

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC  
POST CONSTRUCTION STORMWATER MANAGEMENT PLAN AND SITE  
RESTORATION PLAN

S5-T5/ S6-T5 AND S4A-T5/ S4-T5  
STREAM STABILIZATION

LAFLIN BOROUGH, LUZERNE COUNTY, PENNSYLVANIA

APRIL 2021  
REVISED MARCH 2022

PROJECT OWNER/APPLICANT

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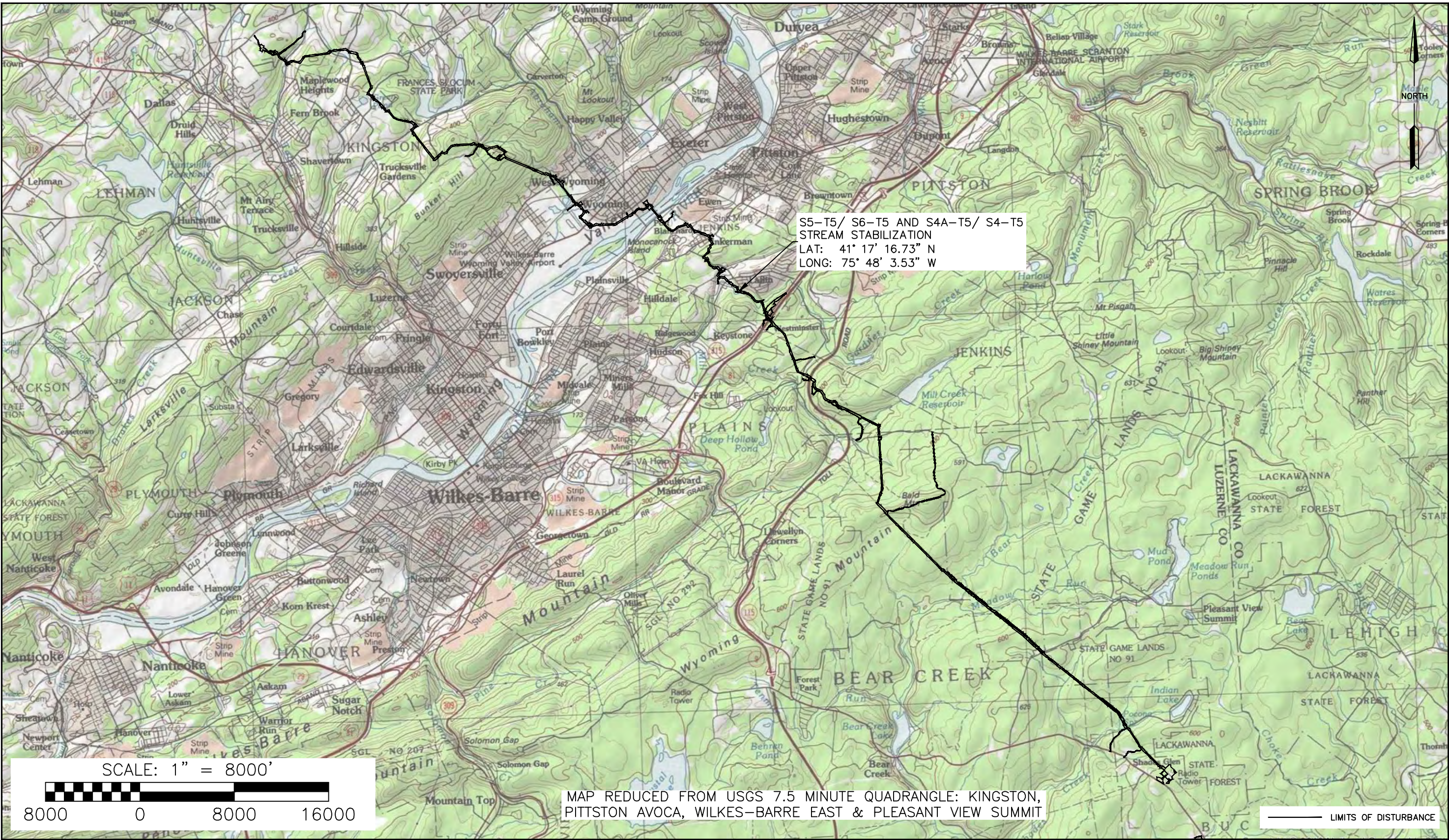
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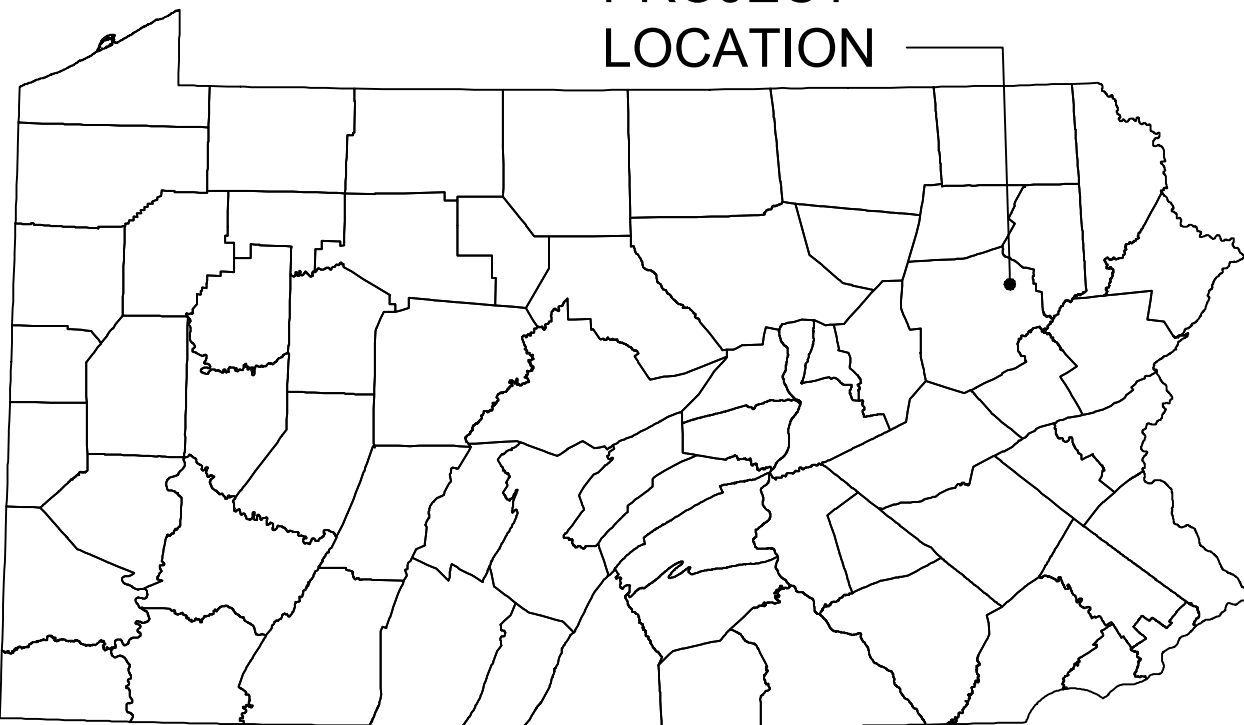
PROJECT DESCRIPTION

TWO AREAS OF EXISTING STREAM CHANNEL AND BANK STABILIZATION AND RECONSTRUCTION THROUGH THE PIPELINE RIGHT-OF-WAY ARE PROPOSED FOR THE PROJECT. THE FIRST STREAM SECTION IS DESIGNATED AS S4A-T5/S4-T5 AND IS LOCATED BETWEEN MILEPOSTS 11.0 AND 11.1. THE SECOND SECTION IS DESIGNATED AS S5-T5/S6-T5 AND IS LOCATED BETWEEN MILEPOSTS 11.2 AND 11.3. WORK WILL INCLUDE CHANNEL AND BANK STABILIZATION, RECONSTRUCTION WHERE NECESSARY, AND NEW CHANNEL SECTIONS AS NEEDED TO RESTORE THE STREAMS AND PROTECT THE PIPELINE.



