

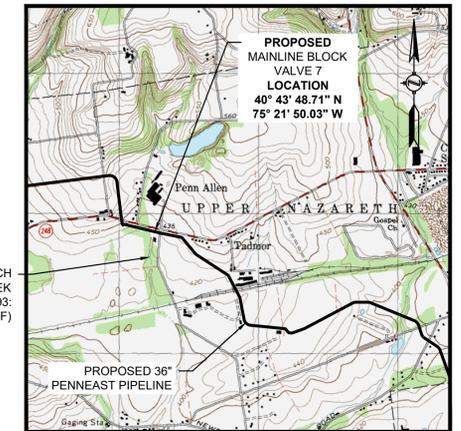
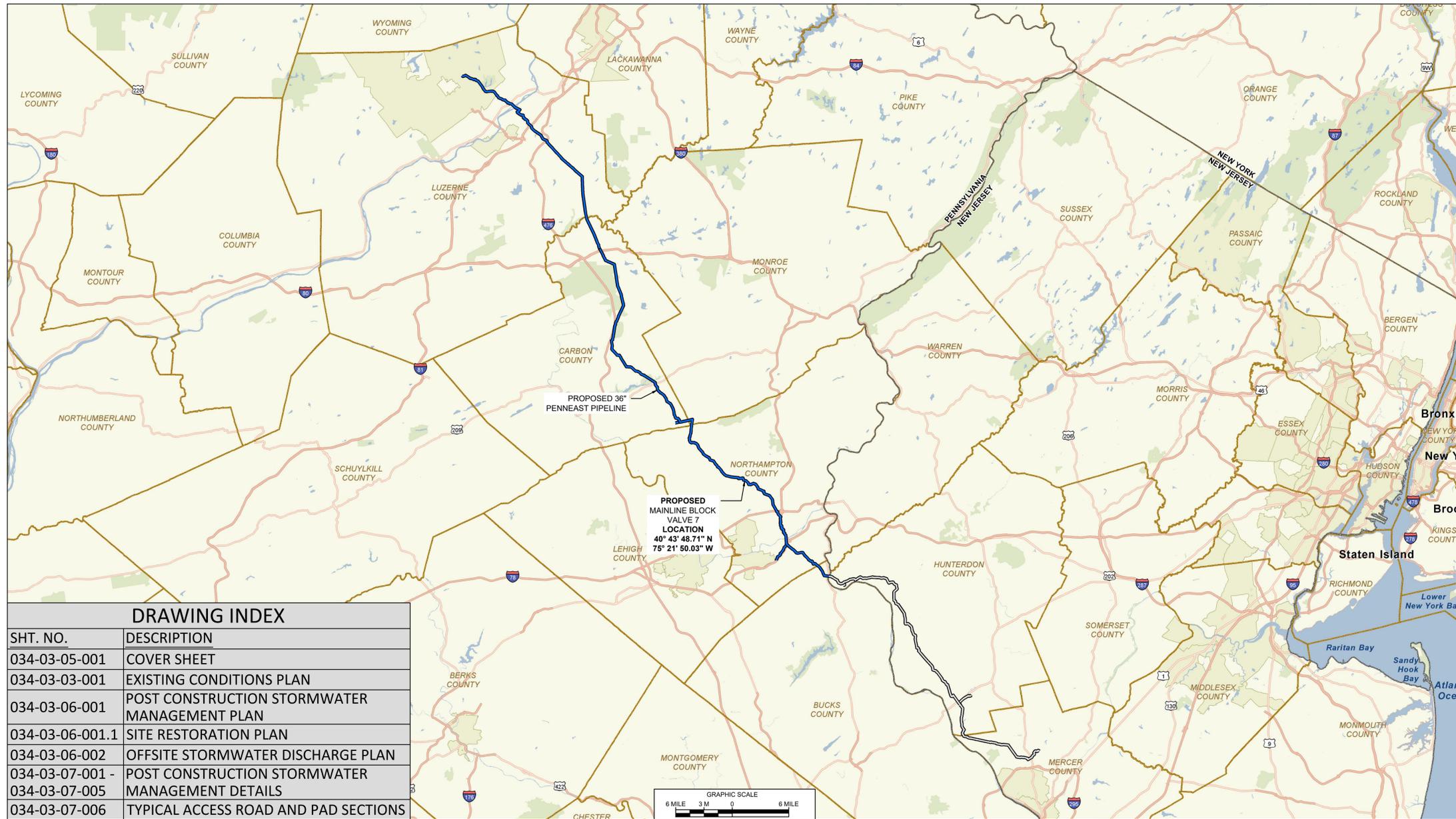
PENNEAST PIPELINE COMPANY, LLC

MAINLINE BLOCK VALVE 7

UPPER NAZARETH TOWNSHIP

NORTHAMPTON COUNTY, PENNSYLVANIA

POST CONSTRUCTION STORMWATER MANAGEMENT PLAN



EAST BRANCH
MONOCACY CREEK
CHAPTER 93:
(HQ-CWF)

SCALE: 1" = 200'
USGS QUAD: NAZARETH, PENNSYLVANIA

GENERAL NOTES:

1. THIS PLAN SET CONTAINS INFORMATION FOR THE POST CONSTRUCTION STORMWATER MANAGEMENT PLAN (PCSM PLAN) REQUIRED FOR THE PADEP ESCGP. THIS IS A PERMIT DOCUMENT ONLY. ADDITIONAL PLANS AND DOCUMENTATION ARE REQUIRED FOR CONSTRUCTION OF THE PROPOSED DEVELOPMENT.
2. FULL SIZE SHEETS OF THIS PLAN SET MAY BE PRINTED OUT ON 24"x36" SHEETS. REPRODUCTION AT DIFFERENT SIZES SHALL RESULT IN DIFFERENT SCALES.

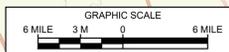
REFERENCE (ALL SHEETS):

1. EXISTING CONTOURS SHOWN WERE SURVEYED BY MOTT MACDONALD DURING 2015 THRU 2018. ADDITIONAL EXISTING CONTOURS WERE PROVIDED BY PICTOMETRY, 2015 AND SUPPLEMENTED FROM PASDA.
2. SITE TOPOGRAPHIC AND FEATURE SURVEY PERFORMED BY MOTT MACDONALD 2015 THRU 2018.
3. PROPERTY INFORMATION ON THIS PLAN BASED ON GIS TAX MAP DATA AND RECTIFIED PROPERTY LINES AND ARE NOT THE RESULT OF A BOUNDARY SURVEY.
4. WATERBODY INFORMATION PROVIDED BY AECOM 2015 THRU 2018.
5. HORIZONTAL DATUM IS UTM83-18F. VERTICAL DATUM IS NAVD1988

PENNSYLVANIA ONE-CALL SERIAL NUMBERS

20181282950-000

DRAWING INDEX	
SHT. NO.	DESCRIPTION
034-03-05-001	COVER SHEET
034-03-03-001	EXISTING CONDITIONS PLAN
034-03-06-001	POST CONSTRUCTION STORMWATER MANAGEMENT PLAN
034-03-06-001.1	SITE RESTORATION PLAN
034-03-06-002	OFFSITE STORMWATER DISCHARGE PLAN
034-03-07-001 - 034-03-07-005	POST CONSTRUCTION STORMWATER MANAGEMENT DETAILS
034-03-07-006	TYPICAL ACCESS ROAD AND PAD SECTIONS



REFERENCE DRAWINGS		REVISIONS					
DWG. NO.	TITLE	NO.	DESCRIPTION	DATE	DRAWN	CK	APPR
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		B	RE-ISSUED FOR PADEP	10/2019	MWF(MM)	DOW(MM)	WMC(MM)



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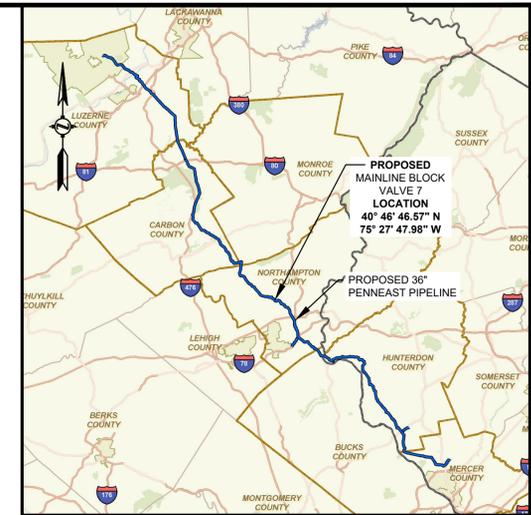
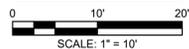
PENNEAST PIPELINE PROJECT			
MAINLINE BLOCK VALVE 7			
COVER SHEET			
NORTHAMPTON COUNTY, PENNSYLVANIA			
DRAWN BY	CAF	DATE ISSUED	10/15/2018
CHECKED BY	WMC	SCALE	AS SHOWN
APPROVED BY	JRD	APPROVED BY	
DWG. NO.	034-03-05-001	REV.	B

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NORTHAMPTON COUNTY, PENNSYLVANIA
USGS QUAD: NAZARETH, PENNSYLVANIA



SITE PLAN



LOCATION MAP
SCALE: 1" = 15 MILES

LEGENDS

PROPOSED

- PROPOSED PIPELINE
- PROPOSED PERMANENT EASEMENT
- FACILITY PERMANENT EASEMENT
- PROPOSED PIPELINE LIMITS OF DISTURBANCE (REFER TO MAINLINE EROSION & SEDIMENT CONTROL PLAN)
- ESCGP BOUNDARY

EXISTING

- PROPERTY LINE
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- APPROXIMATE 100 YEAR FLOODWAY
- APPROXIMATE 150' RIPARIAN AREA
- WATERBODY (DELINEATED)
- LINE LIST NUMBER
- SOIL BOUNDARY
- SOIL TYPE ABBREVIATION
- EXISTING OVERHEAD LINE
- EXISTING PIPELINE
- EXISTING CULVERT
- EXISTING CATCH BASIN
- EXISTING UTILITY POLE
- EXISTING SIGN



- ENVIRONMENTAL NOTES:
- AS PER §102.4(B)(5)(III), THE LAND USE CHARACTERISTICS ARE CLASSIFIED BY PRIMARY VEGETATION COVER TYPE AND/OR PREDOMINANT LAND USE. THE FACILITY SITE'S CURRENT LAND USE IS FARMLAND.
 - AS PER §102.4(B)(5)(V), THE SITE DRAINS TO THE EAST BRANCH MONOCACY CREEK, WHICH HAS A CHAPTER 93 DESIGNATED USE OF HQ-CWF (HIGH QUALITY COLD WATER FISH).



