



# E&S ABACT vs. Standard BMPs

*Matt Gordon*

*Regulatory Team Director*

*Allegheny County Conservation District*

March 10th, 2026



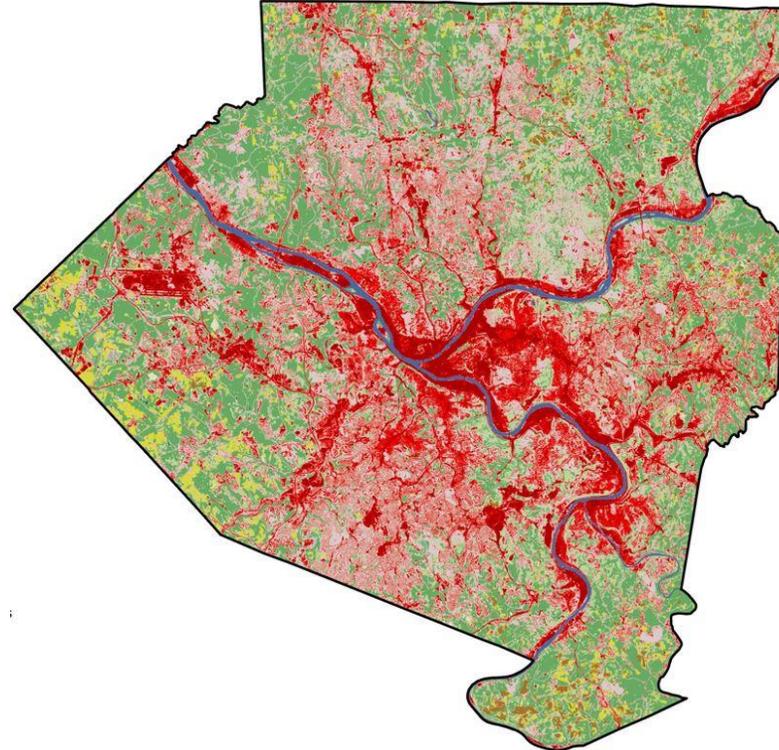
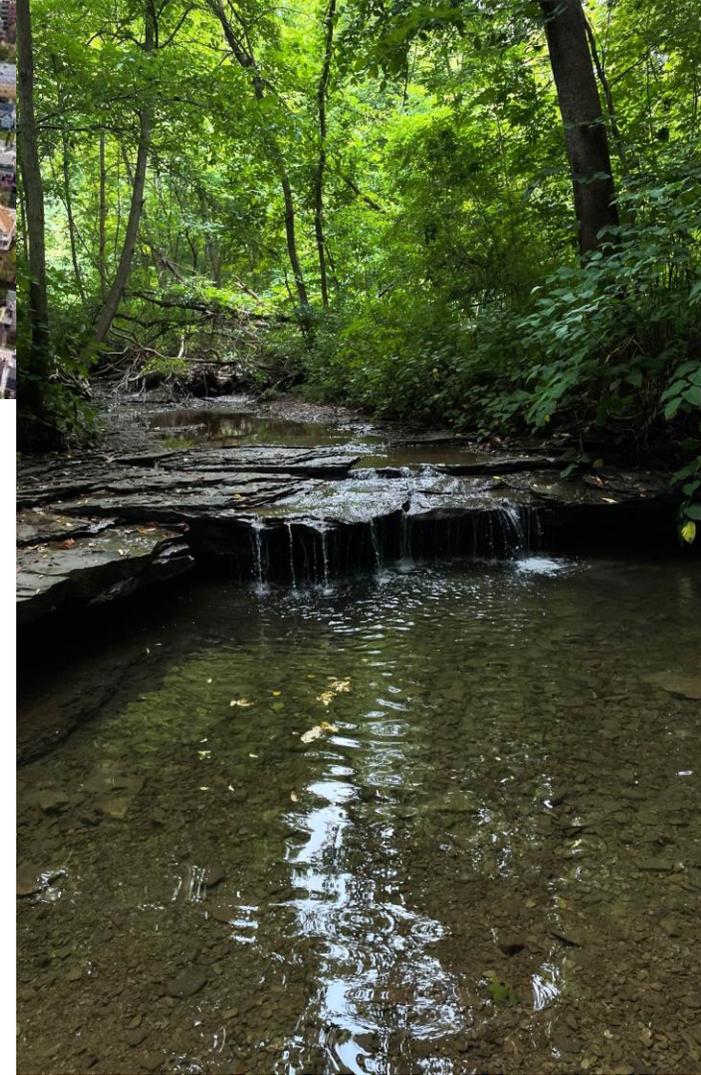
# Matt Gordon

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# Allegheny County, PA

- 745 square miles
- Urbanized, industrial history
- 1.25M residents
- 200 miles trails and 12k acres of county park land, rural periphery
- Confluence of Ohio River
- EPA CSO Consent Decrees
- 130 municipalities
- Drinking water source - 95% surface



# Overview

This presentation will provide an overview of Erosion & Sediment (E&S) Control Best Management Practices (BMPs) Antidegradation Best Available Combination of Technologies (ABACT), as compared to standard (non-ABACT) controls.

- Definitions
  - Purpose
  - Chapter 102 Permitting
  - PADEP Resources
  - Technical Guidance
- Site layout
  - Site access
  - Sediment barriers
  - Channels
  - Sediment basins
  - Sediment traps
  - Dewatering
  - Stabilization
  - Examples
  - E&S Plan Drawings

# Definitions

PA Code Title 25 - Environmental Protection

## Chapter 102: Erosion & Sediment Control

- **Antidegradation Best Available Combination of Technologies (ABACT)** - Environmentally sound and cost effective treatment, land disposal, pollution prevention and stormwater reuse BMPs that individually or collectively manage the difference in the net change in stormwater volume, rate and quality for the storm events up to and including the 2-year/24-hour storm when compared to the stormwater rate, volume and quality prior to the earth disturbance activities to maintain and protect the existing quality of the receiving surface waters of this Commonwealth.
- **Best management practices (BMPs)** - Activities, facilities, measures, planning or procedures used to minimize accelerated erosion and sedimentation and manage stormwater to protect, maintain, reclaim, and restore the quality of waters and the existing and designated uses of waters within this Commonwealth before, during, and after earth disturbance activities.
- **Erosion and Sediment Control Plan (E&S Plan)** - A site-specific plan consisting of both drawings and a narrative that identifies BMPs to minimize accelerated erosion and sedimentation before, during and after earth disturbance activities.

## Chapter 93: Water Quality Standards

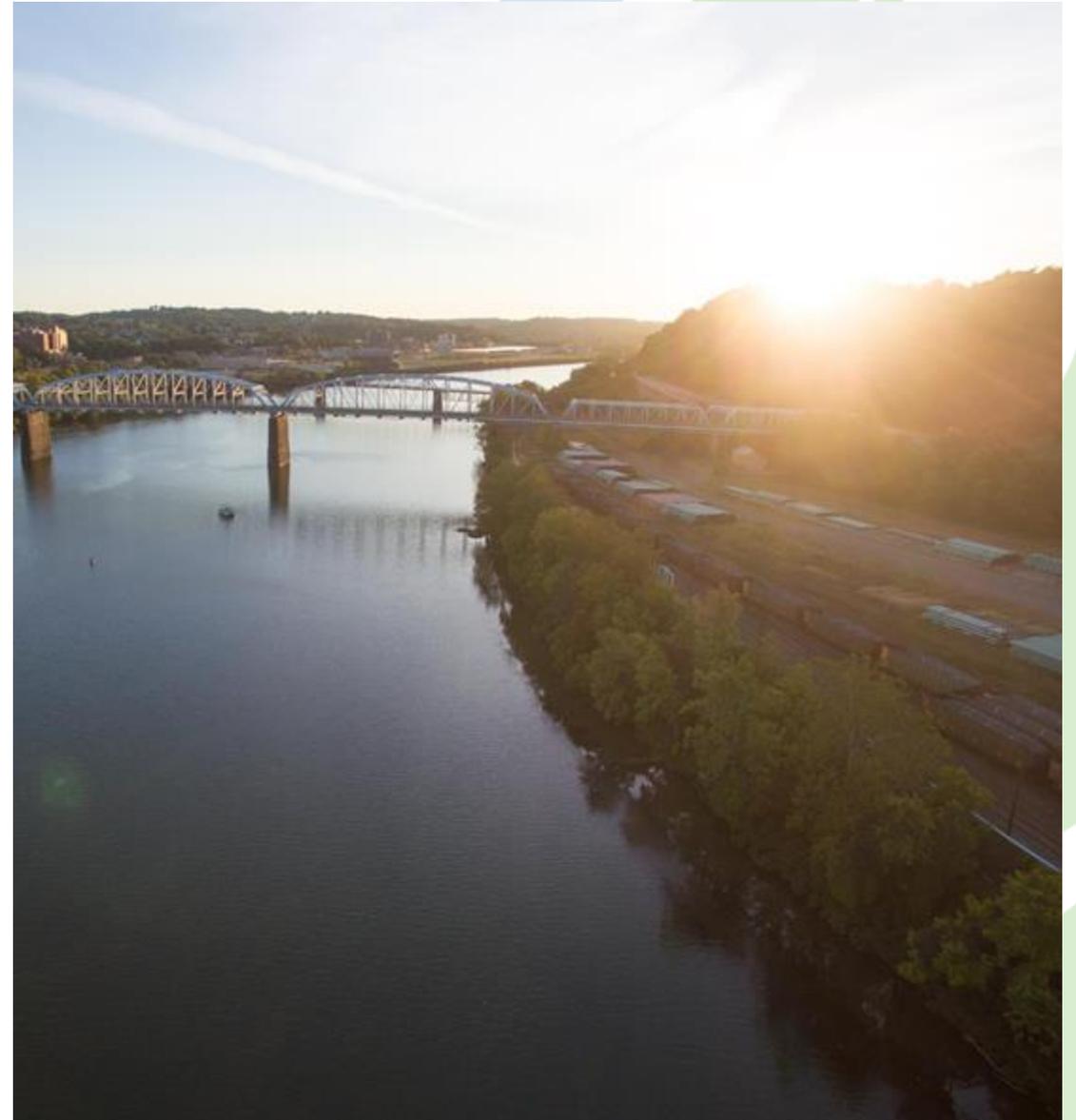
- **Designated use** - Those uses for each water body or segment whether or not they are being attained (§ § 93.4(a) and 93.9a—93.9z).
- **Existing use** - Those uses actually attained in the water body on or after Nov. 28, 1975, whether or not they are included in the water quality standards (§ 93.1).
- **High Quality Waters (HQ)** - Surface waters having quality which exceeds levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water by satisfying § 93.4b(a).
- **Exceptional Value Waters (EV)** - Surface waters of high quality which satisfy § 93.4b(b) (relating to antidegradation).

