

# EROSION & SEDIMENT CONTROL PLAN

## PENNSYLVANIA PIPELINE PROJECT MT. UNION STATION

### SHIRLEY TOWNSHIP, HUNTINGDON COUNTY, PENNSYLVANIA

NOVEMBER 2016

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PREPARED FOR:  
SUNOCO PIPELINE L.P.  
SINKING SPRING, PENNSYLVANIA

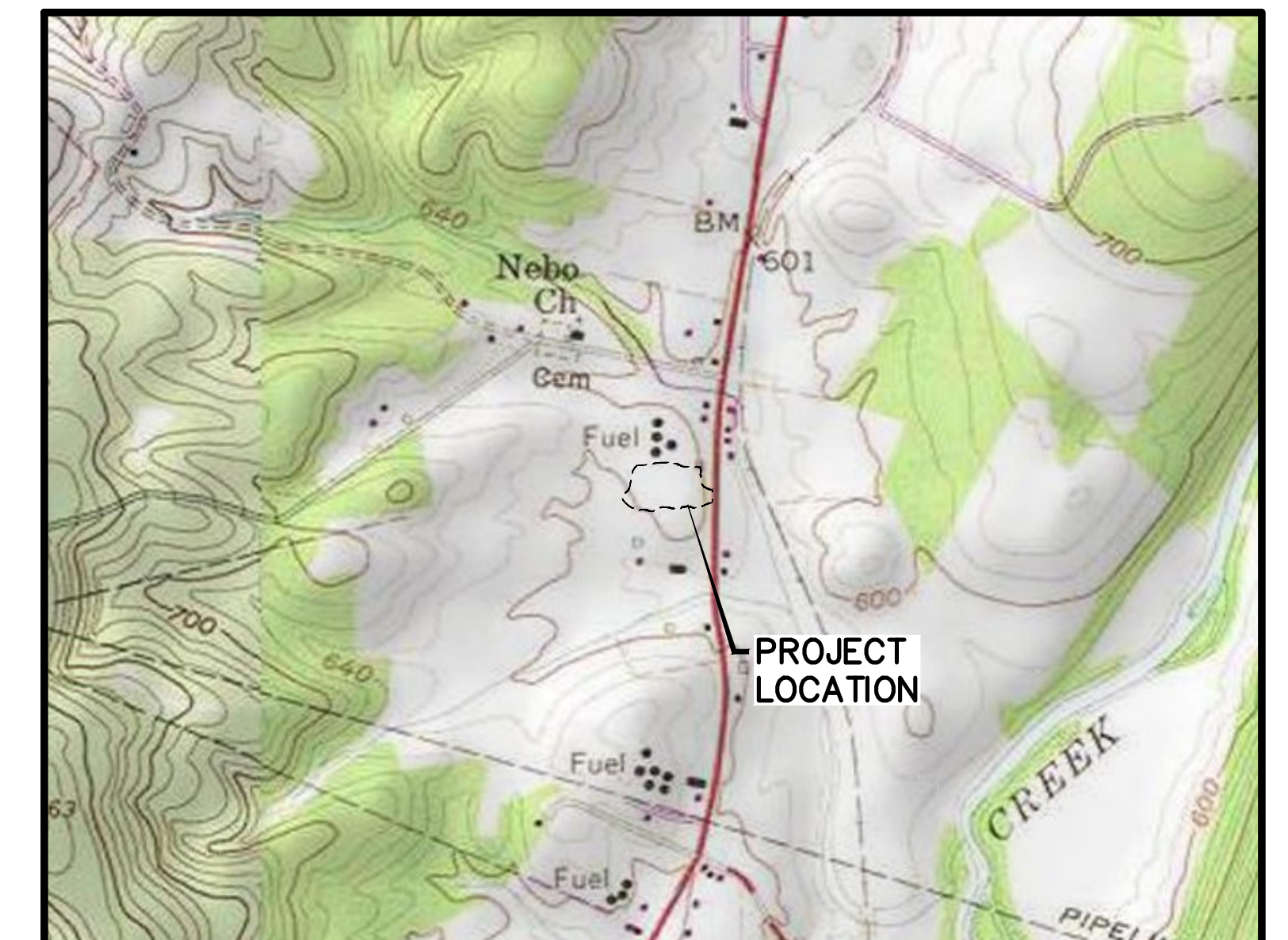


PREPARED BY:



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LOCATION MAP  
MT. UNION STATION  
SHIRLEY TOWNSHIP, HUNTINGDON COUNTY, PENNSYLVANIA

0 1000 2000  
SCALE IN FEET



NOTE: A GEOTECHNICAL REPORT IS BEING PREPARED SEPARATELY FROM THIS PLAN. THE CERTIFYING ENGINEER OF THIS PLAN HAS NOT ASSESSED AND DOES NOT CERTIFY THE GEOTECHNICAL FEATURES OF THIS PLAN, INCLUDING FOUNDATION DESIGN AND SLOPE STABILITY.



**NOTES:**

- EXISTING TOPOGRAPHY FEATURES COMPILED FROM WWW.PASDA.PSU.EDU, AND TRICO SURVEYING AND MAPPING INC. SITE COORDINATES AND DESIGN ARE BASED ON PENNSYLVANIA STATE PLANE SYSTEM, NAD83, SOUTH ZONE, US SURVEY FOOT.
- PROPERTY LINES FROM TRICO SURVEYING AND MAPPING INC.
- COMPOST FILTER SOCK INSTALLATION TO BE ADJUSTED AS NEEDED.
- THE RIGHTS-OF-WAYS AND EASEMENTS SHOWN ON THIS PLAN ARE THE RESPONSIBILITY OF SUNOCO LOGISTICS PARTNERS, L.P. TO SECURE WITH THE INDIVIDUAL PROPERTY OWNER. THE RIGHTS-OF-WAY AND EASEMENTS SHOWN ON THIS PERMIT DRAWING REPRESENT THE BEST AVAILABLE PROPERTY INFORMATION AS PROVIDED TO TETRA TECH, INC. BY SUNOCO LOGISTICS PARTNERS, L.P. THE RIGHTS-OF-WAY AND EASEMENTS SHALL BE VERIFIED AND LOCATED IN THE FIELD BY SUNOCO LOGISTICS PARTNERS, L.P.
- COMPOST FILTER SOCK INSTALLATION MUST BE ADJUSTED, AS NEEDED, TO ACCOMMODATE ACTUAL CONTOURS IDENTIFIED IN FIELD DURING VARIOUS PHASES OF THE PROJECT.
- IF SOIL OR ROCK IS TO BE DISPOSED OF OFF-SITE, IT MUST BE TAKEN TO A LOCATION WITH AN E&S PLAN AND BMPS IN PLACE.
- THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ANY MATERIAL BROUGHT ON SITE IS CLEAN FILL. CLEAN FILL IS UNCONTAMINATED, NONWATER-SOLUBLE, NONDECOMPOSTABLE INERT SOLID MATERIAL. THIS INCLUDES SOIL, ROCK, STONE, DREDGED MATERIAL, USED ASPHALT, AND BRICK, BLOCK, OR CONCRETE FROM CONSTRUCTION AND DEMOLITION ACTIVITIES THAT IS SEPARATE FROM OTHER WASTE AND RECOGNIZABLE AS SUCH. DEP FORM FP-001 MUST BE RETAINED BY THE PROPERTY OWNER FOR ANY FILL MATERIAL AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE BUT QUALIFYING AS CLEAN FILL DUE TO ANALYTICAL TESTING.
- THE PROJECT AREA SURFACE WATER RUNOFF DRAINS 300 FEET TO THE SOUTHWEST TO UNT TO AUGWICK CREEK DESIGNATED HS TROUT STOCK FISHERIES (TSF) UNDER PA CODE 25 CHAPTER 93.

**PLAN NARRATIVE:**

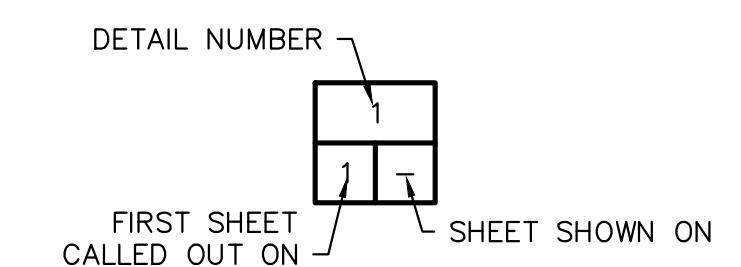
THE PROJECT INVOLVES CONSTRUCTION AT THE MT. UNION PUMP STATION EXPANSION, WHICH WILL BE CONNECTED TO THE PPP TWENTY-INCH DIAMETER TRANSMISSION PIPELINE. CONSTRUCTION ACTIVITIES WILL INVOLVE INSTALLATION OF A ROCK CONSTRUCTION ENTRANCE OF THE MT. UNION PUMP STATION PAD, AND SITE RESTORATION. PUMP STATION EXPANSION ACTIVITIES INCLUDE THE INSTALLATION OF A LAUNDER, RECEIVER, KNOCK OUT TANK, AND PIPE SUPPORTS. THE PROPOSED EXPANSION WILL BE CONSTRUCTED WITHIN AN LOD OF APPROXIMATELY 2.83 ACRES IN HUNTINGDON COUNTY.

