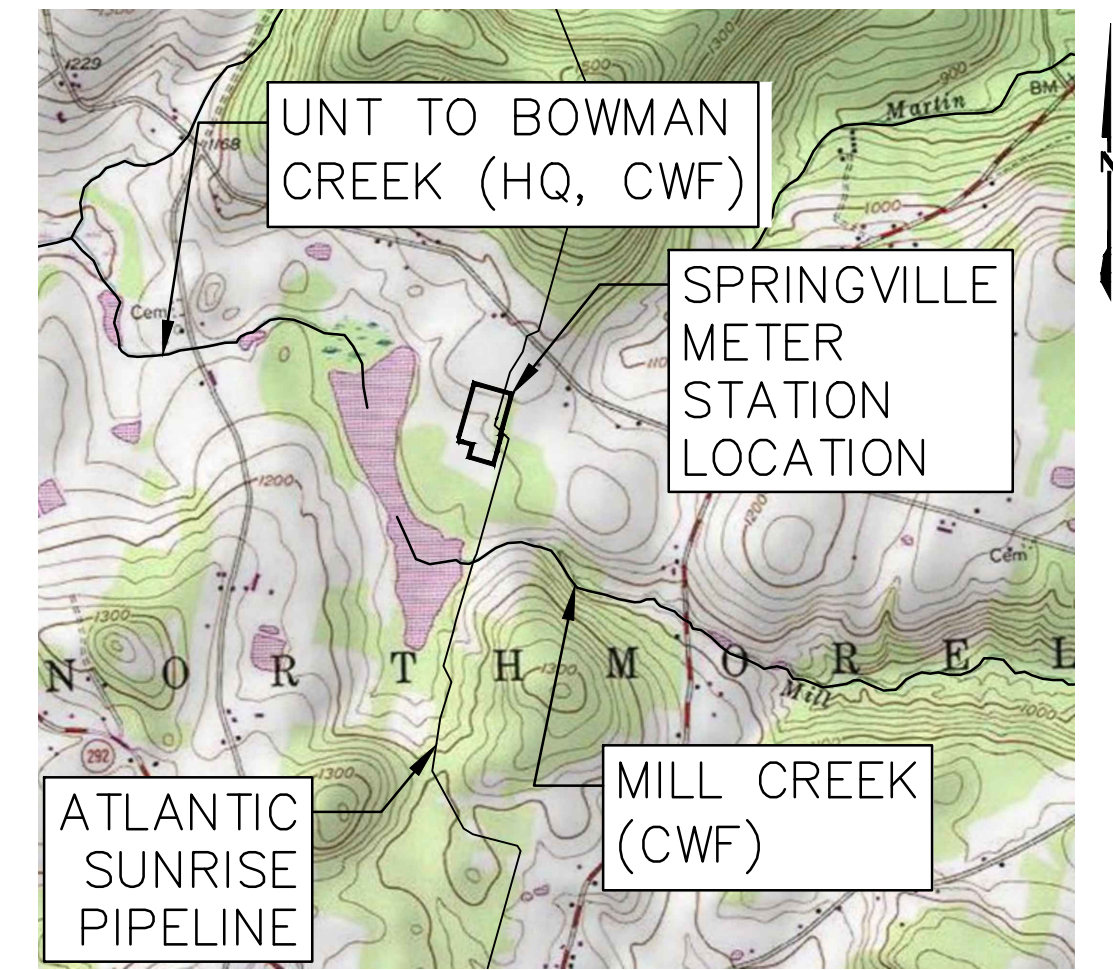


ATLANTIC SUNRISE PROJECT PROPOSED 30" NATURAL GAS PIPELINE

POST CONSTRUCTION STORMWATER MANAGEMENT PLANS FOR SPRINGVILLE METER STATION & ASSOCIATED PERMANENT ACCESS ROADS



PHASE 2

NORTHMORELAND TOWNSHIP
WYOMING COUNTY

PENNSYLVANIA

FACILITY NAME & TYPE	DRAWING NO.	SHEET NO.	DRAWING NAME
SPRINGVILLE METER STATION	(30-3650)MF-1A-9	1 of 6	COVER SHEET
	(30-3650)MF-1A-9	2 of 6	SENSITIVE RESOURCES MAP
	(30-3650)MF-1A-9	3 of 6	POST CONSTRUCTION STORMWATER MANAGEMENT PLAN
	(30-3650)MF-1A-9	4 of 6	PCSM NOTES AND DETAILS
	(30-3650)MF-1A-9	5 of 6	PCSM NOTES AND DETAILS
	(30-3650)MF-1A-9	6 of 6	PCSM NOTES AND DETAILS

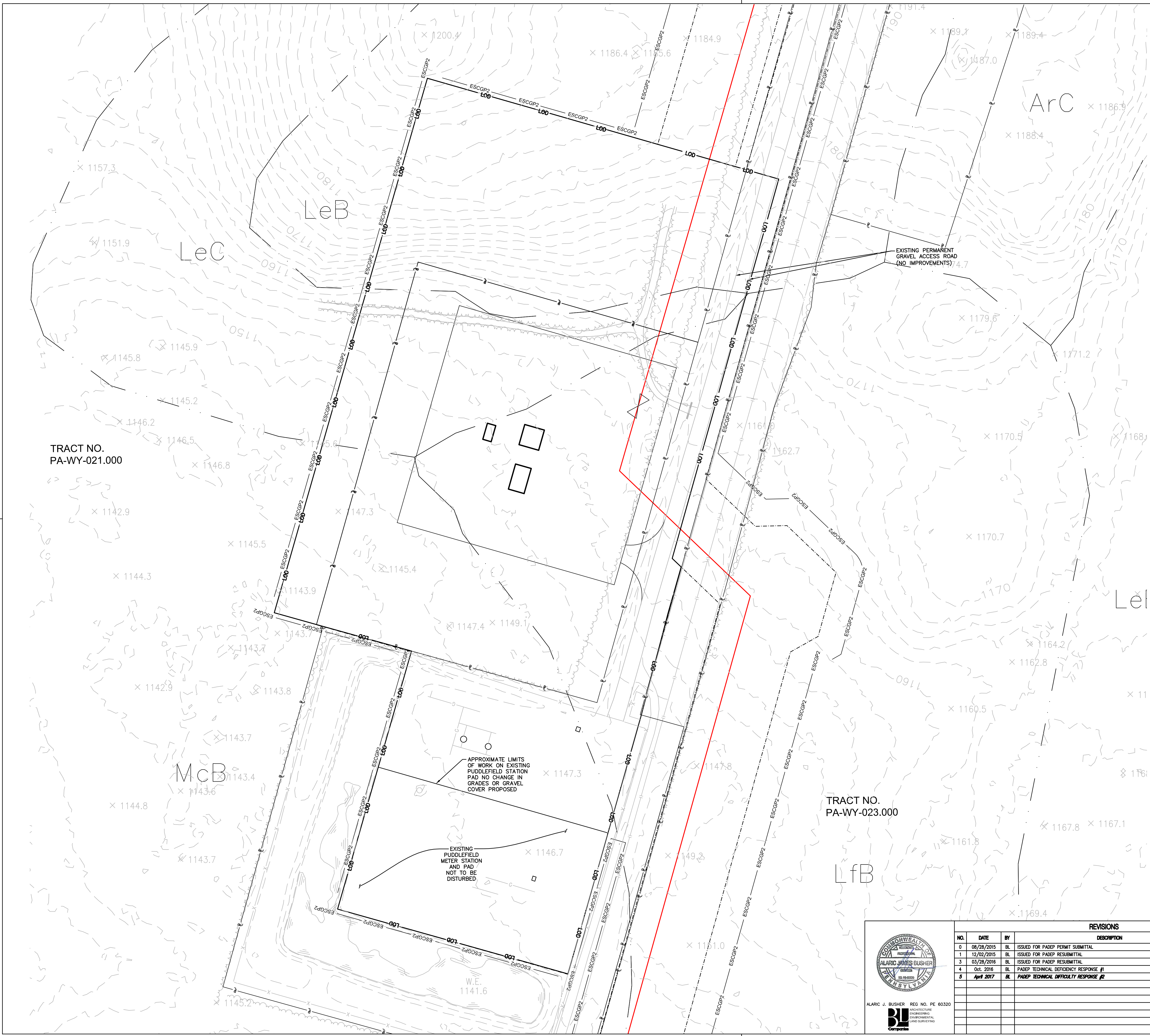


PENNSYLVANIA ACT 287 (1974)
AS AMENDED BY PENNSYLVANIA
ACT 199 (2004) REQUIRES NO
LESS THAN THREE (3) WORKING
DAYS AND NO MORE THAN (10)
WORKING DAYS NOTICE TO
UTILITIES BEFORE YOU EXCAVATE,
DRILL, BLAST OR DEMOLISH.