# Purpose

Why are ABACT BMPs important?

- PADEP is legally required to protect existing uses of all surface waters, and existing quality of HQ and EV Waters.
- The performance standards in 25 Pa. Code § 93.4c(a) and (b) (relating to implementation of antidegradation requirements), should be met by following the processes set forth in 25 Pa. Code §§ 102.4(b)(6) and 102.8(h).
- More stringent controls help to assure the discharge maintains and protects the existing quality of receiving surface waters.
- ED activity that requires a permit under 25 Pa. Code Chapter 102, where a receiving surface water is classified as HQ or EV, or impaired, ABACT BMPs or non-discharge alternatives are required.

(2012 E&S Manual 363-2134-008, Page 343-344)



# Chapter 102 Permitting

When are non-discharge alternatives or ABACT BMPs required?

## Special Protection Waters:

If runoff from a project site discharges to a stream classified for special protection (HQ or EV), more stringent criteria are to be used to design the BMPs for that site.

ABACT BMPs must be used to the fullest extent possible.

Discharges not eligible for PAG-02.

## Impaired Waters:

Stormwater discharges to surface waters are identified as waters impaired for: siltation; turbidity; Total Suspended Solids (TSS); algae; eutrophication; nutrients; flow regime modification; and/or habitat alterations in DEP's Integrated Water Quality Report *unless* the discharges will be managed with a non-discharge alternative or ABACT BMPs.

ABACT BMPs must be used to be eligible for PAG-02.



PAG-02 NOI

ELIGIBILITY INFORMATION		
1.	Stormwater discharges from the project site will not drain to surface waters, including wetlands, that are classified for special protection.	<input type="checkbox"/> True <input type="checkbox"/> False
2.	The applicant is not in violation of any DEP or EPA enforceable document, including any permit, schedule of compliance, consent assessment of civil penalty, or order at the project site or other sites or facilities owned or operated by the applicant in Pennsylvania, and has not shown a lack of ability or intention to comply with laws administered by DEP or EPA as indicated by past or continuing violations.	<input type="checkbox"/> True <input type="checkbox"/> False
3.	The PNDI receipt indicates either 1) "No Impact", or 2) "Conservation Measures", or 3) "Avoidance Measures" that have been agreed to by the applicant, or 4) "Potential Impact" or "Avoidance Measures" not agreed to by the applicant but clearance letters from jurisdictional agencies are attached to the NOI or otherwise will be submitted prior to General Permit coverage.	<input type="checkbox"/> True <input type="checkbox"/> False
4.	Soils in the area of the earth disturbance are not contaminated at levels exceeding residential or non-residential medium-specific concentrations (MSCs) in 25 Pa. Code Chapter 250 at residential or non-residential construction sites, respectively, unless a site-specific standard has been met or evidence is provided that the contamination is naturally occurring or the result of widespread atmospheric deposition.	<input type="checkbox"/> True <input type="checkbox"/> False
5.	Stormwater will not be discharged to MS4s or CSSs or will be discharged to MS4s or CSSs with a decrease or no net change in volume, rate or water quality or will be discharged to MS4s or CSSs with an increase in volume, rate or water quality and written consent of the MS4 or CSS permittee is provided.	<input type="checkbox"/> True <input type="checkbox"/> False
6.	All fill material imported to the project site will be clean fill or will be regulated fill that has been authorized for use on the project site by DEP's Waste Management Program or will be used on an Act 2 site in accordance with standards established by DEP's Land Recycling and Environmental Remediation Standards Program.	<input type="checkbox"/> True <input type="checkbox"/> False
7.	Stormwater discharges will not occur that would contain toxic or hazardous pollutants as defined in sections 307 and 311 of the Clean Water Act (33 U.S.C. §§ 1317 and 1321) or any other substance that – because of its quantity, concentration, or physical, chemical or infectious characteristics – may cause or contribute to an increase in mortality or morbidity in either an individual or the total population, or pose a substantial present or future hazard to human health or the environment when discharged into surface waters.	<input type="checkbox"/> True <input type="checkbox"/> False
8.	Stormwater will not be discharged to impaired waters caused by: siltation; turbidity; Total Suspended Solids (TSS); algae; eutrophication; nutrients; flow regime modification; and/or habitat alterations, or stormwater will be discharged to impaired waters but the applicant will implement non-discharge alternative(s) or ABACT BMPs.	<input type="checkbox"/> True <input type="checkbox"/> False
9.	Stormwater will not be discharged to waters with an EPA-approved or established TMDL for: siltation; turbidity; Total Suspended Solids (TSS); algae; eutrophication; nutrients; flow regime modification; and/or habitat alterations, or will be discharged to TMDL waters (including the Chesapeake Bay) but the applicant will implement non-discharge alternative(s) or ABACT BMPs and any applicable wasteload allocation (WLA) will be achieved.	<input type="checkbox"/> True <input type="checkbox"/> False

# PADEP Resources

Where is Designated Use information found?

PA Code Chapter 93



Stream Name	Basin	Designated Use	Qualifier
2—Jacks Run	Basin	Alleghehy	WWF
2—Spruce Run	Basin	Alleghehy	WWF
2—Lowries Run	Basin	Alleghehy	TSF
2—Toms Run	Basin	Alleghehy	WWF
2—Kilbuck Run	Basin	Alleghehy	CWF
2—Moon Run	Basin	Alleghehy	WWF
2—Montour Run	Basin	Alleghehy	TSF
2—McCabe Run	Basin	Alleghehy	WWF
2—Thorn Run	Basin	Alleghehy	WWF
2—Narrows Run	Basin	Alleghehy	WWF
2—Little Sewickley Creek	Basin	Alleghehy	HQP-TSF
2—Flaugherty Run	Basin	Alleghehy	WWF
2—Shouse Run	Basin	Alleghehy	WWF
2—Big Sewickley Creek	Basin	Alleghehy	TSF
2—Logtown Run	Basin	Beaver	WWF
2—Legionville Run	Basin	Beaver	WWF
2—Tevebau Run	Basin	Beaver	WWF
2—Crows Run	Basin	Beaver	WWF
2—Elkhorn Run	Basin	Beaver	WWF
2—Dutchman Run	Basin	Beaver	WWF

Where is Existing Use information found?

Existing Use List Summary Table  
(last rev 7/21/2025)



**EXISTING USE**  
(LAST REVISED ON 7/21/2025)

COUNTY	STREAM CODE	STREAM NAME	DESIGNATED USE	EXISTING USE	QUALIFIER	LOCATION	DATE OF EVALUATION	AFFECTED STREAM MILES
ADAMS	8596	BERMUDIAN CREEK	WWF, MF	CWF, MF	COLD WATER COMMUNITY	BASIN, SOURCE TO UNT 08727	07/17/18	18.00
ADAMS	58687	MIDDLE CREEK	HQ-CWF, MF	EV, MF	INTEGRATED BENTHIC MACROINVERTEBRATE SCORE	BASIN, SOURCE TO SWAMP CREEK	04/15/16	4.70
ADAMS	58718	SWAMP CREEK	HQ-CWF, MF	EV, MF	INTEGRATED BENTHIC MACROINVERTEBRATE SCORE	BASIN	04/15/16	3.70
BEDFORD, BLAIR	14770	BOBS CREEK	HQ-CWF, MF	EV, MF	INTEGRATED BENTHIC MACROINVERTEBRATE SCORE	BASIN, SOURCE TO AND INCLUDING WALLACKS BRANCH	03/14/11	49.79
BERKS	1658	IRONSTONE CREEK	TSF, MF	CWF, MF	COLD WATER COMMUNITY	BASIN, FROM HEADWATERS TO SR 2045 BRIDGE CROSSING (AT RMI 5.5)	03/21/06	12.46

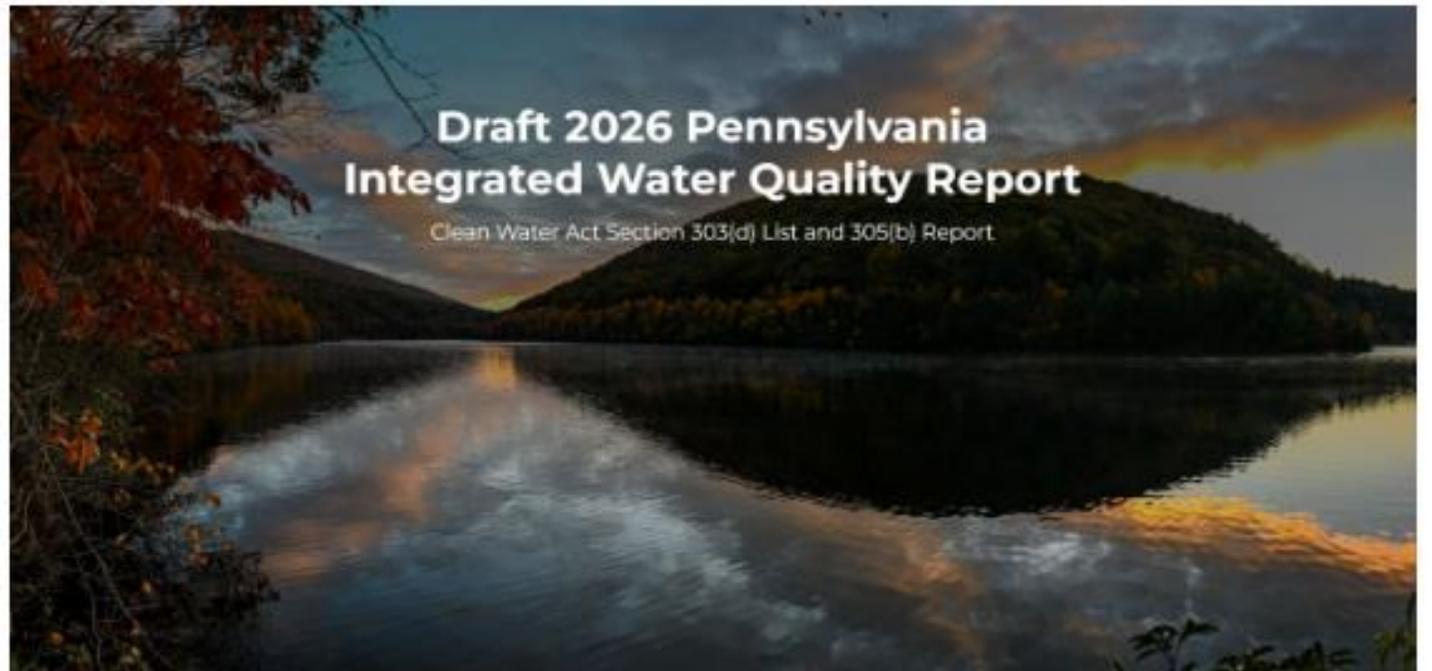
# PADEP Resources

Where is impairment information found?

