



# Public Notice

U.S. Army Corps  
of Engineers

In Reply to Application Number  
**CENAB-OP-RPA-2014-00311-P06 (Borough of Hyndman Flood  
Protection – Phase 2)**

Baltimore District

PN-14-30

Comment Period: May 20, 2014 to June 4, 2014

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**THE PURPOSE OF THIS PUBLIC NOTICE IS TO SOLICIT COMMENTS FROM THE PUBLIC REGARDING THE WORK DESCRIBED BELOW. NO DECISION HAS BEEN MADE AS TO WHETHER OR NOT A PERMIT WILL BE ISSUED AT THIS TIME.**

This District has received an application for a Department of the Army permit pursuant to **Section 10 of the Rivers and Harbors Act of 1899 and/or Section 404 of the Clean Water Act (33. U.S.C. 1344)** as described below:

**APPLICANT:** Pennsylvania Department of Environmental Protection  
Department of General Services  
Bureau of Engineering and Architecture  
18<sup>th</sup> and Herr Streets  
Harrisburg, Pennsylvania 17125

**WATERWAY AND LOCATION OF THE PROPOSED WORK:** Wills Creek, where it flows through Hyndman, Pennsylvania (Enclosure 1).

**PROPOSED WORK AND PURPOSE:** The purpose of the project is to repair an existing concrete levee system in Wills Creek and improve flow of the waterway through the town of Hyndman within the flood control area. The proposed repair of the damaged flood control levee includes: 1) the placement of rip rap rock at the foundation of the existing levee; and 2) installation of grade control reinforced concrete cross-vane structures within the stream channel which will serve to stabilize the channel and prevent scour of the stream bed. The work will result in 0.49 acre (1350 linear feet) of permanent direct impacts to the waterway by the discharge of fill material below the ordinary high water mark of the stream. The installation of rock causeways below the ordinary high water mark of the stream for the purpose of accessing the project areas will result in 0.31 acre (1350 linear feet) of temporary direct impact to the waterway. Dewatering of the stream channel for construction will result in an additional 1.07 acres of temporary indirect impacts to the waterway. The impacts to the stream could not be avoided for repairs to the existing structures and installation of additional rock to occur, however, the footprint of temporary impact has been minimized to the extent practicable. Compensatory mitigation for the repairs is not conducive with a repair project. The in-stream cross vanes will improve the stream stability and health, therefore, no compensatory mitigation is required. To protect water quality, all work is proposed to be completed under dry conditions.

All work would be completed in accordance with the enclosed plans (Enclosure 2). If you have any questions concerning this matter, please contact Mrs. Deborah Nizer at (410) 962-6085.

The decision whether to issue a permit will be based on an evaluation of the probable impacts, including cumulative impacts of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit, which reasonable may be expected to accrue from the proposal, must be balanced against its reasonably foreseeable detriments. All factors, which may be relevant to the proposal, will be considered, including the cumulative effects thereof; among those are conservation, economic, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards, flood plain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, and consideration of property ownership and in general, the needs and welfare of the people.

The Corps of Engineers is soliciting comments from the public; Federal, State, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments provided will become part of the public record for this action. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity. Written comments concerning the work described above related to the factors listed above or other pertinent factors must be received by Mrs. Deborah Nizer, District Engineer, U.S. Army Corps of Engineers, Baltimore District, 10 South Howard Street, P.O. Box 1715, Baltimore, Maryland 21201, within the comment period specified above.

**ESSENTIAL FISH HABITAT:** The Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA), as amended by the Sustainable Fisheries Act of 1996 (Public Law 04-267), requires all Federal agencies to consult with the National Marine Fisheries Service (NMFS) on all actions, or proposed actions, permitted, funded, or undertaken by the agency that may adversely effect Essential Fish Habitat (EFH). The Corps has determined this project will not affect any EFH.

**WATER QUALITY CERTIFICATION:** The applicant is required to obtain a water quality certification in accordance with Section 401 of the Clean Water Act from the Pennsylvania Department of Environmental Protection. The Section 401 certifying agency has a statutory limit of one year from the date of this public notice to make its decision.

**COASTAL ZONE MANAGEMENT PROGRAMS:** Where applicable, the applicant has certified in this application that the proposed activity complies with and will be conducted in a manner consistent with the approved Coastal Zone Management (CZM) Program. By this public notice, we are requesting the State concurrence or objection to the applicant's consistency statement. It should be noted that the CZM Program has a statutory limit of 6 months to make its consistency determination.

The applicant must obtain any State or local government permits which may be required.

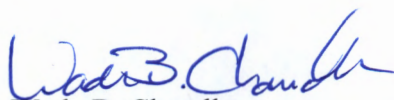
A preliminary review of this application indicates that the proposed work will not affect Federal listed threatened or endangered species or their critical habitat, pursuant to Section 7 of the Endangered Species Act, as amended. As the evaluation of this application continues, additional information may become available which could modify this preliminary determination.

Review of the latest published version of the National Register of Historic Places indicates that no registered properties listed as eligible for inclusion, therein, are located at the site of the proposed work. Currently unknown archeological, scientific, prehistoric, or historical data may be lost or destroyed by the work to be accomplished under the request permit.

The evaluation of the impact of this project on the public interest will include application of the guidelines promulgated by the Administrator, U.S. Environmental Protection Agency, under authority of Section 404 of the Clean Water Act.

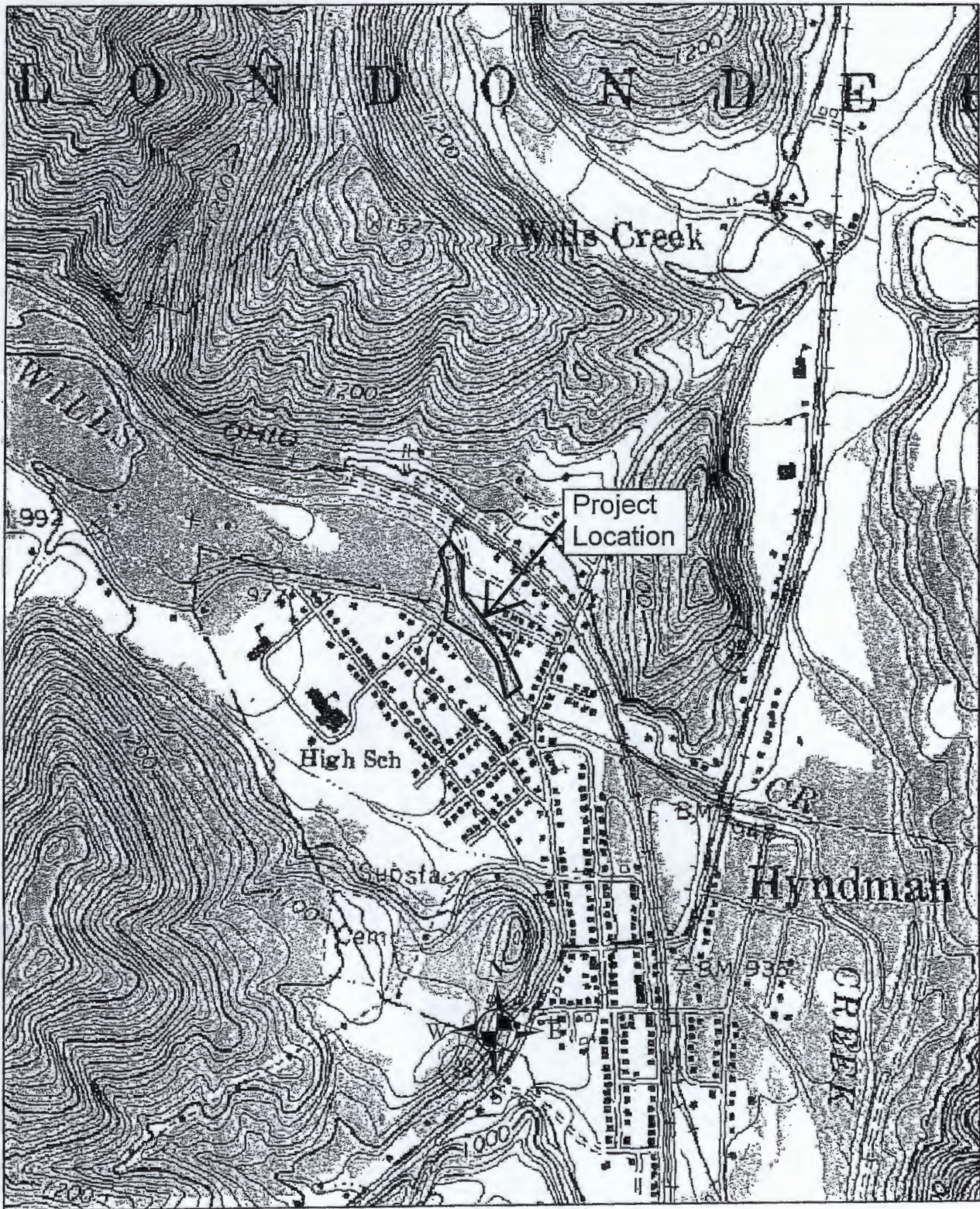
Any person who has an interest which may be adversely affected by the issuance of this permit may request a public hearing. The request, which must be in writing, must be received by Mrs. Deborah Nizer, District Engineer, U.S. Army Corps of Engineers, Baltimore District, 10 South Howard Street, P.O. Box 1715, Baltimore, Maryland 21203 within the comment period as specified above to receive consideration. Also it must clearly set forth the interest which may be adversely affected by this activity and the manner in which the interest may be adversely affected.

It is requested that you communicate this information concerning the proposed work to any persons know by you to be interested and not being known to this office, who did not receive a copy of this notice.

  
Wade B. Chandler  
Chief, Pennsylvania Section  
Regulatory Branch

Enclosures

# Hyndman Borough FPP Location Map



Hyndman  
Quadrangle

0 1,000 2,000 Feet

**Hyndman Borough Flood Protection Project**  
**D.G.S. Project No. 183-8, Phase 2**  
**Project Narrative**

The following activities are associated with the Phase 2 Project:

- Construct nine (9) stream channel grade control structures consisting of 538 feet of steel reinforced concrete, vinyl sheet pile, and riprap protection.
- Construct 3,370 square yards of grouted R-5 riprap bank and levee protection.
- Construct 115 feet of permanent project access ramp consisting of compacted earth and AASHTO No. 1 surfacing.
- Construct 203 feet of reinforced concrete wall with grouted riprap protection.
- Construct 2 temporary stream crossings to provide access for construction.
- Construct 700 linear feet of 15 foot wide temporary rock causeway consisting of AASHTO No. 1 aggregate to provide access for construction.
- Install 1,100 square yards of erosion control matting to project channel banks.
- Install 150 square yards of turf reinforcement matting to project channel banks

# COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF GENERAL SERVICES

HARRISBURG, PENNSYLVANIA

TOM CORBETT, GOVERNOR      SHERI L. PHILLIPS, SECRETARY

## PROJECT NO. D.G.S. 183-8, PHASE 2 BOROUGH OF HYNDMAN FLOOD PROTECTION PROJECT

HYNDMAN BOROUGH  
BEDFORD COUNTY, PENNSYLVANIA

DESIGN PROFESSIONAL

DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF WATERWAYS ENGINEERING AND WETLANDS  
HARRISBURG, PENNSYLVANIA  
GENERAL CONSTRUCTION CONTRACT NO. DGS 183-8, PHASE 2

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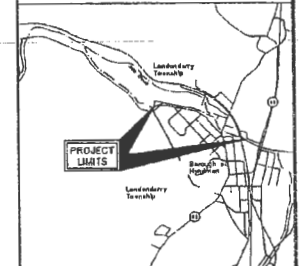
TITLE	DWG. NO.
MISCELLANEOUS DETAILS	D-1
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#### CODE APPROVALS

#### PROJECT LOCATION MAP



#### VICINITY MAP



#### APPROVALS

DRAWINGS LISTED IN INDEX

APPROVED \_\_\_\_\_ DATE \_\_\_\_\_  
OFFICIAL SEAL HERE  
 OFFICE OF THE SECRETARY OF ENVIRONMENTAL PROTECTION

DRAWINGS LISTED IN INDEX

APPROVED \_\_\_\_\_ DATE \_\_\_\_\_  
OFFICIAL SEAL HERE  
 OFFICE OF THE SECRETARY OF ENVIRONMENTAL PROTECTION



PERFORMANCE BUREAU 1116 PERFORMANCE BUREAU 6416

COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF WATER MANAGEMENT

COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF GENERAL SERVICES  
HARRISBURG, PENNSYLVANIA

PROJECT NO. D.G.S. 183-8, PHASE 2

FLOOD PROTECTION PROJECT  
HYNDMAN BOROUGH  
BEDFORD COUNTY, PENNSYLVANIA

#### COVER SHEET

DATE BY \_\_\_\_\_ DATE BY \_\_\_\_\_  
 JOB 4/11/2013 DRAWING NO. CS-1  
 DRAWN BY \_\_\_\_\_ DATE AS SHOWN

**CALL BEFORE YOU DIG!**  
 PENNSYLVANIA LAW REQUIRES  
 3 WORKING DAYS NOTICE FOR  
 CONSTRUCTION PHASE AND 1 WORKING  
 DAYS IN DESIGN STAGE - STOP CALL

