED VEGETATION	TEMP. PIPE	-	-	-	-	-	8	6.08	12	2	
	42.01B	SWALE	2	2	10.00	2	2	S75	UNREINFORCED VEGETATION	TEMP. PIPE	-	-	-	-	-	13	3.20	12	1	
	42.02A	SWALE	2	2	10.00	2	2	S75	UNREINFORCED VEGETATION	WATERBODY	2	2	8	R-4	18	N/A	7.84	N/A	N/A	
	42.02B	SWALE	2	2	10.00	2	2	SC150	REINFORCED VEGETATION	TEMP. PIPE	-	-	-	-	-	1	7.84	18	1	
	42.02C	SWALE	2	2.5	12.00	2	2	S75	UNREINFORCED VEGETATION	TEMP. PIPE	-	-	-	-	-	1	8	18	1	
	42.03A	FILTER SOCK	0	1.25	10.00	0	8	S75	UNREINFORCED VEGETATION	TEMP. PIPE	-	-	-	-	-	3	1.76	12	1	
	42.03B	SWALE	2	2	10.00	2	2	S75	UNREINFORCED VEGETATION	TEMP. PIPE	-	-	-	-	-	2	7.84	18	1	
	46	46.01	SWALE	2	2	10.00	2	2	S75	UNREINFORCED VEGETATION	TEMP. PIPE	-	-	-	-	-	7	4	12	1
46.02A		SWALE	2	2.5	12.00	2	2	SC150	REINFORCED VEGETATION	TEMP. PIPE	-	-	-	-	-	8	25.92	12	5	
46.02B		SWALE	2	2	10.00	2	2	SC150	REINFORCED VEGETATION	TEMP. PIPE	-	-	-	-	-	6	2.72	12	1	
46.03		SWALE	2	2.5	12.00	2	2	SC250	REINFORCED VEGETATION	WATERBODY	2	2	26	R-6	36	N/A	42.24	N/A	N/A	
47	47.01	SWALE	2	2	10.00	2	2	SC150	REINFORCED VEGETATION	TEMP. PIPE	-	-	-	-	-	5	20	12	4	
	47.02A	SWALE	2	2	10.00	2	2	SC250	REINFORCED VEGETATION	TEMP. PIPE	-	-	-	-	-	10	6.56	12	2	
	47.02B	SWALE	2	2	10.00	2	2	SC150	REINFORCED VEGETATION	TEMP. PIPE	-	-	-	-	-	10	3.2	12	1	
	47.03	SWALE	2	2	10.00	2	2	SC150	REINFORCED VEGETATION	TEMP. PIPE	-	-	-	-	-	3	2.08	12	1	
48	48.01	FILTER SOCK	0	1	9.00	0	9	SC150	REINFORCED VEGETATION	TEMP. PIPE	-	-	-	-	-	6	2.08	12	1	
	48.02	SWALE	2	2	10.00	2	2	SC250	REINFORCED VEGETATION	TEMP. PIPE	-	-	-	-	-	5	19.52	12	4	
	48.03	SWALE	2	2.5	12.00	2	2	SC250	REINFORCED VEGETATION	TEMP. PIPE	-	-	-	-	-	4	39.04	18	4	
49	49.01	SWALE	2	2	10.00	2	2	S75	UNREINFORCED VEGETATION	TEMP. PIPE	-	-	-	-	-	7	1.6	12	1	
	50.01	SWALE	2	2	10.00	2	2	P550	REINFORCED VEGETATION	WATERBODY	2	2	8	R-4	18	N/A	2.24	N/A	N/A	
50	50.02	SWALE	2	2	10.00	2	2	SC150	REINFORCED VEGETATION	TEMP. PIPE	-	-	-	-	-	4	9.44	12	2	
	51.01	SWALE	2	2	10.00	2	2	SC150	REINFORCED VEGETATION	TEMP. PIPE	-	-	-	-	-	4	7.04	12	2	
51	51.01	SWALE	2	2	10.00	2	2	SC150	REINFORCED VEGETATION	TEMP. PIPE	-	-	-	-	-	4	7.04	12	2	
	57.01A	SWALE	2	2	10.00	2	2	SC250	REINFORCED VEGETATION	TEMP. PIPE	-	-	-	-	-	5	6.72	12	2	
	57.01B	SWALE	2	2	10.00	2	2	SC250	REINFORCED VEGETATION	TEMP. PIPE	-	-	-	-	-	20	6.88	12	2	
57	57.02	FILTER SOCK	0	1.6	6.32	0	4	C125	REINFORCED VEGETATION	TEMP. PIPE	-	-	-	-	-	11	2.08	12	1	
	59.01	SWALE	2	2	10.00	2	2	S75	UNREINFORCED VEGETATION	TEMP. PIPE	-	-	-	-	-	6	2.56	12	1	
	59.02	SWALE	2	2	10.00	2	2	S75	UNREINFORCED VEGETATION	TEMP. PIPE	-	-	-	-	-	7	2.4	12	1	
	59.03	FILTER SOCK	0	1.6	7.90	0	5	SC250	REINFORCED VEGETATION	TEMP. PIPE	-	-	-	-	-	10	0.96	12	1	
59	59.04A	SWALE	2	2	10.00	2	2	S75	UNREINFORCED VEGETATION	TEMP. PIPE	-	-	-	-	-	7	5.1	12	1	
	59.04B	SWALE	2	2	10.00	2	2	S75	UNREINFORCED VEGETATION	TEMP. PIPE	-	-	-	-	-	7	7.78	12	2	
	60.01A	SWALE	2	2	10.00	2	2	SC150	REINFORCED VEGETATION	TEMP. PIPE	-	-	-	-	-	24	7.04	12	2	
	60.01B	SWALE	2	2	10.00	2	2	S75	UNREINFORCED VEGETATION	TEMP. PIPE	-	-	-	-	-	18	7.63	12	2	
60	60.01C	FILTER SOCK	0	1.6	1.30	0	2	SC250	REINFORCED VEGETATION	TEMP. PIPE	-	-	-	-	-	20	1.5	12	1	
	60.02	SWALE	2	3	14.00	2	2	SC150	REINFORCED VEGETATION	TEMP. PIPE	-	-	-	-	-	15	30.15	12	5	
	61.01	FILTER SOCK	0	1.6	7.90	0	5	SC150	REINFORCED VEGETATION	TEMP. PIPE	-	-	-	-	-	15	4.64	12	1	
	61.02	FILTER SOCK	0	1.6	7.90	0	5	S75	UNREINFORCED VEGETATION	TEMP. PIPE	-	-	-	-	-	10	0.96	12	1	
61	61.03	FILTER SOCK	0	1.6	7.90	0	5	SC150	REINFORCED VEGETATION	TEMP. PIPE	-	-	-	-	-	19	3.52	12	1	
	61.04	SWALE	2	2	10.00	2	2	S75	UNREINFORCED VEGETATION	WATERBODY	2	2	8	R-4	18	N/A	5.12	N/A	N/A	
	62.01	SWALE	2	2	10.00	2	2	SC250	REINFORCED VEGETATION	TEMP. PIPE	-	-	-	-	-	4	6.88	12	2	
	62.02	FILTER SOCK	0	1	10.00	0	10	S75	UNREINFORCED VEGETATION	TEMP. PIPE	-	-	-	-	-	14	0.8	12	1	
62	62.03	FILTER SOCK	0	1.6	7.90	0	5	SC150	REINFORCED VEGETATION	TEMP. PIPE	-	-	-	-	-	12	4.96	12	1	
	62.04	FILTER SOCK	0	1.25	10.00	0	8	SC150	REINFORCED VEGETATION	TEMP. PIPE	-	-	-	-	-	12	4.64	12	1	
	62.05	FILTER SOCK	0	1.6	7.90	0	5	P550	REINFORCED VEGETATION	WATERBODY	2	2	8	R-4	18	N/A	3.2	12	N/A	
	62.06	SWALE	2	2	10.00	2	2	SC150	REINFORCED VEGETATION	TEMP. PIPE	-	-	-	-	-	4	7.84	12	2	
	62.07	SWALE	2	2	10.00	2	2	SC150	REINFORCED VEGETATION	TEMP. PIPE	-	-	-	-	-	11	7.04	12	2	
	62.08A	FILTER SOCK	0	1.6	7.90	0	5	SC150	REINFORCED VEGETATION	TEMP. PIPE	-	-	-	-	-	14	4.96	12	1	
	62.08B	SWALE	2	2	10.00	2	2	SC150	REINFORCED VEGETATION	TEMP. PIPE	-	-	-	-	-	16	5.76	12	1	
	62.09	FILTER SOCK	0	1.25	10.00	0	8	SC150	REINFORCED VEGETATION	TEMP. PIPE	-	-	-	-	-	13	3.52	12	1	
	62.10	SWALE	2	2	10.00	2	2	W3000	REINFORCED VEGETATION	TEMP. PIPE	-	-	-	-	-	9	47.36	18	5	
	63	63.01	SWALE	2	2	10.00	2	2	SC150	REINFORCED VEGETATION	TEMP. PIPE	-	-	-	-	-	11	4.16	12	1
