

- EROSION & SEDIMENTATION CONTROL PLAN NOTES:**
1. Only limited disturbance will be permitted to provide access to install perimeter erosion controls (12" compost filter sock or approved equivalent).
 2. Erosion and sediment control Best Management Practices (BMPs) must be constructed, stabilized, and functional before site disturbance begins within the BMP contributory drainage area.
 3. After final site stabilization has been achieved (uniform 70% perennial vegetative cover or better where revegetated), temporary erosion and sediment control BMPs must be removed. Areas disturbed during removal of BMPs must be stabilized immediately.
 4. Stockpile heights must not exceed 35 feet. Stockpile slopes must be 2:1 or flatter.
 5. Until the site is stabilized, all erosion and sediment control BMPs must be maintained properly.
 6. Sediment removed from BMPs must be placed within the limits of disturbance in an area protected by BMPs and promptly stabilized to avoid future re-entrainment.
 7. Any waste materials generated by (including wastes associated with the operation and maintenance of earthmoving equipment and construction materials such as geotextile, pipe, revegetation supplies, etc.) or encountered during construction will be recycled, scrapped, or disposed in permitted facilities in accordance with all applicable state and federal regulations as needed.
 8. Area affected during construction shall be only within the limits of disturbance as shown and shall be kept to the minimum area needed to construct the treatment system.
 9. Though all cut and fill material will be used and placed onsite, it is the responsibility of the operator to perform due diligence to determine if any fill material imported from offsite is Satisfactory Fill. Satisfactory Fill is defined as: uncontaminated, non-water soluble, non-decomposable, inert, solid material. The term includes soil, rock, stone, and dredged material.

TEMPORARY AND PERMANENT SEEDING SPECIFICATIONS

Temporary - To be applied within four (4) days if construction activities are to be suspended more than 14 days.
 Species: Annual Ryegrass
 Pure Live Seed: 88% Application Rate: 48 LB./AC.
 Fertilizer Type: None Liming Rate: 0 T./AC.
 Mulch Type: Hay or Straw Mulching Rate: 3.0 T./AC.

