



Serial No. 20231982811  
Date: 7/17/2023

**GENERAL NOTES**

**1. EXISTING SITE DATA**

TOTAL AREA: ±48.03 ACRES  
PARCEL ID: 2207 00950300  
OWNERS: DAVID L. AND LINDA A. KAUFFMAN

PAST/PRESENT LAND USE: AGRICULTURE  
PROPOSED LAND USE: AGRICULTURE

- TOPOGRAPHICAL INFORMATION FOR THIS PLAN WAS OBTAINED FROM PASDA LIDAR AND A LOCAL GPS SURVEY (TRIMBLE RTK--ENGINEERING PRECISION) CONDUCTED ON XXXXXX BY TEAMAG. THE HORIZONTAL DATUM IS WGS-1984, PA SOUTH AND THE VERTICAL DATUM IS NAVD88.
- PROPERTY BOUNDARY INFORMATION FROM CHESTER COUNTY GIS.
- FLOODPLAIN INFORMATION FOR THIS PLAN WAS OBTAINED FROM FEMA PANEL 42029C0080G.

**NOTES**

- REGULATIONS: ALL FEDERAL, STATE AND LOCAL LAWS, RULES AND REGULATIONS COVERING THE CONSTRUCTION OF THIS CROSSING SHALL BE STRICTLY FOLLOWED. THE OWNER IS RESPONSIBLE FOR OBTAINING ALL CONSTRUCTION PERMITS.
- ACT 187: IT IS THE DUTY OF THE CONTRACTORS TO COMPLY WITH THE PROVISIONS OF THE 'PA ONE CALL' UTILITY CHECK BEFORE PERFORMING ANY EXCAVATION WORK. THE TOLL-FREE NUMBER OF THE ONE-CALL SYSTEM IS 1-800-242-1776.
- PRE-CONSTRUCTION MEETING: A MEETING BETWEEN THE OWNER, CONTRACTOR AND ENGINEER SHALL BE REQUIRED PRIOR TO ANY CONSTRUCTION WORK.
- THE ITEMS CHECKED BELOW ARE INCLUDED AS PART OF THIS CONTRACT PACKAGE:  
 PA382 FENCE  
 PA575 WALKWAYS  
 PA578 STREAM CROSSING
- THIS PROJECT HAS BEEN DESIGNED ACCORDING TO THE PENNSYLVANIA TECHNICAL GUIDE.
- CONTRACTOR IS RESPONSIBLE FOR SELECTING THE METHOD OF SURFACE WATER DIVERSION AND DEWATERING DURING CONSTRUCTION.
- CONTRACTOR SHALL NOTIFY TEAMAG 48 HOURS BEFORE CONSTRUCTION BEGINS. (717) 721-6795.
- THE OWNER(S) SHALL NOTIFY THE PENNSYLVANIA FISH AND BOAT COMMISSION'S REGIONAL FIELD OFFICE MANAGER RESPONSIBLE FOR THE COUNTY WHERE THE ACTIVITIES ARE PROPOSED TEN (10) DAYS PRIOR TO THE START OF CONSTRUCTION.
- A WETLAND DETERMINATION WAS COMPLETED BY JEDD MONCAVAGE CPSS 33270 ON 7/12/2023. WETLANDS ARE LOCATED ON SITE, BUT A LOCATION WAS IDENTIFIED FOR THE CROSSING THAT WOULD NOT IMPACT WETLANDS.
- NO NATURALLY OCCURRING GEOLOGIC FORMATIONS OR SOIL CONDITIONS WITH THE POTENTIAL TO CAUSE POLLUTION DURING EARTH DISTURBANCE ACTIVITIES ARE KNOWN TO EXIST WITHIN THE PROPOSED LIMITS OF DISTURBANCE.
- POTENTIAL THERMAL IMPACTS DUE TO THE PROPOSED STREAM WORK ARE EXPECTED TO BE MINIMAL. IMPERVIOUS AREAS IN ADDITION TO THOSE SHOWN ON THE PLANS SHALL NOT BE CONSTRUCTED.
- ALL WORK MUST COMPLY WITH U.S. FISH AND WILDLIFE SERVICE AVOIDANCE MEASURE STIPULATED IN THE PNDI: DURING INSTALLATION OF STREAMBANK FENCING AND LIVESTOCK CROSSINGS, DO NOT OPERATE TRACKED OR WHEELED VEHICLES IN WETLANDS. IF FENCING MUST CROSS A WETLAND, AVOID FENCE POST INSTALLATION IN THE WETLAND OR INSTALL THE FENCE POSTS BY HAND USING HAND-HELD EQUIPMENT. INSTALL LIVESTOCK CROSSINGS BETWEEN OCTOBER 1 AND MARCH 31.

**UTILITY LIST**

COMPANY: PECO AN EXELON COMPANY C/O USIC  
ADDRESS: 450 S Henderson Road, Suite B.  
King of Prussia, PA 19406  
CONTACT: NIKKIA SIMPKINS

COMPANY: ENERGY TRANSFER  
ADDRESS: 8111 Westchester Dr  
Dallas, Texas, 75225, United States  
CONTACT: MOLLY CARRIERE

COMPANY: SERVICE ELECTRIC CABLEVISION INC  
ADDRESS: 6400 Perkiomen Ave  
Birdsboro, PA 19508  
CONTACT: MIKE SPAYD

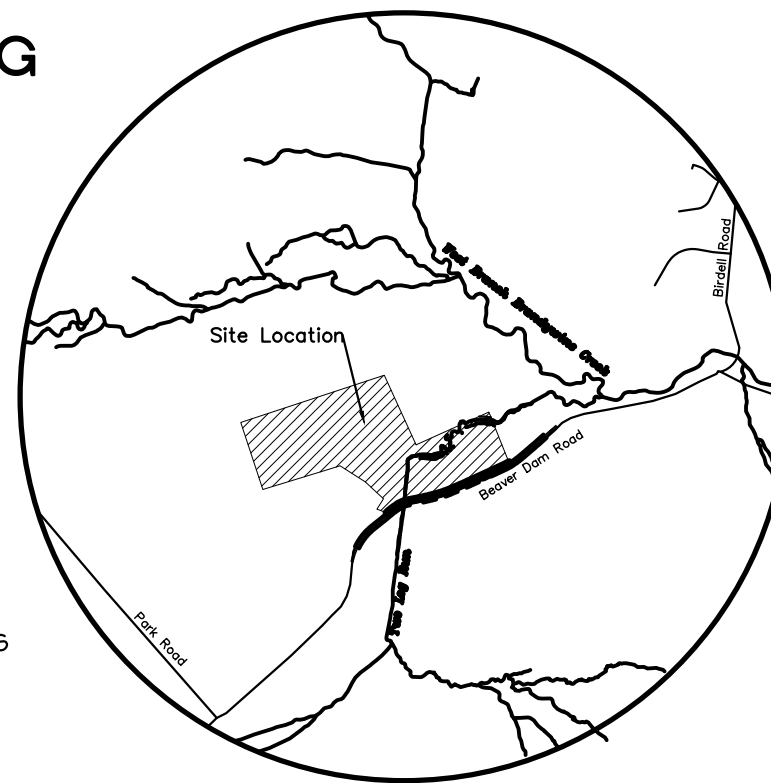
COMPANY: TEXAS EASTERN/ENBRIDGE  
ADDRESS: 560 Pottstown Pike  
Chester Springs, PA 19425  
CONTACT: RYAN LUMBATIS

COMPANY: UGI UTILITIES INC  
ADDRESS: 700 E Linden St  
Richland, PA 17087  
CONTACT: KURT ZIELASKOWSKI

**PROPOSED AGRICULTURAL CROSSING**  
**FOR**  
**DAVID KAUFFMAN**  
**549 BEAVER DAM ROAD**  
**HONEY BROOK, PA 19344**  
**HONEY BROOK TOWNSHIP**  
**LANCASTER COUNTY, PA**

**SHEET INDEX**

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SHEET 8	OF 10	- CONSTRUCTION NOTES
SHEET 9-10	OF 10	- CONSTRUCTION DETAILS



Site Location Map  
Scale: 1" = 2000'

**Existing Features Legend**

	Contour
	Contour Index
	LIDAR / GIS Contour
	Building
	Concrete
	Edge of Pavement
	Edge of Gravel
	Centerline
	Fence
	Property Boundary
	Property Adjoiner
	Right-of-Way
	Stormwater Pipe
	Edge of Water
	Treeline
	Soil Boundary
	Floodplain

**PROPOSED FEATURES LEGEND**

	CONTOUR
	CONTOUR INDEX
	BUILDING
	CONCRETE
	EDGE OF PAVEMENT
	EDGE OF GRAVEL
	CENTERLINE
	FENCE
	EASEMENT
	NPDES PERMIT BOUNDARY
	SETBACK
	INLET, STORMWATER PIPE, ENDWALL / HEADWALL
	SUBSURFACE DRAIN
	TOP OF BERM
	MANURE TRANSFER PIPE
	Filter-Sock
	R-Text
	Topsoil-Stockpile

