TOWN
OF
SOUTH WINDSOR

STORMWATER MANAGEMENT PLAN

Annual Report, 2015-2016

INTRODUCTION

This Stormwater Management Plan (SWMP) was developed by the Town of South Windsor for the purpose of establishing, implementing and enforcing a stormwater management program to reduce the discharge of pollutants from the Town's roadways and facilities to the maximum extent practicable, to protect water quality, and to satisfy the appropriate requirements of the Clean Water Act.

The SWMP covers all of the Town's roadways and facilities including public buildings and parks/grounds. Individual facilities such as the Public Works Facility (including the salt shed) and the Sewage Treatment Plant are covered under the general permit (Phase 1 - Industrial) with the Connecticut Department of Energy & Environmental Protection (DEEP). Information on both the MS4 (Phase 2) and the Industrial (Phase 1) can be found on the Town website.

The U.S. Environmental Protection Agency (EPA) published the regulation entitled "National Pollutant Discharge Elimination System – Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges", on December 8, 1999 as required by Section 402(p) of the Clean Water Act (CWA). This is commonly referred to as the National Pollution Discharge Elimination System (NPDES) Phase II program.

This SWMP also directly addresses the requirements of the NPDES Phase II program as implemented and administered by the DEEP as the regulatory authority for the State of Connecticut. The NPDES Phase II program is implemented by the DEEP through the use of the General Permit for the Discharge of Stormwater from Small Municipal Storm Sewer Systems (MS4), which was originally issued in January 2004.

The Town currently has many practices and programs in place relating to stormwater management and pollution prevention. This plan coordinates and incorporates these programs, policies, guidelines and practices into the SWMP document by reference.

The plan outlines a program of best management practices (BMP's) and measurable goals for the following six minimum control measures:

- Public Education and Outreach
- Public Participation / Involvement
- Illicit Discharge Detection and Elimination
- Construction Site Runoff Control
- Post Construction Stormwater Management
- Pollution Prevention / Good Housekeeping

For each minimum control measure, the Town has defined appropriate BMP's, designated a person(s) and job title responsible for each BMP, defined a time frame for implementation for each BMP, and defined measurable goals for each BMP.

As part of the development of the SWMP, a working committee was established with representatives from several Town Departments/Divisions. During the development of the plan, the committee met on a regular basis to discuss relevant issues and provide input and guidance in the development of the plan. The committee now meets on an annual basis to review the SWMP to discuss measures and modifications to the BMP's. A list of the members of the current working committee is provided below.

Stormwater Committee

Jeff Doolittle	Engineering
Michele Lipe	Planning
Jeff Folger	Planning / Inland Wetlands
Mike Gantick	Public Works
Vincent Stetson	Public Works / Street Services
Joseph Perna	Engineering
John Caldwell	Parks and Grounds
Dawn Mulholland	Engineering / GIS
Bernie Drabek	Engineering

Annual Report 2015 - 2016

This Stormwater Management Plan (SWMP) has been updated to report on the status of compliance with the General Permit (MS4) for years 2015 and 2016, and provides a chronological description of all activities undertaken for each Best Management Practice (BMP) for all of the permit years to date. It should be noted that in this report, the permit years indicating which activities are scheduled (permit years 1-5) refer to the permit renewal years from 2014 to 2018. Included in this report are a Best Management Practice list and timeline which lists all of the BMP's outlined in the SWMP (see Appendix A).

Also included in this report (see Appendix C) are the laboratory results of water samples that were collected from six drainage outfall locations during years 2015 and 2016, which represents industrial, commercial, and residential areas. The storm events when samples were taken occurred on April 20, 2015 and March 28, 2016. These samples were collected as required by the MS4 General Permit from areas spread over a geographic area to capture different sections of Town and different receiving watercourses and wetlands.

While there are still some elements of the SWMP that have not been fully implemented under the current Permit, most of the measures outlined for each BMP have been successfully completed.

The DEEP has recently reissued the MS4 General Permit with an effective date of July 1, 2017. The reissuance of this permit builds on the six areas of responsibility for each municipality (Minimum Control Measures). The new MS4 General Permit provides significantly more detail on the requirements and implementation of the six Minimum Control Measures as well as expanding on certain requirements. A summary of the more significant modifications will be highlighted in the 2017 Annual Report.

