Funding Stormwater Management

Strategies to support stormwater management at the municipal level

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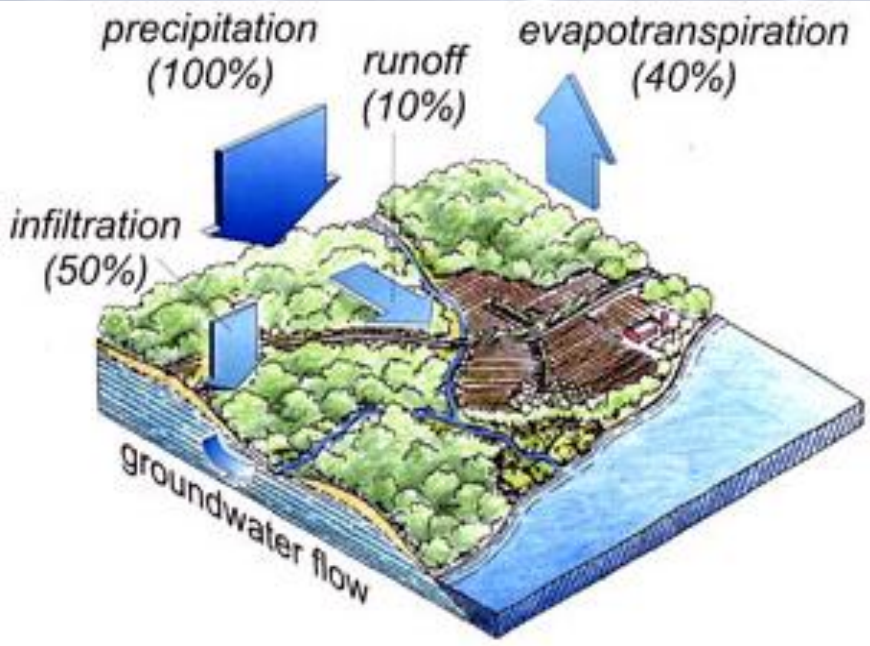
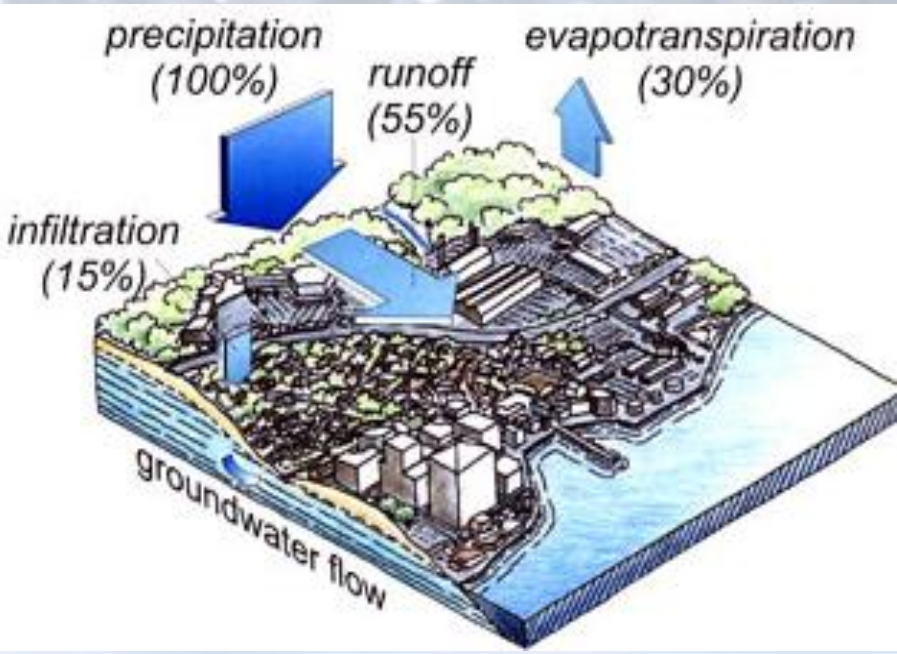
Metropolitan Area Planning Council

What is the Problem?

Impervious Surfaces ↑ = Environmental/Human Impacts ↑





Why?

Environmental Impacts

Nutrients - Blue-Green Algae

Sedimentation

Oil/Grease

Litter/Pollution

Habitat Loss

Why?