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CHESTER COUNTY

Project Manager:  
ERIC M. SAUDER

Design By: EMS

Drawn By: EMS

AGRICULTURAL STREAM CROSSINGS

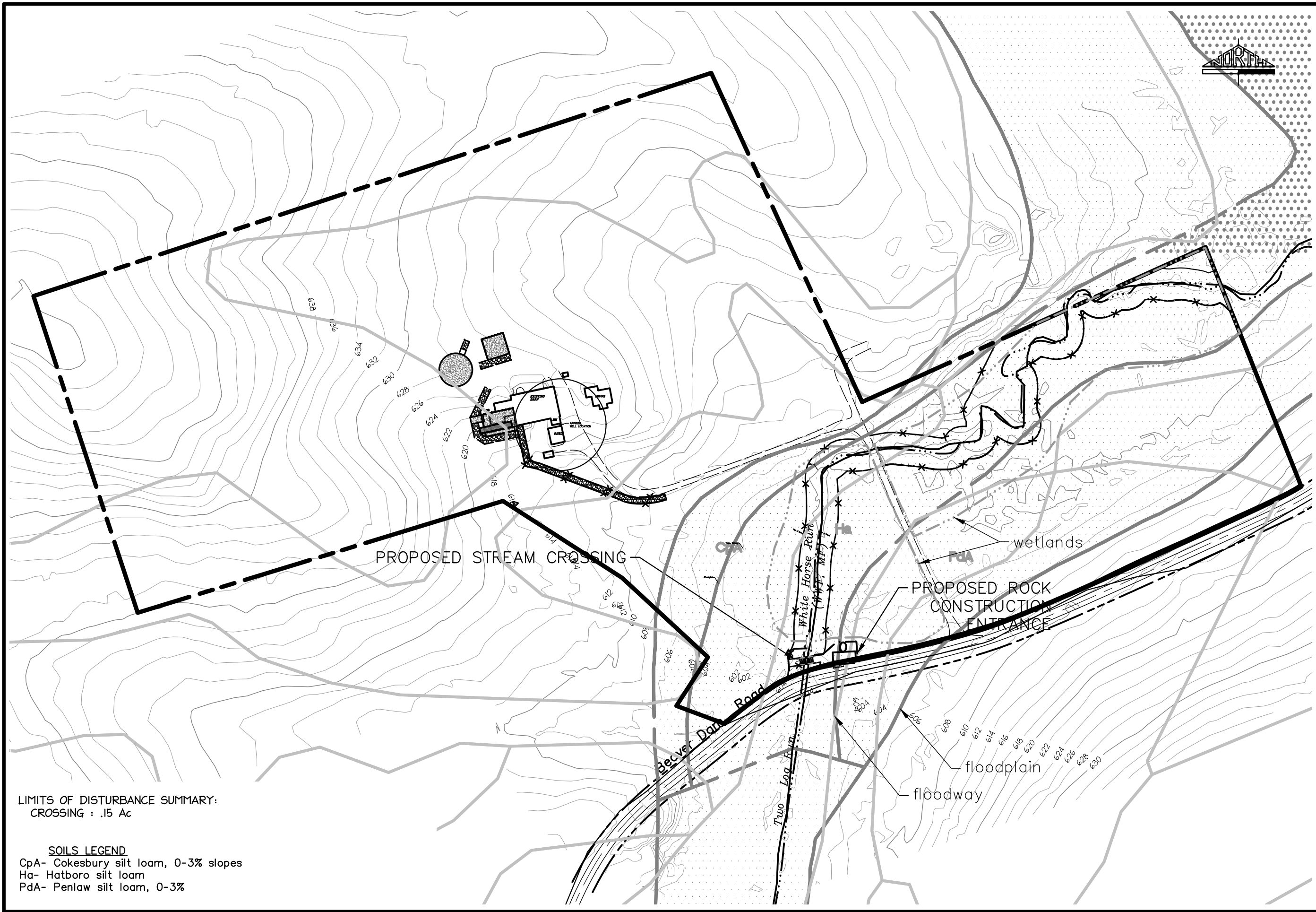
TITLE SHEET

SCALE AS NOTED

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Rev.:



LIMITS OF DISTURBANCE SUMMARY:  
CROSSING : .15 Ac

**SOILS LEGEND**

CpA- Cokesbury silt loam, 0-3% slopes  
Ha- Hatboro silt loam  
PdA- Penlaw silt loam, 0-3%

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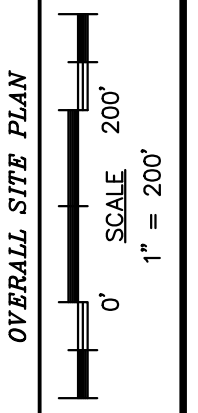
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AGRICULTURAL STREAM CROSSINGS

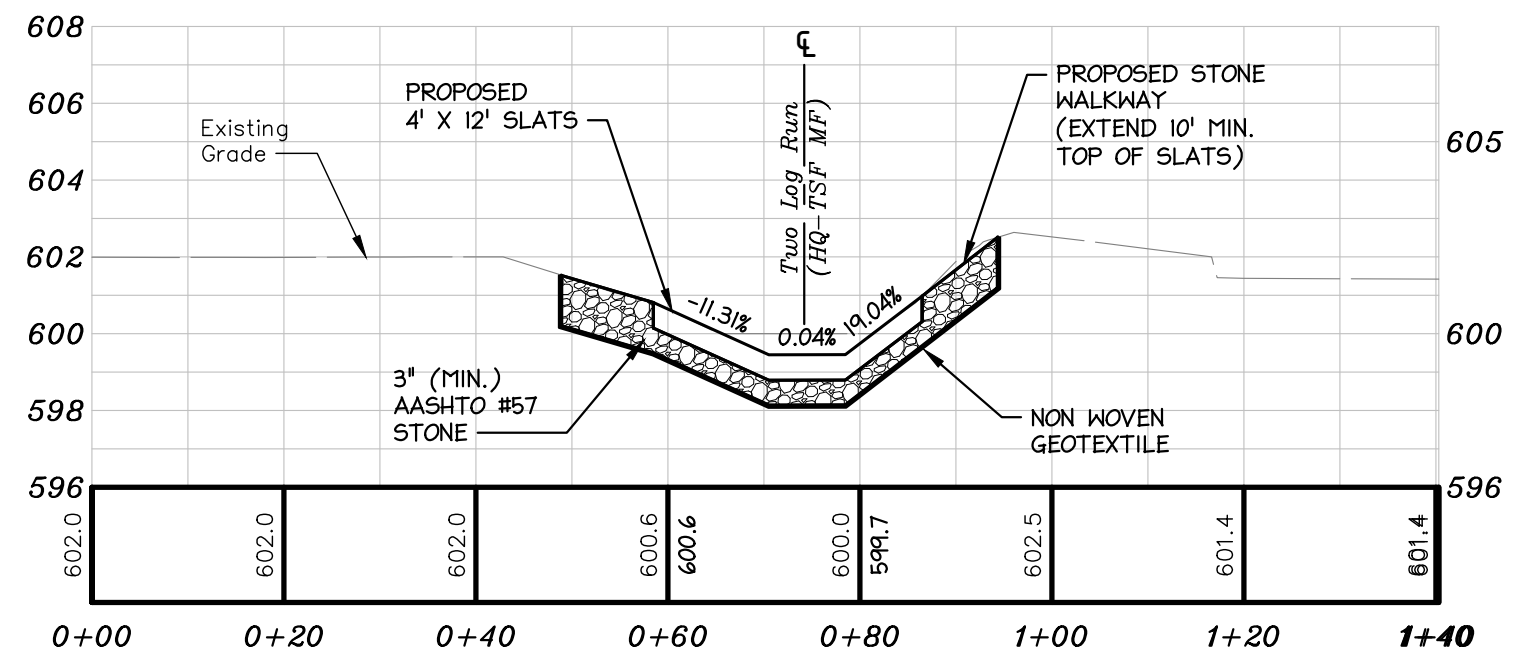
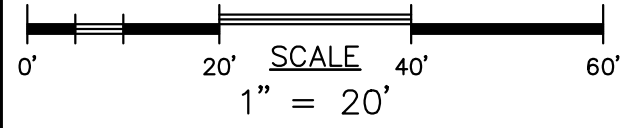
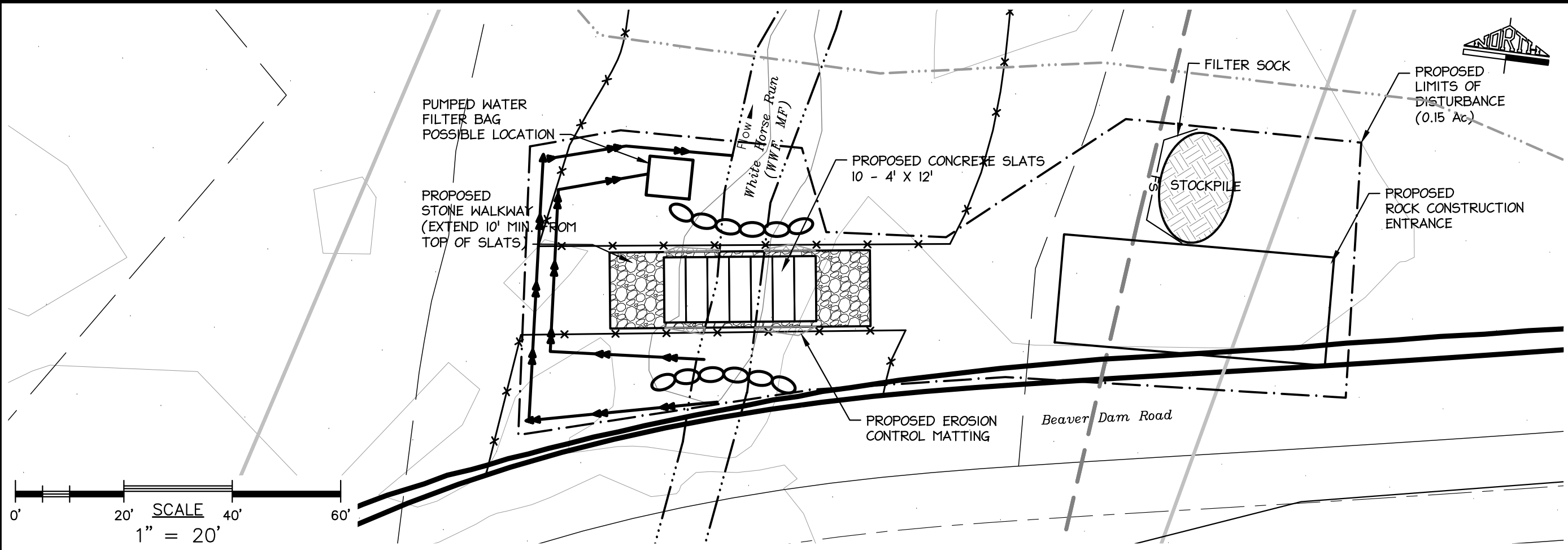