LOCATION MAP

PROJECT  
LOCATION



VICINITY MAP  
N.T.S.

SHEET INDEX	
SHEET NUMBER	DRAWING TITLE
1	COVER SHEET
2	EXISTING CONDITIONS PLAN
3	PROPOSED CONDITIONS PLAN
4	LONGITUDINAL PROFILE
5 - 6	NOTES AND DETAILS

RECEIVING WATERS			
NAME	DESIGNATED USE	EXISTING USE	PFBC CLASSIFICATION
GARDNER CREEK	CWF, MF	N/A	--

Call before you dig.  
1-800-242-1776 or



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



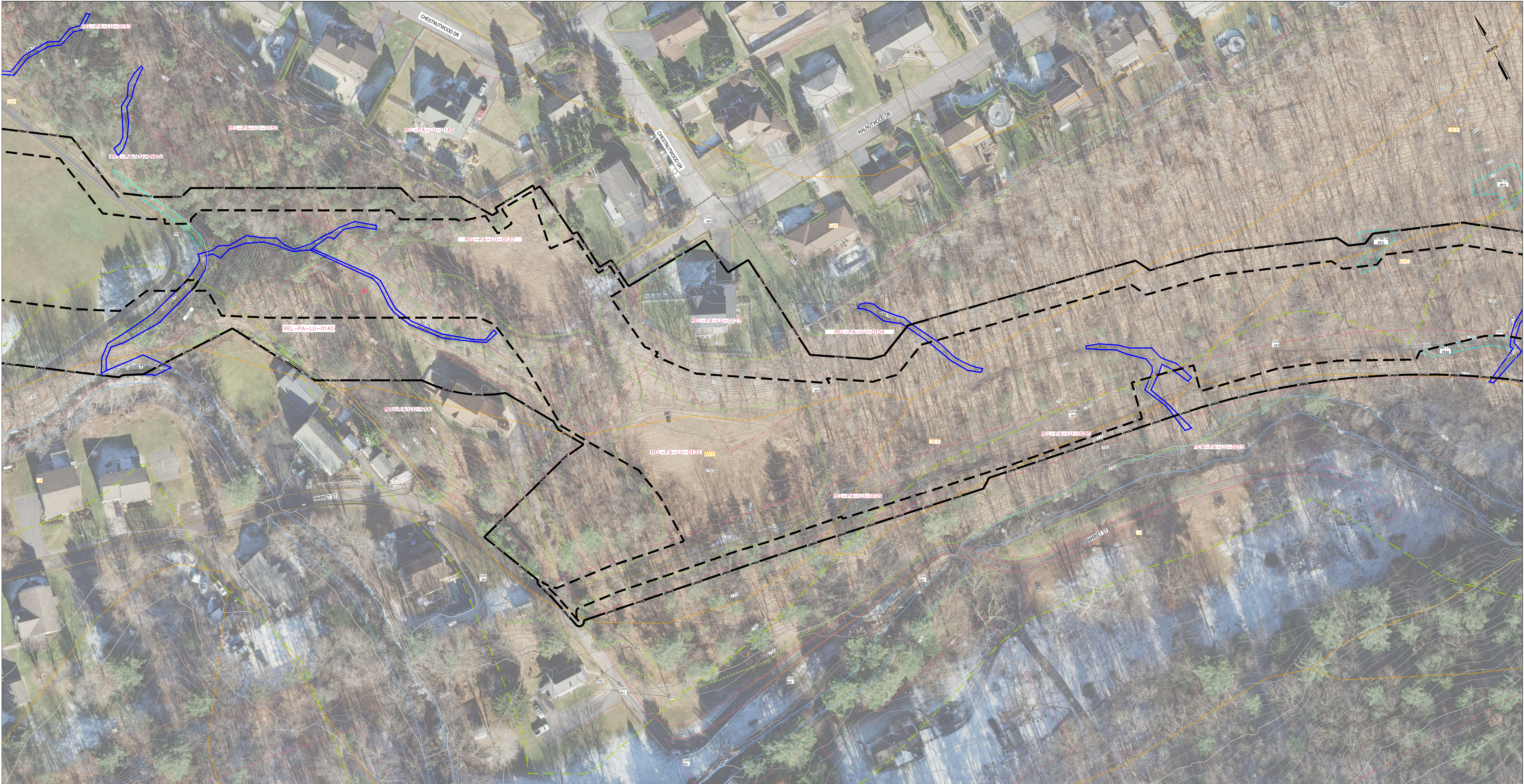
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S5-T5/ S6-T5 AND S4A-T5/ S4-T5 STREAM STABILIZATION  
COVER SHEET  
LAFLIN BOROUGH, LUZERNE COUNTY, PENNSYLVANIA



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WO: 1222836	RID: 209		





LEGEND

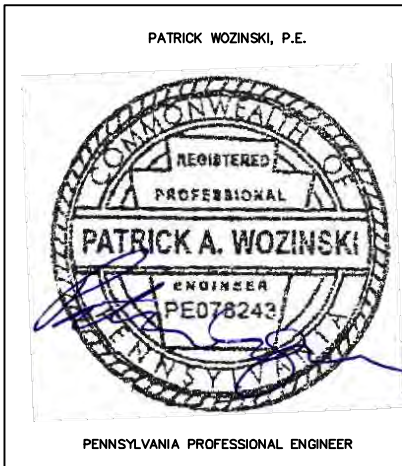
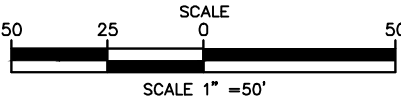
	PROPERTY LINE		EXISTING UTILITY POLE / TOWER
	EXISTING RIGHT-OF-WAY		EXISTING VALVE
	ESOP PERMIT BOUNDARY		EXISTING CULVERT
	LIMITS OF DISTURBANCE		EXISTING ELECTRIC LINE
	EXISTING FENCE		EXISTING UNDERGROUND ELECTRIC LINE
	EXISTING STONE ROW		EXISTING GAS LINE
	EXISTING STRUCTURE		EXISTING WATER LINE
	EXISTING EDGE OF ROAD		EXISTING SANITARY LINE
	EXISTING GRADE MAJOR CONTOURS (10' C.I.)		EXISTING STORM SEWER
	EXISTING GRADE MINOR CONTOURS (2' C.I.)		EXISTING TELEPHONE LINE
	EXISTING WATERBAR AND OUTLET STRUCTURE		EXISTING FIBER OPTIC LINE
	APPROX. ENVIRONMENTAL STUDY LIMITS		EXISTING UNDERGROUND CABLE LINE
	DELINEATED WETLAND		EXISTING STORM INLET
	DELINEATED WATERWAY / STREAM (TOP OF BANK)		EXISTING SANITARY MANHOLE
	STREAM FLOW DIRECTION		EXISTING COMMUNICATION/ELECTRIC MANHOLE
	RIPIARIAN BUFFER		EXISTING FIRE HYDRANT
	50' FEMA FLOODWAY		EXISTING POWER POLE
	FEMA 100-YEAR FLOODPLAIN		EXISTING WELL
	SOIL BOUNDARY / TYPE		PROPOSED CONSTRUCTION FENCE
	EXISTING TREELINE / TREE/SHRUB		PROPOSED PIPELINE
	EXISTING LEYDI / TOP/L PIPELINES		PROPOSED PIPELINE GROUNDBED
	EXISTING FOREIGN PIPELINES		GEOHAZARD ALONG PIPELINE