RECEIVING WATERS	CHAPTER 93 CLASSIFICATION	DESIGNATED USE
UNT TO AUGWICK CREEK	TSF	ATTAINING
UNT TO AUGWICK CREEK	TSF	ATTAINING

**LEGEND**

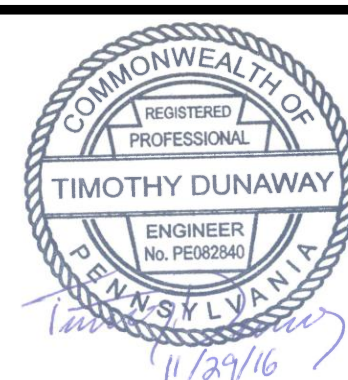
- EXISTING 10' CONTOUR
- EXISTING 2' CONTOUR
- EXISTING SUNOCO GAS LINE
- EXISTING GAS LINE
- PROPOSED 10' CONTOUR
- PROPOSED 2' CONTOUR
- EXISTING BUILDING
- PROPERTY LINE
- PROPOSED FENCE
- PROPOSED UTILITY POLE
- ROCK CONSTRUCTION ENTRANCE WITH WASH RACKS
- EROSION CONTROL BLANKET
- 12" COMPOST FILTER SOCK
- 18" COMPOST FILTER SOCK
- 24" COMPOST FILTER SOCK
- 32" COMPOST FILTER SOCK
- SOIL STOCKPILE
- LIMIT OF DISTURBANCE/PERMIT BOUNDARY
- EXISTING PIPING
- EXISTING PEM WETLAND

**DETAIL INDICATOR**



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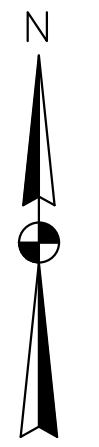
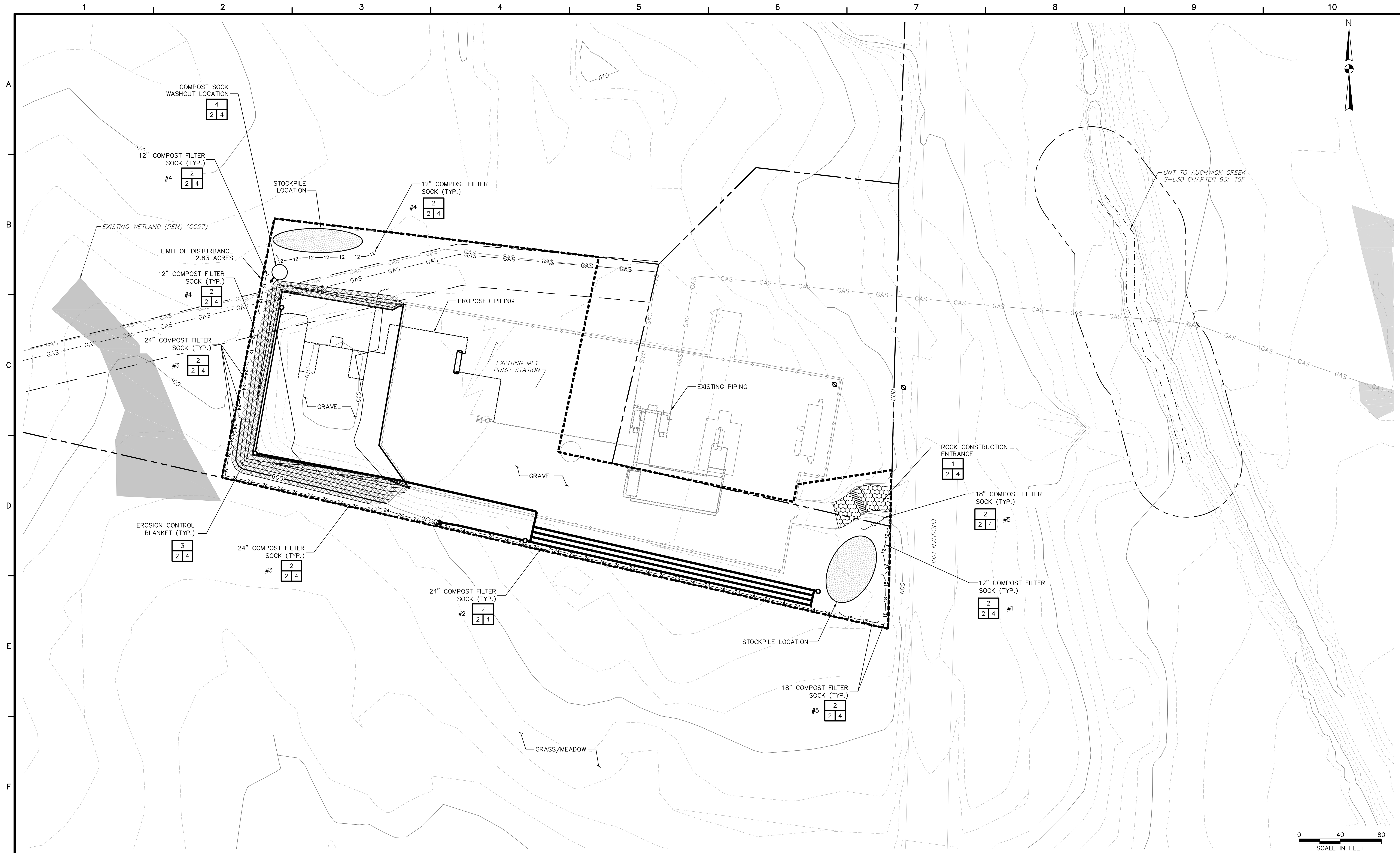
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NO.	BY	DATE	REMARKS
1	TD	11/30/18	REVISED FOR DEP TECHNICAL COMMENTS



SUNOCO PIPELINE L.P.  
SINKING SPRING, PENNSYLVANIA  
  
MT. UNION STATION

ESCGP-2 EROSION & SEDIMENT CONTROL PLAN  
  
GENERAL NOTES & LEGEND

DATE:	11/4/16
PROJECT NO.:	212ICPB00136
DESIGNED BY:	RS
DRAWN BY:	BH
CHECKED BY:	DZ
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<b>C-1</b>	
SHEET	1 OF 4

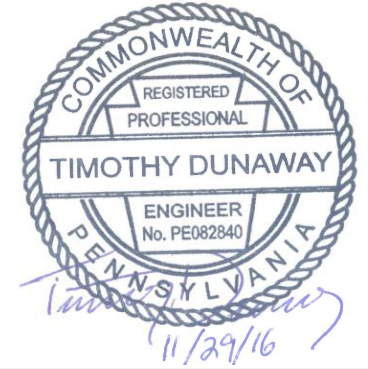


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SINKING SPRING, PENNSYLVANIA  
  