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Sheet **2** of **10**



**AGRICULTURAL STREAM CROSSING**  
 HORIZONTAL SCALE: 1" = 20'  
 VERTICAL SCALE: 1" = 5'

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AGRICULTURAL STREAM CROSSINGS  
 EROSION AND SEDIMENT CONTROL NOTES  
 SCALE AS NOTED

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**GENERAL EROSION CONTROL NOTES**

1. Erosion and sediment control measures must be in compliance with the Erosion and Sediment Control Program. The developer or its authorized representative will be responsible for the proper construction, stabilization, and maintenance of all erosion and sedimentation controls and related items included with the Erosion and Sedimentation Control Plan.
2. A copy of the Erosion and Sediment Control Plan must be posted at the construction site in accordance with state law.
3. Before grading or construction begins, the developer or its authorized representative is to construct and complete sediment control measures and devices as shown on the plans.
4. Should additional erosion or sedimentation occur during construction or should questions regarding the maintenance of control practices arise, contact TeamAg immediately for technical support. Should any measures contained within this plan prove incapable of adequately removing sediment from on-site flows prior to discharge or of stabilizing the surfaces involved, additional measures must be immediately implemented by the developer of its authorized representative to eliminate all such problems. TeamAg must be notified of any additional measures taken to abate the pollution of waters of the Commonwealth not shown on the plans. Stockpiles of wood chips, hay bales, crushed stone, and other mulches shall be held in readiness to deal immediately with emergency problems with erosion.
5. The developer or its authorized representative must develop and have approved by the Conservation District, a separate Erosion and Sedimentation Control Plan for each spoil, borrow or other work area not detailed in the approved plan whether within or outside of the construction limits.
6. The developer or its authorized representative shall be responsible for supervising debris disposal from other trades during all phases of construction. The developer or the authorized representative shall bear the expense of any clean-up operations initiated by the Engineer or Owner.
7. Driveways are to be graveled immediately after grading is completed and utilities are installed.
8. The developer or its authorized representative is responsible for the continued inspection, maintenance or repair of all erosion and sediment problems that might occur due to the development of this project, until the site is completely stabilized.
9. The developer or its authorized representative shall install silt fence or temporary diversion berms upslope of all watercourses as required to prevent sediment from entering the watercourses during construction.
10. Winter grading shall be avoided. Under no circumstance shall grading be done when the ground is frozen.
11. Silt fencing shall be used around material stockpiles, construction/earth disturbance areas.
12. All disturbed areas will be stabilized (covered with stone or revegetated) as soon as possible following grading or backfilling. Specifications for seeding are listed in the drawings.
13. During excavation, if sediment-laden water is encountered, a sediment filter bag ("dirt bag") shall be used.
14. Until the site is stabilized, all erosion and sedimentation controls must be maintained properly. Maintenance must include inspections of all erosion and sedimentation controls after each storm event and on a weekly basis. All preventative and remedial maintenance work, including clean out, repair, replacement, regarding, reseeding, remulching and renetting must be performed immediately. An extra supply of stone, seed, mulch and silt fence shall be kept on site for emergency purposes.

**MAINTENANCE OF EROSION CONTROL FACILITIES**

The General Contractor, or in the absence of a General Contractor, the Operator/Owner, shall be responsible for implementing and maintaining all Soil Erosion Controls. The Contractor shall, at the end of each week as well as with each rainfall, inspect all drainage and erosion control facilities to determine if they still function. Inspections shall be logged onto DEP form 3150-FM-BWEW0083 (dated 2/2012) and kept on site at all times.

Sediment should be removed when it reaches halfway up the silt-fence. Additional stone ballast shall be placed, if necessary, to control the tracking of mud by construction vehicles onto the adjacent roads.

If additional silt fence, silt traps, or swale diversions are necessary, they shall be provided as required. All changes must be reviewed by TeamAg Inc. Sediment deposited behind silt barriers and in the sediment trap shall be removed and incorporated into the final grading operations on the site. It is not to be taken off site.

**FILL MATERIALS**

The General Contractor, or in the absence of a General Contractor, the Operator/Owner shall be responsible for performing Environmental Due Diligence to ensure that all fill material associated with the project qualifies as Clean Fill. All fill material must be used in accordance with the Department's policy "Management of Fill", document number 258-2182-773.

Clean Fill is defined as: Uncontaminated, non-water soluble, non-decomposable, inert, solid material. The term 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 is recognizable as such. The term does not include materials placed in or on the waters of the Commonwealth unless otherwise authorized. (The term "used asphalt" does not include milled asphalt or asphalt that has been processed for re-use.)

Environmental due diligence is defined as: Investigative techniques, including, but not limited to, visual property inspections, electronic data base searches, review of property ownership, review of property use history, Sanborn maps, environmental questionnaires, transaction screens, analytical testing, environmental assessments or audits. Analytical testing is not a required part of due diligence unless visual inspection and/or review of the past land use of the property indicates that the fill may have been subjected to a spill or release of regulated substance. If the fill may have been affected by a spill or release of a regulated substance, it must be tested to determine if it qualifies as clean fill. Testing should be performed in accordance with Appendix A of the Department's policy "Management of Fill".

**GENERAL SEEDING NOTES**

1. Any disturbed area on which activity has ceased and which will remain exposed must be seeded and mulched immediately. During non-germinating periods, mulch must be applied at the recommended rates. Disturbed areas which are not at finished grade and which will be redisturbed within 1 year may be seeded and mulched with a quick growing temporary seeding mixture and mulch. Disturbed areas which are either at finished grade or will not be redisturbed within one year must be seeded and mulched with a permanent seed mixture and mulch.
2. Diversions, channels, sedimentation basins sediment traps and stockpiles must be seeded and mulched immediately.
3. Hay or straw mulch must be applied at rates of at least 3.0 tons per acre. Mulch shall be anchored immediately after application. Mulch shall be held down by synthetic binders or mechanical means.
4. Any earth disturbance within 50 feet of the stream shall be immediately stabilized with erosion control matting and permanent seeding.

**TEMPORARY SEEDING NOTES**

Site preparation: Apply 1 ton/acre agricultural grade limestone and 10-10-10 fertilizer at a rate of 500 lbs./acre and work in where possible. Mulch seeded areas immediately after seeding.<sup>(3)</sup>

**PERMANENT SEEDING NOTES**

Site preparation: Grade as necessary to bring the subgrade to a true, smooth slope parallel to and six inches below finished grade. Place topsoil over specified areas to a depth sufficiently greater than six inches so that after settlement and light rolling the complete work will conform to lines, grades, and elevations shown.

Apply 6 tons/acre agricultural grade limestone and 10-20-10 fertilizer at a rate of 1,000 lbs./acre or as per soil test. Limestone and fertilizer may not be required in agricultural fields.

