

TOWN OF WINDSOR
STORMWATER MANAGEMENT PLAN



2012 Annual Report

December 27, 2012

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	1
2.3 Citizen Groups.....	2
2.4 School Programs.....	3
2.5 Activities Scheduled for Next Year.....	3
3.0 PUBLIC PARTICIPATION	4
3.1 Community Clean-Ups.....	4
3.2 School Programs.....	4
3.3 Stormwater Management Committee.....	4
3.4 Public Information.....	5
3.5 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	11
7.1 Employee Training.....	11
7.2 Street Sweeping.....	11
7.3 Catch Basin Cleaning.....	11
7.4 Preventative Maintenance	12
7.5 Windsor-Bloomfield Landfill.....	12
7.6 Activities Planned for Next Year	12
8.0 STORMWATER QUALITY TESTING	12

APPENDICES

END OF REPORT

A Annual Stormwater Training Materials

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 Environmental Protection's General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems (MS4 General Permit). This document constitutes the Town's Annual Report for 2012 and summarizes the activities conducted to satisfy the permit requirements, modifications to the SWMP, and activities scheduled for the upcoming year, 2013.

2.0 PUBLIC EDUCATION AND OUTREACH

2.1 Catch Basin Markers

To date, more than 750 catch basin markers have been marked with a placard stating "Drains to Waterways and the Long Island Sound, No Dumping!" 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.

The members of the Rotary Club of Windsor & Windsor Locks have expressed interest in continuing the catch basin marker program in 2013.

A new initiative is also being explored with the use of precast concrete catch basin tops stamped with the words "Drains to Watercourse". The catch basin tops are available locally, and will be used when Public Works replaces catch basin tops throughout Town. Engineering has also made these tops the Town engineering standard for use in new construction.

2.2 Educational Materials Distributed

Copies of the SWMP 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. Feature articles and photos were published in local newspapers regarding Earth Day and

Connecticut River community clean-up efforts. These newspapers include 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*, has included public relations information for the catch basin marking program which included a request for volunteers to assist with the program. Additionally, other tips to residents regarding information on recycling, the discharge of pool wastewater, and summer "green" tips are included in the publication throughout the year. Household Hazardous Waste Day, Earth Day, and Connecticut River Clean-up programs were also 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 ING 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.

In the spring of 2012, the Town contracted with a consultant, Princeton Hydro LLC, to conduct a remediation study on Silver Birch Pond. On November 19, 2012, the findings were presented at a public meeting to the area residents and other interested town citizens. Approximately twenty people attended the meeting. The presentation included a description of the characteristics of the pond, noticeable trends, and factors influencing the quality of the pond.

2.4 School 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. A butterfly garden was planted by third grade students at Oliver Ellsworth Elementary School and the importance of natural habitat with no chemical fertilizers was discussed. 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 through the school system and also nature camp during the summer. Solar energy, cycle of life, plants and soils, pond study, geology of Connecticut, erosion, mammals, vernal pools, and the utilization of the STARLAB planetarium are some of the many classes offered. These programs focus on engaging the children and participants in hands on experiences to promote environmental stewardship. There are opportunities for adults and families to experience the same hands on environmental education through public workshops and special events. Natural holiday decorations, Owl Prowl, and Build a Bluebird Box are few workshops that are taking place this year while special events are offered each season at the Park.

2.5 Activities Scheduled for Next Year

Activities planned for next year include:

- Install additional catch basin markers throughout Town.
- Install new catch basin tops, when possible.
- Expand educational resources.
- Solicit assistance from various citizen groups to help with education and outreach.
- Continued participating in school programs.

3.0 PUBLIC PARTICIPATION

3.1 Community Clean-Ups

In years past, the town has held two community clean-up events each year. Due to a change in personnel, only one event was conducted in 2012. More than forty (40) volunteers participated in the event. The event was conducted on April 20, 2012 and focused on collecting trash located along major roads throughout Town. Approximately 0.6-ton of trash plus tires and recyclables was collected in the April 2012 event.

