Stormwater Authority Success Stories

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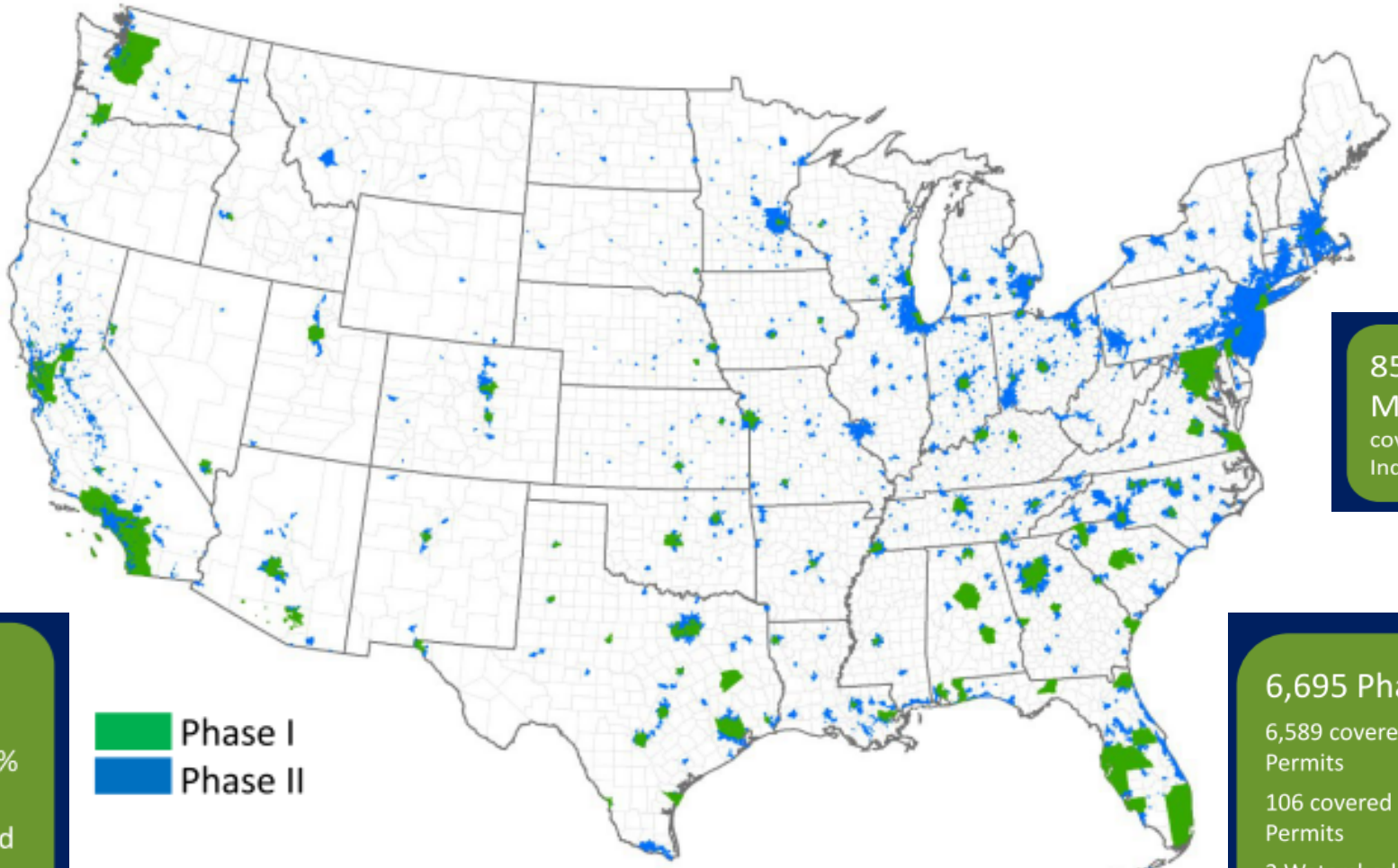
CONNECTICUT
Association of Flood Managers

Weston & Sampson℠

Stormwater Management is Evolving

- Regulatory Compliance
- Cross-Department Coordination
- Water Resource Protection
- Local Permitting Board Approvals
- Aging Infrastructure – O&M Needs
- Facility Upgrades Required Due to Increased Frequency of Extreme Storm Events

