

EROSION & SEDIMENT CONTROL PLAN

PENNSYLVANIA PIPELINE PROJECT DOYLESBURG STATION TOBOYNE TOWNSHIP, PERRY COUNTY, PENNSYLVANIA

NOVEMBER 2016

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PREPARED BY:

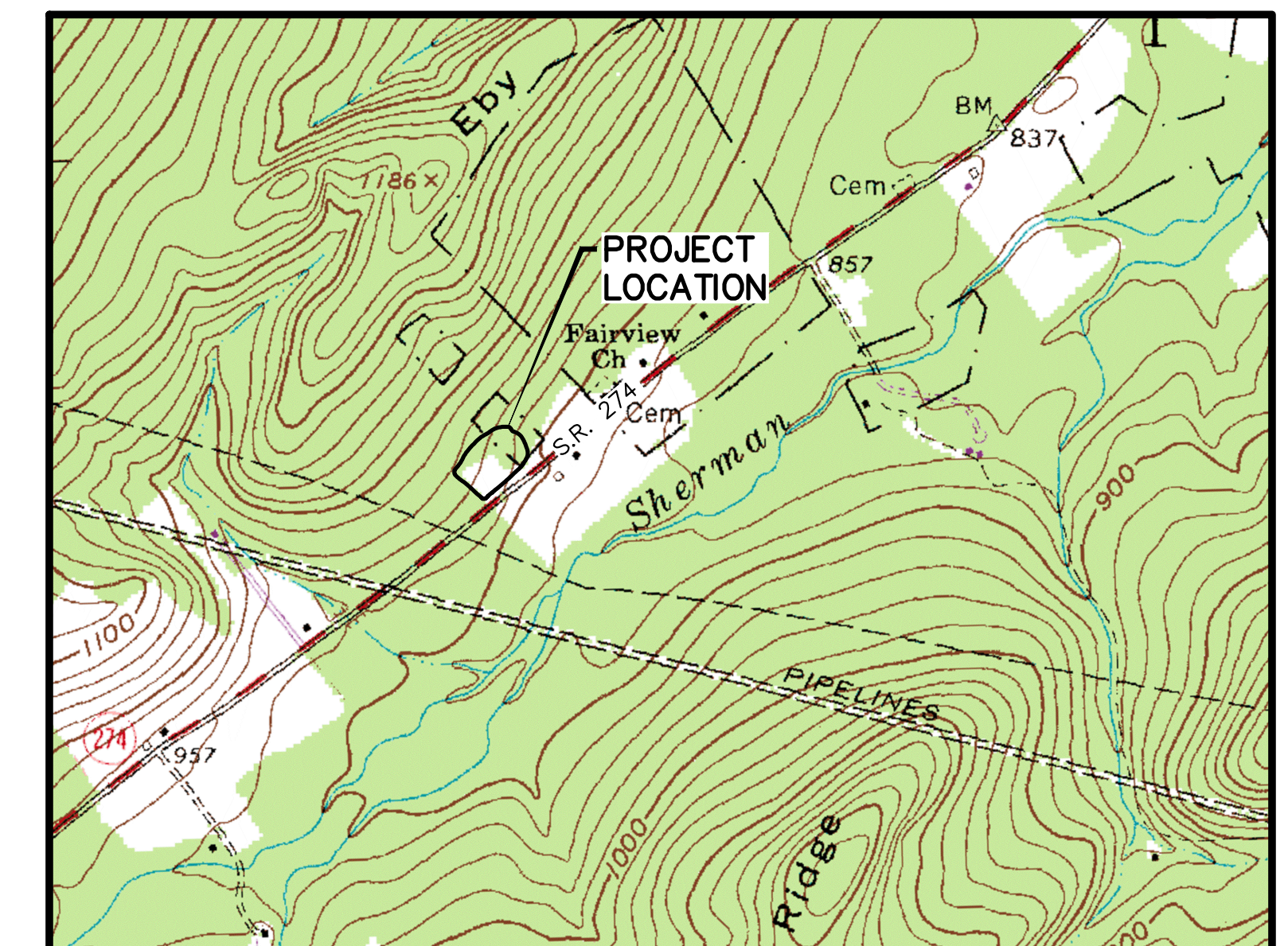


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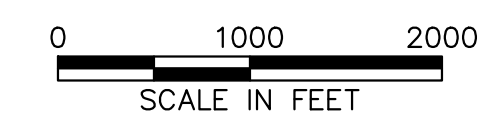
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PREPARED FOR:

SUNOCO PIPELINE L.P.
SINKING SPRING, PENNSYLVANIA



LOCATION MAP
DOYLESBURG STATION
TOBOYNE TOWNSHIP, PERRY COUNTY, PENNSYLVANIA



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:

1. TOPOGRAPHIC MAPPING AND FEATURES COMPILED FROM WWW.PASDA.PSU.EDU.
2. SURVEY COMPLETED BY TRICO SURVEYING & MAPPING INC.
3. THE PROJECT TAKES PLACE WITHIN TOBOYNE TOWNSHIP, PERRY COUNTY, PENNSYLVANIA.
4. SITE DRAINS TO UNT TO SHERMAN CREEK. SHERMAN CREEK IS LISTED AS HQ/CWF UNDER CHAPTER 93.
5. THE RIGHTS-OF-WAYS AND EASEMENTS SHOWN ON THIS PLAN ARE THE RESPONSIBILITY OF SUNOCO PIPELINE 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 PIPELINE L.P. THE RIGHTS-OF-WAY AND EASEMENTS SHALL BE VERIFIED AND LOCATED IN THE FIELD BY SUNOCO PIPELINE L.P.

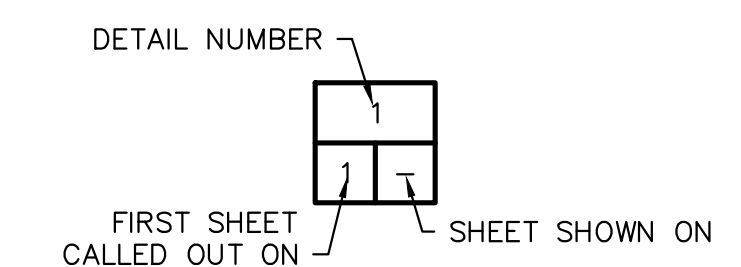
PROJECT DESCRIPTION:

THE PROJECT INVOLVES CONSTRUCTION AT THE DOYLESBURG 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, EXPANSION OF THE DOYLESBURG PUMP STATION PAD, AND SITE RESTORATION. PUMP STATION EXPANSION ACTIVITIES INCLUDE THE INSTALLATION OF ABOVE GROUND PIPES AND PIPE SUPPORTS. THE PROPOSED EXPANSION WILL BE CONSTRUCTED WITHIN AN LOD OF APPROXIMATELY 1.80 ACRES IN PERRY COUNTY.