PA Integrated Water Quality Report

[Clean Water Act Section 303(d) List and 305(b) Report]

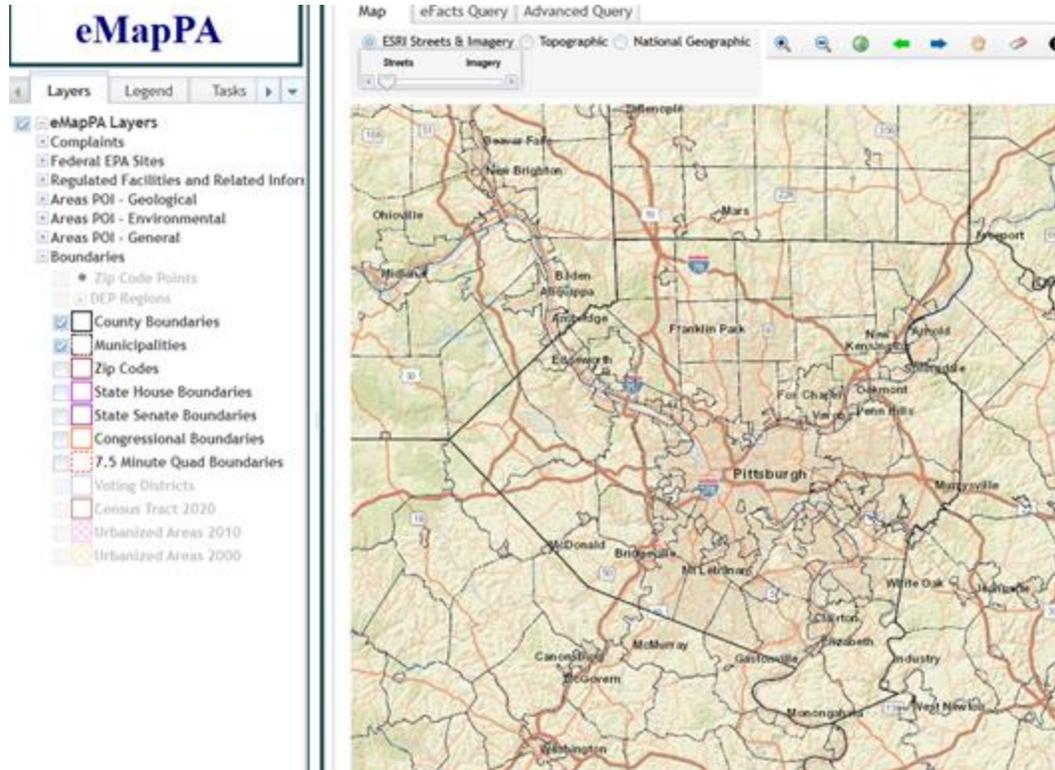
## Integrated Report



2026 Draft Integrated Water Quality Report



# PADEP Resources



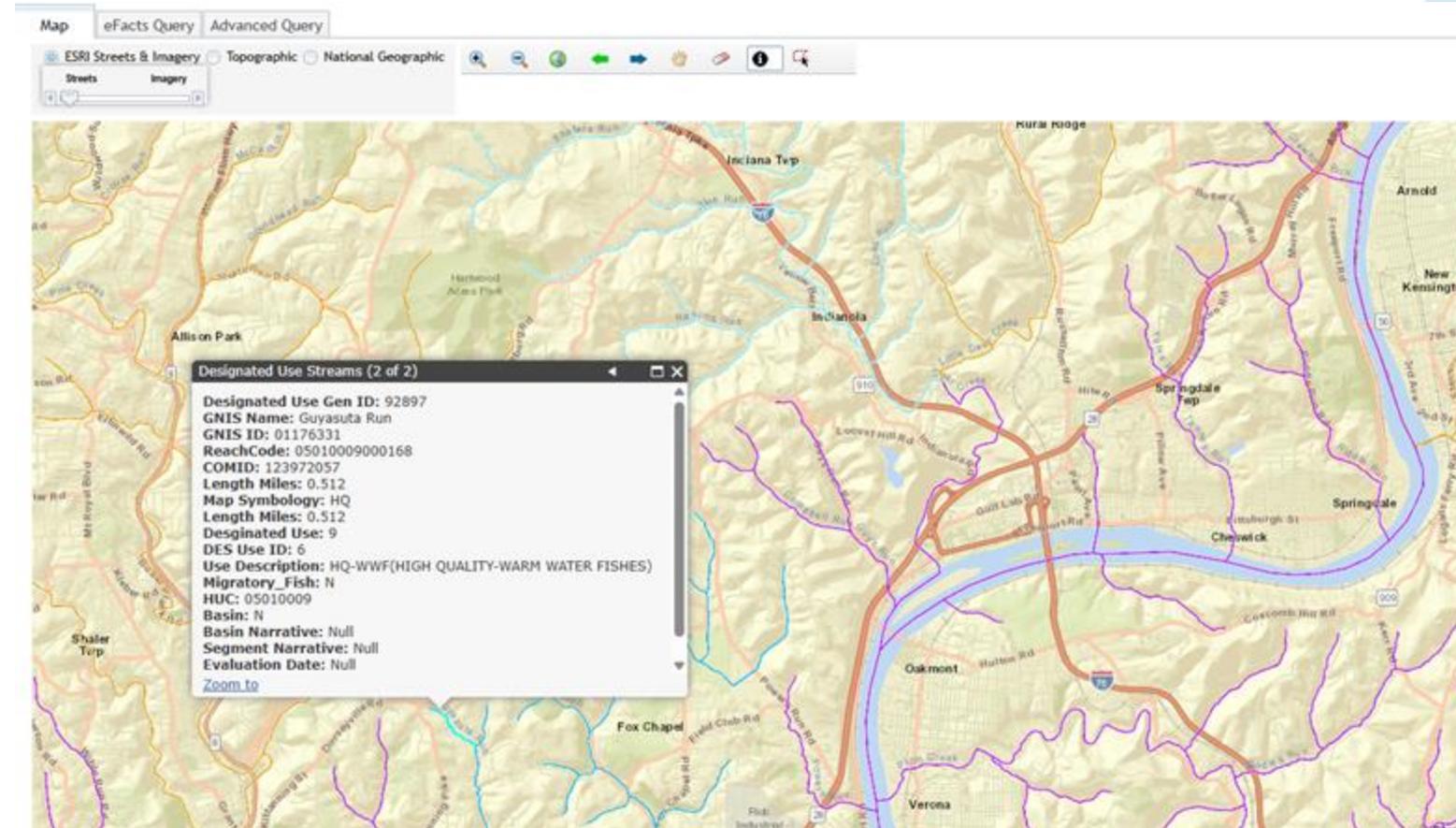
## Integrated Report Mapping Application