		63.02	SWALE	2	2	10.00	2	2	SC150	REINFORCED VEGETATION	TEMP. PIPE	-	-	-	-	-	7	7.36	12	2
		63.03A	SWALE	2	2	10.00	2	2	SC150	REINFORCED VEGETATION	TEMP. PIPE	-	-	-	-	-	12	7.2	12	2
		63.03B	SWALE	2	2	10.00	2	2	SC150	REINFORCED VEGETATION	TEMP. PIPE	-	-	-	-	-	14	7.2	12	2
		63.03C	SWALE	2	2	10.00	2	2	SC150	REINFORCED VEGETATION	TEMP. PIPE	-	-	-	-	-	12	7.2	12	2
63.03D		SWALE	2	2	10.00	2	2	SC150	REINFORCED VEGETATION	TEMP. PIPE	-	-	-	-	-	10	7.2	12	2	
63.03E		SWALE	2	2	10.00	2	2	SC150	REINFORCED VEGETATION	TEMP. PIPE	-	-	-	-	-	11	7.36	12	2	
63.05		SWALE	2	2	10.00	2	2	SC250	REINFORCED VEGETATION	TEMP. PIPE	-	-	-	-	-	8	16	12	3	
63.06		FILTER SOCK	0	1.6	7.90	0	5	S75	UNREINFORCED VEGETATION	TEMP. PIPE	-	-	-	-	-	5	0.48	12	1	
63.07		FILTER SOCK	0	1	10.00	0	10	SC150	REINFORCED VEGETATION	TEMP. PIPE	-	-	-	-	-	13	2.08	12	1	
63	63.08	FILTER SOCK	0	1.6	7.90	0	5	S75	UNREINFORCED VEGETATION	TEMP. PIPE	-	-	-							

TABLE 5: LOCATIONS OF ACID SOILS ALONG CPLS PIPELINE IN LEBANON COUNTY

MP Begin	MP End	County	Map Unit Symbol	pH	MP Begin	MP End	County	Map Unit Symbol	pH	MP Begin	MP End	County	Map Unit Symbol	pH
36.51	36.61	LEBANON	BnB	6.1	M-0424.00	M-0424.07	LEBANON	HaB	7.0	51.23	51.32	LEBANON	WeD	5.0
36.61	36.66	LEBANON	1InD	4.6	M-0424.07	M-0424.11	LEBANON	HbC	6.2	51.32	51.36	LEBANON	WeB	5.0
36.66	36.73	LEBANON	1JnB	4.6	M-0424.11	M-0424.04	LEBANON	HaB	7.0	51.36	51.47	LEBANON	WeD	5.0
36.73	36.80	LEBANON	1Lb	5.9	M-0424.04	M-0424.09	LEBANON	CkB	5.8	51.47	51.52	LEBANON	WeB	5.0
36.80	36.87	LEBANON	1JnB	4.6	M-0424.09	M-0424.05	LEBANON	HaB	7.0	51.52	51.56	LEBANON	WeC	5.0
36.87	36.93	LEBANON	NhC	5.3	M-0424.05	M-0424.05	LEBANON	HbC	6.2	M-0165.00	M-0165.03	LEBANON	WeC	5.0
36.93	36.99	LEBANON	WbB	5.5	M-0424.05	M-0424.05	LEBANON	HaB	7.0	M-0165.03	M-0165.01	LEBANON	BkB	5.4
36.99	37.01	LEBANON	NhC	5.3	M-0424.05	M-0424.09	LEBANON	HaA	5.7	M-0165.01	M-0165.01	LEBANON	BeB	5.9
37.01	37.08	LEBANON	1JnB	4.6	M-0424.09	M-0424.08	LEBANON	HaA	5.7	M-0165.01	M-0165.01	LEBANON	BeB	5.9
37.08	37.14	LEBANON	WbB	5.5	M-0424.08	M-0424.04	LEBANON	HaB	7.0	M-0165.01	M-0165.02	LEBANON	BkB	5.4
37.14	37.18	LEBANON	NhE	5.3	M-0424.04	M-0424.03	LEBANON	HaA	5.7	M-0165.02	M-0165.03	LEBANON	BeA	5.0
37.18	37.21	LEBANON	1JnB	4.6	M-0424.03	M-0424.05	LEBANON	HaB	7.0	M-0165.03	M-0165.03	LEBANON	BeB	5.9
37.21	37.26	LEBANON	NhE	5.3	M-0211.07	M-0211.01	LEBANON	HaB	7.0	M-0165.03	M-0165.03	LEBANON	CmA	5.3
37.26	37.35	LEBANON	NeC	5.7	M-0211.01	M-0211.01	LEBANON	HeC	5.9	M-0433.00	M-0433.04	LEBANON	CmA	5.3
37.35	37.37	LEBANON	1Lb	5.9	M-0211.01	M-0211.02	LEBANON	HaB	7.0	M-0433.04	M-0433.10	LEBANON	BeA	5.0
37.37	37.46	LEBANON	BnB	6.1	M-0183.08	M-0183.10	LEBANON	HaB	7.0	M-0433.10	M-0433.15	LEBANON	BtA	5.0
37.46	37.53	LEBANON	ByB	5.0	M-0183.10	M-0183.11	LEBANON	Quarry		M-0433.15	M-0433.19	LEBANON	CmA	5.3
37.53	37.57	LEBANON	Bm	5.8	M-0183.11	M-0183.12	LEBANON	DfB	6.7	M-0183.19	M-0183.19	LEBANON	CmA	5.3
37.57	37.60	LEBANON	ABa	5.8	M-0183.12	M-0183.12	LEBANON	DfC	6.2	52.08	52.12	LEBANON	CmA	5.3
37.60	37.68	LEBANON	ReB	6.1	M-0183.12	M-0183.12	LEBANON	No	7.3	52.12	52.26	LEBANON	CmA	5.3
37.68	37.71	LEBANON	ABa	5.8	M-0183.12	M-0183.13	LEBANON	Ho	6.7	52.26	52.33	LEBANON	CmA	5.3
37.71	37.86	LEBANON	ByB	5.0	M-0183.13	M-0183.15	LEBANON	BkB	5.4	52.33	52.36	LEBANON	CmA	5.3
37.86	37.92	LEBANON	ABa	5.8	M-0183.15	M-0183.15	LEBANON	BeB	5.9	52.36	52.45	LEBANON	CmA	5.3
37.92	37.95	LEBANON	PeC	6.2	M-0183.15	M-0183.16	LEBANON	BkB	5.4	52.45	52.51	LEBANON	CmA	5.3
37.95	37.99	LEBANON	PeB	6.4	M-0183.16	M-0183.18	LEBANON	BkC	5.0	52.51	52.56	LEBANON	CmA	5.3
37.99	38.12	LEBANON	ByB	5.0	M-0183.18	M-0183.19	LEBANON	BeB	5.9	52.56	52.60	LEBANON	BkB	5.4
38.12	38.18	LEBANON	Bm	5.8	M-0183.19	M-0183.19	LEBANON	BeB	5.9	52.60	52.67	LEBANON	CmA	5.3
38.18	38.19	LEBANON	PeB	6.4	46.90	46.97	LEBANON	BeB	5.9	52.67	52.67	LEBANON	CmA	5.3
38.19	38.25	LEBANON	ByB	5.0	46.97	47.03	LEBANON	KnB	5.3	52.67	52.72	LEBANON	CmA	5.3
38.25	38.26	LEBANON	Bm	5.8	47.03	47.03	LEBANON	KnC	5.3	52.72	52.76	LEBANON	CmA	5.3
38.26	38.34	LEBANON	ABa	5.8	47.03	47.09	LEBANON	BeB	5.9	52.76	52.80	LEBANON	Ho	6.7
38.34	38.48	LEBANON	ByB	5.0	47.09	47.14	LEBANON	BkC	5.0	52.80	52.83	LEBANON	CmA	5.3
38.48	38.52	LEBANON	BtA	5.0	47.14	47.24	LEBANON	BkD	5.7	52.83	52.94	LEBANON	CmA	5.3
38.52	38.70	LEBANON	PeB	6.4	47.24	47.28	LEBANON	BkD	5.4	52.94	52.96	LEBANON	CmA	5.3
38.70	38.77	LEBANON	ReB	6.1	47.28	47.35	LEBANON	BkD	5.7	52.96	53.00	LEBANON	CmA	5.3
38.77	38.79	LEBANON	PeC	6.2	47.35	47.44	LEBANON	BkD	5.4	53.00	53.11	LEBANON	CmA	5.3
38.79	38.82	LEBANON	ReB	6.1	47.44	47.48	LEBANON	WeD	5.0	53.11	53.20	LEBANON	WeB	5.0
38.82	38.94	LEBANON	PeC	6.2	47.48	47.51	LEBANON	BkD	5.4	53.20	53.21	LEBANON	CmA	5.3
