

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



Citizen Advisory Task Force Meeting #2



June 7, 2017



Agenda

6⁰⁰ - 6¹⁰p: **Review of Meeting #1**

6¹⁰ - 6³⁵p: **Existing Stormwater Program**

- ▶ Activities and Services
- ▶ Current Costs
- ▶ Current Funding Approach & Options

6³⁵ - 6⁵⁵p: **Public Engagement**

- ▶ Input on Proposed Activities

6⁵⁵ - 7⁰⁵p: **Break**

7⁰⁵ - 7³⁵p: **Future Stormwater Program**

- ▶ Needs and Cost Estimates
- ▶ Program Levels of Service
- ▶ Future Funding Options (introduction)

7³⁵ - 7⁵⁰p: **Discussion and Feedback**

7⁵⁰ - 8⁰⁰p: **Next Steps**

Review of Task Force Meeting #1

Summary of Key Issues Covered



- ▶ History of the combined sanitary sewer and storm sewer systems – separation projects from 1980s-2000
 - ▶ Overview of the Town’s municipal storm sewer system – pipe, culverts, catch basins, outfalls, stormwater BMPs
 - ▶ Town’s current stormwater management challenges:
 - ▶ Aging assets and increased maintenance
 - ▶ MS4 permit compliance
 - ▶ Budget constraints
 - ▶ Local stormwater issues and interactive map showing problem areas
 - ▶ Overview of the MS4 permit – 6 Minimum Control Measures
 - ▶ Public engagement and proposed activities and initial thoughts on messaging:
 - ▶ Understanding of stormwater issues is lacking and a robust outreach program is needed with examples to show the growing need
 - ▶ Need for continued youth education programs
 - ▶ Stormwater projects need to be more visible
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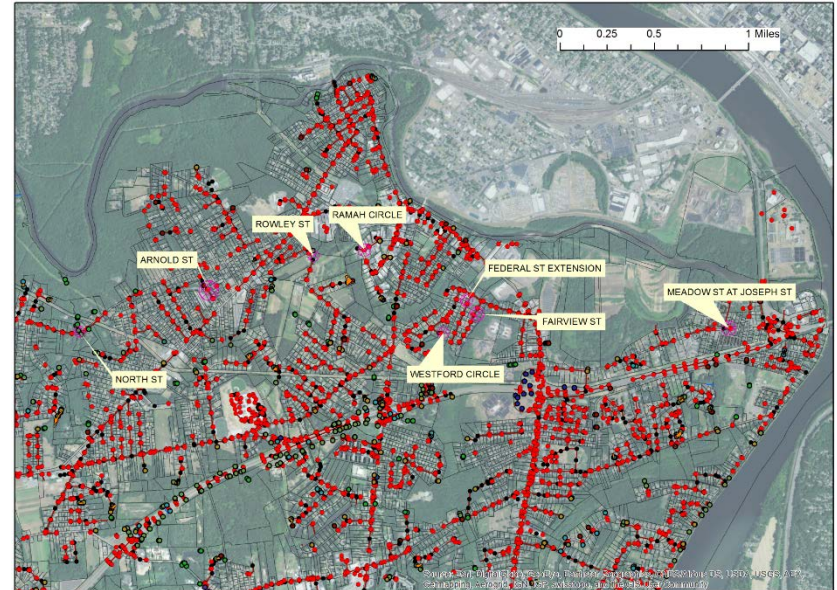
Review of Task Force Meeting #1

Summary of Key Issues Covered



► Initial Priorities from Task Force Poll:

- Aging infrastructure – 5
- Flooding problems – 5
- Erosion of channels and streams – 4
- Water quality problems – 3
- Wastewater or septic pressures – 3
- Drinking water protection – 3
- Compliance requirements – 2
- Preserve recreation or fisheries – 2
- Ecological concerns – 2
- Understanding of the stormwater system / data quality – 1 (added to list at Task Force member request)
- Beach closures or swimming restrictions – 0
- Preservation of property value – 0
- Development pressures – 0
- Prevent lawsuits – 0



Review of Task Force Meeting #1

Existing Town Stormwater Services



Activities:

- ▶ Catch basin cleaning
- ▶ Street sweeping and waste disposal
- ▶ 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, planning and oversight of upgrades
- ▶ Drainage mapping and assessments
- ▶ Permit compliance tracking and reporting
- ▶ Enforcement of drainage design standards
- ▶ Public outreach & education
- ▶ Contract management

