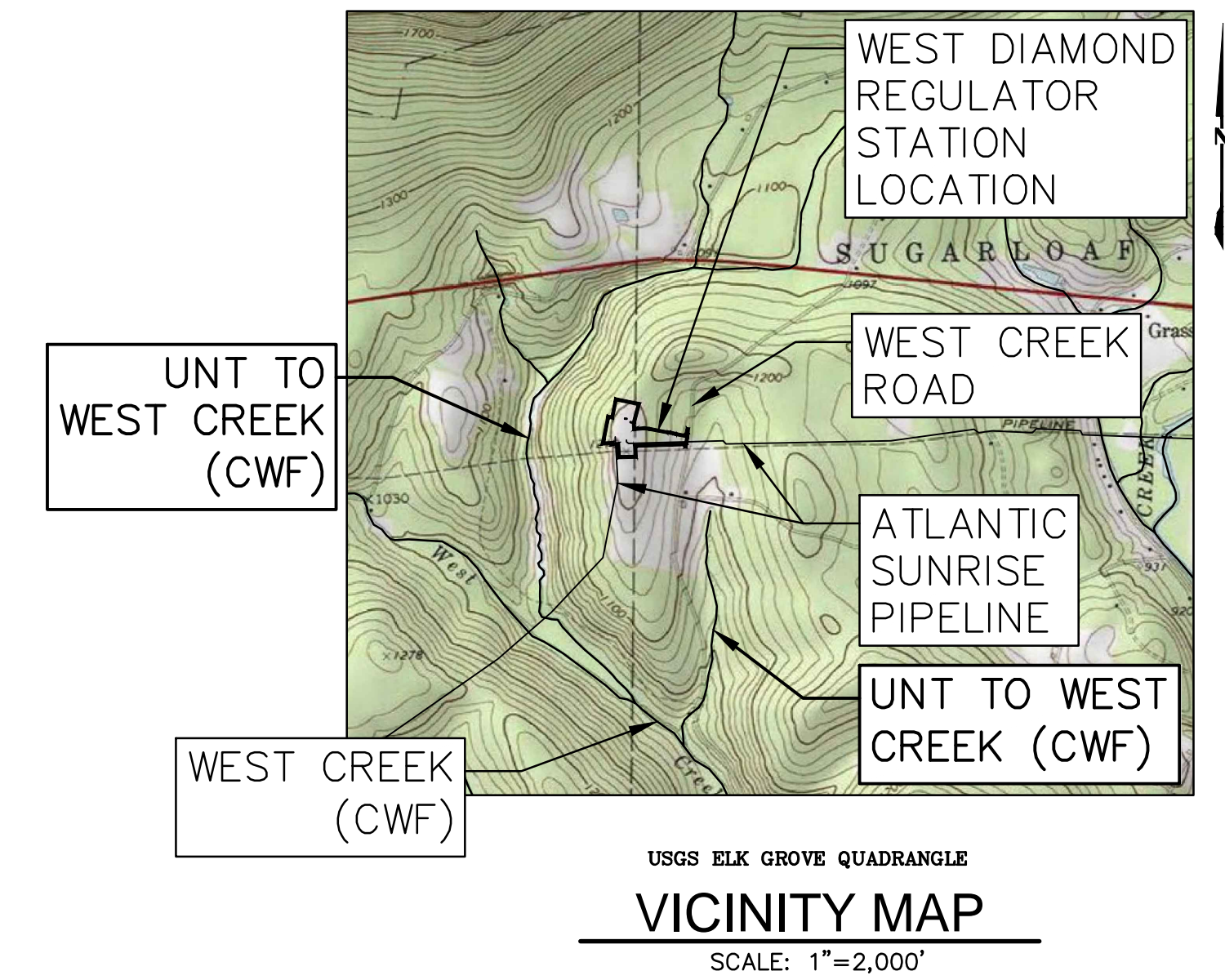


ATLANTIC SUNRISE PROJECT PROPOSED 30"/42" NATURAL GAS PIPELINE

SOIL EROSION & SEDIMENT CONTROL AND LAYOUT PLANS FOR WEST DIAMOND REGULATOR STATION & ASSOCIATED PERMANENT ACCESS ROADS



PHASE 2

JACKSON/SUGARLOAF TOWNSHIPS
COLUMBIA COUNTY

PENNSYLVANIA

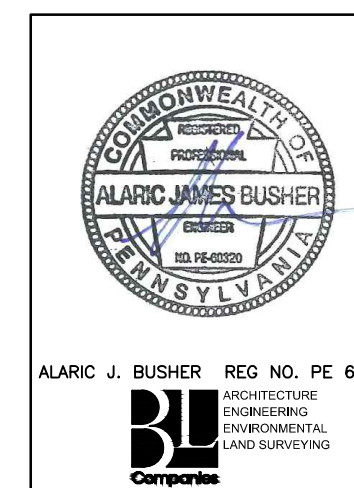
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WEST DIAMOND REGULATOR STATION	(36-7943)MF-1A-11	1 of 11	COVER SHEET
	(36-7943)MF-1A-11	2 of 11	EXISTING CONDITIONS MAP
	(36-7943)MF-1A-11	3 of 11	OVERALL DRAINAGE AREA MAP
	(36-7943)MF-1A-11 REVISED	4 of 11	SOIL EROSION & SEDIMENT CONTROL PLAN - PHASE 1
	(36-7943)MF-1A-11 ADDED NEW	5 of 11	SOIL EROSION & SEDIMENT CONTROL PLAN - PHASE 2
	(36-7943)MF-1A-3	6 of 11	ACCESS ROAD CO-107.1 LAYOUT PLAN
	(36-7943)MF-1A-11	7 of 11	SOIL EROSION & SEDIMENT CONTROL NOTES
	(36-7943)MF-1A-11	8 of 11	SOIL EROSION & SEDIMENT CONTROL NOTES
	(36-7943)MF-1A-11	9 of 11	SOIL EROSION & SEDIMENT CONTROL NOTES AND DETAILS
	(36-7943)MF-1A-11	10 of 11	SOIL EROSION & SEDIMENT CONTROL DETAILS
	(36-7943)MF-1A-11 REVISED	11 of 11	SOIL EROSION & SEDIMENT CONTROL DETAILS

Drawn By & Date/Time: norwooduser Apr 28, 2017 - 11:26am
Drawing Location & Name: G:\08514\14C\14C4909\DWG\010-CPLN\FRS_CV14C4909(10)_EC-COL-WDIAMOND.dwg



PENNSYLVANIA ACT 287 (1974)
AS AMENDED BY PENNSYLVANIA
ACT 199 (2004) REQUIRES NO
LESS THAN THREE (3) WORKING
DAYS AND NO MORE THAN (10)
WORKING DAYS NOTICE TO
UTILITIES BEFORE YOU EXCAVATE,
DRILL, BLAST OR DEMOLISH.

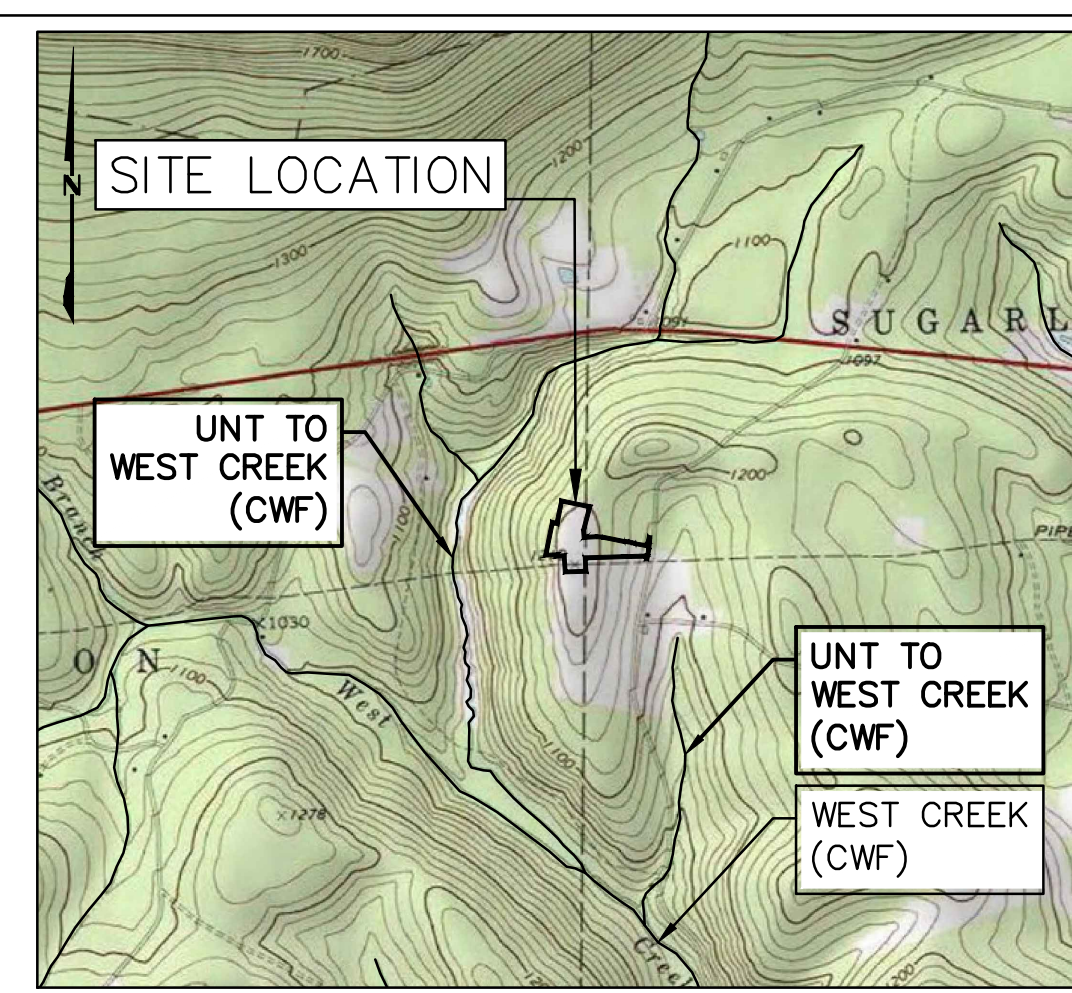
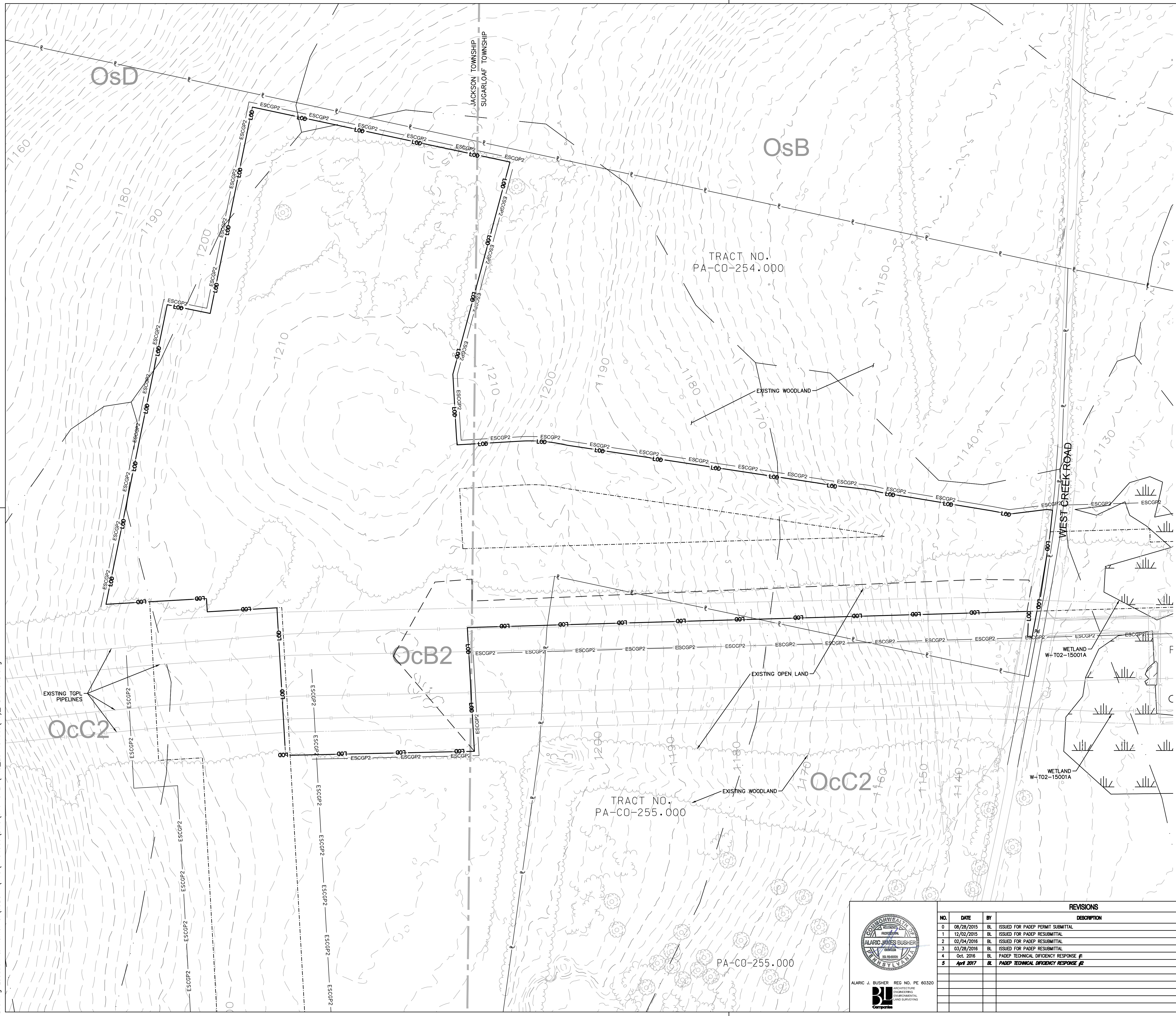
ENGINEER OF RECORD
BL COMPANIES
4242 CARLISLE PIKE, SUITE 260
CAMP HILL, PA 17011
P:717-651-9850
F:717-651-9858



REVISIONS							TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC			
NO.	DATE	BY	DESCRIPTION	W.O. NO.	CHK.	APP.	ATLANTIC SUNRISE PROJECT- PROPOSED 30"/42" NATURAL GAS PIPELINE SOIL EROSION & SEDIMENT CONTROL AND LAYOUT PLANS FOR WEST DIAMOND REGULATOR STATION & ASSOCIATED PERMANENT ACCESS ROADS JACKSON/SUGARLOAF TOWNSHIPS, COLUMBIA COUNTY, PENNSYLVANIA			
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1	12/02/2015	BL	ISSUED FOR PADEP RESUBMITTAL	W01161501	DAK	AJB				
2	02/04/2016	BL	ISSUED FOR PADEP RESUBMITTAL	W01161501	AJB	AJB				
3	03/26/2016	BL	ISSUED FOR PADEP RESUBMITTAL	W01161501	AJB	AJB				
4	Oct. 2016	BL	PADEP TECHNICAL DEFICIENCY RESPONSE #1	W01161501	AJB	AJB				
5	April 2017	BL	PADEP TECHNICAL DEFICIENCY RESPONSE #2	W01161501	AJB	AJB	DRAWN BY: JEC DATE: 04/03/15 ISSUED FOR BID: SCALE: AS NOTED			
							CHECKED BY: AJB DATE: 04/03/15 ISSUED FOR CONSTRUCTION: REVISION: 5			
							APPROVED BY: AJB DATE: 07/17/15 DRAWING NUMBER: (36-7943)MF-1A-11 SHEET 1 OF 11			
							W.O. NUMBER: 1161501			



Drawn By & Date/Time: norwooduser Apr 28, 2017 - 11:30am
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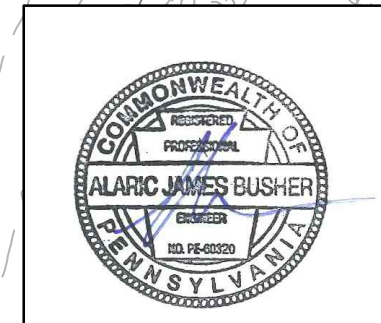
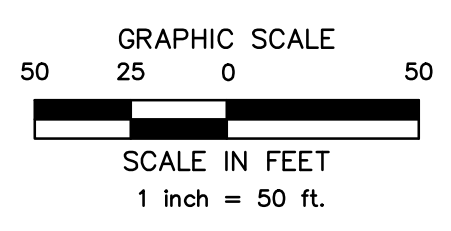
LOCATION MAP
 USGS ELK GROVE QUADRANGLE
 SCALE: 1"=2,000'

LEGEND

- EXISTING FEATURES**
- PROPERTY BOUNDARY LINE (APPROXIMATE)
 - EXISTING MAJOR CONTOUR (10' INTERVAL)
 - EXISTING MINOR CONTOUR (2' INTERVAL)
 - FENCE
 - STONE ROW
 - SOIL BOUNDARY
 - TREELINE
 - CENTERLINE STREAM/EDGE WATERBODY
 - DELINEATED WETLANDS
 - SPOT ELEVATION
x 1353.0
 - TREE OR BUSH
 - UTILITY POLE AND UTILITY LINE
 - GUY POLE
 - GUY POLE OR ANCHOR
 - POST
 - SIGN
 - WATER WELL
 - UTILITY BOX
 - MONUMENT (PROPERTY BOUNDARY MARKER)
 - IRON PIPE OR PIN (PROPERTY BOUNDARY MARKER)
 - WsB** SOIL TYPE DESIGNATION
 - ESCGP2** ESCGP-2 PERMIT BOUNDARY
 - LIMIT OF WORKSPACE (OVERALL PIPELINE PROJECT)
 - L00** LIMIT OF DISTURBANCE (WEST DIAMOND REGULATOR STATION)
 - EXISTING ROAD
 - ROW
 - TOWNSHIP LINE

SITE SOIL TYPES

- Ocb2 OQUAGA CHANNERY SILT LOAM, 2 TO 12 PERCENT SLOPES
- OcC2 OQUAGA CHANNERY SILT LOAM, 12 TO 20 PERCENT SLOPES
- OsB OQUAGA VERY STONY SILT LOAM, 0 TO 12 PERCENT SLOPES
- OsD OQUAGA VERY STONY SILT LOAM, 12 TO 35 PERCENT SLOPES



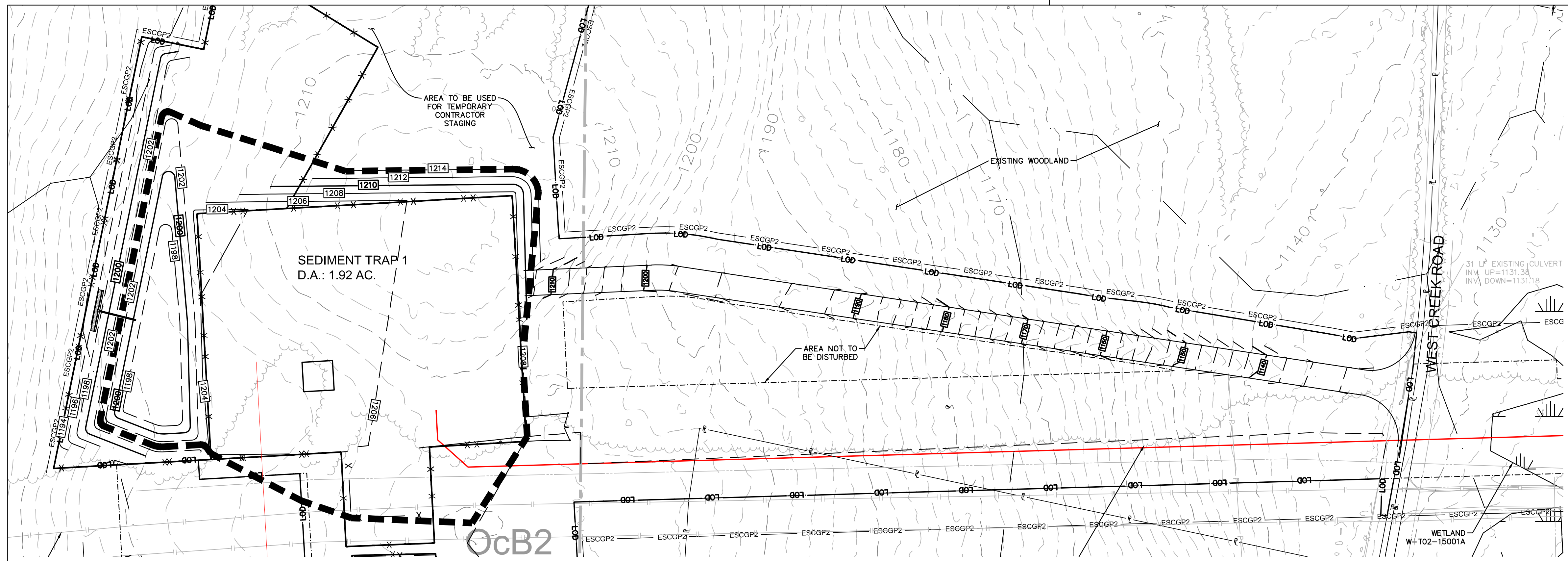
ALARIC J. BUSHER REG. NO. PE 60320
 PROFESSIONAL ENGINEER
 ENVIRONMENTAL
 LAND SURVEYING

REVISIONS						
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3	03/28/2016	BL	ISSUED FOR PADEP RESUBMITTAL	W01161501	AJB	AJB
4	Oct. 2016	BL	PADEP TECHNICAL DEFICIENCY RESPONSE #1	W01161501	AJB	AJB
5	April 2017	BL	PADEP TECHNICAL DEFICIENCY RESPONSE #2	W01161501	AJB	AJB

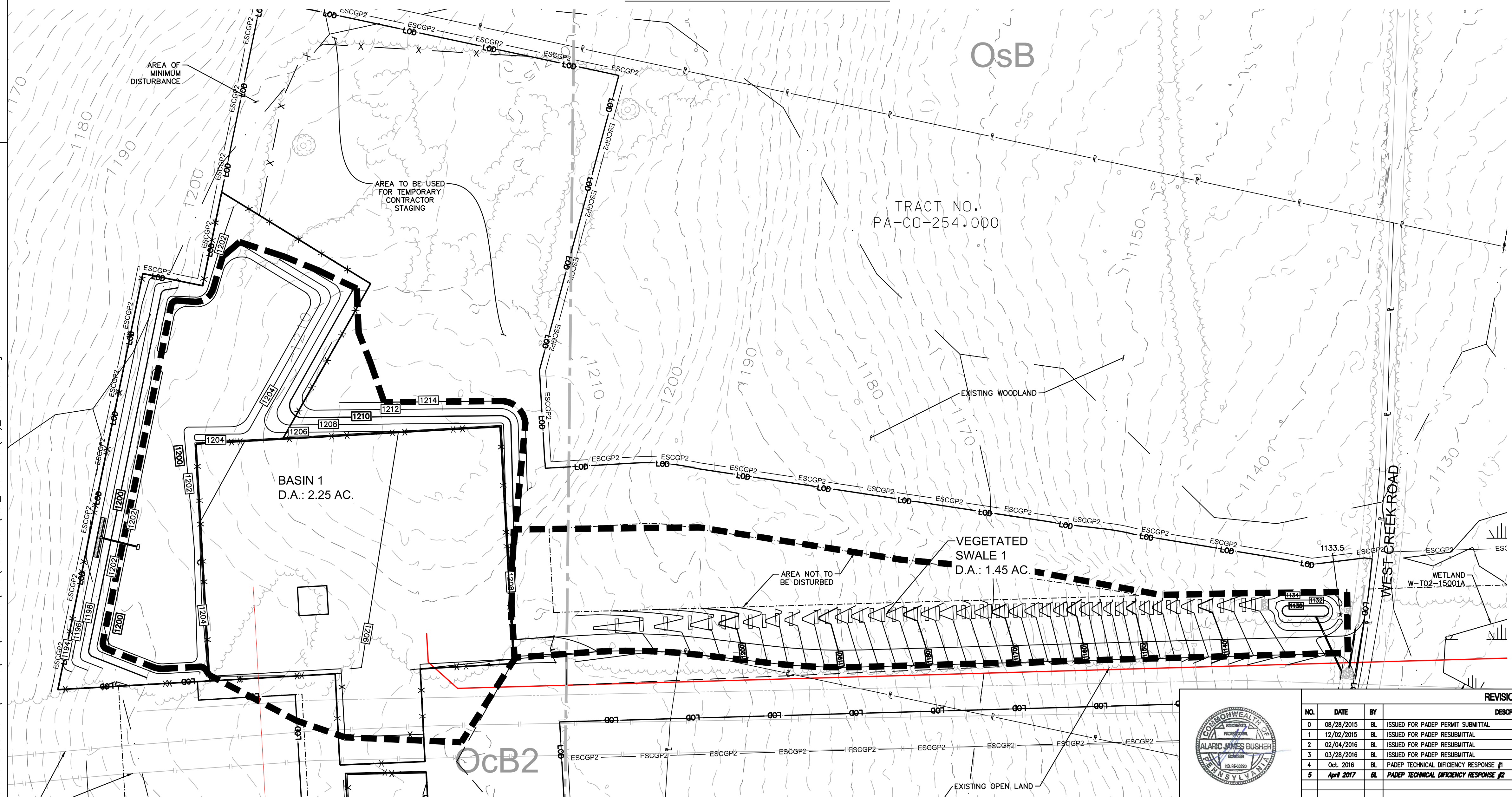
TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC			
ATLANTIC SUNRISE PROJECT- PROPOSED 30"/42" NATURAL GAS PIPELINE			
SOIL EROSION & SEDIMENT CONTROL AND LAYOUT PLANS FOR WEST DIAMOND REGULATOR STATION & ASSOCIATED PERMANENT ACCESS ROADS JACKSON/SUGARLOAF TOWNSHIPS, COLUMBIA COUNTY, PENNSYLVANIA			
EXISTING CONDITIONS MAP			
DRAWN BY:	JEC	DATE:	04/03/15
CHECKED BY:	AJB	DATE:	04/03/15
APPROVED BY:	AJB	DATE:	07/17/15
W.D.:	1161501	ISSUED FOR CONSTRUCTION:	
SCALE:	AS NOTED	REVISION:	5
DRAWING NUMBER: (36-7943)MF-1A-11			SHEET 2 OF 11



