## TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC POST CONSTRUCTION STORMWATER MANAGEMENT PLAN

# REGIONAL ENERGY ACCESS EXPANSION PROJECT COMPRESSOR STATION 515

BUCK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA

### APRIL 2021 REVISED MARCH 2022

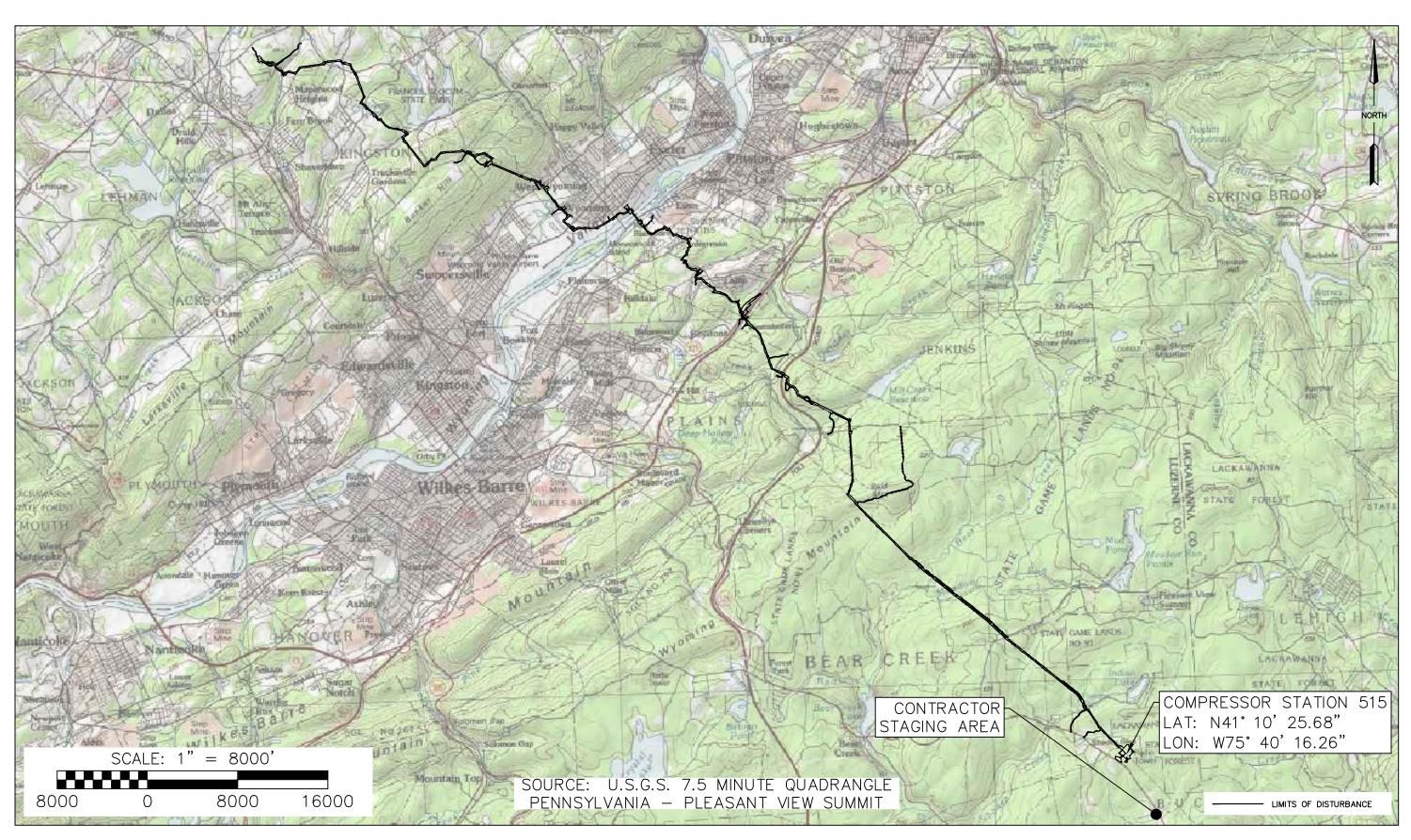
#### PROJECT OWNER/APPLICANT

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC 2800 POST OAK BLVD, LEVEL 11 HOUSTON, TX 77056 CONTACT: JOSEPH DEAN, MANAGER PERMITTING

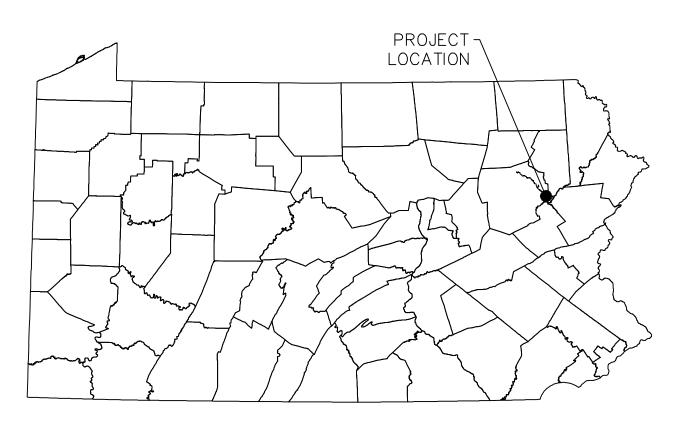
#### PLAN PREPARER / ENGINEER

WHM CONSULTING, LLC 366 WALKER DRIVE SUITE 300 STATE COLLEGE, PA 16801 PH: (814) 689-1650 CONTACT: RYAN NELSON, PROJECT MANAGER

BAI GROUP, LLC 366 WALKER DRIVE SUITE 300 STATE COLLEGE, PA 16801 PH: (814) 238-2060 CONTACT: PATRICK WOZINSKI, P.E. PROJECT ENGINEER



**LOCATION MAP** 



VICINITY MAP N.T.S.

	SHEET INDEX									
SHEET NUMBER	DRAWING TITLE									
1 OF 6	COVER									
2 OF 6	EXISTING CONDITIONS PLAN									
3 OF 6	POST CONSTRUCTION STORMWATER MANAGEMENT PLAN									
4 OF 6	NOTES									
5-6 OF 6	DETAILS									

DECEIVING WATERS											
	RECEIVING WATERS										
NAME	DESIGNATED USE	EXISTING USE	PFBC CLASSIFICATION								
TRIB 04285 SHADES CREEK	HQ-CWF, MF	-	CLASS A WILD TROUT								
STONY RUN	HQ-CWF, MF	-	NATURALLY PRODUCING WILD TROUT STREAM								

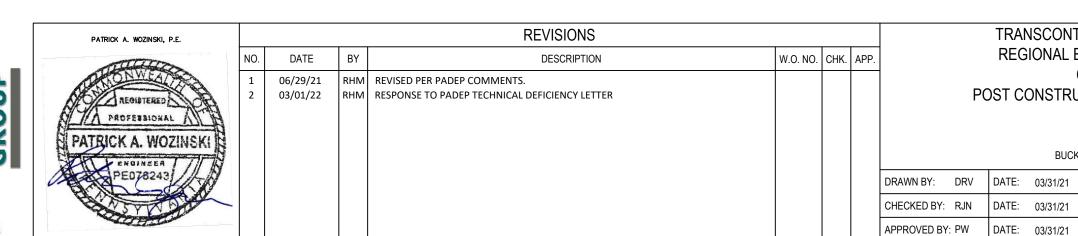
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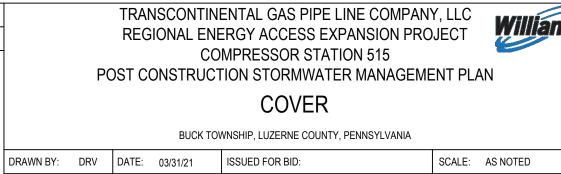


DAYS AND NO MORE THAN (10) WORKING DAYS NOTICE TO UTILITIES BEFORE YOU EXCAVATE,

DRILL, BLAST OR DEMOLISH.