PA 800  
 1-800-315-1771

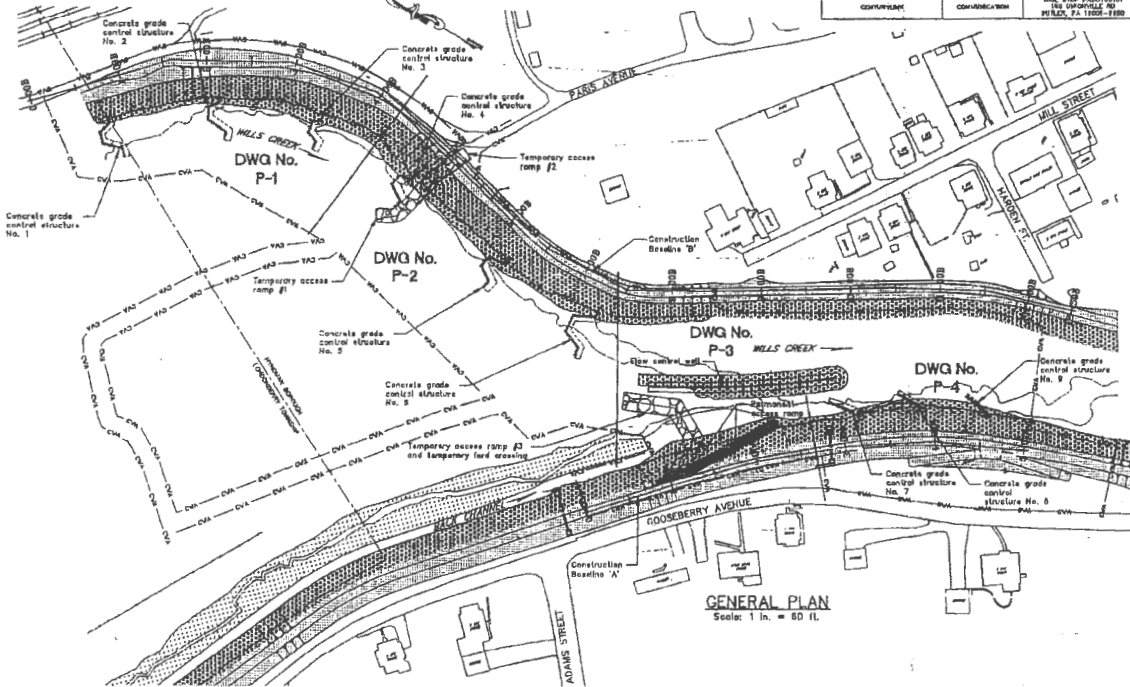
POCS PENNSYLVANIA  
 2011491012 (HYNDMAN BOROUGH)

UTILITY LIST			
COMPANY	TYPE OF FACILITY	ADDRESS	CONTACT
HYNDMAN BOROUGH	WASTEWATER AUTHORITY	3815 EDITION ST SW 3 78 BOX 484 HYNDMAN, PA 15855-0484	SHAWN SHAWTER
WEST PENN POWER	ELECTRIC	74 S HAZEL STREET PO BOX 170 LAKON, OH 44308-1180	OFFICE PERSONNEL
WYTHIN BUSINESS	TELECOM/INTERNET	1000 S GARDNER 1000 S GARDNER LAKON, OH 44308-1180	DEAN BIRNEY 414.349.9141
COMCAST	CABLE/COMMUNICATION	7818 LINDSEY DRIVE GOSHEN TOWNSHIP, PA 15116	TRINIA CHARTER WARRINGTON@COMCAST.COM
CONTELECOM	COMMUNICATION	1000 S GARDNER 1000 S GARDNER LAKON, OH 44308-1180	MARKUS WITTE markus@contelecom.com

NOTE: THE CONTRACTOR SHALL COMPLY WITH ALL CITY OF THE GENERAL ASSEMBLY AS APPLICABLE, WITH PROTECT THE INTERESTS OF THE PUBLIC AND TO PROTECT THE ENVIRONMENT. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND RESOLUTIONS FROM THE CITY OF THE GENERAL ASSEMBLY PRIOR TO COMMENCING WORK. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND RESOLUTIONS FROM THE CITY OF THE GENERAL ASSEMBLY PRIOR TO COMMENCING WORK.



**LOCATION MAP**  
 Scale: 1 in. = 0.1 mi.



**HYDRAULIC DATA**

**MILLS CREEK AND BACK CHANNEL**  
 Drainage Area = 100.6 square miles  
 Design Flow = Q 100 yr = 12,700 cfs

NOTE: ALL COORDINATES CONTAINED IN THESE PLANS ARE BASED ON AN ASSUMED DATUM. PLEASE SEE THE TABLE BELOW CONTAINING COORDINATES FOR SEVERAL POINTS, WITH NORTHING AND EASTING IN BOTH NAD 83 STATE PLANE AND THE ASSUMED DATUM. WHILE THIS DATUM IS CLOSE TO NAD83, IT DOES NOT CORRESPOND EXACTLY.

	ASSUMED DATUM		NAD 83 PENNSYLVANIA STATE PLANE	
	NORTHING	EASTING	NORTHING	EASTING
DEP LEVEL MONUMENT 5+00B	181,733.54	1,695,222.15	181,512.13	1,694,698.85
DEP LEVEL MONUMENT 7+00B	181,537.93	1,695,202.89	181,316.34	1,694,716.19
OEP LEVEL MONUMENT 27+00A	181,064.57	1,695,286.47	180,862.97	1,694,856.40
DEP LEVEL MONUMENT 28+00A	180,874.38	1,695,327.87	180,667.45	1,694,961.98
DEP LEVEL MONUMENT 31+00A	180,685.96	1,695,413.72	180,458.21	1,695,081.27

**LEGEND**

- CVA --- Contractor Work Area
- Fence ---
- 4" PVC Weapholes ---
- Construction Baseline 'A' ---
- Construction Baseline 'B' ---
- Edge of Water ---
- Existing Levee
- Existing Grouted Riprap
- Proposed Grouted Riprap
- Wetland and Boundary
- Existing Drainage Structure

NO.	DATE	REVISION	APPR.

COMMONWEALTH OF PENNSYLVANIA  
 DEPARTMENT OF ENVIRONMENTAL PROTECTION  
 OFFICE OF WATER MANAGEMENT

COMMONWEALTH OF PENNSYLVANIA  
 DEPARTMENT OF GENERAL SERVICES  
 HARRISBURG, PENNSYLVANIA

PROJECT NO. D.G.S. 183-B, PHASE 2

HYNDMAN BOROUGH  
 FLOOD PROTECTION PROJECT  
 MILLS CREEK BEDFORD CO., PA

**GENERAL PLAN**

DATE: 4/18/2013  
 SHEET: GP-1

**GENERAL NOTES:**

- General notes shown on this sheet extend to all sheets in the set, unless otherwise noted.
- Wills Creek Chapter 93 Stream Classification: CWF, MF.
- The topography shown on the drawings for work along Mills Creek is based on a topographic survey performed by Pedersen & Pedersen, Inc. dated November 2010. Location of structures and utilities is based on a topographic survey dated February 1998.
- All elevations are based on N.C.V.D. Elevations of features are to be taken from benchmarks (B.M.) listed on the drawings.
- All horizontal data is based on an assumed datum. Control points are provided on this drawing that correspond to existing monuments along two levees in Hyndman Borough. Coordinates are provided in both Pennsylvania State Plane (N.A.D. 83) and the assumed datum.
- Existing contours and existing ground lines are intended to show the general ground configuration. Payment for excavation and fill items will be based upon survey cross sections made by the Department immediately prior to commencement of work.
- Minor adjustments in alignment and grade may be made to facilitate construction with the approval of the Department.
- The Limit of Disturbance for this site shall remain within contractor work area.
- Clearing and grubbing is not shown on the drawings but it shall be only as needed to access the project site or as directed otherwise by the Department.

- Indiscriminate cutting of trees will not be permitted. Approval of the Department will be required prior to cutting any trees. See Technical Specification 8 - Clearing and Grubbing.
- The Contractor shall fill and/or grade areas adjacent to the new construction for positive drainage as directed by the Department.
- Levee top repair between station 4+50B to 5+50B and 0+00A to 5+00A is anticipated, see Levee Repair Detail on Drawing D-4. Any portion of the existing levees beyond these limits that are disturbed by the Contractor shall be repaired to the satisfaction of the Department. The Contractor shall pay all costs of any such repairs.
- All accessways within 15 feet of the levees that are damaged or altered as a result of construction traffic shall be returned to existing grade with Rolled Embankment in accordance with Technical Specification No. 11, at no additional cost to the Department.
- The Contractor methods of protecting existing structures shall be subject to review by the Department. Such review, however, does not relieve the Contractor of his full liability for all damage and loss due to faulty methods of protection.
- Soil and/or borrow areas are to be secured by the Contractor at his cost. See General Requirement, Special Provision - Securing Borrow and/or Spoil Areas.
- NO indicates pay item numbers which correspond to those in the Bid Form.
- Rights-of-Way Acquisition drawings which show more detailed dimensions for right-of-way and permanent and temporary easement limits are on file at the Office of Water Management, Department of Environmental Protection, Harrisburg, Pennsylvania. These drawings will be furnished to the successful bidder.

- Data concerning utilities has been obtained from available information. Accuracy or completeness of this data is not guaranteed. See Utilities Listing on this drawing.
- At least three (3) days before starting any earth disturbance activity, the Contractors involved in these activities shall notify the Pennsylvania One Call System Incoporated for the location of existing underground utilities in accordance with PA Act 107, regardless of the utility information shown on this plan.
- Mills Creek is a stocked trout stream. No bottom work is permitted between March 1 and June 15. Prior to conducting bottom work, the Contractor shall send written notification to PAFABC - Law Enforcement, Southeastern Region, 1704 Pine Road, Harrisville, PA 17241, Attn: Don Louver (phone: 717-456-7087, fax: 717-456-9227).
- Notify the Corps of Engineers in writing at least two-weeks prior to construction. Send notification to US Army Corps of Engineers - Baltimore District, PO Box 1715, Baltimore, MD 21203, Attention: Dabby Mizer (phone: 410-952-6085, fax: 410-952-5034).
- The Contractor is responsible for protection of existing OEP levee monuments during construction. The Contractor shall replace damaged levee monuments at no cost to the Department.
- All references to left and right bank are looking in the downstream direction.

P.I. NO. 1B  
N 182,213.44  
E 1,895,054.21  
Sta. 0+000

P.I. NO. 2B  
N 182,103.49  
E 1,895,170.42  
Sta. 1+59,989

P.I. NO. 3B  
N 181,985.07  
E 1,895,235.79  
Sta. 2+94,359

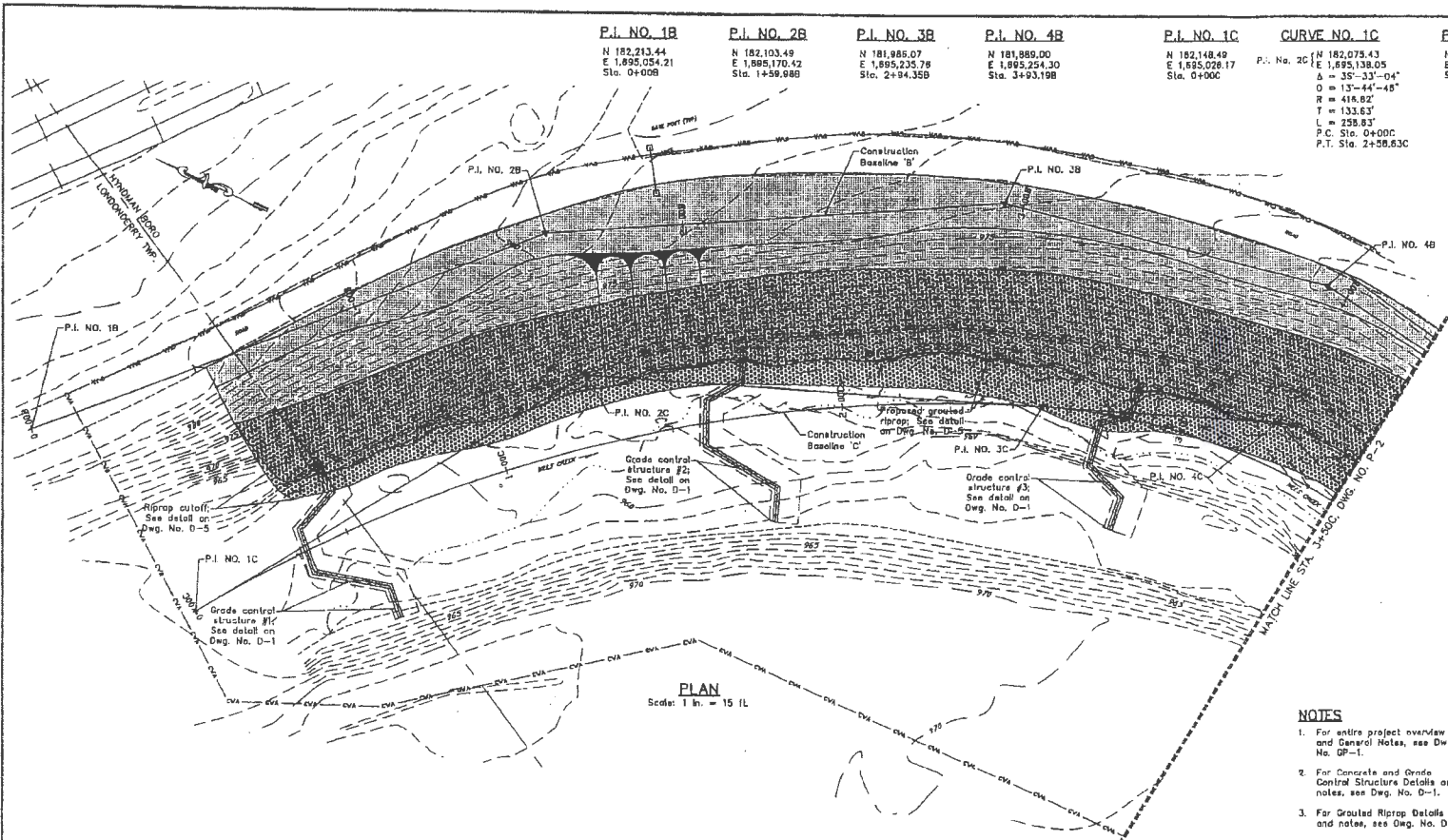
P.I. NO. 4B  
N 181,889.00  
E 1,895,254.30  
Sta. 3+93,198

