Susquehanna Avenue Wet Pond Lackawanna Avenue Constructed Stormwater Filter



Dallas Borough Luzerne County, PA



Background – PADEP Requirements

 Every 5 years, municipalities acquire a permit to discharge stormwater runoff from the public storm sewers to Waters of the Commonwealth

 Permit conditions require reductions to surface water pollution caused by stormwater runoff

 To achieve these requirements, Dallas Borough, Dallas Township, and Kingston Township are working in cooperation



Background

 DAMA has taken on the task of fulfilling federally mandated stormwater quality goals

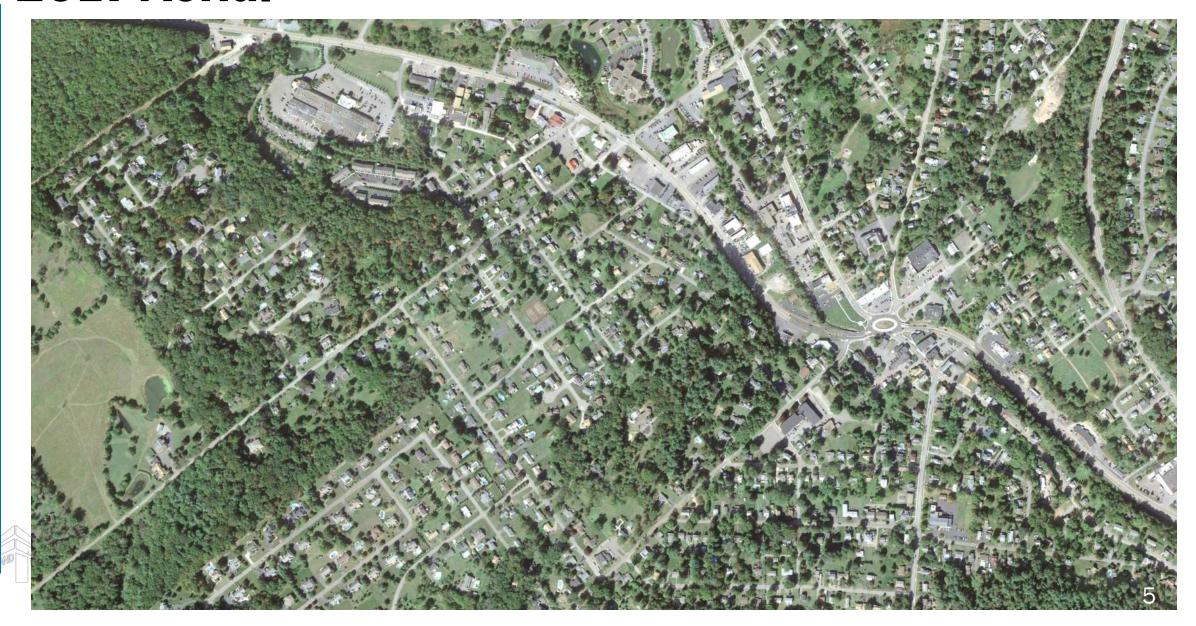
 DAMA's mission for stormwater is to preserve and enhance the quality of the environment and infrastructure through prompt, cost effective, and courteous delivery of services which protect the health, safety, and welfare of citizens of our communities in the Chesapeake Bay watershed



1959 Aerial



Aerial



2017 Aerial

Susquehanna Ave.





Lackawanna Ave.



Susquehanna Ave. – Wet Pond

- Existing site is maintained as lawn
- Saturated soil conditions are observed at the site
- Test pits were completed to evaluate subsurface conditions
- High groundwater and no viable infiltration was observed
- Site conditions are favorable for a wet pond



