



# Stormwater Utilities - Considerations and Best Practices

**Using Stormwater Utilities to Address Water Quality and Flooding**

**A Public Hearing sponsored by**

**The New Jersey Clean Water Council**

**Tony Dill, PE, Arcadis**

**October 25, 2019**

# Stormwater Utilities. Why do we need them?

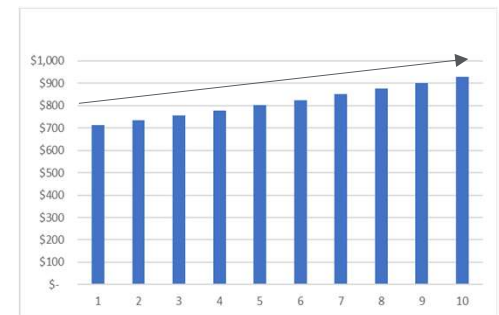


- Aging infrastructure
- Increasing regulatory/LTCP/MS4 permit requirements (e.g. pollutant reduction plans)
- Increased flooding issues
- Recognition of stormwater as a true utility like water, power, etc.



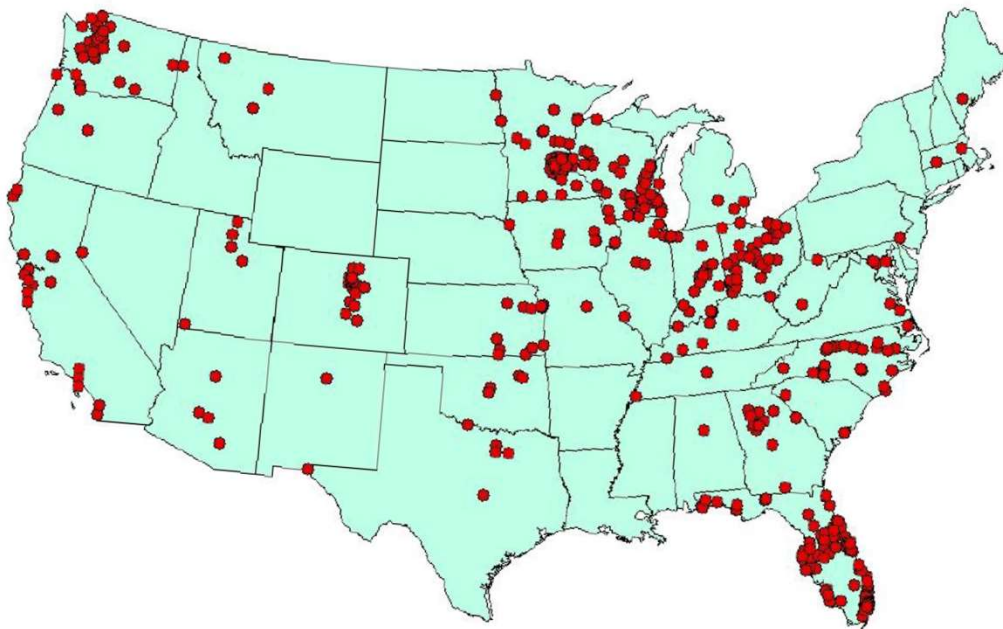
## Benefits of Stormwater Fees

- Avoid raising taxes
- Dedicated funding source for stormwater management
- Stable revenue allows for long-term planning and financing
- More equitable allocation of costs
  - Higher property value does not mean more stormwater runoff
  - Tax exempt properties contribute stormwater runoff
- Incentive for BMP maintenance and retrofits