The stormwater committee is currently looking at the details and requirements of the new permit to develop the town's updated Stormwater Management Plan. The committee is also looking at several new software programs to use in development of the updated SWMP. The software will provide a database management tool that is necessary to track the many elements of the general permit and simplify the process of generating the Town's annual report. The committee is also in the process of reviewing the requirements for screening and monitoring of stormwater outfalls which has changed under the new permit. The new general permit will transition to outfall screening for discharges to impaired waters only, followed by representative outfall sampling in the last two years of the permit. These new requirements will also be reported on in the 2017 Annual Report.

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Section A

Date Prepared: 1/30/2017

For questions regarding this report contact:
Jeffrey B. Doolittle
1540 Sullivan Avenue
South Windsor, CT 06074

Stormwater Program Permit Information	
1. Permitting Authority: State of Ct Department of Energy & Environmental Protection	
2. Permit Number: GSM000081	**3. Permit Type:** General
4. Permit Name: Town of South Windsor MS4 General Permit (2015-2017)	
5. Date Issue: 1/8/2015	**6. Date Expire:** 6/30/2017

General Information for MS4 Operator			
1. Operator Name:	Matthew B. Galligan		
2. Operator Title:	Town Manager		
3. Represented Entity:	Town of South Windsor		
4. Mailing Address:	1540 Sullivan Avenue		
5. Mail City, State, Zip:	South Windsor, CT 06074		
6. Phone Number:	(860) 644-2511		
7. E-Mail Address:	matthew.galligan@southwindsor.org		
8. Co-Permitting With:	Not Applicable		
9. Population: 25,709	**Households:** 9,417	**Area (sq mi):** 29	
10. Official Website:	http://www.southwindsor.org		

General Information for Primary Contact Person	
1. Name:	Jeffrey B. Doolittle
2. Title:	Town Engineer
3. Phone Number	(860) 644-2511
4. E-Mail Address:	jeffrey.doolittle@southwindsor.org

General Information for Secondary Contact Person	
1. Name:	Joseph J. Perna
2. Title:	Project Engineer
3. Phone Number	(860) 644-2511
4. E-Mail Address:	joseph.perna@southwindsor.org

General Information for Receiving Waters

Receiving Water Lists: Listed below are all the identified receiving waterbodies to which identified outfalls discharge.

Receiving Streams (creek, stream, river, etc.)	Receiving Waterbodies (lake, wetland, ocean, etc.)	Receiving Watersheds
Avery Brook	Mill Pond	Connecticut River - 4000*
Farm Brook	Brickyard Pond	Podunk River - 4004
Plum Gully Brook	Millers Pond	Scantic River - 4200*
Quarry Brook		Ketch Brook - 4207
Podunk River		Hockanum River - 4500
Dry Brook*		
Scantic River		
Stoughton's Brook		
Newberry Brook		* DEEP Designated Impaired Waters
Connecticut River		
Bancroft Brook		
Dart Brook		
Burnham Brook		
Campbells Brook		
Ketch Brook		
Hockanum River		
Muzzy Brook		
Cemetery Brook		

Section B

Plan Contents Summary

The Stormwater Management Plan consists of the following Minimum Control Measures and BMPs:

Minimum Control Measures and BMPs		
Public Education and Outreach		
1.1 Stormwater Educational Materials - Brochures/Fact Sheets		
	4/7/2005	6/30/2017
1.2 Alternative Information Sources (Web Site)		
	8/10/2011	6/30/2017
1.3 Educational Displays		
	5/18/2004	6/30/2017
1.4 Proper Disposal of Household Hazardous Wastes		
	7/1/2003	6/30/2017
1.5 Storm Drain Marking/Stenciling		
	4/1/2004	6/30/2017
1.6 Tributary Signage		
	1/3/2006	6/30/2017
Public Participation/Involvement		
2.1 Develop Public Involvement/Participation Program		
	5/11/2004	6/30/2017
2.2 Comply with state and local public notice and FOI requirements		
	7/19/2004	6/30/2017
2.3 Storm Drain Marking/Stenciling		
	4/1/2004	6/30/2017
2.4 Wetland & Riparian Buffer Plantings		
	4/12/2006	6/30/2017
Illicit Discharge Detection and Elimination		
3.1 Map Outfalls greater than 15" in Urbanized Area (2009-2014)		
	12/20/2004	6/30/2017
3.2 Map Outfalls greater than 15" Town-Wide (2009-2014)		
	6/15/2005	6/30/2017
3.3 Map Outfalls greater than 12" in Urbanized Area (2009-2014)		
	6/15/2005	6/30/2017
3.4 Develop Program to Detect and Eliminate Illicit Discharges		
	10/8/2004	6/30/2017
3.5 Develop Illicit Discharge Ordinance		
	1/8/2014	6/29/2017
Construction Site Runoff Control		
4.1 Review Land Use Regulations to meet requirements of MS4 Permit and E&S Guidelines		
	4/1/2004	6/30/2017
4.2 Procedures for Notifying Construction Site Developers and Operators of Requirements for Registration		
	1/8/2014	6/30/2017

4.3 Requirements for Construction Site Operators to Implement Appropriate E&S Control BMP's		
	4/1/2004	6/30/2017
4.4 Requirements for Construction Site Operators to Control Waste at the Site		
	4/1/2004	6/30/2017
4.5 Procedures for Site Plan Review		
	4/1/2004	6/30/2017
4.6 Procedures for Receipt and Consideration of Information Submitted by the Public		
	4/1/2004	6/30/2017
4.7 Procedures for Site Inspection and Enforcement of Control Measures		
	4/1/2004	6/30/2017
Post-Construction Stormwater Management		
5.1 Review Land Use Regulations to meet requirements of MS4 Permit and E&S Guidelines		
	4/1/2004	6/30/2017
5.2 Develop Post-Construction Ordinance or Regulation		
	4/1/2004	6/30/2017
5.3 Develop and Implement Post-Construction BMP Strategy		
	12/29/2006	6/30/2017
5.4 Develop Program to Ensure Long-Term Operation and Maintenance of BMP's		
	1/18/2008	6/30/2017
5.5 Develop and Implement Strategies which include Non-Structural BMP's		
	4/1/2004	6/30/2017
Pollution Prevention/Good Housekeeping		
6.1 Develop training program for muncipal employees		
	10/1/2012	6/30/2017
6.2 Sweep streets at least once a year as soon as possible after snowmelt		
	3/4/2003	6/30/2017
6.3 Evaluate Urbanized Areas for possible sweeping more than once a year		
	3/30/2007	6/30/2017
6.4 Develop program to evaluate and clean stormwater structures at least once a year		
	7/1/2003	6/30/2017
6.5 Develop program to evaluate and prioritize system for upgrade and/or repair		
	7/1/2003	6/30/2017
6.6 Develop and implement an Operation and Maintenance Program		
	12/22/2010	6/30/2017
6.7 Vehicle Washing Program		
	7/31/2001	6/30/2017
6.8 Road Salt Application and Storage Program		
	10/14/2003	6/30/2017

Section C

Public Education and Outreach

Descriptive Text:

To satisfy this minimum control measure, the operator of a regulated small MS4 needs to:

1. Implement a public education program to distribute educational materials to the community, or conduct equivalent outreach activities about the impacts of storm water discharges on local waterbodies and the steps that can be taken to reduce storm water pollution; and

2. Determine the appropriate best management practices (BMPs) and measurable goals for this minimum control measure.

An informed and knowledgeable community is crucial to the success of a storm water management program since it helps to ensure the following:

1. Greater support for the program as the public gains a greater understanding of the reasons why it is necessary and important. Public support is particularly beneficial when operators of small MS4s attempt to institute new funding initiatives for the program or seek volunteers to help implement the program; and

2. Greater compliance with the program as the public becomes aware of the personal responsibilities expected of them and others in the community, including the individual actions they can take to protect or improve the quality of area waters.

