Town of Agawam
Stormwater System Assessment and Utility/Fee Planning Project

Citizen Advisory Task Force Meeting #1

April 26, 2017

Agenda

6:00 - 6:10p: **Welcome and Introductions**

6:10 - 6:25p: **Current Project**
- Overview, goals, scope and schedule
- Roles and responsibilities

6:25 - 6:50p: **Municipal Stormwater System**
- History in Agawam
- How it works and mapping
- Agawam DPW activities

6:50 - 7:00p: **Break**

7:00 - 7:35p: **Stormwater Needs**
- Infrastructure, water quality and flooding
- Regulatory requirements and 2016 EPA permit

7:35 - 7:50p: **Public Education and Outreach**
- Proposed activities
- Focus group and survey feedback

7:50 - 8:00p: **Next Steps**

Current Project
Overview

Why are we here?

- The Town has existing stormwater problems.
- Stormwater management needs are increasing.
- The Town has limited resources and funding.
- We have the ability to solve these problems and manage stormwater better, but it will cost more.
- What's the best approach to move forward?

Current Project
Goals

MassDEP s319 Grant: Project 16-06/319

Goals:

1. Obtain a local consensus on Agawam's current and future stormwater management program needs, priorities and costs.
2. Execute a robust public engagement process to promote a deep understanding of stormwater issues and funding needs.
3. Study the possibility of establishing a stormwater utility in Agawam.
4. Develop recommendations and a consensus for next steps.

Current Project
Scope

- Task 1 – Hire Consulting Firms
- Task 2 – Identify Major Needs, Priorities and Costs for Stormwater Program
- Task 3 – Recruit and Engage Broad-Based Citizen Advisory Task Force
- Task 4 – Conduct Other Public Outreach and Education
- Task 5 – Conduct Parcel Analysis and Calculate ERU
- Task 6 – Define and Evaluate the Financial Elements of the Stormwater Utility
- Task 7 – Project Reporting

Current Project
Schedule

ID	Task Name	Q4 2016			Q1 2017			Q2 2017			Q3 2017			Q4 2017		
		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	**Hire Consulting Firms**															
a	Hire Amec Foster Wheeler															
b	Hire graphic artist															
2-1	**Identify Major Needs, Priorities and Costs for Stormwater Program**															
a	Kick-off meeting to review program needs and priorities															
b	Preliminary program analysis, needs and budget estimates															
c	*Meeting #1 with Task Force to review preliminary analysis*															
d	Finalize program analysis, priorities and draft Stormwater Program Report															
e	*Meeting #2 with Task Force to present findings*															
f	*Public Meeting #1 to present findings*															
3	**Recruit and engage broad-based citizen advisory task force**															
a	Establish Task Force, issue and follow up on invites															
b	Set up Task Force meeting schedule, secure location															
c	Write up notes from each Task Force meeting (at least 8 meetings)															
d	Draft findings/recommendations, incorporating draft rate ordinance and report on financial considerations prepared by Amec Foster Wheeler															
4	**Conduct other public outreach and education**															
a	Set up larger public meeting schedule, secure location (2 to 3 meetings)															
b	Prepare and conduct interviews/survey to explore case and write up results															
c	Produce outreach materials based on interviews/survey results															
5-2	**Conduct Parcel Analysis and Calculate ERU**															
a	Analysis of GIS and assessor's data, ERU/other billing units and billing options															
b	Develop memo on analysis, findings and recommendations															
c	*Meeting #3 with Task Force to present findings*															
6-3	**Define and Evaluate the Financial Elements of the Stormwater Utility**															
a	Preliminary rate approach, funding evaluation and outline of policies															
b	*Meeting #4 with Task Force to review preliminary analysis*															
c	Develop draft funding and policy memorandum															
d	*Meeting #5 with Task Force to review funding policies*															
e	Develop draft rate ordinance															
f	*Meeting #6 with Task Force to present findings and review draft rate ordinance*															
g	*Public Meeting #2 to present Task Force recommendations and report*															
7	**Project reporting**															
a	Quarterly reporting to MassDEP															
b	Final report (to be prepared well in advance of project end date of 6-30-18)															

= Key Meeting
= Final Task Deliverable

Current Project
Roles and Responsibilities

- Project Team:
  - Town Staff – provide input on stormwater management program, costs, priorities, and policy recommendations
  - Pioneer Valley Planning Commission – manage grant, review project deliverables, conduct public education and outreach, support GIS updates
  - Amec Foster Wheeler – guide study, facilitate meetings, and provide technical analysis and report writing
  - Graphic Designer – develop public education and outreach materials
- Task Force:
  - Attend 6 meetings
  - Provide input throughout the project
  - Provide recommendations for consideration by the Town Council and the general public
- Town Council:
  - Participate in Task Force and Public Meetings

Municipal Stormwater System
History in Agawam

1636 – First House Built in Agawam Meadows.

1760 – "Voted: that rum and cider shall be provided for the raising of the meeting house at the cost and charge of the parish".

1874 – Town Hall and school house built in both Feeding Hills and Agawam.

Early 1900s – first storm drain systems constructed.

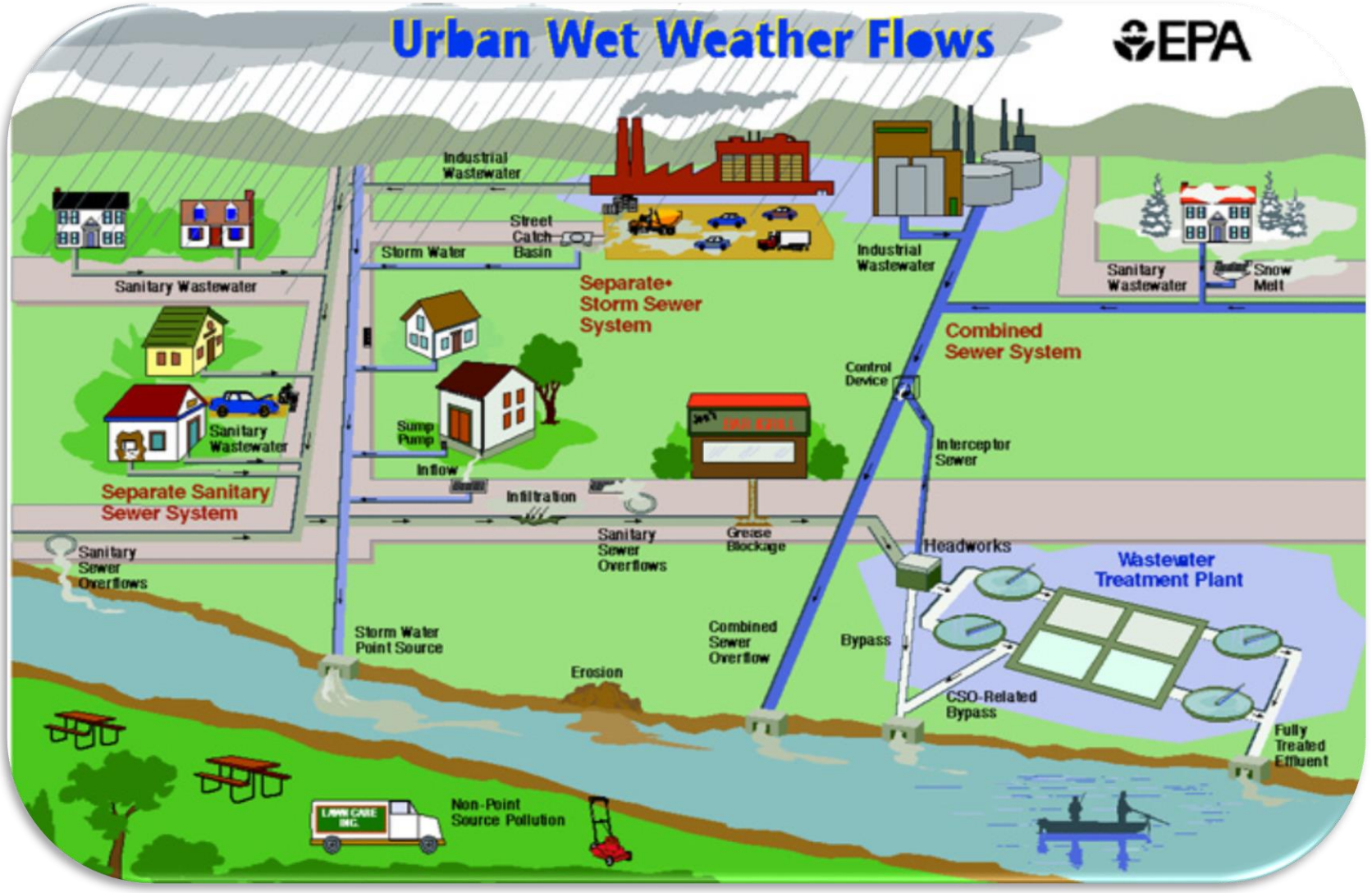
1927 – first drinking water distribution system.

1990s – first stormwater BMP constructed.

2003 – EPA permit required for Town to discharge stormwater.