Fertilizer and agricultural limestone shall be thoroughly incorporated into the soil by rototilling or other method to a minimum depth of four inches. The entire surface shall be done in two separate operations. The second seeding shall be done immediately after the first and at right angles to the first seeding and lightly raked into the soil. Mulch seeded areas immediately after seeding.<sup>(3)</sup>

**RECOMMENDED SEED MIXTURES**

CONDITION	MIXTURE NUMBER	SPECIES	SEEDING RATES PURE LIVE SEED <sup>(1)</sup>
Temporary	1	Spring oats, or	64
		Annual ryegrass (spring or fall), or	10
		Winter wheat (fall), or	90
		Winter rye (fall)	56
Lawn area flatter than 3 to 1 and permanent swales <sup>(2)</sup>	1	Temporary mixture, plus	
	2	Tall fescue, or Fine fescue, or Kentucky bluegrass, plus Redtop, or Perennial ryegrass	60 35 25 3 15
Lawn area 3 to 1 and steeper	1	Temporary mixture, plus	
	3	Birdsfoot trefoil, plus Tall fescue	6 30

Adapted from PA DEP Erosion and Sediment Pollution Control Program Manual  
<sup>(1)</sup> PLS is the product of the percentage of pure seed times percentage germination divided by 100.  
<sup>(2)</sup> This mixture is suitable for frequent mowing. Do not cut shorter than 4 inches.  
<sup>(3)</sup> Mulch with hay or straw at 3 tons per acre. Straw and hay mulch should be anchored or tackified immediately after application to prevent being windblown. A tractor-drawn implement may be used to "crimp" the straw or hay into the soil -- about 3 inches. This method should be limited to slopes no steeper than 3H:1V.



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AGRICULTURAL STREAM CROSSINGS  
 EROSION AND SEDIMENT CONTROL NOTES

SCALE  
 AS NOTED

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**GENERAL EROSION CONTROL NOTES:**

1. 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.
2. 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, the PCSM plan preparer, the licensed professional responsible for oversight of critical stages of implementation of the PCSM plan, and a representative from the local conservation district to an on-site preconstruction meeting.
3. At least 3 days prior to starting any earth disturbance activities, or expanding into an area previously unmarked, the Pennsylvania One Call System Inc. shall be notified at 1-800-242-1776 for the location of existing underground utilities.
4. 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.
5. Areas to be filled are to be cleared, grubbed, and stripped of topsoil to remove trees, vegetation, roots and other objectionable material.
6. Clearing, grubbing, and topsoil stripping 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 this E&S plan.
7. 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.
8. Topsoil required for the establishment of vegetation shall be stockpiled at the location(s) shown on the plan maps(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.
9. Immediately upon discovering unforeseen 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.
10. All building materials and wastes shall be removed from the site and recycled or disposed of in accordance with the Department's Solid Waste Management Regulations at 25 Pa. Code 260.1 et seq., 271.1, and 287.1 et. seq. No building materials or wastes or unused building materials shall be burned, buried, dumped, or discharged at the site.
11. All off-site waste and borrow areas must have an E&S plan approved by the local conservation district or the Department fully implemented prior to being activated.
12. The contractor is responsible for ensuring that any material brought on site is clean fill. 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.
13. All pumping of water from any work area shall be done according to the procedure described in this plan, over undisturbed vegetated areas.
14. 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.
15. 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.
16. 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 swept into any roadside ditch, storm sewer, or surface water.
17. All sediment removed from BMPs shall be disposed of in the manner described on the plan drawings.
18. 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 out slopes shall have a minimum of 2 inches of topsoil.
19. All fills shall be compacted as required to reduce erosion, slippage, settlement, subsidence or other related problems. Fill intended to support buildings, structures and conduits, etc. shall be compacted in accordance with local requirements or codes.
20. All earthen fills shall be placed in compacted layers not to exceed 9 inches in thickness.
21. Fill materials shall be free of frozen particles, brush, roots, sod, or other foreign or objectionable materials that would interfere with or prevent construction of satisfactory fills.
22. Frozen materials or soft, mucky, or highly compressible materials shall not be incorporated into fills.
23. Fill shall not be placed on saturated or frozen surfaces.
24. Seeps or springs encountered during construction shall be handled in accordance with the standard and specification for subsurface drain or other approved method.

25. All graded areas shall be permanently stabilized immediately upon reaching finished grade. Cut slopes in competent bedrock and rock fills need not be vegetated. Seeded areas within 50 feet of a surface water, or as otherwise shown on the plan drawings, shall be blanketed according to the standards of this plan.
26. Immediately after earth disturbance activities cease in any area or subarea of the project, the operator shall stabilize all disturbed areas. During non-germinating months, mulch or protective blanketing shall be applied as described in the plan. Areas not at finished grade, which will be reactivated within 1 year, may be stabilized in accordance with the temporary stabilization specifications. Those areas which will not be reactivated within 1 year shall be stabilized in accordance with the permanent stabilization specifications.
27. Permanent stabilization is defined as a minimum uniform, perennial 70% vegetative cover or other permanent non-vegetative cover with a density sufficient to resist accelerated erosion. Cut and fill slopes shall be capable of resisting failure due to slumping, sliding, or other movements.
28. 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.
29. Upon completion of all earth disturbance activities and permanent stabilization of all disturbed areas, the owner and/or operator shall contact the local conservation district for an inspection prior to removal/conversion of the E&S BMPs.
30. After final site stabilization has been achieved, temporary erosion and sediment BMPs must be removed or converted to permanent post construction stormwater management BMPs. Areas disturbed during removal or conversion of the BMPs shall be stabilized immediately. In order to ensure rapid revegetation of disturbed areas, such removal/conversions are to be done only during the germinating season.
31. Upon completion of all earth disturbance activities and permanent stabilization of all disturbed areas, the owner and/or operator shall contact the local conservation district to schedule a final inspection.
32. Failure to correctly install E&S BMPs, failure to prevent sediment-laden runoff from leaving the construction site, or failure to take immediate corrective action to resolve failure of E&S BMPs may result in administrative, civil, and/or criminal penalties being instituted by the Department as defined in Section 602 of the Pennsylvania Clean Streams Law. The Clean Streams Law provides for up to \$10,000 per day in civil penalties, up to \$10,000 in summary criminal penalties, and up to \$25,000 in misdemeanor criminal penalties for each violation.

**ADDITIONAL NOTES:**

1. Concrete wash water shall be handled in the manner described on the plan drawings. In no case shall it be allowed to enter any surface waters or groundwater systems.
2. All channels shall be kept free of obstructions including but not limited to fill, rocks, leaves, woody debris, accumulated sediment, excess vegetation, and construction material/wastes.
3. 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.
4. Channels having riprap, Reno mattress, or gabion linings must be sufficiently over-excavated so that the design dimensions will be provided after placement of the protective lining.
5. Erosion control blanketing shall be installed on all slopes 3H:1V or steeper within 50 feet of a surface water and on all other disturbed areas specified on the plan maps and/or detail sheets.
6. Fill material for embankments shall be free of roots, or other woody vegetation, organic material, large stones, and other objectionable materials. The embankment shall be compacted in maximum 6"-12" layered lifts at 90% density.

**GRADING STANDARD PLAN NOTES:**

1. Areas to be filled should be cleared, grubbed, and stripped of topsoil to remove trees, vegetation, roots and other objectionable material.
2. Areas which are to be topsoiled should be scarified to a depth of 3 to 5 inches, or 6 to 12 inches on compacted soils, prior to placement of topsoil. Areas to be vegetated should have a minimum 4 inches of topsoil in place prior to seeding and mulching. Fill out slopes should have a minimum of 2 inches of topsoil.
3. All earthen fills should be compacted as required to reduce erosion, slippage, settlement, subsidence or other related problems. Fill intended to support buildings, roadways, structures and conduits, etc. should be compacted in accordance with local requirements or codes.
4. All earthen fills should be placed in compacted layers not to exceed 9 inches in thickness.
5. Fill materials should be free of frozen particles, brush, roots, sod, or other foreign or objectionable materials that would interfere with or prevent construction of satisfactory fills.
6. Frozen materials or soft, mucky, or highly compressible materials should not be incorporated into fills.
7. Fill should not be placed on saturated or frozen surfaces.
8. Seeps or springs encountered during construction should be handled in accordance with standards and specifications for subsurface drains or other approved method.
9. All graded areas shall be permanently stabilized immediately upon reaching finished grade. Cut slopes in competent bedrock and rock fills need not be vegetated.
10. Stockpiles, borrow areas and spoil areas should be shown on the plan maps and should be subject to the provisions of these standards as well as those of the approved E&S plan. All appropriate permits/authorization should be obtained prior to earth disturbance activities within these areas.
11. Wherever possible, fills should not be constructed from or built upon soils known to have low shear strength or that have been identified as "landslide prone" unless it can be shown that it can be done with an acceptable safety factor.