LEGEND

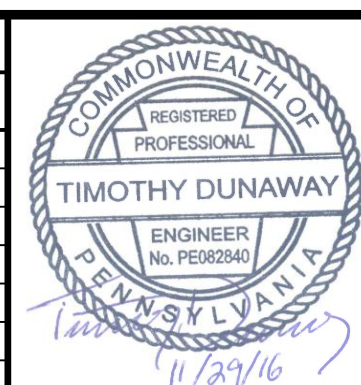
- 1.320— EXISTING 10' CONTOUR
- EXISTING 2' CONTOUR
- ~~~~~ EXISTING TREE LINE
- OVH — EXISTING ELECTRIC OVERHEAD
- UE — EXISTING ELECTRIC UNDERGROUND
- ⊙ EXISTING LIGHT POLE
- ⊘ EXISTING POWER POLE
- W — EXISTING WATER LINE
- GAS — EXISTING GAS LINE
- EXISTING BUILDING
- UNDERGROUND PIPING
- -- --- PROPERTY LINE
- ⊘ PROPOSED POWER POLE
- ⊗ IRON PIN SET WITH CAP
- CONCRETE MONUMENT FOUND
- IRON PIN FOUND
- -- --- PROPOSED FACILITY PIPING
- EXISTING FACILITY PIPING
- > — VEGETATED CHANNEL
- ROCK CONSTRUCTION ENTRANCE WITH WASH RACKS
- AGGREGATE STOCKPILE
- EROSION CONTROL BLANKET
- 12-12-12-12- 12" COMPOST FILTER SOCK
- 18-18-18-18- 18" COMPOST FILTER SOCK
- 32-32-32-32- 32" COMPOST FILTER SOCK
- LIMIT OF DISTURBANCE/PERMIT BOUNDARY
- SOIL STOCKPILE -SEE NOTE 7 UNDER STANDARD EROSION & SEDIMENT CONTROL NOTES ON SHEET ES-3
- ROAD RIGHT-OF-WAY
- EXISTING FENCE LINE
- PROPOSED 10' CONTOUR
- PROPOSED 2' CONTOUR

DETAIL INDICATOR



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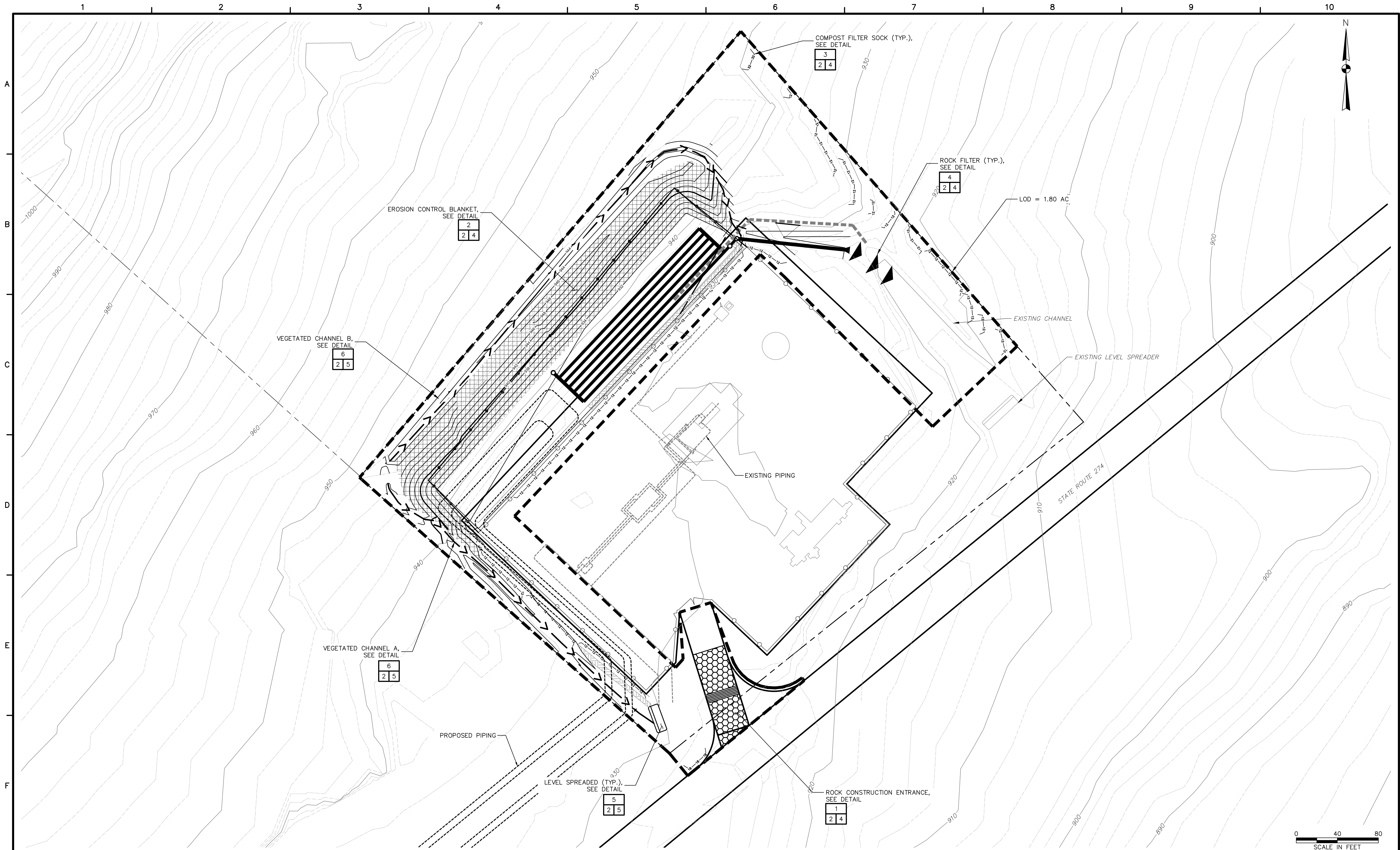
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SINKING SPRING, PENNSYLVANIA

DOYLESBURG STATION

ESCGP-2 EROSION & SEDIMENT CONTROL PLAN

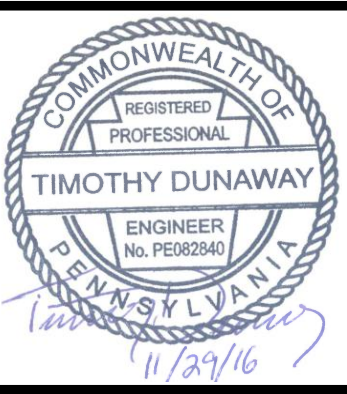
GENERAL NOTES & LEGEND

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C-1	
SHEET	1 OF 5



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DOYLESBURG STATION

ESCGP-2 EROSION & SEDIMENT CONTROL PLAN

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C-2	
SHEET	2 OF 5

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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 7 DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, INCLUDING CLEARING AND GRUBBING, THE OWNER AND/OR OPERATOR SHALL INVITE ALL CONTRACTORS, THE LANDOWNER, APPROPRIATE MUNICIPAL OFFICIALS, THE E&S PLAN PREPARER, AND A REPRESENTATIVE FROM THE LOCAL PADEP OR CONSERVATION DISTRICT TO AN ON-SITE PRECONSTRUCTION MEETING.
- 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, SHOVELLED, 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 MUST 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.

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	SEEDING RATE (LBS/1000 SF)
FESTUCA ARUNDINACEA	TALL FESCUE	KENTUCKY 31	70	98	85	7.5
LOTUS CORNICULATUS	BIRDSFOOT TREFOIL	A MIXTURE OF 50% VIKING & 50% OF EITHER EMPIRE, NORCEN, OR LEO	20	98	80%	2.0
AGROSTIS ALBA	REDTOP		10	92	80	1.0

- MINIMUM 20% HARDSEED AND 60% NORMAL SPROUTS
- IF NOT HYDROSEEDING, APPLY MULCH.

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.
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.

REVEGETATION

A. TEMPORARY GRASS COVER SHALL BE ESTABLISHED IN THE FOLLOWING AREAS:

- WHERE VEGETATIVE FILTERS MUST BE ESTABLISHED BELOW FILTER BAGS, A MINIMUM DISTANCE OF 10' FT SHALL BE SEEDED DOWNSLOPE OF THE TRAP OUTLET.