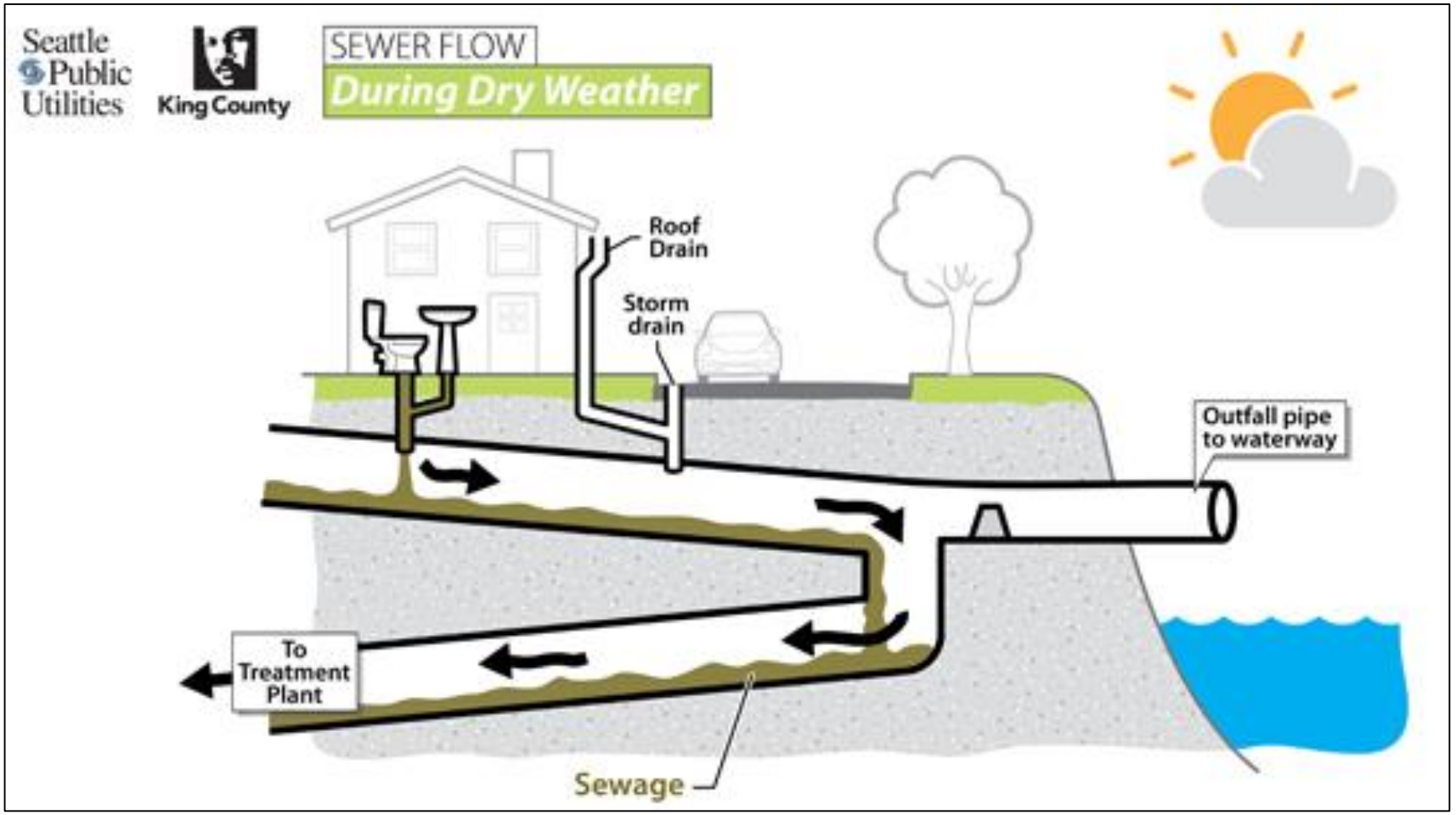
2016 – EPA stormwater permit renewed.