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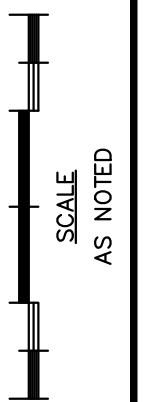
Project Manager:  
 ERIC M. SAUDER

Design By: EMS

Drawn By: EMS

AGRICULTURAL STREAM CROSSINGS

EROSION AND SEDIMENT CONTROL NOTES

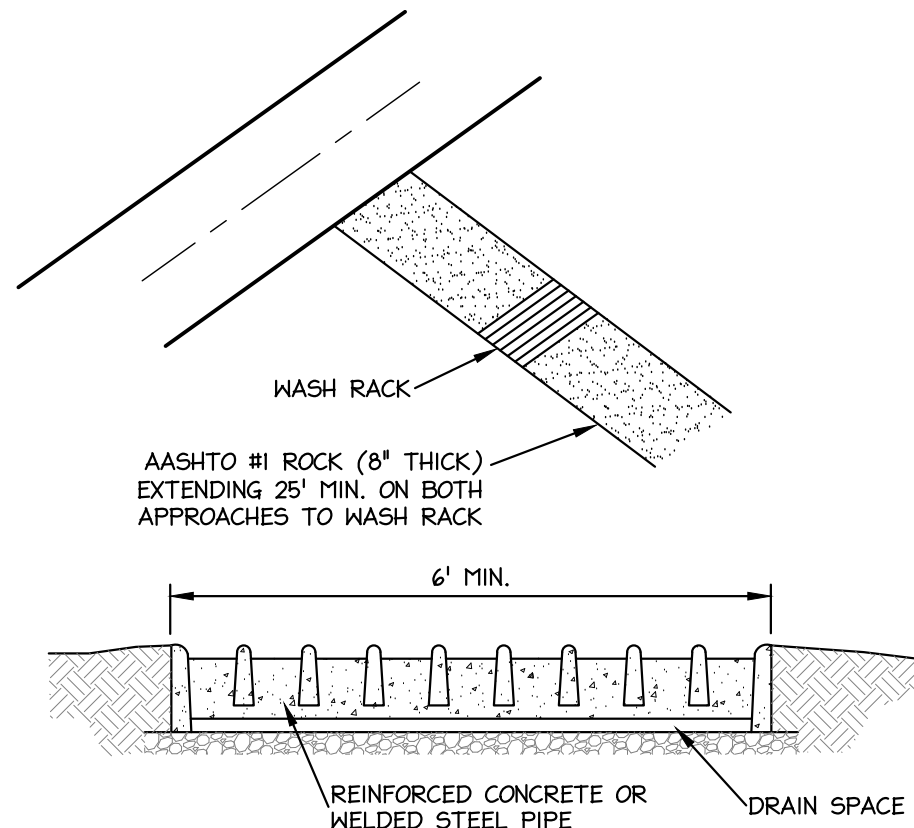


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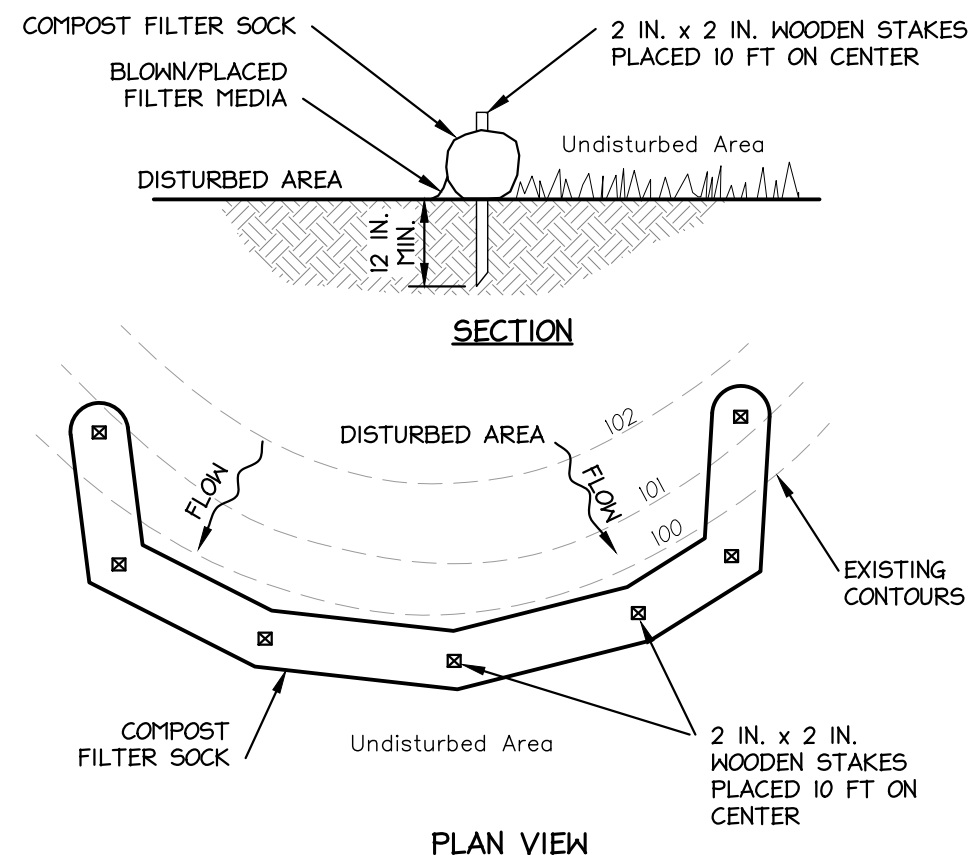
**NOTES:**

- WASH RACK SHALL BE 20 FEET (MIN.) WIDE OR TOTAL WIDTH OF ACCESS.
- WASH RACK SHALL BE DESIGNED AND CONSTRUCTED TO ACCOMMODATE ANTICIPATED CONSTRUCTION VEHICULAR TRAFFIC.
- A WATER SUPPLY SHALL BE MADE AVAILABLE TO WASH THE WHEELS OF ALL VEHICLES EXITING THE SITE.
- MAINTENANCE: ROCK CONSTRUCTION ENTRANCE THICKNESS SHALL BE CONSTANTLY MAINTAINED TO THE SPECIFIED DIMENSIONS BY ADDING ROCK. A STOCKPILE OF ROCK MATERIAL SHALL BE MAINTAINED ON SITE FOR THIS PURPOSE. DRAIN SPACE UNDER WASH RACK SHALL BE KEPT OPEN AT ALL TIMES. DAMAGE TO THE WASH RACK SHALL BE REPAIRED PRIOR TO FURTHER USE OF THE RACK. ALL SEDIMENT DEPOSITED ON ROADWAYS SHALL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE IMMEDIATELY. WASHING THE ROADWAY OR SWEEPING THE DEPOSITS INTO ROADWAY DITCHES, SEWERS, CULVERTS, OR OTHER DRAINAGE COURSES IS NOT ACCEPTABLE.

DN

**STANDARD CONSTRUCTION DETAIL #3-2  
ROCK CONSTRUCTION ACCESS WITH WASH RACK**

NOT TO SCALE



**NOTES:**

- SOCK FABRIC SHALL MEET STANDARDS OF TABLE 4.1 OF THE PA DEP EROSION CONTROL MANUAL. COMPOST SHALL MEET THE STANDARDS OF TABLE 4.2 OF THE PA DEP EROSION CONTROL MANUAL.
- COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE BARRIER SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN BARRIER ALIGNMENT. MAXIMUM SLOPE LENGTH ABOVE ANY BARRIER SHALL NOT EXCEED THAT SPECIFIED FOR THE SIZE OF THE SOCK AND THE SLOPE OF ITS TRIBUTARY AREA.
- TRAFFIC SHALL NOT BE PERMITTED TO CROSS COMPOST FILTER SOCKS.
- ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES 1/2 THE ABOVE GROUND HEIGHT OF THE BARRIER AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN.
- COMPOST FILTER 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 COMPOST FILTER SOCKS 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.

2

**STANDARD CONSTRUCTION DETAIL #4-1  
COMPOST FILTER SOCK**

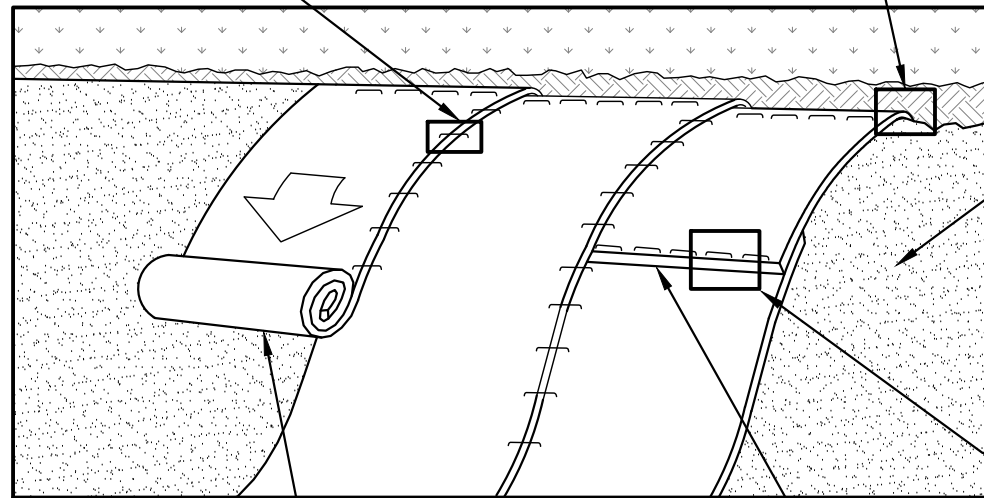
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BLANKET EDGES STAPLED AND OVERLAPPED (4 IN. MIN.)