SOIL LEGEND


DEF	DEKALB EXTREMELY STONY SANDY LOAM, STEEP
LN	LINDEN SOILS
SM	STIRP MINE
WB	WOLUSIA CHANNERY SILT LOAM, 0 TO 8 PERCENT SLOPES, EXTREMELY STONY
WC	WOLUSIA CHANNERY SILT LOAM, 8 TO 15 PERCENT SLOPES, EXTREMELY STONY
WB	WURTZBERG EXTREMELY STONY LOAM, 3 TO 8 PERCENT SLOPES

EXISTING CONDITION NOTES/SOURCES

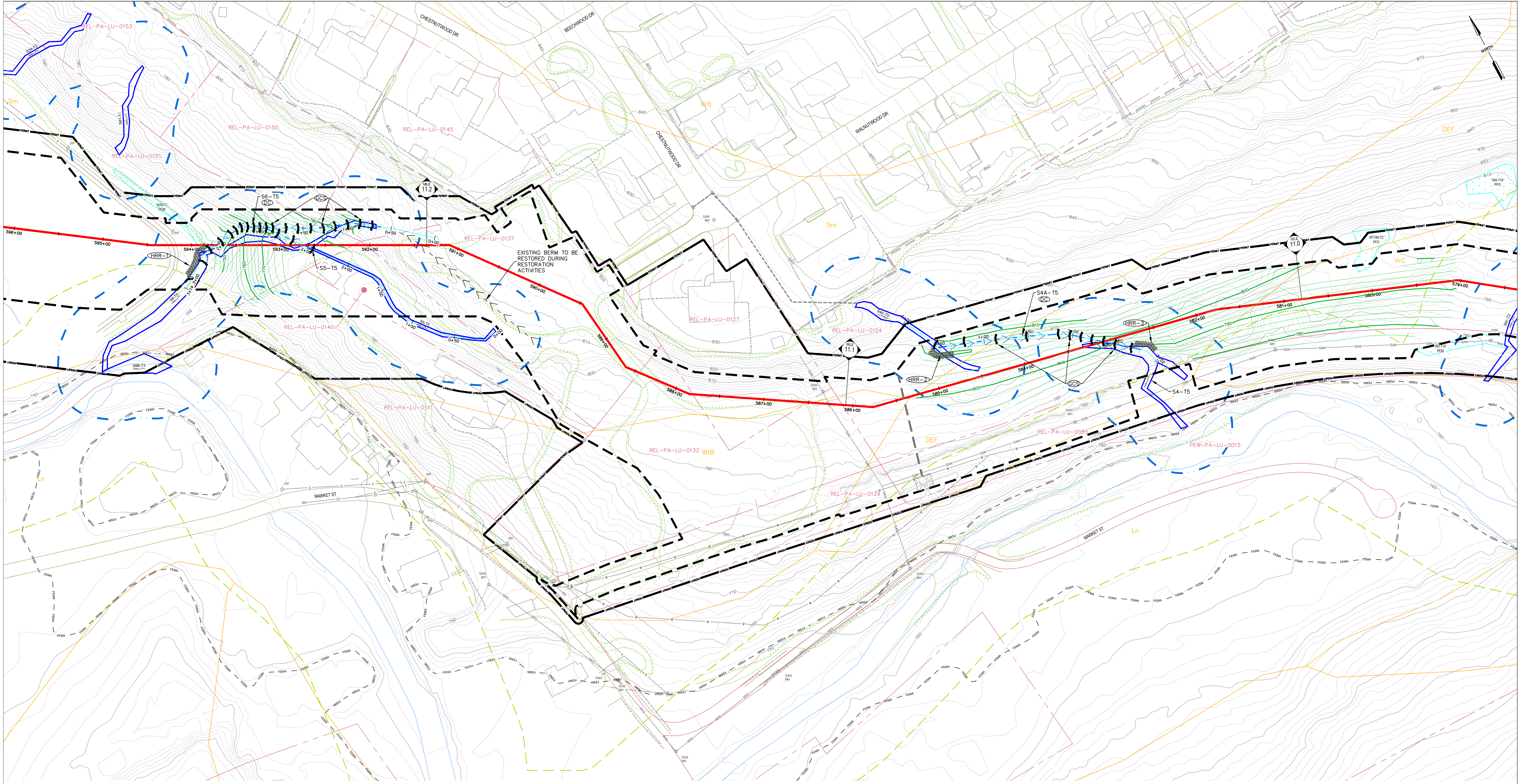
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DRAWN BY: RWS	DATE: 03/31/21	ISSUED FOR BID:	SCALE: 1" = 800'	<div>SHEET OF</div> <div>2 6</div>
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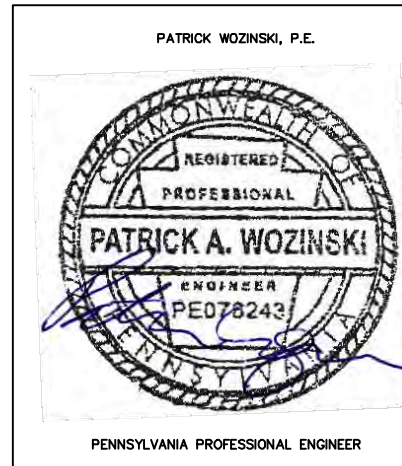
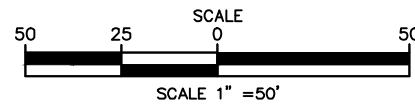
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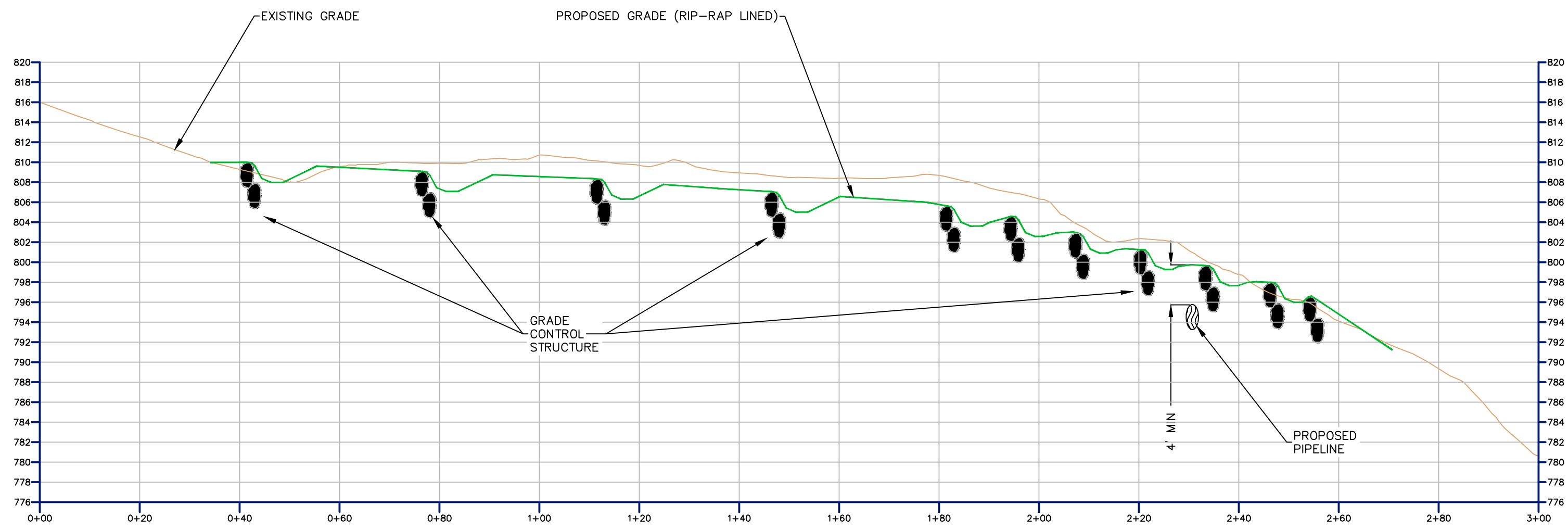
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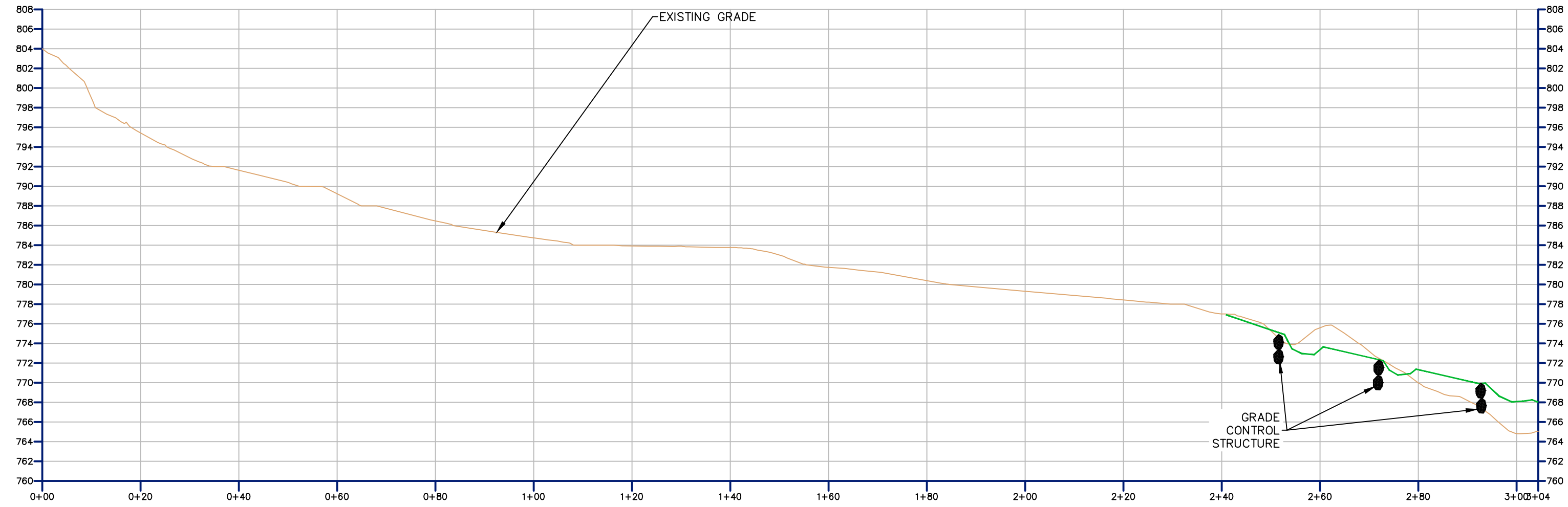