- REFERENCE:
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 - WATERBODY INFORMATION PROVIDED BY AECOM 2015 THRU 2019.
 - HORIZONTAL DATUM IS UTM83-16F. VERTICAL DATUM IS NAVD1988.

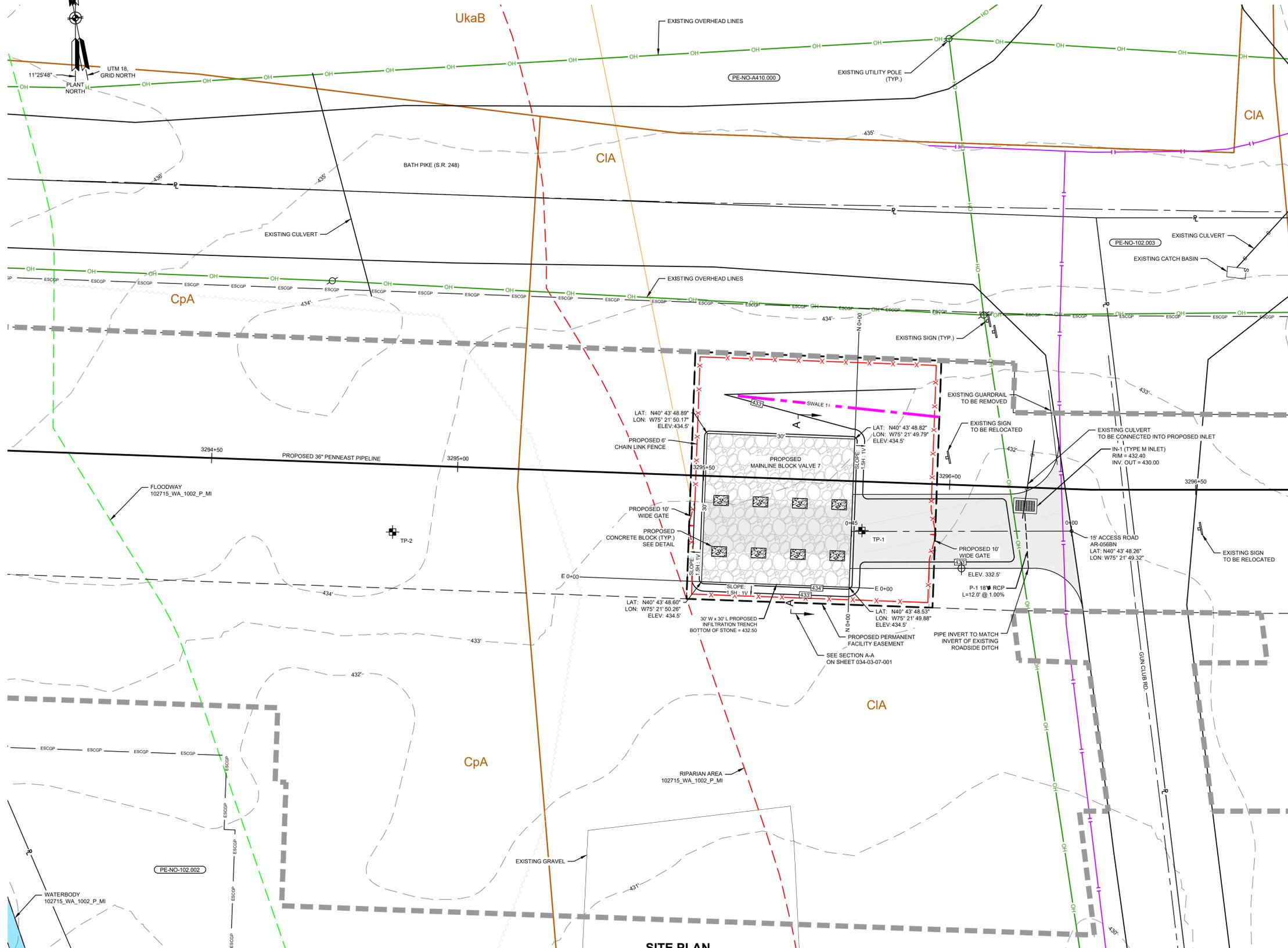
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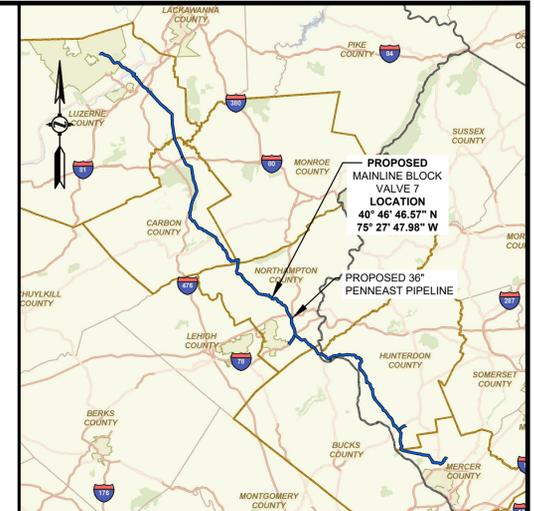
PENNEAST PIPELINE PROJECT MAINLINE BLOCK VALVE 7 EXISTING CONDITIONS NORTHAMPTON COUNTY, PENNSYLVANIA			
DRAWN BY	CAF	DATE ISSUED	10/15/2018
CHECKED BY	KEK	SCALE	AS SHOWN
APPROVED BY	MJD	APPROVED BY	
DWG. NO.	034-03-03-001	REV. NO.	B

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NORTHAMPTON COUNTY, PENNSYLVANIA
USGS QUAD: NAZARETH, PENNSYLVANIA



SITE PLAN
SCALE: 1" = 10'



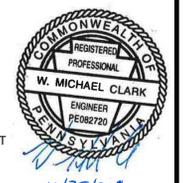
LOCATION MAP
SCALE: 1" = 15 MILES

LEGENDS

- PROPOSED**
- PROPOSED 36" PIPELINE
 - - - PROPOSED PERMANENT EASEMENT
 - - - FACILITY PERMANENT EASEMENT
 - - - PROPOSED PIPELINE LIMITS OF DISTURBANCE (REFER TO MAINLINE EROSION & SEDIMENT CONTROL PLAN)
 - - - ESCGP BOUNDARY
 - IMPERVIOUS AREA
 - ▨ INFILTRATION TRENCH
 - ▨ IMPERVIOUS AREA OVER INFILTRATION TRENCH
 - x - x - PROPOSED FENCE
 - - - PROPOSED SWALE
 - - - PROPOSED MAJOR CONTOUR
 - - - PROPOSED MINOR CONTOUR
 - ⊕ TEST PITS
 - PROPOSED CONCRETE BLOCK
- EXISTING**
- - - PROPERTY LINE
 - - - EXISTING MAJOR CONTOUR
 - - - EXISTING MINOR CONTOUR
 - - - APPROXIMATE 100 YEAR FLOODWAY
 - - - APPROXIMATE 150' RIPARIAN AREA
 - WATERBODY (DELINEATED)
 - - - EXISTING SWALE
 - PE-LU-001.000 LINE LIST NUMBER
 - UbB SOIL BOUNDARY
 - OH EXISTING OVERHEAD LINE
 - - - EXISTING PIPELINE
 - - - EXISTING CULVERT
 - - - EXISTING TREELINE
 - EXISTING CATCH BASIN
 - EXISTING UTILITY POLE
 - ⊕ EXISTING SIGN

ENVIRONMENTAL NOTES:

- AS PER §102.4(B)(5)(III), THE LAND USE CHARACTERISTICS ARE CLASSIFIED BY PRIMARY VEGETATION COVER TYPE AND/OR PREDOMINANT LAND USE. THE FACILITY SITE IS SPLIT BETWEEN TWO LAND USE TYPES: FORESTED/WOODLAND (APPROXIMATELY 2.4 ACRES) AND OPEN LAND (APPROXIMATELY 1.3 ACRES).
- AS PER §102.4(B)(5)(V), THE SITE IS LOCATED WITHIN THE TROUT BROOK WATERSHED, WHICH HAS A CHAPTER 93 DESIGNATED USE OF CWF (COLD-WATER FISH), AND MF (MIGRATORY FISH).



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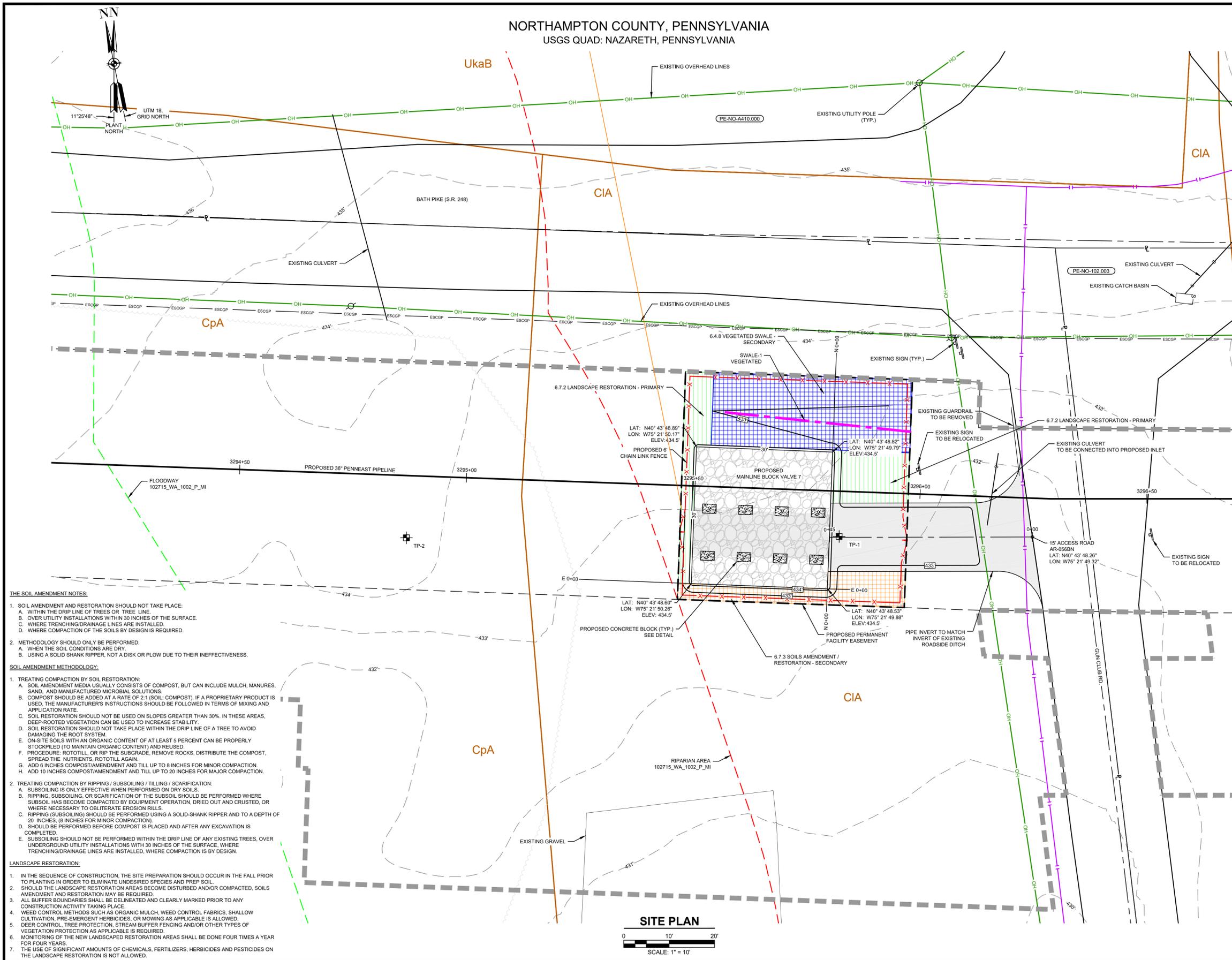