38.94	39.00	LEBANON	PeB	6.4	47.51	47.52	LEBANON	WeD	5.0	53.21	53.30	LEBANON	WeB	5.0
39.00	39.15	LEBANON	ByB	5.0	47.52	47.56	LEBANON	BkB	5.4	53.30	53.34	LEBANON	WeC	5.0
39.15	39.18	LEBANON	Bm	5.8	47.56	47.85	LEBANON	BkC	5.0	53.34	53.42	LEBANON	WeB	5.0
39.18	39.18	LEBANON	BtA	5.0	47.85	47.88	LEBANON	BkB	5.4	53.42	53.45	LEBANON	WeC	5.0
M-0300.00	M-0300.08	LEBANON	BtA	5.0	47.88	47.94	LEBANON	WeE	5.3	53.45	53.52	LEBANON	WeD	5.0
M-0300.08	M-0300.14	LEBANON	PeC	6.2	47.94	48.02	LEBANON	BkE	5.4	53.52	53.57	LEBANON	WeB	5.0
M-0300.14	M-0300.25	LEBANON	PeB	6.4	48.02	48.07	LEBANON	BkC	5.0	53.57	53.62	LEBANON	BtB	5.0
M-0300.25	M-0300.32	LEBANON	PeC	6.2	48.07	48.09	LEBANON	WeE	5.3	53.62	53.67	LEBANON	WeB	5.0
M-0300.32	M-0300.35	LEBANON	Ro	5.2	48.09	48.12	LEBANON	BkC	5.0	53.67	53.72	LEBANON	Bm	5.8
M-0300.35	M-0300.37	LEBANON	PeC	6.2	48.12	48.18	LEBANON	WeE	5.3	53.72	53.78	LEBANON	BkB	5.4
M-0300.37	M-0300.40	LEBANON	ReB	6.1	48.18	48.22	LEBANON	BkE	5.4	53.78	53.81	LEBANON	Bm	5.8
M-0300.40	M-0300.43	LEBANON	PeC	6.2	48.22	48.25	LEBANON	WeE	5.3	53.81	53.81	LEBANON	WeC	5.0
39.62	39.64	LEBANON	PeC	6.2	48.25	48.35	LEBANON	BkB	5.4	M-0199.00	M-0199.01	LEBANON	WeC	5.0
39.64	39.74	LEBANON	BnB	6.1	48.35	48.37	LEBANON	WeE	5.3	M-0199.01	M-0199.01	LEBANON	Bm	5.8
39.74	39.75	LEBANON	1Lb	5.9	48.37	48.43	LEBANON	BkB	5.4	M-0199.01	M-0199.02	LEBANON	WeC	5.0
39.75	39.80	LEBANON	BnC	6.1	48.43	48.51	LEBANON	BkC	5.0	54.07	54.08	LEBANON	WeC	5.0
39.80	39.91	LEBANON	BnB	6.1	48.51	48.56	LEBANON	WeE	5.3	54.08	54.13	LEBANON	WeB	5.0
39.91	39.96	LEBANON	BnC	6.1	48.56	48.63	LEBANON	BkD	5.7	54.13	54.21	LEBANON	WeD	5.0
39.96	40.08	LEBANON	BnB	6.1	48.63	48.69	LEBANON	BkB	5.4	54.21	54.27	LEBANON	CmA	5.3
M-0226.00	M-0226.23	LEBANON	BnB	6.1	48.69	48.72	LEBANON	BkC	5.0	54.27	54.27	LEBANON	BtB	5.0
M-0435.00	M-0435.09	LEBANON	BnB	6.1	48.72	48.77	LEBANON	WeD	5.0	M-0489.00	M-0489.06	LEBANON	BtB	5.0
M-0435.09	M-0435.01	LEBANON	WbB	5.5	48.77	48.81	LEBANON	Ho	6.7	M-0489.06	M-0489.07	LEBANON	BegC	5.9
M-0435.01	M-0435.05	LEBANON	BnB	6.1	48.81	48.88	LEBANON	WeD	5.0	M-0388.01	M-0388.01	LEBANON	BegC	5.9
M-0228.01	M-0228.01	LEBANON	BnB	6.1	48.88	48.93	LEBANON	BkE	5.4	M-0388.01	M-0388.02	LEBANON	CmA	5.3
40.72	40.86	LEBANON	BnB	6.1	48.93	49.01	LEBANON	WeD	5.0	M-0388.02	M-0388.04	LEBANON	BkB	5.4
40.86	41.11	LEBANON	NhC	5.3	49.01	49.04	LEBANON	BkC	5.0	54.72	54.91	LEBANON	BkB	5.4
41.11	41.14	LEBANON	MsB	5.8	49.04	49.11	LEBANON	BkB	5.4	54.91	55.02	LEBANON	BkC	5.0
41.14	41.21	LEBANON	WbB	5.5	49.11	49.14	LEBANON	BkD	5.7	55.02	55.04	LEBANON	BkB	5.4
M-0470.00	M-0470.03	LEBANON	WbB	5.5	49.14	49.25	LEBANON	WeD	5.0	55.04	55.07	LEBANON	BkC	5.0
M-0470.03	M-0470.14	LEBANON	NhC	5.3	49.25	49.29	LEBANON	WeE	5.3	55.07	55.30	LEBANON	BkB	5.4
41.35	41.38	LEBANON	NhC	5.3	49.29	49.32	LEBANON	W Water		M-0168.00	M-0168.06	LEBANON	BkB	5.4
41.38	41.50	LEBANON	UoC	4.6	49.32	49.38	LEBANON	Ph	5.4	M-0168.06	M-0168.09	LEBANON	BkD	5.7
41.50	41.67	LEBANON	UoB	4.6	M-0229.00	M-0229.00	LEBANON	Ph	5.4	55.38	55.39	LEBANON	BkD	5.7
41.67	41.71	LEBANON	UoC	4.6	M-0229.00	M-0229.07	LEBANON	CmA	5.3	55.39	55.45	LEBANON	WeB	5.0
41.71	41.78	LEBANON	UPE	5.4	M-0229.07	M-0229.12	LEBANON	BkD	5.7	55.45	55.52	LEBANON	WeD	5.0
41.78	41.98	LEBANON	UoC	4.6	M-0229.12	M-0229.22	LEBANON	BkB	5.4	55.52	55.54	LEBANON	BkD	5.7
41.98	42.02	LEBANON	UPE	5.4	49.58	49.84	LEBANON	BkB	5.4	55.54	55.63	LEBANON	BkB	5.4
42.02	42.05	LEBANON	UoC	4.6	49.84	49.90	LEBANON	CmA	5.3	55.63	55.76	LEBANON	WeD	5.0
42.05	42.08	LEBANON	ByB	5.0	49.90	50.05	LEBANON	BkB	5.4	55.76	55.83	LEBANON	BkB	5.4
42.08	42.15	LEBANON	UnC	4.7	50.05	50.08	LEBANON	WeD	5.0	55.83	55.88	LEBANON	CmA	5.3
42.15	42.46	LEBANON	CkB	5.8										

TABLE 7: RESOURCE SPECIFIC AVOIDANCE AND MINIMIZATION MEASURES (CONTINUED)

Resource Type (Stream or Wetland)	Resource Name	Resource ID	MP	Chapter 93 Classification, Wetland Classification	Stream Type (Perennial, Intermittent, Ephemeral)	Stream Trout Status (Class A Wild Trout, Wild Trout, Trout Stocked)	Cowardin Classification	Limits of Disturbance (LOD) Adjustments (Supporting Information for Technical Deficiency #27 and 28)	Field Routing Adjustments within 600-foot Wide Corridor* (Supporting Information for Technical Deficiency #55)*	Stream Bank Stabilization BMP	Width of Erosion Control Blanket Required for Stream Bank Stabilization (ft)
Stream	UNT to Conowing Creek (WW-T3-4001)	WW-T3-4001	M-0300 0.05	TSF, MF	Ephemeral	Approved Trout Waters, Trout Stocked Stream	R6	The LOD for WW-T3-4001 has been modified to eliminate impacts.	This feature is no longer impacted based on LOD reductions.	SBR with 12/25 fabric	50