P.I. NO. 1C  
N 182,148.49  
E 1,895,028.17  
Sta. 0+000

CURVE NO. 1C  
P.I. No. 2C N 182,075.43  
E 1,895,138.05  
Δ = 35°-33'-04"  
D = 13°-44'-48"  
R = 418.82'  
T = 133.63'  
L = 299.93'  
P.C. Sta. 0+000  
P.T. Sta. 2+58.63C

P.I. NO. 3C  
N 182,950.93  
E 1,895,186.60  
Sta. 2+58.63C

CURVE NO. 2C  
P.I. No. 1C N 181,865.63  
E 1,895,211.89  
Δ = 41°-22'-23"  
D = 30°-53'-44"  
R = 185.45'  
T = 70.03'  
L = 133.91'  
P.C. Sta. 2+58.63C  
P.T. Sta. 3+92.54C



PLAN  
Scale: 1 in. = 15 ft

**LEGEND**

---CWA---CWA---	Contractor Work Area
---200---	Major Contour
---100---	Minor Contour
---1+00---	Construction Baseline 'B'
---1-00---	Construction Baseline 'C'
○ ○ ○	4" PVC Weepholes
---	Edge of Water
---	Ordinary High Water Mark
[Hatched Box]	Proposed Grouted Riprap
[Cross-hatched Box]	Existing Grouted Riprap
[Dotted Box]	Existing Levee
○	DEP Levee Monument

NO.	DATE	REVISION	APPR.

**NOTES**

- For entire project overview and General Notes, see Dwg. No. GP-1.
- For Concrete and Grade Control Structures Details and notes, see Dwg. No. D-1.
- For Grouted Riprap Details and notes, see Dwg. No. D-5.
- Erosion Control Blanket (ECB) is to be installed on final grade of right bank slope excavation from Station 0+84 to Station 0+84 of Baseline 'C'. Anchor Reinforced Vegetation System (ARVS) is to be installed on final slope grade from Station 9+64 to Station 7+24 of Baseline 'C'. See Drawings X-1 and X-2 for details.
- Stationing is for referencing location only.
- All coordinates given on this sheet are based on an assumed horizontal datum. See Datum Chart and note on Dwg. No. GP-1.
- Structures are shown on profiles for reference only. For dimensions see detail sheets.

DESIGNED BY	PROFESSOR OF CIVIL ENGINEERING
CHECKED BY	PROFESSOR OF CIVIL ENGINEERING
APPROVED BY	PROFESSOR OF CIVIL ENGINEERING

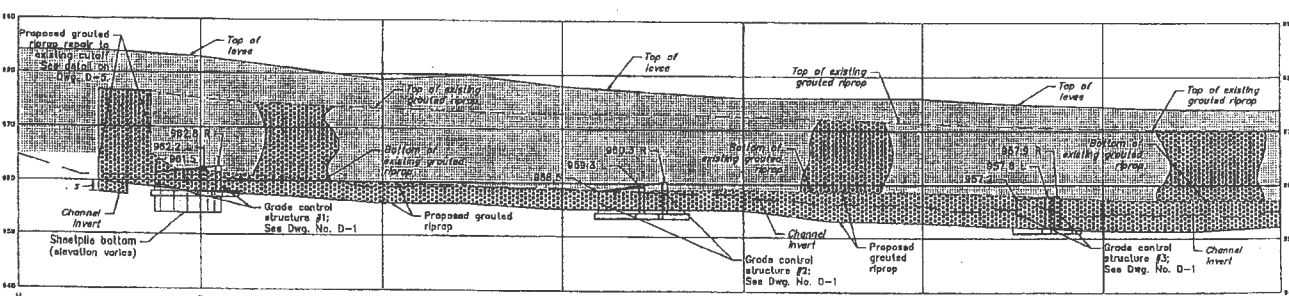


COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF WATER MANAGEMENT

COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF GENERAL SERVICES  
HARRISBURG, PENNSYLVANIA

PROJECT NO. O.G.S. 183-8, PHASE 2  
**HYNDMAN BOROUGH  
FLOOD PROTECTION PROJECT**  
WILLS CREEK BEDFORD CO., PA

**PLAN AND PROFILE  
STA. 0+000 TO STA. 3+500**



PROFILE  
Scale: 1 in. = 15 ft (H)  
1 in. = 10 ft (V)

ALL DIMENSIONS AND ELEVATIONS SHOWN SHALL BE CHECKED AND ISSUED BY CONTRACTOR AT HIS RISK.

DATE	1/19/2013
SCALE	AS SHOWN

P-1

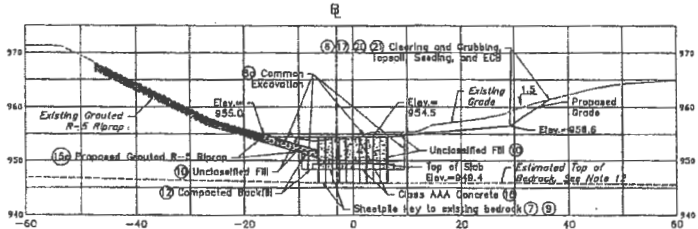




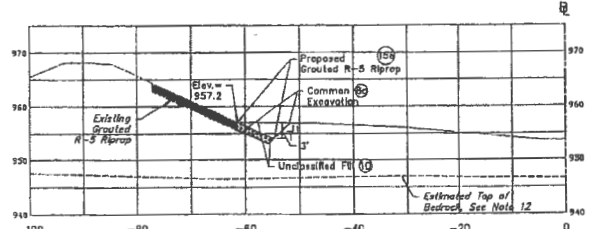




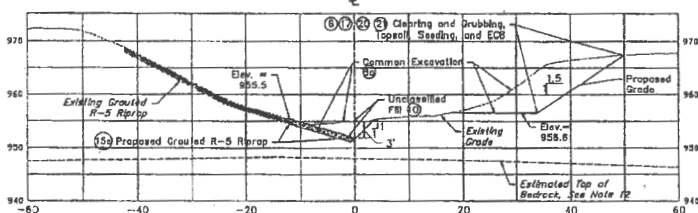




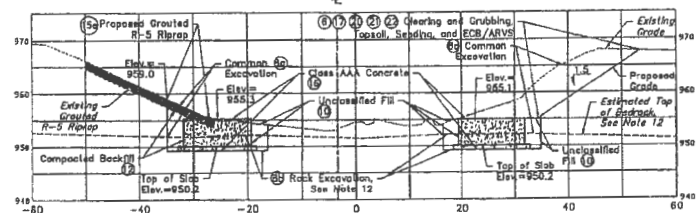
STA. 5+26C



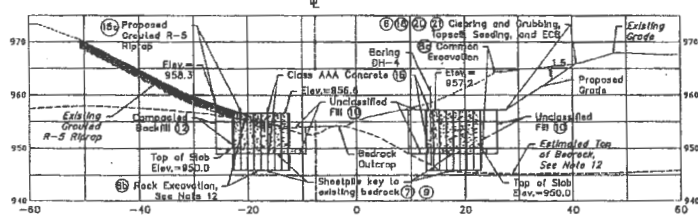
STA. 7+80C



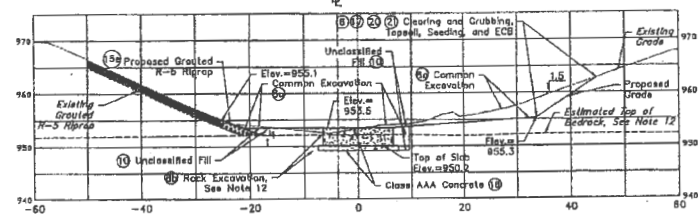
STA. 4+75C



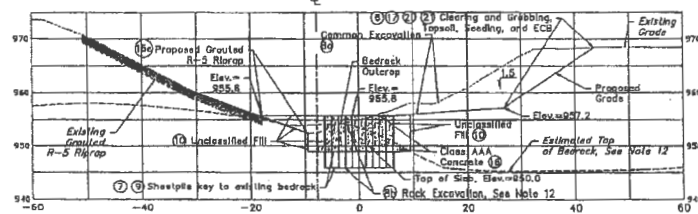
STA. 6+64C\*



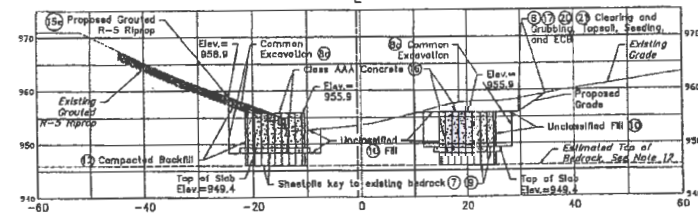
STA. 4+98C\*



STA. 6+43C



STA. 3+93C



STA. 5+45C\*

CROSS SECTIONS  
Scale: 1 in. = 10 ft

**NOTES**

- For entire project overview, see Dwg. No. GP-1.
- For General Notes, see Dwg. No. GP-1.
- For Concrete and Grade Control Structure Details and notes, see Dwg. No. P-2, P-3, D-1, D-2, and D-3.
- For Grouted Riprap Details and notes, see Dwg. No. P-2, P-3, D-2, and D-5.
- For Payment Sections, see Dwg. No. D-1, D-2, and D-5.
- Stitching is for referencing location only.
- Cross sections marked with \* are through structure sills and are not perpendicular to the baseline.
- (10) Indicates Pay Item numbers which correspond to those on the bid form.
- ECB shown on cross sections is Erosion Control Blanket. ECB is to be installed on the right bank from Sta. 0+54 to Sta. 8+84 on Construction Baseline "C". ARVS shown on cross sections is Anchor Reinforced Vegetative System. ARVS is to be installed on the right bank from Sta. 8+84 to Sta. 7+24 on Construction Baseline "C". See details on Dwg. D-5.
- Dumped rock riprap extents are not shown on cross sections. See detail on Dwg. No. D-5.
- Nonwoven Geotextile and ARVS/ECB extents are not shown on cross sections. See detail on Dwg. No. D-5.
- All bedrock shown on plans is estimated based on borings shown on As-Drilled Subsurface Boring Plan, TB-1. The Contractor shall measure and verify all elevations during construction. Payment shall be made for Excavation, Rock Excavation, and Reinforced Concrete Structures based on the quantities measured during construction and per Technical Specifications Nos. 10 and 24.

NO.	DATE	REVISION	APPR.

DESIGNED BY: [Signature]

CHECKED BY: [Signature]

APPROVED BY: [Signature]

PROJECT NO. D.G.S. 183-8, PHASE 2

HYNDMAN BOROUGH  
FLOOD PROTECTION PROJECT

MILLS CREEK BEDFORD CO., PA

BASELINE C  
CROSS SECTIONS

DATE: 4/19/2013

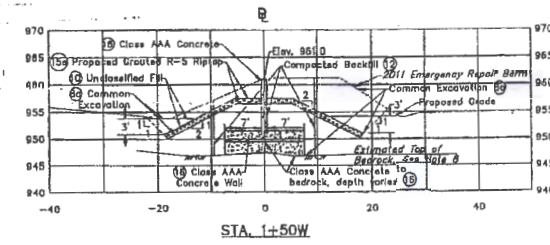
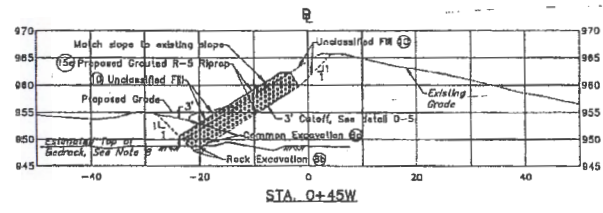
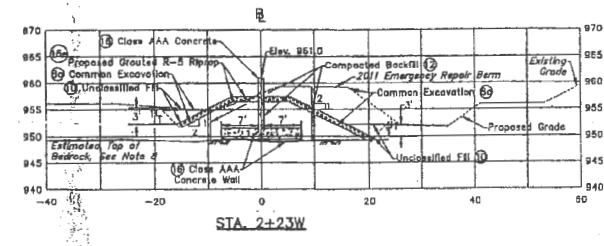
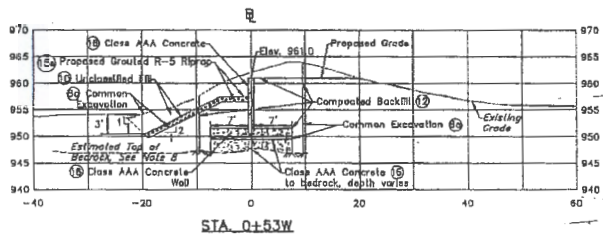
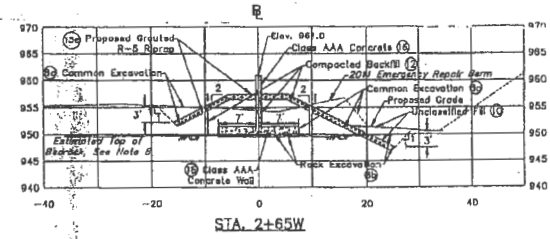
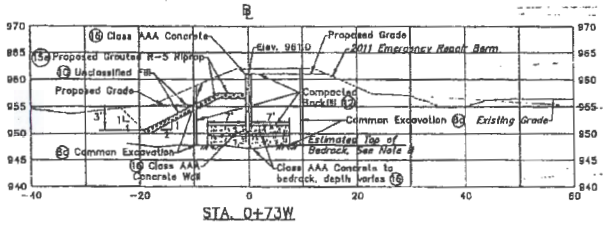
SCALE: AS SHOWN

X-2

ALL DIMENSIONS AND OTHER  
CONCRETE SHALL BE  
CHECKED AND VERIFIED BY  
CONTRACTOR AT THE SITE.