MT. UNION STATION

ESCGP-2 EROSION & SEDIMENT CONTROL PLAN

EROSION & SEDIMENT CONTROL PLAN

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<b>C-2</b>	
SHEET	2 OF 4

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**STANDARD EROSION AND SEDIMENT CONTROL PLAN NOTES**

- ALL EARTH DISTURBANCES, INCLUDING CLEARING AND GRUBBING AS WELL AS CUTS AND FILLS SHALL BE DONE IN ACCORDANCE WITH THE APPROVED E&S PLAN. A COPY OF THE APPROVED DRAWINGS (STAMPED, SIGNED AND DATED BY THE REVIEWING AGENCY) MUST BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES. THE REVIEWING AGENCY SHALL BE NOTIFIED OF ANY CHANGES TO THE APPROVED PLAN PRIOR TO IMPLEMENTATION OF THOSE CHANGES. THE REVIEWING AGENCY MAY REQUIRE A WRITTEN SUBMITTAL OF THOSE CHANGES FOR REVIEW AND APPROVAL AT ITS DISCRETION.
- AT LEAST 3 DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES SHALL NOTIFY THE PENNSYLVANIA ONE CALL SYSTEM AT 1-800-242-1776 FOR BURIED UTILITIES LOCATIONS.
- ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE SEQUENCE PROVIDED ON THE PLAN DRAWINGS. DEVIATION FROM THAT SEQUENCE MUST BE APPROVED IN WRITING FROM THE LOCAL CONSERVATION DISTRICT OR BY THE DEPARTMENT PRIOR TO IMPLEMENTATION
- CLEARING, GRUBBING, AND TOPSOIL STRIPPED SHALL BE LIMITED TO THOSE AREAS DESCRIBED IN EACH STAGE OF THE CONSTRUCTION SEQUENCE. GENERAL SITE CLEARING, GRUBBING AND TOPSOIL STRIPPING MAY NOT COMMENCE IN ANY STAGE OR PHASE OF THE PROJECT UNTIL THE E&S BMPs SPECIFIED BY THE BMP SEQUENCE FOR THAT STAGE OR PHASE HAVE BEEN INSTALLED AND ARE FUNCTIONING AS DESCRIBED IN THE E&S PLAN.
- AT NO TIME SHALL CONSTRUCTION VEHICLES BE ALLOWED TO ENTER AREAS OUTSIDE THE LIMIT OF DISTURBANCE BOUNDARIES SHOWN ON THE PLAN MAPS. THESE AREAS MUST BE CLEARLY MARKED AND FENCED OFF BEFORE CLEARING AND GRUBBING OPERATIONS BEGIN.
- TOPSOIL REQUIRED FOR THE ESTABLISHMENT OF VEGETATION SHALL BE STOCKPILED AT THE LOCATION(S) SHOWN ON THE PLAN MAP(S) IN THE AMOUNT NECESSARY TO COMPLETE THE FINISH GRADING OF ALL EXPOSED AREAS THAT ARE TO BE STABILIZED BY VEGETATION. EACH STOCKPILE SHALL BE PROTECTED IN THE MANNER SHOWN ON THE PLAN DRAWINGS. STOCKPILE HEIGHTS SHALL NOT EXCEED 35 FEET. STOCKPILE SLOPES SHALL BE 2H:1V OR FLATTER.
- IMMEDIATELY UPON DISCOVERING UNFORSEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE OPERATOR SHALL IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICES TO MINIMIZE THE POTENTIAL FOR EROSION AND SEDIMENT POLLUTION AND NOTIFY THE LOCAL CONSERVATION DISTRICT AND/OR THE REGIONAL OFFICE OF THE DEPARTMENT.
- ALL PUMPING OF WATER FROM ANY WORK AREA SHALL BE DONE ACCORDING TO THE PROCEDURE DESCRIBED IN THIS PLAN, OVER UNDISTURBED VEGETATED AREAS.
- UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENT BMPs SHALL BE MAINTAINED PROPERLY. MAINTENANCE SHALL INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENT BMPs AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGRADING, RESEEDING, REMULCHING AND RENETTING MUST BE PERFORMED IMMEDIATELY. IF THE E&S BMPs FAIL TO PERFORM AS EXPECTED, REPLACEMENT BMPs, OR MODIFICATIONS OF THOSE INSTALLED WILL BE REQUIRED.
- A LOG SHOWING DATES THAT E&S BMPs WERE INSPECTED AS WELL AS ANY DEFICIENCIES FOUND AND THE DATE THEY WERE CORRECTED SHALL BE MAINTAINED ON THE SITE AND BE MADE AVAILABLE TO REGULATORY AGENCY OFFICIALS AT THE TIME OF INSPECTION.
- SEDIMENT TRACKED ONTO ANY PUBLIC ROADWAY OR SIDEWALK SHALL BE RETURNED TO THE CONSTRUCTION SITE BY THE END OF EACH WORK DAY AND DISPOSED IN THE MANNER DESCRIBED IN THIS PLAN. IN NO CASE SHALL THE SEDIMENT BE WASHED, SHOVELED, OR SWEEPED INTO ANY ROADSIDE DITCH, STORM SEWER, OR SURFACE WATER.
- ALL SEDIMENT REMOVED FROM BMPs SHALL BE PLACED WITHIN THE RIGHT-OF-WAY EXCEPT IN WETLAND AREAS OR AS OTHERWISE DESCRIBED IN THE PLAN DRAWINGS.
- AREAS WHICH ARE TO BE TOPSOILED SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 3 TO 5 INCHES - 6 TO 12 INCHES ON COMPACTED SOILS - PRIOR TO PLACEMENT OF TOPSOIL. AREAS TO BE VEGETATED SHALL HAVE A MINIMUM 4 INCHES OF TOPSOIL IN PLACE PRIOR TO SEEDING AND MULCHING. FILL OUTSLOPES SHALL HAVE A MINIMUM OF 2 INCHES OF TOPSOIL.
- E&S BMPs SHALL REMAIN FUNCTIONAL AS SUCH UNTIL ALL AREAS TRIBUTARY TO THEM ARE PERMANENTLY STABILIZED OR UNTIL THEY ARE REPLACED BY ANOTHER BMP APPROVED BY THE LOCAL CONSERVATION DISTRICT OR THE DEPARTMENT.
- UPON COMPLETION OF ALL EARTH DISTURBANCE ACTIVITIES AND PERMANENT STABILIZATION OF ALL DISTURBED AREAS, THE OWNER AND/OR OPERATOR SHALL CONTACT THE PA DEP OR THE LOCAL CONSERVATION DISTRICT FOR AN INSPECTION PRIOR TO REMOVAL/CONVERSION OF THE E&S BMPs.
- UPON COMPLETION OF ALL EARTH DISTURBANCE ACTIVITIES AND PERMANENT STABILIZATION OF ALL DISTURBED AREAS, THE OWNER AND/OR OPERATOR SHALL CONTACT THE PA DEP OR LOCAL CONSERVATION DISTRICT TO SCHEDULE A FINAL INSPECTION.
- UNDERGROUND UTILITIES CUTTING THROUGH ANY ACTIVE CHANNEL SHALL BE IMMEDIATELY BACKFILLED AND THE CHANNEL RESTORED TO ITS ORIGINAL CROSS-SECTION AND PROTECTIVE LINING. ANY BASE FLOW WITHIN THE CHANNEL SHALL BE CONVEYED PAST THE WORK AREA IN THE MANNER DESCRIBED IN THIS PLAN UNTIL SUCH RESTORATION IS COMPLETE.
- AN AREA SHALL BE CONSIDERED TO HAVE ACHIEVED FINAL STABILIZATION WHEN IT HAS A MINIMUM UNIFORM 70% PERENNIAL VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED SURFACE EROSION AND SUBSURFACE CHARACTERISTICS SUFFICIENT TO RESIST SLIDING AND OTHER MOVEMENTS.
- IF EARTH DISTURBANCE ACTIVITIES ARE TO CEASE FOR MORE THAN 4 DAYS, THE OPERATOR SHALL STABILIZE ANY AREAS DISTURBED BY THE ACTIVITIES. DURING NON-GERMINATING PERIODS, MULCH SHOULD BE APPLIED AT THE SPECIFIED RATES. DISTURBED AREAS WHICH ARE NOT AT FINISHED GRADE AND WHICH WILL BE REDISTURBED WITHIN 1 YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE TEMPORARY VEGETATIVE STABILIZATION SPECIFICATIONS. DISTURBED AREAS WHICH ARE AT FINISHED GRADE OR WHICH WILL NOT BE REDISTURBED WITHIN 1 YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE PERMANENT VEGETATIVE STABILIZATION SPECIFICATIONS. ACCESS AREAS THAT CONTINUE TO BE DISTURBED WILL BE STABILIZED ONCE ACTIVITY IS COMPLETE.
- AT STREAM CROSSINGS, 50' BUFFER AREAS SHOULD BE MAINTAINED. ON BUFFERS, CLEARING, SOD DISTURBANCES, EXCAVATION, AND EQUIPMENT TRAFFIC SHOULD BE MINIMIZED. ACTIVITIES SUCH AS STACKING LOGS, BURNING CLEARED BRUSH, DISCHARGING RAINWATER FROM TRENCHES, WELDING PIPE SECTIONS, REFUELING AND MAINTAINING EQUIPMENT SHOULD BE ACCOMPLISHED OUTSIDE OF BUFFERS.
- MULCH WITH NETTING OR EROSION CONTROL BLANKETS MUST BE INSTALLED ON ALL SLOPES 3:1 AND STEEPER AND WITHIN 100' OF SPECIAL PROTECTION WATERS OR 50' OF SURFACE WATERS.
- THE OPERATOR SHALL REMOVE FROM THE SITE, RECYCLE, OR DISPOSE OF ALL BUILDING MATERIALS AND WASTES IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 260.1 ET SEQ., AND 287.1 ET SEQ. THE CONTRACTOR SHALL NOT ILLEGALLY BURY, DUMP, OR DISCHARGE ANY BUILDING MATERIAL OR WASTES AT THE SITE.