Regulated MS4s Nationwide



855 Phase I MS4s
covered by 250 Individual Permits

Regulated MS4 area represents 4% of the U.S. land area and > 80% of the population

6,695 Phase II MS4s

6,589 covered by 54 General Permits

106 covered by 100 Individual Permits

3 Watershed Permits cover 3 Phase I and 40 Phase II MS4s

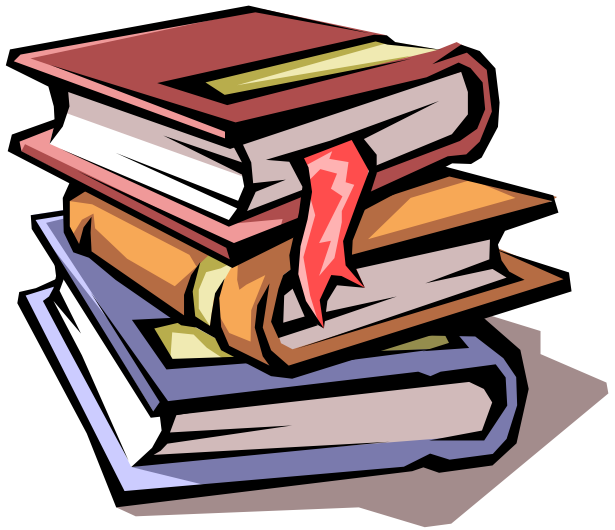
Source: EPA

Who is Regulated in New England?

State	Traditional MS4s
Connecticut	121
Maine	30
Massachusetts	260
New Hampshire	61
Rhode Island	34
Vermont	13

MS4 Permit Compliance

- Greater accountability
- More stringent, designated timeframes for BMP implementation
- Documentation in writing
- Increased reporting
- Extensive watershed-based requirements
- More requirements = More $$



MS4 PERMIT COMPLIANCE

- **36 requirements** in 2003
- **200+ requirements** in 2016
- Failure to meet these requirements could result in **fines for non-compliance**
- EPA MS4 audits ongoing

Cost Implications for MS4 Communities

Primary Cost Variables

- Size of MS4
- Location of MS4
- Amount of Urbanized Area
- Prior Accomplishments
- Watershed Based Requirements

Watershed Based Requirements

- Additional Requirements for Impaired Waters with & without approved TMDLs
  - ✓ Phosphorus
  - ✓ Nitrogen
  - ✓ Bacteria
  - ✓ Chloride
  - ✓ Metals
  - ✓ Solids
  - ✓ Oil/Grease

- 303d List – New Impairments

Watershed Based Requirements

- What's Required?
  - TMDL/Impaired Waters
    - Phosphorus
      - Phosphorus Control Plan or PSIR
      - Implement Structural & Non-Structural BMPs to Meet TMDL Waste Load Allocations
      - Funding Source Assessment
    - Nitrogen
    - Bacteria/Chloride/Metals/Solids/Oil & Grease
- Cost Variables:
  - Dependent on Impairment, Classification on 303d List & Watershed Area

Estimated Costs for PCP Implementation

Overall Required P Load Reduction = 1,550 lbs/yr

Current Estimated Phosphorus Load Reduction			
P Reduction from Existing Structural BMPs (lbs/yr)	P Reduction from Non-Structural BMPs (lbs/yr)	P Reduction from Land Use Conversion (lbs/yr)	**Total Current Phosphorus Load Reduction (lbs/yr)**
96.4	46.3	1.3	**144**

Future Required P Load Reduction (w/ Current Credit) = 1,406 lbs/yr

Additional Expected P Reduction Credit = 86 lbs/yr

Required P Load Reduction from New Structural BMPs = 1,320 lbs/yr

Estimated Costs for PCP Implementation

Estimated Range of PCP Implementation Costs for Structural Controls		
Estimated Cost per Pound of P Removed	Total Cost for PCP Implementation	Annual Cost for PCP Implementation
$25,000 – Low Estimate	$33,000,000	$2,750,000
$48,000 – Medium Estimate	$63,360,000	$5,280,000
$71,000 – High Estimate	$93,720,000	$6,248,000

Big Picture Focus

MS4 Permit is the Driver

What about other Municipal Stormwater Needs?