- WHERE SLOPES ARE GREATER THAN 15' IN HEIGHT, SLOPES SHALL BE SEEDED IN 15' VERTICAL INCREMENTS.
- TEMPORARY COVER - SEED MIXTURE FOR TEMPORARY COVER SHALL CONSIST OF 100% ANNUAL RYEGRASS. SEED SHALL BE APPLIED AT THE RATE OF 40 LB/ACRE OR AS RECOMMENDED BY A LOCAL RECOGNIZED SEED SUPPLIER 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.

B. PERMANENT COVER - SEE LINE LIST FOR LANDOWNER REQUIREMENTS. IN ABSENCE OF A SPECIFIED MIXTURE IT SHALL BE:

PERMANENT SEED MIXTURE						
SCIENTIFIC NAME	COMMON NAME	REQUIRED VARIETIES	MINIMUM % PURITY	MINIMUM % GERMINATION	SEEDING RATE (LBS/1000 SF)	SEEDING RATE (LBS/ACRE)
LOLIUM PERENNE	PERENNIAL RYEGRASS	A MIXTURE OF AT LEAST 2 FINE LEAF, TURF TYPE VARIETIES ADAPTED TO LOCAL CONDITIONS	98	90	0.8	35
FESTUCA RUBRA	RED FESCUE	"PENNLAWN"	98	85	0.8	35
LOTUS COMICULATUS	BIRDSFOOT TREFOIL (BIRDSFOOT DEEVETCH)	"VIKING", "EMPIRE", "LEO" OR "NORCEN" (PLUS SX LEGUME INOCULANT RATE)	98	80	0.7	30
PLUS, DEPENDING ON THE SEASON AND SEED AVAILABILITY, ALSO ADD ONE OF THE FOLLOWING "NURSE CROP" SPECIES:						
AVENA SATIVA	OATS - APRIL 1 TO SEPTEMBER 1	COMMON SEED	98	85	0.7	32
SECALE CEREALE	WINTER RYE - APRIL 1 TO OCTOBER 1	"AROOSTOOK" OR COMMON SEED	98	85	1.3	56
SECALE CEREALE	WINTER RYE - OCTOBER 1 TO APRIL 1	"AROOSTOOK" OR COMMON SEED	98	85	2.6	112
				TOTAL	3 TO 5	132 TO 212

* STRAW MULCH SHALL BE APPLIED AT THE RATE OF THREE TONS PER ACRE. CHEMICALLY TREATED OR SALTED STRAW IS NOT ACCEPTABLE AS 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 THIS REPORT SHOW DETAILED INFORMATION ON METHODS AND MATERIALS. THE CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS LISTED IN THIS SECTION, AND SHALL COMPLY WITH THE PADEP E&S POLLUTION CONTROL MANUAL, 2012. THE CONTRACTOR MAY BE REQUIRED TO ALTER CONTROLS BASED ON EFFECTIVENESS OF CONTROLS OR DIFFERING CONDITIONS ENCOUNTERED IN THE FIELD.

A PRECONSTRUCTION MEETING IS REQUIRED PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITY. THE OWNER AND/OR OPERATOR SHALL INVITE ALL CONTRACTORS, THE LANDOWNER, APPROPRIATE MUNICIPAL OFFICIALS, THE E&S PLAN PREPARER, AND A REPRESENTATIVE FROM THE LOCAL PADEP OR CONSERVATION DISTRICT TO AN ON-SITE PRECONSTRUCTION MEETING AT LEAST SEVEN DAYS PRIOR TO CONSTRUCTION COMMENCEMENT.

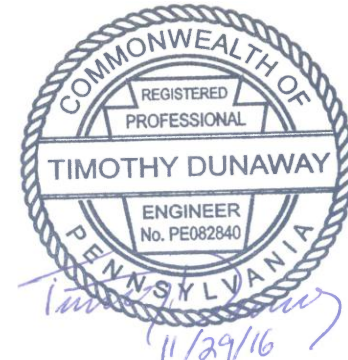
OVERALL CONSTRUCTION SEQUENCE

- LOCATE STAGING AREAS AND ACCESS POINTS INCLUDING CONSTRUCTION ENTRANCES. INSTALL CFS DOWN SLOPE OF THESE AREAS. THIS SITE IS LOCATED IN A HQ WATERSHED, THEREFORE ABACT BMPs MUST BE USED.
- INSTALL ROCK CONSTRUCTION ENTRANCES. REFER TO THE ROCK CONSTRUCTION ENTRANCE DETAIL ON DRAWINGS FOR SUGGESTED DIMENSIONS. A WASHRACK OR ABACT EQUIVALENT FOR HQ WATERS SHOULD BE UTILIZED FOR MINIMIZING ADDITIONAL SEDIMENT TO HQ OR SILTATION IMPAIRED WATERSHEDS.
- FLAG PROJECT LIMITS OF DISTURBANCE AND CLEAR VEGETATION WITHIN THE GRADING BOUNDARY LIMITS.
- LOCATE AND SURVEY ALL SPECIAL AREAS OF CONCERN I.E., STREAMS.
- INSTALL CFS ALONG THE PERIMETERS OF THE SITE AS SHOWN ON THE CONSTRUCTION DRAWINGS. SILT FENCE IS NOT AN ALTERNATIVE BMP IN HQ/EV WATERSHED AREAS. 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 LOD IN ACCORDANCE WITH THE DETAILS PROVIDED. (IN 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, FOLLOW SPECIFIC DETAILS FOR THESE AREAS SHOWN ON THE DRAWINGS AND INCLUDE THE STEPS DETAILED IN THE SPECIFIC SECTIONS BELOW.
- GRADE SURFACE TO FINISHED GRADE ELEVATIONS INCLUDING INSTALLATION OF THE UNDERGROUND PCSM BMP. IMMEDIATELY SEED AND MULCH DISTURBED AREAS OR GRAVEL PER THE PLAN.
- INSTALL EROSION CONTROL BLANKET ON ALL SLOPES 3:1 OR STEEPER AND WITHIN 100 FEET OF RECEIVING WATERS. LOCATIONS ARE SHOWN ON PLAN SHEETS. AS STORM INLETS ARE INSTALLED ON THE PAD, RUNOFF SHALL BE PREVENTED FROM ENTERING THE INLETS WITH COVERS, SANDBAGS, OR OTHER METHODS APPROVED BY THE E&S INSPECTOR.
- INSTALL FACILITY EQUIPMENT INCLUDING PIPING AND VALVES ABOVE GRADE.
- MAINTAIN E&S DEVICES UNTIL SITE WORK IS COMPLETE AND A UNIFORM 70 PERCENT PERENNIAL VEGETATIVE COVER IS ESTABLISHED.
- 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 AREA. RE-GRADE AND REVEGETATE AREAS DISTURBED DURING THE REMOVAL OF THE SOIL E&S.