**TEMPORARY EROSION AND SEDIMENT CONTROLS INSPECTION AND MAINTENANCE SCHEDULE**

BMP	INSPECTION FREQUENCY	MAINTENANCE TO BE PERFORMED
COMPOST FILTER SOCK	WEEKLY AND AFTER RUNOFF EVENTS	MAINTENANCE SHALL BE PERFORMED AS NEEDED. SEDIMENT SHALL BE REMOVED ONCE IT HAS ACCUMULATED TO ONE THIRD THE ORIGINAL HEIGHT OF THE BARRIER. COMPOST FILTER SOCK SHALL BE REPLACED WHENEVER IT HAS DETERIORATED TO SUCH AN EXTENT THAT THE EFFECTIVENESS OF COMPOST FILTER SOCK IS REDUCED. COMPOST FILTER SOCKS SHALL REMAIN IN PLACE UNTIL DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED. ALL SEDIMENT ACCUMULATION AT THE COMPOST FILTER SOCK SHALL BE REMOVED AND PROPERLY DISPOSED OF BEFORE THE COMPOST FILTER SOCK IS REMOVED.
ROCK CONSTRUCTION ENTRANCE	DAILY	CONTRACTOR SHALL MAINTAIN/REPLACE MATERIAL AS NEEDED THROUGHOUT CONSTRUCTION TO MAINTAIN SPECIFIED MINIMUM THICKNESS DURING USE OF ACCESS ROAD. A STOCKPILE OF ROCK WILL BE MAINTAINED ON SITE FOR THIS PURPOSE
MULCH STABILIZATION	WEEKLY AND AFTER RUNOFF EVENTS	REPLACE MULCH AS REQUIRED. RESTORE SEEDING IN AFFECTED AREA IF NECESSARY.
TIMBER MAT	WEEKLY AND AFTER RUNOFF EVENTS	INSPECT THE TIMBER MAT FOR EROSION AND MAKE ANY NECESSARY REPAIRS.
WATERBARS	WEEKLY AND AFTER RUNOFF EVENTS	WATERBARS SHALL BE INSPECTED WEEKLY (DAILY ON ACTIVE ROADS) AND AFTER EACH RUNOFF EVENT. DAMAGED OR ERODED WATERBARS SHALL BE RESTORED TO ORIGINAL DIMENSIONS WITHIN 24 HOURS OF INSPECTION.
PUMPED WATER FILTER BAGS	DAILY	FILTER BAGS SHALL BE REPLACED WHEN THEY BECOME 1/2 FULL OF SEDIMENT. IF ANY PROBLEM IS DETECTED, PUMPING SHALL CEASE IMMEDIATELY AND NOT RESUME UNTIL THE PROBLEM IS CORRECTED.

**TEMPORARY SEEDING**

TEMPORARY GRASS COVER WILL BE ESTABLISHED IN THE FOLLOWING AREAS:

- WHERE VEGETATIVE FILTERS MUST BE ESTABLISHED BELOW FILTER BAGS, A MINIMUM DISTANCE OF 10 FEET WILL BE SEEDING DOWN SLOPE OF THE TRAP OUTLET. SEED MIXTURE FOR TEMPORARY COVER WILL CONSIST OF 100-PERCENT ANNUAL RYEGRASS. SEED WILL BE APPLIED AT THE RATE OF 40 LB. PER ACRE OR AS RECOMMENDED BY A LOCAL RECOGNIZED SEED SUPPLIER AND APPROVED BY THE OWNER'S REPRESENTATIVE. PRIOR TO SEEDING, APPLY 1 TON OF AGRICULTURAL GRADE LIMESTONE PER ACRE PLUS 10-10-10 FERTILIZER AT THE RATE OF 500 LB. PER ACRE AND WORK INTO SOIL.
- WHERE SOIL STOCKPILES ARE TO BE EXPOSED FOR A PERIOD GREATER THAN FOUR (4) DAYS, THE STOCKPILE SHALL BE SEEDING.

SOIL AMENDMENT	TEMPORARY SEEDING APPLICATION RATE			NOTES
	PER ACRE	PER 1,000 SQ. FT.	PER 1,000 SQ. YD.	
AGRICULTURAL LIME	1 TON	40 LB.	410 LB.	TYPICALLY NOT REQUIRED FOR TOPSOIL STOCKPILES
10-10-10 FERTILIZER	500 LB.	12.5 LB.	100 LB.	TYPICALLY NOT REQUIRED FOR TOPSOIL STOCKPILES

**MULCHING**

THE PURPOSE OF MULCH IS TO REDUCE RUNOFF AND EROSION, PREVENT SURFACE COMPACTION OR CRUSTING, CONSERVE MOISTURE, AID IN ESTABLISHING PLANT COVER, AND CONTROL WEEDS. MULCH WILL BE APPLIED ON ANY AREA SUBJECT TO EROSION, OR WHICH HAS UNFAVORABLE CONDITIONS FOR PLANT ESTABLISHMENT AND GROWTH. THE PRACTICE WILL BE USED ALONE OR IN CONJUNCTION WITH OTHER STRUCTURAL AND VEGETATIVE CONSERVATION PRACTICES, SUCH AS WATERWAYS, PONDS, SEDIMENTATION TRAPS OR CRITICAL AREA PLANTING. ON SEDIMENT PRODUCING AREAS WHERE THE PERIOD OF EXPOSURE IS LESS THAN 2 MONTHS, MULCH MATERIALS WILL BE APPLIED ACCORDING TO THE FOLLOWING GUIDELINES:

- APPLY STRAW MULCH AT THE RATE OF 3 TONS PER ACRE. CHEMICALLY TREATED OR SALTED STRAW IS NOT ACCEPTABLE AS MULCH.
- ANCHOR STRAW MULCH IMMEDIATELY AFTER APPLICATION BY AT LEAST ONE OF THE FOLLOWING METHODS.
  - "CRIMP" STRAW MULCH INTO THE SOIL USING TRACTOR DRAWN EQUIPMENT (STRAIGHT BLADED COULTER OR SIMILAR). THIS METHOD IS LIMITED TO SLOPES NO STEEPER THAN 3:1. OPERATE MACHINERY ON THE CONTOUR. CRIMPING OF HAY OR STRAW BY RUNNING IT OVER WITH TRACKED MACHINERY IS NOT RECOMMENDED.
  - UNIFORMLY APPLY ASPHALT, EITHER EMULSIFIED OR CUT-BACK, CONTAINING NO SOLVENTS OR OTHER DILUTING AGENTS TOXIC TO PLANT OR ANIMAL LIFE, AT THE RATE OF 31 GALLONS PER 1,000 SQUARE FEET.
  - USE SYNTHETIC BINDERS (CHEMICAL BINDERS) AS RECOMMENDED BY THE MANUFACTURER TO ANCHOR MULCH PROVIDED SUFFICIENT DOCUMENTATION IS PROVIDED TO SHOW THAT IT IS NON-TOXIC TO NATIVE PLANT AND ANIMAL SPECIES.
  - STAPLE LIGHTWEIGHT PLASTIC, FIBER, OR PAPER NETS OVER THE MULCH ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.

MULCHED AREAS WILL BE CHECKED PERIODICALLY AND AFTER EACH RUNOFF EVENT (E.G. RAIN, SNOWMELT, ETC.) FOR DAMAGE UNTIL THE DESIRED PURPOSE OF THE MULCHING IS ACHIEVED. DAMAGED PORTIONS OF THE MULCH OF TIE-DOWN MATERIAL WILL BE REPAIRED UPON DISCOVERY.

**REVEGETATION**

THE SITE PREPARATION AND ESTABLISHMENT OF PERMANENT COVER WILL BE CONDUCTED ACCORDING TO THE FOLLOWING GUIDELINES:

- INSTALL NEEDED SURFACE WATER CONTROL MEASURES.
- HYDROSEED OR FOLLOW STEPS 3 THROUGH 6 BELOW.
- PERFORM ALL CULTURAL OPERATIONS AT RIGHT ANGLES TO THE SLOPE.
- DETERMINE AGRICULTURAL LIME APPLICATION RATES BY FIELD PH TESTING. PERFORM TESTING AT A RATE OF 1 TEST PER ACRE (MIN.). IN THE ABSENCE OF TESTING, APPLY AT 6 TONS PER ACRE.
- APPLY DRY 10-20-20 FORMULATION OF FERTILIZER AT THE RATE OF 678 LBS. PER ACRE OR AT A RATE DETERMINED BY FIELD TESTING.
- WORK IN LIME AND FERTILIZER TO A DEPTH OF 4 INCHES USING SUITABLE EQUIPMENT.
- SEED MIXTURE - THE SEED MIXTURE WILL BE:

PENNDOT FORMULA W							
SCIENTIFIC NAME	COMMON NAME	REQUIRED VARIETIES	% BY WEIGHT	MINIMUM % PURITY	MINIMUM % GERMINATION	MAX % WEED	SEEDING RATE (LBS/1000 SF)
FESTUCA ARUNDINACEA	TALL FESUCE	KENTUCKY 31	70	98	85	0.15	7.5
LOTUS CORNICULATUS	BIRDSFOOT TREFLOIL	A MIXTURE OF 50% VIKING & 50% OF EITHER EMPIRE, NORCEN, OR LEO	20	98	80 <sup>o</sup>	0.10	2.0
AGROSTIS ALBA	REDDTOP		10	92	80	0.15	1.0

<sup>(1)</sup> MINIMUM 20% HARDSEED AND 60% NORMAL SPROUTS

- IF NOT HYDROSEEDING, APPLY MULCH.