Competing Stormwater Needs

- Flooding Concerns / Increased Frequency of Extreme Storm Events
- Failing Drainage Infrastructure
- Drainage System O&M / Streams

Seek Funding

Stormwater Funding Mechanisms:

So How Do We Pay For All This?

Stormwater Funding Options

Future Options

- Increase Taxes/ Use a Larger % of General Fund
- Loans and Bonds
- Private Public Partnerships
- Grants
- Stormwater Enterprise Fund

Ideal Financing Mechanism

- Reliable
- Predictable
- Does Not Impact other Departments
- Fair & Equitable

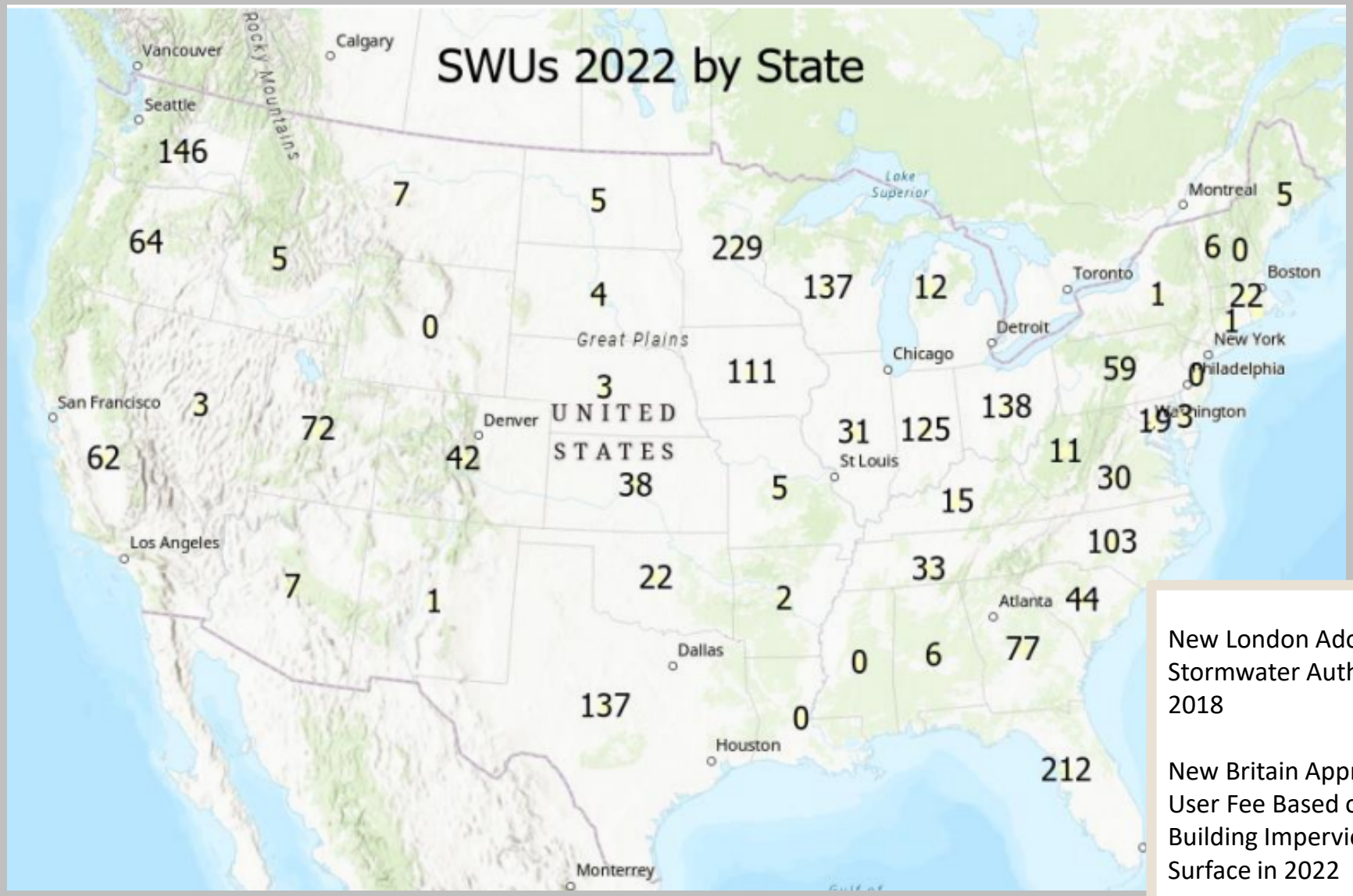
Stormwater Utilities

What is a Stormwater Utility (SWU)?