PENNEAST PIPELINE PROJECT
MAINLINE BLOCK VALVE 7
POST CONSTRUCTION STORMWATER MANAGEMENT PLAN
NORTHAMPTON COUNTY, PENNSYLVANIA

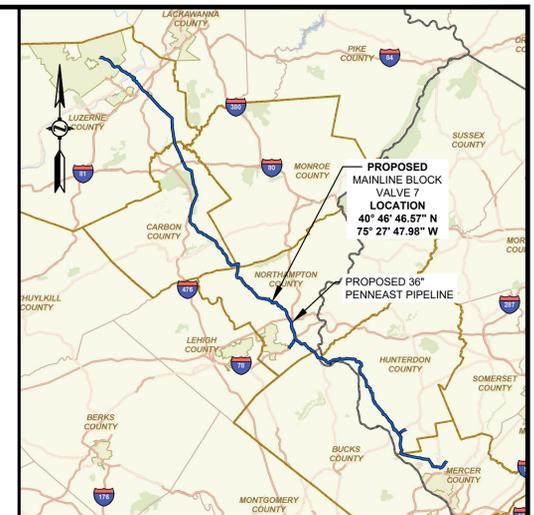
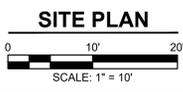
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CHECKED BY	WMC	SCALE	AS SHOWN
APPROVED BY	JRD	APPROVED BY	
DWG. NO.	034-03-06-001	REV. NO.	B

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NORTHAMPTON COUNTY, PENNSYLVANIA
USGS QUAD: NAZARETH, PENNSYLVANIA



- THE SOIL AMENDMENT NOTES:**
- SOIL AMENDMENT AND RESTORATION SHOULD NOT TAKE PLACE:
 - WITHIN THE DRIP LINE OF TREES OR TREE LINE.
 - OVER UTILITY INSTALLATIONS WITHIN 30 INCHES OF THE SURFACE.
 - WHERE TRENCHING/DRAINAGE LINES ARE INSTALLED.
 - WHERE COMPACTION OF THE SOILS BY DESIGN IS REQUIRED.
 - METHODOLOGY SHOULD ONLY BE PERFORMED:
 - WHEN THE SOIL CONDITIONS ARE DRY.
 - USING A SOLID SHANK RIPPER, NOT A DISK OR PLOW DUE TO THEIR INEFFECTIVENESS.
- SOIL AMENDMENT METHODOLOGY:**
- TREATING COMPACTION BY SOIL RESTORATION:
 - SOIL AMENDMENT MEDIA USUALLY CONSISTS OF COMPOST, BUT CAN INCLUDE MULCH, MANURES, SAND, AND MANUFACTURED MICROBIAL SOLUTIONS.
 - COMPOST SHOULD BE ADDED AT A RATE OF 2:1 (SOIL: COMPOST). IF A PROPRIETARY PRODUCT IS USED, THE MANUFACTURER'S INSTRUCTIONS SHOULD BE FOLLOWED IN TERMS OF MIXING AND APPLICATION RATE.
 - SOIL RESTORATION SHOULD NOT BE USED ON SLOPES GREATER THAN 30%. IN THESE AREAS, DEEP-ROOTED VEGETATION CAN BE USED TO INCREASE STABILITY.
 - SOIL RESTORATION SHOULD NOT TAKE PLACE WITHIN THE DRIP LINE OF A TREE TO AVOID DAMAGING THE ROOT SYSTEM.
 - ON-SITE SOILS WITH AN ORGANIC CONTENT OF AT LEAST 5 PERCENT CAN BE PROPERLY STOCKPILED (TO MAINTAIN ORGANIC CONTENT) AND REUSED.
 - PROCEDURE: ROTOTILL OR RIP THE SUBGRADE, REMOVE ROCKS, DISTRIBUTE THE COMPOST, SPREAD THE NUTRIENTS, ROTOTILL AGAIN.
 - ADD 6 INCHES COMPOST/AMENDMENT AND TILL UP TO 8 INCHES FOR MINOR COMPACTION.
 - ADD 10 INCHES COMPOST/AMENDMENT AND TILL UP TO 20 INCHES FOR MAJOR COMPACTION.
 - TREATING COMPACTION BY RIPPING / SUBSOILING / TILLING / SCARIFICATION:
 - SUBSOILING IS ONLY EFFECTIVE WHEN PERFORMED ON DRY SOILS.
 - RIPPING, SUBSOILING, OR SCARIFICATION OF THE SUBSOIL SHOULD BE PERFORMED WHERE SUBSOIL HAS BECOME COMPACTED BY EQUIPMENT OPERATION, DRIED OUT AND CRUSTED, OR WHERE NECESSARY TO OBLITERATE EROSION RILLS.
 - RIPPING (SUBSOILING) SHOULD BE PERFORMED USING A SOLID-SHANK RIPPER AND TO A DEPTH OF 20 INCHES. (8 INCHES FOR MINOR COMPACTION).
 - SHOULD BE PERFORMED BEFORE COMPOST IS PLACED AND AFTER ANY EXCAVATION IS COMPLETED.
 - SUBSOILING SHOULD NOT BE PERFORMED WITHIN THE DRIP LINE OF ANY EXISTING TREES, OVER UNDERGROUND UTILITY INSTALLATIONS WITHIN 30 INCHES OF THE SURFACE, WHERE TRENCHING/DRAINAGE LINES ARE INSTALLED, WHERE COMPACTION IS BY DESIGN.
- LANDSCAPE RESTORATION:**
- IN THE SEQUENCE OF CONSTRUCTION, THE SITE PREPARATION SHOULD OCCUR IN THE FALL PRIOR TO PLANTING IN ORDER TO ELIMINATE UNDESIRABLE SPECIES AND PREP SOIL.
 - SHOULD THE LANDSCAPE RESTORATION AREAS BECOME DISTURBED AND/OR COMPACTED, SOILS AMENDMENT AND RESTORATION MAY BE REQUIRED.
 - ALL BUFFER BOUNDARIES SHALL BE DELINEATED AND CLEARLY MARKED PRIOR TO ANY CONSTRUCTION ACTIVITY TAKING PLACE.
 - WEED CONTROL METHODS SUCH AS ORGANIC MULCH, WEED CONTROL FABRICS, SHALLOW CULTIVATION, PRE-EMERGENT HERBICIDES, OR MOWING AS APPLICABLE IS ALLOWED.
 - DEER CONTROL, TREE PROTECTION, STREAM BUFFER FENCING AND/OR OTHER TYPES OF VEGETATION PROTECTION AS APPLICABLE IS REQUIRED.
 - MONITORING OF THE NEW LANDSCAPED RESTORATION AREAS SHALL BE DONE FOUR TIMES A YEAR FOR FOUR YEARS.
 - THE USE OF SIGNIFICANT AMOUNTS OF CHEMICALS, FERTILIZERS, HERBICIDES AND PESTICIDES ON THE LANDSCAPE RESTORATION IS NOT ALLOWED.



LEGENDS

PROPOSED

- PROPOSED 36" PIPELINE
- PROPOSED PERMANENT EASEMENT
- FACILITY PERMANENT EASEMENT
- PROPOSED PIPELINE LIMITS OF DISTURBANCE (REFER TO MAINLINE EROSION & SEDIMENT CONTROL PLAN)
- ESGCP BOUNDARY
- IMPERVIOUS AREA
- INFILTRATION TRENCH
- IMPERVIOUS AREA OVER INFILTRATION TRENCH
- PROPOSED FENCE
- PROPOSED SWALE
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- TEST PITS
- PROPOSED CONCRETE BLOCK
- 5.6.1 MINIMIZE TOTAL DISTURBED AREA - PRIMARY
- 6.2 LANDSCAPE RESTORATION - PRIMARY
- 5.6.2 MINIMIZE SOIL COMPACTION - SECONDARY
- 6.3 SOILS AMENDMENT / RESTORATION - SECONDARY
- 6.4.8 VEGETATED SWALE - SECONDARY

EXISTING

- PROPERTY LINE
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- APPROXIMATE 100 YEAR FLOODWAY
- APPROXIMATE 150' RIPARIAN AREA
- EXISTING SWALE
- LINE LIST NUMBER
- SOIL BOUNDARY
- SOIL TYPE ABBREVIATION
- EXISTING OVERHEAD LINE
- EXISTING PIPELINE
- EXISTING CULVERT
- EXISTING TREELINE
- EXISTING CATCH BASIN
- EXISTING UTILITY POLE
- EXISTING SIGN

ENVIRONMENTAL NOTES:

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PROFESSIONAL SEAL: W. MICHAEL CLARK, REGISTERED PROFESSIONAL ENGINEER, PENNSYLVANIA, No. PE082720, dated 10/25/2019.