Stream	UNT to Little Conowing Creek (WW-T3-5001)	WW-T3-4001	M-0300 0.32	TSF, MF	Perennial	None	N/A	LOD has been reduced to 75' to minimize impacts to WW-T3-4001.	The pipeline was routed at this location to provide a perpendicular crossing of stream WW-T3-4001, and to minimize wetland impacts as noted for W-T3-4001.	SBR with 12/25 fabric	50
Wetland	N/A	W-T32-4001	M-0200 0.32	None	N/A	N/A	PEM	LOD has been reduced to 75' to minimize impacts to W-T32-4001.	The pipeline was routed in this location to provide a perpendicular crossing of wetland in a non-forested area and at a perpendicular angle to its narrowest part in the routing corridor. The crossing occurs in an area of the wetland that is cleared for pasture. The wetland becomes forested to the west and widens significantly to the east.	N/A	N/A
Wetland	N/A	W-T33-4001	40.55	None	N/A	N/A	PFO	N/A - see field routing notes	The pipeline route was shifted east to avoid this wetland entirely.	N/A	N/A
Stream	Little Conowing Creek (WW-T3-4001)	WW-T3-4001	40.55	Assumed 50 Feet	N/A	N/A	N/A	N/A - see field routing notes	The pipeline route was shifted east to avoid this stream entirely.	SBR with 12/25 fabric	50
Stream	UNT to Little Conowing Creek (WW-T3-4002)	WW-T3-4002	41.07	TSF, MF	Intermittent	None	R4	LOD has been reduced to 90' to minimize impacts to WW-T3-4002.	The pipeline route was shifted roughly 300' to the east between MP 40.2 and 41.5 during field routing to avoid several forested wetlands, including WW-T3-4001, an emergent wetland (W-T3-4001), and a cabin. Avoidance of these features requires the crossing of stream WW-T3-4002 along the proposed alignment.	SBR with 12/25 fabric	50
Stream	UNT to Little Conowing Creek (WW-T3-4002A)	WW-T3-4002A	41.06	TSF, MF	Ephemeral	None	R6	LOD has been reduced to 90' to minimize impacts to WW-T3-4002.	The pipeline route was shifted roughly 300' to the east between MP 40.2 and 41.5 during field routing to avoid several forested wetlands, including WW-T3-4001, an emergent wetland (W-T3-4001), and a cabin. Avoidance of these features requires the crossing of stream WW-T3-4002A along the proposed alignment.	SBR with 12/25 fabric	50
Stream	UNT to Little Conowing Creek (WW-T3-4005)	WW-T3-4005	41.13	TSF, MF	Perennial	None	R3	LOD has been reduced to 90' to minimize impacts to WW-T3-4005.	The pipeline route was shifted roughly 300' to the east between MP 40.2 and 41.5 during field routing to avoid several forested wetlands, including WW-T3-4001, an emergent wetland (W-T3-4001), and a cabin. Avoidance of these features requires the crossing of stream WW-T3-4005 along the proposed alignment.	SBR with 12/25 fabric	50
Wetland	N/A	W-T33-4005	41.17	None	N/A	N/A	PEM	The LOD for W-T33-4005 has been modified to eliminate impacts.	This feature is no longer impacted based on LOD reductions.	N/A	N/A
Wetland	N/A	W-T33-4004	M-0455 0.07	None	N/A	N/A	PFO	The LOD for W-T33-4004 has been modified to eliminate impacts.	This feature is no longer impacted based on LOD reductions.	N/A	N/A
Stream	UNT to Little Conowing Creek (WW-T3-4004)	WW-T3-4004	M-0470 0.08	TSF, MF	Perennial	None	R3	WW-T3-4004 is being crossed via conventional bore.	The pipeline was routed in this location to provide a safe and effective conventional bore crossing of WW-T3-4004.	SBR with 12/25 fabric	50
Wetland	N/A	W-T33-4002	41.53	None	N/A	N/A	P55	This wetland encroaches within the western portion of the LOD only, and this portion of the LOD was reduced by 10' to minimize impacts to W-T33-4002.	The pipeline was field routed in this location to avoid crossing at the confluence of WW-T3-4004 and WW-T3-4002 in the western end of the routing corridor. Further shift to the east to avoid this wetland was not possible due to steep side slopes.	N/A	N/A
Stream	UNT to Elginch Run (WW-T3-4003)	WW-T3-4003	41.92	TSF, MF	Perennial	None	R3	LOD has been reduced to 90' to minimize impacts to WW-T3-4003.	The pipeline was routed in this location to avoid crossing at the confluence of WW-T3-4003 and WW-T3-4001 in the western end of the routing corridor. Further shift to the east to avoid this stream was not possible due to steep side slopes.	SBR with 12/25 fabric	50
Stream	UNT to Elginch Run (WW-T3-4001)	WW-T3-4001	42.03	TSF, MF	Ephemeral	None	R6	LOD has been reduced to 90' to minimize impacts to WW-T3-4001.	The pipeline was routed in this location to cross this stream at a perpendicular angle and to avoid a barn that is under construction west of MP 42.1.	SBR with 12/25 fabric	50
Wetland	N/A	W-143-4001	42.04	None	N/A	N/A	PEM	This wetland encroaches within the eastern portion of the LOD only, and this portion of the LOD was reduced by 10' to minimize impacts to W-143-4001.	The pipeline was routed in this location to cross this wetland at a perpendicular angle and to avoid a barn that is under construction west of MP 42.1.	N/A	N/A