"A Stormwater Utility, operating much like an electric or water utility, may collect fees related to the control and treatment of stormwater that can be used to fund a municipal stormwater management program."

- U.S. EPA, Funding Stormwater Programs, April 2009

Stormwater Utilities Nationwide



Source: Western Kentucky Stormwater Utility Survey 2021

New London Adopted a Stormwater Authority in 2018

New Britain Approved a User Fee Based on Building Impervious Surface in 2022

Connecticut Stormwater Utilities

MASSACHUSETTS STORMWATER ENTERPRISE FUNDS

- Ashland
- Ayer
- Belchertown
- Bellingham
- Braintree
- Brockton
- Canton
- Chelmsford
- Chicopee
- Dracut
- E. Longmeadow
- Fall River
- Gloucester
- Longmeadow
- Millbury
- Millis
- Milton
- Newton
- Northampton
- Pepperell
- Reading
- Shrewsbury
- Tewksbury
- Westfield
- Westford

*Many more are exploring the feasibility of adopting a stormwater enterprise fund.

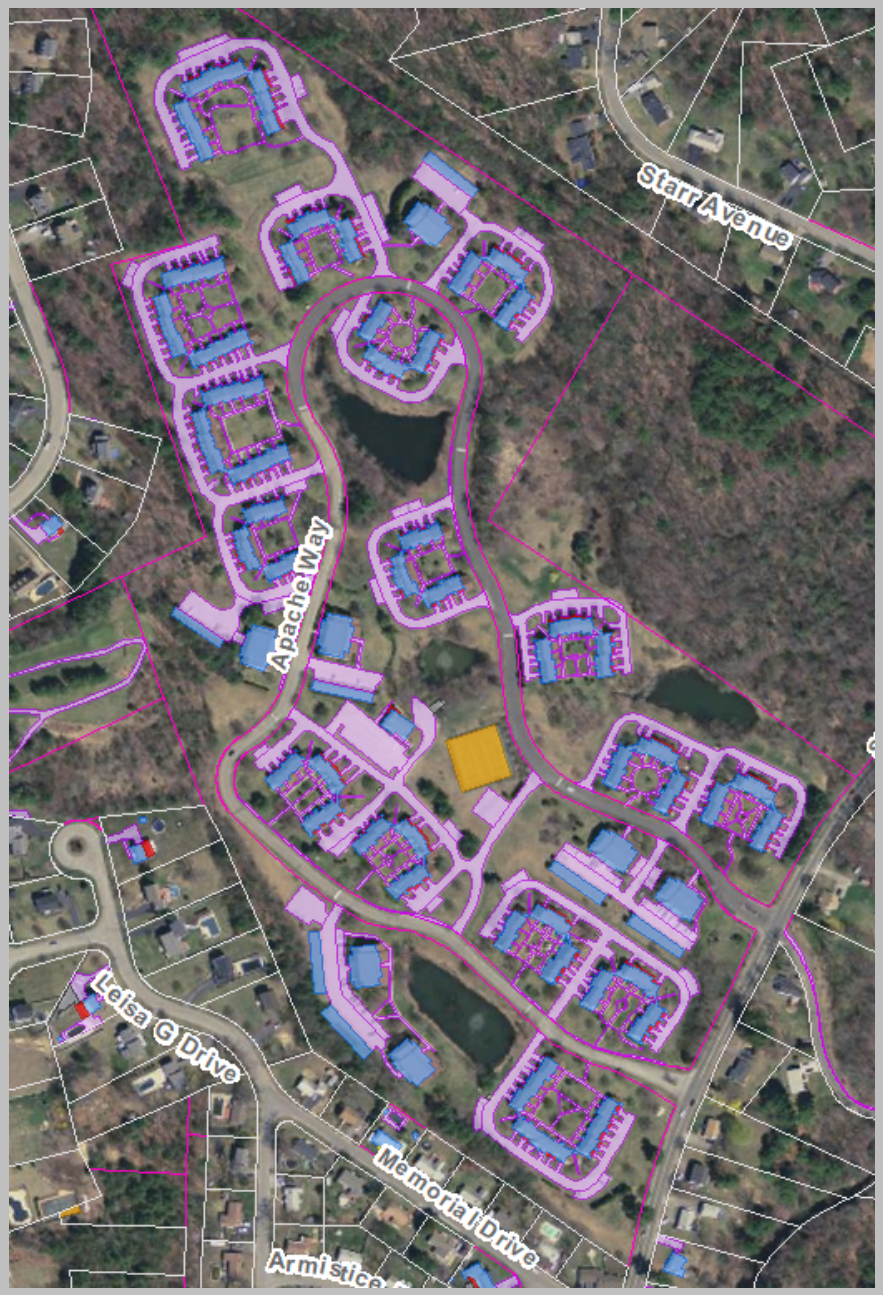
STEPS TO SETUP A STORMWATER ENTERPRISE FUND