## Stormwater Utilities Nationwide (2008)

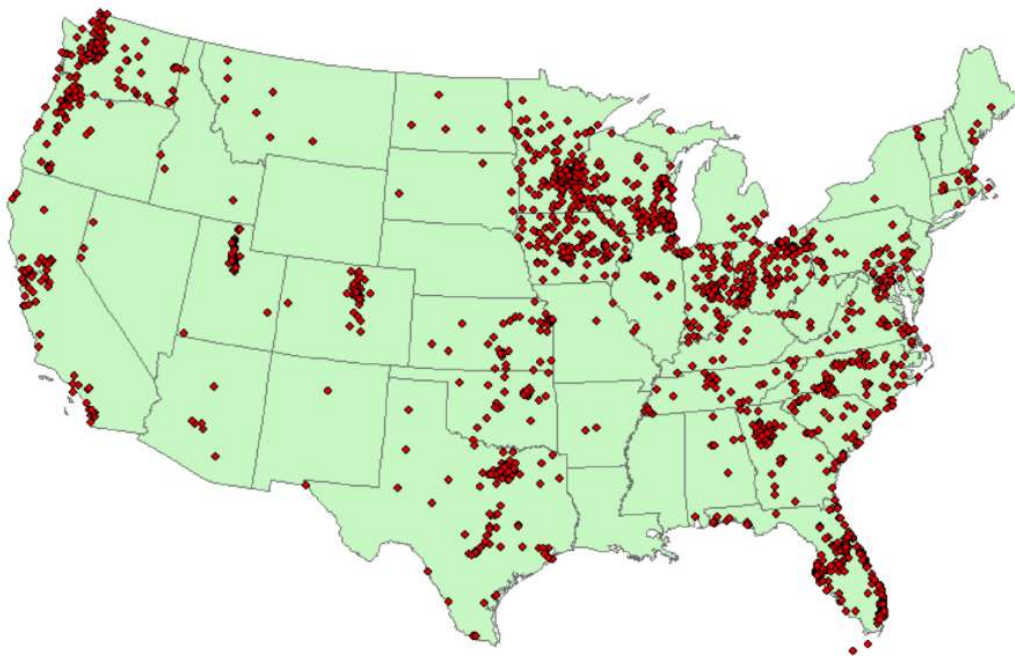


In 2008, 923 Stormwater  
Utilities Nationwide (0 in NJ)

Image from the Western  
Kentucky 2008 SWU Survey

# Stormwater Utilities Nationwide (2019)

Stormwater Utilities 2019

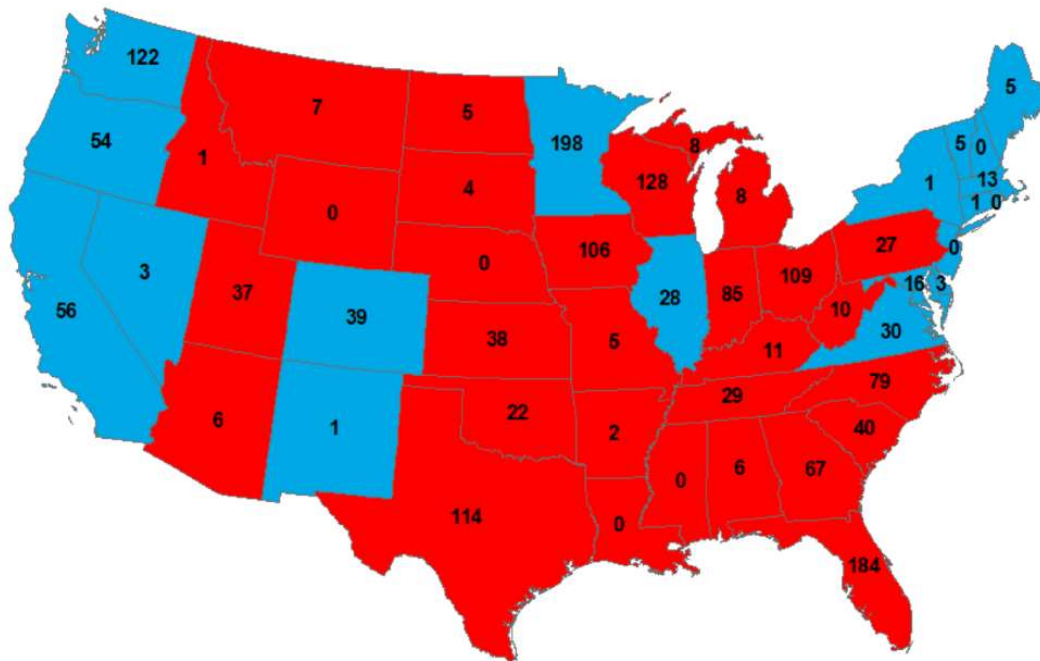


In 2019, 1,716 Stormwater Utilities Nationwide (0 in NJ). SFR Fees range from \$0-\$540/yr.