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" NATURAL GAS PIPELINE						
0	08/26/2015	BL	ISSUED FOR PADEP PERMIT SUBMITTAL	W0161492	DAK	AJB	POST CONSTRUCTION STORMWATER MANAGEMENT PLANS FOR						
1	12/02/2015	BL	ISSUED FOR PADEP RESUBMITTAL	W0161492	DAK	AJB	SPRINGVILLE METER STATION & ASSOCIATED PERMANENT ACCESS ROADS						
3	03/29/2016	BL	ISSUED FOR PADEP RESUBMITTAL	W0161492	DAK	AJB	NORTHMORELAND TOWNSHIP, WYOMING COUNTY, PENNSYLVANIA						
4	Oct. 2016	BL	PADEP TECHNICAL DEFICIENCY RESPONSE #1	W0161492	DAK	AJB	COVER SHEET						
5	April 2017	BL	PADEP TECHNICAL DIFFICULTY RESPONSE #2	W0161492	DAK	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:	(30-3650)MF-1A-9	SHEET 1
							W.O.:	1161492				OF 6	

Drawn By & Date/Time: Norwooduser Apr 28, 2017 - 11:45am
 Drawing Location & Name: G:\OBS14\14C\14C4909\DWG\010-CPLN\FMS_PCSM14C4909(10)_SPRING.dwg



LEGEND

EXISTING FEATURES

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

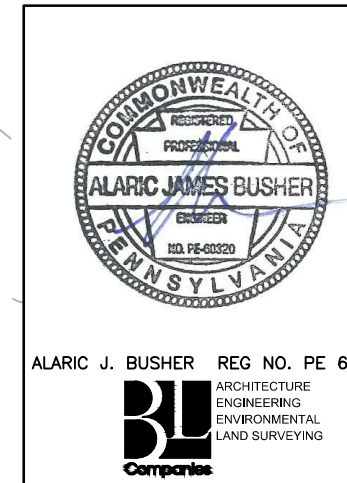
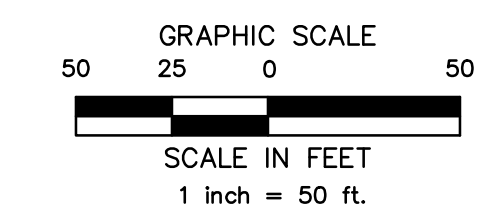
LEGEND

- WOODLANDS PROTECTED AREA
- WETLANDS PROTECTED AREA
- SLOPES 15% - 25% PROTECTED AREA
- SLOPES OVER 25% PROTECTED AREA
- WETLANDS
- MINIMUM COMPACTION AREA

SENSITIVE NATURAL RESOURCES TABLE

EXISTING NATURAL SENSITIVE RESOURCE	MAPPED? YES/NO/N/A	TOTAL AREA (AC.)	PROTECTED AREA (AC.)
WATERBODIES	N/A	0.00	0.00
FLOODPLAINS	N/A	0.00	0.00
RIPARIAN AREAS	N/A	0.00	0.00
WETLANDS	N/A	0.00	0.00
WOODLANDS	YES	5.76	0.00
NATURAL DRAINAGE WAYS	N/A	0.00	0.00
STEEP SLOPES, 15%-25%	N/A	0.00	0.00
STEEP SLOPES, OVER 25%	N/A	0.00	0.00
OTHER:			
OTHER:			
TOTAL EXISTING:		5.76	0.00

SEE DEP STANDARD WORKSHEET 2 IN THE POST CONSTRUCTION STORMWATER MANAGEMENT COMPUTATIONS.



REVISIONS						
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TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC
 ATLANTIC SUNRISE PROJECT- PROPOSED 30" NATURAL GAS PIPELINE
 POST CONSTRUCTION STORMWATER MANAGEMENT PLANS FOR
 SPRINGVILLE METER STATION & ASSOCIATED PERMANENT ACCESS ROADS
 NORTHMORELAND TOWNSHIP, WYOMING COUNTY, PENNSYLVANIA
 SENSITIVE RESOURCES MAP

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: (30-3650)MF-1A-9	SHEET 2 OF 6
W.D. NO.: 1161492			



LOCATION MAP

USGS CENTER MORELAND QUADRANGLE
SCALE: 1"=2,000'

SITE SOIL TYPES

- LeC LORDSTOWN CHANNERY SILT LOAM, 8 TO 15 PERCENT SLOPES
- LfB LORDSTOWN FLAGGY SILT LOAM, 8 TO 15 PERCENT SLOPES
- McB MARDIN CHANNERY SILT LOAM, 3 TO 8 PERCENT SLOPES

RECEIVING WATERCOURSE - CHAPTER 93 DESIGNATION

THE RECEIVING WATERCOURSE IS MILL CREEK, CWF
APPROXIMATE DISTANCE FROM SITE TO MILL CREEK: ±2.00 FT (SOUTH)

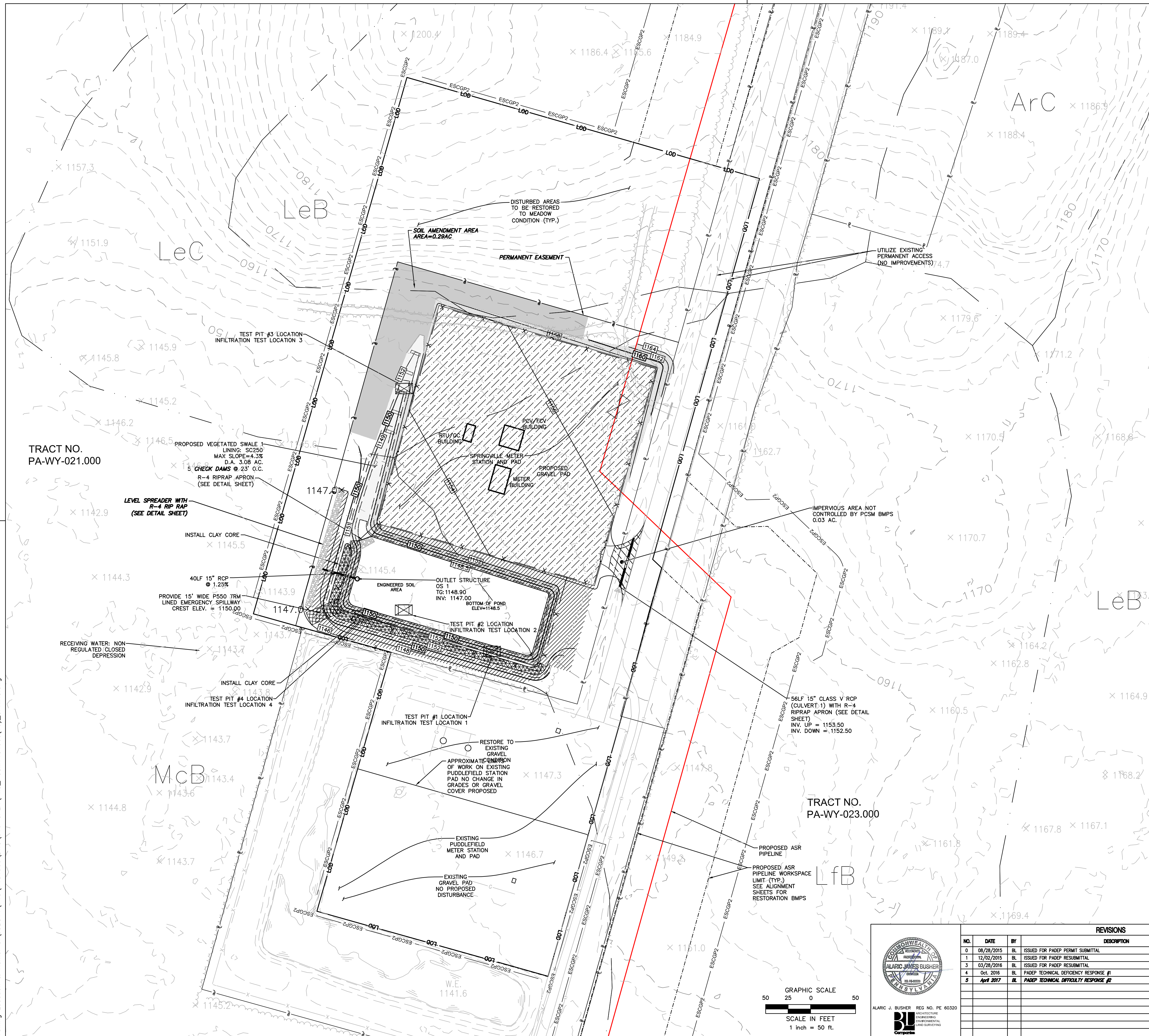
ESCGP-2 PERMIT TABLE

LIMIT OF PERMIT BOUNDARY/SITE AREA	7.71
LIMIT OF DISTURBANCE	7.71
AREA OF PROTECTED/SENSITIVE VALUE FEATURES	0.00
AREA OF RIPARIAN FOREST BUFFER PROTECTION	0.00
EXISTING GRAVEL AREA/MINIMUM DISTURBANCE	1.25
DEVELOPED AREA	2.97
DEVELOPED AREA CONTROLLED BY BMPS	2.93

