

PROACTIVE PREPARATION: A Small Community's Approach Toward MS4 Compliance

*Presented by
Jon W. Gregory, P.E.*



TATA & HOWARD





Overview

- Show benefits of regional collaboration
- Share specific resources a Town can use from a Coalition
- Demonstrate how planning a stormwater program can maximize what you get out of collaboration
- Show how active members in a stormwater program maximize understanding of MS4 issues and educate stakeholders/residents

Town of Leicester, Massachusetts

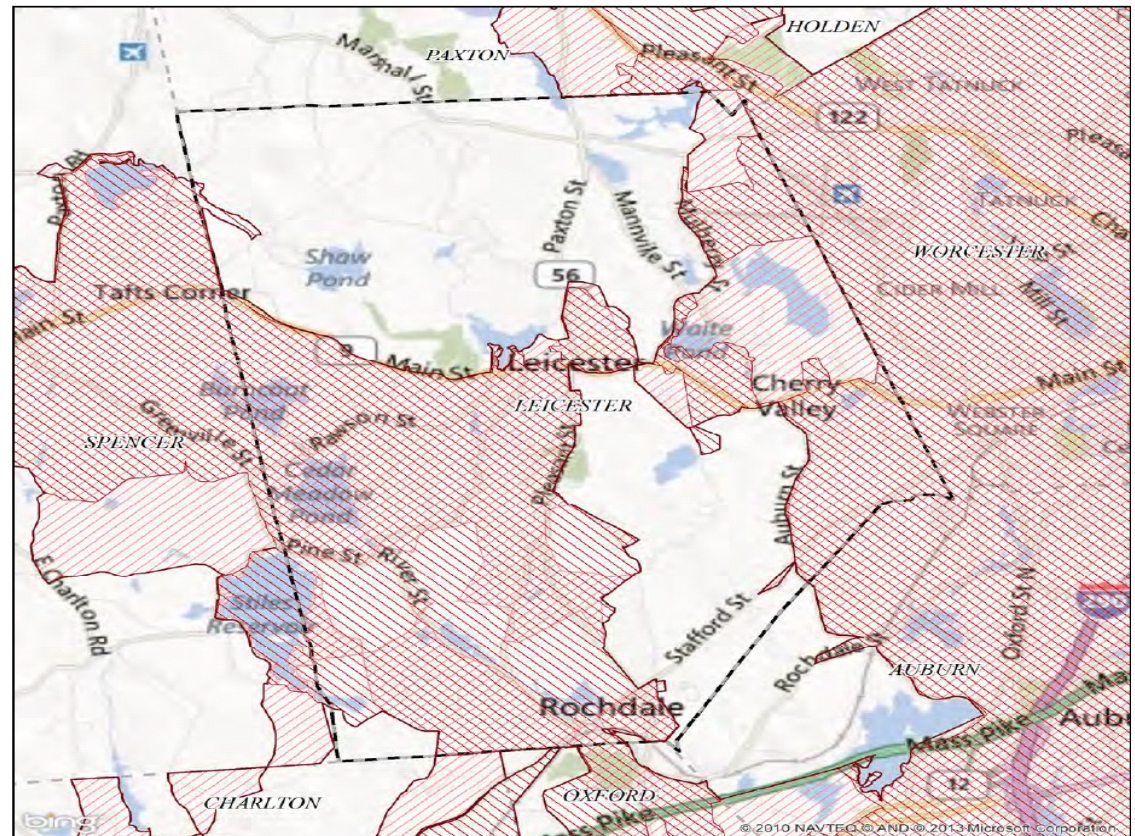


- Central Massachusetts, borders Worcester to the east
- 46 miles west of Boston, Massachusetts
- Population of approximately 11,000
- Total area 24.68 square miles
- Population density 444 per square mile