Number of BMPs associated with control measure:

6

Important Dates:

Earliest Start Date: 7/1/2003

End Date: 6/30/2017

Details of BMPs and Work Performed for Them

1.1 Stormwater Educational Materials - Brochures/Fact Sheets

Responsible Party: Jeff Folger, Environmental Planner/Conservation Officer

Start Date: 4/7/2005	End Date: 6/30/2017

Permits Years during which activities are scheduled:

Year 1 **X** Year 2 **X** Year 3 **X** Year 4 Year 5

Name of Separate Implementing Entity:
Not Applicable

BMP Description:
The benefits associated with this BMP include reaching a diverse cross-section of the general public by providing educational material about the impacts of stormwater discharges on waterbodies and the steps that the public can take to reduce pollutants in stormwater runoff. High visibility areas such as Town Hall, Public Library, Community Center, Police Department, Schools, and Recreation areas have been targeted.

Permit Years 1-5 (2014-2018) - SWSC (South Windsor Stormwater Committee) will continue to distribute and display brochures, fact sheets and other publications in high visibility public areas previously targeted. The SWSC will continue to search for other sources of publications that might be useful.

Has Goal Been Accomplished: YES

Work Performed

Date: 4/7/2005	Responsible Party: Jeff Folger, Environmental Planner/Conservation Officer

1. Distribution of EPA Informational Brochures and Posters
In April of 2005, the Town of South Windsor obtained 25 copies of the EPA's informational brochure entitled "Step by Step: A citizen's guide to curbing polluted runoff" for distribution. This is a brochure distibuted through the Long Island Sound Office and addresses pollution prevention for local streams and Long Island Sound. In addition, the Town of South Windsor had requested and obtained an additional 100 brochures and 20 posters for distribution along with a CD-Rom containing a ready-to-print version of the brochure.

Date: 12/15/2010	Responsible Party: Jeff Folger, Environmental Planner/Conservation Officer

2. Distribution of Publications
The EPA's informational brochure entitled "Step by Step: A citizen's guide to curbing polluted runoff" has been on display for distribution at the Town Hall and the Public Library. Also on display and available for distribution is a coloring book entitled "StormWater", which is made available by the University of Kentucky Cooperative Extension Service and targets a younger audience.

1.2 Alternative Information Sources (Web Site)

Responsible Party: Department of Public Works

Start Date: 8/10/2011	End Date: 6/30/2017

Permits Years during which activities are scheduled:

Year 1 **X** Year 2 **X** Year 3 **X** Year 4 Year 5

Name of Separate Implementing Entity:
Not Applicable

BMP Description:
The Department of Public Works has developed a series of educational videos called "What's New in Public Works" which is posted on the Town's G-Media page on the web site. One of the episodes taped was a presentation on Stormwater Management.

The benefits associated with this BMP include creating awareness and making information available to a very large, diverse audience. A web site will take advantage of current technology reaching an audience using internet access.

A separate web site will eventually be developed that addresses the effects of stormwater quality on the environment. The web site will be part of the Town of South Windsor's web page and will be available to the public by means of internet access and the intranet for Town employees. Links to additional web sites including CTDEEP, EPA and other stormwater resources will be incorporated into the web site.

Permit Years 1-5 (2014-2018) - SWSC (South Windsor Stormwater Committee) will continue to coordinate with the Town's IT Department in development of a stormwater website. A copy of the annual stormwater report is posted on the Town's website.

Has Goal Been Accomplished: YES

Work Performed

Date: 8/10/2011	Responsible Party: Department of Public Works

1. Stormwater Management Video
A video was produced on Stormwater Management as part of a series developed by the Department of Public Works called "What's New in Public Works". This installment covered the development of the Town's Stormwater Management Program and the best management practices (BMP's) currently implemented for the six minimum control measures outlined in the Stormwater Management Plan.

Date: 1/8/2014	Responsible Party: Division of Engineering

2. Town Website
A copy of the annual stormwater report was posted on the Town Website. It is located under Town Departments - Public Works - Public Works Programs - Stormwater.

Date: 1/26/2017	Responsible Party: Division of Engineering

3. Town Website
A copy of the 2015/2016 annual stormwater report was posted on the Town Website. It is located under Town Departments - Public Works - Public Works Programs - Stormwater.