**CONSTRUCTION SEQUENCE**

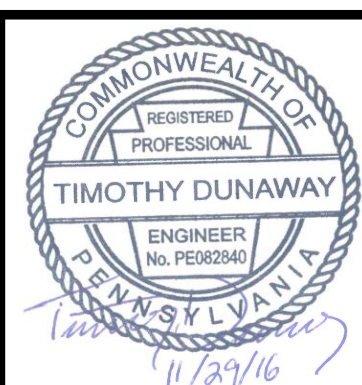
A GENERALIZED CONSTRUCTION SEQUENCE IS PROVIDED BELOW. THE CONSTRUCTION SEQUENCE IS INTENDED TO PROVIDE A GENERAL COURSE OF ACTION IN ORDER TO CONFORM TO THE APPLICABLE REGULATORY AGENCY REQUIREMENTS FOR TEMPORARY AND PERMANENT SOIL E&S. NECESSARY COMPONENTS FOR PROPER AND COMPLETE EXECUTION OF WORK PERTAINING TO THIS PLAN, WHETHER SPECIFICALLY MENTIONED OR NOT, ARE TO BE PERFORMED BY THE CONTRACTOR. IT IS NOT INTENDED THAT THE DRAWINGS AND THE E&S REPORT SHOW DETAILED INFORMATION ON METHODS AND MATERIALS. THE CONTRACTOR SHALL COMPLY WITH PADEP, E&S REPORT AND APPROVED PA E&S MANUAL. THE CONTRACTOR MAY BE REQUIRED TO ALTER CONTROLS BASED ON EFFECTIVENESS OF OR DIFFERING CONDITIONS ENCOUNTERED IN THE FIELD.

- LOCATE STAGING AREAS AND ACCESS POINTS INCLUDING CONSTRUCTION ENTRANCES. INSTALL CFS/SILT FENCE DOWN SLOPE OF THESE AREAS.
- INSTALL ROCK CONSTRUCTION ENTRANCES AS NEEDED. REFER TO THE ROCK CONSTRUCTION ENTRANCE DETAIL ON DRAWINGS FOR SUGGESTED DIMENSIONS.
- FLAG PROJECT LIMITS OF DISTURBANCE AND CLEAR VEGETATION WITHIN THE GRADING BOUNDARY LIMITS.
- LOCATE AND STAKE OUT ALL SPECIAL AREAS OF CONCERN OR AREAS OF AVOIDANCE (I.E., STREAMS).
- INSTALL CFS/SILT FENCE ALONG THE PERIMETERS OF THE SITE AS SHOWN ON THE CONSTRUCTION DRAWINGS. INSTALLATIONS SIZING AND SPACING MUST CONFORM TO THE CHART AND DETAILS PROVIDED ON THE E&S DETAIL SHEET.
- STRIP TOPSOIL FROM PAD AND ACCESS ROAD AREA (WHERE REQUIRED) AND STOCKPILE WITHIN THE ROW IN ACCORDANCE WITH THE DETAILS PROVIDED. (IN WETLANDS, AGRICULTURAL AND RESIDENTIAL AREAS ADDITIONAL TOPSOIL STRIPPING AND STOCKPILING MAY BE REQUIRED).
- MINIMIZE TOTAL AREA OF DISTURBANCE. MAINTAIN TEMPORARY SOIL STOCKPILES WITHIN EXISTING SOIL EROSION AND SEDIMENT CONTROLS. SHOULD EXCAVATION ENTER STREAMS/DRAINAGE-WAYS, FOLLOW SPECIFIC DETAILS FOR THESE AREAS SHOWN ON THE DRAWINGS AND INCLUDE THE STEPS DETAILED IN THE SPECIFIC SECTIONS BELOW.
- INSTALL AGGREGATE ACCESS ROAD AND DIVERSIONS AS SHOWN ON THE PLANS AND DETAILS.
- GRADE SURFACE TO FINISHED GRADE ELEVATIONS ACCORDING TO THE GRADING PLAN. IMMEDIATELY SEED AND MULCH DISTURBED AREAS OR GRAVEL PER THE PLAN. AS STORM INLETS ARE INSTALLED, RUNOFF SHALL BE PREVENTED FROM ENTERING THE INLETS WITH COVERS, SANDBAGS, OR OTHER METHODS APPROVED BY THE E&S INSPECTOR.
- INSTALL EROSION CONTROL BLANKET ON ALL SLOPES 3:1 OR STEEPER AND WITHIN 100 FEET OF RECEIVING WATERS. LOCATIONS ARE SHOWN ON PLAN SHEETS.
- INSTALL FACILITY EQUIPMENT, INCLUDING THE LAUNCHER, RECEIVER, KNOCK-OUT TANK, AND PIPE SUPPORTS.
- MAINTAIN E&S DEVICES UNTIL SITE WORK IS COMPLETE AND THE SITE IS STABILIZED INCLUDING A UNIFORM 70 PERCENT PERENNIAL VEGETATIVE COVER IS ESTABLISHED IN VEGETATED AREAS TO BE VEGETATED AREAS.
- AFTER THE SITE IS STABILIZED, INLET CONTROLS CAN BE REMOVED AND PERMANENT BMPs CAN BE PLACED INTO SERVICE.
- REMOVE E&S MEASURES UPON ESTABLISHMENT OF A UNIFORM 70 PERCENT VEGETATIVE COVER OVER THE DISTURBED REVEGETATED AREA. RE-GRADE AND REVEGETATE AREAS DISTURBED DURING THE REMOVAL OF THE SOIL E&S



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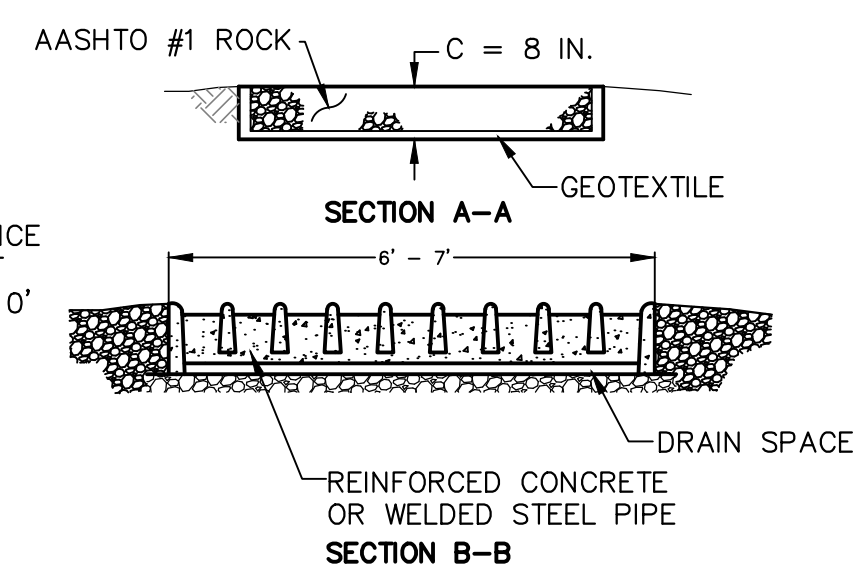
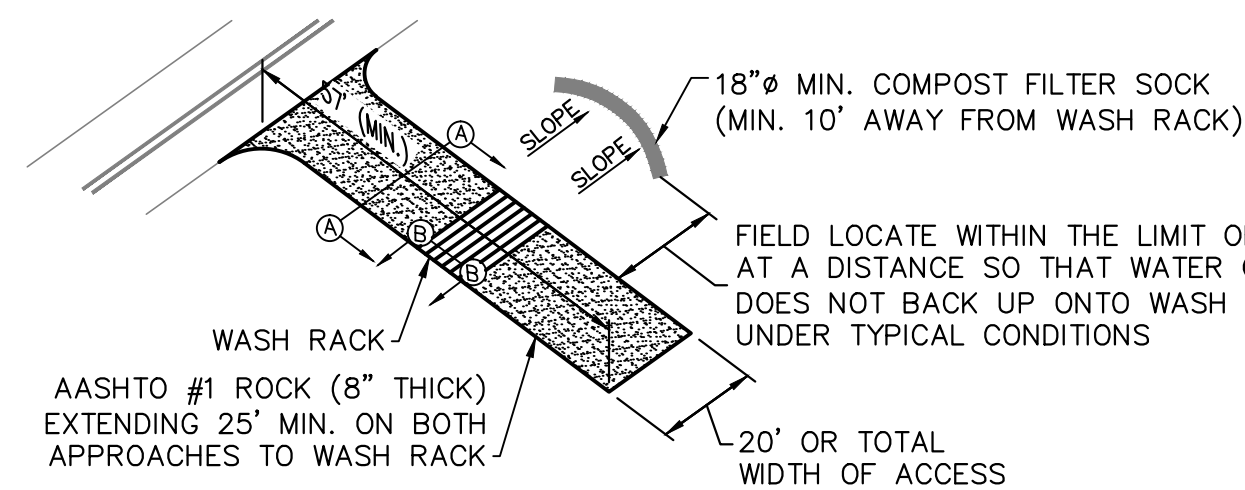


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ESCGP-2 EROSION & SEDIMENT CONTROL PLAN

EROSION & SEDIMENT CONTROL NOTES

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PROJECT NO.:	212ICPB00136
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DRAWN BY:	BH
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SHEET	3 OF 4



