

GENERAL NOTES

- Base map contours derived from a bare-earth digital elevation model constructed from LIDAR data (QL2) collected in Fall 2019/Spring 2020 by US Geologic Survey (PA State Plane - South (US Survey Foot) NAD83, Vertical datum- NAVD83). Select topographic and cultural features from 2018 Pennsylvania Emergency Management Agency (PEMA) 0.5-foot orthoimagery obtained from www.pasda.psu.edu. Additional information by BioMost, Inc. from limited 2021-2022 site investigations. All existing conditions are to be field verified by the contractor as needed.
- All dimensions are in feet unless otherwise noted. All slope designations are H:V.
- Soil unit boundaries and data from websoilsurvey.nrc.usda.gov accessed June 2022.
- Approximate edge of wetland boundary and existing diversion ditch obtained from as-built drawings prepared by CDS Associates, Inc. for the Argentine site, November, 1995 (as-builts). Location of watercourses (Unnamed Tributary to Slippery Rock Creek) obtained from combination of as-builts and aerial images.
- PA Game Commission access road to be maintained or improved as-needed during construction and left in equal to or better than condition.
- Existing diversion ditch to be maintained or improved as-needed down gradient of DD02. The contributory drainage area of DD01 and DD02 lie within the drainage area of the existing diversion ditch. Therefore, an increase in flow rate or volume is not expected.
- ALD B & ALD D are buried features and the existing contours are representative of proposed contours.
- Temporary Benchmark #1 (TBM1) not displayed on map but is located further south along PA Game Commission Access Road at NORTH:646291.4497, EAST:1396069.6286 at an elevation of 1235.92.

CONSTRUCTION SEQUENCE

- Install rock construction entrance where indicated.
- Install diversion ditches and compost filter sock.
- Clear & Grub only the area that is to be disturbed along limits of disturbance. Place trees in windrow / brush piles along outside edge of limits of disturbance or site access as needed. Cessation of earth disturbance activity for four (4) or more days requires temporary stabilization following temporary seeding and mulching specifications.
- Install dewatering basin.
- Install 6" PVC drain line, riser and Valterra gate valve for dewatering basin.
- Clean treatment system components D1, D2, D3 and D4.
- Install 6" SDR35 drain lines, risers and Valterra gate valves for ALD D and ALD B.
- Install ALD D and ALD B.
- Grade all affected areas to blend with surrounding topography to promote positive drainage. No more than 15,000 square feet shall reach final grade before initiating seeding and mulching operations.
- Place and spread best on-site soil material, as needed, to ensure successful revegetation. Sediment from temporary BMPs shall be cleared from the BMPs and spread within the limits of disturbance.
- Seed entire affected area as per permanent seeding specifications. All disturbed areas which are at final grade and will not be further disturbed, shall be seeded per the permanent seeding specifications. All slopes 3:1 and greater shall be stabilized with erosion control blanket.
- Remove compost filter sock or cut open and spread filter sock fill material upon establishing permanent, uniform, 70% perennial vegetative cover.

BMP MAINTENANCE SCHEDULE

Compost Filter Sock

- Contractor is responsible for inspection of Compost Filter Sock at the frequency described below.
- Accumulated sediment shall be removed when it reaches half the aboveground height of the sock and disposed in the manner described within the Erosion & Sedimentation Control Plan Notes.
- 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.
- Compost Filter Socks shall be replaced as described within the Compost Filter Sock Detail.

Erosion Control Blanket

- By design Erosion Control Blankets do not collect sediment but rather hold sediment in place, therefore no sediment clearing or disposal is needed.
- 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.

Rock Construction Entrance

- Contractor is responsible for inspection of Rock Construction Entrance on an as needed basis.
- Rock Construction Entrance shall be continually maintained and repaired immediately.
- Sediment removal is not directly addressed in PA E&SPC Manual (2012), refer to Rock Construction Entrance detail for additional notes.

EROSION & SEDIMENTATION CONTROL PLAN NOTES

- Only limited disturbance will be permitted to provide access to install perimeter erosion controls (Compost filter sock and diversion ditches).
- Erosion and sediment control Best Management Practices (BMPs) must be constructed, stabilized, and functional before site disturbance begins within the BMP contributory drainage area.
- 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.
- Stockpile heights must not exceed 35 feet. Stockpile slopes must be 2:1 or flatter.
- Until the site is stabilized, all erosion and sediment control BMPs must be maintained properly.
- 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.
- Any waste materials generated by (including wastes associated with the operation and maintenance of earthmoving equipment and construction materials such as geotextile, pipe, vegetation 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.
- 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.
- 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 if construction activities are to be suspended more than four (4) days.
 Species: Annual Ryegrass
 Pure Live Seed: 88% Application Rate: 48 LB./AC.
 Fertilizer Type: None Limiting 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. 4-6" of top soil replacement is recommended, should be loosely spread prior to seeding.
 (Species - Application Rate): Orchard Grass - 10 LB./AC.; Timothy - 10 LB./AC.; White Dutch Clover - 3 LB./AC.; Alaska Clover - 3 LB./AC.; Ladino Clover 3 LB./AC.; Birdfoot 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 ryegrass 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

BioMost, Inc.
 Mining & Reclamation Services
 434 Spring Street Ext.
 Mars, PA 16046
 www.biomost.com

CLIENT:
 STREAM RESTORATION INC.
 434 SPRING ST. EXT.,
 SEVEN FIELDS, PA 16046

NO.	BY	DATE	DESCRIPTION
REVISIONS			

SIGNATURE / DATE
 SUBMITTED BY:
 CODY A. NEELY, P.E.
 PROJECT DESIGNER - BioMost, Inc.