*Information from CMRPC

Leicester - MS4 Regulated Area

- Approximately 90 stormwater outfalls
- Over 1,000 catch basins



Central Massachusetts Regional Stormwater Coalition



Central Massachusetts Regional Stormwater Coalition

- Created in 2012
- Currently 29 municipalities in Central Massachusetts
- Three years of CIC funding, now fully funded by participating municipalities
- Sharing ideas, equipment, resources to decrease individual municipal costs





Central Massachusetts Regional Stormwater Coalition Tasks

1. Stormwater Pollution Prevention Plan (SWPPP) Template
2. 15 Standard Operating Procedures (SOPs)
3. Training and Outreach Materials
4. Educational Website
5. BMP Toolbox
6. Facility Specific SWPPP Figures
7. Guidance on Effective Implementation of Illicit Discharge Detection and Elimination (IDDE Plans)



Central Massachusetts Regional Stormwater Coalition Tasks

8. People GIS Online Mapping Platform and Database
9. Leica GPS Data Collection and Mapping Devices
10. Provide Services to Expansion Communities
11. Water Quality Sampling Kits
12. MSGP Training
13. Draft MS4 Permit Review
14. One-on-One Support and Training
15. Stormwater Budgeting Workshops
16. Sustainable Financing Workshops

Central Massachusetts Regional Stormwater Coalition - Recognition

- Recognized by the New England Stormwater Collaborative as a **“Best Stormwater Idea in New England”**
- Provided a forum for collaboration between member Towns



Leicester Participation in Coalition

- Mike Knox – Superintendent of Cherry Valley Water & Sewer Districts, steering committee member, bylaw subcommittee chair
- Kevin Mizikar – Town Administrator, attends meetings, educated on MS4
- Tom Wood – Highway Department Superintendent, Leicester Stormwater Management Committee chair, attends training sessions, trained other participants in Leica usage



Coalition Initiatives - MS4 Permit Six Minimum Control Measures (MCMs)

1. Public Education and Outreach
2. Public Participation
3. Illicit Discharge Detection and Elimination Program
4. Construction Site Stormwater Runoff Control
5. Post Construction Stormwater Management
6. Good Housekeeping and Pollution Prevention for Permittee Owned Operations



Coalition Resources Used by the Town of Leicester



Coalition Resources Used by Leicester

Leica GPS Locating



Coalition Resources Used by Leicester

People GIS

Inspection Form



Ortho Base Map

Storm Water Outfalls Leicester

LOGIN

Outfall ID:

OF-88-Leicester

Original Town Outfall ID:

88

XY Location

X-Coord: 165734.449 Y-Coord: 886910.192

GPS Elevation:

Mapping Method:

By Eye

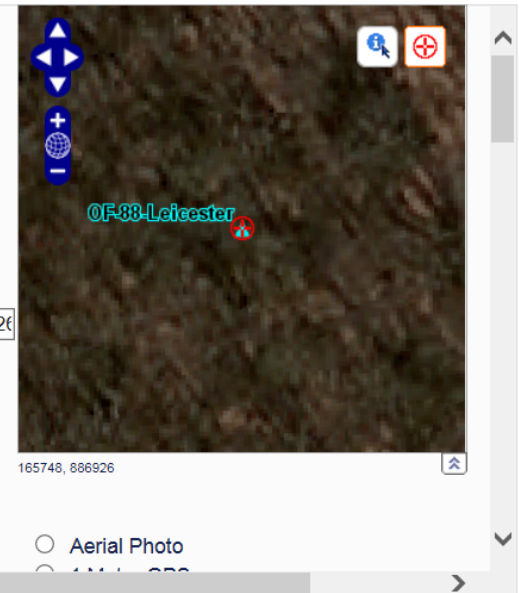
Aerial Photo

Other

Other

Submit

Cancel



Coalition Resources Used by Leicester

Outfall Inspection and Inventory

Outfall #	Location	Outfall Type	GPS Located	Photographed	Outfall Condition	Comments
1	Pine Street on Private Property	12" Corrugated Metal	Yes	Yes	Fair	
2	Pine Street	12" Corrugated Metal	Yes	Yes	Good	
3	Pine Street	2x30" Corrugated Metal	Yes	Yes	Good	
4	Charles Street Between Cedar Lane and Hemlock Lane	12" Corrugated Metal	Yes	Yes	Fair	
5	Charles Street Between Rawson Street and Beech Street	2x6" Plastic Pipes	Yes	Yes	Good	
6	Henshaw Street Between Donahue Street and Autumn Street	12" Plastic	No	Yes	Good	
7	Henshaw Street Between Donahue Street and Autumn Street	12" Plastic	Yes	Yes	Good	
8	Henshaw Street Between Donahue Street and Autumn Street	12" Plastic	Yes	No	Good	
9	Henshaw Street Between Donahue Street and Autumn Street	12" Plastic	Yes	Yes	Good	
10	Henshaw Street Between Autumn Lane and Shelter Ridge Road	18" Concrete	Yes	Yes	Crumbling	
11	Henshaw Street Between Autumn Lane and Shelter Ridge Road	18" Concrete	Yes	Yes	Good	
12	Henshaw Street before Peter Salem Road	12" Corrugated Metal	Yes	Yes	Good	

Coalition Resources Used by Leicester

Outfall Inspection and Inventory



T&H Job No.: _____ Town: Leicester, MA
 Surveyor: JVH Date: 5-22-2010



Unsurpassed Solutions
in the Water Environment

DRY-WEATHER OUTFALL/ MANHOLE SURVEYS

Outfall/Manhole I.D.	<u>5</u>	Pipe Outfall	<input checked="" type="checkbox"/>	Open Swale Outfall	<input type="checkbox"/>
Pipe Material:	Concrete <input type="checkbox"/> Corrugated metal <input type="checkbox"/> Metal <input type="checkbox"/> Plastic <input checked="" type="checkbox"/> Other: <input type="checkbox"/>	Pipe Condition:	Good <input checked="" type="checkbox"/> Fair <input type="checkbox"/>	Poor <input type="checkbox"/> Crumbling <input type="checkbox"/>	
Swale Material:	Paved (asphalt) <input type="checkbox"/> Concrete <input type="checkbox"/> Earthen <input type="checkbox"/> Stone <input type="checkbox"/> Other: <input type="checkbox"/>	Swale Condition:	Good <input type="checkbox"/> Fair <input type="checkbox"/>	Poor <input type="checkbox"/> Crumbling <input type="checkbox"/>	
Shape of Pipe/Swale (check one)					
<input checked="" type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	
<input type="checkbox"/>		Rounded Pipe/Swale Rectangular Pipe/Swale Triangular Swale Trapezoidal Swale			
Pipe Measurements:		Swale Measurements:		Is there a headwall?	
Inner Dia. (in): d= <u>2x6"</u>		Swale Width (in): T= _____		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Outer Dia. (in): D= <u>7"</u>		Flow Width (in): t= _____		Condition:	
Pipe Width (in): T= _____		Swale Height (in): H= _____		Good <input type="checkbox"/> Poor <input type="checkbox"/>	
Pipe Height (in): H= _____		Flow Height (in): h= _____*		Fair <input type="checkbox"/> Crumbling <input type="checkbox"/>	
Flow Width (in): h= <u>2"</u> *		Bottom Width (in): b= _____		Description of Site	
Description of Flow: Heavy <input type="checkbox"/> Moderate <input type="checkbox"/> Slight <input checked="" type="checkbox"/> Trickling <input type="checkbox"/> Wet <input type="checkbox"/> Dry <input type="checkbox"/>					
*If the outlet is submerged check yes and indicate approximate height of water above the outlet invert. h above invert (in): _____ Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>					
<input checked="" type="checkbox"/> Flow <input checked="" type="checkbox"/> Standing Water (check one or both)		Observations:		Circle those present:	
		Color: N/A		Rip rap	
		Odor: N/A		Sheen: Bacterial	
Optical enhancers suspected?		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		Excessive sediment	
Has channelization occurred?		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		Sheen: Petroleum	
Has scouring occurred below the outlet?		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		Foam	
Vertical distance from pipe/swale outlet to channel bottom (in): <u>0</u>				Floatables	
If channelized or scoured, describe.				Sanitary Waste	
				Algae	
Comments:		Brook crossing. Flowing away from Burncoat Brook		Orange Staining	
				Excessive Vegetation	