Image from the Western  
Kentucky 2019 SWU Survey

# Stormwater Utilities Nationwide (2019)

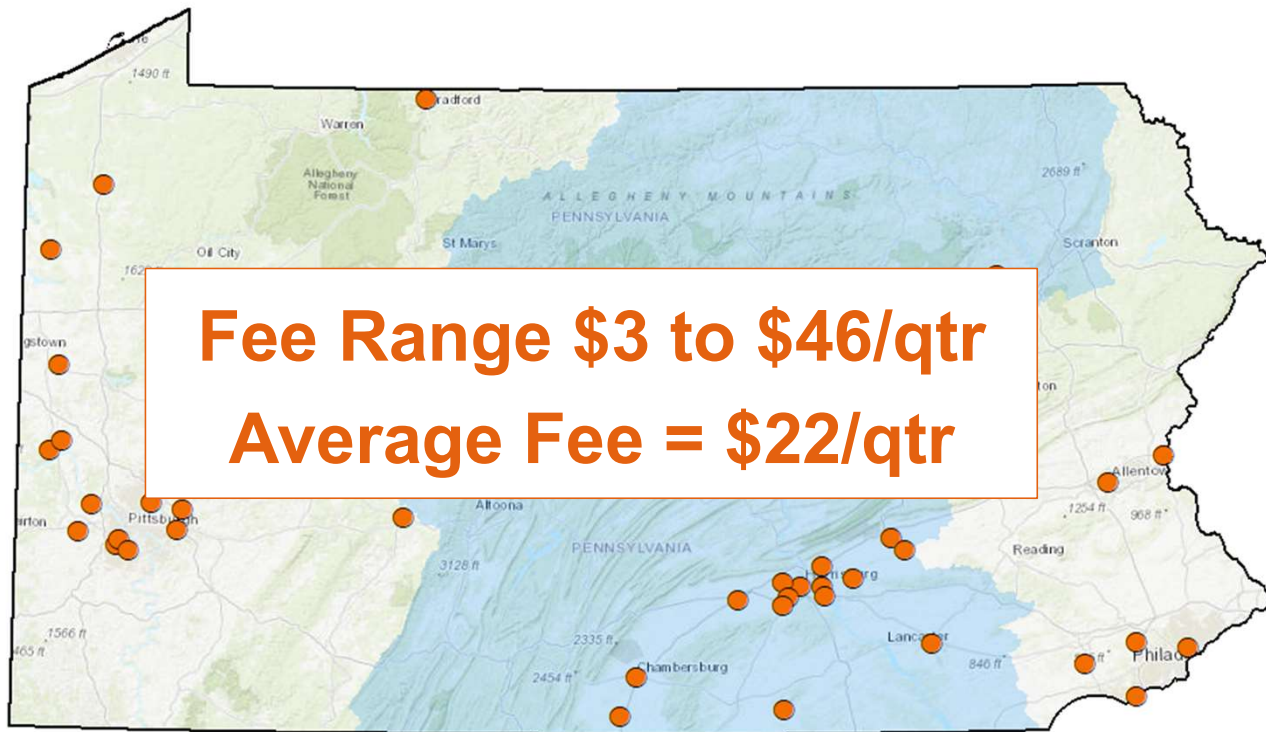
Stormwater Utility Numbers by State and 2016 Election



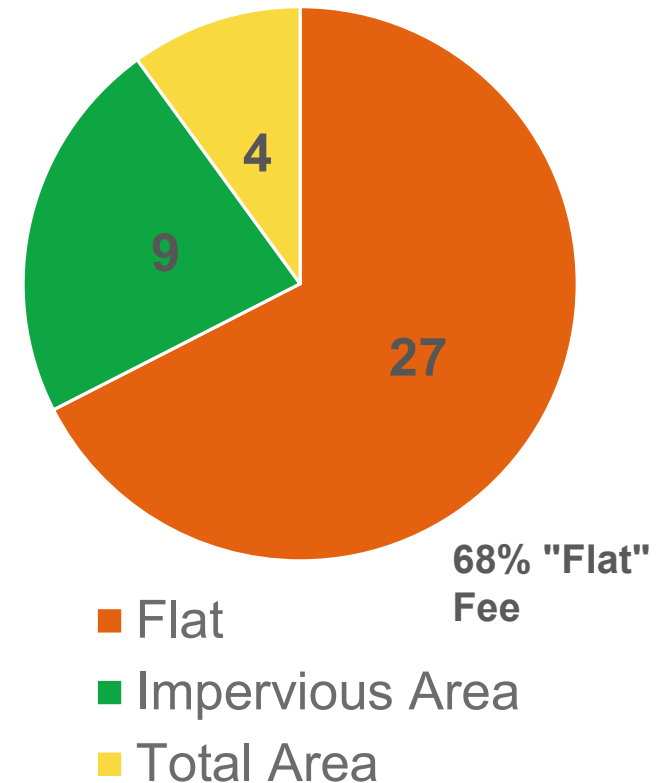
“...not governed by politics.”