## 2026 Integrated Report Viewer

# DEP eMap

Ex: Snapshot of Fox Chapel, Allegheny County



## eMapPA

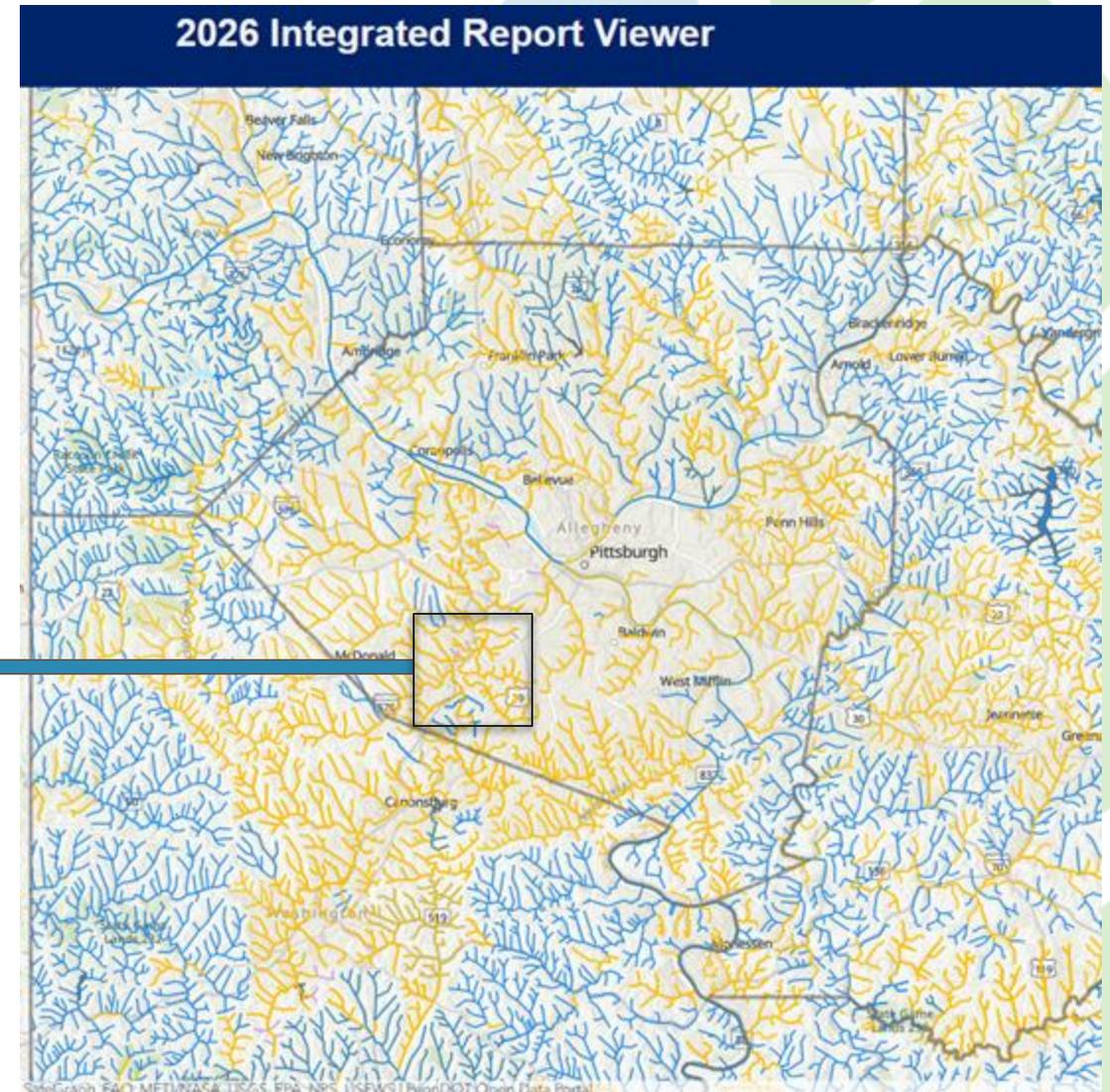
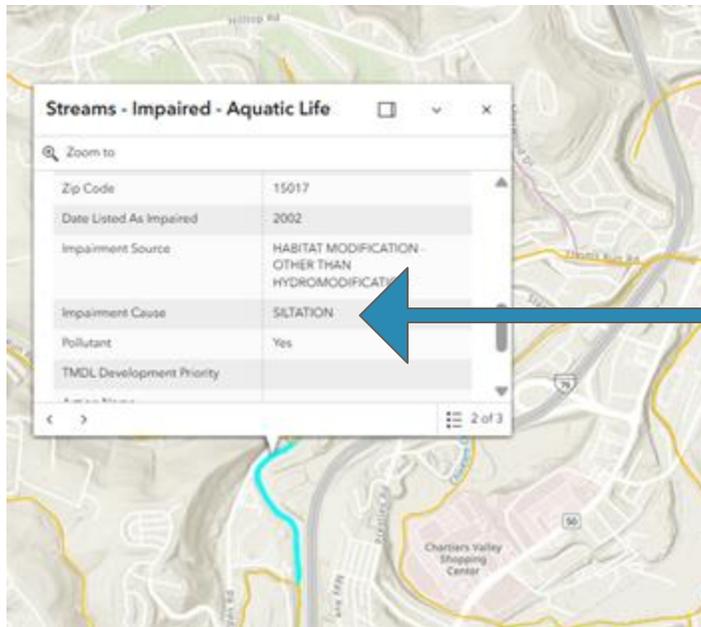
Layers Legend Tasks Themes Links

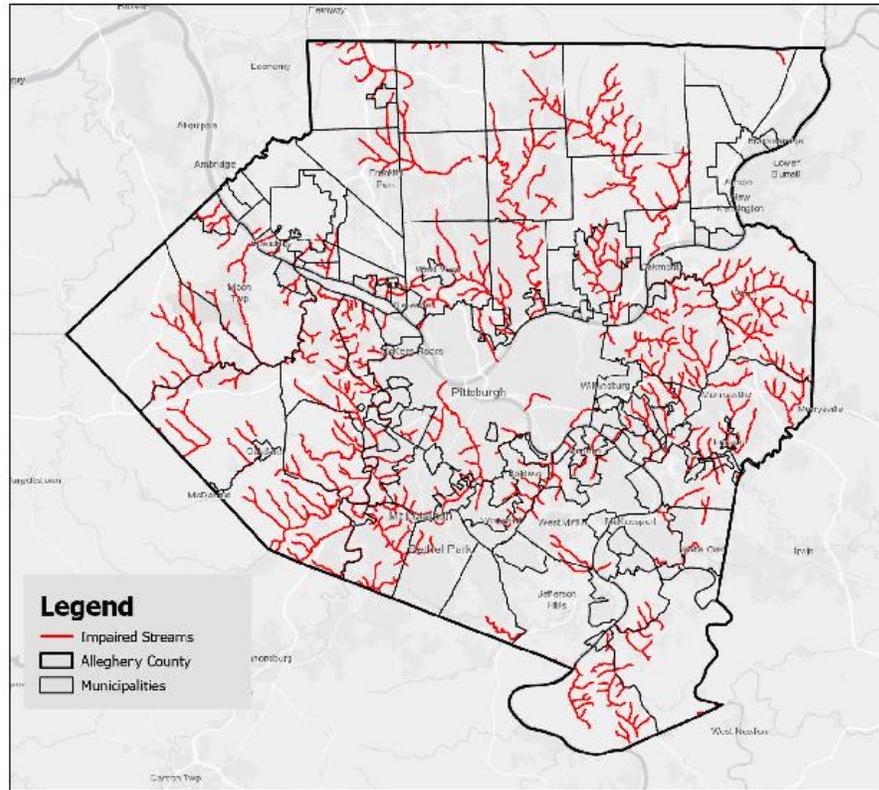
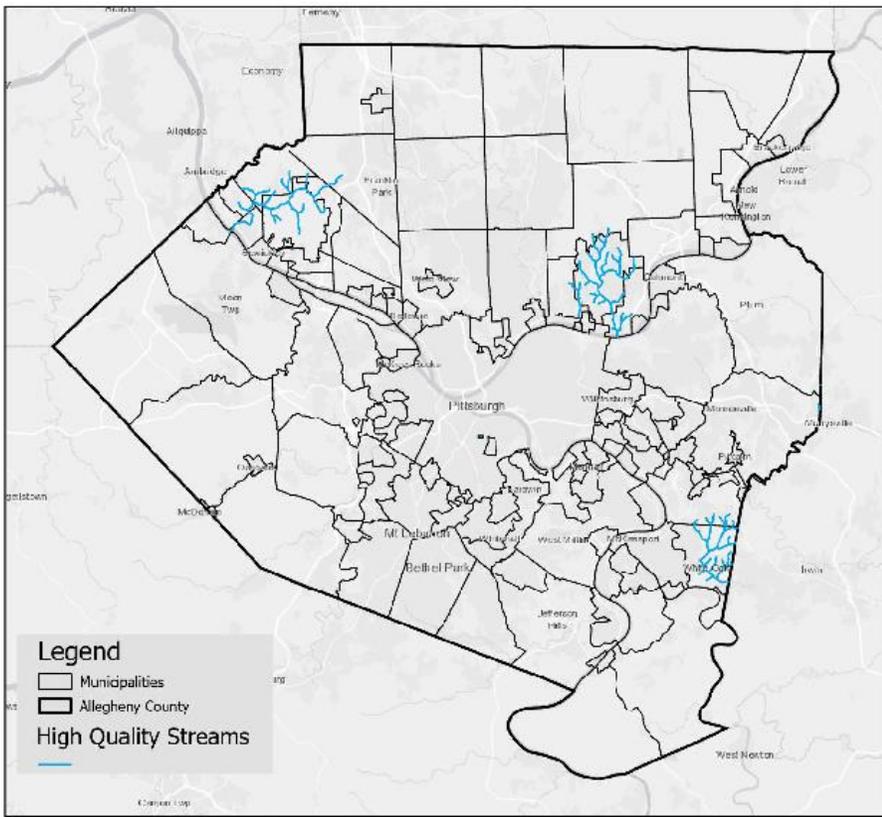
- Regulated Facilities and Related Information
  - Air
  - Land Reuse
  - Mining
  - Oil and Gas
  - Radiation
  - Sample Information System
- Streams and Water Resources
  - Surface Water Related
  - Fish Information
  - Flooding Information
  - NHD HUC (National Hydrography Dataset/Hydrologic Unit Code)
  - Water Monitoring
- Water Quality
  - Impaired Streams Assessments
  - Supporting Streams Assessments
  - TMDL Streams
  - Existing Use Streams
    - Cold Water Fish
    - Exceptional Value
    - High Quality
    - Trout Stocking
    - Warm Water Fish
    - Overlap
  - Existing Use Streams Migratory Fish
  - Designated Use Streams
    - Cold Water Fish
    - Exceptional Value
    - High Quality
    - Trout Stocking
    - Warm Water Fish
    - Overlap

# DEP Integrated Report Viewer

Ex: Snapshot of Allegheny County

- Blue - Supporting (attaining)
- Orange - Impaired (not attaining)
- Pan/zoom or enter the address of your project location
- Select the stream to view identified sources





# Technical Guidance

Where are ABACT BMPs?

PADEP Erosion & Sediment Pollution Control Program Manual (March 2012)

- Low sediment removal potential - not ABACT
- Moderate sediment removal potential - rated as ABACT for HQ but not EV watersheds
- High sediment removal potential - rated as ABACT for EV watersheds
- E&S Manual Chapter 17 - Areas of Special Concern (page 344)

Note: A BMP that is not rated as ABACT for an HQ or an EV watershed is not prohibited from use in that watershed. However, it may not be the only BMP used. Non-ABACT BMPs may be used in conjunction with ABACT to increase their efficiency.

Perforated Riser Dewatering - This device has **MODERATE** sediment removal efficiency and is an **ABACT for HQ, but not EV**, watersheds unless used in conjunction with sediment forebay with flocculation or turbidity barrier.



Pennsylvania  
Department of  
Environmental Protection

**EROSION AND SEDIMENT POLLUTION  
CONTROL PROGRAM MANUAL**

**FINAL**

**Technical Guidance Number  
386-2134-001**

**March 2012**

BUREAU OF CLEAN WATER

# Technical Guidance

Where *else* are ABACT BMPs explained?