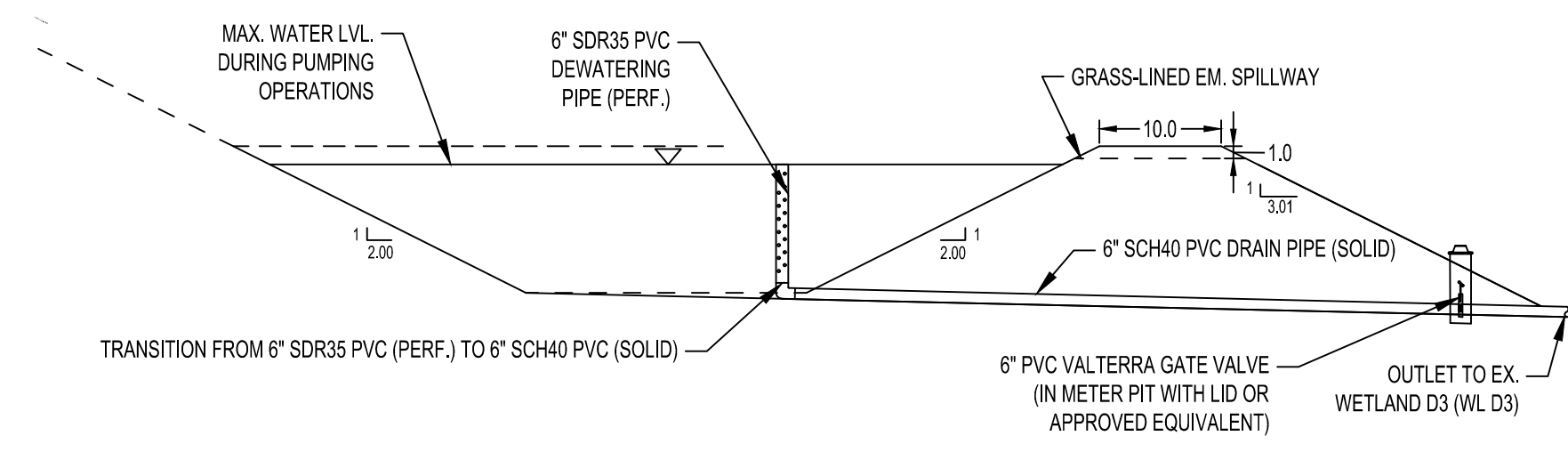
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 CHECKED BY:
 ACAD FILE NAME: 2592 - SR114.dwg
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 LONGITUDE: -79.8278
 SCALE: 30' = 1" UNLESS OTHERWISE NOTED
 ALL EXISTING CONDITIONS SHALL BE CHECKED AND VERIFIED BY THE CONTRACTOR AT THE SITE AS APPLICABLE