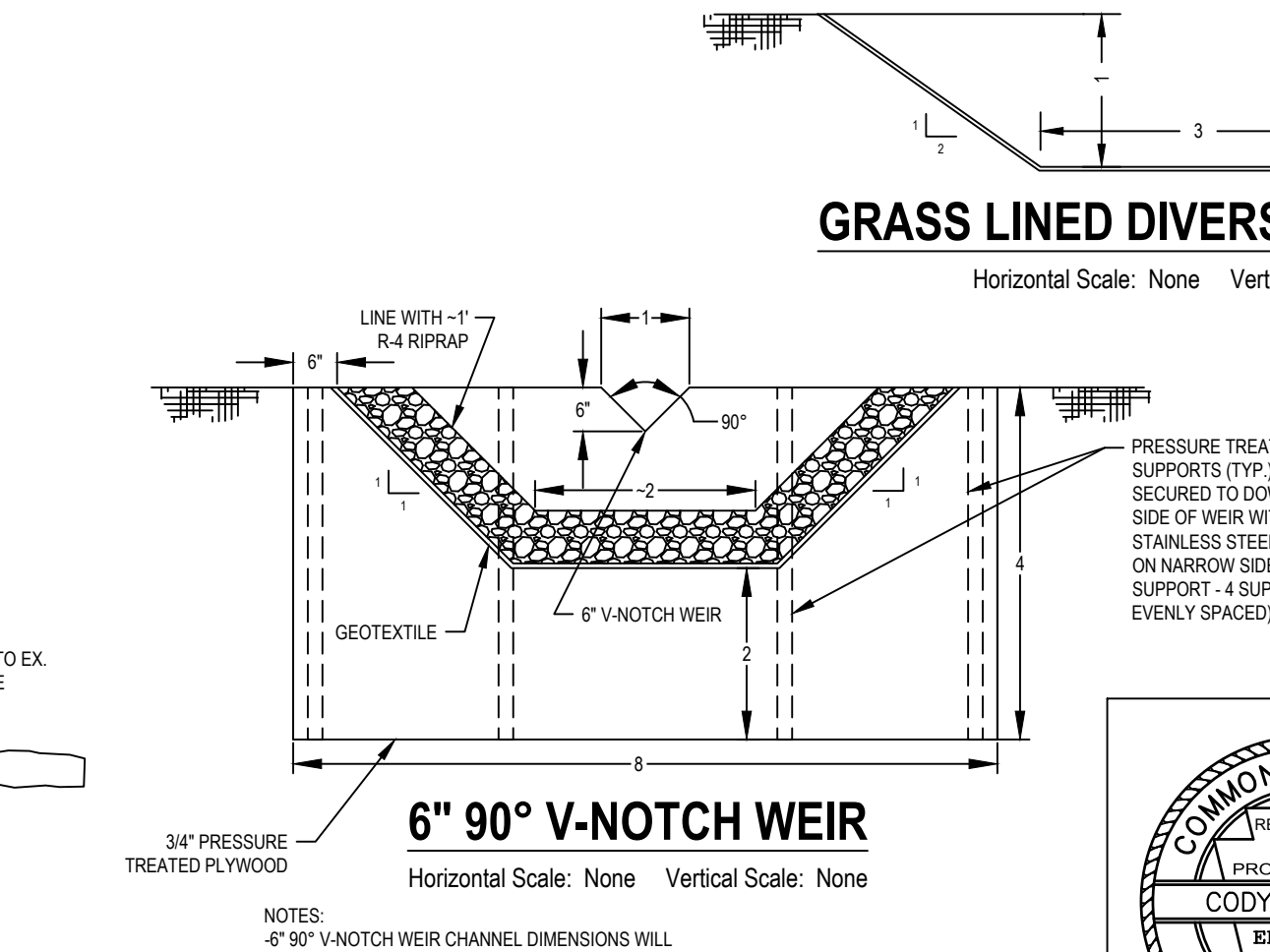
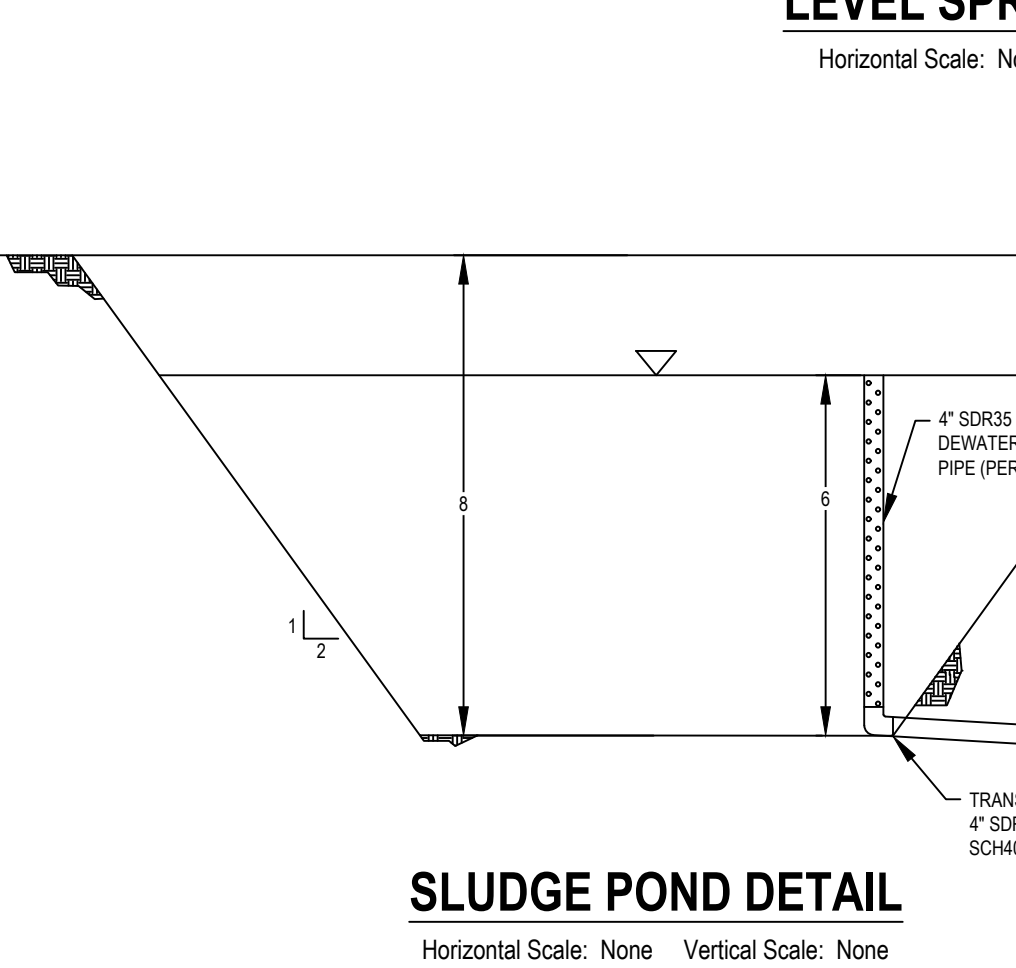
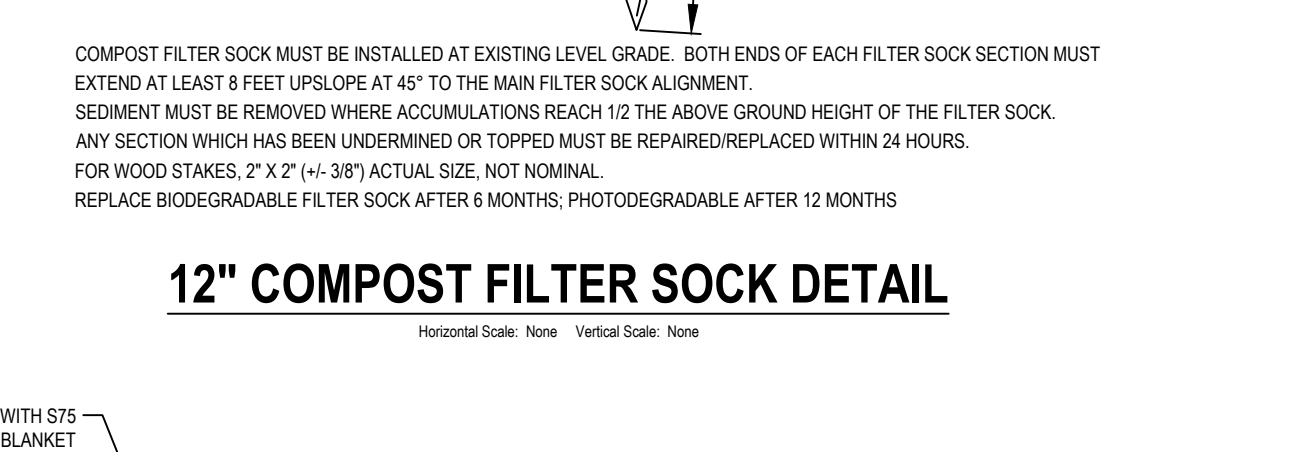
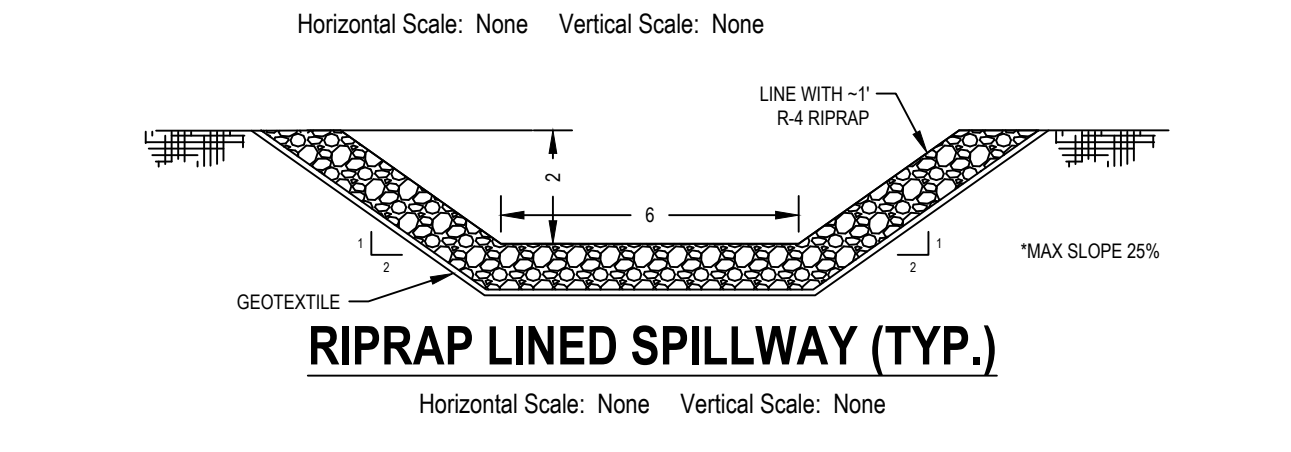
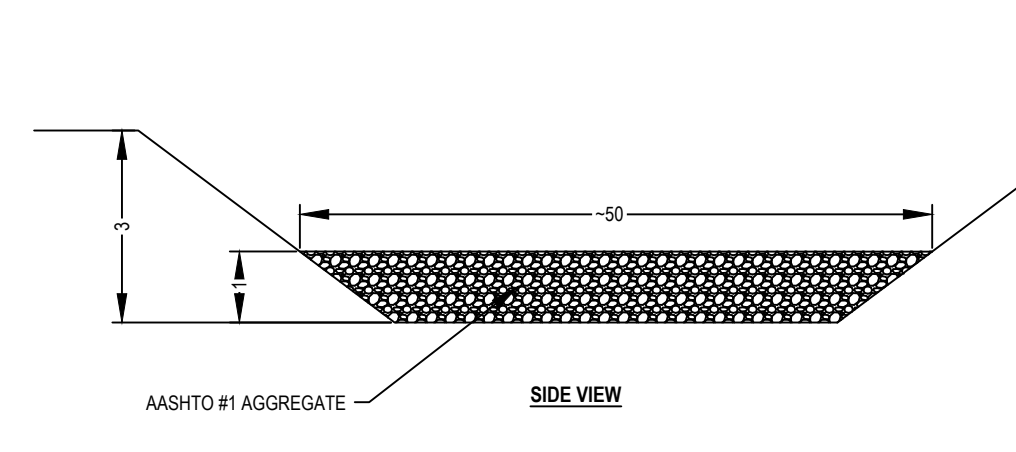
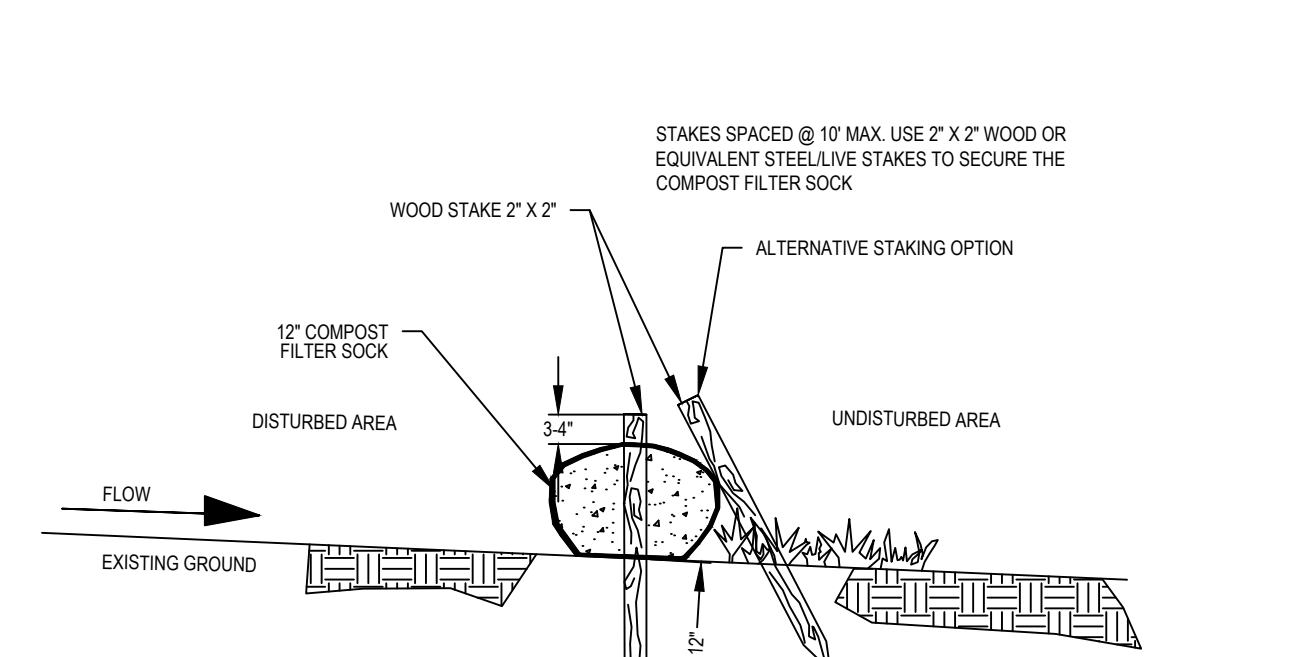
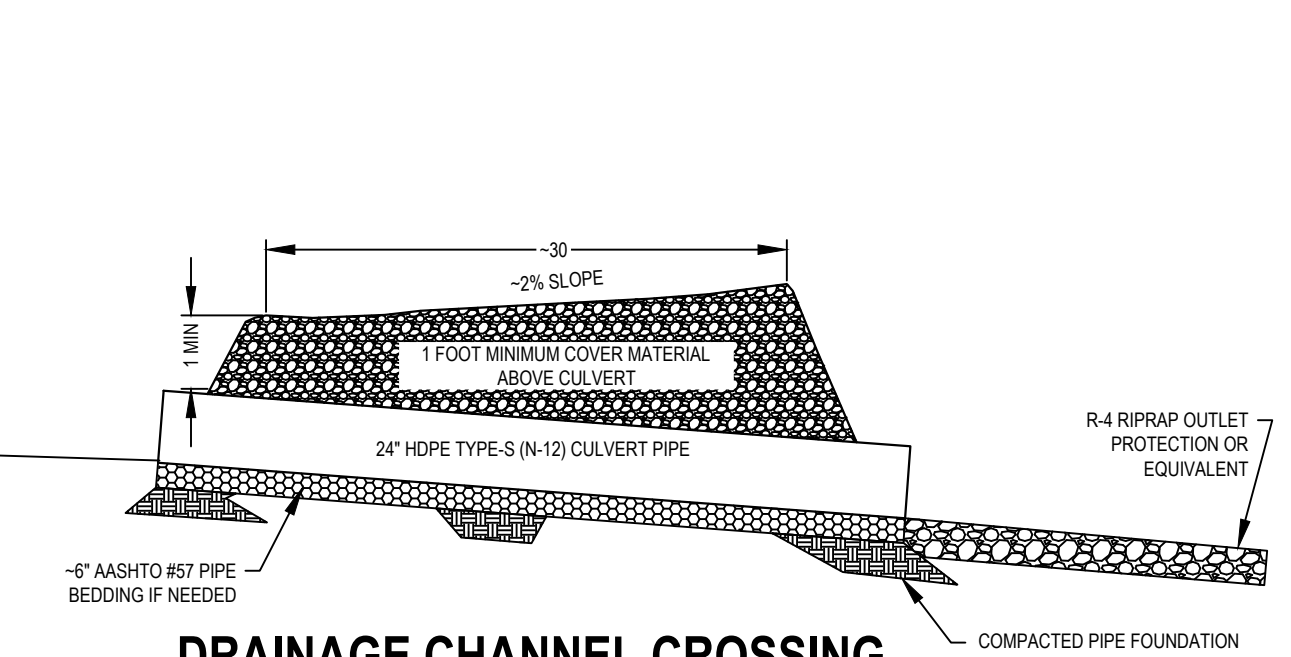
