City of Rehoboth Beach Stormwater Utility Task Force April 5, 2022 Meeting

Today's Presentation

- Summary of City's Stormwater Related Expenditures
- Options for Funding
- Overview of Stormwater Utilities
- Task Force Meeting Topics

Rain is natural….

Stormwater is manmade….

Unmanaged Stormwater

- Overtaxes built drainage infrastructure
- Causes drainage problems and flooding
- Damages public and private property
- Erodes streambanks and pollutes waterways
- Increases water treatment costs

What is Stormwater?

- Water originating from rain and / or snow events
  - Soaks into ground ~ becomes groundwater
  - Evapotranspirates ~ becomes atmospheric
  - Stays on surface ~ becomes runoff
- A concern for two main issues
  - Water quantity
  - Water quality
  - Separate but related
- Also a commodity
  - Finite resource becoming more and more scarce
  - Arid region practices coming our way (harvesting, reuse, etc.)

Stormwater Quantity and Quality

- Stormwater quantity
  - Rate and volume
  - Detention basins and conveyances common means to address
  - Concerns that future will bring more severe storms
- Stormwater quality
  - Composition and concentrations
  - Multi-faceted approaches needed
  - Best Management Practices or BMPs
  - NPDES MS4 permitting program

Common Pollutants

- Bacteria
- Nutrients / nitrogen and phosphorous
- Siltation / suspended solids
- Organics / low dissolved oxygen (D.O.)
- Pesticides
- Pathogens
- Polychlorinated biphenyl (PCBs)

Municipal Separate Storm Sewer System (MS4)





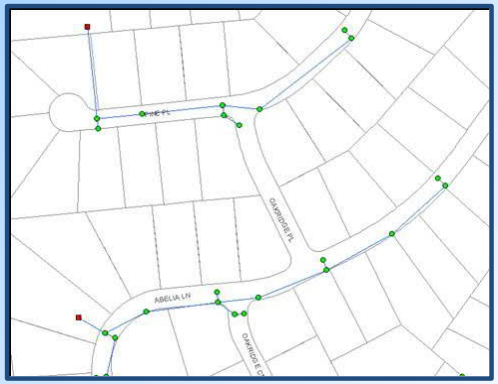


CITY OF REHOBOTH BEACH DELAWARE

AECOM

BMP – Best Management Practices Structural

BMP – Best Management Practice Programmatic



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AECOM

NPDES Permit Requirements

- Implementation of Six Minimum Controls
  - Public Education and Outreach
  - Public Involvement and Participation
  - Illicit Discharge Detection and Elimination (IDD&E)
  - Stormwater Management During Construction
  - Post Construction Stormwater Management
  - Good Housekeeping
- Preparation of SWPP&MP
  - Stormwater Pollution Prevention and Management Plan

City's Stormwater Expenditures

- 33 employees – between 5% and 25% on stormwater
  - Routine maintenance of inlets and pipes
  - Street sweeping
  - Inlet and outfall cleaning
  - Sediment removal from stormwater quality controls
- 30 vehicles or pieces of equipment
  - Street sweepers
  - Vacuum trucks
  - Beach rakes and trash wagons

City's Stormwater Expenditures

- Contracts
  - Storm inlet major repairs
  - Stormwater Sampling
  - Outfall inspections and repairs
  - GIS updates

City's Stormwater Expenditures

- Future Services
  - Public outreach and education
  - Storm sewer system inventory and inspection update
  - Dry weather screening
  - BMP inspections
  - Employee training
  - Miss Utility markouts
  - Storm pipe repairs (from vidoes)
  - Water quality BMPs - various locations

City's Stormwater Expenditures

- Capital Projects
  - Storm Sewer Assessment and Repairs
  - Storm Sewer Cleaning - Reho/Wilm/Balt Avenues
  - Stormwater Basin #40 Design/Construction (Kent/Cookman/Sussex)
  - Baltimore and Wilmington Avenue Streetscape
  - Bayard Ave Stormwater Improvements
  - Comprehensive Stormwater Management Plan
  - Lakes Management Plan
  - Stormwater Utility Feasibility Study

Options for Funding

- Pay-as-you-go
  - Little or no interest expenses / reserves debt capacity for other purposes
  - Problematic for large capital expenses / “lumpiness” and magnitude
- Debt
  - Can undertake more or bigger projects / financial stability
  - Interest expenses / encumbers future budgets / prudence needed
- Capitalization recovery fees / development impact fees
  - Precedents exist in multiple categories / generally considered fair
  - Difficult to apply in an already built out area

Options for Funding

- Grants and loans
  - Provides third party funds at reduced (match) or zero (no match) basis
  - Competitive process / unreliable funding stream
- Clean Water State Revolving Funds
  - Low interest rates / significant funds now or soon available
  - Competitive process / most funds earmarked for water and sewer work
- Community based public-private partnerships (CBP3s)
  - Market-based solutions / reduces municipality's expenses
  - Limited record in stormwater applications / loss of control

Options for Funding

- Fee-based Programs
  - Provides SAFE (stable, adequate, flexible, equitable) funding
  - Recognizes growing stormwater needs
  - Separates stormwater from competing municipal expenses