SR114 Rehabilitation Project

Washington Township
 Butler County, PA

E&S and DESIGN PLAN

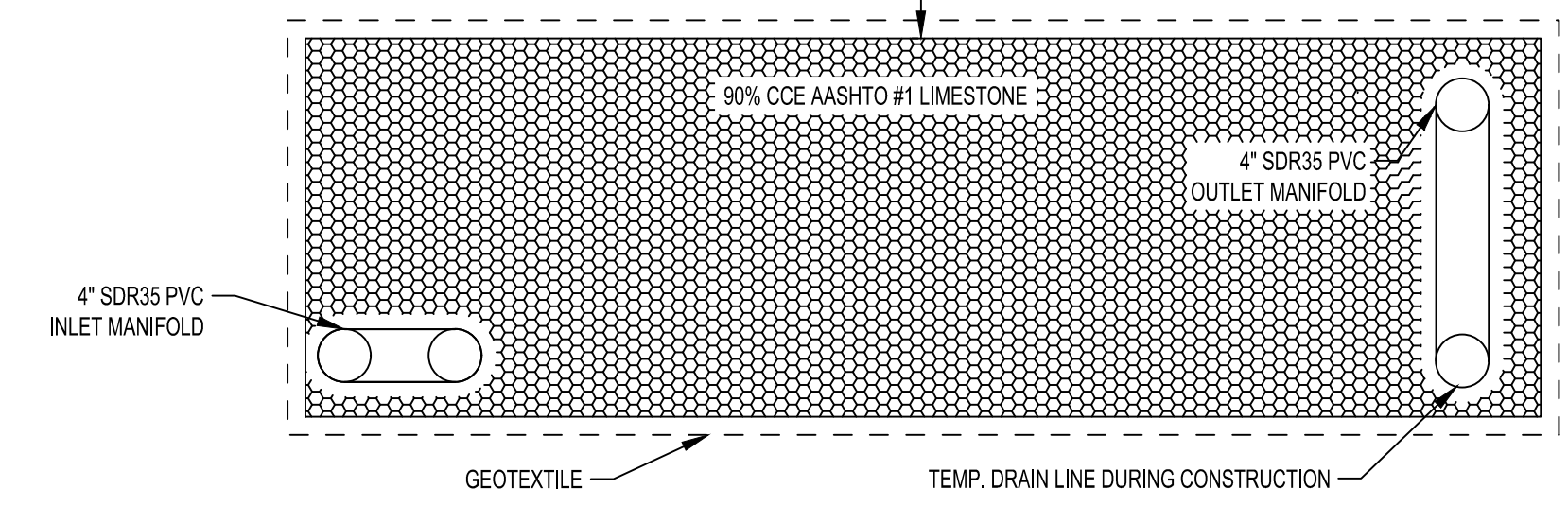
DRAWING NUMBER:
1 of 2



DEWATERING BASIN

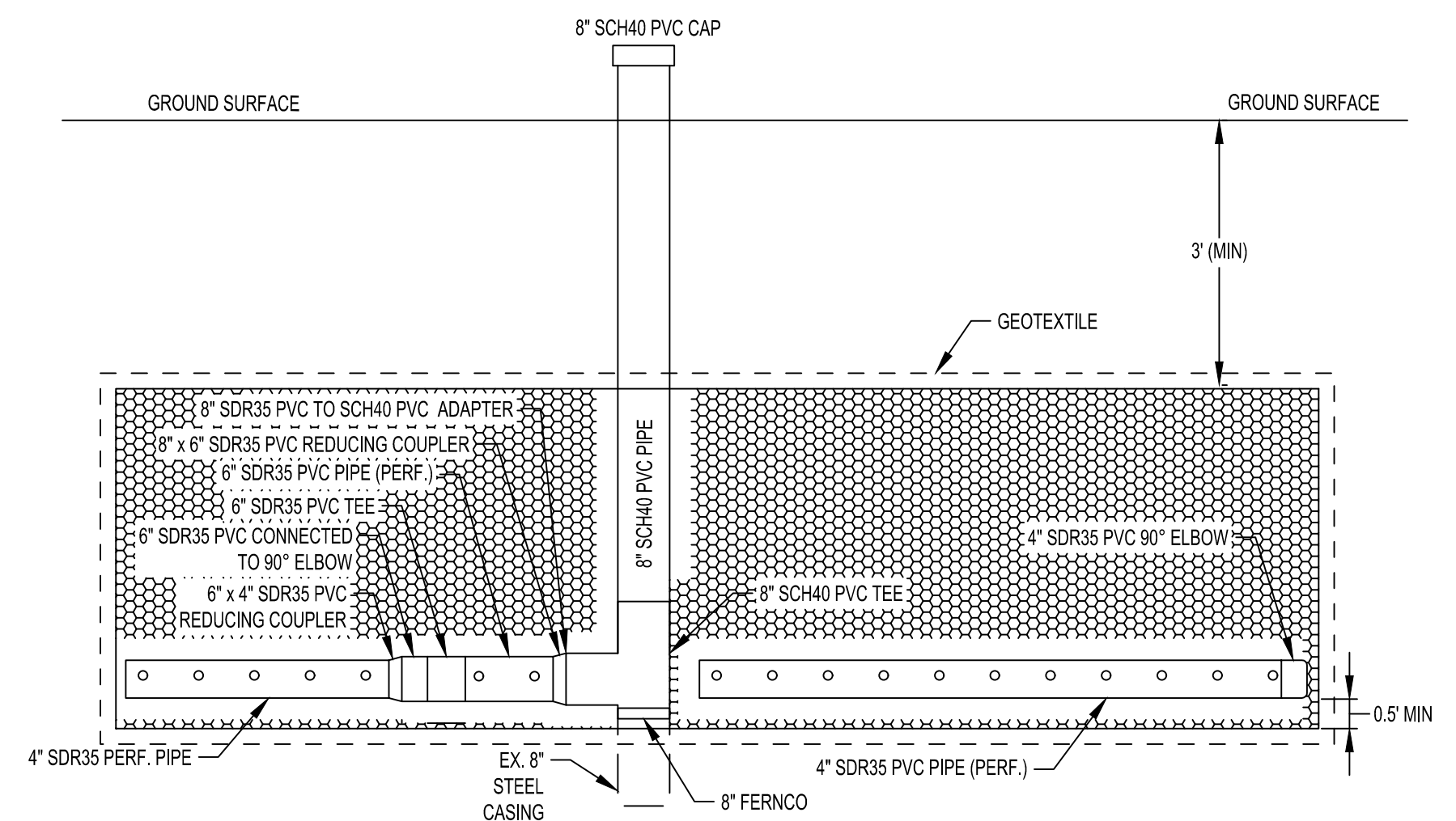
Vertical Scale: None Horizontal Scale: None

DESCRIPTION	ALD D	ALD B
TONS OF LIMESTONE	1500	500
TOP OF LIMESTONE ELEV.	1247.5	1255.0
OUTLET MANIFOLD ELEV.	1247.0	1254.5
INLET MANIFOLD ELEV.	1245.0	1250.5
BOT. OF LIMESTONE ELEV.	1244.5	1250.0



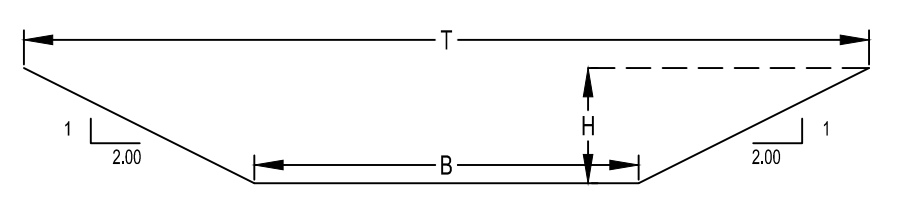
ANOXIC LIMESTONE DRAIN (ALD) (TYP.)

Vertical Scale: None Horizontal Scale: None



D1 SECTION VIEW

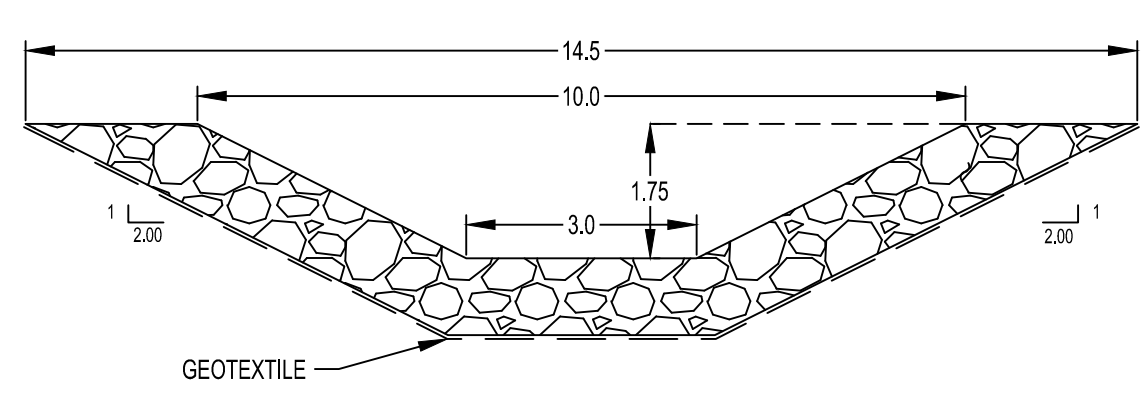
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GRASS-LINED DIVERSION DITCH (TYP.)