BASELINE 'W' CROSS SECTIONS  
Scale: 1 in. = 10 ft.

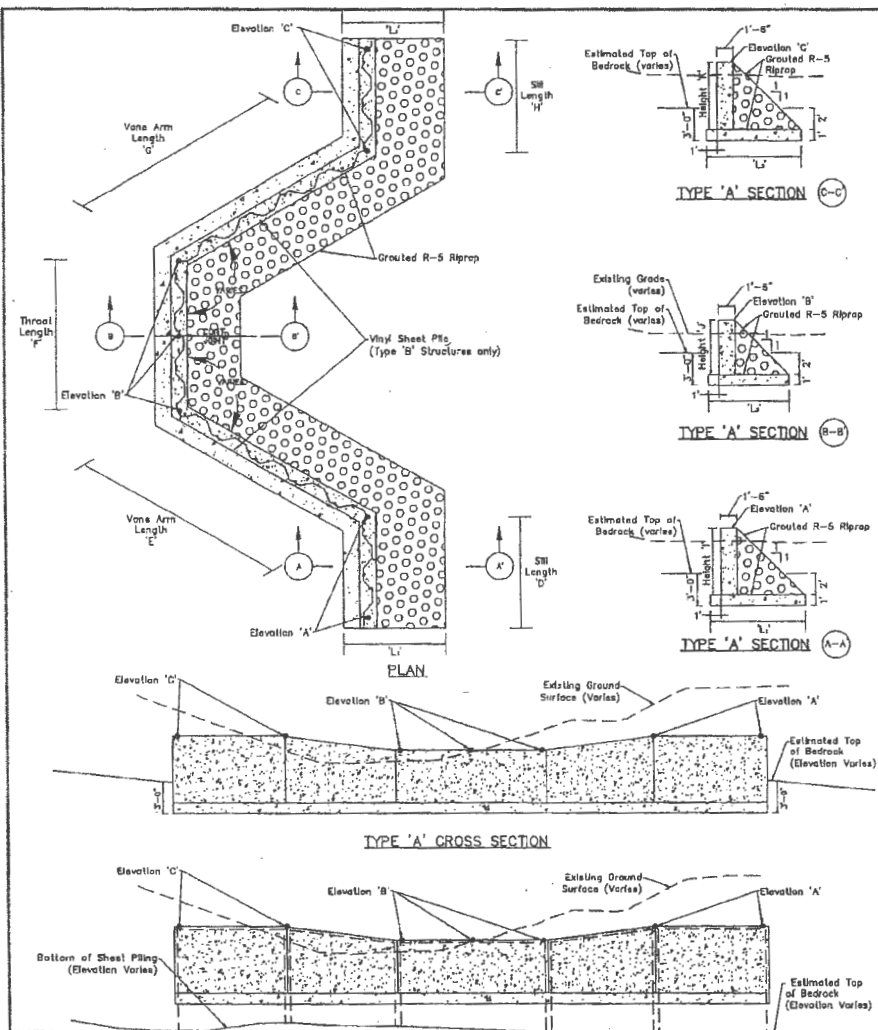
**NOTES**

1. For entire project overview, see Dwg. No. GP-1.
2. For General Notes, see Dwg. No. GP-1.
3. For Concrete Details and notes, see Dwg. No. D-3.
4. For Grouted Riprap Details and notes, see Dwg. No. D-3.
5. For Flow Control Wall Payment Section, see Dwg. No. D-3.
6. Stationing is for referencing location only.
7. (10) Indicates Pay Item numbers which correspond to those on the bid form.
8. All bedrock shown on plans is estimated based on borings shown on As-Drilled Subsurface Boring Plan, TB-1. The Contractor shall measure and verify all elevations during construction. Payment shall be made for Excavation, Rock Excavation, and Reinforced Concrete Structures based on the quantities measured during construction and per Technical Specifications Nos. 10 and 24.
9. For Flow Control Wall profile, see Dwg. D-3.

NO.	DATE	REVISION	APPR.
<p>PROJECT DESCRIPTION - SEE _____</p> <p>ISSUED - WORK IN PROGRESS DEVELOPMENT - SEE _____</p> <p>DESIGN - REVIEW BY STATEMENTS PREPARED AND REVIEWED - SEE _____</p>			
<p>COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION OFFICE OF WATER MANAGEMENT</p> <p>COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF GENERAL SERVICES HARRISBURG, PENNSYLVANIA</p> <p>PROJECT NO. D.G.S. 183-B, PHASE 2</p> <p>HYNDMAN BOROUGH FLOOD PROTECTION PROJECT MILLS CREEK BEDFORD CO., PA</p> <p>BASELINE W CROSS SECTIONS</p>			
DATE BY	DATE	PROJECT NO.	
	4/18/2013		
FIGURE NO.	SCALE	AS SHOWN	X-5

ALL DIMENSIONS AND ELEVATIONS SHOWN SHALL BE CHECKED AND VERIFIED BY CONTRACTOR AT THE SITE.



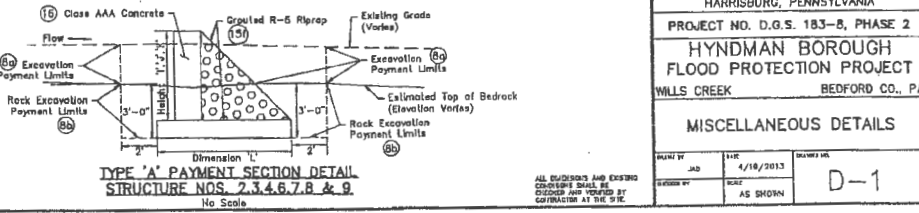
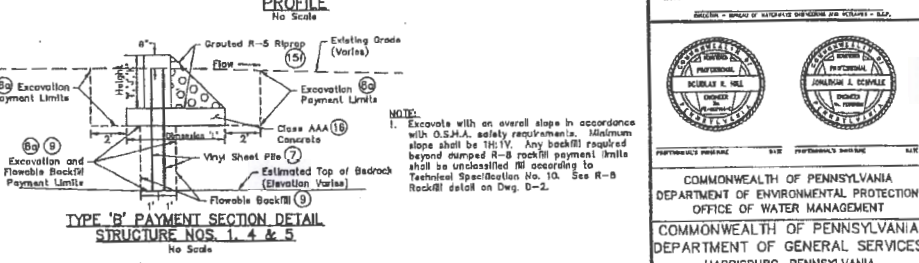
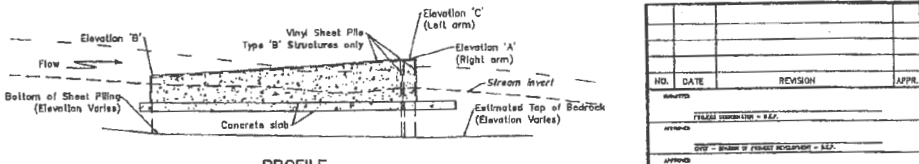
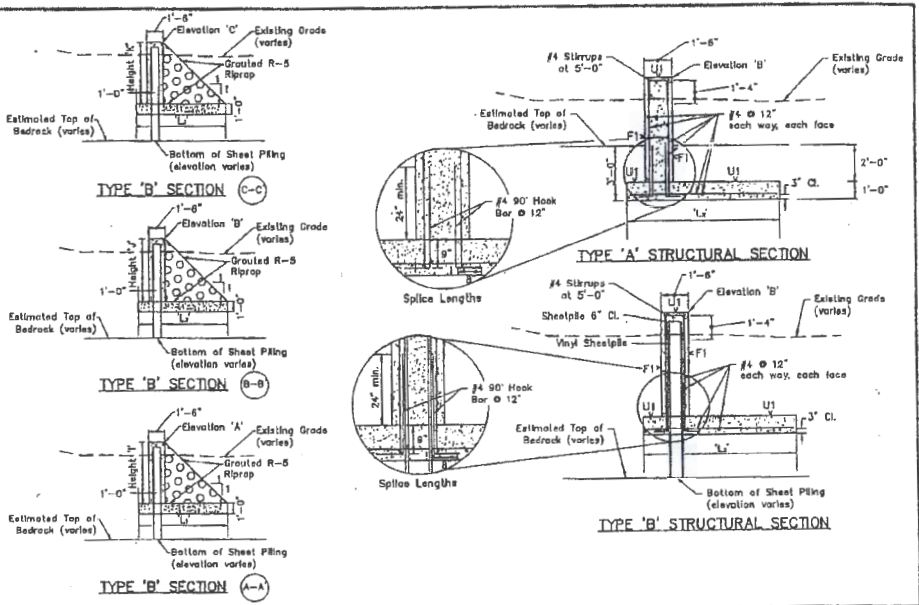


- NOTES:**
- All elevations and lengths in feet.
  - Height 'L', 'H', and 'SM' are measured from top of slab.
  - Slab along dimension 'L' shall be with 'L' and along dimension 'H' shall be with 'H'.
  - The Department reserves the right to make modifications to structure dimensions and/or change structure 'TYPE' based on field conditions.
  - Grade control structure #1 is comprised of both Type A and B construction. The extent of the sheet pile installed shall be determined and confirmed by the Department during construction.

**Table A**

Grade Control Structure	Type	Top of Slab Elevation	Elevations			Lengths						Slab Width				
			'A'	'B'	'C'	'D'	'E'	'F'	'G'	'H'	'J'		'K'	'L'		
1	B	888.0	882.8	881.5	882.2	10.0	22.1	13.0	14.9	10.0	4.8	3.5	4.2	7.3	8.0	6.7
2	A	954.3	860.3	856.8	869.3	10.0	124.8	13.0	11.7	10.0	8.0	4.2	5.0	8.8	8.7	7.5
3	A	951.9	857.2	857.2	857.2	10.0	133.0	13.0	8.8	10.0	8.0	5.3	5.9	8.5	7.5	8.4
4	A/B	950.0	837.2	846.8	858.8	10.0	20.0	13.0	13.0	10.0	7.2	5.8	5.9	9.7	8.1	9.1
5	B	948.2	835.0	824.9	855.0	10.0	19.8	13.0	20.2	10.0	6.5	5.1	6.5	9.0	7.8	9.0
6	A	950.2	855.1	853.9	853.3	12.0	23.1	20.0	28.1	12.0	4.9	3.3	3.1	7.4	5.8	7.6

**CONCRETE GRADE CONTROL STRUCTURE DETAILS STRUCTURE NOS. 1-6**  
No Scale



NO.	DATE	REVISION	APPR.

DESIGNED BY: **PHILIP HARRISON - E.P.**  
CHECKED BY:   
CITY -   
APPROVED BY:   
DESIGN -

PHILIP E. HILL  
PROFESSIONAL ENGINEER  
No. 10000  
STATE OF PENNSYLVANIA

PAULINE J. CORBETT  
PROFESSIONAL ENGINEER  
No. 10000  
STATE OF PENNSYLVANIA

PROJECT NO. D.G.S. 183-B, PHASE 2  
**HYNDMAN BOROUGH**  
**FLOOD PROTECTION PROJECT**  
WILLS CREEK BEDFORD CO., PA

**MISCELLANEOUS DETAILS**

DATE: 4/18/2013  
JOB: AS SHOWN  
SCALE: AS SHOWN  
DRAWING NO: **D-1**

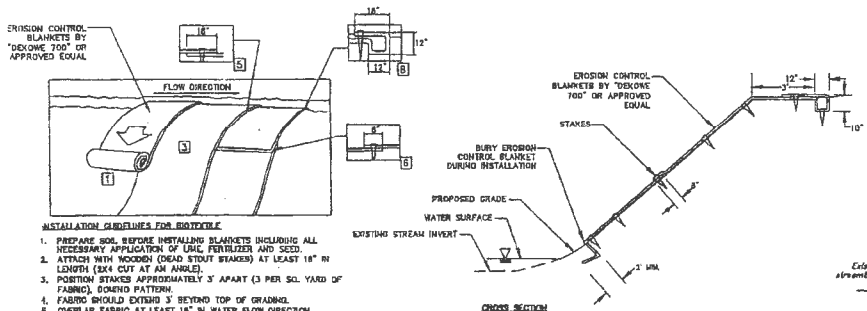
ALL DIMENSIONS AND EXISTING CONDITIONS SHALL BE CHECKED AND VERIFIED BY CONSTRUCTION AT THE SITE.