Image and quote from the  
Western Kentucky 2019 SWU  
Survey

# Residential Stormwater Utility Charges for PA Municipalities



**40 Utilities**



# Potential Scope of a Stormwater Utility ARCADIS Design & Consultancy for natural and built assets

- Administrative
  - MS4 Permit administration/reporting
  - Stormwater fee billing and collections
  - Review of credit applications and appeals
  - Public education and outreach
- O&M
  - Stormwater system inspections and repairs
  - Outfall inspections/illicit connection inspections
  - Inspection of private BMPs
  - Review and inspection of construction site stormwater controls
  - Stormwater system utility markouts
  - Street sweeping
  - Leaf collection
- Capital
  - MS4 pollutant reduction projects
  - CSO long-term control plan projects
  - Projects to reduce flooding
  - System expansion

*The scope of the program needs to be tailored to the needs of the community.*





# Key/Unique Features of NJ Enabling Legislation

“In establishing fees and other charges pursuant to this section, a county, municipality, or authority shall provide for:

(1) a partial fee reduction in the form of a credit for **any** property that maintains and operates a stormwater management system that complies with the State and local stormwater management standards that were in place at the time the system was approved and that effectively reduces, retains, or treats stormwater onsite;

...

(4) an exemption from fees and other charges for land actively devoted to agricultural or horticultural use that is valued, assessed, and taxed pursuant to the “Farmland Assessment Act of 1964,” P.L.1964, c.48 (C.54:4-23.1 et seq.).”

“...shall remit to the State Treasurer annually an amount equal to five percent of all such fees and charges collected, or \$50,000, whichever amount is less. The State Treasurer shall deposit these moneys into the “Clean Stormwater and Flood Reduction Fund”

“To the extent there is available surplus revenue ... an amount not to exceed five percent of the annual costs of operation of the utility may be transferred annually... and included in the local budget...”

