

# SOIL EROSION AND SEDIMENT CONTROL PLAN NORTHEAST SUPPLY ENHANCEMENT PROJECT PROPOSED 26" MADISON LOOP 3.43 MI. - M.P. 8.57 TO M.P. 12.00 MIDDLESEX COUNTY, NEW JERSEY

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC. (TRANSCO) IS EXPANDING SEGMENTS OF ITS INTERSTATE NATURAL GAS PIPELINE SYSTEM TO PROVIDE ADDITIONAL FIRM TRANSPORTATION SERVICE CAPACITY. THE NEW PIPELINE WILL PROVIDE TRANSPORTATION OF ADDITIONAL GAS QUANTITIES TO CUSTOMERS IN THE REGION.

THIS EROSION AND SEDIMENT CONTROL PLAN COVERS THE LAND DISTURBANCE NECESSARY FOR CONSTRUCTION OF THE "MADISON LOOP", CONSISTING OF 3.43 MILES OF 26" PIPELINE IN MIDDLESEX COUNTY, NEW JERSEY. THE MADISON LOOP WILL BEGIN AT M.P. 8.57 AND END AT M.P. 12.00. THE PIPELINE CONSTRUCTION IS SCHEDULED TO BEGIN IN THE THIRD QUARTER OF 2018 AND END IN THE FOURTH QUARTER OF 2019.

THE PROJECT WORK WILL CONSIST OF UNLOADING AND STORING PIPE IN THE PROJECT VICINITY AS IT IS RECEIVED FROM THE PIPE MILL; CLEARING AND GRADING THE PIPELINE RIGHT-OF-WAY; HAULING PIPE TO THE RIGHT-OF-WAY; WELDING, COATING, AND INSPECTING THE PIPELINE; EXCAVATING THE TRENCH; LOWERING THE PIPELINE IN PLACE; BACKFILLING THE EXCAVATIONS; PERFORMING A HYDROSTATIC PRESSURE TEST ON THE COMPLETED PIPELINE; AND RESTORING THE RIGHT-OF-WAY AND DISTURBED AREAS. THE PROJECT WILL REQUIRE TEMPORARY FACILITIES TO BE ESTABLISHED FOR THE DURATION OF THE PROJECT FOR USE AS A COMPANY INSPECTION OFFICE, CONTRACTOR OFFICE, VEHICLE PARKING, EQUIPMENT PARKING AND MAINTENANCE YARD, PIPE STORAGE YARDS AND CONSTRUCTION ACCESS ROADS.

THE TRANSCO RIGHT-OF-WAY IS TYPICALLY MAINTAINED WITH VEGETATION. THE PROJECT AREA TERRAIN IS SLIGHTLY HILLY. ELEVATIONS RANGE

THE ADJACENT LANDS ARE MOSTLY RESIDENTIAL. THE WORK WAS PLANNED TO UTILIZE AS MUCH OF THE EXISTING PIPELINE RIGHT-OF-WAY AS PRACTICABLE. SAFETY CONSIDERATIONS REQUIRE LIMITING THE FREQUENCY AND TYPE OF CONSTRUCTION ACTIVITY OVER THE ADJACENT OPERATING PIPELINES. ADDITIONAL LAND HAS BEEN ACQUIRED FROM ADJOINING PROPERTIES FOR NEW PERMANENT RIGHT-OF-WAY NEEDED TO OPERATE AND MAINTAIN THE NEW PIPELINE AND FOR TEMPORARY WORKSPACE NEEDED TO WIDEN THE CONSTRUCTION WORK CORRIDOR. OTHER ADDITIONAL TEMPORARY WORKSPACE HAS BEEN ACQUIRED OFF RIGHT-OF-WAY FOR THE TEMPORARY FACILITIES LISTED ABOVE.

ALL DISTURBED AREAS WITHIN EXISTING AND NEW PERMANENT RIGHT-OF-WAY WILL BE RESTORED TO PRE-CONSTRUCTION CONTOURS, VEGETATION AND DRAINAGE PATTERNS. FINAL DRAINAGE PATTERNS WILL FOLLOW NATURAL COURSES. LAND ACQUIRED FOR TEMPORARY USE WILL BE STABILIZED ACCORDING TO THIS PLAN AND RETURNED TO LAND OWNER CONTROL. THIS PROJECT DOES NOT INCLUDE CONSTRUCTION OF NEW BUILDINGS OR IMPERVIOUS GROUND COVER.

THIS EXPANSION PROJECT IS REGULATED BY THE U.S. DEPARTMENT OF ENERGY, FEDERAL ENERGY REGULATORY COMMISSION (FERC). IN ADDITION TO STATE AND LOCAL REQUIREMENTS. THIS EROSION AND SEDIMENT CONTROL PLAN INCLUDES MITIGATION MEASURES FOR PIPELINE CONSTRUCTION SPECIFIED BY THE FERC IN ITS PLAN AND PROCEDURES DOCUMENTS, UPLAND EROSION CONTROL, REVEGETATION, AND MAINTENANCE PLAN MAY 2013 AND WETLAND AND WATERBODY CONSTRUCTION AND MITIGATION PROCEDURES, MAY 2013.

### **SEQUENCE OF CONSTRUCTION - PIPELINE**

### DUE TO THE LENGTH OF THE PROJECT (IN MILES) IT IS ANTICIPATED THAT THE CONTRACTOR WILL CONSTRUCT THE PROJECT IN DISCRETE SEGMENTS, TYPICA AND ROAD CROSSINGS AS BREAK POINTS. IN ADDITION. IT IS EXPECTED THAT MULTIPLE SEGMENTS WILL BE IN CONSTRUCTION AT ONE TIME. SOME BEING CL SOME IN ACTIVE PIPELINE CONSTRUCTION AND SOME IN RESTORATION. THE CONTRACTOR WILL BE REQUIRED TO PROVIDE A SEQUENCE OF CONSTRUCTION ( MILEPOST) IN TERMS OF WHICH AREAS OF THE PROJECT WILL BE CONSTRUCTED IN WHICH ORDER PRIOR TO THE START OF ANY EARTH DISTURBANCE.

ROAD AND WATERBODY CROSSINGS MAY BE CONDUCTED BY SEPARATE CREWS, IN PARALLEL WITH MAIN LINE CREWS. SEE SEQUENCE OF CONSTRUCTION FO WATERBODY CROSSING (E.G. DAM & PUMP (SHEET 09) OR WET INTERMEDIATE WATERBODY CROSSING (SHEET 11)), ROAD CROSSINGS TO BE CONDUCTED IN AC APPLICABLE CROSSING DETAIL (E.G. TRENCHED ROAD CROSSING (SHEET 16) OR BORED ROAD CROSSING (SHEET 16))

UPON COMPLETION OR TEMPORARY CESSATION OF EARTH DISTURBANCE ACTIVITY OR ANY STAGE OR PHASE WHERE CESSATION OF EARTH DISTURBANCE WI SITE SHALL BE IMMEDIATELY SEEDED, MULCHED OR OTHERWISE PROTECTED FROM ACCELERATED EROSION AND SEDIMENTATION.

- 1. MAKE NOTIFICATIONS ACCORDING TO PERMIT REQUIREMENTS.
- 2. PERFORM TREE CLEARING (BE AWARE OF SEASONAL LIMITATIONS).
- 3. SURVEY AND STAKE PIPELINE CENTERLINE AND WORK AREA LIMITS. 4. HOLD PRE-CONSTRUCTION CONFERENCE WITH ENVIRONMENTAL
- INSPECTORS. CONTRACTOR TO PROVIDE PROPOSED SEQUENCE OF EARTH DISTURBANCE, WITH TIMELINES BY MILE POST.
- 5. INSTALL CONSTRUCTION ENTRANCES.
- 6. INSTALL BRIDGE EQUIPMENT CROSSINGS AND SILT FENCE AT WATERBODY CROSSINGS AS INDICATED ON THE PLANS.

THE FOLLOWING STEPS APPLY TO EACH PROJECT SEGMENT, AS IT IS CONSTRUCTED.

- 7. CLEAR AND GRUB FOR INSTALLATION OF PERIMETER CONTROLS (SAFETY CROSSING DETAIL (DPX) ON SHEET 09.
- FENCE, SILT FENCE AND SEDIMENT BARRIER HOOK OUTLET STRUCTURES). 8. INSTALL PERIMETER CONTORLS (SAFETY FENCE, SILT FENCE AND
- SEDIMENT BARRIER HOOK OUTLET STRUCTURES)
- 9. COMPLETE SITE CLEARING AND GRUBBING.
- 10. STRIP TOPSOIL FROM DESIGNATED AREAS.
- 11. ROUGH GRADE RIGHT-OF-WAY.
- 12. INSTALL DIVERSION TERRACES, DIVERSION BERMS, BYPASS FLUMES, ROCK OUTLET PROTECTION, AND SEDIMENT BARRIER HOOK OUTLET STRUCTURES AS INDICATED ON THE PLANS.
- 13. HAUL PIPE TO RIGHT-OF-WAY. 14. EXCAVATE TRENCH, INSTALL TEMPORARY TRENCH PLUGS (SOFT PLUGS
- CONSISTING OF EXCAVATED MATERIAL) AT EACH DIVERSION TERRACE. 15. BEND PIPE, PLACE ON SUPPORTS, ALIGN AND WELD PIPE.
- 16. PERFORM NDT INSPECTION OF WELDS AND APPLY COATING TO WELD
- AREA.
- 17. INSPECT PIPE COATING, REMOVE SOFT PLUGS AND LOWER PIPE IN PLACE. 10. REMOVE PUMP SYSTEM.
- 18. INSTALL PERMANENT TRENCH PLUGS, PAD PIPE, AND BACKFILL TRENCH. 19. FINAL GRADE RIGHT-OF-WAY AFTER BACKFILL OF TRENCH.
- 20. RETURN TOPSOIL TO DESIGNATED AREAS.
- 21. COMPLETE FINAL PREPARATION.
- 22. PERFORM HYDR

(610) 832-3500

NAL STABILIZATION, INC N, SEED APPLICATION A DROSTATIC PRESSURE	REAS. CLUDING SOIL TREATMENT, SEEDBED ND MULCHING. TEST OF PIPELINE.				
	KEVIN McKEON, P.E.				REVISIONS
		NO.	DATE	BY	DESCRIPTION
		0	06/15/17	ERL	SUBMITTED TO FREEHOLD SOIL CONSER
		1	05/07/18	SMR	ISSUED FOR CLIENT REVIEW
		2	06/05/18	PPH	SUBMITTED TO NJDEP
AECOM					

NEW JERSEY

**PROFESSIONAL ENGINEER NO GE32586** 

HANDLE HIGH ACID-PRODUCING SOILS TO PREVENT SPREADING OF HIGH-ACID MATERIALS TO OTHER PARTS OF THE SITE, INTO STREAMS OR STORMWATER CONVEYANCES AND TO PROTECT MACHINERY FROM ACCELERATED RUSTING. G. CONTRACTOR SHALL PROVIDE AND INSTALL NON-VEGETATIVE EROSION CONTROLS (STONE TRACKING PADS, STRATEGICALLY PLACED LIMESTONE CHECK DAMS, SILT

FENCES, WOOD CHIPS) TO LIMIT THE MOVEMENT OF HIGH ACID-PRODUCING SOILS FROM AROUND, OR OFF SITE. H. FOLLOWING BURIAL OR REMOVAL OF HIGH ACID-PRODUCING SOILS, TOP SOILING,

AND SEEDING OF THE SITE, COMPANY SHALL MONITOR THE SITE FOR APPROXIMATELY 6 TO 12 MONTHS TO ASSURE THERE IS ADEQUATE STABILIZATION AND THAT NO HIGH-ACID SOIL PROBLEMS EMERGE. CONTRACTOR SHALL CORRECT ANY PROBLEM THAT ARE DISCOVERED WITHIN THIS TIME PERIOD.

I. IF PROBLEMS OCCUR WHERE HIGH ACID-PRODUCING SOILS HAVE BEEN PLACED OR BURIED, COMPANY SHALL MONITOR THESE AREAS FOR AT LEAST 2 YEARS TO ASSURE THERE IS NO MIGRATION OF POTENTIAL ACID LEACHATE.

DISTURBED AREA AREA DESCRIPTION ACREAGE SHEET 02 9.18 ACRES SHEET 02A 8.51 ACRES SHEET 03 8.47 ACRES SHEET 03 A 7.22 ACRES 7.29 ACRES SHEET 04 2.47 ACRES SHEET 04A SHEET 05 7.61 ACRES SHEET 05A 1.36 ACRES SHEET 06 5.92 ACRES SHEET 06A 1.19 ACRES SHEET 07 7.85 ACRES SHEET 08 6.75 ACRES SHEET 08A 2,76 ACRES TOTAL DISTURBED AREA 76.63 ACRES

SEQUENCE OF OPERATIONS FOR TRENCHLESS PIPE INSTALLATIONS

TRENCHIESS PIPE INSTALLATIONS SHALL BE CONSTRUCTED IN ACCORDANCE WITH A DETAIL WORKPLAN PREPARED BY THE TRENCHLESS SPECIALTY CONTRACTOR AND APPROVED BY TR TECHNOLOGIES FOR TRENCHLESS PIPE INSTALLATIONS INCLUDE AUGER BORE, GUIDED AUGER HORIZONTAL DIRECTIONAL DRILLING, MICRO-TUNNELING AND DIRECT PIPE. THE FOLLOWING IS TYPICAL SEQUENCE OF OPERATIONS INTENDED FOR INFORMATIONAL PURPOSES

- SURVEY AND LAYOUT THE WOKSPACE AT THE ENTRY AND EXIT PIT LOCATIONS OF THE
- TRENCHLESS PIPE INSTALLATION. INSTALL E&S BMP MEASURES ALONG THE WORKSPACE PERIMETER AT THE ENTRY AND EX
- LOCATIONS PER THE APPROVED E&S CONTROL PLAN. MOBILIZE TRENCHLESS INSTALLATION EQUIPMENT, CREW AND MATERIALS TO WORKSITE. SET-UP AND POSITION TRENCHLESS INSTALLATION EQUIPMENT AS INDICATED IN THE
- TRANSCO-APPROVED WORKPLAN COMPLETE THE TRENCHLESS PIPE INSTALLATION. DURING INSTALLATION, OBTAIN ACCUR
- AS-BUILT ALIGNMENT AND PROFILE OF THE INSTALLED PIPE. MANAGE AND DISPOSE OF SOIL/ROCK CUTTINGS AND ANY SPENT/ EXCESS DRILLING FLUID
- GENERATED BY THE TRENCHLESS INSTALLATION PER THE TRANSCO-APPROVED WORK PL
- CONNECT INSTALLED TRENCHLESS PIPE TO PIPE INSTALLED BY OPEN TRENCH METHODS A ENTRY AND EXIT PITS.
- BACKFILL AND GRADE THE ENTRY AND EXIT PITS.
- DEMOBILIZE TRENCHLESS INSTALLATION EQUIPMENT, CREW AND EXCESS MATERIALS.
- RESTORE WORKSPACE AT ENTRY AND EXIT PIT LOCATIONS PER THE APPROVED E&S CONT
- RECORD ALL AS-BUILT INFORMATION NECESSARY TO COMPLETE DETAILED RECORD DRA THE TRENCHLESS PIPE INSTALLATION.

- 23. DEWATER PIPELINE AND COMPLETE FINAL TIE-INS

26. PLACE PIPELINE IN SERVICE.

- 1. INSTALL COMPOST FILTER SOCK AND SAFETY FEN WORK AREA, AS SHOWN ON THE PLAN.
- 2. INSTALL PUMP, INTAKE PIPING WITH SCREEN AND
- ENERGY DISSIPATION DEVICE TO PREVENT SCOUR 3. INSTALL UPSTREAM AND DOWNSTREAM COFFER 4. DEWATER AND DESILT THE WORK AREA BETWEEN
- STRUCTURE AND DISCHARGE WATER THROUGH A THE DOWNSTREAM EDGE OF THE WORK AREA.
- 5. INSTALL PIPELINE ACCORDING TO STREAM CROSS
- 9. REVEGETATE STREAM BANKS AND BUFFER AREA.
- 09). 6. RESTORE STREAM CHANNEL. 7. INSTALL EROSION CONTROL BLANKET ON STREAM
- 8. REMOVE DOWNSTREAM AND UPSTREAM COFFER I

CALL BEFORE YOU DI 1-800-272-1000 325 WEST RIDGE PIKE SUITE E-1 It's THE LAW CONSHOHOCKEN, PA 19428 NEW JERSEY ONE CALL Dig Safely.

D. CONTRACTOR SHALL COVER TEMPORARILY STOCKPILED HIGH ACID-PRODUCING SOIL MATERIAL TO BE EXPOSED MORE THAN 48 DAYS WITH PROPERLY ANCHORED, HEAVY-GRADE SHEETS OF POLYETHYLENE, WHERE POSSIBLE. IF NOT POSSIBLE,

STOCKPILES SHALL BE COVERED WITH A MINIMUM OF 3 TO 6 INCHES OF WOOD CHIPS TO MINIMIZE EROSION OF THE STOCKPILE. IN ADDITION, CONTRACTOR SHALL INSTALL SILT FENCE AT THE TOE OF STOCKPILE SLOPE TO CONTAIN MOVEMENT OF MATERIAL. CONTRACTOR SHALL NOT APPLY TOPSOIL TO THE HIGH ACID-PRODUCING

SOILSTOCKPILES TO PREVENT TOPSOIL CONTAMINATION. CONTRACTOR SHALL ULTIMATELY DISPOSE OF HIGH ACID-PRODUCING SOILS WITH A PH OF 4 OR LESS, OR CONTAINING IRON SULFIDE (INCLUDING BORROW FROM CUTS)

BY PLACING OR BURYING THE MATERIAL COMBINED WITH LIMESTONE AT THE RATE OF 10 TONS PER ACRE (OR 450 POUNDS PER 1.000 SQUARE FEET OF SURFACE AREA) AND COVERING THE MIXTURE WITH A MINIMUM OF 12 INCHES OF SETTLED SOIL WITH A PH OF 5 OR MORE EXCEPT AS FOLLOWS:

SHE	SHEET INDEX									
DESCRIPTION	SHEET NUMBER									
COVER SHEET	01									
EROSION CONTROL PLANS	02-08									
EROSION CONTROL MEASURES	09-17									
EROSION CONTROL NOTES	18-21									

	MATERIAL SUMMARY											
ITEM	QUANTITY	UNIT	DESCRIPTION									
CE	22	EA.	CONSTRUCTION ENTRANCE									
SB	17,196	LIN. FT.	SEDIMENT BARRIER									
SAF	4,983	LIN. FT.	SAFETY FENCE									
TP	56 EA.		TRENCH PLUG / BREAKER									
DT	59	EA.	DIVERSION TERRACE									
ECB	48,247	SQ. YD.	EROSION CONTROL BLANKET									

## NOTE

QUANTITIES ARE FOR THE SOIL EROSION CONTROL MEASURE ITEMS LISTED. QUANTITIES FOR ALL OTHER ITEMS, INCLUDING BUT NOT LIMITED TO DIVERSIONS, STREAM CROSSINGS, TEMPORARY CULVERT CROSSINGS, MINOR & INTERMEDIATE WATERBODY CROSSINGS, TRENCH PLUGS AND HYDROSTATIC DEWATERING STRUCTURES. SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR

ENCHLESS SPECIALTY CONTRACTOR AND APPROVED BY TRANSCO.			
NG, MICRO-TUNNELING AND DIRECT PIPE. THE FOLLOWING IS A	SVMBOI		SHEET NUMBER
OKSPACE AT THE ENTRY AND EXIT PIT LOCATIONS OF THE	WEC		
	WEC		09
ALONG THE WORKSPACE PERIMETER AT THE ENTRY AND EXIT PIT VED E&S CONTROL PLAN.	BEC		09
ALLATION EQUIPMENT, CREW AND MATERIALS TO WORKSITE. CHLESS INSTALLATION EQUIPMENT AS INDICATED IN THE	DPX	DAM AND PUMP CROSSING	09
ILAN. SPIPE INSTALLATION. DURING INSTALLATION, OBTAIN ACCURATE		WETLAND CROSSING CONFIGURATION	10
(OFILE OF THE INSTALLED PIPE. )IL/ROCK CUTTINGS AND ANY SPENT/ EXCESS DRILLING FLUIDS		TYPE I "DRY WETLAND" INSTALLATION PROCEDURE	10
LESS INSTALLATION PER THE TRANSCO-APPROVED WORK PLAN. HLESS PIPE TO PIPE INSTALLED BY OPEN TRENCH METHODS AT THE		TYPE II "SATURATED WETLAND" INSTALLATION PROCEDURE	10
		TYPE III "FLOODED WETLAND" INSTALLATION PROCEDURE	10
ITAL AND EAT FIRS. ITALLATION EQUIPMENT, CREW AND EXCESS MATERIALS.	FP	BYPASS FLUME PIPE	10
		TYPICAL TOPSOIL STOCKPILE	11
LATION RECESSART TO COMPLETE DETAILED RECORD DRAWINGS OF	RPA	RIPRAP APRON	11
	DS.1	DEWATERING STRUCTURE	12
CONSTRUCT THE PROJECT IN DISCRETE SEGMENTS, TYPICALLY USING WATERBODIES	DS.2	HYDROSTATIC DEWATERING STRUCTURE	12
E REQUIRED TO PROVIDE A SEQUENCE OF CONSTRUCTION (WITH TIMELINES AND BY BRIOD TO THE START OF ANY EARTH DISTUBBANCE	DS.4	SPLASH PLATE HYDROSTATIC DEWATERING STRUCTURE	12
	IP	INLET PROTECTION	13
ING (SHEET 11)). ROAD CROSSINGS TO BE CONDUCTED IN ACCORDANCE WITH	тр	TRENCH DEWATERING	13
	FB		13
DEROSION AND SEDIMENTATION.	тр		13
23. DEWATER PIPELINE AND COMPLETE FINAL TIE-INS.	SB		14
DISTRICT APPROVAL OF STABILIZATION AND REVEGETATION, REMOVE			14
TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES AND STABILIZE AREA DISTURBED BY REMOVAL.			14
25. PURGE AND PACK PIPELINE WITH NATURAL GAS.	RFO	ROCK FILTER OUTLET FOR SB	14
0. FLAGE FIFELINE IN SERVICE.	SAF	SAFETY FENCE	14
	СМ	PRE-FABRICATED CONSTRUCTION MATTING	14
QUENCE OF CONSTRUCTION FOR STREAM CROSSINGS (DAM & PUMP)	RFO	ROCK FILTER OUTLET FOR CFS	14A
DAM AND PUMP CROSSING SHALL BE IN ACCORDANCE WITH DAM AND PUMP	DT	DIVERSION TERRACE	15
ROSSING DETAIL (DPX) ON SHEET 09.	OS.1	SEDIMENT BARRIER HOOK OUTLET STRUCTURE	15
I. INSTALL COMPOST FILTER SOCK AND SAFETY FENCE ACROSS ENTIRE WORK AREA. AS SHOWN ON THE PLAN.	CE	CONSTRUCTION ENTRANCE/DUST CONTROL	15
INSTALL PUMP, INTAKE PIPING WITH SCREEN AND DISCHARGE HOSE WITH	WR	WASH RACK	15
. INSTALL UPSTREAM AND DOWNSTREAM COFFER DAM STRUCTURES.	RX.1	TRENCHED ROAD CROSSING	16
DEWATER AND DESILT THE WORK AREA BETWEEN THE COFFER DAM STRUCTURE AND DISCHARGE WATER THROUGH A FILTER BAG PLACED AT	RX.2	BORED ROAD CROSSING	16
THE DOWNSTREAM EDGE OF THE WORK AREA.	BX	BORED WETLAND/WATERBODY CROSSING	16
09).		TREE PROTECTION (DURING CONSTRUCTION)	16
7. RESTORE STREAM CHANNEL. 7. INSTALL EROSION CONTROL BLANKET ON STREAM BANKS.		TYPICAL VEGETATION RESTORATION-1 & -2	17
REMOVE DOWNSTREAM AND UPSTREAM COFFER DAM STRUCTURES. D. REVEGETATE STREAM BANKS AND BUFFER AREA.		VEGETATION RESTORATION-LIVE STAKES	17
10. REMOVE PUMP SYSTEM.		VEGETATION RESTORATION - TREE AND SHRUB INSTALLATION	17

(XX) INDICATES SOIL EROSION CONTROL MEASURE DETAIL

6				TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC.								
ON	W.O. NO.	CHK.	APP.	SOIL	EROSION & SE	DIMENT CONTROL PLAN						
ISERVATION DISTRICT	60515775	PPH	KDM	NORT	HFAST SUPPLY							
	60515775	JAC	PPH									
	60515775	JAC	PPH		PROPOSED 26" MADISON LOOP							
					M.P. 8.57 TO M.P. 12.00 MIDDLESEX COUNTY, NEW JERSEY							
				DRAWN BY: ERL	DATE: 06/15/17	ISSUED FOR BID: TBD	SCALE: NTS					
				CHECKED BY: PPH	DATE: 06/15/17	ISSUED FOR CONSTRUCTION: TBD	REVISION: 2					
				APPROVED BY: KDM	DATE: 06/15/17	DRAWING NUMBER: 26-0100-80-28-D	SHEET 01					
				WO: 60515775			OF 21					





3. CONTRACTOR SHALL BE REQUIRED TO KEEP ROADS WHERE CONSTRUCTION SPREAD WILL ENTER AND
EXIT PROJECT CORRIDOR CLEAN OF CONSTRUCTION RELATED DEBRIS AT ALL TIMES.

