

TOWN OF WINDSOR
STORMWATER MANAGEMENT PLAN



2016 Annual Report

December 22, 2016

TABLE OF CONTENTS

<u>SECTION</u>	<u>PAGE</u>
1.0 EXECUTIVE SUMMARY.....	1
2.0 PUBLIC EDUCATION AND OUTREACH	1
2.1 Catch Basin Markers	1
2.2 Educational Materials Distributed	2
2.3 Citizen Groups.....	2
2.4 School and Other Educational Programs	2
2.5 Activities Scheduled for Next Year.....	3
3.0 PUBLIC PARTICIPATION	3
3.1 Earth Day	3
3.2 Community Clean-Ups	4
3.3 School Programs.....	4
3.4 Stormwater Management Committee.....	4
3.5 Public Information.....	5
3.6 Activities Planned for Next Year	5
4.0 ILLICIT DISCHARGE DETECTION AND ELIMINATION.....	5
4.1 Outfall Mapping	5
4.2 Illicit Discharge Detection Ordinance.....	6
4.3 Activities Planned for Next Year	6
5.0 CONSTRUCTION SITE RUNOFF CONTROL.....	7
5.1 Erosion and Sediment Control Ordinance.....	7
5.2 Development Reviews	7
5.3 Activities Planned for Next Year	8
6.0 POST-CONSTRUCTION STORMWATER MANAGEMENT	8
6.1 Stormwater Management Ordinance.....	8
6.2 Development Reviews	10
6.3 Best Management Practices	10
6.4 Activities Planned for Next Year	10
7.0 POLLUTION PREVENTION/GOOD HOUSEKEEPING	10
7.1 Employee Training.....	10
7.2 Street Sweeping.....	11
7.3 Catch Basin Cleaning	11
7.4 Preventative Maintenance	11
7.5 Activities Planned for Next Year	11
8.0 STORMWATER QUALITY TESTING	12

APPENDICES

END OF REPORT

A Stormwater Discharge Monitoring Reports

1.0 EXECUTIVE SUMMARY

In 2004, the Town of Windsor prepared a five-year Phase II Stormwater Management Plan (SWMP) as required by the Connecticut Department of Energy & Environmental Protection's General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems (MS4 General Permit). The SWMP has remained in effect since 2004, as the CT DEEP General permit was reissued a number of times.

This document constitutes the Town's Annual Report for 2016 and summarizes the activities conducted to satisfy the permit requirements, modifications to the SWMP. In anticipation of the new MS4 General Permit becoming effective on July 1, 2017; the Town has currently hired Fuss & O'Neill, Inc. to review the town's stormwater management-related efforts to date and assist in the update to the Town's Stormwater Management Plan and schedule for continued efforts to reduce and prevent stormwater pollution.

2.0 PUBLIC EDUCATION AND OUTREACH

2.1 Catch Basin Markers

A catch basin marker program was initiated by town staff in 2005. The initial program included the marking of catch basins with placards stating "Drains to Waterways and the Long Island Sound, No Dumping!". Placards were mostly placed by volunteers and over 750 catch basins throughout town have now been marked with these placards. These markers warn people that discharging harmful contaminants into a catch basin has a negative impact on the local wetlands and waterways as well as the Long Island Sound. Additionally, residents received an educational flyer explaining the purpose of the catch basin markers installed in their neighborhood.

In 2012, the Engineering Department changed the Town Standard for precast concrete catch basin tops to include tops stamped with the words "Drains to Watercourse". The catch basin tops are available locally, and are used when Public Works replaces catch basin tops throughout Town. New private developments and subdivisions have also been installing these tops.

2.2 Educational Materials Distributed

Copies of the SWMP and Annual Reports are available for public review at the Windsor Main Library, the Wilson Branch Library, and the Town Clerk's Office. The Town's website also contains a stormwater page which includes links to a copy of the SWMP and Annual Reports. A variety of other media outlets have been used to provide stormwater management information to Windsor residents over the past year. Announcements, feature articles, and photos regarding Earth Day and Connecticut River community clean-up efforts have been posted using Town social media sites such as Facebook and Twitter, as well as published in a variety of local newspapers such as the *Hartford Courant*, *Windsor Journal*, and *Reminder News*. Promotional information on these events as well as other stormwater management educational information has also been broadcast on Windsor's Government Access Television Channel, WGTV.

In addition, the Town of Windsor publication, *There's a lot to do in Windsor*, continues to include many activities throughout the year focused on environmental preservation. Household Hazardous Waste Day, Earth Day, and Connecticut River Clean-up programs are publicized in the magazine to educate all citizens. This town magazine, published three times per year, is mailed to every household and business in Windsor for a total distribution of 12,500.