Municipal Stormwater System
How it Works



Municipal Stormwater System
How it Works

Combined Sewer Overflow



Municipal Stormwater System
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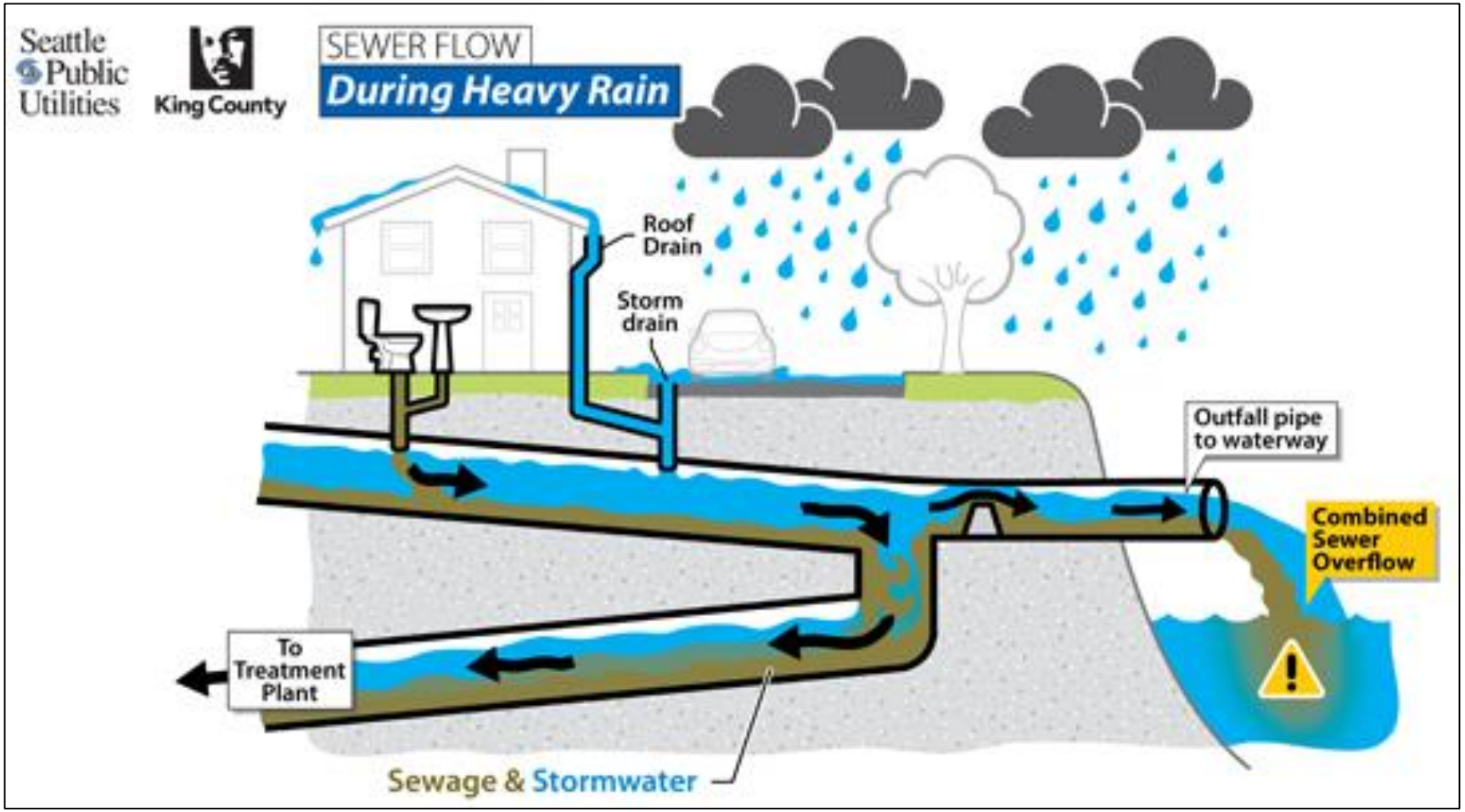
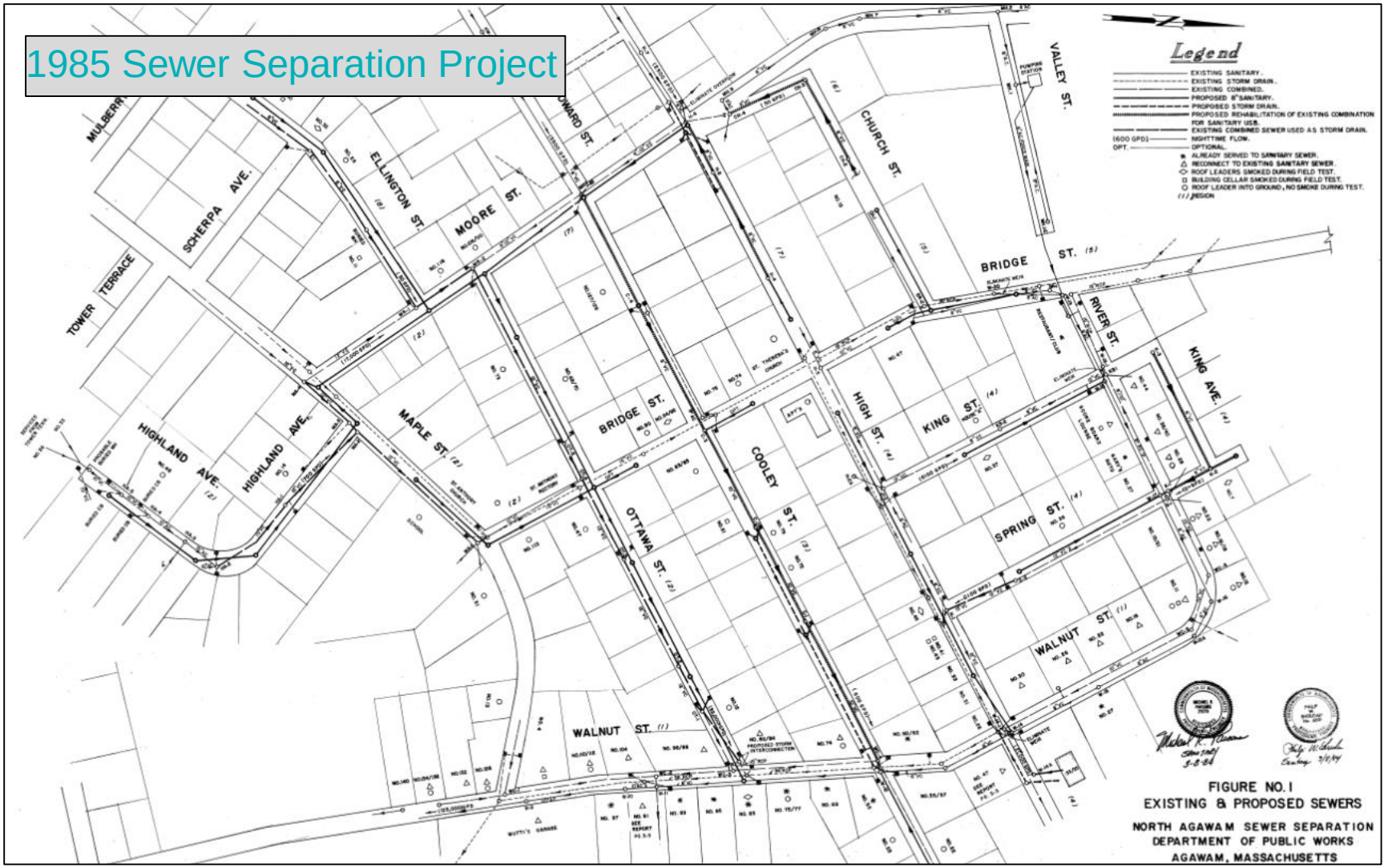
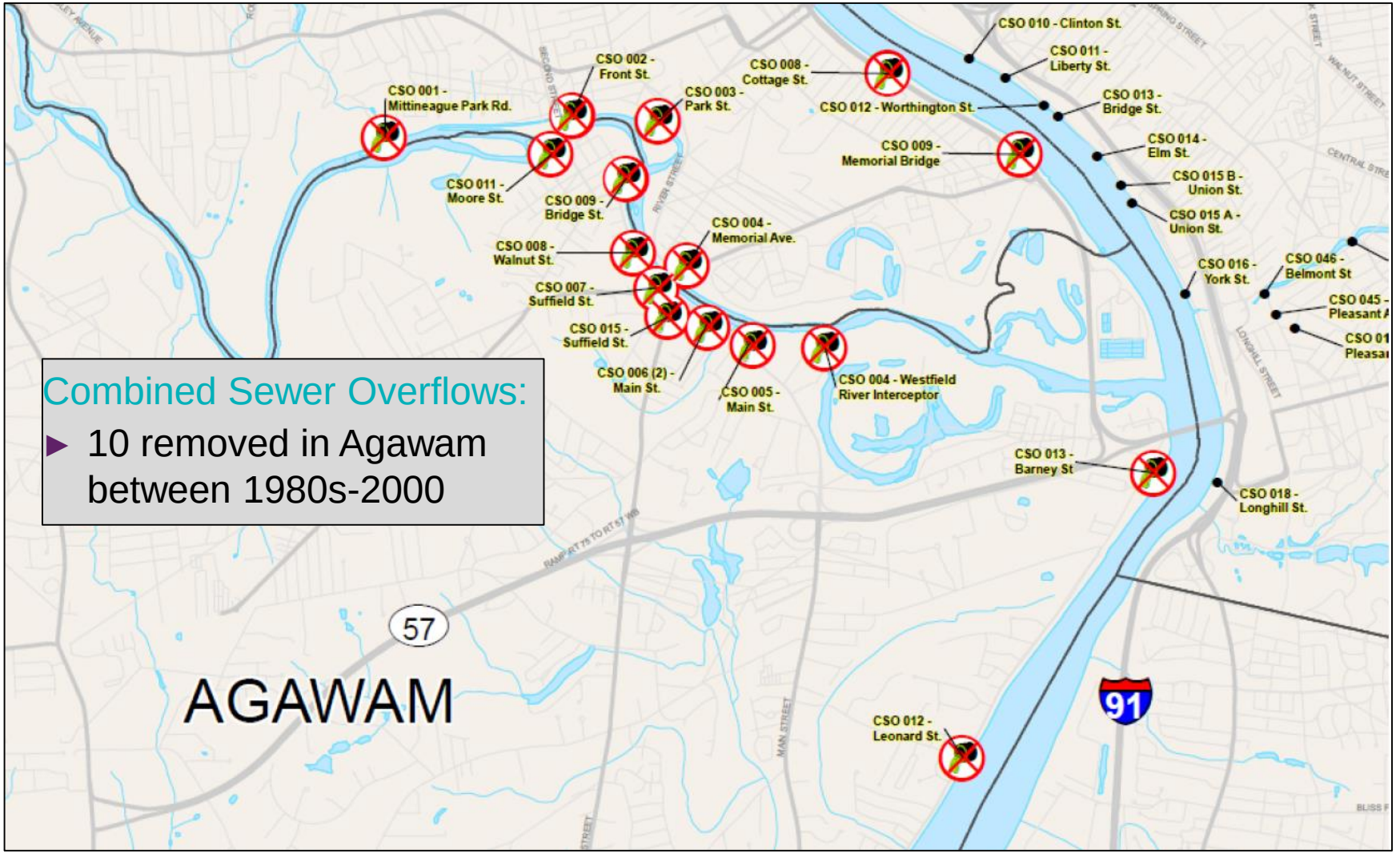


Municipal Stormwater System
How it Works



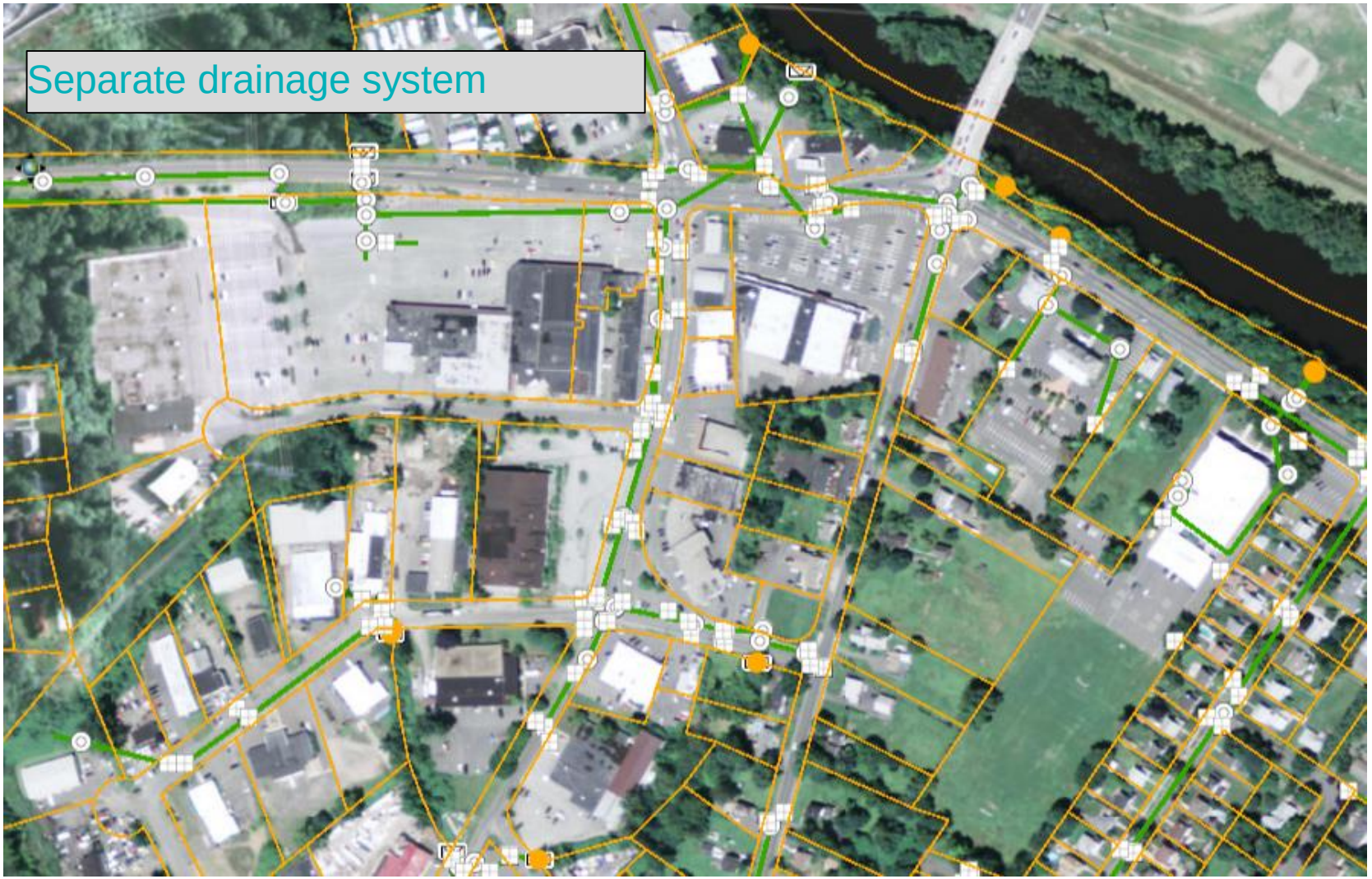
Municipal Stormwater System
How it Works