  - Potential opposition from residents and / or businesses
  - Possible complaints of excessive spending (if not revenue-neutral)
  - Can be burdensome for municipality to implement and manage

  - Stormwater fee ~ not a tax
  - Rational nexus needed

Typical Utility Rate Structures

- Water and Wastewater
  - Total flows divided into total costs to establish rates
  - Individual flows metered – bills assessed on gallon basis
- Electricity
  - Total wattage divided into total costs to establish rates
  - Individual usage metered – bills assessed on wattage basis
- Stormwater
  - Cannot be metered – need different approach
  - Assess fees using a proxy – impervious area

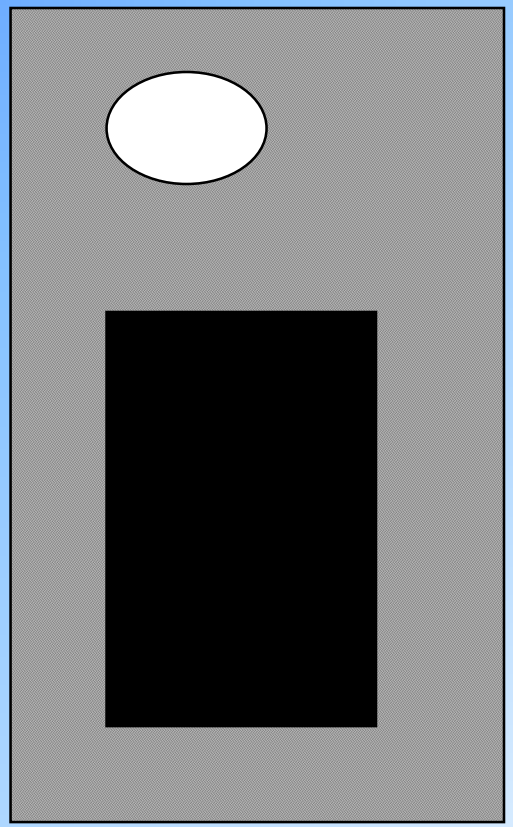
Stormwater Utility Basics

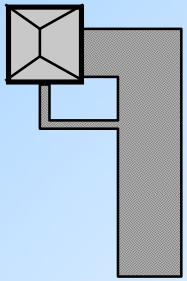
- Primary Foundation
  - Direct correlation exists between imperviousness and impact
- Equitable and Legally Defendable
  - Property owner's fee proportional to impact on system
- Not Administratively Burdensome
  - Time consuming to assess and invoice
  - Ranges often used for single-family lots (typically majority of total parcels)
  - Square footage basis more often used for other land uses (typically majority of total impervious area)

Stormwater Utility Basics

- Impervious area basis – ERU basis
  - Tiering of residential parcels / individualizing of non-residential
- Impervious area basis – SWBU basis
  - Assesses residential and residential on equal basis
- Development intensity / runoff factor – IDF basis
  - Lot area times calculated or assumed imperviousness
- Other / Hybrid Approaches
  - No two situations are identical