2.3 Citizen Groups

Various local citizen groups and organizations have assisted the Town in developing partnerships with the public and increasing stormwater awareness. These groups include VOYA Community Service Volunteers, Griffin Land, Four Seasons Landscaping, United Healthcare, Windsor Independent Living Association, the Rotary Club of Windsor/Windsor Locks, Windsor High School Honors Society, and Sage Park 6th grade. These groups continue to provide and/or have the capacity to provide public education resources on stormwater quality issues and continue to exist as support for future stormwater education programs in Windsor.

2.4 School and Other Educational Programs

In past years, a number of educational activities have been conducted with Windsor students. A recycling and watershed lesson has historically been given to sixth grade students at Sage Park

Middle School by the Town Environmental Planner. Lessons and other projects continue each year. Town staff has also assisted the Loomis Chaffee School's Environmental Science students with their annual recycling unit of study by visiting classes and offering consultation.

Furthermore, Northwest Park continues to offer environmental education for students, families, and adults. These programs focus on engaging the participants in hands on experiences to promote environmental stewardship. Northwest Park serves all Windsor students K-6 annually, as well as other local communities and home school groups. Some of the many classes offered are: solar and geothermal energy, soil study, exploring ponds and vernal pools, geology of Connecticut, habitats, and the utilization of the STARLAB planetarium. Northwest Park also offers an eight week nature camp during the summer that serves Pre K to grade 8 students. This summer camp exposes the youth to various opportunities in exploration and self-discovery. Adults are also invited to be involved in environmental education at the park through workshops, public presentations and events which can include; wild edible hike, black bear presentation, and citizen science. Special events are offered each season at the park that focus on environmental education experiences for individuals and families.

2.5 Activities Scheduled for Next Year

Activities planned for next year include:

- Continue the installation of new catch basin tops stamped with "Drains to Watercourse".
- Continue expanding educational resources.
- Continue soliciting assistance from various citizen groups to help with education and outreach.
- Continue participating in school programs.

3.0 **PUBLIC PARTICIPATION**

3.1 Earth Day

A community Earth Day event was held the week of April 23, 2016. Week long events and programs were held at Northwest Park. A community clean-up was held at the East Barber boat

lunch. 13 bags of trash were collected with 4 car tires, a car bumper, a 50 gallon drum, an oversized planter, and a shopping cart.

3.2 Community Clean-Ups

In conjunction with the Farmington River Watershed Association an annual river clean-up was held on September 24, 2016. Local volunteers cleaned up the River Street Park Boat Launch. A large quantity of trash was removed including a frame of a motorcycle, a car tire, and a large steel rail.

3.3 School Programs

Students in Windsor public schools are encouraged to volunteer in environmental activities over the summer vacation, in addition to after-school activities. Some of these ongoing programs include:

- Recycling programs
- Earth Day celebration
- Community clean-up events
- Science fairs

3.4 Stormwater Management Committee

In 2004 the Town established a Stormwater Management Committee to develop and implement the SWMP. Since that time, new members have joined the Committee. The Committee consists of members from a number of departments including Engineering, Planning (including the Environmental Planner), Public Works, Health Department, and Public Relations.

Members and subcommittees of the Stormwater Management Committee meet throughout the year to discuss existing programs and identify improvements or suggest new activities for the upcoming year. Additionally, Committee members have been individually attending local seminars and workshops regarding the new MS4 General Permit to become effective in 2017. The Committee plans to meet frequently in the beginning of 2017 to discuss the new permit requirements and new initiatives to continue educating the public on stormwater pollution prevention and developing ways for additional public participation in these initiatives.

3.5 Public Information

A variety of stormwater pollution prevention information can be found within the Engineering Department's section of the town website. Information includes a copy of the town-wide Stormwater Pollution Prevention Plan; copies of Annual Stormwater Reports; information regarding the town's Erosion & Sediment Control Ordinance and Stormwater Management Ordinance; a copy of the Town of Windsor Stormwater Manual; and guidance documents related to stormwater pollution prevention.

3.6 Activities Planned for Next Year

Activities planned for next year include:

- Conduct community clean-up events in spring and fall.
- Recruit student volunteers and/or interested citizens to assist in the illicit discharge detection and elimination efforts within the Phase II regulated areas.
- Discuss future goals for stormwater pollution prevention between Stormwater Management Committee members and other town staff to develop new initiatives aimed to accomplish these goals

4.0 ILLICIT DISCHARGE DETECTION AND ELIMINATION

4.1 Outfall Mapping

In 2005, the Town completed the mapping of all stormwater outfalls of 12" or greater throughout town. The outfall maps include information on over 550 outfalls. The outfall maps include:

- Type, material, and size of the conveyance, outfall or channelized flow; and
- The name of the watershed in which the discharge is located.