**NOTES:**

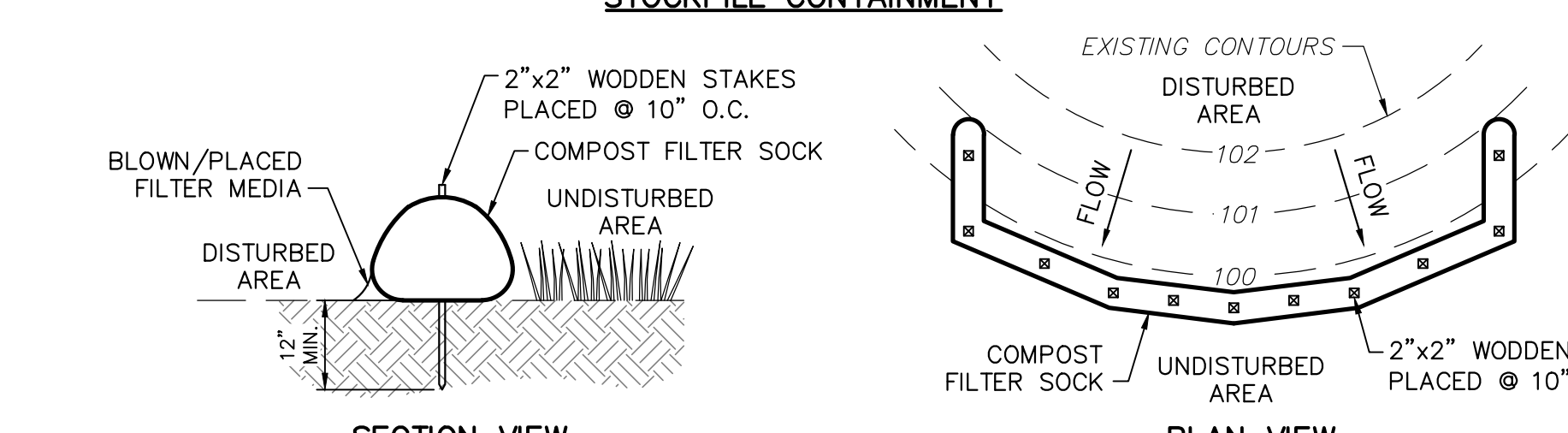
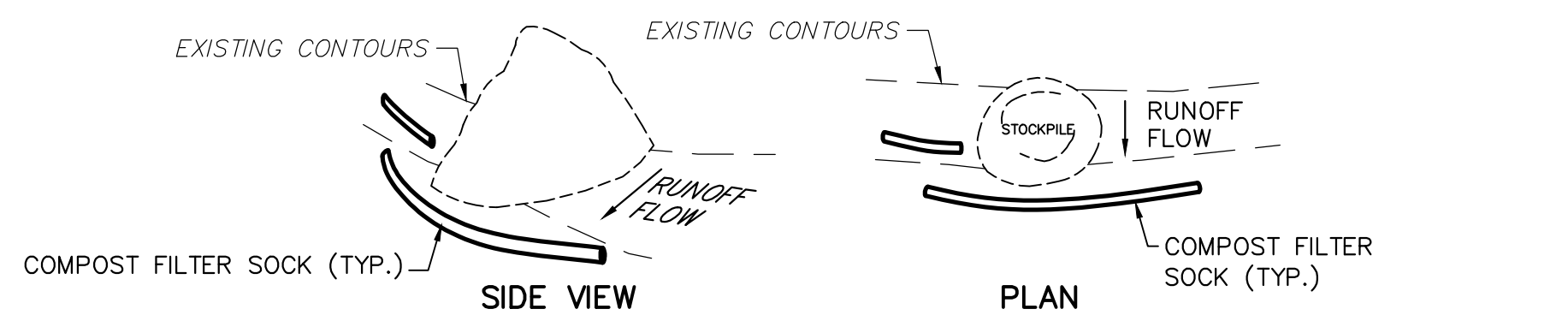
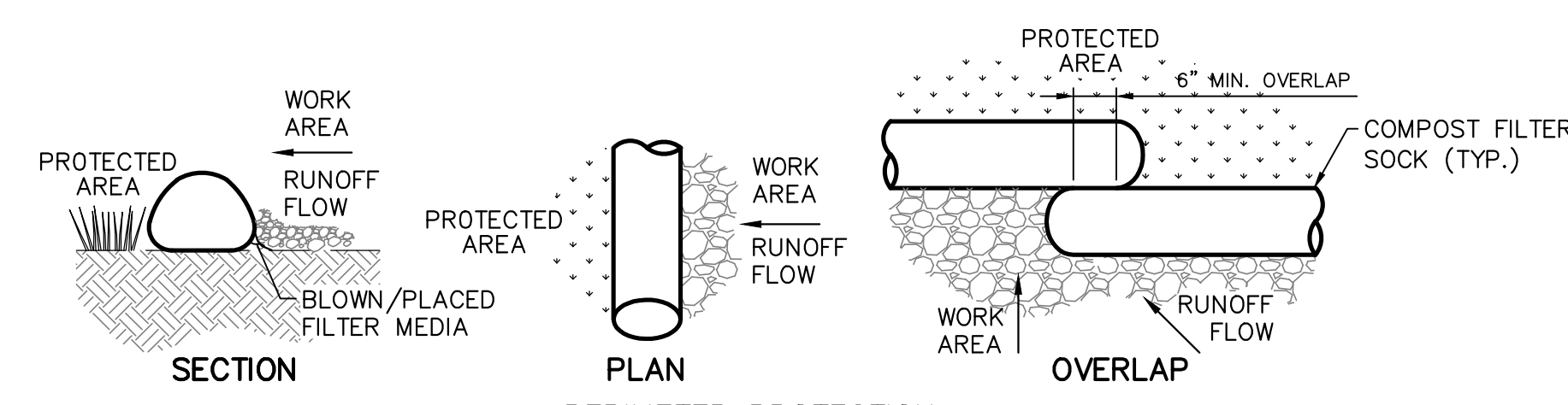
REASONABLE METHODS WHICH ARE SANCTIONED BY THE PADEP AS ALTERNATIVES TO INSTALLATION OF TIRE WASH STATIONS ON PUBLIC ROAD ACCESS POINTS FOR GATHERING PIPELINE PROJECTS IN EV/HQ WATERSHEDS INCLUDE:

1. FOR PAVED SURFACE PUBLIC ROADS: USE OF A VACUUM TRUCK SWEEPER OR SWEEPER WITH A CATCH BIN ATTACHMENT.
2. FOR DIRT OR GRAVEL SURFACE PUBLIC ROADS: RIGOROUS MANUAL REMOVAL OF MUD/DIRT FROM VEHICLE/EQUIPMENT TIRES PRIOR TO EXITING CONSTRUCTION SITE, SUPPLEMENTED BY IMMEDIATE RECOVER, BY MANUAL OR MECHANICAL MEANS, OF SOIL WHICH MAY BECOME DISCHARGED ONTO PUBLIC ROADWAYS. DUST CONTROL AND/OR COMPACTION VIA ROLLING OF THE DIRT PUBLIC ROAD SURFACE WILL BE IMPLEMENTED AS NEEDED.

A PREREQUISITE FOR UTILIZING ALTERNATIVE 1 AND 2 ABOVE IS THAT THE ROCK PAD CONSTRUCTION ENTRANCE MUST BE EXTENDED TO A MINIMUM TOTAL LENGTH OF 100 FEET AND MUST BE CONSTANTLY MAINTAINED INCLUDING STRUCTURE THICKNESS TO INSURE ITS EFFECTIVENESS REMAINS INTACT AT ALL TIMES.

FREQUENCY OF MECHANICAL AND/OR MANUAL CONTROLS WILL BE DEPENDENT UPON CONSTRUCTION TRAFFIC INTENSITY, WEATHER AND SOIL MOISTURE CONDITIONS. AT A MINIMUM FOR PAVED ROADS - ANY DAY IN WHICH CONSTRUCTION TRAFFIC IS EXITING THE CONSTRUCTION ENTRANCE, THE VACUUM TRUCK SWEEPER OR SWEEPER WITH A CATCH BIN ATTACHMENT SHALL CLEAN THE ROADWAY AT THE END OF THE WORK DAY AND PRIOR TO ANY FORECASTED RAIN EVENT. THE REQUIREMENT IS TO NOT INTRODUCE SEDIMENT LOAD FROM CONSTRUCTION TRAFFIC ONTO PUBLIC ROAD SURFACES AND INTO ROAD DITCHES WHICH WILL FLOW INTO THE EV/HQ WATER RESOURCES WHICH ARE THE SUBJECT OF THE INCREASED PROTECTION MEASURES.