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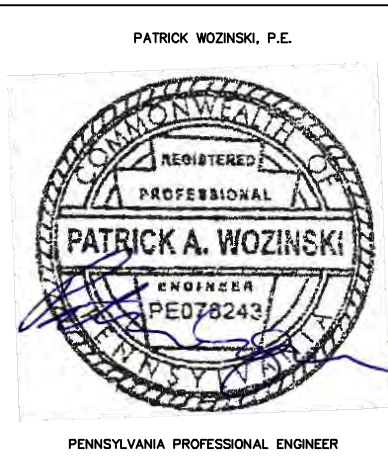
**S4-T5**  
HORIZONTAL SCALE: 1"= 40'  
VERTICAL SCALE: 1"= 5'



**S5-T5**  
HORIZONTAL SCALE: 1"= 40'  
VERTICAL SCALE: 1"= 5'



**S6-T5**  
HORIZONTAL SCALE: 1"= 40'  
VERTICAL SCALE: 1"= 5'



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RESOLUTION TO SOIL LIMITATIONS

- TRANSCO PROPOSES THE FOLLOWING RESOLUTIONS TO COMPENSATE FOR SOIL LIMITATIONS SUMMARIZED IN TABLE 3 BELOW:
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 the LOD		
Soil Mapping Unit	Soil Series	
DEF	DeKalb extremely stony sandy loam, steep	
Sm	Strip mine	

Table 3 – Limitations of Pennsylvania Soils Pertaining to Earth Disturbance Projects (Erosion and Sediment Control Best Management Practice (BMP) Manual – Technical Guidance Number 363-3134-008/Page 401)													
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	PIPING	POOR SOURCE OF TOPSOIL	FROST ACTION
	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	PIPING	POOR SOURCE OF TOPSOIL	FROST ACTION
DeKalb	DdD, DEF	X	C	X					X	X	X	X	X
Strip Mine*	Sm												

\*SOILS HAVE SIMILAR LIMITATIONS TO THE DOMINANT SOIL OR SOILS IN THE AREA

CHARACTERISTICS OF EARTH DISTURBANCE ACTIVITY, INCLUDING PAST, PRESENT AND PROPOSED LAND USE PROPOSED ALTERATIONS TO THE AREA

THE LIMIT OF DISTURBANCE WILL BE APPROXIMATELY 0.94 ACRES. USING DATA TAKEN FROM GOOGLE EARTH AND MULTI-RESOLUTION LAND CHARACTERISTICS (MRLC) CONSORTIUM WEBSITE (HTTPS://WWW.MRLC.GOV/VIEWER /). LAND USE FOR THE PAST 20 YEARS HAS BEEN DECIDUOUS FOREST AND GRASSLANDS/HERBACEOUS BASED ON THE SURROUNDING LAND CHARACTERISTICS, LAND USE WITHIN THE PAST 50 YEARS WOULD HAVE BEEN DECIDUOUS OR MIXED FOREST. UPON PROJECT COMPLETION, THE AREA WILL BE A PIPELINE RIGHT-OF-WAY WITH HERBACEOUS COVER.