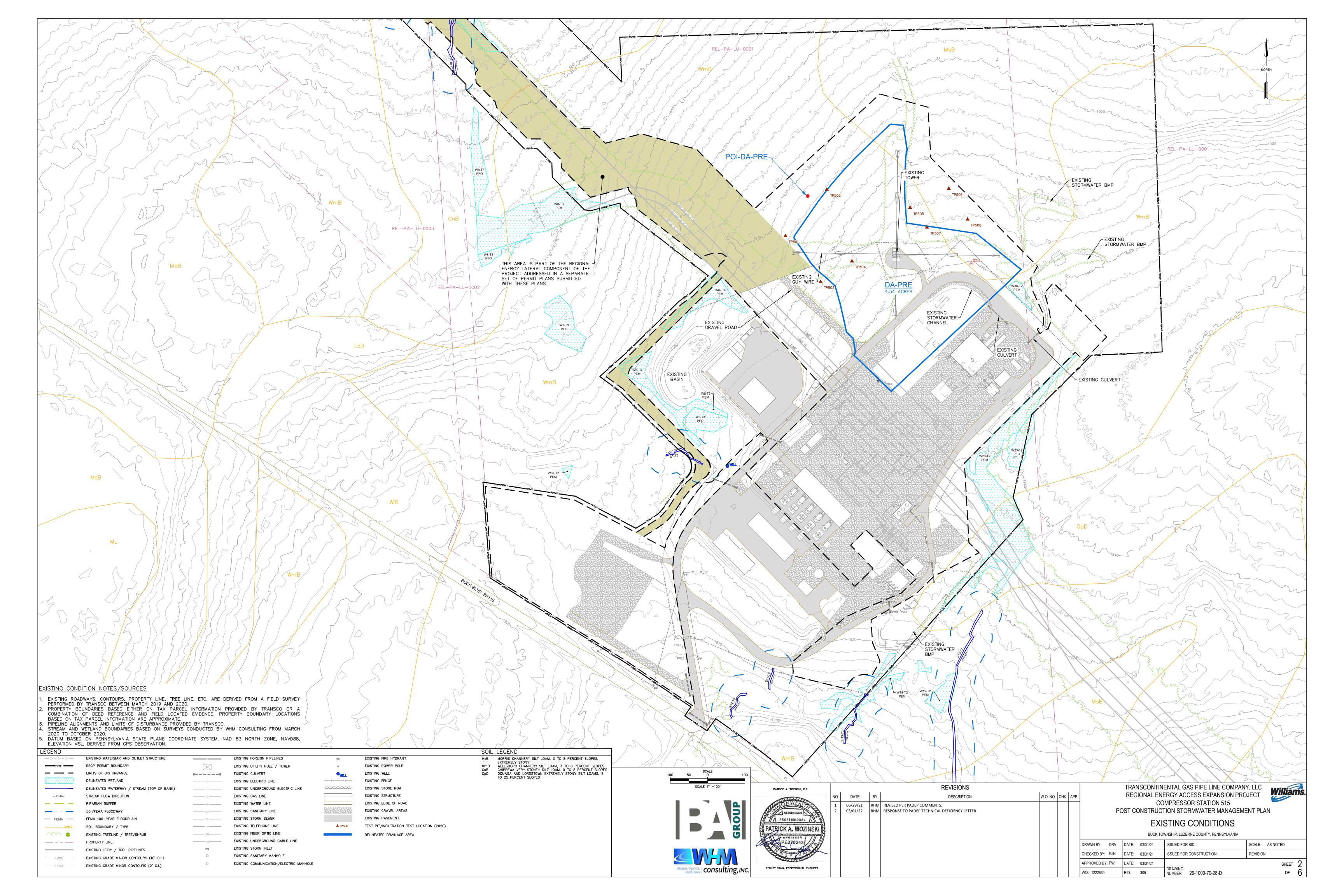


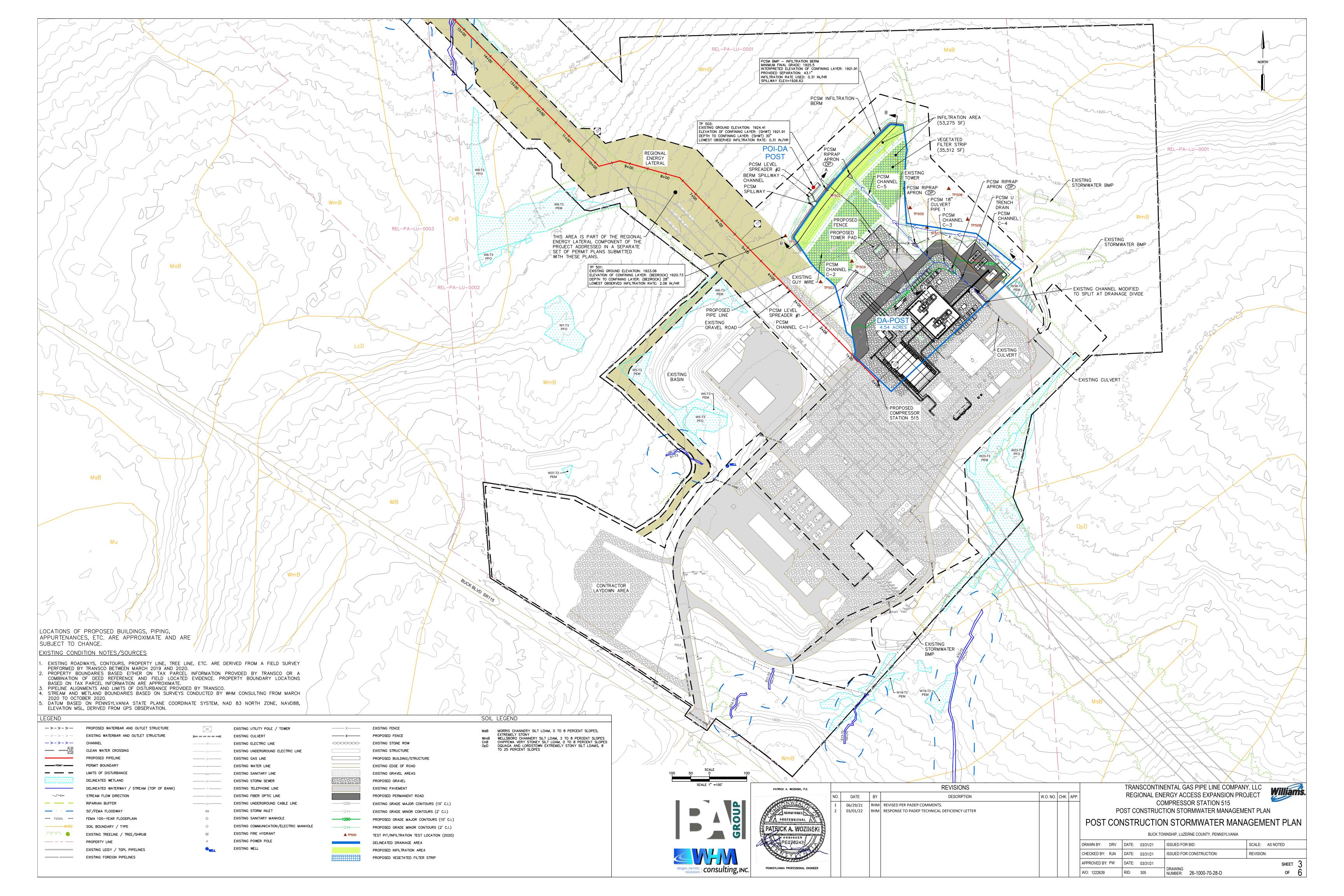


ISSUED FOR CONSTRUCTION:

DRAWING NUMBER: 26-1000-70-28-D

REVISION:





#### RESOLUTION TO SOIL LIMITATIONS

- TRANSCO PROPOSES THE FOLLOWING RESOLUTIONS TO COMPENSATE FOR SOIL LIMITATIONS SUMMARIZED IN TABLE 3 ABOVE:

  1. TO OFFSET THE CAVING OF CUTBANKS, TRENCHING OPERATIONS WILL BE CONDUCTED IN ACCORDANCE WITH THE OSHA TECHNICAL MANUAL FOR TRENCHING.
- 2. PREVENTATIVE COATINGS SHALL BE USED TO PREVENT CORROSION OF CONCRETE AND/ OR STEEL.
- 3. WHEN BEDROCK IS ENCOUNTERED IT WILL BE REMOVED BY MECHANICAL METHODS OR BLASTING. BLASTING WILL CONFORM WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS. THIS IS NOT ANTICIPATED.
- 4. PRECAUTIONS WILL BE TAKEN TO PREVENT SLOPE FAILURE WHEN WORKING WITHIN LOW STRENGTH SOILS BY FLATTENING CUT / FILL SLOPES, NOT OVERLOADING, MAINTAINING LATERAL SUPPORT, AND PREVENTING SATURATION OF SOILS. USE OF THESE SOILS WILL BE AVOIDED FOR ROADWAY CONSTRUCTION.
- 5. FOR SOILS PRONE TO FLOODING, SLOW PERCOLATION, PONDING WETNESS, HAVE A SEASONAL HIGH WATER TABLE, OR ARE HYDRIC, EXCAVATIONS IN SOILS THAT HAVE THESE CHARACTERISTICS WILL LIKELY ENCOUNTER WATER, DEWATER WITH APPROPRIATE MEANS SUCH AS PUMP WATER FILTER BAGS, SEDIMENT TRAPS, ETC.
- 6. SOILS THAT HAVE THE POTENTIAL TO SWELL, SHRINK, OR HEAVE DUE TO FROST ACTION MAY CAUSE DAMAGE TO ROADWAYS OR PADS WHERE FOUNDATIONS ARE CRITICAL REMOVAL AND REPLACEMENT OF SOILS WITH SUITABLE MATERIAL MAY BE REQUIRED.
- 7. IN SOILS THAT ARE A POOR SOURCE OF TOPSOIL, DROUGHTY OR PRONE TO WETNESS, SOIL TESTING IS ENCOURAGED TO DETERMINE THE APPROPRIATE APPLICATIONS OF SOIL AMENDMENTS TO PROMOTE GROWTH. SOILS ONSITE THAT ARE FAIR SOURCES OF TOPSOIL, WILL BE IDENTIFIED, STRIPPED AND STOCKPILED FOR USE DURING RESTORATION.
- 8. FOR THOSE SOILS THAT ARE EASILY ERODIBLE, PROVIDE PROTECTIVE LINING, SEEDING AND MULCHING, EROSION CONTROL BLANKETS (ROLLS OR HYDRAULICALLY APPLIED), TRACKING SLOPES, UPSTREAM DIVERSIONS, WATERBARS, ETC., TO MINIMIZE EROSION OF THE SOILS.

	TABLE 2-SOILS MAPPING UNITS WITHIN LIMITS OF DISTURBANCE												
SOIL MAPPING UNIT	SOIL SERIES												
MsB	MORRIS CHANNERY SILT LOAM, O TO 8 PERCENT SLOPES, EXTREMELY STONY												
OpD	OQUAGA AND LORDSTOWN EXTREMELY STONY SILT LOAMS, 8 TO 25 PERCENT SLOPES												
WmB	WELLSBORO CHANNERY SILT LOAM, 3 TO 8 PERCENT SLOPES												
WIC	WELLSBORO CHANNERY SILT LOAM, 8 TO 15 PERCENT SLOPES												
WID	WELLSBORO CHANNERY SILT LOAM, 15 TO 25 PERCENT SLOPES												
WmB	WELLSBORO CHANNERY SILT LOAM, 3 TO 8 PERCENT SLOPES, EXTREMELY STONY												

			ON AN	D SEDI	MENT	CONTR	IA SOILS F OL BEST N CE NUMBER	<b>JANAG</b>	EMENT	PRAC	TICE (E	ВМР) М			TS		
SOIL NAME	SOIL WITH SLOPE CLASS	CUTBANKS CAVE	CORROSIVE TO CONCRETE/STEEL	DROUGHTY	EASILY ERODIBLE	FLOODING	DEPTH TO SATURATED ZONE/ SEASONAL HIGH WATER TABLE	HYDRIC/HYDRIC INCLUSIONS	LOW STRENGTH/ LANDSLIDE PRONE	SLOW PERCOLATION	DIING	POOR SOURCE OF TOPSOIL	FROST ACTION	SHRINK - SWELL	POTENTIAL SINKHOLE	PONDING	WETNESS
MORRIS	MsB	×	c/s	×	×		×	×	×	×		×	×				×
OQUAGA	OpD	Х	С	Х	Х			Х		X			X				
WELLSBORO	WmB, WIC, WID, WmB	X	c/s	X	X		Х	X	Х	X	X		X				X

#### CHARACTERIZATIONS OF EARTH DISTURBANCE ACTIVITIES, INCLUDING PAST, PRESENT AND PROPOSED LAND USES

THE LIMIT OF DISTURBANCE (LOD) FOR COMPRESSOR STATION 515 WILL BE APPROXIMATELY 24.83 ACRES. CONSTRUCTION ACTIVITIES AT COMPRESSOR STATION 515 WILL INVOLVE THE INSTALLATION A GRAVEL PAD, SEVERAL BUILDINGS, A NEW COMMUNICATIONS TOWER, PROPOSED BMPS AND OTHER COMPRESSOR STATION MODIFICATIONS. TRANSCO WILL USE AND IMPLEMENT THE PRACTICES, MEASURES, AND DETAILS TO CONTROL SOIL EROSION AND OFF-SITE SEDIMENTATION DURING CONSTRUCTION. USING DATA TAKEN FROM GOOGLE EARTH AND MULTI-RESOLUTION LAND CHARACTERISTICS (MRLC) CONSORTIUM WEBSITE (HTTPS://www.mrlc.gov/viewer/), IT APPEARS THAT LAND USE FOR THE PAST FEW DECADES HAS BEEN A COMPRESSOR STATION SITE. THE CONTRACTOR WILL CONSTRUCT STORMWATER BMPS TO MITIGATE THE INCREASE IN VOLUME AND PEAK RATES ASSOCIATED WITH CONSTRUCTION. THE PROPOSED BMPS ARE DESIGNED TO STORE THE NET INCREASE IN VOLUME BETWEEN THE PRE- AND POST-DEVELOPMENT 2-YEAR RAIN EVENTS. REFER TO THE STORMWATER BMP SIZING CALCULATIONS IN THE PCSM NARRATIVE FOR ADDITIONAL INFORMATION.

#### BMP DESCRIPTION NARRATIVE

CHANNELS, CULVERTS AND AN INFILTRATION BERM WILL BE INSTALLED ACROSS THE DEVELOPED AREA TO CONVEY THE NET INCREASE IN VOLUME BETWEEN THE PRE— AND POST—DEVELOPMENT 2—YEAR STORM EVENTS AND MITIGATE THE INCREASE (PRE—POST DEVELOPMENT) IN PEAK RUNOFF FOR THE 1—, 2—, 10—, 25—, 50—, AND 100—YEAR STORM EVENTS. CHANNELS WILL BE CONSTRUCTED TO DIRECT THE MAJORITY OF RUNOFF FROM THE DEVELOPED AREA TO THE INFILTRATION BERM.

#### BMP INSTALLATION SEQUENCE

THE PCSM BMPS SHOULD BE INSTALLED IN A MANNER DESIGNED TO:

- 1. PROTECT BMP AREAS ASSOCIATED WITH INFILTRATION FROM COMPACTION PRIOR TO AND DURING INSTALLATION.
- 2. MAINTAIN PROPER EROSION AND SEDIMENT CONTROL MEASURES DURING CONSTRUCTION.
- 3. SELECT PLANTS THAT ARE WELL ADAPTED TO THE SPECIFIC SITE CONDITIONS. MEADOW PLANTS MUST BE ABLE TO OUT COMPETE WEED SPECIES IN THE FIRST FEW YEARS AS THEY BECOME ESTABLISHED.
- 4. ALL TEMPORARY E&S BMPS WILL BE REMOVED FOLLOWING SITE STABILIZATION. DO NOT REMOVE OTHER EROSION AND SEDIMENT CONTROL MEASURES UNTIL SITE IS FULLY STABILIZED.
- 5. CONSTRUCT THE INFILTRATION BERM AND VEGETATED FILTER STRIP IN ACCORDANCE WITH THE PLANS: \*
- a. COMPLETE SITE GRADING AND STABILIZE WITHIN THE LIMIT OF DISTURBANCE EXCEPT WHERE THE INFILTRATION BERM WILL BE CONSTRUCTED. MAKE EVERY EFFORT TO MINIMIZE BERM FOOTPRINT AND NECESSARY ZONE OF DISTURBANCE (INCLUDING BOTH REMOVAL OF EXISTING VEGETATION AND DISTURBANCE OF EMPTY SOIL) IN ORDER TO MAXIMIZE INFILTRATION.
- b. LIGHTLY SCARIFY THE SOIL IN THE AREA OF THE PROPOSED BERM BEFORE DELIVERING SOIL TO SITE.
- c. BRING IN FILL MATERIAL TO MAKE UP THE MAJOR PORTION OF THE BERM. SOIL SHOULD BE ADDED IN 8-INCH LIFTS AND COMPACTED AFTER EACH ADDITION ACCORDING TO DESIGN SPECIFICATIONS. THE SLOPE AND SHAPE OF THE BERM SHOULD BE GRADED OUT AS SOIL IS ADDED.
- d. PROTECT THE SURFACE PONDING AREA AT THE BASE OF THE BERM AND IN THE FILTER STRIP AREA FROM COMPACTION.
  IF COMPACTION OF THIS AREA DOES OCCUR, SCARIFY THE SOIL TO A DEPTH OF AT LEAST 8 INCHES.
- e. CONSTRUCT LEVEL SPREADER AND SPILLWAY CHANNEL. STABILIZE SPILLWAY CHANNEL WITH SPECIFIED CHANNEL LINING.
- f. COMPLETE FINAL GRADING OF THE BERM AND FILTER STRIP AFTER THE TOP LAYER OF SOIL IS ADDED. TAMP SOIL DOWN LIGHTLY AND SMOOTH SIDES OF THE BERM. THE CREST AND BASE OF THE BERM SHOULD BE AT LEVEL GRADE.
- q. PLANT BERM AND FILTER STRIP WITH TURF, MEADOW PLANTS, SHRUBS OR TREES, AS DESIRED.
- h. MULCH PLANTED AND DISTURBED AREAS WITH COMPOST MULCH TO PREVENT EROSION WHILE PLANTS BECOME ESTABLISHED.
- 6. STARTING DOWNSTREAM AT THE INFILTRATION BERM, CONSTRUCT PCSM CHANNEL C5, C4, CULVERT 1, PCSM CHANNELS C1 AND LEVEL SPREADER, C2, AND C3 AS SHOWN. STABILIZE THE PCSM CHANNELS WITH THE SPECIFIED CHANNEL LININGS.\*
- 7. ALL INSTALLED BMPS WILL BE MONITORED UNTIL FINAL SITE STABILIZATION IS ACHIEVED.\*
- 8. FOLLOW LONG TERM OPERATION AND MAINTENANCE GUIDELINES DISCUSSED BELOW.

\*PORTIONS OF THE BMP INSTALLATION SEQUENCE DENOTED WITH AN ASTERISK (\*) ABOVE ARE CRITICAL STAGES AS DISCUSSED ON THIS SHEET.

#### SEEDING AND MULCHING:

THE CONSTRUCTION SITE SHOULD BE STABILIZED AS SOON AS POSSIBLE AFTER CONSTRUCTION IS COMPLETED. ESTABLISHMENT OF TEMPORARY COVER MUST TAKE PLACE WITHIN 4 DAYS OF CESSATION OF WORK. TEMPORARY EROSION AND SEDIMENTATION CONTROL BMPS CAN BE REMOVED WHEN THE SITE MEETS FINAL STABILIZATION. FINAL STABILIZATION MEANS THAT ALL SOIL—DISTURBING ACTIVITIES ARE COMPLETED, AND THAT A PERMANENT VEGETATIVE COVER WITH A DENSITY OF 70% OR GREATER HAS BEEN ESTABLISHED OR THAT HARD COVER SUCH AS PAVEMENT OR BUILDINGS HAS STABILIZED THE SURFACE. IT SHOULD BE NOTED THAT THE 70% REQUIREMENT REFERS TO THE TOTAL AREA VEGETATED AND NOT JUST A PERCENT OF THE SITE. NO HAY OR STRAW MULCH SHALL BE PLACED ON WATERBODY BANKS. AT A MINIMUM, ALL WATERBODY BANKS SHALL BE COVERED WITH EROSION CONTROL BLANKET. IN ADDITION, ONLY STRAW MULCH SHALL BE USED IN AREAS ADJACENT TO WETLANDS.

#### TEMPORARY REVEGETATION

AFTER GRADING AND EXCAVATION IS COMPLETED WITHIN AN AREA, VEGETATION WILL BE SOWN PROMPTLY AFTER CEASING EARTHWORK IN THOSE AREAS. HAY, STRAW MULCH, OR OTHER SIMILAR MATERIAL WILL BE APPLIED TO NEWLY SEEDED AREAS TO PROTECT AGAINST EROSION UNTIL THE VEGETATION IS ESTABLISHED. HAY, STRAW MULCH, OR OTHER SIMILAR MATERIAL SHALL BE APPLIED AT A RATE OF AT LEAST 3 TONS PER ACRE. EROSION CONTROL BLANKET SHALL BE USED ON STREAM BANKS. NO HAY OR STRAW, MULCH OR BLANKET SHALL BE UTILIZED IN WETLAND AREAS.

#### PERMANENT SEEDING AND MULCHING

THE SOIL AMENDMENTS SHOWN IN TABLE 11.2

TOPSOIL WILL BE REPLACED PRIOR TO STABILIZATION. DISTURBED AREAS SHALL BE SEEDED WITH A MIXTURE AS OUTLINED IN THE DETAILS PAGES OF THE EROSION AND SEDIMENT CONTROL PLAN SET. APPLY LIME AND FERTILIZER IN ACCORDANCE WITH SOIL TEST RECOMMENDATIONS OR AS OUTLINED IN THE BELOW TABLE. HAY, STRAW MULCH, OR OTHER SIMILAR MATERIAL SHALL BE APPLIED AT A RATE OF AT LEAST 3 TONS PER ACRE.

	TABLE 11.2	SOIL AMENDMENT	APPLICATION RA	TE EQUIVALENTS									
COIL AMENDMENT	PERMANE	NT SEEDING APPL	ICATION RATE	NOTES									
SOIL AMENDMENT	PER ACRE	PER 1,000 SF	PER 1,000 SY	NOTES									
AGRICULTURAL LIME	6 TONS	20 LBS.	2,480 LBS.	OR AS PER SOIL TEST; MAY NOT BE REQ. IN AGRICULTURAL FIELDS									
10-20-20 FERTILIZER	1,000 LBS.	25 LBS.	210 LBS.	OR AS PER SOIL TEST; MAY NOT BE REQ. IN AGRICULTURAL FIELDS									
	TEMPORAI	RY SEEDING APPL	ICATION RATE										
AGRICULTURAL LIME	1 TON	4 LBS.	410 LBS.	TYP. NOT REQ. FOR TOPSOIL STOCKPILES									
10-10-10 FERTILIZER	500 LBS.	12.5 LBS.	100 LBS.	TYP. NOT REQ. FOR TOPSOIL STOCKPILES									
·													

ADAPTED FROM PENN STATE, "EROSION CONTROL AND CONSERVATION PLANTINGS ON NONCROPLAND"

NOTE: A COMPOST BLANKET WHICH MEETS THE STANDARDS OF THIS CHAPTER MAY BE SUBSTITUTED FOR

				T/	ABLE 11.3					
			Plant	Tolerances	of Soil Limitati	on Factors				
			Tol	erates			Minim	um Seed Sp	ecifications3	
Species	Growth Habit1	Wet Soil	Dry Site	Low Fertility	Acid Soil (Ph 5-5.5)2	Purity (%)	Ready Germ (%)	Hard Seed (%)	Total Germ (%)	Seeds/lb (1,000s)
Deertongue Weeping lovegrass	bunch bunch	yes no	yes yes	yes yes	yes yes	95 97	75 75		75 75	250 1,500
Switchgrass4 Big bluestem	bunch bunch	yes no	yes yes	yes yes	yes yes			PLS) PLS)		390 150
Cool-Season Grasses										
Redtop	sod	yes	yes	yes	yes	92	80		80	5,000
Fine fescues Perennial ryegrass	sod bunch	no yes	no no	yes no	no no	95 95	80 85		80 85	400 227
Annual ryegrass Kentucky bluegrass	bunch sod	yes no	no no	yes no	no no	95 85	85 75		85 75	227 2,200
Reed canarygrass Orchardgrass	sod bunch	yes yes	yes yes	yes yes	no yes	95 95	70 80		70 80	520 654
Timothy Smooth bromegrass	bunch sod	yes no	no yes	yes yes	yes no	95 95	80 80		80 80	1,230 136
Legumes5										
Birdsfoot trefoil6	bunch	yes	no	yes	yes	98	60	20	80	400
Flatpea Serecia lespedeza	sod bunch	no no	no yes	yes yes	yes yes	98 98	55 60	20 20	75 80	10 335
Cereals										
Winter wheat Winter rye	bunch bunch	no no	no no	no yes	no yes	98 98	85 85		85 85	15 18
Spring oats Sundangrass	bunch bunch	no no	no yes	no no	no no	98 98	85 85		85 85	13 55
Japanese millet	bunch	yes	no	yes	yes	98	80		80	155

- GROWTH HABIT REFERS TO THE ABILITY OF THE SPECIES TO EITHER FORM A DENSE SOD BY VEGETATIVE MEANS (STOLONS, RHIZOMES, OR ROOTS) OR REMAIN IN A BUNCH OR SINGLE PLANT FORM. IF SEEDED HEAVILY ENOUGH, EVEN BUNCH FORMERS CAN PRODUCE A VERY DENSE STAND. THIS IS SOMETIMES CALLED A SOD, BUT NOT IN THE SENSE OF A SOD FORMED BY VEGETATIVE MEANS.
- <sup>2</sup> ONCE ESTABLISHED, PLANS MAY GROW AT A SOMEWHAT LOWER pH, BUT COVER GENERALLY IS ONLY ADEQUATE AT pH 6.0 OR ABOVE.
- MINIMUM SEED LOTS ARE TRULY MINIMUM, AND SEED LOTS TO BE USED FOR REVEGETATION PURPOSES SHOULD EQUAL OR EXCEED THESE STANDARDS. THUS, DEERTONGUE GRASS SHOULD GERMINATE 75% OR BETTER. COMMONLY, SEED LOTS ARE AVAILABLE THAT EQUAL OR EXCEED MINIMUM SPECIFICATIONS. REMEMBER THAT DISTURBED SITES ARE ADVERSE FOR PLAN ESTABLISHMENT. READY GERMINATION REFERS TO SEED THAT GERMINATES DURING THE PERIOD OF THE GERMINATION TEST AND THAT WOULD BE EXPECTED, IF CONDITIONS ARE FAVORABLE, TO GERMINATE RAPIDLY WHEN PLANTED. THE OPPOSITE OF READY GERMINATION IS DORMANT SEED, OF WHICH HARD SEED IS ONE TYPE.
- 4 SWITCHGRASS SEED IS SOLD ONLY IN THE BASIS OF PLS.
- <sup>5</sup> NEED SPECIFIC LEGUME INOCULATE. INOCULATE SUITABLE FOR GARDEN PEAS AND SWEETPEAS USUALLY IS SATISFACTORY FOR FLATPEA.
- <sup>6</sup> BIRDSFOOT TREFOIL IS ADAPTED OVER THE ENTIRE STATE, EXCEPT IN THE EXTREME SOUTHEAST WHERE CROWN AND ROOT ROTS MAY INJURE STANDS.

ERNST RIPARIAN BUFFER MIX - ERNMX 178

PERCENTAGE OF MIX COMPOSITION	SCIENTIFIC NAME	COMMON NAME
30.0%	PANICUM CLANDESTINUM	DEERTONGUE
20.0%	ELYMUS VIRGINICUS	VIRGINIA WILDRYE
11.8%	ANDROPOGON GERARDII	BIG BLUESTEM
10.5%	SORGHASTRUM NUTANS	INDIANAGRASS
5.0%	PANICUM VIRGATUM	SWITCHGRASS
4.0%	CHAMAECRISTA FASCICULATA	PARTRIDGE PEA
4.0%	VERBENA HASTATA	BLUE VERVAIN
3.0%	JUNCUS EFFUSUS	SOFT RUSH
3.0%	RUDBECKIA HIRTA	BLACKEYED SUSAN
2.0%	HELIOPSIS HELIANTHOIDES	OXEYE SUNFLOWER
1.0%	ASCLEPIAS INCARNATA	SWAMP MILKWEED
0.7%	ASTER NOVAE-ANGLIAE	NEW ENGLAND ASTER
0.7%	ASTER UMBELLATUS	FLAT TOPPED WHITE ASTER
0.7%	EUPATORIUM PERFOLIATUM	BONESET
0.5%	AGRO STIS PERENNANS	AUTUMN BENTGRASS
0.5%	HELENIUM AUTUMNALE	COMMON SNEEZEWEED
0.5%	MO NARDA FISTULOSA	WILD BERGAMOT
0.5%	VERNO NIA NO VEBO RACENSIS	NEW YORK IRONWEED
0.4%	PYCNANTHEMUM TENUIFOLIUM	NARROWLEAF MOUNTAINMINT
0.4%	SOLIDAGO PATULA	ROUGHLEAF GOLDENROD
0.3%	EUPATORIUM FISTULOSUM	JOE PYE WEED
0.3%	LOBELIA SIPHILITICA	GREAT BLUE LOBELIA

1. SEEDING RATE: 20 LBS/ACRE WITH THE FOLLOWING NURSE CROPS: DRY SITES — GRAIN OATS, JAN 1 TO AUG 1; OR, GRAIN RYE, AUG TO JAN 1; MOIST SITES — GRAIN RYE YEAR ROUND.