Carr Ave – culvert replacement

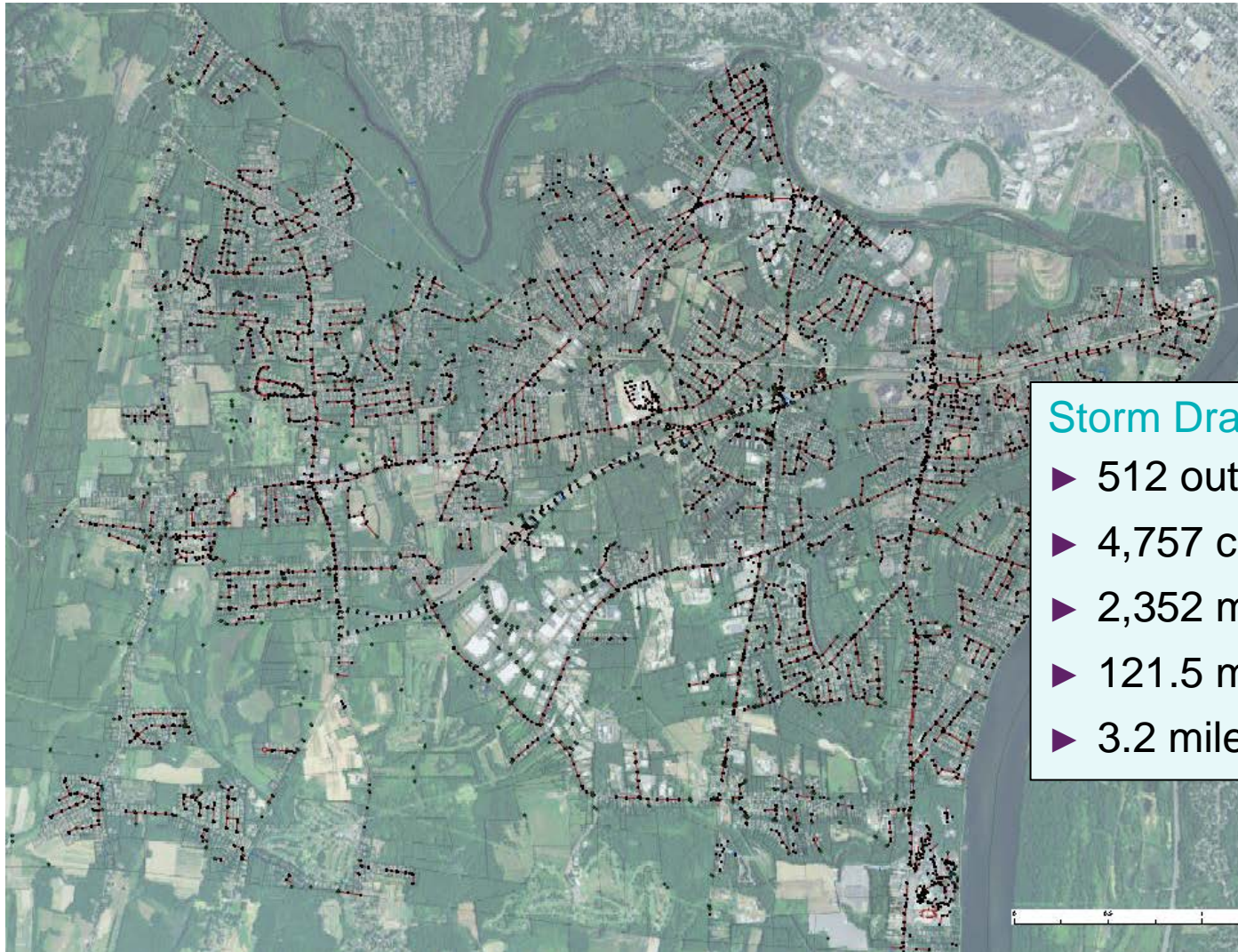


Robinson Park School – infiltration system



Review of Task Force Meeting #1

Stormwater System Assets



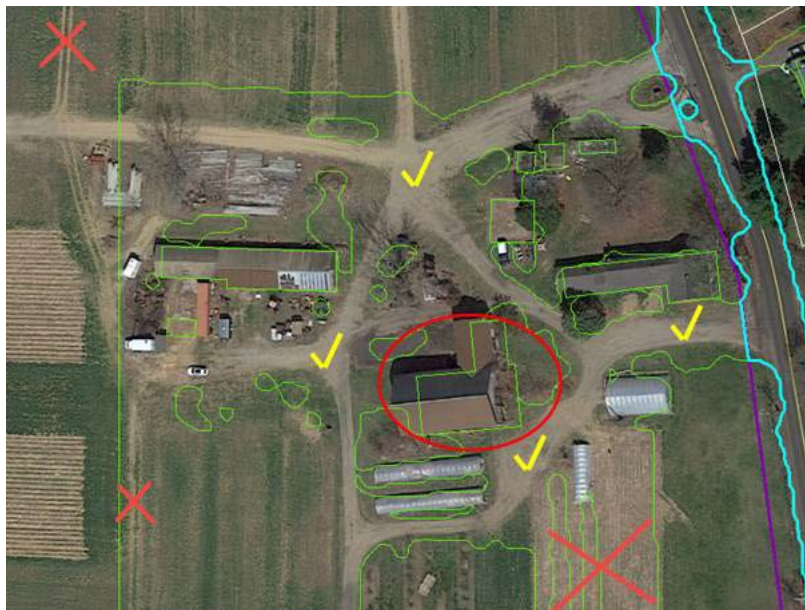
Storm Drain Infrastructure:

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



Ongoing Work

- ▶ Public engagement activities
 - ▶ Press release
 - ▶ Informational web page
 - ▶ Interactive map for public to identify stormwater needs or concerns
- ▶ GIS data update and analysis of data for funding approaches
 - ▶ Parcel analysis
 - ▶ Analysis of billing units
 - ▶ Billing approaches



Existing Stormwater Program

Current MS4 Permit Budget Approach



STORMWATER MANAGEMENT FY2017 = \$173,000 line item

- ▶ Focused on MS4 Permit Compliance
- ▶ MS4 Permit - 6 Minimum Control Measures (MCMs)
 - ▶ MCM 1: Public Education and Outreach (\$3,000)
 - ▶ MCM 2: Public Involvement and Participation (\$1,500)
 - ▶ MCM 3: Illicit Discharge Detection and Elimination (IDDE) Program (\$20,000)
 - ▶ MCM 4: Construction Site Stormwater Runoff Control (\$5,000)
 - ▶ MCM 5: Stormwater Management in New Development and Redevelopment (\$5,000)
 - ▶ MCM 6: Pollution Prevention and Good Housekeeping (\$138,500)
- ▶ Does not include:
 - ▶ Labor associated with operations and management
 - ▶ Labor for administration, management, engineering, planning, inspection/enforcement
 - ▶ Capital projects and equipment costs
 - ▶ Additional contract services

Existing Stormwater Program

Summary of Activities by Function



- ▶ 1. Stormwater Program Administration
 - ▶ General administration (budgets, personnel, management, etc.)
 - ▶ Grant application/management
 - ▶ Internal/external project coordination
- ▶ 2. Stormwater Operations and Maintenance
 - ▶ Catch basin repairs
 - ▶ Storm drain and culvert repairs
 - ▶ Street sweeping
 - ▶ Catch basin cleaning
 - ▶ Storm cleanup/flood relief response
 - ▶ Ditch/channel maintenance
 - ▶ Equipment maintenance/repair
- ▶ 3. Drainage Engineering and Stormwater Management Planning
 - ▶ System conditions inspection/video
 - ▶ Asset management
 - ▶ Planning/design of collection system upgrades