PROPOSED FEATURES

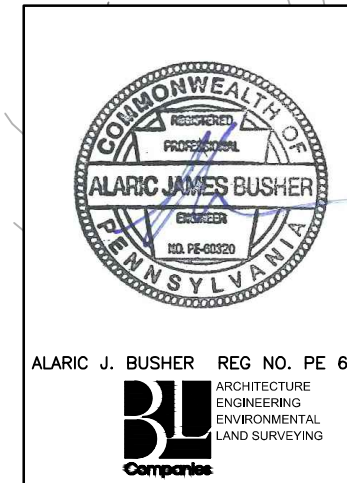
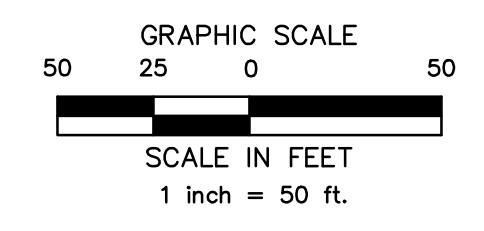
- PROPOSED MAJOR CONTOUR (10' INTERVAL)
- PROPOSED MINOR CONTOUR (2' INTERVAL)
- LIMIT OF DISTURBANCE (SPRINGVILLE METER STATION)
- LIMIT OF WORKSPACE (OVERALL PIPELINE PROJECT)
- ESCGP-2 PERMIT BOUNDARY
- ORANGE CONSTRUCTION FENCE
- CENTERLINE GAS PIPELINE
- SWALE LINING
- EROSION CONTROL BLANKET (SC150 OR APPROVED EQUAL)
- ROCK OUTLET/RIPRAP APRON
- SOIL AMENDMENT AREA
- TRM LINING
- CLAY CORE LIMITS
- TEST PIT LOCATION
- INFILTRATION TEST LOCATION
- EXISTING MAJOR CONTOUR (10' INTERVAL)
- EXISTING MINOR CONTOUR (2' INTERVAL)
- IMPERVIOUS AREA NOT CONTROLLED BY BMPS
- LANDSCAPE RESTORATION
- DISCONNECT STORM SEWERS IMPERVIOUS AREA

NOTE: WITHOUT APPROVAL FROM THE CONSERVATION DISTRICT OR PADEP OWNER/OPERATOR SHALL NOT INSTALL INLETS OR OTHER STORMWATER COLLECTION DEVICES, SO AS TO MAINTAIN DISCONNECTION OF GRAVEL AREAS FROM STORM SEWERS. OWNER/OPERATOR SHALL NOT PAVE GRAVEL AREAS WITHOUT APPROVAL FROM THE CONSERVATION DISTRICT OR PADEP, SO AS TO MAINTAIN REDUCED PARKING AREA IMPERVIOUSNESS.



TRACT NO.
PA-WY-021.000

TRACT NO.
PA-WY-023.000



REVISIONS			
NO.	DATE	BY	DESCRIPTION
0	08/26/2015	BL	ISSUED FOR PADEP PERMIT SUBMITTAL
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TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC			
ATLANTIC SUNRISE PROJECT - PROPOSED 30" NATURAL GAS PIPELINE			
POST CONSTRUCTION STORMWATER MANAGEMENT PLANS FOR			
SPRINGVILLE METER STATION & ASSOCIATED PERMANENT ACCESS ROADS			
NORTHMORELAND TOWNSHIP, WYOMING COUNTY, PENNSYLVANIA			
POST CONSTRUCTION STORMWATER MANAGEMENT PLAN			
DRAWN BY:	JEC	DATE:	04/03/15
CHECKED BY:	AJB	DATE:	04/03/15
APPROVED BY:	AJB	DATE:	07/17/15
NO.:	1161492	SCALE:	AS NOTED
ISSUED FOR:	CONSTRUCTION	REVISION:	5
DRAWING NUMBER:	(30-3650)MF-1A-9	SHEET:	3
NO.:	1161492	OF:	6

Drawn By & Date/Time: norwooduser Apr 28, 2017 - 1:45pm
 Drawing Location & Name: G:\JOBS\14\1404909\DWG\010-CPLN\FMS_PCSM14C4909(10)_SPRING.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 ¹	AASHTO #1	AASHTO #1	AASHTO #1	AASHTO #3	AASHTO #3	AASHTO #57
V _{max} (ft/sec)	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	Helopsis 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

NOTES:

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

PERMANENT SEED MIXTURES COOL & WARM SEASON GRASSES

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	Helopsis 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	Helopsis 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 ft	% 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	Helopsis 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	Helopsis	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
LORDSTOWN CHANNERY SILT LOAM	LeC	8-15%	LORDSTOWN	X	C	X	X			X	X	X		X					
LORDSTOWN FLAGGY SILT LOAM	Lfb	8-15%	LORDSTOWN	X	C	X	X			X	X	X		X					
MARDIN CHANNERY SILT LOAM	McB	3-8%	MARDIN	X	S	X	X		X	X	X	X		X					X

TEMPORARY SEED MIXTURES

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 YARD. 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.

SOILS LIMITATIONS AND RESOLUTIONS

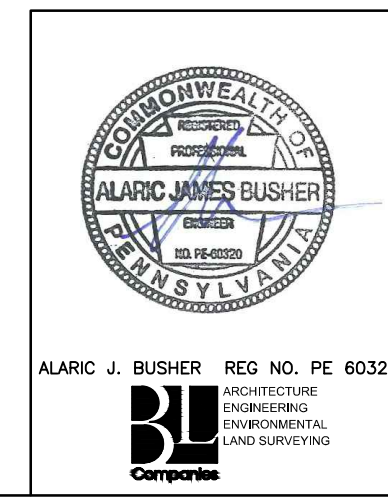
LIMITATION	RESOLUTION
CUTBANKS CAVE	EXCAVATIONS WILL BE PROPERLY SUPPORTED BY SHEETING AND SHORING TO PREVENT CAVES.
CORROSIVE TO CONCRETE/STEEL	NO CONCRETE OR STEEL PIPING IS PROPOSED WITHOUT APPROPRIATE TREATMENT OR PROTECTION.
DROUGHTY	EXISTING SUITABLE TOPSOIL AND SOIL AMENDMENTS WILL BE USED DURING CONSTRUCTION.
EASILY ERODIBLE	TEMPORARY AND PERMANENT EROSION CONTROL BMPs 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 CONSTRUCTION. SURFACE GRADING, SURFACE GRADING AND DRAINAGE WILL BE PROVIDED TO MINIMIZE WETNESS AFFECTS AFTER CONSTRUCTION.