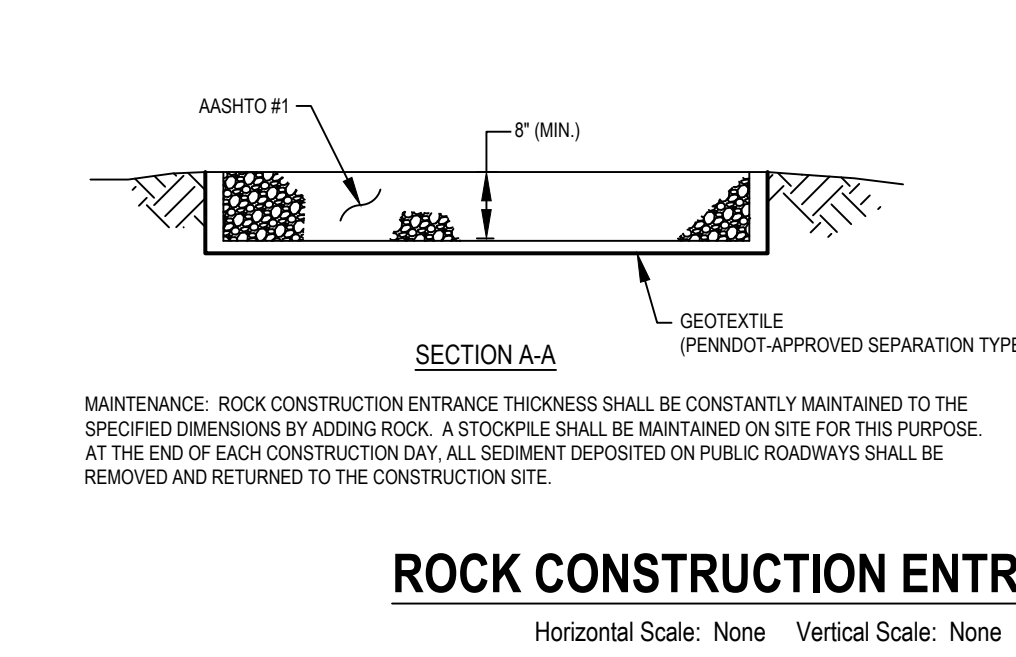
Permanent - To be applied within four (4) days of completion of construction activities (Species - Application Rate): Orchard Grass - 10 LB./AC.; Timothy - 10 LB./AC.; White Dutch Clover - 3 LB./AC.; Alsike Clover - 3 LB./AC.; Ladino Clover 3 LB./AC.; Birdsfoot Trefoil (Empire Variety) - 13 LB./AC.; Winter Wheat - 60 LB./AC. (Winter wheat for fall planting or spring oats at 34 LB./AC. for spring planting. Winter rye or annual rye grass at 25 LB./AC. may also be used.)
 Kentucky 31 Tall Fescue shall not be used.
 Min. Purity: 90% Min. Germination: 80%
 Fertilizer Type: 10-20-20 Fertilizer Appl. Rate: 500 LB./AC.
 Liming Rate: 3.0 T./AC. Mulch Type: Hay or Straw Mulching Rate: 3.0 T./AC.
 Preferred Seeding Season Dates: 3/15 to 6/1; 8/1 to 10/15