	KEVIN McKEON, P.E.				REVISIONS
		NO.	DATE	BY	DESCRIPTION
		0	06/15/17	ERL	SUBMITTED TO FREEHOLD SOIL CONSE
		1	05/07/18	SMR	ISSUED FOR CLIENT REVIEW
		2	06/05/18	PPH	SUBMITTED TO NJDEP
E E-100					
9428	NEW JERSEY PROFESSIONAL ENGINEER NO GE32586				



		EROSIO	N CONTROL LEG	END		PROJECT SPECIFIC NOTES						
PERFORM T GROUND	— 150 —	- EXISTING MAJOR CONTOUR - EXISTING MINOR CONTOUR - STREAM CENTERLINE		LIMIT OF DISTURE SAFETY FENCE SEDIMENT BARRIE	BANCE ER (SILT FENCE)	<ol> <li>EROSION CONTROL MEASURE AS DEPICTED IN THESE PLANS ARE INTENDED AS GUIDELINES AND MAY BE ADJUSTED BY WILLIAMS ENVIRONMENTAL INSPECTORS TO MEET ACTUAL FIELD CONDITIONS.</li> <li>COMPANY ENVIRONMENTAL INSPECTOR SHALL DETERMINE LOCATION WHERE HYDROSTATIC DEWATEF</li> </ol>						
LING TREES,		WETLAND		DIVERSION TERR	ACE	3. CONTRACTOR SHALL BE REQUIRED TO EXIT PROJECT CORRIDOR CLEAN OF (	) KEEP CONSTR	ROADS WHERE	CONSTI ED DEBF	RUCTION SPREAD WILL ENTER AND RIS AT ALL TIMES.		
LING TREE	$\langle \rangle$	TREE		DIVERSION BERM FLUME PIPE AND	I D RIPRAP APRON	4. ALL WATERBODY CROSSINGS TO BE INSTALLED USING THE FOLLOWING METHODS: DRY OPEN CUT METHOD (DAM & PUMP OR FLUME) OR HORIZONTAL DIRECTIONAL DRILLING						
EARING AND ED AREAS AS	₩ · · ·	WATER WELL - PARCEL LINE	* * * * *	CONSTRUCTION EROSION CONTR	ENTRANCE OL BLANKET		GE BAS	ED ON POTENT	AL PRE-	CONSTRUCTION SURVEYS.		
O SUBSOIL	X	- EXISTING ACCESS ROADS - FENCE LINE		TIMBER MATTING		KEVIN WORLON, F.L.	NO.	DATE	BY	DESCRIPT		
E STANDING	——— P ———	- EXISTING OVERHEAD POWER LINE		WATERSHED DIVI			0	06/15/17 05/07/18	ERL SMR	SUBMITTED TO FREEHOLD SOIL CON ISSUED FOR CLIENT REVIEW		
F PROPOSED NECT PIPE TO		- EXISTING PIPELINE - PROPOSED PIPELINE - EXISTING RIGHT OF WAY	02-01 (TSS)	EROSION CONTR EROSION CONTR TOP SOIL SEGRE	OL MEASURE OL MEASURE NUMBER IGATION			00/03/18				
e areas. Topsoil, Later		- NEW RIGHT OF WAY - ACIDIC SOIL TYPE BOUNDARY - FEMA FLOOD HAZARD ZONES		PROPOSED STONE HDD FOOT	AECOM							
	PHG	SOIL TYPE BOUNDARY SOIL TYPE		ONLY AREA	625 WEST RIDGE PIKE, SUITE E-100 CONSHOHOCKEN, PA 19428 (610) 832-3500	NEW JERSEY PROFESSIONAL ENGINEER NO GE32586						





400-	GENERAL NOTES	CONSTRUCTION LEGEND	EROSION CONTROL LEGEND	PROJECT SPECIFIC NOTES
_M_ES	1. THE TOPOGRAPHIC FEATURES SHOWN WERE COMPILED FROM FIELD SURVEY MEASUREMENTS AND ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988.	STND - STANDARD CONSTRUCTION RIGHT OF WAY CLEARING AND GRADING. CLEAR VEGETATION AND PERFORM GRADING ONLY WITHIN CERTIFICATED AND STAKED CONSTRUCTION LIMITS.	150      EXISTING MAJOR CONTOUR      LIMIT OF DISTURBANCE         EXISTING MINOR CONTOUR	1. EROSION CONTROL MEASURE AS DEPICTED IN THESE PLANS ARE INTENDED AS GUIDELINES AND MAY BE ADJUSTED BY WILLIAMS ENVIRONMENTAL INSPECTORS TO MEET ACTUAL FIELD CONDITIONS.
NESE_	2. BEARINGS SHOWN ARE GRID BEARINGS AND REFER TO THE NEW JERSEY STATE PLANE COORDINATE SYSTEM, NAD 83.	DRY - WATERBODY CONSTRUCTION RIGHT-OF-WAY CLEARING AND GRADING, CUT VEGETATION OFF AT GROUND LEVEL, LEAVING ROOT SYSTEMS IN PLACE AND REMOVE VEGETATION FOR DISPOSAL. LIMIT PULLING TREES	STREAM CENTERLINE SOLVER SEDIMENT BARRIER (SILT FENCE)	2. COMPANY ENVIRONMENTAL INSPECTOR SHALL DETERMINE LOCATION WHERE HYDROSTATIC DEWATERING STRUCTURE (DS.2) IS TO BE LOCATED.
775_n	<ol> <li>ANY DISTURBANCE IN A WATERBODY OR WETLANDS SHALL CONFORM WITH THE WATERBODY AND WETLAND CONSTRUCTION AND MITIGATION PROCEDURES.</li> </ol>	STUMPS AND GRADING ACTIVITIES TO DIRECTLY OVER TRENCH LINE.	L     Jule     Jule     WETLAND     DIVERSION TERRACE       TREF     TREF     TREF     TRENCH	3. CONTRACTOR SHALL BE REQUIRED TO KEEP ROADS WHERE CONSTRUCTION SPREAD WILL ENTER AND EXIT PROJECT CORRIDOR CLEAN OF CONSTRUCTION RELATED DEBRIS AT ALL TIMES.
605157	4. CONSTRUCTION AND RESTORATION SHALL CONFORM TO THE UPLAND EROSION CONTROL, REVEGETATION AND MITIGATIO PLAN.	N LEVEL, LEAVING ROOT SYSTEMS IN PLACE AND REMOVE VEGETATION FOR DISPOSAL. LIMIT PULLING TREE STUMPS AND GRADING ACTIVITIES DIRECTLY OVER TRENCH LINE.	$\begin{array}{cccc} \hline \hline \\ $	4. ALL WATERBODY CROSSINGS TO BE INSTALLED USING THE FOLLOWING METHODS: DRY OPEN CUT METHOD (DAM & PUMP OR FLUME) OR HORIZONTAL DIRECTIONAL DRILLING (HDD).
ENV	5. CONTRACTOR SHALL LIMIT EQUIPMENT TRAVERSING THROUGH THE RESIDENTIAL ZONES.	RES - RESIDENTIAL CONSTRUCTION RIGHT OF WAY CLEARING AND GRADING. DO NOT COMMENCE CLEARING AND GRADING UNTIL AFTER PIPELINE IS READY TO BE INSTALLED. BACKFILL AND RESTORE DISTURBED AREAS AS	WATER WELL CONSTRUCTION ENTRANCE	5. TREE LINE DATA IS SUBJECT TO CHANGE BASED ON POTENTIAL PRE-CONSTRUCTION SURVEYS.
cts	<ol> <li>WATER SHALL BE APPLIED TO WORK AREA SURFACE TO CONTROL DUST. THE APPLICATION SHALL BE PERIODICALLY APPLIED AS NEEDED.</li> </ol>	SOON AS POSSIBLE.	PARCEL LINE	KEVIN MCKEON, P.E. REVISION
Proje	7. TOTAL DISTURBED AREA THIS SHEET IS	TS1 - STRIP TOPSOIL FROM THE TRENCH LINE AND SUBSOIL STORAGE AREAS. PREVENT TOPSOIL AND SUBSOIL FROM MIXING.	Image: Existing access roads     Image: Timber Matting       Image: X-Image: Fence Line     Image: Tree Clearing area	NO. DATE BY DESCRIPTIN
:: S:	8. TOTAL LENGTH OF SAFETY FENCE THIS SHEET IS	TSW - SEGREGATE THE TOP ONE-FOOT OF TOPSOIL FROM THE TRENCH LINE, EXCEPT IN AREAS WHERE STANDING WATER OR SATURATED SOILS ARE PRESENT.	P EXISTING OVERHEAD POWER LINE WATERSHED DIVIDE BOUNDARY	0 06/15/17 ERL SUBMITTED TO FREEHOLD SOIL CON 1 05/07/18 SMR ISSUED FOR CLIENT REVIEW
ame	9. TOTAL LENGTH OF SEDIMENT BARRIER THIS SHEET IS	BORE - SHORT REACH TRENCHLESS TECHNOLOGY BELOW ROADS. EXCAVATE A PIT ON EITHER SIDE OF PROPOSED	EXISTING PIPELINE EROSION CONTROL MEASURE [02-01] EROSION CONTROL MEASURE NUMBER	2 06/05/18 PPH SUBMITTED TO NJDEP
∠ ୫	10. TOTAL LENGTH OF REINFORCED SEDIMENT BARRIER THIS SHEET IS N/A L.F.	BORE, SEGREGATE TOPSOIL, BORE BETWEEN PITS AND PULL PIPE THROUGH BORE HOLE. CONNECT PIPE TO PIPELINE OR CAP FOR LATER CONNECTION. CLOSE PITS, PLACE TOPSOIL, AND RE-VEGETATE.	PROPOSED PIPELINE EXISTING RIGHT OF WAY TSS TOP SOIL SEGREGATION	
ation	11. TOTAL LENGTH OF FILTER SOCK THIS SHEET IS N/A L.F.	HDD - (HORIZONTAL DIRECTIONAL DRILL) - LONG REACH TRENCHLESS TECHNOLOGY BELOW SENSITIVE AREAS. EXCAVATE A PIT (LAUNCHING OR RECEIVING) ON EITHER SIDE OF PROPOSED HDD. SEGREGATE TOPSOIL		1 11 11
Loc	CALL BEFORE YOU DIG	DRILL BETWEEN PITS AND PULL PIPE THROUGH HOLE. CONNECT PIPE TO PIPELINE OR CAP FOR LATER CONNECTION. CLOSE PITS, PLACE TOPSOIL, AND RE-VEGETATE.	ACIDIC SOIL TYPE BOUNDARY	
Drawing	It's THE LAW NEW JERSEY ONE CALL DIG Safely.		ONLY AREA625 WEST RIDGE PIKE, SUITE E-100 CONSHOHOCKEN, PA 19428 (610) 832-3500	NEW JERSEY PROFESSIONAL ENGINEER NO GE32586

										-2	
					SOIL	LEGEND			EROSION CONTROL T	YPICAL	AYOUT
IG	DocB         DOWNER LOAMY SAND, 0 TO 5 PERCENT SLOPES, NORTHERN COASTAL PLAIN           DouC         DOWNER-URBAN LAND COMPLEX, 5 TO 10 PERCENT SLOPES           EveD         EVESBORO SAND, 10 TO 15 PERCENT SLOPES           PdwAv         PAWCATUCK-TRANSQUAKING COMPLEX, 0 TO 2 PERCENT SLOPES, VERY FREQUENTLY FLOODED           PHG         PITS, SAND AND GRAVEL           PssA         PSAMMENTS, 0 TO 3 PERCENT SLOPES							ED			SAF
	PsuB SacC SadC SafB Ur	PSAMMEN SASSAFRA SASSAFRA SASSAFRA URBAN LAI	TS, WASTE S AS SANDY LC AS GRAVELL <sup>V</sup> AS LOAM, 2 T ND	SUBSTR DAM, 5 T Y SAND O 5 PEF	ATUM, 0 O 10 PE Y LOAM, RCENT S	1 TO 8 PERCENT SLOPES RCENT SLOPES, NORTHERN C 5 TO 10 PERCENT SLOPES SLOPES	COASTAL PLAIN		 1. UNLESS NOTED OTHERWISE, ALL BARRIERS AND/OR REINFORCEE LOCATED ON THE LIMITS OF DIS	SAFETY FENC SEDIMENT S TURBANCE	ES, SEDIMENT HALL BE
IS ION NSERVAT	ION DISTRICT	Γ	W.O. NO. 60515775 60515775 60515775	CHK. PPH JAC JAC	APP. KDM PPH PPH	TRANSCON SOIL E NORTHE M	NTINENTAL GA ROSION & SEI EAST SUPPLY PROPOSED 26 3.43 MI M.P. IDDLESEX COU	AS F DIM ENI 6"M 8.5 UN	PIPE LINE COMPANY, LLC IENT CONTROL PLAN HANCEMENT PROJECT IADISON LOOP 7 TO M.P. 12.00 TY, NEW JERSEY	Kangaran G	AS PIPELINE
						DRAWN BY: ERL CHECKED BY: PPH APPROVED BY: KDM WO: 60515775	DATE: 06/15/17 DATE: 06/15/17 DATE: 06/15/17	ISSU ISSU DRA' NUM	IED FOR BID: TBD IED FOR CONSTRUCTION: TBD WING IBER: 26-0100-80-28-D	SCALE: REVISION:	2 SHEET 03A OF 21
				1		WO. 00010770		<u> </u>			ur 21



		EROSION	I CONTROL LEGE	PROJECT SPECIFIC NOTES						
PERFORM	150 E	EXISTING MAJOR CONTOUR EXISTING MINOR CONTOUR	SAF SAF S	LIMIT OF DISTURB SAFETY FENCE	ANCE	1. EROSION CONTROL MEASURE AS DEF BE ADJUSTED BY WILLIAMS ENVIRON	ICTED IN IENTAL II	THESE PLANS	ARE IN	TENDED AS GUIDELINES AND MAY ACTUAL FIELD CONDITIONS.
T GROUND LING TREES,		STREAM CENTERLINE		SEDIMENT BARRIE	R (SILT FENCE) SOCK SEDIMENT TRAP	2. COMPANY ENVIRONMENTAL INSPECT STRUCTURE (DS.2) IS TO BE LOCATED	OR SHALI	L DETERMINE L	OCATIO	N WHERE HYDROSTATIC DEWATERING
ROUND		TREE LINE		DIVERSION TERRA TRENCH PLUG	ACE	3. CONTRACTOR SHALL BE REQUIRED TO EXIT PROJECT CORRIDOR CLEAN OF (	O KEEP R CONSTRU	ROADS WHERE	CONSTR D DEBR	RUCTION SPREAD WILL ENTER AND RIS AT ALL TIMES.
-ING TREE		TREE		FLUME PIPE AND	) RIPRAP APRON	4. ALL WATERBODY CROSSINGS TO BE I DRY OPEN CUT METHOD (DAM & PUMI	NSTALLE POR FLU	D USING THE F ME) OR HORIZO	OLLOWI ONTAL D	NG METHODS: IRECTIONAL DRILLING (HDD).
ARING AND		WATER WELL PARCEL LINE		CONSTRUCTION E	ENTRANCE	5. TREE LINE DATA IS SUBJECT TO CHAN	GE BASE	ED ON POTENTI	AL PRE-	CONSTRUCTION SURVEYS.
	F	EXISTING ACCESS ROADS				KEVIN McKEON, P.E.				REVISIONS
SUBSOIL	X F						NO.	DATE	BY	DESCRIPTIO
	P F	EXISTING OVERHEAD		IREE CLEARING			0	06/15/17	ERL	SUBMITTED TO FREEHOLD SOIL CONS
E STANDING	F	POWER LINE		WATERSHED DIVI	DE BOUNDARY		1	05/07/18	SMR	ISSUED FOR CLIENT REVIEW
	E	EXISTING PIPELINE	02-01 E	EROSION CONTRO EROSION CONTRO	OL MEASURE OL MEASURE NUMBER		2	06/05/18	PPH	SUBMITTED TO NJDEP
	E	EXISTING RIGHT OF WAY	TSS	TOP SOIL SEGRE	GATION					
E AREAS.	N	NEW RIGHT OF WAY		STONE						
TOPSOIL, LATER			HDD FOOT TRAFFIC		AECOM					
	PHG s	SOIL TYPE BOUNDARY SOIL TYPE	(	ONLY AREA	625 WEST RIDGE PIKE, SUITE E-100 CONSHOHOCKEN, PA 19428 (610) 832-3500	NEW JERSEY PROFESSIONAL ENGINEER NO GE32586				

GAS PIPELINE

# RAWING 26-0100-80-28-D SHEET 03B OF 21 60515775



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		ERUSION	CONTROL LEG	END		PROJECT SPECIFIC NOTES						
PERFORM	<u> </u>	EXISTING MAJOR CONTOUR	SAF SAF	LIMIT OF DISTURB SAFETY FENCE	ANCE	1. EROSION CONTROL MEASURE AS DEPICTED IN THESE PLANS ARE INTENDED AS GUIDELINES AND MAY BE ADJUSTED BY WILLIAMS ENVIRONMENTAL INSPECTORS TO MEET ACTUAL FIELD CONDITIONS.						
AT GROUND LLING TREES,		STREAM CENTERLINE		SEDIMENT BARRIE	R (SILT FENCE) SOCK SEDIMENT TRAP	2. COMPANY ENVIRONMENTAL INSPECTO STRUCTURE (DS.2) IS TO BE LOCATED.	R SHAL	L DETERMINE L	OCATIC	ON WHERE HYDROSTATIC DEWATERING		
		TREE LINE		TRENCH PLUG	ACE	3. CONTRACTOR SHALL BE REQUIRED TO EXIT PROJECT CORRIDOR CLEAN OF C	KEEP F ONSTRU	ROADS WHERE	CONSTR D DEBF	RUCTION SPREAD WILL ENTER AND RIS AT ALL TIMES.		
LING I KEE	$\langle \mathcal{O} \rangle$			FLUME PIPE AND	RIPRAP APRON	4. ALL WATERBODY CROSSINGS TO BE INSTALLED USING THE FOLLOWING METHODS: DRY OPEN CUT METHOD (DAM & PUMP OR FLUME) OR HORIZONTAL DIRECTIONAL DRILLING (HDD).						
EARING AND ED AREAS AS	** · ·	PARCEL LINE		CONSTRUCTION E	ENTRANCE DL BLANKET	5. TREE LINE DATA IS SUBJECT TO CHANG	ge base	ED ON POTENTI	AL PRE-	-CONSTRUCTION SURVEYS.		
		EXISTING ACCESS ROADS		TIMBER MATTING		REVIN MOREON, F.L.		REVISIONS				
J SOBSOIL	X	FENCE LINE		TREE CLEARING	ARFA		NO.	DATE	BY	DESCRIPTIO		
RE STANDING	——— P ———	- EXISTING OVERHEAD POWER LINE		WATERSHED DIVI	DE BOUNDARY		0 1	06/15/17 05/07/18	ERL SMR	SUBMITTED TO FREEHOLD SOIL CONS ISSUED FOR CLIENT REVIEW		
F PROPOSED NECT PIPE TO		EXISTING PIPELINE	02–01	EROSION CONTRO	DL MEASURE DL MEASURE NUMBER		2	06/05/18	PPH	SUBMITTED TO NJDEP		
'E AREAS.		- EXISTING RIGHT OF WAY	TSS	TOP SOIL SEGRE	GATION							
TOPSOIL, R LATER		- ACIDIC SOIL TYPE BOUNDARY - FEMA FLOOD HAZARD ZONES		HDD FOOT TRAFFIC	AECOM							
	PHG	SOIL TYPE BOUNDARY SOIL TYPE		ONLY AREA	625 WEST RIDGE PIKE, SUITE E-100 CONSHOHOCKEN, PA 19428 (610) 832-3500	NEW JERSEY PROFESSIONAL ENGINEER NO GE32586						



SOLLEGEND	
DocB         DOWNER LOAMY SAND, 0 TO 5 PERCENT SLOPES, NORTHERN COASTAL PLAIN           DouC         DOWNER-URBAN LAND COMPLEX, 5 TO 10 PERCENT SLOPES	LIMITS OF —
Eved       Evesboro SAND, 10 TO 15 PERCENT SLOPES         PdwAv       PAWCATUCK-TRANSQUAKING COMPLEX, 0 TO 2 PERCENT SLOPES, VERY FREQUENTLY FLOODED         PHG       PITS, SAND AND GRAVEL         PssA       PSAMMENTS, 0 TO 3 PERCENT SLOPES         PsuB       PSAMMENTS, WASTE SUBSTRATUM, 0 TO 8 PERCENT SLOPES         SacC       SASSAFRAS SANDY LOAM, 5 TO 10 PERCENT SLOPES, NORTHERN COASTAL PLAIN         SadC       SASSAFRAS GRAVELLY SANDY LOAM, 5 TO 10 PERCENT SLOPES         SadC       SASSAFRAS GRAVELLY SANDY LOAM, 5 TO 10 PERCENT SLOPES         SadC       SASSAFRAS GRAVELLY SANDY LOAM, 5 TO 10 PERCENT SLOPES         SadC       SASSAFRAS LOAM, 2 TO 5 PERCENT SLOPES         Ur       URBAN LAND         S       TRANSCONTINENTAL GAS F         SOIL       EROSION & SEDIN         NORTHEAST SUPPLY EN       60515775         MORTHEAST SUPPLY EN       PPH         60515775       JAC         PPH       60515775         SAGN       A3 MI M.P. 8.5         MIDDLESEX COUNT	DISTURBANCE OF
DRAWN BY: ERL DATE: 06/15/17 ISSU CHECKED BY: PPH DATE: 06/15/17 ISSU	JED FOR BID: TBD SCALE: JED FOR CONSTRUCTION: TBD REVISION: 2
APPROVED BY: KDM DATE: 06/15/17 DRA	WING 26-0100-80-28-D SHEET 04A

0: 60515775





	EROSIO	N CONTROL LEGEND	PROJECT SPECIFIC NOTES						
PERFORM AT GROUND LLING TREES, GROUND LING TREE	150       EXISTING MAJOR CONTOUR         EXISTING MINOR CONTOUR       EXISTING MINOR CONTOUR         STREAM CENTERLINE       STREAM CENTERLINE         Image: Stream Centerline       Image: Stream Centerline     <	LIMIT OF DISTURBANCE SAFETY FENCE SEDIMENT BARRIER (SILT FENCE) COMPOST FILTER SOCK SEDIMENT TRAP DIVERSION TERRACE TRENCH PLUG DIVERSION BERM LIMIT OF DISTURBANCE SEDIMENT BARRIER (SILT FENCE) DIVERSION TERRACE TRENCH PLUG CONSTRUCTION ENTRANCE	<ol> <li>EROSION CONTROL MEASURE AS DEPI BE ADJUSTED BY WILLIAMS ENVIRONM</li> <li>COMPANY ENVIRONMENTAL INSPECTO STRUCTURE (DS.2) IS TO BE LOCATED</li> <li>CONTRACTOR SHALL BE REQUIRED TO EXIT PROJECT CORRIDOR CLEAN OF C</li> <li>ALL WATERBODY CROSSINGS TO BE II DRY OPEN CUT METHOD (DAM &amp; PUMF</li> <li>TREE LINE DATA IS SUBJECT TO CHAN</li> </ol>	ICTED II IENTAL DR SHAI OKEEP CONSTR STALLI OR FLU GE BAS	N THESE PLANS INSPECTORS TO LL DETERMINE L ROADS WHERE UCTION RELATE ED USING THE F JME) OR HORIZO ED ON POTENT	ARE IN ) MEET .OCATIC CONSTI ED DEBF OLLOW DNTAL [ IAL PRE	TENDED AS GUIDELINES AND MAY ACTUAL FIELD CONDITIONS. IN WHERE HYDROSTATIC DEWATERING RUCTION SPREAD WILL ENTER AND RIS AT ALL TIMES. ING METHODS: DIRECTIONAL DRILLING (HDD).		
D SUBSOIL	PARCEL LINE       EXISTING ACCESS ROADS	EROSION CONTROL BLANKET	KEVIN McKEON, P.E.	NO.	DATE	вү			
RE STANDING	P EXISTING OVERHEAD POWER LINE	TREE CLEARING AREA		0 1 2	06/15/17 05/07/18 06/05/18	ERL SMR PPH	SUBMITTED TO FREEHOLD SOIL CON ISSUED FOR CLIENT REVIEW SUBMITTED TO NJDEP		
F PROPOSED NECT PIPE TO	EXISTING PIPELINE     PROPOSED PIPELINE     EXISTING RIGHT OF WAY	02-01EROSION CONTROL MEASURE NUMBERTSSTOP SOIL SEGREGATION							
∕E AREAS. TOPSOIL, ₹ LATER	NEW RIGHT OF WAY          ACIDIC SOIL TYPE BOUNDARY          FEMA FLOOD HAZARD ZONES          SOIL TYPE BOUNDARY         PHG       SOIL TYPE	HDD FOOT TRAFFIC ONLY AREA (610) 832-3500	NEW JERSEY PROFESSIONAL ENGINEER NO GE32586						



216+01 EXIT WETLAND (W-T01-011A-1)	216+51 STORM LINE	223+65 PI < 08°59'07" LT.	224+15 PI < 08°18'42" LT.	224+86 PI<02°23'21" LT.	226+99 STORM LINE



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		EROSION	CONTROL LEG	<u>END</u>		PR	OJEC	T SPECIF	IC NO	DTES			
ERFORM		IAJOR CONTOUR IINOR CONTOUR		LIMIT OF DISTURB SAFETY FENCE SEDIMENT BARRIE	ANCE R (SILT FENCE)	1. EROSION CONTROL MEASURE AS DEPICTED IN THESE PLANS ARE INTENDED AS GUIDELINES AND MAY BE ADJUSTED BY WILLIAMS ENVIRONMENTAL INSPECTORS TO MEET ACTUAL FIELD CONDITIONS.							
GROUND	STREAM CE STREAM CE WETLAND	ENTERLINE		COMPOST FILTER	SOCK SEDIMENT TRAP	3 CONTRACTOR SHALL BE REQUIRED TO			CONSTR	RUCTION SPREAD WILL ENTER AND			
Round ING TREE			->>-	TRENCH PLUG DIVERSION BERM		4. ALL WATERBODY CROSSINGS TO BE IN	ONSTRU	D USING THE F	D DEBR	IS AT ALL TIMES. NG METHODS:			
ARING AND D AREAS AS		L	<b>*</b>	FLUME PIPE AND	D RIPRAP APRON ENTRANCE	DRY OPEN CUT METHOD (DAM & PUMP 5. TREE LINE DATA IS SUBJECT TO CHAN	OR FLU GE BASE	ME) OR HORIZO	ONTAL D AL PRE-	IRECTIONAL DRILLING (HDD). CONSTRUCTION SURVEYS.			
	PARCEL LIN     EXISTING A	NE ICCESS ROADS		EROSION CONTRO	DL BLANKET	KEVIN McKEON, P.E.				REVISIONS			
SOBSOIL		Ξ		TREE CLEARING	AREA			DATE	BY				
E STANDING	P EXISTING POWER LI	OVERHEAD NE	(XX)	WATERSHED DIVI	DE BOUNDARY		0 1 2	05/07/18	SMR	ISSUED FOR CLIENT REVIEW			
PROPOSED ECT PIPE TO	EXISTING P     PROPOSED     EXISTING R	IPELINE PIPELINE IGHT OF WAY	02-01 (TSS)	EROSION CONTRO EROSION CONTRO TOP SOIL SEGRE	DL MEASURE NUMBER GATION		2	00/03/10					
E AREAS. Fopsoil, Later	NEW RIGHT ACIDIC SOIL 	OF WAY L TYPE BOUNDARY DD HAZARD ZONES		PROPOSED STONE HDD FOOT TRAFFIC	AECOM								
	PHG SOIL TYPE	BOUNDARY		ONLY AREA	625 WEST RIDGE PIKE, SUITE E-100 CONSHOHOCKEN, PA 19428 (610) 832-3500	NEW JERSEY PROFESSIONAL ENGINEER NO GE32586							

![](_page_12_Figure_0.jpeg)

HARBOUR CLOB CON	JOMINIUM ASSOCIATION, INC. NJ-MI-32		Figure 1     GONDER DRIVE     Figure 1     BOROUGH OF SATREVILLE     CROSS WAT CREEK (WATER CROSSING)     +       82     NJ-MI-004.000.RD     NJ-MI-33     Image: Cross Wat Creek (WATER CROSSING)     +	
STANDARD	245+71	WET	253+61 253+61 253+61 253+61 251+41 255+72 251+41 255+72 25	
	245+71	TSW	249+92 251+41 253+61 253+61	

		EROSIO	<u>END</u>		<u>P</u> F	ROJEC	CT SPECIF	IC N	<u>OTES</u>				
PERFORM	<u> </u>	EXISTING MAJOR CONTOUR	SAF SAF	LIMIT OF DISTURB SAFETY FENCE	ANCE	1. EROSION CONTROL MEASURE AS DE BE ADJUSTED BY WILLIAMS ENVIRON	PICTED I MENTAL	N THESE PLANS	ARE IN O MEET	TENDED AS GUIDELINES AND MAY ACTUAL FIELD CONDITIONS.			
	· · · · ·	STREAM CENTERLINE	 	SEDIMENT BARRIE COMPOST FILTER	R (SILT FENCE) SOCK SEDIMENT TRAP	2. COMPANY ENVIRONMENTAL INSPECT STRUCTURE (DS.2) IS TO BE LOCATE	OR SHAI ).	LL DETERMINE	OCATIO	ON WHERE HYDROSTATIC DEWATERING			
LEINO INLEO,		WETLAND		DIVERSION TERRA	ACE	3. CONTRACTOR SHALL BE REQUIRED 1 EXIT PROJECT CORRIDOR CLEAN OF	O KEEP CONSTR	ROADS WHERE	CONST	RUCTION SPREAD WILL ENTER AND RIS AT ALL TIMES.			
GROUND	$\langle \zeta \rangle$	TREE LINE		DIVERSION BERM	) RIPRAP APRON	4. ALL WATERBODY CROSSINGS TO BE		ED USING THE F					
EARING AND	茶	WATER WELL	8888888 8	CONSTRUCTION E	ENTRANCE	5. TREE LINE DATA IS SUBJECT TO CHANGE BASED ON POTENTIAL PRE-CONSTRUCTION SURVEYS.							
	· · ·	PARCEL LINE	* * * * * *	EROSION CONTRO	OL BLANKET	KEVIN McKEON. P.E.							
D SUBSOIL		EXISTING ACCESS ROADS		TIMBER MATTING									
	X	FENCE LINE		TREE CLEARING	AREA		NO.	DATE	BY	DESCRIPTIO			
RE STANDING	P	EXISTING OVERHEAD		WATERSHED DIVI	DE BOUNDARY		0 1	06/15/17 05/07/18	ERL SMR	SUBMITTED TO FREEHOLD SOIL CON ISSUED FOR CLIENT REVIEW			
OF PROPOSED			(XX) 02-01	EROSION CONTRO	OL MEASURE OL MEASURE NUMBER		2	06/05/18	PPH	SUBMITTED TO NJDEP			
		- EXISTING RIGHT OF WAY	TSS	TOP SOIL SEGRE	GATION								
/E AREAS. TOPSOIL,				STONE									
R LATER			0       0	HDD FOOT TRAFFIC									
	PHG	SOIL TYPE BOUNDARY SOIL TYPE		ONLY AREA	625 WEST RIDGE PIKE, SUITE E-100 CONSHOHOCKEN, PA 19428 (610) 832-3500	NEW JERSEY PROFESSIONAL ENGINEER NO GE32586							

![](_page_13_Figure_0.jpeg)

 TRANSCO	NTINENTAL G/ NJ-MI-3	AS PIP 9	ELINE CORP	279+62
277+82	BORE		STANDARE	279+62

![](_page_14_Figure_0.jpeg)

CALL BEFORE YOU DIG

It's THE LAW NEW JERSEY ONE CALL Dig Safely.