PURPLESTEM ASTER

2. THIS SEED MIX IS TO BE USED TO REVEGETATE WORKSPACE WITHIN THE DESIGNATED RIPARIAN BUFFER AREA WHERE SLOPES ARE LESS THAN 10%. IF THE SLOPE EXCEEDS 10%, A STANDARD UPLAND ROW MIX SHOULD BE USED.

ASTER PUNICUES

3. AN ALTERNATIVE SEED MIXTURE THAT CONTAINS SIMILAR SPECIES IS ACCEPTABLE.

	TABLE 11.4		
	Recommended Seed N	/lixtures	
Mixture		Seeding Rate	-Pure Live Seed <sup>1</sup>
Number	Species	Most Sites	Adverse Sites
1 <sup>2</sup>	Spring oats (spring), or Annual ryegrass (spring or fall), or Winter Wheat (fall), or Winter rye (fall)	64 10 90 56	Adverse Sites  96 15 120 1112  40 30 3 20 10 20 10 20 20 10 30 35 10
2 <sup>3</sup>	Fine fescue, or Kentucky bluegrass, plus Redtop <sup>4</sup> , or Perennial ryegrass	35 25 3 15	30
3	Birdsfoot trefoil, plus Tall fescue	6 30	
11	Deertongue, plus Birdsfoot trefoil	15 6	
12 <sup>5</sup>	Switchgrass, or big Bluestem, plus Birdsfoot trefoil	15 15 6	20
13	Orchardgrass, plus Smooth bromegrass, plus Birdsfoot trefoil	20 25 6	35

#### PENN STATE, "EROSION CONTROL AND CONSERVATION PLANTINGS ON NONCROPLAND"

- 1. PLS IS THE PRODUCT OF THE PERCENTAGE OF PURE SEED TIMES PERCENTAGE GERMINATION DIVIDED BY 100. FOR EXAMPLE, TO SECURE THE ACTUAL PLANTING RATE FOR SWITCHGRASS, DIVIDE 12 POUNDS PLS SHOWN ON THE SEED TAG. THUS, IF THE PLS CONTENT OF A GIVEN SEED LOT IS 35%, DIVIDE 12 PLS BY 0.35 TO OBTAIN 34.3 POUNDS OF SEED REQUIRED TO PLANT ONE ACRE. ALL MIXTURES IN THIS TABLE ARE SHOWN IN TERMS OF PLS.
- 2. IF HIGH-QUALITY SEED IS USED, FOR MOST SITES SEED SPRING OATS AT A RATE OF 2 BUSHELS PER ACRE, WINTER WHEAT AT 11.5 BUSHELS PER ACRE, AND WINTER RYE AT 1 BUSHEL PER ACRE. IF GERMINATION IS BELOW 90%, INCREASE THESE SUGGESTED SEEDING RATES BY 0.5 BUSHEL PER ACRE.
- 3. THIS MIXTURE IS SUITABLE FOR FREQUENT MOWING. DO NOT CUT SHORTER THAN 4 INCHES.
- 4. KEEP SEEDING RATE TO THAT RECOMMENDED IN TABLE. THESE SPECIES HAVE MANY SEEDS PER POUND AND ARE VERY COMPETITIVE. TO SEED SMALL QUANTITIES OF SMALL SEEDS SUCH AS WEEPING LOVEGRASS AND REDTOP, DILUTE WITH DRY SAWDUST, SAND, RICE HULLS, BUCKWHEAT HULLS, ETC.
- 5. DO NOT MOW SHORTER THAN 9 TO 10 INCHES.

#### PCSM CRITICAL STAGES

- CRITICAL POINTS REQUIRING VISITS BY THE LICENSED PROFESSIONAL OR DELEGATE ARE AS FOLLOWS:
- 1. FOLLOWING INSTALLATION OF THE PAD SUBGRADE TO ENSURE STORMWATER FLOW IS DIRECTED TO THE INFILTRATION BMPS.
- 2. PRIOR TO CONSTRUCTION TO ENSURE THE AREA OF THE INFILTRATION BERM AND VEGETATED FILTER STRIP HAS NOT BEEN IMPACTED BY CONSTRUCTION ACTIVITIES.
- DURING CONSTRUCTION OF THE INFILTRATION BERM AND VEGETATED FILTER STRIP TO ENSURE COMPLIANCE WITH CONSTRUCTION REQUIREMENTS.
- 4. FOLLOWING FINAL GRADING AND SEEDING OF THE PCSM CHANNELS, INFILTRATION BERM AND VEGETATED FILTER STRIP IN ORDER TO CONFIRM THEY HAVE BEEN CONSTRUCTED ACCORDING TO THE PLAN DETAILS FOR PROPER COLLECTION, INFILTRATION, AND CONVEYANCE OF RUNOFF. PERIODIC ASSESSMENTS WILL NEED TO BE MADE TO ENSURE THAT ACCUMULATED SEDIMENT SHOULD BE CLEANED OUT SO THE CHANNELS AND BERM MAINTAIN NECESSARY DESIGN
- 5. FOR FINAL INSPECTION OF CONSTRUCTED BMPS.
- 6. AT THE ESTABLISHMENT OF HARD SURFACE STABILIZATION OR 70% VEGETATION COVERS TO ALLOW REMOVAL OF E&S CONTROLS.

#### LONG TERM OPERATION AND MAINTENANCE SCHEDULE

ALL BMPS SHOULD BE PROPERLY MAINTAINED TO ENSURE THEIR EFFECTIVENESS. SHEET FLOW CONDITIONS AND INFILTRATION MUST BE SUSTAINED THROUGHOUT THE LIFE OF THE BMP. BMPS SHOULD BE INSPECTED FOR CLOGGING FROM SEDIMENT OF DEBRIS, DAMAGE BY FOOT OR VEHICULAR TRAFFIC, AND FLOW CHANNELIZATION. INSPECTIONS SHOULD BE MADE ON A QUARTERLY BASIS FOR THE FIRST TWO YEARS FOLLOWING INSTALLATION, AND THEN TWICE PER YEAR THEREAFTER. INSPECTIONS SHOULD ALSO BE MADE AFTER EVERY STORM EVENT GREATER THAN 1 INCH DURING THE ESTABLISHMENT PERIOD.

CHANNEL LININGS SHOULD BE INSPECTED FOR SIGNS OF EROSION OR DISLODGING, AS APPLICABLE. CHANNELS SHOULD BE INSPECTED FOR DEBRIS, OVERGROWN VEGETATION, AND OTHER BLOCKAGES. CULVERTS AND TRENCH DRAINS SHOULD BE INSPECTED AT LEAST TWO TIMES PER YEAR AND AFTER RUNOFF EVENTS AND CLEANED AS NEEDED. VEGETATION ALONG THE SURFACE OF THE INFILTRATION BERM AND VEGETATED FILTER STRIP SHOULD BE MAINTAINED IN GOOD CONDITIONS. VEHICLES SHOULD NOT PARK OR DRIVE ON AN INFILTRATION BERM OR VEGETATIVE FILTER STRIP AND CARE SHOULD BE TAKEN TO AVOID EXCESSIVE COMPACTION BY MOWERS. INSPECT THE BERM AFTER RUNOFF EVENTS AND MAKE SURE THAT RUNOFF DRAINS WITHIN 72 HOURS.

OPERATION AND MAINTENANCE GUIDELINES SHOULD BE PROVIDED TO FACILITY OWNER. SEDIMENT AND DEBRIS SHOULD BE ROUTINELY REMOVED UPON OBSERVATION. IF EROSION IS OBSERVED, MEASURES SHOULD BE TAKEN TO IMPROVE THE DISPERSION METHOD TO ADDRESS THE SOURCE OF EROSION. SEDIMENT SHOULD BE REMOVED WHEN THE BMP IS THOROUGHLY DRY. TRASH AND DEBRIS REMOVED FROM THE SITE SHOULD BE DEPOSITED ONLY AT SUITABLE DISPOSAL/RECYCLING SITES AND MUST COMPLY WITH APPLICABLE LOCAL, STATE, AND FEDERAL WASTE REGULATIONS. GRASS COVER SHOULD BE MOWED WITH LOW GROUND PRESSURE EQUIPMENT ANNUALLY TO CONTROL NOXIOUS WEEDS. MOWING SHOULD BE DONE ONLY WHEN THE SOIL IS DRY IN ORDER TO PREVENT TRACKING DAMAGE TO VEGETATION, SOIL COMPACTION, AND FLOW CONCENTRATIONS. IF VEGETATIVE COVER IS NOT FULLY ESTABLISHED WITHIN THE DESIGNATED TIME, IT SHOULD BE REPLACED WITH AN ALTERNATIVE SPECIES. UNWANTED OR INVASIVE GROWTH SHOULD BE REMOVED ON AN ANNUAL BASIS.

VEGETATED AREAS WILL BE INSPECTED WEEKLY AND AFTER RUNOFF EVENTS UNTIL PERMANENT VEGETATION IS ACHIEVED. ONCE THE VEGETATION IS ESTABLISHED, INSPECTIONS OF HEALTH, DIVERSITY, AND DENSITY SHOULD BE PERFORMED AT LEAST TWICE PER YEAR, DURING BOTH THE GROWING AND NON-GROWING SEASON. VEGETATIVE COVER SHOULD BE SUSTAINED AT 85% AND REESTABLISHED IF DAMAGE GREATER THAN 50% IS OBSERVED. DAMAGED BMPS WILL BE REPAIRED AS SOON AS POSSIBLE UPON DISCOVERY. REPAIRS WILL BE MADE TO RESTORE DAMAGED BMPS TO THE ORIGINAL DESIGN CONDITION.

THE VEGETATED FILTER STRIP SHOULD BE PROPERLY MAINTAINED TO ENSURE THEIR EFFECTIVENESS. SEDIMENT AND DEBRIS SHOULD BE ROUTINELY REMOVED (BIANNUALLY AT MINIMUM), OR UPON OBSERVATION, WHEN BUILDUP EXCEEDS 2 INCHES IN DEPTH OVER THE FILTER STRIP. IF EROSION IS OBSERVED, MEASURES SHOULD BE TAKEN TO MAINTAIN SHEET FLOW OVER THE FILTER STRIP. RE-GRADING MAY ALSO BE REQUIRED WHEN POOLS OF STANDING WATER ARE OBSERVED ALONG THE SLOPE. GRASS COVER SHOULD BE MOWED, WITH LOW GROUND PRESSURE EQUIPMENT, AS NEEDED TO MAINTAIN A HEIGHT OF 4-6 INCHES. MOWING WILL BE PERFORMED ANNUALLY. UNWANTED OR INVASIVE GROWTH SHOULD BE REMOVED ON AN ANNUAL BASIS. ALL MAINTENANCE/MOWING SHALL BE PERFORMED WHEN THE SOIL IS DRY, TO PREVENT TRACKING DAMAGE, SOIL COMPACTION, AND FLOW CONCENTRATIONS.

TRANSCONTINENTAL GAS PIPELINE COMPANY, LLC. WILL BE RESPONSIBLE FOR THE LONG TERM OPERATION AND MAINTENANCE OF THE POST—CONSTRUCTION STORMWATER MANAGEMENT FACILITIES PROPOSED AT THE SITE.