**ROCK CONSTRUCTION ENTRANCE**



COMPOST STANDARDS	
ORGANIC MATTER CONTENT	80%-100% (DRY WEIGHT BASIS)
ORGANIC	FIBROUS & ELONGATED
pH	5.5-8.0
MOISTURE CONTENT	35%-55%
PARTICLE SIZE	98% PASS THROUGH 1" SCREEN
SOLUBLE SALT CONCENTRATION	5.0 dS MAXIMUM

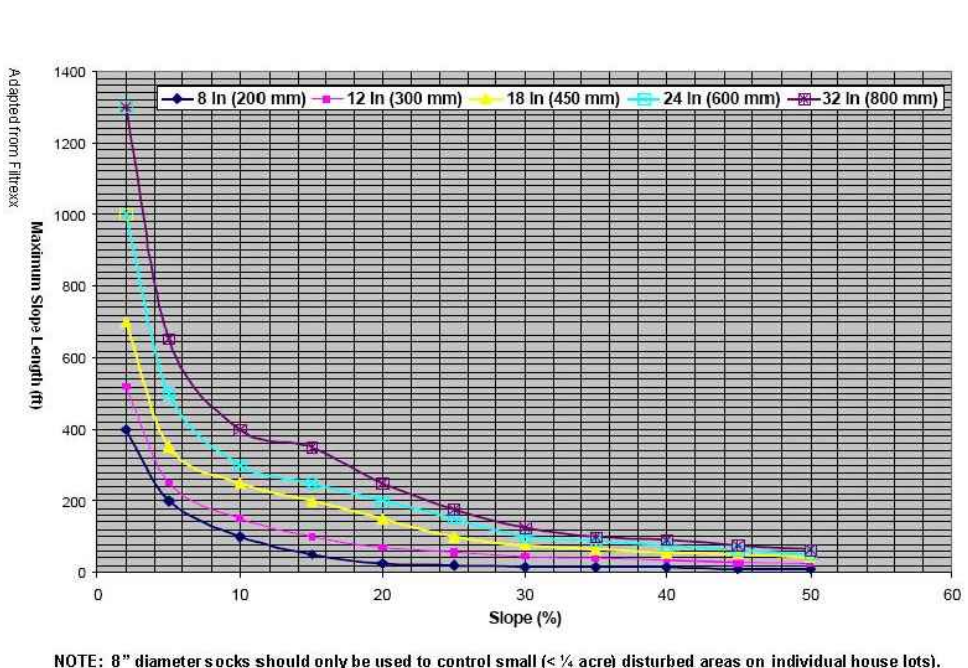
COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE SOCK SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN SOCK ALIGNMENT. MAXIMUM SLOPE LENGTH ABOVE ANY 18" DIAMETER SOCK SHALL NOT EXCEED THAT SHOWN ON ABOVE TABLE FOR REINFORCED SILT FENCE. MAXIMUM SLOPE LENGTH FOR A 24" DIAMETER SOCK SHALL NOT EXCEED THAT FOR SUPER SILT FENCE.

TRAFFIC SHALL NOT BE PERMITTED TO CROSS FILTER SOCKS. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES 1/2 THE ABOVE GROUND HEIGHT OF THE SOCK AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN.

SOCKS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION.

BIODEGRADABLE FILTER SOCK SHALL BE REPLACED AFTER 6 MONTHS; PHOTODEGRADABLE SOCKS AFTER 1 YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

UPON STABILIZATION OF THE AREA TRIBUTARY TO THE SOCK, STAKES SHALL BE REMOVED, THE SOCK MAY BE LEFT IN PLACE AND VEGETATED OR REMOVED. IN THE LATTER CASE, THE MESH SHALL BE CUT OPEN AND THE MULCH SPREAD AS A SOIL SUPPLEMENT.



**COMPOST FILTER SOCK**

**NOTES:**

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

PROPERTY	TEST METHOD	MINIMUM STANDARD
AVG. WIDE WIDTH STRENGTH	ASTM D-4884	60 lb/in
GRAB TENSILE	ASTM D-4632	205 lb
PUNCTURE	ASTM D-4833	110 lb
MULLEN BURST	ASTM D-3786	350 psi
UV RESISTANCE	ASTM D-4355	70%
AOS % RETAINED	ASTM D-4751	80 Sieve

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

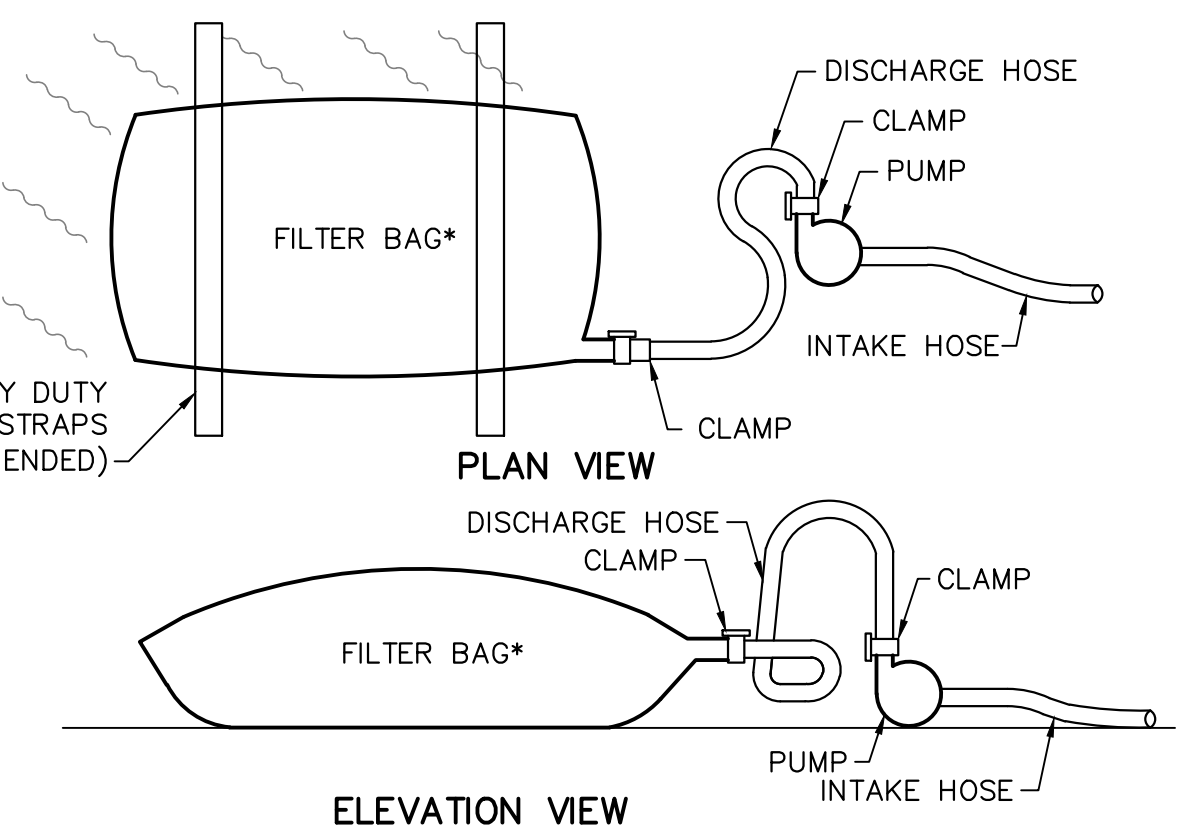
3. BAGS SHALL BE LOCATED IN WELL VEGETATED (GRASSY) AREAS, AND DISCHARGE INTO STABLE, EROSION RESISTANT AREAS. WHERE THIS IS NOT POSSIBLE, A GEOTEXTILE FLOW PATH SHALL BE PROVIDED. BAGS MAY BE PLACED ON FILTER STONE TO INCREASE DISCHARGE CAPACITY. BAGS SHALL NOT BE PLACED ON SLOPES GREATER THAN 5%. FOR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

4. NO DOWNSLOPE SEDIMENT BARRIER IS REQUIRED FOR MOST INSTALLATIONS. COMPOST BERM OR COMPOST FILTER SOCK SHALL BE INSTALLED BELOW BAGS LOCATED IN HQ OR EV WATERSHEDS, WITHIN 50 FEET OF ANY RECEIVING SURFACE WATER OR WHERE GRASSY AREA IS NOT AVAILABLE.

