



Town of Westford

Stormwater Management MASTER PLAN

PROJECT FACT SHEET

SUMMER 2016



*Clean water
begins with YOU.*

About the Project

Over the years, the Town of Westford has made environmental stewardship a priority. These efforts have included a proactive municipal stormwater program and ongoing improvements to the Town's drainage system to prevent flooding and protect our water quality. Developing a Stormwater Management Master Plan (SWMMP) will allow us to continue to invest wisely and strategically in both our infrastructure and natural resources. The SWMMP will provide the necessary guidance for Westford to:

- 💧 preserve water quality for recreation and habitat,
- 💧 provide sustainable, high quality drinking water sources for residents and businesses,
- 💧 protect and preserve public health and property,
- 💧 comply with federal and state environmental, and regulations.

The SWMMP will be organized in four volumes: Volume 1: Stormwater Assessment; Volume 2: Long-Term Capital Improvement Plan (CIP); Volume 3: Town-Wide Operation and Maintenance Plan; and Volume 4: NPDES Stormwater Program Compliance Plan.

We need your help! The overall goal of the SWMMP is to prepare a well thought out strategy for the long-term preservation of our quality of life and environmental resources. This goal can only be achieved with participation from the whole community. Information about how to get involved can be found on page 4 in the Public Involvement and Outreach section.

Stormwater Drainage: An Overlooked Public Service

The importance of infrastructure that brings us safe drinking water and disposes wastewater is easily recognizable, but unless there is visible flooding or your basement is suddenly wet, drainage infrastructure is often overlooked. The storm drain system is a Town utility that is a valuable asset and should be proactively managed – just like water and wastewater. Properly maintained drainage infrastructure:

- keeps roadways safe and open,
- minimizes the impacts of uncontrolled stormwater runoff on local lakes, ponds, streams, and wetlands,
- protects public health and drinking water,
- protects private property, and
- keeps local businesses open.

Did you know that it would cost more than \$150 million to replace Westford's drainage system? To protect this investment, the Westford Highway Department currently maintains about 60 miles of drain pipes, 5,630 drainage structures (catch basins and manholes), 675 outfalls, 3 dams, and many more miles of natural drainage conveyances and culverts.

This fact sheet outlines recommendations for Westford to more strategically and proactively invest in drainage system improvements and ongoing maintenance to properly operate this vital infrastructure. The information presented is summarized from the Long-Term Capital Improvement Plan and Town-Wide Operation and Maintenance Plan, Volumes 2 and 3 of the SWMMP.

A sustained financial commitment to achieve the goals of the SWMMP will be necessary, and the Town

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completed a preliminary evaluation of long-term funding options that are adequate and equitable. This work is detailed in a separate report, "Stormwater Funding and Financing Alternatives" by Raftelis Financial Consultants, Inc.

An Advisory Group consisting of regional planning experts, town officials, residents, business owners, and other stakeholders is providing guidance on the development of the SWMMP. You can find next steps and the SWMMP completion schedule on page 4. For more information about the SWMMP, reports, and other documents, please visit the Engineering Department's Storm Water Management webpage at www.westfordma.gov/stormwater

Improving What We Do Now & Planning for the Future

The Town of Westford has an exemplary ongoing operation and maintenance (O&M) program to safeguard the operation of the extensive drainage system and prevent or reduce pollution in stormwater runoff from Town operations. Much of the program is managed through the Highway Department, since catch basins are a common way stormwater is conveyed from roadways and other hard surfaces to local waterbodies. However, other Town departments share responsibility for their O&M practices, which may contribute pollutants to stormwater at their facilities.

Likewise, the Highway Department and the Engineering Department collaborate to recommend capital needs on a five-year planning schedule. Town staff are aware of known drainage issues and each year recommend projects to remedy priority problem areas and make system-wide improvements. This process is overseen by the Capital Planning Committee, which was created "to better identify, prioritize, organize and track" the Town's collective needs. Capital expenditures generally include such items as town vehicles and equipment, major infrastructure repairs and projects (including roads, drainage, etc.), major building renovations or alterations, new construction, and municipal land purchases.

