



Dallas Area Municipal Authority
Stormwater Quality Program

December 5th, 2018



Our Mission Statement:

- ▶ “To preserve and enhance the quality of the environment and infrastructure through prompt, cost effective, and courteous delivery of services which protect the health, safety, and welfare of citizens of our communities in the Chesapeake Bay Watershed.”

MS4 - What is it?

- ▶ Municipal Separate Storm Sewer System
- ▶ According to the US EPA, an MS4 is a conveyance or system of conveyances that is:
 - owned by a state, city, town, village, or other public entity that discharges to waters of the U.S.,
 - designed or used to collect or convey stormwater (e.g., storm drains, pipes, ditches),
 - not a combined sewer, and
 - not part of a sewage treatment plant, or publicly owned treatment works (POTW).
- ▶ Permit under the National Pollution Discharge Elimination System (NPDES)

MS4 - Why?

- ▶ Chesapeake Bay Foundation vs. US EPA
 - CBF sued the EPA
 - EPA instituted TMDL on states in Chesapeake Bay watershed (December 29th, 2010)
 - PA DEP passed this on to local municipalities

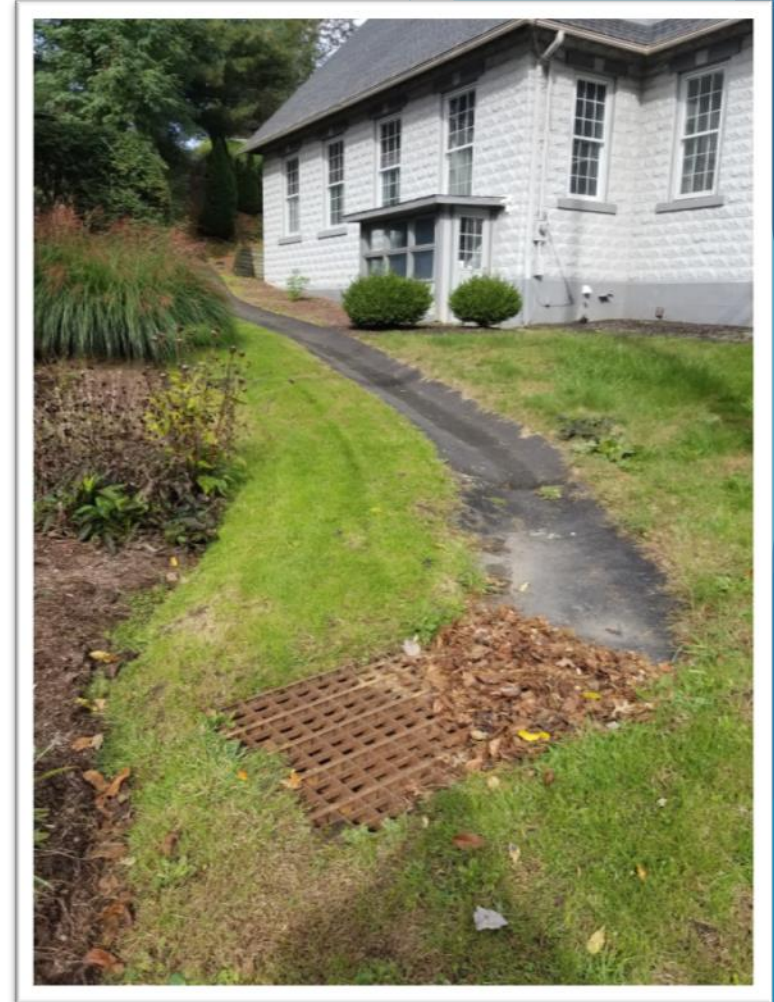
- ▶ It's a requirement!!!
- ▶ Reduce nutrients (Nitrogen and Phosphorus)
- ▶ Reduce sediment



Participating Municipalities

- ▶ Dallas Borough
- ▶ Dallas Township
- ▶ Kingston Township

- ▶ Other municipalities chose to partner with WVSA



Minimum Control Measures

- ▶ Public Education
- ▶ Public Involvement
- ▶ Illicit Discharges
- ▶ Construction Stormwater
- ▶ Post-Construction Stormwater
- ▶ Municipal Operations