1-800-272-1000 It's THE LAW

CONNECTION. CLOSE PITS, PLACE TOPSOIL, AND RE-VEGETATE.

	EROSION CONTROL LEGEND		PRC	JECT SPECIF	IC NO	DTES			<u>S0</u>	IL LEGENI	<u>)</u>		EROSION CONTROL	EROSION CONTROL TYPICAL LAYOUT	
PERFORM	150      EXISTING MAJOR CONTOUR      LIMIT OF DIS          SAFETY FEI         SAFETY FEI        SAFETY FEI	TURBANCE ICE ARRIER (SILT FENCE)	1. EROSION CONTROL MEASURE AS DEPIC BE ADJUSTED BY WILLIAMS ENVIRONME	TED IN THESE PLANS	O MEET	TENDED AS GUIDELINES AND MAY ACTUAL FIELD CONDITIONS.	KemB UdcB	KEYPORT SANDY LOAN UDORTHENTS, CLAYEY	1, 2 TO 5 PER SUBSTRATU	CENT SLOPES M, 0 TO 8 PERCEN	T SLOPES			о, Д. Д. Д	
T GROUND LING TREES,		ILTER SOCK SEDIMENT TRAP	2. COMPANY ENVIRONMENTAL INSPECTOR SHALL DETERMINE LOCATION WHERE HYDROSTATIC DEWATERING STRUCTURE (DS.2) IS TO BE LOCATED.												
ROUND	TREE LINE	JG	3. CONTRACTOR SHALL BE REQUIRED TO EXIT PROJECT CORRIDOR CLEAN OF CO	KEEP ROADS WHERE INSTRUCTION RELAT	CONSTF ED DEBR	RUCTION SPREAD WILL ENTER AND RIS AT ALL TIMES.								Î Î	
LING TREE		AND RIPRAP APRON	4. ALL WATERBODY CROSSINGS TO BE INSTALLED USING THE FOLLOWING METHODS: DRY OPEN CUT METHOD (DAM & PUMP OR FLUME) OR HORIZONTAL DIRECTIONAL DRILLING (HDD).										1. UNLESS NOTED OTHERWISE, ALL SAFETY FENCES, SEDIMENT BARRIERS AND/OR REINFORCED SEDIMENT SHALL BE		
ARING AND			5. TREE LINE DATA IS SUBJECT TO CHANG	5. TREE LINE DATA IS SUBJECT TO CHANGE BASED ON POTENTIAL PRE-CONSTRUCTION SURVEYS.									LOCATED ON THE LIMITS OF	DISTURBANCE	
SUBSOIL	EXISTING ACCESS ROADS	KEVIN McKEON, P.E.			REVISIONS				TRA	NSCO	NTINENTAL G	AS PIPE LINE COMPANY, LL	C.		
E STANDING	X     FENCE LINE     TREE CLEAN       P     EXISTING OVERHEAD     WATERCHIEF			NO.         DATE           0         06/15/17	ERL	DESCRIPTION SUBMITTED TO FREEHOLD SOIL CONSERVA	TION DISTR	W.O. NO. ICT 60515775	PPH KD	<u>,</u> M	SOIL E IORTHI	EROSION & SE	DIMENT CONTROL PLAN	Williams.	
	POWER LINE XX EROSION C	DNTROL MEASURE		1         05/07/18           2         06/05/18	SMR PPH	ISSUED FOR CLIENT REVIEW SUBMITTED TO NJDEP		60515775 60515775	JAC PP JAC PP	H		PROPOSED 2	26"MADISON LOOP	GAS PIPELINE	
PROPOSED	PROPOSED PIPELINE	FOREGATION									N	3.43 MI M.P. 11DDLESEX CC	8.57 TO M.P. 12.00 JUNTY, NEW JERSEY		
E AREAS.	PROPOSEI									DRAWN BY:	ERL	DATE: 06/15/17	ISSUED FOR BID: TBD	SCALE:	
LATER	ACIDIC SOIL TYPE BOUNDARY	AECOM								CHECKED BY:	PPH	DATE: 06/15/17	ISSUED FOR CONSTRUCTION: TBD	REVISION: 2	
	SOIL TYPE BOUNDARY     ONLY ARE       PHG     SOIL TYPE	A 625 WEST RIDGE PIKE, SUITE E-100 CONSHOHOCKEN, PA 19428 (610) 832-3500	NEW JERSEY PROFESSIONAL ENGINEER NO GE32586							APPROVED BY WO: 605157	KDM	DATE: 06/15/17	DRAWING NUMBER: 26-0100-80-28-D	SHEET 08A OF 21	

KemB

![](_page_15_Figure_0.jpeg)

			DAM TEMPORA	AN Ary e	I <b>D</b> Erc	<b>P</b>	UMP CROSSING IN CONTROL MEASURE	
								NEW J
NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.	TRANSCONTINENTAL GAS PIPE LINE CORPORATION	
							STANDARD ENVIRONMENTAL DETAIL	Willi
								4
							UPX DAM AND PUMP CROSSING	GAS F
1	10/28/11	TPF	ADDED NOTES					

		KEVIN McKEON, P.E.				REVISIONS
			NO.	DATE	BY	DESCRIPTION
			0	06/15/17	ERL	SUBMITTED TO FREEHOLD SOIL CONSE
			1	05/07/18	SMR	ISSUED FOR CLIENT REVIEW
			2	06/05/18	PPH	SUBMITTED TO NJDEP
BEFORE YOU DIG 800-272-1000 It's THE LAW SEY ONE CALL DIG Safely.	AECOM 625 WEST RIDGE PIKE, SUITE E-100 CONSHOHOCKEN, PA 19428 (610) 832-3500	NEW JERSEY PROFESSIONAL ENGINEER NO GE32586				

![](_page_15_Picture_4.jpeg)

8				TRANSCO	NTINENTAL GA	AS PIPE LINE COMPANY, LLC.									
NC	W.O. NO.	CHK.	APP.	SOIL	<b>EROSION &amp; SE</b>	DIMENT CONTROL PLAN	Williams								
ISERVATION DISTRICT	60515775	PPH	KDM	NORTH	NORTHEAST SUPPLY ENHANCEMENT PROJECT										
	60515775	JAC	PPH	nonn	PROPOSED 26" MADISON LOOP M.P. 8.57 TO M.P. 12.00 MIDDLESEX COUNTY, NEW JERSEY										
	60515775	JAC	PPH												
				Ν											
				ľ											
				DRAWN BY: ERL	DATE: 06/15/17	ISSUED FOR BID: TBD	SCALE: NTS								
				CHECKED BY: PPH	HECKED BY: PPH DATE: 06/15/17 ISSUED FOR CONSTRUCTION: TBD										
				APPROVED BY: KDM	DATE: 06/15/17	DRAWING NUMBER: 26-0100-80-28-D	SHEET 09								
				WO: 60515775			OF 21								

![](_page_16_Figure_0.jpeg)

Williams

GAS PIPELIN

STANDARD ENVIRONMENTAL DETAIL

BYPASS FLUME PIPE

		KEVIN McKEON, P.E.				REVISIONS				TRANSCONTINENTAL GAS PIPE LINE COMPANY. LLC.				
			NO.	DATE	BY	DESCRIPTION	W.O. NO	. CHK.	APP.	SOIL EROSION & S	EDIMENT CONTROL PLAN	Williamo		
			0	06/15/17	ERL	SUBMITTED TO FREEHOLD SOIL CONSERVATION DISTRICT	6051577	5 PPH	KDM	NORTHEAST SUPPLY			2.	
		1	05/07/18	SMR	ISSUED FOR CLIENT REVIEW	6051577	5 JAC	PPH						
			2	06/05/18	PPH	SUBMITTED TO NJDEP	6051577	5 JAC	PPH	PROPOSED 26" MADISON LOOP		GAS PIPELINE	£	
										M.P. 8.5 MIDDLESEX C				
										DRAWN BY: ERL DATE: 06/15/17	ISSUED FOR BID: TBD	SCALE: NTS		
CALL BEFORE YOU DIG	AECOM									CHECKED BY: PPH DATE: 06/15/17	ISSUED FOR CONSTRUCTION: TBD	REVISION: 2		
1-800-272-1000 It's THE LAW	625 WEST RIDGE PIKE, SUITE E-100									APPROVED BY: KDM DATE: 06/15/17	DRAWING NUMBER: 26-0100-80-28-D	SHEET 10	,	
NEW JERSEY ONE CALL Dig Safely.	(610) 832-3500	PROFESSIONAL ENGINEER NO GE32586								WO: 60515775		OF 21		

	<image/> <section-header><section-header><section-header><list-item><list-item><list-item><list-item></list-item></list-item></list-item></list-item></section-header></section-header></section-header>	SEDIMENT BARRIER (SILT FENCE DOWN SLOPE SIDE OF STOCKPIL R THAN 2H: 1V. INED AT TIME OF CONSTRUCTION. ORDANCE WITH SOIL EROSION AND SEDIMEN STOCKPILE INTROL MEASURE	E) ON E IT	
on Detail Sheets.dwg		ITINENTAL GAS PIPE LINE COMPANY, LL ANDARD ENVIRONMENTAL DETAIL TYPICAL TOPSOIL STOCKPILE		RIPRAP         SIZE (R)       THIC (N         R-4       18
cation & Name: S:\Projects\ENV\60515775_NESE_M_ES\400-Technical\400-CAD\E&S\03 - Madis				

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	1		T			DEVISIONS		
		REVIN MICKEON, F.E.			_	REVISIONS		
			NO.	DATE	BY	DESCRIPTION		
			0	06/15/17	ERL	SUBMITTED TO FREEHOLD SOIL CONSER		
			1	05/07/18	SMR	ISSUED FOR CLIENT REVIEW		
			2	06/05/18	PPH	SUBMITTED TO NJDEP		
CALL BEFORE YOU DIG 1-800-272-1000	<b>AECOM</b> 625 WEST RIDGE PIKE, SUITE E-100							
NEW JERSEY ONE CALL Dig Safely.	CONSHOHOCKEN, PA 19428 (610) 832-3500	NEW JERSEY PROFESSIONAL ENGINEER NO GE32586						

/		

5				TRANSCO	ONTINENTAL GA	AS PIPE LINE COMPANY, LLC.							
ON	W.O. NO.	CHK.	APP.	SOIL	SOIL EROSION & SEDIMENT CONTROL PLAN								
ISERVATION DISTRICT	60515775	PPH	KDM	NORTH	NORTHEAST SUPPLY ENHANCEMENT PROJECT								
	60515775	JAC	PPH										
	60515775	JAC	PPH		PROPOSED 26" MADISON LOOP								
					M.P. 8.57 TO M.P. 12.00 MIDDLESEX COUNTY, NEW JERSEY								
				DRAWN BY: ERL	DATE: 06/15/17	ISSUED FOR BID: TBD	SCALE: NTS						
				CHECKED BY: PPH	DATE: 06/15/17	ISSUED FOR CONSTRUCTION: TBD	REVISION: 2						
				APPROVED BY: KDM	DATE: 06/15/17	DRAWING 26-0100-80-28-D	SHEET 11						
				WO: 60515775			OF 21						

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- 12:00 515775\_ 18 ₹20 30, ઝ

SRIER AR THE N	20, - 32, INSIDE DIAMETER	DISCHARGE PIPE (10" DIA. MAX.)	N VIEW ALE: N.T.S.	DBAG SUPPORT TO INSURE T DISCHARGE PIPE DOES NOT T ON HAY BALES	- INSTALL GEOTEXTILE FABRIC COMPLETELY BENEATH ENTIRE DEWATERING STRUCTURE AS SHOWN TO PREVENT SCOURING	NOTES 1. STF WI 2. FLC ST 3. WH SU 4. DIM SH 5. CO MM SH 6. "HI H	2 LAYERS OF 2' x 2' x 4'     SECURELY TIED BALES OF     HAY OR STRAW      GEOTEXTILE FABRIC      INSTALL A LAYER OF "HIGH     EFFICIENCY 865 AIR FILTER     MEDIA" BETWEEN ROWS     OF HAY OR STRAW BALES      NOTE::     STAKE     AIR F     FENCE     PURP  S:  RUCTURE SHALL BE PLACED ON A LEVEL WELL VE LL FLOW AWAY FROM STRUCTURE AND ANY WORK OW RATES THROUGH DISCHARGE AND DIVERTOR P     RUCTURE SHALL BE PLACED ON A LEVEL WELL VE LL FLOW AWAY FROM STRUCTURE AND ANY WORK OW RATES THROUGH DISCHARGE AND DIVERTOR P     RUCTURE WILL NOT OVERFLOW. HERE CONDITIONS WARRANT A 30' x 30' RECTANG     JBSTITUTED FOR THE CIRCULAR CONFIGURATION S      MENSIONS SHOWN ARE THE MINIMUM ACCEPTABLE     PENDING UPON SPECIFIC LOCATION. INTRACTOR SHALL PROPERLY REMOVE AND DISPOS     MEDIATELY UPON COMPLETION OF DEWATERING OF     IUNITED AIR FILTER MEDIA" CAN BE F     UNITED AIR FILTER COMPANY     1000 WEST PALMER STRIEET     CHARLOTTE, NORTH CAROLINA 28234     (704) 334–5311      YDROSTATIC DEWATERS      INTENDING WO. NO. CHK. MPP. TRANSING	CONTINENTAL GAS PIPE LINE COMPANY	STAKE ENCE * 2" WRE EATH BALES. URAL GRADE
<b>RS.</b> ELINE						REVISION	TRANS	CUNTINENTAL GAS PIPE LINE COMPANY STANDARD ENVIRONMENTAL DETAIL HYDROSTATIC DEWATERING STRUCT	, LLC Williams JRE GAS PIPELINE
		KEVIN McKEON, P.E.		REVISI	ONS		ΤΡΔΝΩΩΩΝΤΙΝΙΕΝΙΤΑΙ Ω		
ALL BEFORE YOU DIG 1-800-272-1000 It's THE LAW W JERSEY ONE CALL DIG Safely.	<b>AECOM</b> 625 WEST RIDGE PIKE, SUITE E-100 CONSHOHOCKEN, PA 19428 (610) 832-3500	NEW JERSEY PROFESSIONAL ENGINEER NO GE32586	NO.         DATE         BY           0         06/15/17         ERL           1         05/07/18         SMR           2         06/05/18         PPH	DESC SUBMITTED TO FREEHOLD SOIL ISSUED FOR CLIENT REVIEW SUBMITTED TO NJDEP	RIPTION W.O. NC CONSERVATION DISTRICT 6051577 6051577 6051577	. CHK. APP. 5 PPH KDM 5 JAC PPH 5 JAC PPH	SOIL EROSION & S NORTHEAST SUPPLY PROPOSED M.P. 8.5 MIDDLESEX CO DRAWN BY: ERL DATE: 06/15/17 CHECKED BY: PPH DATE: 06/15/17 APPROVED BY: KDM DATE: 06/15/17 WO: 60515775	EDIMENT CONTROL PLAN CENHANCEMENT PROJECT 26" MADISON LOOP 7 TO M.P. 12.00 DUNTY, NEW JERSEY ISSUED FOR BID: TBD ISSUED FOR CONSTRUCTION: TBD DRAWING NUMBER: 26-0100-80-28-D	SCALE: NTS REVISION: 2 SHEET 12 OF 21

![](_page_19_Figure_0.jpeg)

		KEVIN McKEON, P.E.				REVISIONS
			NO.	DATE	BY	DESCRIPTION
			0	06/15/17	ERL	SUBMITTED TO FREEHOLD SOIL CONSER
			1	05/07/18	SMR	ISSUED FOR CLIENT REVIEW
			2	06/05/18	PPH	SUBMITTED TO NJDEP
L BEFORE YOU DIG 1-800-272-1000 It's THE LAW RREEY ONE CALL Dig Safely.	AECOM 625 WEST RIDGE PIKE, SUITE E-100 CONSHOHOCKEN, PA 19428 (610) 832-3500	NEW JERSEY PROFESSIONAL ENGINEER NO GE32586				

ON ISERVATION DISTRICT	W.O. NO. 60515775 60515775 60515775	CHK. PPH JAC JAC	APP. KDM PPH PPH	SOIL I NORTH	SOIL EROSION & SEDIMENT CONTROL PLAN NORTHEAST SUPPLY ENHANCEMENT PROJECT PROPOSED 26" MADISON LOOP M.P. 8.57 TO M.P. 12.00 MIDDLESEX COUNTY, NEW JERSEY					
				DRAWN BY: ERL	DATE: 06/15/17	ISSUED FOR BID: TBD	SCALE: NTS			
				CHECKED BY: PPH	DATE: 06/15/17	ISSUED FOR CONSTRUCTION: TBD	REVISION: 2			
				APPROVED BY: KDM	DATE: 06/15/17	DRAWING NUMBER: 26-0100-80-28-D	SHEET 13			
				WO: 60515775			OF 21			

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![](_page_21_Figure_1.jpeg)

		KEVIN McKEON, P.E.				REVISIONS
			NO.	DATE	BY	DESCRIPTIO
			0	06/15/17	ERL	SUBMITTED TO FREEHOLD SOIL CON
			1	05/07/18	SMR	ISSUED FOR CLIENT REVIEW
			2	06/05/18	PPH	SUBMITTED TO NJDEP
CALL BEFORE YOU DIG 1-800-272-1000 It's THE LAW NEW JERSEY ONE CALL DIG Safely.	AECOM 625 WEST RIDGE PIKE, SUITE E-100 CONSHOHOCKEN, PA 19428 (610) 832-3500	NEW JERSEY PROFESSIONAL ENGINEER NO GE32586				

**V** 

S on	W.O. NO.	CHK.	APP.	TRANSC	TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC.							
ISERVATION DISTRICT	60515775 60515775 60515775	PPH JAC JAC	KDM PPH PPH	NORTHEAST SUPPLY ENHANCEMENT PROJECT PROPOSED 26" MADISON LOOP Gas pipeline								
					M.P. 8.57 TO M.P. 12.00 MIDDLESEX COUNTY, NEW JERSEY							
				DRAWN BY: ERL	DATE:	06/15/17	ISSUED FOR BID: TBD	SCALE: NTS				
				CHECKED BY: PPH	DATE:	06/15/17	ISSUED FOR CONSTRUCTION: TBD	REVISION: 2				
				APPROVED BY: KDM	DATE:	06/15/17	DRAWING NUMBER: 26-0100-80-28-D	SHEET 14A				
				WO: 60515775				OF 21				

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		KEVIN McKEON, P.E.				REVISIONS
			NO.	DATE	BY	DESCRIPTION
			0	06/15/17	ERL	SUBMITTED TO FREEHOLD SOIL CONSERV
			1	05/07/18	SMR	ISSUED FOR CLIENT REVIEW
			2	06/05/18	PPH	SUBMITTED TO NJDEP
1						
FORE YOU DIG	AECOM					
THE LAW	625 WEST RIDGE PIKE, SUITE E-100 CONSHOHOCKEN, PA 19428 (610) 832-3500	NEW JERSEY PROFESSIONAL ENGINEER NO GE32586				

![](_page_22_Figure_3.jpeg)

DATE: 06/15/17

60515775

SHEET	15
OF	21

![](_page_23_Figure_0.jpeg)

# DUST CONTROL MATERIALS (TABLE 16-1)

MATERIAL	WATER DILUTION	TYPE OF NOZZLE	APPLY GALLONS/ACRE
ANIONIC ASPHALT EMULSION	7: 1	COARSE SPRAY	1200
LATEX EMULSION	12.5:1	FINE SPRAY	235
RESIN IN WATER	4:1	FINE SPRAY	300
POLYACRYLAMIDE (PAM)- SPRAY ON POLYACRYLAMIDE (PAM)- DRY SPREAD	APPLY ACCORDIN	IG TO MANUFACTURER'S	INSTRUCTIONS.
ACIDULATED SOY BEAN SOAP STICK	NONE	COARSE SPRAY	1200
WATER	NONE	FINE SPRAY	235

By & Date/Time: haasp May 30, 2018 - 12:00pm g Location & Name: S:\Projects\ENV\60515775\_NESE\_M\_ES\400-Technical\400-CAD\E&S\03 - Madison Detail Sheets.d

-SPOIL PILE (TYP.)	SEDIMENT BARRIER SPOIL PILE (TYP.) BURGEN SPOIL PILE (TYP.) SPOIL PILE (TYP.) (TYP	TREE PROTECTION ZONE (TPZ) 48"-HIGH SNOW FENCE ON STEEL POSTS, 8' O.C. INDIVIDUAL/SMALL GROUP PROTECTION TREE LINE PROTECTION
TION ENTRANCE IL CE) DIVERT PSLOPE OF BARRIER EQUIRED)	BORE PIT- (SEE NOTE 4) BORE PIT- (SEE NOTE 4)	<ul> <li>NOTES:</li> <li>PROTECT TREES WITHIN 25 FEET OF BUILDING SITE TO PREVENT MECHANICAL INJURY. FENCING OF OTHER BARRIERS SHOULD BE INSTALLED AT THE DRIP LINE OF THE TREE BRANCHES.</li> <li>TREE PROTECTION ZONE SHALL EXTEND AT LEAST 15 FT. FROM THE TRUNK OF THE TREE OR AT THE EDGE OF THE THE DRIP LINE, WHICHEVER IS GREATER.</li> <li>BOARDS WILL NOT BE NAILED TO TREES DURING BUILDING OPERATIONS.</li> <li>FEEDER ROOTS SHOULD NOT BE CUT IN AN AREA INSIDE THE DRIP LINE OF THE TREE BRANCHES.</li> <li>DAMAGED TRUNKS OR EXPOSED ROOTS SHOULD BE PAINTED IMMEDIATELY WITH A GOOD GRADE OF "TREE PAINT", CARE FOR SERIOUS INJURY SHOULD BE PRESCRIBED BY A PROFESSIONAL FORESTER OR LICENSED TREE EXPERT.</li> <li>TREE LIMB REMOVAL, WHERE, NECESSARY, WILL BE DONE FLUSH TO TRUNK OR MAIN BRANCH AND THAT AREA WILL BE PAINTED WITH A GOOD GRADE OF TREE PAINT.</li> </ul>
S E AMITH MINE	SCALE: N.T.S.  SCALE: N.T.S.  NOTES:  SEDIMENT BARRIER SHALL BE INSTALLED AT THE BASE OF SLOPES ADJACENT TO WATER BODY CROSSINGS WHERE VEGETATION IS DISTURBED, TO INTERCEPT SURFACE RUNOFF.  PROTECTION FOR SPOIL PILES SHALL BE INSTALLED ONLY WHERE SEDIMENT BARRIERS ACROSS THE ENTIRE DISTURBED AREA ARE NOT REQUIRED.  SEDIMENT BARRIERS SHALL REMAIN IN PLACE UNTIL PERMANENT REVEGETATION IS ESTABLISHED.  WATER REMOVED FROM BORE PIT AND RECEIVING PIT SHALL BE FILTERED THROUGH A DEWATERING STRUCTURE OR FILTER BAG.  IF WELL POINTING IS REQUIRED PRIOR TO EXCAVATING BORE PITS, CONTRACTOR SHALL CONSULT WITH COMPANY'S ENVIRONMENTAL INSPECTOR PRIOR TO COMMENCEMENT OF WORK IN ORDER TO DETERMINE PROPER DEWATERING LOCATION. CONTRACTOR SHALL BE REQUIRED TO KEEP THE ROAD CLEAN OF DEBRIS AT ALL TIMES. CONTRACTOR MAY ELECT TO UTILIZE SHEET PILING IN ORDER TO STABILIZE BORE PITS. DEPENDING ON TOPOGRAPHY AND STATE REQUIREMENTS, SEDIMENT BARRIER MAY BE REQUIRED ACROSS THE ENTIRE CONSTRUCTION RIGHT OF WAY AT THE EDGE OF FORD. IN ADDITION TO THIS DETAIL, REFER TO THE ENVIRONMENTAL ALIGNMENT DRAWINGS FOR PLACEMENT OF SEDIMENT BARRIERS. BORED WETLAND/WATERBODY CROSSING IEMPORARY EROSION CONTROL MEASURF	Image: Description       Image: De
NEW JERSEY	Image: Contract Endston Contract Endston       New Jersey         Image: Contract Endston       Image: Contract Endston       Image: Contract Endston         Image: Contract Endston       Image: Contract Endston       Image: Contract Endston       Image: Contract Endston         Image: Contract Endston       Image: Contract Endston       Image: Contract Endston       Image: Contract Endston       Image: Contract Endston         Image: Contract Endston<	
CALL BEFORE YO 1-800-272-100 It's THE LAW	KEVIN McKEON, P.E.           NO.         DATE         BY         DESCRIPTION           0         06/15/17         ERL         SUBMITTED TO FREEHOLD SOIL CONSERVATION           1         05/07/18         SMR         ISSUED FOR CLIENT REVIEW           2         06/05/18         PPH         SUBMITTED TO NJDEP           0         06/05/18         PPH         SUBMITTED TO NJDEP           1         05/07/18         SMR         ISSUED FOR CLIENT REVIEW           2         06/05/18         PPH         SUBMITTED TO NJDEP           1         SIGN         NEW JERSEY         Image: Signa Si	W.O. NO.       CHK.       APP.         ION DISTRICT       60515775       PPH       KDM         60515775       JAC       PPH         7000000000000000000000000000000000000

![](_page_24_Figure_0.jpeg)

ED	SE	EDI	NG	SC	HE	וטכ	LE

AME	PERCENT COMPOSITION
JE	13%
	10%
LDRYE	8%
STEM	8%
WILDRYE	8%
SS	7%
PEA	6%
VOOD	6%
EM	5%
SS	4%
SUSAN	3%
GO	3%
AIN	3%
DD	2%
EEBALM	2%
WEED	2%
	2%
	2%
FLOWER	2%
GOLDENROD	1%
NE	1%
E LOBELIA	1%
NEEZEWEED	1%

PLAIN MIX	
MX-154)	

OR 1/3 - 1/2 LB PER 1,000 SQUARE FEET			
ME	PERCENT COMPOSITION		
LDRYE	20%		
	20%		
JE	14%		
S	10%		
EM	10%		
SS	5%		
ODDING) SEDGE	4%		
IEEZEWEED	3%		
JN	3%		
LOWER	2%		
	2%		
M ASTER	2%		
WEED	1%		
	1%		
EBALM	1%		
GOLDENROD	1%		

TABLE 2 - RECOMMENDED NATIVE TREE, SHRUB AND LIVE STAKE SPECIES			
ZONE 1 (50 FEET WIDE)			