LAWN AND TURFGRASS MIX OPTION										
APPLICATION RATE - 75-150LBS/ACRE OR 3-5LBS/1000SQFT OF ERNMX-113										
COMMERCIAL CONSERVATION MIX (ERNMX-181)										
PERCENT	SCIENTIFIC NAME	COMMON NAME								
25.00	FESTUCA RUBRA	CREEPING RED FESCUE								
25.00	LOLIUM MULTIFLORUM	ANNUAL RYEGRASS								
25.00	LOLIUM PERENNE	'BLACKSTONE' PERENNIAL RYEGRASS								
25.00	LOLIUM PERENNE	'CONFETTI III' PERENNIAL RYEGRASS								

\* OR EQUIVALENT MIXTURE. FOR USE IN HIGH-TRAFFIC AREAS IN LAWN/TURFGRASS SETTINGS

#### MATERIAL RECYCLING AND DISPOSAL

IF THE SITE WILL NEED TO HAVE FILL IMPORTED FROM AN OFF—SITE LOCATION, THE RESPONSIBILITY FOR PERFORMING ENVIRONMENTAL DUE DILIGENCE AND THE DETERMINATION OF CLEAN FILL WILL IN MOST CASES RESIDE WITH THE OPERATOR.

IF THE SITE WILL HAVE EXCESS FILL THAT WILL NEED TO BE EXPORTED TO AN OFF—SITE LOCATION, THE RESPONSIBILITY

IF ALL CUT AND FILL MATERIALS WILL BE USED ON THE SITE, A CLEAN FILL DETERMINATION IS NOT REQUIRED BY THE OPERATOR UNLESS THERE IS A BELIEF THAT A SPILL OR RELEASE OF A REGULATED SUBSTANCE OCCURRED ON SITE.

OF CLEAN FILL DETERMINATION AND ENVIRONMENTAL DUE DILIGENCE RESTS ON THE APPLICANT.

APPLICANTS AND/OR OPERATORS MUST USE ENVIRONMENTAL DUE DILIGENCE TO ENSURE THAT THE FILL MATERIAL ASSOCIATED WITH THIS PROJECT QUALIFIES AS CLEAN FILL. DEFINITIONS OF CLEAN FILL AND ENVIRONMENTAL DUE DILIGENCE ARE PROVIDED BELOW. ALL FILL MATERIAL MUST BE USED IN ACCORDANCE WITH THE DEPARTMENT'S POLICY "MANAGEMENT OF FILL", DOCUMENT NUMBER 258 2182 773. A COPY OF THIS POLICY IS AVAILABLE ONLINE AT WWW.DEPWEB.STATE.PA.US.

CLEAN FILL IS DEFINED AS: UNCONTAMINATED, NON-WATER SOLUBLE, NON-DECOMPOSABLE, INERT, SOLID MATERIAL. THE TERM INCLUDES SOIL, ROCK, STONE, DREDGED MATERIAL, USED ASPHALT, AND BRICK, BLOCK OR CONCRETE FROM CONSTRUCTION AND DEMOLITION ACTIVITIES THAT IS SEPARATE FROM OTHER WASTE AND IS RECOGNIZABLE AS SUCH. THE TERM DOES NOT INCLUDE MATERIALS PLACED IN OR ON THE WATERS OF THE COMMONWEALTH UNLESS OTHERWISE AUTHORIZED. (THE TERM "USED ASPHALT" DOES NOT INCLUDE MILLED ASPHALT OR ASPHALT THAT HAS BEEN PROCESSED FOR RE-USE.).

ENVIRONMENTAL DUE DILIGENCE: INVESTIGATIVE TECHNIQUES, INCLUDING, BUT NOT LIMITED TO, VISUAL PROPERTY INSPECTIONS, ELECTRONIC DATA BASE SEARCHES, REVIEW OF PROPERTY OWNERSHIP, REVIEW OF PROPERTY USE HISTORY, SANBORN MAPS, ENVIRONMENTAL QUESTIONNAIRES, TRANSACTION SCREENS, ANALYTICAL TESTING, ENVIRONMENTAL ASSESSMENTS OR AUDITS. ANALYTICAL TESTING IS NOT A REQUIRED PART OF DUE DILIGENCE UNLESS VISUAL INSPECTION AND/OR REVIEW OF THE PAST LAND USE OF THE PROPERTY INDICATES THAT THE FILL MAY HAVE BEEN SUBJECTED TO A SPILL OR RELEASE OF REGULATED SUBSTANCE. IF THE FILL MAY HAVE BEEN AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE, IT MUST BE TESTED TO DETERMINE IF IT QUALIFIES AS CLEAN FILL. TESTING SHOULD BE PERFORMED IN ACCORDANCE WITH APPENDIX A OF THE DEPARTMENT'S POLICY "MANAGEMENT OF FILL".

FILL MATERIAL THAT DOES NOT QUALIFY AS CLEAN FILL IS REGULATED FILL. REGULATED FILL IS WASTE AND MUST BE MANAGED IN ACCORDANCE WITH THE DEPARTMENT'S MUNICIPAL OR RESIDUAL WASTE REGULATIONS BASED ON 25 PA. CODE CHAPTERS 287 RESIDUAL WASTE MANAGEMENT OR 271 MUNICIPAL WASTE MANAGEMENT, WHICHEVER IS APPLICABLE.

#### THERMAL IMPACTS

THERMAL IMPACTS TO SURFACE WATERS ARE NOT ANTICIPATED. MOST OF THE STORMWATER WILL BE ROUTED THROUGH THE STORMWATER BMP DESIGNED TO RETAIN AND INFILTRATE THE FIRST SURGE OF WATER FROM THE SITE. THE FIRST SURGE OF WATER WILL BE THE WARMEST WATER FOR THE DURATION OF THE STORM EVENT AND WILL QUICKLY COOL AS THE STORM EVENT PROGRESSES. THE BMPS ARE DESIGNED TO CAPTURE AND INFILTRATE THIS WARMEST SURGE OF STORMWATER. BASED ON ROUTING CALCULATIONS, STORMWATER IS RETAINED IN THE BMPS FOR A PERIOD OF 12 HOURS BEFORE BEING DISCHARGED DURING A 100-YEAR/24-HOUR STORM EVENT. THIS RETENTION PERIOD IS LONGER FOR LESS INTENSE STORMS. THEREFORE, AS A RESULT OF THESE MEASURES, NO SIGNIFICANT THERMAL IMPACT TO THE RECEIVING WATERS IS ANTICIPATED.

#### ANTIDEGRADATION REQUIREMENTS

EXISTING COMPRESSOR STATION 515 IS LOCATED WITHIN A HQ-CWF WATERSHED, THEREFORE IMPACTS TO A HQ-CWF WATERSHED ARE UNAVOIDABLE. TRANSCO DETERMINED THERE ARE NO COST-EFFECTIVE AND ENVIRONMENTALLY SOUND VIABLE NON-DISCHARGE ALTERNATIVES FOR THE PROJECT.

EARTH DISTURBANCE WILL BE MINIMIZED TO THE EXTENT PRACTICAL AND WILL BE PHASED OR SEQUENCED TO ONLY

DISTURBED PORTIONS THAT ARE NECESSARY FOR THE SPECIFIC SCOPE OF WORK. WHERE POSSIBLE, THE LOD WAS

DECREASED TO AVOID ADDITIONAL DISTURBANCE TO THE EXTENT PRACTICAL.

ANTI-DEGRADATION BEST AVAILABLE COMBINATION OF TECHNOLOGIES (ABACT) STANDARDS HAVE BEEN PROPOSED FOR COMPRESSOR STATION 515 BECAUSE THERE ARE NO VIABLE NON-DISCHARGE ALTERNATIVES. THE EROSION AND SEDIMENT

STANDARDS.

THE COMPRESSOR STATION 515 IS LOCATED IN HQ WATERSHEDS AND CONSTRUCTION ACTIVITIES IN THESE AREAS WILL RESULT IN INCREASED DISCHARGE OF STORMWATER TO SURFACE WATERS WHICH WILL BE MITIGATED BY THE IMPLEMENTATION OF POST CONSTRUCTION STORMWATER MANAGEMENT (PCSM) BMP'S. PROPOSED PCSM BMPS ARE DESIGNED WITH STORMWATER VOLUME REDUCTION AND WATER QUALITY TREATMENT MAXIMIZED TO THE EXTENT PRACTICABLE WITHIN

THE SITE CONSTRAINTS TO MAINTAIN AND PROTECT EXISTING WATER QUALITY AND EXISTING AND DESIGNATED USES.

CONTROL PLAN PREPARED FOR THE PROJECT OUTLINES A MORE STRINGENT DESIGN AND E&S BMPS THAT MEET ABACT

#### RIPARIAN BLIFFERS

NO RIPARIAN BUFFERS ARE LOCATED AT COMPRESSOR STATION 515. CS515 CONTRACTOR YARD IS LOCATED WITHIN A RIPARIAN BUFFER. NO TREE CLEARING IS PROPOSED WITHIN THE BUFFER.

#### NON-STRUCTURAL AND STRUCTURAL WATER QUALITY BMP DESCRIPTION

LIMIT OF DISTURBANCE WILL BE MINIMIZED TO THE MAXIMUM EXTENT POSSIBLE BY DISTURBING ONLY THOSE AREAS NECESSARY TO COMPLETE THE PROPOSED EARTHWORK AND BMP INSTALLATIONS.

SENSITIVE FEATURES SUCH AS WETLANDS AND RIPARIAN BUFFERS WILL BE PROTECTED TO THE MAXIMUM EXTENT POSSIBLE. THESE AREAS WILL BE CLEARLY DELINEATED IN THE FIELD AND PROTECTED PRIOR TO ANY CONSTRUCTION ACTIVITIES TAKING PLACE. EXISTING VEGETATION IS NOT TO BE REMOVED FROM THE PROTECTED AREA AND THE AREAS SHALL NOT BE SUBJECT TO GRADING OR MOVEMENT OF EXISTING SOILS. ANY PROTECTED AREAS THAT HAVE BEEN DISTURBED/COMPACTED DURING CONSTRUCTION WILL BE RESTORED USING SOIL AMENDMENT AND RESTORATION.

TEMPORARILY IMPACTED RIPARIAN BUFFER WILL BE FULLY RESTORED TO ITS PREEXISTING CONDITIONS. DISTURBED AREAS THAT ARE NOT PROPOSED TO BE IMPERVIOUS WILL BE REVEGETATED AS PER THE SEEDING AND MULCHING NOTES PROVIDED IN PCSM PLAN NOTES.

#### THE PCSM PLAN SHALL BE PREPARED BY A PERSON TRAINED AND EXPERIENCED IN EROSION CONTROL METHODS AND TECHNIQUES

THESE PLANS AND NARRATIVE WERE PREPARED BY BY PATRICK WOZINSKI, PE (BAI GROUP, LLC) OF STATE COLLEGE, PA IN ACCORDANCE WITH THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION STORMWATER BMP MANUAL, DECEMBER, 2006. THE PLAN PREPARER'S RESUME IS PROVIDED IN THE PERMIT APPLICATION.

STEEP SLOPE MIX OPTION									
APPLICATION RATE - 60LBS/ACRE OR 1.5LBS/1000sqft OF ERNMX-181									
NATIVE ST	ASS (ERNMX-181)								
PERCENT	SCIENTIFIC NAME	COMMON NAME							
31.10	SORGHASTRUM NUTANS	iNDIANGRASS							
20.00	LOLIUM MULTIFLORUM	ANNUAL RYEGRASS							
14.00	ANDROPOGON GERADII	BIG BLUESTEM							
10.00	ELYMUS VIRGINICUS	VIRGINIA WILDRYE							
7.00	ELYMUS CANADENSIS	CANADA WILDRYE							
4.00	AGROSTIS PERENNANS	AUTUMN BENTGRASS							
3.00	PANICUM CLANDESTINUM	DEERTONGUE							
1.50	ECHINACEA PURPUREA	PURPLE CONEFLOWER							
1.30	CHAMAECRISTA FASCICULATA	PARTRIDGE PEA							
1.20	HELIOPSIS HELIANTHOIDES	OXEYE SUNFLOWER							
1.00	COREOPSIS LANCEOLATA	LANCELEAF COREOPSIS							
1.00	RUDBECKIA HIRTA	BLACKEYED SUSAN							
0.30	MONARDA FISTULOSA	WILD BERGAMONT							
0.20	ASCLEPIAS SYRIACA	COMMON MILKWEED							
0.20	SOLIDAGO RUGOSA	WRINKLELEAF GOLDENROD							
0.10	ASTER LATERIFLORUS	CALICO ASTER							
0.10	ASTER PILOSUS	HEATH ASTER							

<sup>\*</sup> OR EQUIVALENT MIXTURE

\*\* SIMILAR MIXES WITH COVER CROP OF OATS (ERNST 181-1) OR GRAIN RYE (ERNST 181-2) OR EQUIVALENT COULD BE SUBSTITUTED.