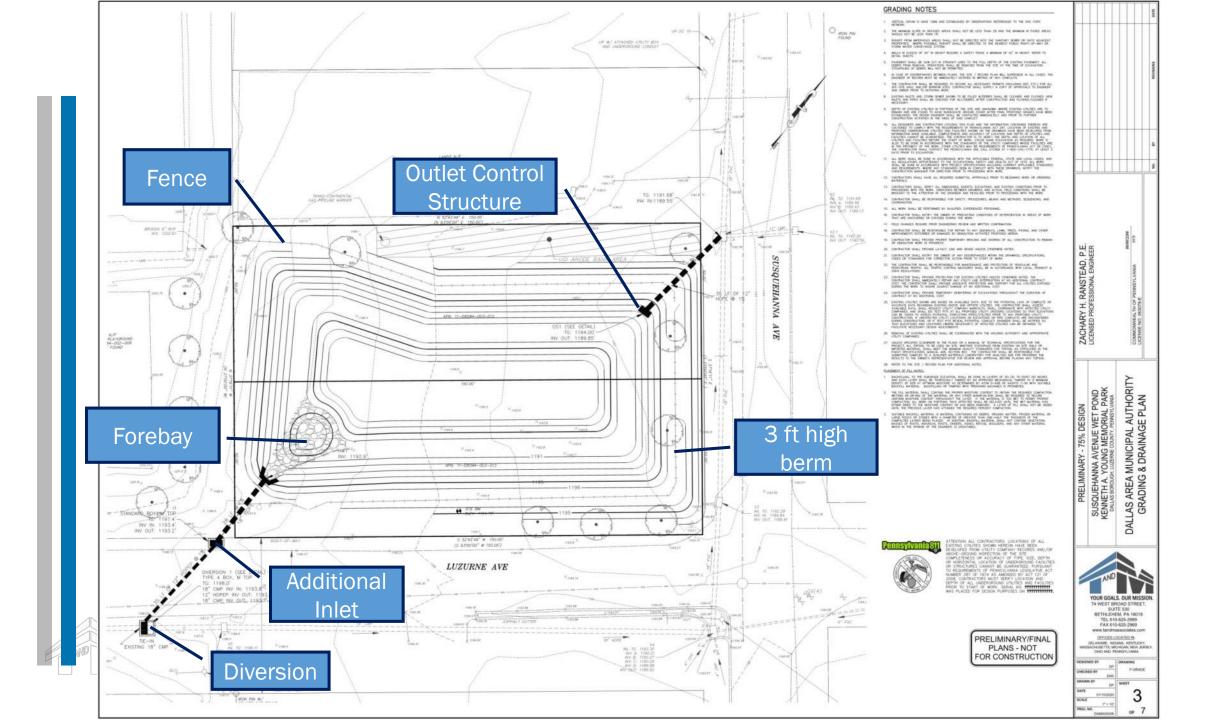


Susquehanna Ave. – Wet Pond

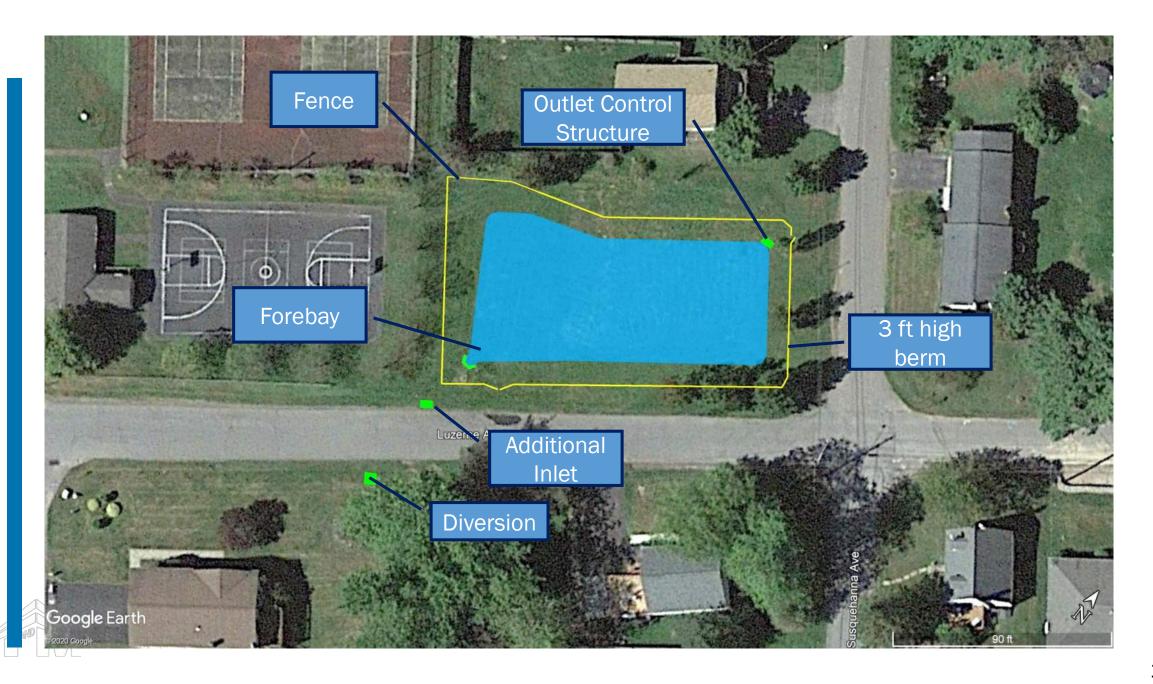
- Permanent pool of water addresses water quality requirements
- Additional temporary storage capacity addresses peak rate requirements
- Aesthetic and wildlife benefits
- Maintenance & Inspection:
 - Remove trash and debris as needed
 - During first growing season, inspect vegetation every couple weeks until established
- AND

Inspect pond 4 times per year and perform maintenance as needed









Susquehanna Ave. – Wet Pond – Examples





Lackawanna Ave. - Constructed Filter

- Existing site is maintained as lawn
- Site has been used to store excess fill and road materials
- A berm keeps runoff on site and directs it to an existing inlet
- Test pits showed evidence of fill materials and viable infiltration