PADEP Alternative E&S BMPs and PCSM SCMs list  
(updated May 2025)

PAG-02 General Permit and Individual NPDES Permit  
FAQ (September 2023)

- “Use of Non-Discharge Alternatives or ABACT BMPs”

*FAQ #9: My project will need to use non-discharge alternatives or ABACT BMPs due to discharges to **impaired** waters. How do I determine which non-discharge alternatives or ABACT BMPs can be used?*

*ABACT BMPs – During construction, any BMP identified as ABACT (either HQ or EV) in DEP’s E&S Manual or on DEP’s list of approved alternative E&S BMPs may be used.*



## ALTERNATIVE E&S BMPs and PCSM SCMs

Revised, May 13, 2025

### Introduction

The Pennsylvania Department of Environmental Protection (DEP) and delegated county conservation districts (CCDs) periodically receive requests for alternative erosion and sediment control (E&S) best management practices (BMPs) as part of applications or Notices of Intent (NOIs) for Chapter 102 permits. E&S BMPs and design standards are identified in DEP’s *Erosion and Sediment Pollution Control Program Manual* ([“E&S Manual”](#)) (386-2134-001).

## PAG-02 General Permit and Individual NPDES Permit

### Frequently Asked Questions (FAQ)

January 23, 2020

Revised, September 1, 2023

Version 1.7

# Technical Guidance

## E&S Manual, Chapter 17 - ABACT Controls for E&S Plans

- Site Layout
- Site Access
- Sediment Barriers
- Channels
- Sediment Basins
- Sediment Traps
- Stabilization

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# Review Comments

- If any portion of the site is in an impaired watershed (including Chesapeake Bay) or HQ/EV waters, the applicant is proposing to use non-discharge alternatives or ABACT BMPs (102.6(a)(1))
- Update 'Stormwater Discharge Information' on the NOI to update Chapter 93 classification or impairment for receiving waters. (102.6(a)(1))
- Submit Antidegradation Module 3 for proposed discharges to HQ/EV waters or impaired waters (Individual Permits) (102.6(a)(1))
- Specific comments by E&S BMP type – 102.4(b)(5) (viii and ix)

# Site Layout

Standard/Non-ABACT:

vs ABACT:

- Preserve Riparian buffers (min. 150 ft) wherever possible.
- Preserve Vegetative Filter Strips wherever possible
- Preserve Natural Watercourses wherever possible
- Minimize cuts and fills



# Site Access

Standard/Non-ABACT: 50-ft long rock construction entrance (RCE)

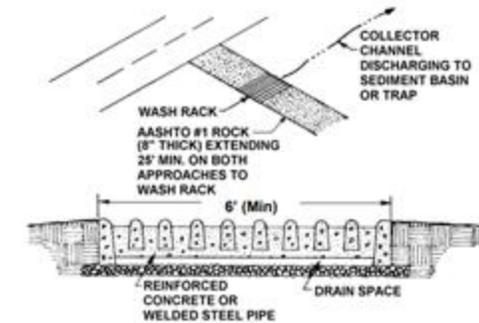
vs ABACT:

- 50-ft RCE with wash rack (facility where vehicle tires can be washed prior to exiting a project site onto a paved roadway).
  - The wash rack should **discharge to a sediment removal facility**, such as a vegetated filter strip or into a channel leading to a sediment removal device (e.g. a sediment trap or sediment basin). Detail #3-2.
- (Alternative): Alternative 100-ft RCE
- (Alternative): 50-ft RCE with **daily** street sweeping -
  - Public street sweeping with a vacuum sweeper and rolling of dirt and gravel roads at the end of each workday (or more frequently as needed); manual cleaning of tires prior to site egress.

Avoid Stream and Wetland Crossings wherever possible.

See E&S Manual Chapter 3

STANDARD CONSTRUCTION DETAIL # 3-2  
Rock Construction Entrance with Wash Rack



Modified from Smith Cattleguard Company

Wash rack shall be 20 feet (min.) wide or total width of access.

Wash rack shall be designed and constructed to accommodate anticipated construction vehicular traffic.

A water supply shall be made available to wash the wheels of all vehicles exiting the site.

**MAINTENANCE:** Rock construction entrance thickness shall be constantly maintained to the specified dimensions by adding rock. A stockpile of rock material shall be maintained on site for this purpose. Drain space under wash rack shall be kept open at all times. Damage to the wash rack shall be repaired prior to further use of the rack. All sediment deposited on roadways shall be removed and returned to the construction site immediately. Washing the roadway or sweeping the deposits into roadway ditches, sewers, culverts, or other drainage courses is not acceptable.



# Sediment Barriers

Standard/Non-ABACT: silt fence

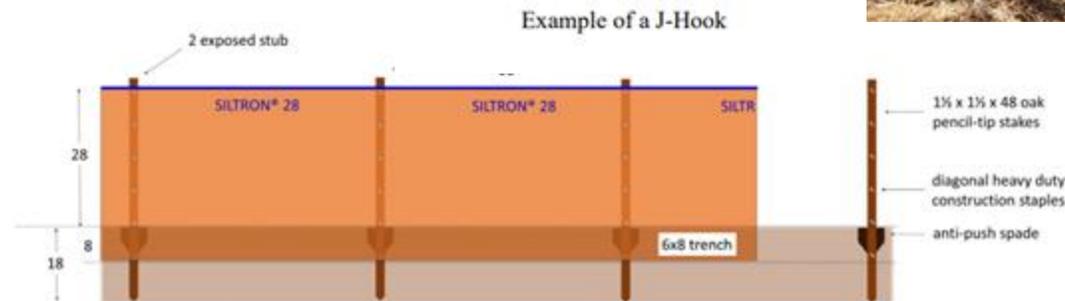
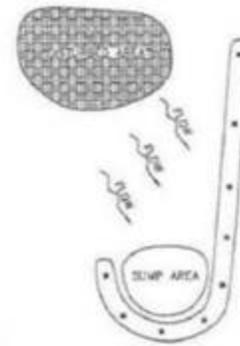
vs ABACT:

- Perimeter: Compost filter sock. Detail #4-1 (HQ and EV)
- (Alternative) Siltron Fence/"Composite Filter Fence" - MKB Enterprises (HQ and EV)
- (Alternative) CFS J-hook

Minimize use of rock and filter fabric type BMPs

Maximize use of compost BMPs

See E&S Manual Chapter 4



# Sediment Barriers

Standard/Non-ABACT: rock filters

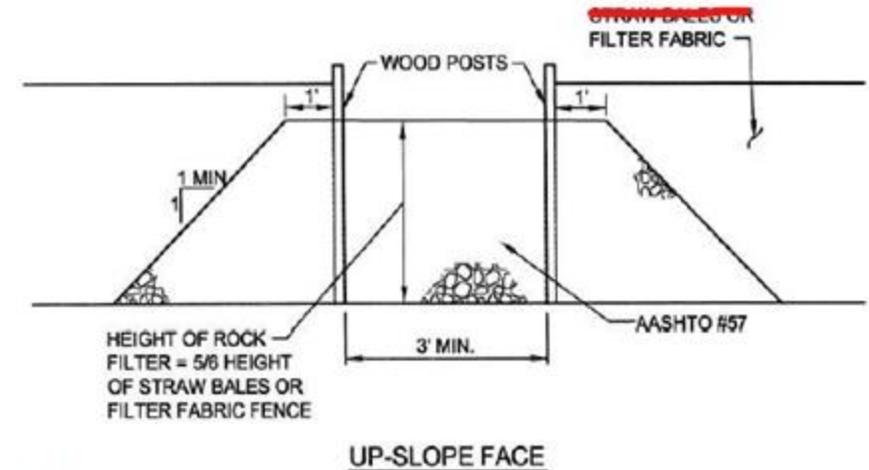
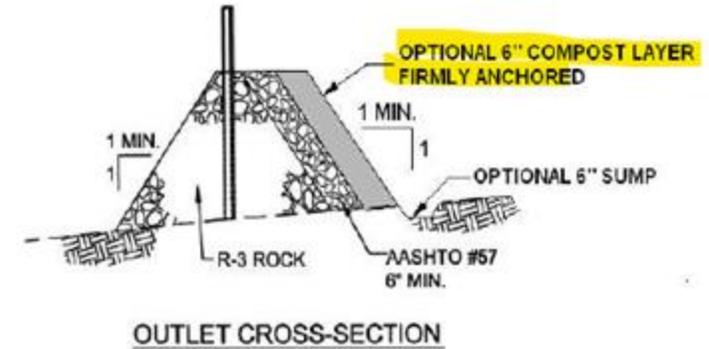
vs ABACT:

- Filter: Add 6-inch compost layer securely anchored on top of rock filter stone (AASHTO #57).

See E&S Manual Chapter 4



STANDARD CONSTRUCTION DETAIL # 4-6  
Rock Filter Outlet



PA DEP

A rock filter outlet shall be installed where failure of a silt fence or straw bale barrier has occurred due to concentrated flow. Anchored compost layer shall be used on upslope face in HQ and EV watersheds.

Sediment shall be removed when accumulations reach 1/3 the height of the outlet.

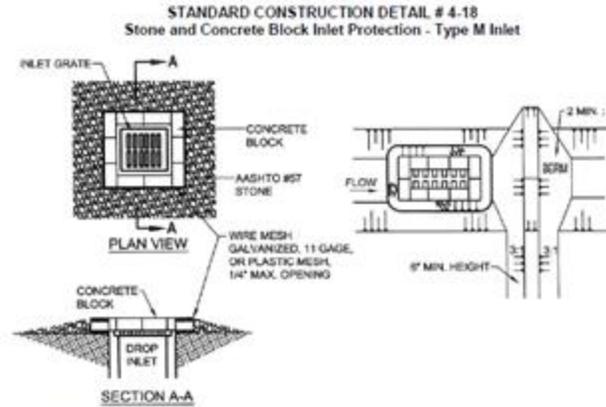
# Inlet Protection

Standard/Non-ABACT: stone and block inlet protection

vs ABACT:

- Inlets: add 6-inch compost layer securely anchored on/around the outside of stone inlet protection
- Inlet Filter Bag (for HQ but not EV)
- (Alternative): Inlet Filter Mat (Blackhawk, EZ-Flo) ABACT HQ (yes) ABACT EV (no)

See E&S Manual Chapter 4



Adapted from Maine DEP

Maximum drainage area = 1 acre.