1.3 Educational Displays

Responsible Party: Department of Public Works

Start Date: 5/18/2004	End Date: 6/30/2017

Permits Years during which activities are scheduled:

Year 1 **X** Year 2 **X** Year 3 **X** Year 4 Year 5

Name of Separate Implementing Entity:
Not Applicable

BMP Description:
The benefits associated with this BMP include reaching a diverse cross-section of the general public including school age children by providing educational material and displays which demonstrate the stormwater cycle and function of a storm sewer system.

The Town of South Windsor currently sponsors an annual Public Works Day event which targets elementary age school children. The Public Works Department has constructed a three-dimensional "Stormwater Cycle" display which is presented during the event and it has proven to be very popular with the children and teachers. Posters depicting the water cycle and pamphlets regarding public action to reduce pollutants in stormwater runoff are also distributed at the display.

In October of 2007, the South Windsor Public Works Department received an award from the

Connecticut Transportation Institute for innovation in educational displays with the construction of the "Stormwater Cycle" display.

Permit Years 1-5 (2014-2018) - The South Windsor Public Works Department will continue to display the Stormwater Display at annual public events. The SWSC (South Windsor Stormwater Committee) including Town staff will evaluate the program annually and implement modifications to enhance the program as needed.

Has Goal Been Accomplished: YES

Work Performed

Date: 5/18/2004	Responsible Party: Department of Public Works

1. Annual Public Works Day
The Annual Public Works Day was held at the Orchard Hill Elementary School. A three-dimensional model of the Stormwater Cycle was on display. Posters depicting the water cycle and pamphlets regarding public action to reduce pollutants in stormwater runoff were distributed.

The Annual Public Works Day continues to be successful with events held on May 17, 2005 and May 23, 2006. The program rotates through all the elementary schools in town on a yearly basis.

Date: 9/7/2006	Responsible Party: Department of Public Works

2. Annual Wapping Fair
A three-dimensional model of the Stormwater Cycle was on display at the Wapping Fair. Pamphlets were distributed regarding public action to reduce pollutants in stormwater runoff.

The Stormwater Cycle model was again displayed at the Wapping Fair Sept. 8-11, 2005 and Sept. 7-10, 2006.

Date: 10/29/2005	Responsible Party: Department of Public Works

3. Annual Family Awareness Day
The Annual Family Awareness Day was held at the Town Community Center. A three-dimensional model of the Stormwater Cycle was on display and pamphlets were distributed regarding public action to reduce pollutants in stormwater runoff.

The Stormwater Cycle model was again displayed at the Family Awareness Day on Oct. 29, 2005.

Date: 6/17/2006	Responsible Party: Department of Public Works

4. Strawberry Festival
A three-dimensional model of the Stormwater Cycle was on display at the Strawberry Festival on June 11, 2005 and June 17, 2006. Pamphlets were distributed regarding public action to reduce pollutants in stormwater runoff.

Date: 10/7/2006	Responsible Party: Department of Public Works

5. Annual Heritage Day
Heritage Day is an annual event sponsored by the Historical Society. The three-dimensional model of the Stormwater Cycle was on display at this event June 25, 2005 and October 7, 2006. Pamphlets were also distributed regarding public action to reduce pollutants in stormwater runoff.

Date: 5/20/2009	Responsible Party: Department of Public Works

6. Annual Public Works Day
The three-dimensional model of the Stormwater Cycle was again on display at the annual Public Works day in May, 2007 (Wapping Elementary School), May, 2008 (Philip R. Smith School), and May, 2009 (Orchard Hill School).

Date: 5/22/2013	Responsible Party: Department of Public Works

7. Annual Public Works Day
The three-dimensional model of the Stormwater Cycle was again on display at the annual Public Works Day on May 23, 2012 at the Eli Terry Elementary School and on May 22, 2013 at the Pleasant Valley

Elementary School.

Date: 5/17/2016	Responsible Party: Department of Public Works

8. Annual Public Works Day
The three-dimensional model of the Stormwater Cycle was again on display at the annual Public Works Day on May 17, 2016 at the Philip R. Smith School.