Human Impacts

Closed Shellfish Beds

Flooding

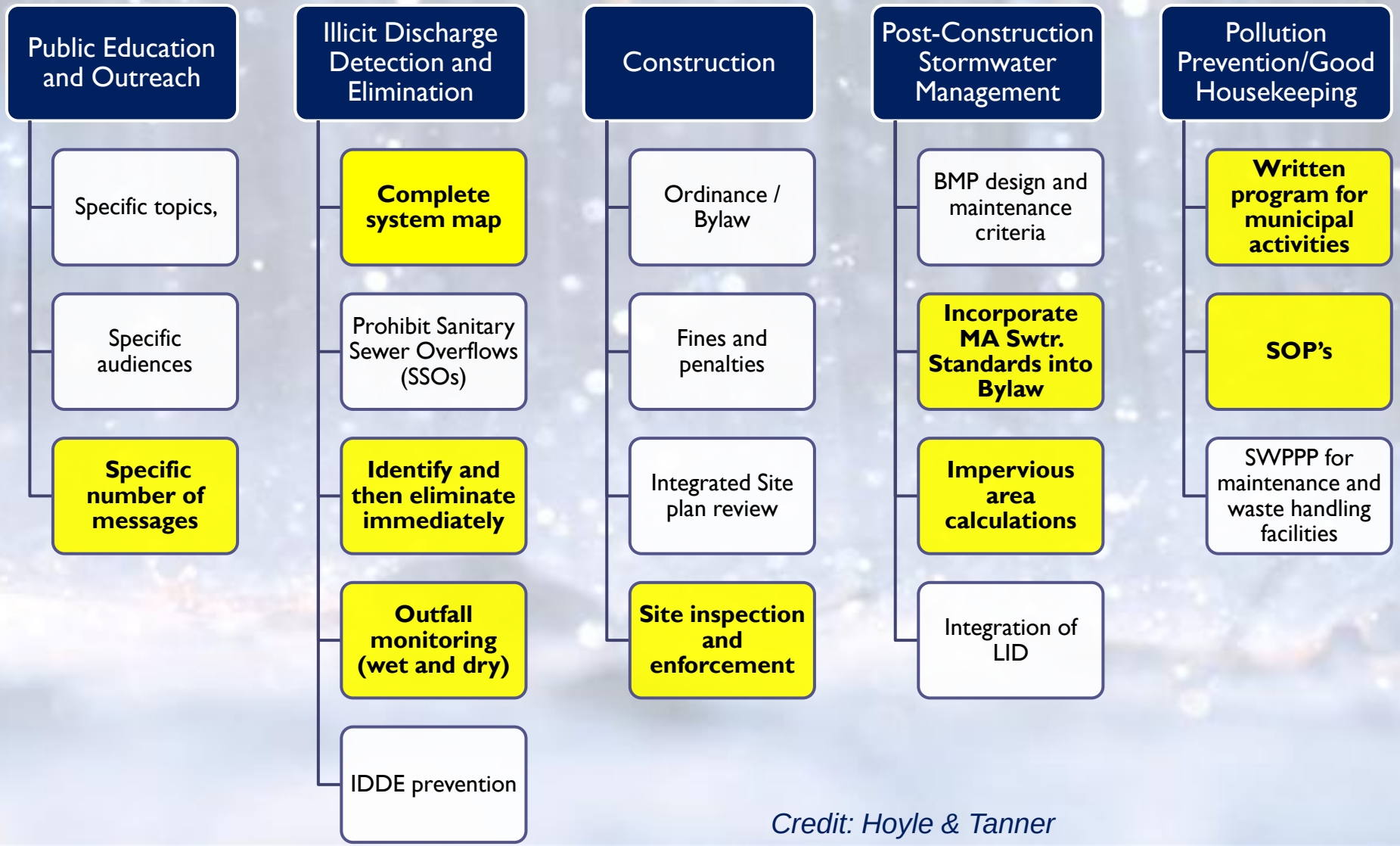
Drinking Water Impacts

Recreational Losses

Infrastructure Damage

Why?

New DRAFT MS4 Stormwater Management Requirements



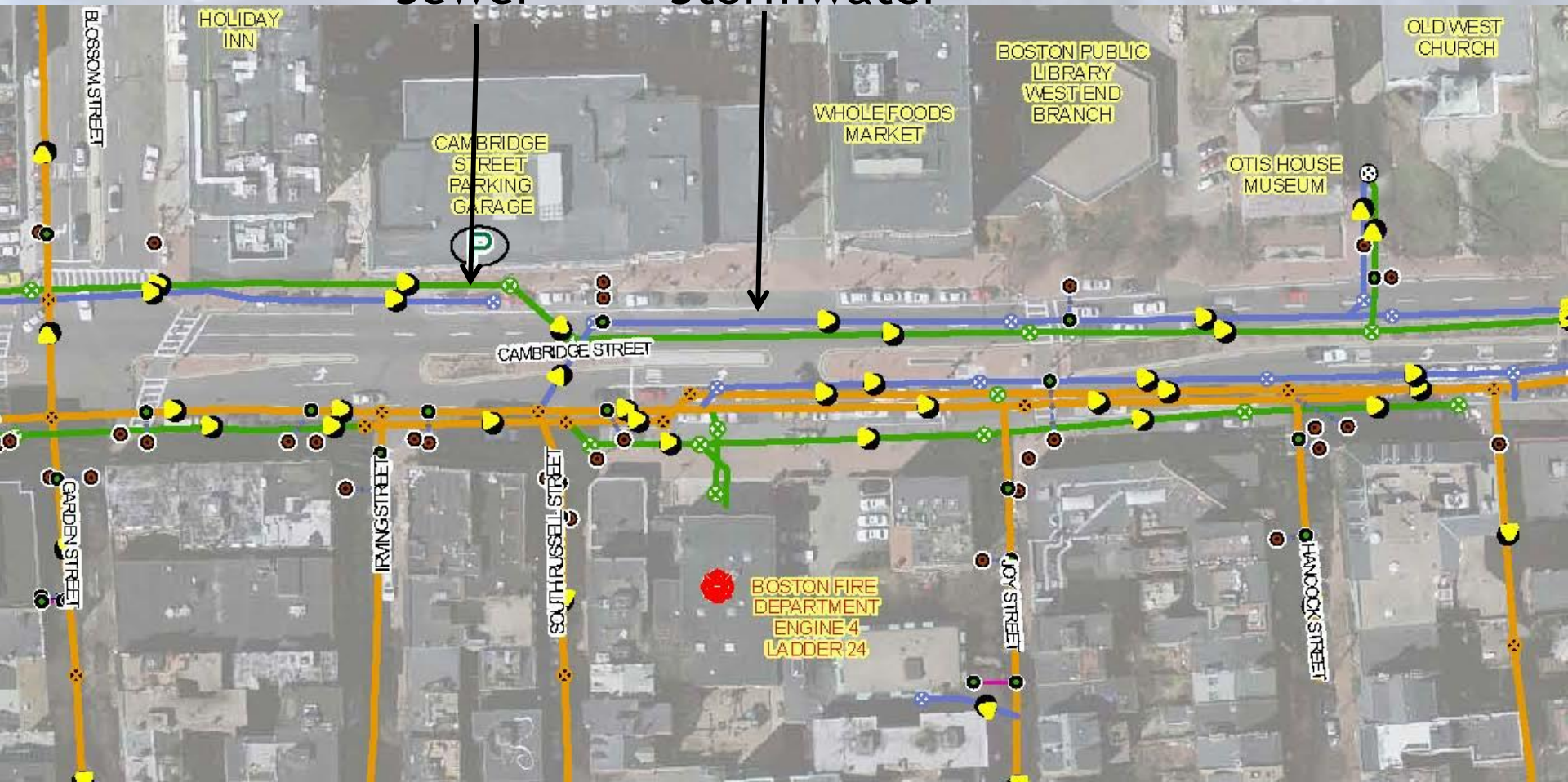
Credit: Hoyle & Tanner

Funding Alternatives for Stormwater Management

- Property Taxes/General Fund
- Grants
- Bonds/Loans
- Development Review Fees
- Stormwater Permit/Connection Fee(s)
- Special Assessment/Betterment Fee
- Local Option for Meals Tax
- Enterprise Fund (i.e. "Drainage Fee" …Via Stormwater Utility)

"Utility" Concept

Not so different than other Water Infrastructure…



Focus: Drainage Fee/Utility

Is it Possible?