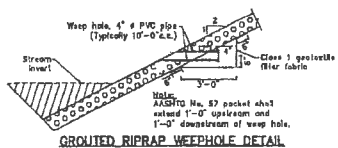


**EROSION CONTROL BLANKET (ECB) SLOPE INSTALLATION DETAIL (21)**



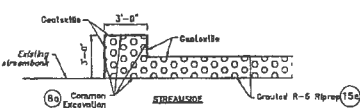
**INSTALLATION GUIDELINES FOR DURHO**

1. PREPARE SOIL BEFORE INSTALLING BLANKETS INCLUDING ALL NECESSARY APPLICATION OF LIQUID FERTILIZERS AND SEED.
2. ATTACH WITH WOODEN (DEAD STOUT STAKES) AT LEAST 18" IN LENGTH (2x4 CUT AT AN ANGLE).
3. POSITION STAKES APPROXIMATELY 3' APART (3 PER SQ. YARD OF FABRIC) DOWN PATTERN.
4. FABRIC SHOULD EXTEND 3" BEYOND TOP OF CHANNEL.
5. OVERLAP FABRIC AT LEAST 18" IN WATER FLOW DIRECTION.
6. OVERLAP EDGES AT LEAST 6", STAKING BOTH EDGES SECURELY.
7. CHECK SLOTH WITH FABRIC BURIED AT LEAST 4" DEEP SHOULD BE USED EVERY 25' IN WATERWAYS OR DITCHES.
8. THE FABRIC SHOULD BE BURIED IN ANCHOR TRENCHES AT LEAST 10" DEEP AT THE TOP END OF AN INSTALLATION TO PREVENT UNDERCUTTING OF THE FABRIC.
9. FABRIC SHOULD BE BURIED AT BOTTOM OF INSTALLATION, EXTENDING 1' BELOW PROPOSED GRADE.



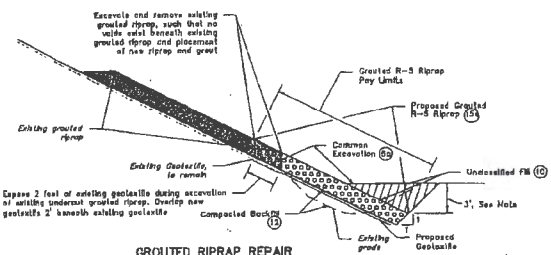
**Grouted Riprap Weep Hole Detail**

Note: Contractor shall replace any weepholes removed from 4x6x6 (in 4x5x6 and 6x6x6) to 1x6x6. Weepholes shall be installed at same elevation as existing before removal and replacement of grouted riprap.



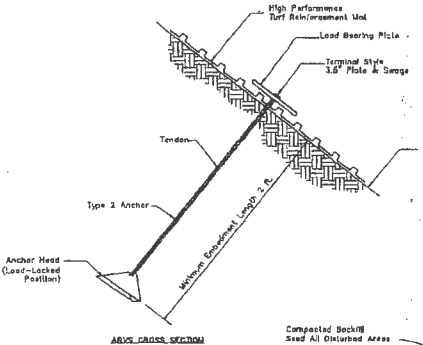
**Grouted Riprap Cutoff Detail (Plan View)**

No Scale  
Note: Key riprap at upstream and downstream limits and at any location where new riprap abuts existing riprap.

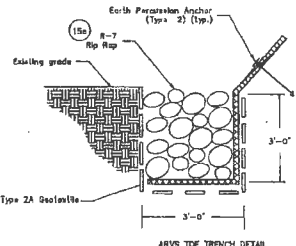


**Grouted Riprap Repair Payment Detail**

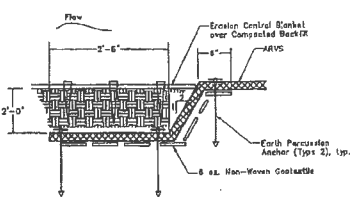
No Scale  
NOTE: If bedrock is encountered during excavation to obtain 3' depth of cover, the Contractor shall notify the Department. The Department shall determine if the bedrock is compliant to remain in place or if bedrock removal is required.



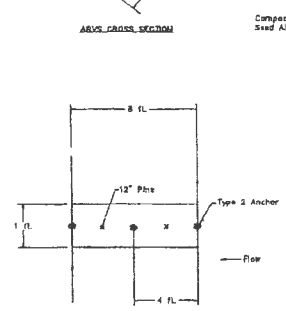
**ARVS CROSS SECTION**



**ARVS TOP OF TRENCH DETAIL (DOWNSTREAM END SECTION VIEW)**

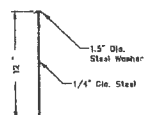


**UPSTREAM ANCHOR TRENCH & EROSION CONTROL BLANKET CONNECTION DETAIL (LONGITUDINAL CROSS SECTION VIEW)**

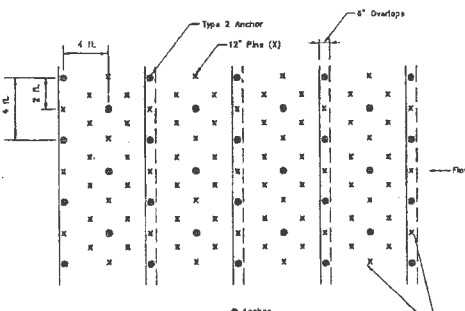


**ARVS TOP OF SLOPE DETAIL**

**END OF ROLL OVERLAP**



**PILE DETAIL**



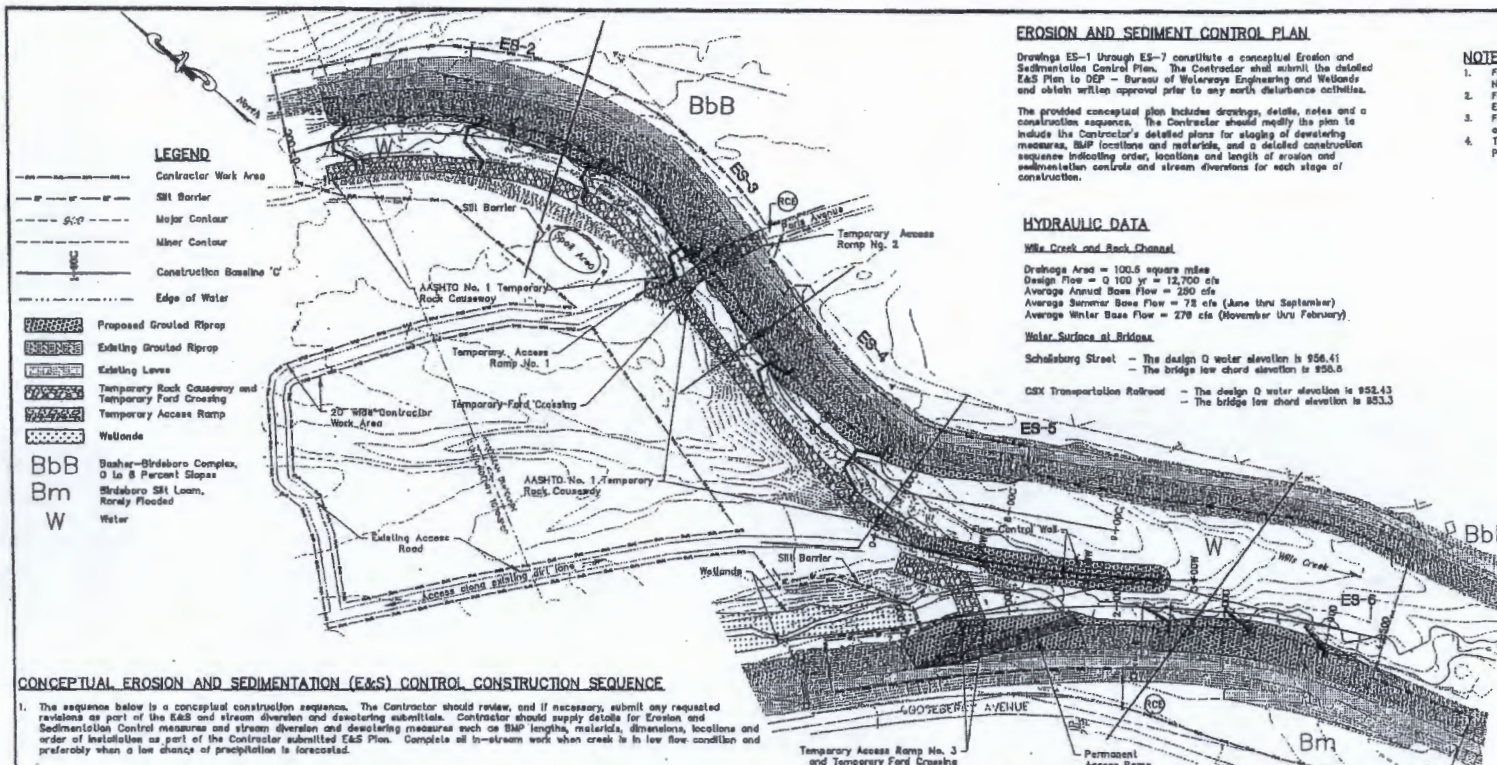
**ANCHOR/PIN PATTERN DETAIL**

**ANCHOR REINFORCED VEGETATION SYSTEM (ARVS) DETAILS (22)**

No Scale

NO.	DATE	REVISION	APPR.
PREPARED BY: <b>EEB</b> APPROVED BY: <b> </b> CHECKED BY: <b> </b> DESIGNER: <b> </b> DRAWN BY: <b> </b>			
DESIGNER: <b>WALTER W. WILSON ENGINEERING &amp; SURVEYING, P.L.L.C.</b> PROJECT NO.: <b>183-B</b> PHASE: <b>2</b>			
COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION OFFICE OF WATER MANAGEMENT COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF GENERAL SERVICES HARRISBURG, PENNSYLVANIA PROJECT NO. D.G.S. 183-B, PHASE 2 HYNDMAN BOROUGH FLOOD PROTECTION PROJECT WILLS CREEK BEDFORD CO., PA			
MISCELLANEOUS DETAILS			
DRAWN BY: <b> </b> JOB: <b> </b> CHECKED BY: <b> </b>	DATE: <b>4/19/2013</b> SCALE: <b>AS SHOWN</b>	SHEET NO.: <b>D-5</b>	

ALL DIMENSIONS AND EXCEPT OTHERWISE SHOWN, SHALL BE CHECKED AND VERIFIED BY CONTRACTOR AT THE SITE.



**EROSION AND SEDIMENT CONTROL PLAN**

Drawings ES-1 through ES-7 constitute a conceptual Erosion and Sedimentation Control Plan. The Contractor shall submit the detailed E&S Plan to DEP - Bureau of Waterways Engineering and Wetlands and obtain written approval prior to any earth disturbance activities.

The provided conceptual plan includes drawings, details, notes and a construction sequence. The Contractor should modify the plan to include the Contractor's detailed plans for staging of dewatering measures, BMP locations and materials, and a detailed construction sequence indicating order, locations and length of erosion and sedimentation controls and stream diversions for each stage of construction.

**HYDRAULIC DATA**

**Wills Creek and Rock Channel**

Drainage Area = 100.5 square miles  
 Design Flow = Q 100 yr = 12,700 cfs  
 Average Annual Base Flow = 280 cfs  
 Average Summer Base Flow = 78 cfs (June thru September)  
 Average Winter Base Flow = 278 cfs (November thru February)

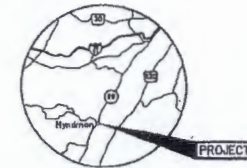
**Water Surface at Bridges**

Schallersburg Street - The design Q water elevation is 956.41  
 - The bridge low chord elevation is 956.0

CSX Transportation Railroad - The design Q water elevation is 952.43  
 - The bridge low chord elevation is 953.3

**NOTES:**

1. For General Erosion and Sedimentation (E&S) Control Notes, see Dep. ES-7.
2. For General E&S Details and Layout Plans, see Dep. ES-1 through ES-6.
3. For Temporary Access Ramp Details, see Dep. ES-3 and ES-5.
4. Temporary Access Ramp No. 3 will be replaced by a Permanent Access Ramp.