3.2 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

3.3 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 the following Town employees:

- Robert Jarvis, Town Engineer
- Victoria Houle, Project Engineer
- Mark Cohen, Environmental Planner
- Currently vacant position - Assistant Town Planner
- Brian Funk, Public Works Director
- Enita Jubrey, Public Relations, Assistant to the Town Manager
- Charles Petrillo, Director of Health Services

- Michael Pepe, Health Services
- Lauri Volkert, Fire Inspector

The Stormwater Management Committee meets as an entire group at least once per year to discuss existing programs and identify improvements or suggest new activities for the upcoming year. Subcommittees meet throughout the year to discuss and manage ongoing programs.

3.4 Public Information

This year's annual report and previous annual reports are made available to the public on the Town's website.

3.5 Activities Planned for Next Year

Activities planned for next year include:

- Conduct community clean-up events in spring and fall.
- Explore ways to expand recycling programs.
- Recruit student volunteers and/or interested citizens to assist in the illicit discharge detection and elimination efforts within the Phase II regulated areas.

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 2010 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.

The Town is also in the process of developing and implementing a plan to detect and address future non-stormwater discharges, including illegal dumping, to the MS4. Initially, the Town will evaluate the possibility of combining dry weather screening with the existing mosquito-control program conducted throughout Town during the summer months.

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 plan to detect and address future non-stormwater discharges, including illegal dumping, to the MS4.
- 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 2012, there were six (6) Erosion & Sediment Control Permits received and reviewed by Engineering.

5.2 Development Reviews

Approximately thirty-seven (37) applications for new development or redevelopment projects town-wide were reviewed and approved in 2012. Twenty-seven (27) of these applications were site plan revisions and reviewed by Town staff, the remaining six (10) 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 2012, six (6) Stormwater Management Permit Applications were reviewed. To date, there have been ten (10) post-construction Inspection & Maintenance Agreements in accordance with the Town’s Stormwater Management Ordinance recorded on land records.

6.2 Development Reviews

Approximately thirty-seven (37) applications for new development or redevelopment projects town-wide were reviewed and approved in 2012. Twenty-seven (27) of these applications were site plan revisions and reviewed by Town staff, the remaining six (10) 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. It is the Town's intention to expand the Stormwater Manual to include a list of best management practices preferred by the Town for use by developers, citizens, and staff.

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.
- Expand the Town's Stormwater Manual to include Windsor-preferred best management practices.

7.0 POLLUTION PREVENTION/GOOD HOUSEKEEPING

7.1 Employee Training

Approximately 25 Department of Public Works (DPW) staff (representing administrative and highway staff) received environmental-related training this year. The training included Chemical Hazard and Emergency Response and Right-to-Know training.

Stormwater training for DPW and other Town employees was conducted in December 2012. The training was conducted in conjunction with annual training required by the CT DEP's Industrial Stormwater Permit for the highway garage. The training includes education on goals and objectives of the Phase II program, pollution prevention for public works activities, waste management, and good housekeeping.

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. Due to two major storm events (Tropical Storm Irene and Winter Storm Alfred), the Town's catch basin cleaning program was suspended in fall 2011. Typically, approximately 1,500 catch basins are cleaned per year. In 2012, approximately 2,900 catch basins were cleaned to make up for the missed cleaning in 2011.

7.4 Preventative Maintenance

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

7.5 Windsor-Bloomfield Landfill

The Windsor-Bloomfield Landfill accepts household trash, recyclables, yard waste, waste motor oil, tires, appliances and bulky items such as furniture and mattresses. Approximately 4,800 tons of municipal solid waste was collected in 2012. Approximately 5,800 tons of demolition debris and 200 tons of scrap metal were collected. Over 950 tons of leaves and brush were composted. Furthermore, the 2012 MDC Household Hazardous Waste Collection Day included the collection of acids, aerosols, batteries (alkaline, lead-acid, lithium, and Ni-Cad), flammable liquids, fluorescent bulbs, mercury-containing items, pesticides, and PCB ballasts.