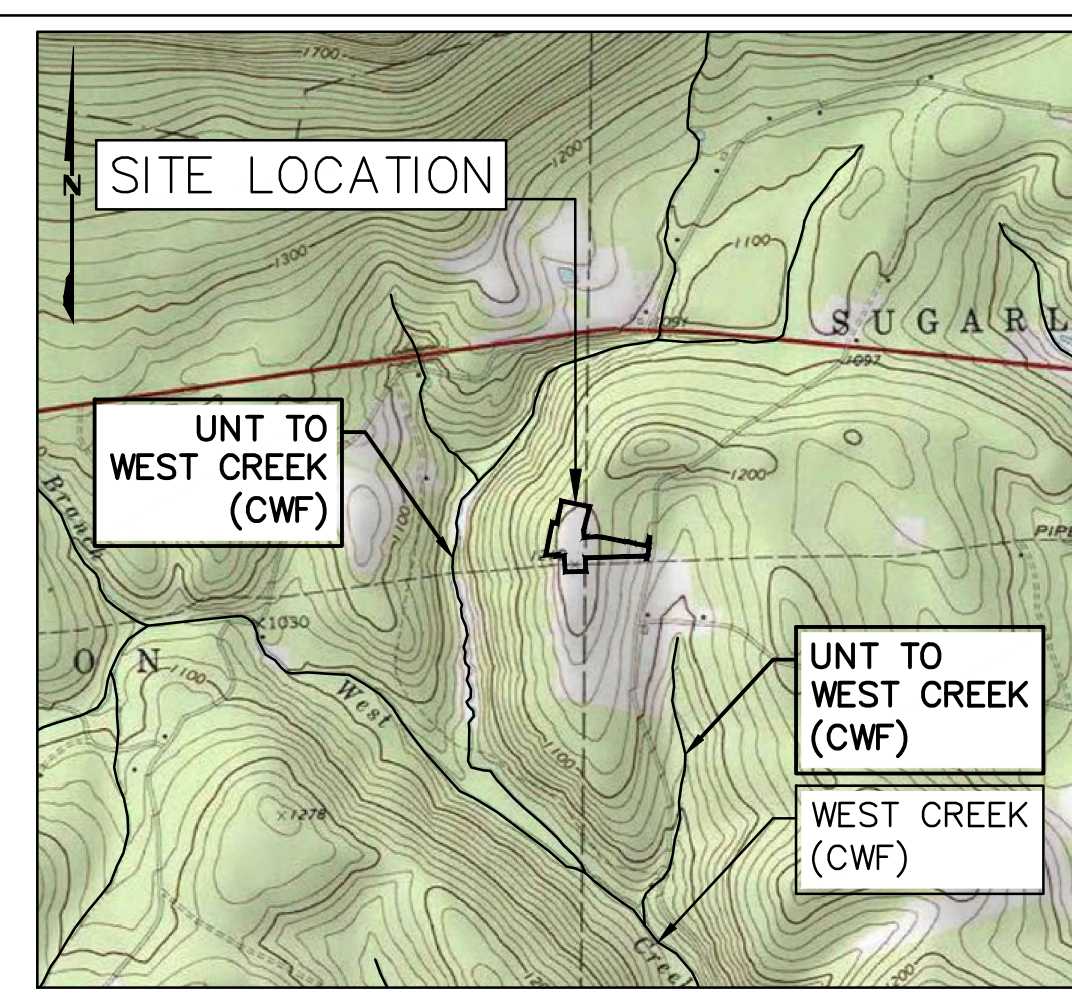
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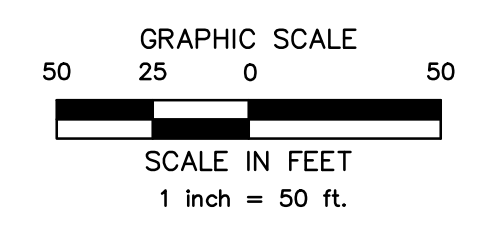
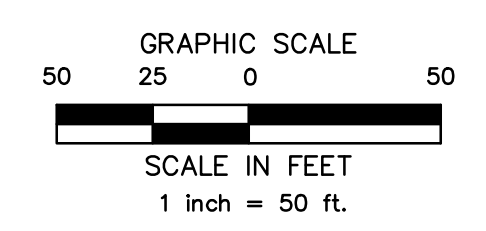
TEMPORARY DRAINAGE AREAS



PERMANENT DRAINAGE AREAS



LOCATION MAP
 USGS ELK GROVE QUADRANGLE
 SCALE: 1"=2,000'

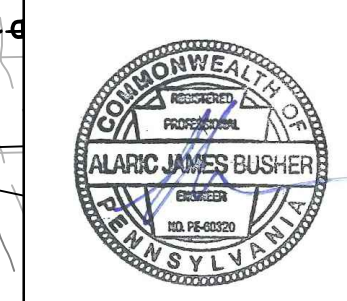


LEGEND

- PROPOSED FEATURES**
- PROPOSED MAJOR CONTOUR (10' INTERVAL)
 - PROPOSED MINOR CONTOUR (2' INTERVAL)
 - PROPOSED MINOR CONTOUR (1' INTERVAL)
 - LIMIT OF DISTURBANCE (WEST DIAMOND REGULATOR STATION)
 - ESCGP-2 PERMIT BOUNDARY
 - CENTERLINE GAS PIPELINE
 - LIMIT OF WORKSPACE (OVERALL PIPELINE PROJECT)
 - PROPOSED ACCESS ROAD
 - DRAINAGE AREA BOUNDARIES
 - EXISTING MAJOR CONTOUR (10' INTERVAL)
 - EXISTING MINOR CONTOUR (2' INTERVAL)

SITE SOIL TYPES

- OcB2 OQUAGA CHANNERY SILT LOAM, 2 TO 12 PERCENT SLOPES
- OcC2 OQUAGA CHANNERY SILT LOAM, 12 TO 20 PERCENT SLOPES
- O6B OQUAGA VERY STONY SILT LOAM, 0 TO 12 PERCENT SLOPES
- O6D OQUAGA VERY STONY SILT LOAM, 12 TO 35 PERCENT SLOPES



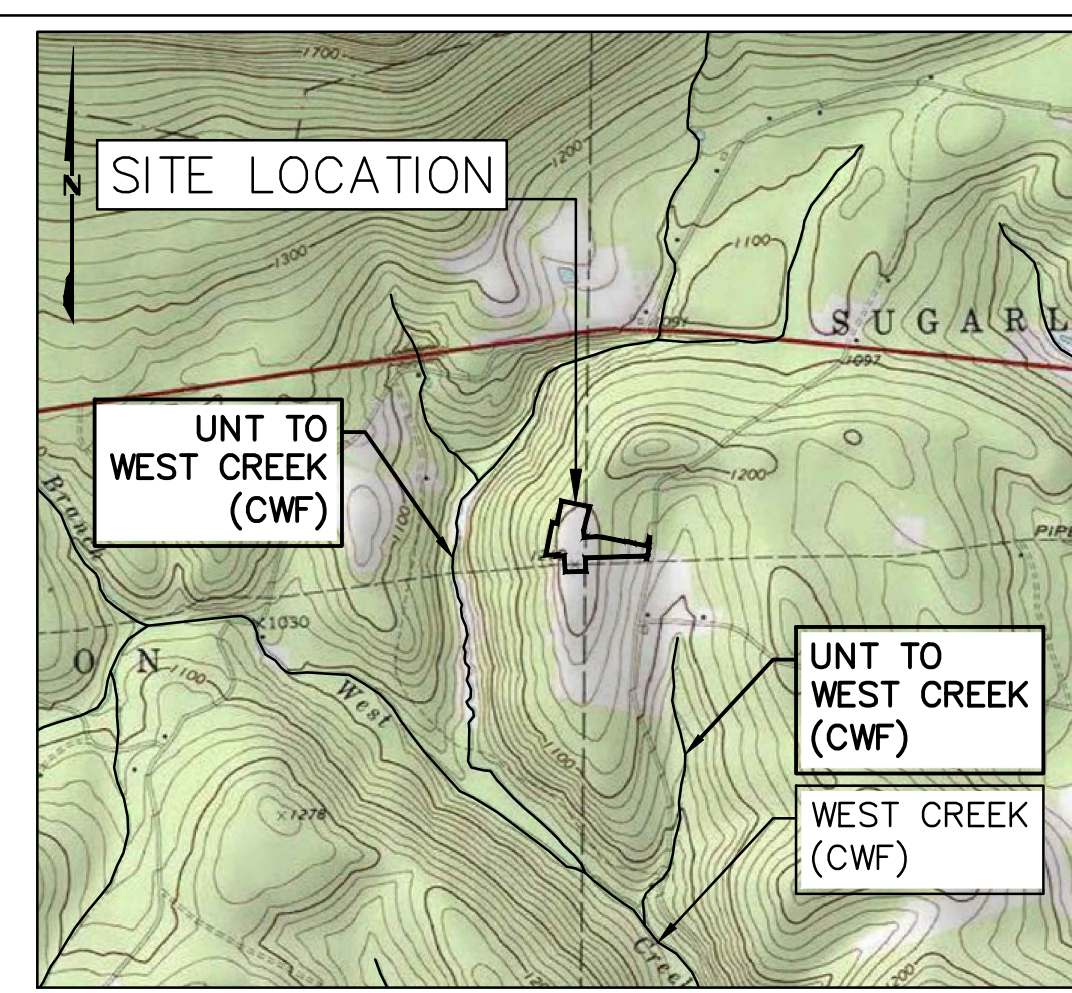
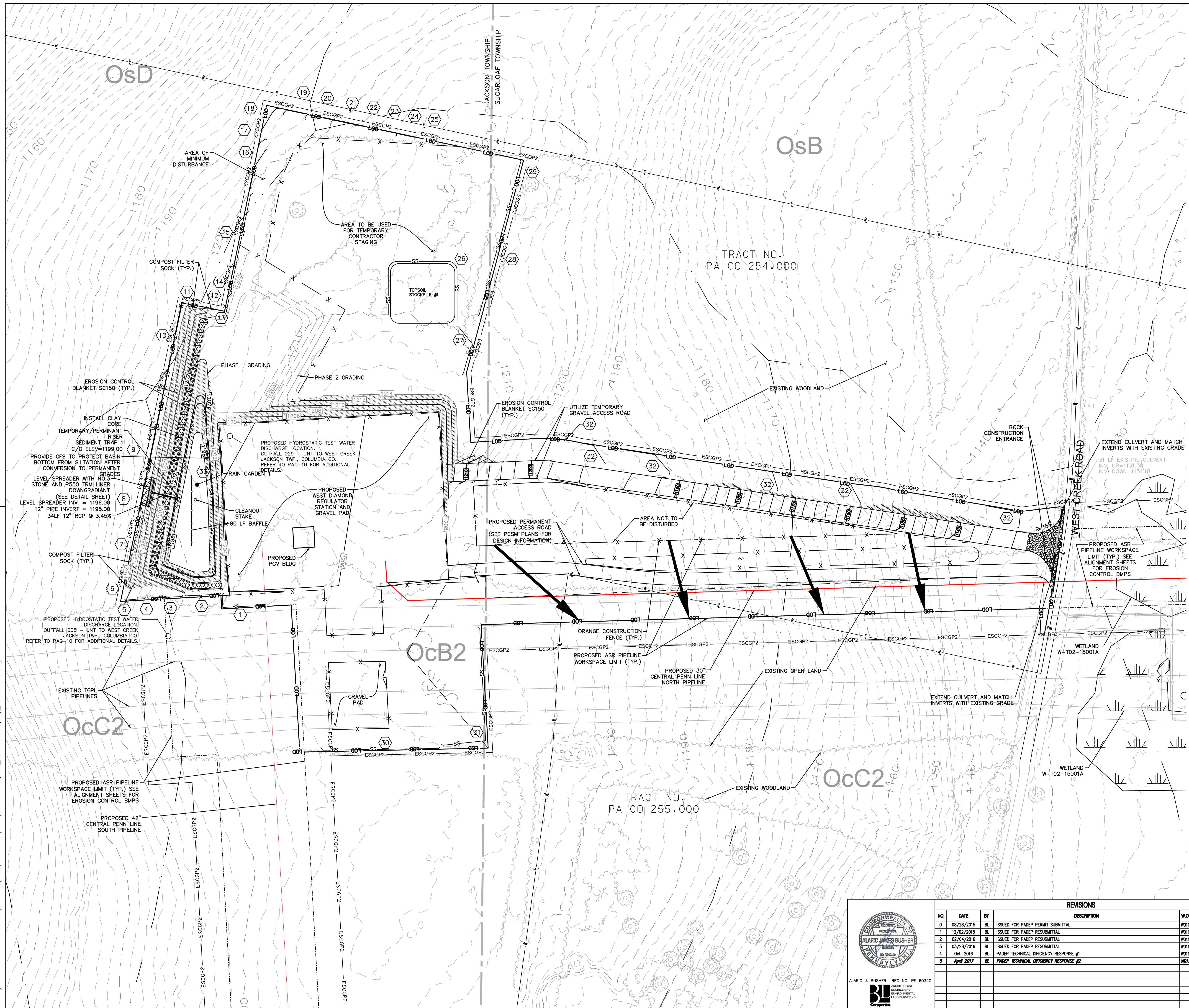
ALARIC J. BUSHER REG. NO. PE 60320
 ARCHITECTURE
 ENGINEERING
 ENVIRONMENTAL
 LAND SURVEYING
 COMPANIES

REVISIONS			
NO.	DATE	BY	DESCRIPTION
0	08/26/2015	BL	ISSUED FOR PADEP PERMIT SUBMITTAL
1	12/02/2015	BL	ISSUED FOR PADEP RESUBMITTAL
2	02/04/2016	BL	ISSUED FOR PADEP RESUBMITTAL
3	03/26/2016	BL	ISSUED FOR PADEP RESUBMITTAL
4	Oct. 2016	BL	PADEP TECHNICAL DEFICIENCY RESPONSE #1
5	April 2017	BL	PADEP TECHNICAL DEFICIENCY RESPONSE #2

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC			
ATLANTIC SUNRISE PROJECT- PROPOSED 30"/42" NATURAL GAS PIPELINE			
SOIL EROSION & SEDIMENT CONTROL AND LAYOUT PLANS FOR WEST			
DIAMOND REGULATOR STATION & ASSOCIATED PERMANENT ACCESS ROADS			
JACKSON/SUGARLOAF TOWNSHIPS, COLUMBIA COUNTY, PENNSYLVANIA			
OVERALL DRAINAGE AREA MAP			
DRAWN BY:	JEC	DATE:	04/03/15
CHECKED BY:	AJB	DATE:	04/03/15
APPROVED BY:	AJB	DATE:	07/17/15
W.D. NO.:	1161501	ISSUED FOR:	CONSTRUCTION
CHK.:	DAK	REVISION:	5
APP.:	AJB	DRAWING NUMBER:	(36-7943)MF-1A-11
			SHEET 3 OF 11



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 Drawing Location & Name: G:\JOBS\14\14C\14C4909\DWG\010-CPLN\FRS_EC14C4909(10)_WDIAMOND.dwg



LOCATION MAP
 USGS ELK GROVE QUADRANGLE
 SCALE: 1"=2,000'

LEGEND

- PROPOSED FEATURES**
- PROPOSED MAJOR CONTOUR (10' INTERVAL)
 - PROPOSED MINOR CONTOUR (2' INTERVAL)
 - PROPOSED FUTURE PHASE 2 CONTOUR (2' INTERVAL)
 - LIMIT OF DISTURBANCE (WEST DIAMOND REGULATOR STATION)
 - LIMIT OF WORKSPACE (OVERALL PIPELINE PROJECT)
 - ESCGP2 - ESCGP-2 PERMIT BOUNDARY
 - FD - FILTER SOCK DIVERSION
 - SS - SEDIMENT BARRIER
 - X - ORANGE CONSTRUCTION FENCE
 - CENTERLINE GAS PIPELINE
 - SWALE LINING
 - EROSION CONTROL BLANKET
 - ROCK OUTLET/RIPRAP APRON
 - PROPOSED ACCESS ROAD
 - SEDIMENT BARRIER DESIGNATION (SEE SHEET 10)
 - ROCK CONSTRUCTION ENTRANCE
 - BAFFLE
 - TRM LINING
 - CLAY CORE LIMITS
 - EXISTING MAJOR CONTOUR (10' INTERVAL)
 - EXISTING MINOR CONTOUR (2' INTERVAL)
 - WATERBAR

SITE SOIL TYPES

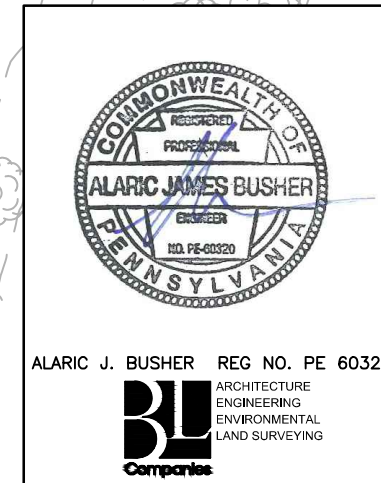
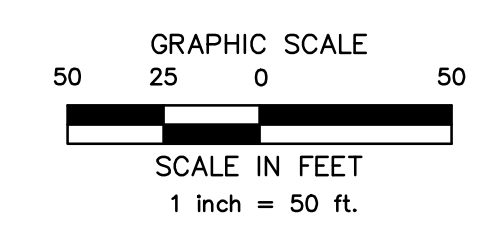
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- OcC2 OQUAGA CHANNERY SILT LOAM, 12 TO 20 PERCENT SLOPES
- OsB OQUAGA VERY STONY SILT LOAM, 0 TO 12 PERCENT SLOPES
- OsD OQUAGA VERY STONY SILT LOAM, 12 TO 35 PERCENT SLOPES

LIMIT OF DISTURBANCE

AREA OF THE LIMIT OF DISTURBANCE IS:
 ±333,234 SF/ 7.65 AC.

RECEIVING WATERCOURSE - CHAPTER 93 DESIGNATION

THE RECEIVING WATERCOURSES ARE UNNAMED TRIBUTARIES TO WEST CREEK, CWF
 APPROXIMATE DISTANCE FROM SITE TO UNT TO WEST CREEK: ±1,000 FT (WEST)
 APPROXIMATE DISTANCE FROM SITE TO UNT TO WEST CREEK: ±900 FT (SOUTHEAST)

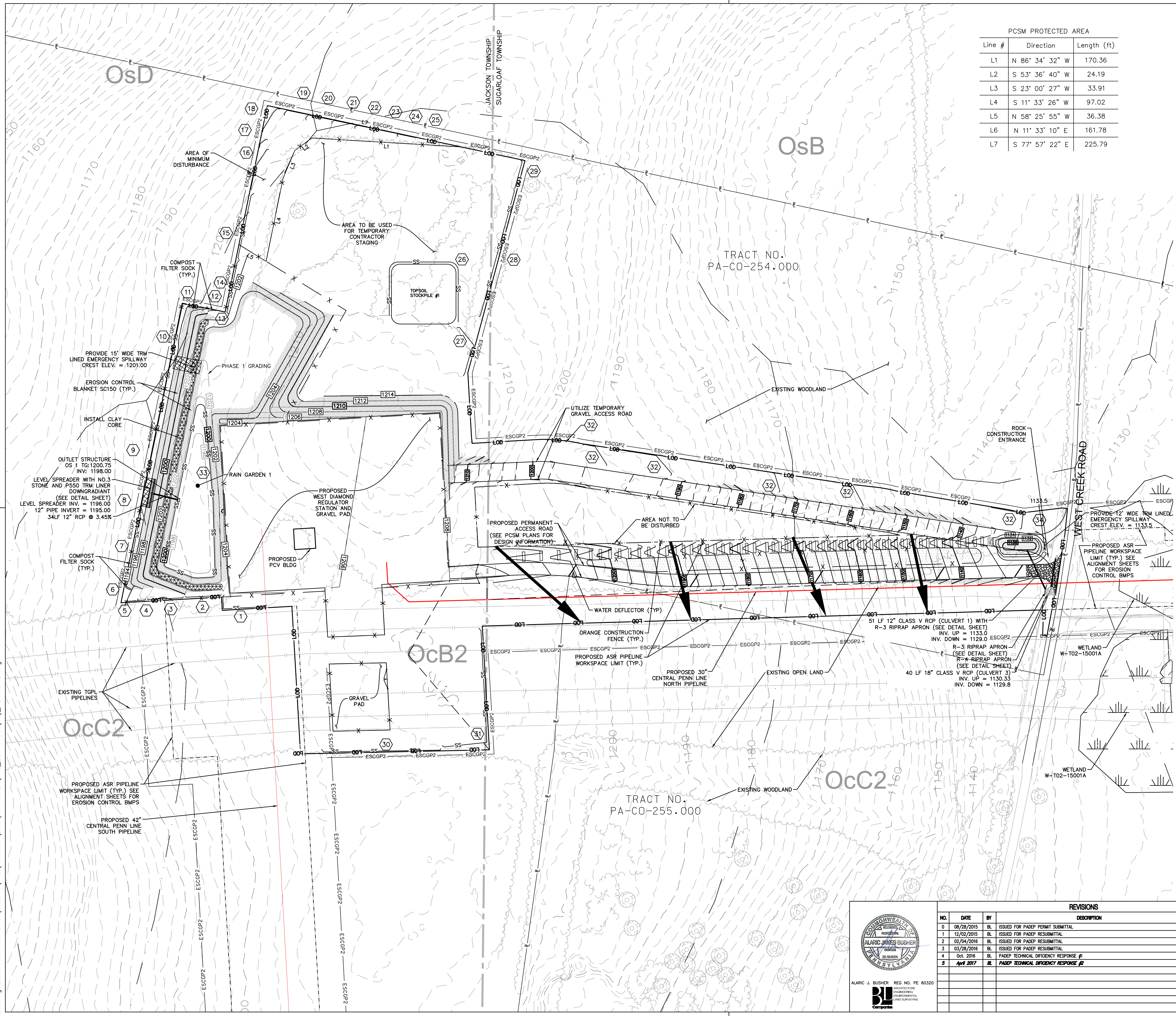


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1	12/02/2015	BL	ISSUED FOR PADEP RESUBMITTAL	W01161501 DAK A.B.
2	02/04/2016	BL	ISSUED FOR PADEP RESUBMITTAL	W01161501 A.B. A.B.
3	03/26/2016	BL	ISSUED FOR PADEP RESUBMITTAL	W01161501 A.B. A.B.
4	Oct. 2016	BL	PADEP TECHNICAL DEFICIENCY RESPONSE #1	W01161501 A.B. A.B.
5	April 2017	BL	PADEP TECHNICAL DEFICIENCY RESPONSE #2	W01161501 A.B. A.B.