Existing Stormwater Program

Summary of Activities by Function



- ▶ 3. Drainage Engineering and Stormwater Management Planning (*continued*)
 - ▶ Planning/design of collection system upgrades
 - ▶ Planning/design of stormwater treatment (BMPs)
 - ▶ Drainage design standards and bylaws
 - ▶ System mapping and database management
 - ▶ Water quality monitoring
 - ▶ Public involvement/outreach
- ▶ 4. Regulatory Compliance/Enforcement
 - ▶ MS4 permit compliance
 - ▶ Review and approval of stormwater plans
 - ▶ Construction inspections and reporting
 - ▶ BMP inspection and enforcement
- ▶ 5. Stormwater Capital Improvement Projects and Equipment
 - ▶ Minor projects: drainage improvements (existing systems)
 - ▶ Major projects: new infrastructure/BMPs
 - ▶ Capital equipment

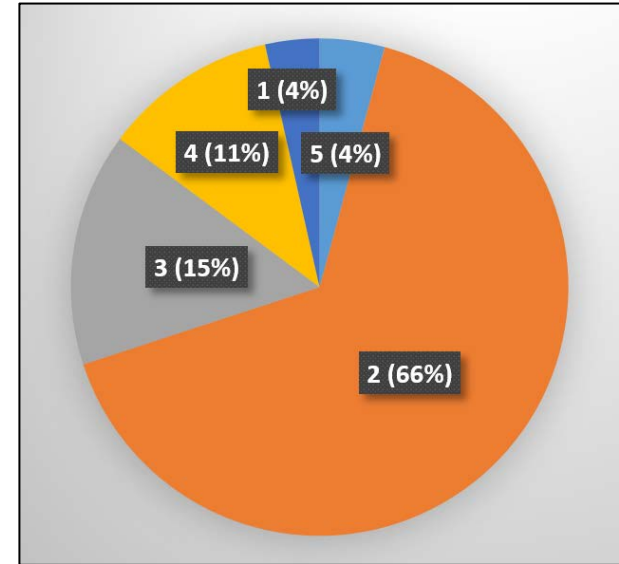


Existing Stormwater Program

Summary of Current Costs



Functional Category	FY '17 Budget
1. Stormwater Program Administration	\$37,676
2. Stormwater Operations and Maintenance	\$586,799
3. Drainage Engineering and Stormwater Management Planning	\$135,725
4. Regulatory Compliance/Enforcement	\$100,917
5. Stormwater Capital Improvement Projects and Equipment	\$31,456
Total	\$892,571



- ▶ Preliminary costs are derived primarily from:
 - ▶ Existing and estimated budget items
 - ▶ Estimated personnel (labor) efforts
 - ▶ Contractors and expenses

Existing Stormwater Program

Summary of Current Costs



Personnel efforts (FY '17) – preliminary analysis

Functional Category	FTEs*	Labor Cost**	Total Budget
1. Stormwater Program Administration	0.26	\$28,676	\$37,676
2. Stormwater Operations and Maintenance	3.02	\$458,819	\$586,799
3. Drainage Engineering and Stormwater Management Planning	0.8	\$107,244	\$135,725
4. Regulatory Compliance/Enforcement	0.7	\$100,917	\$100,917
5. Stormwater Capital Improvement Projects and Equipment	0.07	\$8,456	\$31,456
Total	4.85	\$704,110	\$892,571

*FTEs = number of full-time employees across all personnel categories

**Based on a full-burdened rate of 1.4 for indirect benefits

Existing Stormwater Program

Summary of Current Costs



Personnel efforts (FY '17) – supporting analysis example

Town Department	Highways and Grounds							
Personnel	Depty Superintendent	Working Foreman	Special Heavy Equip Operator	Special Heavy Equip Operator	Heavy Equip Operators (7)	Maintenance Crew (4)	Laborer (4)	Foreman (2)
Annual Salary w/ Direct Benefits	\$ 83,505	\$ 54,456	\$ 50,462	\$ 50,462	\$ 321,929	\$ 170,760	\$ 150,560	\$ 128,406
Fully Burdened Rate (1.4)	\$ 116,907	\$ 76,238	\$ 70,647	\$ 70,647	\$ 450,701	\$ 239,064	\$ 210,784	\$ 179,768
Functional Category & Subcategories								
1. Stormwater Program Administration								
General Administration (budgets, personnel management, etc)	0.02							
Grant application/management								
Internal/External Project Coordination								
	0.02	0	0	0	0	0	0	0
2. Stormwater Operations and Maintenance								
Catch basin repairs	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1
Storm drain and culvert repairs	0.05	0.2	0.2	0.1	0.1	0.1	0.1	0.1
Street sweeping	0.02							
Storm cleanup/flood relief response	0.02	0.05		0.05		0.05	0.05	0.05
Ditch/channel maintenance	0.02	0.05	0.1	0.05	0.05	0.05	0.05	0.05
Equipment maintenance/repair	0.01							
	0.22	0.5	0.5	0.3	0.25	0.3	0.3	0.3
3. Drainage Engineering and Stormwater Management Planning								
System Conditions Inspections/Video	0.02							
Asset Management								
Planning/Design of Collection System Upgrades								
Planning/Design of Stormwater Treatment (BMPs)								
Drainage Design Standards and Bylaws								
System Mapping and Database Management								
Water Quality Monitoring								
Public Involvement/Outreach								
	0.02	0	0	0	0	0	0	0