BMP INSTALLATION SEQUENCE

THE PCSM BMPs SHOULD BE INSTALLED IN A MANNER DESIGNED TO: MAINTAIN PROPER EROSION AND SEDIMENT CONTROL MEASURES DURING CONSTRUCTION.

1. **STREAM CHANNEL STABILIZATION**
  - a. CONSTRUCT STREAM CHANNELS, AS SHOWN IN THE PLAN. INSTALL GRADE CONTROL STRUCTURES AS SHOWN.
  - b. STABILIZE THE CHANNELS WITH SPECIFIC CHANNEL LININGS AND RIP-RAP STABILIZATION.
2. ALL TEMPORARY E&S BMPs WILL BE REMOVED FOLLOWING SITE STABILIZATION. OTHER EROSION AND SEDIMENT CONTROL MEASURES ARE NOT TO BE REMOVED UNTIL THE SITE IS FULLY STABILIZED.
3. ALL INSTALLED BMPs WILL BE MONITORED UNTIL FINAL SITE STABILIZATION IS ACHIEVED.
4. LONG TERM OPERATION AND MAINTENANCE GUIDELINES DISCUSSED SHALL BE FOLLOWED.

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 SEEDD 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

TOPSOIL WILL BE REPLACED PRIOR TO STABILIZATION. DISTURBED AREAS SHALL BE SEEDD 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.

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		

TABLE 11.2 Soil Amendment Application Rate Equivalents			
Soil Amendment	Permanent Seeding Application Rate		
	Per Acre	Per 1,000 sq. ft.	Per 1,000 sq. yd.
Agricultural lime	6 tons	240 lb.	2,480 lb.
10-10-20 fertilizer	1,000 lb.	25 lb.	210 lb.
Temporary Seeding Application Rate			
Agricultural lime	1 ton	40 lb.	410 lb.
10-10-10 fertilizer	500 lb.	12.5 lb.	100 lb.

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 the soil amendments shown in Table 11.2.

ERNST RIPARIAN BUFFER MIX - ERNMIX 178		
PERCENTAGE OF MIX COMPOSITION	SCIENTIFIC NAME	COMMON NAME
30.0%	PANICUM CLANDESTINUM	DEERTONGUE
20.0%	ELYMUS VIRGINICUS	VIRGINIA WILD RYE
11.8%	ANDROPOGON GERARDII	BIG BLUESTEM
10.5%	SORGHASTRUM NUTANS	INDIAN GRASS
5.0%	PANICUM VIRGATUM	SMITH GRASS
4.0%	CHAMAECRISTA FASCICULATA	PARTRIDGE PEA
4.0%	VERBENA HASTATA	BLUE VERVAIN
3.0%	JUNCUS EFFUSUS	SOFT RUSH
3.0%	RUDBECKIA HIRTA	BLACK EYED SUSAN
2.0%	HELIOPSIS HELIANTHOIDES	OXEYE SUNFLOWER
1.0%	ASCLEPIAS INCARNATA	SWAMP MILKWEED
0.7%	ASTER NOVAE-ANGIAE	NEW ENGLAND ASTER
0.7%	ASTER UMBELLATUS	FLAT TOPPED WHITE ASTER
0.7%	EUPATORIUM PERFORIATUM	BONESET
0.5%	AGROSTIS PERENNANS	AUTUMN BENT GRASS
0.5%	HELIANUM AUTUMNALE	COMMON SNEEZEWEED
0.5%	MONARDA FISTULOSA	WILD BERGAMOT
0.5%	VERNONIA NOVEBORACENSIS	NEW YORK IRONWEED
0.4%	PYCNANTHEMUM TENUIFOLIUM	NARROW LEAF MOUNTAINMINT
0.4%	SOLIDAGO PATULA	ROUGH LEAF GOLDENROD
0.3%	EUPATORIUM FISTULOSUM	JOE PYE WEEED
0.3%	LOBELIA SIPHILITICA	GREAT BLUE LEBEED
0.2%	ASTER PILOSUS	PURPLE STEMMASTER

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

TABLE 11.4 Recommended Seed Mixtures			
Mixture Number	Species	Seeding Rate-Pure Live Seed*	
		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	96 15 120 112
	Fine fescue, or Kentucky bluegrass, plus Redtop*, or Perennial ryegrass.	35 25 3 3	40 30 20 3
	Deertongue, plus Birdsfoot trefoil	15 6	20 10
	Switchgrass, or big bluestem, plus Birdsfoot trefoil	15 15 6	20 20 10
13	Orchardgrass, plus Smooth bromegrass, plus Birdsfoot trefoil	20 25 6	30 35 10

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.

STEEP SLOPE MIX OPTION		
APPLICATION RATE - 60LBS/ACRE OR 1.5LBS/1000sqft OF ERNMx-181		
NATIVE STEEP SLOPE MIX WITH ANNUAL RYEGRASS [ERNMX-181]		
PERCENT	SCIENTIFIC NAME	COMMON NAME
31.10	SORGHASTRUM NUTANS	INDIAN GRASS
20.00	LOLIUM MULTIFLORUM	ANNUAL RYEGRASS
14.00	ANDROPOGON GERARDII	BIG BLUESTEM
10.00	ELYMUS VIRGINICUS	VIRGINIA WILD RYE
7.00	ELYMUS CANADENSIS	CANADA WILD RYE
4.00	AGROSTIS PERENNANS	AUTUMN BENT GRASS
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	BLACK EYED 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

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

TABLE 11.5 Recommended Seed Mixtures for Stabilizing Disturbed Areas		
Site Condition	Nurse Crop	Seed Mixture (Select one mixture)
Slopes and Banks (not mowed)	1 plus	12 <sup>1</sup>
Slopes and Banks (mowed)	1 plus	2
Slopes and Banks (grazed/hay)	1 plus	2, 13
Gullies and Eroded Areas	1 plus	13
Erosion Control Facilities (BMPs)	1 plus	2, 13
Scd waterways, spillways, frequent water flow areas	1 plus	2
Drainage ditches	1 plus	2
Shallow, less than 3 feet deep	1 plus	2
Deep, not mowed	1 plus	2
Pond banks, dikes, levees, dams, diversion channels, And occasional water flow areas	1 plus	2
Mowed areas	1 plus	2
Non-mowed areas	1 plus	2
For hay or silage on diversion channels and occasional water flow areas	1 plus	13
Highways	1 plus	13
Non-mowed areas	1 plus	2
Areas mowed several times per year	1 plus	2
Utility Right-of-way	1 plus	12 <sup>1</sup>
Well-drained	1 plus	13
Well-drained areas for grazing/hay	1 plus	2, 13
Sanitary Landfills	1 plus	11 <sup>1</sup> , or 12 <sup>1</sup>
Surface mines	1 plus	11 <sup>1</sup> , or 12 <sup>1</sup>
Spills, mine wastes, fly ash, slag, settling basin	1 plus	13
Residues and other severely disturbed areas (lime to soil test)	1 plus	13
Severely disturbed areas for grazing/hay	1 plus	13