- MGL Chapter 40 Section 1A
- MGL Chapter 40A Section 5
- MGL Chapter 44 Section 53F-1/2
- MGL Chapter 83 Section 16

Benefits

- ✓ **Equitable**
- ✓ **Flexible**
- ✓ **Reliable**
- ✓ **Defensible**

Credit: Dept. of Public Works, Fairfax County, VA

Stormwater Financing/Utility Kit Purpose

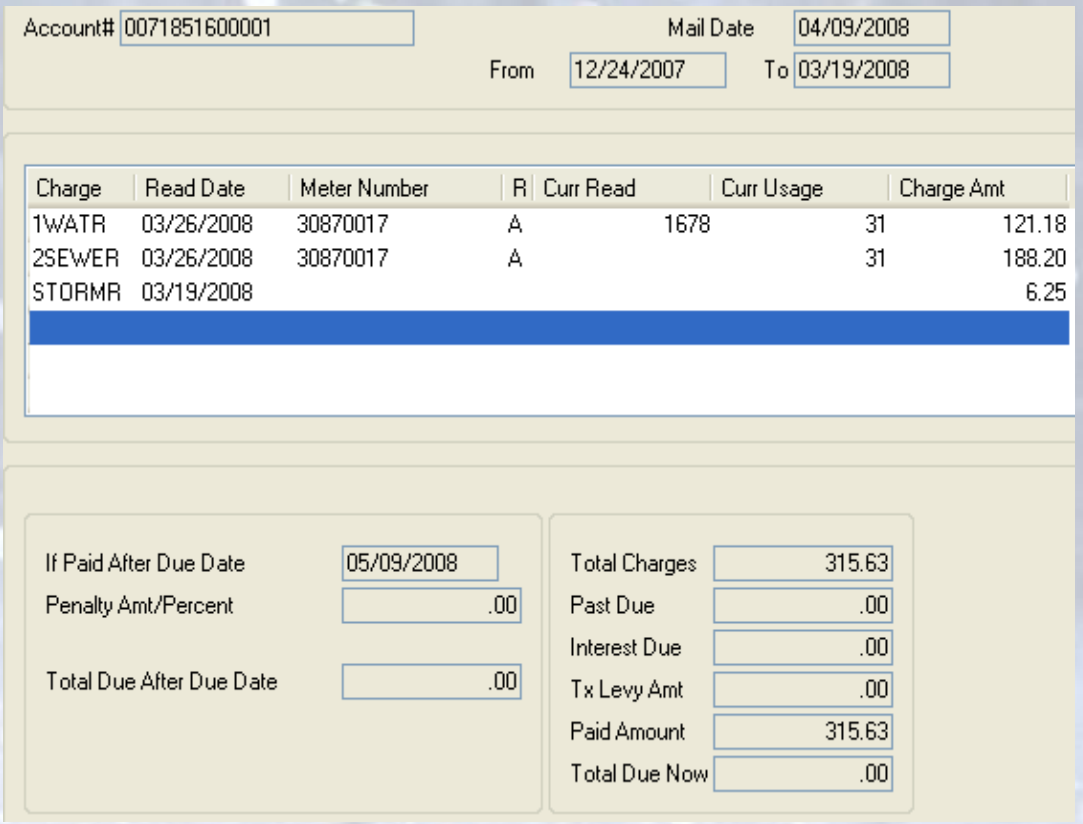
- Helps municipalities take control of local water quality issues,
- Focuses on developing a long-term funding source for stormwater management,
- Walks municipal officials through all steps of establishing a drainage fee and/or utility system;
- Encourages coordination across departments (and municipalities) for efficiency

Kit Premise & Principles

Premise:
- stormwater drainage system is a public system/service!

Principles:
- equitable, stable, and adequate

Advantages: linked
- to actual costs, can be designed to meet local needs



Account# 0071851600001 Mail Date 04/09/2008
From 12/24/2007 To 03/19/2008

Charge	Read Date	Meter Number	R	Curr Read	Curr Usage	Charge Amt
1WATR	03/26/2008	30870017	A	1678	31	121.18
2SEWER	03/26/2008	30870017	A		31	188.20
STORMR	03/19/2008					6.25

If Paid After Due Date 05/09/2008
Penalty Amt/Percent .00
Total Due After Due Date .00

Total Charges 315.63
Past Due .00
Interest Due .00
Tx Levy Amt .00
Paid Amount 315.63
Total Due Now .00

Credit: City of Newton, MA

How To - 5 D's

1. **Define:** Water Quality Problems & Management Needs
2. **Deliver:** Outreach Program
3. **Determine:** Fee Structure
4. **Develop:** Management Program
5. **Draft:** Bylaw/Ordinance/Regulations

1. Define WQ Problems & Needs

- Water Quality/Quantity (impaired waters, TMDLs)
- Infrastructure Issues
- Management Needs
- Public/Dept. Outreach

SOURCE	MAJOR POLLUTANTS
Public Infrastructure	Bacteria, metals, nitrogen, organics, petroleum products, phosphorus
Pavement Maintenance	Petroleum derivates from asphalt, temperature modification
Pavement Deicing	Chlorides, sediments, cyanide, sulfates
Transportation Vehicles	Fine particles; metals, petroleum products such as oil, grease, and PAH
Residential Activities	Bacteria, pesticides/herbicides, nitrogen, petroleum products, phosphorus, metals
Building Exteriors	Metals (chipped /eroded paints, corrosion of surfaces)
Development	Cement, concrete, high pH, metals, particulate matter, petroleum products, phosphorus
Landscape maintenance	Pesticides/herbicides, humic organics, nitrogen, phosphorus; litter (cans, food, paper, plastics; leaves and yard debris)
Pet Waste	Bacteria, nitrogen, phosphorus

Management Needs:
What will This Pay For?

- Natural Resource Protection
- Capital Improvements
- Staff:
  - ✓ Stormwater Program Manager
  - ✓ Dedicated DPW staff for Maintenance/IDDE
- Infrastructure Maintenance/Repair
- New Regulatory Compliance (NPDES Phase II MS4)
- Planning/GIS
- Development Plan/Permitting Review

2a. Deliver Outreach Program: Internal

- ✓ Local Nonpoint Source Issues
- ✓ Purpose and Benefits of Long Term Funding Program
- ✓ Describing Recommended Funding Program
- ✓ Importance of Stormwater Advisory Committee
- ✓ Developing Materials/Media for Internal Outreach

2b. Deliver Outreach Program: External

- ✓ Pre-Education Phase (Setting Groundwork) What is Stormwater?
- ✓ Program Development Phase
- ✓ Education After Fee/Utility Establishment