Existing Stormwater Program

Summary of Current Costs



Contractors and expenses backup summary - \$188,461 total

	FY 2017 Budget	Description
1. Stormwater Program Administration		
a	\$ 2,000	Connecticut River Watershed Stormwater Coalition
b	\$ 2,000	PVPC Local Technical Assistance
c	\$ 500	Staff training and seminars
d	\$ 3,000	Public education and outreach
e	\$ 1,500	Public involvement and participation
Subtotal	\$ 9,000	
2. Stormwater Operations and Maintenance		
a	\$ 73,200	Street sweeper rental (Purchased Services 52070)
b	\$ 20,000	Storm drain material (supplies)
c	\$ 24,780	Catch basin cleaning - MS4 budget
f	\$ 5,000	Installation and maintenance of erosion and sediment controls (materials) - MS4 budget
g	\$ 5,000	Repairs of BMPs (materials) - MS4 budget
Subtotal	\$ 127,980	
3. Drainage Engineering and Stormwater Management Planning		
a	\$ 500	Staff training and seminars
b	\$ 2,156	Computer software licenses (stormwater only)
c	\$ 5,000	Computers, printers, plotters, scanners (10-yr replacement)
d	\$ 825	Work orders (water billing software)
f	\$ 20,000	Illicit discharge detection and elimination (field investigations and mapping)
Subtotal	\$ 28,481	
4. Regulatory Compliance/Enforcement		
Subtotal	\$ -	
5. Stormwater Capital Improvement Projects and Equipment		
c	\$ 23,000	Capital equipment costs (10-yr lease of equipment 50% dedicated to stormwater)
Subtotal	\$ 23,000	



Existing Stormwater Program

Current Funding Approach and Options

General Fund (property tax)

- ▶ Based on assessed property value
- ▶ Does not include tax-exempt properties

Grants (e.g., 604b, s319, DLTA)

- ▶ Limited funding
- ▶ Very competitive
- ▶ Project-based (day to day operations and expenses not eligible)

Plan Review Fees

- ▶ Does not cover cost of all related Town services (multiple reviews; follow on inspections)

Chapter 90 (fuel tax for roads)

- ▶ Mostly dedicated to roads (minor stormwater improvements)

Public Engagement

Input on Proposed Activities



Objective: Define message about stormwater funding based on understanding of concerns and what matters most to people in Agawam.

DRAFT

MEDIA RELEASE

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Patty Gambarini, Principal Environmental Planner, Pioneer Valley Planning Commission, (413) 781-6045

FOR IMMEDIATE RELEASE
June 8, 2017

Learning about stormwater management in Agawam

When rainfall hits the ground, it can move in mysterious ways. If it hits earth, it often soaks in. If it hits a rooftop, driveway, parking lot, or roadway, chances are it will run into the nearest street drain, move through a series of pipes and then out to a nearby stream, pond, or river. But it can pool in many places as well, especially where the drainage system itself is failing.

In Agawam, the Public Works Department maintains some 4,757 street drains (aka catch basins), 122 miles of drain pipe, and 2,352 manholes to convey storm flows to the Town's 512 outfalls that outlet to waterways (which themselves involve some 3.2 miles of culverts maintained by Public Works). To most of us, this storm system is invisible. Only when things start to fall apart or fail, does it become clear that this infrastructure is critically important. While roughly 17% of this system was installed in the last 30 years, the rest of the system is older or the age is unknown. When you align proper care of the storm system with important new Clean Water Act permit requirements to reduce polluted flows to rivers and streams, the burden is extraordinary.

A newly formed 10-member Stormwater Advisory Task Force is working currently with Agawam Public Works officials to help figure out how to better fund the work of caring for the storm system and reduce polluted flows from developed areas. For years, storm system work has been funded through the Town's General Fund. With the age of the system and expanded Clean Water Act permit requirements, the level of effort and costs for this work will increase significantly. The amount of this increase is something that consultant Amec Foster Wheeler is evaluating for the Task Force through interviews with Public Works officials about the system, and careful review of available data and effort needed to meet permit requirements over the next 5 years and beyond.

Town of Agawam MASSACHUSETTS

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GOVERNMENT DEPARTMENTS PUBLIC SAFETY BOARDS & COMMISSIONS SCHOOLS LINKS

How Do I... Departments > Public Works > Stormwater > Stormwater

DEPARTMENTS

- Town Staff
- Animal Control
- Assessor
- Auditor
- Building Maintenance
- Clerk
- COA / Senior Center
- Engineering

Stormwater

What is stormwater?

- Pure rain or snowfall plus anything it carries along with it.
- As stormwater flows, it picks up and carries away natural and human-made pollutants to storm drains.
- Unlike sewage, stormwater is not treated.
- Stormwater flows directly from our streets to waterways, inhabited by fish and other aquatic animals and plants.

[Choose a Category] ▾

- Stormwater Permit Application

[2017 Stormwater Report](#)

Additional Links

- Healthy Habits
- Lawn and Garden
- Septic Systems
- Stormwater Pollutants
- Rain Garden
- Massachusetts Department of Environmental Protection - Stormwater
- US Environmental Protection Agency - Stormwater
- CT River Watershed Council
- Westfield River Watershed Association

Public Engagement

Proposed Activities



1. Conduct survey or interviews

Objective: Define message about stormwater funding based on understanding of concerns and what matters most to people in Agawam.

2. Develop educational materials

Objective: Elevate the visibility of municipal stormwater work and promote greater understanding about funding needs.

3. Conduct 2 to 3 public meetings

Objective: Share work of the Stormwater Task Force and recommendations.



Break



Future Stormwater Program

Stormwater Needs



Example Identified Needs:

- ▶ Maintenance backlog of deteriorated storm drain infrastructure with associated increased effort for labor and equipment
- ▶ Repair failing culverts: North Street culvert is severely deteriorated, resulting in bank erosion for White Brook
- ▶ Replace failed pipes: Westford Circle outfall pipe separation and erosion
- ▶ Educate and enforce detention pond maintenance: private systems
- ▶ Increase maintenance of publicly-owned detention basins
- ▶ Design/replace undersized pipes: Arnold Street
- ▶ Identify and eliminate sanitary sewer cross-connections and other illicit discharges
- ▶ Implement increasing MS4 permit requirements: inventories, inspections, outfall screening, good-housekeeping activities (street sweeping and catch basin cleaning)
- ▶ Additional administration, engineering, planning, asset management, etc.