**LOCATION MAP**  
Scale: 1 in. = 8 mi.

**LEGEND**

- Contractor Work Area
- Silt Barrier
- Major Contour
- Minor Contour
- Construction Baseline 'C'
- Edge of Water
- Proposed Grouted Riprap
- Existing Grouted Riprap
- Existing Levees
- Temporary Rock Causeway and Temporary Ford Crossing
- Temporary Access Ramp
- Wetlands
- Bbb Busher-Brubaker Complex, 0 to 8 Percent Slopes
- Bm Brubaker Silt Loam, Rorally Flooded
- W Water

**CONCEPTUAL EROSION AND SEDIMENTATION (E&S) CONTROL CONSTRUCTION SEQUENCE**

1. The sequence below is a conceptual construction sequence. The Contractor should review, and if necessary, submit any requested revisions as part of the E&S and stream diversion and dewatering submittals. Contractor should supply details for Erosion and Sedimentation Control measures and stream diversion and dewatering measures such as BMP lengths, materials, dimensions, locations and order of installation as part of the Contractor submitted E&S Plan. Complete all in-stream work when creek is in low flow condition and preferably when a low chance of precipitation is forecasted.
2. All earth disturbance activities shall proceed in accordance with the following sequence. Each stage shall be completed and immediately established before any following stage is initiated. Clearing, grubbing, and topsoil stripping shall be limited only to those areas described in each stage. All Contractor requested changes to the E&S Construction Sequence shall be submitted for consideration as part of the Detailed E&S Plan.
3. Immediately upon discovering unforeseen circumstances posing the potential for accelerated erosion and/or sediment pollution, the operator shall consult with the Department and implement appropriate best management practices to eliminate the potential for accelerated erosion and/or sediment pollution.
4. At least 3 days before starting any earth disturbance activities, all Contractors involved in these activities shall notify the Pennsylvania One Call System incorporated at 1-800-242-1778 for the location of existing underground utilities.
5. Construct the temporary rock construction entrances as shown on the plans. All vehicles entering the site shall do so via the rock construction entrances. Any mud or sediment tracked onto municipal roadways shall be removed by the Contractor immediately. Washing of the roadway is not permitted. The Contractor is also responsible for all traffic control devices associated with the access drive throughout the term of construction activities.
6. Field-mark all waters of the Commonwealth boundaries including stream buffers, wetland boundaries, roadways etc.
7. Field-mark the project limits of disturbance.
8. Field-mark all limits of disturbance within the interior of the site, including steep slopes, trees selected to be saved, etc.
9. Install silt barriers as shown on the plans and as necessary to perform construction of the project and to protect the water body from sediment runoff.
10. Coordinate and overlap segments to provide continuous erosion and sedimentation control for the entire project length.
11. Install Temporary Access Ramp Nos. 1 and 2 and the Temporary Rock Causeway from Construction Baseline Sta. 4+25C to 0+25C. Accessing the top of the levees from Goseberry Avenue, construct Temporary Access Ramp No. 3 and temporary ford crossing from Construction Baseline Sta. 0+00D to 0+75D along the right bank to access Wills Creek. Installation of Temporary Access Ramp No. 2 is optional for the Contractor's convenience.
12. Install stream diversion measures for work between Construction Baseline Sta. 0+25C and 4+25C to work in the dry on the left half of Wills Creek for a distance to be determined by the Contractor and approved by the Department.
13. Construct the left half of the proposed Grade Control Structures Nos. 1, 2 and 3 as well as the grouted riprap repairs from Construction Baseline Sta. 0+25C to 4+25C.
14. After 7 day strength of concrete is obtained on grade control structures, begin to divert stream to opposite side away from right bank.
15. Construct the right half of the Grade Control Structures Nos. 1, 2 and 3 and channel stabilization work from Construction Baseline Sta. 0+25C to 4+25C.

Temporary Access Ramp No. 3 and Temporary Ford Crossing

**PLAN**  
Scale: 1 in. = 50 ft.

16. As work is completed between Construction Baseline Sta. 0+25C to 4+25C, begin removing the Temporary Rock Causeway from Sta. 0+25C to 4+25C and re-establishing the permanent channel cross section to the lines and grades shown on the drawings.
17. Install the Temporary Rock Causeway from Construction Baseline Sta. 4+25C to 7+50C.
18. Construct the left half of the Grade Control Structures Nos. 5 and 6 as well as the grouted riprap repairs from Construction Baseline Sta. 4+25C to 8+00C.
19. After 7 day strength of concrete is obtained on Grade Control Structures divert stream away from right bank and complete the right half of the Grade Control Structures Nos. 5 and 6 from Construction Baseline Sta. 4+25C to 8+00C. Install Turf Reinforcement Matting (TRM) on right bank from Sta. 8+84C to 7+24C.
20. Install stream diversion from Construction Baseline Sta. 3+50C to 6+50C to work in the dry on the left half of Wills Creek.
21. Construct the left half of the Grade Control Structures No. 4, remove Temporary Access Ramp No. 2, reconstruct levee and install grouted riprap from Construction Baseline Sta. 3+50C to 4+00C.
22. After 7 day strength of concrete is obtained on Grade Control Structure, divert stream away from right bank and complete the right half of the Grade Control Structure No. 4.
23. Extend stream diversion from Construction Baseline Sta. 8+00C to 2+50D to allow work in the dry.
24. Construct flow control wall as shown on the Drawings.
25. Remove Temporary Rock Causeway from Construction Baseline Sta. 7+50C to Sta. 4+25C. Remove Temporary Ford Crossing. Temporary Access Ramp No. 1 and re-establish permanent channel cross section. Remove stream diversion beginning from Construction Baseline Sta. 4+25C to 2+50D.
26. Install stream diversion and dewatering measures from Construction Baseline Sta. 0+00D to 4+50D.
27. Construct Grade Control Structures Nos. 7 through 9 and install grouted riprap as indicated on right bank of Wills Creek from Construction Baseline Sta. 4+50D to 1+50D.
28. Construct Permanent Access Ramp and install remaining grouted riprap as indicated on drawings.
29. Remove the remaining temporary stream diversion.
30. Restore the top of levees and landside ramps to pre-construction conditions and elevations.
31. Remove of temporary Erosion and Sedimentation Controls after establishing 70% vegetative cover.

DETAILED E&S PLAN	
Contractor	
Date	
Signature	

NO.	DATE	REVISION	APPR.

COMMONWEALTH OF PENNSYLVANIA  
 DEPARTMENT OF ENVIRONMENTAL PROTECTION  
 OFFICE OF WATER MANAGEMENT

COMMONWEALTH OF PENNSYLVANIA  
 DEPARTMENT OF GENERAL SERVICES  
 HARRISBURG, PENNSYLVANIA

PROJECT NO. D.G.S. 183-8, PHASE 2

HYNDMAN BOROUGH  
 FLOOD PROTECTION PROJECT  
 WILLS CREEK BEDFORD CO., PA

EROSION AND SEDIMENTATION  
 CONTROL GENERAL PLAN

DATE: 4/19/2013  
 DRAWN BY: A.N.P.  
 CHECKED BY: AS SHOWN

ES-1

ALL DIMENSIONS AND ELEVATIONS SHOWN SHALL BE EXCEPT AS NOTED BY CONTRACTOR AT THE SITE

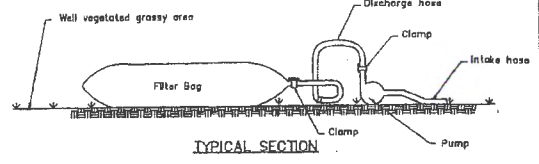
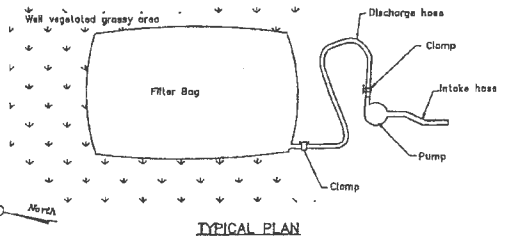
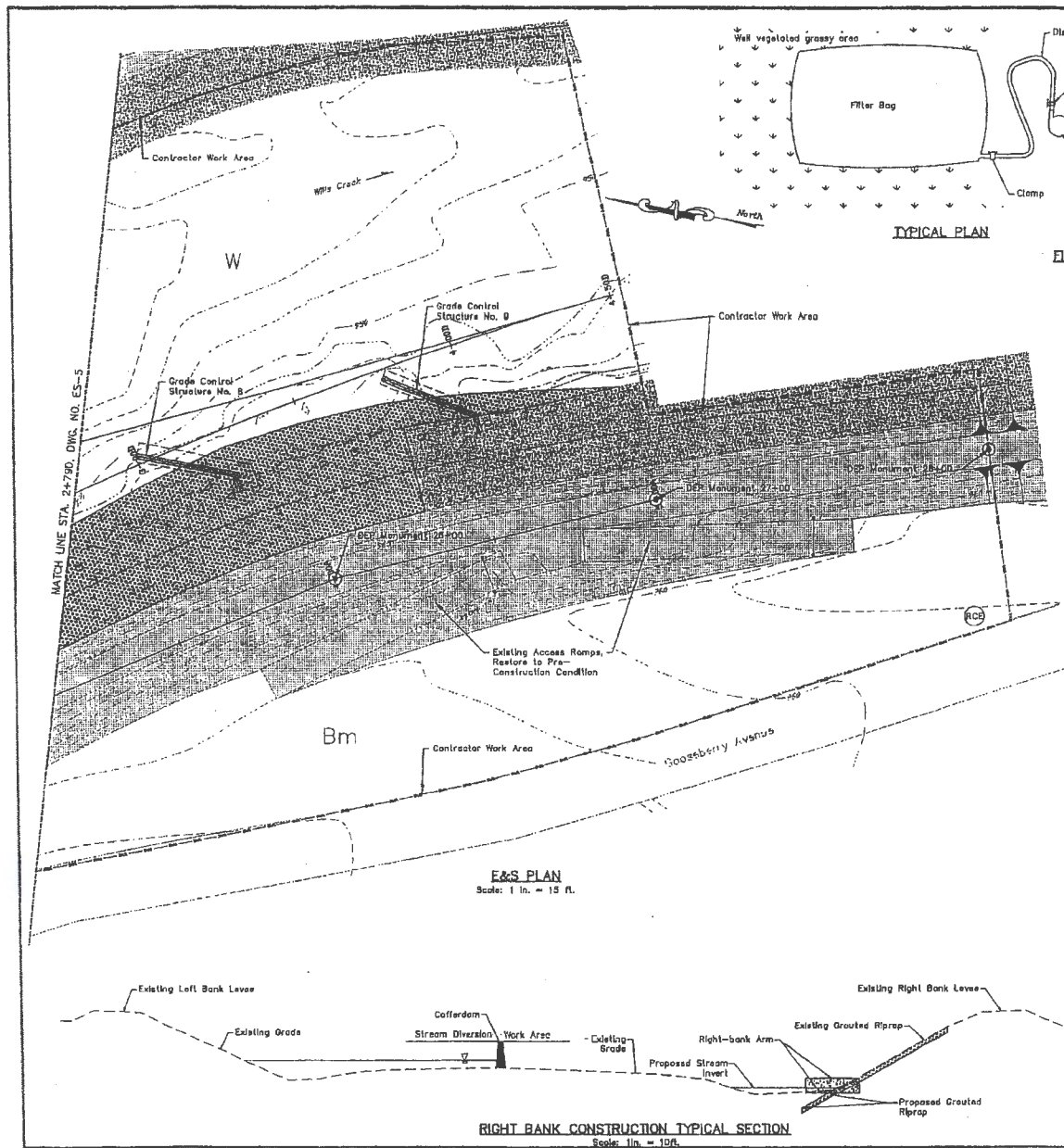












**FILTER BAG DETAIL**  
No Scale

**FILTER BAG INSTALLATION**

1. Any pumped water from excavated areas must be filtered prior to discharging into waters of the Commonwealth.
2. The use of filter bags is another acceptable method if located on a relatively flat (< 5% slope), well-vegetated area.
3. The bag should be designed to trap particles larger than 150 microns.
4. The pump discharge hose shall be inserted into the bag in the manner specified by the manufacturer and securely clamped. The Contractor shall ensure no loss of pumped water due to poor connection.
5. When the bag has been filled to  $\frac{3}{4}$  its rated capacity, it should be replaced with a new bag and properly disposed.
6. Whenever well-vegetated areas are not available, a geotextile underlayment should be used.
7. A suitable means of securing and removing the bag with machinery once it has been  $\frac{3}{4}$  filled with sediment must be provided. Bags shall be kept available for replacement of those that have failed or are filled.
8. The pumping rate shall be no greater than 750 gpm or  $\frac{1}{2}$  the maximum specified by manufacturer, whichever is less. Pump intakes should be screened.
9. Filter bags shall be inspected daily. If any problem is detected, pumping shall cease immediately and not resume until the problem is corrected.

**LEGEND**

- Contractor Work Area
- Major Contour
- Minor Contour
- Construction Baseline 'A'
- Construction Baseline 'D'
- ○ ○ ○ 4" PVC Weepholes
- Edge of Water
- Ordinary High Water Mark
- [Hatched Box] Proposed Grouted Riprap
- [Dotted Box] Existing Grouted Riprap
- [Horizontal Lines] Existing Levee
- [Circle with 'L'] DEP Levee Monument
- [Circle with 'R'] Reck Construction Entrance
- [Circle with 'Bm'] Birdsboro SBI Loom, Rarely Flooded
- [Circle with 'W'] Water

DETAILED E&S PLAN	
Contractor	
Date	
Signature	

NO.	DATE	REVISION	APPR.

COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF WATER MANAGEMENT

COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF GENERAL SERVICES  
HARRISBURG, PENNSYLVANIA

PROJECT NO. D.G.S. 183-B PHASE 2  
**HYNDMAN BOROUGH  
FLOOD PROTECTION PROJECT**  
WILLS CREEK BEDFORD CO., PA

**EROSION AND SEDIMENTATION  
CONTROL PLAN**

DESIGNED BY	A.N.P.	DATE	4/19/2013	ISSUED BY	
CHECKED BY		SCALE	As Shown	PROJECT NO.	ES-6

ALL DIMENSIONS AND COLORS CONTROLS SHALL BE CHECKED AND VERIFIED BY CONTRACTOR AT THE SITE.