7.6 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)

The Town has experienced difficulties with the consultant hired to conduct the annual sampling in recent years and was given late notice that the 2012 stormwater sampling event had not been conducted. The Town has entered into a new agreement with the contractor awarded the Capitol Region Council of Governments solicitation for stormwater monitoring services. It is the Town's intent to collect two rounds of sampling in 2013 to make up for the missed 2012 sampling event.

APPENDIX A

Annual Stormwater Training Materials



* Annual Stormwater Presentation EPA Phase I and Phase II Programs

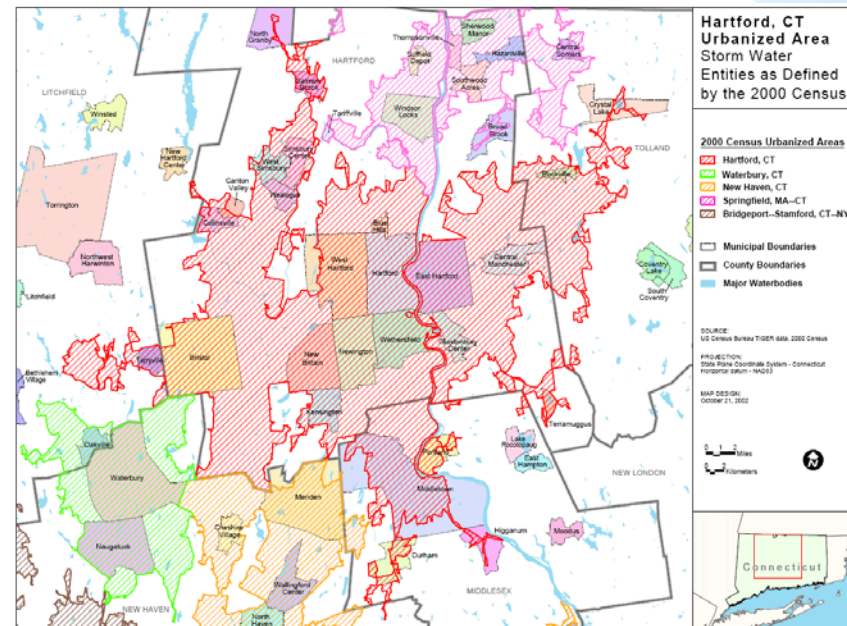
Presentation to
Department of Public Works
December 2012

* Phase I Stormwater Program - 1990

- * Designed to regulate discharges from municipalities with populations of greater than 100,000 (e.g. Hartford, Stamford)
- * Construction sites greater than 5 acres
- * Stormwater discharges “Associated with Industrial Activities”

* Phase II Stormwater Program - 1999

- * Target small communities “urbanized areas” - Municipal Separate Storm Sewer Systems (MS4)
- * EPA has identified approximately 105 Connecticut communities for Phase II permitting
- * Goal is to reduce the discharge of pollutants to the “maximum extent practicable”



* Background

CT DEEP “General Permit for the Discharge of Stormwater Associated with Industrial Activity”

- * Standard Industrial Classification Code
- * Outdoor Material Storage

Windsor Sites Subject to General Permit

- * Public Works Facility (99 Day Hill Rd)
- * Windsor-Bloomfield Landfill

* Phase I Stormwater Program

- * Pollution Prevention Team
- * Description of Potential Pollutant Sources
- * Pollution Prevention
 - * Good Housekeeping
 - * Sediment and Erosion Control
 - * Preventative Maintenance
 - * Spill Prevention/Response Procedures
 - * Employee Training
 - * Management of Runoff
 - * Inspections and Sampling



* Stormwater Pollution Prevention Plan

- * Designated personnel
 - * Brian Funk
 - * Wayne Radke
- * Contact information in SWPPP
- * Responsible for:
 - * Implementing
 - * Maintaining
 - * Revising the Plan