Combined Sewer Overflows:

- 10 removed in Agawam between 1980s-2000

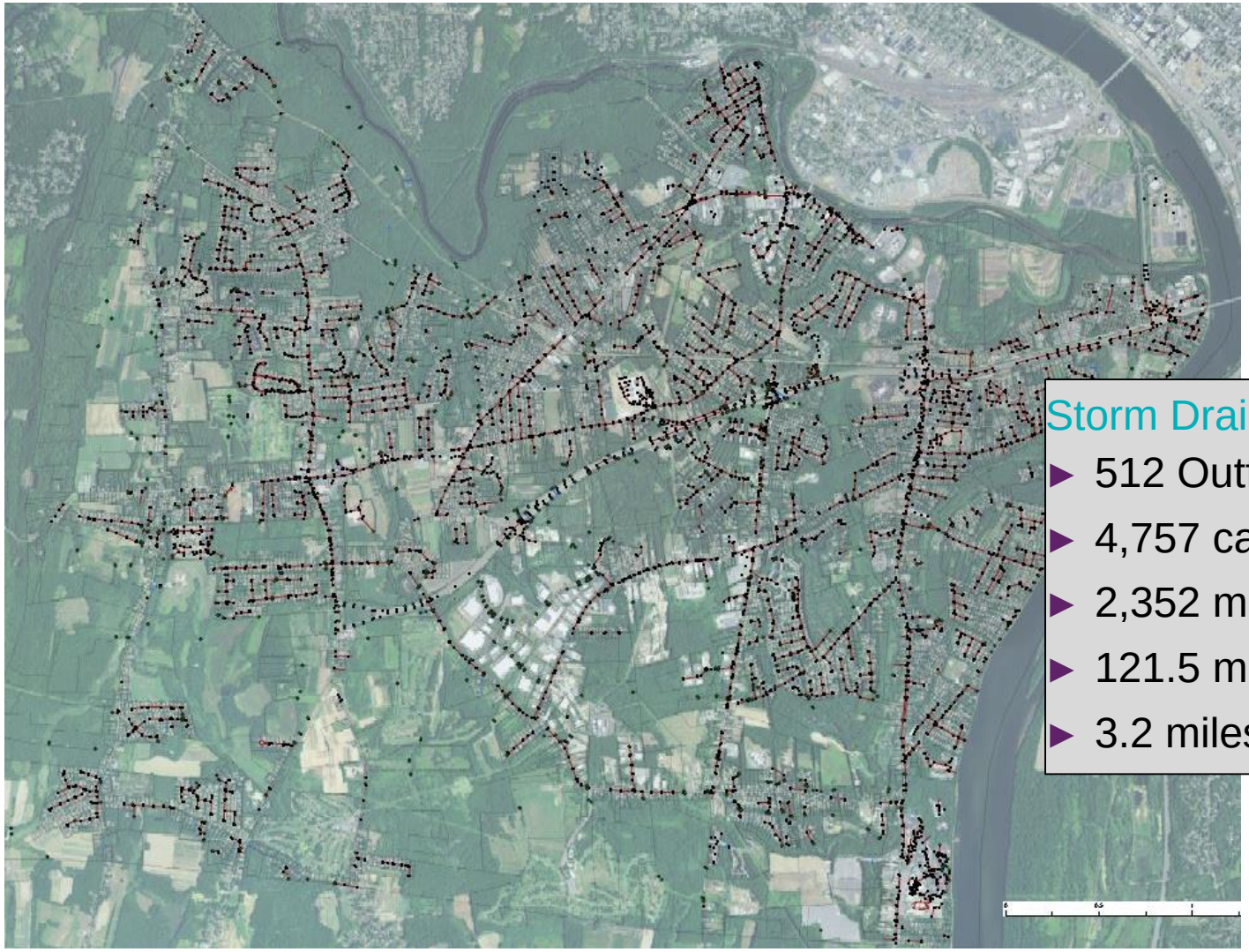
Municipal Stormwater System
How it Works



Municipal Stormwater System
How it Works

Municipal Stormwater System
How it Works

Municipal Stormwater System
Mapping



Storm Drain Infrastructure:

- 512 Outfalls
- 4,757 catch basins
- 2,352 manholes
- 121.5 miles drain pipe
- 3.2 miles culverts

Municipal Stormwater System
Agawam DPW Activities

Existing Activities:

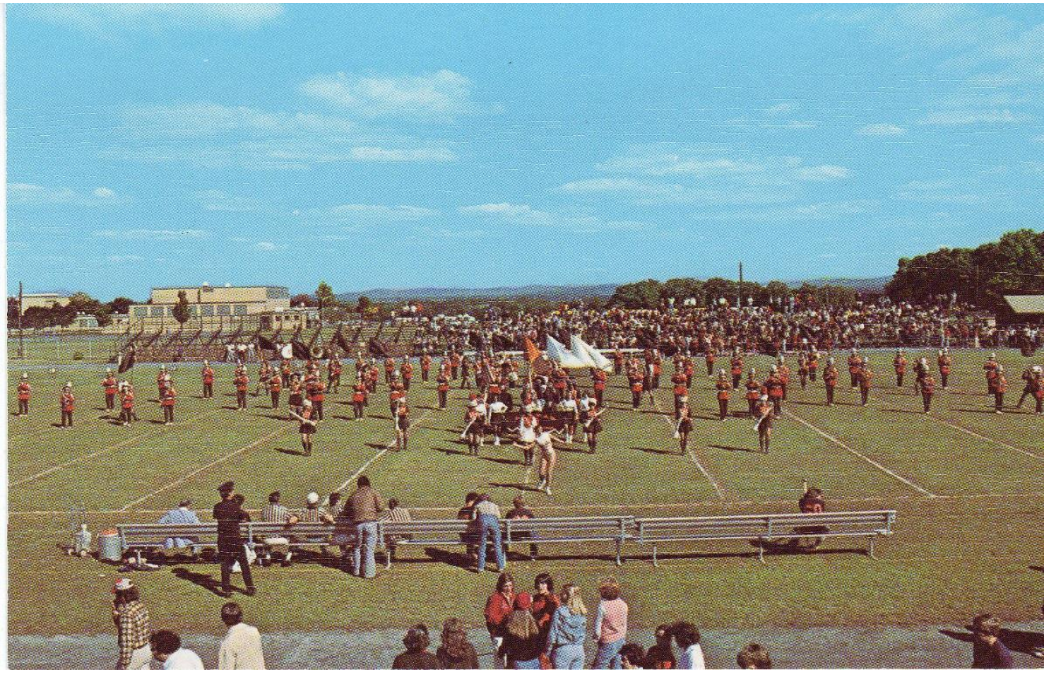
- Catch basin cleaning
- Street sweeping
- Drainage structure repair and replacement
- Culvert cleaning, repair and replacement
- Management of stormwater treatment facilities
- Road shoulder and ditch repair
- Flood response and related improvements
- Engineering and planning for upgrades
- Drainage mapping and assessments
- Stormwater permit compliance