Public Education and Outreach

- ▶ Develop a public education and outreach program
- ▶ Know who the target audience is
- ▶ Publish educational material
 - newsletter, pamphlet, flyer, website
- ▶ Distribute educational material
 - displays, posters, signs, pamphlets, booklets, brochures, radio, local cable TV, newspaper articles, bill stuffers, presentations, conferences, meetings, fact sheets, giveaways, storm drain stenciling

Public Involvement and Participation

- ▶ Develop a public involvement and participation program
- ▶ Advertise to the public and solicit public input on certain documents:
 - Stormwater management ordinances
 - Standard operating procedures
 - Pollutant reduction plans
- ▶ Regularly solicit public involvement and participation

Illicit Discharge Detection and Elimination

- ▶ Develop written program for detection, elimination, and prevention of illicit discharges
- ▶ Develop and maintain detailed maps
- ▶ Conduct dry weather screening of MS4 outfalls
- ▶ Enforce a stormwater management program that prohibits non-stormwater discharges
- ▶ Provide educational outreach about the program to detect and eliminate illicit discharges

Construction Site Stormwater Runoff Control

- ▶ Enact, implement, and enforce the implementation and maintenance of erosion and sediment control best management practices (BMPs)



Post-Construction Stormwater Management

- ▶ Enact, implement, and enforce post-construction stormwater management from new development and redevelopment projects
- ▶ Encourage and expand the use of low impact development
- ▶ Ensure adequate O&M of all post-construction stormwater management BMPs at development or redevelopment projects

Pollution Prevention and Good Housekeeping

- ▶ Identify and document all operations that are owned by the permittee and have potential for polluting stormwater runoff
- ▶ Develop, implement, and maintain an O&M program that stresses pollution prevention and good housekeeping
- ▶ Develop and implement an employee training program to further the goal of preventing or reducing discharge of pollutants from operations to the MS4

Slide 13 in the original PowerPoint Presentation contained a short video from PA DEP entitled “How to be Stormwater Smart”. The video can be viewed at the following link:

<https://www.dep.pa.gov/business/water/cleanwater/stormwatermanagement/pages/be-stormwater-smart-.aspx>

Phase 1 - Temporary Rate Structure Stormwater Authority Program

- ▶ Formed a Technical Advisory Committee (TAC) (internal decision making committee)
 - DAMA staff
 - Municipal staff
 - Engineering, public works, finance
 - GIS, Customer Service, Billing
 - DAMA Board member
 - Consultant Team
- ▶ Collected Data For Project
 - Luzerne County Property Tax Database
 - GIS and parcel information
 - Existing sewer / refuse billing system database
 - Financial & budget information
 - Database to be used for billing the new stormwater fee



Temporary Rate Structure Program (continued)

- ▶ **Developed Stormwater Business Plan**
 - (mission statement, goal statements identifying stormwater levels of service)
- ▶ **Determined Temporary Rate Structure**
 - TAC evaluated 3 temporary rate structures
 - TAC selected the number of sewer or refuse units in the service area to base temporary stormwater rate
- ▶ **Performed Rate Study Analysis (based on sewer/refuse units)**

Temporary Rate Structure Program (continued)

- ▶ Developed Temporary Rate Structure billing policy papers
 - Policies to guide how to charge rate payers (for 2019 only)
- ▶ Created temporary stormwater rate structure billing system database
- ▶ Developed public education tools for the temporary rate structure program
 - Developed frequently asked questions
 - Created and mailed billing stuffer

Phase 1 - Temporary Rate Structure

- ▶ Stormwater units based on the number of sewer or refuse units each property currently pays
- ▶ \$546,000 estimated expenses
- ▶ \$546,000 estimated revenue
- ▶ Based on \$15.00 per sewer or refuse unit per quarter