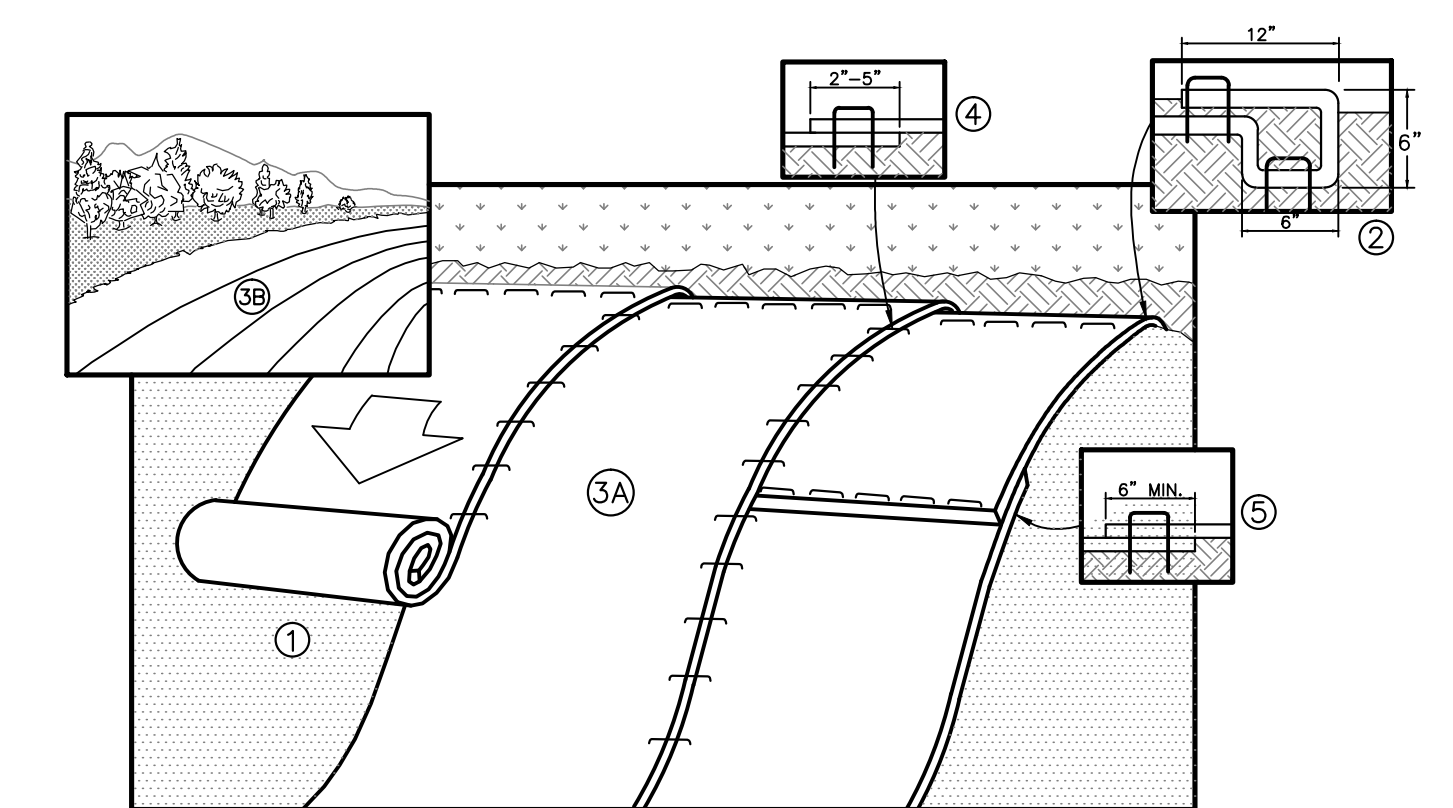
5. THE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE BAGS IN THE MANNER SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED.

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

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



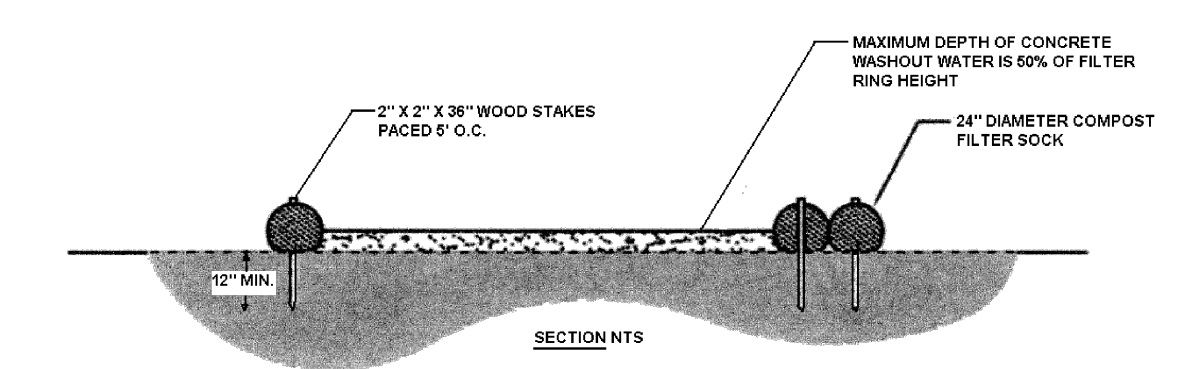
**PUMPED WATER FILTER BAG**



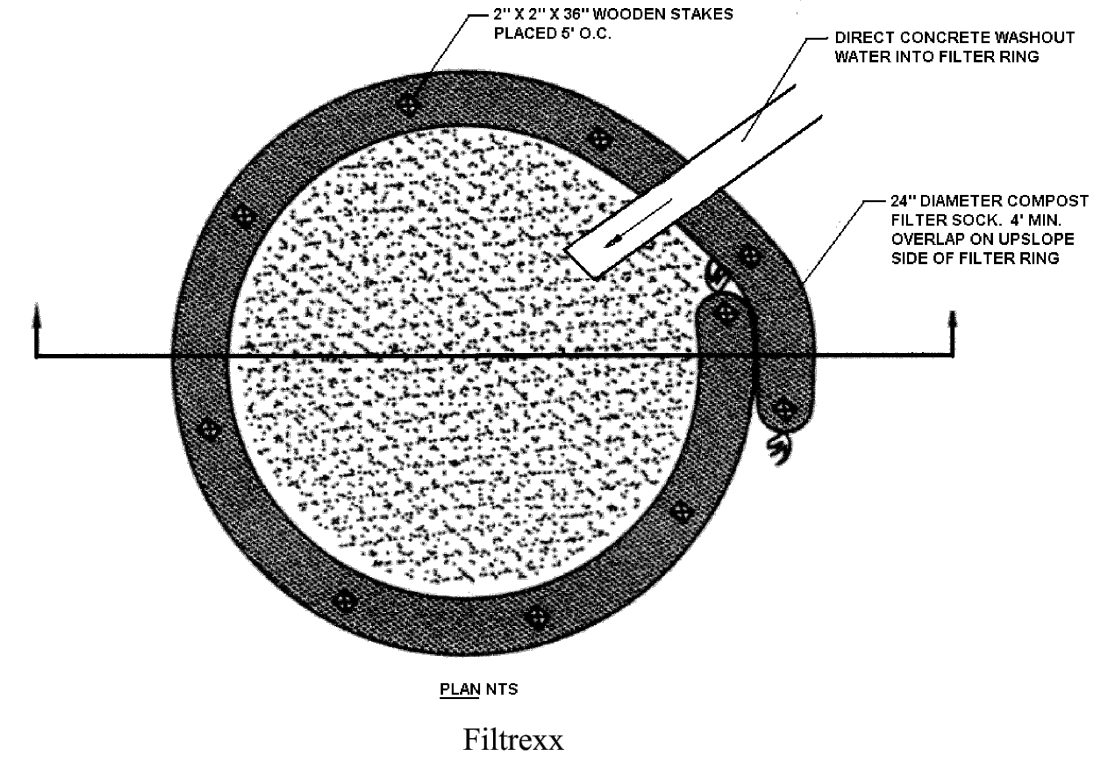
**NOTES:**

1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP'S), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECP'S IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH WITH APPROXIMATELY 12" (30CM) OF RECP'S EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP'S WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30 CM) PORTION OF RECP'S BACK OVER SEED AND COMPACTED SOIL. SECURE RECP'S OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30 CM) APART ACROSS THE WIDTH OF THE RECP'S.
3. ROLL THE RECP'S (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. RECP'S WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP'S MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. THE EDGES OF PARALLEL RECP'S MUST BE STAPLED WITH APPROXIMATELY 2" - 5" (5 CM - 12.5 CM) OVERLAP DEPENDING ON RECP'S TYPE.
5. CONSECUTIVE RECP'S SPliced DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AT LEAST 6" OVERLAP WITH THE UPSLOPE BLANKET OVERLYING THE DOWNSLOPE BLANKET. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (30 CM) APART ACROSS ENTIRE RECP'S WIDTH. NOTE: \*IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY SECURE THE RECP'S.

**EROSION CONTROL BLANKET - SLOPE INSTALLATION**



NOTES:  
1. INSTALL ON FLAT GRADE FOR OPTIMUM PERFORMANCE  
2. 24" DIAMETER FILTER SOCK MAY BE STACKED ONTO DOUBLE 24" DIAMETER SOCKS IN PYRAMIDAL CONFIGURATION FOR ADDED HEIGHT.



**COMPOST SOCK WASHOUT**

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COMMONWEALTH OF PENNSYLVANIA  
REGISTERED PROFESSIONAL ENGINEER  
**TIMOTHY DUNAWAY**  
ENGINEER No. PE000261  
11/29/18

SUNOCO PIPELINE L.P.  
SINKING SPRING, PENNSYLVANIA  
MT. UNION STATION

ESGCP-2 EROSION & SEDIMENT CONTROL PLAN  
EROSION & SEDIMENT CONTROL DETAILS

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