Improving What We Do Now

Pollution Prevention in Town Operations. Westford's stormwater discharges that are carried by pipes to local waterbodies are regulated by the U.S. Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (MassDEP) through the Small Municipal Separate Storm Sewer System (MS4) permit. A new permit was issued in April 2016 and will take effect on July 1, 2017. One of the



Town staff use a zoom camera to inspect a catch basin.

permit's six focus areas is improved good housekeeping and pollution prevention, which is addressed mainly through O&M measures.

A Draft Town-wide O&M Plan has been prepared to formalize good housekeeping practices and present a consistent framework for use by staff in various departments, boards, and commissions. The plan applies to all Town-owned and/or operated buildings and facilities (31 buildings), parks and open space (approximately 450 acres), vehicles and equipment (148 vehicles), and wastewater (decentralized treatment and subsurface systems) and drainage infrastructure. The plan identifies municipal activities with a range of pollution potential, provides Standard Operating Procedures (SOPs) to address activities and pollutants of concern, and establishes responsibilities and schedules for implementation. The goal of the plan is to protect public and environmental health and preserve Westford's overall character. The Draft O&M Plan is available at the Engineering Department.

The Town's consultant, Tighe & Bond (T&B), worked with department staff to develop an inventory of Town facilities, infrastructure, and equipment and vehicles, and to conduct site visits. Each Town parcel was assigned a category based on the activities that occur onsite that could contribute to stormwater pollution. Key features used to identify the parcels included the presence and location of managed turf fields and irrigation, outfalls and drainage features, storage tanks, trash management, vehicle washing and maintenance, chemical storage,



A pipe with rust and sediment that needs maintenance.



A pipe that is in good condition.

equipment storage and maintenance, and floor drains. Priority areas are Town-owned or operated facilities that are close to drinking water resources, sensitive habitats, recreational areas, and waterbodies with impaired quality (meaning water quality does not support Clean Water Act uses such as fishing, swimming, drinking, or recreation).

Understanding how activities at Town facilities contribute pollutants to stormwater is critical to preventing or reducing pollution. Types of pollutants include sediment, nutrients (phosphorus and nitrogen), trash, metals (zinc, copper, chromium), bacteria, oil and grease, organics (cleaners and solvents), pesticides, and toxins.

There are many ways to prevent pollution from Town operations. Staff training is essential. For parks and open space, buildings and facilities, and vehicles and equipment, SOPs include appropriate fuel and materials storage and handling, spill response and clean up procedures, and preventing oil and grease from getting into floor drains and catch basins. For fields, reducing mowing frequency and fertilizer/pesticide use can help. Pet waste and refuse management measures include signage, secure receptacles, and regular collection. Finally, subsurface wastewater systems should be routinely inspected and maintained to prevent pollution of surface waters and groundwater.

Maintaining Drainage Infrastructure for Water Quality & Flood Protection. General drainage infrastructure SOPs include optimizing inspection, cleaning, and maintenance of pipes, manholes, catch basins, and stormwater treatment facilities. Non-rural streets and Town-owned parking lots must be swept at least once a year, and more if located near an impaired waterbody. For winter road maintenance, appropriate measures for salt and sand use and storage should be in place, materials prevented from entering surface waters, and trash and debris removed from snow dumps in the

spring. Beaver management, storm preparation, and dam inspection and repair are other stormwater SOPs. In areas draining to impaired waterbodies, tighter control of organic materials (leaves and grass clippings), increased street sweeping, and more frequent catch basin inspection and maintenance will be needed to manage targeted pollutants.