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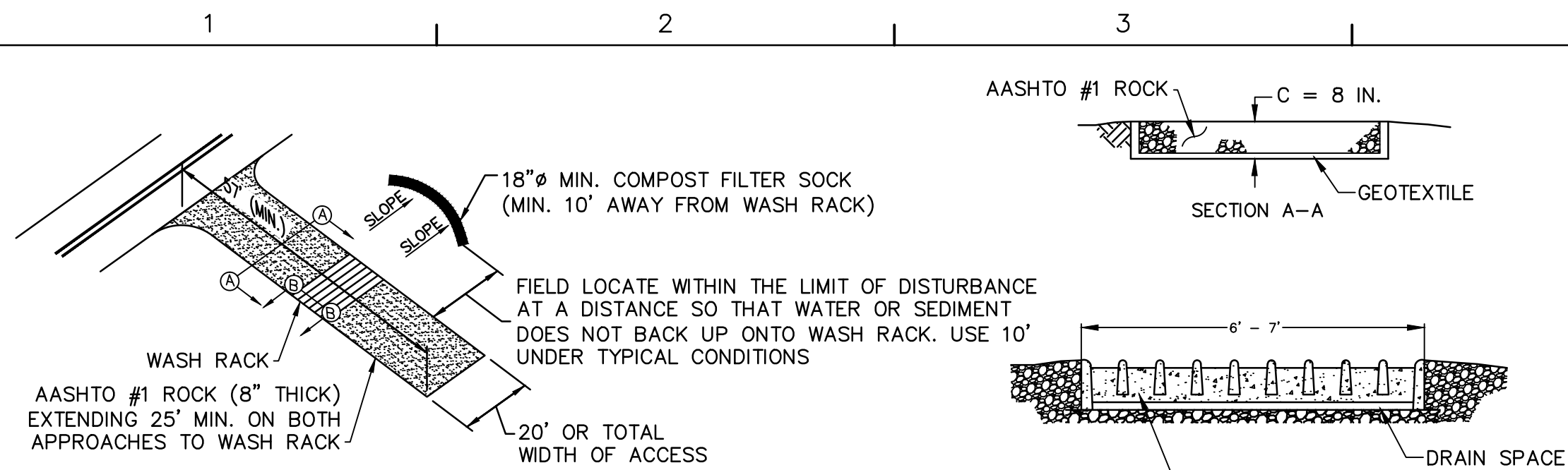


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ESCGP-2 EROSION & SEDIMENT CONTROL PLAN

EROSION & SEDIMENT CONTROL NOTES

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DRAWN BY:	BH
CHECKED BY:	RS
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C-3	
SHEET	3 OF 5



NOTE:
WASH RACK ONLY REQUIRED IN HQ OR EV WATERSHED AREAS. TYPICAL ROCK CONSTRUCTION ENTRANCE ACCEPTABLE IN ALL OTHER AREAS.

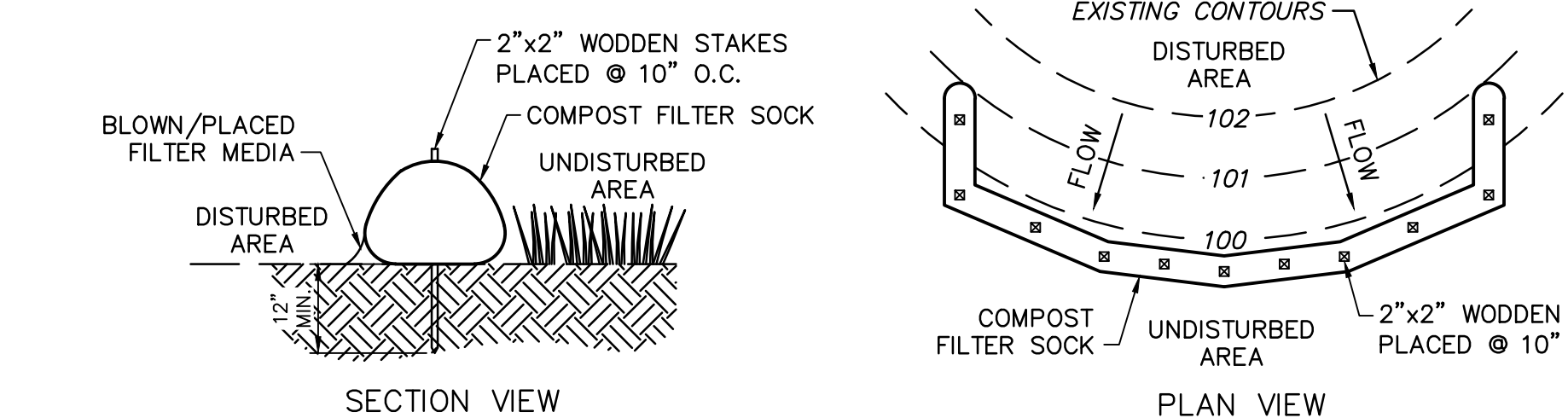
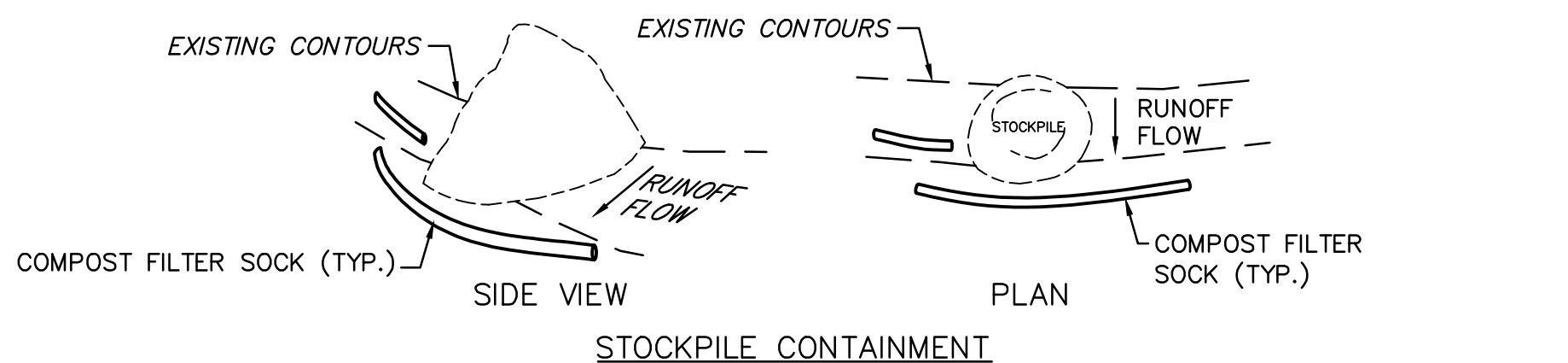
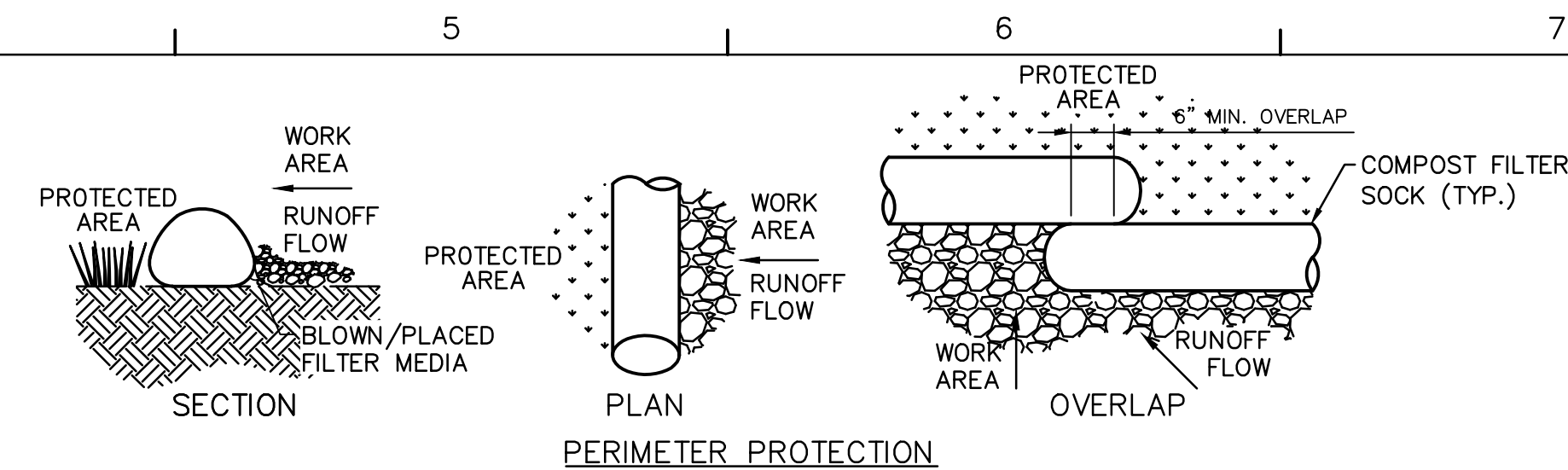
REASONABLE METHODS WHICH ARE SANCTIONED BY THE PADEP AS ALTERNATIVES TO INSTALLATION OF TIRE WASH STATIONS ON PUBLIC ROAD ACCESS POINTS FOR GATHERING PIPELINE PROJECTS IN EV/HQ WATERSHEDS INCLUDE:

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 PREDICATE 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 ROCK 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.