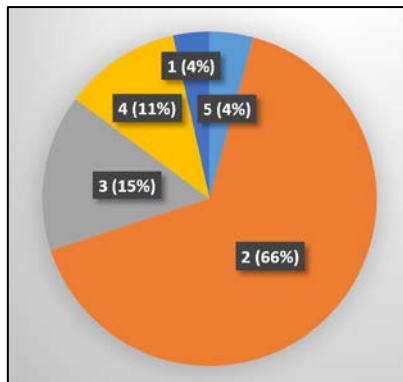
Future Stormwater Program Summary of Future Costs



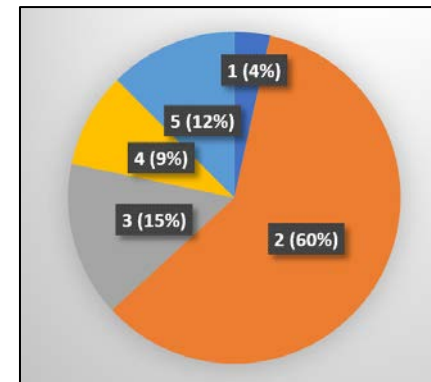
Preliminary Estimate:

Functional Category	FY '17	FY '18	FY '19	FY '20	FY '21	FY '22
1. Stormwater Program Administration	\$37,676	\$66,182	\$67,236	\$67,236	\$67,236	\$67,236
2. Stormwater Operations and Maintenance	\$586,799	\$1,027,446	\$1,126,618	\$1,179,723	\$1,197,723	\$1,215,723
3. Drainage Engineering and Stormwater Management Planning	\$135,725	\$321,284	\$290,519	\$257,449	\$306,599	\$280,389
4. Regulatory Compliance / Enforcement	\$100,917	\$175,950	\$179,269	\$179,269	\$179,269	\$179,269
5. Stormwater Capital Improvement Projects and Equipment	\$31,456	\$39,619	\$289,951	\$289,951	\$289,951	\$289,951
Total	\$892,571	\$1,630,481	\$1,953,593	\$1,973,628	\$2,040,778	\$2,032,568

► FY '17



► FY '18-22
(5-yr avg.)



Future Stormwater Program

Summary of Future Costs



Summary and considerations:

- ▶ \$892,571 (FY '17)
- ▶ \$1,071,399 (FY '18) – costs if none of the study analysis is included
 - ▶ ~ \$25,300 increase in labor from FY '17 to FY '18 due to salary increases
 - ▶ Stormwater Management existing budget line item increased \$153,500 from FY '17 to FY '18
- ▶ 2% salary increase (assumed) each year
- ▶ \$854,810 – net increase
 - ▶ Includes \$250K for minor and major capital projects

Functional Category	5-yr avg. (FY '18-22)
1. Stormwater Program Administration	\$67,025
2. Stormwater Operations and Maintenance	\$1,149,447
3. Drainage Engineering and Stormwater Management Planning	\$291,248
4. Regulatory Compliance/Enforcement	\$178,605
5. Stormwater Capital Improvement Projects and Equipment	\$239,885
Total	\$1,926,209

Existing Stormwater Program

Summary of Future Costs



Personnel efforts – preliminary analysis and comparison of FY '17 and FY '18-22

Functional Category	FY 2018-2022 (avg.)			FY 2017		
	FTEs*	Labor Cost**	Total Budget	FTEs*	Labor Cost**	Total Budget
1. Stormwater Program Administration	0.26	\$52,682	\$67,025	0.26	\$28,676	\$37,676
2. Stormwater Operations and Maintenance	3.02	\$690,739	\$1,149,447	3.02	\$458,819	\$586,799
3. Drainage Engineering and Stormwater Management Planning	0.8	\$177,223	\$291,248	0.8	\$107,244	\$135,725
4. Regulatory Compliance / Enforcement	0.7	\$165,950	\$178,605	0.7	\$100,917	\$100,917
5. Stormwater Capital Improvement Projects and Equipment	0.07	\$16,619	\$239,885	0.07	\$8,456	\$31,456
Total	7.21	\$1,103,212	\$1,926,209	4.85	\$704,110	\$892,571

*FTEs = number of full-time employees across all personnel categories

**Based on a full-burdened rate of 1.4 for indirect benefits

► Increase of 2.36 FTEs and \$399,102 labor budget

Existing Stormwater Program

Summary of Future Costs



Personnel efforts (FY '18-22) – supporting analysis example

Town Department	Engineering			Highways and Grounds							
Personnel	Town Engineer	Asst Town Engineer	Civil Engineer 1 (3)	Depty Superintendent	Working Foreman	Special Heavy Equip Operator	Special Heavy Equip Operator	Heavy Equip Operators (7)	Maintenance Crew (4)	Laborer (4)	Foreman (2)
Annual Salary w/ Direct Benefits	\$ 93,574	\$ 78,763	\$ 177,582	\$ 89,372	\$ 57,589	\$ 50,462	\$ 50,462	\$ 324,795	\$ 175,602	\$ 154,488	\$ 135,340
Fully Burdened Rate (1.4)	\$ 131,004	\$ 110,268	\$ 248,615	\$ 125,121	\$ 80,625	\$ 70,647	\$ 70,647	\$ 454,713	\$ 245,843	\$ 216,283	\$ 189,476
2. Stormwater Operations and Maintenance											
Catch basin repairs				0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1
Storm drain and culvert repairs				0.07	0.3	0.3	0.2	0.2	0.2	0.2	0.2
Street sweeping				0.04							
Storm cleanup/flood relief response				0.02	0.05		0.05		0.05	0.05	0.05
Ditch/channel maintenance				0.04	0.07	0.15	0.1	0.1	0.1	0.1	0.1
Equipment maintenance/repair				0.01							
	0	0	0	0.28	0.62	0.65	0.45	0.4	0.45	0.45	0.45
3. Drainage Engineering and Stormwater Management Planning											
System Conditions Inspections/Video	0.02	0.1	0.05	0.05							
Asset Management	0.01	0.05	0.02								
Planning/Design of Collection System Upgrades	0.07	0.2	0.1								
Planning/Design of Stormwater Treatment (BMPs)	0.03	0.15	0.05								
Drainage Design Standards and Bylaws	0.02	0.05									
System Mapping and Database Management	0.02	0.1									
Water Quality Monitoring		0.05									
Public Involvement/Outreach											
	0.17	0.7	0.22	0.05	0	0	0	0	0	0	0
4. Regulatory Compliance/Enforcement											
MS4 permit compliance	0.05										
Review and Approval of Stormwater Plans	0.04	0.1									
Construction Inspection (E&S, SW plans)	0.07		0.2								
SWPPPs/Reporting		0.07									
BMP Inspection/Enforcement			0.07								
	0.16	0.17	0.27	0	0	0	0	0	0	0	0