* Pollution Prevention Team



- * Activities and materials at the site
- * Site map
 - * Drainage Areas - Areas on-site that discharge to a common point or along a continuous line
- * Inventory of Exposed Materials
- * List of Spills and Leaks (5+ gallons)
- * Monitoring Program

* Description of Potential Pollutant Sources

- * Loading/Unloading Areas
- * Roof Areas
- * Outdoor Storage
 - * Dumpsters
 - * Aboveground storage tanks
- * Outdoor Manufacturing or Processing
- * Dust or Particulates
- * On-site Waste Management Practices
- * Vehicle Washing/Rinsing



* Potential Pollutant Sources

Public Works Facility

- * Loading/Unloading Areas
 - * Vehicle maintenance area (anti-freeze, detergents, cleaners, lubricants, waste oil, paints, mineral spirits)
 - * Storage area (fertilizers, pesticides, cleaners)
 - * Fueling area
 - * Sand/salt storage shed
- * Outdoor Storage
 - * Scrap metal, dumpsters, drainage materials, solid waste
- * Dust or Particulates
 - * Salt and sand
 - * Unpaved areas in dry weather



*** Potential Pollutant Sources**

- * Good Housekeeping
- * Sediment and Erosion Control
- * Preventative Maintenance
- * Spill Prevention/Response Procedures
- * Employee Training
- * Management of Runoff
- * Inspections



* Pollution Prevention

- * Promptly remove and REMEDIATE spills
- * Maintain clean and dry FLOORS
- * DO NOT store materials, containers, or equipment in pathways and walkways
- * MINIMIZE outdoor storage/PROTECT materials
- * CAPTURE WASTEWATER and prevent water from entering the stormwater system
- * Properly DISPOSE of wastes
- * PROHIBIT vehicle maintenance or washing outside with chemicals!!!

*** Good Housekeeping**



- * LIQUID wastes
 - * Store indoors
 - * Secondary containment:
 - * Largest chemical container or
 - * 10% of the total volume of ALL containers, whichever is LARGER
 - * Store AWAY from floor drains and doorways

*** Good Housekeeping
(continued)**



- * Routine Maintenance

- * Equipment maintenance in accordance with Manufacturer's Specifications

- * Stormwater drainage system

- * Visual Inspections

- * Potential Pollutant Areas

- * Hazardous waste containers, ASTs, material storage areas

- * Stormwater drainage system

- * E&S control measures

*** Preventative
Maintenance**



- * Spill Prevention, Control and Countermeasure Plan

- * Spill response procedures
- * Spill response equipment and supplies
- * Spill notification requirements
- * Inspections of oil storage areas
 - * Fixed storage
 - * Mobile storage
 - * Oil-in-use

* Spill Response Procedures

* DOCUMENT significant spills or leaks



“a list of spills and leaks of five gallons or more of toxic or hazardous substances as defined in Section 22a-430-4...”

* **Spills**

- * Topography
- * Land disturbance areas
- * Erosion controls
 - * Structural
 - * Vegetative
 - * Stabilization Best Management Practices (BMPs)



* **E&S Control**



- * Used to divert, infiltrate, reuse, contain, or otherwise reduce pollutants in discharges
- * Runoff management practices
- * Structural controls
 - * Oil/particle separators
 - * Infiltration/sedimentation basins
 - * Retention/detention basins
 - * Sumped catch basins
 - * Grass swales

* Management of Runoff

- * Update/revise SWPPP as necessary
- * Employee Training
- * Monitoring
- * Inspections (Bi-Annual)
- * Bi-Annual Comprehensive Site Compliance Evaluation



* Plan Implementation



- * There is a change at the site which has an effect on the potential to cause pollution of the waters of the state
- * The actions required by the Plan fail to ensure or adequately protect against pollution of the waters of the state
- * The Commissioner requests modifications to the Plan

