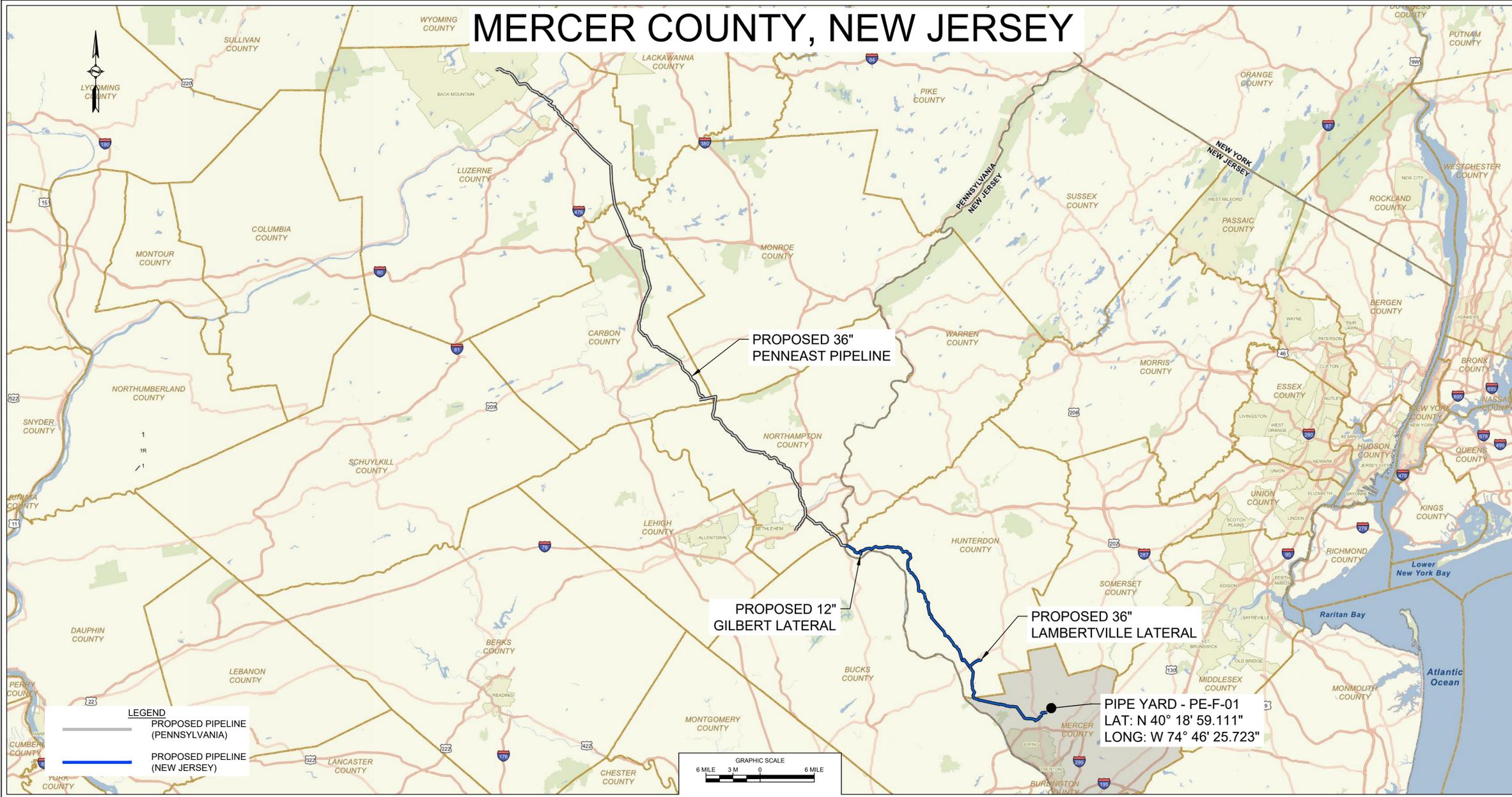


# PENNEAST PIPELINE COMPANY, LLC

## PENNEAST PIPELINE PROJECT

### SOIL EROSION AND SEDIMENT CONTROL PLAN

#### MERCER COUNTY, NEW JERSEY



**LEGEND**  
 — PROPOSED PIPELINE (PENNSYLVANIA)  
 — PROPOSED PIPELINE (NEW JERSEY)

GRAPHIC SCALE  
 6 MILE 3 M 0 6 MILE

PIPE YARD - PE-F-01  
 LAT: N 40° 18' 59.111"  
 LONG: W 74° 46' 25.723"

DRAWING INDEX	
SHT. NO.	DESCRIPTION
000-01-01-001	COVER SHEET
000-01-01-002	LEGENDS
000-01-01-003A - 000-01-01-003E	E&S GENERAL NOTES
000-03-04-013	PIPE YARD DETAIL
000-03-09-001 - 000-03-09-006	TYPICAL E&S DETAILS

MICHAEL J. DENICHILO  
 PROFESSIONAL ENGINEER  
 N.J. LIC. NO. 24GE05078700

*Michael Denichilo* 08/01/2019  
 SIGNATURE DATE

REVISIONS					
NO.	REVISIONS	DATE	DRAWN	CK	APPR
A	SUBMITTAL TO SOIL CONSERVATION DISTRICT	07/2019	DOW (MM)	AJD (MM)	MJD (MM)

PREPARED FOR  
  
 PREPARED BY  
  
 MOTT MACDONALD  
 111 WOOD AVENUE SOUTH, ISELIN, NJ, 08830  
 CERTIFICATE NO. 24GA28016800

PENNEAST PIPELINE PROJECT  
 SOIL EROSION AND SEDIMENT CONTROL PLAN  
 COVER SHEET  
 PIPE YARD - PE-F-01  
 MERCER COUNTY, NEW JERSEY

SCALE	DRAWING NO.	REVISION
AS SHOWN	000-01-01-001	A



# SOIL CHARACTERISTICS LEGEND

Map Symbol	Soil Name
AbrB	Abbotstown silt loam, 2 to 6 percent slopes
BhmB2	Birdsboro loam, 2 to 6 percent slopes, eroded
BhnA	Birdsboro silt loam, 0 to 2 percent slopes
BhnB	Birdsboro silt loam, 2 to 6 percent slopes
BoyAt	Bowmansville silt loam, 0 to 2 percent slopes, frequently flooded
BucA	Bucks silt loam, 0 to 2 percent slopes
BucB	Bucks silt loam, 2 to 6 percent slopes
BucB2	Bucks silt loam, 2 to 6 percent slopes, eroded
BucC2	Bucks silt loam, 6 to 12 percent slopes, eroded
ChcB	Chalfont silt loam, 2 to 6 percent slopes
ChcB2	Chalfont silt loam, 2 to 6 percent slopes, eroded
ChcC2	Chalfont silt loam, 6 to 12 percent slopes, eroded
DOZA	Doylestown and Reaville variant silt loams, 0 to 2 percent slopes
DOZB	Doylestown and Reaville variant silt loams, 2 to 6 percent slopes
KkoC	Klinesville channery loam, 6 to 12 percent slopes
KkoE	Klinesville channery loam, 18 to 35 percent slopes
LDB2	Lawrenceville and Mount Lucas silt loams, 2 to 6 percent slopes, eroded
LegC	Legore gravelly loam, 6 to 12 percent slopes
LegD	Legore gravelly loam, 12 to 18 percent slopes
LegE	Legore gravelly loam, 18 to 30 percent slopes
LemB	Lehigh silt loam, 2 to 6 percent slopes
LemC2	Lehigh silt loam, 6 to 12 percent slopes, eroded
MonBb	Mount Lucas silt loam, 0 to 6 percent slopes, very stony
MonCb	Mount Lucas silt loam, 6 to 12 percent slopes, very stony
NehB	Neshaminy silt loam, 2 to 6 percent slopes
NehC2	Neshaminy silt loam, 6 to 12 percent slopes, eroded
NehCb	Neshaminy silt loam, 6 to 12 percent slopes, very stony
NehEb	Neshaminy silt loam, 18 to 35 percent slopes, very stony
PeoB	Penn channery silt loam, 2 to 6 percent slopes
PeoC	Penn channery silt loam, 6 to 12 percent slopes
PeoD	Penn channery silt loam, 12 to 18 percent slopes
QukC	Quakertown silt loam, 6 to 12 percent slopes
REFA	Readington and Abbotstown silt loams, 0 to 2 percent slopes
REFB	Readington and Abbotstown silt loams, 2 to 6 percent slopes
REFB2	Readington and Abbotstown silt loams, 2 to 6 percent slopes, eroded
REFC2	Readington and Abbotstown silt loams, 6 to 12 percent slopes, eroded
RehB	Reaville silt loam, 2 to 6 percent slopes
RehB2	Reaville silt loam, 2 to 6 percent slopes, eroded
RehC2	Reaville silt loam, 6 to 12 percent slopes, eroded
ROPF	Rough broken land, shale
RorAt	Rowland silt loam, 0 to 2 percent slopes, frequently flooded

NOTE: SOILS WITHIN THIS LEGEND ARE ONLY REFLECTIVE OF THOSE THAT ARE IMPACTING THE PIPELINE LOD.

## ROCK CONSTRUCTION ENTRANCES REQUIRING AN ADDITIONAL 30' OF PAVEMENT

Nearest MP	Latitude (NJ State Plane)	Longitude (NJ State Plane)
104.6R2	40° 20' 18.975" N	74° 56' 7.531" W
104.9R2	40° 20' 15.111" N	74° 54' 48.669" W
107.2R2	40° 19' 55.812" N	74° 52' 13.205" W
108.4R2	40° 19' 35.441" N	74° 50' 58.772" W
109.7R2	40° 19' 16.801" N	74° 49' 41.885" W
111.1R2	40° 18' 19.253" N	74° 48' 44.812" W
111.5R2	40° 18' 23.803" N	74° 48' 15.732" W
113.1R3	40° 18' 36.779" N	74° 46' 49.691" W
114.0	40° 18' 58.539" N	74° 46' 9.775" W

NOTE: THIS TABLE ABOVE REPRESENTS LOCATIONS WHERE ROCK CONSTRUCTION ENTRANCES AT TEMPORARY ACCESS POINTS ALONG THE ROUTE SLOPE BACK TOWARD A PUBLIC ROADWAY. IN THESE LOCATIONS, 30' OF PAVEMENT WILL BE REQUIRED.

**MICHAEL J. DENICHILO**  
PROFESSIONAL ENGINEER  
N.J. LIC. NO. 24GE05078700

*Michael J. Denichilo*  
SIGNATURE

08/01/2019  
DATE

## LINETYPE LEGENDS

PROPOSED		EXISTING	
PLAN VIEW	PROFILE	PLAN VIEW	PROFILE
			PROPERTY LINE
			STREAM (PUBLIC)
			EXISTING MAJOR CONTOURS
			EXISTING MINOR CONTOUR
			EXISTING PIPELINE
			EXISTING WATER PIPELINE
			EXISTING OVERHEAD LINE
			RAILROAD CENTERLINE
			ROAD CENTERLINE
			ROAD EDGE
			TRAIL CENTERLINE
			WETLAND (PUBLIC)
			WETLAND (AG)
			WETLAND (DELINEATED)
			EXISTING FENCE
			ELECTRIC LINE
			ROCK WALL
			EXISTING TREE LINE
			LINE LIST NUMBER
			WATERBODY (DELINEATED)
			WATERBODY (PUBLIC)
			EXISTING FOREIGN EASEMENT
			NRCS SOILS BOUNDARY

## PROFILE

THE LOCATION OF TRENCH PLUGS AND WATERBARS ARE INTENDED TO BE USED AS A GUIDELINE ONLY. EXACT LOCATION TO BE DETERMINED IN THE FIELD AS DIRECTED BY THE CHIEF INSPECTOR.

WATERBAR SPACING		TRENCH PLUG SPACING	
SLOPE (%)	SPACING (FT)	SLOPE (%)	SPACING (FT)
≤ 5	250	≤ 5	1000
5 - 15	150	5 - 15	500
15 - 30	100	15 - 25	300
≥ 30	50	25 - 35	200
		35 - 100	100
		≥ 100	50

TRENCH PLUGS ARE REQUIRED AT ALL WATERBODY AND WETLAND CROSSINGS REGARDLESS OF SLOPE.

TOWNSHIP/ COUNTY LINE SOURCE:  
AVAILABLE AT WWW.NJ.GOV

### REVISIONS

NO.	REVISIONS	DATE	DRAWN	CK	APPR
A	SUBMITTED TO SOIL CONSERVATION DISTRICT	07/2019	DOW (MM)	AJD (MM)	MJD (MM)

### PREPARED FOR



### PREPARED BY

**M M**  
MOTT  
MACDONALD  
111 WOOD AVENUE SOUTH, ISELIN, NJ, 08830  
CERTIFICATE NO. 24GA28016600

### PENNEAST PIPELINE PROJECT

SOIL EROSION & SEDIMENT CONTROL PLAN  
MERCER COUNTY  
LEGENDS

SCALE	DRAWING NO.	REVISION
	000-01-002	A



# ENVIRONMENTAL NOTES

**GENERAL NOTES:**

1. THE MERCER COUNTY SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED 48 HOURS PRIOR TO STARTING LAND DISTURBANCE ACTIVITY. NOTICE MAY BE MAILED, FAXED OR EMAILED TO:  
**MCSO, 590 HUGHES DRIVE, HAMILTON SQUARE, NJ 08690**  
 PHONE: 609-586-9603 FAX: 609-586-1117 EMAIL: PAULS@MERCERCO. AOL.COM
2. IF APPLICABLE TO THIS PROJECT, THE OWNER SHOULD BE AWARE OF HIS OR HER OBLIGATION TO FILE FOR A NJPDES CONSTRUCTION ACTIVITY STORMWATER SG3 PERMIT (NJG0088323) VIA THE NJDEP ONLINE PERMITTING SYSTEM (WWW.NJ.GOV/DEP/ONLINE) AND TO MAINTAIN THE ASSOCIATED BEST MANAGEMENT PRACTICES AND STORMWATER POLLUTION PREVENTION PLAN SELF-INSPECTION LOGBOOK ONSITE AT ALL TIMES. THIS PERMIT MUST BE FILED PRIOR TO THE START OF SOIL DISTURBANCE. THE ONLINE APPLICATION PROCESS WILL REQUIRE ENTRY OF AN SCD CERTIFICATION CODE, WHICH IS PROVIDED BY THE SOIL CONSERVATION DISTRICT UPON CERTIFICATION OF THE SOIL EROSION AND SEDIMENT CONTROL PLAN.
3. THE MERCER COUNTY SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED OF ANY CHANGES IN OWNERSHIP.
4. ANY CHANGES TO THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN, INCLUDING AN INCREASE IN THE LIMIT OF DISTURBANCE, WILL REQUIRE THE SUBMISSION OF REVISED SOIL EROSION AND SEDIMENT CONTROL PLANS TO THE DISTRICT FOR RECERTIFICATION. THE REVISED PLANS MUST MEET ALL CURRENT STATE SOIL EROSION & SEDIMENT CONTROL STANDARDS.
5. A COPY OF THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON SITE AT ALL TIMES.
6. ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE INSTALLED PRIOR TO ANY MAJOR SOIL DISTURBANCES, OR IN THEIR PROPER SEQUENCE AS OUTLINED WITHIN THE SEQUENCE OF CONSTRUCTION ON THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN, AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.
7. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CURRENT STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NJ. IF LANGUAGE CONTAINED WITHIN ANY OTHER PERMIT FOR THIS PROJECT IS MORE RESTRICTIVE THAN (BUT NOT CONTRADICTORY TO) WHAT IS CONTAINED WITHIN THESE NOTES OR ON THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN, THEN THE MORE RESTRICTIVE PERMIT REQUIREMENTS SHALL BE FOLLOWED.
8. THE STANDARD FOR STABILIZED CONSTRUCTION ACCESS REQUIRES THE INSTALLATION OF A 1 1/2' TO 2 1/2' CLEAN STONE TRACKING PAD AT ALL CONSTRUCTION DRIVEWAYS IMMEDIATELY AFTER INITIAL SITE DISTURBANCE, WHETHER IDENTIFIED ON THE CERTIFIED PLAN OR NOT. THE WIDTH SHALL SPAN THE FULL WIDTH OF EGRESS, AND LENGTH SHALL BE 50 FT. OR MORE, DEPENDING ON SITE CONDITIONS AND AS REQUIRED BY THE STANDARD. THIS SHALL INCLUDE INDIVIDUAL LOT ACCESS POINTS WITHIN RESIDENTIAL SUBDIVISIONS. IF THE EGRESS IS TO A COUNTY ROAD, THEN A 20 FT. LONG PAVED TRANSITION SHALL BE PROVIDED BETWEEN THE EDGE OF PAVEMENT AND THE STONE ACCESS PAD.
9. A SUB-BASE COURSE WILL BE APPLIED IMMEDIATELY FOLLOWING ROUGH GRADING AND INSTALLATION OF IMPROVEMENTS IN ORDER TO STABILIZE STREETS, ROADS, DRIVEWAYS AND PARKING AREAS. IN AREAS WHERE NO UTILITIES ARE PRESENT, THE SUB-BASE SHALL BE INSTALLED WITHIN 15 DAYS OF PRELIMINARY GRADING, PROVIDED THAT ALL OTHER REQUIREMENTS RELATED TO DETENTION BASINS, SWALES AND THE SEQUENCE OF CONSTRUCTION HAVE BEEN MET.
10. ANY DISTURBED AREAS THAT WILL BE LEFT EXPOSED MORE THAN 14 DAYS AND NOT SUBJECT TO CONSTRUCTION ACTIVITY WILL IMMEDIATELY RECEIVE TEMPORARY STABILIZATION. IF THE SEASON PREVENTS ESTABLISHMENT OF A TEMPORARY VEGETATIVE COVER, OR IF THE AREA IS NOT TOPSOILED, THEN THE DISTURBED AREAS WILL BE MULCHED WITH STRAW, OR EQUIVALENT MATERIAL, AT A RATE OF TWO (2) TONS PER ACRE, ACCORDING TO STATE STANDARDS. SLOPED AREAS IN EXCESS OF 3% IV SHALL BE PROVIDED WITH EROSION CONTROL BLANKETS. CRITICAL AREAS SUBJECT TO EROSION (I.E. STEEP SLOPES, ROADWAY EMBANKMENTS, ENVIRONMENTALLY SENSITIVE AREAS) WILL RECEIVE TEMPORARY STABILIZATION IMMEDIATELY AFTER INITIAL DISTURBANCE OR ROUGH GRADING.
11. ANY STEEP SLOPES (I.E. SLOPES GREATER THAN 3:1) RECEIVING PIPELINE OR UTILITY INSTALLATION WILL BE BACKFILLED AND STABILIZED DAILY, AS THE INSTALLATION PROCEEDS.
12. PERMANENT VEGETATION SHALL BE SEEDED OR SODDED ON ALL EXPOSED AREAS WITHIN TEN (10) DAYS AFTER FINAL GRADING AND TOPSOILING. ALL AGRONOMIC REQUIREMENTS CONTAINED WITHIN THE STANDARDS AND ON THE CERTIFIED PLAN SHALL BE EMPLOYED. MULCH WITH BINDER, IN ACCORDANCE WITH THE STANDARDS, SHALL BE USED ON ALL SEEDED AREAS. SAVE ALL TAGS AND/OR BAGS USED FOR SEED, LIME AND FERTILIZER, AND PROVIDE THEM TO THE DISTRICT INSPECTOR TO VERIFY THAT MIXTURES AND RATES MEET THE STANDARDS.
13. AT THE TIME WHEN THE SITE PREPARATION FOR PERMANENT VEGETATIVE STABILIZATION IS GOING TO BE ACCOMPLISHED, ANY SOIL THAT WILL NOT PROVIDE A SUITABLE ENVIRONMENT TO SUPPORT ADAPTABLE VEGETATIVE GROUND COVER, SHALL BE REMOVED OR TREATED IN SUCH A WAY THAT WILL PERMANENTLY ADJUST THE SOIL CONDITIONS AND RENDER IT SUITABLE FOR VEGETATIVE GROUND COVER. IF THE REMOVAL OR TREATMENT OF THE SOIL WILL NOT PROVIDE SUITABLE CONDITIONS, THEN NON-VEGETATIVE MEANS OF PERMANENT GROUND STABILIZATION WILL HAVE TO BE EMPLOYED.
14. DURING THE COURSE OF CONSTRUCTION, SOIL COMPACTION MAY OCCUR WITHIN HALL ROUTES, STAGING AREAS AND OTHER PROJECT AREAS. IN ACCORDANCE WITH THE STANDARD FOR TOPSOILING, COMPACTED SURFACES SHOULD BE SCARIFIED 6" TO 12" IMMEDIATELY PRIOR TO TOPSOIL APPLICATION. THIS WILL HELP ENSURE A GOOD BOND BETWEEN THE TOPSOIL AND SUBSOIL. THIS PRACTICE IS PERMISSIBLE ONLY WHERE THERE IS NO DANGER TO UNDERGROUND UTILITIES (CABLES, IRRIGATION SYSTEMS, ETC.).
15. PRIOR TO SEEDING, TOPSOIL SHALL BE WORKED TO PREPARE A PROPER SEEDBED. THIS SHALL INCLUDE RAKING OF THE TOPSOIL AND REMOVAL OF DEBRIS AND STONES, ALONG WITH OTHER REQUIREMENTS OF THE STANDARD FOR PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION.
16. IN ACCORDANCE WITH THE STANDARD FOR MANAGEMENT OF HIGH ACID PRODUCING SOILS, ANY SOIL HAVING A PH OF 4 OR LESS OR CONTAINING IRON SULFIDES SHALL BE BURIED WITH LIMESTONE IN ACCORDANCE WITH THE STANDARD AND BE COVERED WITH A MINIMUM OF 12" OF SOIL HAVING A PH OF 5 OR MORE PRIOR TO TOPSOIL APPLICATION AND SEEDBED PREPARATION. IF THE AREA IS TO RECEIVE TREE OR SHRUB PLANTINGS, OR IS LOCATED ON A SLOPE, THEN THE AREA SHALL BE COVERED WITH A MINIMUM OF 24" OF SOIL HAVING A PH OF 5 OR MORE.
17. MULCHING TO THE STANDARDS IS REQUIRED FOR OBTAINING A CONDITIONAL REPORT OF COMPLIANCE. CONDITIONAL ROC'S ARE ONLY ISSUED WHEN THE SEASON PROHIBITS SEEDING. PERMANENT STABILIZATION MUST THEN BE COMPLETED DURING THE OPTIMUM SEEDING