Phase 2 - Permanent Stormwater Program

- ▶ Developed an Equivalent Residential Unit (ERU)
 - Randomly generated residential parcels to be measured
 - Measured about 400 residential parcels
- ▶ Developed 16 billing policy papers to outline protocol for billing and collecting all land uses
- ▶ Will develop the impervious area rate structure method billing and collection database (slightly different than the temporary rate structure database)
- ▶ Will measure impervious areas for all non-residential parcels in the DAMA service area

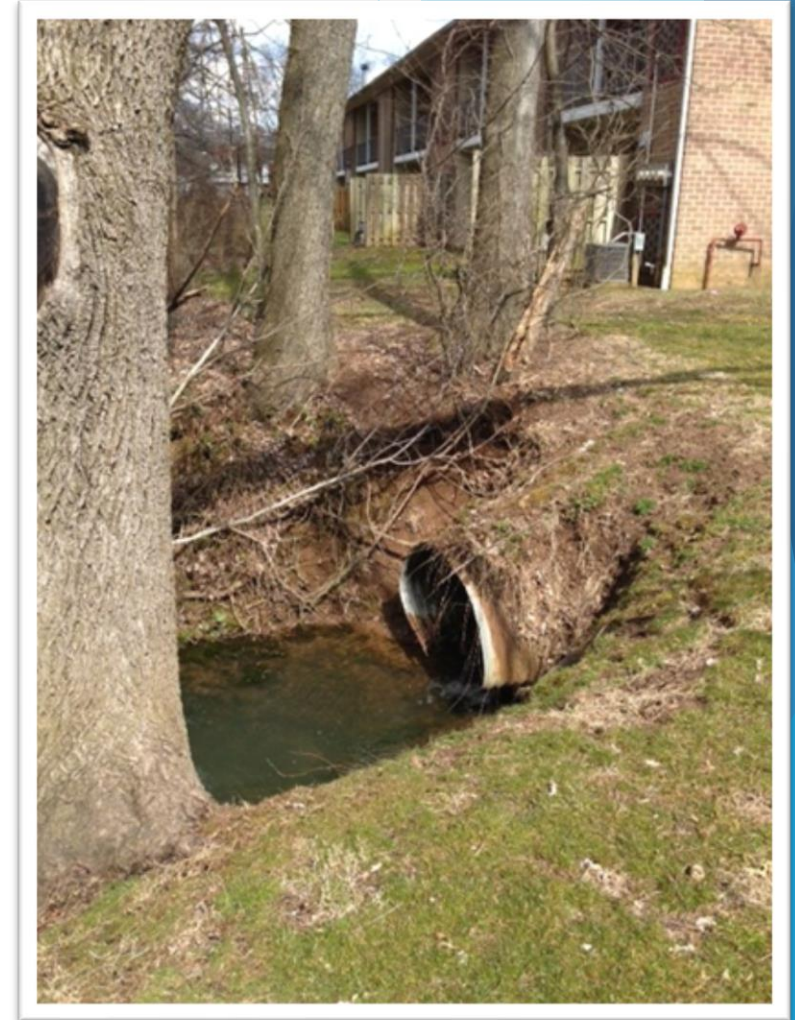
DAMA Equivalent Residential Unit (ERU)

- ▶ Measured impervious area for approximately 400 residential parcels to be statistically accurate at 95% confidence level and 5% confidence interval
- ▶ DAMA - ERU was determined to be 3,700 square feet of impervious area



ERU Impervious Area Based Rate Structure Overview

- ▶ Fee based on “contribution to runoff” that is best determined & calculated by measuring the amount of impervious area from each parcel
- ▶ Vacant and Agricultural (undeveloped, no impervious area) parcels are not assessed for stormwater
- ▶ No exemptions (all properties that contain impervious area will pay the fee)
- ▶ Has withstood legal challenges and deemed legally defensible