811 Know what's below. Call before you dig.

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PennEast PIPELINE

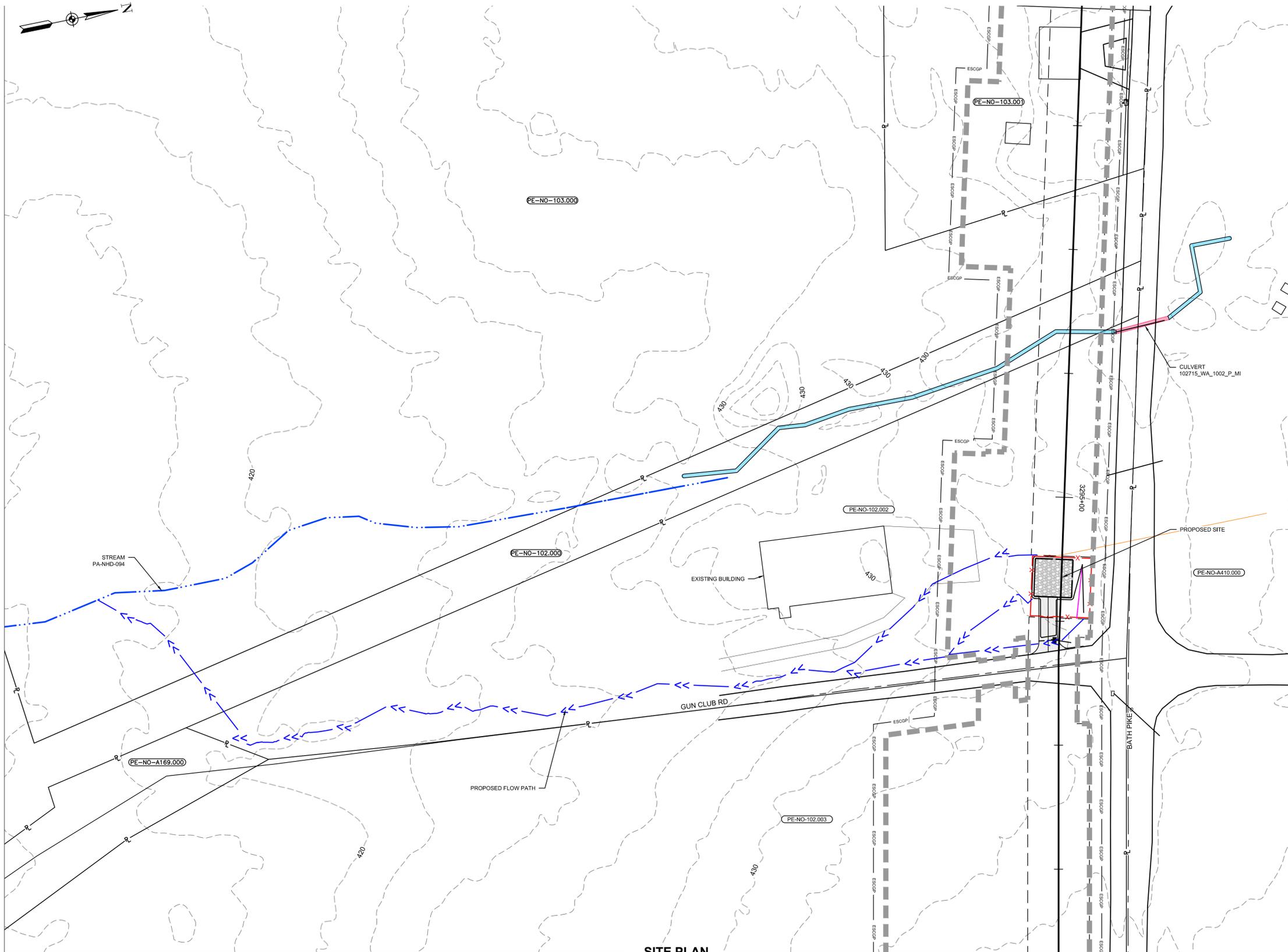
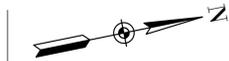
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PROJECT: PENNEAST PIPELINE PROJECT
MAINLINE BLOCK VALVE 7
SITE RESTORATION PLAN
NORTHAMPTON COUNTY, PENNSYLVANIA

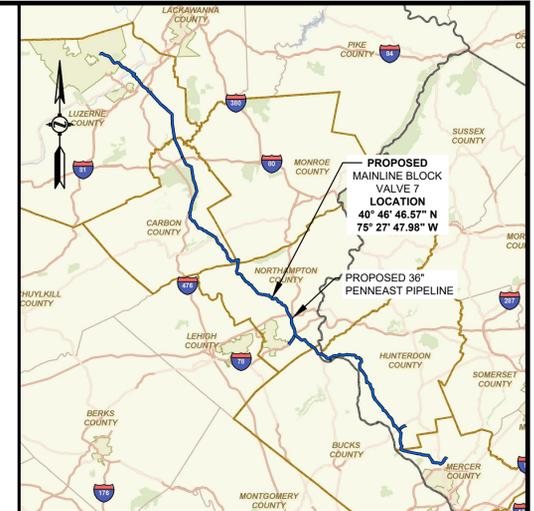
DRAWN BY: CAF **DATE ISSUED:** 10/15/2018
CHECKED BY: WMC **SCALE:** AS SHOWN
APPROVED BY: JRD **APPROVED BY:**

DWG. NO.: 034-03-001.1 **REV. NO.:** B

NORTHAMPTON COUNTY, PENNSYLVANIA
USGS QUAD: NAZARETH, PENNSYLVANIA



SITE PLAN
SCALE: 1" = 40'



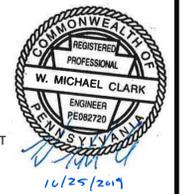
LOCATION MAP
SCALE: 1" = 15 MILES

LEGENDS

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 - - - PROPOSED PERMANENT EASEMENT
 - - - FACILITY PERMANENT EASEMENT
 - - - PROPOSED PIPELINE LIMITS OF DISTURBANCE (REFER TO MAINLINE EROSION & SEDIMENT CONTROL PLAN)
 - - - ESCGP BOUNDARY
 - IMPERVIOUS AREA
 - INFILTRATION TRENCH
 - IMPERVIOUS AREA OVER INFILTRATION TRENCH
 - x - x - PROPOSED FENCE
 - - - PROPOSED MAJOR CONTOUR
 - - - PROPOSED MINOR CONTOUR
 - - - PROPOSED FLOW PATH
- EXISTING**
- - - PROPERTY LINE
 - - - 1260' EXISTING MAJOR CONTOUR
 - - - EXISTING MINOR CONTOUR
 - - - STREAM (PUBLIC)
 - - - EXISTING SWALE
 - PE-LU-001.000 LINE LIST NUMBER
 - - - EXISTING CULVERT
 - EXISTING CATCH BASIN

ENVIRONMENTAL NOTES:

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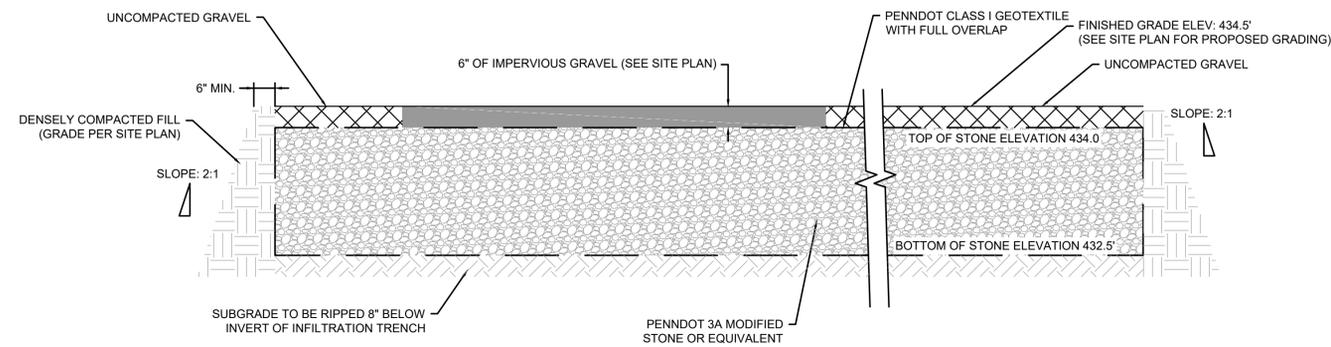
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PENNEAST PIPELINE PROJECT
MAINLINE BLOCK VALVE 7
OFFSITE STORMWATER DISCHARGE PLAN
NORTHAMPTON COUNTY, PENNSYLVANIA

DRAWN BY	CAF	DATE ISSUED	10/15/2018
CHECKED BY	WMC	SCALE	AS SHOWN
APPROVED BY	JRD	APPROVED BY	
DWG. NO.	034-03-06-002	REV. NO.	B



SECTION A - A

UNDERGROUND STORMWATER DETENTION SYSTEM

NO SCALE

Test Pit No.	Existing Grade Elevation (feet)	Proposed BMP Invert (feet)	Infiltration Test Elevation (feet)	Excavation Depth Elevation (feet)	Depth to High Groundwater (feet)
MLV-7 TP-1	432.3	432.5	427.3	5.0	No evidence of high groundwater observed
MLV-7 TP-2	432.6	432.5	427.6	5.0	No evidence of high groundwater observed

Test Pit	Final Rate Used
MLV-7 TP-1 (Factor of Safety of 2)	0.38 inch/hr
MLV-7 TP-2 (Factor of Safety of 2)	0.13 inch/hr
Observed Overall Rate	0.26 inch/hr
Design Rate	0.26 inch/hr

NOTES:

1. THE RATES FROM TP-1 AND TP-2 REPRESENT DESIGN RATES AS THE REQUIRED FACTOR OF SAFETY IS INCORPORATED INTO THE BASIN FLOOD TEST.
2. PROJECT DESIGN RATE FOR MLV-7 IS BASED ON TP-1 WHICH IS WITHIN THE FOOTPRINT OF THE PROPOSED BMP. HOWEVER, THE DESIGN RATE IS CONSISTENT WITH THE OTHER TEST PIT LOCATION.