MULCH

- MULCHES SHOULD BE APPLIED AT THE RATES SHOWN IN TABLE 11.6
- STRAW AND HAY MULCH SHOULD BE ANCHORED OR TACKIFIED IMMEDIATELY AFTER APPLICATION TO PREVENT BEING WINDBLOWN. A TRACTOR-DRAWN IMPLEMENT MAY BE USED TO "CRIMP" THE STRAW OR HAY INTO THE SOIL - ABOUT 3 INCHES. THIS METHOD SHOULD BE LIMITED TO SLOPES NO STEEPER THAN 3H:1V. THE MACHINERY SHOULD BE OPERATED ON THE CONTOUR. CRIMPING OF HAY OR STRAW BY RUNNING OVER IT WITH TRACKED MACHINERY IS NOT RECOMMENDED.
- POLYMERIC AND GUM TACKIFIERS MIXED AND APPLIED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS MAY BE USED TO TACK MULCH. AVOID APPLICATION DURING RAIN AND ON WINDY DAYS. A 24-HOUR CURING PERIOD AND A SOIL TEMPERATURE HIGHER THAN 45F ARE TYPICALLY REQUIRED. APPLICATION SHOULD GENERALLY BE HEAVIEST AT EDGES OF SEEDED AREAS AND AT CRESTS OF RIDGES AND BANKS TO PREVENT LOSS BY WIND. THE REMAINDER OF THE AREA SHOULD HAVE BINDER APPLIED UNIFORMLY. BINDERS MAY BE APPLIED AFTER MULCH IS SPREAD OR SPRAYED INTO THE MULCH AS IT IS BEING BLOWN ONTO THE SOIL. APPLYING STRAW AND BINDER TOGETHER IS GENERALLY MORE EFFECTIVE.
- SYNTHETIC BINDERS, OR CHEMICAL BINDERS, MAY BE USED AS RECOMMENDED BY THE MANUFACTURER TO ANCHOR MULCH PROVIDED SUFFICIENT DOCUMENTATION IS PROVIDED TO SHOW THEY ARE NON-TOXIC TO NATIVE PLANT AND ANIMAL SPECIES.
- MULCH ON SLOPES 8X OR STEEPER SHOULD BE HELD IN PLACE WITH NETTING. LIGHTWEIGHT PLASTIC, FIBER, OR PAPER NETS MAY BE STAPLED OVER THE MULCH ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
- SHREDDED PAPER HYDROMULCH SHOULD NOT BE USED ON SLOPES STEEPER THAN 5%. WOOD FIBER HYDROMULCH MAY BE APPLIED ON STEEPER SLOPES PROVIDED A TACKIFIER IS USED. THE APPLICATION RATE FOR ANY HYDROMULCH SHOULD BE 2,000 LB/ACRE AT A MINIMUM.
- HYDRAULICALLY APPLIED BLANKETS CAN BE AN EFFECTIVE METHOD OF STABILIZING STEEP SLOPES WHEN USED PROPERLY. THEY MAKE USE OF A CROSS-LINKED HYDROCOLLOID TACKIFIER TO BOND THERMALLY PROCESSED WOOD FIBERS. APPLICATION RATES VARY ACCORDING TO SITE CONDITIONS. IN ANY CASE, MANUFACTURER'S RECOMMENDATIONS SHOULD BE FOLLOWED. SHOULD NOT BE USED IN AREAS OF CONCENTRATED FLOW (E.G. SWALES).
- NO MULCH MAY BE APPLIED IN WETLANDS.

MULCH TYPE	APPLICATION RATE (MIN.)			NOTES
	PER ACRE	PER 1,000 SQ. FT.	PER 1,000 SQ. YD.	
STRAW	3 TONS	140 LB.	1,240 LB.	EITHER WHEAT OR OAT STRAW, FREE OF WEEDS, NOT CHOPPED OR FINELY BROKEN
WOOD CHIPS	4-6 TONS	185-275 LB.	1,650-2,500 LB.	MAY PREVENT GERMINATION OF GRASSES AND LEGUMES
HYDRO- MULCH	1 TON	47 LB.	415 LB.	SEE LIMITATIONS ABOVE
HYDRAULICALLY APPLIED BLANKETS	3,000 LB.	N/A	N/A	SLOPES UP TO 3H:1V
	4,000 LB.	N/A	N/A	SLOPES STEEPER THAN 3H:1V

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

THE LAND USES AND AQUATIC FEATURES FOUND WITHIN THE PROJECT AREA OCCUR ON MIXED HARDWOOD UPLAND FOREST, AND SHALLOW FORESTED WETLANDS. ACCORDING TO THE IMAGERY PROVIDED BY THE PENNSYLVANIA GEOLOGICAL SURVEY, THE LAND USES WITHIN THE PROJECT AREA REMAINED SIMILAR BETWEEN 1939 AND 1967. THE LAND USES ON THE 1939 AERIALS WERE PRIMARILY COMPOSED OF MIXED HARDWOOD UPLAND FOREST. FUTURE LAND USE WOULD INVOLVE THE INSTALLATION OF THE METER STATION PAD AND ACCESS ROAD.

THERMAL IMPACT ANALYSIS

IN ORDER TO PREVENT AN INCREASE IN STREAM TEMPERATURE, CONSTRUCTION OF THESE FACILITY WILL INCORPORATE THE FOLLOWING BMP'S TO ADDRESS POTENTIAL THERMAL IMPACTS. GRAVEL WILL PRIMARILY BE USED IN LIEU OF ASPHALT FOR ACCESS ROAD AND PAD CONSTRUCTION TO PREVENT THE COLLECTION AND SUBSEQUENT HEATING OF STORMWATER ON THE SURFACE OF THESE AREAS. VEGETATED SWALE WITH CHECK DAMS AND AN INFILTRATION BASIN WILL BE PROVIDED TO CAPTURE AND AID IN THE INFILTRATION OF THE NET RUNOFF VOLUME INCREASE ASSOCIATED WITH THE TRANSITION FROM PRE-DEVELOPMENT CONDITIONS TO POST-DEVELOPMENT CONDITIONS. THE RECEIVING WATERS FOR THE SITE ARE 2,000' ± FROM THE SITE.

CRITICAL STAGES OF CONSTRUCTION

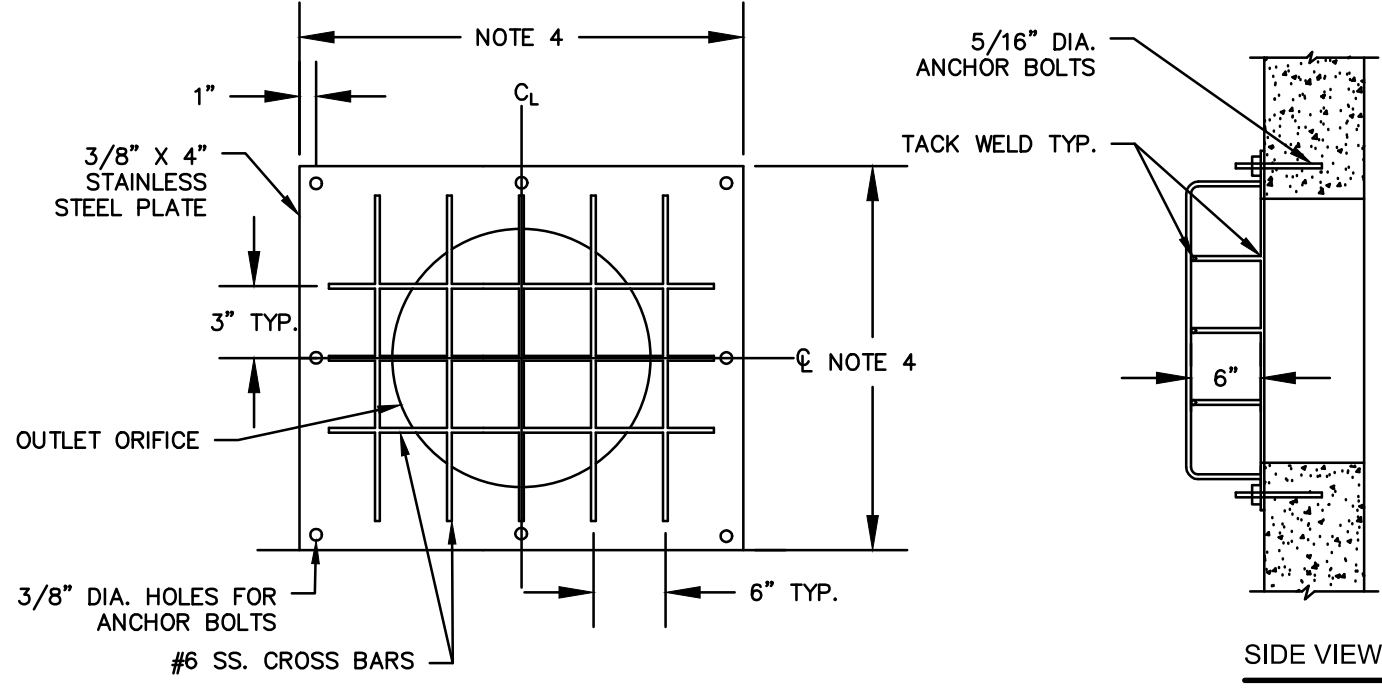
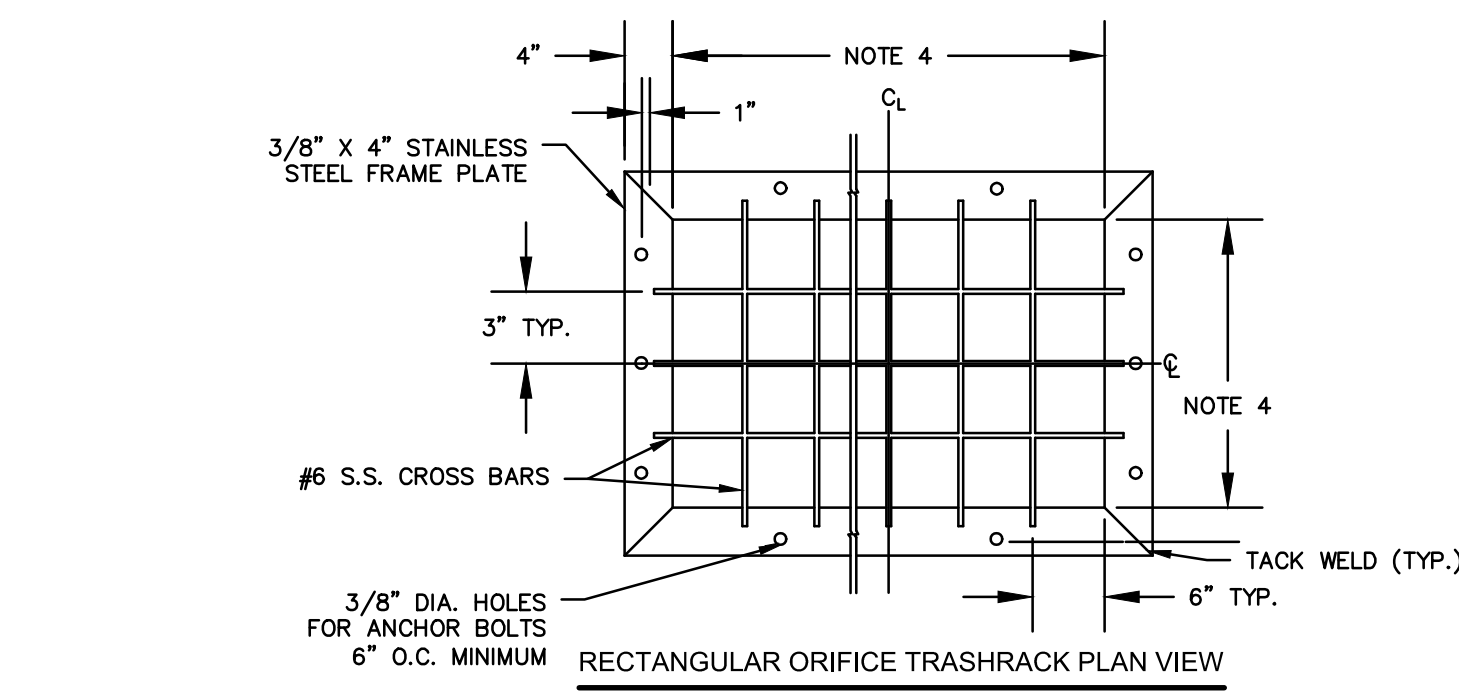
THE FOLLOWING ARE CRITICAL STAGES OF CONSTRUCTION:

1. INSTALLATION OF SEDIMENT TRAP.
2. INSTALLATION OF VEGETATED SWALE AND CHECK DAMS.
3. CONVERSION SEDIMENT TRAP TO STORMWATER BASIN.
4. SOIL AMENDMENT.

METER STATION SEQUENCE OF CONSTRUCTION

1. 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.
2. 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.
3. HOLD PRE-CONSTRUCTION CONFERENCE WITH THE ENVIRONMENTAL INSPECTORS, LOCAL COUNTY CONSERVATION DISTRICT (CCD), PADEP, AND DESIGN ENGINEER.
4. INSTALL ORANGE CONSTRUCTION FENCE AROUND AREAS TO BE PROTECTED.
5. LOCATE BRUSH AREAS AND ACCESS POINTS INCLUDING CONSTRUCTION ENTRANCES. FIELD LOCATE LIMITS OF DISTURBANCE.
6. INSTALL ROCK CONSTRUCTION ENTRANCES (ROSES).
7. REMOVE STRIP 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.
8. THE COMPLIANCE MANAGER SHALL PROVIDE PADEP AND CCD AT LEAST THREE DAYS' NOTICE PRIOR TO BULK EARTH DISTURBANCE AND UPON COMPLETION OF PERIMETER EROSION CONTROLS.
9. UTILIZE EXISTING PERMANENT ACCESS ROAD.
10. INSTALL FILTER SOCK DIVERSIONS AND ASSOCIATED RIPRAP PROTECTION.
11. * INSTALL SEDIMENT TRAP WITH TEMPORARY RISER, 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.
12. * INSTALL VEGETATED SWALE 1. INSTALL **EARTHEN** CHECK DAMS AND DRAINAGE CHANNEL APRONS AS SOON AS SWALE GRADING IS COMPLETE.
13. PROCEED WITH MAJOR CLEARING AND GRUBBING.
14. BEGIN CONSTRUCTION STAKING FOR GRADING.
15. BEGIN GRADING AND STRIP AND STOCKPILE TOPSOIL WITHIN THE METER STATION AREA AND INSTALL SEDIMENT BARRIERS AROUND STOCKPILES.
16. UPON TEMPORARY 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 OR ANY STAGE OF AN 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).
17. ROUGH GRADE SITE.
18. GRADE THE METER STATION PAD AS SHOWN ON THE E&S AND PCSM/SR PLANS (SECTIONS 2 AND 3 OF THE ESCGP-2 NO).
19. 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 NO, (PATTERNS DIFFER BY SLOPE CATEGORY), INSTALL RIP RAP SLOPE STABILIZATION WHERE SHOWN ON THE PCSM/SR PLANS.
20. ESTABLISH FINAL GRADE.
21. SURFACE STABILIZATION, APPLY PERMANENT STABILIZATION MEASURES IMMEDIATELY TO ANY DISTURBED AREAS WHERE WORK HAS REACHED FINAL GRADE.
22. 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 BMP'S.
23. * REPLACE TEMPORARY RISER WITH PERMANENT OUTLET STRUCTURE. INSTALL EMERGENCY SPILLWAY AND CONVERT SEDIMENT TRAP TO PERMANENT BASIN CONFIGURATION. PLACE AMENDED SOIL WITHIN BASIN AND INSTALL COMPOST FILTER SOCK 16 TO PROTECT AMENDED SOIL FROM SILTATION.
24. AFTER FINISH GRADING AND TOPSOIL PLACEMENT IS COMPLETED, DISTURBED AREAS SHALL BE FERTILIZED, SEEDED, AND MULCHED. SEED MIXTURES, FERTILIZER AND MULCH APPLICATION RATES AND DATES SHALL CONFORM TO THE TABLES PROVIDED ON THE PCSM/SR PLANS AND DETAIL SHEETS (SECTION 3 OF THE ESCGP-2 NO), LAND OWNER AGREEMENTS AND/OR THE ECP (SECTION 4 OF THE ESCGP-2 NO).
25. AFTER SEEDING, FERTILIZING AND MULCHING IS COMPLETE, INSTALL EROSION CONTROL BLANKETS AS REQUIRED OR ORDERED OR ON SLOPES OF THAN 3:1 OR GREATER.
26. 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.
27. * COMPLETE SITE STABILIZATION, INCLUDING SOIL AMENDMENT, SEED APPLICATION, EROSION CONTROL BLANKET INSTALLATION IN BASIN, AND MULCHING. INSTALL COMPOST FILTER SOCK AT INTERIOR OF BASIN TOE OF SLOPE TO PROTECT AMENDED SOIL FROM SILTATION.
28. UPON COMPLETION OF ALL EARTH DISTURBANCE ACTIVITIES AND PERMANENT STABILIZATION OF ALL DISTURBED AREAS, THE OWNER AND/OR OPERATORS SHALL CONTACT THE LOCAL CCD FOR A FINAL INSPECTION.
29. MAINTAIN E&S BMP'S UNTIL SITE WORK IS COMPLETE AND UNIFORM 70% PERENNIAL VEGETATIVE COVER IS ESTABLISHED.
30. REMOVE AND PROPERLY DISPOSE/RECYCLE E&S BMP'S. REMOVE ORANGE CONSTRUCTION FENCE, REPAIR AND PERMANENTLY STABILIZE AREAS DISTURBED DURING E&S BMP REMOVAL UPON ESTABLISHMENT OF UNIFORM 70% VEGETATIVE COVER.