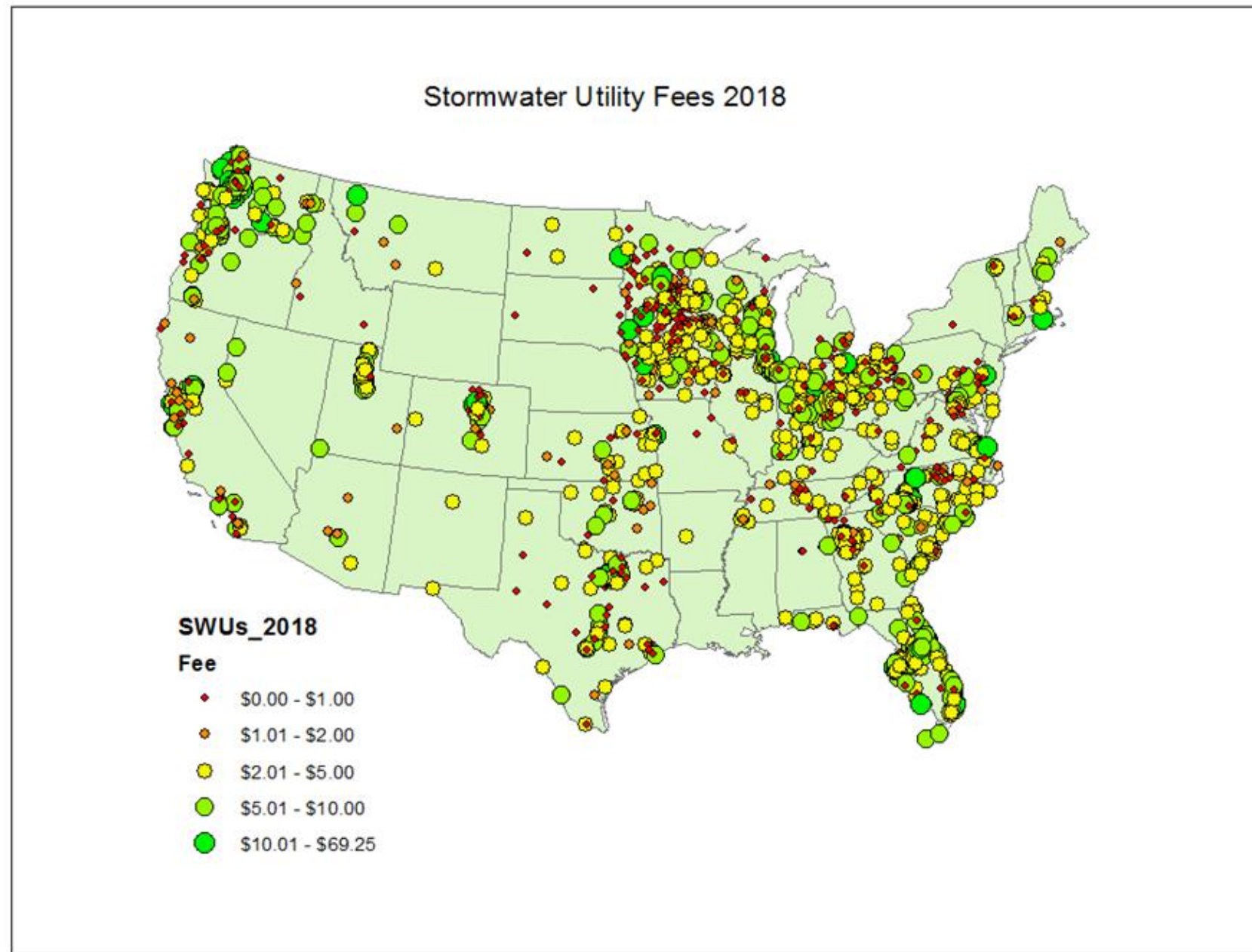


Non-Residential Impervious Area Measurement Example (Church)

- ▶ Impervious Area Measurement:
- ▶ 95,718.43 square feet
- ▶ Assumed ERU Size = 3,700 sq ft
- ▶ $95,718.43 \div 3,700 = 25.86$ ERUs
- ▶ Assumed Rate / ERU / Month = \$5.00
- ▶ Assumed Rate \$5.00 x 26 ERU's (rounded)
- ▶ Monthly Fee = \$130.00 per month
- ▶ Annual Fee = \$1,560.00 per year