In 2015 these maps were updated to include additional structures installed and/or upgraded since the original mapping. Additionally, the name and Surface Water Quality Classification of surface waterbodies and wetlands were also added to the maps.

The maps are available for review at Town Hall in the Engineering Department.

4.2 Illicit Discharge Detection Ordinance

An Illicit Discharges and Connections Ordinance was adopted by Town Council on April 6, 2009 and became effective on April 20, 2009. The objectives of the ordinance are:

- To regulate the contribution of pollutants to the MS4 by stormwater discharges by any user.
- To prohibit illicit connection and discharges to the MS4.
- To establish legal authority to carry out all inspection, surveillance and monitoring procedures necessary to ensure compliance with the ordinance.

Efforts to detect illicit discharges have been done in conjunction with both the annual catch basin cleaning program and the existing mosquito-control program conducted throughout town. Any visible discharges observed during dry weather are noted by town staff and investigated. To date, no major illicit discharges of concern have been noted.

Town staff have been working on creating a more formal illicit discharge detection program including a town-wide dry weather screening program to comply with the requirements of the new MS4 General Permit. Additional staffing and funding resources necessary to implement the new dry weather screening program are also being evaluated.

4.3 Activities Planned for Next Year

Activities planned for next year include:

- Update outfall mapping to include new outfall locations.
- Develop and implement a formal illicit discharge detection program including a town-wide dry weather screening program which will comply with the requirements of the new MS4 General Permit.
- Train employees to help them identify illicit discharges and properly report and address such discharges.

5.0 CONSTRUCTION SITE RUNOFF CONTROL

5.1 Erosion and Sediment Control Ordinance

An ordinance on Erosion and Sediment Control was adopted by Town Council and became effective on February 2, 2009. The objectives of this ordinance are to safeguard persons, protect property, and prevent damage to the environment in the Town of Windsor by guiding, regulating, and controlling the design, construction, use, and maintenance of any development or other activity that involves land disturbing activities of greater than 0.5-acre. The ordinance formalizes the previous Town staff review of erosion and sediment control measures by requiring an Erosion & Sediment Control Permit to be required for all sites disturbing greater than 0.5-acre. Approval of this permit must be received prior to the commencement of any land disturbing activity.

In addition to the Erosion & Sediment Control Ordinance, a Stormwater Manual was developed and became effective on February 4, 2009 to provide guidance on the requirements of an Erosion & Sediment Control Permit application as well as preferred appropriate erosion and sediment control measures and the design parameters for each type of erosion and sediment control measures.

In 2016, seven (7) applications for Erosion & Sediment Control Permits were received and reviewed by Engineering.

5.2 Development Reviews

Approximately forty four (44) applications for new development or redevelopment projects town-wide were reviewed and approved in 2016. Thirty seven (37) of these applications were site plan revisions and reviewed by Town staff, the remaining seven (7) were reviewed by the Planning & Zoning Commission. Town staff reviews all proposed developments with respect to stormwater quantity and quality impacts. Erosion and sediment control plans are required to be submitted for all development applications greater than 0.5-acre. The Town's Zoning Regulations require the approval of an Erosion & Sediment Control Permit prior to the approval of the pending application. This practice will continue in following years.

5.3 Activities Planned for Next Year

Activities planned for next year include:

- Continue the review of development and redevelopment applications with respect to stormwater impacts and erosion and sediment control measures.

6.0 POST-CONSTRUCTION STORMWATER MANAGEMENT

6.1 Stormwater Management Ordinance

An ordinance on Stormwater Management was adopted by Town Council and became effective on February 2, 2009. The objectives of this ordinance are to:

- Establish decision-making processes surrounding land development activities that protect the integrity of the watershed and preserve the health of water resources;
- Require that new development and redevelopment maintain the pre-development hydrologic response in their post-development state as nearly as practicable in order to reduce flooding, streambank erosion, non-point source pollution and increases in stream temperature, and to maintain the integrity of stream channels and aquatic habitats;
- Establish minimum post-development stormwater management standards and design criteria for the regulation and control of stormwater runoff quantity and quality;
- Establish design and application criteria for the construction and use of structural stormwater control facilities that can be used to meet the minimum post-development stormwater management standards;
- Encourage the use of non-structural stormwater management and stormwater best site design practices, such as the preservation of greenspace and other conservation areas, to the maximum extent practicable, coordinate site design plans, which include greenspace, with the Town's Open Space and Agricultural Preservation Plans;
- Establish provisions for the long-term responsibility for and maintenance of structural stormwater control facilities and non-structural stormwater management practices to ensure that they continue to function as designed, are maintained, and pose no threat to public safety; and

- Establish administrative procedures for the submission, review, approval and disapproval of stormwater management plans, for the inspection of approved active projects, and for long-term follow-up.