- SEASON IMMEDIATELY FOLLOWING THE CONDITIONAL ROC, OR THE COMPLETION OF WORK IN A GIVEN AREA.
18. HYDROSEEDING IS A TWO-STEP PROCESS. THE FIRST STEP INCLUDES SEED, FERTILIZER, LIME, ETC., ALONG WITH MINIMAL AMOUNTS OF MULCH TO PROMOTE CONSISTENCY, GOOD SEED-TO-SOIL CONTACT, AND GIVE A VISUAL INDICATION OF COVERAGE. UPON COMPLETION OF THE SEEDING OPERATION, HYDROMULCH SHOULD BE APPLIED AT A MINIMUM RATE OF 1500 LBS. PER ACRE IN SECOND STEP. THE USE OF HYDRO-MULCH AS OPPOSED TO STRAW, IS LIMITED TO OPTIMUM SEEDING DATES AS LISTED IN THE STANDARDS. THE USE OF HYDROMULCH ON SLOPED AREAS IS DISCOURAGED.
  19. THE CONTRACTOR IS RESPONSIBLE FOR KEEPING ALL ADJACENT ROADS CLEAN DURING LIFE OF THE CONSTRUCTION PROJECT. ALL SEDIMENT WASHED, DROPPED, TRACKED OR SPILLED ONTO PAVED SURFACES SHALL BE IMMEDIATELY REMOVED.
  20. THE DEVELOPER SHALL BE RESPONSIBLE FOR REMEDIATING ANY EROSION OR SEDIMENT PROBLEMS THAT ARISE AS A RESULT OF ONGOING CONSTRUCTION, AND FOR EMPLOYING ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES AT THE REQUEST OF THE MERCER COUNTY SOIL CONSERVATION DISTRICT.
  21. CONDUIT OUTLET PROTECTION MUST BE INSTALLED AT ALL REQUIRED OUTFALLS PRIOR TO THE DRAINAGE SYSTEM BECOMING OPERATIONAL.
  22. ALL DETENTION / RETENTION BASINS MUST BE FULLY CONSTRUCTED (INCLUSIVE OF ALL STRUCTURAL COMPONENTS AND LINERS) AND PERMANENTLY STABILIZED PRIOR TO PAVING OR PRIOR TO THE ADDITION OF ANY IMPERVIOUS SURFACES. PERMANENT STABILIZATION INCLUDES, BUT MAY NOT BE LIMITED TO: TOPSOIL, SEED, STRAW MULCH AND BINDERS OR EROSION CONTROL BLANKETS ON ALL SEEDING. ALL AGRONOMIC REQUIREMENTS AS SPECIFIED ON THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN. INSTALLATION OF THE OUTFLOW CONTROL STRUCTURES AND DISCHARGE STORM DRAINAGE PIPING, LOW FLOW CHANNELS, CONDUIT OUTLET PROTECTION, EMERGENCY SPILLWAYS, AND LAP RING PROTECTION.
  23. THE RIDING SURFACE OF ALL UTILITY TRENCHES WITHIN PAVED AREAS SHALL BE 3/4" CLEAN STONE OR BASE PAVEMENT UNTIL SUCH TIME AS FINAL PAVEMENT HAS BEEN INSTALLED. TEMPORARY SOIL RIDING SURFACES ARE PROHIBITED.
  24. ALL CONSTRUCTION DEWATERING (TRENCHES, EXCAVATIONS, ETC.) MUST BE DONE THROUGH AN INLET OR OUTLET FILTER IN ACCORDANCE WITH THE STANDARD FOR DEWATERING OR AS DEPICTED ON THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN. DISCHARGE LOCATIONS FOR THE DEWATERING OPERATION MUST CONTAIN PERENNIAL VEGETATION OR SIMILAR STABLE SURFACE.
  25. ALL SWALES OR CHANNELS THAT WILL RECEIVE RUNOFF FROM PAVED SURFACES MUST BE PERMANENTLY STABILIZED PRIOR TO THE INSTALLATION OF PAVEMENT. IF THE SEASON PROHIBITS THE ESTABLISHMENT OF PERMANENT STABILIZATION, THE SWALES OR CHANNELS MAY BE TEMPORARILY STABILIZED IN ACCORDANCE WITH THE STANDARDS.
  26. N.J.S.A. 4:24-39 ET SEQ. REQUIRES THAT NO CERTIFICATE OF OCCUPANCY OR TEMPORARY CERTIFICATE OF OCCUPANCY BE ISSUED BY THE MUNICIPALITY BEFORE THE PROVISIONS OF THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN HAVE BEEN SATISFIED. THEREFORE, ALL SITE WORK FOR SITE PLANS AND ALL WORK AROUND INDIVIDUAL LOTS IN SUBDIVISIONS MUST BE COMPLETED BEFORE THE DISTRICT ISSUES A REPORT OF COMPLIANCE OR CONDITIONAL REPORT OF COMPLIANCE, WHICH MUST BE FORWARDED TO THE MUNICIPALITY PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY OR TEMPORARY CERTIFICATE OF OCCUPANCY, RESPECTIVELY.

**NOTICES TO CONTRACTOR:**

1. THE CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS PRIOR TO WORK.
2. THE CONTRACTOR SHALL ASSURE THAT THE APPROVED EROSION AND SEDIMENT CONTROL PLAN IS PROPERLY AND COMPLETELY IMPLEMENTED.
3. WATERBARS IN AGRICULTURAL OR RESIDENTIAL AREAS ARE TEMPORARY AND SHALL BE REMOVED AS PART OF FINAL SITE GRADING. SEEDING IS NOT REQUIRED IN CULTIVATED CROPLANDS UNLESS REQUESTED BY THE LANDOWNER.
4. ALL WORK WITHIN THE PUBLIC RIGHT-OF-WAY SHALL BE COORDINATED WITH THE AGENCY HAVING JURISDICTION.
5. FURNISH & INSTALL SWALES WHENEVER CONCENTRATED FLOWS HAVE THE POTENTIAL TO RUN ONTO OR THROUGH THE CONSTRUCTION AREA. DIRECT THE SWALE DISCHARGE TO A RIPRAP ENERGY DISSIPATER AND VEGETATED AREA.
6. CONTRACTOR SHALL MINIMIZE THE TOTAL AREA OF DISTURBANCE.
7. CONTRACTOR SHALL INSTALL SEED MIXTURE AS DIRECTED BY PENNEAST. SEED MIXTURE USE WILL VARY ACCORDING TO PROJECT, LANDOWNER REQUEST AND ENVIRONMENTAL REQUIREMENTS.
8. ONCE ANY EROSION CONTROL MEASURES ARE INSTALLED, THE MAINTENANCE AND INSPECTION PROCEDURES SHALL BEGIN. THE CONTRACTOR SHOULD BE AWARE THAT THE INSPECTION FORMS BECOME AN INTEGRAL PART ESCP AND SHALL BE MADE READILY AVAILABLE TO THE GOVERNMENT INSPECTION OFFICIALS. THE PROJECT OWNER'S ENGINEER, AND THE PROJECT OWNER FOR REVIEW UPON REQUEST DURING VISITS TO THE PROJECT SITE.

**MICHAEL J. DENICHILO**  
 PROFESSIONAL ENGINEER  
 N.J. LIC. NO. 24GE05078700

*Michael J. Denichilo*      08/01/2019  
 SIGNATURE      DATE



REVISIONS				
REV	REVISIONS	DATE	DRAWN	CK
A	SUBMITTAL TO SOIL CONSERVATION DISTRICT	07/2019	DOW (MM)	AJD (MM)

PREPARED FOR

PennEast  
PIPELINE

PREPARED BY

**M M**  
 MOTT  
 MACDONALD  
 111 WOOD AVENUE SOUTH, SEELIN, NJ, 08830  
 CERTIFICATE NO. 24GA28016600

<b>PENNEAST PIPELINE PROJECT</b>		
SOIL EROSION AND SEDIMENTATION CONTROL PLAN E & S GENERAL NOTES MERCER COUNTY		
SCALE	DRAWING NO.	REVISION
AS SHOWN	000-01-01-003A	A



**SEEDING & VEGETATIVE NOTES**

**TOPSOIL STRIPPING AND STOCKPILING**

1. FIELD EXPLORATION SHOULD BE MADE TO DETERMINE WHETHER QUANTITY AND/OR QUALITY OF SURFACE SOIL JUSTIFIES STRIPPING.
2. A 6-INCH STRIPPING DEPTH IS TYPICAL, BUT MAY VARY DEPENDING ON THE PARTICULAR SOIL STRUCTURE OR PRE-EXISTING USE.
3. STOCKPILES SHOULD BE LOCATED SO AS NOT TO OBSTRUCT NATURAL DRAINAGE OR CAUSE OFF-SITE ENVIRONMENTAL DAMAGE, AND SHALL BE DELINEATED ON THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN AND BE CONSTRUCTED IN ACCORDANCE WITH THE TOPSOIL STOCKPILE DETAIL.
4. STOCKPILES SHOULD BE TEMPORARILY STABILIZED ACCORDING TO THE STANDARDS.

**SITE PREPARATION**

1. INSTALL EROSION CONTROL MEASURES AND FACILITIES SUCH AS SILT FENCE, DIVERSIONS, SEDIMENT BASINS, AND CHANNEL STABILIZATION.
2. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, TACKING, AND MAINTENANCE. ALL GRADING SHOULD BE DONE IN ACCORDANCE WITH THE STANDARD FOR LAND GRADING, 19-1.

**SEEDBED PREPARATION**

1. TOPSOIL REQUIRED
  - MIN. DEPTH: 5" (UNSETTLED)
  - PH: 6.0 TO 8.0
  - ORGANIC MATTER CONTENT: 2.75% MIN.
  - NITRATE N2: 50 LBS/ACRE (50% WATER INSOLUBLE)
  - PHOSPHOROUS: 100 LBS/ACRE
  - POTASSIUM: 50 LBS/ACRE
2. THE CONTRACTOR SHOULD BE AWARE OF THE POSSIBILITY, DEPENDING UPON THE SITE CONDITIONS, THAT ALL TOPSOIL MAY HAVE TO BE PROVIDED FROM AN OFF-SITE SOURCE.
3. TOPSOIL SHOULD BE HANDLED ONLY WHEN DRY ENOUGH TO WORK WITHOUT DAMAGING SOIL STRUCTURE.
4. APPLY A UNIFORM 5 INCHES (UNSETTLED) OF TOPSOIL ON ALL DISTURBED AREAS. SOILS WITH A PH OF 4.0 OR LESS OR CONTAINING IRON SULFIDE SHALL BE COVERED WITH A MINIMUM DEPTH OF 12 INCHES OF SOIL HAVING A PH OF 5.0 OR MORE AND THE TOP 5 INCHES SHALL CONFORM TO THE TOPSOIL STANDARD AND SHALL BE LIMED ACCORDING TO THE SPECIFICATIONS.
5. IF THE TOPSOIL BECOMES COMPACTED, THE SURFACE MUST BE SCARIFIED 6" TO 12" TO PROVIDE GOOD SEED-TO-SOIL BOND.
6. APPLY LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST RECOMMENDATIONS SUCH AS THOSE OFFERED BY RUTGERS UNIVERSITY COOPERATIVE EXTENSION. IF SOIL TESTING IS NOT FEASIBLE, FERTILIZER (10-20-10) WITH 50% WATER INSOLUBLE NITROGEN SHOULD BE APPLIED AT THE TYPICAL RATE OF 500 LBS/ACRE OR 11 LBS/1,000 SQUARE FEET.
7. APPLY LIMESTONE EQUIVALENT TO 50% CALCIUM PLUS MAGNESIUM OXIDES (PULVERIZED DOLOMITIC LIMESTONE IS PREFERRED FOR MOST SOILS SOUTH OF THE NEW BRUNSWICK - TRENTON FALL LINE) AS FOLLOWS:

SOIL TEXTURE	TONS/ACRE	LBS/1,000 SQ. FT.
CLAY, CLAY LOAM, HIGH ORGANIC	3	135
SANDY LOAM, LOAM, SILT LOAM	2	90
LOAMY SAND, SAND	1	45

8. WORK LIME AND FERTILIZER INTO THE SOIL TO A DEPTH OF 4 INCHES. THE FINAL HARROWING OR DISC OPERATION SHOULD BE ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A UNIFORM, FINE SEEDBED IS PREPARED.
9. REMOVE FROM THE SURFACE ALL STONES 2 INCHES OR LARGER IN ANY DIMENSION, AND OTHER OBJECTIONABLE STONES OR DEBRIS SUCH AS WIRE, TREE ROOTS, PIECES OF CONCRETE, CLODS, LUMPS, OR OTHER UNSUITABLE MATERIAL.

**SEEDING**

1. SELECT A SEED MIXTURE APPROVED BY THE MERCER COUNTY SCD.
2. APPLY SEED UNIFORMLY BY HAND, CYCLONES, DROP SEEDER, DRILL CULTIPACKER, OR HYDROSEEDER. THE LATTER MAY BE JUSTIFIABLE FOR LARGE, STEEP AREAS WHERE CONVENTIONAL APPLICATIONS ARE NOT FEASIBLE. HYDROSEEDING SHALL BE A TWO-STEP PROCESS: MULCH SHALL NOT BE MIXED WITH THE SEED. THE SEED MUST BE APPLIED FIRST TO ASSURE PROPER SEED TO SOIL CONTACT. THE HYDROMULCH IS THEN SPRAYED OVER THE SEEDING. FOR OPTIMUM RESULTS, THE SEED SHOULD BE INCORPORATED INTO THE SOIL TO A DEPTH OF ¼ TO ½ INCH DEPENDING UPON SPECIES.  
*\*THE USE OF HYDRO-MULCH, AS OPPOSED TO STRAW, IS LIMITED TO OPTIMUM SEEDING DATES AS LISTED IN THE STANDARDS.*
3. AFTER SEEDING, THE SOIL SHOULD BE PACKED WITH A CORRUGATED ROLLER. WHEN PERFORMED ON THE CONTOUR, ROLLING WILL MINIMIZE SHEET EROSION AND MAXIMIZE WATER CONSERVATION.

**MULCHING**

1. UNROTTED STRAW, HAY FREE OF SEEDS, OR SALT HAY IS REQUIRED ON ALL SEEDING AT A RATE OF 1.5 TO 2 TONS/ACRE, (70 TO 90 LBS/1,000 SQUARE FEET), EXCEPT WHERE A CRIMPER IS USED INSTEAD OF A LIQUID MULCH-BINDER, THEN THE RATE OF APPLICATION IS 3 TONS PER ACRE.
2. MULCH ANCHORING SHOULD BE ACCOMPLISHED IMMEDIATELY AFTER PLACEMENT TO MINIMIZE LOSS DUE TO WIND OR WATER. THIS MAY BE DONE ACCORDING TO THE FOLLOWING METHODS:
  - 2.1. WOOD-FIBER OR PAPER-FIBER MULCH AT THE RATE OF 1,500 LBS/ACRE APPLIED BY THE HYDROSEEDER. USE IS LIMITED TO ONLY THE OPTIMUM SEEDING SEASON.
  - 2.2. SYNTHETIC OR ORGANIC BINDERS
  - 2.3. PEG AND TWINE, MULCH NETTING, AND MECHANICAL CRIMPING.
  - 2.4. CRIMPING REQUIRES A HIGHER MULCH RATE (3 TONS/ACRE).

NOTE: 1) ONE BALE OF HAY WEIGHS 40-60 LBS DEPENDING ON HOW IT WAS BALED.  
2) 1,500 GALLON TANK OF HYDROMULCH COVERS .5 ACRES.

**PLEASE NOTE: THE QUALITY OF PERMANENT VEGETATION RESTS WITH THE CONTRACTOR. THE TIMING OF SEEDING, PREPARING THE SEEDBED, APPLYING NUTRIENTS, MULCH AND OTHER MANAGEMENT ARE ESSENTIAL. THE SEED APPLICATION RATES IN TABLE 4-3 OF THE STANDARDS ARE REQUIRED WHEN A REPORT OF COMPLIANCE IS REQUESTED PRIOR TO ACTUAL ESTABLISHMENT OF PERMANENT VEGETATION. (UP TO 50% REDUCTION IS APPLICATION RATES MAY BE USED WHEN PERMANENT VEGETATION IS ESTABLISHED PRIOR TO REQUESTING A REPORT OF COMPLIANCE FROM THE DISTRICT. THESE RATES APPLY TO ALL METHODS OF SEEDING. ESTABLISHING PERMANENT VEGETATION MEANS 80% EVENLY DISTRIBUTED VEGETATIVE COVER (OF THE SEEDED SPECIES) AND MOWED ONCE.)**

**TEMPORARY SEEDING MIXES**

**MIX: EARLY SPRING/ LATE SUMMER TO EARLY FALL**  
100% PERENNIAL RYEGRASS  
RATE: 100 LBS/ ACRE

**MIX: LATE FALL**  
100% CEREAL RYE  
RATE: 112 LBS/ ACRE

**MIX: MID-SUMMER**  
40% PEARL MILLET  
40% MILLET (GERMAN OR HUNGARIAN)  
20% WEEPING LOVEGRASS  
RATE: 100 LBS/ ACRE

**RECOMMENDED PERMANENT SEEDING MIXES**

OPTIMUM SEEDING DATES: MARCH 1 TO MAY 15 AND AUGUST 15 TO OCTOBER 15

A. LAWNS (RATE: 200 LBS/ACRE)

**MERCER CO. SCD PREFERRED MIXES FOR LAWNS AND DETENTION BASINS**

70% TURF TYPE TALL FESCUE  
20% PERENNIAL RYEGRASS  
10% KENTUCKY BLUEGRASS

**MIX: LAWNS - LOW MAINTENANCE, DROUGHTY & HEAVY TRAFFIC**

80% TALL FESCUE TURF TYPE (LOW GROWING VARIETIES)  
10% PERENNIAL RYEGRASS (LOW GROWING VARIETIES)

**MIX: SHADE**

65% HARD, CHEWINGS, OR CREEPING RED FESCUE  
20% KENTUCKY BLUEGRASS  
15% PERENNIAL RYEGRASS

**MIX: LAWNS - QUALITY SUN AND SHADE**

20% PERENNIAL RYEGRASS  
30% CHEWINGS FESCUE  
35% CREEPING RED FESCUE  
15% KENTUCKY BLUEGRASS

**MIX: MOIST DETENTION BASIN BOTTOMS**

40% FLAT PEA (WITH PROPER INOCULANT)  
25% PERENNIAL RYEGRASS  
25% TALL FESCUE OR STRONG CREEPING RED FESCUE  
10% REDTOP

+ USE THE ABOVE MIX FOR INFREQUENT MOWING. FOR A REGULAR MOWING REGIME, SUBSTITUTE ROUGH BLUEGRASS AND/OR TALL FESCUE FOR THE FLAT PEA.