SCIENTIFIC NAME	COMMON NAME	PLANT FORM	SPACING (FEET)	SIZE / CONTAINER
ACER SACCHARUM	SUGAR MAPLE	TREE	12	#1
BETULA ALLEGHANIENSIS	YELLOW BIRCH	TREE	12	#1
BETULA LENTA	BLACK BIRCH	TREE	12	#1
LIRIODENDRON TULIPIFERA	TULIP POPLAR	TREE	12	#1
QUERCUS ALBA	WHITE OAK	TREE	12	#1
QUERCUS RUBRA	RED OAK	TREE	12	#1
QUERCUS VELUTINA	BLACK OAK	TREE	12	#1
PINUS STROBUS	WHITE PINE	TREE	12	#1
TSUGA CANADENSIS	EASTERN HEMLOCK	TREE	12	#1

ZONE 2 (50 TO 250 FEET WIDE)					
SCIENTIFIC NAME	COMMON NAME	PLANT FORM	SPACING (FEET)	SIZE / CONTAINER	
ACER SACCHARUM	SUGAR MAPLE	TREE	12	#1	
BETULA ALLEGHANIENSIS	YELLOW BIRCH	TREE	12	#1	
BETULA LENTA	BLACK BIRCH	TREE	12	#1	
LIRIODENDRON TULIPIFER	A TULIP POPLAR	TREE	12	#1	
QUERCUS ALBA	WHITE OAK	TREE	12	#1	
QUERCUS RUBRA	RED OAK	TREE	12	#1	
QUERCUS VELUTINA	BLACK OAK	TREE	12	#1	
PINUS STROBUS	WHITE PINE	TREE	12	#1	
TSUGA CANADENSIS	EASTERN HEMLOCK	TREE	12	#1	
CORNUS SP.	DOGWOOD	SHRUB	12	#1	
GAYLUSSACIA SP.	HUCKLEBERRY	SHRUB	12	#1	
KALMIA LATIFOLIA	MOUNTAIN LAUREL	SHRUB	12	#1	
LINDERA BENZOIN	SPICEBUSH	SHRUB	12	#1	
RHODODENDRON SP.	RHODODENDRON	SHRUB	12	#1	
VACINIUM SP.	BLUEBERRY	SHRUB	12	#1	
VIBURNUM SP.	ARROWWOOD	SHRUB	12	#1	
	LIV	E STAKES			
SCIENTIFIC NAME	COMMON NAME	PLAN	IT FORM	SPACING (FEET)	
SALIX SP.	WILLOW	LIVE	STAKE	2	
CORNUS SP.	DOGWOOD	LIVE	STAKE	2	

UPLANDS PLANT SPECIES SEED MIX AND COMPOSITION FOR RESTORATION ACTIVITIES (PERMANENT REVEGETATION) (COVERS AREAS OF UPLAND IMPACTS)					
SPECIES	APPLICATION RATES (LBLS/AC)	APPLICATION DATES			
URF TYPE TALL FESCUE (BLEND F 3 CULTIVARS)	200	MARCH 1 – AUGUST 14			
REEPING RED FESCUE	200	AUGUST 15 - OCTOBER 15			
ERTILIZER/SOIL SUPPLEMENT:					
GRICULTURAL GRADE IMESTONE	IN ACCORDANCE WITH SOIL TEST RESULTS	PRIOR TO SEEDING			
ERTILIZER	500 (11 LBLS/1000 SQ. FT.) OF 10-10-10 OR EQUIVALENT WITH 50% WATER INSOLUBLE NITROGEN UNLESS SOIL TEST INDICATES OTHERWISE AND INCORPORATED INTO THE SURFACE 4 INCHES	PRIOR TO SEEDING			

UPLANDS PLANT SPECIES SEED MIX AND COMPOSITION FOR RESTORATION ACTIVITIES (TEMPORARY REVEGETATION) (COVERS AREAS OF UPLAND IMPACTS)					
SPECIES	APPLICATION RATES (LBLS/AC)	APPLICATION DATES			
PERENNIAL RYEGRASS	100	MARCH 1 – OCTOBER 1			
WINTER CEREAL RYE	112	AUGUST 1 - NOVEMBER 15			
FERTILIZER/SOIL SUPPLEMENT:					
AGRICULTURAL GRADE LIMESTONE	IN ACCORDANCE WITH SOIL TEST RESULTS	PRIOR TO SEEDING			
FERTILIZER	500 (11 LBLS/1000 SQ. FT.) OF 10-10-10 OR EQUIVALENT WITH 50% WATER INSOLUBLE NITROGEN UNLESS SOIL TEST INDICATES OTHERWISE AND INCORPORATED INTO THE SURFACE 4 INCHES	PRIOR TO SEEDING			

	KEVIN McKEON, P.E.				REVISION
		NO.	DATE	BY	DESCRIPTIO
		0	06/15/17	ERL	SUBMITTED TO FREEHOLD SOIL CON
		1	05/07/18	SMR	ISSUED FOR CLIENT REVIEW
		2	06/05/18	PPH	SUBMITTED TO NJDEP
AECOM					
/EST RIDGE PIKE, SUITE E-100 DNSHOHOCKEN, PA 19428 (610) 832-3500	NEW JERSEY PROFESSIONAL ENGINEER NO GE32586				

S				TRANSCO	NTINENTAL GA	S PIPE LINE COMPANY, LLC.						
ION	W.O. NO.	CHK.	APP.	SOIL E	SOIL EROSION & SEDIMENT CONTROL PLAN							
NSERVATION DISTRICT	60515775	PPH	KDM	NORTH	FAST SUPPLY	ENHANCEMENT PROJECT						
	60515775	JAC	PPH	North								
	60515775	JAC	PPH		PROPOSED 26" MADISON LOOP							
					M P 8 57 TO M P 12 00							
				N/								
				IV	IIDDLESEX COU	UNIT, NEW JERSET						
				DRAWN BY: ERL	DATE: 06/15/17	ISSUED FOR BID: TBD	SCALE: NTS					
				CHECKED BY: PPH	DATE: 06/15/17	ISSUED FOR CONSTRUCTION: TBD	REVISION: 2					
				APPROVED BY: KDM	DATE: 06/15/17	DRAWING NUMBER: 26-0100-80-28-D	SHEET 17					
				WO: 60515775			OF 21					

# WETLAND AND WATERBODY CONSTRUCTION AND MITIGATION PROCEDURES

I. APPLICABILITY

A. THE INTENT OF THESE PROCEDURES IS TO ASSIST PROJECT SPONSORS BY IDENTIFYING BASELINE MITIGATION MEASURES FOR MINIMIZING THE EXTENT AND DURATION OF PROJECT-RELATED DISTURBANCE ON WETLANDS AND WATERBODIES. PROJECT SPONSORS SHALL SPECIFY IN THEIR APPLICATIONS FOR A NEW FERC AUTHORIZATION. AND IN PRIOR NOTICE AND ADVANCE NOTICE FILINGS. ANY INDIVIDUAL MEASURES IN THESE PROCEDURES THEY CONSIDER UNNECESSARY, TECHNICALLY INFEASIBLE, OR UNSUITABLE DUE TO LOCAL CONDITIONS AND FULLY DESCRIBE ANY ALTERNATIVE MEASURES THEY WOULD USE. PROJECT SPONSORS SHALL ALSO EXPLAIN HOW THOSE ALTERNATIVE MEASURES WOULD ACHIEVE A COMPARABLE LEVEL OF MITIGATION. ONCE A PROJECT IS AUTHORIZED, PROJECT SPONSORS CAN REQUEST FURTHER CHANGES AS VARIANCES TO THE MEASURES IN THESE PROCEDURES (OR THE APPLICANT'S APPROVED PROCEDURES). THE DIRECTOR OF THE OFFICE OF ENERGY PROJECTS (DIRECTOR) WILL CONSIDER APPROVAL OF VARIANCES UPON THE PROJECT SPONSOR'S WRITTEN REQUEST, IF THE DIRECTOR AGREES THAT A VARIANCE: 1. PROVIDES EQUAL OR BETTER ENVIRONMENTAL PROTECTION; 2. IS NECESSARY BECAUSE A PORTION OF THESE PROCEDURES IS INFEASIBLE OR UNWORKABLE BASED ON PROJECT-SPECIFIC CONDITIONS; OR 3. IS SPECIFICALLY REQUIRED IN WRITING BY ANOTHER FEDERAL, STATE, OR NATIVE AMERICAN LAND MANAGEMENT AGENCY FOR THE PORTION OF THE PROJECT ON ITS LAND OR UNDER ITS JURISDICTION. SPONSORS OF PROJECTS PLANNED FOR CONSTRUCTION UNDER THE AUTOMATIC AUTHORIZATION PROVISIONS IN THE FERC'S REGULATIONS MUST RECEIVE WRITTEN APPROVAL FOR ANY VARIANCES IN ADVANCE OF CONSTRUCTION. PROJECT-RELATED IMPACTS ON NON-WETLAND AREAS ARE ADDRESSED IN THE STAFF'S UPLAND EROSION CONTROL, REVEGETATION, AND MAINTENANCE PLAN (PLAN). **B. DEFINITIONS** 1. "WATERBODY" INCLUDES ANY NATURAL OR ARTIFICIAL STREAM, RIVER, OR DRAINAGE WITH PERCEPTIBLE FLOW AT THE TIME OF CROSSING, AND OTHER PERMANENT WATERBODIES SUCH AS PONDS AND LAKES: A. "MINOR WATERBODY" INCLUDES ALL WATERBODIES LESS THAN OR EQUAL TO 10 FEET WIDE AT THE WATER'S EDGE AT THE TIME OF CROSSING; B. "INTERMEDIATE WATERBODY" INCLUDES ALL WATERBODIES GREATER THAN 10 FEET WIDE BUT LESS THAN OR EQUAL TO 100 FEET WIDE AT THE WATER'S EDGE AT THE TIME OF CROSSING; AND C. "MAJOR WATERBODY" INCLUDES ALL WATERBODIES GREATER THAN 100 FEET WIDE AT THE WATER'S EDGE AT THE TIME OF CROSSING. 2, "WETLAND" INCLUDES ANY AREA THAT IS NOT IN ACTIVELY CULTIVATED OR ROTATED CROPLAND AND THAT SATISFIES THE REQUIREMENTS OF THE CURRENT FEDERAL METHODOLOGY FOR IDENTIFYING AND DELINEATING WETLANDS. II. PRECONSTRUCTION FILING A. THE FOLLOWING INFORMATION MUST BE FILED WITH THE SECRETARY OF THE FERC (SECRETARY) PRIOR TO THE BEGINNING OF CONSTRUCTION. FOR THE REVIEW AND WRITTEN APPROVAL BY THE DIRECTOR: 1. SITE-SPECIFIC JUSTIFICATIONS FOR EXTRA WORK AREAS THAT WOULD BE CLOSER THAN 50 FEET FROM A WATERBODY OR WETLAND; AND 2. SITE-SPECIFIC JUSTIFICATIONS FOR THE USE OF A CONSTRUCTION RIGHT-OF-WAY GREATER THAN 75-FEET-WIDE IN WETLANDS. B. THE FOLLOWING INFORMATION MUST BE FILED WITH THE SECRETARY PRIOR TO THE BEGINNING OF CONSTRUCTION. THESE FILING REQUIREMENTS DO NOT APPLY TO PROJECTS CONSTRUCTED UNDER THE AUTOMATIC AUTHORIZATION PROVISIONS IN THE FERC'S REGULATIONS: 1. SPILL PREVENTION AND RESPONSE PROCEDURES SPECIFIED IN SECTION IV.A; 2. A SCHEDULE IDENTIFYING WHEN TRENCHING OR BLASTING WILL OCCUR WITHIN EACH WATERBODY GREATER THAN 10 FEET WIDE, WITHIN ANY DESIGNATED COLDWATER FISHERY, AND WITHIN ANY WATERBODY IDENTIFIED AS HABITAT FOR FEDERALLY-LISTED THREATENED OR ENDANGERED SPECIES. THE PROJECT SPONSOR WILL REVISE THE SCHEDULE AS NECESSARY TO PROVIDE FERC STAFF AT LEAST 14 DAYS ADVANCE NOTICE. CHANGES WITHIN THIS LAST 14-DAY PERIOD MUST PROVIDE FOR AT LEAST 48 HOURS ADVANCE NOTICE; 3. PLANS FOR HORIZONTAL DIRECTIONAL DRILLS (HDD) UNDER WETLANDS OR WATERBODIES. SPECIFIED IN SECTION V.B.6.D: 4. SITE-SPECIFIC PLANS FOR MAJOR WATERBODY CROSSINGS, DESCRIBED IN SECTION V.B.9; 5. A WETLAND DELINEATION REPORT AS DESCRIBED IN SECTION VI.A.1. IF APPLICABLE: AND 6. THE HYDROSTATIC TESTING INFORMATION SPECIFIED IN SECTION VII.B.3.

## III. ENVIRONMENTAL INSPECTORS

A. AT LEAST ONE ENVIRONMENTAL INSPECTOR HAVING KNOWLEDGE OF THE WETLAND AND WATERBODY CONDITIONS IN THE PROJECT AREA IS REQUIRED FOR EACH CONSTRUCTION SPREAD. THE NUMBER AND EXPERIENCE OF ENVIRONMENTAL INSPECTORS ASSIGNED TO EACH CONSTRUCTION SPREAD SHALL BE APPROPRIATE FOR THE LENGTH OF THE CONSTRUCTION SPREAD AND THE NUMBER/SIGNIFICANCE OF RESOURCES AFFECTED.

B. THE ENVIRONMENTAL INSPECTOR'S RESPONSIBILITIES ARE OUTLINED IN THE UPLAND EROSION CONTROL, REVEGETATION, AND MAINTENANCE PLAN (PLAN).

#### IV. PRECONSTRUCTION PLANNING

A. THE PROJECT SPONSOR SHALL DEVELOP PROJECT-SPECIFIC SPILL PREVENTION AND RESPONSE PROCEDURES THAT MEET APPLICABLE REQUIREMENTS OF STATE AND FEDERAL AGENCIES. A COPY MUST BE FILED WITH THE SECRETARY PRIOR TO CONSTRUCTION AND MADE AVAILABLE IN THE FIELD ON EACH CONSTRUCTION SPREAD. THIS FILING REQUIREMENT DOES NOT APPLY TO PROJECTS CONSTRUCTED UNDER THE AUTOMATIC AUTHORIZATION PROVISIONS IN THE FERC'S REGULATIONS.

1. IT SHALL BE THE RESPONSIBILITY OF THE PROJECT SPONSOR AND ITS CONTRACTORS TO STRUCTURE THEIR OPERATIONS IN A MANNER THAT REDUCES THE RISK OF SPILLS OR THE ACCIDENTAL EXPOSURE OF FUELS OR HAZARDOUS MATERIALS TO WATERBODIES OR WETLANDS. THE PROJECT SPONSOR AND ITS CONTRACTORS MUST, AT A MINIMUM, ENSURE THAT

> A. ALL EMPLOYEES HANDLING FUELS AND OTHER HAZARDOUS MATERIALS ARE PROPERLY TRAINED:

B, ALL EQUIPMENT IS IN GOOD OPERATING ORDER AND INSPECTED ON A REGULAR BASIS:

C. FUEL TRUCKS TRANSPORTING FUEL TO ON-SITE EQUIPMENT TRAVEL ONLY ON APPROVED ACCESS ROADS:

D. ALL EQUIPMENT IS PARKED OVERNIGHT AND/OR FUELED AT LEAST 100 FEET FROM A WATERBODY OR IN AN UPLAND AREA AT LEAST 100 FEET FROM A WETLAND BOUNDARY. THESE ACTIVITIES CAN OCCUR CLOSER ONLY IF THE ENVIRONMENTAL INSPECTOR DETERMINES THAT THERE IS NO REASONABLE ALTERNATIVE, AND THE PROJECT SPONSOR AND ITS CONTRACTORS HAVE TAKEN APPROPRIATE STEPS (INCLUDING SECONDARY CONTAINMENT STRUCTURES) TO PREVENT SPILLS AND PROVIDE FOR PROMPT CLEANUP IN THE EVENT OF A SPILL:

E. HAZARDOUS MATERIALS, INCLUDING CHEMICALS, FUELS, AND LUBRICATING OILS, ARE NOT STORED WITHIN 100 FEET OF A WETLAND, WATERBODY, OR DESIGNATED MUNICIPAL WATERSHED AREA, UNLESS THE LOCATION IS DESIGNATED FOR SUCH USE BY AN APPROPRIATE GOVERNMENTAL AUTHORITY. THIS APPLIES TO STORAGE OF THESE MATERIALS AND DOES NOT APPLY TO NORMAL OPERATION OR USE OF EQUIPMENT IN THESE AREAS:

F. CONCRETE COATING ACTIVITIES ARE NOT PERFORMED WITHIN 100 FEET OF A WETLAND OR WATERBODY BOUNDARY, UNLESS THE LOCATION IS AN EXISTING INDUSTRIAL SITE DESIGNATED FOR SUCH USE. THESE ACTIVITIES CAN OCCUR CLOSER ONLY IF THE ENVIRONMENTAL INSPECTOR DETERMINES THAT THERE IS NO REASONABLE ALTERNATIVE, AND THE PROJECT SPONSOR AND ITS CONTRACTORS HAVE TAKEN APPROPRIATE STEPS (INCLUDING SECONDARY CONTAINMENT STRUCTURES) TO PREVENT SPILLS AND PROVIDE FOR PROMPT CLEANUP IN THE EVENT OF A SPILL;

G. PUMPS OPERATING WITHIN 100 FEET OF A WATERBODY OR WETLAND BOUNDARY UTILIZE APPROPRIATE SECONDARY CONTAINMENT SYSTEMS TO PREVENT SPILLS; AND

H. BULK STORAGE OF HAZARDOUS MATERIALS, INCLUDING CHEMICALS, FUELS, AND LUBRICATING OILS HAVE APPROPRIATE SECONDARY CONTAINMENT SYSTEMS TO PREVENT SPILLS.

2. THE PROJECT SPONSOR AND ITS CONTRACTORS MUST STRUCTURE THEIR OPERATIONS IN A MANNER THAT PROVIDES FOR THE PROMPT AND EFFECTIVE CLEANUP OF SPILLS OF FUEL AND OTHER HAZARDOUS MATERIALS. AT A MINIMUM, THE PROJECT SPONSOR AND ITS CONTRACTORS MUST:

A. ENSURE THAT EACH CONSTRUCTION CREW (INCLUDING CLEANUP CREWS) HAS ON HAND SUFFICIENT SUPPLIES OF ABSORBENT AND BARRIER MATERIALS TO ALLOW THE RAPID CONTAINMENT AND RECOVERY OF SPILLED MATERIALS AND KNOWS THE PROCEDURE FOR REPORTING SPILLS AND UNANTICIPATED DISCOVERIES OF

CONTAMINATION: B. ENSURE THAT EACH CONSTRUCTION CREW HAS ON HAND SUFFICIENT TOOLS AND MATERIAL TO STOP LEAKS;

C. KNOW THE CONTACT NAMES AND TELEPHONE NUMBERS FOR ALL LOCAL. STATE. AND FEDERAL AGENCIES (INCLUDING, IF NECESSARY, THE U. S. COAST GUARD AND THE NATIONAL RESPONSE CENTER) THAT MUST BE NOTIFIED OF A SPILL; AND D. FOLLOW THE REQUIREMENTS OF THOSE AGENCIES IN CLEANING UP THE SPILL, IN EXCAVATING AND DISPOSING OF SOILS OR OTHER MATERIALS CONTAMINATED BY A SPILL, AND IN COLLECTING AND DISPOSING OF WASTE GENERATED DURING SPILL CLEANUP.

B. AGENCY COORDINATION

THE PROJECT SPONSOR MUST COORDINATE WITH THE APPROPRIATE LOCAL, STATE, AND FEDERAL AGENCIES AS OUTLINED IN THESE PROCEDURES AND IN THE FERC'S ORDERS.

V. WATERBODY CROSSINGS

A. NOTIFICATION PROCEDURES AND PERMITS 1. APPLY TO THE U.S. ARMY CORPS OF ENGINEERS (COE), OR ITS DELEGATED AGENCY, FOR THE APPROPRIATE WETLAND AND WATERBODY CROSSING PERMITS. 2. PROVIDE WRITTEN NOTIFICATION TO AUTHORITIES RESPONSIBLE FOR POTABLE SURFACE WATER SUPPLY INTAKES LOCATED WITHIN 3 MILES DOWNSTREAM OF THE CROSSING AT LEAST 1 WEEK BEFORE BEGINNING WORK IN THE WATERBODY, OR AS OTHERWISE SPECIFIED BY THAT

AUTHORITY. 3. APPLY FOR STATE-ISSUED WATERBODY CROSSING PERMITS AND OBTAIN INDIVIDUAL OR GENERIC SECTION 401 WATER QUALITY CERTIFICATION OR WAIVER. 4. NOTIFY APPROPRIATE FEDERAL AND STATE AUTHORITIES AT LEAST 48 HOURS BEFORE

BEGINNING TRENCHING OR BLASTING WITHIN THE WATERBODY, OR AS SPECIFIED IN APPLICABLE PERMITS. **B. INSTALLATION** 

1. TIME WINDOW FOR CONSTRUCTION

UNLESS EXPRESSLY PERMITTED OR FURTHER RESTRICTED BY THE APPROPRIATE FEDERAL OR STATE AGENCY IN WRITING ON A SITE-SPECIFIC BASIS, INSTREAM WORK, EXCEPT THAT REQUIRED TO INSTALL OR REMOVE EQUIPMENT BRIDGES, MUST OCCUR DURING THE FOLLOWING TIME WINDOWS:

A. COLDWATER FISHERIES - JUNE 1 THROUGH SEPTEMBER 30; AND B. COOLWATER AND WARMWATER FISHERIES - JUNE 1 THROUGH NOVEMBER 30. 2. EXTRA WORK AREAS

A. LOCATE ALL EXTRA WORK AREAS (SUCH AS STAGING AREAS AND ADDITIONAL SPOIL STORAGE AREAS) AT LEAST 50 FEET AWAY FROM WATER'S EDGE. EXCEPT WHERE THE ADJACENT UPLAND CONSISTS OF CULTIVATED OR ROTATED CROPLAND OR OTHER DISTURBED LAND.

B. THE PROJECT SPONSOR SHALL FILE WITH THE SECRETARY FOR REVIEW AND WRITTEN APPROVAL BY THE DIRECTOR, SITE-SPECIFIC JUSTIFICATION FOR EACH EXTRA WORK AREA WITH A LESS THAN 50-FOOT SETBACK FROM THE WATER'S EDGE, EXCEPT WHERE THE ADJACENT UPLAND CONSISTS OF CULTIVATED OR ROTATED CROPLAND OR OTHER DISTURBED LAND. THE JUSTIFICATION MUST SPECIFY THE CONDITIONS THAT WILL NOT PERMIT A 50-FOOT SETBACK AND MEASURES TO ENSURE THE WATERBODY IS ADEQUATELY PROTECTED. C. LIMIT THE SIZE OF EXTRA WORK AREAS TO THE MINIMUM NEEDED TO CONSTRUCT

THE WATERBODY CROSSING.

3. GENERAL CROSSING PROCEDURES

A. COMPLY WITH THE COE, OR ITS DELEGATED AGENCY, PERMIT TERMS AND CONDITIONS.

B. CONSTRUCT CROSSINGS AS CLOSE TO PERPENDICULAR TO THE AXIS OF THE WATERBODY CHANNEL AS ENGINEERING AND ROUTING CONDITIONS PERMIT. C. WHERE PIPELINES PARALLEL A WATERBODY, MAINTAIN AT LEAST 15 FEET OF UNDISTURBED VEGETATION BETWEEN THE WATERBODY (AND ANY ADJACENT WETLAND) AND THE CONSTRUCTION RIGHT-OF-WAY, EXCEPT WHERE MAINTAINING THIS OFFSET WILL RESULT IN GREATER ENVIRONMENTAL IMPACT. D. WHERE WATERBODIES MEANDER OR HAVE MULTIPLE CHANNELS, ROUTE THE PIPELINE TO MINIMIZE THE NUMBER OF WATERBODY CROSSINGS. E. MAINTAIN ADEQUATE WATERBODY FLOW RATES TO PROTECT AQUATIC LIFE, AND PREVENT THE INTERRUPTION OF EXISTING DOWNSTREAM USES. F. WATERBODY BUFFERS (E.G., EXTRA WORK AREA SETBACKS, REFUELING RESTRICTIONS) MUST BE CLEARLY MARKED IN THE FIELD WITH SIGNS AND/OR HIGHLY VISIBLE FLAGGING UNTIL CONSTRUCTION-RELATED GROUND DISTURBING ACTIVITIES ARE COMPLETE.

G. CROSSING OF WATERBODIES WHEN THEY ARE DRY OR FROZEN AND NOT FLOWING MAY PROCEED USING STANDARD UPLAND CONSTRUCTION TECHNIQUES IN ACCORDANCE WITH THE PLAN, PROVIDED THAT THE ENVIRONMENTAL INSPECTOR VERIFIES THAT WATER IS UNLIKELY TO FLOW BETWEEN INITIAL DISTURBANCE AND FINAL STABILIZATION OF THE FEATURE. IN THE EVENT OF PERCEPTIBLE FLOW, THE PROJECT SPONSOR MUST COMPLY WITH ALL APPLICABLE PROCEDURE REQUIREMENTS FOR "WATERBODIES" AS DEFINED IN SECTION I.B.1.

4. SPOIL PILE PLACEMENT AND CONTROL

A. ALL SPOIL FROM MINOR AND INTERMEDIATE WATERBODY CROSSINGS, AND UPLAND SPOIL FROM MAJOR WATERBODY CROSSINGS, MUST BE PLACED IN THE CONSTRUCTION RIGHT-OF-WAY AT LEAST 10 FEET FROM THE WATER'S EDGE OR IN ADDITIONAL EXTRA WORK AREAS AS DESCRIBED IN SECTION V.B.2.

B. USE SEDIMENT BARRIERS TO PREVENT THE FLOW OF SPOIL OR SILT-LADEN WATER INTO ANY WATERBODY.

5. EQUIPMENT BRIDGES

A. ONLY CLEARING EQUIPMENT AND EQUIPMENT NECESSARY FOR INSTALLATION OF EQUIPMENT BRIDGES MAY CROSS WATERBODIES PRIOR TO BRIDGE INSTALLATION. LIMIT THE NUMBER OF SUCH CROSSINGS OF EACH WATERBODY TO ONE PER PIECE OF CLEARING EQUIPMENT.

B. CONSTRUCT AND MAINTAIN EQUIPMENT BRIDGES TO ALLOW UNRESTRICTED FLOW AND TO PREVENT SOIL FROM ENTERING THE WATERBODY. EXAMPLES OF SUCH BRIDGES INCLUDE:

- (1) EQUIPMENT PADS AND CULVERT(S);
- (2) EQUIPMENT PADS OR RAILROAD CAR BRIDGES WITHOUT CULVERTS; (3) CLEAN ROCK FILL AND CULVERT(S); AND
- (4) FLEXI-FLOAT OR PORTABLE BRIDGES.

ADDITIONAL OPTIONS FOR EQUIPMENT BRIDGES MAY BE UTILIZED THAT ACHIEVE THE PERFORMANCE OBJECTIVES NOTED ABOVE. DO NOT USE SOIL TO CONSTRUCT OR STABILIZE EQUIPMENT BRIDGES.

C. DESIGN AND MAINTAIN EACH EQUIPMENT BRIDGE TO WITHSTAND AND PASS THE HIGHEST FLOW EXPECTED TO OCCUR WHILE THE BRIDGE IS IN PLACE. ALIGN CULVERTS TO PREVENT BANK EROSION OR STREAMBED SCOUR. IF NECESSARY, INSTALL ENERGY DISSIPATING DEVICES DOWNSTREAM OF THE CULVERTS. D. DESIGN AND MAINTAIN EQUIPMENT BRIDGES TO PREVENT SOIL FROM ENTERING

THE WATERBODY E. REMOVE TEMPORARY EQUIPMENT BRIDGES AS SOON AS PRACTICABLE AFTER PERMANENT SEEDING.