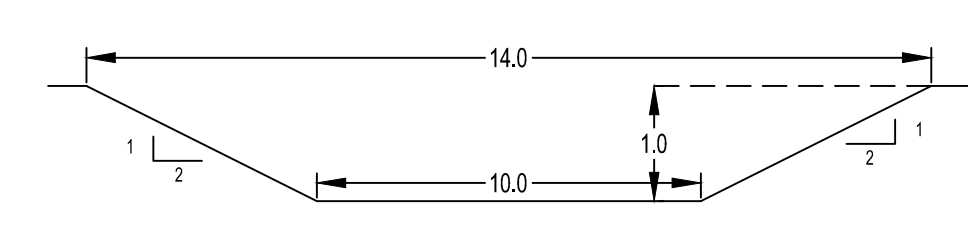
Vertical Scale: None Horizontal Scale: None

	DD01	DD02
T	9	12
B	3	6
H	1.5	1.5



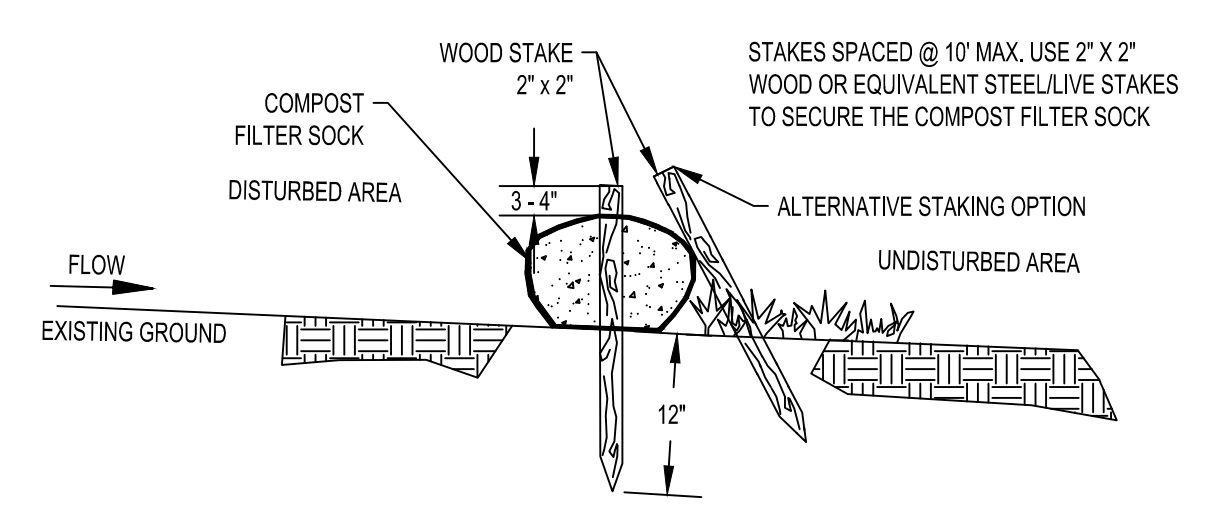
ROCK-LINED DIVERSION DITCH (DD03)

Vertical Scale: None Horizontal Scale: None



EMERGENCY SPILLWAY

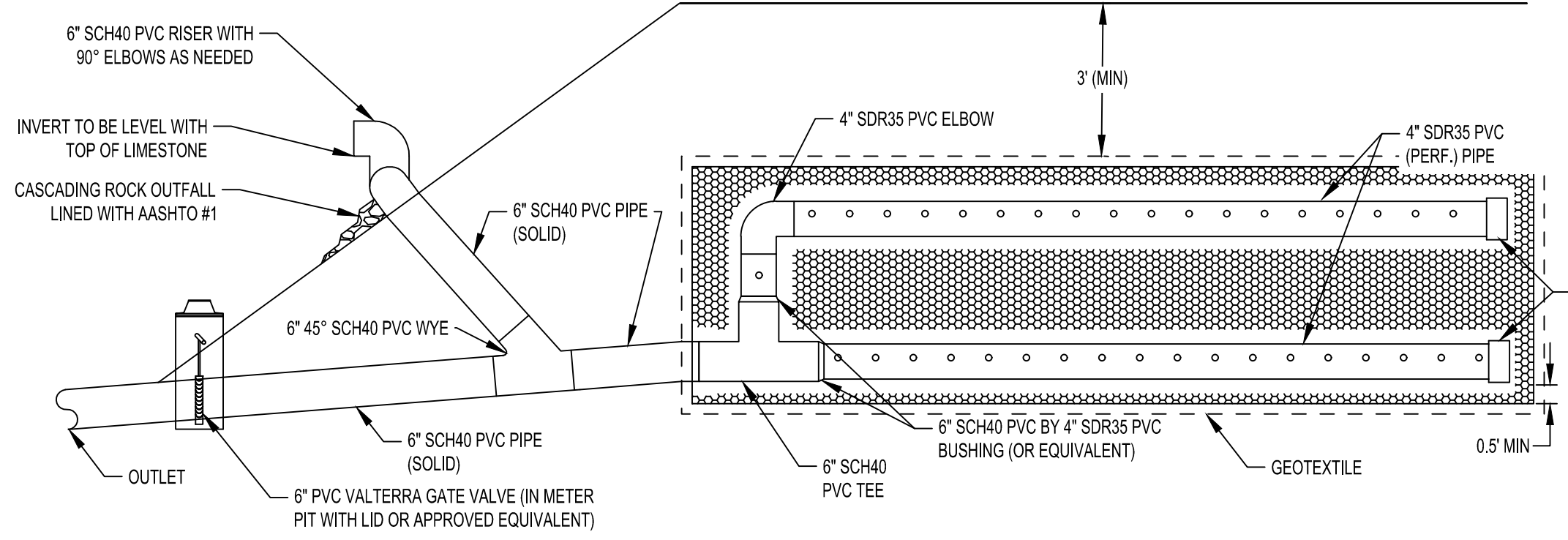
Vertical Scale: None Horizontal Scale: None