Inlet protection shall not be required for inlet tributary to sediment basin or trap. Berms shall be required for all installations not located at a low point.

Rolled earthen berm in roadway shall be provided and maintained immediately down gradient of the protected inlet until roadway is stoned. Road subbase berms on roadway shall be maintained until roadway is paved. Earthen berm in channel shall be maintained until permanent stabilization is completed or to remain permanently.

Top of block shall be at least 6 inches below adjacent roads if ponded water would pose a safety hazard to traffic.

Sediment shall be removed when it reaches half the height of the stone. Damaged or clogged installations shall be repaired or replaced immediately.

For systems discharging to HQ or EV surface water, a 6 inch thick compost layer shall be securely anchored on outside and over top of stone. Compost shall meet the standards in Table 4.2.



Inlet filter bags are ABACT for HQ but not EV

# Channels

Standard/Non-ABACT: unlined/rock channel

vs ABACT:

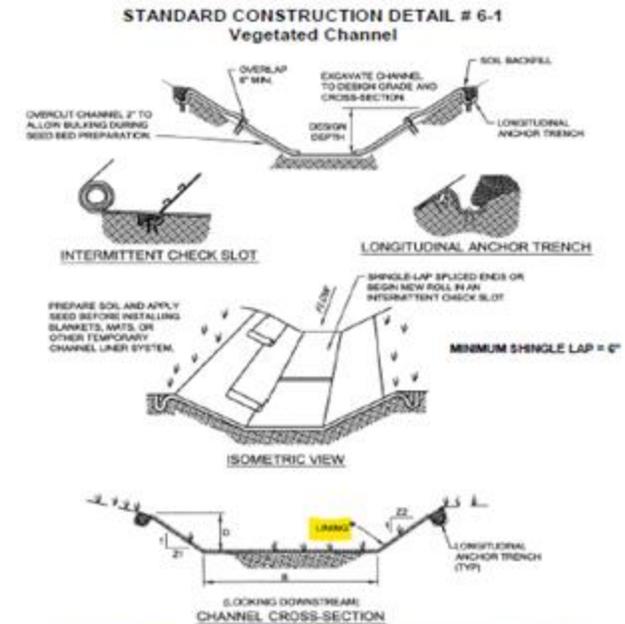
- Temporary Channels designed to convey the peak discharge from a 5-yr/1-hr storm
- Suitable protective **lining provided for all channels**
- Table 6.2 "Maximum Permissible Shear Stresses for Various Channel Liners" - Footnote 1 - Page 130

Minimize use of riprap channels

Maximize use of vegetative linings

**In general, runoff conveyance BMPs have little potential for sediment removal and are not ABACT BMPs for special protection watersheds. However, they may be used to make other BMPs that are ABACT work more effectively.**

See E&S Manual Chapter 6



\* SEE MANUFACTURER'S LINING INSTALLATION DETAIL FOR STAPLE PATTERNS AND VEGETATIVE STABILIZATION SPECIFICATIONS FOR SOIL AMENDMENTS, SEED MIXTURES AND MULCHING INFORMATION.  
Adapted from Salix Applied Earthcare - Erosion Draw 5.0

TABLE 6.2  
Maximum Permissible Shear Stresses for Various Channel Liners

Lining Category	Lining Type	lb/ft <sup>2</sup>	
Unlined <sup>1</sup> - Easily Eroded Soils <sup>2</sup>	Silts, Fine -Medium Sands	0.03	
	Coarse Sands	0.04	
	Very Coarse Sands	0.05	
	Fine Gravel	0.10	
	Clay Loam	0.25	
Unlined <sup>1</sup> - Erosion Resistant Soils <sup>2</sup>	Silty Clay Loam	0.18	
	Sandy Clay Loam	0.10	
	Loam	0.07	
	Silt Loam	0.12	
	Sandy Loam	0.02	
	Gravelly, Stony, Channery Loam	0.05	
	Stony or Channery Silt Loam	0.07	
	Manufactured Liners <sup>4</sup>	Jute	0.45
		Straw with Net	1.45
		Coir - Double Net	2.25
Coconut Fiber -Double Net		2.25	
Curled Wood Mat		1.55	
Curled Wood-Double Net		1.75	
Curled Wood - Hi Velocity		2.00	
Synthetic Mat		2.00	
Non Reinforced Vegetation	Retardance C assumed <sup>3</sup>	1.00	
Riprap <sup>3</sup>	R-3	1.00	
	R-4	2.00	
	R-5	3.00	
	R-6	4.00	
	R-7	5.00	
	R-8	8.00	

1. Not permitted in HQ or EV watersheds  
2. Soils having an erodibility "K" factor greater than 0.37.  
3. Soils having an erodibility "K" factor less than or equal to 0.37  
4. Manufacturer's recommended maximum shear stresses may be used if supporting documentation

# Sediment Basins/Traps

Various types

- Sediment Traps (<5ac DA)
  - Temporary
  - Embankment
  - Perforated riser barrel
  - Dry riser barrel
- Sediment Basin (≥ 5 ac DA)
  - Dry riser barrel
  - Perforated riser barrel
  - Temporary/Permanent



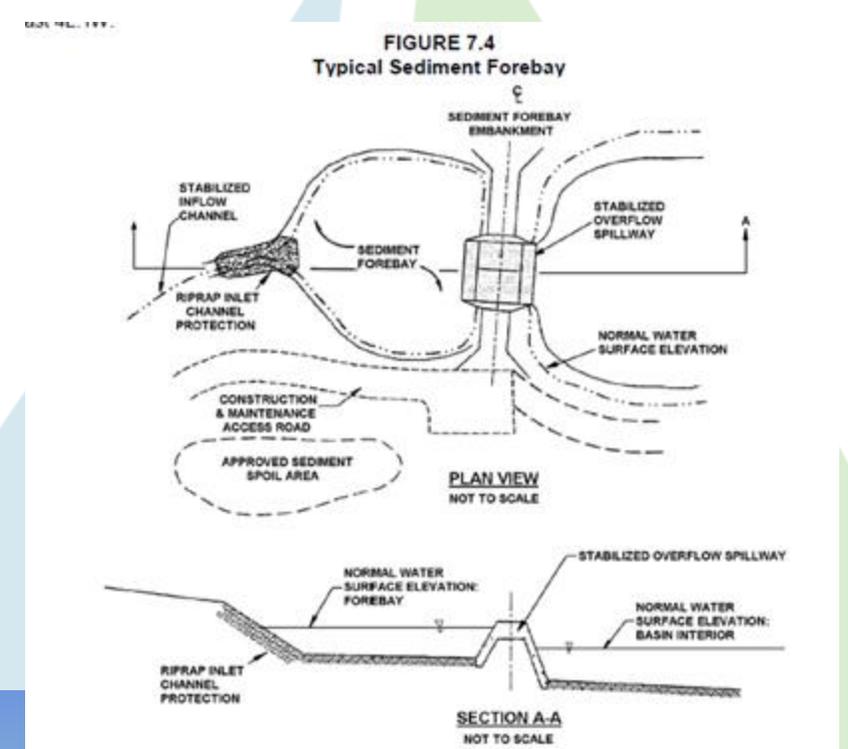
# Sediment Basins/Traps

Standard/Non-ABACT: 2L:1W ratio

vs ABACT:

- Minimum flow length to width ratio 4L:1W
- Can use sediment forebay (standards in DEP SWM Chapter 6 (Pg 177))

See E&S Manual Chapters 7-8



# Sediment Basins/Traps

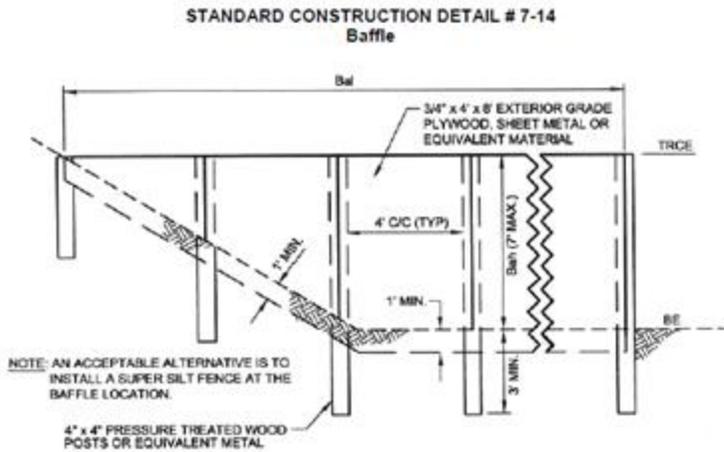
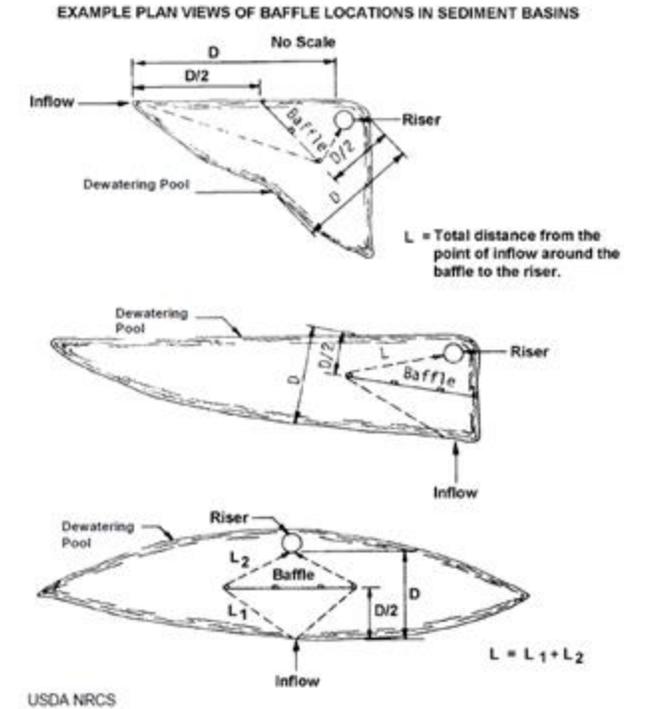
Standard/Non-ABACT: 2L:1W ratio

vs ABACT:

- 4L:1W ratio
- Can use curtain/baffle between inflow(s) and principal spillway.
  - Curtains: Figures 3.15/3.16 & Detail # 7-14
  - Baffles: Figure 7.5 & Detail # 7-14

See E&S Manual Chapters 7-8

FIGURE 7.5  
Use of Baffles in Sediment Basins



# Sediment Basins/Traps

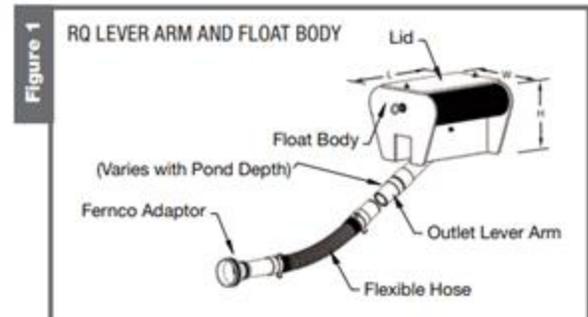
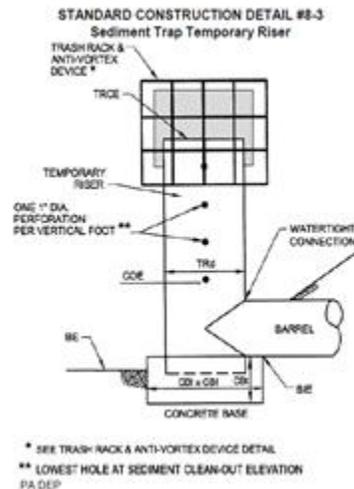
Standard: Perforated riser

vs ABACT:

- (HQ) Perforated riser
- (EV) Skimmer dewatering (designed to skim water from the top 6-in of dewatering zone).
  - Sed basin with skimmer details #7-1, #7-2, #7-3, #7-4
  - Sed trap riser detail #8-3
- (Alternative): Inverted Discharge Rate Skimmer (Reverse Q Pond Outlet). For use where peak flows must be delayed to avoid flooding downstream.

See E&S Manual Chapters 7-8

Skimmer Dewatering - This device has a HIGH sediment removal efficiency and is an ABACT for HQ and EV watersheds.





# Dry Riser Basins/Traps

Standard/Non-ABACT: stone around dewatering device

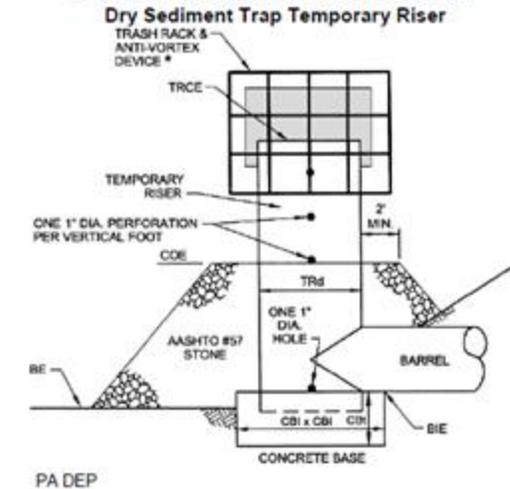
vs ABACT:

- Additional 6" compost layer securely anchored on top of filter stone (2' thick layer of AASHTO #57) (HQ)
- Or, replace stone with 24-inch compost sock, staked (HQ or EV)
- Basins Detail #7-11
- Traps Detail #8-5

tendency to become clogged. In special protection watersheds, a 6" layer of compost should be placed and securely anchored on top of the stone on all sides to provide increased sediment removal efficiency. Standard Construction Detail # 7-11 should be revised to show the compost layer for all such installations. An acceptable alternative is to replace the stone with a suitable compost filter sock with a 24" minimum diameter securely staked. Include all perforations in dewatering time calculations.

See E&S Manual Chapters 7-8

STANDARD CONSTRUCTION DETAIL #8-5



NOTE: This table is intentionally blank and should be filled in by the plan preparer.

P	TEMPORARY RISER				CONCRETE BASE			BARREL
	DIA TRd (IN)	CREST ELEV TRCE (FT)	MAT'L	CLEAN OUT ELEV COE	LENGTH CBI (IN)	WIDTH CBw (IN)	THICK CBt (IN)	INLET ELEV BIE (FT)

Standard Construction Detail #7-5, Trash Rack and Anti-vortex Device.

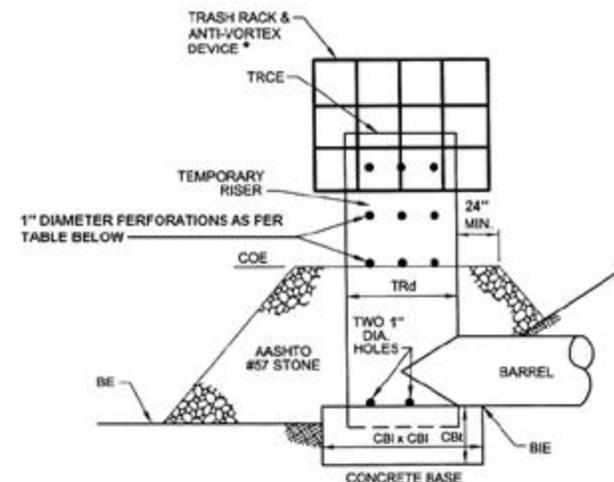
ed or damaged spillways shall be repaired immediately. Trash and other debris from the nd riser shall be removed.

cial protection watersheds, anchor a 6" layer of compost shall be securely anchored on stone (HQ) or replace stone with suitable compost filter sock (HQ or EV).

a minimum of 2 #8 rebar at right angles and projecting through sides of riser to anchor it crete base. Rebar shall project a minimum of ¼ riser diameter beyond outside of riser.

STANDARD CONSTRUCTION DETAIL # 7-11

Dry Sediment Basin Temporary Riser\*



PA DEP

# Embankment Sediment Traps

Standard/Non-ABACT: stone/filter fabric along spillway

vs ABACT:

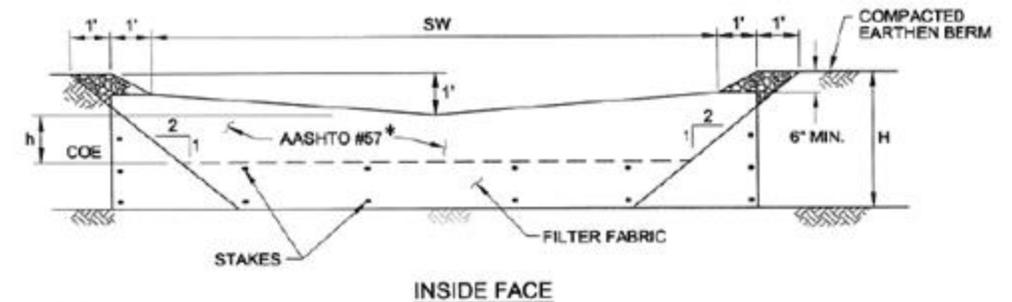
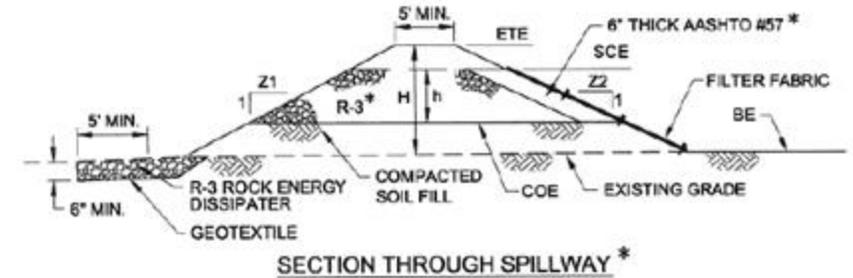
- Additional compost layer securely anchored on top of filter stone of embankment spillway.
- (HQ) 6-inch layer on top of inside face AASHTO#57.
- (EV) 24-inch compost sock in place of filter fabric and AASHTO#57.
- Detail #8-1

See E&S Manual  
Chapter 8



York County Conservation District

STANDARD CONSTRUCTION DETAIL # 8-1  
Embankment Sediment Trap



PA DEP

Embankment outlet shall be composed entirely of rock above clean out elevation (COE); main body R-3 or larger — R-4 to be used for drainage areas greater than 3.0 acres, inside face AASHTO # 57 stone or smaller. A 6" thick layer of compost, compost sock, or clean sand shall be installed on top of the AASHTO #57 stone and securely anchored in HQ watersheds. 24" diameter compost sock(s) shall be used in place of filter fabric and AASHTO #57 stone in EV watersheds.

Fill material for the embankments shall be free of roots, or other woody vegetation, organic material, large stones, and other objectionable materials. The embankment shall be compacted in layered lifts of not more than 9". The maximum rock size shall be no greater than 6".

# Compost filter sock traps

Standard/Non-ABACT:

vs ABACT:

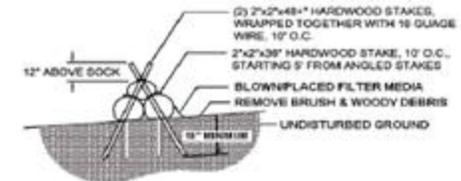
- compost filter sock traps have high sediment removal efficiency
- Installation of an excavated sump immediately above the socks may increase trap efficiency where soil conditions permit their construction.



STANDARD CONSTRUCTION DETAIL #3-11  
Compost Sock Sediment Trap



PLAN VIEW



STAKING DETAIL

Adapted from Filtrexx

Sock material shall meet the standards of Table 4.1. Compost shall meet the standards of Table 4.2.

Compost sock sediment traps shall not exceed three socks in height and shall be stacked in pyramidal form as shown above. Minimum trap height is one 24" diameter sock. Additional storage may be provided by means of an excavated sump 12" deep extending 1 to 3 feet upslope of the socks along the lower side of the trap.