F. IF THERE WILL BE MORE THAN 1 MONTH BETWEEN FINAL CLEANUP AND THE BEGINNING OF PERMANENT SEEDING AND REASONABLE ALTERNATIVE ACCESS TO THE RIGHT-OF-WAY IS AVAILABLE. REMOVE TEMPORARY EQUIPMENT BRIDGES AS SOON AS PRACTICABLE AFTER FINAL CLEANUP.

G. OBTAIN ANY NECESSARY APPROVAL FROM THE CODE, OR THE APPROPRIATE STATE AGENCY FOR PERMANENT BRIDGES.

6. DRY-DITCH CROSSING METHODS A. UNLESS APPROVED OTHERWISE BY THE APPROPRIATE FEDERAL OR STATE AGENCY, INSTALL THE PIPELINE USING ONE OF THE DRY-DITCH METHODS OUTLINED BELOW FOR CROSSINGS OF WATERBODIES UP TO 30 FEET WIDE (AT THE WATER'S EDGE AT THE TIME OF CONSTRUCTION) THAT ARE STATE-DESIGNATED AS EITHER COLDWATER OR SIGNIFICANT COOLWATER OR WARMWATER FISHERIES, OR FEDERALLY-DESIGNATED AS CRITICAL HABITAT.

B. DAM AND PUMP

(1) THE DAM-AND-PUMP METHOD MAY BE USED WITHOUT PRIOR APPROVAL FOR CROSSINGS OF WATERBODIES WHERE PUMPS CAN ADEQUATELY TRANSFER STREAMFLOW VOLUMES AROUND THE WORK AREA, AND THERE ARE NO CONCERNS ABOUT SENSITIVE SPECIES PASSAGE.

(2) IMPLEMENTATION OF THE DAM-AND-PUMP CROSSING METHOD MUST MEET THE FOLLOWING PERFORMANCE CRITERIA:

(I) USE SUFFICIENT PUMPS, INCLUDING ON-SITE BACKUP PUMPS, TO MAINTAIN DOWNSTREAM FLOWS:

(II) CONSTRUCT DAMS WITH MATERIALS THAT PREVENT SEDIMENT AND OTHER POLLUTANTS FROM ENTERING THE WATERBODY (E.G. SANDBAGS OR CLEAN GRAVEL WITH PLASTIC LINER);

(III) SCREEN PUMP INTAKES TO MINIMIZE ENTRAINMENT OF FISH (IV) PREVENT STREAMBED SCOUR AT PUMP DISCHARGE; AND (V) CONTINUOUSLY MONITOR THE DAM AND PUMPS TO ENSURE PROPER OPERATION THROUGHOUT THE WATERBODY CROSSING.

C. FLUME CROSSING THE FLUME CROSSING METHOD REQUIRES IMPLEMENTATION OF THE FOLLOWING

> (1) INSTALL FLUME PIPE AFTER BLASTING (IF NECESSARY), BUT BEFORE ANY TRENCHING:

> (2) USE SAND BAG OR SAND BAG AND PLASTIC SHEETING DIVERSION STRUCTURE OR EQUIVALENT TO DEVELOP AN EFFECTIVE SEAL AND TO DIVERT STREAM FLOW THROUGH THE FLUME PIPE (SOME MODIFICATIONS TO THE STREAM BOTTOM MAY BE REQUIRED TO ACHIEVE AN EFFECTIVE SEAL); (3) PROPERLY ALIGN FLUME PIPE(S) TO PREVENT BANK EROSION AND STREAMBED SCOUR;

(4) DO NOT REMOVE FLUME PIPE DURING TRENCHING, PIPELAYING, OR BACKFILLING ACTIVITIES. OR INITIAL STREAMBED RESTORATION EFFORTS: AND

(5) REMOVE ALL FLUME PIPES AND DAMS THAT ARE NOT ALSO PART OF THE EQUIPMENT BRIDGE AS SOON AS FINAL CLEANUP OF THE STREAM BED AND BANK IS COMPLETE.

D. HORIZONTAL DIRECTIONAL DRILL

FOR EACH WATERBODY OR WETLAND THAT WOULD BE CROSSED USING THE HDD METHOD, FILE WITH THE SECRETARY FOR THE REVIEW AND WRITTEN APPROVAL BY THE DIRECTOR, A PLAN THAT INCLUDES:

(1) SITE-SPECIFIC CONSTRUCTION DIAGRAMS THAT SHOW THE LOCATION OF MUD PITS, PIPE ASSEMBLY AREAS, AND ALL AREAS TO BE DISTURBED OR CLEARED FOR CONSTRUCTION;

(2) JUSTIFICATION THAT DISTURBED AREAS ARE LIMITED TO THE MINIMUM NEEDED TO CONSTRUCT THE CROSSING;

(3) IDENTIFICATION OF ANY ABOVEGROUND DISTURBANCE OR CLEARING BETWEEN THE HDD ENTRY AND EXIT WORKSPACES DURING CONSTRUCTION; (4) A DESCRIPTION OF HOW AN INADVERTENT RELEASE OF DRILLING MUD WOULD BE CONTAINED AND CLEANED UP; AND

(5) A CONTINGENCY PLAN FOR CROSSING THE WATERBODY OR WETLAND IN THE EVENT THE HDD IS UNSUCCESSFUL AND HOW THE ABANDONED DRILL HOLE WOULD BE SEALED, IF NECESSARY. THE REQUIREMENT TO FILE HDD PLANS DOES NOT APPLY TO PROJECTS CONSTRUCTED UNDER THE AUTOMATIC AUTHORIZATION PROVISIONS IN THE

FERC'S REGULATIONS.

7. CROSSINGS OF MINOR WATERBODIES

WHERE A DRY-DITCH CROSSING IS NOT REQUIRED, MINOR WATERBODIES MAY BE CROSSED USING THE OPEN-CUT CROSSING METHOD, WITH THE FOLLOWING RESTRICTIONS: A. EXCEPT FOR BLASTING AND OTHER ROCK BREAKING MEASURES, COMPLETE INSTREAM CONSTRUCTION ACTIVITIES (INCLUDING TRENCHING, PIPE INSTALLATION. BACKFILL, AND RESTORATION OF THE STREAMBED CONTOURS) WITHIN 24 HOURS. STREAMBANKS AND UNCONSOLIDATED STREAMBEDS MAY REQUIRE ADDITIONAL

RESTORATION AFTER THIS PERIOD; B. LIMIT USE OF EQUIPMENT OPERATING IN THE WATERBODY TO THAT NEEDED TO CONSTRUCT THE CROSSING; AND

C. EQUIPMENT BRIDGES ARE NOT REQUIRED AT MINOR WATERBODIES THAT DO NOT HAVE A STATE-DESIGNATED FISHERY CLASSIFICATION OR PROTECTED STATUS (E.G., AGRICULTURAL OR INTERMITTENT DRAINAGE DITCHES). HOWEVER, IF AN EQUIPMENT BRIDGE IS USED IT MUST BE CONSTRUCTED AS DESCRIBED IN SECTION V.B.5.

8. CROSSINGS OF INTERMEDIATE WATERBODIES WHERE A DRY-DITCH CROSSING IS NOT REQUIRED, INTERMEDIATE WATERBODIES MAY BE

CROSSED USING THE OPEN-CUT CROSSING METHOD, WITH THE FOLLOWING RESTRICTIONS: A. COMPLETE INSTREAM CONSTRUCTION ACTIVITIES (NOT INCLUDING BLASTING AND OTHER ROCK BREAKING MEASURES) WITHIN 48 HOURS, UNLESS SITE-SPECIFIC CONDITIONS MAKE COMPLETION WITHIN 48 HOURS INFEASIBLE: B. LIMIT USE OF EQUIPMENT OPERATING IN THE WATERBODY TO THAT NEEDED TO CONSTRUCT THE CROSSING; AND

C. ALL OTHER CONSTRUCTION EQUIPMENT MUST CROSS ON AN EQUIPMENT BRIDGE AS SPECIFIED IN SECTION V.B.5.

9. CROSSINGS OF MAJOR WATERBODIES BEFORE CONSTRUCTION, THE PROJECT SPONSOR SHALL FILE WITH THE SECRETARY FOR THE REVIEW AND WRITTEN APPROVAL BY THE DIRECTOR A DETAILED. SITE-SPECIFIC CONSTRUCTION PLAN AND SCALED DRAWINGS IDENTIFYING ALL AREAS TO BE DISTURBED BY CONSTRUCTION FOR EACH MAJOR WATERBODY CROSSING (THE SCALED DRAWINGS ARE NOT REQUIRED FOR ANY OFFSHORE PORTIONS OF PIPELINE PROJECTS). THIS PLAN MUST BE DEVELOPED IN CONSULTATION WITH THE APPROPRIATE STATE AND FEDERAL AGENCIES AND SHALL INCLUDE EXTRA WORK AREAS, SPOIL STORAGE AREAS, SEDIMENT CONTROL STRUCTURES, ETC., AS WELL AS MITIGATION FOR NAVIGATIONAL ISSUES. THE REQUIREMENT TO FILE MAJOR WATERBODY CROSSING PLANS DOES NOT APPLY TO PROJECTS CONSTRUCTED UNDER THE AUTOMATIC AUTHORIZATION PROVISIONS OF THE FERC'S REGULATIONS. THE ENVIRONMENTAL INSPECTOR MAY ADJUST THE FINAL PLACEMENT OF THE EROSION AND SEDIMENT CONTROL STRUCTURES IN THE FIELD TO MAXIMIZE EFFECTIVENESS. 10. TEMPORARY EROSION AND SEDIMENT CONTROL

INSTALL SEDIMENT BARRIERS (AS DEFINED IN SECTION IV.F.3.A OF THE PLAN) IMMEDIATELY AFTER INITIAL DISTURBANCE OF THE WATERBODY OR ADJACENT UPLAND. SEDIMENT BARRIERS MUST BE PROPERLY MAINTAINED THROUGHOUT CONSTRUCTION AND REINSTALLED AS NECESSARY (SUCH AS AFTER BACKFILLING OF THE TRENCH) UNTIL REPLACED BY PERMANENT EROSION CONTROLS OR RESTORATION OF ADJACENT UPLAND AREAS IS COMPLETE. TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES ARE ADDRESSED IN MORE DETAIL IN THE PLAN: HOWEVER, THE FOLLOWING SPECIFIC MEASURES MUST BE IMPLEMENTED AT STREAM CROSSINGS:

A. INSTALL SEDIMENT BARRIERS ACROSS THE ENTIRE CONSTRUCTION RIGHT-OF-WAY AT ALL WATERBODY CROSSINGS. WHERE NECESSARY TO PREVENT THE FLOW OF SEDIMENTS INTO THE WATERBODY. REMOVABLE SEDIMENT BARRIERS (OR DRIVEABLE BERMS) MUST BE INSTALLED ACROSS THE TRAVEL LANE. THESE REMOVABLE SEDIMENT BARRIERS CAN BE REMOVED DURING THE CONSTRUCTION DAY, BUT MUST BE RE-INSTALLED AFTER CONSTRUCTION HAS STOPPED FOR THE DAY AND/OR WHEN HEAVY PRECIPITATION IS IMMINENT:

B. WHERE WATERBODIES ARE ADJACENT TO THE CONSTRUCTION RIGHT-OF-WAY AND THE RIGHT-OF-WAY SLOPES TOWARD THE WATERBODY, INSTALL SEDIMENT BARRIERS ALONG THE EDGE OF THE CONSTRUCTION RIGHT-OF-WAY AS NECESSARY TO CONTAIN SPOIL WITHIN THE CONSTRUCTION RIGHT-OF-WAY AND PREVENT SEDIMENT FLOW INTO THE WATERBODY; AND

C. USE TEMPORARY TRENCH PLUGS AT ALL WATERBODY CROSSINGS, AS NECESSARY, TO PREVENT DIVERSION OF WATER INTO UPLAND PORTIONS OF THE PIPELINE TRENCH AND TO KEEP ANY ACCUMULATED TRENCH WATER OUT OF THE WATERBODY.

**11. TRENCH DEWATERING** DEWATER THE TRENCH (EITHER ON OR OFF THE CONSTRUCTION RIGHT-OF-WAY) IN A MANNER THAT DOES NOT CAUSE EROSION AND DOES NOT RESULT IN SILT-LADEN WATER FLOWING INTO ANY WATERBODY. REMOVE THE DEWATERING STRUCTURES AS SOON AS PRACTICABLE AFTER THE COMPLETION OF DEWATERING ACTIVITIES.

C. RESTORATION

1. USE CLEAN GRAVEL OR NATIVE COBBLES FOR THE UPPER 1 FOOT OF TRENCH BACKFILL IN ALL WATERBODIES THAT CONTAIN COLDWATER FISHERIES. 2. FOR OPEN-CUT CROSSINGS, STABILIZE WATERBODY BANKS AND INSTALL TEMPORARY SEDIMENT BARRIERS WITHIN 24 HOURS OF COMPLETING INSTREAM CONSTRUCTION ACTIVITIES. FOR DRY-DITCH CROSSINGS. COMPLETE STREAMBED AND BANK STABILIZATION BEFORE RETURNING FLOW TO THE WATERBODY CHANNEL. 3. RETURN ALL WATERBODY BANKS TO PRECONSTRUCTION CONTOURS OR TO A STABLE ANGLE OF REPOSE AS APPROVED BY THE ENVIRONMENTAL INSPECTOR. 4. INSTALL EROSION CONTROL FABRIC OR A FUNCTIONAL EQUIVALENT ON WATERBODY BANKS AT THE TIME OF FINAL BANK RECONTOURING. DO NOT USE SYNTHETIC MONOFILAMENT MESH/NETTED EROSION CONTROL MATERIALS IN AREAS DESIGNATED AS SENSITIVE WILDLIFE

HABITAT UNLESS THE PRODUCT IS SPECIFICALLY DESIGNED TO MINIMIZE HARM TO WILDLIFE. ANCHOR EROSION CONTROL FABRIC WITH STAPLES OR OTHER APPROPRIATE DEVICES. 5. APPLICATION OF RIPRAP FOR BANK STABILIZATION MUST COMPLY WITH COE. OR ITS DELEGATED AGENCY, PERMIT TERMS AND CONDITIONS.

	KEVIN McKEON, P.E.				REVISIONS
		NO.	DATE	BY	DESCRIPTION
		0	06/15/17	ERL	SUBMITTED TO FREEHOLD SOIL CONSI
		1	05/07/18	SMR	ISSUED FOR CLIENT REVIEW
		2	06/05/18	PPH	SUBMITTED TO NJDEP
1					
TE E-100 19428	NEW JERSEY PROFESSIONAL ENGINEER NO GE32586				

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(610) 832-3500

STEPS:

6. UNLESS OTHERWISE SPECIFIED BY STATE PERMIT, LIMIT THE USE OF RIPRAP TO AREAS WHERE FLOW CONDITIONS PRECLUDE EFFECTIVE VEGETATIVE STABILIZATION TECHNIQUES SUCH AS SEEDING AND EROSION CONTROL FABRIC.

7. REVEGETATE DISTURBED RIPARIAN AREAS WITH NATIVE SPECIES OF CONSERVATION GRASSES, LEGUMES, AND WOODY SPECIES, SIMILAR IN DENSITY TO ADJACENT UNDISTURBED LANDS.

8. INSTALL A PERMANENT SLOPE BREAKER ACROSS THE CONSTRUCTION RIGHT-OF-WAY AT THE BASE OF SLOPES GREATER THAN 5 PERCENT THAT ARE LESS THAN 50 FEET FROM THE WATERBODY, OR AS NEEDED TO PREVENT SEDIMENT TRANSPORT INTO THE WATERBODY. IN ADDITION, INSTALL SEDIMENT BARRIERS AS OUTLINED IN THE PLAN. IN SOME AREAS, WITH THE APPROVAL OF THE ENVIRONMENTAL INSPECTOR, AN EARTHEN

BERM MAY BE SUITABLE AS A SEDIMENT BARRIER ADJACENT TO THE WATERBODY. 9. SECTIONS V.C.3 THROUGH V.C.7 ABOVE ALSO APPLY TO THOSE PERENNIAL OR INTERMITTENT STREAMS NOT FLOWING AT THE TIME OF CONSTRUCTION. D. POST-CONSTRUCTION MAINTENANCE

1. LIMIT ROUTINE VEGETATION MOWING OR CLEARING ADJACENT TO WATERBODIES TO ALLOW A RIPARIAN STRIP AT LEAST 25 FEET WIDE, AS MEASURED FROM THE WATERBODY'S MEAN HIGH WATER MARK, TO PERMANENTLY REVEGETATE WITH NATIVE PLANT SPECIES ACROSS THE ENTIRE CONSTRUCTION RIGHT-OF-WAY. HOWEVER, TO FACILITATE PERIODIC CORROSION/LEAK SURVEYS, A CORRIDOR CENTERED ON THE PIPELINE AND UP TO 10 FEET WIDE MAY BE CLEARED AT A FREQUENCY NECESSARY TO MAINTAIN THE 10-FOOT CORRIDOR IN AN HERBACEOUS STATE. IN ADDITION, TREES THAT ARE LOCATED WITHIN 15 FEET OF THE PIPELINE THAT HAVE ROOTS THAT COULD COMPROMISE THE INTEGRITY OF THE PIPELINE COATING MAY BE CUT AND REMOVED FROM THE PERMANENT RIGHT-OF-WAY. DO NOT CONDUCT ANY ROUTINE VEGETATION MOWING OR CLEARING IN RIPARIAN AREAS THAT ARE BETWEEN HDD ENTRY AND EXIT POINTS.

2. DO NOT USE HERBICIDES OR PESTICIDES IN OR WITHIN 100 FEET OF A WATERBODY EXCEPT AS ALLOWED BY THE APPROPRIATE LAND MANAGEMENT OR STATE AGENCY. 3. TIME OF YEAR RESTRICTIONS SPECIFIED IN SECTION VII.A.5 OF THE PLAN (APRIL 15 - AUGUST 1 OF ANY YEAR) APPLY TO ROUTINE MOWING AND CLEARING OF RIPARIAN AREAS.

THIS EXPANSION PROJECT IS REGULATED BY THE U.S. DEPARTMENT OF ENERGY, FEDERAL ENERGY REGULATORY COMMISSION (FERC). IN ADDITION TO STATE AND LOCAL REQUIREMENTS. THIS EROSION AND SEDIMENT CONTROL PLAN INCLUDES THESE MITIGATION MEASURES FOR PIPELINE CONSTRUCTION SPECIFIED BY THE FERC IN ITS PLAN AND PROCEDURES DOCUMENTS, UPLAND EROSION CONTROL, REVEGETATION, AND MAINTENANCE PLAN MAY 2013 AND WETLAND AND WATERBODY CONSTRUCTION AND MITIGATION PROCEDURES, MAY 2013.

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	60515775	JAC	PPH					
	60515775	JAC	PPH			PROPOSED 2	6" MADISON LOOP	GAS PIPELINE
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# WETLAND AND WATERBODY CONSTRUCTION AND MITIGATION PROCEDURES (CONT'D)

### VI. WETLAND CROSSINGS A. GENERAL

1. THE PROJECT SPONSOR SHALL CONDUCT A WETLAND DELINEATION USING THE CURRENT FEDERAL METHODOLOGY AND FILE A WETLAND DELINEATION REPORT WITH THE SECRETARY BEFORE CONSTRUCTION. THE REQUIREMENT TO FILE A WETLAND DELINEATION REPORT DOES NOT APPLY TO PROJECTS CONSTRUCTED UNDER THE AUTOMATIC AUTHORIZATION PROVISIONS IN THE FERC'S REGULATIONS.

THIS REPORT SHALL IDENTIFY:

A. BY MILEPOST ALL WETLANDS THAT WOULD BE AFFECTED;

B. THE NATIONAL WETLANDS INVENTORY (NWI) CLASSIFICATION FOR EACH WETLAND:

C. THE CROSSING LENGTH OF EACH WETLAND IN FEET: AND

D. THE AREA OF PERMANENT AND TEMPORARY DISTURBANCE THAT WOULD OCCUR IN EACH WETLAND BY NWI CLASSIFICATION TYPE.

THE REQUIREMENTS OUTLINED IN THIS SECTION DO NOT APPLY TO WETLANDS IN ACTIVELY CULTIVATED OR ROTATED CROPLAND, STANDARD UPLAND PROTECTIVE MEASURES, INCLUDING WORKSPACE AND TOPSOILING REQUIREMENTS, APPLY TO THESE AGRICULTURAL WETLANDS.

2. ROUTE THE PIPELINE TO AVOID WETLAND AREAS TO THE MAXIMUM EXTENT POSSIBLE. IF A WETLAND CANNOT BE AVOIDED OR CROSSED BY FOLLOWING AN EXISTING RIGHT-OF-WAY, ROUTE THE NEW PIPELINE IN A MANNER THAT MINIMIZES DISTURBANCE TO WETLANDS. WHERE LOOPING AN EXISTING PIPELINE, OVERLAP THE EXISTING PIPELINE RIGHT-OF-WAY WITH THE NEW CONSTRUCTION RIGHT-OF-WAY, IN ADDITION, LOCATE THE LOOP LINE NO MORE THAN 25 FEET AWAY FROM THE EXISTING PIPELINE UNLESS SITE-SPECIFIC CONSTRAINTS WOULD ADVERSELY AFFECT THE STABILITY OF THE EXISTING PIPELINE.

3. LIMIT THE WIDTH OF THE CONSTRUCTION RIGHT-OF-WAY TO 75 FEET OR LESS. PRIOR WRITTEN APPROVAL OF THE DIRECTOR IS REQUIRED WHERE TOPOGRAPHIC CONDITIONS OR SOIL LIMITATIONS REQUIRE THAT THE CONSTRUCTION RIGHT-OF-WAY WIDTH WITHIN THE BOUNDARIES OF A FEDERALLY DELINEATED WETLAND BE EXPANDED BEYOND 75 FEET. EARLY IN THE PLANNING PROCESS THE PROJECT SPONSOR IS ENCOURAGED TO IDENTIFY SITE-SPECIFIC AREAS WHERE EXCESSIVELY WIDE TRENCHES COULD OCCUR AND/OR WHERE SPOIL PILES COULD BE DIFFICULT TO MAINTAIN BECAUSE EXISTING SOILS LACK ADEQUATE UNCONFINED COMPRESSIVE STRENGTH.

4. WETLAND BOUNDARIES AND BUFFERS MUST BE CLEARLY MARKED IN THE FIELD WITH SIGNS AND/OR HIGHLY VISIBLE FLAGGING UNTIL CONSTRUCTION-RELATED GROUND DISTURBING ACTIVITIES ARE COMPLETE.

5. IMPLEMENT THE MEASURES OF SECTIONS V AND VI IN THE EVENT A WATERBODY CROSSING IS LOCATED WITHIN OR ADJACENT TO A WETLAND CROSSING. IF ALL MEASURES OF SECTIONS V AND VI CANNOT BE MET, THE PROJECT SPONSOR MUST FILE WITH THE SECRETARY A SITE-SPECIFIC CROSSING PLAN FOR REVIEW AND WRITTEN APPROVAL BY THE DIRECTOR BEFORE CONSTRUCTION. THIS CROSSING PLAN SHALL ADDRESS AT A MINIMUM:

A. SPOIL CONTROL;

B. EQUIPMENT BRIDGES;

C. RESTORATION OF WATERBODY BANKS AND WETLAND HYDROLOGY;

D. TIMING OF THE WATERBODY CROSSING:

E. METHOD OF CROSSING: AND

F. SIZE AND LOCATION OF ALL EXTRA WORK AREAS.

6. DO NOT LOCATE ABOVEGROUND FACILITIES IN ANY WETLAND, EXCEPT WHERE THE LOCATION OF SUCH FACILITIES OUTSIDE OF WETLANDS WOULD PROHIBIT COMPLIANCE WITH U.S. DEPARTMENT OF TRANSPORTATION REGULATIONS.

## **B. INSTALLATION**

1. EXTRA WORK AREAS AND ACCESS ROADS

A. LOCATE ALL EXTRA WORK AREAS (SUCH AS STAGING AREAS AND ADDITIONAL SPOIL STORAGE AREAS) AT LEAST 50 FEET AWAY FROM WETLAND BOUNDARIES. EXCEPT WHERE THE ADJACENT UPLAND CONSISTS OF CULTIVATED OR ROTATED CROPLAND OR OTHER DISTURBED LAND.

B. THE PROJECT SPONSOR SHALL FILE WITH THE SECRETARY FOR REVIEW AND WRITTEN APPROVAL BY THE DIRECTOR. SITE-SPECIFIC JUSTIFICATION FOR EACH EXTRA WORK AREA WITH A LESS THAN 50-FOOT SETBACK FROM WETLAND BOUNDARIES, EXCEPT WHERE ADJACENT UPLAND CONSISTS OF CULTIVATED OR ROTATED CROPLAND OR OTHER DISTURBED LAND. THE JUSTIFICATION MUST SPECIFY THE SITE-SPECIFIC CONDITIONS THAT WILL NOT PERMIT A 50-FOOT SETBACK AND MEASURES TO ENSURE THE WETLAND IS ADEQUATELY PROTECTED. C. THE CONSTRUCTION RIGHT-OF-WAY MAY BE USED FOR ACCESS WHEN THE WETLAND SOIL IS FIRM ENOUGH TO AVOID RUTTING OR THE CONSTRUCTION RIGHT-OF-WAY HAS BEEN APPROPRIATELY STABILIZED TO AVOID RUTTING (E.G., WITH TIMBER RIPRAP, PREFABRICATED EQUIPMENT MATS, OR TERRA MATS). IN WETLANDS THAT CANNOT BE APPROPRIATELY STABILIZED, ALL CONSTRUCTION EQUIPMENT OTHER THAN THAT NEEDED TO INSTALL THE WETLAND CROSSING SHALL

USE ACCESS ROADS LOCATED IN UPLAND AREAS. WHERE ACCESS ROADS IN UPLAND AREAS DO NOT PROVIDE REASONABLE ACCESS. LIMIT ALL OTHER CONSTRUCTION EQUIPMENT TO ONE PASS THROUGH THE WETLAND USING THE CONSTRUCTION RIGHT-OF-WAY

D. THE ONLY ACCESS ROADS, OTHER THAN THE CONSTRUCTION RIGHT-OF-WAY, THAT CAN BE USED IN WETLANDS ARE THOSE EXISTING ROADS THAT CAN BE USED WITH NO MODIFICATIONS OR IMPROVEMENTS, OTHER THAN ROUTINE REPAIR, AND NO IMPACT ON THE WETLAND.

2. CROSSING PROCEDURES

A. COMPLY WITH COE, OR ITS DELEGATED AGENCY, PERMIT TERMS AND CONDITIONS.

B. ASSEMBLE THE PIPELINE IN AN UPLAND AREA UNLESS THE WETLAND IS DRY ENOUGH TO ADEQUATELY SUPPORT SKIDS AND PIPE.

C. USE "PUSH-PULL" OR "FLOAT" TECHNIQUES TO PLACE THE PIPE IN THE TRENCH WHERE WATER AND OTHER SITE CONDITIONS ALLOW.

D. MINIMIZE THE LENGTH OF TIME THAT TOPSOIL IS SEGREGATED AND THE TRENCH IS OPEN. DO NOT TRENCH THE WETLAND UNTIL THE PIPELINE IS ASSEMBLED AND READY FOR LOWERING IN.

E. LIMIT CONSTRUCTION EQUIPMENT OPERATING IN WETLAND AREAS TO THAT NEEDED TO CLEAR THE CONSTRUCTION RIGHT-OF-WAY, DIG THE TRENCH, FABRICATE AND INSTALL THE PIPELINE, BACKFILL THE TRENCH, AND RESTORE THE CONSTRUCTION RIGHT-OF-WAY.