1.4 Proper Disposal of Household Hazardous Wastes

Responsible Party: Department of Public Works

Start Date: 7/1/2003	End Date: 6/30/2017

Permits Years during which activities are scheduled:

Year 1 **X** Year 2 **X** Year 3 **X** Year 4 Year 5

Name of Separate Implementing Entity:
Not Applicable

BMP Description:
The benefits associated with this BMP include increasing public awareness regarding the use and proper disposal of hazardous products/wastes and the impact to the environment if hazardous products are improperly stored or used.

In past years, household hazardous wastes (HHW) were collected and safely disposed of through a regional cooperation effort sponsored by the Metropolitan District (MDC). Recently, the MDC chose to limit this program to MDC member towns. As a consequence, the Town of South Windsor entered into an agreement with the Capital Regional East Operating Committee (CREOC) for collection and proper disposal of HHW starting in July 2013. CREOC membership includes the towns of Glastonbury, Hebron, Manchester,, Marlborough, Somers, Stafford, Vernon, and South Windsor.

Manchester is now the home of a regional center for HHW collection. This center, built with grant funding from the DEEP, is operated by CREOC and is located adjacent to the Manchester Landfill on Olcott Street.

The South Windsor Public Works Department distributes a Hazardous Household Waste flyer which provides information on household hazardous wastes and collection dates with locations. This information is also available on the Town's website.

In addition to the hazardous waste program, the Town of South Windsor also operates the townwide Recycling Program. The South Windsor Public Works Department distributes a recycling flyer annually. As part of the recycling program, waste oil, antifreeze and used oil filters are collected. Information on the Town's recycling program is also available on the Town's website.

Beginning in year 2011, the Town began a new program to collect and recycle electronic wastes. The program provides a site at the Town Hall for residents to drop-off electronic devices free of charge and will involve quarterly scheduled collection events each year.

Permit Years 1-5 (2014-2018) - The South Windsor Public Works Department will continue to administer the Hazardous Waste Collection and Recycling Programs. The SWSC (South Windsor Stormwater Committee) and The South Windsor Public Works Department will evaluate the programs annually and implement changes as needed or required.

Has Goal Been Accomplished: YES

Work Performed

Date: 7/1/2003	Responsible Party: Department of Public Works

01. Disposal of Household Hazardous Wastes / Recycling Collection
Announcements regarding Hazardous Household Waste Collection and Recycling have been posted

on the Town's website.

The Town is a member of the Mid-Connecticut Project which is a regional cooperative organization of Hartford area communities for the purposes of refuse disposal and recycling. The Town adopted a recycling ordinance in September 1990 and implemented a residential curbside recycling program the following month. The program has subsequently been expanded to include collection/recycling of antifreeze and used oil filters at the Public Works Garage on Burgess Road.

Date: 8/2/2004	Responsible Party: Department of Public Works

02. Hazardous Waste and Recycling Mailings
Flyers regarding Hazardous Household Waste and Recycling were mailed out to all Town Residents at a cost of $3700. The Town is currently on an alternating mailing program, distributing flyers regarding Refuse/Hazardous Waste one year and Recycling/Hazardous Waste the next year.

Date: 6/15/2005	Responsible Party: Department of Public Works

03. Hazardous Waste and Recycling Program
The Town has continued with the Hazardous Waste and Recycling/Refuse Program mailing out flyers in June 2005 and June 2006, and sponsoring Hazardous Household Waste Collection Days during both those years. The total annual cost of this program was $23,000 for each fiscal year.

Date: 10/13/2007	Responsible Party: Department of Public Works

04. Hazardous Waste and Recycling Program
The Town has continued with the Hazardous Waste and Recycling/Refuse Program mailing out flyers in August 2007, and sponsoring a Hazardous Waste Collection Day on October 13, 2007. For the year 2007, Hazardous Waste and Recycling flyers were mailed. Hazardous Waste and Refuse flyers will be mailed in year 2008.

Date: 10/11/2008	Responsible Party: Department of Public Works

05. Hazardous Waste and Recycling Program
A Hazardous Waste Collection Day was held on October 11, 2008 at the South Windsor High School. Residents are also notified of other HazWaste Collections held throughout the state sponsered by the MDC every year.

Date: 10/31/2009	Responsible Party: Department of Public Works

06. Hazardous Waste and Recycling Program
South Windsor residents participated in a Household Hazardous Waste collection in the Town of Windsor Locks at the Public Works Garage on October 31, 2009.