Coalition Resources Used by Leicester

Outfall Inspection and Inventory



Coalition Resources Used by Leicester

Outfall Inspection and Inventory



Coalition Resources Used by Leicester

Illicit Discharge Bylaw

- Methods for controlling non-stormwater discharge pollutants into the MS4 to comply with NPDES
- Examples of bylaws from other coalition communities offered to assist Leicester with creating one
- The 2003 Massachusetts MS4 Permit required each permittee to develop, implement, and eliminate illicit discharges

Coalition Resources Used by Leicester

Illicit Discharge Bylaw — Leicester's Objectives

- Prevent pollutants from entering Leicester's MS4
- Prohibit illicit connections and unauthorized discharges
- Require the removal of all illicit discharges
- Comply with state and federal regulations
- Establish legal authority to safeguard compliance with the provisions of the bylaw through inspection, monitoring, and enforcement

Coalition Resources Used by Leicester

Virtual Town Hall Stormwater Webpage

The screenshot shows the website for the Town of Leicester, Massachusetts. The header includes a 'Welcome to Leicester' banner and a navigation menu with 'Home', 'About Leicester', 'Departments', 'Boards & Committees', and 'Online Services'. The main content area is titled 'Storm Water Committee' and includes contact information for Tom Wood, Highway Superintendent, located at 59 Peter Salem Road, Leicester, MA 01524. It also lists phone, fax, and meeting information. A table of 'Additional Links' is provided below.

Pollution Prevention Tips	Storm Water - Description and Details	Year 9 Storm Water Report
Year 9 Storm Water Transmittal	Storm Water Management Plan	Alternatives to Household Chemicals
Information For Engineers and Project Managers	Free Technical Assistance & Resources	For Kids!
Pet Waste Pollutes Our Waters	Leicester Green Business Program	Stormwater Tips for Businesses

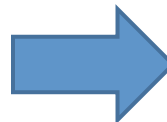
Public Education

CMRSWC Website

The screenshot shows the homepage of the Central Massachusetts Regional Stormwater Coalition (CMRSWC). The header includes a navigation menu with 'Home', 'About Us', 'Toolbox', 'Municipalities', 'Homeowners', 'Educators', 'Kids', 'Documents', and 'Contact Us'. The main content area features a 'WHAT IS STORMWATER?' section with a welcome message and a 'WHAT'S HAPPENING?' section with a list of recent events and updates. A 'sign up to receive E-NEWS UPDATES' button is visible at the bottom right.

Hyperlink to CMRSWC Website

[Central MA Stormwater](#)



Other Coalition Resources Used by Leicester

- Educational meeting of department heads
- Statement of IDDE responsibilities
- Written IDDE investigation plan
- Highway garage SWPPP
- Supplement summary to MS4 Annual Report
- Comments on 2014 Draft Massachusetts MS4 Permit
- Stormwater funding workshops
- Development of Stormwater Committee



Future Coalition Resources To Be Used by Leicester

- Use of water quality kits and Standard Operating Procedure (SOP) for outfall sampling
- Continued education on requirements of new MS4 Permit
- PeopleGIS to add piping features
- Public education materials
- Total Maximum Daily Load (TMDL) education
- Best Management Practices (BMPs)





Conclusions

- Regional collaboration with MS4 compliance planning is invaluable in helping individual members in their compliance goals
- Leicester getting their monies worth and more with the CMRSWC
- Other municipal members can use the same materials/resources to improve their stormwater program

Questions?