Carr Ave – culvert replacement


Robinson Park School – infiltration system

Break

Agawam Marching Band



Source: Agawam Historical Association

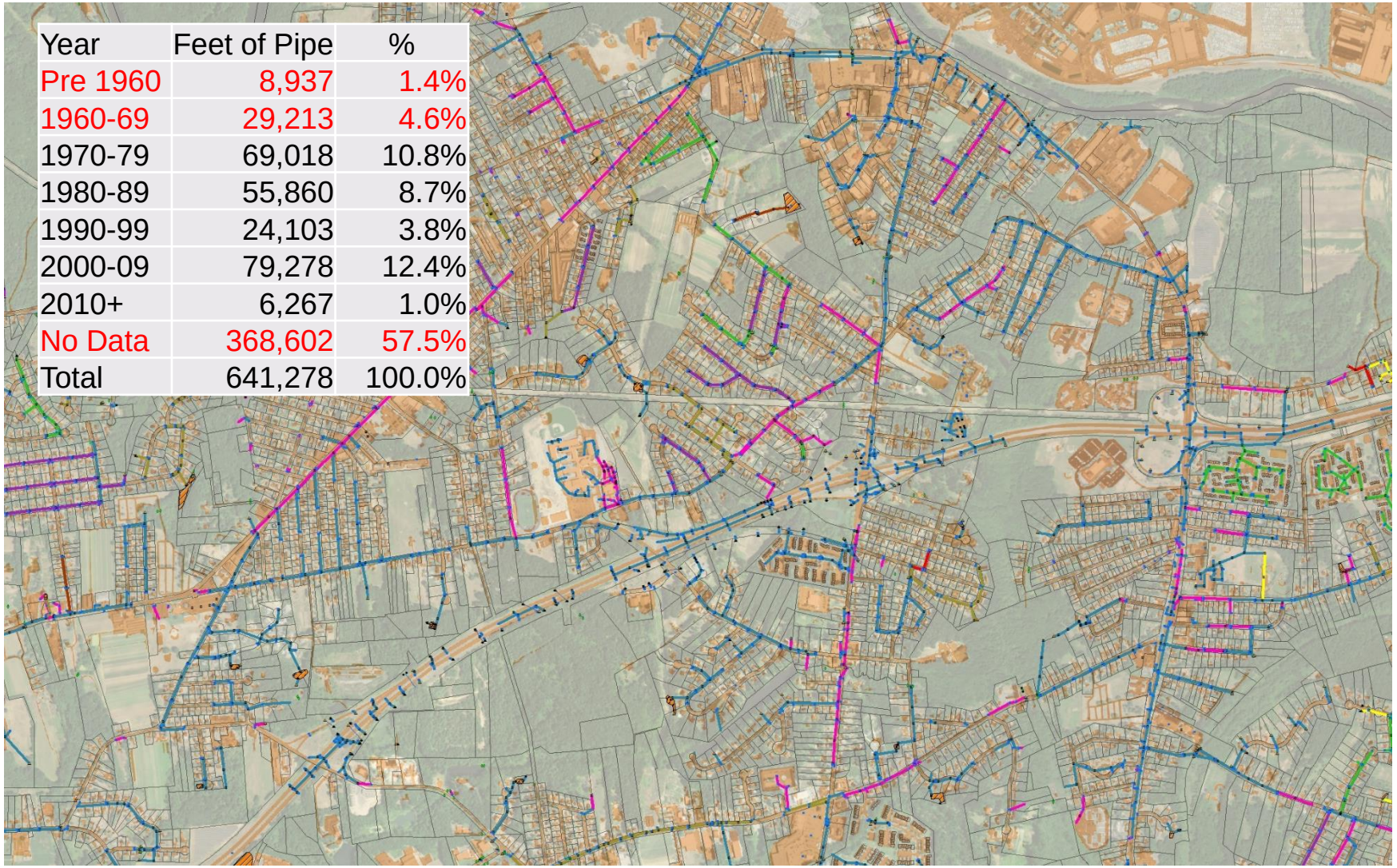
Stormwater Needs
Infrastructure

Additional Needs:

- Ongoing operation and maintenance (repairs & reconstruction) challenges
- Maintenance backlog of deteriorated storm drain infrastructure
- Culvert failures: North Street culvert is severely deteriorated, resulting in bank erosion for White Brook
- Pipe failures: Westford Circle outfall pipe separation and erosion
- Detention pond maintenance: private maintenance is not performed, resulting in failure and burden upon the municipal system
- Undersized pipes to convey flow
- Sanitary sewer cross-connections

Municipal Stormwater System
Infrastructure

Year	Feet of Pipe	%
Pre 1960	8,937	1.4%
1960-69	29,213	4.6%
1970-79	69,018	10.8%
1980-89	55,860	8.7%
1990-99	24,103	3.8%
2000-09	79,278	12.4%
2010+	6,267	1.0%
No Data	368,602	57.5%
Total	641,278	100.0%



Stormwater Needs
Water Quality

Impaired Water Bodies:

- Connecticut River
  - E. coli, nutrients, total suspended solids (TSS), and PCBs in fish tissue
  - Long Island Sound TMDL (nitrogen) – applies to Agawam
  - Incorporated into EPA stormwater permit

Return to all sites | Nearby Sites | Return to search

Connecticut River at Pynchon Point Park

River Road
Agawam, MA
Longitude/Latitude: -72.585449 / 42.083300

Pynchon Point Park is located at the mouth of the Westfield River where it joins the Connecticut River. Down a short path from the parking lot, is an unimproved ramp for car-top boats only.

Is It Clean?

Pynchon Point is sampled Thursdays from June to September by volunteers coordinated by the Pioneer Valley Planning Commission.

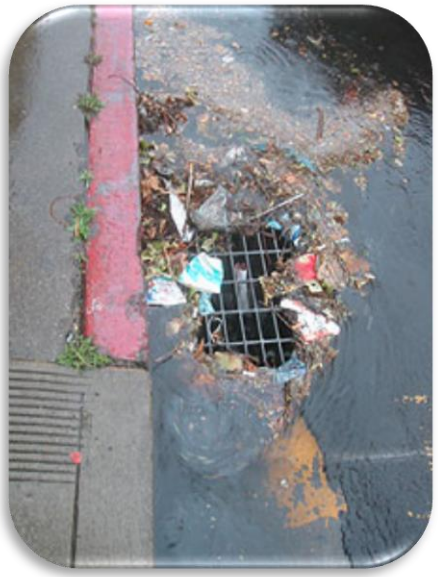
Sample Date	Status	CFU/100ml	Wet
2016-09-28	Clean for Boating and Swimming	190	Y
2016-09-21	Clean for Boating	270	Y
2016-09-14	Clean for Boating and Swimming	18	N
2016-09-07	Clean for Boating and Swimming	116	N
2016-08-31	Clean for Boating and Swimming	54	N

Get more data | What do these numbers mean?

Stormwater Needs
Water Quality

Potential Causes of Impairments:

- Urban stormwater runoff
- Illicit discharges
- Sanitary sewer I/I and SSOs
- Septic systems
- Waterfowl
- Pet waste

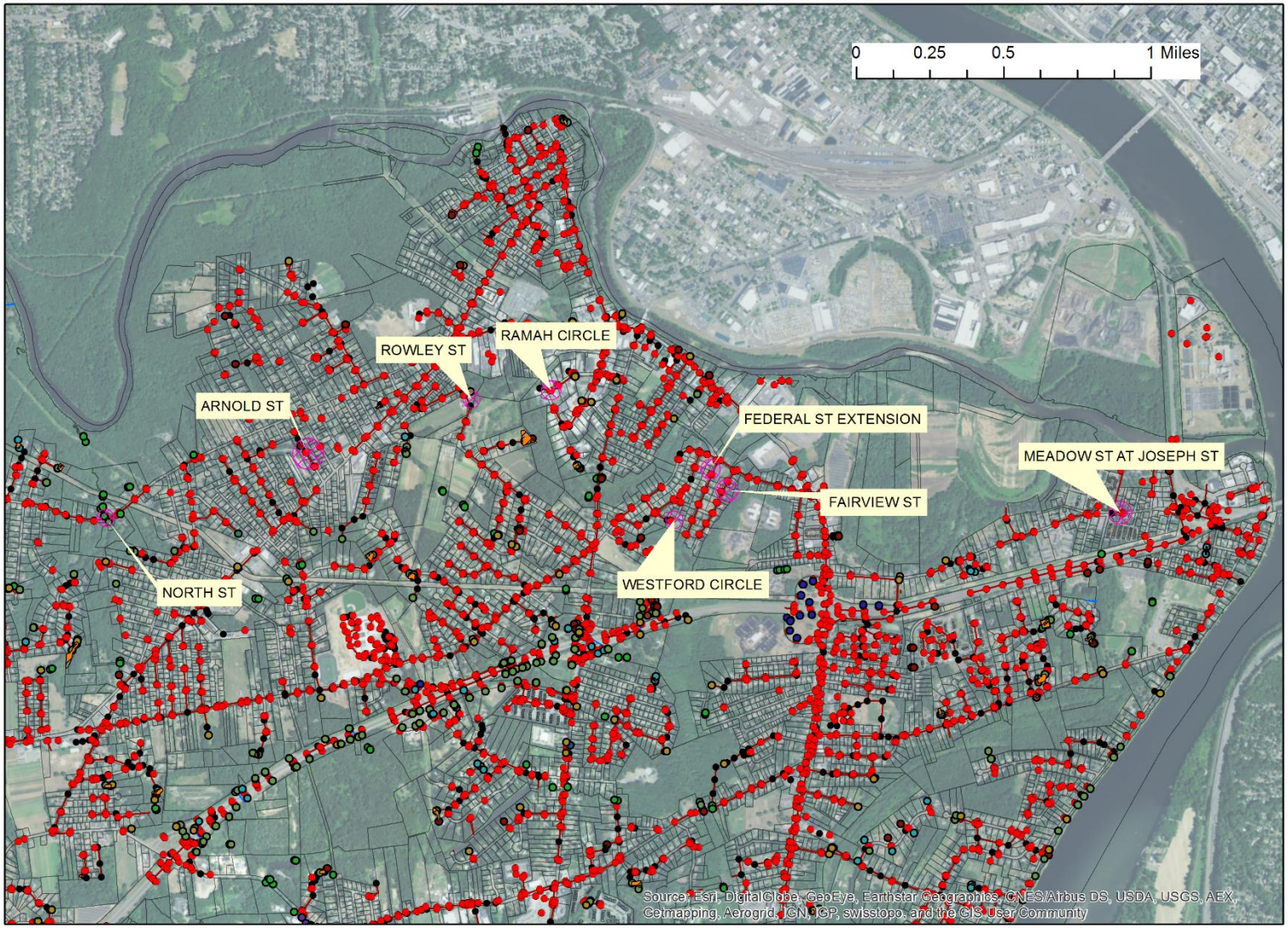


Stormwater Needs
Flooding

Known Problem Areas:

- Arnold Street (north) – flooding during heavy storms, failed infiltration system
- Meadow Street near Joseph Street – heavy storms overwhelm undersized pipes
- Fairview Street and Federal St. Ext. – flooding due to tree roots in pipes
- Ramah Circle – flooding due to uncontrolled runoff from development
- Basement flooding during extreme storms

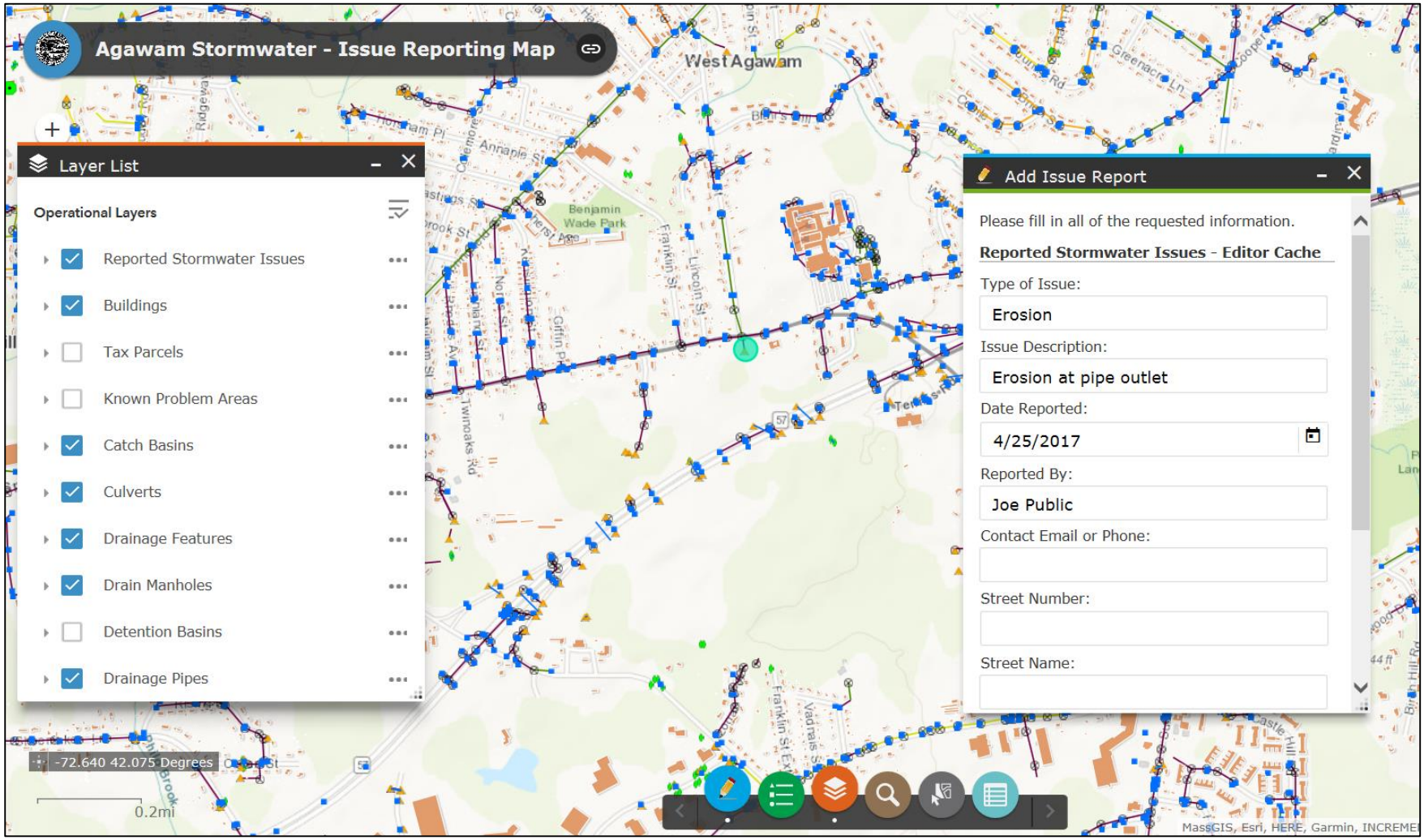
Stormwater Needs
Example Problem Areas



Stormwater Needs

Additional Problem Areas – Interactive Map

http://amecei.maps.arcgis.com/apps/webappviewer/index.html?id=962d1cfb82f946a0ba2de823f9e4516c



Stormwater Needs
Feedback

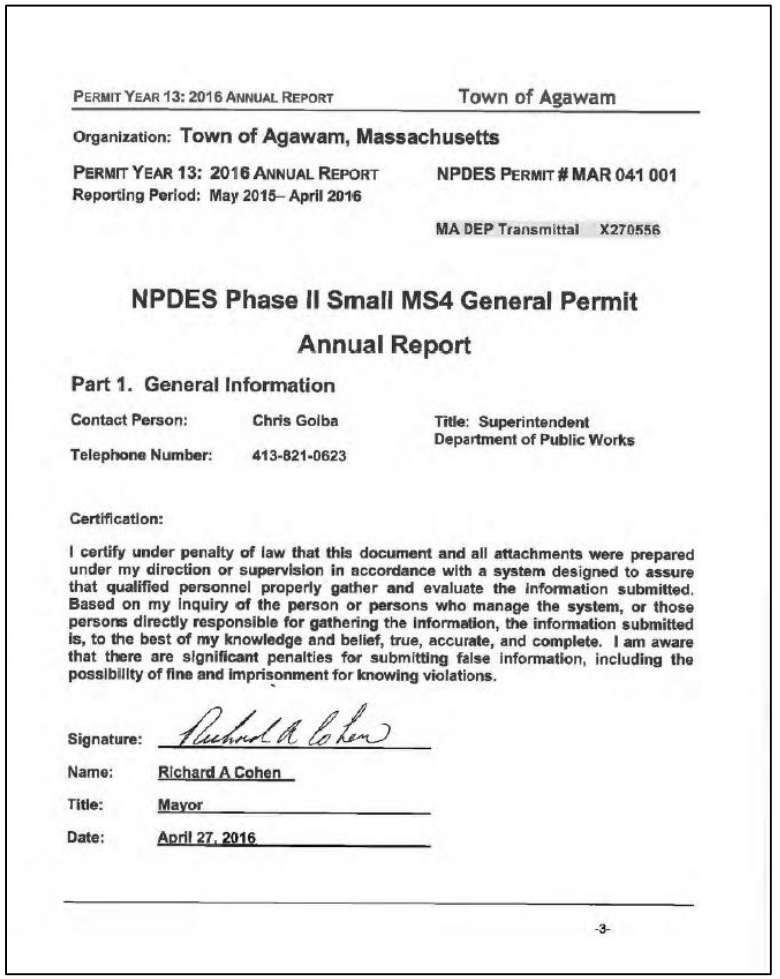
“We need a better stormwater management program because:”

- Aging infrastructure
- Compliance requirements
- Flooding problems
- Water quality problems
- Beach closures or swimming restrictions
- Ecological concerns
- Preservation of property value
- Erosion of channels and streams
- Preserve recreation or fisheries
- Wastewater or septic pressures
- Development pressures
- Drinking water protection
- Prevent lawsuits

Everyone gets 5 votes

Stormwater Needs
Regulatory Requirements

- Small Municipal Separate Storm Sewer System (MS4) General Permit
  - Re-issued on April 4, 2016
  - Becomes effective July 1, 2017
  - Expires June 30, 2022
  - Replaces prior MS4 permit that expired in 2008
  - https://www3.epa.gov/region1/npdes/stormwater/MS4_MA.html