Western Kentucky
University Stormwater
Utility Survey 2018



Spatial distribution of monthly stormwater fees

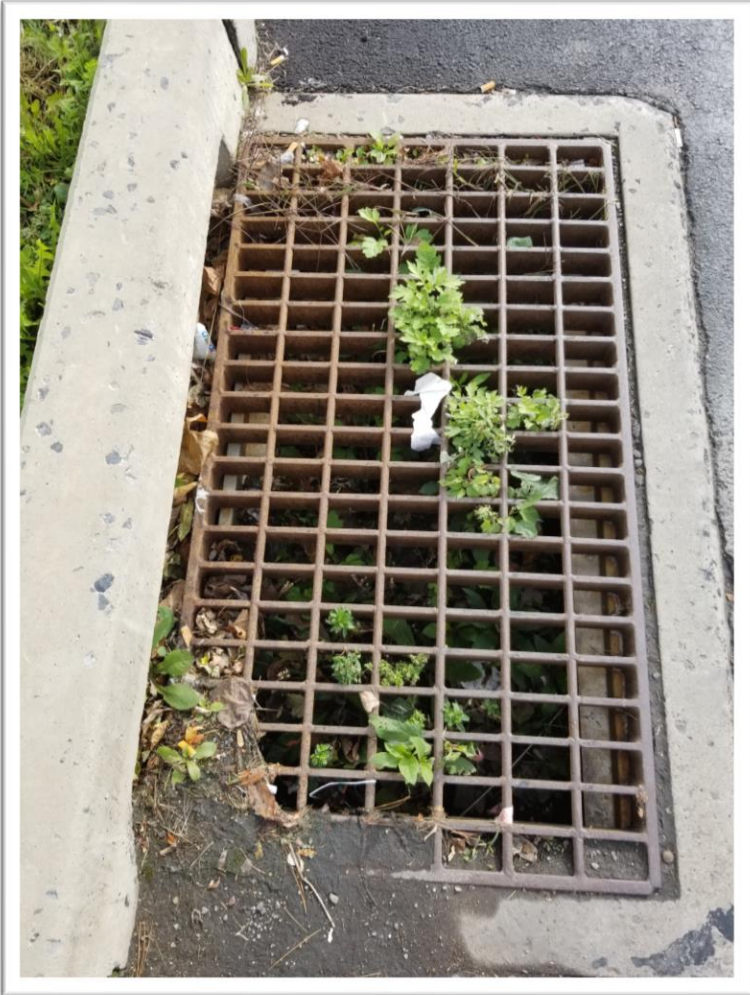
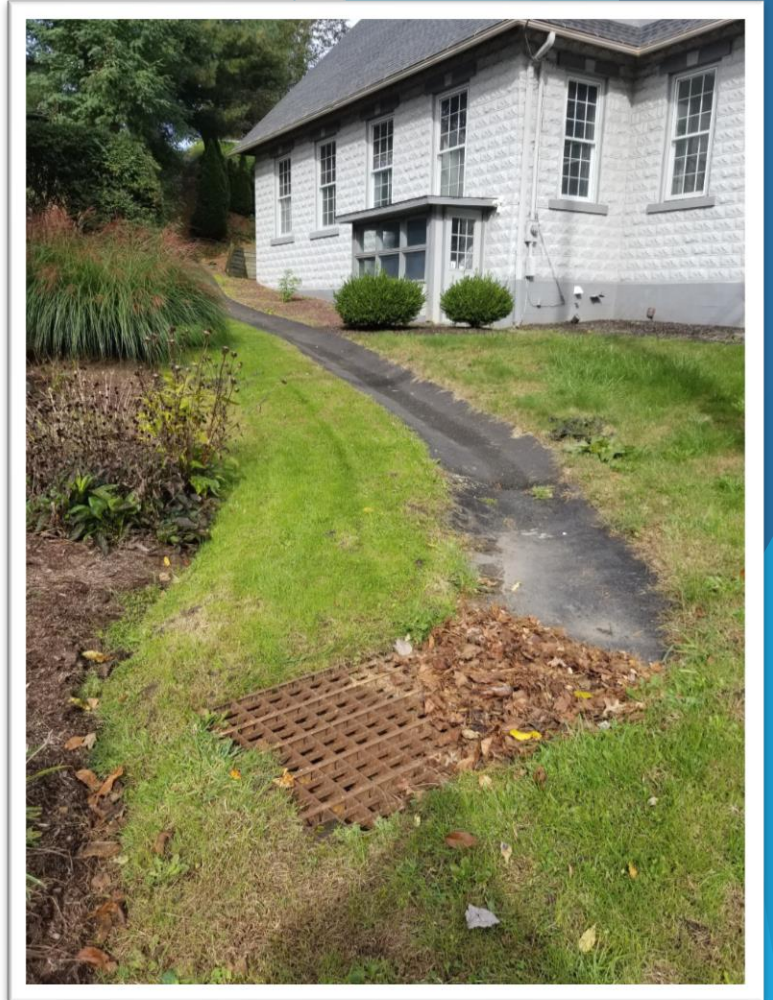
Project Schedule