TRICK A. WOZINSKI, P.E.	1 06/29/21 RHM REVISED PER PADEP COMMENTS. 2 03/01/22 RHM RESPONSE TO PADEP TECHNICAL DEFICIENCY LETTER						
MULLIA	NO.	DATE	BY	DESCRIPTION	W.O. NO.	CHK.	APP.
TO NAME OF THE PARTY OF THE PAR	1	06/29/21	RHM	REVISED PER PADEP COMMENTS.			
MEGISTERED	2	03/01/22	RHM	RESPONSE TO PADEP TECHNICAL DEFICIENCY LETTER			
PROFESSIONAL ANTE							
ICK A. WOZINSKI							
LENGINEER TITA							
PE078243							
VANIA PROFESSIONAL ENGINEER							

## TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC REGIONAL ENERGY ACCESS EXPANSION PROJECT COMPRESSOR STATION 515 POST CONSTRUCTION STORMWATER MANAGEMENT PLAN

NOTES

BUCK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA

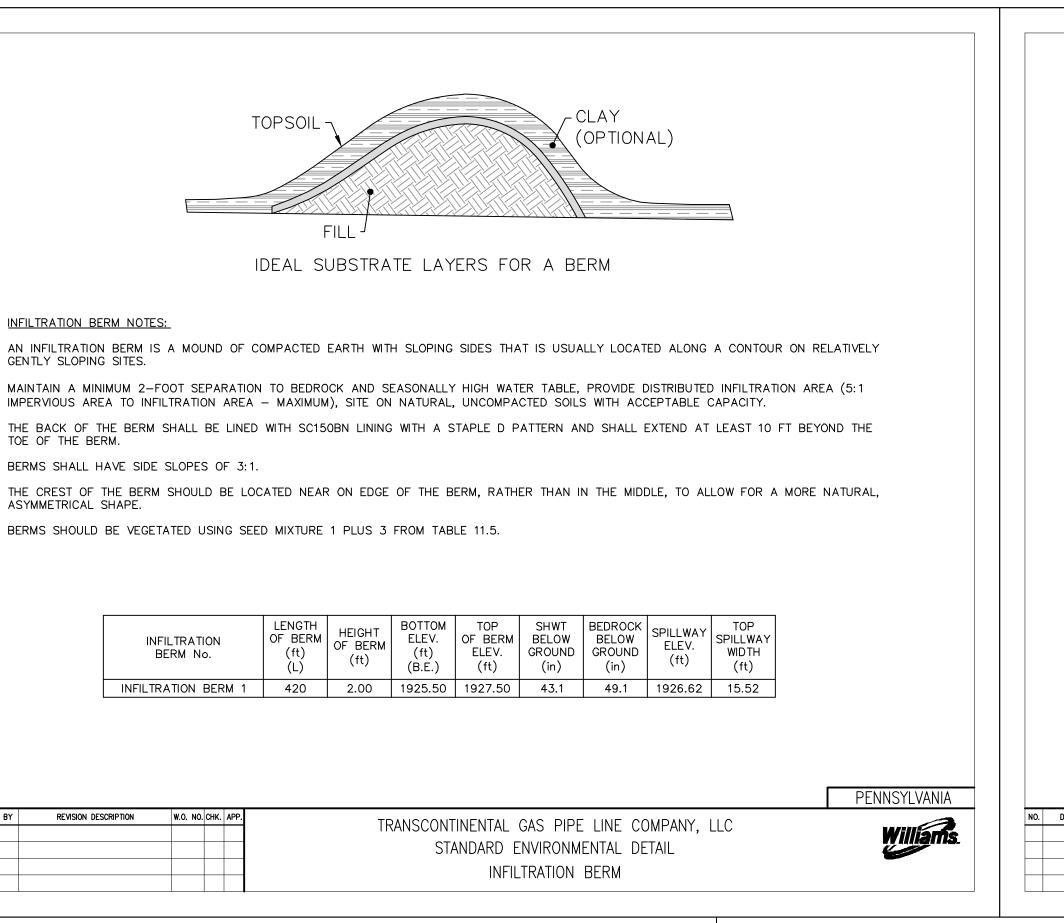
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 305
 NUMBER:
 26-1000-70-28-D
 OF
 6



(OPTIONAL)

BOTTOM TOP SHWT BEDROCK SPILLWAY

ELEV. | GROUND | GROUND |

(in)

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC

STANDARD ENVIRONMENTAL DETAIL

INFILTRATION BERM

SPILLWAY

(ft)

ELEV.

(ft)

(in)

OF BERM | BELOW | BELOW

(ft)

420 | 2.00 | 1925.50 | 1927.50 | 43.1 | 49.1 | 1926.62 | 15.52

IDEAL SUBSTRATE LAYERS FOR A BERM

IMPERVIOUS AREA TO INFILTRATION AREA - MAXIMUM), SITE ON NATURAL, UNCOMPACTED SOILS WITH ACCEPTABLE CAPACITY.

HEIGHT

OF BERM

OF BERM /

ELEV.

(B.É.)

INFILTRATION BERM NOTES:

BERMS SHALL HAVE SIDE SLOPES OF 3:1.

INFILTRATION

BERM No.

INFILTRATION BERM 1

W.O. NO. CHK. APP

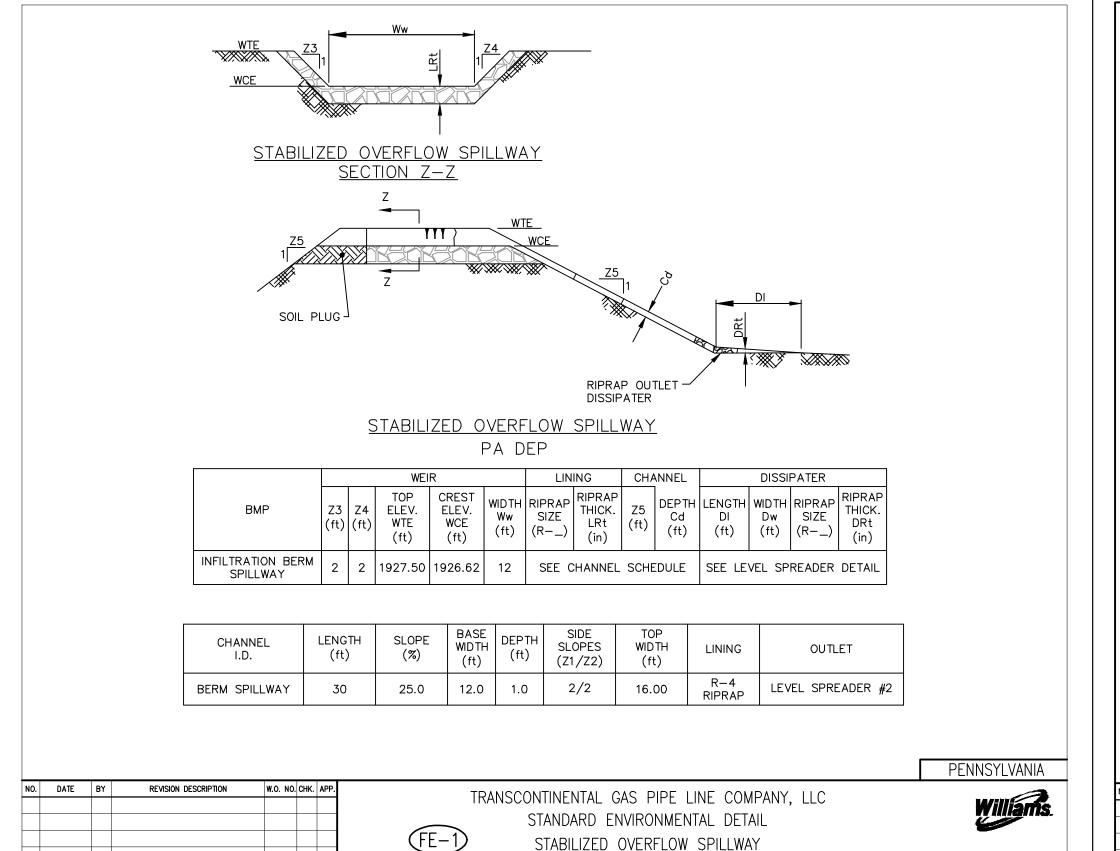
BERMS SHOULD BE VEGETATED USING SEED MIXTURE 1 PLUS 3 FROM TABLE 11.5.

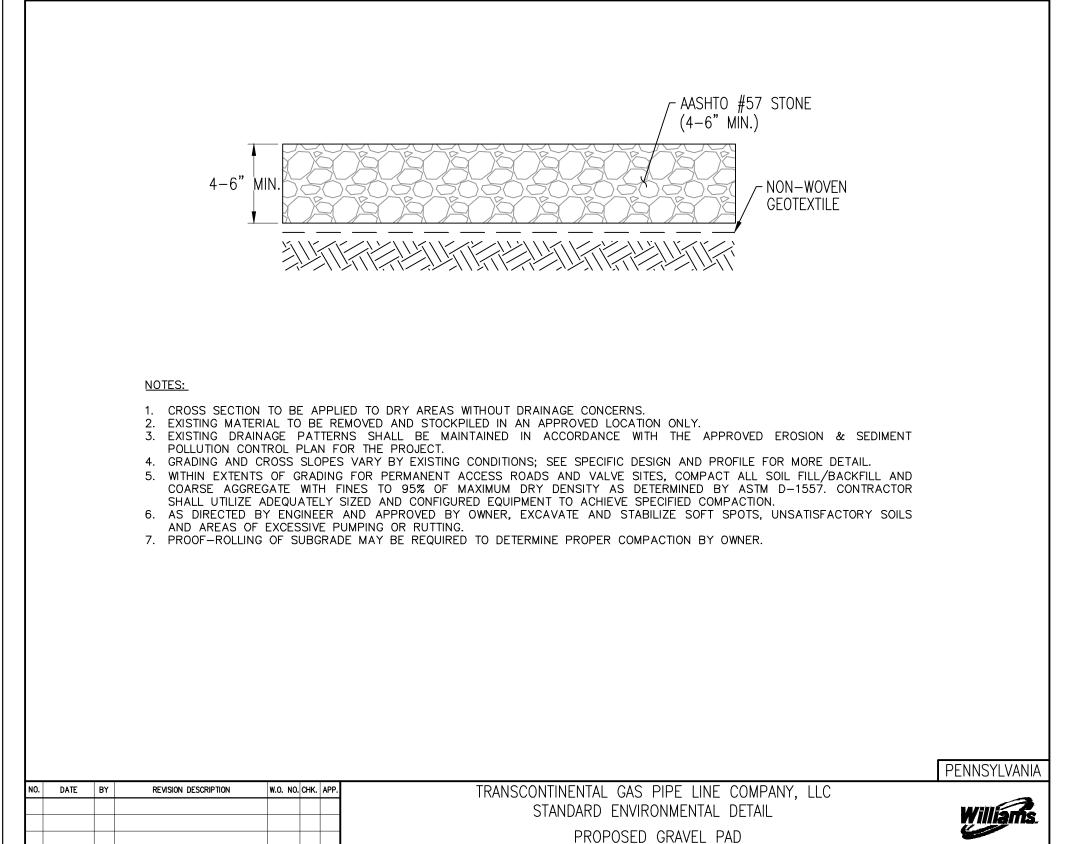
GENTLY SLOPING SITES.

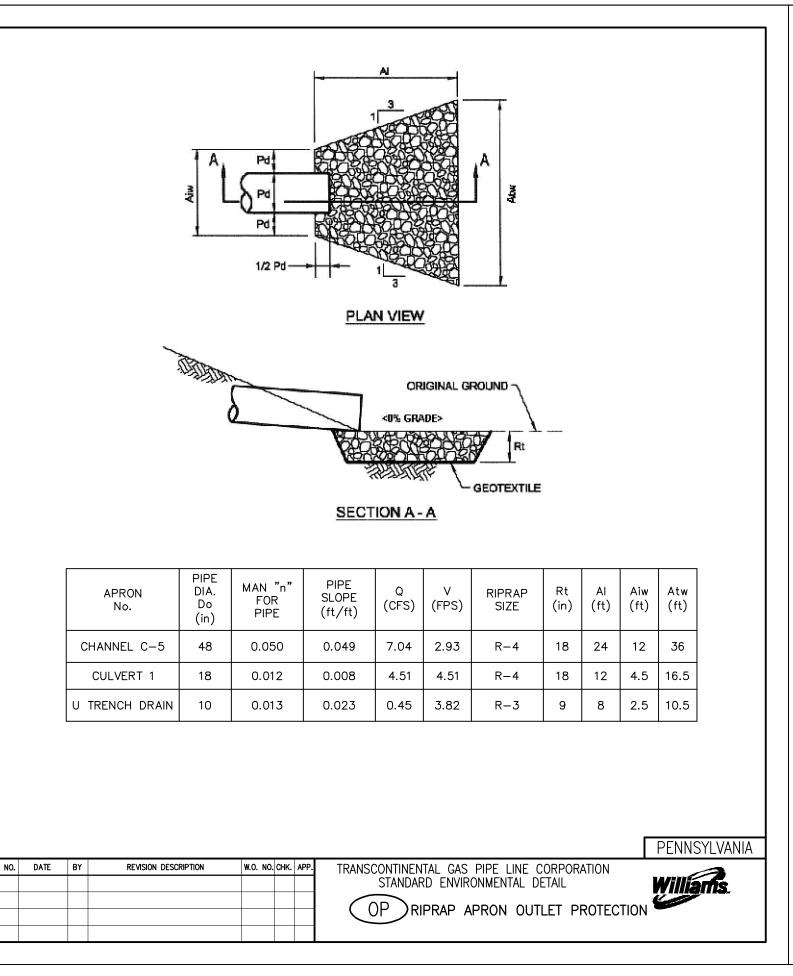
TOE OF THE BERM.