		CLIENT APPROVAL			
		DATE			
REVISIONS					
NO.	DESCRIPTION	DATE	DRAWN	CK	APPR
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B	RE-ISSUED FOR PADEP	10/2019	MWF(MM)	DOW(MM)	WMC(MM)

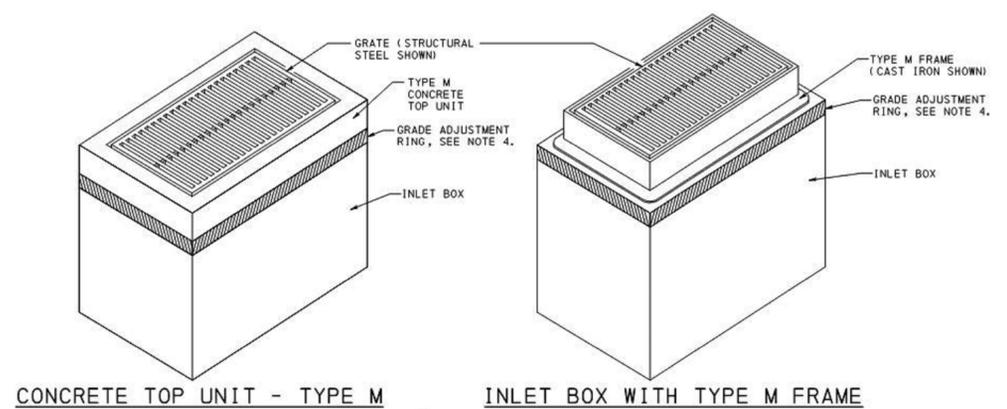
	PENNEAST PIPELINE PROJECT MAINLINE BLOCK VALVE 7 POST CONSTRUCTION STORMWATER MANAGEMENT DETAILS NORTHAMPTON COUNTY, PENNSYLVANIA	
	DRAWN BY CAF CHECKED BY WMC APPROVED BY JRD	DATE ISSUED 10/15/2018 SCALE AS SHOWN APPROVED BY
DWG. NO. 034-03-07-001	REV. NO. 8	

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SHEET 1 NOTES:

- CAST IRON GRATE NOTES:**
- SHEETS 1 AND 2 DEPICT THE DIMENSIONS REQUIRED FOR UNIFORMITY AND INTERCHANGEABILITY. IT DOES NOT INCLUDE DETAILS REQUIRED FOR FABRICATION OR MANUFACTURING. SUBMIT SHOP DRAWINGS TO THE BUREAU OF HIGHWAY DESIGN, PENNDOT ASSURANCE DIVISION CHIEF FOR REVIEW AND ACCEPTANCE.
 - PROVIDE CAST IRON GRATES SUPPLIED BY A MANUFACTURER LISTED IN PENNDOT BULLETIN 15.
 - PROVIDE MATERIALS AND WORKMANSHIP IN ACCORDANCE WITH THE PUBLICATION 408 AND THE CONTRACT SPECIAL PROVISIONS.
 - PROVIDE GRAY CAST IRON CONFORMING TO AASHTO M105 (ASTM A48/A48M), CLASS 225B (35B) AND AASHTO M306.
 - PROVIDE BICYCLE SAFE GRATES WHERE BICYCLE TRAFFIC IS ANTICIPATED, SUCH AS CURBED ROADWAYS IN URBAN AREAS OR ROADWAYS SPECIFICALLY ESTABLISHED AND SIGNED AS BIKEWAYS OR HAVING BIKE LANES. ALTERNATE BICYCLE SAFE GRATE DESIGNS REQUIRE A SHOP DRAWING, AS SPECIFIED IN NOTE 1, AND MUST CONFORM TO THE DIMENSIONAL REQUIREMENTS FOR PROPER INSTALLATION WITH THE CURRENT TOP UNITS.
 - PROVIDE ADA COMPLIANT GRATES WHERE PEDESTRIAN TRAFFIC IS ANTICIPATED, SUCH AS CURBED ROADWAYS IN URBAN AREAS ADJACENT TO SIDEWALKS. ALTERNATE ADA COMPLIANT GRATE DESIGNS REQUIRE A SHOP DRAWING, AS SPECIFIED IN NOTE 1, AND MUST CONFORM TO THE DIMENSIONAL REQUIREMENTS FOR PROPER INSTALLATION WITH THE CURRENT TOP UNITS.
 - CAST IRON GRATES ARE PERMITTED TO BE USED AS AN ALTERNATE TO THE STRUCTURAL STEEL GRATES PROVIDED THEY ARE SUPPLIED BY A MANUFACTURER LISTED IN BULLETIN 15 AND ARE APPROVED FOR FH-93 OR HS-20 LOADING. CAST IRON GRATES NOT APPROVED FOR FH-93 OR HS-20 LOADING MAY BE USED OUTSIDE OF THE TRAVEL LANES AT THE EDGE OF OUTSIDE SHOULDER, SVALES, WIDE MEDIUM SVALES AND INFIELD AREAS.
 - REFER TO SHEET 10 FOR TWO PIECE CAST IRON GRATES.

- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. U.S. CUSTOMARY UNITS IN () PARENTHESES.
- METRIC UNITS INDICATED ARE SOFT CONVERTED FROM U.S. CUSTOMARY UNITS.
- DESIGN SPECIFICATIONS AND REQUIREMENTS:
 - AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS AND AS SUPPLEMENTED BY THE DESIGN MANUAL, PART 4, STRUCTURES.
 - DESIGN IS IN ACCORDANCE WITH THE LOAD AND RESISTANCE FACTOR DESIGN METHOD (LRFD).
 - INLET BOXES ARE DESIGNED FOR AN ALLOWABLE FOUNDATION PRESSURE EQUAL TO 0.190 MPa (2.0 TONS/SQ. FT.) AT THE SERVICE LIMIT STATE.
- CONSTRUCTION SPECIFICATIONS:
 - PROVIDE MATERIALS AND PERFORM WORK IN ACCORDANCE WITH THE CURRENT VERSION OF THE PENNSYLVANIA DEPARTMENT OF TRANSPORTATION PUBLICATION 408 AND THE CONTRACT SPECIAL PROVISIONS.
- SHOP DRAWINGS FOR INLET BOXES, TOP SLABS, AND TRANSITION SLABS ARE NOT REQUIRED IF THE ITEM IS CONSTRUCTED/FABRICATED IN ACCORDANCE WITH THIS STANDARD.
- THIS STANDARD DEPICTS THE DIMENSIONS REQUIRED FOR UNIFORMITY AND INTERCHANGEABILITY. IT DOES NOT INCLUDE DETAILS REQUIRED FOR FABRICATION OR MANUFACTURING. FOR DEVIATIONS OR MODIFICATIONS OF THE STANDARDS, SUBMIT SHOP DRAWINGS TO THE BUREAU OF DESIGN HIGHWAY QUALITY ASSURANCE DIVISION CHIEF FOR REVIEW AND ACCEPTANCE.
- THE DESIGNER IS RESPONSIBLE FOR DETERMINING THE TYPE OF INLET BOX REQUIRED BASED ON THE REQUIRED PIPE SIZE(S) AND PIPE OPENING(S). REFER TO TABLES A AND B ON SHEET 15 FOR ADDITIONAL INFORMATION. THE DESIGNER IS ALSO RESPONSIBLE TO DETERMINE THE REQUIRED PAY ITEM FOR AN INSTALLATION BASED ON THE OVERALL INSTALLATION HEIGHT.
- THE SELECTION OF COMPONENTS TO ACHIEVE A SPECIFIED INLET ASSEMBLY IS THE CONTRACTOR'S RESPONSIBILITY, UNLESS OTHERWISE INDICATED ON THE CONTRACT DOCUMENTS.
- THE SIZE OF THE INLET TOP UNITS, PER RC-45M, ARE BASED ON THE MINIMUM DIMENSIONS INDICATED FOR THE STANDARD INLET BOX.
- MINIMUM PIPE DIAMETERS (INSIDE):
 - FILL HEIGHT LESS THAN OR EQUAL TO 1600 mm (25') 450 mm (18") FOR CIRCULAR PIPE (OR EQUIVALENT SIZE PIPE ARCH)
 - FILL HEIGHTS GREATER THAN 1600 mm (25') 600 mm (24")
- INSIDE INLET BOX DIMENSIONS ARE BASED ON PROVIDING A PIPE OPENING TO ACCOMMODATE A MINIMUM 450 mm (18") PIPE TO A MAXIMUM 2438 mm (96") PIPE. IF A LARGER PIPE SIZE IS REQUIRED, THE DESIGNER IS RESPONSIBLE FOR PROVIDING DESIGN AND DETAILS IN ACCORDANCE WITH PENNDOT REQUIREMENTS.
- INLETS THAT EXCEED THE MAXIMUM HEIGHT INDICATED REQUIRE SPECIAL DESIGN AND DETAILS. DESIGNER IS RESPONSIBLE FOR PROVIDING DESIGN AND DETAILS IN ACCORDANCE WITH PENNDOT REQUIREMENTS.
- SHOW ORIENTATION OF INLET BOXES ON THE CONTRACT DRAWINGS.
- THE TOP SLAB IS NOT PERMITTED TO BE POURED MONOLITHICALLY WITH THE ADJACENT BOX SECTION.
- PROVIDE 50 mm (2") DIAMETER WEEPHOLES IN THE WALLS WHEN THE DEPTH BETWEEN THE FINISHED GRADE ELEVATION AND THE TOP OF BOTTOM SLAB ELEVATION IS GREATER THAN 3048 mm (10'-0").
 - VERTICAL PLACEMENT: 1500 mm (5'-0") MAXIMUM SPACING
 - HORIZONTAL PLACEMENT: PLACE WEEPHOLES IN THE SIDE WALLS THAT ARE PERPENDICULAR TO TRAFFIC.
 - LOCATE WEEPHOLES A MINIMUM OF 150 mm (6") FROM PIPE OPENINGS OR JOINTS.
 - LOCATE WEEPHOLES A MINIMUM OF 305 mm (1'-0") ABOVE OUTLET PIPE INVERT.

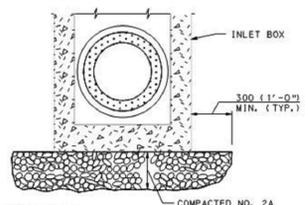


CONCRETE TOP UNIT - TYPE M

INLET BOX WITH TYPE M FRAME

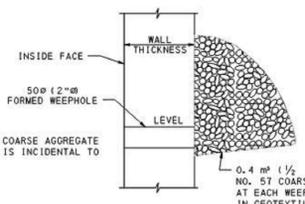
NOTES:

- FOR ADDITIONAL INFORMATION, SEE SHEET 2 NOTES.
- STANDARD INLET BOXES SHOWN, PROVIDE TOP SLABS FOR OTHER INLET BOX TYPES.
- SEE RC-45M FOR DETAILS FOR THE CONCRETE TOP UNITS, FRAMES, AND GRATES.
- PROVIDE GRADE ADJUSTMENT RINGS WHEN REQUIRED. SEE RC-45M FOR DETAILS.