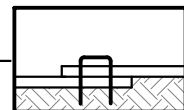


STARTING AT TOP OF SLOPE, ROLL BLANKETS IN DIRECTION OF WATER FLOW

INSTALL BEGINNING OF ROLL IN 6 IN. x 6 IN. ANCHOR TRENCH, STAPLE, BACKFILL AND COMPACT SOIL



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



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

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

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

**NOTES:**

SEED AND SOIL AMENDMENTS SHALL BE APPLIED ACCORDING TO THE RATES IN THE PLAN DRAWINGS PRIOR TO INSTALLING THE BLANKET.

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

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

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

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

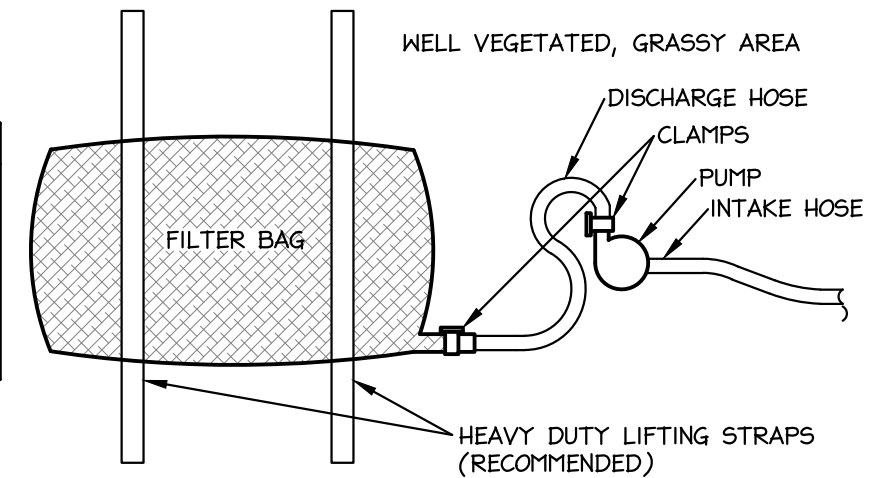
BLANKETED AREAS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT UNTIL PERENNIAL VEGETATION IS ESTABLISHED TO A MINIMUM UNIFORM 70% COVERAGE THROUGHOUT THE BLANKETED AREA. DAMAGED OR DISPLACED BLANKETS SHALL BE RESTORED OR REPLACED WITHIN 4 CALENDAR DAYS.

**STANDARD CONSTRUCTION DETAIL #11-1  
EROSION CONTROL BLANKET INSTALLATION**

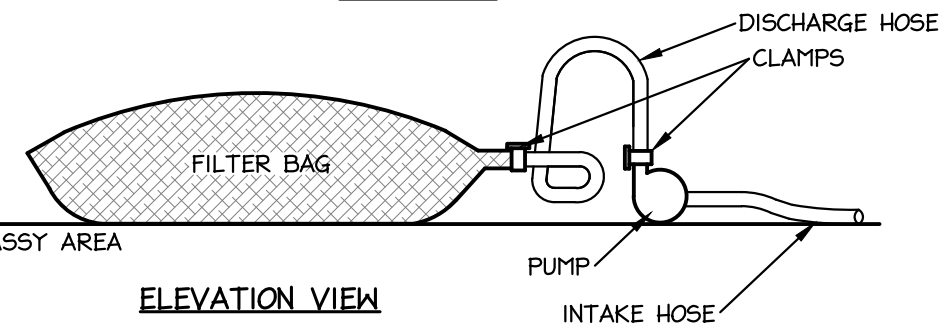


NOT TO SCALE

PROPERTY	TEST METHOD	MINIMUM STANDARD
AVG. WIDE 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



**PLAN VIEW**



**ELEVATION VIEW**

**NOTES:**

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

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

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

NO DOWNSLOPE SEDIMENT BARRIER IS REQUIRED FOR MOST INSTALLATIONS. 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.

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

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

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

**STANDARD CONSTRUCTION DETAIL #3-16  
PUMPED WATER FILTER BAG**



NOT TO SCALE



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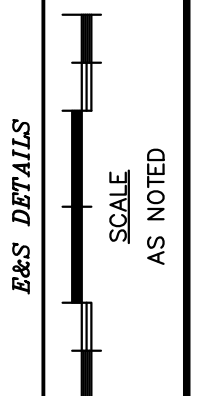
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AGRICULTURAL STREAM CROSSINGS  
E&S DETAILS



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**SITE SPECIFIC CONSTRUCTION SPECIFICATION FOR STREAM CROSSING RELATED TO GENERAL PERMITS**

1. A copy of the specifications and drawings shall be on site during all phases of construction.
2. A pre-construction meeting between Farmer, Contractor, and Engineer shall be required prior to any construction work.
3. It is the responsibility of the Contractor to implement all measures necessary to protect work-in-progress from environmental conditions such as temperature extremes, surface and ground water, etc.
4. Silt sock should be placed downhill from any earth disturbance.
5. Embankments and disturbed areas surrounding the components shall be treated to control erosion.
6. Strip all topsoil. Excavate the subgrade to place the stream crossing and cattle walkways. Distribute excess fill outside of the floodplain.
7. See specific notes in the profile and detail views for the components.
8. All disturbed areas shall be seeded and mulched.

**LIVESTOCK PIPELINE**

1. This item shall consist of the installation of the water pipeline and associated valves and fittings
2. Materials used shall be as specified on drawings. Substitutions may be allowed if the proposed material is presented to the engineer of record a minimum of 14 days prior to installation. Time spent researching substituted materials may be charged to the contractor.
3. Minimum trench width excavation, as shown on the plans, shall be observed. Backfill shall be as specified on drawings.
4. For water lines, all fittings and valves shall be pressure rated to match or exceed that of the pipe specified.
5. These items and components shall meet the criteria shown on the drawings and listed in the PA-516 Construction Specification.

**SEQUENCE OF INSTALLATION**

1. Install rock construction entrance.
2. Install erosion and sediment control BMPs downslope of any earth disturbance activities and soil stockpiles. All stockpiles must be located outside of the FEMA floodplain. Mark the project Limits of Disturbance with flags or other visible staking. No earth moving is to occur outside the Limits of Disturbance.
3. Install the temporary cofferdam and pump bypass around in-channel work area.
4. Livestock Pipeline
  - 4.1. Excavate trench for waterline and install pipe. Only the amount which can be installed, backfilled and stabilized on one day shall be excavated.
  - 4.2. Complete boring for pipe under wetlands and stream.
  - 4.3. Install stone heavy use area at watering facility locations.
  - 4.4. Install waterers.
5. Livestock Crossings
  - 5.1. Excavate the crossing cross-section and rough grade the site.
  - 5.2. Place geotextile fabric, stone subbase and compact.
  - 5.3. Install precast concrete slats.
  - 5.4. Install rip-rap exterior frame.
  - 5.5. Backfill must be compacted to prevent settling.
  - 5.6. Place rip-rap and stabilize side slopes. Place erosion control blanket on cut slopes.
  - 5.7. Place #8 stone within gaps of pre-cast concrete slats.
6. Construct gravel animal walkways
7. Fine grade the vegetated streambank areas and seed or sod immediately with a perennial grass cover. Streambank areas shall be maintained on a regular basis and repaired, reseeded and mulched until stabilization is achieved.
8. Any earth disturbance within 50 feet of the stream shall be immediately stabilized with erosion control matting and permanent seeding.
9. After final site stabilization (i.e. 70% vegetative uniform cover) has been achieved, the temporary erosion and sedimentation controls must be removed. Areas disturbed during the removal of the controls shall be restabilized.

**OPERATION AND MAINTENANCE PLAN**

**LIVESTOCK CROSSING**

1. Inspect the stream crossing, appurtenances, and associated fence at least annually and after each major storm event. Make repairs, if needed.
2. Remove any accumulation of organic material, woody material, or excess sediment.
3. Replace surfacing stone used for livestock crossing as needed.

**ANIMAL WALKWAYS & GRAVEL PADS**

1. Inspect the walkway and associated fence at least annually. Make repairs, if needed.
2. Remove any accumulation of manure.
3. Replace surfacing stone used for walkway crossing as needed.

**LIVESTOCK PIPELINE**

1. Inspect the pipeline and watering facilities at least annually. Make repairs, if needed.

**PROCEDURES FOR RECYCLING AND WASTE HANDLING & DISPOSAL:**

The developer or its authorized representative shall to the greatest extent possible recycle and reuse construction materials when no longer needed on the site. Concrete forms will be reused in other construction projects. Excess materials will be used in other projects as much as is feasible, rather than disposal on the site. Construction waste anticipated for this project includes wood forms, excess concrete, cardboard and other typical construction wastes. Wastes specific to erosion control will include accumulated sediment and compost filter sock. Accumulated sediment shall be collected and incorporated into site grading. Upon removal, compost from filter sock may be distributed in vegetated areas of the site as a soil amendment. Plywood materials shall be reused if in suitable condition, or be disposed of properly. All wastes shall be handled and disposed of properly in accordance with governing state and federal regulations. Manure shall be handled and disposed of according to PA Act 38 and other governing manure management plan requirements and applicable regulations.