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC			
ATLANTIC SUNRISE PROJECT- PROPOSED 30"/42" NATURAL GAS PIPELINE			
SOIL EROSION & SEDIMENT CONTROL AND LAYOUT PLANS FOR WEST			
DIAMOND REGULATOR STATION & ASSOCIATED PERMANENT ACCESS ROADS			
JACKSON/SUGARLOAF TOWNSHIPS, COLUMBIA COUNTY, PENNSYLVANIA			
SOIL EROSION & SEDIMENT CONTROL PLAN - PHASE 1			
DRAWN BY:	JEC	DATE:	04/03/15
CHECKED BY:	A.B.	DATE:	04/03/15
APPROVED BY:	A.B.	DATE:	07/17/15
W.D.:	1161501	DRAWING NUMBER:	(36-7943)MF-1A-11
ISSUED FOR:	CONSTRUCTION	SCALE:	AS NOTED
REVISION:	5	SHEET:	4
		OF:	11

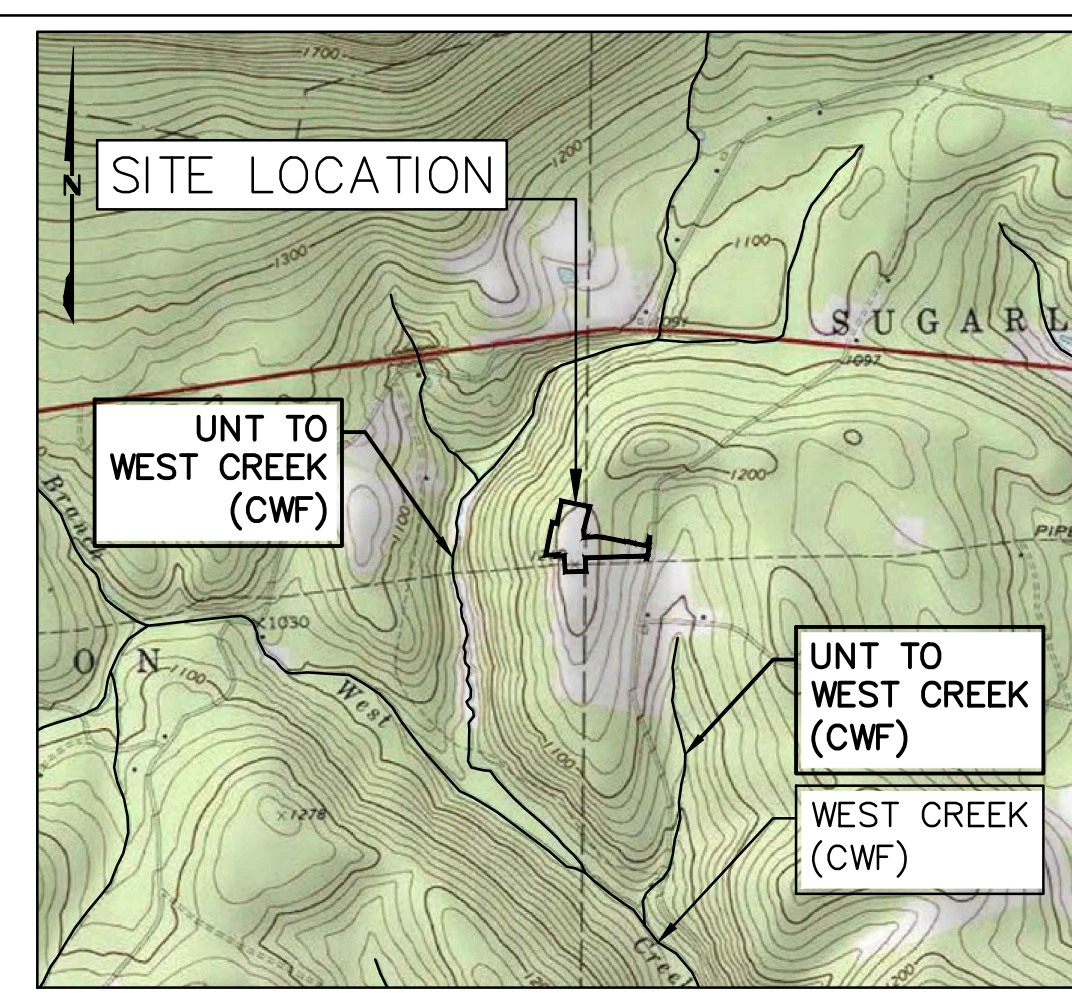


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 Drawing Location & Name: G:\JOBS\14\14C\14C4909\DWG\010-CPLN\FRS_EC14C4909\10_WDIAMOND.dwg



PCSM PROTECTED AREA

Line #	Direction	Length (ft)
L1	N 86° 34' 32" W	170.36
L2	S 53° 36' 40" W	24.19
L3	S 23° 00' 27" W	33.91
L4	S 11° 33' 26" W	97.02
L5	N 58° 25' 55" W	36.38
L6	N 11° 33' 10" E	161.78
L7	S 77° 57' 22" E	225.79



LOCATION MAP
 USGS ELK GROVE QUADRANGLE
 SCALE: 1"=2,000'

LEGEND

- PROPOSED FEATURES
- PROPOSED MAJOR CONTOUR (10' INTERVAL)
 - PROPOSED MINOR CONTOUR (2' INTERVAL)
 - PROPOSED PREVIOUS PHASE 1 CONTOUR (2' INTERVAL)
 - LIMIT OF DISTURBANCE (WEST DIAMOND REGULATOR STATION)
 - LIMIT OF WORKSPACE (OVERALL PIPELINE PROJECT)
 - ESCGP-2 PERMIT BOUNDARY
 - FILTER SOCK DIVERSION
 - SEDIMENT BARRIER
 - ORANGE CONSTRUCTION FENCE
 - CENTERLINE GAS PIPELINE
 - SWALE LINING
 - EROSION CONTROL BLANKET
 - ROCK OUTLET/RIPRAP APRON
 - PROPOSED ACCESS ROAD
 - SEDIMENT BARRIER DESIGNATION (SEE SHEET 10)
 - ROCK CONSTRUCTION ENTRANCE
 - BAFFLE
 - TRM LINING
 - CLAY CORE LIMITS
 - EXISTING MAJOR CONTOUR (10' INTERVAL)
 - EXISTING MINOR CONTOUR (2' INTERVAL)
 - WATERBAR

SITE SOIL TYPES

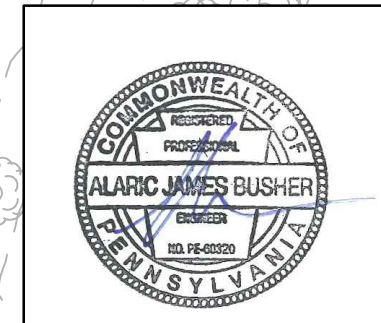
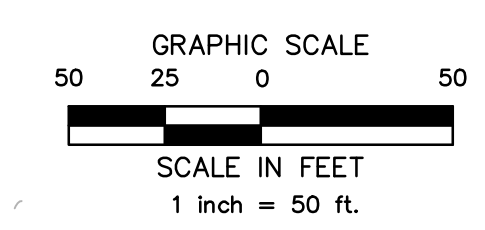
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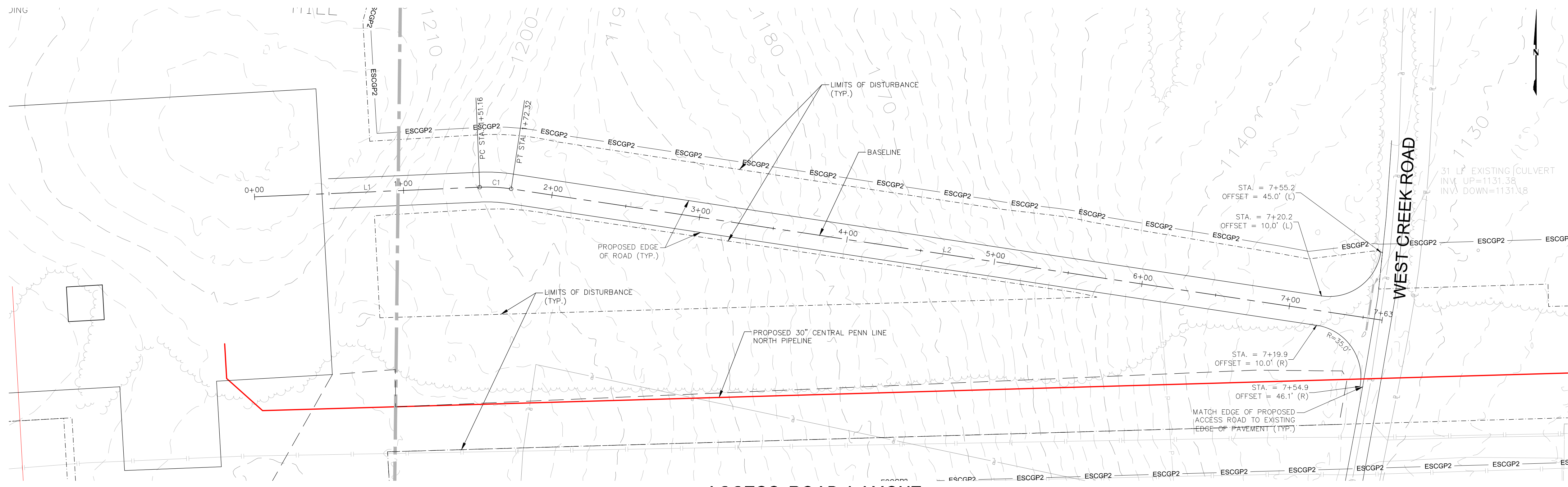
ALARIC J. BUSHER REG. NO. PE 60320
 ENGINEERING
 ENVIRONMENTAL
 LAND SURVEYING

REVISIONS			
NO.	DATE	BY	DESCRIPTION
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5	April 2017	BL	PADEP TECHNICAL DEFICIENCY RESPONSE #2

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC			
NO.	DATE	BY	DESCRIPTION
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ATLANTIC SUNRISE PROJECT- PROPOSED 30"/42" NATURAL GAS PIPELINE
 SOIL EROSION & SEDIMENT CONTROL AND LAYOUT PLANS FOR WEST
 DIAMOND REGULATOR STATION & ASSOCIATED PERMANENT ACCESS ROADS
 JACKSON/SUGARLOAF TOWNSHIPS, COLUMBIA COUNTY, PENNSYLVANIA
SOIL EROSION & SEDIMENT CONTROL PLAN - PHASE 2

DRAWN BY:	JEC	DATE:	04/03/15	ISSUED FOR:	CONSTRUCTION	SCALE:	AS NOTED
CHECKED BY:	AJB	DATE:	04/03/15	ISSUED FOR CONSTRUCTION:		REVISION:	5
APPROVED BY:	AJB	DATE:	07/17/15	DRAWING NUMBER:	(36-7943)MF-1A-11		SHEET 5 OF 11
NO.	1161501						



AR-CO-107.1 ALIGNMENT						
No.	Northing	Easting	Bearing	Delta(Δ)	Length	Tangent
L8	B 408452.76 E 408462.79	B 2338250.99 E 2338426.32	N86°43'37.42"E		175.62'	
C6	PC 408462.79 PI 408464.25 PT 408459.23	PC 2338426.32 PI 2338451.87 PT 2338476.95		14°34'45"	50.89'	25.58' 200.0'
L9	B 408459.23 E 408413.25	B 2338476.95 E 2338706.94	S78°41'37.77"E		234.54'	
C7	PC 408413.25 PI 408411.61 PT 408410.66	PC 2338706.94 PI 2338715.14 PT 2338723.44		4°47'11"	16.71'	8.36' 200.0'
L10	B 408410.66 E 408407.32	B 2338723.44 E 2338752.70	S83°28'48.52"E		29.45'	
C8	PC 408407.32 PI 408405.35 PT 408400.46	PC 2338752.70 PI 2338769.91 PT 2338786.52		9°53'51"	34.55'	17.32' 200.0'
L11	B 408400.46 E 408391.96	B 2338786.52 E 2338815.36	S73°34'57.10"E		30.06'	
C9	PC 408391.96 PI 408389.09 PT 408387.22	PC 2338815.36 PI 2338825.10 PT 2338835.08		5°48'43"	20.29'	10.15' 200.0'
L12	B 408387.22 E 408361.26	B 2338835.08 E 2338973.71	S79°23'39.85"E		141.04'	

AR-CO-107.1 TYPICAL SECTION TABLE		
BEGIN STA	END STA	TYPICAL SECTION
0+10	7+27	D

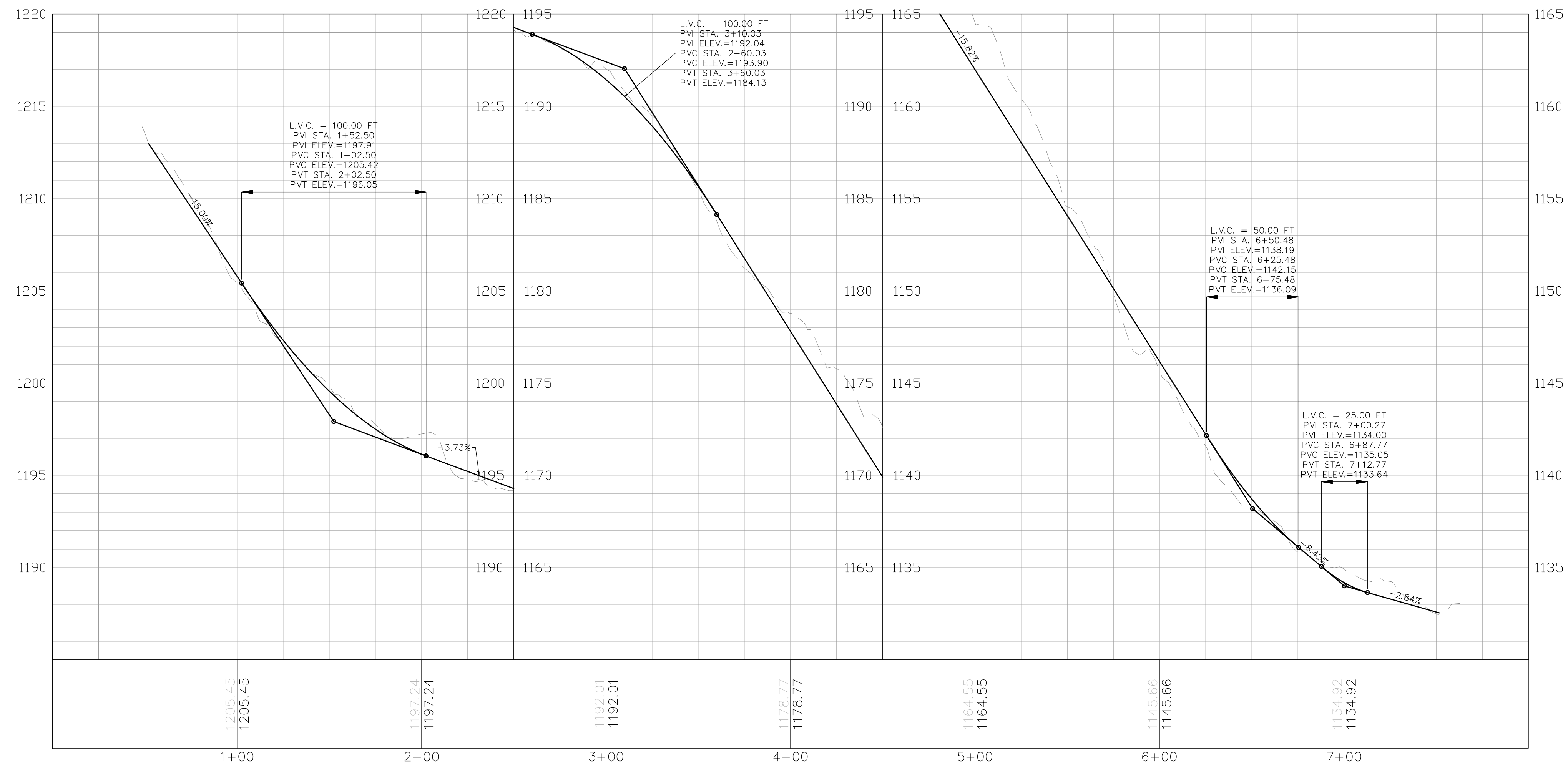
GENERAL ACCESS ROAD NOTES

- THE CONTRACTOR SHALL CONTACT PA ONE CALL A MINIMUM OF 72 HOURS PRIOR TO BEGINNING CONSTRUCTION.
- TRANSITIONS BETWEEN TYPICAL ACCESS ROAD SECTIONS SHALL OCCUR OVER 50 FEET.
- NO EARTH DISTURBING IMPROVEMENTS ARE PROPOSED WITHIN FLOODPLAINS/FLOODWAYS TO MINIMIZE IMPACTS.
- A STABILIZED CONSTRUCTION ENTRANCE WILL BE PROVIDED ON EACH ACCESS ROAD TO REDUCE VEHICLE TRACKING OF SEDIMENTS OFF-SITE. THE ADJACENT OFF-SITE ROAD TO WHICH THE ACCESS ROAD CONNECTS WILL BE INSPECTED DAILY DURING ACTIVE USE OF THE ACCESS ROAD AND MAINTAINED AS NECESSARY TO REMOVE ANY EXCESS MUD, DIRT, OR ROCK TRACKED FROM THE ACCESS ROAD. ADDITIONALLY, THE ACCESS ROAD LOD, INCLUDING EXISTING ROADS USED AS PART OF THE ACCESS ROAD, WILL BE INSPECTED DAILY DURING ACTIVE USE OF THE ACCESS ROAD AND MAINTAINED AS NECESSARY TO REMOVE ANY EXCESS MUD, DIRT, OR ROCK TRACKED FROM THE ACCESS ROAD.
- VACUUM SWEEPING MAY BE USED TO MITIGATE THE SPREAD OF SEDIMENT BEYOND THE RCES. RCES WILL BE INSPECTED FOR SEDIMENT TRACKING ONTO PUBLIC ROADWAYS. THE ROADWAY SHALL BE VACUUM SWEEPED UPON DISCOVERY OF SEDIMENT. ANY LARGE CLUMPS OF DIRT THAT ACCUMULATE ON THE ROAD SURFACE SHALL BE HAND CLEANED BEFORE VACUUM SWEEPING. ALL VEHICLES LEAVING THE RCE SHALL BE INSPECTED FOR LARGE CLUMPS OF DEBRIS. IF DEBRIS, LARGER THAN 4" DIAMETER IS OBSERVED, IT SHALL BE MANUALLY REMOVED FROM THE VEHICLE. DIRT ROADS SHALL BE INSPECTED WEEKLY FOR RUTTING. THERE SHALL BE NO MORE THAN A MAXIMUM OF 6" OF RUTTING ON ACCESS ROADS. IF RUTTING IN EXCESS OF 6" IS OBSERVED, THE ROAD SHALL BE ROLLED AS SOON AS FEASIBLE. DUMP TRUCKS HAULING MATERIAL FROM RCES IN SPECIAL PROTECTION WATERSHEDS WILL BE COVERED WITH A TAIPAULIN.
- FOR TEMPORARY ROADS, IMPROVEMENTS SHALL BE REMOVED ONCE CONSTRUCTION IS COMPLETE. THE DISTURBED AREAS SHALL BE RESTORED TO PRE-CONSTRUCTION CONDITIONS.
- EROSION & SEDIMENTATION CONTROLS SHALL BE LEFT IN PLACE UNTIL SUCH TIME AS THE DISTURBED AREAS HAVE PERMANENT STABILIZATION. AN AREA SHALL BE CONSIDERED TO HAVE ACHIEVED FINAL STABILIZATION WHEN IT HAS A MINIMUM UNIFORM 70% PERENNIAL VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED SURFACE EROSION AND SUBSURFACE CHARACTERISTICS SUFFICIENT TO RESIST SLIDING AND OTHER MOVEMENTS.
- ALL SLOPES THAT ARE EQUAL TO OR STEEPER THAN 1(V):3(H) SHALL BE SEEDED AND THEN COVERED WITH EROSION CONTROL BLANKET. THE BLANKET SHALL BE NORTH AMERICAN GREEN SC150 OR APPROVED EQUAL AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS.
- ALL NONWOVEN GEOTEXTILE SHALL BE MIRAFI 140N OR EQUAL.
- FOR TEMPORARY ROADS, BROAD-BASED DIPS SHALL BE REMOVED AND THE AREA SHALL BE GRADED TO PRE-CONSTRUCTION CONDITIONS.

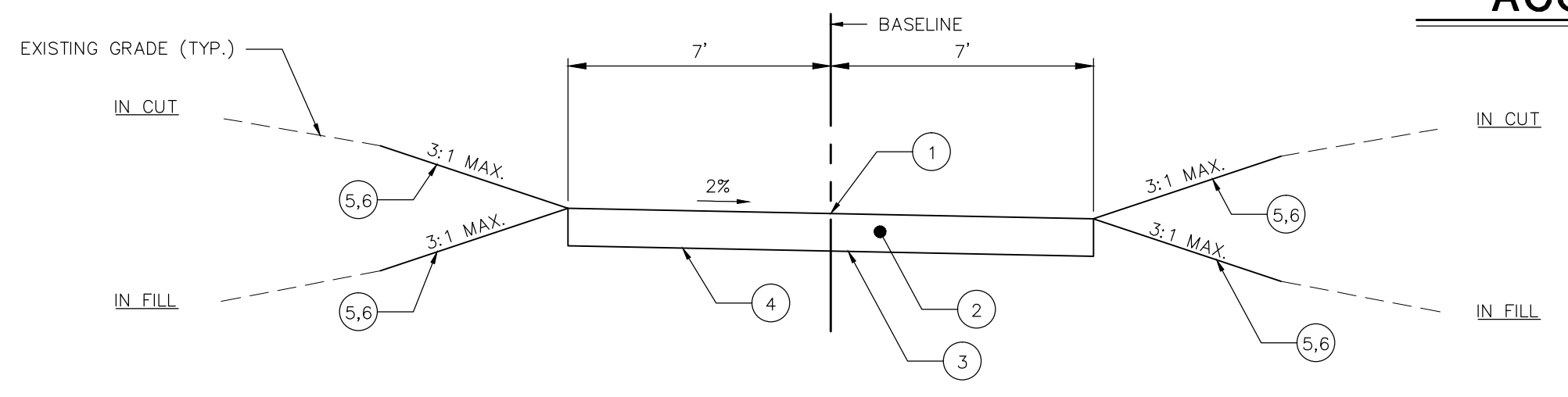
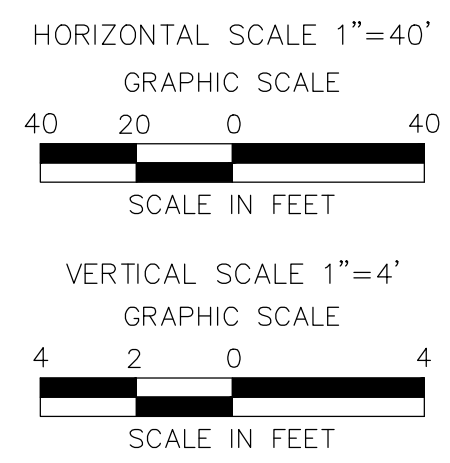
ACCESS ROAD LAYOUT

TYPICAL SECTION LEGEND

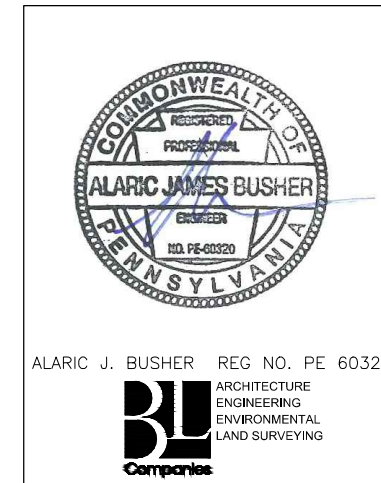
- POINT OF APPLICATION OF GRADE OR MATCH EXISTING GROUND
- 12" LAYER CRUSHER RUN GRAVEL
- NONWOVEN GEOTEXTILE (MIRAFI 140N OR EQUAL)
- LIMIT OF EXCAVATION OR LIMIT OF COMPACTION
- EROSION CONTROL BLANKET ON SLOPES 3:1 OR GREATER
- 6" TOPSOIL AND SEED
- VEGETATED CHANNEL



ACCESS ROAD PROFILE



TYPICAL SECTION D



REVISIONS			
NO.	DATE	BY	DESCRIPTION
0	08/26/2015	BL	ISSUED FOR PADEP PERMIT SUBMITTAL
1	12/02/2015	BL	ISSUED FOR PADEP RESUBMITTAL
2	02/04/2016	BL	ISSUED FOR PADEP RESUBMITTAL
3	03/26/2016	BL	ISSUED FOR PADEP RESUBMITTAL
4	04/01/2016	BL	PADEP TECHNICAL DEFICIENCY RESPONSE #1
5	April 2017	BL	PADEP TECHNICAL DEFICIENCY RESPONSE #2

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC			
W.D. NO.	CHK.	APP.	DESCRIPTION
W01161501	DAK	AJB	ATLANTIC SUNRISE PROJECT- PROPOSED 30"/42" NATURAL GAS PIPELINE
W01161501	DAK	AJB	SOIL EROSION & SEDIMENT CONTROL AND LAYOUT PLANS FOR WEST
W01161501	AJB	AJB	DIAMOND REGULATOR STATION & ASSOCIATED PERMANENT ACCESS ROADS
W01161501	AJB	AJB	JACKSON/SUGARLOAF TOWNSHIPS, COLUMBIA COUNTY, PENNSYLVANIA
W01161501	AJB	AJB	ACCESS ROAD CO-107.1 LAYOUT PLAN

DRAWN BY: JS	DATE: 04/03/15	ISSUED FOR BID:	SCALE: AS NOTED
CHECKED BY: AJB	DATE: 04/03/15	ISSUED FOR CONSTRUCTION:	REVISION: 5
APPROVED BY: AJB	DATE: 07/17/15	DRAWING NUMBER: (36-7943)MF-1A-3	SHEET 6 OF 11

Drawn By & Date/Time: norwooduser Apr 28, 2017 - 2:03pm
 Drawing Location & Name: G:\08514\14C\14C4909\DWG\020-CPLS\F_A_PP14C4909(20N)-TAR-CO-107-1.dwg

RIP RAP GRADATION, FILTER BLANKET, MAXIMUM VELOCITIES

Riprap Gradation, Filter Blanket Requirements, Maximum Velocities						
Percent Passing (Square Openings)						
Class, Size NO.	R-8	R-7	R-6	R-5	R-4	R-3
Rock Size (Inches)						
42	100					
30		100				
24	15-50		100			
18		15-50		100		
15	0-15				100	
12		0-15	15-50			
9			15-50		100	
6		0-15		15-50		
4			0-15		15-50	
3				0-15		15-50
2					0-15	
Nominal Placement Thickness (inches)	63	45	36	27	18	9
Filter Stone V _{max} (ft/sec)	AASHTO #1	AASHTO #1	AASHTO #1	AASHTO #3	AASHTO #3	AASHTO #57
	17.0	14.5	13.0	11.5	9.0	6.5

Adapted from PennDOT Pub. 406, Section 703.2(c), Table C

ADAPTED FROM PENNDOT PUB. 406, SECTION 703.2 (c), TABLE C.