Stream	Elginch Run (WW-T6-5001)	WW-T6-5001	42.58	TSF, MF	Perennial	None	N/A	LOD has been reduced to 90' to minimize impacts to WW-T6-5001.	The pipeline was routed in this location to provide a perpendicular crossing of stream WW-T6-5001.	SBR with 12/25 fabric	50
Stream	Quitapahilla Creek (WW-T43-5001)	WW-T43-5001	M-0183 1.32	TSF, MF	Perennial	Approved Trout Waters, Trout Stocked Stream	R3	LOD has been reduced to 90' to minimize impacts to WW-T43-5001.	The pipeline was routed in this location to cross this meandering stream at a perpendicular angle, and to avoid a braided portion of this stream in the southeastern portion of the routing corridor. The route was also routed to avoid a large forested wetland in the northern portion of the routing corridor.	SBR with 12/25 fabric	50
Wetland	N/A	W-T43-5004	M-0183 1.85	None	N/A	N/A	PEM	LOD has been reduced to 75' to minimize impacts to W-T43-5004.	The pipeline was routed in this location to cross this wetland at a perpendicular angle, and to avoid a braided portion of the adjacent stream WW-T43-5001 in the southeastern portion of the routing corridor. The route was also routed to avoid a large forested wetland in the northern portion of the routing corridor.	N/A	N/A
Wetland	N/A	W-T43-5003	M-0183 1.55	None	N/A	N/A	PEM	This wetland encroaches within the southern portion of the LOD only, and this portion of the LOD was reduced by 25' to minimize impacts to W-T43-5003.	The pipeline was routed in this location to cross this wetland at a perpendicular angle and at its northern margin. The alignment also avoids wetland W-T43-5003 entirely (north of the LOD) and maintains an acceptable distance from a nearby residence (north of the LOD).	N/A	N/A
Stream	UNT to Quitapahilla Creek (WW-T43-5001)	WW-T43-5001	M-0183 1.60	TSF, MF	Intermittent	Approved Trout Waters	R4	LOD has been reduced to 80' to minimize impacts to WW-T43-5001.	The pipeline was routed in this location to minimize impacts to an adjacent stream to the south that runs parallel to the LOD. Further avoidance of stream impacts in this area was not possible due to a residence in the northern portion of the routing corridor.	SBR with 12/25 fabric	50
Wetland	N/A	W-T14-5002	47.88	None	N/A	N/A	PEM	This wetland encroaches within the eastern portion of the LOD only. Reduction of this portion of the LOD was not possible due to work space needed for the adjacent road crossing and steep topography immediately north of the crossing.	The pipeline was routed in this location to cross the wetland at its narrowest point, as it widens significantly in the eastern portion of the routing corridor. Shifting the route further west to further minimize impacts was not possible due to existing structures west of the LOD.	N/A	N/A
Wetland	N/A	W-T14-5003	48.14	None	N/A	N/A	PEM	This wetland encroaches within the western portion of the LOD only, and this portion of the LOD was reduced by 10' to minimize impacts to W-T14-5003.	The pipeline was routed in this location to avoid a historic foundation west of MP 48.1 and to cross the eastern margin of the wetland. The crossing of this wetland occurs between the historic foundation to the west and a north to south running stream to the east. Moving the pipeline further east to avoid impacting wetland W-T14-5003 would cause parallel impacts to the forested riparian corridor and floodway of this stream.	N/A	N/A
Stream	UNT to Swatara Creek (WW-T14-5003)	WW-T14-5003	48.14	WWF, MF	Intermittent	None	R4	LOD has been reduced to 90' to minimize impacts to WW-T14-5003.	The pipeline was routed in this location to avoid a historic foundation west of MP 48.1 and to cross the stream at a perpendicular angle.	SBR with 12/25 fabric	50
Stream	UNT to Swatara Creek (WW-T14-5004)	WW-T14-5004	48.55	WWF, MF	Perennial	None	R3	LOD has been reduced to 90' to minimize impacts to WW-T14-5004.	The pipeline was routed in this location to provide a perpendicular crossing of stream WW-T14-5004, and to avoid impacting wetland W-T14-5004 immediately south of the LOD.	SBR with 12/25 fabric	50
Wetland	N/A	W-T14-5005A / W-T14-5005C	48.77	None	N/A	N/A	PEM, PFO	LOD has been reduced to 75' to minimize impacts to W-T14-5005.	The pipeline was routed in this location to avoid impacting the forested portion of the wetland as much as possible, and to cross the adjacent stream at a 90-degree angle.	N/A	N/A
Stream	UNT to Swatara Creek (WW-T14-5005)	WW-T14-5005	48.78	WWF, MF	Perennial	None	R3	LOD has been reduced to 75' to minimize impacts to WW-T14-5005.	The pipeline was routed in this location to provide a perpendicular crossing of stream WW-T14-5005.	SBR with 12/25 fabric	50