* Revisions to the SWPPP

- * All employees whose activities could impact the quality of stormwater runoff from the site
- * Annual training
- * Include objectives of the General Permit and the SWPPP
 - * Oil handling and spill response procedures
 - * Good housekeeping practices
 - * Stormwater system maintenance
 - * Inspection and monitoring requirements



* Employee Training

- * Annual stormwater monitoring
 - * Total oil and grease
 - * pH
 - * Chemical Oxygen Demand
 - * Total Suspended Solids
 - * Total Phosphorus
 - * Total Kjeldahl Nitrogen
 - * Total Copper
 - * Total Zinc



- * Total Lead
- * Aquatic Toxicity
- * Submit results in a Discharge Monitoring Report (DMR) to the DEEP
- * Representative outfalls
 - * Public Works Facility (2 outfalls)

* **Monitoring**

- * Rainfall event > 0.1 inch
- * Rainfall event occurs at least 72 hours AFTER previous rainfall event greater than 0.1 inch
- * Wear latex gloves
- * Place an open container outside to collect rainwater and measure rainfall pH
- * Collect stormwater runoff grab sample
 - * Within 30 minutes of start of runoff***
- * Completely fill containers
 - * Holding underneath outfall or using a clean scoop
 - * Collect a sample free of sediment



* How to Sample



- * Write the sampler name, sample number, sample location, date, and time on sample containers
- * Place samples in cooler with ice or ice packs such that the sample temperature remains between 32°F and 40°F
- * Complete a chain-of-custody for samples being submitted for laboratory analysis
- * Samples MUST be analyzed within 7 days*

*** How to Sample
(continued)**



- * Confirm the accuracy of potential pollutant sources
- * Determine the effectiveness of the Plan
- * Assess compliance with terms and conditions of the General Permit
- * Maintain record for at least five years

* Bi-Annual Comprehensive Site Compliance Evaluation

- * Garage Area
 - * Chemical storage /use area
 - * Potential discharge outside
- * Storage shed
 - * Look for sediment runoff
 - * Look for sand/salt runoff
 - * Make sure inactive piles are covered
- * Fueling Area
 - * Check area and hose connections for evidence of leaks
- * Emergency Generator Tank
 - * Check area and hose connections for evidence of leaks
- * Catch basins
 - * Should be clean and free of debris
- * Stormwater Outfalls
- * General yard cleanliness
- * Evidence of leaks or spills



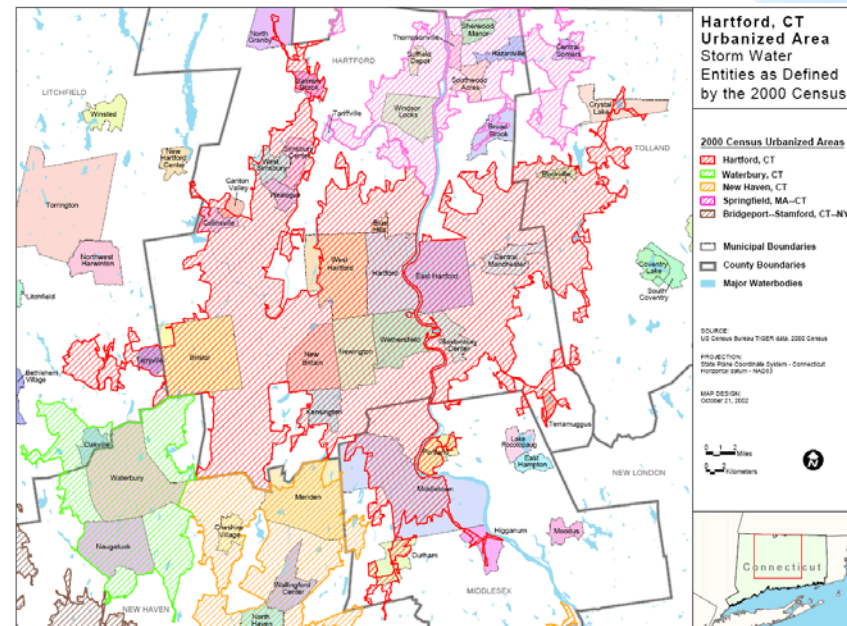
* Bi-Annual Comprehensive Site Compliance Evaluation



* Questions?