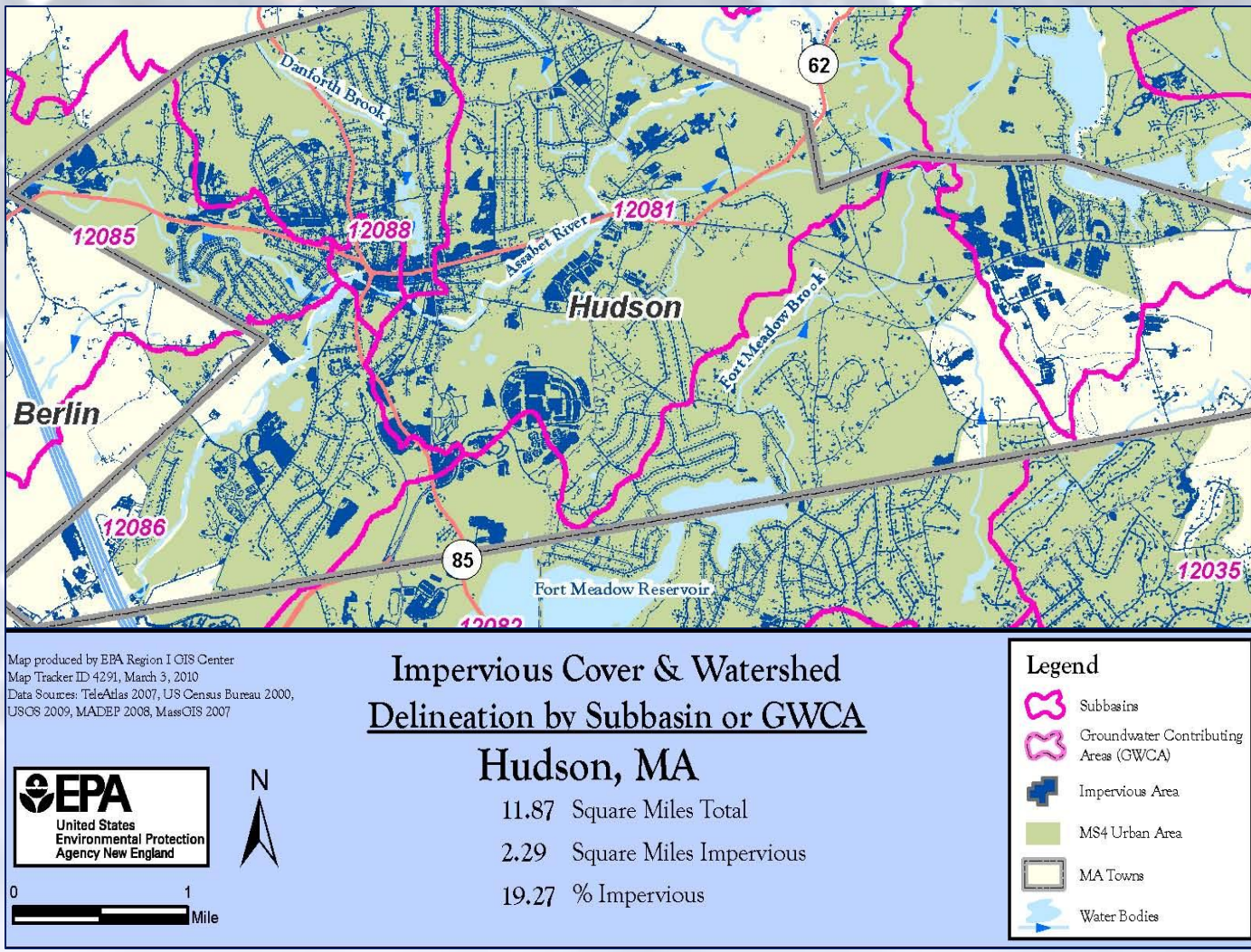
CRITICAL!

3. Determine Fee Structure

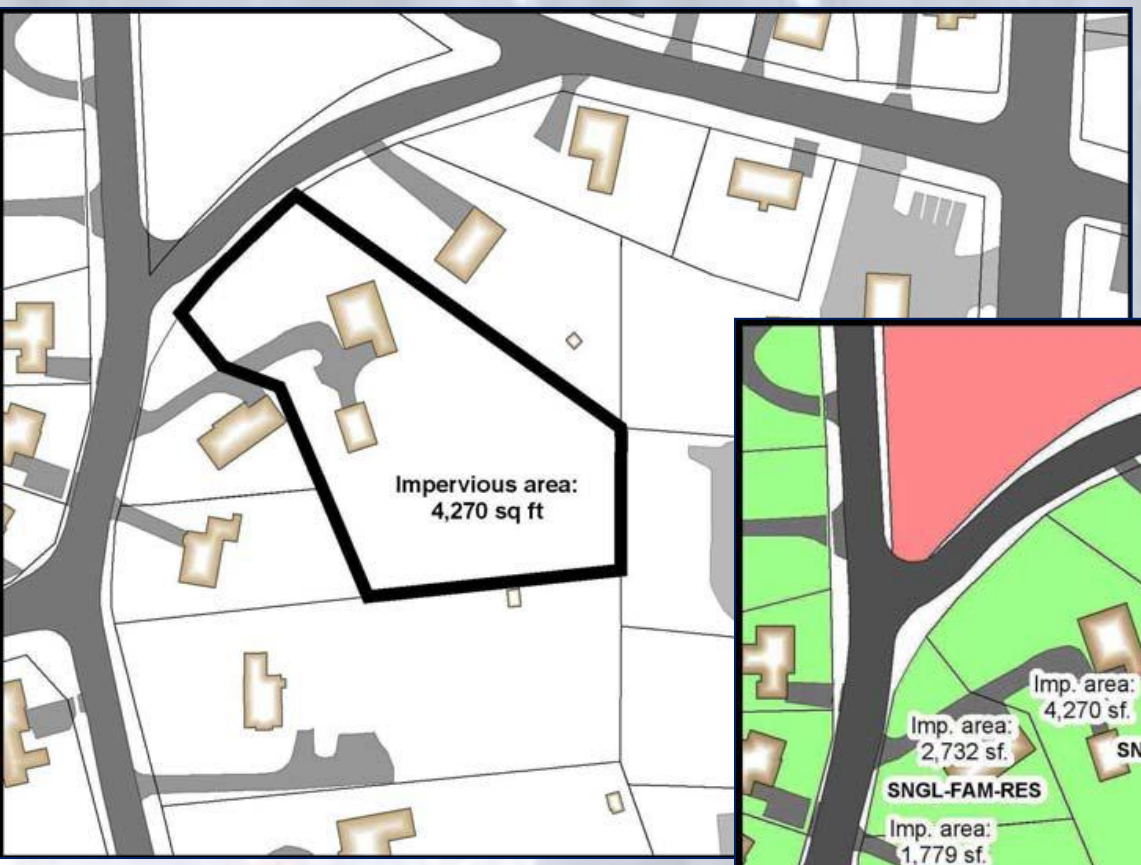
- Program costs should be identified and categorized (personnel, equipment, capital, etc.)
- Fees should be equitable and easy to understand
- Incentives should be provided to encourage stormwater quality improvements
- All properties that contribute stormwater should pay fees ("imperviousness")