- Penn State, "Erosion Control and Conservation Plantings on Noncropland"
1. For seed mixtures 11 and 12, only use spring oats or weeping lovegrass (included in mix) as nurse crop.
  2. Contact the Pennsylvania Department of Transportation district roadside specialist for specific suggestions on treatment techniques and management practices.

PCSM CRITICAL STAGES

CRITICAL POINTS REQUIRING VISITS BY THE LICENSED PROFESSIONAL OR DELEGATE ARE AS FOLLOWS:

1. DURING CONSTRUCTION OF THE STREAM CHANNELS THE LICENSED PROFESSIONAL WILL OBSERVE THAT THE CHANNELS AND INSTREAM STRUCTURES ARE CONSTRUCTED IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS.
2. FOR FINAL INSPECTION OF CONSTRUCTED BMPs.
3. AT THE ESTABLISHMENT OF HARD SURFACE STABILIZATION OR 70% VEGETATION COVERS TO ALLOW REMOVAL OF E&S CONTROLS.

LONG TERM OPERATION AND MAINTENANCE SCHEDULE

OPERATION AND MAINTENANCE GUIDELINES SHOULD BE PROVIDED TO ALL FACILITY OWNERS AND TENANTS. SEDIMENT AND DEBRIS SHOULD BE ROUTINELY REMOVED UPON OBSERVATION. IF EROSION IS OBSERVED, MEASURES SHOULD BE TAKEN TO IMPROVE DISPERSION METHOD TO ADDRESS THE SOURCE OF EROSION.

GRASS COVER SHOULD BE MOWED WITH LOW GROUND PRESSURE EQUIPMENT AS NEEDED 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 TO BMPs TO THE ORIGINAL DESIGN CONDITION.

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

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.

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.DEFWEBSITE.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

DUE TO THE OVERALL NATURE OF THE PROJECT, THERMAL IMPACTS TO SURFACE WATERS ARE NOT ANTICIPATED. THE PRIMARY MEANS TO ADDRESS THERMAL IMPACTS ON THIS PROJECT IS TO LIMIT THE SIZE AND DURATION OF EXPOSED EARTH.

ANTIDEGRADATION REQUIREMENTS

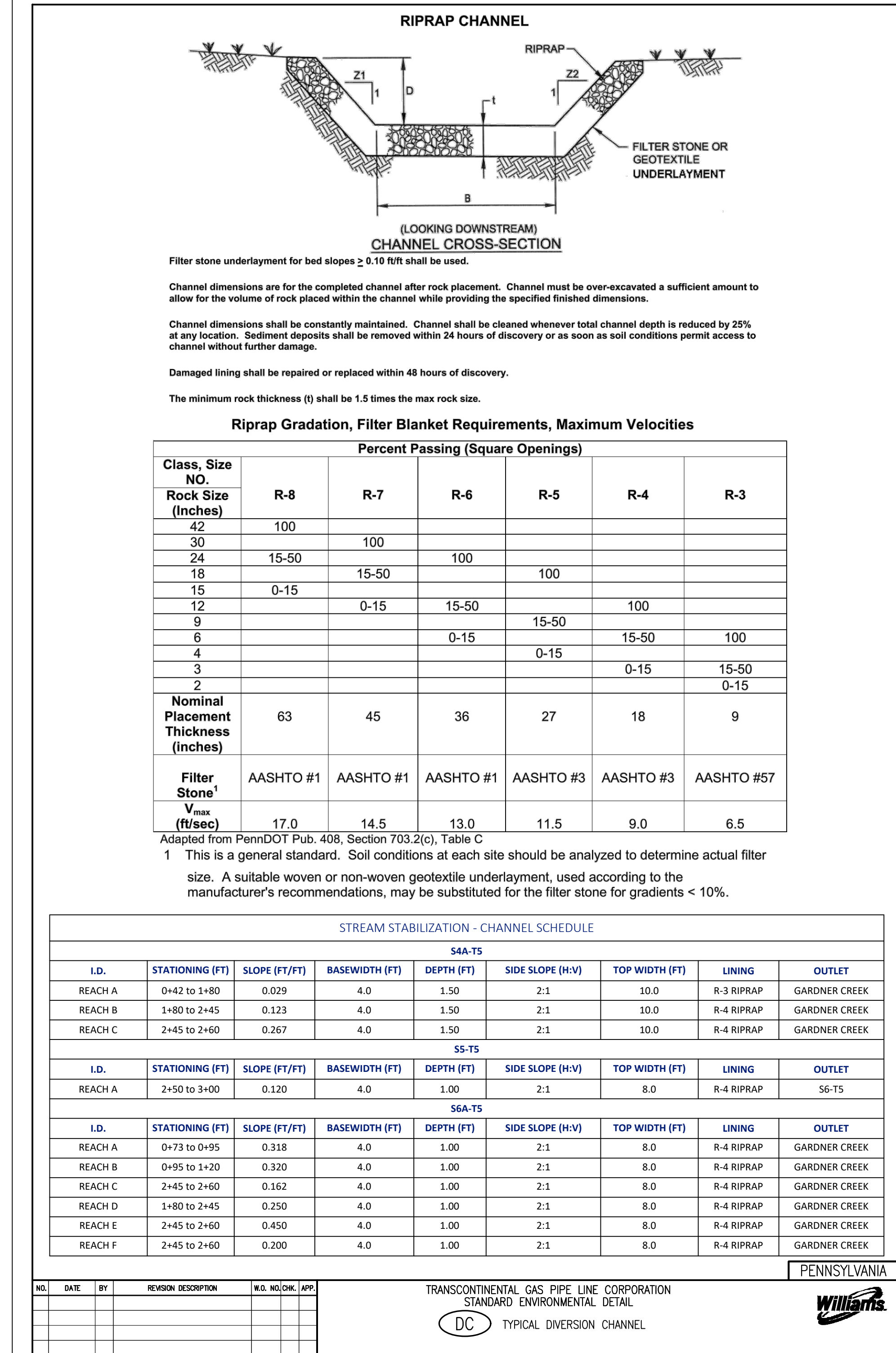
WATERSHED IS NOT HIGH QUALITY. ANTIDEGRADATION REQUIREMENTS ARE NOT NEEDED.