1. THIS IS A GENERAL STANDARD. SOIL CONDITIONS AT EACH SITE SHOULD BE ANALYZED TO DETERMINE ACTUAL FILTER SIZE. A SUITABLE WOVEN OR NON-WOVEN GEOTEXTILE UNDERLAYMENT, USED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS, MAY BE SUBSTITUTED FOR THE FILTER STONE FOR GRADIENTS < 10%.

LIMING AND FERTILIZER RATES

Soil Amendment	Permanent Seeding Application Rate			Notes
	Per Acre	Per 1,000 sq. ft.	Per 1,000 sq. yd.	
Agricultural lime	6 tons	240 lb.	2,480 lb.	Or as per soil test; may not be required in agricultural fields
10-10-20 fertilizer	1,000 lb.	25 lb.	210 lb.	Or as per soil test; may not be required in agricultural fields
Temporary Seeding Application Rate				
Agricultural lime	1 ton	40 lb.	410 lb.	Typically not required for topsoil stockpiles
10-10-10 fertilizer	500 lb.	12.5 lb.	100 lb.	Typically not required for topsoil stockpiles

PA DEP TABLE 11.2

1 NO LIME AND/OR FERTILIZER MAY BE APPLIED IN WETLANDS.

SLOPE SEED MIX

Common Name	Scientific Name	# PLS/acre	PLS/sq ft	% of Mix
Big Bluestem	Andropogon gerardii	2.0	6.0	10
Little Bluestem	Schizachyrium scoparium	1.0	6.0	10
Switchgrass	Panicum virgatum	1.3	12.0	20
Timothy	Phleum pratense	0.4	12.0	20
Virginia Wildrye	Elymus virginicus	4.4	7.5	13
Deertongue	Dichanthelium clandestinum	0.7	6.0	10
Blackeyed Susan	Rudbeckia hirta	0.1	3.0	5
White Clover	Trifolium repens	0.2	3.0	5
Oxeye Sunflower	Heliopsis helianthoides	0.6	1.5	3
Partridge Pea	Chamaecrista fasciculata	1.1	1.5	3
Purple Coneflower	Echinacea purpurea	0.6	1.5	3
Total	--	12.3	60.0	100.00

NOTES:

1 PLS IS ROUNDED TO THE NEAREST TENTH OF A POUND. PLS = PURE LIVE SEED

ROW SEED MIX

Common Name	Scientific Name	# PLS/acre	PLS/sq ft	% of Mix
Red Top	Agrostis gigantea	0.1	12.0	20
Timothy	Phleum pratense	0.4	12.0	20
Tall Fescue	Festuca arundinacea	1.7	9.0	15
Annual Ryegrass	Lolium perenne multiflorum	1.7	9.0	15
Italian Ryegrass	Festulium	1.7	9.0	15
Alsike Clover	Trifolium hybridum	0.2	3.0	5
White Clover	Trifolium repens	0.2	3.0	5
Ladino White Clover	Trifolium repens latum	0.2	3.0	5
Total	--	6.2	60.0	100

SPECIES TYPE AND SEASON OF PLANTING

Species Type and Season of Planting	
Cover Crops ¹	
Cool Season - Spring	March 1 to June 1
Warm Season	June 1 to August 15
Cool Season - Fall	August 15 - October 15
Permanent Crop ²	
Spring	April 20 to June 15
Late Fall (dormant)	October 10 - March 1

NOTES:

1. SEEDING DATES FOR COVER CROPS ARE BASED ON DATES REFERENCED BY CLARK, 2002.
2. SEEDING DATES FOR PERMANENT CROPS ARE BASED ON DATES REFERENCED BY LANDSHOOT, 1997 AND DELONG AND BRITTINGHAM, 2002.

SEED AFTER OCTOBER 10 WHEN GROUND TEMPERATURES AT A DEPTH OF 4 INCHES ARE 45 F OR LOWER AND COOLER AIR TEMPERATURES ARE FORECASTED.

DORMANT SEEDING CAN OCCUR UNTIL SOIL IS FROZEN AND ADEQUATE PENETRATION OF THE DRILL SEEDER DOES NOT OCCUR.

COVER CROP SEED MIXES

Cover Crop Seed Mixes				
Warm Season				
Common Name	Crop Type	# PLS/acre	PLS/sq ft	% of Mix
Pearl Millet	Grass	6.9	12.6	70
Sunn Hemp	Legume	10.5	3.6	20
Nitro Radishes	Brassicac	3.1	1.8	10
Total	--	20.5	18.0	100
Cool Season				
Annual ryegrass	Grass	8.0	35.1	65
Red Clover	Legume	3.2	13.5	25
Nitro Radishes	Brassicac	9.4	5.4	10
Total	--	20.6	54.0	100

NOTES:

1 PLS IS ROUNDED TO THE NEAREST TENTH OF A POUND. PLS = PURE LIVE SEED

TEMPORARY SEED MIX

TEMPORARY SEEDING SHALL CONSIST OF ANNUAL RYEGRASS (100 PERCENT BY WEIGHT), OR EQUIVALENT, AND SHALL BE PLACED AT THE RATE OF 5 POUNDS PER 1,000 SQUARE YARDS. TEMPORARY SEEDING SHALL BE APPLIED TO THOSE AREAS THAT ARE A POTENTIAL EROSION PROBLEM DURING CONSTRUCTION AND TO THOSE AREAS EXPOSED FOR LONGER THAN 20 CALENDAR DAYS. IF CONDITIONS DO NOT PERMIT TEMPORARY SEEDING, MULCHING SHALL BE EMPLOYED. ADDITIONALLY, NITROGEN FERTILIZER (50-50-50) @ ONE (1) TON PER ACRE, AGRICULTURAL LIME @ ONE (1) TON PER ACRE, AND STRAW MULCH @ THREE (3) TONS PER ACRE. STRAW MULCH SHALL BE APPLIED IN LONG STRANDS, NOT CHOPPED OR FINELY BROKEN.

PERMANENT SEED MIXTURES COOL & WARM SEASON GRASSES

HAYFIELDS

Common Name	Scientific Name	# PLS/acre	PLS/sq ft	% of Mix
Orchardgrass	Dactylis glomerata	4.0	60.0	40
Timothy	Phleum pratense	2.0	60.0	40
Ladino White Clover	Trifolium repens latum	0.8	15.0	10
Red Clover	Trifolium pratense	2.4	15.0	10
Total	--	9.2	150.0	100

PASTURES

Common Name	Scientific Name	# PLS/acre	PLS/sq ft	% of Mix
Timothy	Phleum pratense	0.5	15.0	25%
Perennial Ryegrass	Lolium perenne	2.3	12.0	20%
Red Top	Agrostis gigantea	0.1	9.0	15%
Italian Ryegrass	Festulolium	1.7	9.0	15%
Alsike Clover	Trifolium hybridum	0.6	9.0	15%
Ladino White Clover	Trifolium repens latum	0.3	6.0	10%
Total	--	5.5	60.0	100%

SLOPING/FORESTED LAND

Common Name	Scientific Name	# PLS/acre	PLS/sq ft	% of Mix
Sideoats Grama	Bouteloua curtipendula	1.4	6.0	10%
Little Bluestem	Schizachyrium scoparium	1.0	6.0	10%
Switchgrass	Panicum virgatum	1.3	12.0	20%
Timothy	Phleum pratense	0.4	12.0	20%
Virginia Wildrye	Elymus virginicus	4.24	7.2	12%
Deertongue	Dichanthelium clandestinum	0.7	6.0	10%
Blackeyed Susan	Rudbeckia hirta	0.1	2.4	4%
White Clover	Trifolium repens	0.1	2.4	4%
Oxeye Sunflower	Heliopsis helianthoides	0.8	1.8	3%
Partridge Pea	Chamaecrista fasciculata	1.7	2.4	4%
Purple Coneflower	Echinacea purpurea	0.7	1.8	3%
Total	--	12.3	60.0	100%

DROUGHT/ROCKY SITES

Common Name	Scientific Name	# PLS/acre	PLS/sq ft	% of Mix
Little Bluestem	Schizachyrium scoparium	1.5	9.0	15%
Timothy	Phleum pratense	0.3	9.0	15%
Prairie Junegrass	Koeleria macrantha	0.1	6.0	10%
Deertongue	Dichanthelium clandestinum	1.0	9.0	15%
Sideoats Grama	Bouteloua curtipendula	2.7	12.0	20%
Virginia Wildrye	Elymus virginicus	3.5	6.0	10%
Partridge Pea	Chamaecrista fasciculata	2.1	3.0	5%
Ladino White Clover	Trifolium repens latum	0.2	3.0	5%
Lanceleaf Coreopsis	Coreopsis lanceolata	0.6	3.0	5%
Total	--	12.0	60.0	100%

NON-AGRICULTURAL MEADOWS

Common Name	Scientific Name	# PLS/acre	PLS/sq ft	% of Mix
Virginia Wildrye	Elymus virginicus	5.3	9.0	15%
Little Bluestem	Schizachyrium scoparium	1.5	9.0	15%
Sideoats Grama	Bouteloua curtipendula	2.1	9.0	15%
Deertongue	Dichanthelium clandestinum	1.0	9.0	15%
Partridge Pea	Chamaecrista fasciculata	4.2	6.0	10%
Oxeye Sunflower	Heliopsis helianthoides	1.3	3.0	5%
Lanceleaf Coreopsis	Coreopsis lanceolata	1.2	6.0	10%
Blackeyed Susan	Rudbeckia hirta	0.1	3.0	5%
Butterfly Milkweed	Asclepias tuberosa	5.2	6.0	10%
Total	--	21.8	60.0	100%

NATIVE NON-NATIVE FOOD PLOT MIX

Common Name	Scientific Name	# PLS/acre	PLS/sq ft	% of Mix
Timothy	Phleum pratense	0.4	12.0	20%
Upland Bent Grass	Agrostis perennans	0.1	9.0	15%
Virginia Wildrye	Elymus virginicus	5.3	9.0	15%
White Clover	Trifolium repens	0.5	9.0	15%
Ladino White Clover	Trifolium repens latum	0.7	12.0	20%
Crimson Clover	Trifolium incarnatum	3.5	9.0	15%
Total	--	10.4	60.0	100%

STORM BASIN MIX

Common Name	Scientific Name	# PLS/acre	PLS/sq R	% of Mix
Orchardgrass	Dactylis glomerata	0.8	12.0	20%
Timothy	Phleum pratense	0.4	12.0	20%
Switchgrass	Panicum virgatum	1.0	9.0	15%
Virginia Wildrye	Elymus virginicus	7.1	12.0	20%
Fox Sedge	Carex vulpinoidea	0.3	9.0	15%
Oxeye Sunflower	Heliopsis helianthoides	1.3	3.0	5%
Swamp Milkweed	Asclepias incarnata	1.7	3.0	5%
Total	--	12.6	60.0	100%

POLLINATOR MIX (TO BE ADDED TO ANY MIX UPON LANDOWNER REQUEST)

Common Name	Scientific Name	# PLS/acre	PLS/sq ft	% of Mix
Butterfly Milkweed	Asclepias tuberosa	2.6	3.0	15%
Purple Coneflower	Echinacea purpurea	1.1	3.0	15%
Dense Blazing Star	Liatris spicata	0.7	2.0	10%
Lanceleaf Coreopsis	Coreopsis lanceolata	0.4	2.0	10%
Blackeyed Susan	Rudbeckia hirta	0.1	3.0	15%
Oxeye Sunflower	Heliopsis	1.3	3.0	15%
Wild Bergamot	Monarda fistulosa	0.1	2.0	10%
Hoary Mountainmint	Pycnanthemum	0.0	2.0	10%
Total	--	6.3	20.0	100%

BRASSICA MIX

Common Name	Scientific Name	# PLS/acre	PLS/sq ft	% of Mix
Bonar (Rape)	Brassica napus	2.7	6.6	33%
Turnip	Brassica rapa	12.9	6.6	33%
Nitro Radish	Raphanus	11.8	6.8	34%
Total	--	27.4	20.0	100%

SITE SOIL TYPES AND LIMITATIONS

MAP UNIT NAME	MAP UNIT DESIGNATION	SLOPES	SOIL NAME	CUTBANKS CAVE	CORROSIVE TO CONCRETE/STEEL	DROUGHTY	EASILY ERODIBLE	FLOODING	HIGH WATER TABLE	HYDRIC/HYDRIC INCLUSIONS	LOW STRENGTH	SLOW PERCOLATION	PIPING	POOR SOURCE OF TOPSOIL	FROST ACTION	SHRINK-SWELL	POTENTIAL SINKHOLE	PONDING	WETNESS
OQUAGA CHANNERY SILT LOAM	OcB2	3-12%	OQUAGA	X	C	X	X		X	X				X					
				X	C	X	X		X	X			X						
OQUAGA VERY STONY SILT LOAM	OaB	0-12%	OQUAGA	X	C	X	X		X	X				X					
				X	C	X	X		X	X			X						
OQUAGA CHANNERY SILT LOAM	OcB2	3-12%	OQUAGA	X	C	X	X		X	X				X					
				X	C	X	X		X	X			X						

SOILS LIMITATIONS AND RESOLUTIONS

LIMITATION	RESOLUTION
CUTBANKS CAVE	EXCAVATIONS WILL BE PROPERLY SUPPORTED BY SHEETING AND SHORING TO PREVENT CAVES.
CORROSIVE TO CONCRETE/STEEL	NO CONCRETE OR STEEL PIPING IS PROPOSED WITHOUT APPROPRIATE COATINGS AND PROTECTION.
DROUGHTY	EXISTING SUITABLE TOPSOIL AND SOIL AMENDMENTS WILL BE USED DURING CONSTRUCTION.
EASILY ERODIBLE	TEMPORARY AND PERMANENT EROSION CONTROL BMP'S WILL BE EMPLOYED THROUGHOUT THE SITE.
FLOODING	ENSURE THAT THE SITE HAS PROPER DRAINAGE.
HIGH WATER TABLE	A GEOTECHNICAL INVESTIGATION WAS CONDUCTED TO MINIMIZE CONFLICTS WITH SATURATED ZONES.
HYDRIC/HYDRIC INCLUSIONS	A WETLAND INVESTIGATION WAS COMPLETED TO DETERMINE IF WETLANDS ARE PRESENT IN THE DEVELOPMENT AREA.
LOW STRENGTH	A MAXIMUM OF 3:1 SLOPES ARE PROPOSED.
SLOW PERCOLATION	FIELD INVESTIGATIONS OF PERCOLATION RATES AT THE INFILTRATION AREAS WERE PERFORMED TO VERIFY THE SOILS PERCOLATION CAPACITY.
PIPING	WATERTIGHT PIPE, ANTISEEP COLLARS, CLAY CORES THROUGH BASIN BERMS, AND CONCRETE ENDWALLS WILL BE USED TO MINIMIZE THE DANGER OF PIPING.
POOR SOURCE OF TOPSOIL	EXISTING TOPSOIL, WHICH HAS PROVEN TO BE SUITABLE, WILL BE REUSED ON THE SITE.
FROST ACTION	PAVEMENT SUBBASE WILL BE PROVIDED TO MINIMIZE FROST AFFECTS.
SHRINK-SWELL	STONE BASE WILL BE PROVIDED TO PREVENT SHRINK-SWELL FROM EFFECTING PAVEMENT.
POTENTIAL SINKHOLE	GEOTECHNICAL ENGINEER OF RECORD RECOMMENDATIONS WILL BE FOLLOWED FOR ANY POTENTIAL OCCURRENCES.
PONDING	SURFACE GRADING AND DRAINAGE FACILITIES WILL BE PROVIDED TO MINIMIZE PONDING AFFECTS.
WETNESS	WET WEATHER CONSTRUCTION RECOMMENDATIONS, PER THE GEOTECHNICAL ENGINEER'S RECOMMENDATIONS, WILL BE EMPLOYED TO MINIMIZE THE AFFECTS OF WETNESS DURING CON

THERMAL IMPACT ANALYSIS

THERMAL IMPACTS ASSOCIATED WITH CPL NORTH, CPL SOUTH, AND ASSOCIATED FACILITIES WILL BE AVOIDED TO THE MAXIMUM EXTENT PRACTICABLE. THE FOLLOWING PROVISIONS RELATED TO THERMAL IMPACTS ARE INCLUDED IN THE E&S PLAN WITHIN SECTION 2 OF THE ESCGP-2 NOI:

- THE MINIMUM PERMANENT CHANGES IN LAND COVER, NECESSARY TO CONSTRUCT THE REQUIRED FACILITIES ARE BEING PROPOSED.
- RUNOFF FROM THE PERMANENT IMPERVIOUS AREAS WILL BE COLLECTED AS PART OF THE POST CONSTRUCTION STORMWATER MANAGEMENT/SITE RESTORATION (PCSM/SR) PLAN AND ROUTED TO PCSM/SR BMPS. IN ADDITION, IMPERVIOUS AREAS WILL BE GRAVEL INSTEAD OF ASPHALT WHEREVER PRACTICAL.
- PCSM/SR BMPS INCORPORATE THE USE OF A RAIN GARDEN AND VEGETATED SWALES WITH EARTHEN CHECK DAMS WILL BE UTILIZED FOR STORMWATER RATE CONTROL.
- THE REMOVAL OF VEGETATION, ESPECIALLY TREE COVER, WILL BE LIMITED TO ONLY THAT NECESSARY FOR CONSTRUCTION.
- THE AMOUNT OF IMPERVIOUS SURFACES WILL BE LIMITED TO ONLY THAT NECESSARY TO SUPPORT THE CONSTRUCTION OF THE FACILITY AND ASSOCIATED PIPELINE.