F. CUT VEGETATION JUST ABOVE GROUND LEVEL, LEAVING EXISTING ROOT SYSTEMS IN PLACE, AND REMOVE IT FROM THE WETLAND FOR DISPOSAL THE PROJECT SPONSOR CAN BURN WOODY DEBRIS IN WETLANDS, IF APPROVED BY THE COE AND IN ACCORDANCE WITH STATE AND LOCAL REGULATIONS, ENSURING THAT ALL REMAINING WOODY DEBRIS IS REMOVED FOR DISPOSAL. G. LIMIT PULLING OF TREE STUMPS AND GRADING ACTIVITIES TO DIRECTLY OVER THE TRENCHLINE. DO NOT GRADE OR REMOVE STUMPS OR ROOT SYSTEMS FROM THE REST OF THE CONSTRUCTION RIGHT-OF-WAY IN WETLANDS UNLESS THE CHIEF INSPECTOR AND ENVIRONMENTAL INSPECTOR DETERMINE THAT SAFETY-RELATED CONSTRUCTION CONSTRAINTS REQUIRE GRADING OR THE REMOVAL OF TREE STUMPS FROM UNDER THE WORKING SIDE OF THE CONSTRUCTION RIGHT-OF-WAY.

H. SEGREGATE THE TOP 1 FOOT OF TOPSOIL FROM THE AREA DISTURBED BY TRENCHING, EXCEPT IN AREAS WHERE STANDING WATER IS PRESENT OR SOILS ARF

SATURATED, IMMEDIATELY AFTER BACKFILLING IS COMPLETE, RESTORE THE SEGREGATED TOPSOIL TO ITS ORIGINAL LOCATION. I. DO NOT USE ROCK, SOIL IMPORTED FROM OUTSIDE THE WETLAND, TREE

STUMPS, OR BRUSH RIPRAP TO SUPPORT EQUIPMENT ON THE CONSTRUCTION RIGHT OF WAY.

J. IF STANDING WATER OR SATURATED SOILS ARE PRESENT, OR IF CONSTRUCTION EQUIPMENT CAUSES RUTS OR MIXING OF THE TOPSOIL AND SUBSOIL IN WETLANDS, USE LOW-GROUND-WEIGHT CONSTRUCTION EQUIPMENT, OR OPERATE NORMAL EQUIPMENT ON TIMBER RIPRAP. PREFABRICATED EQUIPMENT MATS. OR TERRA MATS.

K. REMOVE ALL PROJECT-RELATED MATERIAL USED TO SUPPORT EQUIPMENT ON THE CONSTRUCTION RIGHT-OF-WAY UPON COMPLETION OF CONSTRUCTION. 3. TEMPORARY SEDIMENT CONTROL

INSTALL SEDIMENT BARRIERS (AS DEFINED IN SECTION IV.F.3.A OF THE PLAN) IMMEDIATELY AFTER INITIAL DISTURBANCE OF THE WETLAND OR ADJACENT UPLAND. SEDIMENT BARRIERS MUST BE PROPERLY MAINTAINED THROUGHOUT CONSTRUCTION AND REINSTALLED AS NECESSARY (SUCH AS AFTER BACKFILLING OF THE TRENCH), EXCEPT AS NOTED BELOW IN SECTION VI.B.3.C. MAINTAIN SEDIMENT BARRIERS UNTIL REPLACED BY PERMANENT EROSION CONTROLS OR RESTORATION OF ADJACENT UPLAND AREAS IS COMPLETE. TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES ARE ADDRESSED IN MORE DETAIL IN THE PLAN.

A. INSTALL SEDIMENT BARRIERS ACROSS THE ENTIRE CONSTRUCTION RIGHT-OF-WAY IMMEDIATELY UPSLOPE OF THE WETLAND BOUNDARY AT ALL WETLAND CROSSINGS WHERE NECESSARY TO PREVENT SEDIMENT FLOW INTO THE WETLAND.

B. WHERE WETLANDS ARE ADJACENT TO THE CONSTRUCTION RIGHT-OF-WAY AND THE RIGHT-OF-WAY SLOPES TOWARD THE WETLAND, INSTALL SEDIMENT BARRIERS ALONG THE EDGE OF THE CONSTRUCTION RIGHT-OF-WAY AS NECESSARY TO CONTAIN SPOIL WITHIN THE CONSTRUCTION RIGHT-OF-WAY AND PREVENT SEDIMENT FLOW INTO THE WETLAND.

C. INSTALL SEDIMENT BARRIERS ALONG THE EDGE OF THE CONSTRUCTION RIGHT-OF-WAY AS NECESSARY TO CONTAIN SPOIL AND SEDIMENT WITHIN THE CONSTRUCTION RIGHT-OF-WAY THROUGH WETLANDS. REMOVE THESE SEDIMENT BARRIERS DURING RIGHT-OF-WAY CLEANUP.

4. TRENCH DEWATERING DEWATER THE TRENCH (EITHER ON OR OFF THE CONSTRUCTION RIGHT-OF-WAY) IN A MANNER THAT DOES NOT CAUSE EROSION AND DOES NOT RESULT IN SILT-LADEN WATER FLOWING INTO ANY WETLAND. REMOVE THE DEWATERING STRUCTURES AS SOON AS PRACTICABLE AFTER THE COMPLETION OF DEWATERING ACTIVITIES.

C. RESTORATION

1. WHERE THE PIPELINE TRENCH MAY DRAIN A WETLAND, CONSTRUCT TRENCH BREAKERS AT THE WETLAND BOUNDARIES AND/OR SEAL THE TRENCH BOTTOM AS NECESSARY TO MAINTAIN THE ORIGINAL WETLAND HYDROLOGY.

2. RESTORE PRE-CONSTRUCTION WETLAND CONTOURS TO MAINTAIN THE ORIGINAL WETLAND HYDROLOGY.

3. FOR EACH WETLAND CROSSED, INSTALL A TRENCH BREAKER AT THE BASE OF SLOPES NEAR THE BOUNDARY BETWEEN THE WETLAND AND ADJACENT UPLAND AREAS. INSTALL A PERMANENT SLOPE BREAKER ACROSS THE CONSTRUCTION RIGHT-OF-WAY AT THE BASE OF SLOPES GREATER THAN 5 PERCENT WHERE THE BASE OF THE SLOPE IS LESS THAN 50 FEET FROM THE WETLAND, OR AS NEEDED TO PREVENT SEDIMENT TRANSPORT INTO THE WETLAND, IN ADDITION, INSTALL SEDIMENT BARRIERS AS OUTLINED IN THE PLAN, IN SOME AREAS, WITH THE APPROVAL OF THE ENVIRONMENTAL INSPECTOR, AN EARTHEN BERM MAY BE SUITABLE AS A SEDIMENT BARRIER ADJACENT TO THE WETLAND. 4. DO NOT USE FERTILIZER, LIME, OR MULCH UNLESS REQUIRED IN WRITING BY THE APPROPRIATE FEDERAL OR STATE AGENCY.

5. CONSULT WITH THE APPROPRIATE FEDERAL OR STATE AGENCIES TO DEVELOP A PROJECT-SPECIFIC WETLAND RESTORATION PLAN. THE RESTORATION PLAN SHALL INCLUDE MEASURES FOR RE-ESTABLISHING HERBACEOUS AND/OR WOODY SPECIES, CONTROLLING THE INVASION AND SPREAD OF INVASIVE SPECIES AND NOXIOUS WEEDS (E.G., PURPLE LOOSESTRIFE AND PHRAGMITES), AND MONITORING THE SUCCESS OF THE REVEGETATION AND WEED CONTROL EFFORTS. PROVIDE THIS PLAN TO THE FERC STAFF UPON REQUEST.

6. UNTIL A PROJECT-SPECIFIC WETLAND RESTORATION PLAN IS DEVELOPED AND/OR IMPLEMENTED, TEMPORARILY REVEGETATE THE CONSTRUCTION RIGHT-OF-WAY WITH ANNUAL RYEGRASS AT A RATE OF 40 POUNDS/ACRE (UNLESS STANDING WATER IS PRESENT).

7. ENSURE THAT ALL DISTURBED AREAS SUCCESSFULLY REVEGETATE WITH WETLAND HERBACEOUS AND/OR WOODY PLANT SPECIES.

8. REMOVE TEMPORARY SEDIMENT BARRIERS LOCATED AT THE BOUNDARY BETWEEN WETLAND AND ADJACENT UPLAND AREAS AFTER REVEGETATION AND STABILIZATION OF ADJACENT UPLAND AREAS ARE JUDGED TO BE SUCCESSFUL AS SPECIFIED IN SECTION VII.A.4 OF THE PLAN.

D. POST-CONSTRUCTION MAINTENANCE AND REPORTING

1. DO NOT CONDUCT ROUTINE VEGETATION MOWING OR CLEARING OVER THE FULL WIDTH OF THE PERMANENT RIGHT-OF-WAY IN WETLANDS. HOWEVER. TO FACILITATE PERIODIC CORROSION/LEAK SURVEYS, A CORRIDOR CENTERED ON THE PIPELINE AND UP TO 10 FEET WIDE MAY BE CLEARED AT A FREQUENCY NECESSARY TO MAINTAIN THE 10-FOOT CORRIDOR IN AN HERBACEOUS STATE. IN ADDITION, TREES WITHIN 15 FEET OF THE PIPELINE WITH ROOTS THAT COULD COMPROMISE THE INTEGRITY OF PIPELINE COATING MAY BE SELECTIVELY CUT AND REMOVED FROM THE PERMANENT RIGHT-OF-WAY. DO NOT CONDUCT ANY ROUTINE VEGETATION MOWING OR CLEARING IN WETLANDS THAT ARE

BETWEEN HDD ENTRY AND EXIT POINTS

2. DO NOT USE HERBICIDES OR PESTICIDES IN OR WITHIN 100 FEET OF A WETLAND, EXCEPT AS ALLOWED BY THE APPROPRIATE FEDERAL OR STATE AGENCY.

3. TIME OF YEAR RESTRICTIONS SPECIFIED IN SECTION VII.A.5 OF THE PLAN (APRIL 15 -AUGUST 1 OF ANY YEAR) APPLY TO ROUTINE MOWING AND CLEARING OF WETLAND AREAS. 4. MONITOR AND RECORD THE SUCCESS OF WETLAND REVEGETATION ANNUALLY UNTIL WETLAND REVEGETATION IS SUCCESSFUL.

5. WETLAND REVEGETATION SHALL BE CONSIDERED SUCCESSFUL IF ALL OF THE FOLLOWING CRITERIA ARE SATISFIED:

- A. THE AFFECTED WETLAND SATISFIES THE CURRENT FEDERAL DEFINITION FOR A WETLAND (I.E., SOILS, HYDROLOGY, AND VEGETATION);
- B. VEGETATION IS AT LEAST 80 PERCENT OF EITHER THE COVER DOCUMENTED FOR THE WETLAND PRIOR TO CONSTRUCTION, OR AT LEAST 80 PERCENT OF THE COVER IN ADJACENT WETLAND AREAS THAT WERE NOT DISTURBED BY CONSTRUCTION;
- C. IF NATURAL RATHER THAN ACTIVE REVEGETATION WAS USED, THE PLANT SPECIES COMPOSITION IS CONSISTENT WITH EARLY SUCCESSIONAL WETLAND PLANT COMMUNITIES IN THE AFFECTED ECOREGION: AND
- D. INVASIVE SPECIES AND NOXIOUS WEEDS ARE ABSENT, UNLESS THEY ARE ABUNDANT IN ADJACENT AREAS THAT WERE NOT DISTURBED BY CONSTRUCTION

6. WITHIN 3 YEARS AFTER CONSTRUCTION, FILE A REPORT WITH THE SECRETARY IDENTIFYING THE STATUS OF THE WETLAND REVEGETATION EFFORTS AND DOCUMENTING SUCCESS AS DEFINED IN SECTION VI.D.5, ABOVE. THE REQUIREMENT TO FILE WETLAND RESTORATION REPORTS WITH THE SECRETARY DOES NOT APPLY TO PROJECTS CONSTRUCTED UNDER THE AUTOMATIC AUTHORIZATION, PRIOR NOTICE, OR ADVANCE NOTICE PROVISIONS IN THE FERC'S REGULATIONS.

FOR ANY WETLAND WHERE REVEGETATION IS NOT SUCCESSFUL AT THE END OF 3 YEARS AFTER CONSTRUCTION, DEVELOP AND IMPLEMENT (IN CONSULTATION WITH A PROFESSIONAL WETLAND ECOLOGIST) A REMEDIAL REVEGETATION PLAN TO ACTIVELY REVEGETATE WETLANDS. CONTINUE REVEGETATION EFFORTS AND FILE A REPORT ANNUALLY DOCUMENTING PROGRESS IN THESE WETLANDS UNTIL WETLAND **REVEGETATION IS SUCCESSFUL.** 

## VII. HYDROSTATIC TESTING

A. NOTIFICATION PROCEDURES AND PERMITS

- 1. APPLY FOR STATE-ISSUED WATER WITHDRAWAL PERMITS, AS REQUIRED 2. APPLY FOR NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) OR STATE-ISSUED DISCHARGE PERMITS, AS REQUIRED.
- 3. NOTIFY APPROPRIATE STATE AGENCIES OF INTENT TO USE SPECIFIC SOURCES AT LEAST 48 HOURS BEFORE TESTING ACTIVITIES UNLESS THEY WAIVE THIS REQUIREMENT IN WRITING.

# B. GENERAL

1. PERFORM 100 PERCENT RADIOGRAPHIC INSPECTION OF ALL PIPELINE SECTION WELDS OR HYDROTEST THE PIPELINE SECTIONS, BEFORE INSTALLATION UNDER WATERBODIES OR WETLANDS.

2. IF PUMPS USED FOR HYDROSTATIC TESTING ARE WITHIN 100 FEET OF ANY WATERBODY OR WETLAND, ADDRESS SECONDARY CONTAINMENT AND REFUELING OF THESE PUMPS IN THE PROJECT'S SPILL PREVENTION AND RESPONSE PROCEDURES.

3. THE PROJECT SPONSOR SHALL FILE WITH THE SECRETARY BEFORE CONSTRUCTION A LIST IDENTIFYING THE LOCATION OF ALL WATERBODIES PROPOSED FOR USE AS A HYDROSTATIC TEST WATER SOURCE OR DISCHARGE LOCATION. THIS FILING REQUIREMENT DOES NOT APPLY TO PROJECTS CONSTRUCTED UNDER THE AUTOMATIC AUTHORIZATION PROVISIONS OF THE FERC'S REGULATIONS.

C. INTAKE SOURCE AND RATE 1. SCREEN THE INTAKE HOSE TO MINIMIZE THE POTENTIAL FOR ENTRAINMENT OF FISH. DO NOT USE STATE-DESIGNATED EXCEPTIONAL VALUE WATERS, WATERBODIES WHICH PROVIDE HABITAT FOR FEDERALLY LISTED THREATENED OR ENDANGERED SPECIES, OR WATERBODIES DESIGNATED AS PUBLIC WATER SUPPLIES, UNLESS APPROPRIATE FEDERAL. STATE, AND/OR LOCAL PERMITTING AGENCIES GRANT WRITTEN PERMISSION. 3. MAINTAIN ADEQUATE FLOW RATES TO PROTECT AQUATIC LIFE, PROVIDE FOR ALL WATERBODY USES. AND PROVIDE FOR DOWNSTREAM WITHDRAWALS OF WATER BY EXISTING USERS.

4. LOCATE HYDROSTATIC TEST MANIFOLDS OUTSIDE WETLANDS AND RIPARIAN AREAS TO THE MAXIMUM EXTENT PRACTICABLE.

D. DISCHARGE LOCATION, METHOD, AND RATE 1. REGULATE DISCHARGE RATE, USE ENERGY DISSIPATION DEVICE(S), AND INSTALL SEDIMENT BARRIERS, AS NECESSARY, TO PREVENT EROSION, STREAMBED SCOUR, SUSPENSION OF SEDIMENTS. OR EXCESSIVE STREAMFLOW.

2. DO NOT DISCHARGE INTO STATE-DESIGNATED EXCEPTIONAL VALUE WATERS. WATERBODIES WHICH PROVIDE HABITAT FOR FEDERALLY LISTED THREATENED OR ENDANGERED SPECIES, OR WATERBODIES DESIGNATED AS PUBLIC WATER SUPPLIES, UNLESS APPROPRIATE FEDERAL, STATE, AND LOCAL PERMITTING AGENCIES GRANT WRITTEN PERMISSION.

## Table 1.3-1 Transco-Requested Deviations from FERC Procedures

Jeviation from FERC Procedures	Justification
ansco Procedures	
here pipelines parallel a terbody and Transco is unable to sintain at least 15 feet of disturbed vegetation between e waterbody (and any adjacent stland) and the construction W, Transco will file with the cretary for review and written proval by the Director, site- ecific justification.	The proposed loops will be installed within existing ROWs. At some locations along these loop sections, the existing pipelines will parallel waterbodies where 15 feet of previously undisturbed vegetation does not exist. In these circumstances, Transco will install erosion control measures to minimize impact on these waterbodies, to the maximum extent practicable. See Resource Report 2 Section 2.3.6.2.1.
or written approval of the rector is required where oographic conditions or soil hitations require that the nstruction right-of-way width thin the boundaries of a federally lineated wetland be expanded yond 75 feet.	Transco will require a construction ROW greater than 75 feet in one wetland (W- T07-004) located at MP11.46 along the Madison Loop. Transco is unable to reduce the workspace to 75 feet in this wetland as this area is required for HDD operations.

ATWS = Additional temporary work space FERC = Federal Energy Regulatory Commissi

	KEVIN McKEON, P.E.				REVISIONS
		NO.	DATE	BY	DESCRIPTION
		0	06/15/17	ERL	SUBMITTED TO FREEHOLD SOIL CONSE
		1	05/07/18	SMR	ISSUED FOR CLIENT REVIEW
		2	06/05/18	PPH	SUBMITTED TO NJDEP
AECOM ST RIDGE PIKE, SUITE E-100 SHOHOCKEN, PA 19428 (610) 832-3500	NEW JERSEY PROFESSIONAL ENGINEER NO GE32586				

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THIS EXPANSION PROJECT IS REGULATED BY THE U.S. DEPARTMENT OF ENERGY. FEDERAL ENERGY REGULATORY COMMISSION (FERC). IN ADDITION TO STATE AND LOCAL REQUIREMENTS. THIS EROSION AND SEDIMENT CONTROL PLAN INCLUDES THESE MITIGATION MEASURES FOR PIPELINE CONSTRUCTION SPECIFIED BY THE FERC IN ITS PLAN AND PROCEDURES DOCUMENTS, UPLAND EROSION CONTROL, REVEGETATION, AND MAINTENANCE PLAN MAY 2013 AND WETLAND AND WATERBODY CONSTRUCTION AND MITIGATION PROCEDURES, MAY 2013.

S		TRAN	ISCO	NTINENTAL GA	AS PIPE LINE COMPANY, LLC			
ON	W.O. NO.	CHK.	APP.	5	SOIL E	EROSION & SE	DIMENT CONTROL PLAN	
SERVATION DISTRICT	60515775	PPH	KDM	NC	)RTH	FAST SUPPLY	ENHANCEMENT PROJECT	
	60515775	JAC	PPH					
	60515775	JAC	PPH			GAS PIPELINE		
						M.P. 8.57	TO M.P. 12.00	
					N/			
					IV		UNTT, NEW JERGET	
				DRAWN BY:	ERL	DATE: 06/15/17	ISSUED FOR BID: TBD	SCALE: NTS
				CHECKED BY:	PPH	DATE: 06/15/17	ISSUED FOR CONSTRUCTION: TBD	REVISION: 2
				APPROVED BY:	KDM	DATE: 06/15/17	DRAWING 26-0100-80-28-D	SHEET 19
				WO: 60515775			1	OF 21

# UPLAND EROSION CONTROL, REVEGETATION, AND MAINTENANCE PLAN

### I. APPLICABILITY

A. THE INTENT OF THIS PLAN IS TO ASSIST PROJECT SPONSORS BY IDENTIFYING BASELINE MITIGATION MEASURES FOR MINIMIZING EROSION AND ENHANCING REVEGETATION. PROJECT SPONSORS SHALL SPECIFY IN THEIR APPLICATIONS FOR A NEW FERC AUTHORIZATION AND IN PRIOR NOTICE AND ADVANCE NOTICE FILINGS, ANY INDIVIDUAL MEASURES IN THIS PLAN THEY CONSIDER UNNECESSARY, TECHNICALLY INFEASIBLE, OR UNSUITABLE DUE TO LOCAL CONDITIONS AND FULLY DESCRIBE ANY ALTERNATIVE MEASURES THEY WOULD USE. PROJECT SPONSORS SHALL ALSO EXPLAIN HOW THOSE ALTERNATIVE MEASURES WOULD ACHIEVE A COMPARABLE LEVEL OF MITIGATION. ONCE A PROJECT IS AUTHORIZED, PROJECT SPONSORS CAN REQUEST FURTHER CHANGES AS VARIANCES TO THE MEASURES IN THIS PLAN (OR THE APPLICANT'S APPROVED PLAN). THE DIRECTOR OF THE OFFICE OF ENERGY PROJECTS (DIRECTOR) WILL CONSIDER APPROVAL OF VARIANCES UPON THE PROJECT SPONSOR'S WRITTEN REQUEST, IF THE DIRECTOR AGREES THAT A VARIANCE: PROVIDES EQUAL OR BETTER ENVIRONMENTAL PROTECTION; 2. IS NECESSARY BECAUSE A PORTION OF THIS PLAN IS INFEASIBLE OR UNWORKABLE BASED ON PROJECT-SPECIFIC CONDITIONS; OR 3. IS SPECIFICALLY REQUIRED IN WRITING BY ANOTHER FEDERAL, STATE, OR NATIVE AMERICAN LAND MANAGEMENT AGENCY FOR THE PORTION OF THE PROJECT ON ITS LAND OR UNDER ITS JURISDICTION. SPONSORS OF PROJECTS PLANNED FOR CONSTRUCTION UNDER THE AUTOMATIC AUTHORIZATION PROVISIONS IN THE FERC'S REGULATIONS MUST RECEIVE WRITTEN APPROVAL FOR ANY VARIANCES IN ADVANCE OF CONSTRUCTION. PROJECT-RELATED IMPACTS ON WETLAND AND WATERBODY SYSTEMS ARE ADDRESSED IN THE STAFF'S WETLAND AND WATERBODY CONSTRUCTION AND MITIGATION PROCEDURES (PROCEDURES). II. SUPERVISION AND INSPECTION A. ENVIRONMENTAL INSPECTION 1. AT LEAST ONE ENVIRONMENTAL INSPECTOR IS REQUIRED FOR EACH CONSTRUCTION SPREAD DURING CONSTRUCTION AND RESTORATION (AS DEFINED BY SECTION V). THE NUMBER AND EXPERIENCE OF ENVIRONMENTAL INSPECTORS ASSIGNED TO EACH CONSTRUCTION SPREAD SHALL BE APPROPRIATE FOR THE LENGTH OF THE CONSTRUCTION SPREAD AND THE NUMBER/SIGNIFICANCE OF RESOURCES AFFECTED. 2. ENVIRONMENTAL INSPECTORS SHALL HAVE PEER STATUS WITH ALL OTHER ACTIVITY INSPECTORS. 3. ENVIRONMENTAL INSPECTORS SHALL HAVE THE AUTHORITY TO STOP ACTIVITIES THAT VIOLATE THE ENVIRONMENTAL CONDITIONS OF THE FERC'S ORDERS, STIPULATIONS OF OTHER ENVIRONMENTAL PERMITS OR APPROVALS, OR LANDOWNER EASEMENT AGREEMENTS; AND TO ORDER APPROPRIATE CORRECTIVE ACTION. B. RESPONSIBILITIES OF ENVIRONMENTAL INSPECTORS AT A MINIMUM, THE ENVIRONMENTAL INSPECTOR(S) SHALL BE **RESPONSIBLE FOR:** 1. INSPECTING CONSTRUCTION ACTIVITIES FOR COMPLIANCE WITH THE REQUIREMENTS OF THIS PLAN, THE PROCEDURES, THE ENVIRONMENTAL CONDITIONS OF THE FERC'S ORDERS, THE MITIGATION MEASURES PROPOSED BY THE PROJECT SPONSOR (AS APPROVED AND/OR MODIFIED BY THE ORDER), OTHER ENVIRONMENTAL PERMITS AND APPROVALS, AND ENVIRONMENTAL REQUIREMENTS IN LANDOWNER EASEMENT AGREEMENTS 2. IDENTIFYING, DOCUMENTING, AND OVERSEEING CORRECTIVE ACTIONS, AS NECESSARY TO BRING AN ACTIVITY BACK INTO COMPLIANCE; 3. VERIFYING THAT THE LIMITS OF AUTHORIZED CONSTRUCTION WORK AREAS AND LOCATIONS OF ACCESS ROADS ARE VISIBLY MARKED BEFORE CLEARING, AND MAINTAINED THROUGHOUT CONSTRUCTION; 4. VERIFYING THE LOCATION OF SIGNS AND HIGHLY VISIBLE FLAGGING MARKING THE BOUNDARIES OF SENSITIVE RESOURCE AREAS, WATERBODIES, WETLANDS, OR AREAS WITH SPECIAL REQUIREMENTS ALONG THE CONSTRUCTION WORK AREA; 5. IDENTIFYING EROSION/SEDIMENT CONTROL AND SOIL STABILIZATION NEEDS IN ALL AREAS; 6. ENSURING THAT THE DESIGN OF SLOPE BREAKERS WILL NOT CAUSE EROSION OR DIRECT WATER INTO SENSITIVE ENVIRONMENTAL RESOURCE AREAS, INCLUDING CULTURAL RESOURCE SITES, WETLANDS, WATERBODIES, AND SENSITIVE SPECIES HABITATS 7. VERIFYING THAT DEWATERING ACTIVITIES ARE PROPERLY MONITORED AND DO NOT RESULT IN THE DEPOSITION OF SAND, SILT, AND/OR SEDIMENT INTO SENSITIVE ENVIRONMENTAL RESOURCE AREAS, INCLUDING WETLANDS, WATERBODIES, CULTURAL RESOURCE SITES, AND SENSITIVE SPECIES HABITATS; STOPPING DEWATERING ACTIVITIES IF SUCH DEPOSITION IS OCCURRING AND ENSURING THE DESIGN OF THE DISCHARGE IS CHANGED TO PREVENT REOCCURRENCE; AND VERIFYING THAT DEWATERING STRUCTURES ARE REMOVED AFTER COMPLETION OF DEWATERING ACTIVITIES; 8. ENSURING THAT SUBSOIL AND TOPSOIL ARE TESTED IN AGRICULTURAL AND RESIDENTIAL AREAS TO MEASURE COMPACTION AND DETERMINE THE NEED FOR CORRECTIVE ACTION; 9. ADVISING THE CHIEF CONSTRUCTION INSPECTOR WHEN ENVIRONMENTAL CONDITIONS (SUCH AS WET WEATHER OR FROZEN SOILS) MAKE IT ADVISABLE TO RESTRICT OR DELAY CONSTRUCTION ACTIVITIES TO AVOID TOPSOIL MIXING OR EXCESSIVE COMPACTION; 10. ENSURING RESTORATION OF CONTOURS AND TOPSOIL; 11. VERIFYING THAT THE SOILS IMPORTED FOR AGRICULTURAL OR RESIDENTIAL USE ARE CERTIFIED AS FREE OF NOXIOUS WEEDS AND SOIL PESTS, UNLESS OTHERWISE APPROVED BY THE LANDOWNER; 12. ENSURING THAT EROSION CONTROL DEVICES ARE PROPERLY INSTALLED TO PREVENT SEDIMENT FLOW INTO SENSITIVE ENVIRONMENTAL RESOURCE AREAS (E.G., WETLANDS, WATERBODIES, CULTURAL RESOURCE SITES, AND SENSITIVE SPECIES HABITATS) AND ONTO ROADS, AND DETERMINING THE NEED FOR ADDITIONAL EROSION CONTROL DEVICES; 13. INSPECTING AND ENSURING THE MAINTENANCE OF TEMPORARY EROSION CONTROL MEASURES AT LEAST: A. ON A DAILY BASIS IN AREAS OF ACTIVE CONSTRUCTION OR EQUIPMENT OPERATION; B. ON A WEEKLY BASIS IN AREAS WITH NO CONSTRUCTION OR EQUIPMENT OPERATION; AND C. WITHIN 24 HOURS OF EACH 0.5 INCH OF RAINFALL; 14. ENSURING THE REPAIR OF ALL INEFFECTIVE TEMPORARY EROSION CONTROL MEASURES WITHIN 24 HOURS OF IDENTIFICATION, OR AS SOON AS CONDITIONS ALLOW IF COMPLIANCE WITH THIS TIME FRAME WOULD RESULT IN GREATER ENVIRONMENTAL IMPACTS; 15. KEEPING RECORDS OF COMPLIANCE WITH THE ENVIRONMENTAL CONDITIONS OF THE FERC'S ORDERS, AND THE MITIGATION MEASURES PROPOSED BY THE PROJECT SPONSOR IN THE APPLICATION SUBMITTED TO THE FERC. AND OTHER FEDERAL OR STATE ENVIRONMENTAL PERMITS DURING ACTIVE CONSTRUCTION AND RESTORATION 16. IDENTIFYING AREAS THAT SHOULD BE GIVEN SPECIAL ATTENTION TO ENSURE STABILIZATION AND RESTORATION AFTER THE CONSTRUCTION PHASE; AND 17. VERIFYING THAT LOCATIONS FOR ANY DISPOSAL OF EXCESS CONSTRUCTION MATERIALS FOR BENEFICIAL REUSE COMPLY WITH SECTION III.E. III. PRECONSTRUCTION PLANNING THE PROJECT SPONSOR SHALL DO THE FOLLOWING BEFORE CONSTRUCTION: A. CONSTRUCTION WORK AREAS 1. IDENTIFY ALL CONSTRUCTION WORK AREAS (E.G., CONSTRUCTION RIGHT-OF-WAY, EXTRA WORK SPACE AREAS, PIPE STORAGE AND CONTRACTOR YARDS, BORROW AND DISPOSAL AREAS, ACCESS ROADS) THAT WOULD BE NEEDED FOR SAFE CONSTRUCTION. THE PROJECT SPONSOR MUST ENSURE THAT APPROPRIATE CULTURAL RESOURCES AND BIOLOGICAL SURVEYS ARE CONDUCTED, AS DETERMINED NECESSARY BY THE APPROPRIATE FEDERAL AND STATE AGENCIES. 2. PROJECT SPONSORS ARE ENCOURAGED TO CONSIDER EXPANDING ANY REQUIRED CULTURAL RESOURCES AND ENDANGERED SPECIES SURVEYS IN ANTICIPATION OF THE NEED FOR ACTIVITIES OUTSIDE OF AUTHORIZED WORK AREAS. 3. PLAN CONSTRUCTION SEQUENCING TO LIMIT THE AMOUNT AND DURATION OF OPEN TRENCH SECTIONS, AS NECESSARY, TO PREVENT EXCESSIVE EROSION OR SEDIMENT FLOW INTO SENSITIVE ENVIRONMENTAL RESOURCE AREAS. B. DRAIN TILE AND IRRIGATION SYSTEMS 1. ATTEMPT TO LOCATE EXISTING DRAIN TILES AND IRRIGATION SYSTEMS. 2. CONTACT LANDOWNERS AND LOCAL SOIL CONSERVATION AUTHORITIES TO DETERMINE THE LOCATIONS OF FUTURE DRAIN TILES THAT ARE LIKELY TO BE INSTALLED WITHIN 3 YEARS OF THE AUTHORIZED CONSTRUCTION. 3. DEVELOP PROCEDURES FOR CONSTRUCTING THROUGH DRAIN-TILED AREAS, MAINTAINING IRRIGATION SYSTEMS DURING CONSTRUCTION, AND REPAIRING DRAIN TILES AND IRRIGATION SYSTEMS AFTER CONSTRUCTION. 4. ENGAGE QUALIFIED DRAIN TILE SPECIALISTS, AS NEEDED TO CONDUCT OR MONITOR REPAIRS TO DRAIN TILE SYSTEMS AFFECTED BY CONSTRUCTION. USE DRAIN TILE SPECIALISTS FROM THE PROJECT AREA, IF AVAILABLE. C. GRAZING DEFERMENT DEVELOP GRAZING DEFERMENT PLANS WITH WILLING LANDOWNERS, GRAZING PERMITTEES, AND LAND MANAGEMENT AGENCIES TO MINIMIZE GRAZING DISTURBANCE OF REVEGETATION EFFORTS. D. ROAD CROSSINGS AND ACCESS POINTS PLAN FOR SAFE AND ACCESSIBLE CONDITIONS AT ALL ROADWAY CROSSINGS AND ACCESS POINTS DURING CONSTRUCTION AND RESTORATION.