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

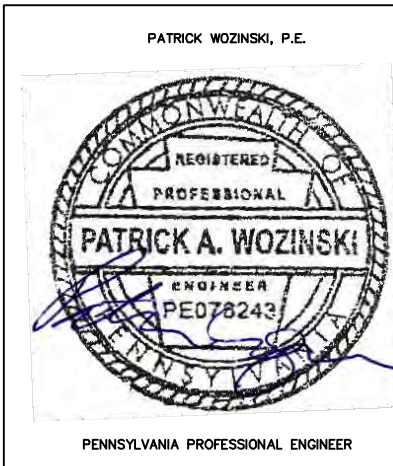
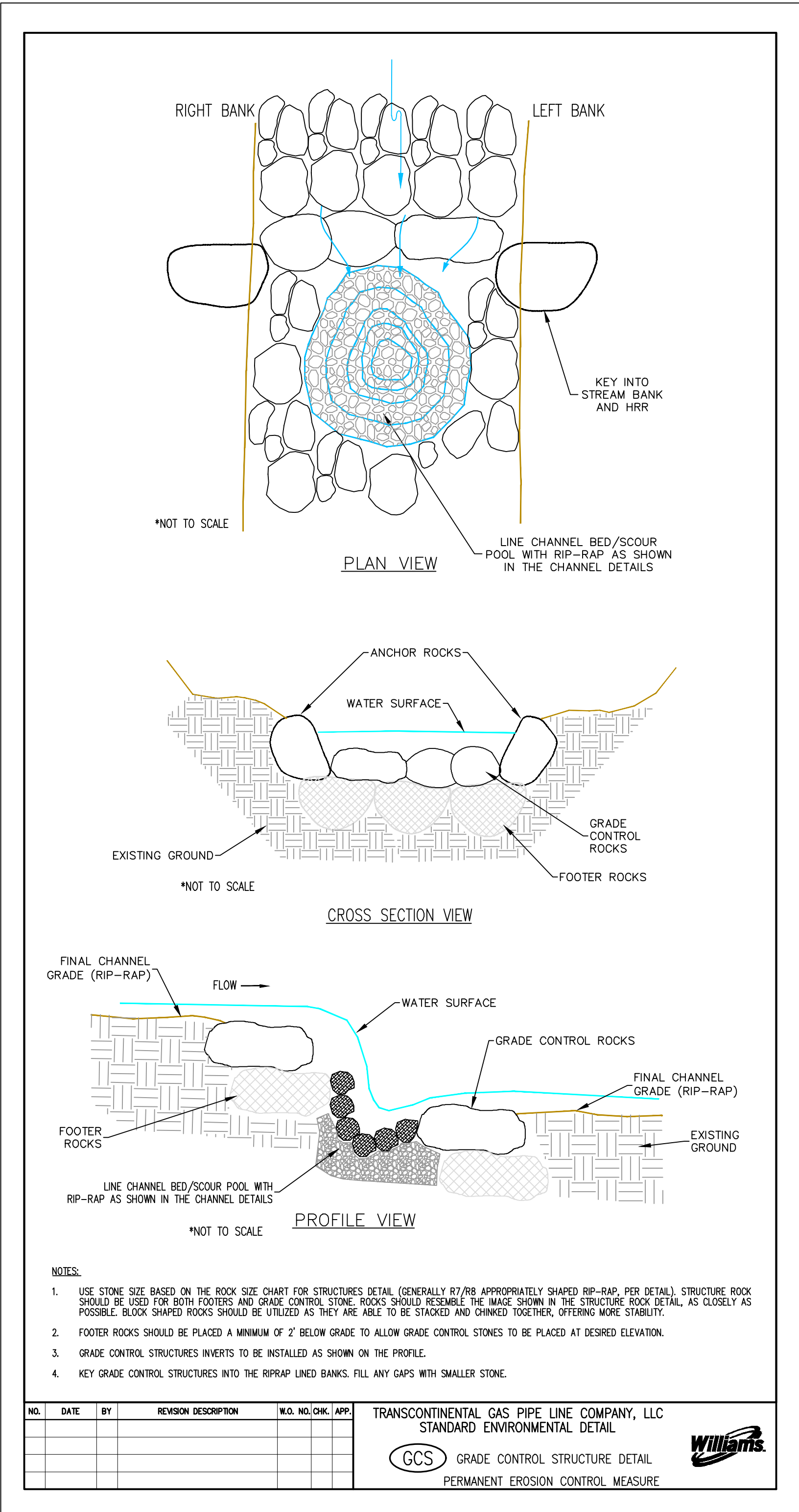
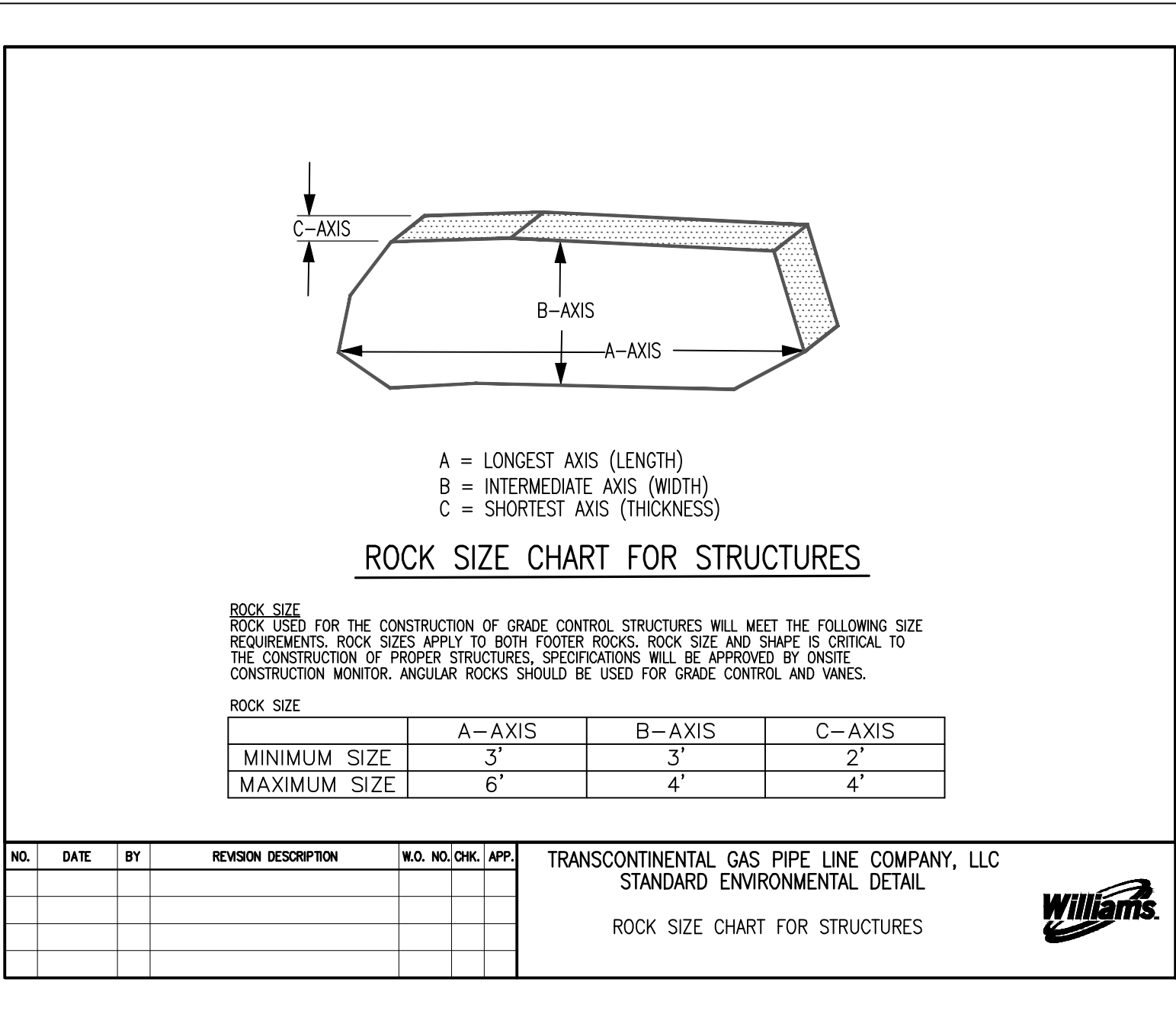
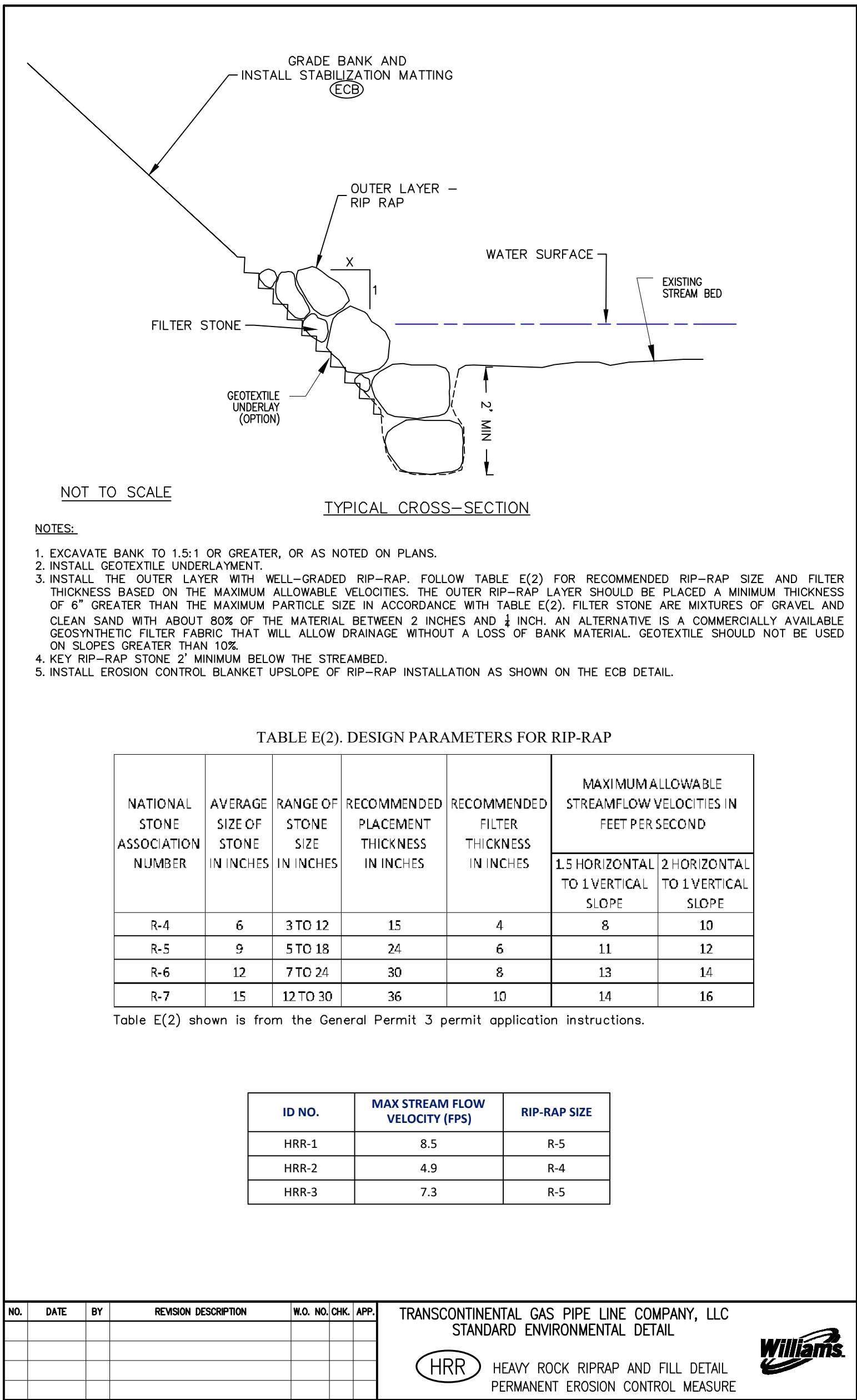
THESE PLANS AND NARRATIVE WERE PREPARED BY PATRICK WOZINSKI, PE (BAI GROUP, LLC) OF STATE COLLEGE, PA IN ACCORDANCE WITH THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION STORMWATER BMP MANUAL, DECEMBER, 2006. THE PLAN PREPARED'S RESUME IS PROVIDED IN THE PERMIT APPLICATION).