Future Stormwater Program

FY '17-'18 MS4 Permit Budget Comparison



Project Code	FY 2017	FY 2018	Description
MCM 1: Public Education and Outreach	\$3,000	\$6,000	PVPC LTA, postcards, storm drain markers, mailings, etc.
MCM 2: Public Involvement and Participation	\$1,500	\$3,000	Materials and supplies for community cleanups, water quality monitoring expenses (future)
MCM 3: Illicit Discharge Detection and Elimination	\$20,000	\$20,000	Mapping updates, outfall inventories, field investigations, staff training
MCM 4: Construction Site Runoff Control	\$5,000	\$5,000	Installation and maintenance of erosion and sediment controls (materials)
MCM 5: Post Construction Stormwater Management	\$5,000	\$5,000	Repairs of BMPs (materials)
MCM 6: Good Housekeeping / Pollution Prevention	\$138,500	\$287,500	Street sweeping, catch basin cleaning, s319 grant match (future), and catch basin inspections (future)
Total	\$173,000	\$326,500	

Does not include:

- ▶ Labor associated with operations and management
- ▶ Labor for administration, management, engineering, planning, inspection/enforcement
- ▶ Capital projects and equipment costs
- ▶ Additional contract services

Future Stormwater Program

5-Year MS4 Permit Budget Evaluation



Year-by-year evaluation (initial estimate):

- ▶ Based on MS4 permit deadlines
- ▶ Aligns with some FY18 MS4 Permit budget line items
- ▶ Consists of contractor costs
- ▶ Does not include Town labor, capital projects or equipment

	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
	\$103,980	\$114,270	\$81,200	\$130,350	\$104,140
5-yr avg.	\$106,788				
5-yr Total	\$533,940				

- ▶ Approximately \$29,000 was included in the FY 2018 MS4 permit budget
- ▶ FY 2018 MS4 permit budget was merged with 5-year analysis

Future Stormwater Program

5-Year MS4 Permit Budget Evaluation



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
		<i>Budget Estimate - Vendor/Contractor Services</i>		\$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				
		<i>Budget Estimate - Professional Services</i>		\$7,000				
		Drainage system mapping & field verification of key areas.	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
		<i>Budget Estimate - Professional Services</i>			\$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)		
		<i>Budget Estimate - Professional Services</i>		\$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	
		<i>Budget Estimate - Professional Services</i>			\$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
		<i>Budget Estimate - Professional Services</i>						\$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		
<i>Budget Estimate - Professional Services</i>		\$5,000	\$1,730	\$1,730	\$1,730	\$1,730		

Summary of requirements and budget estimates

Existing Stormwater Program

Summary of Future Costs



Contractors and expenses backup summary - \$805,346 total (5-yr avg.)

	FY 2017 Budget	FY 2018-2022	Description
1. Stormwater Program Administration			
a	\$ 2,000	\$ 2,000	Connecticut River Watershed Stormwater Coalition
b	\$ 2,000	\$ 2,000	PVPC Local Technical Assistance
c	\$ 500	\$ 500	Staff training and seminars
d	\$ 3,000	\$ 6,000	Public education and outreach
e	\$ 1,500	\$ 3,000	Public involvement and participation
Subtotal	\$ 9,000	\$ 13,500	
2. Stormwater Operations and Maintenance			
a	\$ 73,200	\$ 116,383	Street sweeper rental (Purchased Services 52070) for FY17, MS4 budget for FY18-FY22
b	\$ 20,000	\$ 20,000	Storm drain material (supplies)
c	\$ 24,780	\$ 147,412	Catch basin cleaning - MS4 budget (10% FY '18, 20% FY '19, 25% FY '20 - FY '22)
d	\$ -	\$ 97,763	Catch basin inspection - MS4 budget
e	\$ -	\$ 52,500	Detention basin maintenance: 15 in the first year, additional 10 each year thereafter (92 town-owned basins)
f	\$ 5,000	\$ 5,000	Installation and maintenance of erosion and sediment controls (materials) - MS4 budget
g	\$ 5,000	\$ 5,000	Repairs of BMPs (materials) - MS4 budget
h	\$ -	\$ 4,500	New capital operation and maintenance (2% of accrued new capital value)
Subtotal	\$ 127,980	\$ 447,657	
3. Drainage Engineering and Stormwater Management Planning			
a	\$ 500	\$ 500	Staff training and seminars
b	\$ 2,156	\$ 2,156	Computer software licenses (stormwater only)
c	\$ 5,000	\$ 5,000	Computers, printers, plotters, scanners (10-yr replacement)
d	\$ 825	\$ 825	Work orders (water billing software)
e	\$ -	\$ 8,920	s319 grant match contribution
f	\$ 20,000	\$ 20,000	Illicit discharge detection and elimination (field investigations and mapping)
g		\$ 73,788	2016 MS4 Permit Compliance (plans, reports, program analysis) - less items 1a, 1b, 1d, 1e, 3e
Subtotal	\$ 28,481	\$ 111,189	

Existing Stormwater Program

Summary of Future Costs



Contractors and expenses backup summary - \$805,346 total (5-yr avg.)