### E. DISPOSAL PLANNING

DETERMINE METHODS AND LOCATIONS FOR THE REGULAR COLLECTION. CONTAINMENT, AND DISPOSAL OF EXCESS CONSTRUCTION MATERIALS AND DEBRIS (E.G., TIMBER, SLASH, MATS, GARBAGE, DRILL CUTTINGS AND FLUIDS, EXCESS ROCK) THROUGHOUT THE CONSTRUCTION PROCESS. DISPOSAL OF MATERIALS FOR BENEFICIAL REUSE MUST NOT RESULT IN ADVERSE ENVIRONMENTAL IMPACT AND IS SUBJECT TO COMPLIANCE WITH ALL APPLICABLE SURVEY, LANDOWNER OR LAND MANAGEMENT AGENCY APPROVAL, AND PERMIT REQUIREMENTS. F. AGENCY COORDINATION

THE PROJECT SPONSOR MUST COORDINATE WITH THE APPROPRIATE LOCAL, STATE, AND FEDERAL AGENCIES AS OUTLINED IN THIS PLAN AND/OR REQUIRED BY THE FERC'S ORDERS.

1. OBTAIN WRITTEN RECOMMENDATIONS FROM THE LOCAL SOIL CONSERVATION AUTHORITIES OR LAND MANAGEMENT AGENCIES REGARDING PERMANENT EROSION CONTROL AND REVEGETATION SPECIFICATIONS. 2. DEVELOP SPECIFIC PROCEDURES IN COORDINATION WITH THE APPROPRIATE AGENCIES TO PREVENT THE INTRODUCTION OR SPREAD OF INVASIVE SPECIES, NOXIOUS WEEDS, AND SOIL PESTS RESULTING FROM CONSTRUCTION AND RESTORATION ACTIVITIES.

3. DEVELOP SPECIFIC PROCEDURES IN COORDINATION WITH THE APPROPRIATE AGENCIES AND LANDOWNERS, AS NECESSARY, TO ALLOW FOR LIVESTOCK AND WILDLIFE MOVEMENT AND PROTECTION DURING CONSTRUCTION.

4. DEVELOP SPECIFIC BLASTING PROCEDURES IN COORDINATION WITH THE APPROPRIATE AGENCIES THAT ADDRESS PRE- AND POST-BLAST INSPECTIONS; ADVANCED PUBLIC NOTIFICATION; AND MITIGATION MEASURES FOR BUILDING FOUNDATIONS, GROUNDWATER WELLS, AND SPRINGS. USE APPROPRIATE METHODS (E.G., BLASTING MATS) TO PREVENT DAMAGE TO NEARBY STRUCTURES AND TO PREVENT DEBRIS FROM ENTERING SENSITIVE ENVIRONMENTAL RESOURCE AREAS.

G. SPILL PREVENTION AND RESPONSE PROCEDURES

THE PROJECT SPONSOR SHALL DEVELOP PROJECT-SPECIFIC SPILL PREVENTION AND RESPONSE PROCEDURES, AS SPECIFIED IN SECTION IV OF THE STAFF'S PROCEDURES. A COPY MUST BE FILED WITH THE SECRETARY OF THE FERC (SECRETARY) PRIOR TO CONSTRUCTION AND MADE AVAILABLE IN THE FIELD ON EACH CONSTRUCTION SPREAD. THE FILING REQUIREMENT DOES NOT APPLY TO PROJECTS CONSTRUCTED UNDER THE AUTOMATIC AUTHORIZATION PROVISIONS IN THE FERC'S REGULATIONS. H. RESIDENTIAL CONSTRUCTION

FOR ALL PROPERTIES WITH RESIDENCES LOCATED WITHIN 50 FEET OF CONSTRUCTION WORK AREAS, PROJECT SPONSORS SHALL: AVOID REMOVAL OF MATURE TREES AND LANDSCAPING WITHIN THE CONSTRUCTION WORK AREA UNLESS NECESSARY FOR SAFE OPERATION OF CONSTRUCTION EQUIPMENT, OR AS SPECIFIED IN LANDOWNER AGREEMENTS; FENCE THE EDGE OF THE CONSTRUCTION WORK AREA FOR A DISTANCE OF 100 FEET ON EITHER SIDE OF

THE RESIDENCE; AND RESTORE ALL LAWN AREAS AND LANDSCAPING IMMEDIATELY FOLLOWING CLEAN UP OPERATIONS. OR AS SPECIFIED IN LANDOWNER AGREEMENTS. IF SEASONAL OR OTHER WEATHER CONDITIONS PREVENT COMPLIANCE WITH THESE TIME FRAMES, MAINTAIN AND MONITOR TEMPORARY EROSION CONTROLS (SEDIMENT BARRIERS AND MULCH) UNTIL CONDITIONS ALLOW COMPLETION OF RESTORATION. I. WINTER CONSTRUCTION PLANS

IF CONSTRUCTION IS PLANNED TO OCCUR DURING WINTER WEATHER CONDITIONS, PROJECT SPONSORS SHALL DEVELOP AND FILE A PROJECT-SPECIFIC WINTER CONSTRUCTION PLAN WITH THE FERC APPLICATION. THIS FILING REQUIREMENT DOES NOT APPLY TO PROJECTS CONSTRUCTED UNDER THE AUTOMATIC AUTHORIZATION PROVISIONS OF THE FERC'S REGULATIONS.

THE PLAN SHALL ADDRESS:

1. WINTER CONSTRUCTION PROCEDURES (E.G., SNOW HANDLING AND REMOVAL, ACCESS ROAD CONSTRUCTION AND MAINTENANCE, SOIL HANDLING UNDER SATURATED OR FROZEN CONDITIONS, TOPSOIL STRIPPING); 2. STABILIZATION AND MONITORING PROCEDURES IF GROUND CONDITIONS WILL DELAY RESTORATION UNTIL THE FOLLOWING SPRING (E.G., MULCHING AND EROSION CONTROLS, INSPECTION AND REPORTING, STORMWATER CONTROL DURING SPRING THAW CONDITIONS); AND

3. FINAL RESTORATION PROCEDURES (E.G., SUBSIDENCE AND COMPACTION REPAIR, TOPSOIL REPLACEMENT, SEEDING).

IV. INSTALLATION

A. APPROVED AREAS OF DISTURBANCE 1. PROJECT-RELATED GROUND DISTURBANCE SHALL BE LIMITED TO THE CONSTRUCTION RIGHT-OF-WAY, EXTRA WORK SPACE AREAS, PIPE STORAGE YARDS, BORROW AND DISPOSAL AREAS, ACCESS ROADS, AND OTHER AREAS APPROVED IN THE FERC'S ORDERS. ANY PROJECT-RELATED GROUND DISTURBING ACTIVITIES OUTSIDE THESE AREAS WILL REQUIRE PRIOR DIRECTOR APPROVAL. THIS REQUIREMENT DOES NOT APPLY TO ACTIVITIES NEEDED TO COMPLY WITH THE PLAN AND PROCEDURES (I.E., SLOPE BREAKERS, ENERGY-DISSIPATING DEVICES, DEWATERING STRUCTURES, DRAIN TILE SYSTEM REPAIRS) OR MINOR FIELD REALIGNMENTS AND WORKSPACE SHIFTS PER LANDOWNER NEEDS AND REQUIREMENTS THAT DO NOT AFFECT OTHER LANDOWNERS OR SENSITIVE ENVIRONMENTAL RESOURCE AREAS. ALL CONSTRUCTION OR RESTORATION ACTIVITIES OUTSIDE OF AUTHORIZED AREAS ARE SUBJECT TO ALL APPLICABLE SURVEY AND PERMIT REQUIREMENTS, AND LANDOWNER EASEMENT AGREEMENTS.

2. THE CONSTRUCTION RIGHT-OF-WAY WIDTH FOR A PROJECT SHALL NOT EXCEED 75 FEET OR THAT DESCRIBED IN THE FERC APPLICATION UNLESS OTHERWISE MODIFIED BY A FERC ORDER. HOWEVER, IN LIMITED, NON-WETLAND AREAS, THIS CONSTRUCTION RIGHT-OF-WAY WIDTH MAY BE EXPANDED BY UP TO 25 FEET WITHOUT DIRECTOR APPROVAL TO ACCOMMODATE FULL CONSTRUCTION RIGHT-OF-WAY TOPSOIL SEGREGATION AND TO ENSURE SAFE CONSTRUCTION WHERE TOPOGRAPHIC CONDITIONS (E.G., SIDE-SLOPES) OR SOIL LIMITATIONS REQUIRE IT. TWENTY-FIVE FEET OF EXTRA CONSTRUCTION RIGHT-OF-WAY WIDTH MAY ALSO BE USED IN LIMITED, NON-WETLAND OR NON-FORESTED AREAS FOR TRUCK TURN-AROUNDS WHERE NO REASONABLE ALTERNATIVE ACCESS EXISTS.

PROJECT USE OF THESE ADDITIONAL LIMITED AREAS IS SUBJECT TO LANDOWNER OR LAND MANAGEMENT AGENCY APPROVAL AND COMPLIANCE WITH ALL APPLICABLE SURVEY AND PERMIT REQUIREMENTS. WHEN ADDITIONAL AREAS ARE USED, EACH ONE SHALL BE IDENTIFIED AND THE NEED EXPLAINED IN THE WEEKLY OR BIWEEKLY CONSTRUCTION REPORTS TO THE FERC, IF REQUIRED. THE FOLLOWING MATERIAL SHALL BE INCLUDED IN THE REPORTS:

A. THE LOCATION OF EACH ADDITIONAL AREA BY STATION NUMBER AND REFERENCE TO PREVIOUSLY FILED ALIGNMENT SHEETS, OR UPDATED ALIGNMENT SHEETS SHOWING THE ADDITIONAL AREAS; B. IDENTIFICATION OF THE FILING AT FERC CONTAINING EVIDENCE THAT THE ADDITIONAL AREAS WERE PREVIOUSLY SURVEYED; AND

C. A STATEMENT THAT LANDOWNER APPROVAL HAS BEEN OBTAINED AND IS AVAILABLE IN PROJECT FILES

PRIOR WRITTEN APPROVAL OF THE DIRECTOR IS REQUIRED WHEN THE AUTHORIZED CONSTRUCTION RIGHT-OF-WAY WIDTH WOULD BE EXPANDED BY MORE THAN 25 FEET. **B. TOPSOIL SEGREGATION** 

1. UNLESS THE LANDOWNER OR LAND MANAGEMENT AGENCY SPECIFICALLY APPROVES OTHERWISE, PREVENT THE MIXING OF TOPSOIL WITH SUBSOIL BY STRIPPING TOPSOIL FROM EITHER THE FULL WORK AREA OR FROM

THE TRENCH AND SUBSOIL STORAGE AREA (DITCH PLUS SPOIL SIDE METHOD) IN: A. CULTIVATED OR ROTATED CROPLANDS, AND MANAGED PASTURES;

B. RESIDENTIAL AREAS; C. HAYFIELDS; AND

D. OTHER AREAS AT THE LANDOWNER'S OR LAND MANAGING AGENCY'S REQUEST. 2. IN RESIDENTIAL AREAS, IMPORTATION OF TOPSOIL IS AN ACCEPTABLE ALTERNATIVE TO TOPSOIL SEGREGATION.

3. WHERE TOPSOIL SEGREGATION IS REQUIRED, THE PROJECT SPONSOR MUST: A. SEGREGATE AT LEAST 12 INCHES OF TOPSOIL IN DEEP SOILS (MORE THAN 12 INCHES OF TOPSOIL); AND

B. MAKE EVERY EFFORT TO SEGREGATE THE ENTIRE TOPSOIL LAYER IN SOILS WITH LESS THAN 12

INCHES OF TOPSOIL. 4. MAINTAIN SEPARATION OF SALVAGED TOPSOIL AND SUBSOIL THROUGHOUT ALL CONSTRUCTION ACTIVITIES. 5. SEGREGATED TOPSOIL MAY NOT BE USED FOR PADDING THE PIPE, CONSTRUCTING TEMPORARY SLOPE BREAKERS OR TRENCH PLUGS, IMPROVING OR MAINTAINING ROADS, OR AS A FILL MATERIAL 6. STABILIZE TOPSOIL PILES AND MINIMIZE LOSS DUE TO WIND AND WATER EROSION WITH USE OF SEDIMENT BARRIERS, MULCH, TEMPORARY SEEDING, TACKIFIERS, OR FUNCTIONAL EQUIVALENTS, WHERE NECESSARY. C. DRAIN TILES

1. MARK LOCATIONS OF DRAIN TILES DAMAGED DURING CONSTRUCTION.

2. PROBE ALL DRAINAGE TILE SYSTEMS WITHIN THE AREA OF DISTURBANCE TO CHECK FOR DAMAGE. 3. REPAIR DAMAGED DRAIN TILES TO THEIR ORIGINAL OR BETTER CONDITION. DO NOT USE FILTER-COVERED DRAIN TILES UNLESS THE LOCAL SOIL CONSERVATION AUTHORITIES AND THE LANDOWNER AGREE. USE QUALIFIED SPECIALISTS FOR TESTING AND REPAIRS.

4. FOR NEW PIPELINES IN AREAS WHERE DRAIN TILES EXIST OR ARE PLANNED, ENSURE THAT THE DEPTH OF COVER OVER THE PIPELINE IS SUFFICIENT TO AVOID INTERFERENCE WITH DRAIN TILE SYSTEMS. FOR ADJACENT PIPELINE LOOPS IN AGRICULTURAL AREAS, INSTALL THE NEW PIPELINE WITH AT LEAST THE SAME DEPTH OF COVER AS THE EXISTING PIPELINE(S).

D. IRRIGATION MAINTAIN WATER FLOW IN CROP IRRIGATION SYSTEMS, UNLESS SHUTOFF IS COORDINATED WITH AFFECTED PARTIES.

#### E. ROAD CROSSINGS AND ACCESS POINTS

1. MAINTAIN SAFE AND ACCESSIBLE CONDITIONS AT ALL ROAD CROSSINGS AND ACCESS POINTS DURING CONSTRUCTION. 2. IF CRUSHED STONE ACCESS PADS ARE USED IN RESIDENTIAL OR AGRICULTURAL AREAS, PLACE THE STONE

ON SYNTHETIC FABRIC TO FACILITATE REMOVAL. 3. MINIMIZE THE USE OF TRACKED EQUIPMENT ON PUBLIC ROADWAYS. REMOVE ANY SOIL OR GRAVEL SPILLED OR TRACKED ONTO ROADWAYS DAILY OR MORE FREQUENT AS NECESSARY TO MAINTAIN SAFE ROAD CONDITIONS. REPAIR ANY DAMAGES TO ROADWAY SURFACES, SHOULDERS, AND BAR DITCHES.

F. TEMPORARY EROSION CONTROL INSTALL TEMPORARY EROSION CONTROLS IMMEDIATELY AFTER INITIAL DISTURBANCE OF THE SOIL. TEMPORARY EROSION CONTROLS MUST BE PROPERLY MAINTAINED THROUGHOUT CONSTRUCTION (ON A DAILY BASIS) AND REINSTALLED AS NECESSARY (SUCH AS AFTER BACKFILLING OF THE TRENCH) UNTIL REPLACED BY PERMANENT EROSION CONTROLS OR RESTORATION IS COMPLETE. 1. TEMPORARY SLOPE BREAKERS

A. TEMPORARY SLOPE BREAKERS ARE INTENDED TO REDUCE RUNOFF VELOCITY AND DIVERT WATER OFF THE CONSTRUCTION RIGHT-OF-WAY. TEMPORARY SLOPE BREAKERS MAY BE CONSTRUCTED OF MATERIALS SUCH AS SOIL, SILT FENCE, STAKED HAY OR STRAW

BALES, OR SAND BAGS. B. INSTALL TEMPORARY SLOPE BREAKERS ON ALL DISTURBED AREAS, AS NECESSARY TO AVOID

EXCESSIVE EROSION. TEMPORARY SLOPE BREAKERS MUST BE INSTALLED ON SLOPES GREATER THAN 5 PERCENT WHERE THE BASE OF THE SLOPE IS LESS THAN 50 FEET FROM WATERBODY, WETLAND, AND ROAD CROSSINGS AT THE FOLLOWING SPACING (CLOSER SPACING SHALL BE USED IF NECESSARY): SLOPE (%) SPACING (FEET)

- \	
15	300
5-30 200	
)	100

C. DIRECT THE OUTFALL OF EACH TEMPORARY SLOPE BREAKER TO A STABLE, WELL VEGETATED AREA OR CONSTRUCT AN ENERGY-DISSIPATING DEVICE AT THE END OF THE SLOPE BREAKER AND OFF THE CONSTRUCTION RIGHT-OF-WAY.

D. POSITION THE OUTFALL OF EACH TEMPORARY SLOPE BREAKER TO PREVENT SEDIMENT DISCHARGE INTO WETLANDS, WATERBODIES, OR OTHER SENSITIVE ENVIRONMENTAL RESOURCE AREAS. 2. TEMPORARY TRENCH PLUGS

TEMPORARY TRENCH PLUGS ARE INTENDED TO SEGMENT A CONTINUOUS OPEN TRENCH PRIOR TO BACKFILL.

A. TEMPORARY TRENCH PLUGS MAY CONSIST OF UNEXCAVATED PORTIONS OF THE TRENCH, COMPACTED SUBSOIL, SANDBAGS, OR SOME FUNCTIONAL EQUIVALENT.

B. POSITION TEMPORARY TRENCH PLUGS, AS NECESSARY, TO REDUCE TRENCHLINE EROSION AND MINIMIZE THE VOLUME AND VELOCITY OF TRENCH WATER FLOW AT THE BASE OF SLOPES. 3. SEDIMENT BARRIERS

SEDIMENT BARRIERS ARE INTENDED TO STOP THE FLOW OF SEDIMENTS AND TO PREVENT THE DEPOSITION OF SEDIMENTS BEYOND APPROVED WORKSPACES OR INTO SENSITIVE RESOURCES.

A. SEDIMENT BARRIERS MAY BE CONSTRUCTED OF MATERIALS SUCH AS SILT FENCE, STAKED HAY OR STRAW BALES, COMPACTED EARTH (E.G., DRIVEABLE BERMS ACROSS TRAVELWAYS), SAND BAGS, OR OTHER APPROPRIATE MATERIALS.

B. AT A MINIMUM, INSTALL AND MAINTAIN TEMPORARY SEDIMENT BARRIERS ACROSS THE ENTIRE CONSTRUCTION RIGHT-OF-WAY AT THE BASE OF SLOPES GREATER THAN 5 PERCENT WHERE THE BASE OF THE SLOPE IS LESS THAN 50 FEET FROM A WATERBODY, WETLAND, OR ROAD CROSSING UNTIL REVEGETATION IS SUCCESSFUL AS DEFINED IN THIS PLAN. LEAVE ADEQUATE ROOM BETWEEN THE BASE OF THE SLOPE AND THE SEDIMENT BARRIER TO ACCOMMODATE PONDING OF WATER AND SEDIMENT DEPOSITION.

C. WHERE WETLANDS OR WATERBODIES ARE ADJACENT TO AND DOWNSLOPE OF CONSTRUCTION WORK AREAS, INSTALL SEDIMENT BARRIERS ALONG THE EDGE OF THESE AREAS, AS NECESSARY TO PREVENT SEDIMENT FLOW INTO THE WETLAND OR WATERBODY.

4. MULCH A. APPLY MULCH ON ALL SLOPES (EXCEPT IN CULTIVATED CROPLAND) CONCURRENT WITH OR IMMEDIATELY AFTER SEEDING, WHERE NECESSARY TO STABILIZE THE SOIL SURFACE AND TO REDUCE WIND AND WATER EROSION. SPREAD MULCH UNIFORMLY OVER THE AREA TO COVER AT LEAST 75 PERCENT OF THE GROUND SURFACE AT A RATE OF 2 TONS/ACRE OF STRAW OR ITS EQUIVALENT, UNLESS THE LOCAL SOIL CONSERVATION AUTHORITY, LANDOWNER, OR LAND MANAGING AGENCY APPROVES OTHERWISE IN WRITING.

B. MULCH CAN CONSIST OF WEED-FREE STRAW OR HAY, WOOD FIBER HYDROMULCH, EROSION CONTROL FABRIC, OR SOME FUNCTIONAL EQUIVALENT

C. MULCH ALL DISTURBED UPLAND AREAS (EXCEPT CULTIVATED CROPLAND) BEFORE SEEDING IF: (1) FINAL GRADING AND INSTALLATION OF PERMANENT EROSION CONTROL MEASURES WILL NOT BE COMPLETED IN AN AREA WITHIN 20 DAYS AFTER THE TRENCH IN THAT AREA IS

BACKFILLED (10 DAYS IN RESIDENTIAL AREAS), AS REQUIRED IN SECTION V.A.1; OR (2) CONSTRUCTION OR RESTORATION ACTIVITY IS INTERRUPTED FOR EXTENDED PERIODS SUCH AS WHEN SEEDING CANNOT BE COMPLETED DUE TO SEEDING PERIOD RESTRICTIONS

D. IF MULCHING BEFORE SEEDING, INCREASE MULCH APPLICATION ON ALL SLOPES WITHIN 100 FEET OF WATERBODIES AND WETLANDS TO A RATE OF 3 TONS/ACRE OF STRAW OR EQUIVALENT. E. IF WOOD CHIPS ARE USED AS MULCH, DO NOT USE MORE THAN 1 TON/ACRE AND ADD THE EQUIVALENT OF 11 LBS/ACRE AVAILABLE NITROGEN (AT LEAST 50 PERCENT OF WHICH IS SLOW RELEASE)

F. ENSURE THAT MULCH IS ADEQUATELY ANCHORED TO MINIMIZE LOSS DUE TO WIND AND WATER. G. WHEN ANCHORING WITH LIQUID MULCH BINDERS, USE RATES RECOMMENDED BY THE MANUFACTURER. DO NOT USE LIQUID MULCH BINDERS WITHIN 100 FEET OF WETLANDS OR WATERBODIES, EXCEPT WHERE THE PRODUCT IS CERTIFIED ENVIRONMENTALLY NON-TOXIC BY THE APPROPRIATE STATE OR FEDERAL AGENCY OR INDEPENDENT STANDARDS-SETTING ORGANIZATION. H. DO NOT USE SYNTHETIC MONOFILAMENT MESH/NETTED EROSION CONTROL MATERIALS IN AREAS DESIGNATED AS SENSITIVE WILDLIFE HABITAT, UNLESS THE PRODUCT IS SPECIFICALLY DESIGNED TO MINIMIZE HARM TO WILDLIFE. ANCHOR EROSION CONTROL FABRIC WITH STAPLES OR OTHER APPROPRIATE DEVICES.

V. RESTORATION A. CLEANUP

> 1. COMMENCE CLEANUP OPERATIONS IMMEDIATELY FOLLOWING BACKFILL OPERATIONS. COMPLETE FINAL GRADING, TOPSOIL REPLACEMENT, AND INSTALLATION OF PERMANENT EROSION CONTROL STRUCTURES WITHIN 20 DAYS AFTER BACKFILLING THE TRENCH (10 DAYS IN RESIDENTIAL AREAS). IF SEASONAL OR OTHER WEATHER CONDITIONS PREVENT COMPLIANCE WITH THESE TIME FRAMES, MAINTAIN TEMPORARY EROSION CONTROLS (I.E. TEMPORARY SLOPE BREAKERS, SEDIMENT BARRIERS, AND MULCH) UNTIL CONDITIONS ALLOW COMPLETION OF CLEANUP.