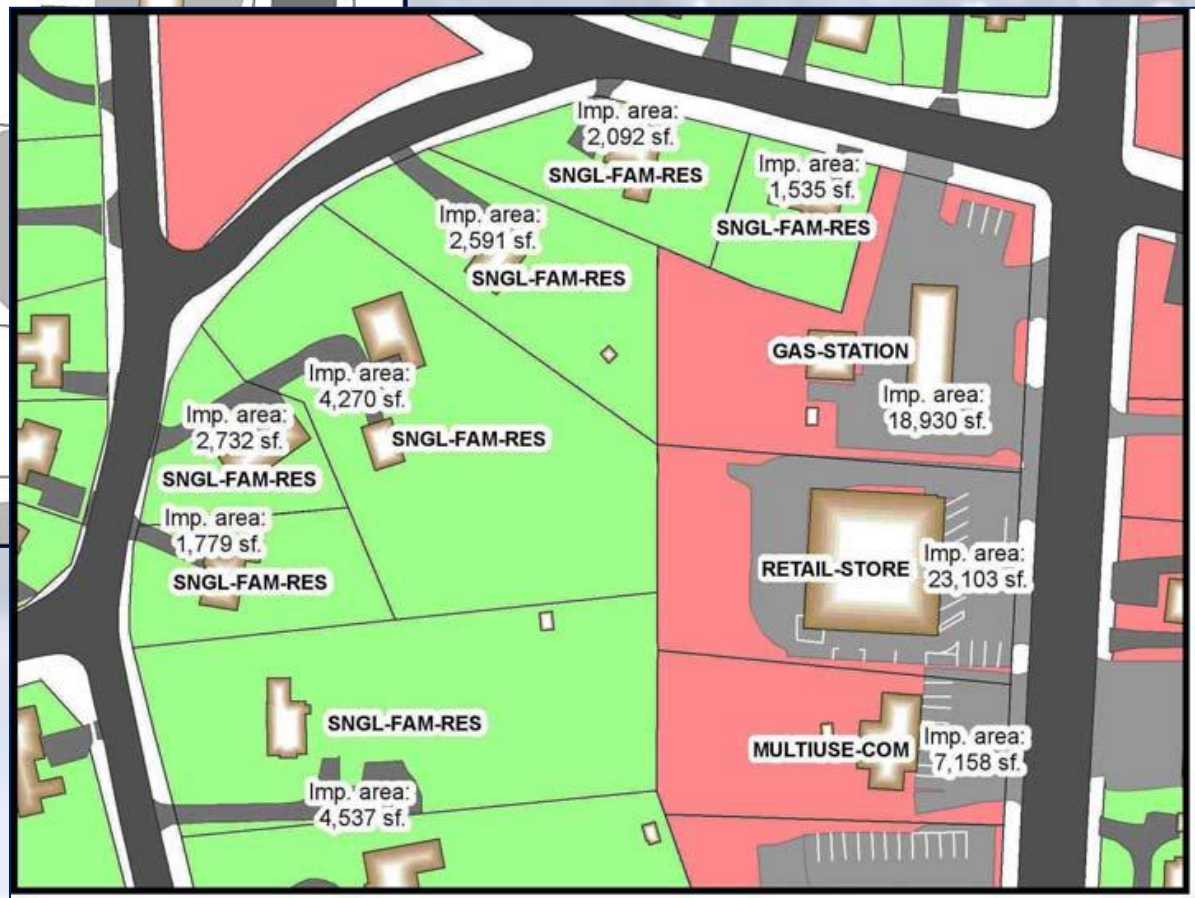
Impervious Area Measurement

- What is it?
- Can you charge a fee based on it?
- Is charging based on it equitable?
- How do you measure it?



Impervious Calculations



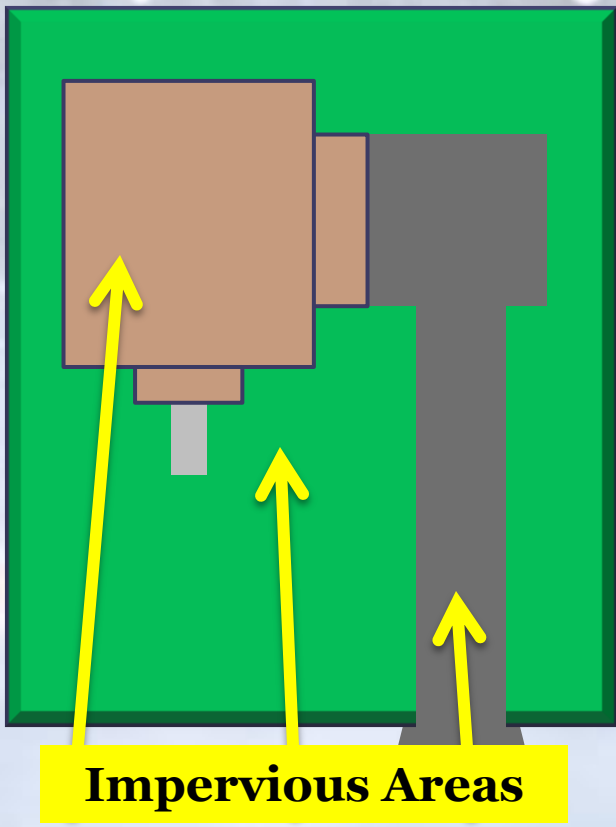


Credit: Town of Reading, MA

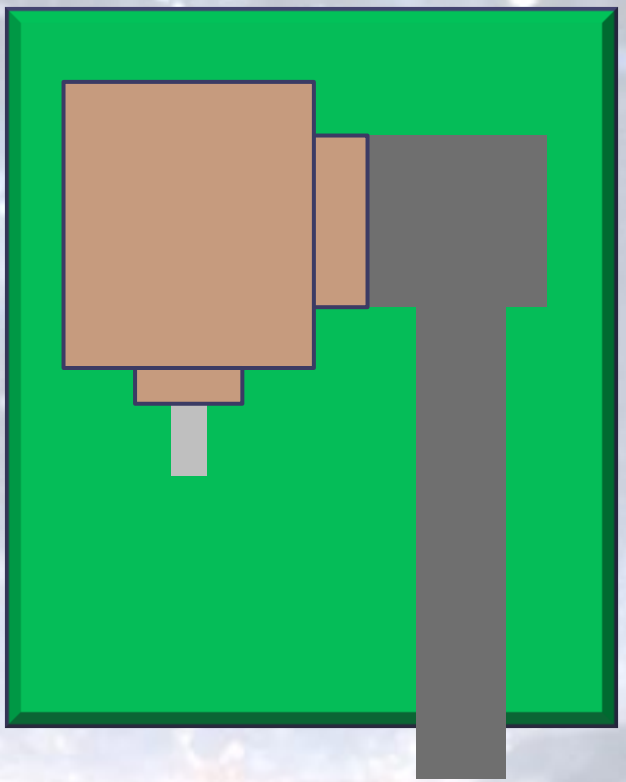
Establishing Rates

The Equivalent Residential Unit (ERU) is most common fee method used.