1. Establish a solid stormwater public education & outreach program / Engage the public
2. Determine existing & future stormwater budget needs
3. Delineate parcel impervious surface area by land use type & impervious surface type
4. Assess rate structure options and fees
5. Meet with stakeholders to review findings, assess feasibility, and determine best way to move forward
6. Continue to engage the public
7. Pass enabling legislation

Stormwater Utility Fee Systems

- Commonly an Area Based Method
  - Calculate on Impervious Area
  - Establish a Common Unit: An Equivalent Residential Unit (ERU) is the amount of impervious area in a typical single family residential property.
  - Groups (or Tiers) of Billing Rates
    - Small, Medium or Large Residential
    - Commercial/Industrial Scale
- Simple Set Fee System
  - Annual or Quarterly Fee (Residential v. Commercial/Industrial)
- Rates Based on Actual Costs for SW Management

Impervious Surface Delineation



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Impervious Surface Delineations/ Fee Structure Considerations

- Sample Size to Calculate ERU
- Tiered Vs. Flat for Small Residential Parcel
- Condominium Complexes
- Non-Profits
- Municipal Parcels
- Parking Lot with no Building / No Water & Sewer Bill
- Completely Vacant Parcels
- Compacted Gravel Parking Areas
- Tracking Changes in IA – Simple vs. Complex Fee System

Shrewsbury

MS4 System

- Population: 38,325
- 5,547 Catch Basins
- 680 Outfalls
- 120+ Detention Basins

Stormwater Fee Structure

- Residential Tiers *(1 to 3 Family, 2 Unit Condos)*-
  - 3 Tiers: $90 (91%) , $200 (8%), $325 (1%) – 5,000 SF threshold
- Undeveloped Vacant Parcels
  - $45 Flat Fee (1/2 of Residential Tier 1)
- Other Residential / Non-Residential
  - Tiers ranging from $90 - $7,500
- Revenue Generated: ~$1.9 million annually
- Equipment, Staff, Outside Consultants/Contractor Support/Retaining Earnings
- Keep fees stable for 5 years
- No Credits to Date – O&M Documentation

Chelmsford

MS4 System

- Population: 36,392
- 95 Miles of Drain
- 4,500 Catch Basins
  - 800 MHs
  - 210 Culverts
  - 594 Outfalls
- 50+ Detention Basins

Stormwater Fee Structure

- Single Family
  - $40/year and gradually increased to $60/year
- All Other Properties
  - Tiered Fee System Based on IA ranging from $325 to $14,000/yr
- Revenue Generated: ~1.9 million annually
- Largest Expenditure on Stormwater Division Staff & Equipment
- Stormwater Master Plan – 2020

Tewksbury

MS4 System

- Population: 31,342
- 61 Miles of Drain
- 3,300 Catch Basins
- 530 Outfalls
- 50 Detention Basins