> IF CONSTRUCTION OR RESTORATION UNEXPECTEDLY CONTINUES INTO THE WINTER SEASON WHEN CONDITIONS COULD DELAY SUCCESSFUL DECOMPACTION, TOPSOIL REPLACEMENT, OR SEEDING UNTIL THE FOLLOWING SPRING, FILE WITH THE SECRETARY FOR THE REVIEW AND WRITTEN APPROVAL OF THE DIRECTOR, A WINTER CONSTRUCTION PLAN (AS SPECIFIED IN SECTION III.I). THIS FILING REQUIREMENT DOES NOT APPLY TO PROJECTS CONSTRUCTED UNDER THE AUTOMATIC AUTHORIZATION PROVISIONS OF THE FERC'S REGULATIONS. 2. A TRAVEL LANE MAY BE LEFT OPEN TEMPORARILY TO ALLOW ACCESS BY CONSTRUCTION TRAFFIC IF THE TEMPORARY EROSION CONTROL STRUCTURES ARE INSTALLED AS SPECIFIED IN SECTION IV.F. AND INSPECTED AND MAINTAINED AS SPECIFIED IN SECTIONS II.B.12 THROUGH 14. WHEN ACCESS IS NO LONGER REQUIRED THE TRAVEL LANE MUST BE REMOVED AND THE RIGHT-OF-WAY RESTORED.

3. ROCK EXCAVATED FROM THE TRENCH MAY BE USED TO BACKFILL THE TRENCH ONLY TO THE TOP OF THE EXISTING BEDROCK PROFILE. ROCK THAT IS NOT RETURNED TO THE TRENCH SHALL BE CONSIDERED CONSTRUCTION DEBRIS, UNLESS APPROVED FOR USE AS MULCH OR FOR SOME OTHER USE ON THE

CONSTRUCTION WORK AREAS BY THE LANDOWNER OR LAND MANAGING AGENCY. 4. REMOVE EXCESS ROCK FROM AT LEAST THE TOP 12 INCHES OF SOIL IN ALL CULTIVATED OR ROTATED CROPLAND, MANAGED PASTURES, HAYFIELDS, AND RESIDENTIAL AREAS, AS WELL AS OTHER AREAS AT THE LANDOWNER'S REQUEST. THE SIZE, DENSITY, AND DISTRIBUTION OF ROCK ON THE CONSTRUCTION WORK AREA SHALL BE SIMILAR TO ADJACENT AREAS NOT DISTURBED BY CONSTRUCTION. THE LANDOWNER OR LAND MANAGEMENT AGENCY MAY APPROVE OTHER PROVISIONS IN WRITING. 5. GRADE THE CONSTRUCTION RIGHT-OF-WAY TO RESTORE PRE-CONSTRUCTION CONTOURS AND LEAVE THE

SOIL IN THE PROPER CONDITION FOR PLANTING. 6. REMOVE CONSTRUCTION DEBRIS FROM ALL CONSTRUCTION WORK AREAS UNLESS THE LANDOWNER OR LAND

MANAGING AGENCY APPROVES LEAVING MATERIALS ONSITE FOR BENEFICIAL REUSE, STABILIZATION, OR HABITAT RESTORATION. 7. REMOVE TEMPORARY SEDIMENT BARRIERS WHEN REPLACED BY PERMANENT EROSION CONTROL MEASURES

OR WHEN REVEGETATION IS SUCCESSFUL.

B. PERMANENT EROSION CONTROL DEVICES 1. TRENCH BREAKERS

A. TRENCH BREAKERS ARE INTENDED TO SLOW THE FLOW OF SUBSURFACE WATER ALONG THE TRENCH. TRENCH BREAKERS MAY BE CONSTRUCTED OF MATERIALS SUCH AS SAND BAGS OR POLYURETHANE FOAM. DO NOT USE TOPSOIL IN TRENCH BREAKERS B. AN ENGINEER OR SIMILARLY QUALIFIED PROFESSIONAL SHALL DETERMINE THE NEED FOR AND SPACING OF TRENCH BREAKERS. OTHERWISE, TRENCH BREAKERS SHALL BE INSTALLED AT THE SAME SPACING AS AND UPSLOPE OF PERMANENT SLOPE BREAKERS. C. IN AGRICULTURAL FIELDS AND RESIDENTIAL AREAS WHERE SLOPE BREAKERS ARE NOT TYPICALLY REQUIRED, INSTALL TRENCH BREAKERS AT THE SAME SPACING AS IF PERMANENT SLOPE BREAKERS WERE REQUIRED.

D. AT A MINIMUM, INSTALL A TRENCH BREAKER AT THE BASE OF SLOPES GREATER THAN 5 PERCENT WHERE THE BASE OF THE SLOPE IS LESS THAN 50 FEET FROM A WATERBODY OR WETLAND AND WHERE NEEDED TO AVOID DRAINING A WATERBODY OR WETLAND. INSTALL TRENCH BREAKERS AT WETLAND BOUNDARIES, AS SPECIFIED IN THE PROCEDURES. DO NOT INSTALL TRENCH BREAKERS WITHIN A WETLAND.

2. PERMANENT SLOPE BREAKERS

A. PERMANENT SLOPE BREAKERS ARE INTENDED TO REDUCE RUNOFF VELOCITY, DIVERT WATER OFF THE CONSTRUCTION RIGHT-OF-WAY, AND PREVENT SEDIMENT DEPOSITION INTO SENSITIVE RESOURCES. PERMANENT SLOPE BREAKERS MAY BE CONSTRUCTED OF MATERIALS SUCH AS SOIL, STONE, OR SOME FUNCTIONAL EQUIVALENT.

B. CONSTRUCT AND MAINTAIN PERMANENT SLOPE BREAKERS IN ALL AREAS, EXCEPT CULTIVATED AREAS AND LAWNS, UNLESS REQUESTED BY THE LANDOWNER, USING SPACING RECOMMENDATIONS OBTAINED FROM THE LOCAL SOIL CONSERVATION AUTHORITY OR LAND MANAGING AGENCY. IN THE ABSENCE OF WRITTEN RECOMMENDATIONS, USE THE FOLLOWING SPACING UNLESS CLOSER SPACING IS NECESSARY TO AVOID EXCESSIVE EROSION ON THE CONSTRUCTION RIGHT-OF-WAY: SPACING (FEET)

<u>SLOPE (%)</u> 5 - 15 >15-30 200

>30 C. CONSTRUCT SLOPE BREAKERS TO DIVERT SURFACE FLOW TO A STABLE AREA WITHOUT CAUSING WATER TO POOL OR ERODE BEHIND THE BREAKER. IN THE ABSENCE OF A STABLE AREA, CONSTRUCT APPROPRIATE ENERGY-DISSIPATING DEVICES AT THE END OF THE BREAKER. D. SLOPE BREAKERS MAY EXTEND SLIGHTLY (ABOUT 4 FEET) BEYOND THE EDGE OF THE CONSTRUCTION RIGHT-OF-WAY TO EFFECTIVELY DRAIN WATER OFF THE DISTURBED AREA. WHERE SLOPE BREAKERS EXTEND BEYOND THE EDGE OF THE CONSTRUCTION RIGHT-OF-WAY, THEY ARE SUBJECT TO COMPLIANCE WITH ALL APPLICABLE SURVEY REQUIREMENTS. C. SOIL COMPACTION MITIGATION

1. TEST TOPSOIL AND SUBSOIL FOR COMPACTION AT REGULAR INTERVALS IN AGRICULTURAL AND RESIDENTIAL AREAS DISTURBED BY CONSTRUCTION ACTIVITIES. CONDUCT TESTS ON THE SAME SOIL TYPE UNDER SIMILAR MOISTURE CONDITIONS IN UNDISTURBED AREAS TO APPROXIMATE PRECONSTRUCTION CONDITIONS. USE PENETROMETERS OR OTHER APPROPRIATE DEVICES TO CONDUCT TESTS. 2. PLOW SEVERELY COMPACTED AGRICULTURAL AREAS WITH A PARAPLOW OR OTHER DEEP TILLAGE IMPLEMENT. IN AREAS WHERE TOPSOIL HAS BEEN SEGREGATED, PLOW THE SUBSOIL BEFORE REPLACING THE

SEGREGATED TOPSOIL. IF SUBSEQUENT CONSTRUCTION AND CLEANUP ACTIVITIES RESULT IN FURTHER COMPACTION, CONDUCT ADDITIONAL TILLING.

3. PERFORM APPROPRIATE SOIL COMPACTION MITIGATION IN SEVERELY COMPACTED RESIDENTIAL AREAS D. REVEGETATION

1. GENERAL

A. THE PROJECT SPONSOR IS RESPONSIBLE FOR ENSURING SUCCESSFUL REVEGETATION OF SOILS DISTURBED BY PROJECT-RELATED ACTIVITIES. EXCEPT AS NOTED IN SECTION V.D.1.B. B. RESTORE ALL TURF, ORNAMENTAL SHRUBS, AND SPECIALIZED LANDSCAPING IN ACCORDANCE WITH THE LANDOWNER'S REQUEST, OR COMPENSATE THE LANDOWNER. RESTORATION WORK MUST BE PERFORMED BY PERSONNEL FAMILIAR WITH LOCAL HORTICULTURAL AND TURF ESTABLISHMENT PRACTICES.

2. SOIL ADDITIVES

FERTILIZE AND ADD SOIL PH MODIFIERS IN ACCORDANCE WITH WRITTEN RECOMMENDATIONS OBTAINED FROM THE LOCAL SOIL CONSERVATION AUTHORITY, LAND MANAGEMENT AGENCIES, OR LANDOWNER, INCORPORATE RECOMMENDED SOIL PH MODIFIER AND FERTILIZER INTO THE TOP 2 INCHES OF SOIL AS SOON AS PRACTICABLE AFTER APPLICATION.

# 3. SEEDING REQUIREMENTS

A. PREPARE A SEEDBED IN DISTURBED AREAS TO A DEPTH OF 3 TO 4 INCHES USING APPROPRIATE EQUIPMENT TO PROVIDE A FIRM SEEDBED. WHEN HYDROSEEDING. SCARIFY THE SEEDBED TO FACILITATE LODGING AND GERMINATION OF SEED. B. SEED DISTURBED AREAS IN ACCORDANCE WITH WRITTEN RECOMMENDATIONS FOR SEED MIXES,

RATES. AND DATES OBTAINED FROM THE LOCAL SOIL CONSERVATION AUTHORITY OR THE REQUEST OF THE LANDOWNER OR LAND MANAGEMENT AGENCY. SEEDING IS NOT REQUIRED IN CULTIVATED CROPLANDS UNLESS REQUESTED BY THE LANDOWNER.

C. PERFORM SEEDING OF PERMANENT VEGETATION WITHIN THE RECOMMENDED SEEDING DATES. IF SEEDING CANNOT BE DONE WITHIN THOSE DATES, USE APPROPRIATE TEMPORARY EROSION CONTROL MEASURES DISCUSSED IN SECTION IV.F AND PERFORM SEEDING OF PERMANENT VEGETATION AT THE BEGINNING OF THE NEXT RECOMMENDED SEEDING SEASON. DORMANT SEEDING OR TEMPORARY SEEDING OF ANNUAL SPECIES MAY ALSO BE USED, IF NECESSARY, TO ESTABLISH COVER, AS APPROVED BY THE ENVIRONMENTAL INSPECTOR. LAWNS MAY BE SEEDED ON A SCHEDULE ESTABLISHED WITH THE LANDOWNER.

D. IN THE ABSENCE OF WRITTEN RECOMMENDATIONS FROM THE LOCAL SOIL CONSERVATION AUTHORITIES, SEED ALL DISTURBED SOILS WITHIN 6 WORKING DAYS OF FINAL GRADING, WEATHER AND SOIL CONDITIONS PERMITTING, SUBJECT TO THE SPECIFICATIONS IN SECTION V.D.3.A THROUGH V.D.3.C. E. BASE SEEDING RATES ON PURE LIVE SEED. USE SEED WITHIN 12 MONTHS OF SEED TESTING. F. TREAT LEGUME SEED WITH AN INOCULANT SPECIFIC TO THE SPECIES USING THE MANUFACTURER'S RECOMMENDED RATE OF INOCULANT APPROPRIATE FOR THE SEEDING METHOD (BROADCAST, DRILL, OR HYDRO).

G. IN THE ABSENCE OF WRITTEN RECOMMENDATIONS FROM THE LOCAL SOIL CONSERVATION AUTHORITIES, LANDOWNER, OR LAND MANAGING AGENCY TO THE CONTRARY, A SEED DRILL EQUIPPED WITH A CULTIPACKER IS PREFERRED FOR SEED APPLICATION.

BROADCAST OR HYDROSEEDING CAN BE USED IN LIEU OF DRILLING AT DOUBLE THE RECOMMENDED SEEDING RATES. WHERE SEED IS BROADCAST, FIRM THE SEEDBED WITH A CULTIPACKER OR ROLLER AFTER SEEDING. IN ROCKY SOILS OR WHERE SITE CONDITIONS MAY LIMIT THE EFFECTIVENESS OF THIS

	KEVIN McKEON, P.E.				REVISIONS
		NO.	DATE	BY	DESCRIPTION
		0	06/15/17	ERL	SUBMITTED TO FREEHOLD SOIL CONSER
		1	05/07/18	SMR	ISSUED FOR CLIENT REVIEW
		2	06/05/18	PPH	SUBMITTED TO NJDEP
E-100 28	NEW JERSEY				
20	PROFESSIONAL ENGINEER NO GE32586				

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AECOM 25 WEST RIDGE PIKE, SUITE

CONSHOHOCKEN, PA 1942 (610) 832-3500

EQUIPMENT, OTHER ALTERNATIVES MAY BE APPROPRIATE (E.G., USE OF A CHAIN DRAG) TO LIGHTLY COVER SEED AFTER APPLICATION, AS APPROVED BY THE ENVIRONMENTAL INSPECTOR.

VI. OFF-ROAD VEHICLE CONTROL TO EACH OWNER OR MANAGER OF FORESTED LANDS, OFFER TO INSTALL AND MAINTAIN MEASURES TO CONTROL UNAUTHORIZED VEHICLE ACCESS TO THE RIGHT-OF-WAY. THESE MEASURES MAY INCLUDE:

A. SIGNS; B. FENCES WITH LOCKING GATES;

C. SLASH AND TIMBER BARRIERS, PIPE BARRIERS, OR A LINE OF BOULDERS ACROSS THE RIGHT-OF-WAY; AND D. CONIFERS OR OTHER APPROPRIATE TREES OR SHRUBS ACROSS THE RIGHT-OF-WAY.

VII. POST-CONSTRUCTION ACTIVITIES AND REPORTING

A. MONITORING AND MAINTENANCE 1. CONDUCT FOLLOW-UP INSPECTIONS OF ALL DISTURBED AREAS, AS NECESSARY, TO DETERMINE THE SUCCESS OF REVEGETATION AND ADDRESS LANDOWNER CONCERNS. AT A MINIMUM, CONDUCT INSPECTIONS AFTER THE FIRST AND SECOND GROWING SEASONS.

2. REVEGETATION IN NON-AGRICULTURAL AREAS SHALL BE CONSIDERED SUCCESSFUL IF UPON VISUAL SURVEY THE DENSITY AND COVER OF NON-NUISANCE VEGETATION ARE SIMILAR IN DENSITY AND COVER TO ADJACENT UNDISTURBED LANDS. IN AGRICULTURAL AREAS, REVEGETATION SHALL BE CONSIDERED SUCCESSFUL WHEN UPON VISUAL SURVEY, CROP GROWTH AND VIGOR ARE SIMILAR TO ADJACENT UNDISTURBED PORTIONS OF THE SAME FIELD, UNLESS THE EASEMENT AGREEMENT SPECIFIES OTHERWISE. CONTINUE REVEGETATION EFFORTS UNTIL REVEGETATION IS SUCCESSFUL

3. MONITOR AND CORRECT PROBLEMS WITH DRAINAGE AND IRRIGATION SYSTEMS RESULTING FROM PIPELINE CONSTRUCTION IN AGRICULTURAL AREAS UNTIL RESTORATION IS SUCCESSFUL

4. RESTORATION SHALL BE CONSIDERED SUCCESSFUL IF THE RIGHT-OF-WAY SURFACE CONDITION IS SIMILAR TO ADJACENT UNDISTURBED LANDS. CONSTRUCTION DEBRIS IS REMOVED (UNLESS OTHERWISE APPROVED BY THE LANDOWNER OR LAND MANAGING AGENCY PER SECTION V.A.6), REVEGETATION IS SUCCESSFUL, AND PROPER DRAINAGE HAS BEEN RESTORED.

5. ROUTINE VEGETATION MOWING OR CLEARING OVER THE FULL WIDTH OF THE PERMANENT RIGHT-OF-WAY IN UPLANDS SHALL NOT BE DONE MORE FREQUENTLY THAN EVERY 3 YEARS. HOWEVER, TO FACILITATE PERIODIC CORROSION/LEAK SURVEYS, A CORRIDOR NOT EXCEEDING 10 FEET IN WIDTH CENTERED ON THE PIPELINE MAY BE CLEARED AT A FREQUENCY NECESSARY TO MAINTAIN THE 10-FOOT CORRIDOR IN AN HERBACEOUS STATE. IN NO CASE SHALL ROUTINE VEGETATION MOWING OR CLEARING OCCUR DURING THE MIGRATORY BIRD NESTING SEASON BETWEEN APRIL 15 AND AUGUST 1 OF ANY YEAR UNLESS SPECIFICALLY APPROVED IN WRITING BY THE RESPONSIBLE LAND MANAGEMENT AGENCY OR THE U.S. FISH AND WILDLIFE SERVICE.

EFFORTS TO CONTROL UNAUTHORIZED OFF-ROAD VEHICLE USE, IN COOPERATION WITH THE LANDOWNER, SHALL CONTINUE THROUGHOUT THE LIFE OF THE PROJECT. MAINTAIN SIGNS, GATES, AND PERMANENT ACCESS ROADS AS NECESSARY.

B. REPORTING 1. THE PROJECT SPONSOR SHALL MAINTAIN RECORDS THAT IDENTIFY BY MILEPOST:

A. METHOD OF APPLICATION, APPLICATION RATE, AND TYPE OF FERTILIZER, PH MODIFYING AGENT, SEED, AND MULCH USED;

- **B. ACREAGE TREATED**
- C. DATES OF BACKFILLING AND SEEDING;
- D. NAMES OF LANDOWNERS REQUESTING SPECIAL SEEDING TREATMENT AND A DESCRIPTION OF THE FOLLOW-UP ACTIONS;
- E. THE LOCATION OF ANY SUBSURFACE DRAINAGE REPAIRS OR IMPROVEMENTS MADE DURING RESTORATION; AND
- F. ANY PROBLEM AREAS AND HOW THEY WERE ADDRESSED.

2. THE PROJECT SPONSOR SHALL FILE WITH THE SECRETARY QUARTERLY ACTIVITY REPORTS DOCUMENTING THE RESULTS OF FOLLOW-UP INSPECTIONS REQUIRED BY SECTION VII.A.1; ANY PROBLEM AREAS, INCLUDING THOSE IDENTIFIED BY THE LANDOWNER; AND CORRECTIVE ACTIONS TAKEN FOR AT LEAST 2 YEARS FOLLOWING CONSTRUCTION.

THE REQUIREMENT TO FILE QUARTERLY ACTIVITY REPORTS WITH THE SECRETARY DOES NOT APPLY TO PROJECTS CONSTRUCTED UNDER THE AUTOMATIC AUTHORIZATION, PRIOR NOTICE, OR ADVANCED NOTICE PROVISIONS IN THE FERC'S REGULATIONS.

THIS EXPANSION PROJECT IS REGULATED BY THE U.S. DEPARTMENT OF ENERGY, FEDERAL ENERGY REGULATORY COMMISSION (FERC). IN ADDITION TO STATE AND LOCAL REQUIREMENTS. THIS EROSION AND SEDIMENT CONTROL PLAN INCLUDES THESE MITIGATION MEASURES FOR PIPELINE CONSTRUCTION SPECIFIED BY THE FERC IN ITS PLAN AND PROCEDURES DOCUMENTS, UPLAND EROSION CONTROL, REVEGETATION, AND MAINTENANCE PLAN MAY 2013 AND WETLAND AND WATERBODY CONSTRUCTION AND MITIGATION PROCEDURES, MAY 2013.

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ION	W.O. NO.	CHK.	APP.		SOIL EROSION & SEDIMENT CONTROL PLAN							
NSERVATION DISTRICT	60515775	PPH	KDM	NO								
	60515775	JAC	PPH									
	60515775	JAC	PPH			PROPOSED 2	6" MADISON LOOP	GAS PIPELINE				
					N							
				DRAWN BY:	ERL	DATE: 06/15/17	ISSUED FOR BID: TBD	SCALE: NTS				
				CHECKED BY:	PPH	DATE: 06/15/17	ISSUED FOR CONSTRUCTION: TBD	REVISION: 2				
				APPROVED BY:	KDM	DATE: 06/15/17	DRAWING NUMBER: 26-0100-80-28-D	SHEET 20				
				WO: 60515775				OF 21				

# UPLAND EROSION CONTROL, REVEGETATION, AND MAINTENANCE PLAN (CONT'D)

# VII. POST-CONSTRUCTION ACTIVITIES AND REPORTING

A. MONITORING AND MAINTENANCE
1. CONDUCT FOLLOW-UP INSPECTIONS OF ALL DISTURBED AREAS, AS NECESSARY, TO DETERMINE THE SUCCESS OF REVEGETATION AND ADDRESS LANDOWNER CONCERNS. AT A MINIMUM, CONDUCT INSPECTIONS AFTER THE FIRST AND SECOND GROWING SEASONS.
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RESULTING FROM PIPELINE CONSTRUCTION IN AGRICULTURAL AREAS UNTIL RESTORATION IS SUCCESSFUL. 4. RESTORATION SHALL BE CONSIDERED SUCCESSFUL IF THE RIGHT-OF-WAY SURFACE

CONDITION IS SIMILAR TO ADJACENT UNDISTURBED LANDS, CONSTRUCTION DEBRIS IS REMOVED (UNLESS OTHERWISE APPROVED BY THE LANDOWNER OR LAND MANAGING AGENCY PER SECTION V.A.6), REVEGETATION IS SUCCESSFUL, AND PROPER DRAINAGE HAS BEEN RESTORED.

5. ROUTINE VEGETATION MOWING OR CLEARING OVER THE FULL WIDTH OF THE PERMANENT RIGHT-OF-WAY IN UPLANDS SHALL NOT BE DONE MORE FREQUENTLY THAN EVERY 3 YEARS. HOWEVER, TO FACILITATE PERIODIC CORROSION/LEAK SURVEYS, A CORRIDOR NOT EXCEEDING 10 FEET IN WIDTH CENTERED ON THE PIPELINE MAY BE CLEARED AT A FREQUENCY NECESSARY TO MAINTAIN THE 10-FOOT CORRIDOR IN AN HERBACEOUS STATE. IN NO CASE SHALL ROUTINE VEGETATION MOWING OR CLEARING OCCUR DURING THE MIGRATORY BIRD NESTING SEASON BETWEEN APRIL 15 AND AUGUST 1 OF ANY YEAR UNLESS SPECIFICALLY APPROVED IN WRITING BY THE RESPONSIBLE LAND MANAGEMENT AGENCY OR THE U.S. FISH AND WILDLIFE SERVICE.

6. EFFORTS TO CONTROL UNAUTHORIZED OFF-ROAD VEHICLE USE, IN COOPERATION WITH THE LANDOWNER, SHALL CONTINUE THROUGHOUT THE LIFE OF THE PROJECT. MAINTAIN SIGNS, GATES, AND PERMANENT ACCESS ROADS AS NECESSARY.

B. REPORTING

1. THE PROJECT SPONSOR SHALL MAINTAIN RECORDS THAT IDENTIFY BY MILEPOST: A. METHOD OF APPLICATION, APPLICATION RATE, AND TYPE OF FERTILIZER, PH

MODIFYING AGENT, SEED, AND MULCH USED; B. ACREAGE TREATED;

C. DATES OF BACKFILLING AND SEEDING;

D. NAMES OF LANDOWNERS REQUESTING SPECIAL SEEDING TREATMENT AND A

DESCRIPTION OF THE FOLLOW-UP ACTIONS; E. THE LOCATION OF ANY SUBSURFACE DRAINAGE REPAIRS OR IMPROVEMENTS

MADE DURING RESTORATION; AND

F. ANY PROBLEM AREAS AND HOW THEY WERE ADDRESSED.

2. THE PROJECT SPONSOR SHALL FILE WITH THE SECRETARY QUARTERLY ACTIVITY REPORTS DOCUMENTING THE RESULTS OF FOLLOW-UP INSPECTIONS REQUIRED BY SECTION VII.A.1; ANY PROBLEM AREAS, INCLUDING THOSE IDENTIFIED BY THE LANDOWNER; AND CORRECTIVE ACTIONS TAKEN FOR AT LEAST 2 YEARS FOLLOWING CONSTRUCTION. THE REQUIREMENT TO FILE QUARTERLY ACTIVITY REPORTS WITH THE SECRETARY DOES NOT APPLY TO PROJECTS CONSTRUCTED UNDER THE AUTOMATIC AUTHORIZATION, PRIOR NOTICE, OR ADVANCED NOTICE PROVISIONS IN THE FERC'S REGULATIONS.

		KEVIN McKEON, P.E.				REVISIONS
			NO.	DATE	BY	DESCRIPTIO
			0	06/15/17	ERL	SUBMITTED TO FREEHOLD SOIL CON
			1	05/07/18	SMR	ISSUED FOR CLIENT REVIEW
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CALL BEFORE YOU DIG 1-800-272-1000 It's THE LAW NEW JERSEY ONE CALL DIG Safely.	AECOM 625 WEST RIDGE PIKE, SUITE E-100 CONSHOHOCKEN, PA 19428 (610) 832-3500	NEW JERSEY PROFESSIONAL ENGINEER NO GE32586				

THIS EXPANSION PROJECT IS REGULATED BY THE U.S. DEPARTMENT OF ENERGY, FEDERAL ENERGY REGULATORY COMMISSION (FERC). IN ADDITION TO STATE AND LOCAL REQUIREMENTS. THIS EROSION AND SEDIMENT CONTROL PLAN INCLUDES THESE MITIGATION MEASURES FOR PIPELINE CONSTRUCTION SPECIFIED BY THE FERC IN ITS PLAN AND PROCEDURES DOCUMENTS, UPLAND EROSION CONTROL, REVEGETATION, AND MAINTENANCE PLAN MAY 2013 AND WETLAND AND WATERBODY CONSTRUCTION AND MITIGATION PROCEDURES, MAY 2013.

S				TRANSCO	NTINENTAL GA	S PIPE LINE COMPANY, LLC,						
ON	W.O. NO.	CHK.	APP.	SOIL	SOIL EROSION & SEDIMENT CONTROL PLAN							
SERVATION DISTRICT	60515775	PPH	KDM	NORTH	FAST SUPPLY	ENHANCEMENT PROJECT						
	60515775	JAC	PPH	non n								
	60515775	JAC	PPH		PROPOSED 26	5" MADISON LOOP	GAS PIPELINE					
					M.P. 8.57	TO M.P. 12.00						
				Ν	IDDLESEX CO	UNTY, NEW JERSEY						
				DRAWN BY: ERL	DATE: 06/15/17	ISSUED FOR BID: TBD	SCALE: NTS					
				CHECKED BY: PPH	DATE: 06/15/17	ISSUED FOR CONSTRUCTION: TBD	REVISION: 2					
				APPROVED BY: KDM	DATE: 06/15/17	DRAWING NUMBER: 26-0100-80-28-D	SHEET 21					
				WO: 60515775			OF 21					