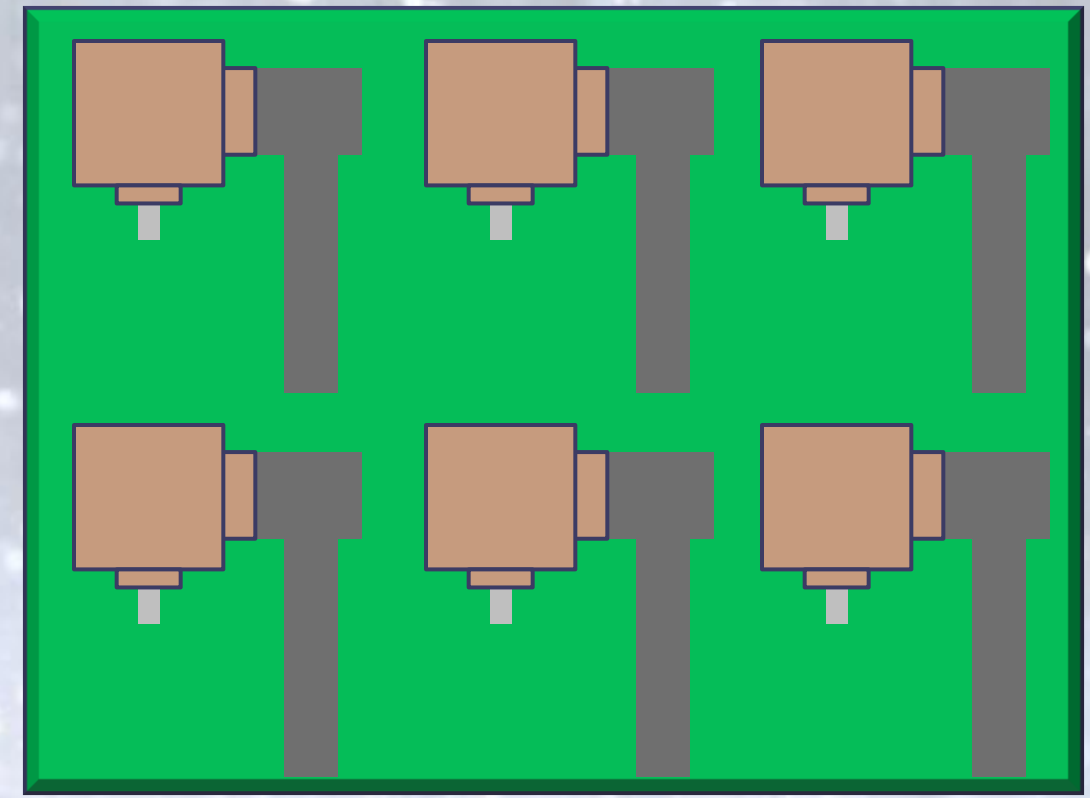
Based on a typical Single Family Residential home's impervious area (= 1 ERU).



Applying ERU



1 ERU
(Residential)



6 ERU
(Commercial)

Rate Setting

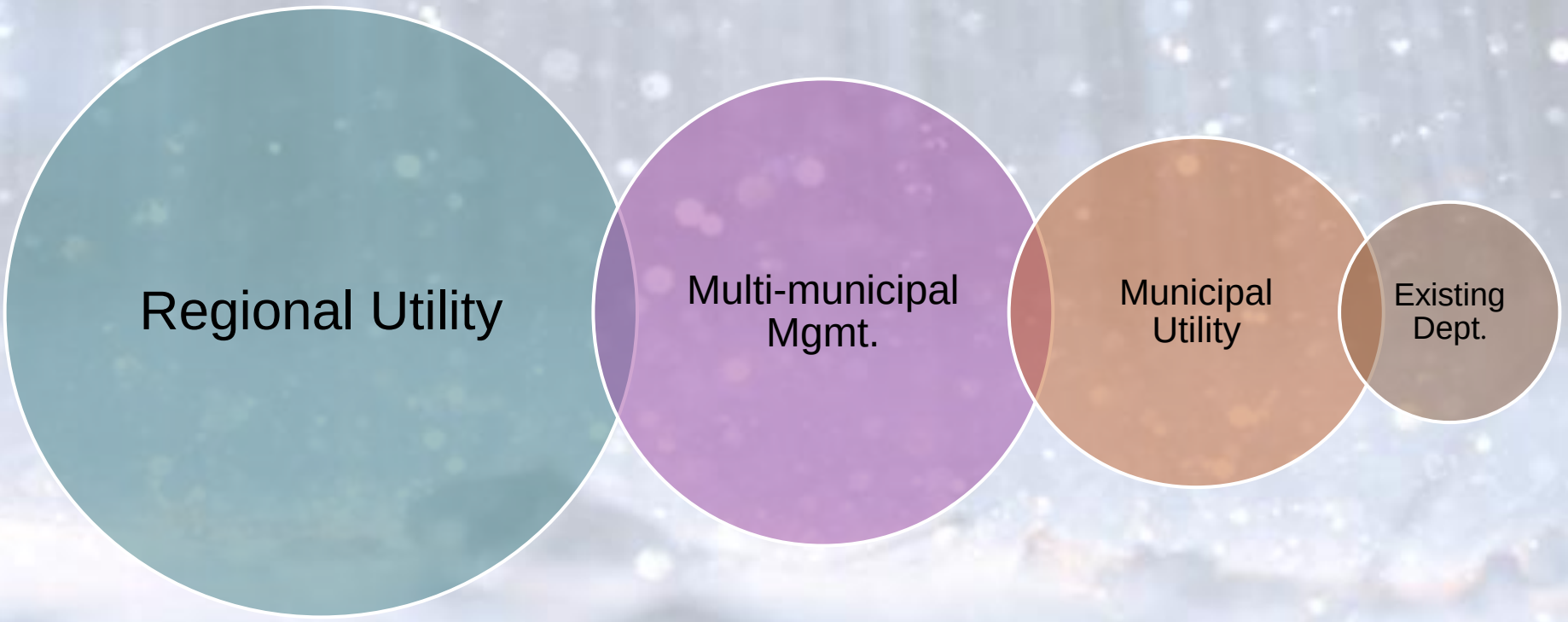
Property Type	Town A	Town B	Town C
Single- or Two-Family	$25/quarter	$6.25/quarter	$25/quarter
Multi-Family	$40/ 3,210 sq. ft. (annually)	$6.25/quarter	$25/quarter
Industrial or Commercial	$40/ 3,210 sq. ft. (annually)	$37.50/quarter	$0.45/1,000 sq. ft./quarter