AASHTO #1 ROCK CONSTRUCTION ENTRANCE 1
NOT TO SCALE 2 4



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/m 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 SOCK SHALL NOT EXCEED THAT SHOWN ON FIGURE 4.2 IN ATTACHMENT 3.

TRAFFIC SHALL NOT BE PERMITTED TO CROSS FILTER SOCKS.

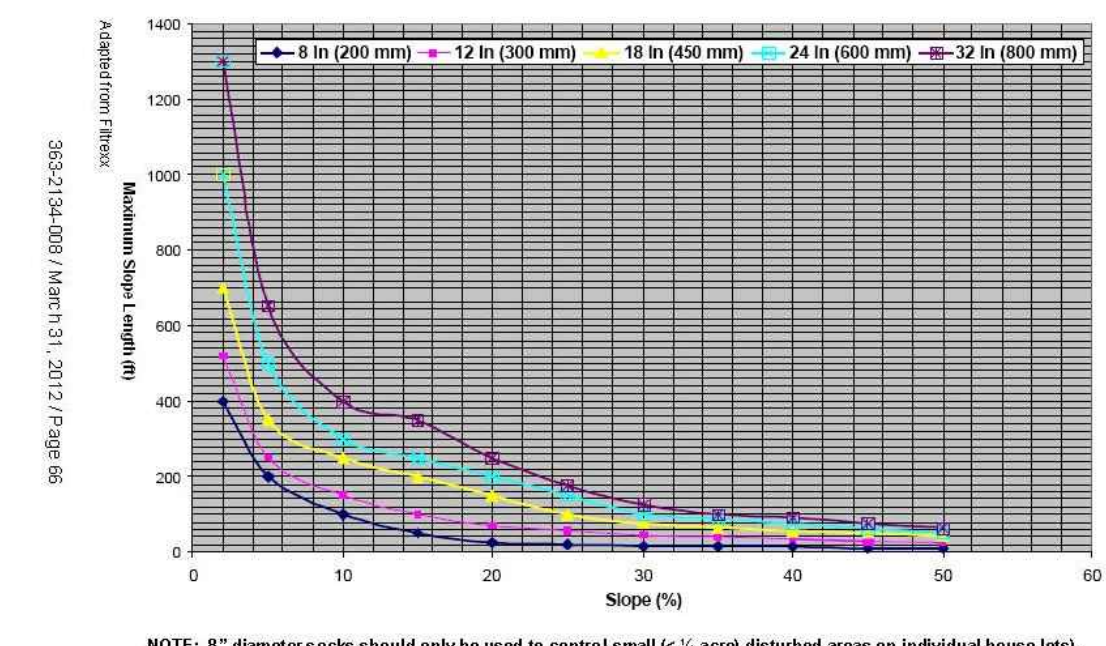
ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES 1/2 THE ABOVE GROUND HEIGHT OF THE SOCK AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN.

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.

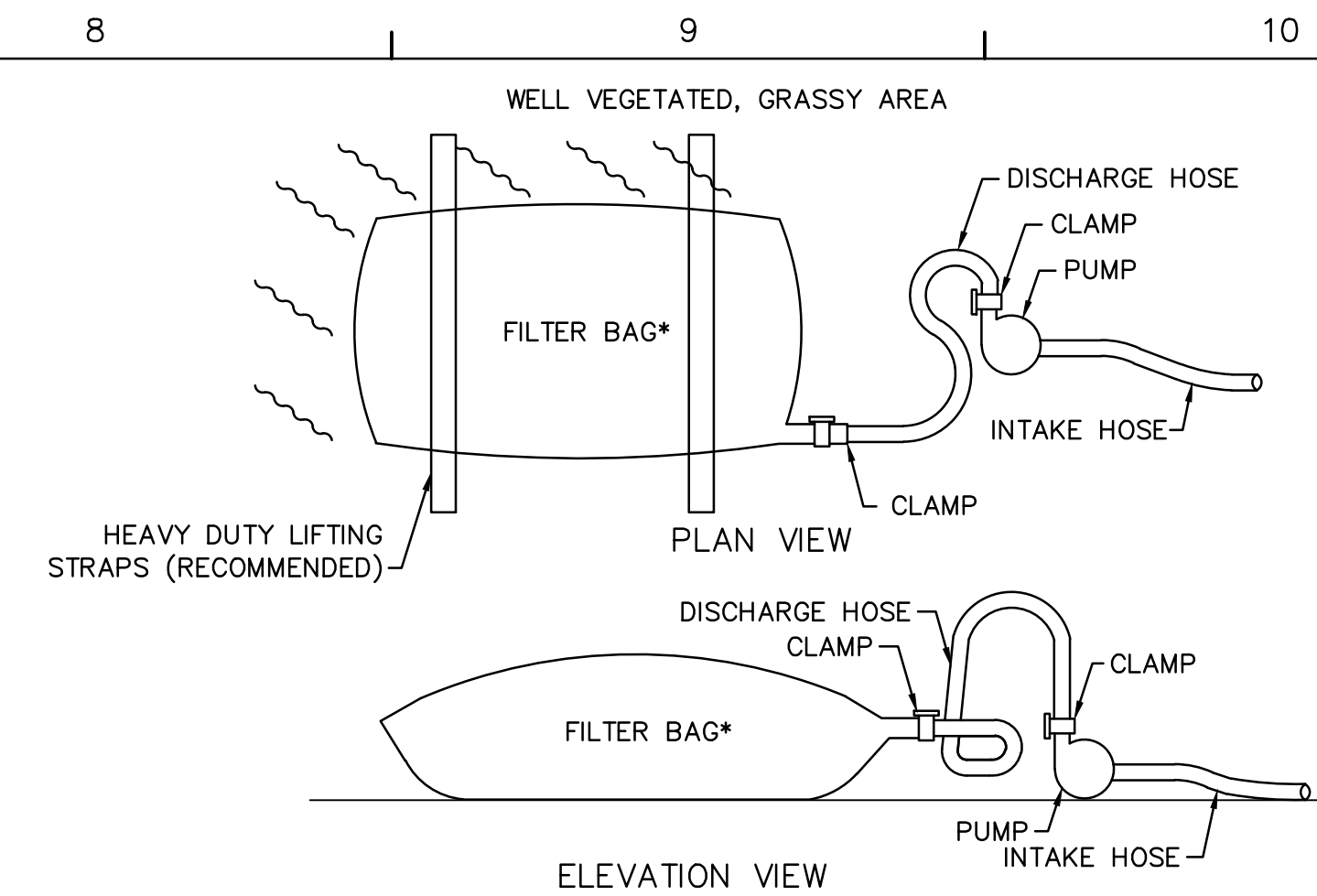
BIODEGRADABLE FILTER SOCK SHALL BE REPLACED AFTER 6 MONTHS; PHOTODEGRADABLE SOCKS AFTER 1 YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

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 3
NOT TO SCALE 2 4



NOTE: 8" diameter socks should only be used to control small (< 1/2 acre) disturbed areas on individual house lots.