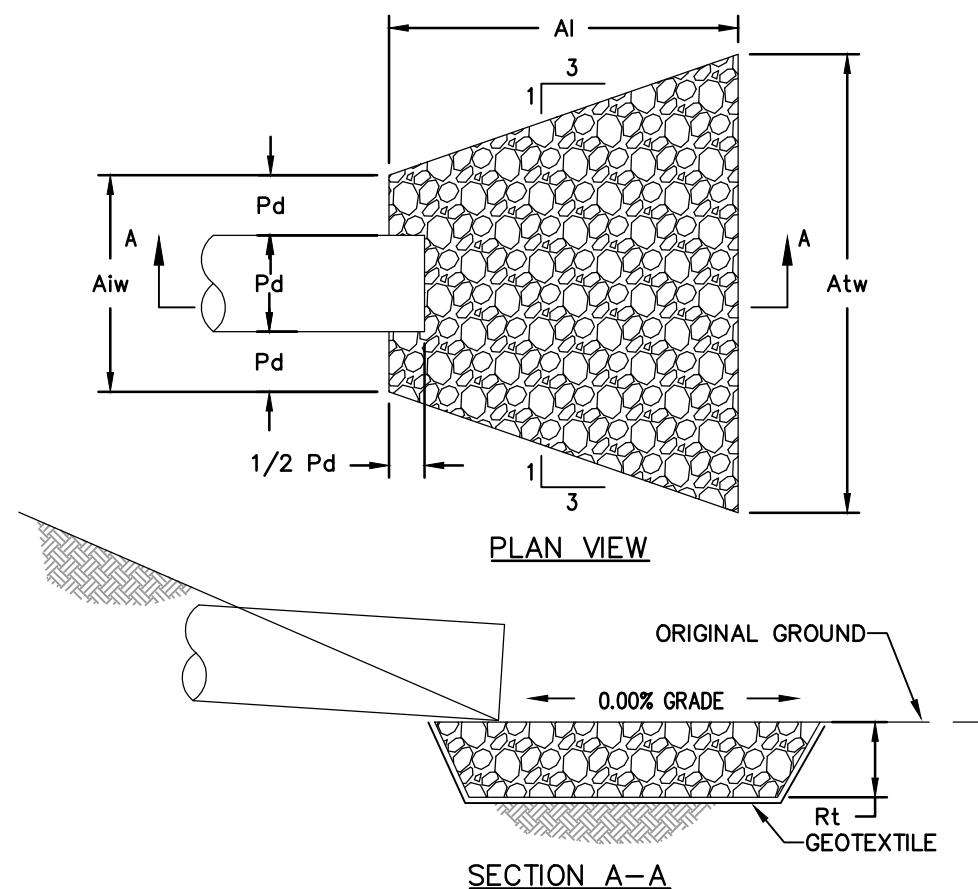
* INDICATES A CRITICAL STAGE OF PCSM INSTALLATION TO BE OBSERVED BY A LICENSED PROFESSIONAL OR DESIGNER. CONTRACTOR TO PROVIDE 3 WORKING DAYS NOTICE TO ENGINEER.



- NOTES:
1. TRASH RACK MATERIAL TO BE STAINLESS STEEL.
 2. SECURE THE TRASH RACK PLATE TO THE SIDE OF THE INLET BOX USING 5/16" x 2" STAINLESS STEEL BOLTS AND APPROPRIATE ANCHORS.
 3. DURING INSTALLATION OF THE TRASH RACK PLATE, PLACE THIN LAYER OF BLACK MASTIC MATERIAL BETWEEN THE TRASH RACK PLATE AND THE INLET BOX WALL AS A GASKET TO CREATE A WATER TIGHT SEAM.
 4. SEE PERMANENT OUTLET STRUCTURE DETAIL FOR ORIFICE PLATE DIMENSIONS.

PERMANENT OUTLET STRUCTURE TRASH RACK

N.T.S.



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 Al (FT)	INITIAL WIDTH Alw (FT)	TERMINAL WIDTH Atw (FT)
* ALL INFORMATION CAN BE FOUND ON ACCESS ROAD AND EROSION AND SEDIMENT CONTROL PLANS. REFER TO NOTES 4 AND 5 FOR DIMENSION LOCATIONS.						

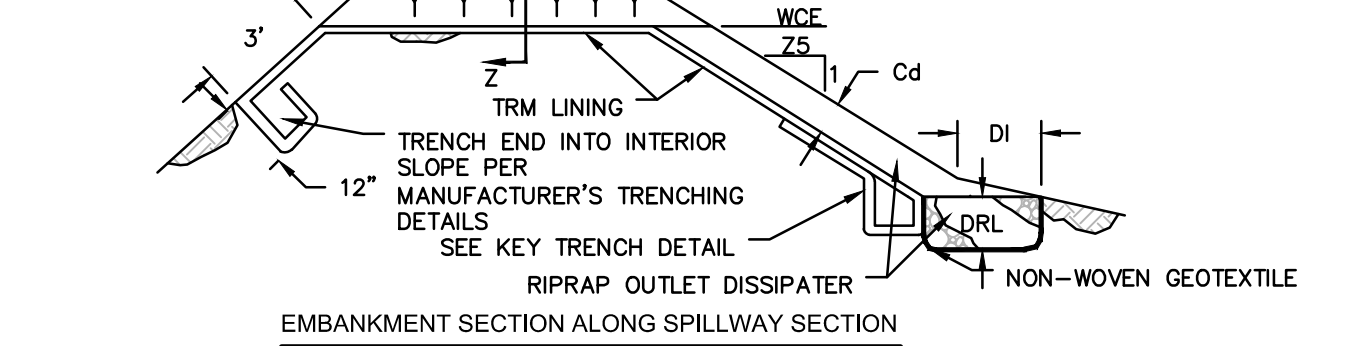
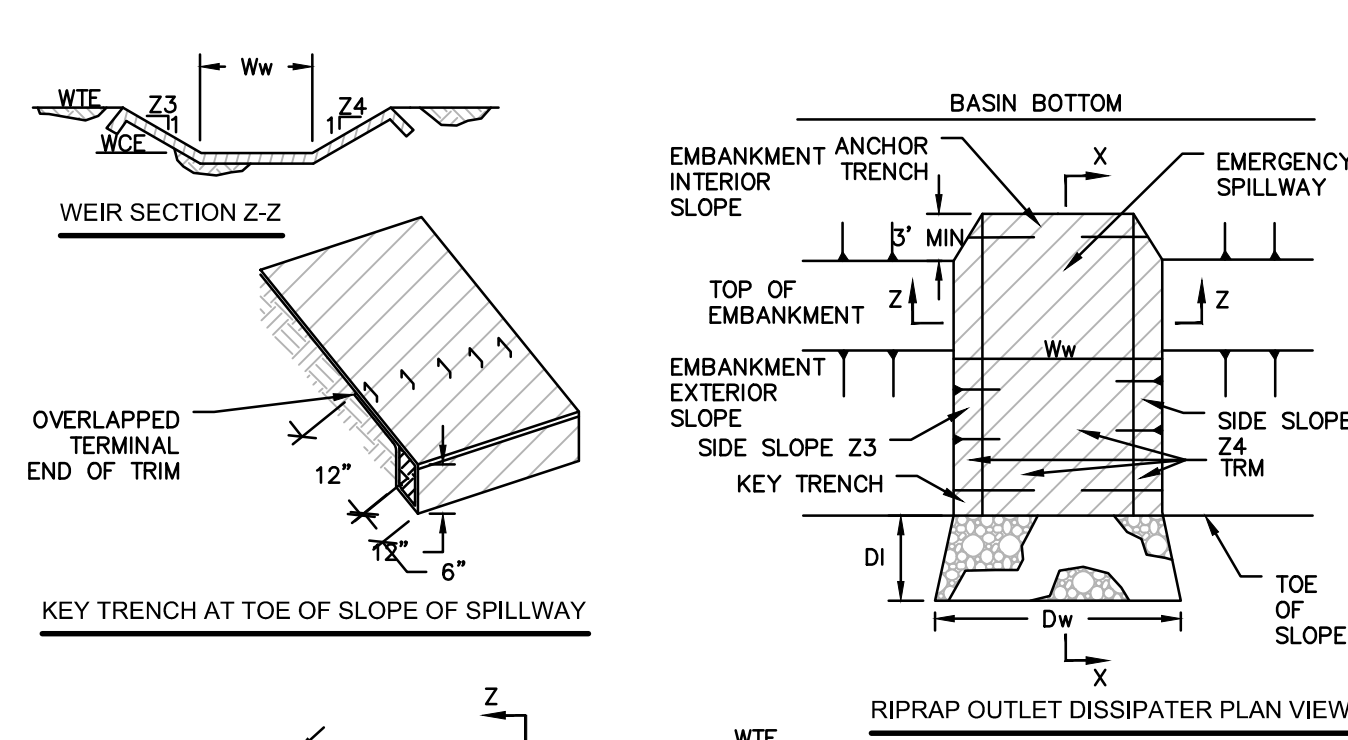
NOTES:

1. ALL APRONS SHALL BE CONSTRUCTED TO THE DIMENSIONS SHOWN ON THE PLANS. TERMINAL WIDTHS SHALL BE ADJUSTED AS NECESSARY TO MATCH RECEIVING CHANNELS.
2. ALL APRONS SHALL BE INSPECTED AT LEAST WEEKLY AND AFTER EACH RUNOFF EVENT. DISPLACED RIPRAP WITHIN THE APRON SHALL BE REPLACED IMMEDIATELY.
3. EXTEND RIPRAP ON BACK SIDE OF APRON TO AT LEAST 1/2 DEPTH OF PIPE ON BOTH SIDES TO PREVENT SCOUR AROUND THE PIPE.
4. FOR APRONS ON ACCESS ROADS, THE DIMENSIONS FOR THE APRONS ARE GIVEN AS FOLLOWS: L x D x W/W WHERE: L = LENGTH OF APRON OR "Al" 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 "Alw"/"Atw" AS SHOWN IN THE PLAN VIEW ABOVE
5. 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:
 - a. RIP RAP SIZE (R-) UNDER WATERBODY
 - b. APRON INITIAL WIDTH AND TERMINAL WIDTH IS TWO (2) FEET FOR FILTER SOCK DIVERSIONS AND SWALES.
 - c. RIP RAP THICKNESS (Rt)
 - d. APRON LENGTH (Al)

OUTLET NO.	PIPE DIA Pd (IN)	RIPRAP		APRON		
		SIZE (R-)	THICK. Rt (IN)	LENGTH Al (FT)	INITIAL WIDTH Alw (FT)	TERMINAL WIDTH Atw (FT)
VEGETATED SWALE 1	N/A	4	18	9	12	12
CULVERT 1	15	4	18	8	3.75	12

RIP-RAP APRON AT PIPE OUTLET WITHOUT FLARED END SECTION

N.T.S.