INCLUDE AT LEAST THREE VARIETIES IN MIX  
EXCLUDE K31

B. CONSERVATIVE PLANTINGS

**MIX: RECLAMATION, EROSION CONTROL & ACID SOILS**

RATE: 150 LBS/ ACRE  
40% SWITCHGRASS  
25% SERECIA LESPEDEA OR FLAT PEA  
15% TALL FESCUE OR CREEPING RED FESCUE  
15% DEERTONGUE  
5% BIRDSFOOT TREFOL

**MIX: WILDFLOWER MEADOW**

RATE: 50 LBS/ACRE  
72% HARD OR SHEEPS FESCUE  
22% NORTHEAST/ MID-ATLANTIC WILDFLOWER MIXTURE  
6% BIRDSFOOT TREFOL

**MIX: WILDLIFE HABITAT ENHANCEMENT**

RATE: 100 LBS/ACRE  
40% SWITCHGRASS OR COASTAL PANICGRASS  
30% CANADA BLUEGRASS OR SMOOTH BROMEGRASS  
10% ORCHARDGRASS  
10% WHITE CLOVER  
5% JAPANESE MILLET  
5% BIRDSFOOT TREFOL

**MIX: WATERWAYS & WET BASINS\***

RATE: 100 LBS/ACRE  
40% SWITCHGRASS  
30% CANADA BLUEGRASS OR SMOOTH BROMEGRASS  
15% ROUGH BLUEGRASS (SHADE) OR TALL FESCUE (OPEN)  
10% ALSIKE CLOVER OR LADINO WHITE CLOVER  
10% BIRDSFOOT TREFOL OR CREEPING FOXTAIL  
4% JAPANESE MILLET  
1% RED TOP  
( SHOULD NOT BE MOWED LESS THAN 6 INCHES)

REFER TO THE PENNEAST PIPELINE PROJECT "NJDEP - RESTORATION PERMIT PLANS" DATED 08/01/2019 FOR ADDITIONAL INFORMATION ON RESTORING WETLAND TRANSITION AREAS, RIPARIAN ZONES, WETLANDS AND WATERBODIES.

**MICHAEL J. DENICHILO**  
PROFESSIONAL ENGINEER  
N.J. LIC. NO. 24GE05078700

*Michael J. Denichilo*

08/01/2019

SIGNATURE

DATE



REVISIONS					
NO.	REVISIONS	DATE	DRAWN	CHK	APPR
A	SUBMITTAL TO SOIL CONSERVATION DISTRICT	07/2019	DOW (MM)	AJD (MM)	MJD (MM)

PREPARED FOR

PREPARED BY  
**M M**  
MOTT  
MACDONALD  
111 WOOD AVENUE SOUTH, ISELIN, NJ, 08830  
CERTIFICATE NO. 24GA28016800

PENNEAST PIPELINE PROJECT		
SOIL EROSION AND SEDIMENTATION CONTROL PLAN		
E & S GENERAL NOTES		
MERCER COUNTY		
SCALE	DRAWING NO.	REVISION
AS SHOWN	000-01-01-003C	A

# PROJECT CONSTRUCTION SEQUENCING

**GENERAL CONDITIONS:**

- ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE FOLLOWING SEQUENCE. EACH STAGE SHALL BE COMPLETED AND IMMEDIATELY STABILIZED BEFORE ANY FOLLOWING STAGE IS INITIATED. CLEARING, GRUBBING AND TOPSOIL STRIPPING SHALL BE LIMITED ONLY TO THOSE AREAS DESCRIBED IN EACH STAGE. ANY DEVIATION FROM THE FOLLOWING SEQUENCE MUST BE APPROVED IN WRITING FROM THE JURISDICTIONAL COUNTY CONSERVATION DISTRICT.
- CONSTRUCTION WILL TAKE PLACE IN SEVERAL SPREADS. WITHIN EACH SPREAD, PIPELINE CONSTRUCTION CREWS WILL BE IN CLOSE PROXIMITY TO EACH OTHER AND WILL BE ABLE TO EFFICIENTLY COMMUNICATE DURING THE ENTIRE CONSTRUCTION PHASE OF THE PROJECT. THE MINIMAL LENGTH OF EACH CONSTRUCTION SPREAD WILL NOT REQUIRE CONSTRUCTION CREWS TO BE SEPARATED BY SIGNIFICANT DISTANCES DURING PIPELINE CONSTRUCTION.
- WORK EFFORT WILL BE SUBDIVIDED INTO CATEGORIES AND PERFORMED BY SPECIALIZED CREWS (E.G. SITE PREPARATION/CLEARING, TRENCHING, PIPE CONSTRUCTION, ETC). EACH CREW WILL PROGRESS IN A LOGICAL MANNER, GENERALLY FROM THE BEGINNING TO END OF THE PIPELINE. THE TIME PERIOD BETWEEN TRENCH EXCAVATION AND FINAL STABILIZATION SHALL BE MINIMIZED TO THE EXTENT PRACTICABLE. NO ONE SEGMENT OF AREA OF THE PIPELINE ALIGNMENT SHALL GO WITHOUT STABILIZATION (TEMPORARY OR PERMANENT) FOR A PERIOD GREATER THAN 30 DAYS.
- SOIL DISTURBANCE (E.G., GRUBBING, AND TOPSOIL STRIPPING) SHALL BE MINIMIZED PRIOR TO INSTALLING EROSION AND SEDIMENT CONTROLS IN THE VICINITY OF THE DISTURBANCE. IN ACCORDANCE WITH THIS EROSION & SEDIMENT CONTROL PLAN (E&SCP), SIGNIFICANT DEVIATION FROM THE FOLLOWING SEQUENCE OF CONSTRUCTION MUST BE APPROVED IN WRITING (E.G. VIA E-MAIL) BY THE COUNTY CONSERVATION DISTRICT.
- MINIMIZE TOTAL AREA OF DISTURBANCE. MAINTAIN TEMPORARY SOIL STOCKPILES WITHIN EXISTING SOIL EROSION AND SEDIMENT CONTROLS. SHOULD EXCAVATION ENTER STREAMS, FOLLOW SPECIFIC DETAILS FOR THESE AREAS SHOWN ON THE DRAWINGS AND INCLUDE THE STEPS DETAILED IN THE SPECIFIC SECTIONS BELOW. PULLBACK AREAS FOR HDDS WILL BE CLEARED AND PREPARED AS NEEDED TO SUPPORT STAGING, WELDING AND TESTING OF THE HDD PIPE SECTIONS. AREAS NOT UTILIZED FOR CONSTRUCTION ACTIVITIES SHOULD BE AVOIDED TO MINIMIZE IMPACTS.
- TEMPORARY WATERBARS SHALL BE INSTALLED AT THE END OF EACH WORKDAY AS DETERMINED BY PENNEAST ENVIRONMENTAL INSPECTORS.
- STAGING AREAS, ASSEMBLY AREAS, TEMPORARY EQUIPMENT AND NON-HAZARDOUS MATERIAL STORAGE AREAS SHALL BE LOCATED A MINIMUM OF 50 FEET BACK FROM THE TOP OF THE STREAM BANK, WATER BODY, OR WETLAND AND OUTSIDE OF THE 100 YEAR FLOODWAY. HAZARDOUS OR POLLUTIVE MATERIAL STORAGE AREAS SHALL BE LOCATED A MINIMUM OF 100 FEET BACK FROM THE TOP OF THE STREAM BANK, WATER BODY, OR WETLAND AND OUTSIDE OF THE 100-YEAR FLOODWAY.
- FOR OPEN-CUT AREAS, THE LENGTH OF TIME REQUIRED TO EXCAVATE THE TRENCH, INSTALL THE PIPELINES, AND BACKFILL THE TRENCH WILL NOT EXCEED 30 CALENDAR DAYS FOR MOST INSTALLATIONS. LONGER TIME PERIODS MAY BE APPROVED ON A CASE-BY-CASE BASIS.

**CONSTRUCTION PREPARATION ACTIVITIES:**

- AT LEAST 7 DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES (INCLUDING CLEARING AND GRUBBING), THE OWNER AND/OR OPERATOR SHALL INVITE ALL CONTRACTORS, THE LANDOWNER, APPROPRIATE MUNICIPAL OFFICIALS, THE E&SCP PREPARER, AND A REPRESENTATIVE FROM THE APPLICABLE COUNTY CONSERVATION DISTRICT TO AN ON-SITE PRECONSTRUCTION MEETING.
- UPON INSTALLATION OR STABILIZATION OF ALL PERIMETER SEDIMENT CONTROL BMP'S AND AT LEAST 3 DAYS PRIOR TO PROCEEDING WITH THE BULK EARTH DISTURBANCE ACTIVITIES, THE PERMITTEE OR CO-PERMITTEE SHALL PROVIDE NOTIFICATION TO THE DEPARTMENT OR AUTHORIZED CONSERVATION DISTRICT.
- AT LEAST 3 DAYS PRIOR TO START ANY EARTH DISTURBANCE ACTIVITIES, OR EXPANDING INTO AN AREA PREVIOUSLY UNMARKED, THE NEW JERSEY ONE CALL SYSTEM INC. SHALL BE NOTIFIED AT 1-800-272-1000 FOR THE LOCATION OF EXISTING UNDERGROUND UTILITIES.
- ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE SEQUENCE PROVIDED ON THE PLAN DRAWINGS. DEVIATION FROM THE SEQUENCE MUST BE APPROVED BY THE APPLICABLE COUNTY CONSERVATION DISTRICT OR BY THE DEPARTMENT PRIOR TO IMPLEMENTATION. EACH STEP OF THE SEQUENCE SHALL BE COMPLETED BEFORE PROCEEDING TO THE NEXT STEP, EXCEPT WHERE NOTED.
- ESTABLISH CONSTRUCTION SUPPORT FACILITIES.
- IDENTIFY UTILITIES AND OTHER CRITICAL SITE FEATURES TO BE PROTECTED
- FLAG AND/OR STAKE WETLANDS AND OTHER SENSITIVE AREAS TO BE PROTECTED.
- FLAG AND/OR STAKE PROPOSED CONSTRUCTION LIMITS OF DISTURBANCE.
- ORANGE CONSTRUCTION FENCE WILL BE PROVIDED AND INSTALLED AT WETLAND AREAS ADJACENT TO THE LOD AND NOT PLANNED TO BE IMPACTED TO IDENTIFY AND DETER CONSTRUCTION EQUIPMENT, VEHICLES AND PERSONNEL FROM ENTERING WETLAND.
- INSTALL ROCK CONSTRUCTION ENTRANCES.
- BRUSH HOG/MOW EXISTING VEGETATION TO FACILITATE INSTALLATION OF TEMPORARY EROSION AND SEDIMENT CONTROLS.
- INSTALL VEHICULAR TEMPORARY STREAM CROSSING (E.G., BRIDGE OR MULTIPLE PIPE CROSSING).
- INSTALL VEHICULAR TEMPORARY TIMBER MAT WETLAND CROSSING. GRUBBING SHALL NOT TAKE PLACE WITHIN WETLAND AREAS TO BE USED FOR TEMPORARY ACCESS ROADS.

**SITE CLEARING (TREE CUTTING) & GRUBBING:**

- INITIATE CLEARING AND GRUBBING OF CONSTRUCTION WORK AREA (CWA) AND ACCESS ROADS AS NEEDED. LIMIT CLEARING AND GRUBBING TO CUTTING EXISTING VEGETATION RATHER THAN BULLDOZING THE VEGETATION.
- ALL BRUSH AND TREES WILL BE FELLED INTO THE CWS TO MINIMIZE DAMAGE TO TREES AND STRUCTURES ADJACENT TO THE CWS. TREES THAT INADVERTENTLY FALL BEYOND THE EDGE OF THE CWS WILL BE IMMEDIATELY MOVED ONTO THE CWS AND DISTURBED AREAS WILL BE IMMEDIATELY STABILIZED.
- INSTALL TEMPORARY ACCESS ROADS.
- WOODY VEGETATION CLEARING OF THE CWA AND STAGING AREAS WILL TAKE PLACE IN A SINGLE PASS WITHIN EACH SPREAD. CONTRACTOR/PENNEAST TO DETERMINE WHETHER TIMBER WILL BE HAULED OFF SITE OR CHIPPED AND SPREAD EVENLY WITHIN THE CWA, REMOVED FROM SITE, STOCKPILED AT STAGING AREAS OR BLOWN OFF-SITE WITH LANDOWNER APPROVAL. WOOD CHIPS WILL NOT BE LEFT WITHIN AGRICULTURAL LANDS, WETLANDS, OR WITHIN 50 FEET OF WETLANDS. WOOD CHIPS WILL NOT BE STOCKPILED IN A MANNER THAT THEY MAY BE TRANSPORTED INTO A WETLAND.
- INSTALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES IN ACCORDANCE WITH THIS PLAN. EROSION AND SEDIMENT CONTROL INSTALLATION, SIMILAR TO OTHER ACTIVITIES, MAY BE CONDUCTED AS PIPELINE CONSTRUCTION ACTIVITIES PROGRESS. HOWEVER, SOIL DISTURBANCE SHALL BE MINIMIZED UNTIL THE APPROPRIATE TEMPORARY EROSION AND SEDIMENT CONTROLS HAVE BEEN INSTALLED IN THE PROPOSED WORK AREA.
- GRUB TREE STUMPS IN CLEARED CWA. GRIND STUMPS AND REMOVE FROM ROW AND HAUL OFF SITE OR STOCKPILE AT STAGING AREAS FOR USE AS MULCH STABILIZATION AFTER EARTH DISTURBING ACTIVITIES ARE COMPLETED.
- IN WETLANDS, CUT VEGETATION JUST ABOVE GROUND LEVEL AND GRIND STUMPS TO GROUND LEVEL, LEAVING EXISTING ROOT SYSTEMS IN PLACE. IMMEDIATELY REMOVE ALL CUT TREES, CHIPS FROM GRINDING OPERATIONS AND BRANCHES FROM THE WETLANDS.
- LIMIT PULLING OF TREE STUMPS AND GRADING ACTIVITIES TO DIRECTLY OVER TRENCH LINE. DO NOT GRADE OR REMOVE STUMPS OR ROOT SYSTEMS FROM THE REST OF THE CWA IN WETLANDS UNLESS THE CHIEF INSPECTOR AND ENGINEER DETERMINE THAT SAFETY-RELATED CONSTRUCTION CONSTRAINTS REQUIRE REMOVAL OF TREE STUMPS FROM UNDER THE WORKING SIDE OF THE CWA.
- GRUBBING SHALL NOT TAKE PLACE WITHIN 10 FEET OF TOP OF STREAM BANKS UNTIL ALL MATERIALS REQUIRED TO COMPLETE THE CROSSING ARE ON SITE AND PIPE IS READY FOR INSTALLATION.
- NOTIFY THE COUNTY CONSERVATION DISTRICT AFTER INSTALLATION OR STABILIZATION OR ALL PERIMETER SEDIMENT CONTROL BMP'S (INCLUDING TOPSOIL PILES) WITHIN EACH WORK AREA AND AT LEAST 3 DAYS PRIOR TO PROCEEDING WITH BULK EARTH DISTURBANCE ACTIVITIES.
- TREE CLEARING ESTIMATED TO BE IN ALL "U" CLASSIFICATION AREAS AS SHOWN ON THE LAND USE BAND AND ALL PFO WETLANDS.
- EXISTING SURFACE DRAINAGE PATTERNS WILL NOT BE ALTERED BY THE PLACEMENT OF TIMBER OR BRUSH PILES AT THE EDGE OF THE CONSTRUCTION ROW.

**SITE GRADING:**

- RE-STAKE THE CWA TO REPLACE ANY SIGNAGE OR FLAGGING THAT WAS REMOVED OR DAMAGED DURING CLEARING ACTIVITIES.
- INSTALL ROCK CONSTRUCTION ENTRANCES WHERE VEHICLES WILL ENTER CONSTRUCTION AREAS FROM ACCESS ROADS.
- CLEAR, GRADE AND IMPROVE ACCESS ROAD AS NEEDED AS THEIR USE BECOMES REQUIRED.
- STOCKPILE TOPSOIL ALONG THE EDGE OF THE CWA AND TEMPORARILY STABILIZED.
- ROUGH GRADE SITE, REMOVE AND STOCKPILE TOPSOIL AS APPROPRIATE. INSTALL SILT FENCE AROUND STOCKPILED TOPSOIL AS SHOWN ON E&S DRAWINGS.
- THE MIXING OF TOPSOIL WITH SUBSOIL SHALL BE PREVENTED BY STRIPPING TOPSOIL FROM THE WORK AREA WITHIN DESIGNATED AREAS AND IN COORDINATION WITH THE APPLICABLE ACCESS AGREEMENTS.
- SEGREGATE AT LEAST 12 INCHES OF TOPSOIL IN DEEP SOILS WITH MORE THAN 12 INCHES OF TOPSOIL. IN SOILS WITH LESS THAN 12 INCHES OF TOPSOIL, MAKE EVERY EFFORT TO SEGREGATE THE ENTIRE TOPSOIL LAYER.
- INSTALL TEMPORARY WATERBARS AS SHOWN ON E&S DRAWINGS. WATERBARS SHALL BE ALIGNED SO THAT DISCHARGES DO NOT FLOW BACK ONTO THE RIGHT-OF-WAY OR INTO THE OPEN TRENCH. RUNOFF SHOULD BE DIRECTED TO THE DOWNSLOPE SIDE OF THE DISTURBED AREA.
- INSTALL TEMPORARY FLOW DIVERSION, FLUME STRUCTURES AND TEMPORARY BRIDGES AT STREAM CROSSINGS AS STREAM CROSSINGS ARE ENCOUNTERED.
- INSTALL APPROPRIATE TRENCH DEWATERING FILTER BAG AND SURROUNDING SEDIMENT BARRIERS (STRAW BALES, SILT FENCE AND/OR COMPOST FILTER SOCKS AS DETERMINED IN THE FIELD) IN PREPARATION OF DEWATERING ACTIVITIES. THIS SHALL BE COMPLETED PRIOR TO PERFORMING EXCAVATION ACROSS WATERBODIES.
- INSTALL TIMBER MATS FOR EQUIPMENT ACCESS AS SHOWN ON E&SCP DRAWINGS AS WETLANDS / STREAMS ARE ENCOUNTERED.
- UTILIZE WOOD CHIPS IN HEAVILY TRAFFICKED AREAS TO REDUCE THE POTENTIAL FOR RUTTING. WOOD CHIPS WILL NOT BE SPREAD IN WETLANDS OR STREAMS.

**PIPELINE CONSTRUCTION:**

**UPLAND LOCATIONS:**

- ENSURE THE APPROPRIATE UPLAND EROSION AND SEDIMENT CONTROLS ARE IN PLACE.
  - GRADE CONSTRUCTION WORK AREA EXCAVATE PIPELINE TRENCH. LIMIT TRENCH WIDTH TO WHAT IS NECESSARY TO INSTALL PIPE. FLAG DRAINAGE TILES DAMAGED DURING DITCHING ACTIVITIES FOR REPAIR.
  - SEGREGATE TOPSOIL IN AGRICULTURAL FIELDS AND MANICURED LAWNS FOR RESTORATION ACTIVITIES DURING FINAL CLEAN UP.
  - STRING PIPE AND PREPARE THE PIPE JOINTS FOR WELDING.
  - WELD PIPE JOINTS AND PERFORM NDT (NON-DESTRUCTIVE TESTING).
  - DISCHARGE ALL WATER FROM TRENCH USING FILTER BAGS.
  - INSTALL THE PIPELINE IN THE TRENCH.
  - INSTALL TRENCH PLUGS.
  - BACKFILL THE PIPELINE TRENCH. BACKFILL MATERIAL SHOULD BE MOUNDING OVER THE TRENCH TO ALLOW FOR SETTLING EXCEPT IN AGRICULTURAL FIELDS AND MANICURED LAWNS.
  - PERFORM PERMANENT STABILIZATION, INCLUDING:
    - A. GRADE AREAS AS CLOSELY AS POSSIBLE TO ORIGINAL CONTOURS.
    - B. REPLACE TOPSOIL.
    - C. APPLY PERMANENT SEEDING, SOIL AMENDMENTS AND MULCH OR EROSION CONTROL BLANKET.
- ROADWAY, DRIVEWAYS AND RAILROADS CROSSINGS:**
- STRING PIPE OUTSIDE OF ROAD/DRIVEWAY AND PREPARE THE PIPE JOINTS FOR WELDING AND NON-DESTRUCTIVE TESTING.
  - EXCAVATE PIPELINE TRENCH FOR THE OPEN TRENCH CROSSING OR EXCAVATE BORE PITS FOR CONVENTIONAL BORED CROSSING.
  - DISCHARGE ALL WATER FROM TRENCH USING FILTER BAGS OR COMPOST SOCK SEDIMENT TRAP.
  - MOVE THE PIPE SECTIONS TO THE TRENCH OR PERFORM CONVENTIONAL BORE.
  - INSTALL THE PIPELINE IN THE TRENCH.
  - INSTALL TRENCH PLUGS.
  - BACKFILL THE PIPELINE TRENCH.