**SOIL LIMITATION AND RESOLUTIONS**

Possible limitations for soils in the project area include the following, along with the proposed resolutions considered in the design of this project:

- Cut banks cave - All trenching and temporary excavated cut slopes shall be performed according to OSHA guidelines to avoid cut banks cave-ins.
- Corrosive to concrete/steel - Concrete shall be placed and cured according to specifications in order to meet the useful life of the structure. Steel components are not planned.
- Droughty - Soils may be amended with compost to increase the soil's water holding capacity.
- Easily erodible - All of the erosion and sediment control measures outlined in the plans shall be followed to minimize erosion.
- Flooding - Earthwork within the floodplain shall be minimized.
- Depth to saturated zone/seasonal high water table - Proper subsurface drainage shall be installed if subsurface water is causing issues during construction.
- Hydric/Hydric Inclusions - No wetlands are located within the earth disturbance areas.
- Low strength/Landslide prone - Design fill slopes shall be adequately compacted and stabilized.
- Piping - Adequately compact all fill slopes and berms.
- Poor source of topsoil - Only the soils suitable for topsoil shall be used as such. If there is not an adequate amount of material to be used as topsoil, additional clean topsoil shall be imported to the site.
- Frost Action - Fill material shall be free of frozen or partially frozen soils. Soil to be used as fill shall not exceed the recommended moisture content. Whenever possible, excavation shall take place when temperatures are above freezing to order to prevent frost action.
- Shrink-Swell - Soil to be used as fill shall not exceed the recommended moisture content. Compact soil properly and do not work when soil is excessively wet or dry.
- Potential Sinkhole - A professional geologist or experienced engineer shall be immediately contacted upon discovery of evidence of sinkhole formation.
- Ponding - Grading shall be performed so there is positive drainage to minimize ponding potential. If ponding continues to be an issue, proper subsurface drainage shall be installed.
- Wetness - Soil to be used as fill shall not exceed the recommended moisture content. If wetness continues to be an issue, proper subsurface drainage shall be installed.



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AGRICULTURAL STREAM CROSSINGS

CONSTRUCTION NOTES



SCALE  
AS NOTED

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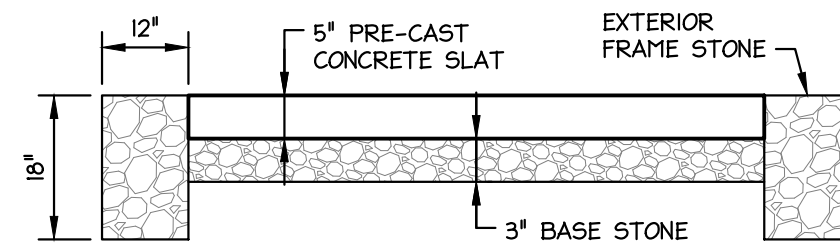
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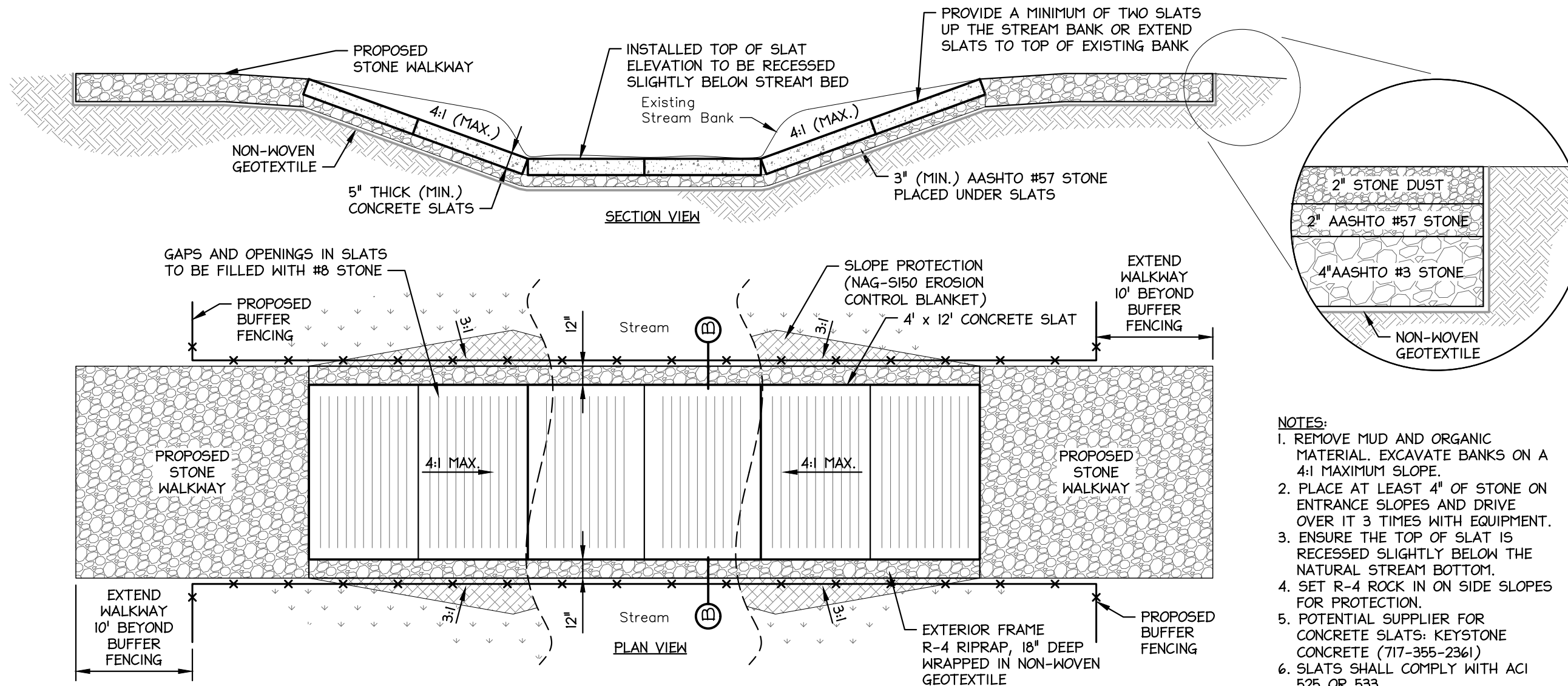


**NOTES**

1. CONSTRUCTION MATERIALS AND DREDGED OR EXCAVATED MATERIALS MAY NOT BE DEPOSITED IN WETLANDS OR WITHIN THE LIMITS OF THE FLOODWAY OR ANY AREAS AFFECTED BY FLOODS.
2. MATERIAL STOCKPILES MUST BE CONTROLLED WITH A SILT SOCK DOWNSLOPE OF THE STOCKPILE.
3. STONE SHALL BE KEYED INTO THE STREAM BANK AND BED.
  - A. AGRICULTURAL CROSSINGS AND RAMPS MUST BE KEYED INTO THE STREAM BANK(S) OR BED WHICH MAY BE ACCOMPLISHED BY TRENCHING OR BY MACHINE WEIGHT RUNNING ON THE STONE FILL.
  - B. INTERIOR STONE FOR CROSSINGS AND RAMPS SHALL BE OF A DIAMETER TO FILL THE VOIDS THAT WILL ENCOURAGE LIVESTOCK USE. AN ALTERNATIVE TO STONE WOULD BE CONCRETE SLATS.
  - C. EXTERIOR FRAME STONE FOR CROSSINGS AND RAMPS SHALL BE OF SUFFICIENT DIAMETER TO RESIST TRANSPORT BY NORMAL HIGH FLOWS AND REQUIRE DEEPER KEYING INTO THE STREAM BANK OR BED.



**SECTION B-B**



**NOTES:**

1. REMOVE MUD AND ORGANIC MATERIAL. EXCAVATE BANKS ON A 4:1 MAXIMUM SLOPE.
2. PLACE AT LEAST 4" OF STONE ON ENTRANCE SLOPES AND DRIVE OVER IT 3 TIMES WITH EQUIPMENT.
3. ENSURE THE TOP OF SLAT IS RECESSED SLIGHTLY BELOW THE NATURAL STREAM BOTTOM.
4. SET R-4 ROCK IN ON SIDE SLOPES FOR PROTECTION.
5. POTENTIAL SUPPLIER FOR CONCRETE SLATS: KEYSTONE CONCRETE (717-355-2361)
6. SLATS SHALL COMPLY WITH ACI 525 OR 533.