The ordinance formalizes the previous Town staff review of stormwater management by requiring a Stormwater Management Permit for all sites creating greater than 5,000 SF of impervious area or that involves other land development activities of 1.0 acre or more. Approval of this permit must be received prior to the commencement of any land disturbing activity. The main requirements of a Stormwater Management Permit are:

1. To demonstrate compliance with the established post-development performance criteria.
2. To execute an Inspection & Maintenance Agreement which identifies the person(s) responsible for inspection and maintenance as well as a schedule for routine inspection and maintenance to ensure proper function of all stormwater management facilities and/or practices. The Inspection and Maintenance Agreement must be recorded in the Land Records maintained by the Windsor Town Clerk.

Additionally, applicants required to obtain a Stormwater Management Permit are also required to conduct inspections of the post-development stormwater management systems throughout construction and to submit “as-built” plans of the system after final inspection by the Town Engineer.

The Town Stormwater Manual provides guidance on the requirements of a Stormwater Management Permit as well as the post-development stormwater management performance criteria applicable to all stormwater management plans.

In 2016, seven (7) applications for Stormwater Management Permit Applications were received and reviewed. To date, there have been thirty (30) post-construction Inspection & Maintenance Agreements recorded on Windsor land records.

6.2 Development Reviews

Approximately forty four (44) applications for new development or redevelopment projects town-wide were reviewed and approved in 2016. Thirty seven (37) of these applications were site plan revisions and reviewed by Town staff, the remaining seven (7) were reviewed by the Planning & Zoning Commission. Town staff reviews all proposed developments with respect to proposed stormwater management. The Town's Zoning Regulations require the approval of a Stormwater Management Permit prior to the approval of the pending application. This practice will continue in following years.

6.3 Best Management Practices

The Town of Windsor currently utilizes guidance from the 2004 Connecticut Stormwater Quality Manual for evaluating and selecting both structural and non-structural stormwater management measures. The Town's Stormwater Manual includes the specifications and standards for post-construction stormwater management. Additionally, town staff continue to evaluate the use of new Low Impact Development Practices and their suitability at various locations in town.

6.4 Activities Planned for Next Year

Activities planned for next year include:

- Continue the review of development and redevelopment applications with respect to proposed post-construction stormwater management design.
- Continue to evaluate the suitability of Low Impact Development Practices for implementation at various sites in town.

7.0 POLLUTION PREVENTION/GOOD HOUSEKEEPING

7.1 Employee Training

Approximately 25 Department of Public Works (DPW) staff (representing administrative and highway staff) received stormwater and other environmental-related training throughout the year. Training programs included town-wide Stormwater Pollution Prevention efforts in accordance with

the MS4 Permit, site-specific stormwater pollution prevention and spill prevention at the DPW facility, and other chemical hazards and emergency response related training.

Select members of town staff also attended additional environmental seminars and workshops held by the CT DEEP, Connecticut Conference of Municipalities, CT Floodplain Manager's Association, and various watershed associations.

7.2 Street Sweeping

All Town-owned roadways and parking areas were swept at least once during this year. Visual inspections and historical knowledge of roadways are used to identify streets within Town that require sweeping more than once per year. In addition, the use of sand during snow and ice removal activities in the winter was significantly reduced. This resulted in reduced quantities of sand being swept up during spring street sweeping and will have an ongoing impact on the amount of material requiring removal during catch basin cleaning.

7.3 Catch Basin Cleaning

The Town's current catch basin cleaning schedule is designed so that each catch basin is cleaned at least once during a three-year period. Additionally, the Health Department treats town-owned catch basins for mosquito's two to three times per year. If it is found that a catch basin is found to be in need of cleaning, this information is forwarded to the Public Works Department. Typically, approximately 1,500 catch basins are cleaned per year.

7.4 Preventative Maintenance

Routine preventative maintenance on the Town's fleet of equipment and vehicles is performed at the town's maintenance garage.

7.5 Activities Planned for Next Year

Activities planned for next year include:

- Continue providing environmental-related and stormwater management training to DPW and other Town staff.

- Continue sweeping Town-owned streets in spring after snowmelt.
- Continue cleaning catch basins.

8.0 STORMWATER QUALITY TESTING

In accordance with the requirements of the MS4 General Permit, the following locations have been sampled annually since 2004. The outfall locations represent different land use types, geographic locations, watersheds, and receiving waters.

- 800 Marshall Phelps Road (Industrial)
- 615 Day Hill Road (Industrial)
- 1075 Kennedy Road (Commercial)
- 555 Day Hill Road (Commercial)
- 124/128 Harvest Lane (Residential)
- 21-27 Philip Henry Circle (Residential)

Stormwater sampling was conducted on October 27, 2016. Stormwater discharge monitoring reports for the event are included in Appendix A.

APPENDIX A

**Stormwater Discharge Monitoring Reports
October 27, 2016**