REGULATOR STATION SEQUENCE OF CONSTRUCTION

- AT LEAST 7 DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, INCLUDING CLEARING AND GRUBBING, THE OWNER AND/OR OPERATOR SHALL INVITE ALL CONTRACTORS, ENVIRONMENTAL INSPECTORS, THE LANDOWNER, APPROPRIATE MUNICIPAL OFFICIALS, THE E&S PLAN PREPARER, THE PCSM PLAN PREPARER, THE LICENSED PROFESSIONAL RESPONSIBLE FOR OVERSIGHT OF CRITICAL STAGES OF IMPLEMENTATION OF THE PCSM PLAN, AND A REPRESENTATIVE FROM THE LOCAL CONSERVATION DISTRICT TO AN ON-SITE PRECONSTRUCTION MEETING.
- AT LEAST 3 DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, OR EXPANDING INTO AN AREA PREVIOUSLY UNMARKED, THE PENNSYLVANIA ONE CALL SYSTEM INC. SHALL BE NOTIFIED AT 1-800-242-1776 FOR THE LOCATION OF EXISTING UNDERGROUND UTILITIES.
- INSTALL ORANGE CONSTRUCTION FENCE AROUND AREAS TO BE PROTECTED.
- LOCATE STAGING AREAS AND ACCESS POINTS INCLUDING CONSTRUCTION ENTRANCES. FIELD LOCATE LIMITS OF DISTURBANCE.
- INSTALL ROCK CONSTRUCTION ENTRANCE (RCE) AT TEMPORARY ACCESS ROAD.
- REMOVE BRUSH TO EFFECTIVELY INSTALL PERIMETER CONTROLS, LEVEL SIDE CUTS TO GRANT ACCESS FOR VEHICLES AND WORKERS TO SAFELY PERFORM THE INSTALLATION OF SEDIMENT BARRIERS ON THE SITE AS SHOWN ON THE CONSTRUCTION DRAWINGS.
- THE COMPLIANCE MANAGER SHALL PROVIDE PADEP AND CCD AT LEAST THREE DAYS' NOTICE PRIOR TO BULK EARTH DISTURBANCE AND UPON COMPLETED INSTALLATION OF PERIMETER EROSION CONTROLS.
- INSTALL TEMPORARY ACCESS ROAD. CONSTRUCTION OF TEMPORARY ACCESS ROAD SHALL BE FULLY COMPLETED AND STABILIZED PRIOR TO ANY ADDITIONAL DISTURBANCE OCCURS ON SITE.
- INSTALL WATERBARS. ANY E&S BMPS ASSOCIATED WITH THE CONSTRUCTION OF THE PIPELINE SHOULD REMAIN IN PLACE UNTIL CONSTRUCTION OF PIPELINE AND FACILITY IS COMPLETED AND THE AREAS ARE STABILIZED.
- * INSTALL SEDIMENT TRAP WITH TEMPORARY ORIFICE CONFIGURATION, INCLUDING CLAY CORE, ANTISEEP COLLARS, SLOPE LINERS, CLEANOUT STAKE, AND ASSOCIATED IMPROVEMENTS. INSTALL ORANGE CONSTRUCTION FENCE AT PERIMETER OF TRAP TO PREVENT COMPACTION OF SOILS.
- PROCEED WITH MAJOR CLEARING AND GRUBBING.
- BEGIN CONSTRUCTION STAKING FOR GRADING.
- BEGIN GRADING AND STRIP AND STOCKPILE TOPSOIL WITHIN THE REGULATOR STATION AREA AND INSTALL SEDIMENT BARRIERS AROUND STOCKPILES.
- UPON CESSATION OF AN EARTH DISTURBANCE ACTIVITY OR ANY STAGE OF AN ACTIVITY WHERE THE CESSATION OF EARTH DISTURBANCE ACTIVITIES WILL EXCEED FOUR DAYS, THE SITE SHALL BE IMMEDIATELY SEEDED, MULCHED, OR OTHERWISE PROTECTED FROM ACCELERATED EROSION AND SEDIMENTATION PENDING FUTURE EARTH DISTURBANCE ACTIVITIES. FOR AN EARTH DISTURBANCE ACTIVITY OF ANY ACTIVITY TO BE CONSIDERED TEMPORARILY STABILIZED, THE DISTURBED AREAS SHALL BE COVERED WITH ONE OF THE FOLLOWING: A MINIMUM UNIFORM COVERAGE OF MULCH AND SEED, WITH A DENSITY CAPABLE OF RESISTING ACCELERATED EROSION AND SEDIMENTATION, OR AN ACCEPTABLE BMP WHICH TEMPORARILY MINIMIZES ACCELERATED EROSION AND SEDIMENTATION. TEMPORARY STABILIZATION WILL NOT OCCUR ON ACTIVE VEHICULAR TRAVEL WAYS WITHIN THE ROW. THE ON-SITE ENVIRONMENTAL INSPECTOR WILL LOG DAILY ACTIVITY WITHIN THE LOG AND NOTIFY THE CONTRACTOR OF AREAS REQUIRING TEMPORARY STABILIZATION (I.E., AREAS WHERE WORK HAS CEASED FOR AT LEAST FOUR DAYS).
- ROUGH GRADE SITE.
- GRADE THE REGULATOR STATION PAD AS SHOWN ON THE E&S AND PCSM/SR PLANS (SECTIONS 2 AND 3 OF THE ESCGP-2 NOI).
- IMMEDIATELY STABILIZE SIDE SLOPES WITH EROSION CONTROL MATTING WHEN SLOPES ARE 3:1 OR GREATER, SEE PCSM/SR PLANS AND DETAIL SHEETS, AS PROVIDED IN SECTION 3 OF THE ESCGP-2 NOI, (PATTERNS DIFFER BY SLOPE CATEGORY). INSTALL RIP RAP SLOPE STABILIZATION WHERE SHOWN ON THE PCSM/SR PLANS.
- ESTABLISH FINAL GRADE.
- SURFACE STABILIZATION. APPLY PERMANENT STABILIZATION MEASURES IMMEDIATELY TO ANY DISTURBED AREAS WHERE WORK HAS REACHED FINAL GRADE.
- CONSTRUCT REMAINDER OF STORMWATER MANAGEMENT BASIN 1 AREA. ALL EARTH MOVING ASSOCIATED WITH THIS WORK SHALL BE COMPLETED PRIOR TO CONVERTING TEMPORARY RISER TO THE PERMANENT RISER CONFIGURATION. ANY EXCESS EXCAVATION MATERIAL THAT WILL NOT BE USED ONSITE SHALL BE HAULED OFFSITE.
- UPON COMPLETION OF ALL EARTHWORK ACTIVITIES AND PERMANENT STABILIZATION OF ALL DISTURBED AREAS, THE OWNER AND/OR OPERATORS SHALL CONTACT THE LOCAL CCD FOR AN INSPECTION PRIOR TO THE REMOVAL/CONVERSION OF THE E&S BMPS.
- * CONVERT TRAP TO PERMANENT BASIN 1 CONFIGURATION BY REMOVING ALL ACCUMULATED SEDIMENTS, REMOVING BAFFLES, INSTALLING UNDERDRAINS AND ENGINEERED SOIL ON BASIN BOTTOM, IMMEDIATELY SEED AND STABILIZE BASIN, INSTALL ECB ON BASIN SLOPES AND INSTALL CFS AT INTERIOR TOE OF SLOPE. HAUL OFF SITE ANY EXCESS MATERIAL NOT USED LEFT OVER FROM THE CONVERSION OF THE BASIN.
- * RECONFIGURE TEMPORARY RISER TO PERMANENT OUTLET STRUCTURE BY PERMANENTLY SEALING THE 1" ORIFICES. INSTALL EMERGENCY SPILLWAY.
- * ONCE CONSTRUCTION FOR THE REGULATOR STATION AND THE PIPELINE IS COMPLETE AND THE AREAS ARE STABILIZED, INSTALL PERMANENT ACCESS ROAD AND ASSOCIATED BMPS (RCE, VEGETATED ROADSIDE SWALES WITH EARTHEN CHECK DAMS, AMENDED SOILS, EROSION CONTROL BLANKET, RAIN GARDEN 2, CULVERTS, WATER DEFLECTORS, AND RIPRAP OUTLET PROTECTION). ANY PORTIONS OF WATERBARS ASSOCIATED WITH THE PIPELINE CONSTRUCTION THAT ARE IMPACTED BY THE CONSTRUCTION OF THE PERMANENT ACCESS ROAD SHOULD BE REMOVED.
- REMOVE TEMPORARY ACCESS ROAD. RESTORE TEMPORARY ACCESS ROAD AREA TO PRE-DEVELOPMENT GRADES. IMMEDIATELY DECOMPACT, SEED, AND STABILIZE AREA DISTURBED DURING REMOVAL OF ACCESS ROAD.
- * AMEND SOILS THROUGHOUT REMAINDER OF SITE. IMMEDIATELY SEED AND STABILIZE.
- AFTER FINISH GRADING AND TOPSOIL PLACEMENT IS COMPLETED, DISTURBED AREAS SHALL BE FERTILIZED, SEEDED, AND MULCHED. SEED MIXTURES, FERTILIZER AND MULCH APPLICATIONS RATES AND DATES SHALL CONFORM TO THE TABLES PROVIDED ON THE PCSM/SR PLANS AND DETAIL SHEETS (SECTION 3 OF THE ESCGP-2 NOI), LAND OWNER AGREEMENTS AND/OR THE ECP (SECTION 4 OF THE ESCGP-2 NOI).
- AFTER SEEDING, FERTILIZING AND MULCHING IS COMPLETE, INSTALL ECBS AS REQUIRED OR ORDERED OR ON SLOPES OF 3:1 OR GREATER.
- AFTER THE SITE IS PERMANENTLY STABILIZED AND UPON PADEP OR LOCAL CCD AND OWNER APPROVAL OF STABILIZATION AND RE-VEGETATION, REMOVE TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES AND STABILIZE AREAS DISTURBED BY REMOVAL.
- * COMPLETE SITE STABILIZATION, INCLUDING SOIL AMENDMENT, SEED APPLICATION, ECB INSTALLATION IN BASINS, AND MULCHING.
- UPON COMPLETION OF ALL EARTH DISTURBANCE ACTIVITIES, THE OWNER AND/OR OPERATORS SHALL CONTACT THE LOCAL CCD FOR A FINAL INSPECTION.
- MAINTAIN E&S BMPS UNTIL SITE WORK IS COMPLETE AND UNIFORM 70% PERENNIAL VEGETATIVE COVER IS ESTABLISHED.
- REMOVE AND PROPERLY DISPOSE/RECYCLE E&S BMPS. REMOVE ORANGE CONSTRUCTION FENCE. REPAIR AND PERMANENTLY STABILIZE AREAS DISTURBED DURING E&S BMP REMOVAL UPON ESTABLISHMENT OF UNIFORM 70% VEGETATIVE COVER.

* INDICATES A CRITICAL STAGE OF PCSM INSTALLATION TO BE OBSERVED BY A LICENSED PROFESSIONAL OR DESIGNEE. CONTRACTOR TO PROVIDE 3 WORKING DAYS NOTICE TO ENGINEER AND WILLIAMS.

INTERIM AND PERMANENT STABILIZATION

- INTERIM STABILIZATION

TEMPORARY SEEDING WITH STRAW MULCH COVER FOR INTERIM STABILIZATION IS A TYPE OF BMP THAT CAN USUALLY BE PROVIDED WHERE THE EARTH DISTURBANCE ACTIVITY TEMPORARILY CEASES (I.E. 4 DAYS OR MORE) UNLESS DIRECTED BY THE PROJECT OWNER, PADEP, OR CONSERVATION DISTRICT.

THE INSTALLATION OF AN EROSION CONTROL BLANKET OR APPLICATION OF STRAW MULCH UPON SEEDED AREAS ARE BOTH CONSIDERED TO BE INTERIM STABILIZATION BMPs TO PROTECT THE SEEDED UNTIL VEGETATION IS ESTABLISHED.
- PERMANENT STABILIZATION

UPON COMPLETION OF ANY EARTH DISTURBANCE ACTIVITY, THE SITE SHALL BE IMMEDIATELY SEEDED, MULCHED, OR OTHERWISE PROTECTED FROM ACCELERATED EROSION AND SEDIMENTATION.

THE INSTALLATION OF PAVEMENT, ROCK RIP RAP, OR GABIONS ARE SOME EXAMPLES OF STABILIZATION. THE STANDARD FOR VEGETATIVE COVER AS STABILIZATION IS PERENNIAL VEGETATION THAT IS ESTABLISHED WITH A UNIFORM COVERAGE DENSITY OF 70% ACROSS THE DISTURBED AREA. THE APPLICATION OF LIME, FERTILIZERS, SEED, AND MULCH IS USUALLY DONE TO ACHIEVE PERMANENT STABILIZATION. THE MULCH IS CONSIDERED TO BE AN INTERIM STABILIZATION MEASURE TO ASSIST IN THE ESTABLISHMENT OF THE PERMANENT VEGETATIVE COVER.
- STABILIZATION DURING NON-GROWING SEASONS

WHEN UTILITY CONSTRUCTION MUST BE DONE AND IS COMPLETED DURING A NON-GROWING SEASON, INTERIM STABILIZATION BMPs MUST BE IMPLEMENTED AND ADEQUATELY MAINTAINED. THE APPLICATION OF STRAW MULCH AT THE RATE OF 3.0 TONS PER ACRE IS REQUIRED. THE BMPs SHOULD BE INSPECTED WEEKLY (UNLESS SNOW COVERED) AND AFTER EACH RUNOFF EVENT TO IDENTIFY AREAS THAT BECOME BARE.

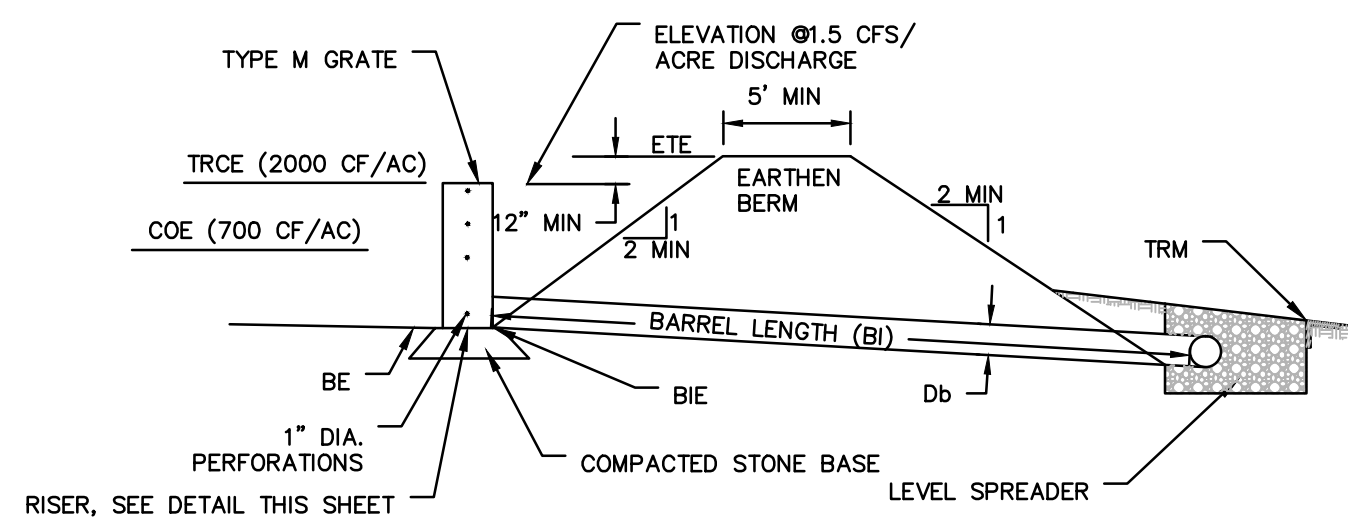
BARE AREAS SHOULD BE COVERED WITH A PROPERLY INSTALLED EROSION CONTROL BLANKET. ALL TEMPORARY EROSION AND SEDIMENT POLLUTION CONTROLS MUST BE MAINTAINED UNTIL PERMANENT VEGETATION IS ESTABLISHED.
- WHERE REQUIRED, STRAW MULCH MUST BE APPLIED AT A MINIMUM OF 3.0 TONS PER ACRE.
- STRAW MULCH SHALL BE APPLIED IN LONG STRANDS, NOT FINELY CHOPPED OR BROKEN.
- PRIOR TO ANY SEEDING, LIME, OR FERTILIZATION APPLICATION, A SOIL TEST SHALL BE PERFORMED TO DETERMINE THE pH FACTOR. ADDITIONAL LIME AND FERTILIZER MAY BE REQUIRED. NO LIME OR FERTILIZERS SHALL BE USED IN WETLAND AREAS.
- LIME, FERTILIZE, SEED, AND MULCH DISTURBED AREAS PER THE EROSION AND SEDIMENT CONTROL PLANS. IN AREAS OF STEEP SLOPES OR OBVIOUS AREAS WHERE POTENTIAL EROSION MAY OCCUR, AND EROSION CONTROL MAT OR FLEXIBLE GROWTH MEDIUM (FGM) SHALL BE USED. FGM SHALL BE APPLIED PER MANUFACTURER SPECIFICATIONS. NO LIME OR FERTILIZERS SHALL BE USED IN WETLAND OR STREAM AREAS.
- WATERBARS WITHIN AGRICULTURAL OR RESIDENTIAL AREAS SHALL BE USED AS TEMPORARY FEATURES. WATERBARS MAY BE REMOVED WHEN THE TRIBUTARY DRAINAGE AREA IS AT LEAST 70% STABILIZED WITH PERENNIAL VEGETATION AS PER PA CHAPTER 102.22

ACID-PRODUCING SOILS AND BEDROCK CONTROL PLAN

THE FOLLOWING ACID PRODUCING SOILS CONTROL PLAN WAS DEVELOPED TO IDENTIFY BMPS AND PROCEDURES FOR MINIMIZING THE POTENTIAL FOR POLLUTION ASSOCIATED WITH THE DISTURBANCE OF THE AREAS WITHIN THE PROPOSED RIGHT-OF-WAY THAT CONTAIN ACID-PRODUCING SOILS.

ACID-PRODUCING SOILS AND BEDROCK CONTROL PLAN:

- CONTRACTOR SHALL LIMIT THE EXCAVATION AREA AND EXPOSURE TIME WHEN HIGH ACID-PRODUCING SOILS ARE ENCOUNTERED. LOCATIONS WHERE ACIDIC SOILS ARE ANTICIPATED TO BE PRESENT ALONG THE PIPELINE CORRIDOR ARE PROVIDED IN THE COUNTY-SPECIFIC TABLE INCLUDED AT THE END OF THIS PLAN SET.
- CONTRACTOR SHALL SEPARATELY STORE TOPSOIL STRIPPED FROM THE SITE AWAY FROM TEMPORARILY STOCKPILED HIGH ACID-PRODUCING SOILS AND BEDROCKS.
- CONTRACTOR SHALL STOCKPILE HIGH ACID-PRODUCING SOILS AND BEDROCK MATERIAL ON LEVEL GROUND TO MINIMIZE ITS MOVEMENT, ESPECIALLY WHEN THESE MATERIALS HAVE A HIGH CLAY CONTENT.
- CONTRACTOR SHALL COVER TEMPORARILY STOCKPILED HIGH ACID-PRODUCING SOIL AND BEDROCK MATERIAL TO BE EXPOSED MORE THAN 30 DAYS WITH PROPERLY ANCHORED, HEAVY-GRADE SHEETS OF POLYETHYLENE, WHERE POSSIBLE IF NOT POSSIBLE, STOCKPILES SHALL BE COVERED WITH A MINIMUM OF THREE TO SIX INCHES OF WOOD CHIPS TO MINIMIZE EROSION OF THE STOCKPILE. IN ADDITION, THE CONTRACTOR SHALL INSTALL SILT FENCE AT THE TOE OF THE STOCKPILE SLOPE TO CONTAIN MOVEMENT OF MATERIAL. CONTRACTOR SHALL NOT APPLY TOPSOIL TO THE HIGH ACID-PRODUCING SOIL OR BEDROCK STOCKPILES TO PREVENT TOPSOIL CONTAMINATION.
- CONTRACTOR SHALL ULTIMATELY DISPOSE OF HIGH ACID-PRODUCING SOILS OR BEDROCK WITH A PH OF FOUR OR LESS, OR CONTAINING IRON SULFIDE (INCLUDING BORROW FROM CUTS) BY PLACING THE MATERIAL COMBINED WITH LIMESTONE AT THE RATE OF 6 TONS PER ACRE (OR 275 POUNDS PER 1,000 SQUARE FEET OF SURFACE AREA) AND COVERING THE MIXTURE WITH A MINIMUM OF 12 INCHES OF SETTLER SOILS WITH A PH OF FIVE OR MORE EXCEPT AS FOLLOWS:
 - IN THE AREAS WHERE TREES OR SHRUBS ARE TO BE PLANTED, THE CONTRACTOR SHALL COVER THE LIMESTONE/SOIL MIXTURE WITH A MINIMUM OF 24 INCHES OF SOILS WITH A PH OF FIVE OR MORE.
 - CONTRACTOR SHALL NOT LOCATE ANY DISPOSAL AREA WITHIN 24 INCHES OF ANY SURFACE OF A SLOPE OR BANK, SUCH AS BERMS, STREAM BANKS, DITCHES, AND OTHER SURFACE WATERS TO PREVENT POTENTIAL LATERAL LEACHING DAMAGES.
- AT THE END OF EACH DAY, CONTRACTOR SHALL CLEAN ALL EQUIPMENT USED TO HANDLE HIGH ACID-PRODUCING SOILS OR BEDROCK TO PREVENT SPREADING OF HIGH-ACID MATERIALS TO OTHER PARTS OF THE PROPOSED RIGHT-OF-WAY, INTO STREAMS, OR STORMWATER CONVEYANCES, AND TO PROTECT MACHINERY FROM ACCELERATED CORROSION.
- CONTRACTOR SHALL PROVIDE AND INSTALL NON-VEGETATIVE EROSION CONTROLS (STONE TRACKING PADS, STRATEGICALLY-PLACE LIMESTONE CHECK DAMS, SILT FENCES, WOOD CHIPS) TO LIMIT THE MOVEMENT OF HIGH ACID-PRODUCING SOILS FROM, AROUND, OR OFF OF THE PROPOSED RIGHT-OF-WAY.
- FOLLOWING THE BURIAL OR REMOVAL OF HIGH ACID-PRODUCING SOILS AND BEDROCK, TOP SOILING, AND SEEDING OF THE PROPOSED RIGHT-OF-WAY, TRANSOC SHALL MONITOR THE SITE FOR APPROXIMATELY SIX TO 12 MONTHS TO ASSURE THERE IS ADEQUATE STABILIZATION AND THAT NO HIGH-ACID SOIL OR BEDROCK PROBLEMS EMERGE. CONTRACTOR SHALL CORRECT ANY PROBLEMS THAT ARE DISCOVERED WITHIN THIS TIME PERIOD.
- IF PROBLEMS OCCUR WHERE HIGH ACID-PRODUCING SOILS OR BEDROCK HAVE BEEN PLACED OR BURIED, THE APPLICANT SHALL MONITOR THESE AREAS FOR AT LEAST TWO YEARS TO ASSURE THERE IS NO MIGRATION OF POTENTIAL ACID LEACHATE.



TRAP NO.	Z1 (FT)	Z2 (FT)	RISER		BARREL						
			MATL	FRAME TYPE	CREST ELEV. TRCE (FT)	BOT. PERF. ELEV. (FT)	MATL	DIA DB (IN)	INLET ELEV. BIE (FT)	LENGTH BI (FT)	OUTLET ELEV. BOE (FT)
1	3	3	CONC.	M	1200.75	1199.00	RCP	12	1198.00	34	1195.00

EMBANK TOP ELEV. ETE (FT)	CLEAN OUT ELEV. COE (FT)	BOTTOM ELEV. BE (FT)
1202.00	1199.00	1198.00

IN SPECIAL PROTECTION - HQ OR EV - WATERSHEDS, ADD 6" LAYER OF COMPOST ON TOP OF STONE OR REPLACE STONE WITH SUITABLE COMPOST FILTER SOCK.

FILL MATERIAL FOR THE EMBANKMENTS SHALL BE FREE OF ROOTS, OR OTHER WOODY VEGETATION, ORGANIC MATERIAL, LARGE STONES, AND OTHER OBJECTIONABLE MATERIALS. THE EMBANKMENT SHALL BE COMPACTED IN LAYERED LIFTS OF NOT MORE THAN 6" TO 9". THE MAXIMUM ROCK SIZE SHALL BE NO GREATER THAN 2/3 THE LIFT THICKNESS.

UPON COMPLETION, THE EMBANKMENT SHALL BE SEEDED AND MULCHED OR OTHERWISE STABILIZED ACCORDING TO THE SPECIFICATIONS OF THE E&S PLAN DRAWINGS.

ALL SEDIMENT TRAPS SHALL BE INSPECTED AT LEAST WEEKLY AND AFTER EACH RUNOFF EVENT.

ACCESS FOR SEDIMENT REMOVAL AND OTHER REQUIRED MAINTENANCE ACTIVITIES SHALL BE PROVIDED.

A CLEAN OUT STAKE SHALL BE PLACED NEAR THE CENTER OF EACH TRAP. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT HAS REACHED THE CLEAN OUT ELEVATION ON THE STAKE AND THE TRAP RESTORED TO ITS ORIGINAL DIMENSIONS. DISPOSE OF MATERIALS REMOVED FROM THE TRAP IN THE MANNER DESCRIBED IN THE E&S PLAN.

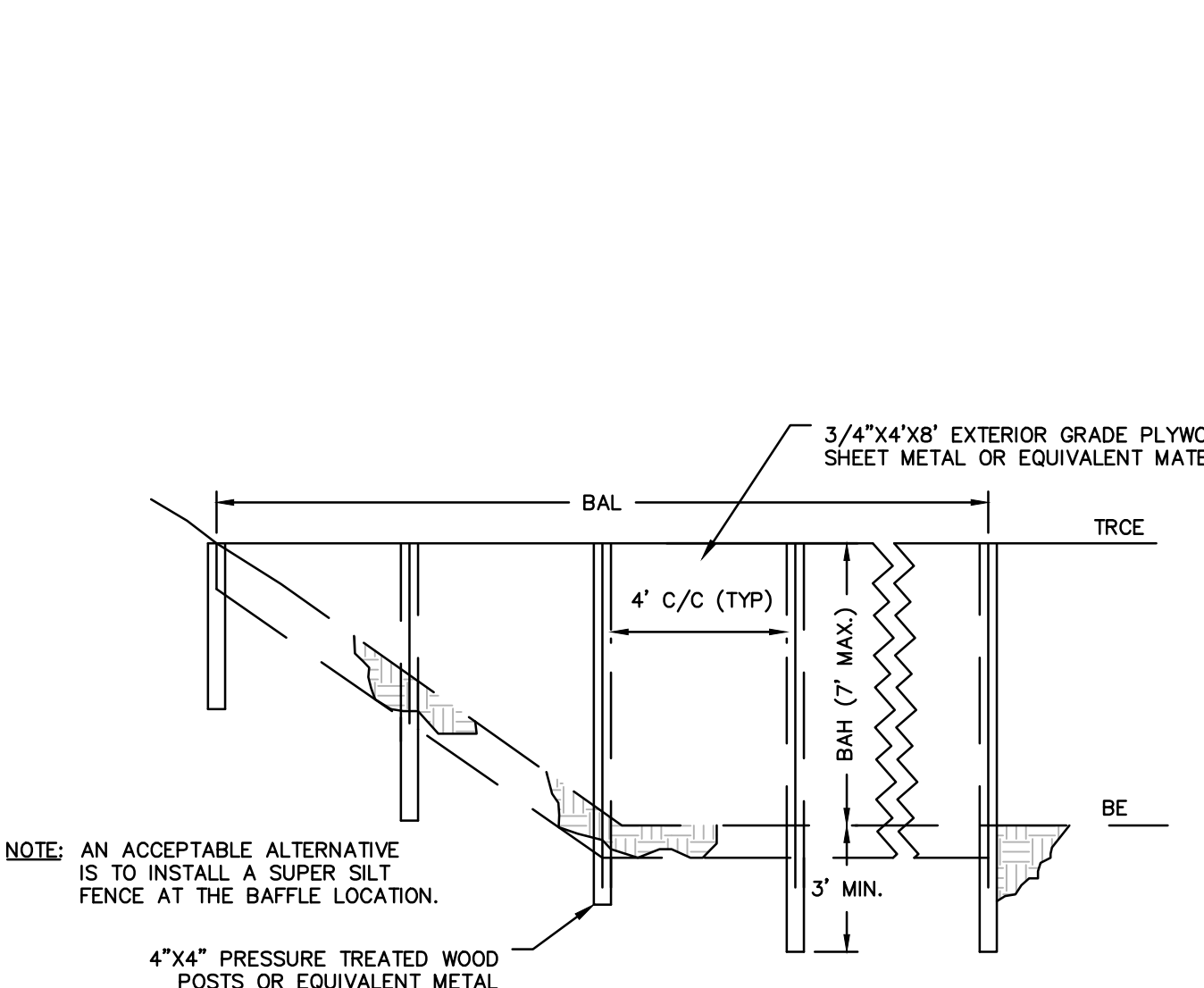
CHECK EMBANKMENTS, SPILLWAYS, AND OUTLETS FOR EROSION, PIPING AND SETTLEMENT. CLOGGED OR DAMAGED SPILLWAYS AND/OR EMBANKMENTS SHALL BE IMMEDIATELY RESTORED TO THE DESIGN SPECIFICATIONS.