PERMIT YEAR 13: 2016 ANNUAL REPORT Town of Agawam

Organization: Town of Agawam, Massachusetts

PERMIT YEAR 13: 2016 ANNUAL REPORT
Reporting Period: May 2015– April 2016

NPDES PERMIT # MAR 041 001

MA DEP Transmittal X270556

NPDES Phase II Small MS4 General Permit

Annual Report

Part 1. General Information

Contact Person: Chris Golba
Title: Superintendent
Department of Public Works

Telephone Number: 413-821-0623

Certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: Richard A Cohen

Name: Richard A Cohen

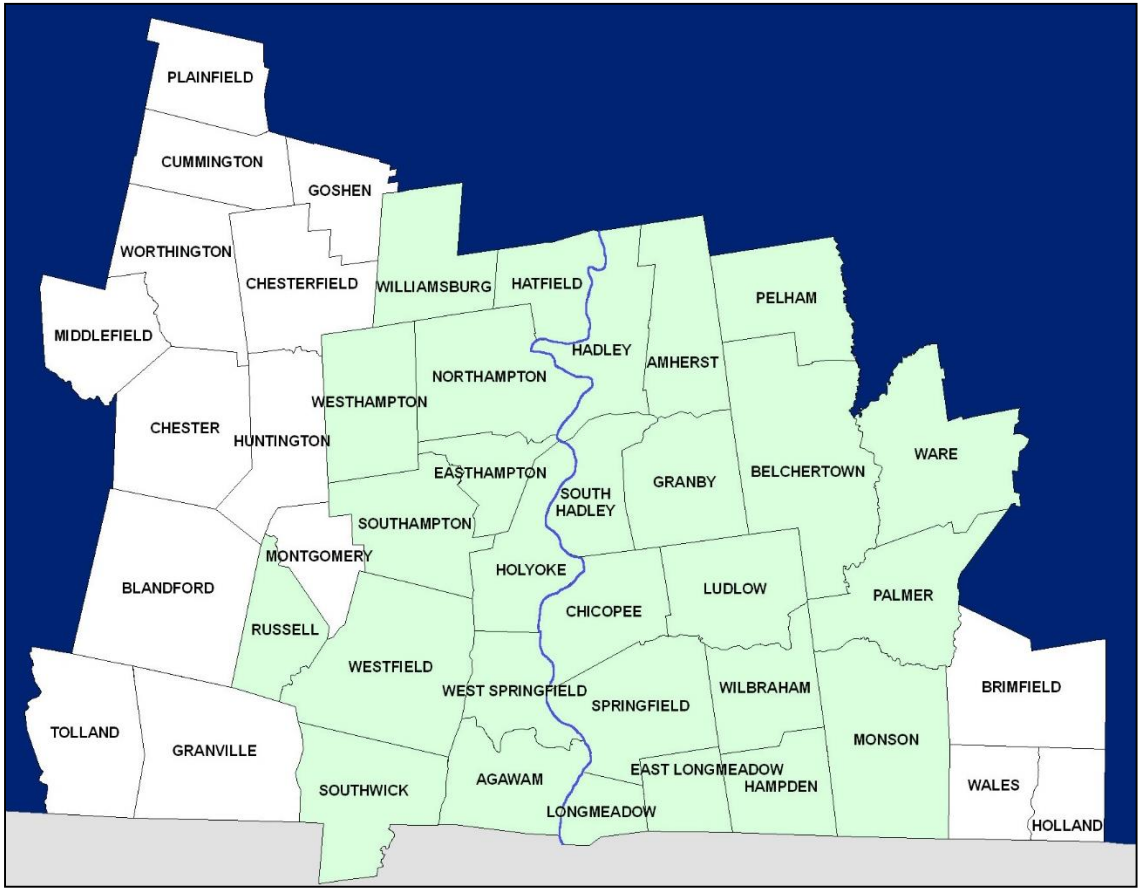
Title: Mayor

Date: April 27, 2016

-3-

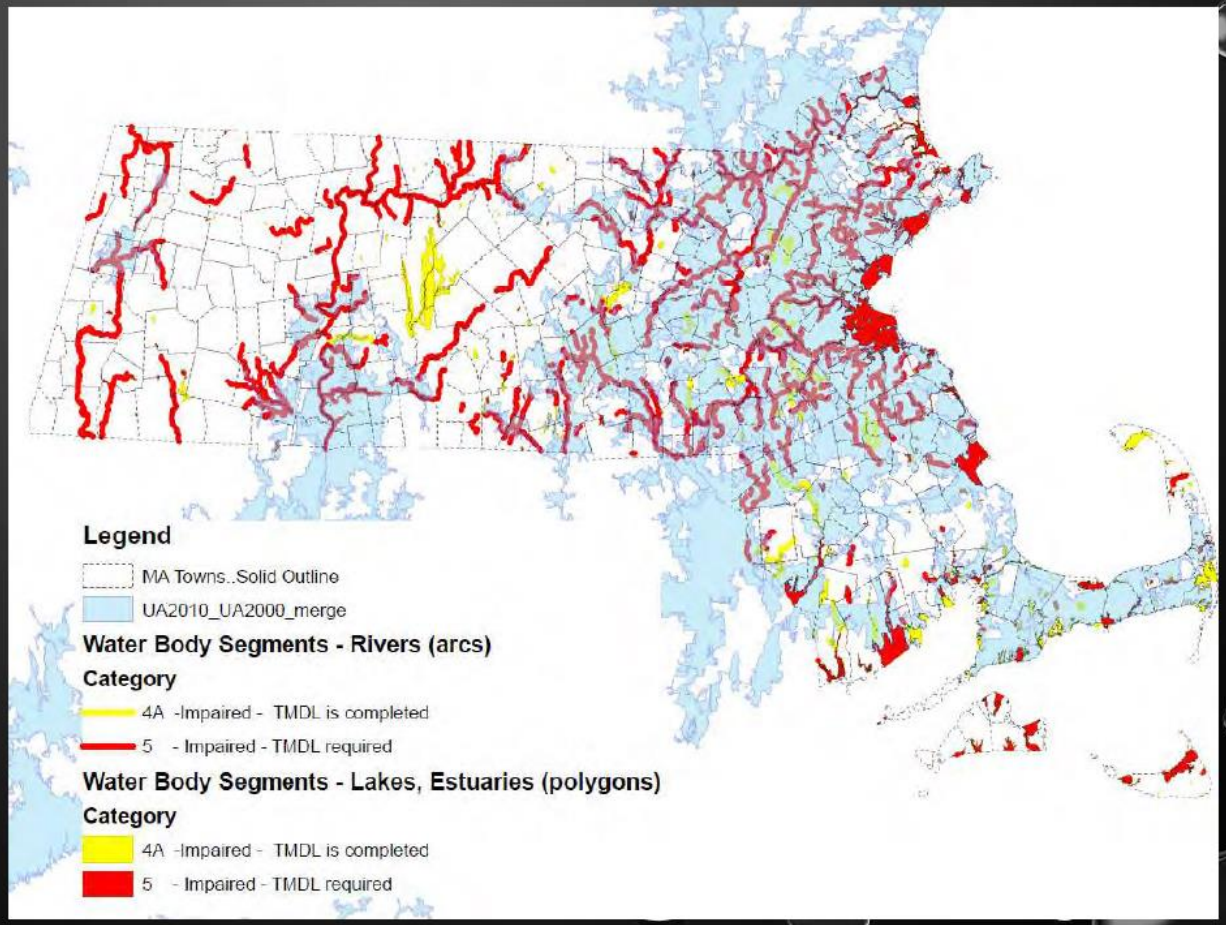
Stormwater Needs
Regulatory Requirements

- Who is regulated?
  - 26 MS4s in Pioneer Valley
  - 2 waivers (1 pending)
  - 260 MS4s in MA



Stormwater Needs
Regulatory Requirements

STORMWATER DISCHARGES ARE CAUSING OR CONTRIBUTING TO AT LEAST OF THE **55%** IMPAIRMENTS IN ALL MASSACHUSETTS' ASSESSED WATERS



Source: Newt Tedder, EPA permit writer, PVPC presentation 5-9-16

Stormwater Needs
Regulatory Requirements

MS4 Permit - 6 Minimum Control Measures (MCMs)

- MCM 1: Public Education and Outreach
- MCM 2: Public Involvement and Participation
- MCM 3: Illicit Discharge Detection and Elimination (IDDE) Program
- MCM 4: Construction Site Stormwater Runoff Control
- MCM 5: Stormwater Management in New Development and Redevelopment
- MCM 6: Pollution Prevention and Good Housekeeping

Stormwater Needs
Regulatory Requirements

1. Public Education and Outreach

- 2 messages to 4 key audiences: residents, businesses and commercial facilities, developers, industrial facilities
- Additional messages based on water quality problems
- Evaluate effectiveness of messages and overall program

2. Public Involvement and Participation

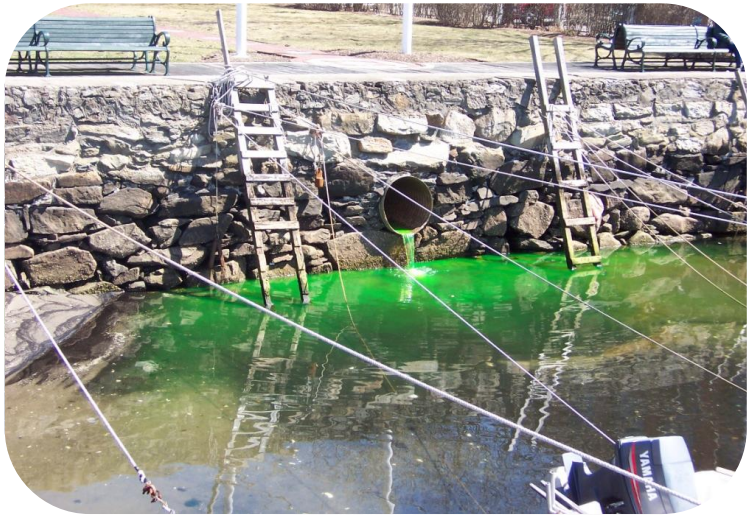
- Make SWMP and all annual reports available for review
- Engage public in annual review of SWMP
- The above may include activities such as: websites, hotlines, clean-up teams, monitoring teams, or an advisory committee