BASIN NO.	WEIR		CREST ELEV WCE (FT)	WIDTH Ww (FT)	TRM TYPE	STAPLE PATTERN	SWALE		DISSIPATER				
	Z3 (FT)	Z4 (FT)					Z5 (FT)	DEPTH Cd (FT)	LENGTH D (FT)	WIDTH Dw (FT)	RIPRAP SIZE (R-)	RIPRAP THICK. DRt (IN)	
1	3	3	1152.00	1150.00	15	P550	B	N/A	N/A	10	15	P550	N/A
1	3	3	1150.00	1150.00	84	P550	B	N/A	N/A	10	84	P550	N/A

HEAVY EQUIPMENT SHALL NOT CROSS OVER SPILLWAY WITHOUT PRECAUTIONS TAKEN TO PROTECT TRM LINING.

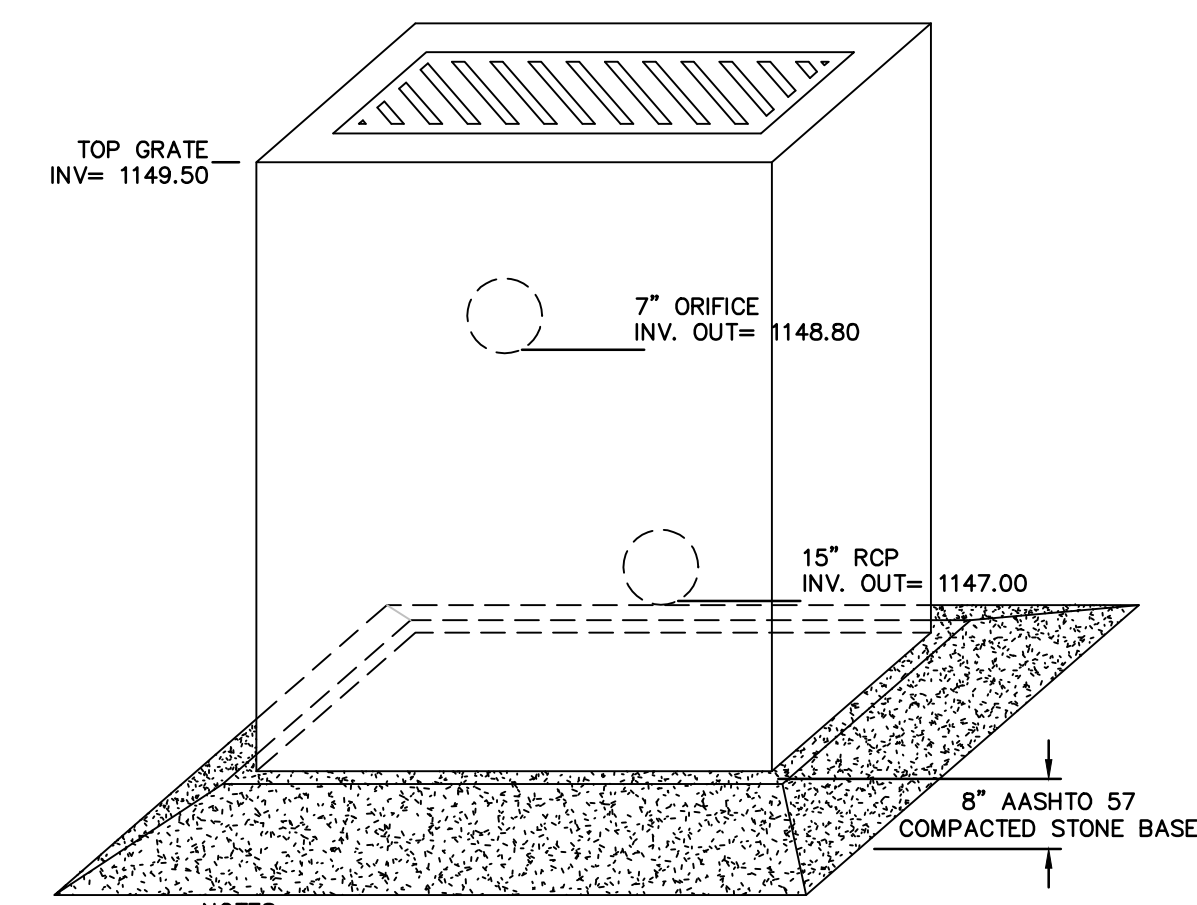
DISPLACED LINING WITHIN THE SPILLWAY AND/OR OUTLET SWALE SHALL BE REPLACED IMMEDIATELY.

RIPRAP AT TOE OF EMBANKMENT SHALL BE EXTENDED A SUFFICIENT LENGTH IN BOTH DIRECTIONS TO PREVENT SCOUR.

STORMWATER BASIN EMERGENCY SPILLWAY WITH TRM LINING

N.T.S.

PADEP-7-13

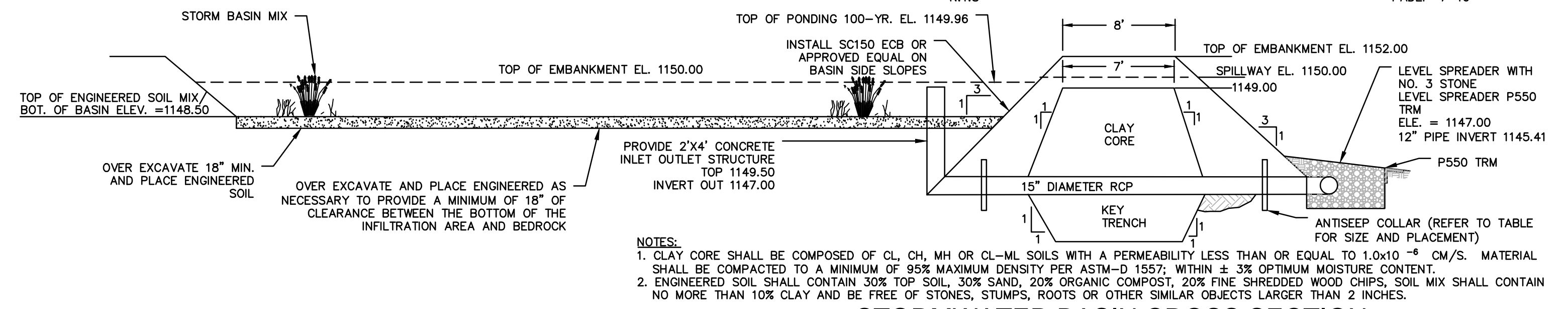


NOTES:

1. THE PROPOSED OUTLET STRUCTURE SHALL BE A TYPE "M" INLET IN ACCORDANCE WITH PENNDOT PUBLICATION 408, SECTION 605 AND STANDARDS FOR ROADWAY CONSTRUCTION.
2. OUTLET STRUCTURE SHALL CONTAIN A TRASH RACK.

PERMANENT OUTLET STRUCTURE

N.T.S.



NOTES:

1. CLAY CORE SHALL BE COMPOSED OF CL, CH, MH OR CL-ML SOILS WITH A PERMEABILITY LESS THAN OR EQUAL TO 1.0x10⁻⁶ CM/S. MATERIAL SHALL BE COMPACTED TO A MINIMUM OF 95% MAXIMUM DENSITY PER ASTM-D 1557; WITHIN ± 3% OPTIMUM MOISTURE CONTENT.
2. ENGINEERED SOIL SHALL CONTAIN 30% TOP SOIL, 30% SAND, 20% ORGANIC COMPOST, 20% FINE SHREDDED WOOD CHIPS. SOIL MIX SHALL CONTAIN NO MORE THAN 10% CLAY AND BE FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN 2 INCHES.