**E&S GENERAL NOTES**

The following general directives apply to all phases of construction activities:

1. A copy of the Approved Erosion and Sedimentation Control Plan must be available at the project site at all times.
2. Special care shall be taken to prevent sediment laden stormwater from entering all stormwater management and conveyance facilities until the site has been properly stabilized.
3. During construction, the Contractor is to make certain all runoff is directed to the sediment control device. Erosion and sedimentation BMPs must be constructed, stabilized, and functional before site disturbance begins within the tributary areas of these BMPs.
4. All erosion and sedimentation-pollution control measures shall remain in place until the site has been stabilized. Vegetated areas are considered to be stabilized when a uniform 70 percent vegetative cover of erosion resistant perennial species has been achieved, or the disturbed area is covered with an acceptable turf which permanently maintains accelerated erosion and sedimentation. Until such time as this standard is achieved, interim stabilization measures and temporary erosion and sedimentation control BMPs that are used in final project runoff may not be removed. Until the site is stabilized, all erosion and sedimentation control BMPs must be maintained properly. Maintenance must include inspections of all erosion and sedimentation control BMPs after each runoff event and on a weekly basis, all preventative and remedial maintenance work, including cleaning, repair, replacement, re-grading, re-seeding, re-mulching and re-installing must be performed immediately. If erosion and sediment control BMPs fail to perform as expected, replacement BMPs or modifications of those installed will be required.
5. After final site stabilization has been achieved, temporary erosion and sedimentation BMPs must be removed. Areas disturbed during removal of the BMPs must be stabilized immediately.
6. Erosion and sedimentation BMPs must be constructed, stabilized, and functional before site disturbance begins within the tributary areas of these BMPs.
7. All soil stockpiles shall be seeded with a grass cover immediately to avoid prolonged exposure of the bare soil material to rainfall events. If the area is expected to be disturbed again during the construction process, the temporary seed mixture may be utilized. Stockpiles shall not be greater than 30 feet in height, nor shall stockpile slopes be steeper than 2:1. Whenever possible, pile of excavated material stockpiles from disturbed areas. Stockpiles shall be set parallel to grade to reduce runoff.
8. All vehicles and equipment must enter and exit the project site through the rock construction entrances.
9. In all cases during construction, the area of disturbance should be minimized.
10. Silt barrier shall be placed end to end, securely staked in place, and maintained until area is stabilized.
11. All pumping of sediment laden water shall be through a sedimentation control BMP, such as a pumped water filter bag or equivalent sediment treatment facility installed in vegetated areas.
12. Upon general completion of the site improvements, topsoil shall be placed and final grading passes shall be made perpendicular to the direction of runoff.
13. Re-seed and reestablish any barren and disturbed areas not having established ground cover.
14. Any disturbed area must be stabilized immediately. If the area is expected to be disturbed again during the construction process, the temporary seed mixture may be utilized. During non-germinating periods, mulch must be applied of the recommended rates. Disturbed areas which are not of finished grade and which will be re-disturbed within one year may be stabilized in accordance with temporary seeding specifications. Disturbed areas which are either of finished grade or will not be re-disturbed within one year must be stabilized in accordance with Permanent Seeding specifications.
15. In all cases, care should be taken to prevent the entry of soil, silt, or other materials and refuse into existing drainage pipes and sewers, or into wetland areas on the site.
16. The Contractor shall be cognizant of appropriate seasons for planting grass seed mixtures, and plan the construction schedule to appropriately utilize the best times of the year for germination of the seed and stabilization of the site.
17. Whenever the term "seeding" is mentioned in this construction response or in the Erosion and Sedimentation Pollution Control Plan, the term means the entire soil preparation, seeding, and mulching process.
18. Sediment and soil material that is removed from dugged or full BMPs shall be disposed of thoroughly mixing with other material on the project site, and incorporated into fill in graded areas of the project site. The fill area and other disturbed areas shall be stabilized in accordance with the Erosion and Sedimentation Pollution Control Plan. In no case shall the sediment or soil material be carted off-site or otherwise placed in a manner that causes the material to again be eroded and transported by runoff, either on or off the project site.
19. The Contractor shall dispose of waste materials obtained from demolition activities in a legal manner, and shall recycle as much of the waste material as possible, in accordance with applicable sections of the contract specifications. All building materials and wastes must be removed from the site and recycled or disposed of in accordance with the Department's Solid Waste Management Regulations at 25 PA. Code 2601, at sec. 271.1, and 287.1 et seq. No building materials or wastes or mixed building materials shall be burned, buried, dumped, or discharged at the site.
20. Should any soil materials be removed from the site at any time, the soil materials must be disposed of properly. The Contractor will be responsible for the proper removal and disposal of any excess topsoil and fill material from the site. The receiving site must have a Soil Erosion and Sedimentation Control Plan approved by the County Conservation District prior to the placement of any fill. In addition, the receiving site may require an NPDES Permit. The Contractor shall supply proof of deposit site approval to the Department prior to deposit.
21. Immediately upon discovering unforeseen circumstances posing the potential for accelerated erosion and/or sedimentation pollution, the operator shall implement appropriate best management practices to eliminate the potential for accelerated erosion and/or sedimentation pollution. Should additional or unexpected erosion or sedimentation occur during construction, or questions regarding the maintenance control practices arise, contact the Bureau of Watershed Engineering and Mitigation.
22. The Contractor will be responsible for the removal of any excess material and make sure site(s) receiving the excess has an Approved Erosion and Sedimentation Control Plan that meets the conditions of Chapter 102 and/or other state or federal regulations. The Contractor shall provide copies of such approvals to the Department.
23. 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 specified. (The term "used asphalt" does not include mixed asphalt or asphalt that has been processed for re-use.)
24. Clean fill offered by a spill or release of a regulated substance. If materials offered by a spill or release of a regulated substance still qualifies as clean fill provided the testing reveals that the fill material contains concentrations of regulated substances that are below the residential limits in tables FP-1A and FP-1B found in the Department's Policy Management of Fill.
25. Any person placing clean fill that has been affected by a spill or release of a regulated substance must use Form FP-001 to certify the origin of the fill material and the results of the analysis testing to qualify the material as clean fill. Form FP-001 shall be filed with the Department upon properly receiving the fill. A copy of Form FP-001 can be found by contacting the appropriate DEP Regional Office.
26. Environmental due diligence investigative techniques, including but not limited to, visual property inspections, electronic data base searches, review of property ownership, review of property use history, aerial photos, environmental questionnaires, transaction records, 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.
27. Fill material that does not qualify as clean fill is regulated fill. Regulated fill is waste and must be managed in accordance with the Department's Land or Facility Waste Regulations based on 25 PA. Code Chapters 267 Residual Waste Management or 271 Municipal Waste Management, whichever is applicable.

**MAINTENANCE PROGRAM**

1. Until the site is stabilized, all erosion and sedimentation control BMPs must be maintained properly. Maintenance must include inspections of all erosion and sedimentation control BMPs after each runoff event and on a weekly basis. All preventative and remedial maintenance work, including cleaning, repair, replacement, re-grading, re-seeding, re-mulching and re-installing must be performed immediately. If erosion and sedimentation control BMPs fail to perform as expected, replacement BMPs or modifications of those installed will be required.
2. The permittee and Contractor must ensure that vested site inspections are conducted weekly, and after each measurable precipitation event by qualified personnel, trained and supervised to establish sedimentation control, to ascertain that the erosion and sedimentation control (E&S) BMPs are operational and effective in preventing pollution to the waters of the Commonwealth. A written report of each inspection shall be kept, and include:
  - a) A summary of the site conditions, E&S BMPs, and compliance; and
  - b) The date, time, and the name of the person conducting the inspection.
3. Rock construction entrances shall be placed at the point of construction ingress and egress as noted on the plans. The structure will prevent tracking and flowing of sediment onto existing stabilized areas. Clean and reduce the rock construction entrance when the voids become choked with mud and sediment. The entrance shall remain functional for the duration of the project.
4. Where dust or wind erosion is a problem, the unstable surface(s) shall be stabilized with water or other suitable dust suppressor.
5. Any temporary erosion control measure applied to exposed soil surfaces shall remain functional until vegetative cover is sufficiently established.
6. Permanent soil protection will be completed as early as practical.
7. Any debris accumulated at filter fabric barriers shall be removed and properly disposed. Barriers shall be checked daily and reworked or reed as required. Remove sediment when it reaches one half of fence height.
8. Any sediment removed from BMPs during construction will be returned to upland areas on site and incorporated into the site grading.
9. All channels must be kept free of obstructions such as fill ground, fallen leaves & woody debris, accumulated sediment, and construction materials/wastes. Channels should be kept mowed and/or free of all woody, brushy or woody growth.
10. Vegetative stabilization shall be periodically inspected for proper growth. Any areas not responding shall be promptly re-seeded. Areas which show signs of erosion prior to stabilization shall be graded, re-seeded and re-maintained as soon as possible. Sod shall be utilized at areas where seeding does not appear to be properly stabilizing an area.

**TEMPORARY CONTROL MEASURES**

1. During construction, the Contractor shall keep the site well drained at all times. Erosion and sedimentation BMPs must be constructed, stabilized, and functional before site disturbance begins within the tributary areas of these BMPs.
2. Any waste material accumulated during construction, which will not be reused in later construction, shall be removed from the site and disposed of in a responsible and legal manner.
3. All unstabilized soil excavated temporarily shall be covered with a tarp or other suitable stabilization (seeded) in order to prevent runoff when precipitation is imminent.
4. Silt barrier shall be placed at critical erosion areas, as shown on the plan, in order to prevent sediment from entering onto the public roadway, adjacent properties and waterways.
5. Stabilized construction entrances shall be placed at the point of construction ingress and egress as shown on the plan. The structure will prevent tracking and flowing of sediment onto the public roadway. The entrance shall remain functional for the duration of the project.
6. Where dust or wind erosion is a problem, the unstable surface(s) shall be stabilized with water or other suitable dust suppressor.
7. Any water pumped from auxiliary, alarm, or utility branches, for any reason, shall be directed through a BMP such as a sediment filter bag discharging over non-disturbed areas.
8. The Contractor shall employ measures during construction to prevent spills of fuels or lubricants. If a spill occurs, it shall be contained immediately to prevent its entry into nearby waterways.
9. All earth moving activities shall be carried out in such a manner as to minimize the amount of disturbed area.
10. Responsibility for implementing erosion and sedimentation control shall be designated to a minimum of one individual who will be present at the project site daily.
11. When the Department determines that erosion control measures are necessary, that were not foreseen in the design stage, the Department shall estimate the erosion potential and select measures on the basis of both cost effectiveness and the consequences of the erosion.
12. Any temporary erosion control measure applied to exposed soil surfaces shall remain functional until vegetative cover is sufficiently established.
13. All temporary erosion and sedimentation control measures shall be subject to applicable regulations of the Department of Transportation Form 408 Specifications, most recent edition.
14. After final site stabilization has been achieved, temporary erosion and sedimentation BMPs controls must be removed. Areas disturbed during removal of the BMPs must be stabilized immediately.

**SEED MIXTURES**

**Temporary Seed Mixture**

Temporary seeding shall consist of a PENN D.O.T. Formula E Seed Mixture and shall be applied in accordance with PENN D.O.T. Publication 408, Section 804, and Technical Specification No. 32. Temporary seeding shall consist of annual ryegrass (Italian rye-grass) (84 percent by weight), and shall be applied at a rate of 2 pounds per 1000 square feet. Temporary seeding shall be applied as temporary protection at borrow and spoil areas, and uncompleted areas where work will be delayed by four (4) days or more. If conditions do not permit temporary seeding, mulching shall be employed. Straw mulch shall be applied in long strands, not chopped or finely broken.

**Permanent Seed Mixture**

Permanent seeding for all areas including lawns, channels, parks and lawn areas shall consist of a Seed Mixture in accordance with Technical Specifications No. 32. The Formula B Seed Mixture shall consist of the following:

- A) Perennial Ryegrass Mixture (Lawn Perenn): a combination of improved varieties with no one variety exceeding 50% of the total ryegrass component; 30% of total weight; 80% minimum purity; 90% minimum germination; 0.15% maximum weed seed; applied at a rate of 2.1 pounds per 1000 square feet.
- B) Strong Creeping Red Fescue or Chewings Fescue: 30% of total weight; 90% minimum purity; 85% minimum germination; 0.05% maximum weed seed; applied at a rate of 2.1 pounds per 1000 square feet.
- C) Kentucky Bluegrass Mixture (Poa Pratensis): a combination of improved certified varieties with no one variety exceeding 40% of the total bluegrass component; 40% of total weight; 95% minimum purity; 80% minimum germination; 0.20% maximum weed seed; applied at a rate of 2.6 pounds per 1000 square feet.

**MULCH SPECIFICATIONS**

On all disturbed areas which do not have an erosion control blanket specified for installation:

Immediately after seeding, or within 8 hours after seeding is completed, spread mulch uniformly over the entire seeded area at a rate of 6,000 pounds (dry weight) per acre. The mulch shall be moist at the time of placement. To prevent the mulch from being blown away or washed by 50% of the wind and to ensure the mulch cover holds the soil and seed in place, anchor the moist mulch to the soil by an approved means. On slopes where machinery cannot be used, fold the mulch in place by a means that will not be detrimental to subsequent operations. Non-aphidite mulch binders may be applied uniformly over and through the mulch at the manufacturer's recommended rate. Mulches shall be free of foreign materials, coarse or woody materials such as tobacco and soybean stems, substances toxic to plant growth, and mature seed bearing stalks or roots of prohibited and noxious weeds as defined by law. Mulches shall be cut into lengths of not less than 4 inches and cured to less than 20 percent moisture content by weight. Mulches shall be hay, straw, or a combination both. Hay shall be limed to neutralize free acid and liming hay, or other approved active or ferrous grasses. Straw shall be either wheat or oat straw, reasonably free of viable seeds.