**STREAM, RIVER, WETLANDS OR OTHER WATERBODY UTILITY CROSSINGS THAT WILL BE OPEN CUT:**

- NO WORK SHALL COMMENCE THROUGH A STREAM, RIVER, WETLANDS, OR OTHER WATERBODY DURING INCLEMENT WEATHER.
- A UTILITY LINE CROSSING OF A STREAM CHANNEL 10 FEET IN BOTTOM WIDTH OR LESS SHALL BE COMPLETED WITHIN 24 HOURS FROM START TO FINISH INCLUDING TRENCH BACKFILL, STABILIZATION OF STREAM BANKS AND STABILIZATION OF THE AREA 50 FEET BACK FROM THE TOP OF EACH STREAM BANK.
- A UTILITY LINE CROSSING OF A STREAM CHANNEL BETWEEN 10 FEET AND 100 FEET IN BOTTOM WIDTH SHALL BE COMPLETED WITHIN 48 HOURS FROM START TO FINISH INCLUDING TRENCH BACKFILL, STABILIZATION OF STREAM BANKS AND STABILIZATION OF THE AREA 50 FEET BACK FROM THE TOP OF EACH STREAM BANK.
- WETLAND CROSSINGS ARE TO BE COMPLETED ALONG WITH THE MAINLINE INSTALLATION AND WILL BE DEPENDENT UPON THE LENGTH OF THE CROSSING.
- FACILITIES FOR REMOVING SEDIMENT FROM PUMPED WATER SHOULD BE AVAILABLE AT THE STREAM CROSSING SITE BEFORE TRENCHING COMMENCES AND MAINTAINED UNTIL TRENCH BACKFILLING IS COMPLETED. ASSEMBLY AREAS, TEMPORARY EQUIPMENT AND NON-HAZARDOUS MATERIAL STORAGE AREAS SHALL BE LOCATED AT LEAST 50 FEET BACK FROM THE TOP OF ANY BANK.
- INSTALL TEMPORARY EQUIPMENT CROSSINGS AT STREAMS AND TEMPORARY TIMBER MATS AT WETLAND CROSSINGS IN ACCORDANCE WITH NOTES AND DETAILS.
- FOR DRY STREAM CROSSINGS INSTALL DAM AND PUMP, DRY FLUME, OR COFFERDAM IN ACCORDANCE WITH NOTES AND DETAILS.
- DEWATERING WORK AREA. WATER FROM THE EXCAVATION SHALL BE PUMPED TO A SEDIMENT FILTER BAG. WHERE POSSIBLE, EXCAVATION SHALL BE FROM THE TOP OF THE STREAM BANK, WHERE TECHNICALLY FEASIBLE.
- STABILIZE CHANNEL EXCAVATION AND STREAM BANKS PRIOR TO REDIRECTING STREAM FLOW.

**WETLAND CROSSINGS:**

- LOCATE STAGING AREA AND ACCESS POINTS. STAGING AREAS SHOULD BE LOCATED AT LEAST 50 FEET FROM THE EDGE OF THE WETLAND. INSTALL SEDIMENT BARRIERS DOWN SLOPE OF THESE AREAS.
- INSTALL ROCK CONSTRUCTION ENTRANCE AS NEEDED. REFER TO THE ROCK CONSTRUCTION ENTRANCE DETAIL ON DRAWINGS FOR SUGGESTED DIMENSIONS.
- INSTALL ORANGE FLAGGING AROUND PERIMETER OF WETLAND AND SEDIMENT BARRIERS ALONG THE PERIMETERS OF THE SITE AS SHOWN ON THE CONSTRUCTION DRAWINGS.
- TIMBER MATS SHALL BE USED DURING THE CROSSINGS OF WETLANDS. ORIGINAL GRADES THROUGH WETLANDS MUST BE RESTORED AFTER TRENCHING AND BACKFILLING. ANY EXCESS FILL MATERIALS MUST BE REMOVED FROM THE WETLAND AND NOT SPREAD ON-SITE.
- SOIL EXCAVATED FROM WETLAND AREAS SHALL BE CAREFULLY REMOVED WITH THE ROOTS INTACT. THIS SOIL SHOULD BE PLACED IN A SEPARATE STOCKPILE TO BE REUSED DURING THE WETLAND SURFACE RESTITUTION.

- DEWATER WORK AREA. WATER FROM THE EXCAVATION SHALL BE PUMPED TO A FILTER BAG.
- INSTALL PIPE.
- INSTALL TRENCH PLUGS AT WETLAND BOUNDARIES AND AT 100-FT INTERVALS WITHIN THE WETLAND, WHERE APPLICABLE, TO PREVENT THE TRENCH FROM DRAINING THE WETLAND OR CHANGING ITS HYDROLOGY.
- BACKFILL PIPE TRENCH. BACKFILL THE TOP 12-INCHES OF THE EXCAVATED TRENCH WITH THE STOCKPILED WETLAND SOIL TO MATCH ORIGINAL SURFACE GRADES.
- NO SOIL AMENDMENTS SUCH AS AGRICULTURAL LIME, FERTILIZER, ETC. WILL BE USED WITHIN WETLAND AREAS.
- COMPACT BACKFILL AND GRADE THE SURFACE OF THE TRENCH AREA TO ALLOW FOR POSITIVE DRAINAGE TO SOIL EROSION AND SEDIMENT CONTROLS AND TO PREPARE DISTURBED AREA FOR PERMANENT TRENCH RESTORATIONS. ELEVATION OF WETLAND WILL BE SURVEYED. AFTER POST CONSTRUCTION SURVEY ELEVATION HAS BEEN CONFIRMED TO MATCH PRE-CONSTRUCTION CONDITIONS, THE WETLAND WILL BE SEEDED USING THE WETLAND SEED MIX.
- MAINTAIN ALL EROSION SEDIMENTATION CONTROL DEVICES UNTIL SITE WORK IS COMPLETE AND A UNIFORM TOE VEGETATIVE COVER OVER THE DISTURBED AREA. RE-GRADE AND REVEGETATE AREAS DISTURBED DURING THE REMOVAL OF THE SOIL AND SEDIMENT CONTROLS.

**FOR CONVENTIONAL BORE AND HDD CROSSINGS:**

**CONVENTIONAL BORES**

- CONVENTIONAL BORES WILL BE CONDUCTED ALONG WITH MAIN LINE INSTALLATION TO LIMIT THE TIME OF DISTURBANCE IN THOSE AREAS.
- INSTALL SILT FENCE DOWNGRADIENT OF THE BORE AND RECEIVING PITS.
- EXCAVATE PITS.
- BORE BENEATH STREAMS WHERE INDICATED ON THE CONSTRUCTION DRAWINGS.
- WATER FROM THE BORE PITS AND WORK AREAS SHALL BE PUMPED TO A PUMPED WATER FILTER BAG.
- UPON COMPLETION, BACKFILL ALL PITS.

**HDD**

- INSTALL SILT FENCE AT STAGING AND PULLBACK AREAS IN ACCORDANCE WITH E&S PLAN SHEETS. WHERE APPLICABLE TEMPORARY GRADING OF STAGING AREAS IS PROVIDED ON PLAN SHEETS.
- BORE AND PULLBACK AREAS SHALL BE LOCATED A MINIMUM OF 50 FT BACK FROM EACH TOP OF STREAM BANK UNLESS AUTHORIZED BY NJDEP.
- THE HDD BORE ALIGNMENT SHALL BE MONITORED FOR INADVERTENT RETURNS. AN INADVERTENT RETURN PLAN HAS BEEN DEVELOPED FOR THIS PROJECT. THIS PLAN IS TO BE REVIEWED ON SITE, AND IMPLEMENTED FOR EACH DRILL CONDUCTED.
- UPON COMPLETION OF HDD BORE, RESTORE BORE AND PULLBACK AREAS TO PRE-CONSTRUCTION CONDITIONS IN ACCORDANCE WITH E&S PLANS AND DETAILS.

**HYDROSTATIC TESTING:**

- THE EI SHALL NOTIFY THE AGENCIES OF THE INTENT TO USE SPECIFIC TEST WATER SOURCES AT LEAST 48 HOURS BEFORE TESTING ACTIVITIES.
- PUMPS USED FOR HYDROSTATIC TESTING WITHIN 100 FEET OF ANY WATERBODY OR WETLAND SHALL BE OPERATED AND REFUELED IN ACCORDANCE WITH THE SPOC PLAN.
- USE ONLY THE WATER SOURCES IDENTIFIED IN THE CLEARANCE PACKAGE/PERMIT BOOK.
- LOCATE HYDROSTATIC TEST MANIFOLDS OUTSIDE WETLANDS AND RIPARIAN AREAS TO THE GREATEST EXTENT PRACTICAL.
- FOR AN OVERLAND DISCHARGE OF TEST WATER, DEWATER INTO AN ENERGY DISSIPATION DEVICE CONSTRUCTED OF STRAW BALES AND ABSORBENT BOOMS.
- DEWATER ONLY AT THE LOCATIONS SHOWN ON THE CONSTRUCTION DRAWINGS OR LOCATIONS IDENTIFIED IN THE HYDROSTATIC TEST PACKAGE.
- LOCATE ALL DEWATERING STRUCTURES IN A WELL-VEGETATED AND STABILIZED AREA, IF PRACTICAL, AND ATTEMPT TO MAINTAIN AT LEAST A 50-FOOT VEGETATED BUFFER FROM ADJACENT WATERBODY/WETLAND AREAS. IF AN ADEQUATE BUFFER IS NOT AVAILABLE, BMP'S OR SIMILAR EROSION CONTROL MEASURE MUST BE INSTALLED.
- REGULATE DISCHARGE RATE, USE ENERGY DISSIPATION DEVICE(S), AND INSTALL BMP'S, AS NECESSARY, TO PREVENT EROSION, STREAMBED SCOUR TO AQUATIC RESOURCES, SUSPENSION OF SEDIMENTS, FLOODING OR EXCESSIVE STREAM FLOW.
- THE EI SHALL SAMPLE AND TEST THE SOURCE WATER AND DISCHARGE WATER IN ACCORDANCE WITH THE PERMIT REQUIREMENTS.
- HYDROSTATIC TEST WATER DISCHARGE LOCATIONS HAVE BEEN PERMITTED THROUGH THE DELAWARE RIVER BASIN COMMISSION (DRBC). THESE LOCATIONS WILL BE PROVIDED TO THE SOIL COUNTY CONSERVATION DISTRICTS ONCE THE PERMIT IS RECEIVED FROM THE DRBC.



REVISIONS					
	REVISIONS	DATE	DRAWN	CK	APPR
A	SUBMITTAL TO SOIL CONSERVATION DISTRICT	07/2019	DOW (MM)	AJD (MM)	MJD (MM)

PREPARED FOR

PREPARED BY

111 WOOD AVENUE SOUTH, ISELIN, NJ, 08830  
CERTIFICATE NO. 24GA28016600

**MICHAEL J. DENICHILO**  
PROFESSIONAL ENGINEER  
N.J. LIC. NO. 24GE05078700

*Michael J. Denichilo*      08/01/2019  
SIGNATURE      DATE

PENNEAST PIPELINE PROJECT		
SOIL EROSION AND SEDIMENTATION CONTROL PLAN E&S GENERAL NOTES MERCER COUNTY		
SCALE	DRAWING NO.	REVISION
AS SHOWN	000-01-01-003D	A

**PROJECT CONSTRUCTION SEQUENCING (CONTINUED)**

**SOIL DE-COMPACTION NOTES**

**RECYCLING AND DISPOSAL METHODS**

**DEMOLITION AND SITE CLEAN UP:**

- COMPLETE PERMANENT STABILIZATION OF ALL REMAINING AREAS OF DISTURBANCE, INCLUDING:
  - GRADE AREAS AS CLOSELY AS POSSIBLE TO ORIGINAL CONTOURS.
  - REPLACE TOPSOIL
  - APPLY PERMANENT SEEDING, SOIL AMENDMENT, AND MULCH OR EROSION CONTROL BLANKET.
- UPON COMPLETION OF ALL EARTH DISTURBANCE ACTIVITIES AND PERMANENT STABILIZATION OF ALL DISTURBED AREAS, THE OWNER OR OPERATOR SHALL CONTACT THE COUNTY CONSERVATION DISTRICT FOR AN INSPECTION PRIOR TO THE REMOVAL/CONVERSION OF THE EROSION AND SEDIMENT CONTROL BMPs.
- REMOVE TEMPORARY CONTROL MEASURES UPON APPROVAL OF THE COUNTY CONSERVATION DISTRICT AGENT.
- ANY AREA THAT USED STONE AND/OR TIMBER MATS FOR TEMPORARY STABILIZATION AND/OR ACCESS WILL BE COMPLETELY REMOVED AND SOIL WILL BE DE-COMPACTED BY USING TRACKED EQUIPMENT MAKING MULTIPLE PASSES OVER AREAS. REESTABLISH PRECONSTRUCTION CONTOURS AND REPLACE TOPSOIL TO A MINIMUM OF 4.8 INCHES DEEP AND SEED AND MULCH AREAS. VEHICULAR TRAFFIC SHOULD BE RESTRICTED FROM AREAS TO PREVENT SOIL COMPACTION.
- UPON COMPLETION OF ALL EARTH DISTURBANCE ACTIVITIES, REMOVAL OF ALL TEMPORARY BMPs, INSTALLATIONS OF ALL PERMANENT PCSM BMPs, AND PERMANENT STABILIZATION OF ALL DISTURBED AREAS, THE OWNER AND/OR OPERATOR SHALL CONTACT THE COUNTY CONSERVATION DISTRICT FOR A FINAL INSPECTION. TEMPORARY WORKSPACE WILL BE RESTORED AS CLOSELY AS POSSIBLE TO ORIGINAL CONTOURS.
- ANY MATERIALS NOT INCORPORATED AS TRENCH BACKFILL OR GENERAL GRADING (E.G. UNCONTAMINATED SOIL, ROCK, STONE, GRAVEL, BRICK AND BLOCK, CONCRETE AND USED ASPHALT AND WASTE FROM LAND CLEARING, GRUBBING AND EXCAVATION, INCLUDING TREES, BRUSH, STUMPS AND VEGETATIVE MATERIAL) WILL BE REUSED, RECYCLED OR REMOVED FROM THE CONSTRUCTION WORK LIMITS.
- CONTRACTOR DEMOLITION.

**POST-CONSTRUCTION:**

- CONTINUE TO CONDUCT INSPECTIONS UNTIL THE SITE HAS REACHED PERMANENT STABILIZATION.
- PERMANENT STABILIZATION IS DEFINED AS A MINIMUM UNIFORM, PERENNIAL 70% VEGETATIVE COVER OR OTHER NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED EROSION. CUT AND FILL SLOPES SHALL BE CAPABLE OF RESISTING FAILURE DUE TO SLUMPING, SLIDING, OR OTHER MOVEMENTS.
- TEMPORARY E&S BMPs MAY BE REMOVED AFTER THE ENTIRE CONTRIBUTORY AREA TO EACH BMP REACHES PERMANENT STABILIZATION.
- REMOVE ANY REMAINING TEMPORARY WATERBODY AND WETLAND EQUIPMENT CROSSINGS.
- REMOVE ANY REMAINING STABILIZED CONSTRUCTION ENTRANCES.
- PRIOR TO APPLICATION OF THE SEED IN ALL SUPPORT & STAGING AREAS, THE SEEDBED WILL BE PREPARED TO A DEPTH OF 3 TO 4 INCHES USING APPROPRIATE EQUIPMENT TO PROVIDE A FIRM, SMOOTH SEEDBED THAT IS FREE OF DEBRIS AND SCARIFIED TO ENSURE SEEDS LODGE AND GERMINATE. THE SEED MIXTURE WILL BE APPLIED UNIFORMLY PER STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY, JANUARY 2014.
- UPON COMPLETION OF ALL CONSTRUCTION ACTIVITIES, A NOTICE OF TERMINATION FORM WILL BE SUBMITTED TO TERMINATE THE AUTHORIZATION OF COVERAGE INDICATING ALL ACTIVITIES UNDER THIS PERMIT HAVE BEEN COMPLETED.

**SOIL COMPACTION TESTING REQUIREMENTS**

- SUBGRADE SOILS PRIOR TO THE APPLICATION OF TOPSOIL (SEE PERMANENT SEEDING AND STABILIZATION NOTES FOR TOPSOIL REQUIREMENTS) SHALL BE FREE OF EXCESSIVE COMPACTION TO A DEPTH OF 6.0 INCHES TO ENHANCE THE ESTABLISHMENT OF PERMANENT VEGETATIVE COVER.
- A COPY OF THE PLAN OR PORTION OF THE PLAN SHALL BE USED TO MARK LOCATIONS OF TESTS, AND ATTACHED TO THE COMPACTION REMEDIATION FORM, AVAILABLE FROM THE LOCAL SOIL CONSERVATION DISTRICT. THIS FORM MUST BE FILLED OUT AND SUBMITTED PRIOR TO RECEIVING A CERTIFICATE OF COMPLIANCE FROM THE DISTRICT.
- IN THE EVENT THAT TESTING INDICATES COMPACTION IN EXCESS OF THE MAXIMUM THRESHOLDS INDICATED FOR THE SIMPLIFIED TESTING METHODS (SEE DETAILS BELOW), THE CONTRACTOR/OWNER SHALL HAVE THE OPTION TO PERFORM EITHER (1) COMPACTION MITIGATION OVER THE ENTIRE MITIGATION AREA DENOTED ON THE PLAN (EXCLUDING EXEMPT AREAS), OR (2) PERFORM ADDITIONAL, MORE DETAILED TESTING TO ESTABLISH THE LIMITS OF EXCESSIVE COMPACTION WHEREUPON ONLY THE EXCESSIVELY COMPACTED AREAS WOULD REQUIRE COMPACTION MITIGATION. ADDITIONAL DETAILED TESTING SHALL BE PERFORMED BY A TRAINED, LICENSED PROFESSIONAL.

**COMPACTION TESTING METHODS**

- PROBING WIRE TEST (SEE DETAIL)
- HAND-HELD PENETROMETER TEST (SEE DETAIL)
- TUBE BULK DENSITY TEST (LICENSED PROFESSIONAL ENGINEER REQUIRED)
- NUCLEAR DENSITY TEST (LICENSED PROFESSIONAL ENGINEER REQUIRED)

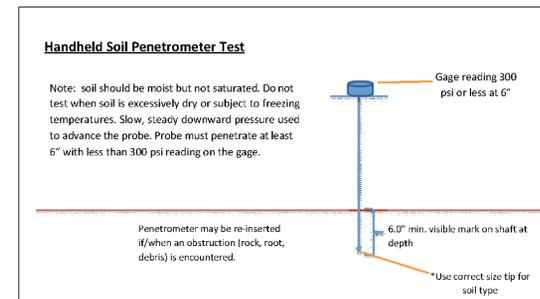
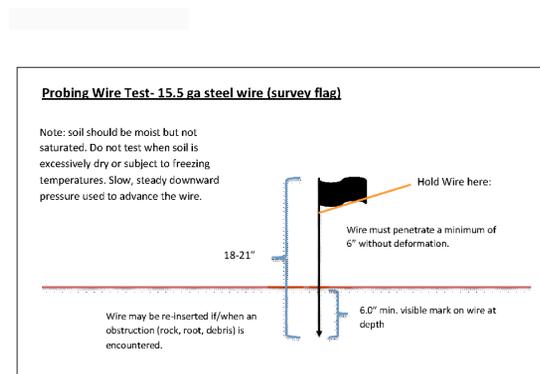
NOTE: ADDITIONAL TESTING METHODS WHICH CONFORM TO ASTM STANDARDS AND SPECIFICATIONS, AND WHICH PRODUCE A DRY WEIGHT, SOIL BULK DENSITY MEASUREMENT MAY BE ALLOWED SUBJECT TO DISTRICT APPROVAL.

SOIL COMPACTION TESTING IS NOT REQUIRED IF/WHEN SUBSOIL COMPACTION REMEDIATION (SCARIFICATION/TILLAGE (6" MINIMUM DEPTH) OR SIMILAR) IS PROPOSED AS PART OF THE SEQUENCE OF CONSTRUCTION.

**PROCEDURES FOR SOIL COMPACTION MITIGATION**

- PROCEDURES SHALL BE USED TO MITIGATE EXCESSIVE SOIL COMPACTION PRIOR TO PLACEMENT OF TOPSOIL AND ESTABLISHMENT OF PERMANENT VEGETATIVE COVER.
- RESTORATION OF COMPACTED SOILS SHALL BE THROUGH DEEP SCARIFICATION/TILLAGE (6" MINIMUM DEPTH) WHERE THERE IS NO DANGER TO UNDERGROUND UTILITIES (CABLES, IRRIGATION SYSTEMS, ETC.). IN THE ALTERNATIVE, ANOTHER METHOD AS SPECIFIED BY A NEW JERSEY LICENSED PROFESSIONAL ENGINEER MAY BE SUBSTITUTED SUBJECT TO DISTRICT APPROVAL.