Compost sock sediment traps shall provide 2,000 cubic feet storage capacity with 12" freeboard for each tributary drainage acre. (See manufacturer for anticipated settlement.)

The maximum tributary drainage area is 5.0 acres. Since compost socks are "flow-through," no spillway is required.

# Sediment Basins/Traps

Standard/Non-ABACT: 2-7 day dewatering

vs ABACT:

- Dewatering 4 -7 days when at full capacity- no reductions in calculations
- Deepened Storage Zone
- Use of impounded water for on-site dust control or irrigation
- Flocculants (Pg 276)

See E&S Manual Chapters 7-8

## STANDARD E&S WORKSHEET # 12 Sediment Basin Capacity Requirements

PROJECT NAME: \_\_\_\_\_  
 LOCATION: \_\_\_\_\_  
 PREPARED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 CHECKED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

BASIN NUMBER		
PERMANENT OR TEMPORARY BASIN? (P or T)		
SPECIAL PROTECTION WATERSHED? (YES OR NO)		
Karst soils? (YES OR NO)		
(A) MAXIMUM TOTAL DRAINAGE AREA (AC)		
IS DRAINAGE AREA (A) MORE THAN 10% LARGER THAN THE PRECONSTRUCTION CONDITION? (YES OR NO)		
(A <sub>1</sub> ) DISTURBED ACRES IN DRAINAGE AREA (AC)		
(I) INITIAL REQ'D DEWATERING ZONE (5,000 X A) (CF)		
(T) REDUCTION FOR TOP DEWATERING (-700 X A) (CF)		
(P) REDUCTION FOR PERMANENT POOL (-700 X A) (CF)		
(L) REDUCTION FOR 4:1 FLOW LENGTH:WIDTH (-350 X A) (CF)		
(D) REDUCTION FOR 4 TO 7 DAY DEWATERING (-350 X A) (CF)		
(S <sub>v</sub> ) REQUIRED DEWATERING ZONE [(I - (T+P+L+D)) <sup>1</sup> ] (CF)		
(S <sub>d</sub> ) REQUIRED SEDIMENT STORAGE VOLUME (1000 X A <sub>1</sub> ) (CF)		
(S <sub>t</sub> ) TOTAL REQUIRED STORAGE VOLUME (S <sub>v</sub> + S <sub>d</sub> ) (CF)		
TOTAL STORAGE VOLUME PROVIDED (@ ELEV 3) <sup>2</sup> (CF)		
DEWATERING TIME FOR DEWATERING ZONE (DAYS)		
REQUIRED DISCHARGE CAPACITY (2 X A) (CFS) <sup>3</sup>		
PRINCIPAL SPILLWAY TYPE (PERFORATED RISER, SKIMMER, etc.)		
PEAK FLOW FROM 10 YR/24 HR STORM FOR DRAINAGE AREA (A)		
PRINCIPAL SPILLWAY CAPACITY (@ ELEV 5) (CFS) <sup>4</sup>		
EMERGENCY SPILLWAY CAPACITY (@ ELEV 5) (CFS) <sup>4</sup>		
TOTAL BASIN DISCHARGE CAPACITY (@ ELEV 5) (CFS)		
EMERGENCY SPILLWAY PROTECTIVE LINING <sup>5</sup>		
OUTLET TO A SURFACE WATER? (YES OR NO) <sup>6</sup>		
PEAK FLOW FROM A 100 YR/24 HR STORM FOR DRG. AREA (A)		

<sup>1</sup> The minimum dewatering zone capacity for sediment basins is (3,600 X A). No reduction is permitted in Special Protection (HQ and EV) Watersheds.

<sup>2</sup> Total Storage Volume provided at riser crest.

<sup>3</sup> Or provide calculations to show peak flow from 25 yr./24 hr. storm for area (A) is routed through the basin.

<sup>4</sup> Provide supporting computations.

<sup>5</sup> If grass lining is proposed, spillway should be constructed in original ground unless a suitable TRM lining is used. Wherever a TRM is used, riprap should be placed at the bottom of the embankment to prevent scour.

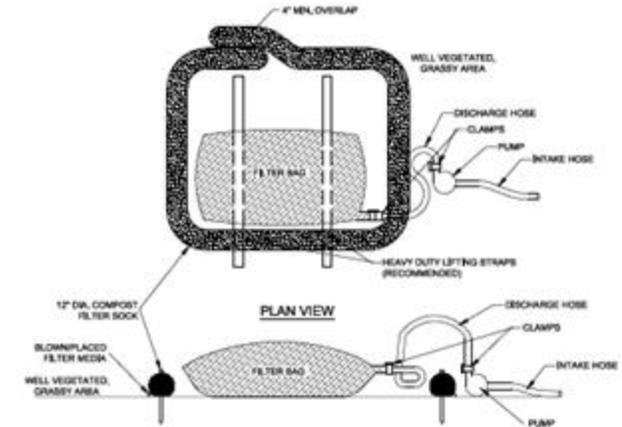
<sup>6</sup> If no, and basin is permanent or drainage area is more than 10% larger than pre-construction, provide supporting calculations to show accelerated erosion will not result from the proposed discharge. For discharges increasing volume or rate of flow onto a neighboring property prior to entering a surface water, an easement should be obtained prior to plan submittal.

# Dewatering

Standard/Non-ABACT: Pumped water filter bag

vs ABACT:

- Staked compost sock ring surrounding PWFB
- Portable sediment tank (sediment & oils) - Aqualete WTS2000 (tow-behind unit)



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

PROPERTY	TEST METHOD	MINIMUM STANDARD
AVG. WIDE WIDTH STRENGTH	ASTM D4833	80 LB/M
GRAB TENSILE	ASTM D4833	200 LB
PUNCTURE	ASTM D4833	110 LB
WALLEN BURST	ASTM D3798	300 PSI
UV RESISTANCE	ASTM D4398	70%
ACID % RETAINED	ASTM D4751	80 SEIVE

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

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

NO DOWN-SLOPE SEDIMENT BARRIER IS REQUIRED FOR MOST INSTALLATIONS. COMPOST BERM OR COMPOST FILTER SOCK SHALL BE INSTALLED BELOW BAGS LOCATED IN HQ OR EV WATERSHEDS, WITHIN 30 FEET OF ANY RECEIVING SURFACE WATER OR WHERE GRASSY AREA IS NOT AVAILABLE.

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

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

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

07	PUMPED WATER FILTER BAG
C401	

# Stabilization

Standard/Non-ABACT: Immediately when at grade and after a cessation of activity of at least 4 days

vs ABACT

- Permanent stabilization - immediately upon completion of disturbed areas.
- Temporary stabilization - **immediately** upon temporary cessation of earth disturbance activity

See E&S Manual Chapter 11

FIGURE 11.4  
Straw Mulch Applied at 3 Tons/Acre



PA DEP

Rule of thumb: If you are seeing a lot of bare ground, there is not enough straw.  
(Caution: Too much straw can be as harmful as too little straw.)



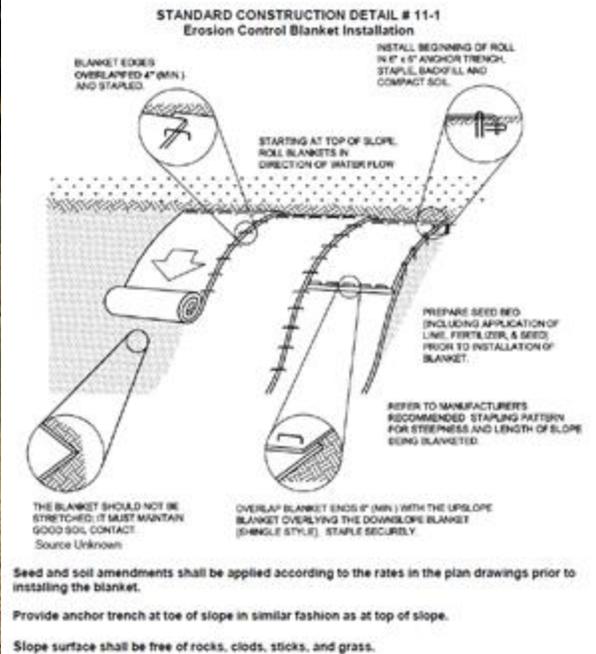
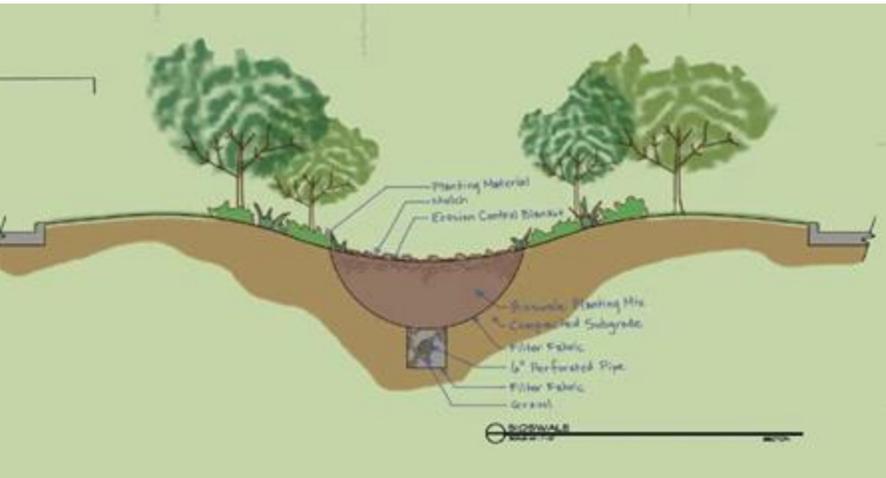
# Stabilization

Standard/Non-ABACT: Blanket disturbed areas within **50 feet** of a receiving surface water and on slopes 3H:1V or steeper

vs ABACT

- Blanket disturbed areas within **100 feet** of a receiving surface water and on slopes 3H:1V or steeper. Detail #11-1
- Use of anionic PAM to stabilize exposed soils having high clay content
- Plant trees along proposed permanent channels

See E&S Manual Chapter 11



# Questions?



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412-241-SOIL