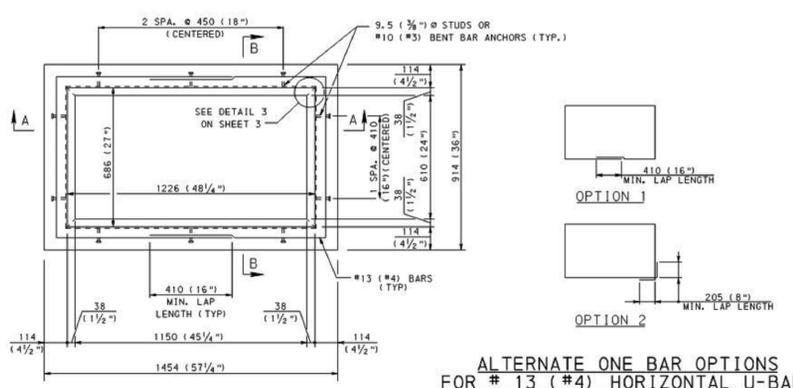
NOTE: COST OF NO. 2A COARSE AGGREGATE IS INCIDENTAL TO THE INLET BOX.

INLET BOX SUBBASE PREPARATION DETAIL
(SEE FIELD CONSTRUCTION NOTES ON SHEET 1)

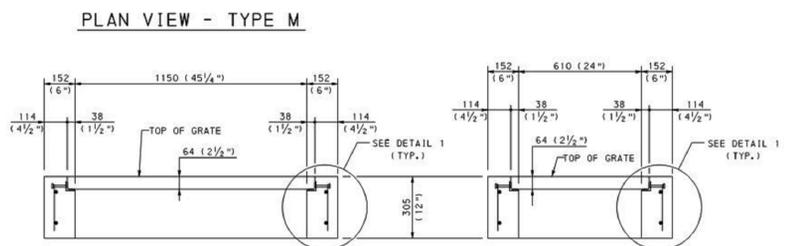


NOTE: COST OF NO. 57 COARSE AGGREGATE AND GEOTEXTILE IS INCIDENTAL TO THE INLET BOX.

WEEPHOLE DETAIL
(SEE GENERAL NOTE 15 ON SHEET 1)



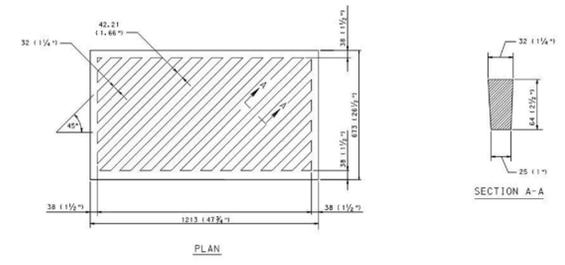
ALTERNATE ONE BAR OPTIONS FOR # 13 (#4) HORIZONTAL U-BARS



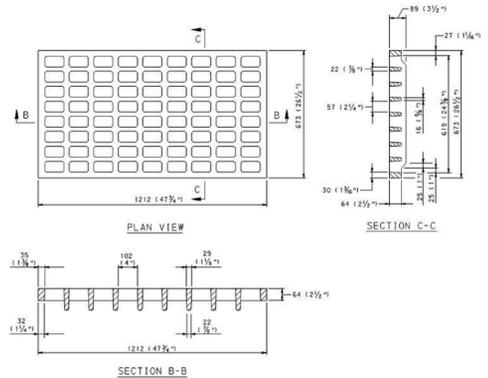
PLAN VIEW - TYPE M

SECTION A-A

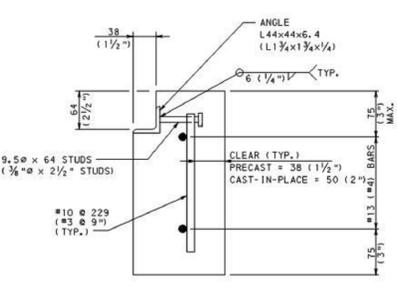
SECTION B-B



ONE PIECE CAST IRON GRATE



ONE PIECE CAST IRON GRATE - BICYCLE SAFE



DETAIL 1

PRECAST INLET BOXES (NOT TO SCALE)

SHEET 2 NOTES:

- CONSTRUCT INLET BOXES IN ACCORDANCE WITH THE REQUIREMENTS OF PUBLICATION 408, SECTION 114.
- PROVIDE PRECAST CONCRETE INLET BOXES SUPPLIED BY A MANUFACTURER LISTED IN BULLETIN 15.
- PROVIDE A TOP SLAB TO SUPPORT THE INLET TOP UNITS M, S, C AND C ALTERNATE WHEN A STANDARD INLET BOX IS NOT SPECIFIED. PROVIDE OPENING TO ACCOMMODATE THE MANHOLE COVER WHEN SPECIFIED ON THE CONTRACT DRAWINGS.
- PROVIDE A TRANSITION SLAB BETWEEN TWO SEPARATE INLET BOX SIZES, WHEN TWO SEPARATE INLET BOX SIZES ARE USED. (SEE TRANSITION SLAB NOTES.)
- CLEAR COVER FOR STEEL:
 - WALLS: 1 1/2"
 - FOOTINGS (BOTTOM SLAB): TOP COVER: 2" BOTTOM COVER: 1 1/2" SIDE COVER: 1 1/2"
 - TOP AND TRANSITION SLABS (TOP AND BOTTOM): 1 1/2"
- MINIMUM SLAB AND WALL THICKNESS:
 - MINIMUM TOP SLAB THICKNESS: 8"
 - MINIMUM WALL THICKNESS: 8"
 - MINIMUM BOTTOM SLAB THICKNESS: 7"
- THICKNESS OF WALL IS PERMITTED TO VARY FROM SECTION TO SECTION. INSIDE FACE OF WALLS MUST ALIGN BETWEEN SECTIONS.
- FABRICATOR IS RESPONSIBLE FOR LIFTING, HANDLING AND TRANSPORTATION STRESSES.
- LIFTING DEVICES:
 - PROVIDE GALVANIZED STEEL OR PLASTIC LIFTING DEVICES FOR HANDLING AND INSTALLATION.
 - FILL LIFTING DEVICES WITH NON-SHRINK GROUT AFTER INSTALLATION.
 - PROVIDE LIFTING DEVICES WITH A MINIMUM CAPACITY OF AT LEAST FOUR TIMES THE CALCULATED LOAD ON THE DEVICE.
- TAPERS MAY BE PROVIDED ON THE INSIDE AND/OR OUTSIDE VERTICAL FACES OF THE INLET BOXES TO FACILITATE FORM STRIPPING. TAPERS MAY RESULT IN INTERNAL BOTTOM DIMENSIONS THAT VARY 1/4" FOOT PER SIDE TO A MAXIMUM OF 1" PER SIDE.
- KEYED JOINTS MAY BE CONSTRUCTED UPWARDS OR DOWNWARDS. CLEAN JOINTS AND KEYS THOROUGHLY BEFORE PLACING NEXT SEGMENT. PLACE MORTAR OR CAULKING COMPOUND BETWEEN JOINTS IN ACCORDANCE WITH THIS STANDARD.
- PROVIDE EITHER A SHIPLAP OR KEYED JOINT BETWEEN THE BOTTOM OF THE TOP SLAB AND TOP OF THE BOX.
- PROVIDE EITHER A SHIPLAP OR KEYED JOINT BETWEEN THE TRANSITION SLAB AND THE ADJACENT TOP AND BOTTOM SECTIONS.
- PROVIDE EITHER A SHIPLAP OR KEYED JOINT BETWEEN PRECAST SECTIONS.
- SEGMENT HEIGHTS:
 - MINIMUM HEIGHTS:
 - RISER SECTIONS = 1'-0"
 - BASE SECTIONS = 2'-0"
 - MAXIMUM HEIGHT = 8'-6"

NOTE:

THESE DETAILS HAVE BEEN ADAPTED FROM PENNDOT JUNE 2010 STANDARD DRAWINGS. ADDITIONAL INFORMATION FROM STANDARD PENNDOT DRAWINGS AND SPECIFICATIONS ARE INCORPORATED AS REFERENCED.



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DATE

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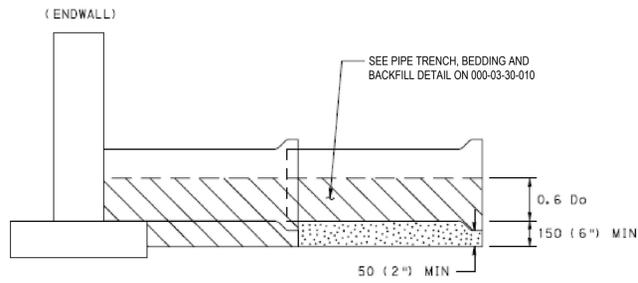
PENNEAST PIPELINE PROJECT
MAINLINE BLOCK VALVE 7
POST CONSTRUCTION STORMWATER MANAGEMENT DETAILS
 NORTHAMPTON COUNTY, PENNSYLVANIA

DRAWN BY: CAF DATE ISSUED: 10/15/2018
 CHECKED BY: WMC SCALE: AS SHOWN
 APPROVED BY: JRD APPROVED BY: [Signature]

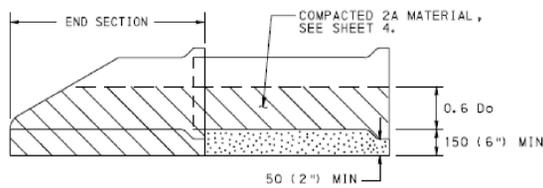
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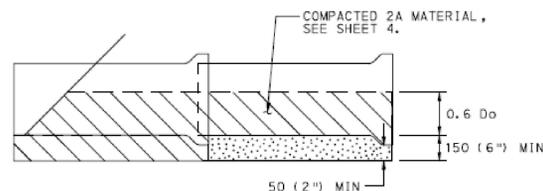
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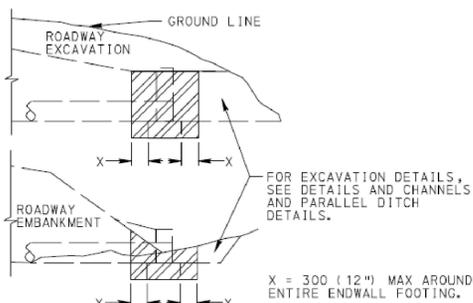
BACKFILL DETAIL AT ENDWALL
(FOR CONCRETE PIPE)