Credit: Hoyle & Tanner

Stormwater Credits

- Incentives for certain practices:
  - Recharge/Reduction in Impervious Coverage
  - Low Impact Development/Better Site Design
  - Rainwater Harvesting/Reuse
  - Reduction of Post-development Peak Flow
  - Educational Programming (in primary/secondary schools)
- Opportunities for Reductions in Fee

4. Develop Management Program



5. Draft Ordinance/Bylaw

"A charge for use of main drains and stormwater facilities…"

"…adopted under…the Home Rule Amendment of the Massachusetts Constitution…, and pursuant to G.L. c. 83, §§ 1, 10, and 16, as amended; c. 149, §§ 135-140…"

"…special assessment district set up to generate funding specifically for stormwater mgmt. Users pay a storm water fee and the revenue generated directly supports…"

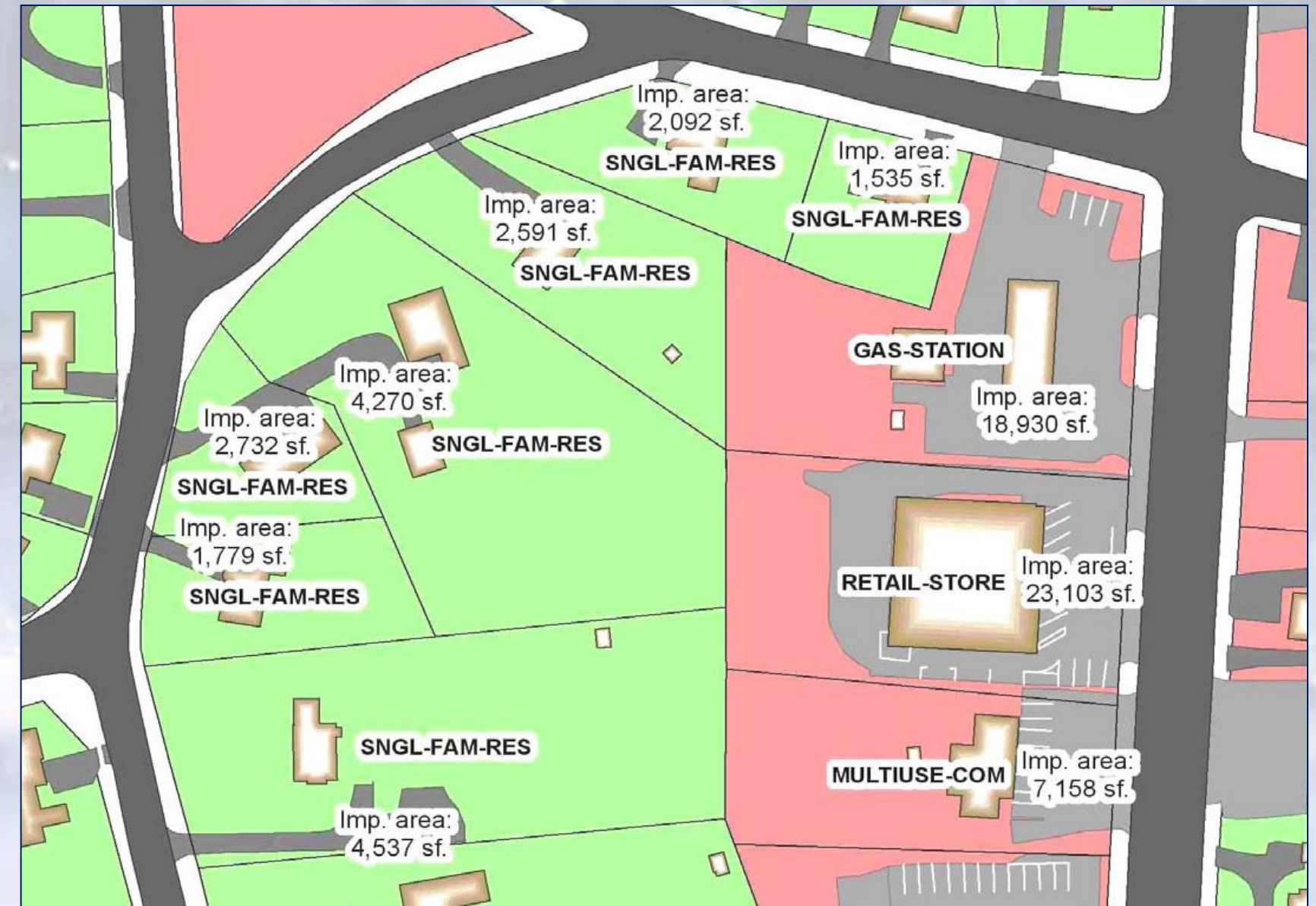
"Every estate whose building sewers discharge directly or indirectly into public sewers shall pay a charge for the use of main drains, stormwater facilities and sewage works."