Mulch Binders - Mulch binders shall be non-aphidite emulsions, of either a water soluble natural vegetable gum blended with gelling and hardening agents or a water soluble blend of hydrophilic polymers, silicates, slaked lime, and gums. Clotch binders from a producer listed in PA Bulletin 16.

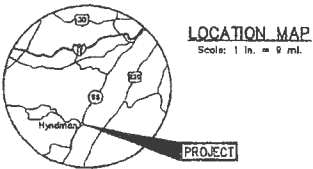
Apply the following soil supplements prior to temporary and permanent seeding:

- A) Pulfurized agricultural limestone conforming to PENN D.O.T. Publication 408, Section 804, applied at a rate of 5000 pounds per acre.
- B) 10-20-20 analysis commercial fertilizer conforming to PENN D.O.T. Publication 408, Section 804, applied at a rate of 700 pounds per acre.
- C) 38-0-0 ureamform slow-release nitrogen fertilizer conforming to PENN D.O.T. Publication 408, Section 804, applied at a rate of 200 pounds per acre.

**DETAILED E&S CONTROL PLAN**

1. Drawing Nos. ES-1 thru ES-7 and Section 1.16 of the general requirements constitute the approved Erosion and Sedimentation Control (E&S) Plan for the project. The Contractor must develop a Detailed E&S Plan based on his or her proposed means and methods and schedule of implementation. The detailed E&S Plan shall include specific details for erosion and sedimentation control and stream diversion and detouring measures, such as: BMP lengths, materials, dimensions and locations and order of installation. Submit the Detailed E&S Plan to DEP-Bureau of Watershed Engineering and Mitigation and obtain written approval prior to any earth disturbance activities.
2. The Contractor is advised to become thoroughly familiar with the provisions of the Appendix 64, Erosion Control Rules and Regulations, Title 25, Part 1, Department of Environmental Protection, Subject C, Protection of Natural Resources, Article 8, Water Resources, Chapter 102, Erosion Control.
3. The final Detailed E&S Plan shall include Drawg. ES-1 thru ES-7, as modified by the Contractor, and any additional sheets as submitted by the Contractor.
4. The Contractor shall sign and date all drawings submitted on the "Detailed E&S Control Plan".
5. Total disturbed area = 0.80 acres.

DETAILED E&S PLAN			
Contractor			
Date			
Signature			
NO.		DATE	REVISION
APPROVED:		DESIGN - BUREAU OF WATERSHED ENGINEERING AND MITIGATION - E&S	
APPROVED:		SEAL - BUREAU OF WATERSHED ENGINEERING AND MITIGATION - E&S	
APPROVED:		DESIGN - BUREAU OF WATERSHED ENGINEERING AND MITIGATION - E&S	
PROPOSED DATE:	DATE:	PROPOSED DURATION:	DAYS:
COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION OFFICE OF WATER MANAGEMENT			
COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF GENERAL SERVICES HARRISBURG, PENNSYLVANIA			
PROJECT NO. D.G.S. 183-B, PHASE 2			
HYNDMAN BOROUGH FLOOD PROTECTION PROJECT WILLS CREEK BEDFORD CO., PA			
EROSION AND SEDIMENTATION CONTROL NOTES			
DATE:	BY:	DATE:	BY:
ES-1	A.H.P.	4/19/2013	ES-7
ALL DIMENSIONS AND CENTER DIMENSIONS SHALL BE GIVEN IN FEET BY CONTRACTOR AT THE SITE			



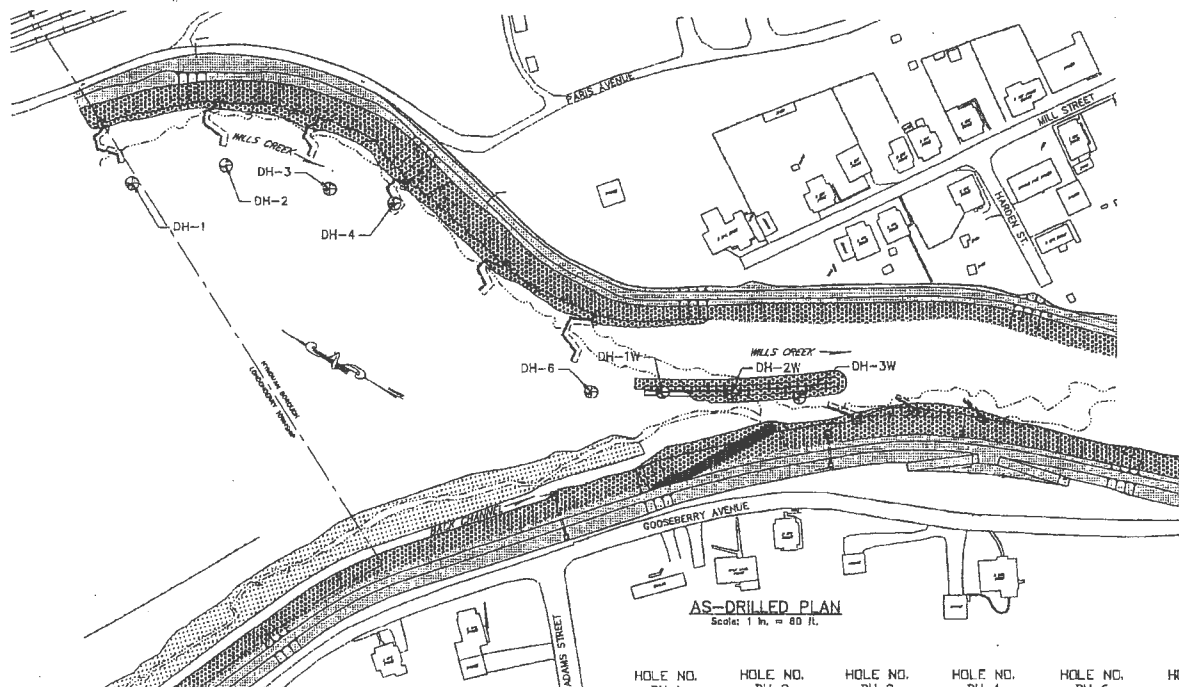
NOTE: ALL COORDINATES CONTAINED IN THESE PLANS ARE BASED ON AN ASSUMED DATUM. PLEASE SEE THE TABLE BELOW CONTAINING COORDINATES FOR SEVERAL POINTS, WITH NORTHING AND EASTING IN BOTH NAD 83 STATE PLANE AND THE ASSUMED DATUM. WHILE THIS DATUM IS CLOSE TO NAD83, IT DOES NOT CORRESPOND EXACTLY.

	ASSUMED DATUM		NAD 83 PENNSYLVANIA STATE PLANE	
	NORTHING	EASTING	NORTHING	EASTING
DEP. LEVEL MONUMENT 5+00B	181,733.54	1,895,222.15	181,512.13	1,894,999.85
DEP. LEVEL MONUMENT 7+00B	181,537.93	1,895,202.99	181,316.34	1,894,716.18
DEP. LEVEL MONUMENT 27+00A	181,064.57	1,895,286.47	180,852.97	1,894,866.40
DEP. LEVEL MONUMENT 28+00A	180,874.36	1,895,327.87	180,667.45	1,894,861.98
DEP. LEVEL MONUMENT 31+00A	180,685.96	1,895,413.72	180,516.21	1,895,081.27

**CALL BEFORE YOU DIG!**  
 PENNSYLVANIA LAW REQUIRES 3 WORKING DAYS NOTICE FOR CONSTRUCTION PHASE AND 10 WORKING DAYS IN DESIGN STAGE - STOP CALL  
 PA ONE CALL SYSTEM, INC. 1-800-343-1779  
 20111470173 (HYNDMAN BOROUGH)

UTILITY LIST				
COMPANY	TYPE OF FACILITY	ADDRESS	CONTACT	
HYNDMAN BOROUGH	SEWERIAL / WASTEWATER	3948 CENTER ST STE 3 PO BOX 108 HYNDMAN, PA 15845-0108	BRADLEY SHAFER	
WEST PENN POWER	ELECTRIC	18 E. MAIN STREET PO BOX 570 AZOR, PA 15208-0510	OFFICE PERSONNEL	
VERIZON BUSINESS	TELECOMMUNICATION	3400 W. GARDNER INDUSTRY, PA 15116	DEAN WOODS dwoods@verizon.com	
COUCAT	CABLE / COMMUNICATION	7816 LINDEN HARBORWAY INDUSTRY, CITY, PA 15711	WILLIE CHANTON wchanton@coucat.com	
CONTRACTOR	CONCRETE	100 W. MAIN ST BUTLER, PA 15807-1100	BRUCE WILSON bwilson@contractor.com	

NOTE: THE CONTRACTOR SHALL COMPLY WITH ACT 287 OF THE GENERAL ASSEMBLY, AS AMENDED, WHICH DEFINES THE PROCEDURES FOR NOTIFICATION TO PUBLIC UTILITIES PRIOR TO EXCAVATION, DRILLING, OR DEMOLITION WORK USING POWER EQUIPMENT OR EXPLOSIVES.



**TEST BORING SCHEDULE**

BORE HOLE #	TYPE OF SAMPLING	BASELINE STATION AND OFFSET	GROUND ELEV.	PROPOSED DEPTH	ACTUAL DEPTH
DH-1	Core	0+800 55' right	972.89	15 feet	24.0 feet
DH-2	Core	1+810 54' right	970.20	16 feet	24.2 feet
DH-3	Core	2+380 67' right	968.87	15 feet	24.2 feet
DH-4	Core	4+100 21' right	957.73	15 feet	18.0 feet
DH-6	Core	6+860 37' right	965.53	16 feet	24.0 feet
DH-1W	Core	7+860 30' right	962.10	27 feet	27.3 feet
DH-2W	Core	8+380 13' right	961.18	28 feet	24.3 feet
DH-3W	Core	1+290 16' left	959.30	24 feet	22.7 feet

**NOTES:**  
 1. All borings were drilled and recorded on October 25 - November 1, 2011 by L. Robert Kimball & Associates.

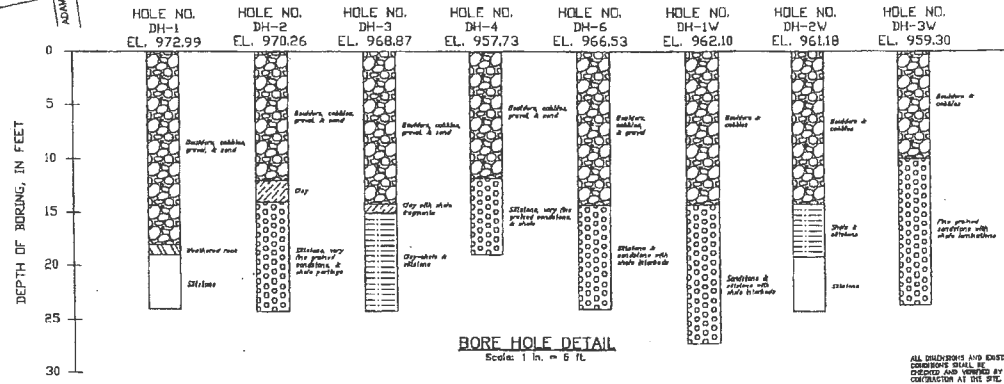
**LEGEND**

- Ordinary High Water
- Existing Levee
- Existing Grouted Riprap
- Proposed Grouted Riprap
- Welland and Boundary
- Test Boring Location and Designation
- Concrete Grade Control Structures

NO.	DATE	REVISION	APPR.

PROJECT: HYNDMAN BOROUGH - FLOOD PROTECTION PROJECT - PHASE 2  
 SHEET: AS-DRILLED SUBSURFACE BORING PLAN  
 DRAWN BY: L. ROBERT KIMBALL  
 CHECKED BY: L. ROBERT KIMBALL  
 DATE: 4/18/2013

- LEGEND**
- Sandstone & pebbles
  - Clay
  - Sandstone & siltstone
  - Siltstone
  - Siltstone & siltstone
  - Siltstone & siltstone



**BORE HOLE DETAIL**  
 Scale: 1 in. = 5 ft.

ALL DIMENSIONS AND ELEVATIONS SHOWN SHALL BE CHECKED AND VERIFIED BY CONTRACTOR AT THE SITE.

COMMONWEALTH OF PENNSYLVANIA  
 DEPARTMENT OF ENVIRONMENTAL PROTECTION  
 OFFICE OF WATER MANAGEMENT

COMMONWEALTH OF PENNSYLVANIA  
 DEPARTMENT OF GENERAL SERVICES  
 HARRISBURG, PENNSYLVANIA

PROJECT NO. D.G.S. 183-B, PHASE 2  
**HYNDMAN BOROUGH  
 FLOOD PROTECTION PROJECT**  
 WILLS CREEK BEDFORD CO., PA

**AS-DRILLED SUBSURFACE  
 BORING PLAN**

DATE: 4/18/2013  
 DRAWN BY: L. ROBERT KIMBALL  
 CHECKED BY: L. ROBERT KIMBALL  
 DATE: 4/18/2013

NO. TB-1