NON-STRUCTURAL AND STRUCTURAL WATER QUALITY BMP DESCRIPTION


1. 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.
2. IF PRESENT, 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.
3. DISTURBED AREAS THAT ARE NOT PROPOSED TO BE IMPERVIOUS WILL BE REVEGETATED AS PER THE SEEDING AND MULCHING NOTES PROVIDED IN PCSM PLAN NOTES.
4. WHEREVER POSSIBLE, EXISTING NATURAL DRAINAGE PATTERNS WILL BE UTILIZED TO DIVERT FLOW TO THE PROPOSED CHANNELS.







REVISIONS					W.O. NO.	CHK.	APP.
NO.	DATE	BY	DESCRIPTION				
1	06/29/21	RWS	REVISED PER PADEP COMMENTS.				
2	03/01/22	BH	RESPONSE TO PADEP TECHNICAL DEFICIENCY LETTER				

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC				
REGIONAL ENERGY ACCESS EXPANSION PROJECT - REL				
POST CONSTRUCTION STORMWATER MANAGEMENT PLAN				
AND SITE RESTORATION PLAN				
S5-T5/ S6-T5 AND S4A-T5/ S4-T5 STREAM STABILIZATION				
DETAILS				
LAFLIN BOROUGH, LUZURNE COUNTY, PENNSYLVANIA				
DRAWN BY: RWS		DATE: 03/31/21	ISSUED FOR BID:	SCALE: 1" = 800'
CHECKED BY: CJE		DATE: 03/31/21	ISSUED FOR CONSTRUCTION:	REVISION:
APPROVED BY: PW		DATE: 03/31/21	DRAWING NUMBER: 26-1000-70-28-D	SHEET 6
WO: 12222636		RID: 209		OF 6