**ROCK GRADATION TABLE**

NCSA # FOR GRADED RIP-RAP	SIZE IN INCHES		
	MAX.	AVG.	MIN.
R-3	6	3	2
R-4	12	6	3

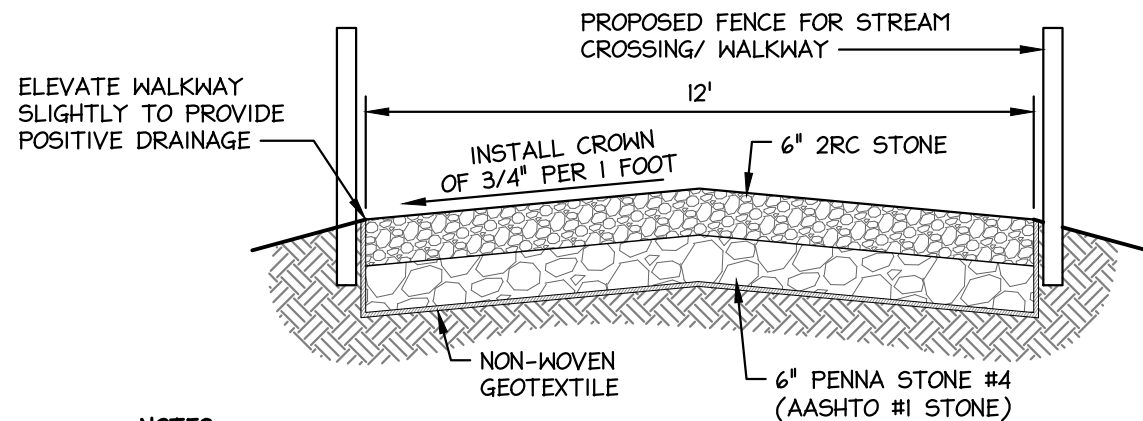
**AASHTO ROCK SIZE TABLE**

AASHTO NUMBER	TOTAL PERCENT SMALLER THAN													
	4"	3-1/2"	2-1/2"	2"	1-1/2"	1"	3/4"	1/2"	3/8"	NO.4	NO.8	NO.18	NO.50	NO.100
1	100	90-100	25-60	-	0-15	-	0-5	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	60	85-100	10-30	0-10	0-5	-	-
57	-	-	-	-	100	95-100	-	25-60	-	0-10	0-5	-	-	-

**SLAT CROSSING WITH STREAM STABILIZATION**

NOT TO SCALE





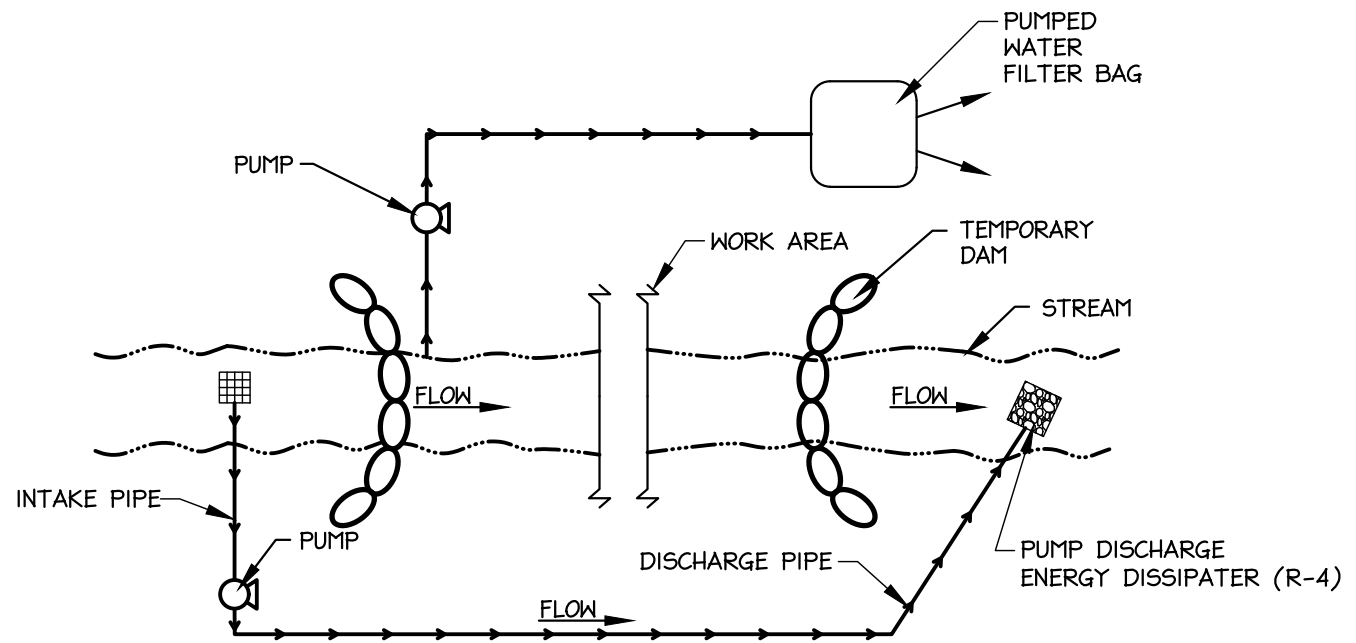
**NOTES:**

1. INSTALL THICKER TOP SURFACE EXTENDING OUT FROM CATTLE SLATS AS NOTED IN THE STREAM CROSSING DETAILS. REMAINDER OF WALKWAY AWAY FROM THE STREAM CROSSING TO BE INSTALLED AS NOTED IN "PROPOSED MANURE STORAGE" DRAWINGS, SHEET #28.
2. GRADE SUBGRADE TO CREATE SMOOTH SURFACE AND CREATE CROWN OR POSITIVE GRADE.
3. GEOTEXTILE SHALL MEET REQUIREMENTS IN CONSTRUCTION SPECIFICATION. PLACEMENT SHOULD ALLOW FOR 12 INCH OVERLAP BETWEEN PANELS.
4. STONE DEPTH WILL BE MEASURED AFTER COMPACTION.
5. ALL STONE SHALL BE COMPACTED WITH A VIBRATORY ROLLER.

1

**ANIMAL WALKWAY**

NOT TO SCALE



**NOTES:**

1. WHENEVER POSSIBLE, WORK SHOULD BE SCHEDULED FOR LOW FLOW SEASONS. NORMAL FLOW SHOULD BE CONVEYED PAST THE WORK AREA BY MEANS OF A BYPASS CHANNEL, PIPE, PUMP, OR COFFERDAM. ALL SUCH BYPASSES SHOULD BE COMPLETED AND STABILIZED PRIOR TO DIVERTING FLOW.
2. ANY IN-CHANNEL EXCAVATIONS SHOULD BE DONE FROM THE TOP OF THE BANKS WHEREVER POSSIBLE. WHERE THIS IS NOT POSSIBLE, A TEMPORARY CROSSING SHOULD BE PROVIDED FOR ANY EQUIPMENT WORKING FROM WITHIN THE CHANNEL. UPON COMPLETION, ALL CHANNEL ENTRANCES SHOULD BE RESTORED TO PRE-CONSTRUCTION CONFIGURATIONS, AS MUCH AS POSSIBLE, AND STABILIZED.
3. ALL EXCAVATED CHANNEL MATERIALS THAT WILL BE SUBSEQUENTLY AS BACKFILL SHOULD BE PLACED IN A TEMPORARY STOCKPILE LOCATED OUTSIDE THE CHANNEL. A SEDIMENT BARRIER SHOULD BE INSTALLED BETWEEN THE STORAGE PILE AND THE STREAM CHANNEL.
4. ALL EXCAVATED MATERIALS THAT WILL NOT BE USED ON SITE MUST BE IMMEDIATELY REMOVED TO A DISPOSAL SITE HAVING AN APPROVED EROSION AND SEDIMENT POLLUTION PLAN.
5. ANY PUMPED WATER FROM EXCAVATION SITE MUST BE FILTERED PRIOR TO DISCHARGING INTO WATERS OF THE COMMONWEALTH. THE USE OF FILTER BAGS IS ANOTHER ACCEPTABLE METHOD IF LOCATED ON A RELATIVELY FLAT (< 5% SLOPE), WELL-VEGETATED AREA. THE BAG SHOULD BE DESIGNED TO TRAP PARTICLES LARGER THAN 150 MICRONS. THE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE BAGS IN THE MANNER SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED. WHEN THE BAG HAS BEEN FILLED TO HALF ITS TOTAL CAPACITY, IT SHOULD BE REPLACED WITH A NEW BAG AND PROPERLY DISPOSED. WHEREVER WELL-VEGETATED AREAS ARE NOT AVAILABLE, A GEOTEXTILE UNDERLAYMENT SHOULD BE USED. CONSIDERATION SHOULD BE GIVEN TO HOW THE BAG WILL BE ACCESSED AND REMOVED ONCE IT HAS BEEN HALF FILLED WITH SEDIMENT.
6. ALL DISTURBED AREAS WITHIN THE EXISTING CHANNEL SHOULD BE COMPLETED AND STABILIZED BEFORE FLOW IS REDIRECTED INTO IT. SUITABLE PROTECTION SHOULD BE PROVIDED FOR THE STREAM CHANNEL FROM ANY DISTURBED AREAS THAT HAVE NOT YET ACHIEVED STABILIZATION.

2

**TEMPORARY COFFERDAM AND PUMP BYPASS AROUND IN-CHANNEL WORK AREA**

NOT TO SCALE