**SIMPLIFIED TESTING METHODS**



**RECYCLING AND DISPOSAL METHODS**

THE RESTORATION OF THE PIPELINE RIGHT-OF-WAY WILL REQUIRE THE REMOVAL OF THE TEMPORARY MATERIALS. THE TEMPORARY MATERIALS INCLUDE, BUT MAY NOT BE LIMITED TO, STONE SURFACES AND ASSOCIATED GEOTEXTILES. THE CONTRACTORS ARE REQUIRED TO DISPOSE OF THE MATERIALS AT SUITABLE DISPOSAL OR RECYCLING SITES AND IN COMPLIANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS.

CONTRACTORS ARE REQUIRED TO INVENTORY AND MANAGE THEIR CONSTRUCTION SITE MATERIALS. THE GOAL IS TO BE AWARE OF THE MATERIALS ON-SITE, ENSURE THEY ARE PROPERLY MAINTAINED, USED, AND DISPOSED OF, AND TO MAKE SURE THE MATERIALS ARE NOT EXPOSED TO STORMWATER.

**MATERIALS COVERED**

THE FOLLOWING MATERIALS OR SUBSTANCES ARE EXPECTED TO BE PRESENT ON-SITE DURING CONSTRUCTION (NOTE: THIS LIST IS NOT AN ALL-INCLUSIVE LIST AND THE MATERIALS MANAGEMENT PLAN CAN BE MODIFIED TO ADDRESS ADDITIONAL MATERIALS USED ON-SITE):

- ACIDS
- DETERGENTS
- FERTILIZERS (NITROGEN/PHOSPHORUS)
- HYDROSEEDING MIXTURES
- PETROLEUM BASED PRODUCTS
- SANITARY WASTES
- SOIL STABILIZATION ADDITIVES
- SOLDER
- SOLVENTS
- OTHER (LIST HERE):

THESE MATERIALS MUST BE STORED AS APPROPRIATE AND SHALL NOT CONTACT STORM OR NON-STORMWATER DISCHARGES. CONTRACTOR SHALL PROVIDE A WEATHER PROOF CONTAINER TO STORE CHEMICALS OR ERODIBLE SUBSTANCES THAT MUST BE KEPT ON THE SITE. CONTRACTOR IS RESPONSIBLE FOR READING, MAINTAINING, AND MAKING EMPLOYEES AND SUBCONTRACTORS AWARE OF MATERIAL SAFETY DATA SHEETS (MSDS).

**MATERIAL MANAGEMENT PRACTICES**

THE FOLLOWING ARE MATERIAL MANAGEMENT PRACTICES THAT WILL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS AND SUBSTANCES TO STORMWATER RUNOFF.

- GOOD HOUSEKEEPING PRACTICES**  
THE FOLLOWING GOOD HOUSEKEEPING PRACTICES WILL BE FOLLOWED ON SITE DURING CONSTRUCTION:
  - STORE ONLY ENOUGH MATERIAL REQUIRED TO DO THE JOB.
  - STORE MATERIALS IN A NEAT, ORDERLY MANNER.
  - STORE CHEMICALS IN WATERTIGHT CONTAINERS OR IN A STORAGE SHED, UNDER A ROOF, COMPLETELY ENCLOSED, WITH APPROPRIATE SECONDARY CONTAINMENT TO PREVENT SPILL OR LEAKAGE. DRIP PANS SHALL BE PROVIDED UNDER DISPENSERS.
  - SUBSTANCES WILL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER.
  - MANUFACTURER'S RECOMMENDATIONS FOR PROPER USE AND DISPOSAL WILL BE FOLLOWED.
  - INSPECTIONS WILL BE PERFORMED TO ENSURE PROPER USE AND DISPOSAL OF MATERIALS.
  - COVER AND BERM LOOSE STOCKPILED CONSTRUCTION MATERIALS THAT ARE NOT ACTIVELY BEING USED (I.E. SOIL, SPOILS, AGGREGATE, ETC.).
  - MINIMIZE EXPOSURE OF CONSTRUCTION MATERIALS TO PRECIPITATION.
  - MINIMIZE THE POTENTIAL FOR OFF-SITE TRACKING OF LOOSE CONSTRUCTION AND LANDSCAPE MATERIALS.
- HAZARDOUS PRODUCTS**  
THESE PRACTICES WILL BE USED TO REDUCE THE RISKS ASSOCIATED WITH HAZARDOUS MATERIALS. MSDS FOR EACH SUBSTANCE WITH HAZARDOUS PROPERTIES THAT IS USED ON THE JOB SITE(S) WILL BE OBTAINED AND USED FOR THE PROPER MANAGEMENT OF POTENTIAL WASTES THAT MAY RESULT FROM THESE PRODUCTS. A MSDS WILL BE POSTED IN THE IMMEDIATE AREA WHERE SUCH PRODUCT IS STORED AND/OR USED AND ANOTHER COPY OF EACH MSDS WILL BE MAINTAINED IN A FILE AT THE JOB SITE CONSTRUCTION TRAILER OFFICE. EACH EMPLOYEE WHO MUST HANDLE A SUBSTANCE WITH HAZARDOUS PROPERTIES WILL BE INSTRUCTED ON THE USE OF MSDS AND THE SPECIFIC INFORMATION IN THE APPLICABLE MSDS FOR THE PRODUCT HE/SHE IS USING, PARTICULARLY REGARDING SPILL CONTROL TECHNIQUES.
  - PRODUCTS WILL BE KEPT IN ORIGINAL CONTAINERS WITH THE ORIGINAL LABELS IN LEGIBLE CONDITION.
  - ORIGINAL LABELS AND MSDS WILL BE PRODUCED AND USED FOR EACH MATERIAL.
  - IF SURPLUS PRODUCT MUST BE DISPOSED OF, MANUFACTURER'S OR LOCAL/STATE/FEDERAL RECOMMENDED METHODS FOR PROPER DISPOSAL WILL BE FOLLOWED.
- HAZARDOUS WASTES**  
ALL HAZARDOUS WASTE MATERIALS WILL BE DISPOSED OF BY THE CONTRACTOR IN THE MANNER SPECIFIED BY LOCAL, STATE, AND/OR FEDERAL REGULATIONS AND BY THE MANUFACTURER OF SUCH PRODUCTS. SITE PERSONNEL WILL BE INSTRUCTED.
- CONCRETE AND OTHER WASH WATERS**  
PREVENT DISPOSAL OF RINSE, WASH WATERS, OR MATERIALS ON IMPERVIOUS OR PVIOUS SURFACES, INTO STREAMS, WETLANDS, OR OTHER WATERBODIES.  
CONCRETE TRUCKS WILL BE ALLOWED TO WASH OUT OR DISCHARGE SURPLUS CONCRETE OR DRUM WASH WATER ON THE SITE, BUT ONLY IN EITHER (1) SPECIFICALLY DESIGNATED DIKED AREAS WHICH HAVE BEEN PREPARED TO PREVENT CONTACT BETWEEN THE CONCRETE AND/OR WASHOUT AND SOIL AND STORMWATER HAVING THE

POTENTIAL TO BE DISCHARGED FROM THE SITE OR (2) IN LOCATIONS WHERE WASTE CONCRETE CAN BE POURED INTO FORMS TO MAKE RIPRAP OR OTHER USEFUL CONCRETE PRODUCTS.

THE HARDENED RESIDUE FROM THE CONCRETE WASHOUT DIKED AREAS WILL BE DISPOSED OF IN THE SAME MANNER AS OTHER NON-HAZARDOUS CONSTRUCTION WASTE MATERIALS OR MAY BE BROKEN UP AND USED ON THE SITE AS DEEMED APPROPRIATE BY THE CONTRACTOR AND GEOTECHNICAL ENGINEER. THE CONTRACTOR WILL BE RESPONSIBLE FOR SEEING THAT THESE PROCEDURES ARE FOLLOWED.

ALL CONCRETE WASHOUT AREAS WILL BE LOCATED IN AN AREA WHERE THE LIKELIHOOD OF THE AREA CONTRIBUTING TO STORMWATER DISCHARGE IS NEGLIGIBLE. IF REQUIRED, ADDITIONAL BMP MUST BE IMPLEMENTED TO PREVENT CONCRETE WASTES FROM CONTRIBUTING TO STORMWATER DISCHARGES. THE LOCATION OF THE CONCRETE WASHOUT AREA(S) MUST BE IDENTIFIED BY THE CONTRACTOR/JOB SITE SUPERINTENDENT, ON THE JOB SITE COPY OF THE EROSION AND SEDIMENT CONTROL PLAN(S) IN THIS ESCP.

- SANITARY WASTES**  
ALL SANITARY WASTE UNITS WILL BE LOCATED IN AN AREA WHERE THE LIKELIHOOD OF THE UNIT CONTRIBUTING TO STORMWATER DISCHARGES IS NEGLIGIBLE.
- SOLID AND CONSTRUCTION WASTES**  
ALL WASTE MATERIALS WILL BE COLLECTED AND STORED IN A SECURELY LIDDED METAL DUMPSTER. THE DUMPSTER WILL COMPLY WITH ALL LOCAL AND STATE SOLID WASTE MANAGEMENT REGULATIONS. THE DUMPSTER/CONTAINER LIDS SHALL BE CLOSED AT THE END OF EVERY BUSINESS DAY AND DURING RAIN EVENTS. APPROPRIATE MEASURES SHALL BE TAKEN TO PREVENT DISCHARGES FROM WASTE DISPOSAL CONTAINERS TO THE RECEIVING WATER.
- CONSTRUCTION ACCESS**  
A STABILIZED CONSTRUCTION ENTRANCE WILL BE PROVIDED TO HELP REDUCE VEHICLE TRACKING OF SEDIMENTS. THE PAVED ROADS ADJACENT TO THE SITE ENTRANCE WILL BE INSPECTED DAILY AND SWEEP AS NECESSARY TO REMOVE ANY EXCESS OF MUD, DIRT, OR ROCK TRACKED FROM THE SITE. DUMP TRUCKS HAULING MATERIAL FROM THE CONSTRUCTION SITE WILL BE COVERED WITH A TARPAULIN AS NECESSARY.
- PETROLEUM PRODUCTS**  
ON-SITE VEHICLES WILL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTATIVE MAINTENANCE. PETROLEUM PRODUCTS WILL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED. PETROLEUM STORAGE TANKS ON SITE WILL HAVE A DIKE OR BERM CONTAINMENT STRUCTURE CONSTRUCTED AROUND IT TO CONTAIN SPILLS WHICH MAY OCCUR (CONTAINMENT VOLUME TO BE 110% OF VOLUME STORED). THE DIKE OR BERMED AREA SHALL BE LINED WITH AN IMPERVIOUS MATERIAL SUCH AS A HEAVY-DUTY PLASTIC SHEET. DRIP PANS SHALL BE PROVIDED FOR ALL DISPENSERS. ANY ASPHALT SUBSTANCES USED ON THE SITE WILL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.
- FERTILIZERS AND LANDSCAPE MATERIALS**  
FERTILIZERS WILL BE APPLIED ONLY IN THE MINIMUM AMOUNTS RECOMMENDED BY THE MANUFACTURER. ONCE APPLIED, FERTILIZER WILL BE WORKED INTO THE SOIL TO MINIMIZE THE POTENTIAL FOR EXPOSURE TO STORMWATER. STORAGE WILL BE UNDER COVER. THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILIZER WILL BE TRANSFERRED TO A SEALABLE PLASTIC BIN TO MINIMIZE THE POTENTIAL FOR SPILLS. THE BIN SHALL BE LABELED APPROPRIATELY.  
  
CONTAIN STOCKPILED MATERIALS, SUCH AS BUT NOT LIMITED TO, MULCHES, TOP SOIL, ROCKS AND GRAVEL, AND DECOMPOSED GRANITE, WHEN THEY ARE NOT ACTIVELY BEING USED.  
  
APPLY ERODIBLE LANDSCAPE MATERIAL AT QUANTITIES AND APPLICATION RATES ACCORDING TO MANUFACTURER RECOMMENDATIONS OR BASED ON WRITTEN SPECIFICATIONS BY KNOWLEDGEABLE AND EXPERIENCED FIELD PERSONNEL. DISCONTINUE THE APPLICATION OF ANY ERODIBLE LANDSCAPE MATERIAL WITHIN TWO DAYS PRIOR TO A FORECASTED RAIN EVENT OR DURING PERIODS OF PRECIPITATION.
- PAINTS, PAINT SOLVENTS AND CLEANING SOLVENTS**  
CONTAINERS WILL BE TIGHTLY SEALED AND STORED WHEN NOT IN USE. EXCESS PAINT AND SOLVENTS WILL BE PROPERLY DISPOSED OF ACCORDING TO MANUFACTURER'S INSTRUCTIONS OR LOCAL/STATE/FEDERAL REGULATIONS.
- CONTAMINATED SOILS**  
ANY CONTAMINATED SOILS (RESULTING FROM SPILLS OF MATERIALS WITH HAZARDOUS PROPERTIES) WHICH MAY RESULT FROM CONSTRUCTION ACTIVITIES WILL BE CONTAINED AND CLEANED UP IMMEDIATELY IN ACCORDANCE WITH APPLICABLE STATE AND FEDERAL REGULATIONS.
- OFF-SITE WASTE AND BORROW AREAS**  
ALL OFF-SITE WASTE AND BORROW AREAS MUST HAVE AN E&S PLAN APPROVED BY THE LOCAL COUNTY CONSERVATION DISTRICT IMPLEMENTED PRIOR TO BEING ACTIVATED. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE REMOVAL OF ANY EXCESS MATERIAL.

**MICHAEL J. DENICHILO**  
PROFESSIONAL ENGINEER  
N.J. LIC. NO. 24GE05078700

*Michael J. Denichilo*      08/01/2019  
SIGNATURE      DATE



REVISIONS					
NO.	REVISIONS	DATE	DRAWN	CK	APPR
A	SUBMITTAL TO SOIL CONSERVATION DISTRICT	07/2019	DOW (MM)	AJD (MM)	MJD (MM)

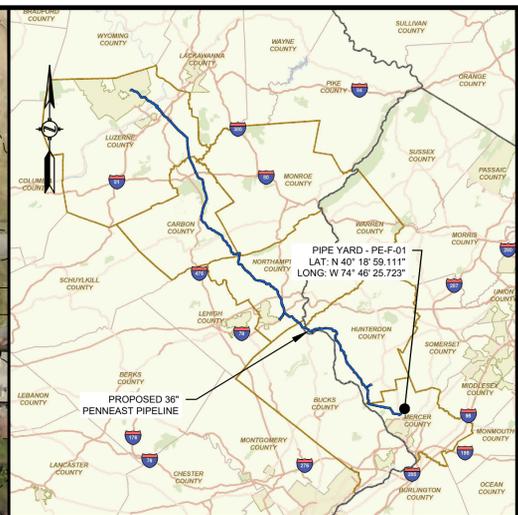
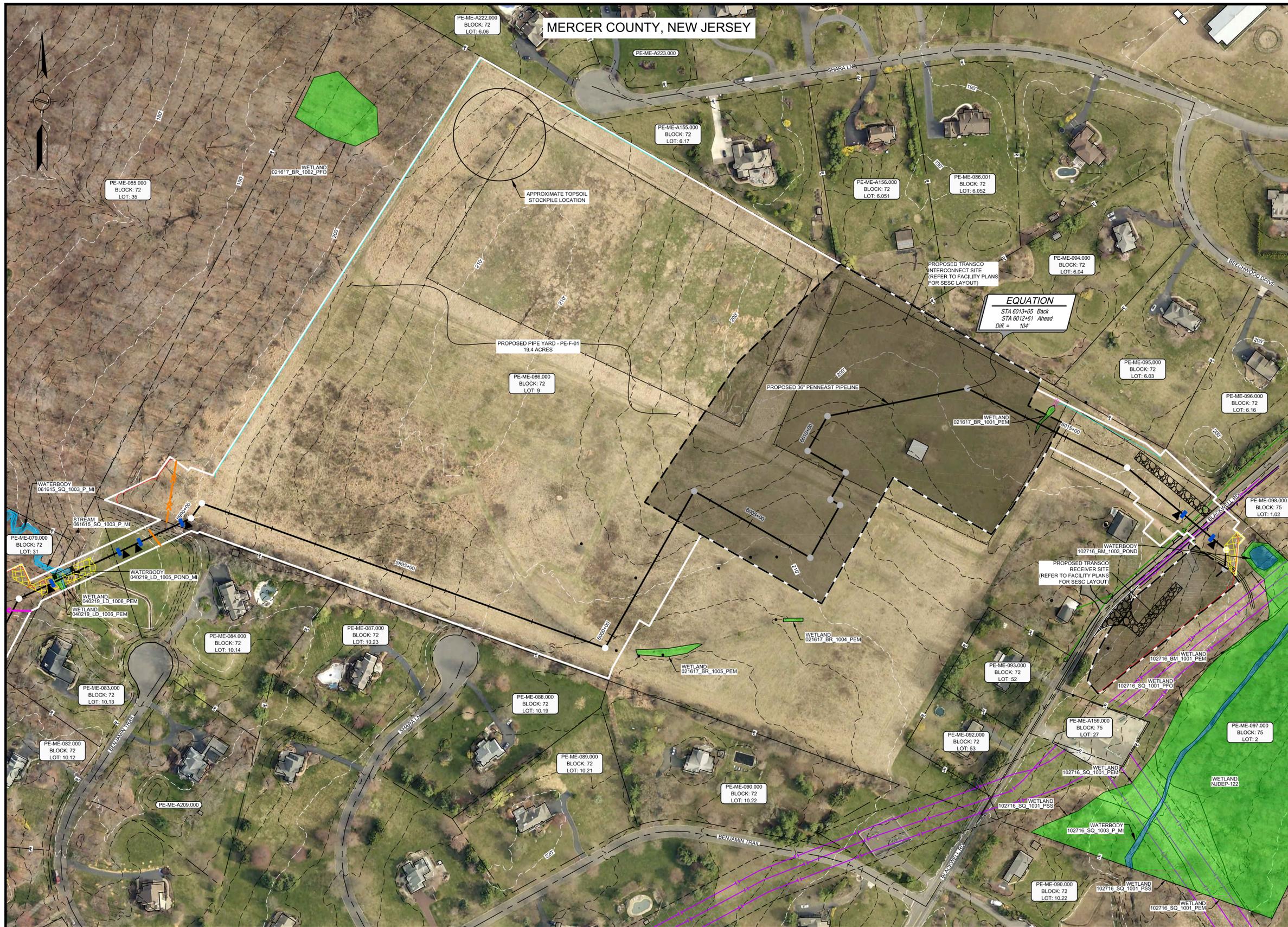
PREPARED FOR  
**PennEast PIPELINE**

PREPARED BY  
**M M**  
MOTT MACDONALD  
111 WOOD AVENUE SOUTH, ISELIN, NJ, 08830  
CERTIFICATE NO. 24GA28016800

**PENNEAST PIPELINE PROJECT**  
SOIL EROSION AND SEDIMENTATION CONTROL PLAN  
E&S GENERAL NOTES  
MERCER COUNTY

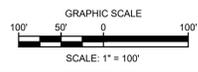
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LOCATION MAP  
SCALE: 1" = 15 MILES

**EQUATION**  
 STA 6013+65 Back  
 STA 6012+61 Ahead  
 Diff = 104'



**MICHAEL J. DENICHILO**  
 PROFESSIONAL ENGINEER  
 N.J. LIC. NO. 24GE05078700

*Michael J. Denichilo* 08/01/2019  
 SIGNATURE DATE

- REFERENCE:**
- EXISTING CONTOURS WERE PROVIDED BY PICTOMETRY, 2015. ADDITIONAL CONTOURS WERE SUPPLEMENTED FROM USGS.
  - SITE TOPOGRAPHIC AND FEATURE SURVEY PERFORMED BY MOTT MACDONALD 2015 THRU 2019.
  - PROPERTY INFORMATION ON THIS PLAN BASED ON GIS TAX MAP DATA AND RECTIFIED PROPERTY LINES AND ARE NOT THE RESULT OF A BOUNDARY SURVEY.
  - WETLAND AND WATERBODY DELINEATION SURVEYS COMPLETED BY AMY S. GREENE ENVIRONMENTAL CONSULTANTS.
  - THE HORIZONTAL COORDINATE SYSTEM IS THE NEW JERSEY STATE PLANE COORDINATE SYSTEM (NAD83) AND VERTICAL DATUM IS THE NORTH AMERICAN DATUM OF 1988 (NAVD88).