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 HAVE 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.

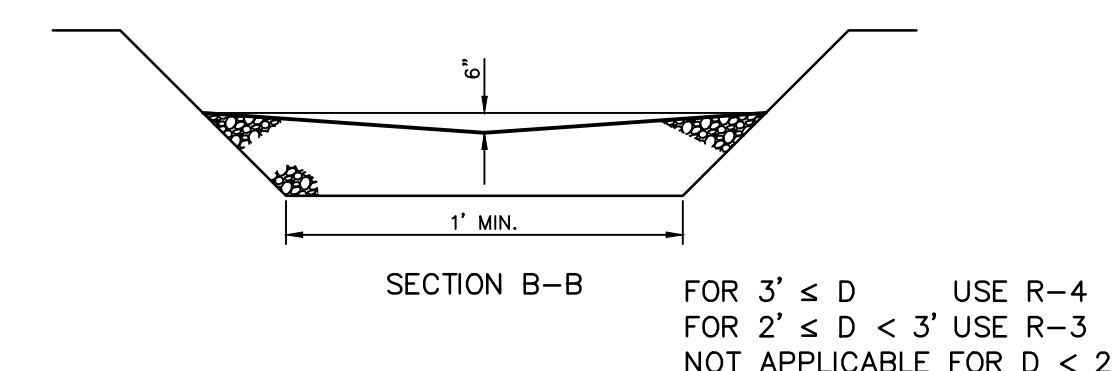
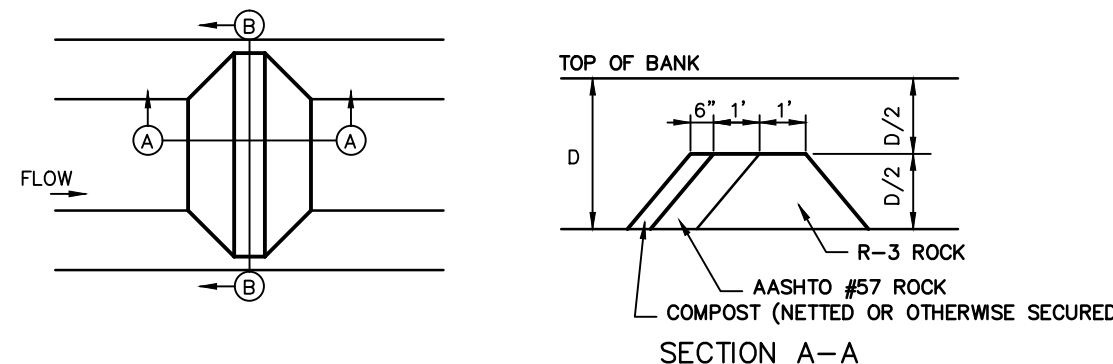
4. NO DOWNSLOPE SEDIMENT BARRIER IS REQUIRED FOR MOST INSTALLATIONS. COMPOST BERM OR COMPOST FILTER SOCK SHALL BE INSTALLED BELOW BAGS LOCATED IN HQ OR EV WATERSHEDS, WITHIN 50 FEET OF ANY RECEIVING SURFACE WATER OR WHERE GRASSY AREA IS NOT AVAILABLE.

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
NOT TO SCALE



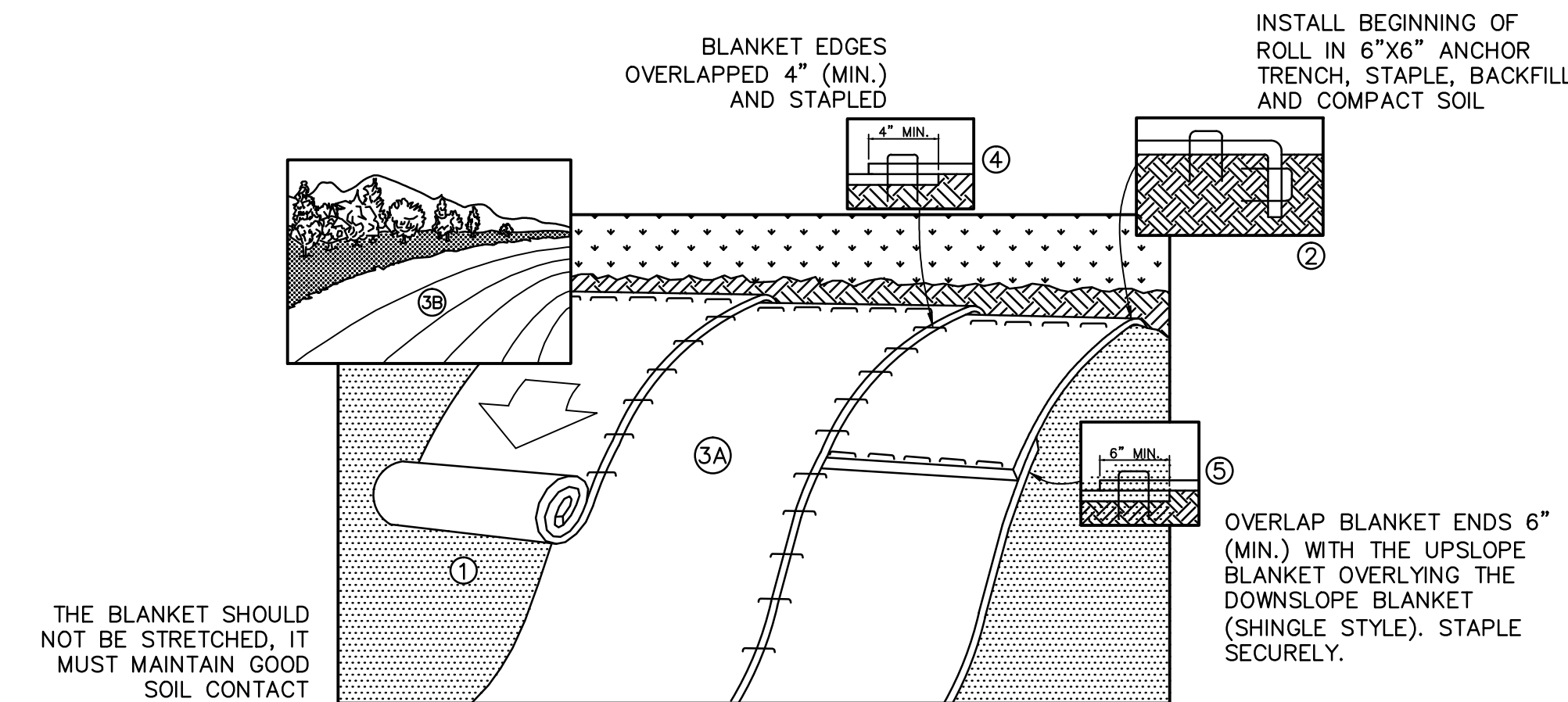
ROCK FILTER NO.	LOCATION	D (FT)	RIPRAP SIZE
1-3	EXISTING CHANNEL	2	R-3

NOTES:

SEDIMENT MUST BE REMOVED WHEN ACCUMULATIONS REACH 1/2 THE HEIGHT OF THE FILTERS.