Stormwater Fee Structure

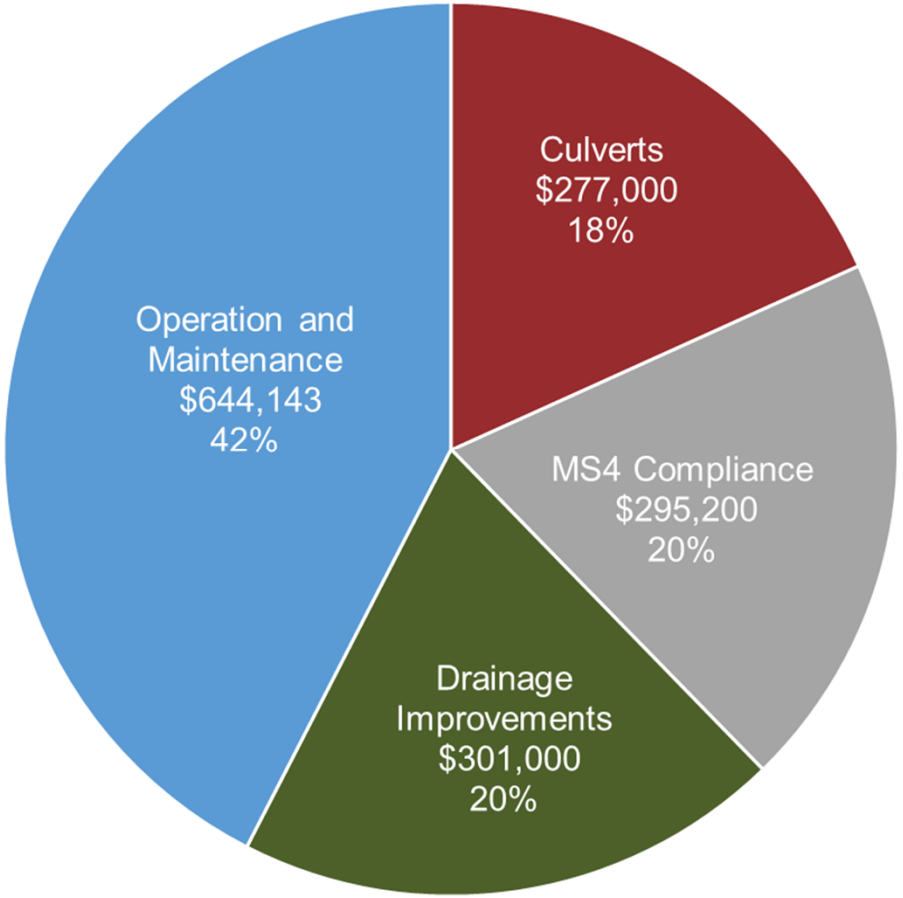
- 1, 2 & 3 families
  - $75/year
- All Other Properties
  - Based on Actual IA
- Revenue Generated: ~1.2 million
- Largest Expenditure on Capital Projects
- No Credits to Date

Tewksbury
Stormwater Budget Projections
2020-2024

Projected Costs	2020	2021	2022	2023	2024
MS4 Permit Compliance	$277,000	$313,000	$248,000	$293,000	$345,000
Culvert Improvements	$215,000	$485,000	$405,000	$280,000	$0
Drainage Improvements	$50,000	$190,000	$100,000	$465,000	$700,000
Operation and Maintenance	$606,250	$624,273	$643,196	$663,066	$683,929
Total	**$1,148,250**	**$1,612,273**	**$1,396,196**	**$1,718,066**	**$1,728,929**