Source: City of Orlando, Florida

Stormwater Needs
Regulatory Requirements

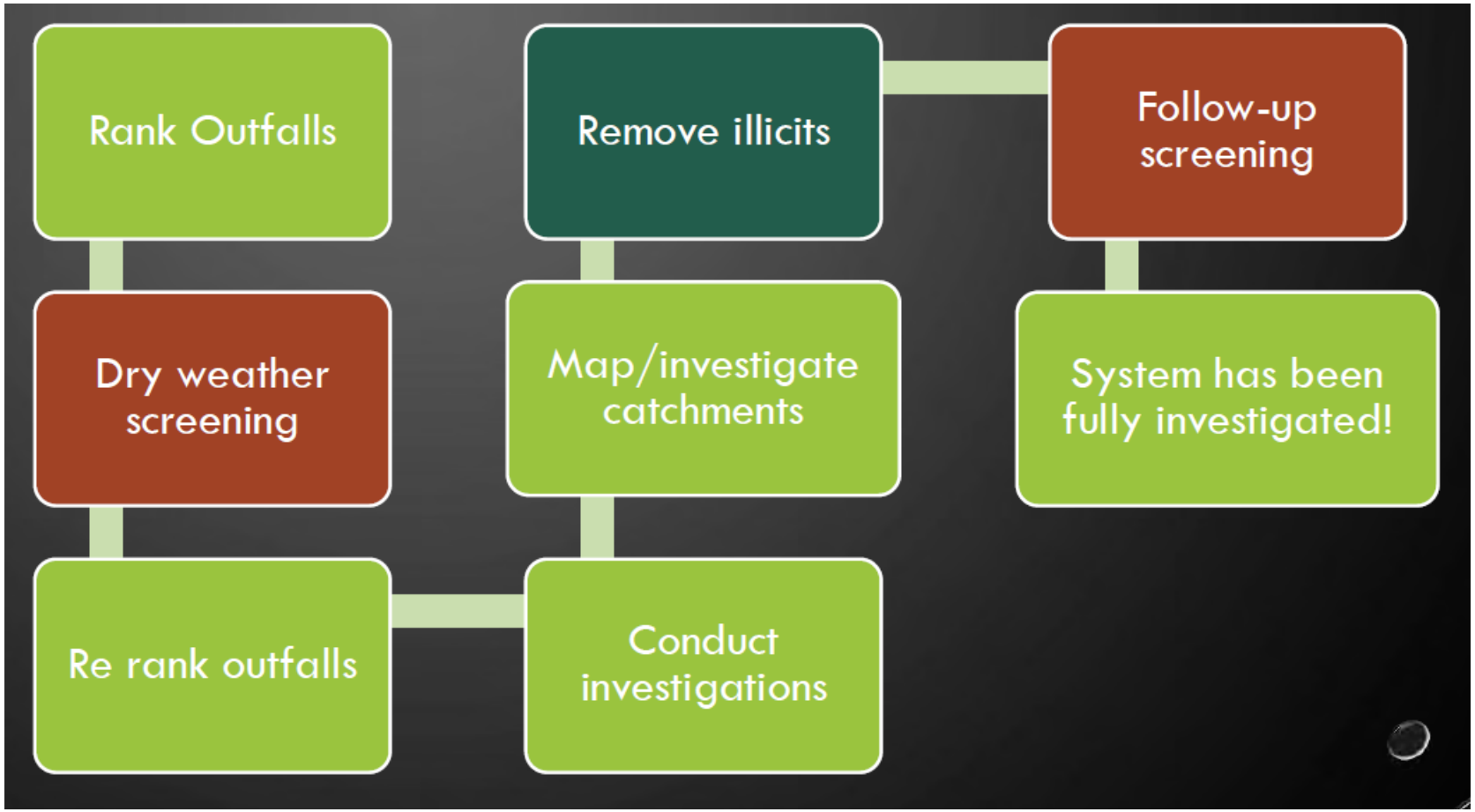
3. Illicit Discharge Detection and Elimination (IDDE) Program

- Any discharge to the storm drain system that is not composed entirely of stormwater
  - Improper connections or discharges (e.g., vehicle wash water)
  - Illegal dumping and spills
  - Failed septic systems



Stormwater Needs
Regulatory Requirements

3. Illicit Discharge Detection and Elimination (IDDE) Program



Source: Newt Tedder, EPA permit writer, PVPC presentation 5-9-16

Stormwater Needs
Regulatory Requirements

4. Construction Site Stormwater Runoff Control

- Erosion & sediment control regulatory mechanism
- Site inspection procedures
- Sediment control requirements
- Requirements to control waste
- Site plan review procedures

Stormwater Needs
Regulatory Requirements

5. Stormwater Management in New Development and Redevelopment

- Continue to implement and enforce a program for sites that disturb >1 acre
- Modify local ordinances by July 1, 2019 to incorporate Low Impact Development (LID) strategies and MA Stormwater Handbook requirements
- In new development, redevelopment, optimize BMPs for nitrogen and phosphorous removal
- Develop reports on: 1) creation of impervious surfaces; and 2) feasibility of green roofs, infiltration practices and rain harvesting
- Identify a minimum of 5 municipal properties that could be retrofitted with BMPs

Stormwater Needs
Regulatory Requirements

6. Pollution Prevention and Good Housekeeping

- O & M procedures
- Catch basin cleaning
- Street sweeping (2 times per year based on Long Island Sound Nitrogen TMDL)
- Stormwater Pollution Prevention Plan for maintenance garages, DPW yards, transfer stations

Stormwater Needs
Regulatory Requirements

Permit Element or Minimum Control Measure (MCM)	Status of Town's Existing Program	Needed Actions	Permit Reference	Schedule For Compliance* End Year 1 (July 2018)	End Year 2 (June 2019)	End Year 3 (June 2020)	End Year 4 (June 2021)	End Year 5 (June 2022)
MCM #2 – Public Involvement and Participation	Various activities reported since 2003	Continue program; SWMP & annual reports available to public; provide opportunity (annually) for public in review & implementation of SWMP.	Part 2.3.3, page 29	X	X	X	X	X
		Budget Estimate - Vendor/Contractor Services		$2,000	$2,000	$2,000	$2,000	$2,000
MCM #3 – Illicit Discharge Detection & Elimination (IDDE) Program	IDDE Bylaw adopted; in 2011 outfalls were mapped by Tighe & Bond and preliminary IDDE testing performed	Compile and report on inventory of sanitary sewer overflows (SSOs) from the past 5 years.	Part 2.3.4.4.b, page 31	X				
		Budget Estimate - Professional Services		$7,000				
		g & field reas.	2.3.4.5, page 32		Update and report on outfalls, catch basins, and other assets	Ground-truth per IDDE prioritization	Ground-truth per IDDE prioritization	Ground-truth per IDDE prioritization
		Budget Estimate - Professional Services			$6,950	$23,900	$23,900	$23,900
		Written IDDE Plan (assessment of priority & problem catchments, procedures for wet weather monitoring & methods to evaluate progress).	Part 2.3.4.6, page 33; Part 2.3.4.7b, page 35	Delineate **521** outfall catchments. Catchment prioritization and written IDDE Plan	Dry weather screening and sampling of flowing outfalls (50% completed)	Dry weather screening and sampling of flowing outfalls (100% completed)		
		Budget Estimate - Professional Services		$25,450	$22,340	$22,340		
		Dry weather Catchment Investigation Procedures for illicit discharges based on IDDE Plan.	Part 2.3.4.8, pages 37-41		Investigation for 33% of "problem" catchments		Investigation for additional 33% of "problem" catchments	
		Budget Estimate - Professional Services			$31,940		$31,940	
		Wet weather sampling in catchments with identified System Vulnerability Factors based on IDDE Plan.	Part 2.3.4.8.c.ii.2.b, page 40					10 outfalls in catchments with one System Vulnerability Factor
		Budget Estimate - Professional Services						$16,730
		IDDE training program for municipal staff and train each year.	Part 2.3.4.11, page 41	Develop program & training	X	X	X	X
		Budget Estimate - Professional Services		$5,000	$1,730	$1,730	$1,730	$1,730

To be discussed further at Task Force meeting #2

Stormwater Needs
Summary

Stormwater Program Challenges:

- Aging infrastructure
- Flooding and drainage system capacity
- Water quality impacts
- Mapping and understanding of the storm drain system (age, condition, etc.)
- System maintenance
- Capital improvements
- Regulatory requirements
- Increasing costs
- Limited resources and funding

Public Education and Outreach
Proposed Activities

- Conduct Survey and Interviews
  - Define and articulate a meaningful local case for stormwater funding
- Develop Educational Materials
  - Elevate the visibility of municipal stormwater work
  - Distinguish between drinking water, wastewater and stormwater systems
  - Engage graphic designer for material development
- Conduct 2 to 3 Public Meetings
  - Share work of Task Force and recommendations
  - Solicit feedback

Public Education and Outreach
Focus Group and Survey Feedback

- Identify Focus Group
- Provide Example Survey
- Feedback

Next Steps

- Stormwater Program Analysis
  - Outline needs and priorities
  - Develop existing and future costs
- Data Analysis
  - GIS updates and impervious area analysis
- Public Outreach
  - Finalize survey and conduct interviews
- Task Force Meeting #2 in May
  - Review stormwater program analysis