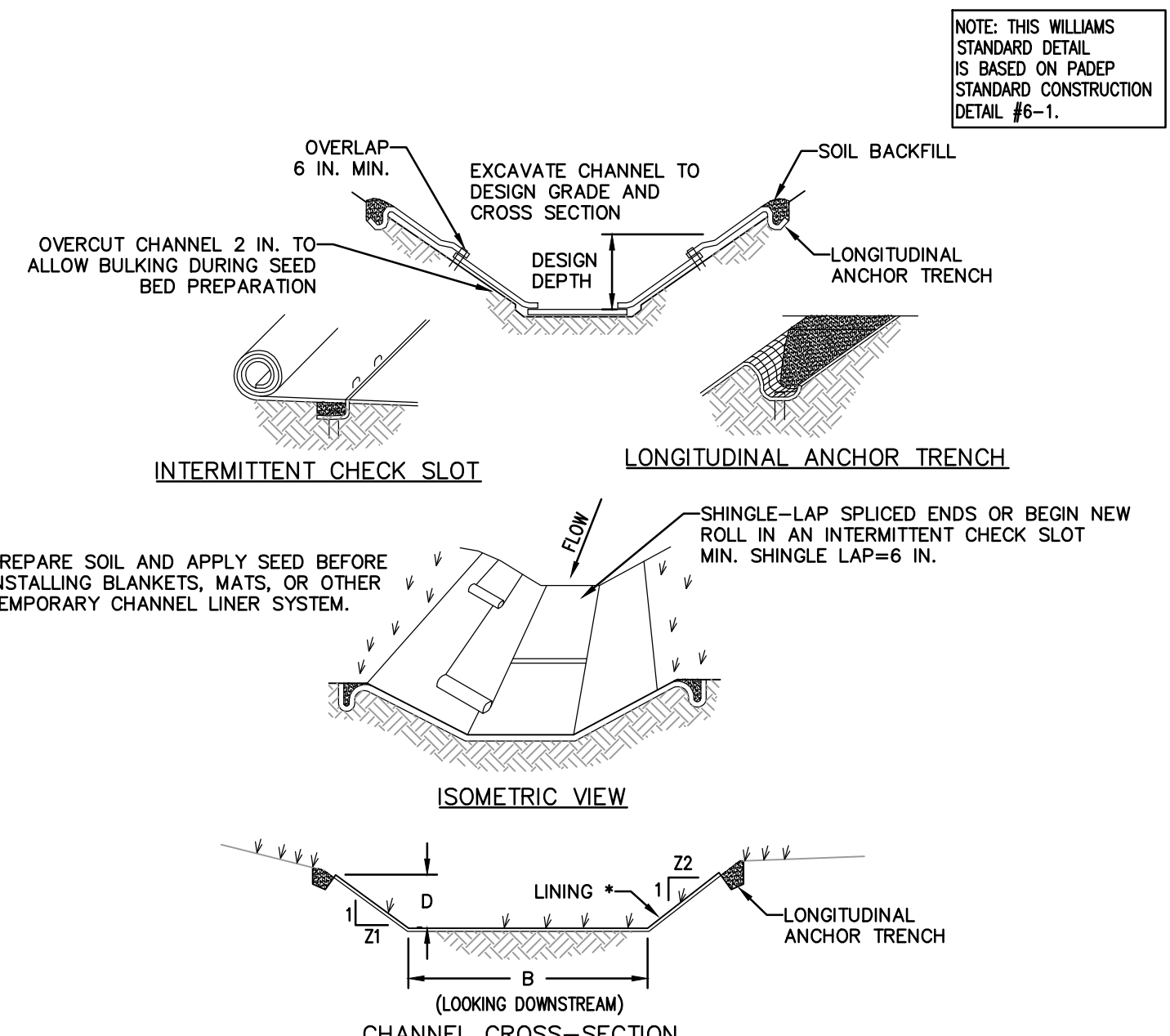
STORMWATER BASIN CROSS SECTION

N.T.S.

REVISIONS				NO. NO. CHK. APP.		TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC	
NO.	DATE	BY	DESCRIPTION	NO. NO. CHK.	APP.	ATLANTIC SUNRISE PROJECT- PROPOSED 30" NATURAL GAS PIPELINE	
0	08/26/2015	BL	ISSUED FOR PADEP PERMIT SUBMITTAL	W0161492	DAK AJB	POST CONSTRUCTION STORMWATER MANAGEMENT PLANS FOR	
1	12/02/2015	BL	ISSUED FOR PADEP RESUBMITTAL	W0161492	DAK AJB	SPRINGVILLE METER STATION & ASSOCIATED PERMANENT ACCESS ROADS	
3	03/29/2016	BL	ISSUED FOR PADEP RESUBMITTAL	W0161492	DAK AJB	NORTHMORELAND TOWNSHIP, WYOMING COUNTY, PENNSYLVANIA	
4	04/10/2016	BL	PADEP TECHNICAL DEFICIENCY RESPONSE #1	W0161492	DAK AJB	PCSM NOTES AND DETAILS	
5	April 2017	BL	PADEP TECHNICAL DIFFICULTY RESPONSE #2	W0161492	DAK 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: (30-3650)MF-1A-9 SHEET 6	
						WID: 1161492 OF 6	

EARTHEN CHECK DAM

N.T.S.



* 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.

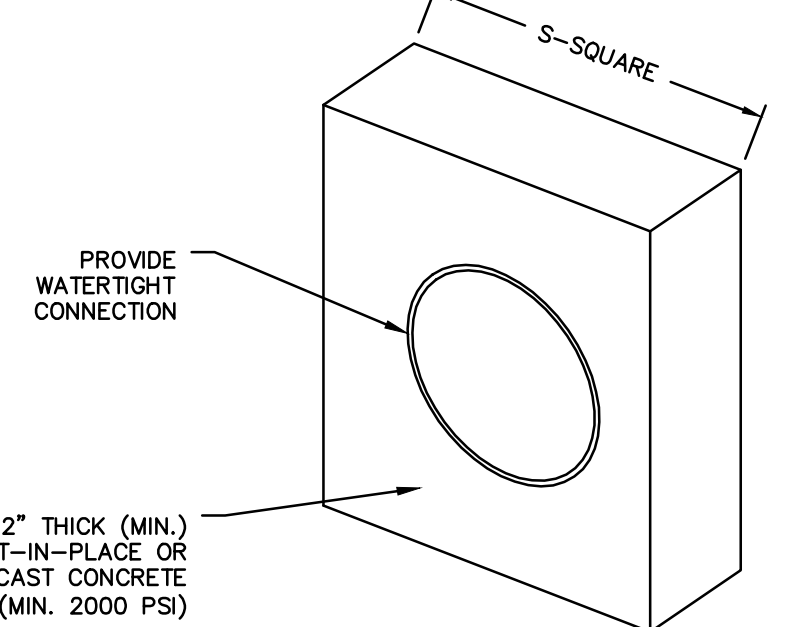
SWALE DIMENSIONS SHALL BE CONSTANTLY MAINTAINED. SWALE SHALL BE CLEANED WHENEVER TOTAL SWALE DEPTH IS REDUCED BY 25% AT ANY LOCATION. SEDIMENT DEPOSITS SHALL BE REMOVED WITHIN 24 HOURS OF DISCOVERY OR AS SOON AS SOIL CONDITIONS PERMIT ACCESS TO SWALE WITHOUT FURTHER DAMAGE. DAMAGED LINING SHALL BE REPAIRED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

NO MORE THAN ONE THIRD OF THE SHOOT (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 SUMMARY TABLE						
SWALE NO.	BOTTOM WIDTH B (FT)	DEPTH D (FT)	TOP WIDTH W (FT)	Z1 (FT)	Z2 (FT)	PERMANENT LINING
VEGETATED SWALE 1	5.0	2.0	17.0	3.0	3.0	SC250 GRASS/SC250

VEGETATED SWALE

N.T.S.



ALL COLLARS SHALL BE INSTALLED SO AS TO BE WATER TIGHT.

COLLAR SIZE AND SPACING SHALL BE AS INDICATED BELOW.

BASIN OR TRAP NO.	PIPE SIZE (IN)	S (IN)	NO. OF COLLARS	DISTANCE RISER TO 1ST COLLAR (FT)	COLLAR SPACING (FT)
SED TRAP / BASIN 1	15	32	2	7	4

CONCRETE ANTI-SEEP COLLAR FOR PERMANENT BASINS OR TRAPS DETAIL

N.T.S.

PADEP-7-16