- CONSTRUCTION SCHEDULE & BMP INSTALLATION SEQUENCE**
1. Install rock construction entrance where indicated.
 2. Construct vegetated diversion channel and install compost filter sock (or approved equivalent) where indicated.
 3. Install 24" culvert pipe.
 4. Clear & Grub only the area that is to be disturbed. Place trees in "window" brush piles along outside edge of limits of disturbance or site access as needed.
 5. Install sludge pond and associated piping.
 6. Excavate and/or pump and sludge material from the existing treatment components to the proposed sludge pond.
 7. Install new spillways and remove existing water control structure.
 8. Grade all affected areas to blend with surrounding topography to promote positive drainage.
 9. Place and spread best on-site soil material, as needed, to ensure successful revegetation.
 10. Seed entire affected area as per permanent seeding specifications.
 11. Remove all temporary BMPs upon establishing permanent, uniform, 70% perennial vegetative cover.

- GENERAL NOTES**
1. Base map contours derived from a 2006 bare-earth digital elevation model constructed from PAMAP LIDAR elevation points by PA DCNR, Bureau of Topographic and Geologic Survey [PA State Plane - South (US Survey Foot) NAD83 (Vertical datum - NAVD83)]. Select topographic and cultural features from 2006 PAMAP aerial photos obtained from www.pasda.psu.edu. Additional information by BioMost, Inc. from limited 2021 site investigations. All existing conditions are to be field verified by the contractor as needed.
 2. All dimensions are in feet unless otherwise noted. All slope designations are H.V.
 3. The entirety of the project is located within Moraine State Park.
 4. Soil unit boundaries and data from websolidsurvey.nrcs.usda.gov accessed May 2021.
 5. Earthwork as designed will produce 830 CY of cut and allow for placement of 565 CY of fill. Excess fill material will be used on ex. surface water drainage channel crossing and/or blended into surrounding topography as needed.
 6. Disturbed area calculations do not include existing treatment areas.
 7. Existing passive treatment system pond volumes, elevations, and dimensions are interpolated based on information from design sheet 1 of 4, US Department of Agriculture Soil Conservation Service, Barkley Rd Wetland Site (6/15/95), as well as aerial imagery and limited site investigations by BioMost, Inc.