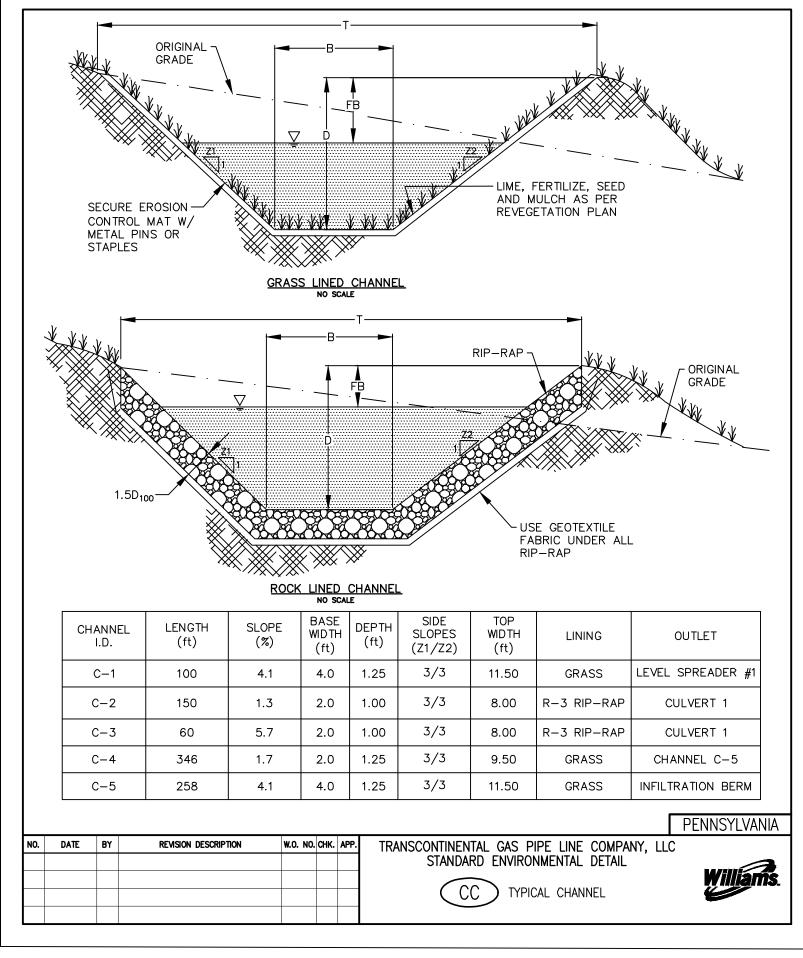
ASYMMETRICAL SHAPE.

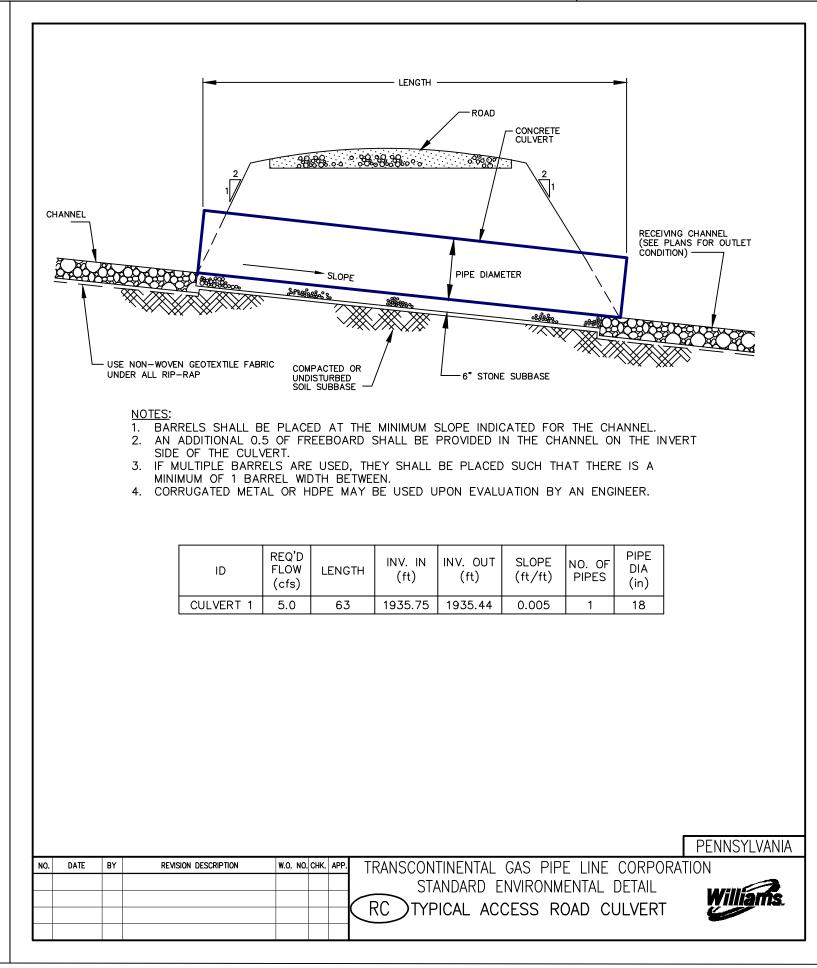
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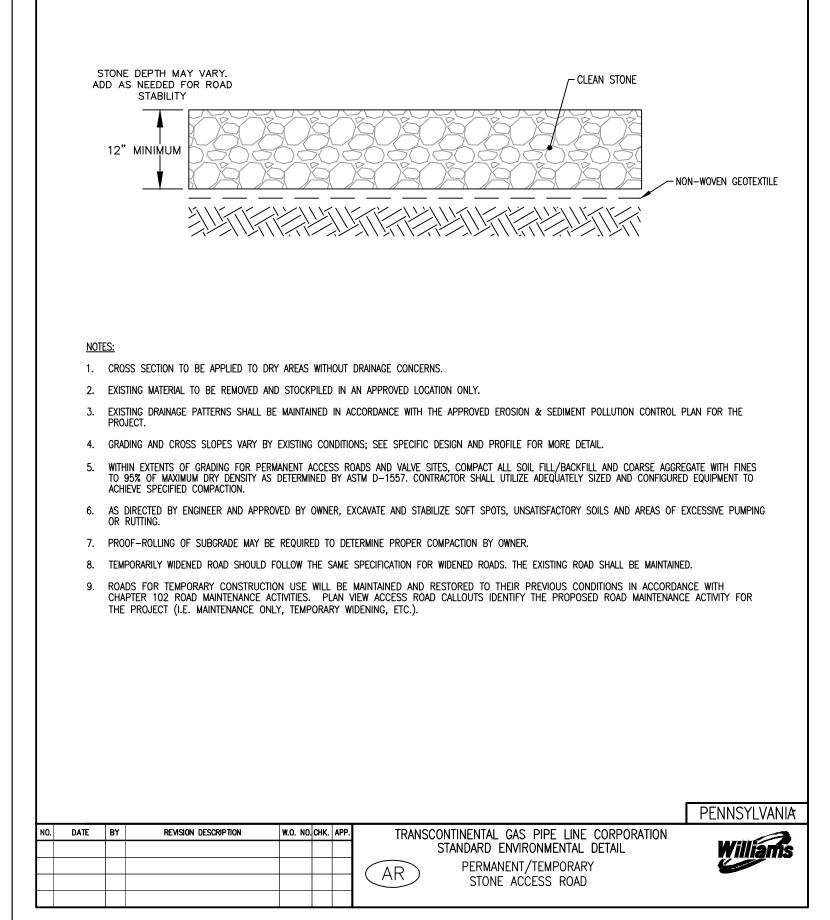