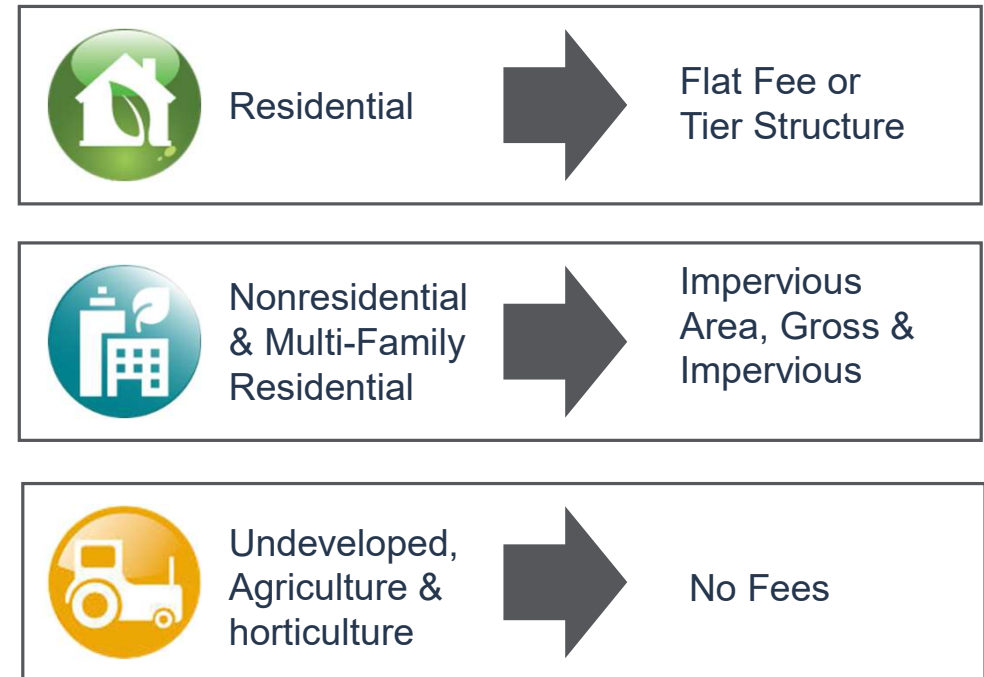
# Typical Rate Structures

## NJ Enabling Legislation

- Fees shall be “...based on a fair and equitable approximation of the proportionate contribution of stormwater runoff...”

## Keep it simple

- Accurate, fair, and defensible
- Representative of local conditions



**Balance Precision vs Simplicity**

# Common Residential Rate Structures

## Flat (all SFRs pay same fee)

- Simplest to explain
- Easy to administer
- Consistency with trash/sewer billing
- Few appeals anticipated
- Small properties pay same as large properties

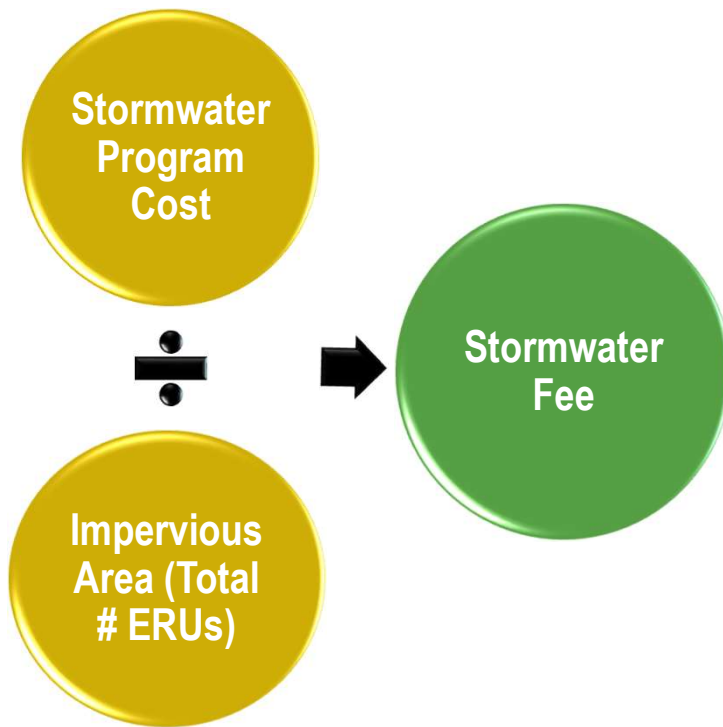


## Tiered on Parcel Size

- Correlation between parcel size and impervious area
- More equitable
- More complicated to explain
- Potential for appeals (lot size discrepancies)
- Can impact # ERUs (+/-)