COMPOST FILTER SOCK

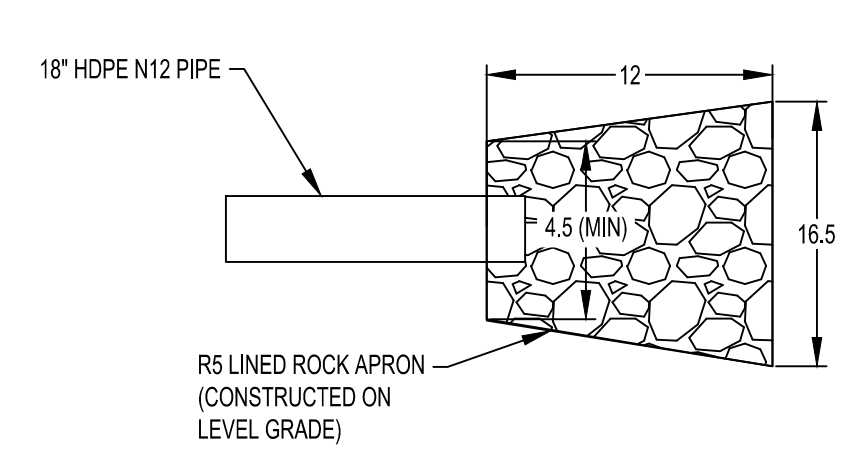
Vertical Scale: None Horizontal Scale: None

- NOTES:**
- Compost filter sock must be installed at existing level grade. Both ends of each filter sock section must extend at least 8 feet up-slope at 45° to the main filter sock alignment.
 - Sediment must be removed where accumulations reach 1/2 the above ground height of the filter sock.
 - Any section which has been undermined or topped must be repaired/replaced within 24 hours.
 - For wood stakes, 2" x 2" (+/- 3/8") actual size, not nominal.
 - Replace biodegradable filter sock after 6 months; photodegradable after 12 months, polypropylene per manufacturer's recommendation.
 - 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.



ANOXIC LIMESTONE DRAIN (ALD D & ALD B) OUTLET (TYP.)

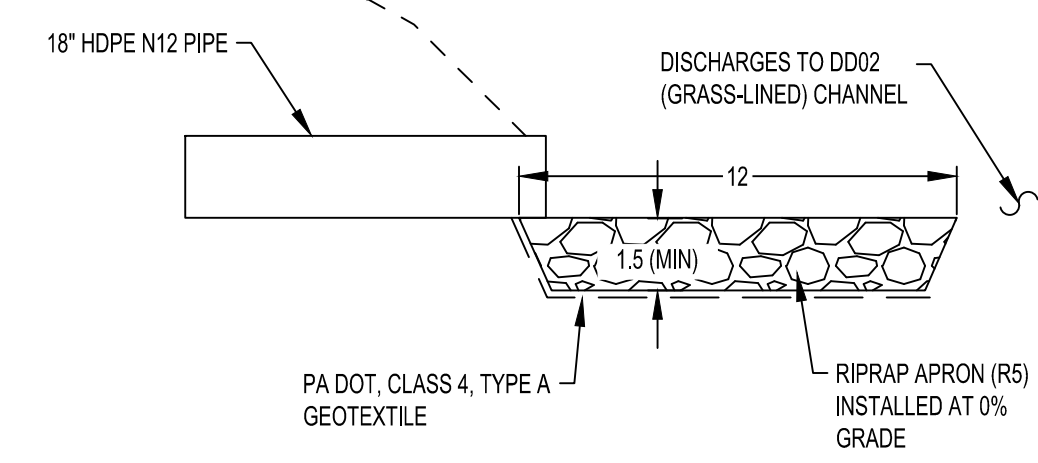
Vertical Scale: None Horizontal Scale: None



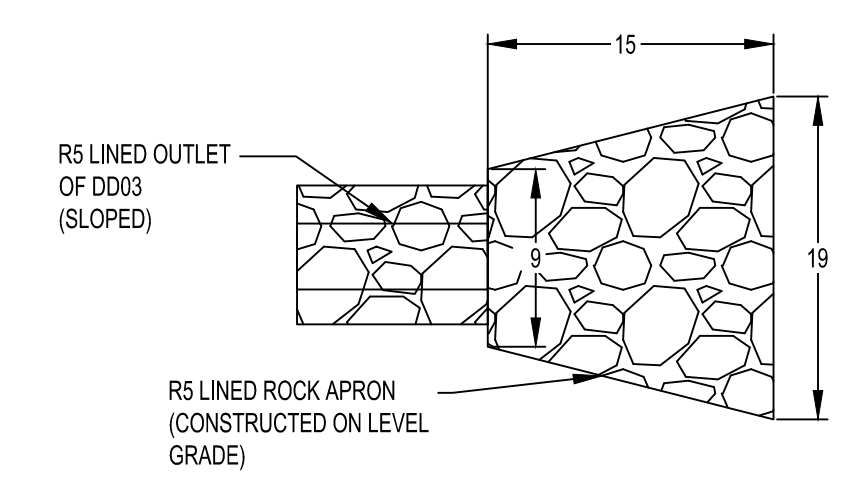
PLAN VIEW

RIPRAP APRON (DD01 OUTLET)