Municipal Stormwater Utility: Reading, MA

- Established a Storm Water Committee
- Reviewed Universe of Funding Options, Chose Enterprise Fund
- Made Recommendation & Received Early Buy-in From Decision Makers
- Used Orthophotos and Parcel Data to Determine Impervious Coverage

Reading, MA

Credit: Town of Reading



Reading, MA

Findings/Lessons Learned:

- Choose billing method carefully
- Determine which department(s) pay for town-owned land
- Decide how to handle non-profit properties
- Educate property owners prior to billing
- Prepare staff to answer property owner questions
- Have procedure in place for abatements
- Adjust fees annually

Municipal Stormwater Utility: Newton, MA

Initial Attempt:

- Initial Fee Based on "Bare Bones" Program = $700,000
- ERU = $25/yr
- 23,762 Residential Properties, 848 Commercial
- Commercial = 6x Impervious Surface as Residential
- Credits given for owner maintained stormwater management / recharge systems

Second Attempt:

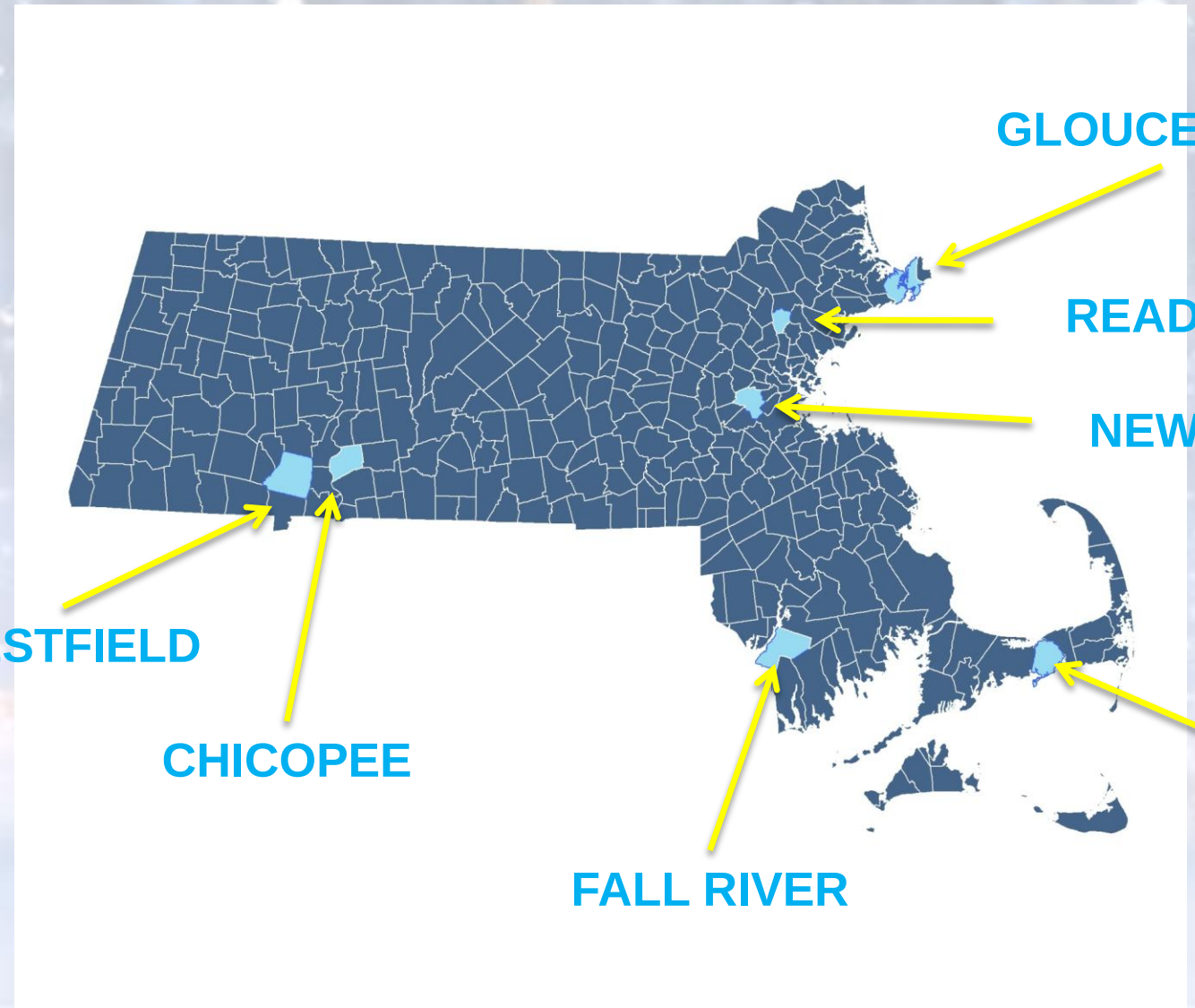
- Average impervious area/unit redefined at 2,300 SF = (Base ERU)
- Single-family: 1 ERU = $25.00
- 2-Family: 1.5 ERU = $37.50
- Increased Stormwater Management revenues to $1.1 Million annually

Newton, MA

Findings/Lessons Learned:

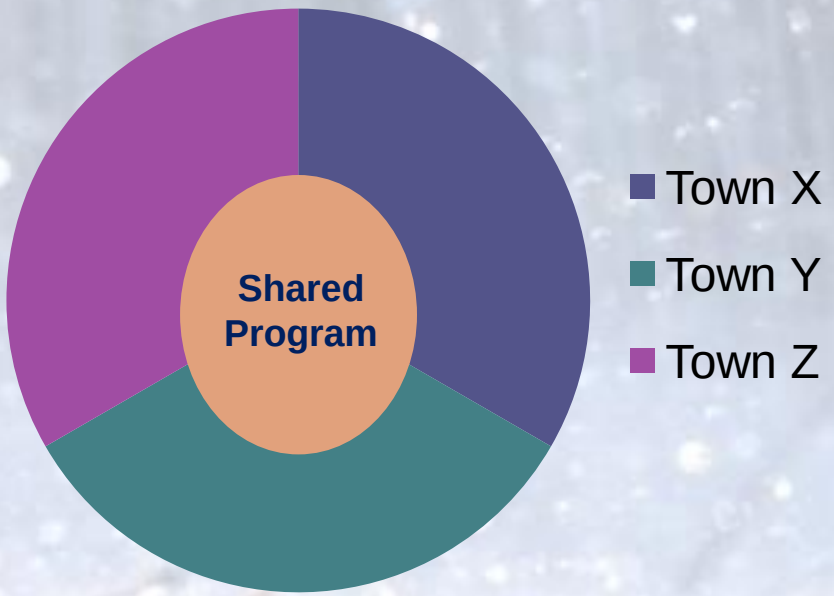
- Success of Public Participation:
  - Sewer / Stormwater Task Force
  - Charles River Watershed Action Alert in Support of Fee
  - News Story on Local Cable TV
- Initial Revenue Generated was Inadequate for SWM Needs
- Have at Least One Showcase Project
- Document Gains Made With the Fund
- Be Consistent with Credits

Others


GLOUCESTER
READING
NEWTON
WESTFIELD
CHICOPEE
FALL RIVER
YARMOUTH

Regional Stormwater Utility:
Could Look Like…

- Carries out the cooperative program
- Jointly managed by a board and minimal hired administrative staff
- Could also collect and disburse bills if multiple user fees



Funding Stormwater Management

Questions/Discussion…

http://www.mapc.org/resources/stormwater-bylaws-toolkit