REFERENCE DRAWINGS		REVISIONS					APPROVALS		
DWG. NO.	TITLE	NO.	REVISIONS	DATE	DRAWN	CK	APPR	DRAWN BY	DATE
		A	SUBMITTED TO SOIL CONSERVATION DISTRICT	07/2019	MWF (MM)	DOW(MM)	MJD(MM)	AJD (MM)	07/2019
								CHECKED BY	DATE
								DOW (MM)	07/2019
								ENG. APPROVAL	DATE
								MDN (MM)	07/2019
								P.M. APPROVAL	DATE
								MAW (MM)	07/2019

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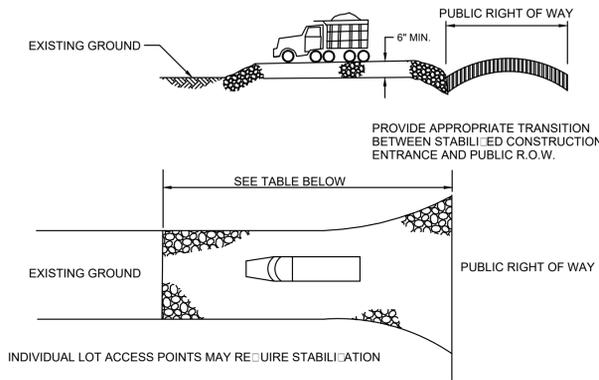
CLIENT APPROVAL

DATE

**PENNEAST PIPELINE PROJECT**

SOIL EROSION AND SEDIMENT CONTROL PLAN  
 PIPE YARD DETAILS  
 PIPE YARD - PE-F-01  
 MERCER COUNTY, NEW JERSEY

SCALE	DRAWING NO.	REVISION
AS SHOWN	000-03-04-013	A



**STABILIZED CONSTRUCTION ENTRANCE DETAIL**  
NOT TO SCALE

PERCENT SLOPE OF ROADWAY	LENGTH OF STONE REQUIRED	
	COARSE GRAINED SOILS	FINE GRAINED SOILS
0 TO 2%	50 FT.	100 FT.
2 TO 5%	200 FT.	200 FT.
5% TO 10%	SURFACE STABILIZED WITH HOT MIX ASPHALT BASE COURSE	

AS PRESCRIBED BY LOCAL ORDINANCE OR OTHER GOVERNING AUTHORITY.



REV	DATE	REVISION DESCRIPTION	BY	CHKD	APP



PENNEAST PIPELINE PROJECT  
STABILIZED CONSTRUCTION  
ENTRANCE DETAIL

FIGURE 1



ROAD GRADE (PERCENT)	APPROX DISTANCE BETWEEN DIVERSIONS (FT)	ROAD GRADE (PERCENT)	APPROX DISTANCE BETWEEN DIVERSIONS (FT)
1	400	15	60
2	245	20	50
5	125	25	40
10	80	30	35

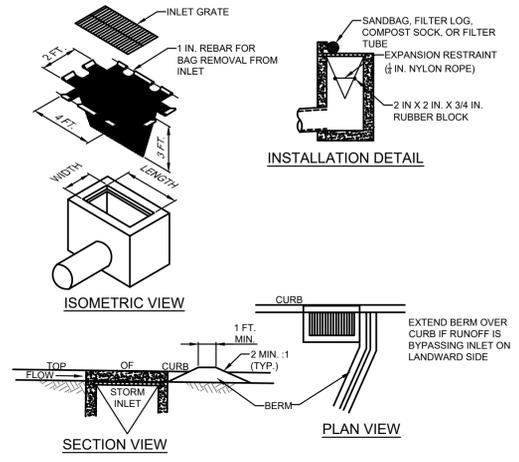


REV	DATE	REVISION DESCRIPTION	BY	CHKD	APP



PENNEAST PIPELINE PROJECT  
ROADBED DIVERSIONS

FIGURE 2



**NOTES:**

MAXIMUM DRAINAGE AREA 1/2 ACRE.

INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN OR TRAP. BERMS SHALL BE REQUIRED FOR ALL INSTALLATIONS.

ROLLED EARTHEN BERM SHALL BE MAINTAINED UNTIL ROADWAY IS STONED. ROAD SUBBASE BERM SHALL BE MAINTAINED UNTIL ROADWAY IS PAVED. SIX INCH MINIMUM HEIGHT ASPHALT BERM SHALL BE MAINTAINED UNTIL ROADWAY SURFACE RECEIVES FINAL COAT.

AT A MINIMUM, THE FABRIC SHALL HAVE A MINIMUM GRAB TENSILE STRENGTH OF 120 LBS. A MINIMUM BURST STRENGTH OF 200 PSI, AND A MINIMUM TRAPEZOIDAL TEAR STRENGTH OF 50 LBS. FILTER BAGS SHALL BE CAPABLE OF TRAPPING ALL PARTICLES NOT PASSING A NO. 40 SIEVE.

INLET FILTER BAGS SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT. BAGS SHALL BE EMPTIED AND RINSED OR REPLACED WHEN HALF FULL OR WHEN FLOW CAPACITY HAS BEEN REDUCED SO AS TO CAUSE FLOODING OR BYPASSING OF THE INLET. DAMAGED OR CLOGGED BAGS SHALL BE REPLACED. A SUPPLY SHALL BE MAINTAINED ON SITE FOR REPLACEMENT OF BAGS. ALL NEEDED REPAIRS SHALL BE INITIATED IMMEDIATELY AFTER THE INSPECTION. DISPOSE OF ACCUMULATED SEDIMENT AS WELL AS ALL USED BAGS ACCORDING TO THE PLAN NOTES.

DO NOT USE ON MAJOR PAVED ROADWAYS WHERE PONDING MAY CAUSE TRAFFIC HAZARDS.

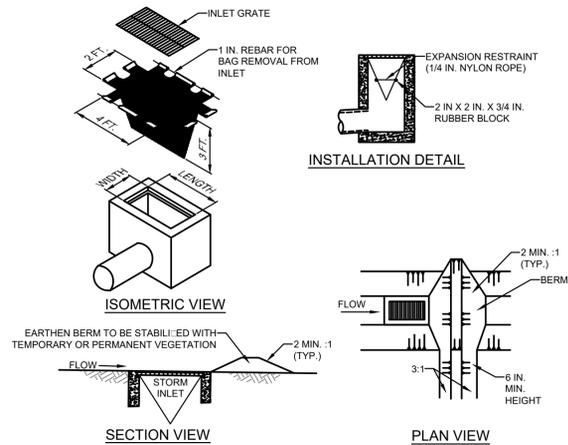


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PENNEAST PIPELINE PROJECT  
FILTER BAG INLET PROTECTION  
TYPE C INLET

FIGURE 3



**NOTES:**

MAXIMUM DRAINAGE AREA 1/2 ACRE.

INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN OR TRAP. BERMS SHALL BE REQUIRED FOR ALL INSTALLATIONS.

ROLLED EARTHEN BERM IN ROADWAY SHALL BE MAINTAINED UNTIL ROADWAY IS STONED. ROAD SUBBASE BERM ON ROADWAY SHALL BE MAINTAINED UNTIL ROADWAY IS PAVED. EARTHEN BERM IN CHANNEL SHALL BE MAINTAINED UNTIL PERMANENT STABILIZATION IS COMPLETED OR REMAIN PERMANENTLY.

AT A MINIMUM, THE FABRIC SHALL HAVE A MINIMUM GRAB TENSILE STRENGTH OF 120 LBS. A MINIMUM BURST STRENGTH OF 200 PSI, AND A MINIMUM TRAPEZOIDAL TEAR STRENGTH OF 50 LBS. FILTER BAGS SHALL BE CAPABLE OF TRAPPING ALL PARTICLES NOT PASSING A NO. 40 SIEVE.

INLET FILTER BAGS SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT. BAGS SHALL BE EMPTIED AND RINSED OR REPLACED WHEN HALF FULL OR WHEN FLOW CAPACITY HAS BEEN REDUCED SO AS TO CAUSE FLOODING OR BYPASSING OF THE INLET. DAMAGED OR CLOGGED BAGS SHALL BE REPLACED. A SUPPLY SHALL BE MAINTAINED ON SITE FOR REPLACEMENT OF BAGS. ALL NEEDED REPAIRS SHALL BE INITIATED IMMEDIATELY AFTER THE INSPECTION. DISPOSE OF ACCUMULATED SEDIMENT AS WELL AS ALL USED BAGS ACCORDING TO THE PLAN NOTES.

DO NOT USE ON MAJOR PAVED ROADWAYS WHERE PONDING MAY CAUSE TRAFFIC HAZARDS.

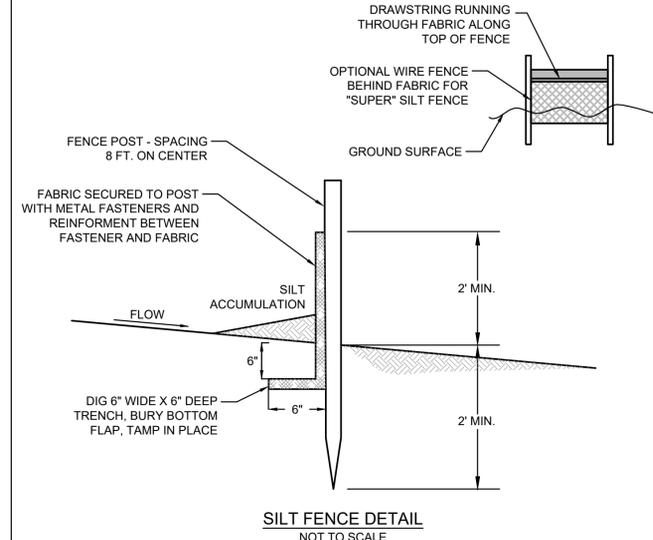


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PENNEAST PIPELINE PROJECT  
FILTER BAG INLET PROTECTION  
TYPE M INLET

FIGURE 4



**NOTES:**

AS MUCH AS POSSIBLE, INSTALL SILT FENCE ALONG CONTOUR

SILT FENCE MUST BE REINFORCED WHEREVER IT WILL RECEIVE CONCENTRATED RUNOFF (USUALLY AT LOW POINTS)

-USE STAKED HAYBALES OR BERM OF CLEAN STONE (1.5' - 2.5' PILED TO MINIMUM HEIGHT OF 2 FEET)

INSPECT AFTER EVERY STORM

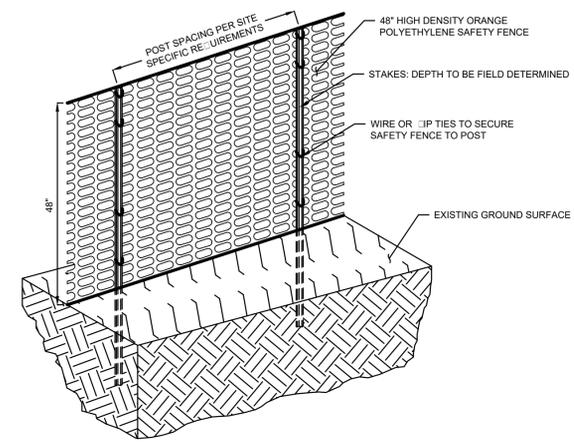


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PENNEAST PIPELINE PROJECT  
SILT FENCE DETAIL

FIGURE 5



PENNEAST PIPELINE PROJECT  
SAFETY FENCE

FIGURE 6

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N.J. LIC. NO. 24GE05078700

*Michael J. Denichilo* 08/01/2019  
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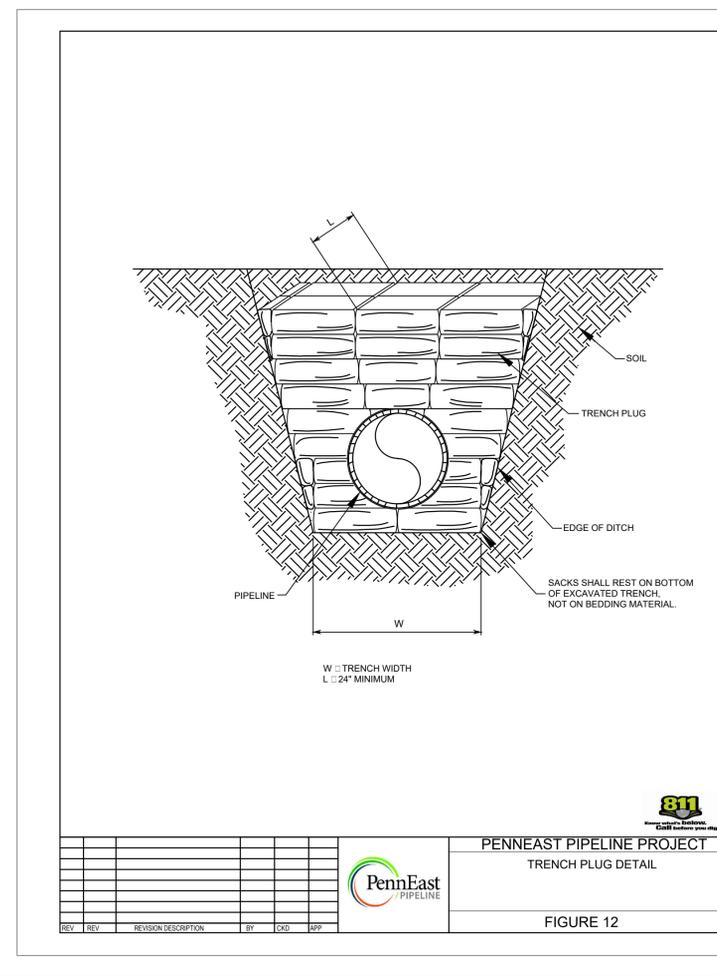
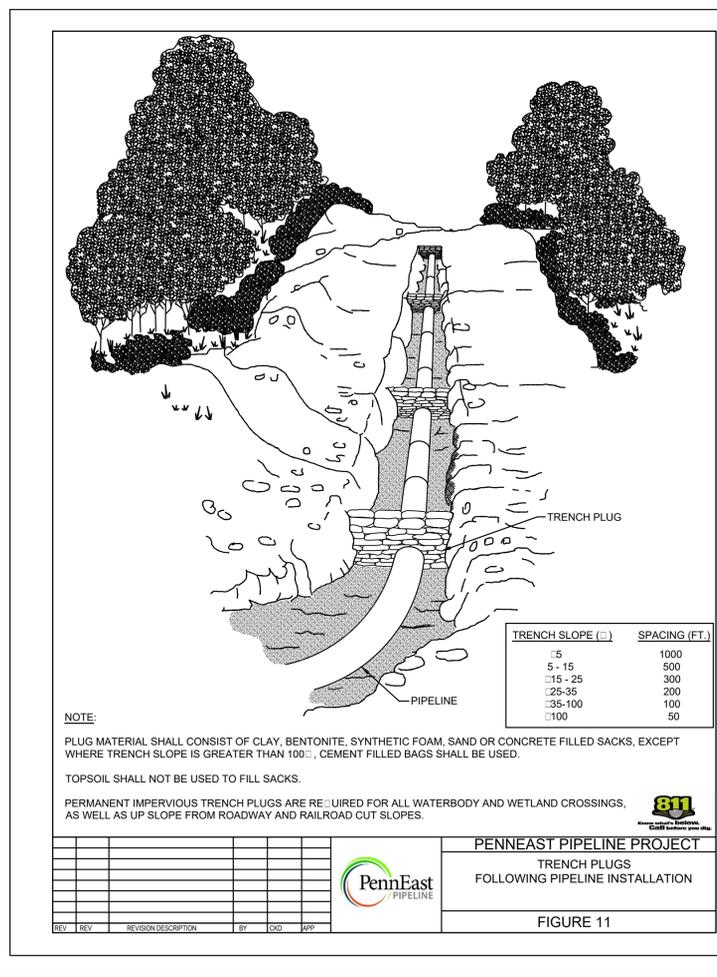
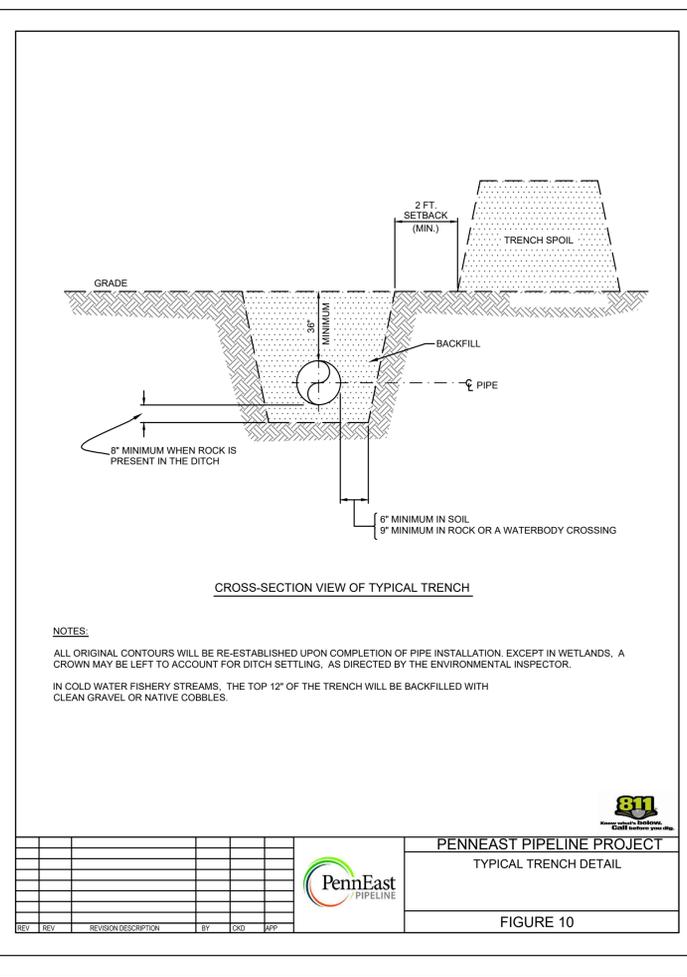
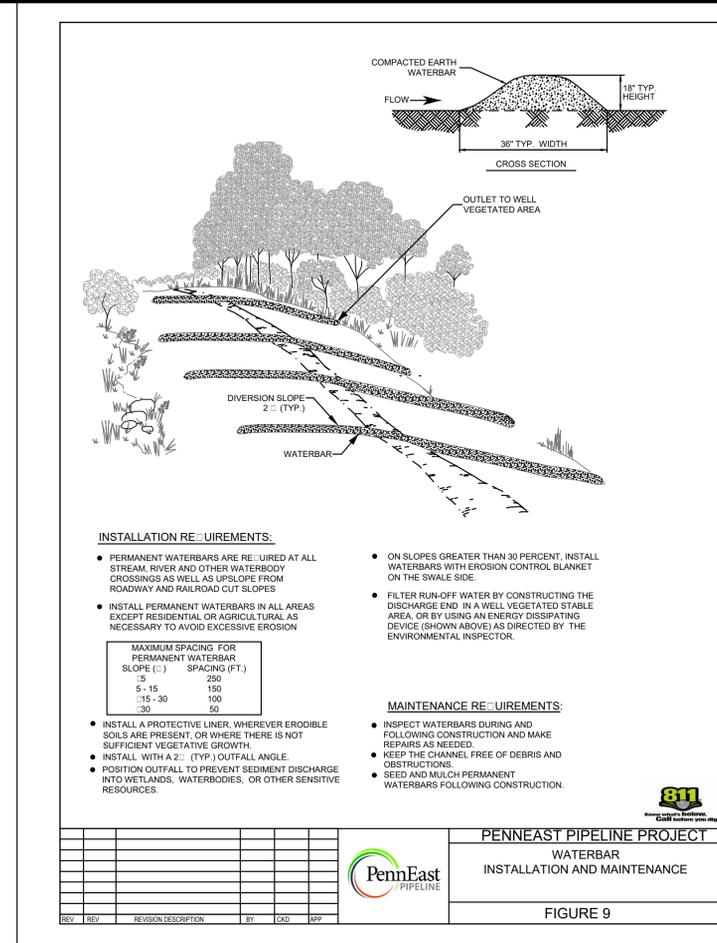
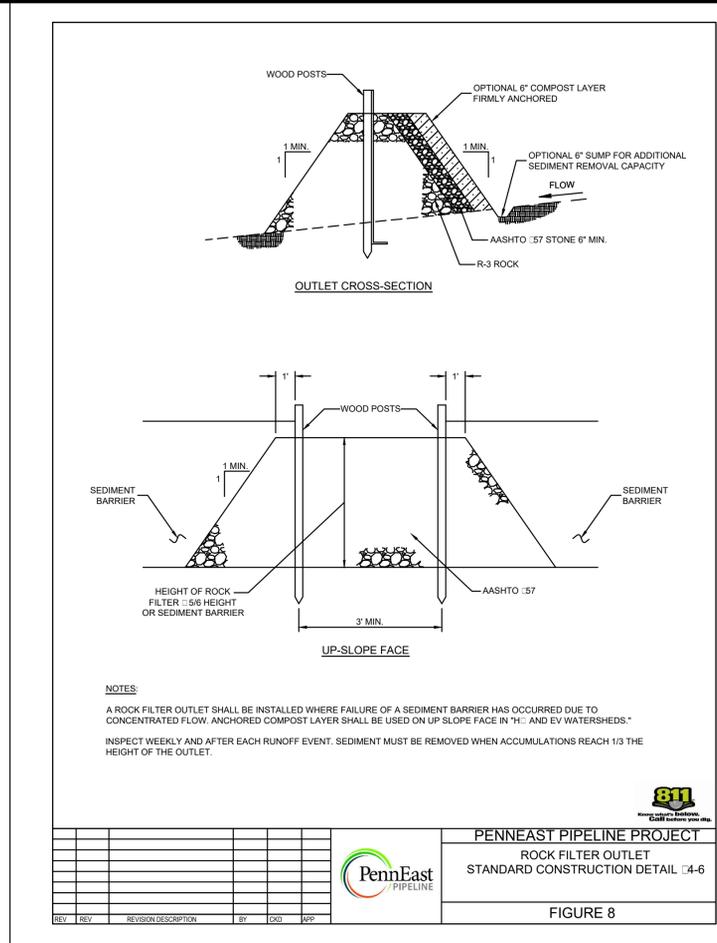
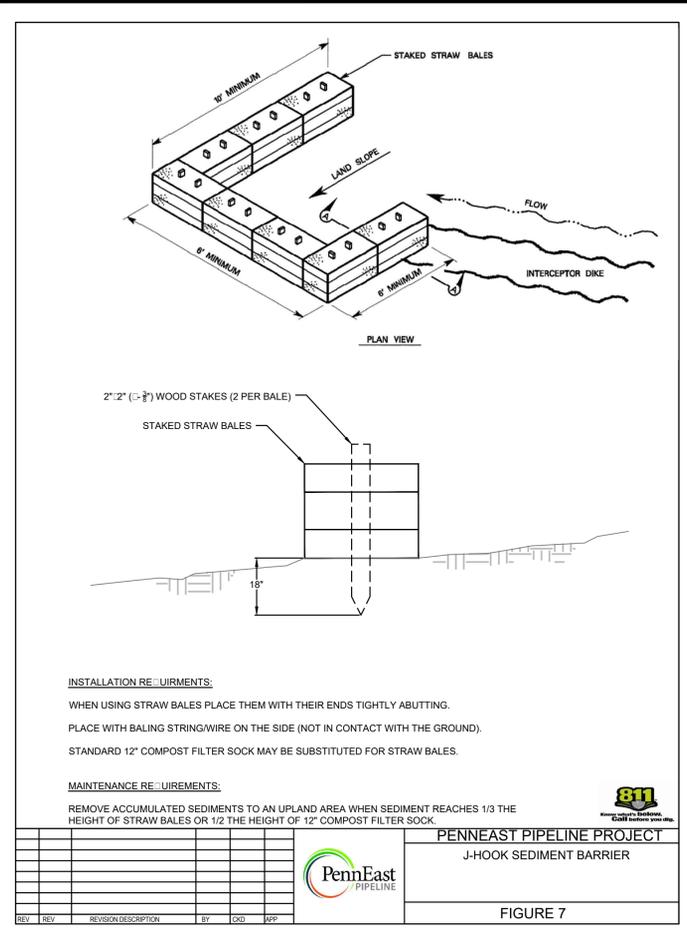
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**PennEast**  
PIPELINE