Vertical Scale: None Horizontal Scale: None



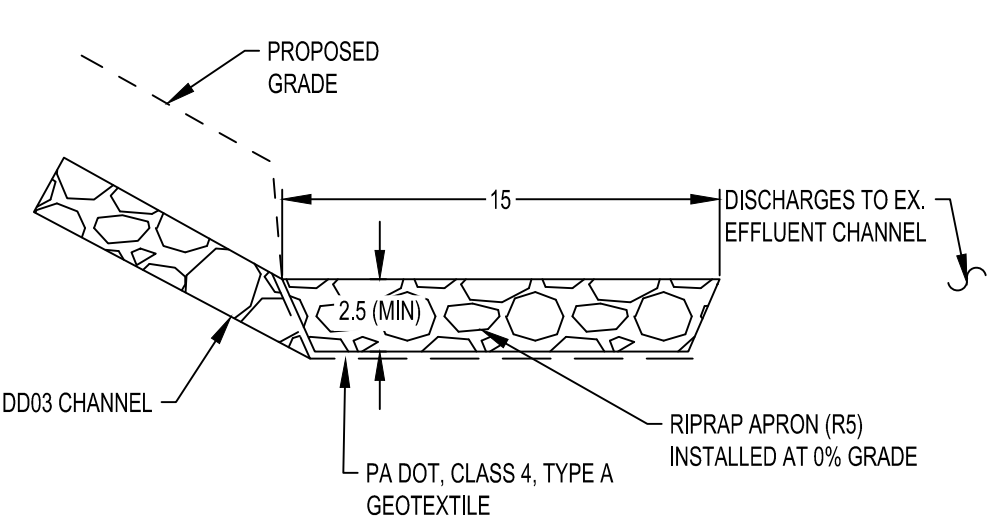
SECTION VIEW



PLAN VIEW

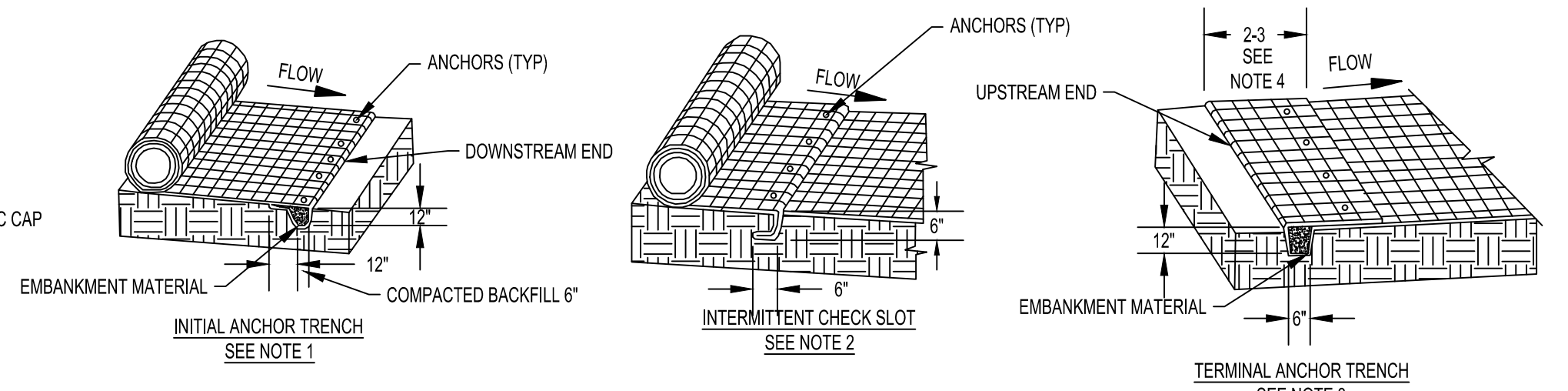
RIPRAP APRON (DD03 OUTLET)

Vertical Scale: None Horizontal Scale: None



SECTION VIEW

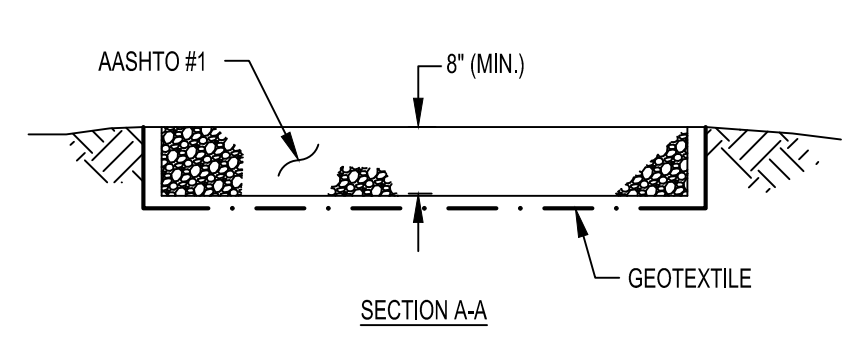
- NOTES:**
- Extend riprap on back side of apron at least 1/2 depth of pipe on both sides to prevent scour around the pipe. Apron end width to match receiving water width if less than specified in the drawing & apron discharges directly to down-gradient channel.
- Maintenance:**
- All aprons shall be inspected at least weekly and after each runoff event. Displaced riprap within the apron shall be replaced immediately.