* Phase II Stormwater Program - 1999

- * Target small communities “urbanized areas” - Municipal Separate Storm Sewer Systems (MS4)
- * EPA has identified approximately 105 Connecticut communities for Phase II permitting
- * Goal is to reduce the discharge of pollutants to the “maximum extent practicable”



* **Background**

- * Each community must develop and implement a stormwater management plan
- * The stormwater management plan includes 6 minimum control measures:
 - * Public Education and Outreach
 - * Public Involvement/Participation
 - * Illicit Discharge Detection and Elimination (regulated area only)
 - * Construction Site Runoff Control
 - * Post-Construction Site Runoff Control
 - * Pollution Prevention/Good Housekeeping for Municipal Operations



* Phase II Requirements

- * Requires a program to educate the public about stormwater quality and pollution prevention
- * Utilize existing community meetings, school programs, environmental organizations, and citizen's groups
- * Priority sub watersheds/regulated areas should be targeted
- * Certain sources of pollution should be targeted
- * Coordinate with local and state agencies
- * Organize a local committee



* Public Education and Outreach

- * 750+ catch basin markers stating “Drains to Waterways and the Long Island Sound” have been installed
- * Stormwater page on the Town’s website
- * Earth Day events
- * Articles in the *Hartford Courant*, *Windsor Journal*, *Reminder News*, and *There’s a lot to do in Windsor!*
- * School Programs
- * Northwest Park - environmental education classes, programs, and special events



* Public Education and Outreach in Windsor

- * Encourage public participation in pollution prevention tasks
- * Form a local committee to organize, oversee, and complete program tasks



In Windsor

- * Community clean-ups
- * School Programs
- * Stormwater Management Committee
- * Annual reports on the Town's website

*** Public Involvement/
Participation**

- * An illicit discharge is any non-stormwater discharge to an MS4, *with some exceptions*

- * Examples of illicit discharges:

 - * Sanitary wastewater

 - * Car wash wastewater

 - * Improper car fluid disposal

 - * Improper disposal of household toxics

- * Develop a storm sewer map

- * Adopt an ordinance/regulation banning illicit discharges

- * Implement a plan to identify and remove illicit discharges

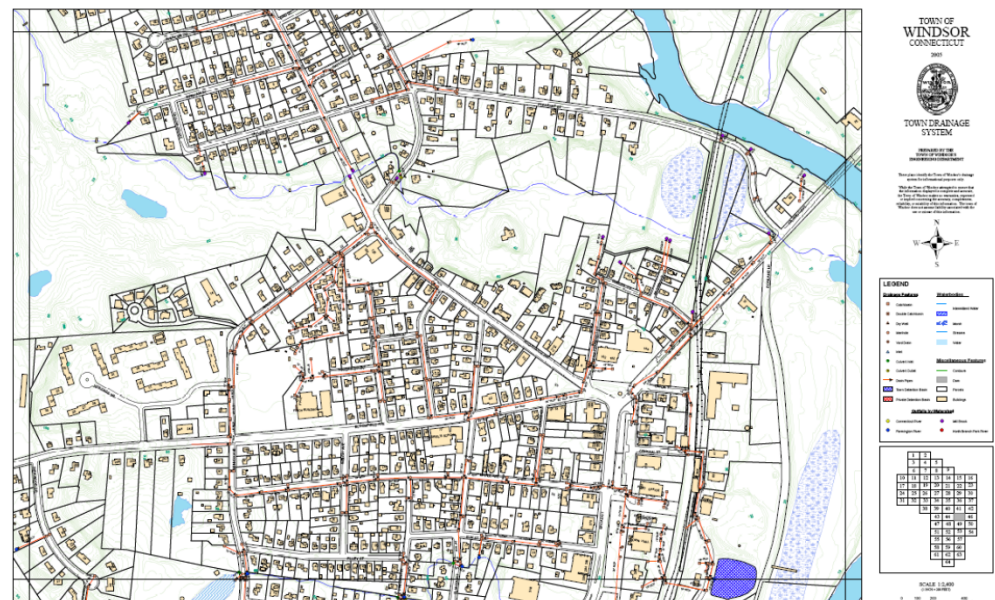


* Illicit Discharge Detection and Elimination

* Illicit Discharge and Connections Ordinance adopted in April 2009

* Outfall Mapping

- * All stormwater outfalls of 12" or greater
- * Includes type, material, and size of conveyance
- * Name of watershed in which the discharge is located



* Illicit Discharge Detection and Elimination in Windsor

- * Develop, implement, or modify existing regulations to reduce potential pollutants from construction activities and require contractors to control construction materials that may cause adverse impacts to water quality
- * Procedures for site plan review which incorporates consideration of potential water quality impacts
- * Procedures for receipt and consideration of information submitted by the public
- * Procedures for site inspection and enforcement of control measures



* Construction Site Runoff Control



- * Erosion and Sediment Control Ordinance adopted in January 2009
- * Regulates land disturbing activities of greater than 0.5-acre
 - * Single family residential uses are exempt in most cases
- * Requires an Erosion & Sediment Control Permit
 - * Engineering received six (6) applications in 2012

* Construction Site Runoff Control in Windsor



- * Develop, implement, or modify existing regulations to address:
 - * Performance standards
 - * Maintenance requirements
 - * Enforcement
- * Develop and implement stormwater Best Management Practices (BMPs)
- * Ensure long-term operation and maintenance BMPs

* Post-Construction Site Runoff Control

- * Stormwater Management Ordinance adopted in January 2009
- * Regulates land disturbing activities:
 - * Sites creating greater than 5,000 SF of impervious area
 - * Land disturbing activities of greater than 1.0-acre
 - * Single family residential uses are exempt in most cases
- * Requires a Stormwater Management Permit
 - * Engineering received six (6) applications in 2012
 - * Requires an Inspection & Maintenance Agreement on Land Records (10 recorded to date)
 - * Requires "as-built" drawings



* Post-Construction Site Runoff Control in Windsor



- * Develop and implement a municipal operation and maintenance program for the storm sewer system and municipal facilities such as DPW yards, schools, and recreation facilities
- * Develop or modify programs to address:
 - * Catch basin maintenance
 - * Street sweeping
 - * Spill prevention and response guidelines
 - * Recordkeeping

* Pollution Prevention/ Good Housekeeping



- * Employee Training
- * Annual street sweeping
- * Catch basin cleaning
- * Preventative maintenance of town vehicles and equipment

* Pollution Prevention/ Good Housekeeping in Windsor

- * Due by January 1st of each year
- * Information that must be included:
 - * Self assessment review of compliance with permit conditions
 - * Assessment of the appropriateness of the selected BMPs
 - * Assessment of the progress towards achieving the measurable goals
 - * Summary of results of any information that has been collected and analyzed
 - * Discussion of activities for the next reporting cycle
 - * Changes in identified BMPs or measurable goals



* Annual Report



- * General Permit has been extended a number of times with the latest expiration date of January 8, 2013
- * Continue work to meet goals of 6 minimum control measures
- * Stormwater Projects:
 - * Stormwater drainage inspections
 - * Construction/repair of existing drainage structures
 - * Decker's Brook repairs and maintenance
 - * Stinson Place improvements
 - * Dry weather screening
 - * Watershed analyses
- * Collect annual stormwater samples
- * Submit annual reports by January 1st of each year

* Future Action (2012 and Beyond)



* Questions?