	FY 2017 Budget	FY 2018-2022	Description
4. Regulatory Compliance/Enforcement			
a	\$ -	\$ 5,000	Third party inspection of erosion and sediment controls
b	\$ -	\$ 5,000	Third party inspection of BMPs
Subtotal	\$ -	\$ 10,000	
5. Stormwater Capital Improvement Projects and Equipment			
a	\$ -	\$ 120,000	Major capital projects by outside contractors for problem areas
b	\$ -	\$ 80,000	Minor capital projects by Town or outside contractors (capital renewal)
c	\$ 23,000	\$ 23,000	Capital equipment costs (10-yr lease of equipment 50% dedicated to stormwater)
Subtotal	\$ 23,000	\$ 223,000	

Existing Stormwater Program

Summary of Future Costs



Contractors and expenses, major cost components (annual):

- ▶ \$116,383 – street sweeping (2x/yr, 582 total curb miles, \$199.97/curb mile)
 - ▶ \$140,420 – catch basin cleaning (\$147.50/basin, 1,190 basins)
 - ▶ \$98,175 – catch basin inspection (\$82.50/basin, 1,190 basins)
 - ▶ \$150,000 – major capital projects (new infrastructure), beginning FY 2019
 - ▶ \$100,000 – minor capital projects (remedial maintenance), beginning FY 2019
 - ▶ \$73,788 – MS4 permit compliance
-
- ▶ Note that major and minor capital project budgets need to be refined over time based on new data from inspections and assessments

Existing Stormwater Program

Summary of Future Costs



Example Major Capital Project:

- ▶ ~\$324,900 (Fairview St. / Federal St. Ext.)
- ▶ Flooding during heavy rainstorms

FAIRVIEW STREET								
ITEM #	ITEM	UNIT	QUANT.	UNIT PRICE	HDPE PIPE 24X24X8 CB Cover	RCP PIPE 24X24X8 CB Cover	HDPE PIPE CB Top- Type "C"	RCP PIPE CB Top-Type "C"
	DRAINAGE SYSTEM							
2	12" HDPE	LF	1590	\$6.50	\$10,335.00	-	\$10,335.00	-
6	12" RCP	LF	1590	\$8.07	-	\$12,831.30	-	\$12,831.30
9	25 LB BUCKET LUBE	EA	1	\$45.95	-	\$45.95	-	\$45.95
	Structure: CB							
10	2' CB SUMP	EA	14	\$267.00	\$3,738.00	\$3,738.00	\$3,738.00	\$3,738.00
11	2' CB RISER SOL	EA	14	\$208.00	\$2,912.00	\$2,912.00	\$2,912.00	\$2,912.00
12	4' CB KO C-RISER (4' High wit	EA	14	\$320.00	\$4,480.00	\$4,480.00	\$4,480.00	\$4,480.00
13	TYPE "C" BIT CURB CB TOP (EA	14	\$424.00	-	-	\$5,936.00	\$5,936.00
14	24" x 24" x 8" 3 Flange CB Fran	EA	14	\$408.02	\$5,712.28	\$5,712.28	-	-
15	CB Hood, Cast Iron*	EA	14	\$88.96	\$1,245.44	\$1,245.44	\$1,245.44	\$1,245.44
	Structure: MH							
16	48" x 4' BASE EXT WHOLE	EA	7	\$374.00	\$2,618.00	\$2,618.00	\$2,618.00	\$2,618.00
17	3' X 48" CONE W/24" OPNG	EA	7	\$192.00	\$1,344.00	\$1,344.00	\$1,344.00	\$1,344.00
18	48" X 1' RISER PER FT	PF	9	\$64.00	\$576.00	\$576.00	\$576.00	\$576.00
19	48" CONSEAL JOINT	EA	12	\$8.00	\$96.00	\$96.00	\$96.00	\$96.00
20	Massachusetts 26"x8" Frame &	EA	7	\$395.44	\$2,768.08	\$2,768.08	\$2,768.08	\$2,768.08
				SUBTOTAL =	\$35,824.80	\$38,367.05	\$36,048.52	\$38,590.77
ITEM #	ITEM	UNIT	QUANT.	UNIT PRICE	COST (INSTALL)			
	INSTALLATION**							
21	PIPE, 8" - 15"	LF	1590	\$55.00	\$87,450			
23	DMH & CB	EA	21	\$1,100.00	\$23,100			
				SUBTOTAL =	\$110,550.00			
				TOTAL=	\$146,374.80	\$148,917.05	\$146,598.52	\$149,140.77
	Cold patch for Trenches	TON	134	\$114.00	\$15,276			
				TOTAL=	\$161,650.80	\$164,193.05	\$161,874.52	\$164,416.77

Future Stormwater Program *Levels of Service*



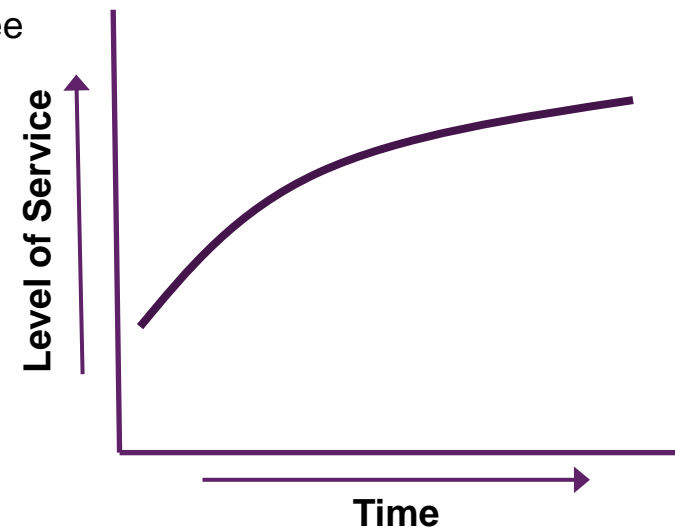
Thoughts on the following:

- ▶ **Total Program Level of Service for Agawam**
 - ▶ Minimal Level of Service = \$ 1.07M (status quo, minimally compliant)
 - ▶ Moderate Level of Service = \$1.5M to \$2M (allows for program growth)
 - ▶ High Level of Service = \$2M to \$2.5M (condenses schedule for capital improvements)
 - ▶ Exceptional Level of Service = >\$2.5M (aggressive, sustainable more rapidly)

- ▶ **Total Program Cost and Affordability**
 - ▶ Net cost is total stormwater fee minus tax decrease
 - ▶ Budget transfer from DPW general fund to stormwater fee

- ▶ **Options for Phasing Program Over Time**
 - ▶ Program growth

- ▶ **Capital Expenditures and Schedule**
 - ▶ Pay as you go
 - ▶ Bonding
 - ▶ Back-end loading



Future Stormwater Program *Levels of Service*



Future program considerations:

- ▶ Level of service options
- ▶ Setting expectations
- ▶ Solving problems
- ▶ Program growth over time