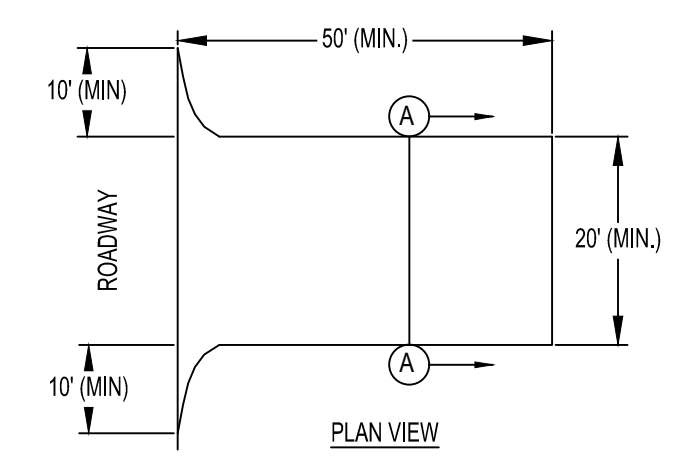
EROSION CONTROL BLANKET

Vertical Scale: None Horizontal Scale: None

- NOTES:**
- Excavate initial anchor trench 12" deep and 6" wide across the width of the slope to prevent undermining of the erosion control blanket.
 - Excavate intermittent check slot 6" deep and 6" wide across the width of the slope at 25 to 30 feet intervals along the length of the erosion control blanket to prevent loose soil from being transported beneath the erosion control blanket.
 - Excavate terminal anchor trench 12" deep and 6" wide across the width of the slope to ensure water flow transitions smoothly from the erosion control blanket without separation from the soil.
 - 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.
 - Prepare soil before installing erosion control blanket, including any necessary application of lime, fertilizer, and seed per the permanent seeding instructions. Slope surface shall be free of rocks, clods, sticks, and grass and blanket shall have good continuous contact with the ground surface.
- *follow installation instructions per manufacturer guidelines
 **consecutive erosion control blankets spliced along the slope gradient must be placed end over end (shingle style) with an approximate 3" overlap. Staple through overlapped area, approximately 12" apart across entire length.
 ***in loose soil conditions, the use of staple or stake lengths greater than 6" may be necessary to properly secure the blankets.



SECTION A-A

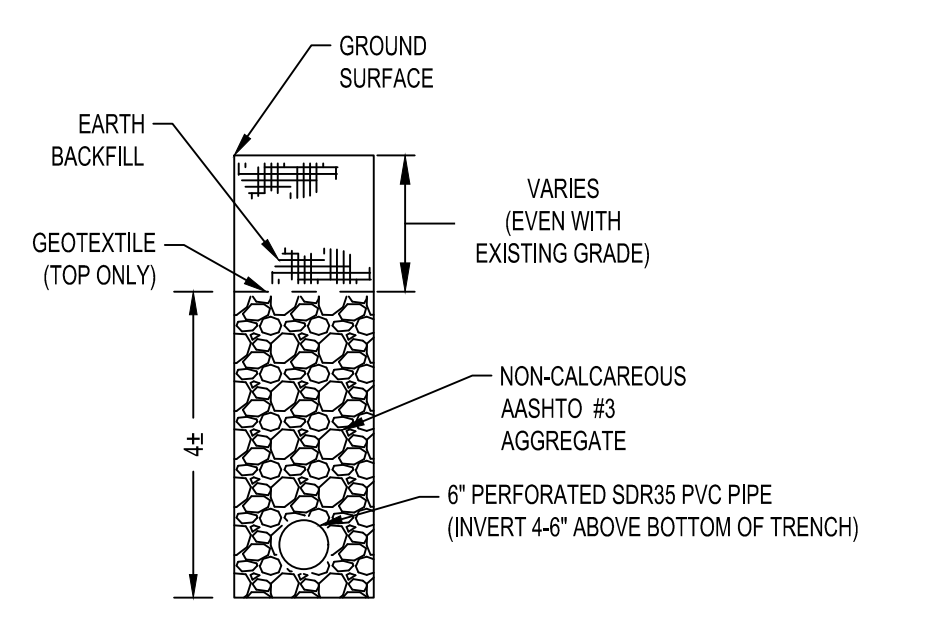


PLAN VIEW

Maintenance: Rock construction entrance thickness shall be constantly maintained to the specified dimensions by adding rock. A stockpile shall be maintained on site for this purpose. At the end of each construction day, all sediment deposited on public roadways shall be removed and returned to the construction site immediately.

ROCK CONSTRUCTION ENTRANCE

Vertical Scale: None Horizontal Scale: None



ANOXIC COLLECTION SYSTEM DETAIL (ACS)

Vertical Scale: None Horizontal Scale: None

CLIENT:
STREAM RESTORATION INC.
 434 SPRING ST. EXT.,
 SEVEN FIELDS, PA 16046

NO.	BY	DATE	DESCRIPTION
REVISIONS			

DRAFT 01/23/22

SIGNATURE / DATE
 SUBMITTED BY: ---
 PROJECT DESIGNER: BioM8st, Inc.