DISPLACED RIPRAP WITHIN THE OUTLET PROTECTION SHALL BE REPLACED IMMEDIATELY.

ACCUMULATED SEDIMENT SHALL BE REMOVED AND DISTURBED AREAS INSIDE THE TRAP SHALL BE STABILIZED BEFORE CONVERSION TO A STORMWATER MANAGEMENT FACILITY. TO ASSIST IN REMOVING SEDIMENT, WHICH MAY BE SATURATED, A DEVICE SUCH AS IS SHOWN IN STANDARD CONSTRUCTION DETAIL #7-18 (SEDIMENT BASIN OR SEDIMENT TRAP SEDIMENT STORAGE DEWATERING FACILITY) MAY BE USED TO DEWATER THE SEDIMENT PRIOR TO ITS REMOVAL.

DRY SEDIMENT TRAP

N.T.S. PADEP-8-8



IN POOLS WITH DEPTHS EXCEEDING 7", THE TOP OF THE PLYWOOD BAFFLE DOES NOT NEED TO EXTEND TO THE TEMPORARY RISER CREST. SUPER SILT FENCE BAFFLES NEED NOT EXTEND TO TRCE ELEVATION.

BASIN	BAFFLE	TEMP. RISER	BOTTOM	
BASIN OR TRAP NO.	LENGTH BAL (FT)	HEIGHT BAH (FT)	CREST ELEV. TRCE (FT)	BOTTOM ELEV. BE (FT)
1	80	2.00	1,200.75	1,198.00

SEE APPROPRIATE BASIN DETAIL FOR PROPER LOCATION AND ORIENTATION.

BAFFLES SHALL BE TIED INTO ONE SIDE OF THE BASIN UNLESS OTHERWISE SHOWN ON THE PLAN DRAWINGS.

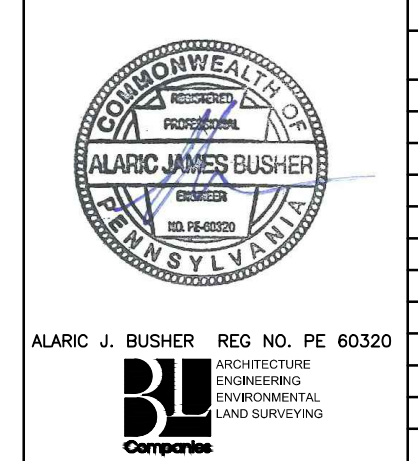
SUBSTITUTION OF MATERIALS NOT SPECIFIED IN THIS DETAIL SHALL BE APPROVED BY THE DEPARTMENT OR THE LOCAL CONSERVATION DISTRICT BEFORE INSTALLATION.

DAMAGED OR WARPED BAFFLES SHALL BE REPLACED WITHIN 7 DAYS OF INSPECTION.

BAFFLES REQUIRING SUPPORT POSTS SHALL NOT BE INSTALLED IN BASINS REQUIRING IMPERVIOUS LINERS.

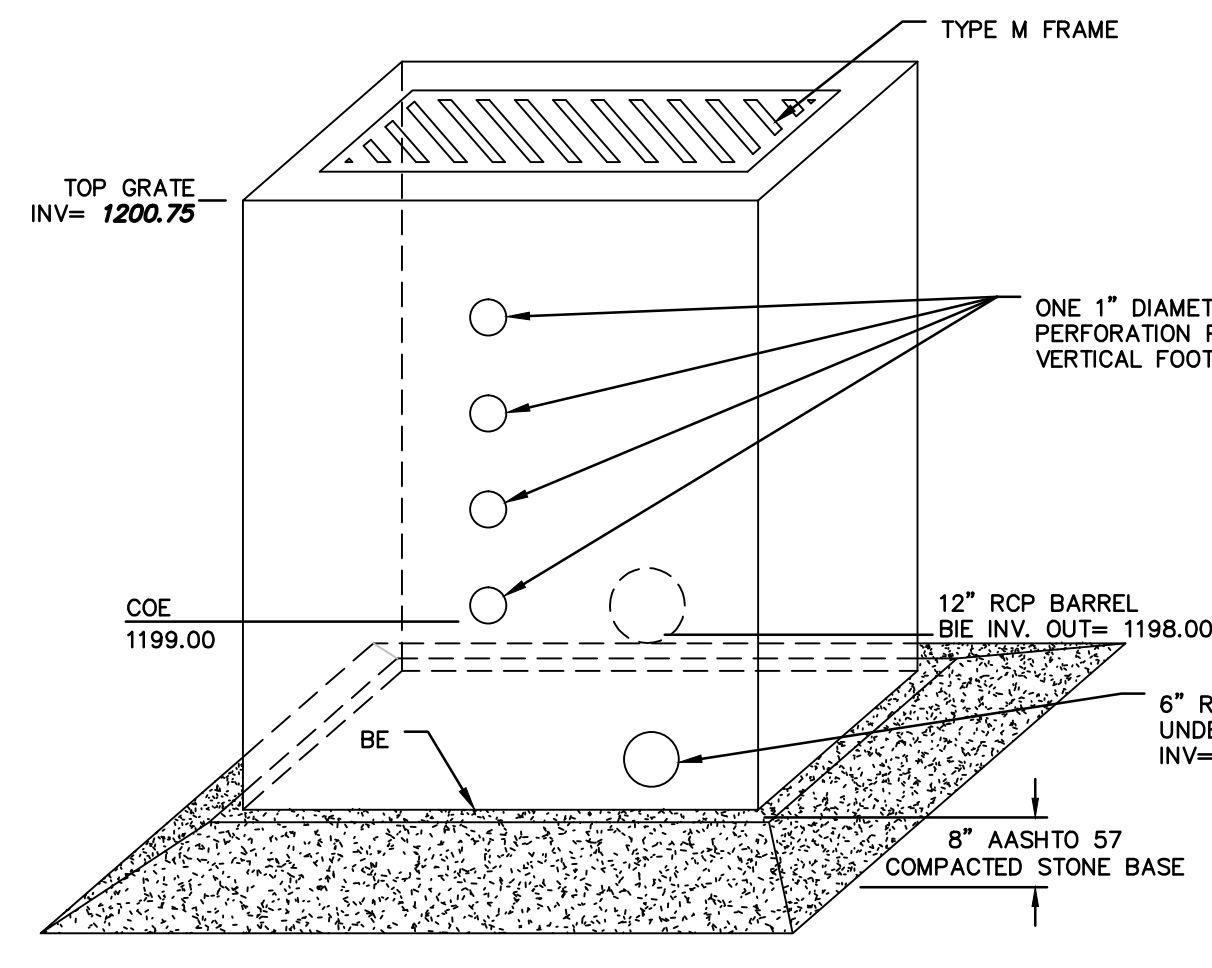
BAFFLE

N.T.S. PADEP-7-14



REVISIONS				TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC	
NO.	DATE	BY	DESCRIPTION	W.D. NO.	CHK. APPR.
0	08/26/2015	BL	ISSUED FOR PADEP PERMIT SUBMITTAL	W01161501	DAK AJB
1	12/02/2015	BL	ISSUED FOR PADEP RESUBMITTAL	W01161501	DAK AJB
2	02/04/2016	BL	ISSUED FOR PADEP RESUBMITTAL	W01161501	AJB AJB
3	03/26/2016	BL	ISSUED FOR PADEP RESUBMITTAL	W01161501	AJB AJB
4	Oct. 2016	BL	PADEP TECHNICAL DEFICIENCY RESPONSE #1	W01161501	AJB AJB
5	April 2017	BL	PADEP TECHNICAL DEFICIENCY RESPONSE #2	W01161501	AJB AJB

DRAWN BY: JEC	DATE: 04/03/15	ISSUED FOR BID:	SCALE:	AS NOTED
CHECKED BY: AJB	DATE: 04/03/15	ISSUED FOR CONSTRUCTION:	REVISION:	5
APPROVED BY: AJB	DATE: 07/17/15	DRAWING NUMBER:	(36-7943)MF-1A-11	
W.D.:	1161501			SHEET 9 OF 11

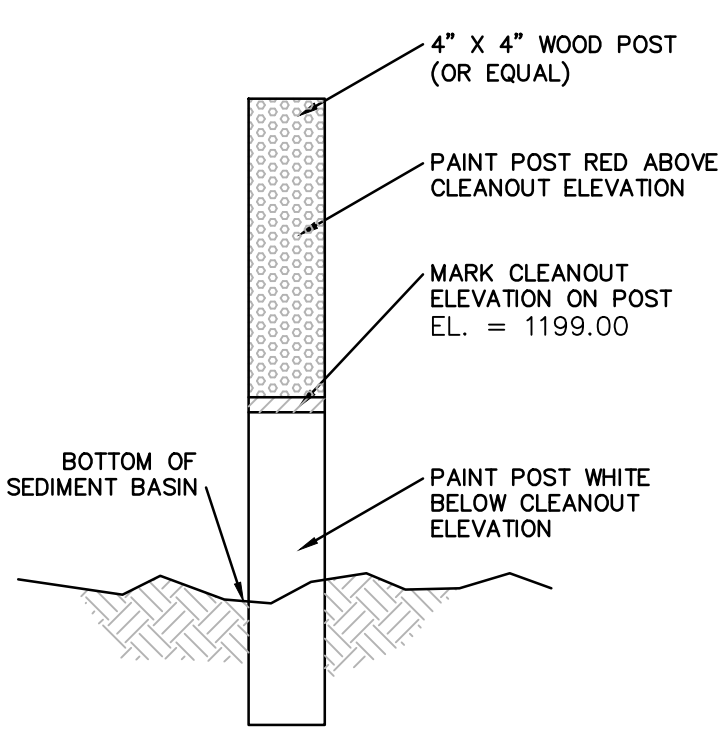


TRAP NO.	TEMPORARY/PERMANENT RISER			BARREL	
	STRUCTURE TYPE	CREST ELEV. TRCE (FT)	MATL		CLEAN OUT ELEV. COE (FT)
1	M	1200.75	CONCRETE	1199.00	1198.00

- NOTES:
- THE PROPOSED OUTLET STRUCTURE SHALL BE A TYPE "M" INLET IN ACCORDANCE WITH PENNDOT PUBLICATION 408, SECTION 605 AND STANDARDS FOR ROADWAY CONSTRUCTION, RC-34. OUTLET STRUCTURE SHALL CONTAIN A TRASH RACK.
 - CLOGGED OR DAMAGED SPILLWAYS SHALL BE REPAIRED IMMEDIATELY. TRASH AND OTHER DEBRIS FROM THE TRAP AND RISER SHALL BE REMOVED.

DRY SEDIMENT TRAP TEMPORARY RISER CONFIGURATION DETAIL

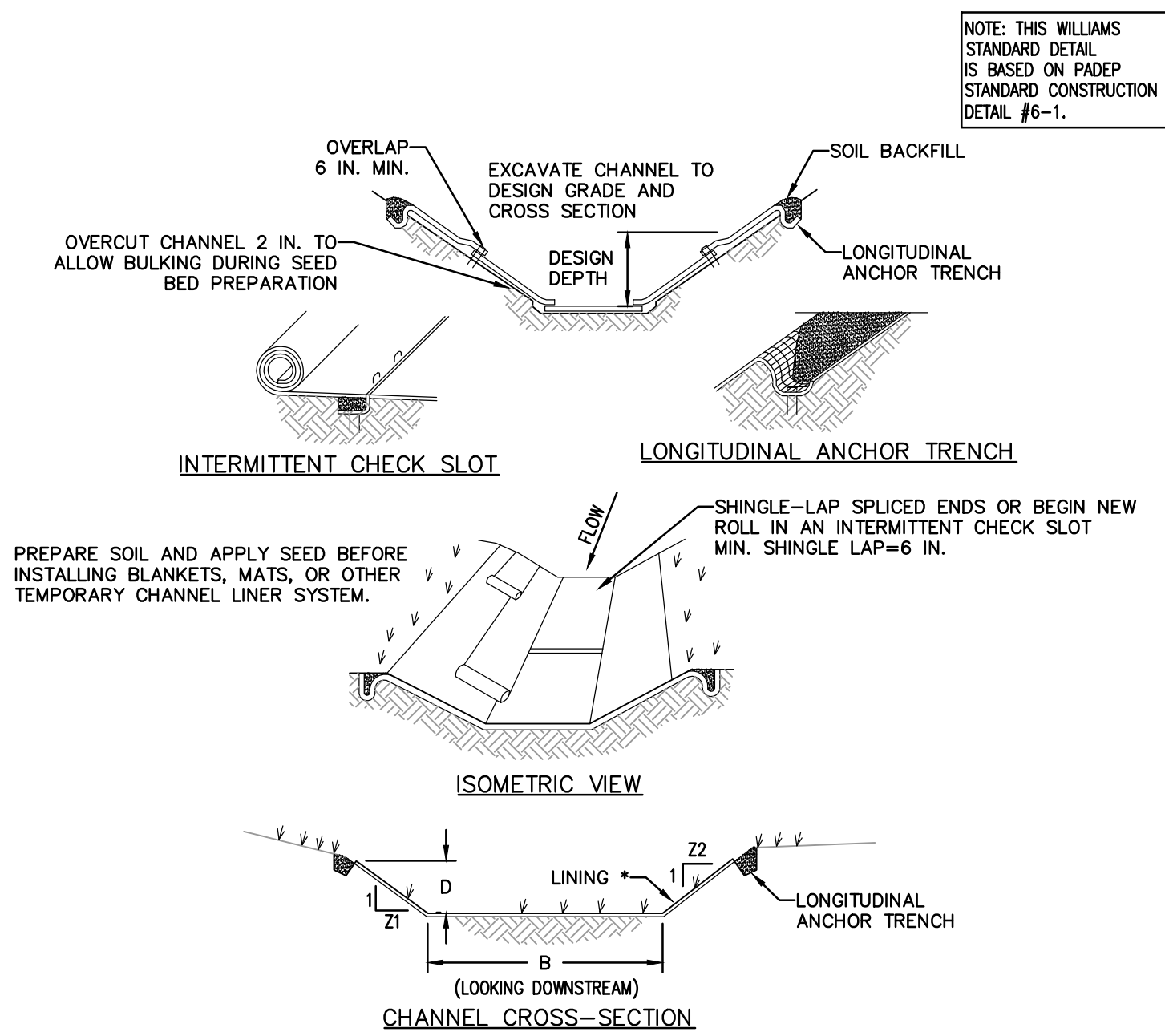
N.T.S.



CLEANOUT STAKE

N.T.S.

Drawn By & Date/Time: norwooduser Apr 28, 2017 - 11:36am
Drawing Location & Name: G:\00514\14\1404909\DWG\010-CPLN\FRS_EC14C4909\10_WDIAMOND.dwg



NOTE: THIS WILLIAMS STANDARD DETAIL IS BASED ON PADEP STANDARD CONSTRUCTION DETAIL #6-1.

PREPARE SOIL AND APPLY SEED BEFORE INSTALLING BLANKETS, MATS, OR OTHER TEMPORARY CHANNEL LINER SYSTEM.

SHINGLE-LAP SPliced ENDS OR BEGIN NEW ROLL IN AN INTERMITTENT CHECK SLOT MIN. SHINGLE LAP=6 IN.

* SEE MANUFACTURER'S LINING INSTALLATION DETAIL FOR STAPLE PATTERNS, VEGETATIVE STABILIZATION FOR SOIL AMENDMENTS, SEED MIXTURES AND MULCHING INFORMATION

NOTES:

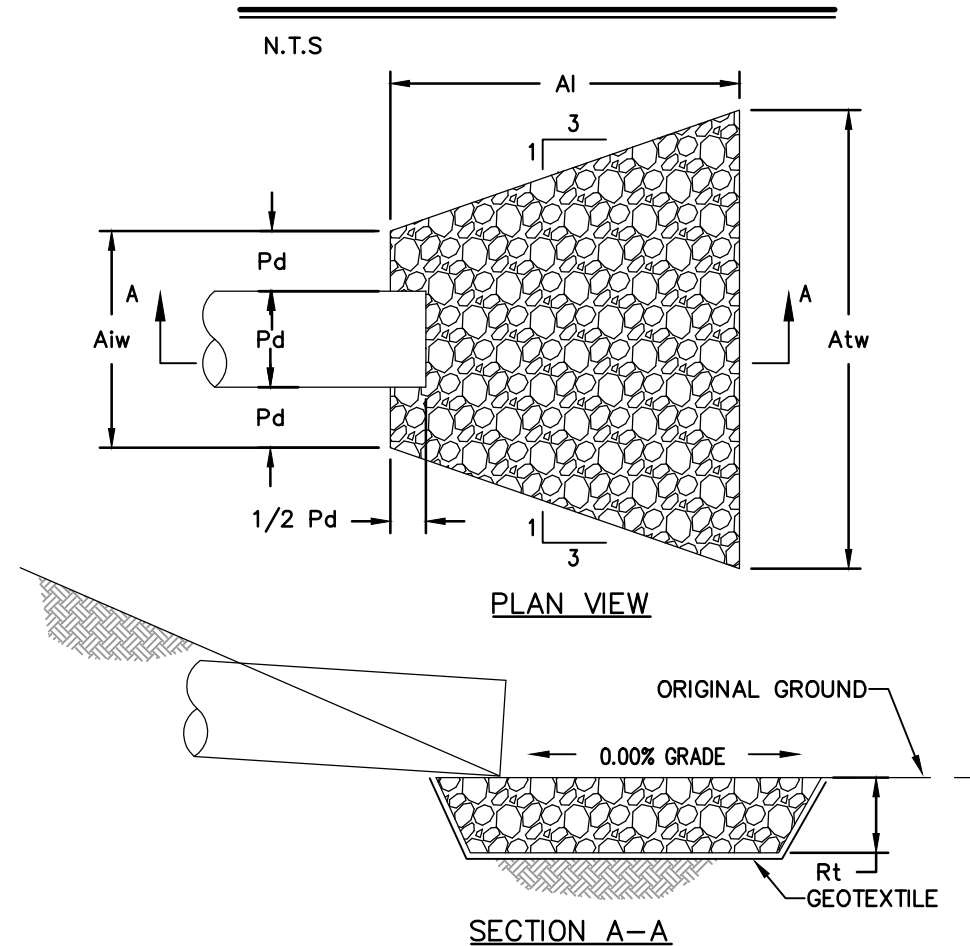
ANCHOR TRENCHES SHALL BE INSTALLED AT BEGINNING AND END OF SWALE IN THE SAME MANNER AS LONGITUDINAL ANCHOR TRENCHES.

SWALE DIMENSIONS SHALL BE CONSTANTLY MAINTAINED. SWALE SHALL BE CLEANED WHENEVER TOTAL SWALE DEPTH IS REDUCED BY 25% AT ANY LOCATION. SEDIMENT DEPOSITS SHALL BE REMOVED WITHIN 24 HOURS OF DISCOVERY OR AS SOON AS SOIL CONDITIONS PERMIT ACCESS TO SWALE WITHOUT FURTHER DAMAGE. DAMAGED LINING SHALL BE REPAIRED OR REPLACED WITHIN 48 HOURS OF DISCOVERY.

NO MORE THAN ONE THIRD OF THE SHOOTS (GRASS LEAF) SHALL BE REMOVED IN ANY MOWING. GRASS HEIGHT SHALL BE MAINTAINED BETWEEN 2 AND 3 INCHES UNLESS OTHERWISE SPECIFIED. EXCESS VEGETATION SHALL BE REMOVED FROM PERMANENT SWALES TO ENSURE SUFFICIENT SWALE CAPACITY.

SWALE NO.	BOTTOM WIDTH B (FT)	DEPTH D (FT)	TOP WIDTH W (FT)	Z1 (FT)	Z2 (FT)	TEMPORARY LINING*	PERMANENT LINING
VEGETATED SWALE 1	2.0	2.0	14.0	3.0	3.0	SC250	GRASS/SC250

VEGETATED SWALE



NOTE: THIS WILLIAMS STANDARD DETAIL IS BASED ON PADEP STANDARD CONSTRUCTION DETAIL #9-2.

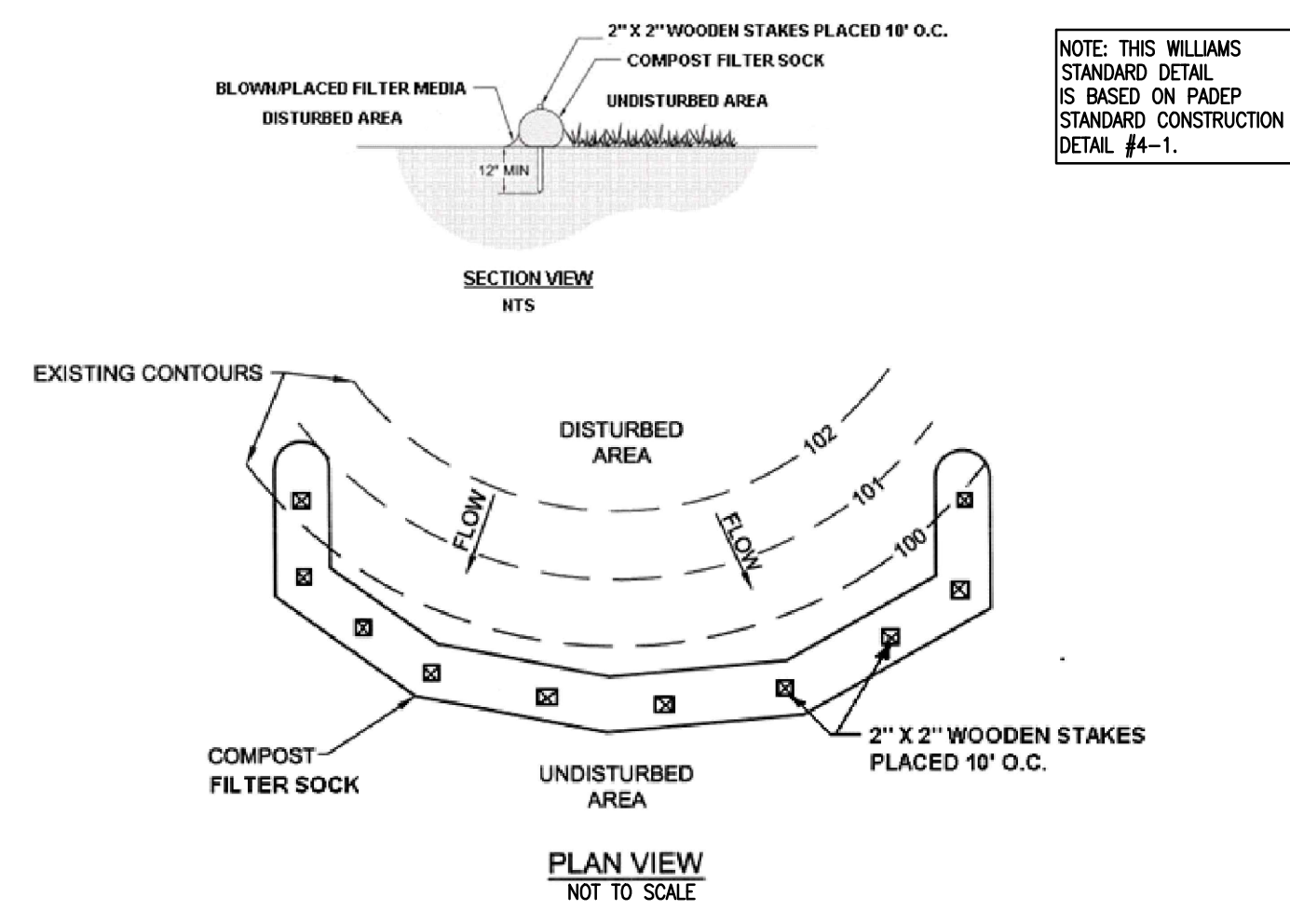
OUTLET NO.	PIPE DIA Pd (IN)	RIPRAP		APRON		
		SIZE (R-)	THICK. Rt (IN)	LENGTH Ai (FT)	INITIAL WIDTH Aiw (FT)	TERMINAL WIDTH Atw (FT)
VEGETATED SWALE 1	N/A	3	9	6	9	9
CULVERT 1	12	3	9	6	3	9
UNDERDRAIN 1						