IMMEDIATELY UPON STABILIZATION OF EACH CHANNEL, REMOVE ACCUMULATED SEDIMENT, REMOVE ROCK FILTER, AND STABILIZE DISTURBED AREAS.

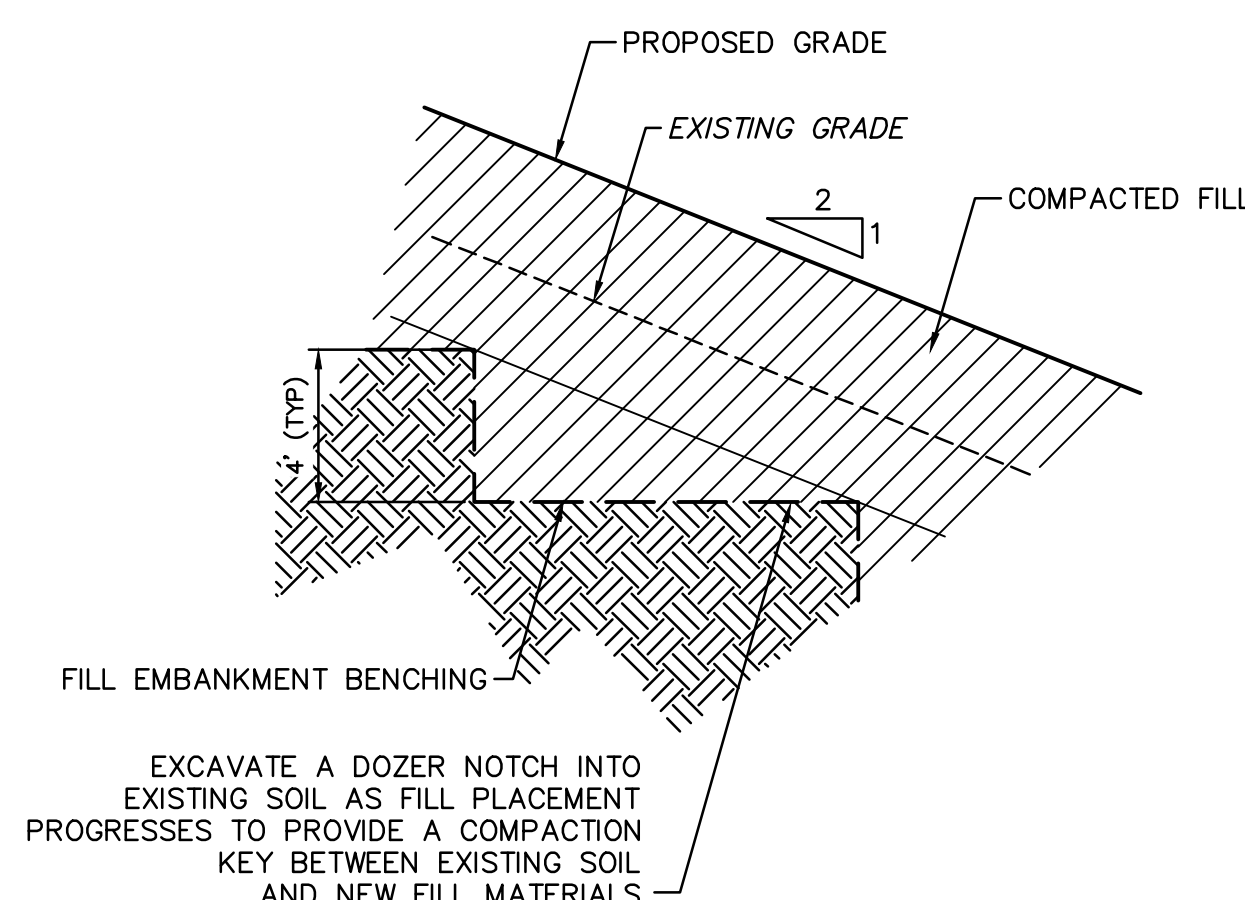
ROCK FILTERS 4
NOT TO SCALE 2 4



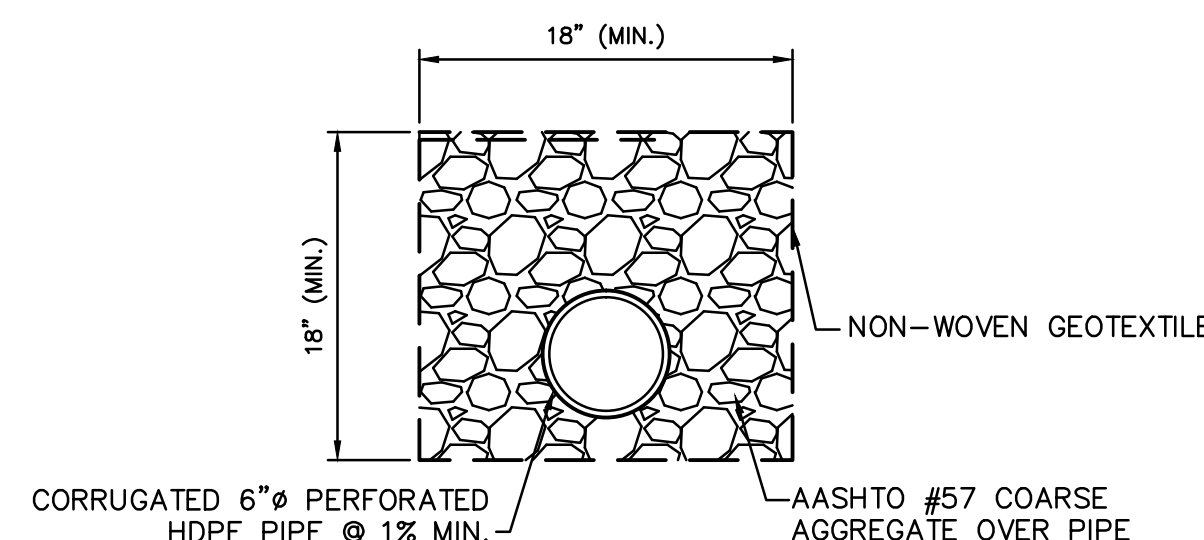
NOTES:

1. SEED AND SOIL AMENDMENTS SHALL BE APPLIED ACCORDING TO THE RATES IN THE PLAN DRAWINGS PRIOR TO INSTALLING THE BLANKET.
2. PROVIDE ANCHOR TRENCH AT TOE OF SLOPE IN SIMILAR FASHION AS AT TOP OF SLOPE
3. SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS, AND GRASS.
4. BLANKET SHALL HAVE GOOD CONTINUOUS CONTACT WITH UNDERLYING SOIL THROUGHOUT ENTIRE PROJECT LENGTH. LAY BLANKET LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH SOIL. DO NOT STRETCH BLANKET.
5. THE BLANKET SHALL BE STAPLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
6. BLANKETED AREAS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT UNTIL PERENNIAL VEGETATION IS ESTABLISHED TO A MINIMUM UNIFORM 70% COVERAGE THROUGHOUT THE BLANKETED AREA. DAMAGED OR DISPLACED BLANKETS SHALL BE RESTORED OR REPLACED WITHIN 4 CALENDAR DAYS.