Stream	Swatara Creek (WW-T14-5006)	WW-T14-5006	49.30	WWF, MF	Perennial	None	R3	The full LOD and additional workspace is needed at this crossing due to the stream crossing roughly 600' north and downstream. This realignment significantly reduces tree clearing in riparian/foodplain areas, and entirely avoids wetland W-T14-5006 and a large forested foodplain wetland (W-T14-5007).	The original alignment in this area was adjusted during field routing to move this stream crossing roughly 600' north and downstream. This realignment significantly reduces tree clearing in riparian/foodplain areas, and entirely avoids wetland W-T14-5006 and a large forested foodplain wetland (W-T14-5007).	SBR with 12/25 fabric	50
Stream	UNT to Swatara Creek (WW-T14-5006A)	WW-T14-5006A	49.34	WWF, MF	Intermittent	None	R4	A portion of the LOD has been reduced to 90' to minimize impacts to WW-T14-5006A.	The pipeline was routed in this location to avoid impacts to riparian buffer and wetlands, as described for wetland W-T14-5006. Please also note that WW-T14-5006A is an entirely subsurface pipe draining the field and road to the east. This was called a stream at the request of PADEP during site visits due to the possibility that a natural surface channel once existed in the area and has since been buried/channelled underground.	SBR with 12/25 fabric	50
Wetland	N/A	W-T14-5007A	50.07	None	N/A	N/A	PEM	LOD has been reduced to 90' to minimize impacts to W-T14-5007A. Further LOD reduction was not possible due to steep terrain immediately adjacent to the crossing.	The pipeline was routed in this location to cross the narrowest section of the wetland, avoid the forested portion of the wetland in the eastern portion of the routing corridor, and to avoid braided and meandering areas of the adjacent stream WW-T14-2007 occurring just east and west of the current crossing.	N/A	N/A
Stream	UNT to Swatara Creek (WW-T14-5007)	WW-T14-5007	50.06	WWF, MF	Intermittent	None	R4	LOD has been reduced to 90' to minimize impacts to WW-T14-5007.	The pipeline was routed in this location to provide a perpendicular crossing of stream WW-T14-5007.	SBR with 12/25 fabric	50
Stream	UNT to Swatara Creek (WW-T14-5008A)	WW-T14-5008A	50.50	WWF, MF	Perennial	None	R3	LOD has been reduced to 90' to minimize impacts to WW-T14-5008A.	The pipeline was routed in this location to provide a perpendicular crossing of stream WW-T14-5008A.	SBR with 12/25 fabric	50
Stream	UNT to Swatara Creek (WW-T14-5008)	WW-T14-5008	50.53	WWF, MF	Perennial	None	R3	LOD has been reduced to 75' to minimize impacts to WW-T14-5008.	The pipeline was routed in this location to provide a perpendicular crossing of stream WW-T14-5008, and to avoid impacting wetlands W-T14-15003-1 and W-T14-15003-3, and pond WB-T14-5003.	SBR with 12/25 fabric	50
Wetland	N/A	W-T14-5003-1	50.53	None	N/A	N/A	PEM	LOD has been reduced to 75' to minimize impacts to W-T14-5003-1.	The pipeline was routed in this location to provide a perpendicular crossing of wetland W-T14-5003-1, and to avoid impacting wetlands W-T14-15003-1 and W-T14-15003-3, and pond WB-T14-5003.	N/A	N/A
Stream	UNT to Swatara Creek (WW-T14-5009A)	WW-T14-5009A	53.21	WWF, MF	Perennial	None	R3	LOD has been reduced to 90' to minimize impacts to WW-T14-5009A.	The pipeline was routed in this location to avoid placing a PI in the stream channel. Additionally, the working side of the workspace (i.e., the wider side) was placed to the west of the pipeline in this area in order to limit tree removal and to keep disturbance on level open ground as far west as possible of wetlands W-T14-5003 and wetland W-T14-5002, and stream WW-T14-5009 that are located in a woodland east and downlope of the current alignment.	SBR with 12/25 fabric	50
Wetland	N/A	W-T32-5001	M-0433 1.32	None	N/A	N/A	PEM	The LOD for W-T32-5001 has been modified to eliminate impacts.	This feature is no longer impacted based on LOD reductions.	N/A	N/A
Stream	UNT to Swatara Creek (WW-T4-5001)	WW-T4-5001	M-0433 0.32	WWF, MF	Intermittent	None	R4	LOD has been reduced to 90' to minimize impacts to WW-T4-5001.	The pipeline was routed in this location to provide a perpendicular crossing of stream WW-T4-5001.	SBR with 12/25 fabric	50
Wetland	N/A	W-T14-5014	52.64	None	N/A	N/A	PEM	This wetland encroaches within the eastern portion of the LOD only, and this portion of the LOD was reduced by 10' to minimize impacts to W-T14-5014.	The pipeline was routed in this location to cross the narrowest section of the wetland at its western margin.	N/A	N/A