- * ALL INFORMATION CAN BE FOUND ON ACCESS ROAD AND EROSION AND SEDIMENT CONTROL PLANS. REFER TO NOTES 4 AND 5 FOR DIMENSION LOCATIONS.
- NOTES:
- ALL APRONS SHALL BE CONSTRUCTED TO THE DIMENSIONS SHOWN ON THE PLANS. TERMINAL WIDTHS SHALL BE ADJUSTED AS NECESSARY TO MATCH RECEIVING CHANNELS.
 - ALL APRONS SHALL BE INSPECTED AT LEAST WEEKLY AND AFTER EACH RUNOFF EVENT. DISPLACED RIPRAP WITHIN THE APRON SHALL BE REPLACED IMMEDIATELY.
 - EXTEND RIPRAP ON BACK SIDE OF APRON TO AT LEAST 1/2 DEPTH OF PIPE ON BOTH SIDES TO PREVENT SCOUR AROUND THE PIPE.
 - FOR APRONS ON ACCESS ROADS, THE DIMENSIONS FOR THE APRONS ARE AS FOLLOWS: L x D x W/W WHERE: L = LENGTH OF APRON OR "AI" AS SHOWN IN THE PLAN VIEW ABOVE
D = DEPTH OF RIP RAP OR "RT" AS SHOWN IN THE SECTION ABOVE
W/W = WIDTH OF SHORT END OF APRON/WIDTH OF LONG END OF APRON OR "Aiw"/"Atw" AS SHOWN IN THE PLAN VIEW ABOVE
 - FOR APRON ON SWALES AND FLUME CROSSINGS, THE DIMENSIONS FOR THE APRONS ARE AS FOLLOWS: DIMENSIONS LOCATED ON TABLE 2: TEMPORARY CLEAN WATER DIVERSION SUMMARY:
 - RIP RAP SIZE (R-) UNDER WATERBODY
 - APRON INITIAL WIDTH AND TERMINAL WIDTH IS TWO (2) FEET FOR FILTER SOCK DIVERSIONS AND SWALES
 - RIP RAP THICKNESS (Rt)
 - APRON LENGTH (Ai)

OUTLET NO.	PIPE DIA Pd (IN)	RIPRAP		APRON		
		SIZE (R-)	THICK. Rt (IN)	LENGTH Ai (FT)	INITIAL WIDTH Aiw (FT)	TERMINAL WIDTH Atw (FT)
VEGETATED SWALE 1	N/A	3	9	6	9	9
CULVERT 1	12	3	9	6	3	9
UNDERDRAIN 1						

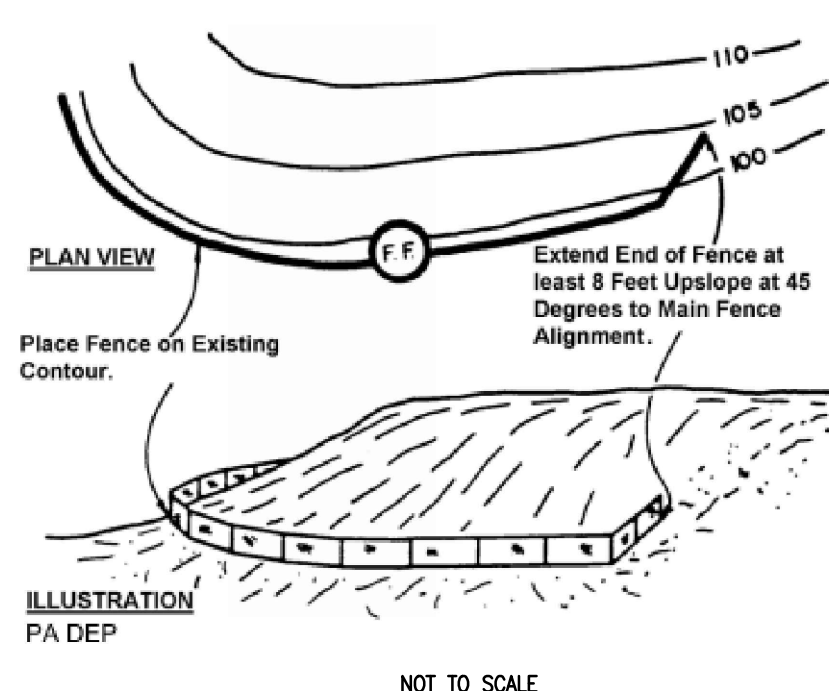
RIP-RAP APRON AT PIPE OUTLET WITHOUT FLARED END SECTION

N.T.S.



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

FIGURE 4.1 Sediment Barrier Alignment



COMPOST FILTER SOCK

N.T.S. 1 OF 3

SEDIMENT BARRIER DESIGNATION	SEDIMENT BARRIER TYPE
1	12 INCH FILTER SOCK
2	12 INCH FILTER SOCK
3	12 INCH FILTER SOCK
4	12 INCH FILTER SOCK
5	18 INCH FILTER SOCK
6	12 INCH FILTER SOCK
7	12 INCH FILTER SOCK
8	12 INCH FILTER SOCK
9	12 INCH FILTER SOCK
10	12 INCH FILTER SOCK
11	12 INCH FILTER SOCK
12	12 INCH FILTER SOCK
13	12 INCH FILTER SOCK
14	12 INCH FILTER SOCK
15	18 INCH FILTER SOCK
16	18 INCH FILTER SOCK
17	18 INCH FILTER SOCK
18	18 INCH FILTER SOCK
19	18 INCH FILTER SOCK
20	18 INCH FILTER SOCK
21	12 INCH FILTER SOCK
22	12 INCH FILTER SOCK
23	12 INCH FILTER SOCK
24	12 INCH FILTER SOCK
25	12 INCH FILTER SOCK
26*	12 INCH FILTER SOCK
27	12 INCH FILTER SOCK
28	12 INCH FILTER SOCK
29	12 INCH FILTER SOCK
30	12 INCH FILTER SOCK
31	12 INCH FILTER SOCK
32	12 INCH FILTER SOCK
33	12 INCH FILTER SOCK
34	12 INCH FILTER SOCK

* STOCKPILE

Material Type	3 mil HDPE	5 mil HDPE	5 mil HDPE	Multi-Filament (Polypropylene) (MFPP)	Heavy Duty Multi-Filament Polypropylene (HMFPP)
Material Characteristics	Photo-degradable	Photo-degradable	Bio-degradable	Photo-degradable	Photo-degradable
Sock Diameters	12", 18"	12", 18", 24"	12", 18", 24"	12", 18", 24", 32"	12", 18", 24", 32"
Mesh Opening	3/8"	3/8"	3/8"	3/8"	1/8"
Tensile Strength		29 psi	29 psi	44 psi	202 psi
Ultraviolet Stability % Original Strength (ASTM G-155)	73% at 1000 hr	25% 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: HDPE biaxial net, Continuously wound, Fusion-welded junctions, 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

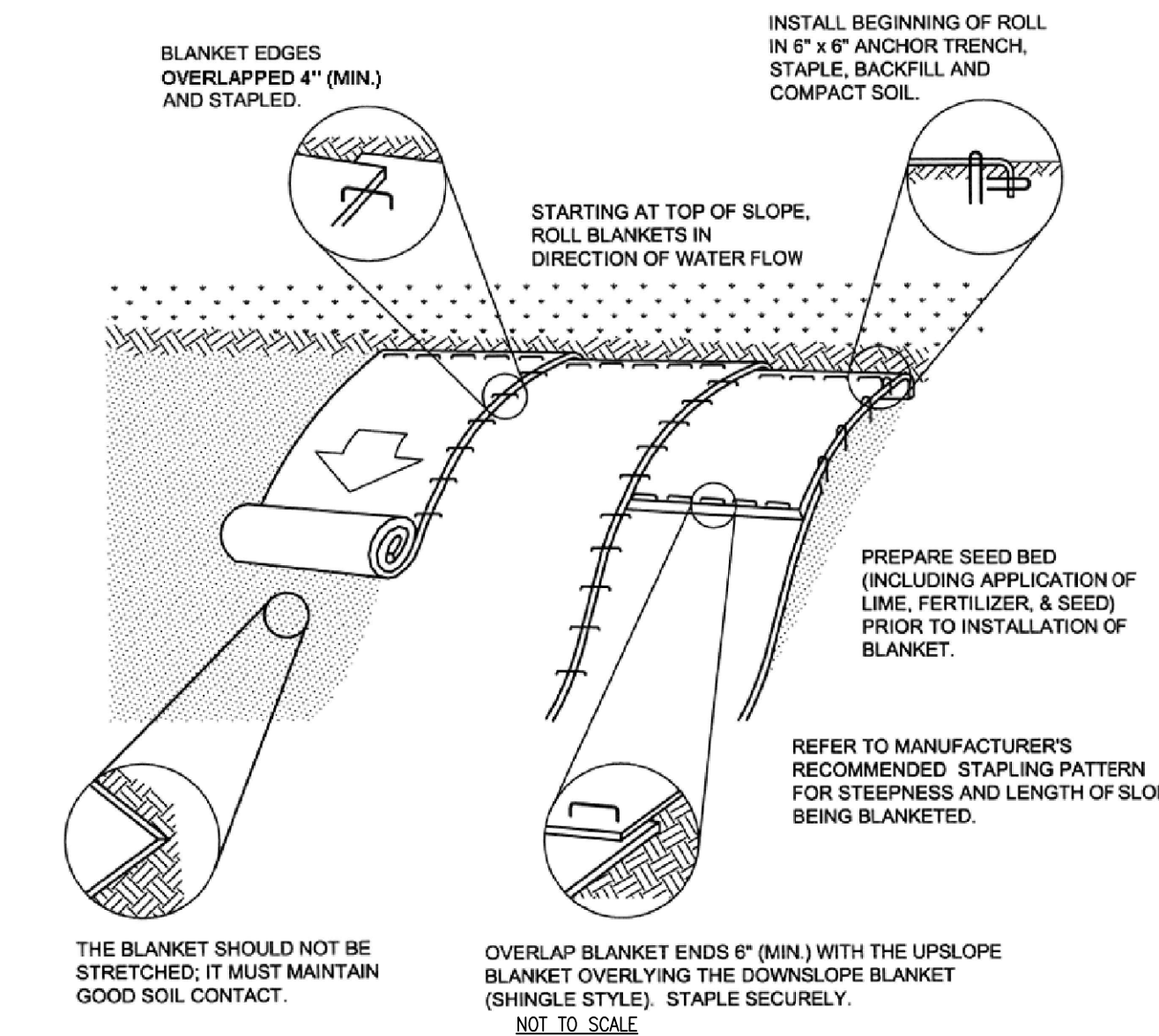
Sock fabrics composed of burlap may be used on projects lasting 6 months or less.

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.

COMPOST FILTER SOCK

N.T.S. 2 OF 3



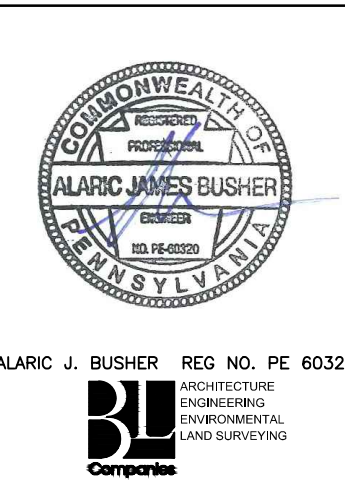
- NOTES:
- SEED AND SOIL AMENDMENTS SHALL BE APPLIED ACCORDING TO THE RATES IN THE PLAN DRAWINGS PRIOR TO INSTALLING THE BLANKET.
 - PROVIDE ANCHOR TRENCH AT TOE OF SLOPE IN SIMILAR FASHION AS AT TOP OF SLOPE.
 - SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS, AND GRASS.
 - BLANKET SHALL HAVE GOOD 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 UNIFORM TOP 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 ECBS.

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

ADAPTED FROM PADEP

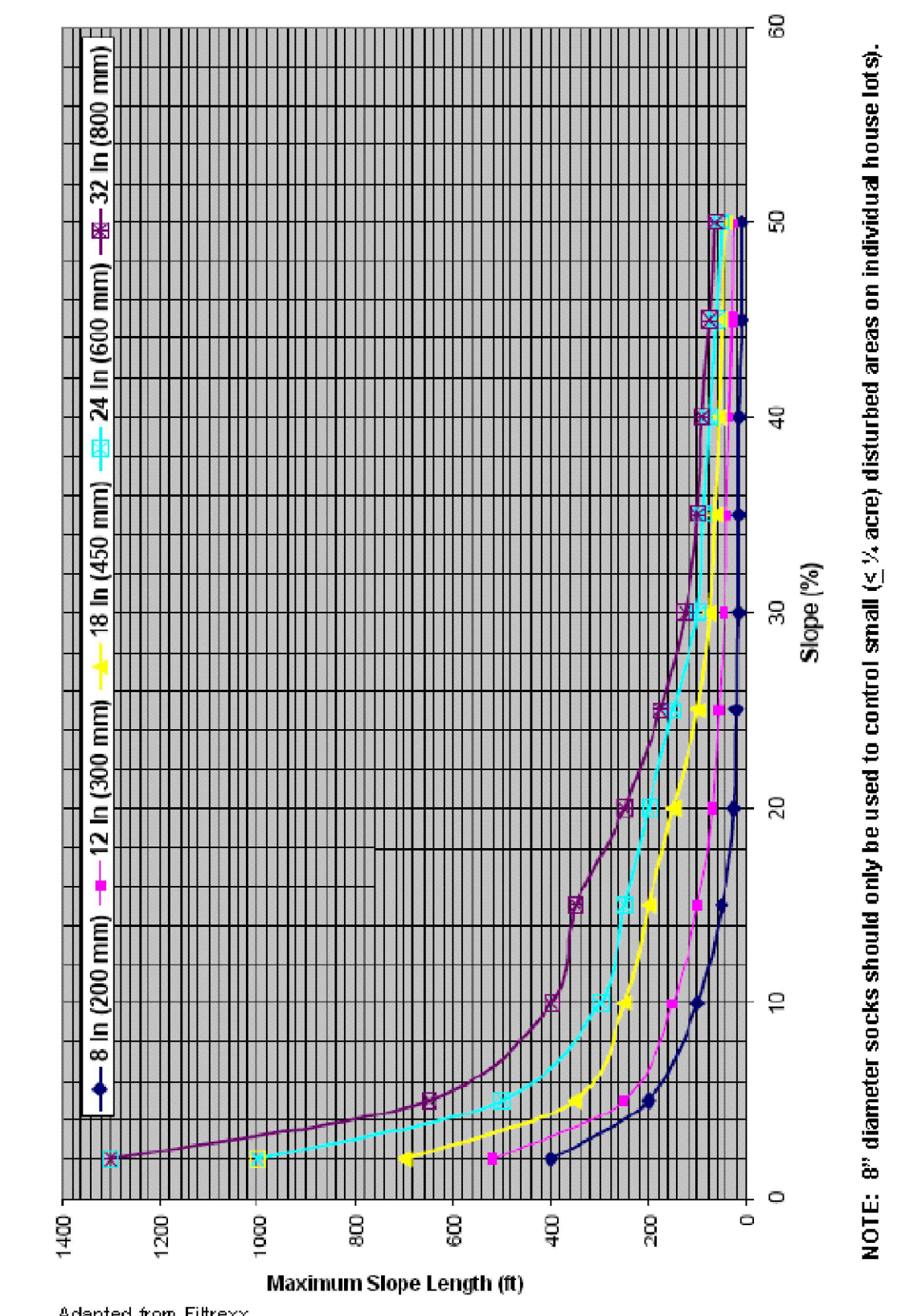
EROSION CONTROL BLANKET

N.T.S.



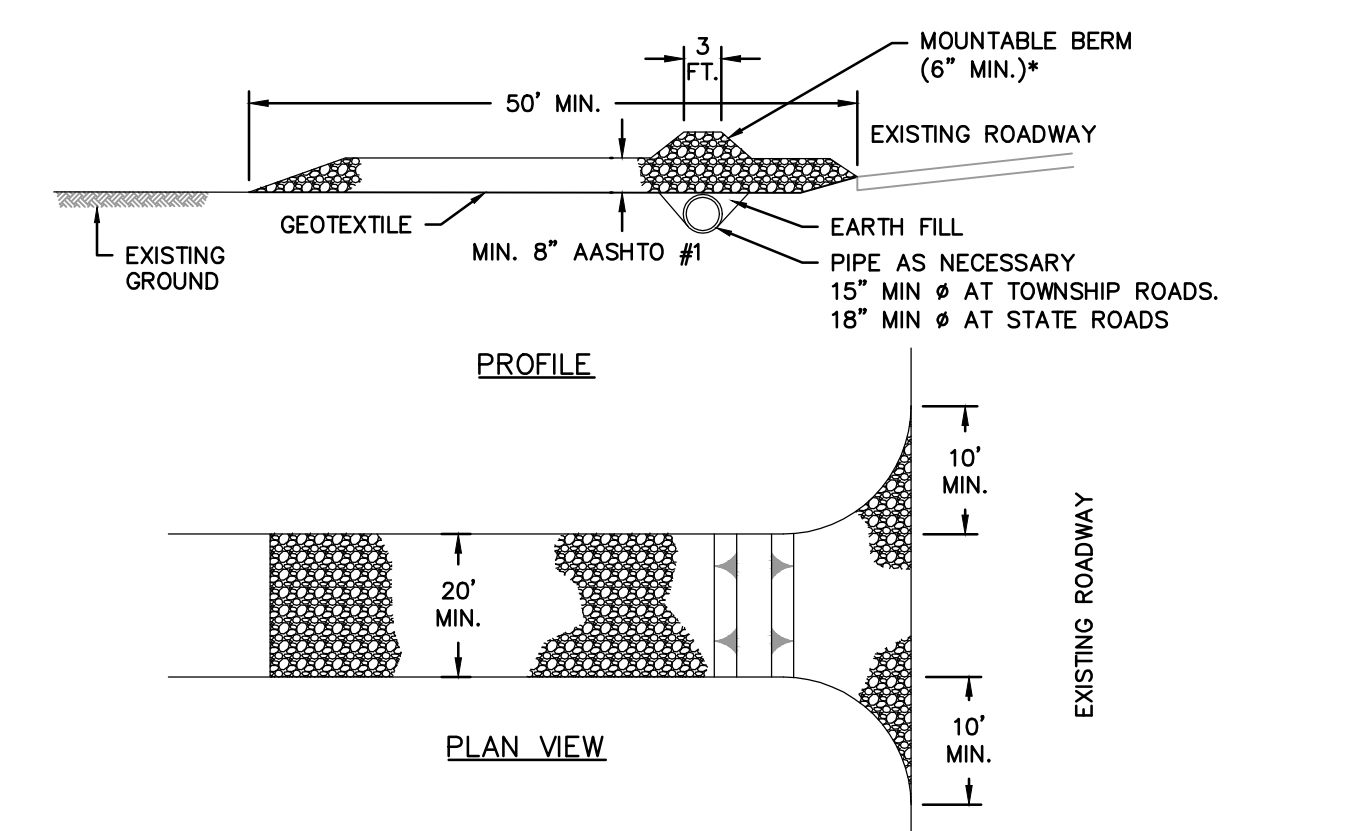
REVISIONS			
NO.	DATE	BY	DESCRIPTION
0	08/28/2015	BL	ISSUED FOR PADEP PERMIT SUBMITTAL
1	12/02/2015	BL	ISSUED FOR PADEP RESUBMITTAL
2	02/04/2016	BL	ISSUED FOR PADEP RESUBMITTAL
3	03/28/2016	BL	ISSUED FOR PADEP RESUBMITTAL
4	Oct. 2016	BL	PADEP TECHNICAL DEFICIENCY RESPONSE #1
5	April 2017	BL	PADEP TECHNICAL DEFICIENCY RESPONSE #2

FIGURE 4.2 MAXIMUM PERMISSIBLE SLOPE LENGTH ABOVE COMPOST FILTER SOCKS



COMPOST FILTER SOCK

N.T.S. 3 OF 3

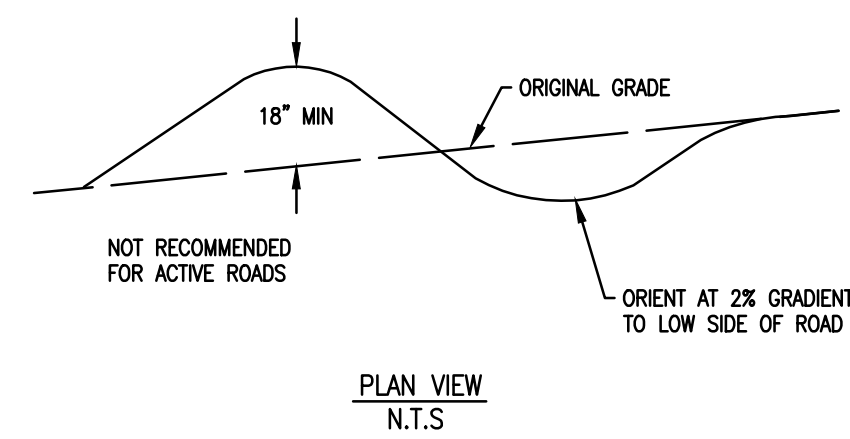


- * MOUNTABLE BERM USED TO PROVIDE PROPER COVER FOR PIPE
- NOTES:
- REMOVE TOPSOIL PRIOR TO INSTALLATION OF ROCK CONSTRUCTION ENTRANCE. EXTEND ROCK OVER FULL WIDTH OF ENTRANCE.
 - RUNOFF SHALL BE DIVERTED FROM ROADWAY TO A SUITABLE SEDIMENT REMOVAL BMP PRIOR TO ENTERING ROCK CONSTRUCTION ENTRANCE.
 - MOUNTABLE BERM SHALL BE INSTALLED WHEREVER OPTIONAL CULVERT PIPE IS USED AND PROPER PIPE COVER AS SPECIFIED BY MANUFACTURER IS NOT OTHERWISE PROVIDED. PIPE SHALL BE SIZED APPROPRIATELY FOR SIZE OF DITCH BEING CROSSED.
 - MAINTENANCE: ROCK CONSTRUCTION ENTRANCE THICKNESS SHALL BE CONSTANTLY MAINTAINED TO THE SPECIFIED DIMENSIONS BY ADDING ROCK. A STOCKPILE SHALL BE MAINTAINED ON SITE FOR THIS PURPOSE. ALL SEDIMENT DEPOSITED ON PAVED ROADWAY SHALL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE IMMEDIATELY. IF EXCESSIVE AMOUNTS OF SEDIMENT ARE BEING DEPOSITED ON ROADWAY, EXTEND LENGTH OF ROCK CONSTRUCTION ENTRANCE BY 50 FOOT INCREMENTS UNTIL CONDITION IS ALLEVIATED OR INSTALL WASH RACK. WASHING THE ROADWAY OR SWEEPING THE DEPOSITS INTO ROADWAY DITCHES, SEWERS, CULVERTS, OR OTHER DRAINAGE COURSES IS NOT ACCEPTABLE.
 - RCE WITH WASH RACK, SEE DETAIL RCE, TO BE INSTALLED IN, OR WITHIN 100 FEET OF, SPECIAL PROTECTION WATERSHEDS AS WELL AS WITHIN 50 FEET OF WETLANDS.
 - WITHIN WETLANDS RCE AND/OR RCE WITH WASHRACK SHALL BE REPLACED WITH TIMBER MAT AND CLASS 1 GEOTEXTILE UNDERLAYERMENT.

ROCK CONSTRUCTION ENTRANCE

N.T.S.

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC			
ATLANTIC SUNRISE PROJECT- PROPOSED 30"/42" NATURAL GAS PIPELINE			
SOIL EROSION & SEDIMENT CONTROL AND LAYOUT PLANS FOR WEST			
DIAMOND REGULATOR STATION & ASSOCIATED PERMANENT ACCESS ROADS			
JACKSON/SUGARLOAF TOWNSHIPS, COLUMBIA COUNTY, PENNSYLVANIA			
SOIL EROSION & SEDIMENT CONTROL DETAILS			
DRAWN BY:	JEC	DATE:	04/03/15
CHECKED BY:	AJB	DATE:	04/03/15
APPROVED BY:	AJB	DATE:	07/17/15
NO.	1161501	SCALE:	AS NOTED
ISSUED FOR CONSTRUCTION			REVISION: 5
DRAWING NUMBER: (36-7943)MF-1A-11			SHEET 10 OF 11



NOTE: THIS WILLIAMS STANDARD DETAIL IS BASED ON PADEP STANDARD CONSTRUCTION DETAIL #3-5.