# NRMF Rate Structure Typically Based on *Impervious Surface Area*



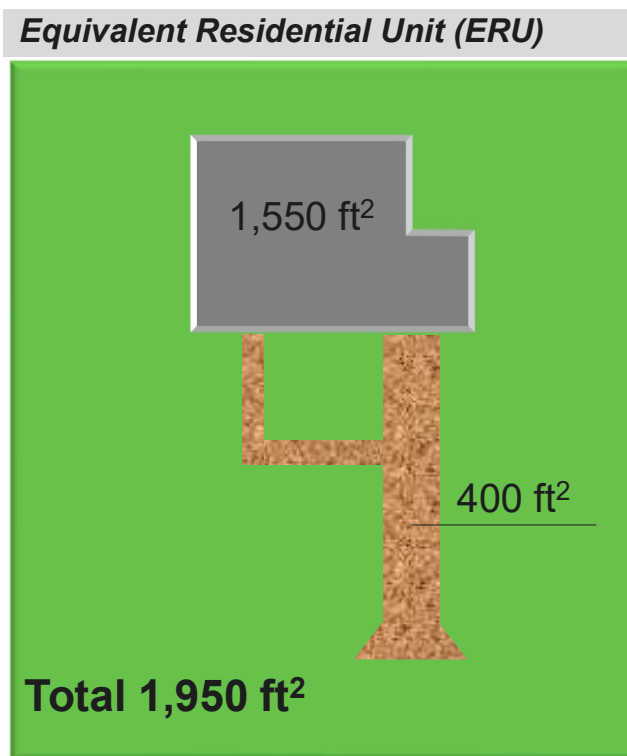
© Arcadis 2018

ERU = Equivalent Residential Unit

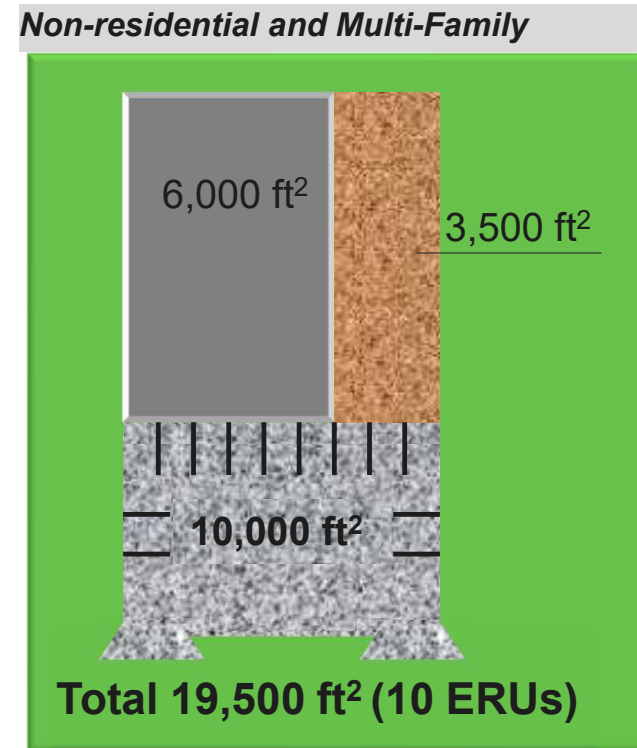




# Impervious Area



Typical Single Family Detached (Base Unit)

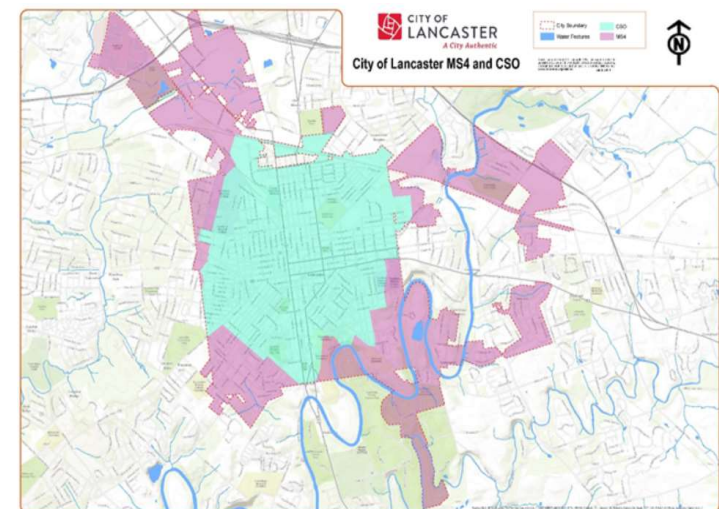


Billed as Multiples of the Base Unit



# What About Combined Sewer Areas?

- Why might it be ok to charge the same stormwater fees in combined and separate sewer areas?
- Funding of MS4 PRP and CSO projects allowed.
- Revenue supports community-wide stormwater management (e.g. flood control, street sweeping, etc.)
- Revenue can be transferred to the sewer fund for conveying and treating the stormwater.
- Wastewater rates could be set to exclude stormwater related costs.
- Lancaster and Philadelphia are examples.