PENNEAST PIPELINE PROJECT  
SOIL EROSION AND SEDIMENT CONTROL PLAN  
TYPICAL E&S DETAILS  
MERCER COUNTY

PREPARED BY  
**M M**  
MOTT  
MACDONALD

SCALE AS SHOWN  
DRAWING NO. 000-03-09-001  
REVISION A

111 WOOD AVENUE SOUTH, ISELIN, NJ, 08830  
CERTIFICATE NO. 24C28016800



**MICHAEL J. DENICHILO**  
 PROFESSIONAL ENGINEER  
 N.J. LIC. NO. 24GE05078700

*Michael J. Denichilo* 08/01/2019  
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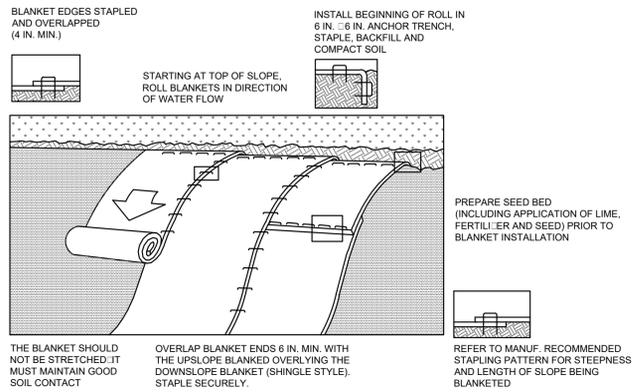
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PREPARED FOR: **PennEast PIPELINE**

PREPARED BY: **M M MOTT MACDONALD**  
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 CERTIFICATE NO. 24GA28916800

**PENNEAST PIPELINE PROJECT**  
 SOIL EROSION AND SEDIMENT CONTROL PLAN  
 TYPICAL E&S DETAILS  
 MERCER COUNTY

SCALE	DRAWING NO.	REVISION
AS SHOWN	000-03-09-002	A



**BLANKET EDGES STAPLED AND OVERLAPPED (4 IN. MIN.)**

**INSTALL BEGINNING OF ROLL IN 6 IN. - 8 IN. ANCHOR TRENCH, STAPLE, BACKFILL AND COMPACT SOIL.**

**STARTING AT TOP OF SLOPE, ROLL BLANKETS IN DIRECTION OF WATER FLOW**

**PREPARE SEED BED (INCLUDING APPLICATION OF LIME, FERTILIZER AND SEED) PRIOR TO BLANKET INSTALLATION**

**REFER TO MANUF. RECOMMENDED STAPLING PATTERN FOR STEEPNESS AND LENGTH OF SLOPE BEING BLANKETED**

**THE BLANKET SHOULD NOT BE STRETCHED. IT MUST MAINTAIN GOOD SOIL CONTACT**

**OVERLAP BLANKET ENDS 6 IN. MIN. WITH THE UPSLOPE BLANKET OVERLYING THE DOWNSLOPE BLANKET (SHINGLE STYLE). STAPLE SECURELY.**

**NOTES:**

INSTALL EROSION CONTROL BLANKET ON ALL SLOPES 3H:1V OR STEEPER AND WITHIN 50 FEET OF SURFACE WATERS. SEED AND SOIL AMENDMENTS SHALL BE APPLIED ACCORDING TO THE RATES IN THE PLAN DRAWINGS PRIOR TO INSTALLING THE BLANKET.

PROVIDE ANCHOR TRENCH AT TOE OF SLOPE IN SIMILAR FASHION AS AT TOP OF SLOPE.

SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS, AND GRASS.

BLANKET SHALL HAVE GOOD CONTINUOUS CONTACT WITH UNDERLYING SOIL THROUGHOUT ENTIRE LENGTH. LAY BLANKET LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH SOIL. DO NOT STRETCH BLANKET.

THE BLANKET SHALL BE STAPLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

BLANKETED AREAS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT UNTIL PERENNIAL VEGETATION IS ESTABLISHED TO A MINIMUM UNIFORM 70% COVERAGE THROUGHOUT THE BLANKETED AREA. DAMAGED OR DISPLACED BLANKETS SHALL BE RESTORED OR REPLACED WITHIN 4 CALENDAR DAYS.

**AGRICULTURAL LAND NOTE:**  
EROSION CONTROL BLANKET IS A TRIPPING HAZARD WHEN USED IN HOVED ANIMAL PASTURES AND IS NOT COMPATIBLE WITH MOST CROP LAND MANAGEMENT. IN SUCH CASES, HAY, STRAW, OR HYDRAULICALLY APPLIED MULCH SHOULD BE APPLIED UNLESS THE LAND IS PLOWED AND REPLANTED FOR CROP GROWTH WITHIN 4 DAYS. MULCH IN ANIMAL PASTURES SHOULD BE LIMITED TO HAY OR STRAW.



**PENNEAST PIPELINE PROJECT**  
EROSION CONTROL BLANKET  
INSTALLATION

FIGURE 13

REV	DESCRIPTION	BY	CHKD	APP

**HYDRAULICALLY APPLIED BLANKETS**

Hydraulically applied blankets should not be used in areas of concentrated flow (e.g. channels).

A **Bonded Fiber Matrix (BFM)** can be an effective method of stabilizing steep slopes when used properly. BFM's make use of a cross-linked hydrocolloid tackifier to bond thermally processed wood fibers. Application rates vary according to site conditions. For slopes up to 3H:1V the BFM should be applied at a rate of 3,000 lb/acre. Steeper slopes may need as much as 4,000 lb/acre. In any case, manufa

BFMs should only be used when no rain is forecast for at least 48 hours following the application. This is to allow the tackifier sufficient time to cure properly. Once properly applied, a BFM is typically 90% effective in preventing accelerated erosion. **Bonded Fiber Matrix should not be applied between September 30 and April 1.**

Other fiber matrices that have been shown to be effective in preventing erosion on disturbed surfaces may be used in accordance with manufacturer's recommendations if sufficient supporting documentation is provided.

A **Flexible Growth Medium (FGM)** has the added component of 1/2 inch long, crimped organic or manmade fibers which add a mechanical bond to the chemical bond provided by BFM's. This increases the blanket's resistance to both raindrop impact and erosion due to runoff. Unlike BFM's, a flexible growth medium typically does not require a curing time to be effective. Properly applied, an FGM may be as much as 99% effective.

A **Polymer Stabilized Fiber Matrix (PSFM)** can also be an effective method of stabilizing steep slopes when used properly. PSFM's make use of a linear soil stabilizing tackifier that works directly on soil to maintain soil structure, maintain pore space capacity and flocculate dislodged sediment that will significantly reduce runoff turbidity. Properly applied, a PSFM may be as much as 99% effective.

PSFM's can be used in re-vegetation applications and for site winterization and/or dormant seeding — fall planting for spring germination — applications. Application rates vary according to site conditions and the following application rates are suggested. The following are typical application rates:

**TABLE 11.7**  
**Typical Polymer Stabilized Fiber Matrix Application Rates**

SLOPE	Maximum Rainfall of ≤ 20"						
	6:1	5:1	4:1	3:1	2:1	1.5:1	1:1
Soil Stabilizer (gals/acre)	4	5	6	7	8	9	10
Fiber (lb/acre)	1,500	1,500	1,500	1,800	2,000	2,500	3,000

SLOPE	Maximum Rainfall of > 20" and for Site Winterization		
	≤ 5:1	4:1	≥ 3:1
Soil Stabilizer (gals/acre)	6	8	10
Fiber (lb/acre)	2,000	2,500	3,000

Unlike rolled blankets, there is no need to smooth the slope prior to application of hydraulically applied blankets. In fact some roughening of the surface, either natural or mechanically induced, is preferable. However, large rocks, those ≥ 9 inches, and existing rills should be removed prior to application. Tracking or grooving of slopes should be considered to slow water flows during a storm event. Slope interruption devices such as stair step grading or benching should be applied prior to the application. Mixing and application rates should follow manufacturer's recommendations.

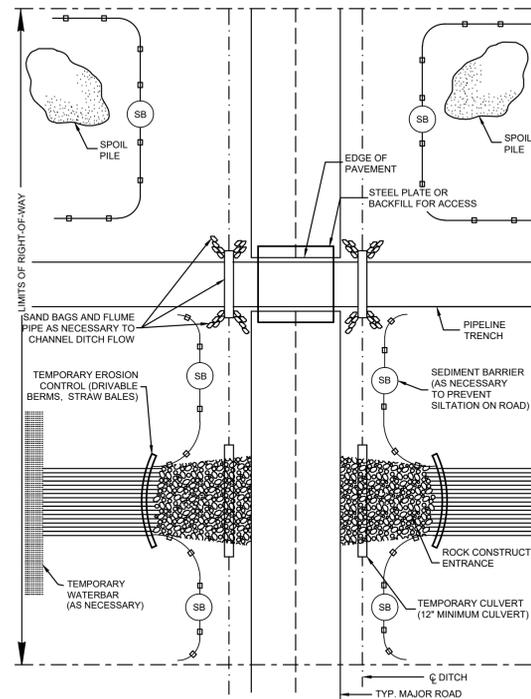
Hydraulically applied blankets are typically applied in two stages. Unless specifically recommended to be applied in one application by the manufacturer, the seed mixture and soil amendments should be applied first. If the seed is applied at the same time as the hydraulically applied blanket, the bonded fibers may keep the seed from making sufficient contact with the soil to germinate. After the seed mixture is applied, the BFM, FGM, or PSFM should be sprayed over the area at the required application rate.



**PENNEAST PIPELINE PROJECT**  
HYDRAULICALLY APPLIED BLANKETS

FIGURE 14

REV	DESCRIPTION	BY	CHKD	APP



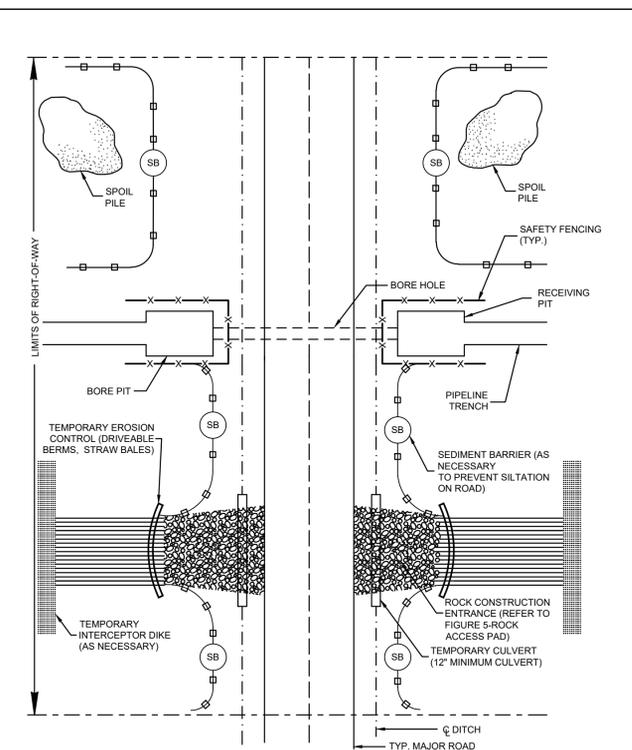
**NOTES:**  
(SB) TEMPORARY SEDIMENT BARRIER



**PENNEAST PIPELINE PROJECT**  
TYPICAL PAVED ROAD CROSSING  
CONTROL MEASURES (OPEN CUT)

FIGURE 15

REV	DESCRIPTION	BY	CHKD	APP



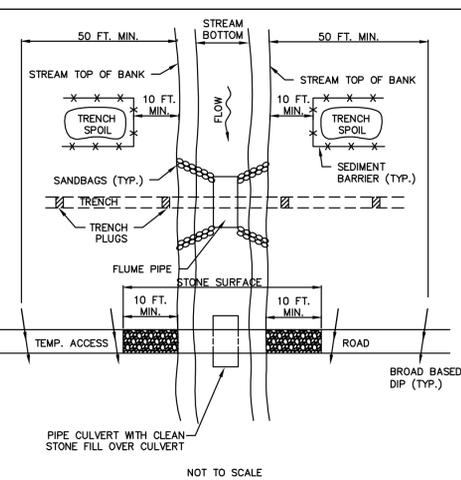
**NOTES:**  
(SB) TEMPORARY SEDIMENT BARRIER



**PENNEAST PIPELINE PROJECT**  
TYPICAL PAVED ROAD CROSSING  
CONTROL MEASURES (BORED CROSSING)

FIGURE 16

REV	DESCRIPTION	BY	CHKD	APP



**NOTES:**

GRUBBING SHALL NOT TAKE PLACE WITHIN 50 FEET OF TOP-OF-BANK UNTIL ALL MATERIALS REQUIRED TO COMPLETE CROSSING ARE ON SITE AND PIPE IS READY FOR INSTALLATION.

PIPE CULVERT FOR ACCESS ROAD AND FLUME PIPE MAY BE ONE CONTINUOUS PIPE.

TRENCH PLUGS SHALL BE INSTALLED WITHIN THE TRENCH ON BOTH SIDES OF THE STREAM CHANNEL.

WATER ACCUMULATING WITHIN THE WORK AREA SHALL BE PUMPED TO A PUMPED WATER FILTER BAG OR SEDIMENT TRAP PRIOR TO DISCHARGING INTO ANY SURFACE WATER.

HAZARDOUS OR POLLUTANT MATERIAL STORAGE AREAS SHALL BE LOCATED AT LEAST 100 FEET BACK FROM THE TOP OF STREAMBANK.

ALL EXCESS EXCAVATED MATERIAL SHALL BE IMMEDIATELY REMOVED FROM THE STREAM CROSSING AREA.

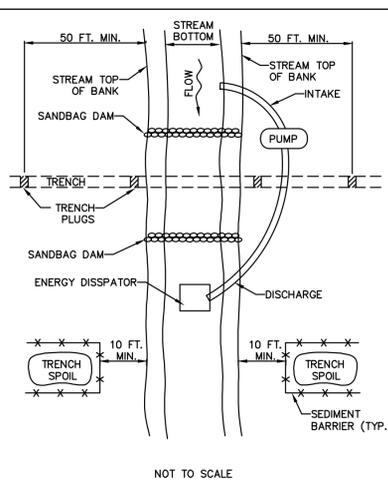
ALL DISTURBED AREAS WITHIN 50 FEET OF TOP-OF-BANK SHALL BE BLANKETED OR MATTED WITHIN 24 HOURS OF INITIAL DISTURBANCE FOR MINOR STREAMS OR 48 HOURS OF INITIAL DISTURBANCE FOR MAJOR STREAMS UNLESS OTHERWISE AUTHORIZED. APPROPRIATE STREAMBANK PROTECTION SHALL BE PROVIDED WITHIN THE CHANNEL.



**PENNEAST PIPELINE PROJECT**  
TYPICAL FLUMED STREAM CROSSING  
WITH OPTIONAL ACCESS ROAD

FIGURE 17

REV	DESCRIPTION	BY	CHKD	APP



**NOTES:**

GRUBBING SHALL NOT TAKE PLACE WITHIN 50 FEET OF TOP-OF-BANK UNTIL ALL MATERIALS REQUIRED TO COMPLETE CROSSING ARE ON SITE AND PIPE IS READY FOR INSTALLATION.

BYPASS PUMP INTAKE SHALL BE MAINTAINED A SUFFICIENT DISTANCE FROM THE BOTTOM TO PREVENT PUMPING OF CHANNEL BOTTOM MATERIALS.

TRENCH PLUGS SHALL BE INSTALLED WITHIN THE TRENCH ON BOTH SIDES OF THE STREAM CHANNEL.

WATER ACCUMULATING WITHIN THE WORK AREA SHALL BE PUMPED TO A PUMPED WATER FILTER BAG OR SEDIMENT TRAP PRIOR TO DISCHARGING INTO ANY SURFACE WATER.

HAZARDOUS OR POLLUTANT MATERIAL STORAGE AREAS SHALL BE LOCATED AT LEAST 100 FEET BACK FROM THE TOP OF STREAMBANK.

ALL EXCESS EXCAVATED MATERIAL SHALL BE IMMEDIATELY REMOVED FROM THE STREAM CROSSING AREA.

ALL DISTURBED AREAS WITHIN 50 FEET OF TOP-OF-BANK SHALL BE BLANKETED OR MATTED WITHIN 24 HOURS OF INITIAL DISTURBANCE FOR MINOR STREAMS OR 48 HOURS OF INITIAL DISTURBANCE FOR MAJOR STREAMS UNLESS OTHERWISE AUTHORIZED.

APPROPRIATE STREAMBANK PROTECTION SHALL BE PROVIDED WITHIN THE CHANNEL.