EROSION CONTROL BLANKET - SLOPE INSTALLATION 2
NOT TO SCALE 2 4



TYPICAL EMBANKMENT BENCHING DETAIL
NOT TO SCALE



NOTE:

1. INSTALL SUBSURFACE DRAINS AT SEEPAGE AREAS AND AS NECESSARY DURING CONSTRUCTION. TIE THE SUBSURFACE DRAINS INTO SITE STORMWATER SYSTEM OR OUTLET BEYOND AND BELOW LIMITS OF NEW FILL. AT LEAST ONE DRAIN EVERY 12- FEET VERTICALLY IS REQUIRED

SUBSURFACE BENCH DRAIN DETAIL
NOT TO SCALE



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NO.	BY	DATE	
1	TD	11/30/16	REVISED FOR DEP TECHNICAL COMMENTS



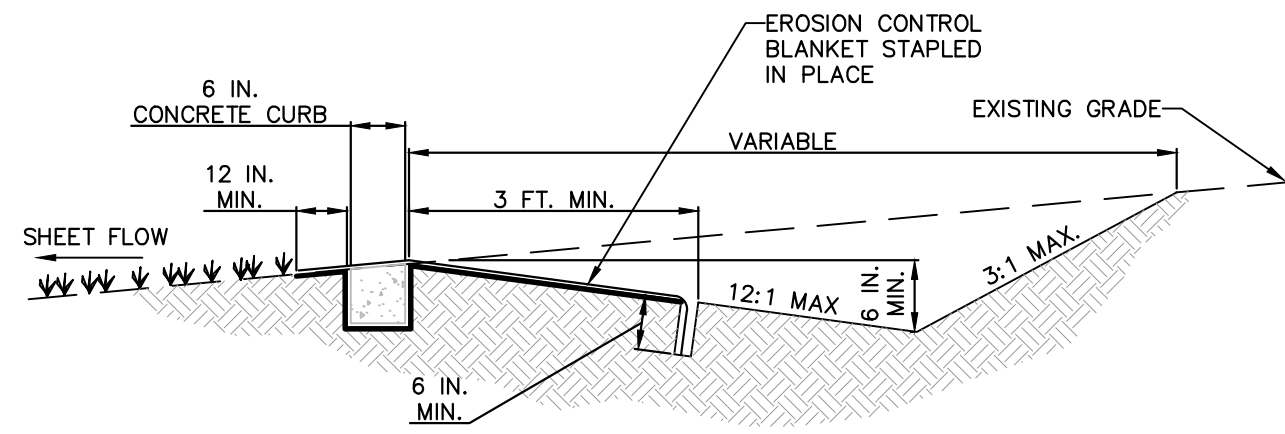
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DOYLESBURG STATION

ESCGP-2 EROSION & SEDIMENT CONTROL PLAN

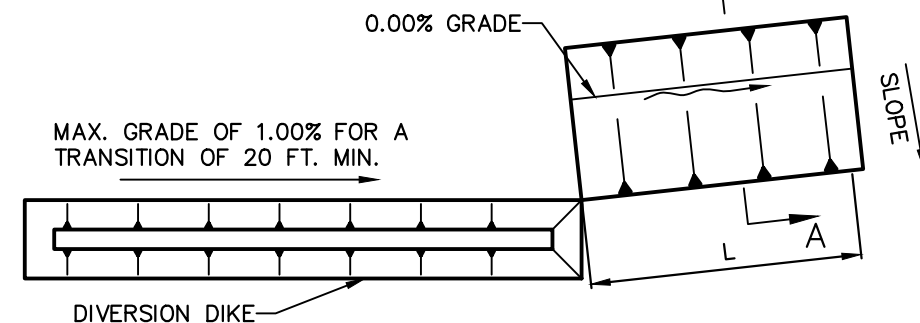
EROSION & SEDIMENT CONTROL DETAILS

DATE:	3/7/16
PROJECT NO.:	112IC05370
DESIGNED BY:	RS
DRAWN BY:	BH
CHECKED BY:	RS
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C-4	
SHEET	4 OF 5

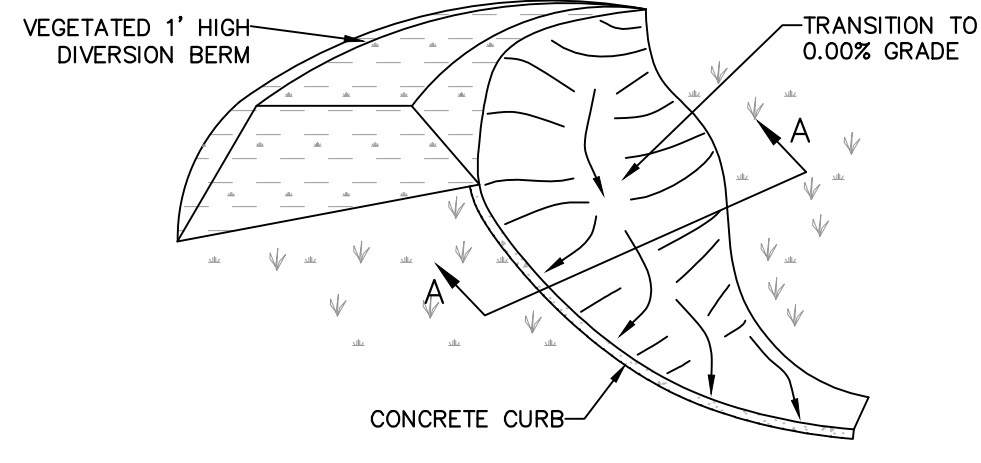
A
B
C
D
E
F



SECTION A-A



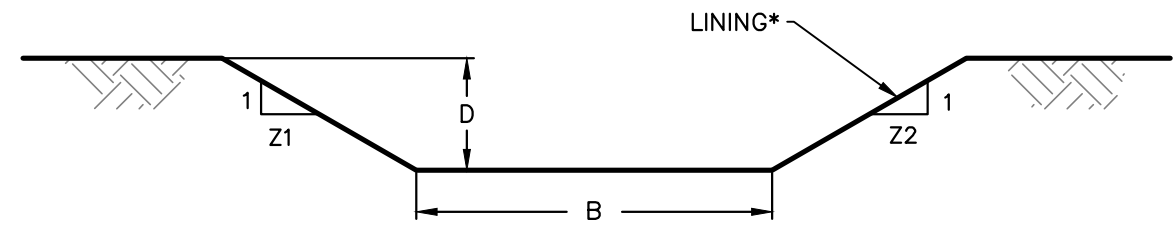
PLAN VIEW



ISOMETRIC VIEW

NOTES:
1. LEVEL SPREADER LENGTH (L)=26'
2. VEGETATE ALL DISTURBED AREAS WITH PERMANENT SEED MIX.

LEVEL SPREADER DETAIL
NOT TO SCALE



CHANNEL CROSS-SECTION

CHANNEL NO.	BOTTOM WIDTH B (FT)	DEPTH D (FT)	Z1 (FT)	Z2 (FT)	LINING*
A	0	1	2	2	GRASS+TRM
B	0	3	2	2	GRASS+TRM

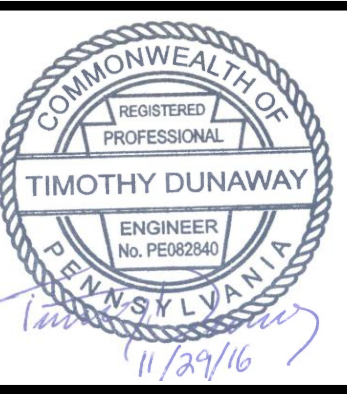
VEGETATED CHANNELS
NOT TO SCALE

6
2 5



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SUNOCO PIPELINE L.P.
SINKING SPRING, PENNSYLVANIA

DOYLESBURG STATION

ESCGP-2 EROSION & SEDIMENT CONTROL PLAN

EROSION & SEDIMENT CONTROL DETAILS

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SHEET	5 OF 5