# Enabling Legislation Requires Credits

- Types of credits may include:
  - Storage (e.g. ponds)
  - Infiltration practices (e.g. rain gardens, porous pavement)
  - Other Vegetative practices (e.g. riparian buffers, wetlands)
- Possibly allowed
  - Education Programs (for schools)
  - Fertilizer Management Programs
  - NPDES or MS4 Permit Holders
  - Innovation
- Maximum credit for a property is typically capped



# Credit Policy

- Promotes fee equity (accounts for varying levels of onsite stormwater management)
- Promotes proper maintenance of BMPs
- Promotes voluntary retrofits on older parcels (coupled with grant program)
- Philadelphia & Lancaster





# Lancaster's Grant Program

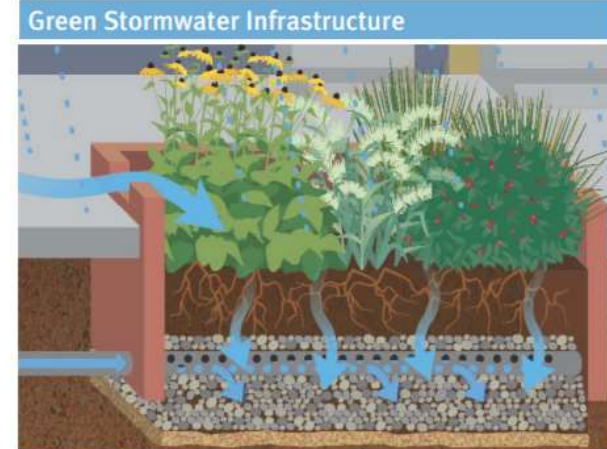
- Pennvest money used for grants to incorporate green infrastructure into projects
- City pays 100% of design and 90% of construction. City does the contracting
- Property owner pays 10% construction cost
- 40-year O&M agreement required (O&M by property owner); City provides training
- Properties can apply for stormwater fee credit
- 12 Projects completed



Grant funded porous asphalt and bioretention rain garden in Church parking lot.

# PWD Private Property Program

- Combined system with green infrastructure program as part of its long-term CSO control plan.
- Stormwater Fee Credit Program and Grant Program to incentivize BMPs on private property (at lower cost than public BMPs).
  - Approved 1,200 credit applications (up to 80 to 90% credit).
  - Approved 184 grants, typically covering 100% of costs.
  - Very effective: Incentivized voluntary projects comprise more than 1/3 of CSO long-term control plan projects.



# Challenges to SW Utility Fees

Challenges to SW Fees	Mitigation
"It's an illegal tax!"	<ul style="list-style-type: none"><li>• Design fee structure in accordance with Enabling Legislation – “based on a fair and equitable approximation of the proportionate contribution of stormwater runoff”. (links fee to use of the system)</li></ul>

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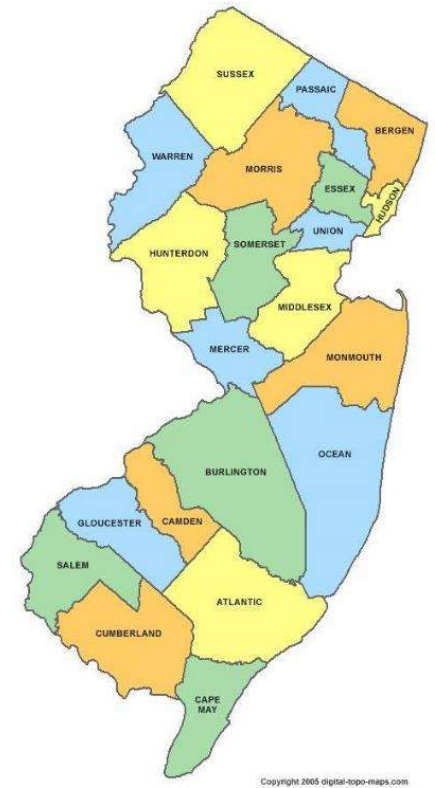
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Push-back from elected officials due to complaints	<ul style="list-style-type: none"><li>• Engage elected officials throughout the process so they are informed and prepared to respond to complaints.</li></ul>

# Considerations of Regional Stormwater Utilities

- Pollutant reduction plans can be implemented regionally with cost savings.
- Overhead functions (e.g. Utility Director, MS4 administration) spread over a larger base, resulting in cost savings
- Facilitates regional flood solutions
- Municipalities must agree on scope of services to be provided at regional level



## Questions?

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