Lackawanna Ave. - Constructed Filter

Depression with filter media addresses water quality requirements

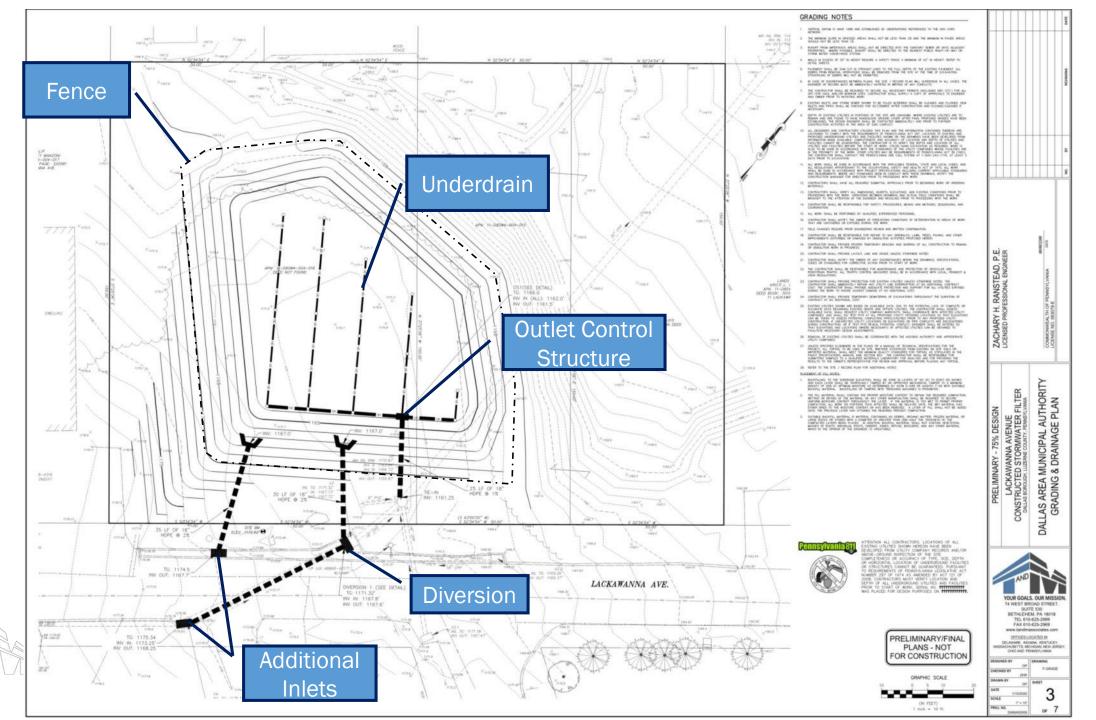
Underdrain captures the filtered water and returns it to

conveyance system

Maintenance & Inspection:

- Inspect filter 4 times per year
- During first growing season, inspect vegetation every couple weeks until established
- Remove trash and debris as necessary
- Remove silt and till the filter area









Lackawanna Ave. - Constructed Filter - Examples



Underdrain

Common Concerns

Maintenance

- DAMA is responsible for all maintenance of both facilities in perpetuity
- DAMA has dedicated funds to ensure proper operation and maintenance
- Wet ponds require little maintenance once established
- Naturalized vegetation should only be mowed periodically for weed control



Common Concerns

Pests

- Creation of healthy habitat to attract natural mosquito predators
- Constructed filters have drawdown time of less than 72 hours
- Constant inflow and connection to groundwater discourages mosquito breeding in wet ponds
- Maintenance and management practices can be changed or implemented to address pest and invasive species concerns

Did You Know? ... Healthy Wetlands Devour Mosquitoes

do not support the beneficial animals that

feed on mosquitoes. Most any kind of wet

area or standing water makes a good

breeding site for mosquitoes: old tires,

cans, and other containers that collect

rainfall; even hollow logs that hold water,

and low spots in the ground where water



Contrary to popular belief, healthy, functioning wetlands can actually reduce mosquito populations.

But Everybody Says ...

Mosquito control programs commonly recommend that wetlands be drained in Healthy Wetlands Versus Wet find them in the typical areas where mos-

quitoes thrive--small spots of open, stand-Areas and Standing Water ing water and other wet areas where mos-A healthy wetland provides habitat for quitoes can become thick as fog. many unique animals including natural enemies of mosquitoes. These natural Reduce Mosquito Populations predators keep the mosquito population Restore A Wetland! low. Mosquitoes become a problem, how ever, in areas that have standing water, yet

Wetland restoration decreases mosquito populations in two ways: by providing proper habitat for the natural enemies of mosquitoes, and by preventing or reducing flooding (in areas that aren't normally wet and thus support mosquitoes but not their predators). When the Essex County Mosquito Control Project restored a 1,500

Conclusion

 DAMA has taken on the task of fulfilling federally mandated stormwater quality goals

 Construction of a wet pond and a constructed stormwater filter are two of many projects needed to meet the stormwater quality requirements

DAMA is responsible for all operation and maintenance needs



Questions?

THANK YOU!