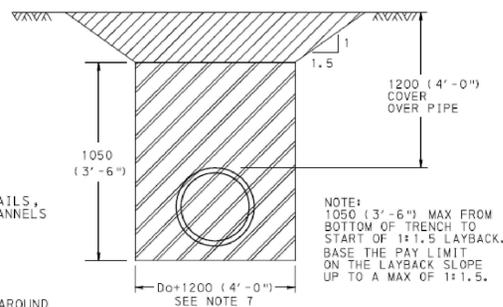
BACKFILL DETAIL AT END SECTION
(FOR CONCRETE PIPE)



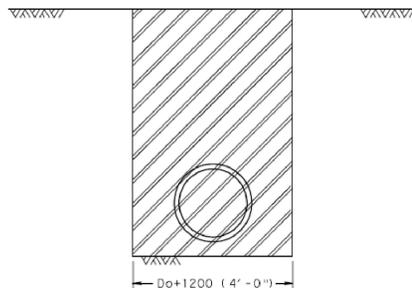
BACKFILL DETAIL AT LAST SECTION OF PIPE
(FOR CONCRETE PIPE)



EXCAVATION FOR ENDWALLS



PIPE TRENCH, BEDDING AND BACKFILL DETAIL
(NOT TO SCALE)



PAY LIMITS FOR PIPE EXCAVATION

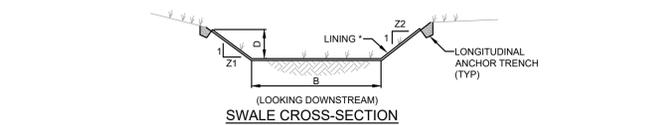
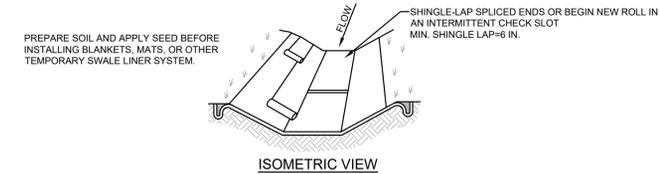
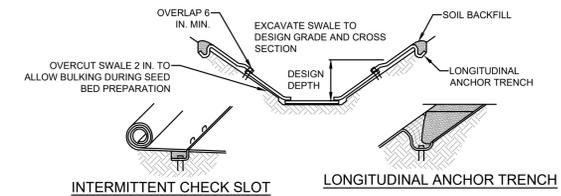
NOTES

1. PROVIDE MATERIALS AND CONSTRUCT AS SPECIFIED IN PUBLICATION 408, SECTION 601 FOR PIPE CULVERTS, SECTION 602 FOR CORRUGATED METAL PIPE-ARCH CULVERTS AND SECTION 603 FOR METAL PLATE CULVERTS.
2. SHORING OR TRENCH BOX INSTALLATION FOR FLEXIBLE PIPE IS NOT NORMALLY USED. IF SHORING OR TRENCH BOX INSTALLATION IS PERMITTED IN SPECIAL CIRCUMSTANCES, REFER TO PUBLICATION 408, SECTION 601.3(g).
3. IN ALL EXCAVATION AREAS FOLLOW OSHA SAFETY REQUIREMENTS.
4. DO NOT COMPACT NO. 8 MATERIAL USED FOR BEDDING UNDER CONCRETE PIPES.
5. ALLOW NO PAYMENT FOR EXCAVATION IN EXCESS OF SPECIFIED LIMITS AND FOR ADDITIONAL BACKFILL MATERIAL REQUIRED.
6. PAYMENT FOR THE BACKFILL ENVELOPE, INCLUDING BEDDING, COARSE AGGREGATE AND SUITABLE MATERIAL UP TO 300 (12'') ABOVE THE PIPE IS INCIDENTAL TO THE PIPE.
7. FOR BOTTOM TRENCH WIDTHS ≥ 2.5 m (8'-0''), ALL EXCAVATION IS CLASS 1.
8. FOR INLET OR OUTLET PROTECTION SEE DETAIL 4.
9. CONSTRUCT FLEXIBLE BASE REPLACEMENT IN ACCORDANCE WITH THE REQUIREMENTS OF PUBLICATION 408, SECTION 316.
10. PREPARE EXPOSED VERTICAL AND HORIZONTAL SURFACES AS PER PUBLICATION 408, SECTION 409.3(k).
11. FOR NON-OVERLAY APPLICATIONS, THE TOP 40 (1 1/2'') OF BASE REPLACEMENT WILL BE SUPERPAVE WEARING COURSE.
12. FOR RESTORATION OF RIGID PAVEMENT, REFER TO PUBLICATION 408, SECTION 516 AND RC-26M.
13. FOR SUPERPAVE BASE REPLACEMENT, SAW CUTTING, EXCAVATION, HAULING AND DISPOSAL, BITUMINOUS TACK COAT, BITUMINOUS MATERIAL, AND SEALING OF THE JOINTS ARE CONSIDERED AS INCIDENTAL.
14. PERFORM AND COMPLETE PIPE RESTORATION WORK PRIOR TO THE FLEXIBLE SUPERPAVE BASE REPLACEMENT.

LEGEND

- CLASS 4 EXCAVATION
- CLASS 1 EXCAVATION
- AGGREGATE FOR BEDDING (AASHTO NO. 8)
- COARSE AGGREGATE (2A)

Do = OUTSIDE DIAMETER OF PIPE.



* 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 NO.	BOTTOM WIDTH (FT)	LEFT SIDE SLOPE (H:V)	RIGHT SIDE SLOPE (H:V)	DEPTH (FT)	LINING MATERIAL
SWALE1	0.0	4.0	4.0	1.00	LANDLOK TRM-435 OR EQUAL

VEGETATED SWALE DETAIL
(NOT TO SCALE)



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PennEast PIPELINE

PENNEAST PIPELINE PROJECT
MAINLINE BLOCK VALVE 7
POST CONSTRUCTION STORMWATER
MANAGEMENT DETAILS
NORTHAMPTON COUNTY, PENNSYLVANIA

DRAWN BY: CAF DATE ISSUED: 10/15/2018
CHECKED BY: WMC SCALE: AS SHOWN
APPROVED BY: JRD APPROVED BY:

DWG. NO. 034-03-07-003 REV. NO. 8

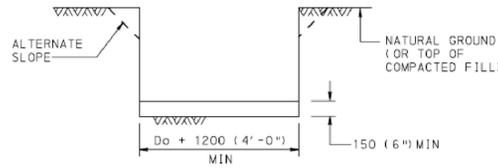
NOTE:
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DRAINAGE PIPE INSTALLATION PROCEDURE

CONSTRUCTION DETAILS BELOW COVER THE FOLLOWING CONDITIONS:

- (A) PIPE LYING ON TOP OF THE NATURAL GROUND, ROCK OR COMPACTED (97% SPD) FILL.
- (B) THE EXISTING GROUND IS BETWEEN THE TOP AND THE BOTTOM OF THE PROPOSED PIPE AND THE PIPE IS TO BE COVERED WITH EARTH FILL.
- (C) THE TOP OF PIPE IS BELOW THE LEVEL OF THE NATURAL GROUND OR COMPACTED FILL (TO MINIMUM 97% SPD) AND TO BE COVERED WITH EARTH FILL TO HEIGHTS ABOVE THE NATURAL GROUND.

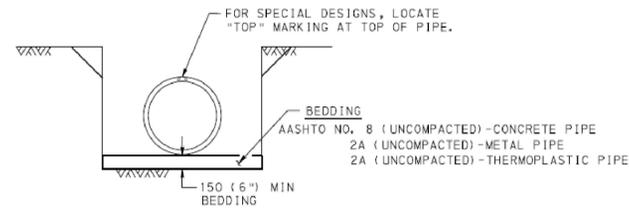
- STEP 1 : REMOVE TOPSOIL (COMPRESSIBLE LAYER OF ORGANIC MATERIAL) TO A WIDTH EQUAL TO 5 OUTSIDE DIAMETERS OF THE PIPE IN ALL FILL CONDITIONS ABOVE (A), (B) & (C). ALSO IF SPECIFIED ON THE CONTRACT DRAWING, UNDERCUT FOR THE DEPTH BELOW THE BEDDING AS SHOWN BY DESIGN (MAKE MIN WIDTH 5 DIAMETERS OF PIPE). PAY AS CLASS 1 EXCAVATION.
- STEP 2 : CONSTRUCT THE EMBANKMENT TO 1200 (4'-0") ABOVE THE TOP OF PIPE OR TO THE SUBGRADE ELEVATION, WHICHEVER IS LESS. FOR PIPES 1800 (72") OR GREATER SEE NOTE 1.
- STEP 3 : EXCAVATE THE TRENCH TO THE WIDTH OF THE OUTSIDE DIAMETER OF THE PIPE BARREL PLUS 1200 (4'-0") AND CREATE AN APPROPRIATE BEDDING 150 (6") DEEP.



STEP 4 : FOR CONCRETE PIPE, IF THIS EXCAVATION IS THROUGH ROCK, OR HARD SHALE, OR IN AREAS OF UNDERCUT, PROVIDE 150+40 mm/m (6"+1/2" INCH/FT) OF Do+1200 (4'-0"), BELOW THE INTENDED BOTTOM ELEVATION OF THE PIPE, 400 (16") MAX.

NOTE: IF UNSUITABLE MATERIAL IS FOUND, UNDERCUT AS DIRECTED AND BACKFILL WITH SUITABLE MATERIAL TO BOTTOM OF BEDDING ELEVATION. (UNLESS OTHERWISE SPECIFIED.)

STEP 5 : LAY PIPE ON APPROPRIATE BEDDING. SEE STEP 6D FOR METAL PIPE ARCH AND METAL PLATE PIPE ARCH.



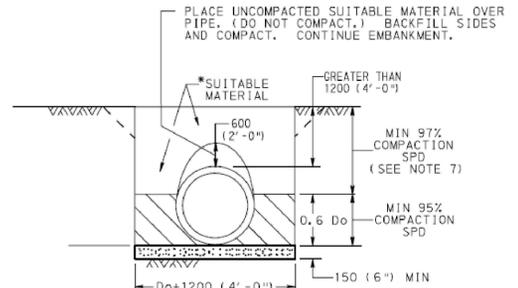
STEP 6 : FOR CONCRETE PIPE, SEE STEP 6A.
 : FOR METAL PIPE AND METAL PLATE PIPE, SEE STEP 6B.
 : FOR THERMOPLASTIC PIPE, SEE STEP 6C.
 : FOR METAL PIPE ARCH AND METAL PLATE PIPE ARCH, SEE STEP 6D.