Stormwater Utility – ERU Basis



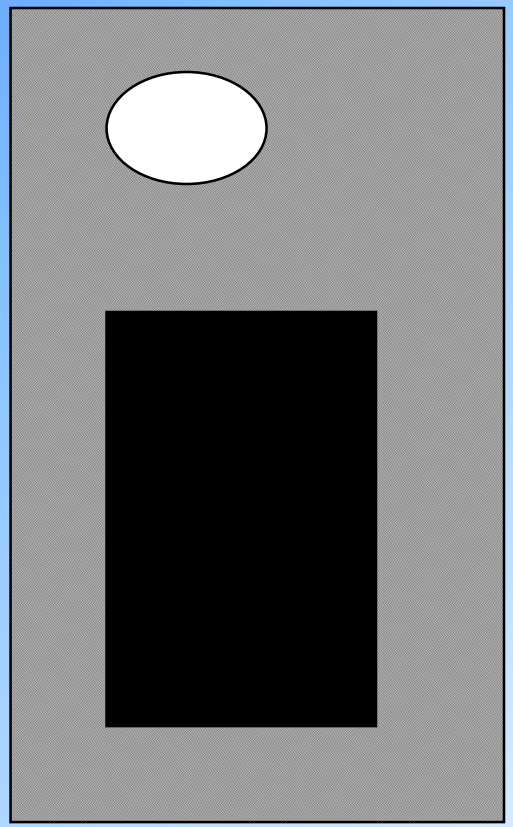


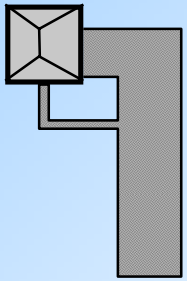
= 1 ERU

(Equivalent Runoff Unit)
Say 3,000 square feet

= 10 ERUs for Commercial

Stormwater Utility – SWBU Basis



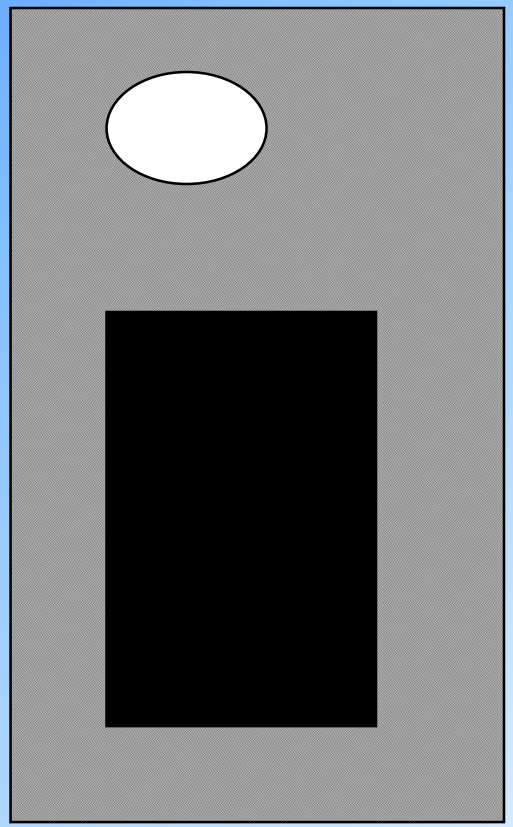


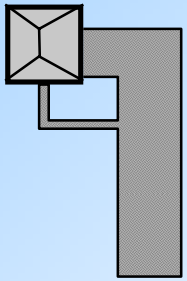
= 12 SWBUs

(Stormwater Billing Unit)
Say 250 square feet

= 120 SWBUs for Commercial

Stormwater Utility – IDF Basis



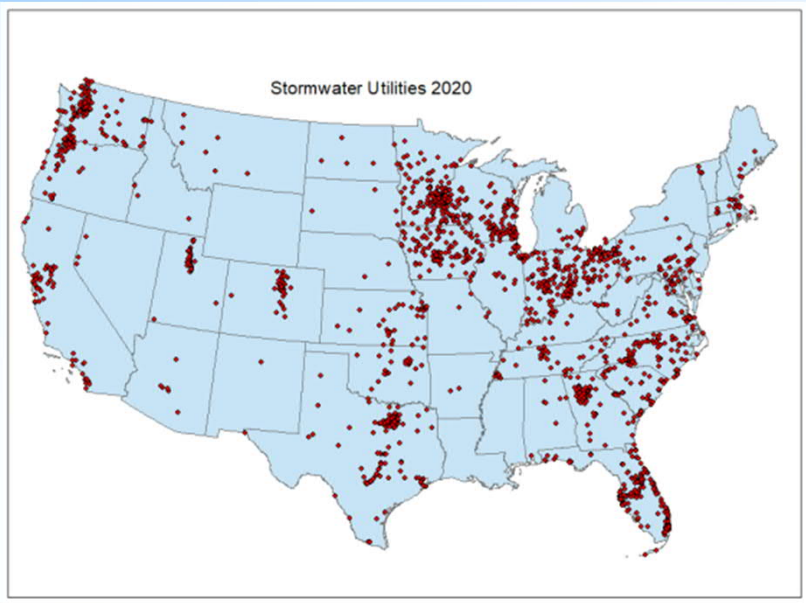


Lot area = 10,000 sq. ft.
Runoff factor = 0.5
Product = 5,000

Lot area = 60,000 sq. ft.
Runoff factor = 0.9
Product = 54,000
Commercial

Nationwide Use of Utilities

- Approximately 1,800 exist in U.S. and Canada
  - 41 states have at least one
  - 6 states have 100 or more (Minnesota has 204)
  - Average and median populations are 66,150 and 18,200 (smallest 88)



Source: 2020 Stormwater Utility Survey – Western Kentucky University

Stormwater Utilities in Delaware

- Stormwater Utility Activities in Delaware
  - Wilmington, Lewes BPW, and Newark in place (2006, 2010, 2018)
  - Dover currently investigating
  - New Castle County initiated but did not complete
- Utilities were recommended by Governor Minner's Task Force in 2006 as funding vehicle for a comprehensive approach to drainage

Stormwater Utilities in Delaware

- Wilmington
  - Single-family residential lots – $4.95 to $21.78 a month
  - Non-residential rates vary depending on impervious area
  - Basis is costs to maintain combined (storm and sanitary) system
- Lewes BPW
  - Residential lots – $5.00 a month
  - Commercial – $10.00 a month
  - Industrial – $20.00 a month
- Newark
  - Single-family residential lots – $2.12 to $6.37 a month
  - Non-residential rates vary depending on impervious area

Task Force Meetings

- Today – general introduction
- May – review of model / demonstration of fee assessment
- June – variables / mixed-use parcels / credits and exemptions / rights-of-way
- July – expenditures / preliminary rates
- August – continued discussion / resolution of any differences in opinions
- September – development of recommendations to the Mayor and Commissioners

Discussion


Avenue
TO
STATE
BEACH
Welcome to
REHOBOTH BEACH
"THE NATION'S SUMMER CAPITAL"