Source: <https://www.portlandoregon.gov/bes/52501>

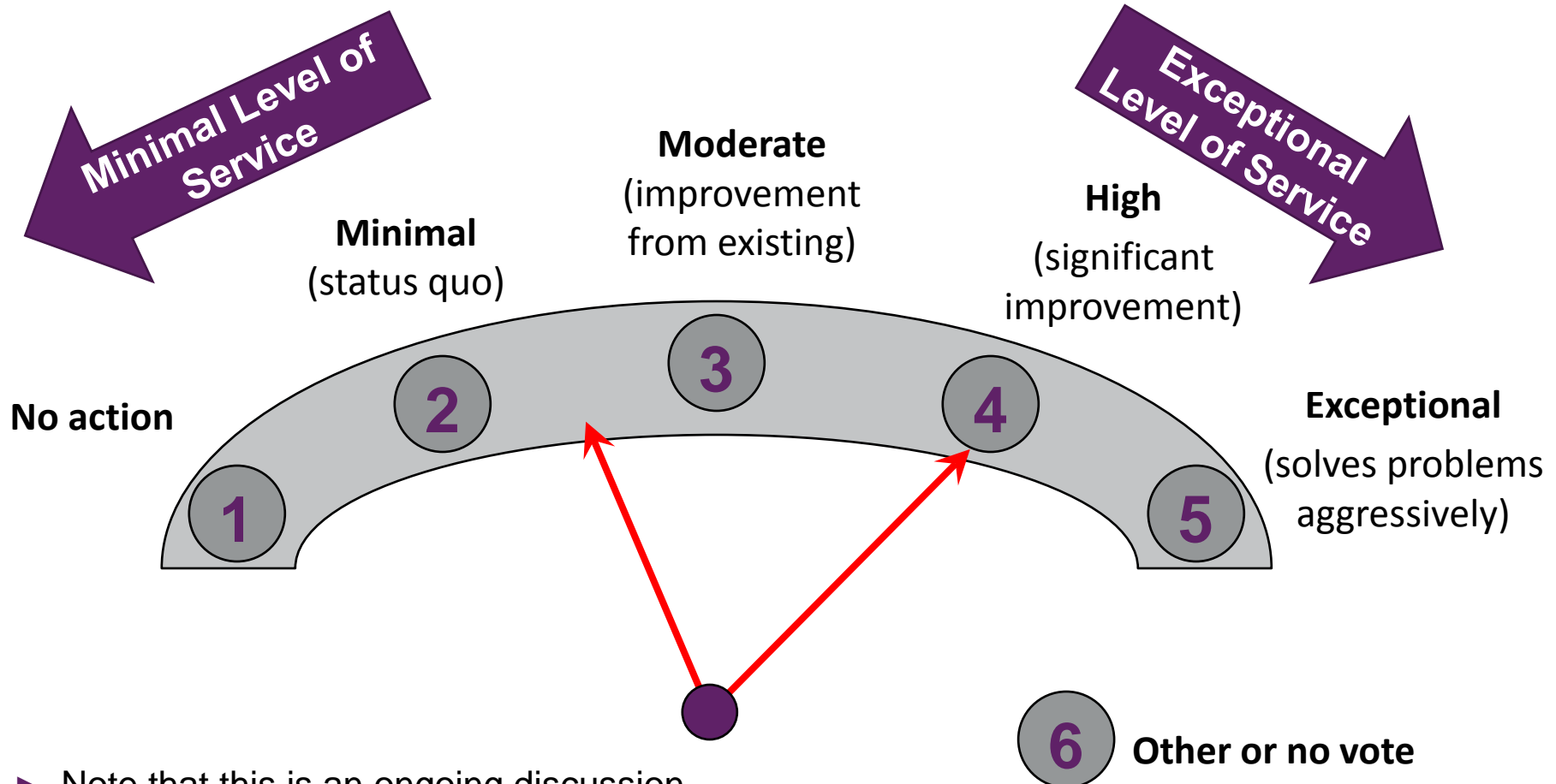
Examples:

- ▶ Northampton, MA (moderate to high level of service)
 - ▶ MS4 Compliance, water quality BMPs, flood control
- ▶ Franklin, MA (moderate to high level of service)
 - ▶ Green infrastructure redevelopment program
- ▶ South Burlington, VT (high level of service)
 - ▶ Water quality BMPs, flood control, stream restoration
- ▶ Portland, OR (exceptional level of service)
 - ▶ Green Street Steward and Ecoroofs Programs

Future Stormwater Program *Levels of Service*



At this time, my feelings on an appropriate level of service are . . .



► Note that this is an ongoing discussion . . .

Future Stormwater Program

Future Funding Options



Common Methods for Funding Stormwater Programs

General Fund	User Fee	Sponsors	Fines
Impact Fee	Bonds	Special Assessment	Tax Set-aside
Shared Costs	Inspection Fees	Grants	Chapter 90

Future Stormwater Program

Primary Funding Options



Tax Revenue vs. User-Fee

▶ **Option A: Tax Override**

- ▶ Based on property value
- ▶ Funds allocated to DPW or other account
- ▶ Town Meeting vote annually

▶ **Option B: Municipal Water Infrastructure Investment Fund**

(MGL Chapter 259 (Section 39M): An Act Improving Drinking Water and Wastewater Infrastructure)

- ▶ Based on property value (surcharge up to 3%)
- ▶ Use of funds is not limited solely to stormwater
- ▶ Town Meeting vote to establish

▶ **Option C: Stormwater Utility (user-fee)**

- ▶ Based on impervious cover, not property value
- ▶ Dedicated funding, stormwater only
- ▶ Town Meeting vote to establish
- ▶ Opportunities for credits



Next Steps

- ▶ Refine Future Program Cost Estimate
 - ▶ Consider varying levels of service

- ▶ Data Analysis
 - ▶ GIS updates and impervious area analysis

- ▶ Public Engagement
 - ▶ Roll out web page with interactive map
 - ▶ Engage public through press releases and future meetings

- ▶ Task Force Meeting #3 – June 28, 2017
 - ▶ Review data analysis and funding approaches