- ▶ Temporary Rate Structure to begin January 2019 for 1 year only
- ▶ Permanent ERU Impervious Area Based Rate Structure to begin January 2020

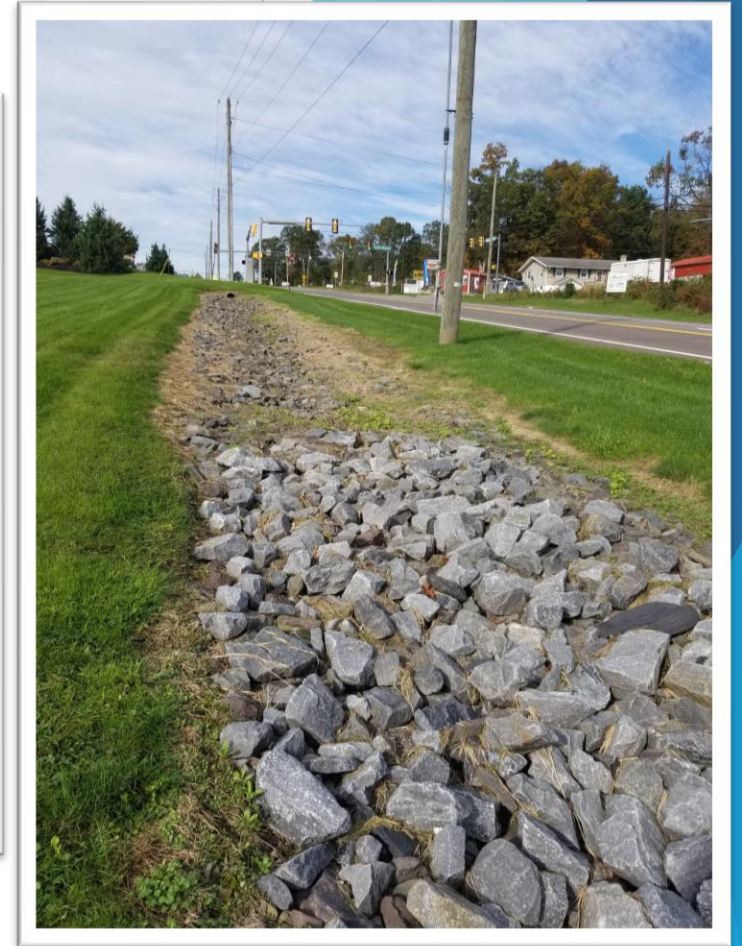
Outfalls



Catch Basins



Swales



Partnerships and Stormwater Advisory Committee

- ▶ Eastern Pennsylvania Coalition for Abandoned Mine Reclamation
- ▶ Luzerne County Conservation District
- ▶ Home-Owners Associations
- ▶ Other stakeholders



Questions & Open Discussion

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