Site-Specific Maintenance Needs. Generally, Westford's drainage infrastructure is in good condition. A field assessment of known drainage system issues confirmed 17 areas with immediate O&M needs including open drainage ditches that need to be cleaned, catch basins that do not drain, and alterations made by beavers. Additionally, representative portions of the drainage system were inspected, including 74 catch basins and manholes and 223 pipe segments. The inspection identified about 30 segments of drain pipes needing additional investigation and short-term improvements due to rust, heavy sedimentation, intruding tree roots, and other problems. **While some pipes need maintenance, none were in danger of failure. None of the problem areas are critical to compliance or public safety.**

Planning for the Future

While the Town's ongoing O&M program and capital expenditures for drainage infrastructure and municipal facilities is generally sufficient, the new federal stormwater requirements will push Westford toward a more proactive approach and a better level of service. The SWMMP presents a pragmatic, cost-effective approach to satisfy these new requirements. And, the Town's investment in drainage infrastructure will be protected for years to come through a combination of planning, design, construction, operation, maintenance, rehabilitation, and replacement. Increased use of technology will be necessary for data management, tracking, and optimizing maintenance activities.

O&M Plan Implementation. Recommendations include additional mapping, developing a culvert inspection and asset management program, identifying best management practices for publicly-owned infrastructure, purchasing and installing GPS units and a tracking system to optimize street sweeping and snow removal, and purchasing additional vehicles to support maintenance. Other administrative activities include record keeping, annual reporting, annual facilities inventory updates, and annual employee training.

Long-Term CIP Prioritization. A Long-Term Capital Improvement Plan (LTCIP) has been developed, which presents a list of prioritized capital projects and associated costs. This plan recognizes that drainage infrastructure is a necessary Town utility, which is a valuable asset needing proactive management to optimize investments and to prevent flooding and protect water quality.

Activities to develop the LTCIP included inventorying stormwater infrastructure, identifying currently planned capital improvements, assessing the condition and performance of the infrastructure including known problem areas, and defining other necessary projects and expenditures. The LTCIP also includes recommendations for additional investigations, equipment purchases, and staffing to meet current and future needs. Upcoming projects and priorities are identified that provide strategic add-on improvements to reduce overall program costs. These improvements would be made in concert with the SOPs discussed earlier to respond to water quality issues.

In developing the LTCIP, a multi-step process was used that considers ranking criteria, relative importance, and estimated cost to prioritize projects and develop implementation schedules. The criteria included health and safety, flood mitigation, regulatory permit requirements, habitat impacts, and ongoing O&M. A five-year implementation schedule includes recommended projects organized by fiscal year. A six to 10-year implementation schedule is also provided, which may be updated periodically as projects are completed and new needs are identified.

Next Steps & Schedule

The results of the initial SWMMP analyses and a report on options for financing future needs were presented at the February 9, 2016 Board of Selectmen meeting. This fall, we will invite the public to provide input on the final component of the SWMMP, which will detail Westford's commitment to comply with EPA's new MS4 permit. The final SWMMP will be presented at a public meeting in fall/winter 2016. Recommendations requiring Town Meeting action will be presented in spring 2017.



A storage tank with appropriate spill response equipment.

Public Involvement & Outreach

We treasure living, working and playing in the scenic landscape of Westford. Together we can protect the quality of our lakes and ponds and maintain clean drinking water. Learn about the issues and be part of the plan to address them. For more information on the SWMMP and Westford's approach to water resources management, please visit the Engineering Department's Storm Water Management webpage www.westfordma.gov/stormwater.

There are a number of ways to get involved in this critical planning process. Public meetings, which will be filmed by Westford CAT, will continue to be scheduled at key milestones. Contact us with questions and comments or request to be added to the contact list to receive email notices about upcoming public meetings by emailing pstarratt@westfordma.gov.

Comments or other correspondence can also be sent via US Mail to:

Paul M. Starratt, P.E.
Town Engineer
28 North Street
Westford, MA 01886

For questions, please call 978-399-2716.