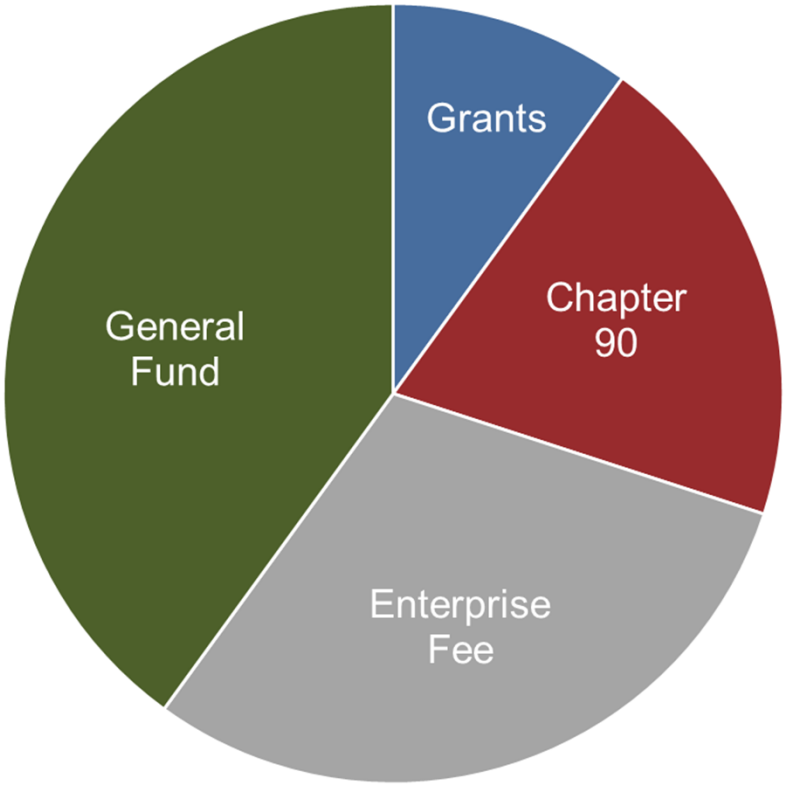
Stormwater in Tewksbury

Average Annual Budgetary Needs= $1.52 million



Stormwater in Tewksbury

$30 fee per household and per ERU



$480,000

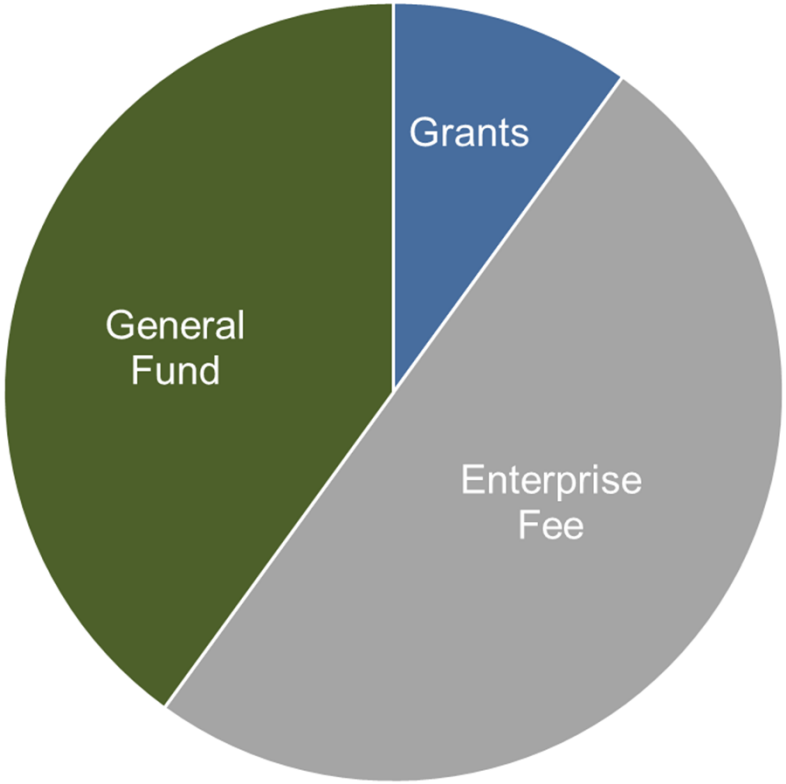
approximate
annual revenue

1/3

of approximate budgetary needs could be covered by the Enterprise Fee

Stormwater in Tewksbury

Set rate at $45 per household and per ERU



$721,305

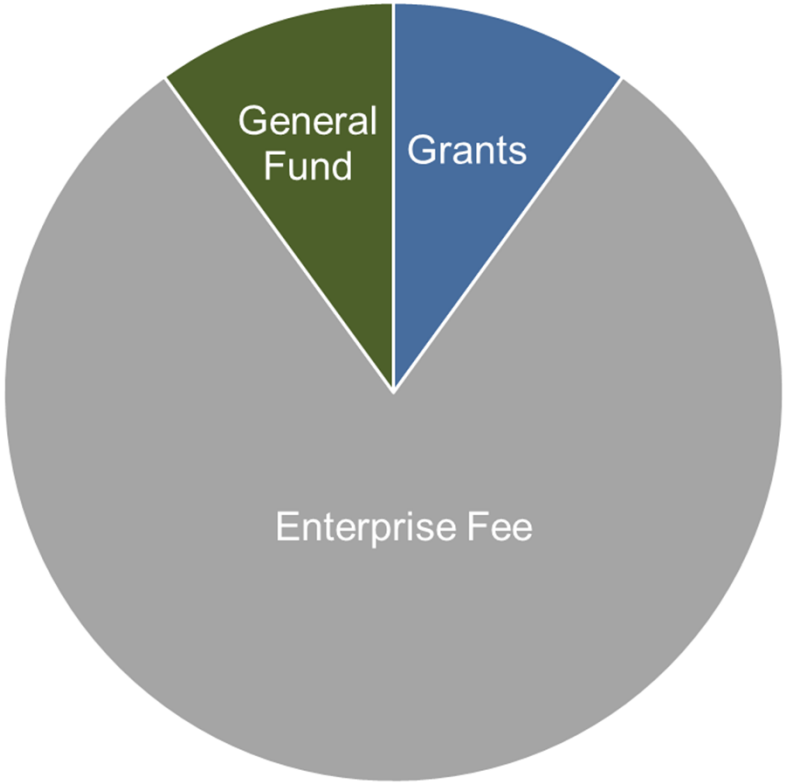
approximate
annual revenue

1/2

of approximate budgetary needs could be covered by the Enterprise Fee

Stormwater in Tewksbury

Set rate at $75 per household and per ERU



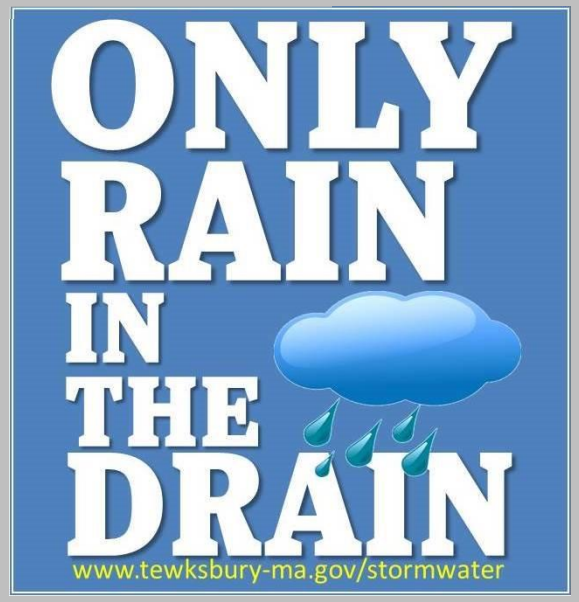
$1,202,175

approximate
annual revenue

80-100%

of approximate budgetary needs could be covered by the Enterprise Fee

Public Engagement in Tewksbury



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Public Engagement in Tewksbury

- Dedicated Section on Town Website
- Flyer, Fact Sheet, FAQs Handout, Social Media Posts
- Select Board Meeting – August 2019
- Public Meetings (4) – September 2019
  - Senior Center (2)
  - Town Hall (2)
- Adoption at Town Meeting on October 1, 2019

Stormwater Funding
Where to Start

- Understand your local costs for stormwater management – start tracking.
- Learn more about options.
- Engage people - establish interdepartmental support and use public forums.
- Create stormwater budget to get started.

Lessons Learned

- Public Engagement
  - A solid MS4 Public Education Program will pave the way
- Detailed Impervious Area Data Goes A Long Way
- Solid Decision-Making Upfront Saves Time Later/Nuances
- Tracking Stormwater Costs is Critical to Developing a Detailed Accounting of Stormwater Costs & Budget Going Forward

QUESTIONS?

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thank you

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