PADEP STANDARD NOTES:

1. WATERBARS SHALL DISCHARGE TO A STABLE AREA.
2. WATERBARS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED OR ERODED WATERBARS SHALL BE RESTORED TO ORIGINAL DIMENSIONS WITHIN 24 HOURS OF INSPECTION.
3. MAINTENANCE OF WATERBARS SHALL BE PROVIDED UNTIL ROADWAY, SKIDTRAIL, OR RIGHT-OF-WAY HAS ACHIEVED PERMANENT STABILIZATION.
4. WATERBARS ON RETIRED ROADWAYS, SKIDTRAILS, AND RIGHT-OF-WAYS SHALL BE LEFT IN PLACE AFTER PERMANENT STABILIZATION HAS BEEN ACHIEVED.

WILLIAMS STANDARD NOTES:

1. ALL WATERBARS SHOWN ON THE PLANS ARE INTENDED TO BE PERMANENT BMPS.
2. ADDITIONAL WATERBARS MAY BE INSTALLED AS APPROPRIATE DURING CONSTRUCTION.
3. WATERBARS SHOULD BE CONSTRUCTED TO DISCHARGE TO ALTERNATE SIDES OF THE ROW, WHERE POSSIBLE/PRACTICAL.
4. A SOFT TRENCH PLUG MAY BE USED TO CONTROL INSTANCES WHERE A WATERBAR DISCHARGES TO THE TRENCH IN STEEP SLOPE AREAS.
5. A 'J'-HOOK OUTLET MAY BE USED AT WATERBARS TO CONTROL THE FLOW OF RUNOFF. STRAW BALES, SILT SOCKS OR SUPER SILT FENCE TRENCHED IN MAY BE USED AS 'J'-HOOK OUTLETS.
6. THE POST CONSTRUCTION STORMWATER MANAGEMENT PLAN (PCSM) FOR THE LINEAR PORTION OF THIS PROJECT IS TO RESTORE THE CONSTRUCTION RIGHT-OF-WAY TO ITS ORIGINAL CONTOURS FOLLOWING PIPELINE INSTALLATION AND RESTORATION. THE ENTIRE AREA WILL BE PERMANENTLY RE-VEGETATED OR STABILIZED WITH PERVIOUS MATERIAL. WATER BARS INSTALLED DURING CONSTRUCTION ACTIVITIES WILL REMAIN AS PERMANENT WATER BARS AND ACT AS PCSM BMPS.

SUPPLEMENTAL NOTE:

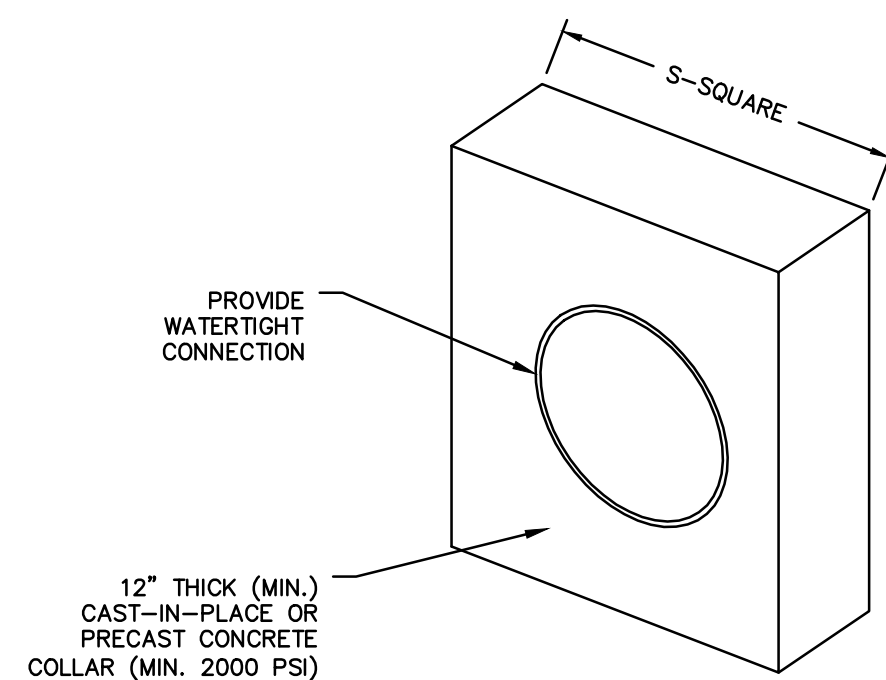
1. DO NOT EXCAVATE UPHILL SWALE WITHIN 10' OF CENTERLINE OF PIPE TO MAINTAIN MINIMUM 3" COVER OVER THE PIPE. SLIGHTLY MODIFY WATERBAR FLOWLINE GRADING TO PROMOTE POSITIVE DRAINAGE TO LOW SIDE OF WATERBAR.
2. ALL WATERBARS ARE PERMANENT EXCEPT FOR THOSE LOCATED IN AGRICULTURAL AREAS, WETLANDS, TRANSPORTATION FACILITIES, AND LAWNS. ALL WATERBARS IN THESE AREAS ARE TO BE REMOVED DURING FINAL RESTORATION.

TABLE 3.1 - MAXIMUM WATERBAR SPACING

PERCENT SLOPE	SPACING (FT)
<5	200
5-15	150
>15-30	100
>30	50

WATERBAR

N.T.S.



ALL COLLARS SHALL BE INSTALLED SO AS TO BE WATERTIGHT.

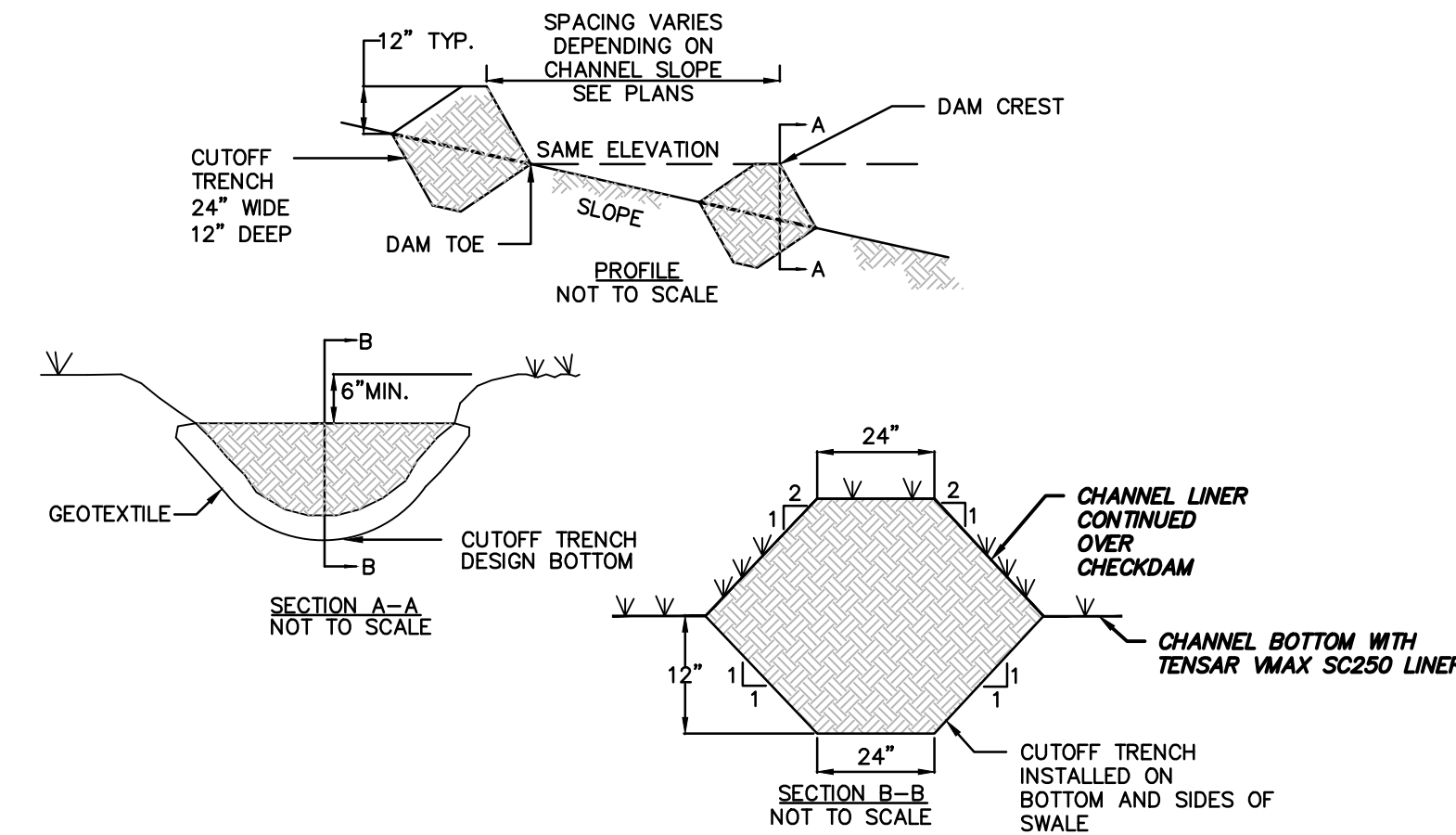
COLLAR SIZE AND SPACING SHALL BE AS INDICATED BELOW.

BASIN OR TRAP NO.	PIPE SIZE (IN)	BARRELL DIA. PIPE O.D. (IN)	S (IN)	NO. OF COLLARS	DISTANCE RISER TO 1ST COLLAR (FT)	COLLAR SPACING (FT)
BASIN 1	12	16	60	1	11	N/A

CONCRETE ANTI-SEEP COLLAR FOR PERMANENT BASINS OR TRAPS DETAIL

N.T.S.

PADEP-7-16



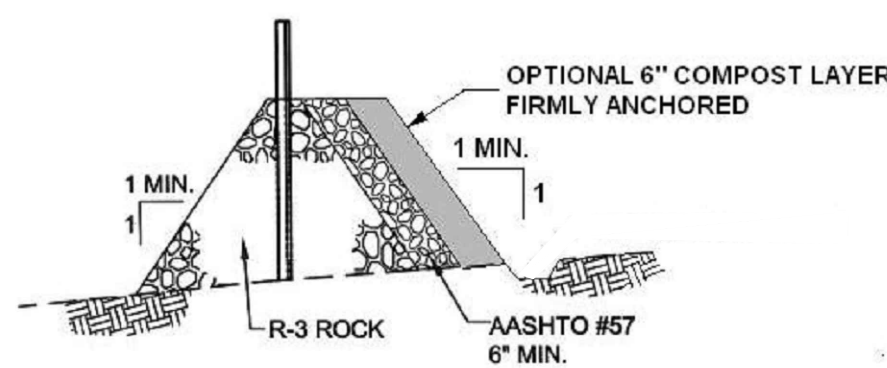
NOTES:

1. CHECK DAMS ARE APPLICABLE FOR SMALL DITCHES AND SWALES AND ARE NOT TO BE USED IN LIVE FLOWING STREAMS.
2. CHECK DAMS SHALL BE INSTALLED SUCH THAT COMPLETE COVERAGE OF THE ENTIRE WIDTH OF THE DITCH OR SWALE IS ACHIEVED.
3. SEDIMENT SHALL BE REMOVED WHEN IT ACCUMULATES TO A DEPTH OF ONE-HALF THE ORIGINAL DAM HEIGHT.
4. SET SPACING OF CHECK DAMS TO ASSUME THAT THE ELEVATIONS OF THE CREST OF THE DOWNSTREAM DAM IS AT THE SAME ELEVATION OF THE TOE OF THE UPSTREAM DAM.
5. INSTALL A CUTOFF TRENCH A MINIMUM OF 12 INCHES INTO THE SWALE BOTTOM AND SIDES TO PREVENT CUTTING AROUND THE DAM.
6. ENSURE THAT CHANNEL APPURTENANCES SUCH AS CULVERT ENTRANCES BELOW CHECK DAMS ARE NOT SUBJECT TO DAMAGE OR BLOCKAGE FROM DISPLACED STONE.

EARTHEN CHECK DAM

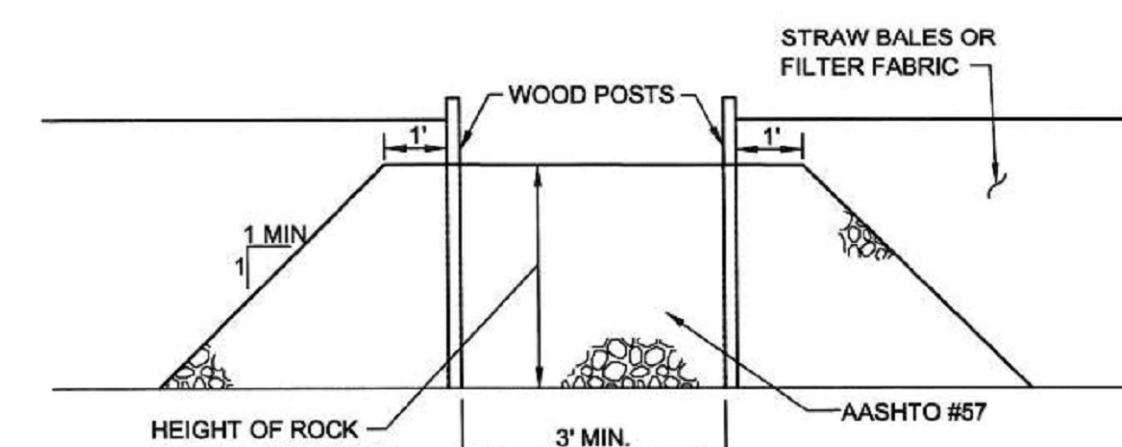
N.T.S.

NOTE: THIS WILLIAMS STANDARD DETAIL IS BASED ON PADEP STANDARD CONSTRUCTION DETAIL #4-6.



OUTLET CROSS-SECTION

N.T.S.



UP-SLOPE FACE

N.T.S.

ADAPTED FROM MARYLAND DOE

NOTES:

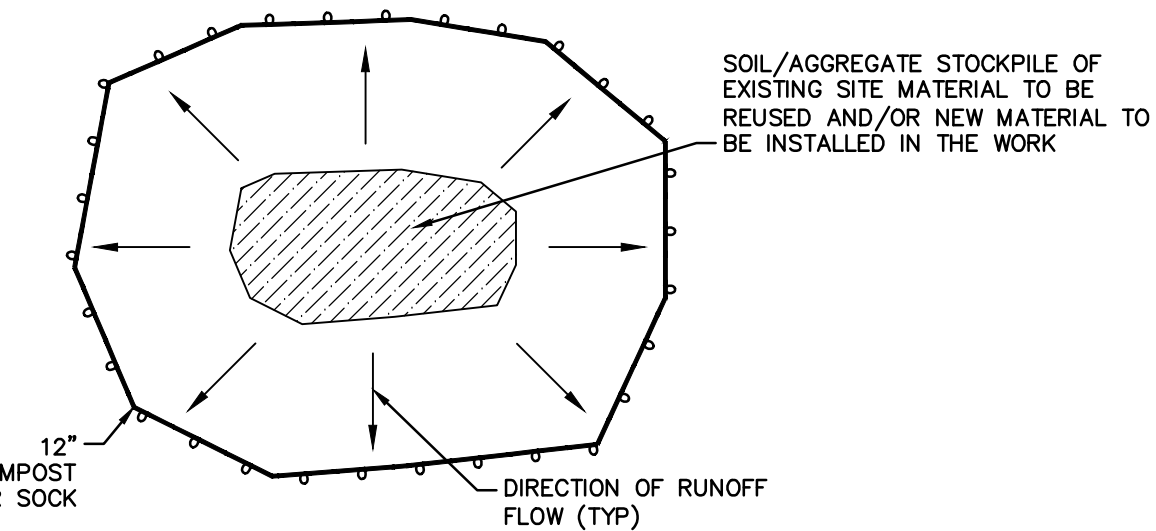
1. A ROCK FILTER OUTLET SHALL BE INSTALLED WHERE FAILURE OF A STRAW BALE BARRIER OR FILTER FABRIC FENCE HAS OCCURRED DUE TO CONCENTRATED FLOW.
2. SEDIMENT MUST BE REMOVED WHEN ACCUMULATIONS REACH 1/3 THE HEIGHT OF THE OUTLET.

PADEP SUPPLEMENTAL NOTE:

1. ANCHORED COMPOST LAYER SHALL BE USED ON UP-SLOPE FACE IN HQ AND EV WATERSHEDS.

ROCK FILTER OUTLET

N.T.S.

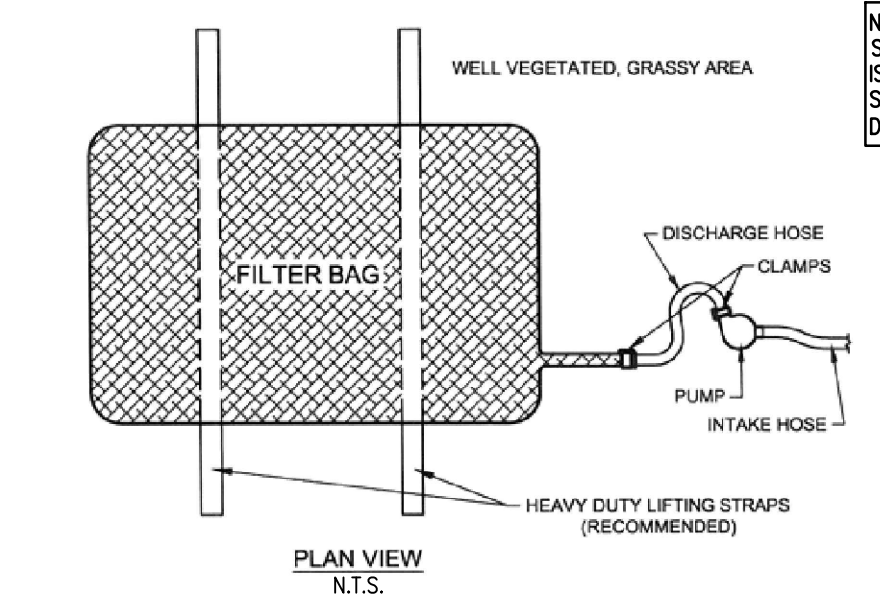


NOTES:

1. ALL EXISTING EXCAVATED MATERIAL THAT IS NOT TO BE REUSED IN THE WORK IS TO BE IMMEDIATELY REMOVED FROM THE SITE AND PROPERLY DISPOSED OF AT AN APPROVED FACILITY OR PERMITTED WASTE AREA.
2. TOPSOIL STOCKPILE SITES TO BE WHERE SHOWN ON THE DRAWINGS.
3. RESTORE STOCKPILE SITES TO PRE-EXISTING PROJECT CONDITIONS AND STABILIZE AS REQUIRED.
4. STOCKPILE HEIGHT SHALL NOT EXCEED 35 FEET.
5. STOCKPILE SLOPES SHALL BE 2H:1V OR FLATTER.

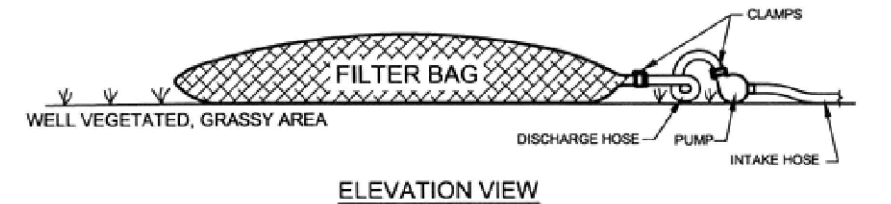
TEMPORARY TOPSOIL STOCKPILE

N.T.S.



PLAN VIEW

N.T.S.



ELEVATION VIEW

N.T.S.

LOW VOLUME FILTER BAGS SHALL BE MADE FROM NON-WOVEN GEOTEXTILE MATERIAL SEWN WITH HIGH STRENGTH, DOUBLE STITCHED 'J' TYPE. THEY SHALL BE CAPABLE OF TRAPPING PARTICLES LARGER THAN 150 MICRONS. HIGH VOLUME FILTER BAGS MAY BE MADE FROM WOVEN GEOTEXTILES THAT MEET THE FOLLOWING STANDARDS:

PROPERTY	TEST METHOD	MINIMUM STANDARD
AVG. WIDE WIDTH STRENGTH	ASTM D-4884	60 LB/IN
GRAB TENSILE	ASTM D-4632	205 LB
PUNCTURE	ASTM D-4833	110 LB
MULLEN BURST	ASTM D-3786	350 PSI
UV RESISTANCE	ASTM D-4355	70%
AOS % RETAINED	ASTM D-4751	80 SIEVE

A SUITABLE MEANS OF ACCESSING THE BAG WITH MACHINERY REQUIRED FOR DISPOSAL PURPOSES MUST BE PROVIDED. FILTER BAGS SHALL BE REPLACED WHEN THEY BECOME 1/2 FULL OF SEDIMENT. SPARE BAGS SHALL BE KEPT AVAILABLE FOR REPLACEMENT OF THOSE THAT HAVE FAILED OR ARE FILLED. BAGS TO BE PLACED ON STRAPS TO FACILITATE REMOVAL UNLESS BAGS COME WITH LIFTING STRAPS ALREADY ATTACHED.

BAGS SHALL BE LOCATED IN WELL-VEGETATED (GRASSY) AREA, AND DISCHARGE ONTO STABLE, EROSION RESISTANT AREAS. WHERE THIS IS NOT POSSIBLE, A GEOTEXTILE UNDERLAYMENT AND FLOW PATH SHALL BE PROVIDED. BAGS MAY BE PLACED ON FILTER STONE TO INCREASE DISCHARGE CAPACITY. BAGS SHALL NOT BE PLACED ON SLOPES GREATER THAN 5%. FOR SLOPES EXCEEDING 5%, CLEAN ROCK OR OTHER NON-ERODIBLE AND NON-POLLUTING MATERIAL MAY BE PLACED UNDER THE BAG TO REDUCE SLOPE STEEPNESS.

NO DOWNSLOPE SEDIMENT BARRIER IS REQUIRED FOR MOST INSTALLATIONS. COMPOST BERM OR COMPOST FILTER SOCK SHALL BE INSTALLED BELOW BAGS LOCATED IN HQ OR EV WATERSHEDS, WITHIN 50 FEET OF ANY RECEIVING SURFACE WATER OR WHERE GRASSY AREA IS NOT AVAILABLE.

THE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE BAGS IN THE MANNER SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED. A PIECE OF PVC PIPE IS RECOMMENDED FOR THIS PURPOSE.

THE PUMPING RATE SHALL BE NO GREATER THAN 750 GPM OR 1/2 THE MAXIMUM SPECIFIED BY THE MANUFACTURER, WHICHEVER IS LESS. PUMP INTAKES SHALL BE FLOATING AND SCREENED.

FILTER BAGS SHALL BE INSPECTED DAILY. IF ANY PROBLEM IS DETECTED, PUMPING SHALL CEASE IMMEDIATELY AND NOT RESUME UNTIL THE PROBLEM IS CORRECTED.

ADAPTED FROM PADEP

PUMPED WATER FILTER BAG

N.T.S.

REVISIONS				NO.		CHK.		APP.	
NO.	DATE	BY	DESCRIPTION	NO.	NO.	NO.	NO.	NO.	NO.
0	08/26/2015	BL	ISSUED FOR PADEP PERMIT SUBMITTAL	W0161501	DAK	AJB			
1	12/02/2015	BL	ISSUED FOR PADEP RESUBMITTAL	W0161501	DAK	AJB			
2	02/04/2016	BL	ISSUED FOR PADEP RESUBMITTAL	W0161501	DAK	AJB			
3	03/26/2016	BL	ISSUED FOR PADEP RESUBMITTAL	W0161501	AJB	AJB			
4	Oct. 2016	BL	PADEP TECHNICAL DEFICIENCY RESPONSE #1	W0161501	AJB	AJB			
5	April 2017	BL	PADEP TECHNICAL DEFICIENCY RESPONSE #2	W0161501	AJB	AJB			

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC									
ATLANTIC SUNRISE PROJECT- PROPOSED 30"/42" NATURAL GAS PIPELINE									
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JACKSON/SUGARLOAF TOWNSHIPS, COLUMBIA COUNTY, PENNSYLVANIA									
SOIL EROSION & SEDIMENT CONTROL DETAILS									
DRAWN BY:	JEC	DATE:	04/03/15	ISSUED FOR BID:		SCALE:	AS NOTED		
CHECKED BY:	AJB	DATE:	04/03/15	ISSUED FOR CONSTRUCTION:		REVISION:	5		
APPROVED BY:	AJB	DATE:	07/17/15	DRAWING NUMBER:	(36-7943)MF-1A-11	SHEET	11		
NO.	1161501								