Stream	UNT to Reeds Creek (WW-T14-5010)	WW-T14-5010	52.65	WWF, MF	Intermittent	None	R4	LOD has been reduced from 100 ft. to 90 ft. to reduce impact to stream WW-T14-5010.	The pipeline was routed in this location to cross the narrowest portion of riparian forest corridor.	SBR with 12/25 fabric	50
Stream	UNT to Reeds Creek (WW-T14-5011)	WW-T14-5011	52.77	WWF, MF	Intermittent	None	R4	LOD has been reduced to 90' to minimize impacts to WW-T14-5011.	The pipeline was routed in this location to avoid a network of braided stream channels and forested wetland in the eastern portion of the routing corridor.	SBR with 12/25 fabric	50
Stream	UNT to Reeds Creek (WW-T14-5013A)	WW-T14-5013A	52.78	WWF, MF	Intermittent	None	R4	LOD has been reduced to 90' to minimize impacts to WW-T14-5013A.	The pipeline was routed in this location to avoid a network of braided stream channels and forested wetland in the eastern portion of the routing corridor.	SBR with 12/25 fabric	50
Wetland	N/A	W-T14-5013A	53.04	None	N/A	N/A	PEM, P55	LOD has been reduced to 75' to minimize impacts to W-T14-5013A.	The pipeline was routed in this location to provide a perpendicular crossing of wetland W-T14-5013A.	N/A	N/A
Stream	(WW-T14-5013)	WW-T14-5013	53.04	WWF, MF	Intermittent	None	R4	LOD has been reduced to 75' to minimize impacts to WW-T14-5013.	The pipeline was routed in this location to provide a perpendicular crossing of stream WW-T14-5013.	SBR with 12/25 fabric	50
Stream	UNT to Reeds Creek (WW-T14-5013A)	WW-T14-5013A	53.05	WWF, MF	Intermittent	None	R4	LOD has been reduced to 75' to minimize impacts to WW-T14-5013A.	The pipeline was routed in this location to provide a perpendicular crossing of stream WW-T14-5013A.	SBR with 12/25 fabric	50
Wetland	N/A	W-T13-6002	53.46	None	N/A	N/A	PEM	LOD has been reduced to 75' to minimize impacts to W-T13-6002.	The pipeline was routed in this location to provide a perpendicular crossing of wetland W-T13-6002. Avoidance of this wetland was not feasible due to the linear nature of the wetland, extending east and west beyond the routing corridor.	N/A	N/A
Wetland	N/A	W-T13-6004	53.57	None	N/A	N/A	PEM	LOD has been reduced to 75' to minimize impacts to W-T13-6004.	The pipeline was routed in this location to provide a perpendicular crossing of wetland W-T13-6004.	N/A	N/A
Stream	UNT to Swatara Creek (WW-T13-6002)	WW-T13-6002	53.68	WWF, MF	Intermittent	None	R4	LOD has been reduced to 90' to minimize impacts to WW-T13-6002.	The pipeline was routed in this location to minimize impacts to the riparian buffer of the stream as much as possible, while avoiding a residence east of the LOD. Larger scale re-roads, outside of the routing corridor, were considered in this area to completely avoid paralleling the stream, but all were rejected due to a number of constraints.	SBR with 12/25 fabric	50

Resource Type (Stream or Wetland)	Resource Name	Resource ID	MP	Chapter 93 Classification, Wetland Classification	Stream Type (Perennial, Intermittent, Ephemeral)	Stream Trout Status (Class A Wild Trout, Wild Trout, Trout Stocked)	Cowardin Classification	Limits of Disturbance (LOD) Adjustments (Supporting Information for Technical Deficiency #27 and 28)	Field Routing Adjustments within 600-foot Wide Corridor* (Supporting Information for Technical Deficiency #55)*	Stream Bank Stabilization BMP	Width of Erosion Control Blanket Required for Stream Bank Stabilization (ft)
Wetland	N/A	W-T13-6003A / W-T13-6003B	53.75	None	N/A	N/A	PEM, P55	W-T13-6003A does not extend across the full width of the LOD. Since the wetland width within the LOD is less than 75', the FERC Procedures do not require LOD reduction. In addition, an LOD reduction at this location would only be possible in the adjacent upland area and would not result in minimization of wetland impacts.	The pipeline was routed in this location to cross the eastern margin of wetland W-T13-6003A and to avoid paralleling the adjacent stream as much as possible.	N/A	N/A
Wetland	N/A	W-T13-6002A / W-T13-6002C	M-0388 0.02	None	N/A	N/A	PFO	LOD reduced to 90' to minimize impacts to W-T13-6002. Further LOD reduction was not possible due to presence of a foreign pipeline and adjacent stream. The additional workspace will be used for equipment crossing and spoil storage to accommodate a safe and efficient crossing.	The pipeline was routed in this location to provide a perpendicular crossing of wetland W-T13-6002. Avoidance of this wetland was not feasible due to the linear nature of the wetland, extending east and west beyond the routing corridor.	N/A	N/A
Stream	UNT to Durg Run (WW-T49-6001)	WW-T49-6001	M-0388 0.03	WWF, MF	Perennial	None	R3	LOD has been reduced to 90' to minimize impacts to WW-T49-6001.	The pipeline was routed in this location to provide a perpendicular crossing of stream WW-T49-6001.	SBR with 12/25 fabric	50