**PENNEAST PIPELINE PROJECT**  
TYPICAL FLUMED STREAM CROSSING  
WITH PUMP BYPASS

FIGURE 18

REV	DESCRIPTION	BY	CHKD	APP

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PROFESSIONAL ENGINEER  
N.J. LIC. NO. 24GE05078700

*Michael J. Denichilo* 08/01/2019  
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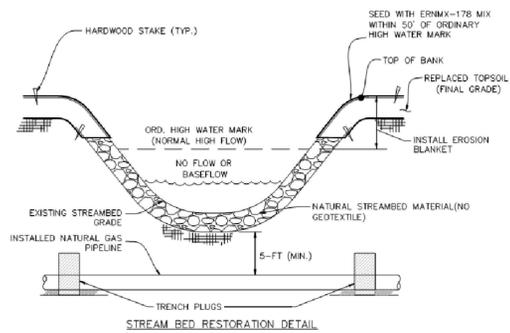
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PREPARED FOR  
**PennEast PIPELINE**

PREPARED BY  
**M M**  
MOTT MACDONALD  
111 WOOD AVENUE SOUTH, ISELIN, NJ, 08830  
CERTIFICATE NO. 24C28016800

**PENNEAST PIPELINE PROJECT**  
SOIL EROSION AND SEDIMENT CONTROL PLAN  
TYPICAL E&S DETAILS  
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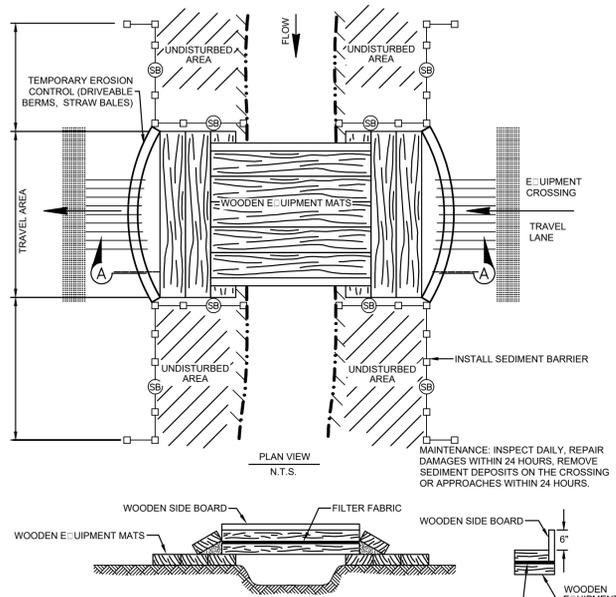


- NOTES:
1. REMOVE EXISTING STREAMBED MATERIAL AND STOCKPILE SEPARATELY.
  2. ONCE PIPELINE IS INSTALLED, REPLACE SUBSTRATE BACK IN STREAMBED AND RESTORE TO EXISTING CONDITION.
  3. SEE RECOMMENDED SEED MIXTURES TABLES FOR SEED MIXES.



PENNEAST PIPELINE PROJECT  
STREAM BANK STABILIZATION WITH REINFORCEMENT BLANKET

FIGURE 19

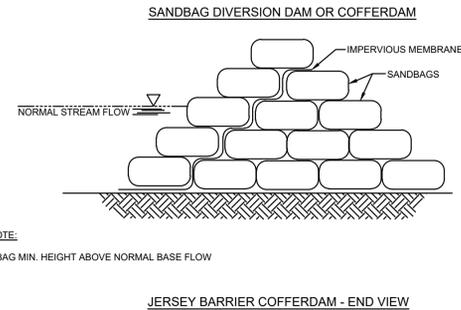


- NOTES:
- Ⓢ TEMPORARY SEDIMENT BARRIER OF COMPOST FILTER SOCK (ABACT) TO BE USED.
- WOODEN SIDE BOARDS AND FILTER FABRIC WILL BE USED TO KEEP SEDIMENT FROM FALLING INTO CREEK.
- EQUIPMENT MATS TYPICALLY CONSTRUCTED OF HARDWOOD OR OTHER SUITABLE MATERIAL TO ACCOMMODATE THE HEAVIEST EQUIPMENT USED.
- TEMPORARY WATERBAR TO DISCHARGE TO SEDIMENT REMOVAL DEVICE.

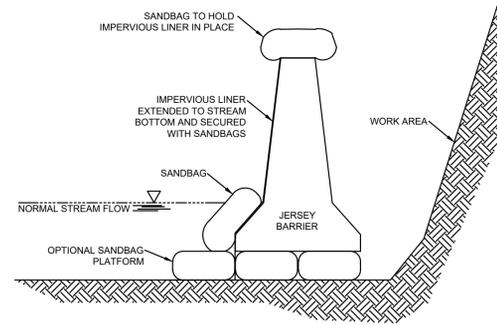


PENNEAST PIPELINE PROJECT  
TEMPORARY EQUIPMENT BRIDGE (EQUIPMENT MATS)

FIGURE 20

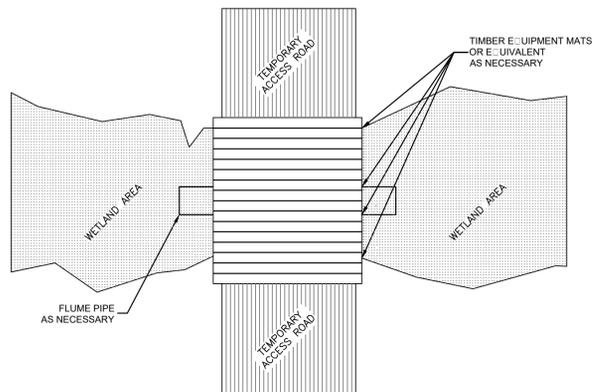


JERSEY BARRIER COFFERDAM - END VIEW

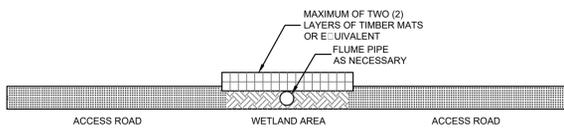


PENNEAST PIPELINE PROJECT  
SANDBAG DIVERSION DAM OR COFFERDAM / JERSEY BARRIER COFFERDAM

FIGURE 21



PLAN VIEW  
N.T.S.

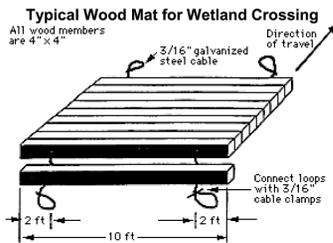


CROSS SECTION  
N.T.S.



PENNEAST PIPELINE PROJECT  
TYPICAL TEMPORARY ACCESS ROAD THROUGH WETLANDS

FIGURE 22



University of Minnesota FS 07009  
A geotextile underlayment shall be used under the wood mat.



PENNEAST PIPELINE PROJECT  
TIMBER MAT DETAIL

FIGURE 23

WETLAND CROSSING GENERAL PROCEDURES

Clearing and Grading

1. Wetland crossing shall be constructed within the ROW of 75 feet.
2. Wetland crossing shall be constructed within the ROW of 75 feet.
3. Wetland crossing shall be constructed within the ROW of 75 feet.
4. Wetland crossing shall be constructed within the ROW of 75 feet.
5. Wetland crossing shall be constructed within the ROW of 75 feet.
6. Wetland crossing shall be constructed within the ROW of 75 feet.
7. Wetland crossing shall be constructed within the ROW of 75 feet.
8. Wetland crossing shall be constructed within the ROW of 75 feet.
9. Wetland crossing shall be constructed within the ROW of 75 feet.

Temporary Erosion and Sediment Control

1. Wetland crossing shall be constructed within the ROW of 75 feet.
  - A. Wetland crossing shall be constructed within the ROW of 75 feet.
  - B. Wetland crossing shall be constructed within the ROW of 75 feet.
  - C. Wetland crossing shall be constructed within the ROW of 75 feet.
  - D. Wetland crossing shall be constructed within the ROW of 75 feet.
2. Wetland crossing shall be constructed within the ROW of 75 feet.
3. Wetland crossing shall be constructed within the ROW of 75 feet.



PENNEAST PIPELINE PROJECT  
WETLAND PIPELINE CONSTRUCTION REQUIREMENTS

FIGURE 24

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PROFESSIONAL ENGINEER  
N.J. LIC. NO. 24GE05078700

*Michael J. Denichilo*  
SIGNATURE

08/01/2019  
DATE

SIGNATURE

DATE



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PREPARED FOR  
**PennEast**  
PIPELINE

PENNEAST PIPELINE PROJECT

PREPARED BY  
**M M**  
MOTT  
MACDONALD

SOIL EROSION AND SEDIMENT CONTROL PLAN  
TYPICAL E&S DETAILS

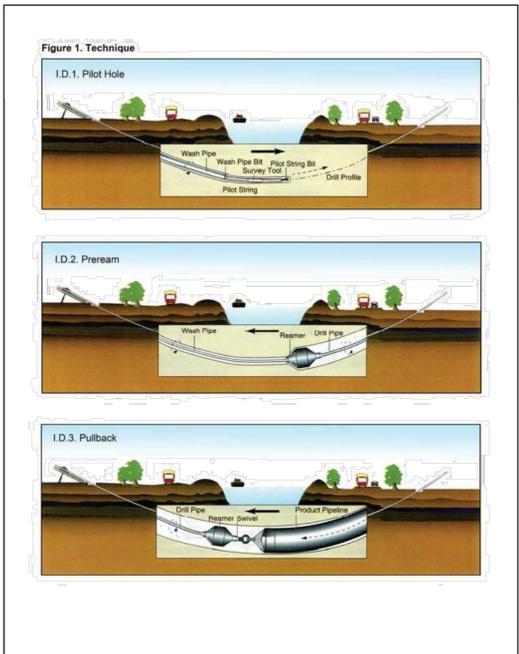
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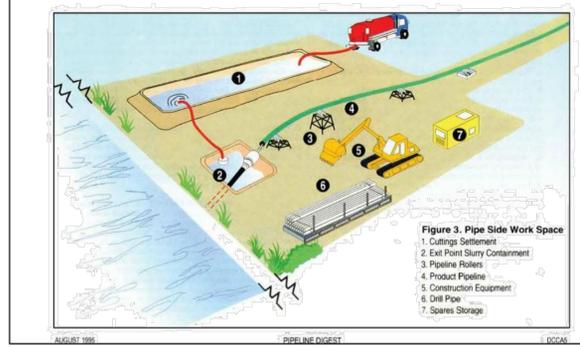
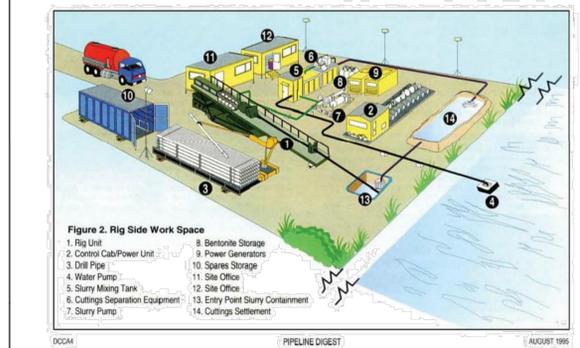
- Crossing Procedure**
1. M... ..
  2. D... ..
  3. P... ..
  4. A... ..
  5. U... ..
  6. I... ..
  7. I... ..
  8. R... ..

- Cleanup and Restoration**
1. R... ..
  2. Do not use lime or fertilizer in wetland areas.
  3. M... ..
  4. I... ..
  5. R... ..
  6. D... ..
  7. E... ..
  8. R... ..

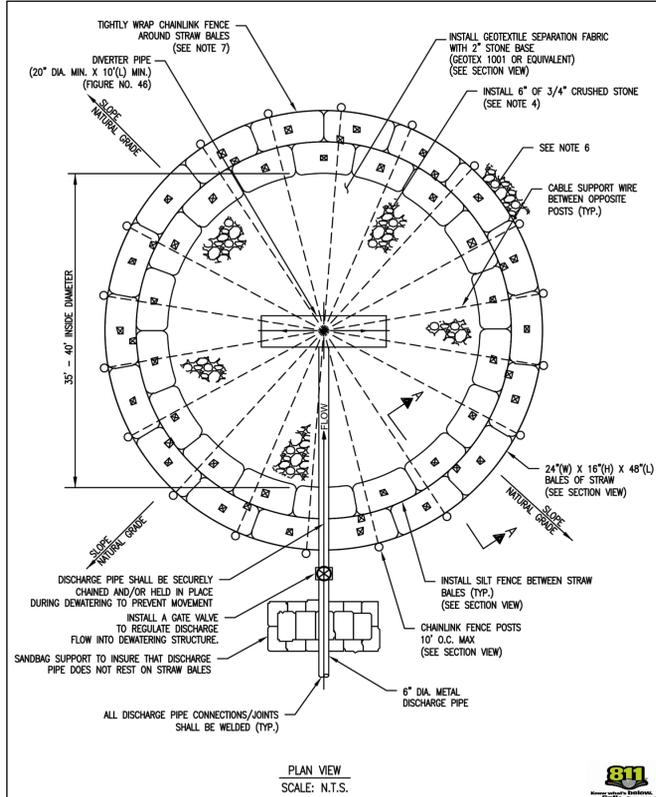
**811**  
 PENNEAST PIPELINE PROJECT  
 WETLAND PIPELINE CONSTRUCTION REQUIREMENTS  
 FIGURE 25



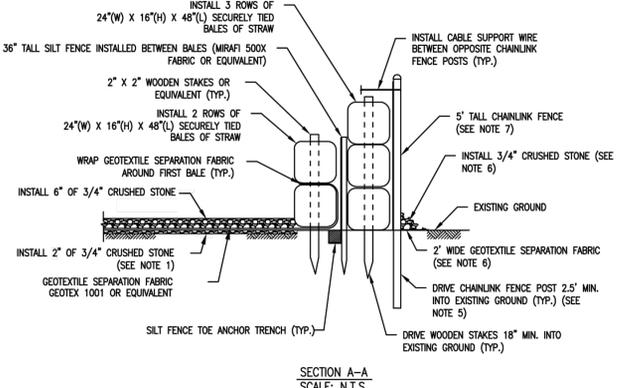
**811**  
 PENNEAST PIPELINE PROJECT  
 HORIZONTAL DIRECTION DRILL  
 FIGURE 26



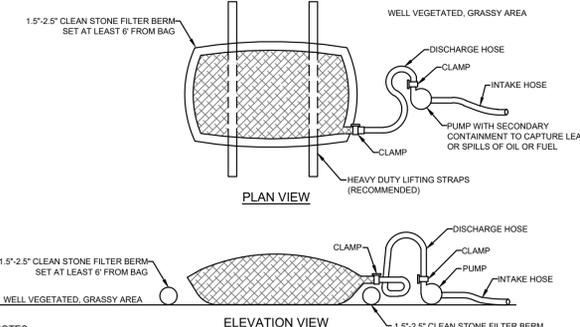
**811**  
 PENNEAST PIPELINE PROJECT  
 HORIZONTAL DIRECTION DRILL  
 FIGURE 27



**811**  
 PENNEAST PIPELINE PROJECT  
 HYDROSTATIC DEWATERING STRUCTURE  
 FIGURE 28



**811**  
 PENNEAST PIPELINE PROJECT  
 HYDROSTATIC DEWATERING STRUCTURE  
 FIGURE 29



**NOTES:**

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

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

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

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

NO DOWNSLOPE SEDIMENT BARRIER IS REQUIRED FOR MOST INSTALLATIONS. 1.5"-2.5" CLEAN STONE FILTER BERM SET AT LEAST 6" FROM BAG SHALL BE INSTALLED BELOW BAGS LOCATED WITHIN 50 FEET OF ANY RECEIVING SURFACE WATER OR WHERE GRASSY AREA IS NOT AVAILABLE.

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

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

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

**811**  
 PENNEAST PIPELINE PROJECT  
 PUMPED WATER FILTER BAG  
 FIGURE 30

**MICHAEL J. DENICHILO**  
 PROFESSIONAL ENGINEER  
 N.J. LIC. NO. 24GE05078700

*Michael J. Denichilo*  
 SIGNATURE  
 08/01/2019  
 DATE

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

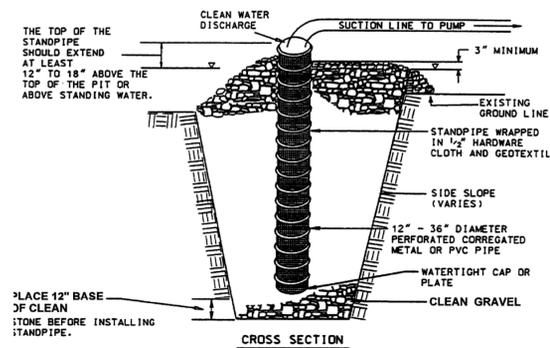
REVISIONS						APPROVALS	
NO.	DESCRIPTION	DATE	DRAWN	CK	APPR	DRAWN BY	DATE
A	SUBMITTAL TO SOIL CONSERVATION DISTRICT	07/2019	DOW (MM)	AJD (MM)	MJD(MM)	AJD (MM)	07/2019
						CHECKED BY	DATE
						MWF (MM)	07/2019
						ENG. APPROVAL	DATE
						MJD (MM)	07/2019
						P.M. APPROVAL	DATE

PREPARED FOR: **PENNEAST PIPELINE PROJECT**

PREPARED BY: **M M**  
**MOTT MACDONALD**  
 111 WOOD AVENUE SOUTH, ISELIN, NJ, 08830  
 CERTIFICATE NO. 24G28216800

**PENNEAST PIPELINE PROJECT**  
 SOIL EROSION AND SEDIMENT CONTROL PLAN  
 TYPICAL E&S DETAILS  
 MERCER COUNTY

SCALE	DRAWING NO.	REVISION
AS SHOWN	000-03-09-005	A

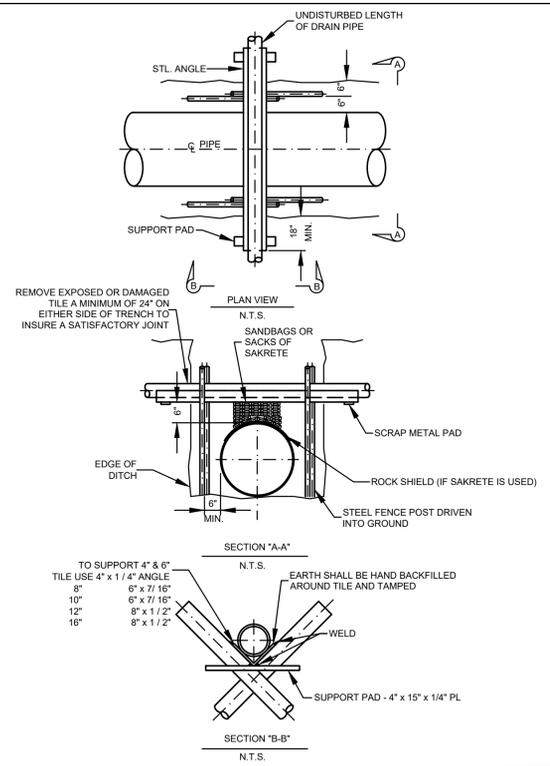


- Construction Specifications**
1. Pit dimensions are variable, with the minimum diameter being 2 times the standpipe diameter.
  2. The standpipe should be constructed by perforating a 12" to 24" diameter corrugated or PVC pipe. Then wrapping with 1/2" hardware cloth and Geotextile fabric. The perforations shall be 1/2" x 6" slits or 1" diameter holes.
  3. A base of filter material consisting of clean gravel or ASTM C.33 stone should be placed in the pit to a depth of 12". After installing the standpipe, the pit surrounding the standpipe should then be backfilled with the same filter material.
  4. The standpipe should extend 12" to 18" above the lip of the pit or the riser crest elevation (basin dewatering only) and the filter material should extend 3" minimum above the anticipated standing water elevation.



REV	REV	REVISION DESCRIPTION	BY	CHK	APP

PENNEAST PIPELINE PROJECT  
SUMP PIT DETAIL  
**FIGURE 31**

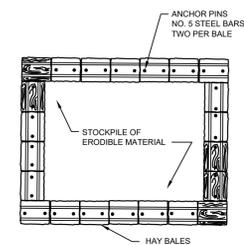


**NOTE:**  
USE OF SAKRETE SHALL REQUIRE PRIOR COMPANY APPROVAL.



REV	REV	REVISION DESCRIPTION	BY	CHK	APP

PENNEAST PIPELINE PROJECT  
DRAIN TILE REPAIR PROCEDURE  
**FIGURE 32**



NOT TO SCALE



REV	REV	REVISION DESCRIPTION	BY	CHK	APP

PENNEAST PIPELINE PROJECT  
MATERIAL STOCKPILE DETAIL  
**FIGURE 33**

MICHAEL J. DENICHILO  
PROFESSIONAL ENGINEER  
N.J. LIC. NO. 24GE05078700

*Michael J. Denichilo* 08/01/2019  
SIGNATURE DATE



CLIENT APPROVAL
DATE

REVISIONS					APPROVALS	
NO.	DESCRIPTION	DATE	DRAWN	CK	APPR	DATE
A	SUBMITTAL TO SOIL CONSERVATION DISTRICT	07/20/19	DOW (MM)	AJD (MM)	MJD(MM)	07/20/19

PREPARED FOR  
**PennEast PIPELINE**

PREPARED BY  
**M M**  
MOTT  
MACDONALD  
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PENNEAST PIPELINE PROJECT  
SOIL EROSION AND SEDIMENT CONTROL PLAN  
TYPICAL E&S DETAILS  
MERCER COUNTY

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