COMPONENT	VOLUME (APPX.)	BOT. ELEV.	BERM ELEV.	SPILLWAY ELEV.
COLLECTION POND	310 CY	1195.5	1200.0	1198.0
WETLAND	450 CY	1194.0	1197.0	1194.5
SETTLING POND	160 CY	1187.5	1192.0	1190.0

The Collection Pond and Wetland contain sludge and vegetation to the berm elevation. The Settling Pond is assumed to contain 2.5' of sludge with a 2' water cap above the sludge. Volumes in the above table represent estimates of sludge contained within each component. Berm elevations are inferred from LIDAR and bottom elevations are taken from design sheet 1 of 4, US Department of Agriculture Soil Conservation Service, Barkley Rd Wetland Site (6/15/95)



LEGEND

- PROP. PASSIVE TREATMENT COMPONENT
- EX. INTERMEDIATE CONTOUR
- EX. INDEX CONTOUR
- PROP. INTERMEDIATE CONTOUR
- EX. PASSIVE TREATMENT SYSTEM COMPONENT
- 4" SDR35 PVC PIPE (PERF.)
- 4" SCH40 PVC PIPE (SOLID)
- SOLS BOUNDARY
- WATER
- LIMITS OF DISTURBANCE (0.74 ACRES)
- ROAD (UNPAVED)

DESIGN PLAN

SHEET 1 OF 1

BARKLEY ROAD PASSIVE TREATMENT REHABILITATION

for
STREAM RESTORATION INCORPORATED

Butler County, Pennsylvania

Scale: As Shown February 2022

BioMost, Inc. Mining and Reclamation Services
 Mars, PA www.biomost.com

Site coordinates: 40°58'13.5611" N, 080°0'12'4.6668" W