DATE: Sheet 1
 DRAWN BY: DMC
 CHECKED BY: ---
 ACAD FILE NAME: 2592 - SR114.dwg

LATITUDE: 41.0951
 LONGITUDE: -79.8278

SCALE:
 1" = 5' 0" = 10'
 UNLESS OTHERWISE NOTED

ALL EXISTING CONDITIONS SHALL BE CHECKED AND VERIFIED BY THE CONTRACTOR AT THE SITE AS APPLICABLE

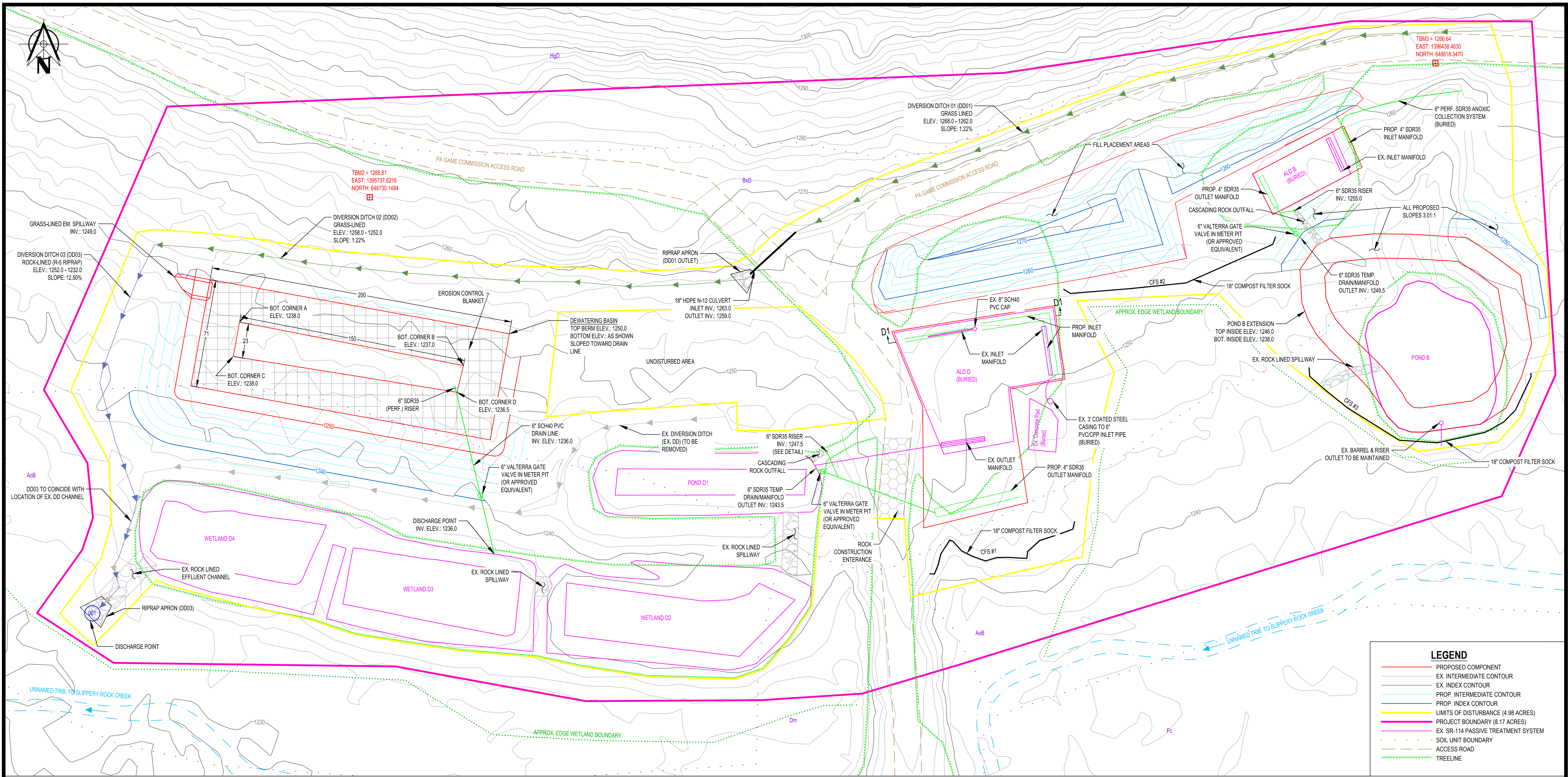
WASHINGTON TWP. BUTLER COUNTY, PA

SR114 Rehabilitation Project

E&S & DESIGN DETAILS SHEET

DRAWING NUMBER: 2 of 2





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- PA Game Commission access road to be maintained or improved as-needed during construction and left in equal to or better than condition.
- ALD B & ALD D are buried features and the existing contours are representative of proposed contours.
- Project lies entirely on PA Game Commission property, therefore no property lines are shown.

CONSTRUCTION SEQUENCE

- Install rock construction entrance where indicated.
- Install diversion ditches and compost filter sock.
- Clear & Grub only the area that is to be disturbed within limits of disturbance. Place trees in windrow / brush piles along outside edge of limits of disturbance or site access as needed. Cessation of earth disturbance activity for four (4) or more days requires temporary stabilization following temporary seeding and mulching specifications.
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- Seed entire affected area as per permanent seeding specifications. All disturbed areas which are at final grade and will not be further disturbed, shall be seeded per the permanent seeding specifications. All slopes 3:1 and steeper shall be stabilized with erosion control blanket.
- Remove compost filter sock or cut open and spread filter sock fill material upon establishing permanent, uniform, 70% perennial vegetative cover.

BMP MAINTENANCE SCHEDULE

- Compost Filter Sock**
- Contractor is responsible for inspection of Compost Filter Sock at the frequency described below.
 - Accumulated sediment shall be removed when it reaches half the aboveground height of the sock and disposed in the manner described within the Erosion & Sedimentation Control Plan Notes.
 - 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.
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- By design, Erosion Control Blankets do not collect sediment but rather hold sediment in place, therefore no sediment cleaning or disposal is needed.
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 - Sediment removal is not directly addressed in PA E&SPC Manual (2012), refer to Rock Construction Entrance detail for additional notes.

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- An inspection of all BMPs should occur weekly and after every measurable stormwater event unless otherwise noted in the BMP Maintenance Schedule section of this Plan. An inspection log showing dates that E&S BMPs were inspected, any deficiencies found, and corrective actions taken shall be kept on site. PADEP's latest Visual Site Inspection report or equivalent should be used for this purpose.

TEMPORARY AND PERMANENT SEEDING SPECIFICATIONS

Temporary - To be applied if construction activities are to be suspended more than four (4) 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. 4-6" of top soil replacement is recommended, should be loosely spread prior to seeding.

(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

BioMost, Inc.
 Mining & Reclamation Services
 434 Spring Street Ext.
 Mars, PA 16046
 www.biomost.com

CLIENT:	STREAM RESTORATION INC. 434 SPRING ST. EXT., SEVEN FIELDS, PA 16046		
NO.	BY	DATE	DESCRIPTION
REVISIONS			

REGISTERED PROFESSIONAL ENGINEER
CODY A. NEELY
 ENGINEER
 PE065089

SIGNATURE / DATE
Cody A. Neely
 08/14/2022

SUBMITTED BY:
CODY A. NEELY, P.E.
 PROJECT DESIGNER - BioMost, Inc.

DATE: 08/2022
 DRAWN BY: DMC
 ACAD FILE NAME: 2592 - SR114_DMC.dwg

LATITUDE: 41.0951
 LONGITUDE: -79.8278
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SCALE: 30' = 15' = 0'
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ALL EXISTING CONDITIONS SHALL BE CHECKED AND VERIFIED BY THE CONTRACTOR AT THE SITE AS APPLICABLE

Washington Township
 Butler County, PA

SR114 Rehabilitation Project

E&S PLAN

DRAWING NUMBER:
1 of 2