Wetland	N/A	W-T69-6001	54.95	PEM	N/A	N/A	PEM	W-T69-6001 does not extend across the full width of the LOD. Since the wetland width within the LOD is less than 75', the FERC Procedures do not require LOD reduction. In addition, an LOD reduction at this location would only be possible in the adjacent upland area and would not result in minimization of wetland impacts.	The pipeline was routed at this location to cross the northern margin of the wetland. Further avoidance of this wetland was not feasible due to residences north of the LOD.	N/A	N/A
Stream	UNT to Durg Run (WW-T69-6002)	WW-T69-6002	54.95	WWF, MF	Intermittent	None	N/A	LOD has been reduced to 90' to minimize impacts to WW-T69-6002.	The pipeline was routed in this location to provide a perpendicular crossing of stream WW-T69-6002.	SBR with 12/25 fabric	50
Stream	UNT to Durg Run (WW-T69-6001)	WW-T69-6001	55.05	WWF, MF	Ephemeral	None	N/A	LOD has been reduced to 90' to minimize impacts to WW-T69-6001.	The pipeline was routed in this location to provide a perpendicular crossing of stream WW-T69-6001.	SBR with 12/25 fabric	50
Stream	UNT to Durg Run (WW-T69-6003)	WW-T69-6003	M-0368 0.06	WWF, MF	Intermittent	None	R4	LOD has been reduced to 90' to minimize impacts to WW-T69-6003.	The pipeline was routed in this location to provide a perpendicular crossing of stream WW-T69-6003, and to avoid impacting stream WW-T69-6003A that runs east to west in the southern portion of the routing corridor.	SBR with 12/25 fabric	50
Wetland	N/A	W-T30-6001	55.48	None	N/A	N/A	PFO	W-T30-6001 is being crossed via conventional bore.	The pipeline was routed in this location to provide a safe and effective conventional bore crossing of W-T30-6001.	N/A	N/A
Stream	UNT to Durg Run (WW-T30-6004)	WW-T30-6004	55.49	WWF, MF	Perennial	None	R3	WW-T30-6004 is being crossed via conventional bore.	The pipeline was routed in this location to provide a safe and effective conventional bore crossing of WW-T30-6004.	SBR with 12/25 fabric	50
Stream	UNT to Durg Run (WW-T30-6005)	WW-T30-6005	55.68	WWF, MF	Intermittent	None	R4	LOD has been reduced to 90' to minimize impacts to WW-T30-6005.	The pipeline was routed in this location to provide a perpendicular crossing of stream WW-T30-6005, and to avoid impacting wetland W-T30-6002 and stream WW-T30-6002A in the western portion of the routing corridor.	SBR with 12/25 fabric	50
Wetland	N/A	W-T30-6003	55.92	None	N/A	N/A	PEM	LOD has been reduced to 75' to minimize impacts to W-T30-6003.	The pipeline was routed in this location to provide a perpendicular crossing of wetland W-T30-6003. Avoidance of this wetland was not feasible due to the linear nature of the wetland, extending east and west beyond the routing corridor.	N/A	N/A
Stream	Forge Creek (WW-T32-6001)	WW-T32-6001	56.28	WWF, MF	Perennial	None	R3	LOD has been reduced to 90' to minimize impacts to WW-T32-6001.	The pipeline was routed in this location to provide a perpendicular crossing of stream WW-T32-6001.	SBR with 12/25 fabric	50
Wetland	N/A	W-T32-6001	56.28	None	N/A	N/A	PEM	LOD has been reduced to 90' to minimize impacts to W-T32-6001.	The pipeline was routed in this location to provide a perpendicular crossing of wetland W-T32-6001. Avoidance of this wetland was not feasible due to the linear nature of the wetland, extending east and west beyond the routing corridor.	N/A	N/A
Stream	UNT to Forge Creek (WW-T67-6001)	WW-T67-6001	56.62	WWF, MF	Intermittent	None	N/A	LOD has been reduced to 80' to minimize impacts to WW-T67-6001.	The pipeline was routed in this location to avoid the riparian forest buffer of stream WW-T67-6001 in the western portion of the routing corridor.	SBR with 12/25 fabric	50
Wetland	N/A	W-T67-6001	56.62	PEM	N/A	N/A	None	This wetland encroaches within the southern portion of the LOD only, and this portion of the LOD was reduced by 10' to minimize impacts to W-T67-6001.	The pipeline was routed in this location to avoid the riparian forest buffer of adjacent stream WW-T67-6001 in the western portion of the routing corridor.	N/A	N/A
Wetland	N/A	W-T67-6002	56.69	PEM	N/A	N/A	None	LOD reduced to 75' where the wetland crosses the full width of the LOD. In other areas where the wetland does not extend across the full width of the LOD, reduction of the LOD would only be possible in the adjacent upland area and would not result in further minimization of wetland impacts. LOD was also reduced to avoid impacting an additional portion of this wetland closer to MP 56.8.	The pipeline was routed in this location to primarily impact the southern portion of the wetland only.	N/A	N/A
Wetland	N/A	W-T40-6001A / W-T40-6001B	56.84	None</							