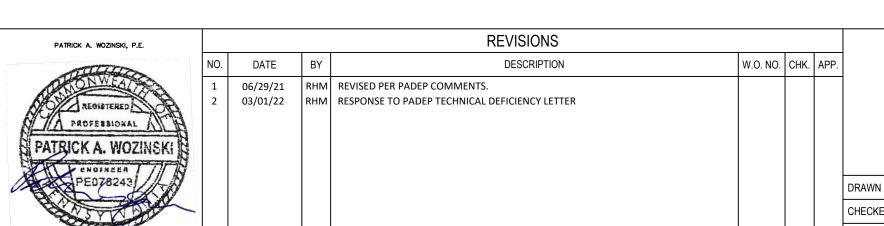








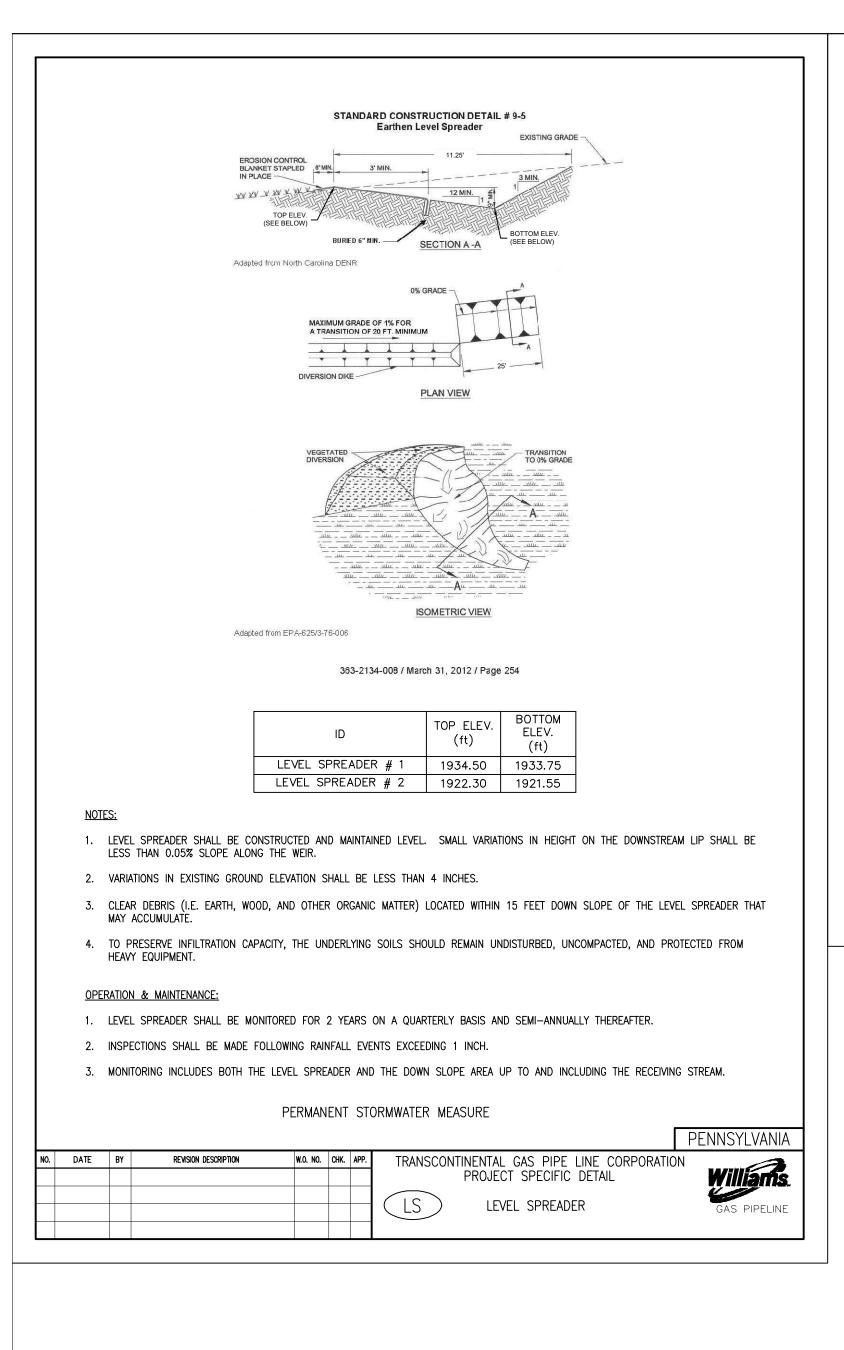


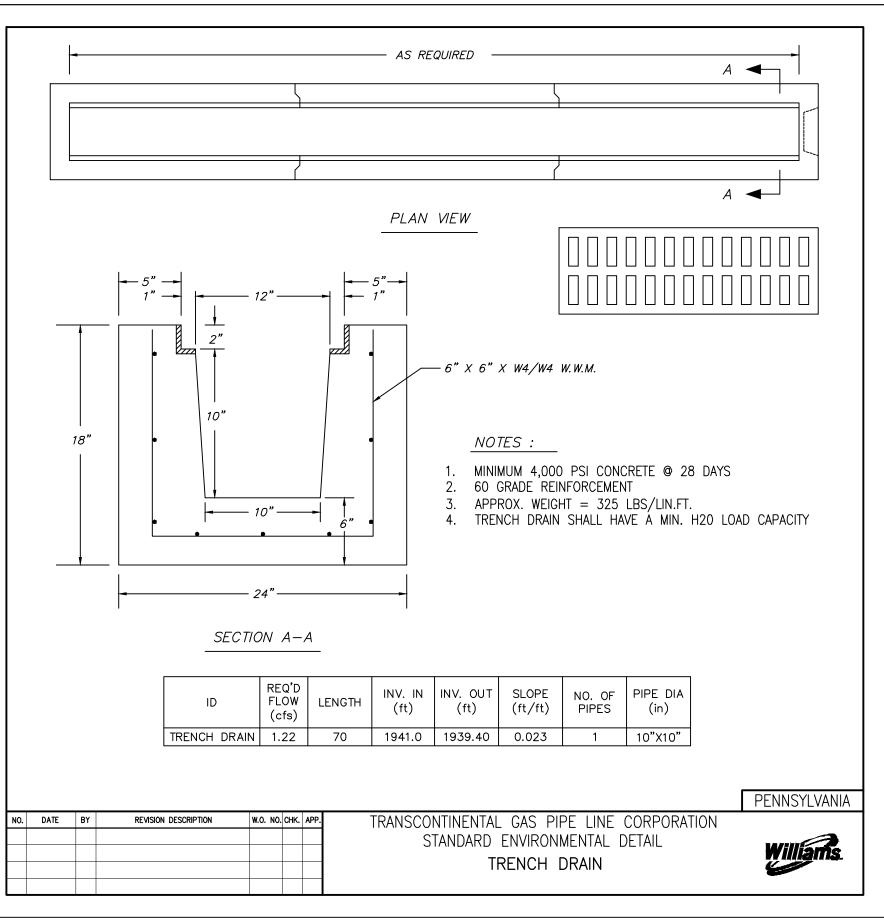


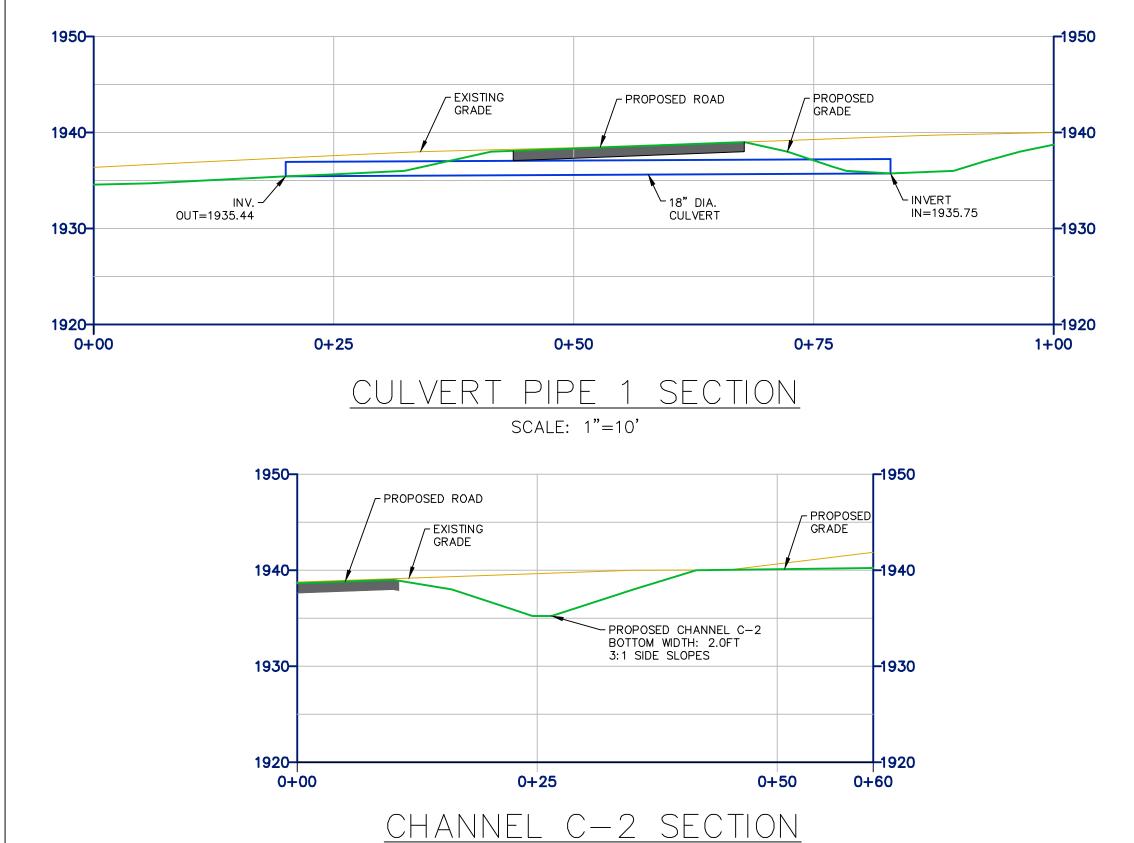
TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC REGIONAL ENERGY ACCESS EXPANSION PROJECT COMPRESSOR STATION 515 POST CONSTRUCTION STORMWATER MANAGEMENT PLAN

**DETAILS** 

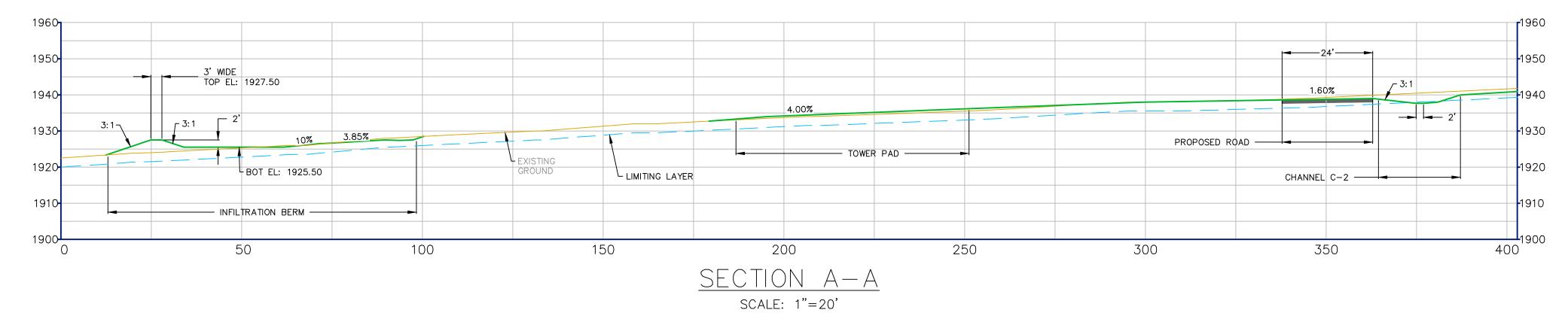
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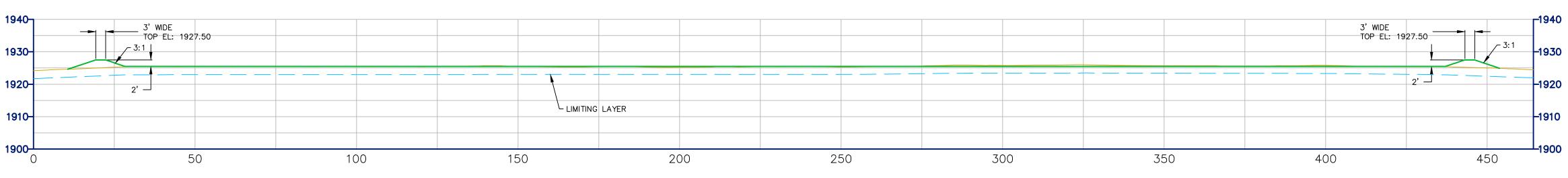




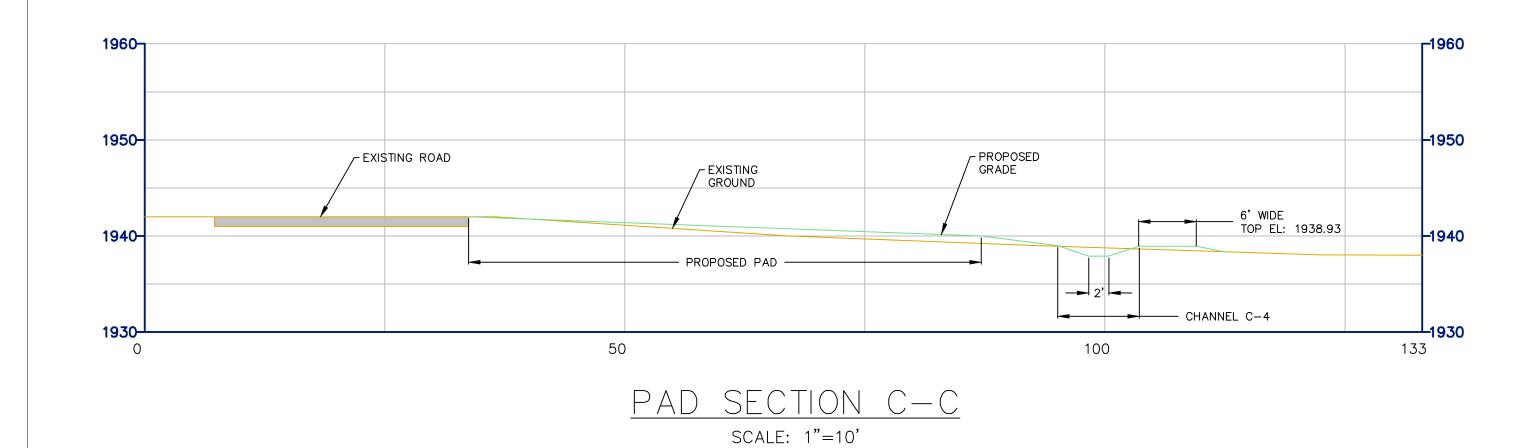


SCALE: 1"=10'

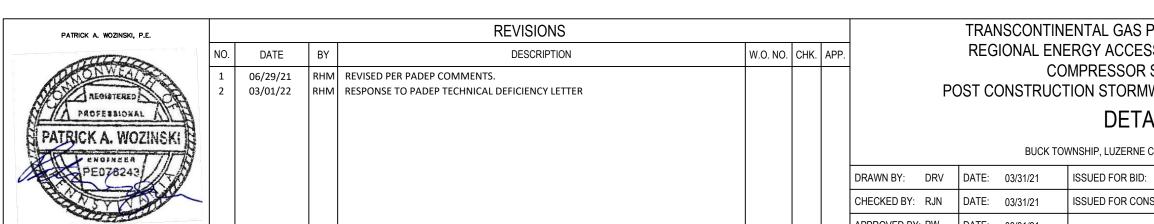




SCALE: 1"=20'







TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC REGIONAL ENERGY ACCESS EXPANSION PROJECT COMPRESSOR STATION 515 POST CONSTRUCTION STORMWATER MANAGEMENT PLAN **DETAILS** 

BUCK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA

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