NOTE:

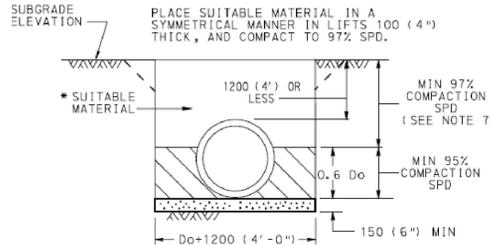
WHEN LAYING PIPE FOR INFILTRATION TRENCHES, LEVEL SPREADERS AND SUBSURFACE STORMWATER STORAGE FACILITIES CARE SHALL BE TAKEN TO AVOID COMPACTION OF SUBGRADE.

STEP 6A : CONCRETE PIPE

PLACE 2A COARSE AGGREGATE MATERIAL, IN LIFTS 100 (4") THICK, ADJACENT TO THE LOWER HAUNCHES TO A HEIGHT OF 300 (12") ABOVE TOP OF PIPE. COMPACT TO 95% SPD. TEST THE SIDE BACKFILL MATERIAL AND CONTINUE EMBANKMENT IN ACCORDANCE WITH PUBLICATION 408, SECTION 601.



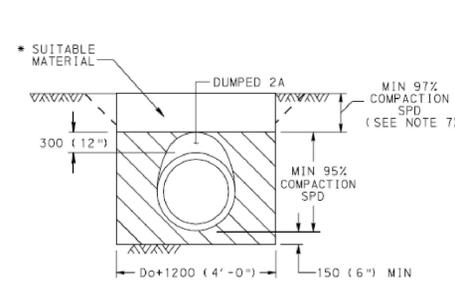
GREATER THAN 1.2 m (4') TO 14.6 m (48')
 FOR FILLS OVER 14.6 m (48'), SEE NOTE 8.



SHALLOW FILLS 1200 (4'-0") AND LESS

STEP 6C: THERMOPLASTIC PIPE

PLACE 2A COARSE AGGREGATE MATERIAL, IN LIFTS 100 (4") THICK, ADJACENT TO THE LOWER HAUNCHES TO A HEIGHT OF 300 (12") ABOVE TOP OF PIPE. COMPACT TO 95% SPD. TEST THE BACKFILL MATERIAL AND CONTINUE EMBANKMENT IN ACCORDANCE WITH PUBLICATION 408, SECTION 601.



NOTES

1. THE INSTALLATION OF PIPES 1800 (72") OR GREATER INSIDE DIAMETER OR SPAN IS PERMITTED WITHOUT PLACING EMBANKMENT FIRST. MAKE THE BACKFILL ENVELOPE AS SHOWN ON THIS DRAWING EXCEPT PROVIDE 2A MATERIAL ON EACH SIDE OF THE PIPE EQUAL TO ONE OUTSIDE DIAMETER OR SPAN OF THE PIPE. FOR CONCRETE PIPE, THE WIDTH OF UNCOMPACTED AGGREGATE FOR BEDDING (AASHTO NO. 8) REMAINS AT Do + 1200 (4'-0"). PAYMENT FOR THE 2A MATERIAL IS AS PER NOTE 3.
2. A HIGHER STRENGTH PIPE THAN SPECIFIED MAY BE SUPPLIED AT NO ADDITIONAL COST TO THE DEPARTMENT.
3. PAYMENT FOR THE BACKFILL ENVELOPE INCLUDING BEDDING, COARSE AGGREGATE AND SUITABLE MATERIAL UP TO 300 (12") ABOVE THE PIPE IS INCIDENTAL TO THE PIPE.
4. TO PRECLUDE POINT LOADING ON RELATIVELY RIGID CONCRETE PIPE, DO NOT COMPACT AASHTO NO. 8 BEDDING MATERIAL.
5. FOR TRENCH BOX/SHORING INSTALLATION REQUIREMENTS REFER TO PUBLICATION 408, SECTION 601.
6. PERMIT PLACEMENT OF BACKFILL MATERIAL IN LAYERS, LIFTS, 200 (8") THICK WHEN USING VIBRATORY COMPACTION EQUIPMENT.
7. COMPACT TOP 1000 (3'-0") OF SUBGRADE TO 100% IN ACCORDANCE WITH PUBLICATION 408, SECTION 206.3.
8. FOR REINFORCED CONCRETE PIPES INSTALLED WITH GREATER THAN 14.6 m (48') OF FILL, PROVIDE 300 (12") BEDDING MINIMUM AND 400 (16") WHEN ROCK IS PRESENT.

LEGEND

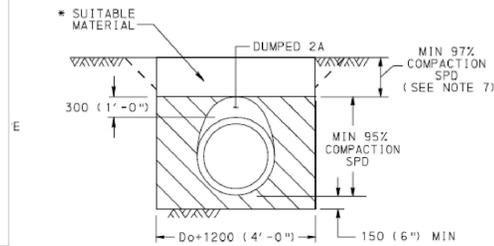
- AGGREGATE FOR BEDDING (AASHTO NO. 8), UNCOMPACTED
- COARSE AGGREGATE (2A)

Do = OUTSIDE DIAMETER OF PIPE, MILLIMETERS (INCHES)
 SPD = STANDARD PROCTOR DENSITY
 ID = INSIDE DIAMETER

* SUITABLE MATERIAL = MATERIAL CONTAINING NO DEBRIS, ORGANIC MATTER, FROZEN MATERIAL OR LARGE STONES WITH A DIAMETER GREATER THAN ONE-HALF THE THICKNESS OF THE COMPACTED LAYERS BEING PLACED.

STEP 6B : METAL PIPE AND METAL PLATE PIPE

PLACE 2A COARSE AGGREGATE MATERIAL, IN LIFTS 100 (4") THICK, ADJACENT TO THE LOWER HAUNCHES TO A HEIGHT OF 300 (12") ABOVE TOP OF PIPE. COMPACT TO 95% SPD. TEST THE BACKFILL MATERIAL AND CONTINUE EMBANKMENT IN ACCORDANCE WITH PUBLICATION 408, SECTION 601.



PIPE TRENCH, BEDDING AND BACKFILL DETAIL
 (NOT TO SCALE)

NOTE:

THESE DETAILS HAVE BEEN ADAPTED FROM PENNDOT JUNE 2010 STANDARD DRAWINGS. ADDITIONAL INFORMATION FROM STANDARD PENNDOT DRAWINGS AND SPECIFICATIONS ARE INCORPORATED AS REFERENCED.



**Know what's below.
Call before you dig.**

CLIENT APPROVAL

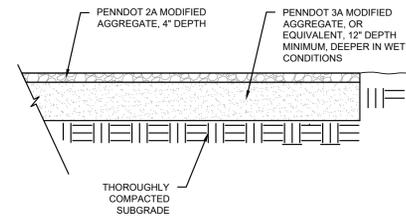
DATE

REVISIONS					
NO.	DESCRIPTION	DATE	DRAWN	CK	APPR
A	ISSUED FOR PADEP	10/15/2018	CAF(MM)	WMC(MM)	MJD(MM)
B	RE-ISSUED FOR PADEP	10/2019	MWF(MM)	DOW(MM)	WMC(MM)

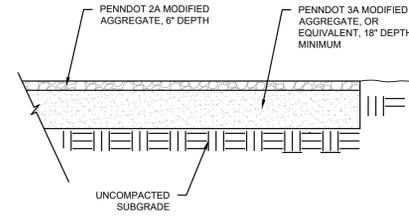
PENNEAST PIPELINE PROJECT
 MAINLINE BLOCK VALVE 7
 POST CONSTRUCTION STORMWATER
 MANAGEMENT DETAILS
 NORTHAMPTON COUNTY, PENNSYLVANIA

DRAWN BY	CAF	DATE ISSUED	10/15/2018	SCALE	AS SHOWN
CHECKED BY	WMC	APPROVED BY	JRD	APPROVED BY	
DWG. NO.	034-03-07-004	REV. NO.	8		

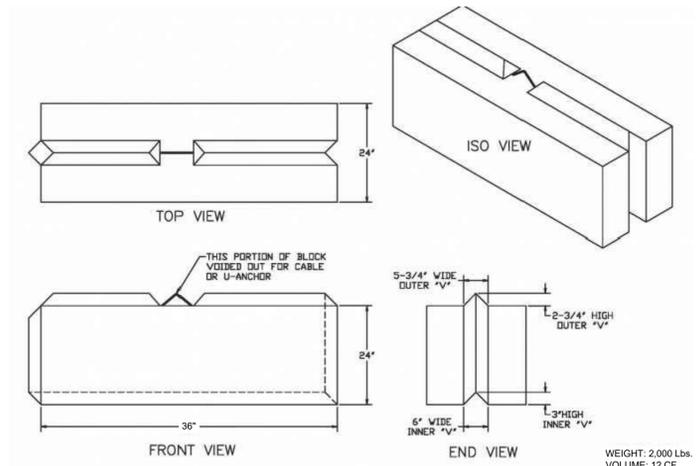
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TYPICAL ACCESS ROAD CROSS-SECTION DETAIL
(NOT TO SCALE)



TYPICAL PAD CROSS SECTION DETAIL
(NOT TO SCALE)



TYPICAL CONCRETE BLOCK DETAIL
(NOT TO SCALE)



CLIENT APPROVAL
DATE

REVISIONS					
NO.	DESCRIPTION	DATE	DRAWN	CK	APPR
A	ISSUED FOR PADEP	10/15/2018	CAF(MM)	WMC(MM)	MJD(MM)
B	RE-ISSUED FOR PADEP	10/2019	MWF(MM)	DOW(MM)	WMC(MM)

	PENNEAST PIPELINE PROJECT MAINLINE BLOCK VALVE 7 TYPICAL ACCESS ROAD AND PAD SECTIONS NORTHAMPTON COUNTY, PENNSYLVANIA		
	DRAWN BY CAF CHECKED BY WMC APPROVED BY JRD	DATE ISSUED 10/15/2018 SCALE AS SHOWN APPROVED BY	DWG. NO. 034-03-07-006 REV. NO. B

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