Date: 10/2/2010	Responsible Party: Department of Public Works

07. Hazardous Waste and Recycling Program
A Hazardous Waste Collection Day was held on October 2, 2010 at the South Windsor High School. Redidents were also notified of other HazWaste Collections being held throughout the state.

Date: 10/1/2011	Responsible Party: Department of Public Works

08. Hazardous Waste and Recycling Program
A Hazardous Waste Collection Day was held on October 1, 2011 at the South Windsor High School. Residents were also notified of other HazWaste Collections held throughout the state. In addition, the Town initiated the Electronic Recycling Program with scheduled collection events on March 26, June 11, September 10, and December 3 of this year.

Date: 9/22/2012	Responsible Party: Department of Public Works

09. Hazardous Waste and Recycling Program
A Hazardous Waste Collection Day sponsored by the MDC was held on September 22, 2012 at the South Windsor High School. In addition, the Electronic Recycling Program was sucessfully continued with scheduled collection events on March 10, June 2, July 7, September 8, and December 1 of this year.

Date: 1/5/2013	Responsible Party: Department of Public Works

10. Hazardous Waste and Recycling Program
Hazardous waste collection days sponsored by the Capital Regional East Operating Committee (CREOC) were held on September 7 and 21 and October 19, 2013 at the Manchester regional collection center. In addition, the Electronic Recycling Program was sucessfully continued with scheduled collection events on January 5, March 2, May 4, July 7, September 7, and November 2 of this year at the South Windsor Town Hall.

Date: 1/11/2014	Responsible Party: Department of Public Works

11. Hazardous Waste and Recycling Program
Hazardous waste collection days sponsered by CREOC were held on April 12 and 26, May 10, September 6 and 20, and October 18, 2014 at the Manchester regional collection center. In addition, the Electronic Recycling Program was again sucessfully continued with scheduled collection events on January 11, March 1, May 3, July 12, September 6, and November 1 of this year at the South Windsor Town Hall.

Date: 4/2/2016	Responsible Party: Department of Public Works

12. Hazardous Waste and Recycling Program
The Town has participated in a Household Hazardous Waste Collection Program since 2013 which is sponsored by CREOC. Household hazardous waste is collected six times a year at the Manchester landfill site. In addition, the Electronic Recycling Program continues to be a sucess each year with six collection events scheduled annually.

1.5 Storm Drain Marking/Stenciling

Responsible Party: Department of Public Works

Start Date: 4/1/2004	End Date: 6/30/2017

Permits Years during which activities are scheduled:

Year 1 **X** Year 2 **X** Year 3 **X** Year 4 Year 5

Name of Separate Implementing Entity:
Not Applicable

BMP Description:
Storm drain marking/stenciling involves labeling storm sewer inlets with painted messages or prefabricated plaques, warning citizens not to dump pollutants into the inlets. The messages remind the public that inlets and storm sewer systems connect to local waterbodies and that illegal dumping pollutes those waters.

A priority system will be developed to determine which areas in town should be targeted for the program first. Older residential subdivisions that contain catch basins with no sumps and drainage systems that discharge directly to a water body will be identified. Town staff will track and record installation of the stencils as they are completed.

The benefits associated with this BMP include increased public awareness. It will educate and demonstrate to the public the direct link between the storm sewer system and the surface waters to which it drains.

Permit Years 1-5 (2014-2018) - SWSC to evaluate Storm Drain Stenciling Program for continued availability of stenciling kits, areas in town to be targeted, and success of installations.

Has Goal Been Accomplished: YES

Work Performed

Date: 4/1/2004	Responsible Party: Jeff Folger, Environmental Planner/Conservation Officer

1. Storm Drain Marking/Stenciling
As part of the Town's Storm Drain Marking/Stenciling pilot program, Town Staff has distributed

approximately 75 to 80 stencils to the South Windsor High School for application. The Quarry Brook Drive / Stanley Drive neighborhood has initially been targeted where stencils were applied early this spring.

Date: 12/6/2006	Responsible Party: Jeff Folger, Environmental Planner/Conservation Officer

2. Storm Drain Marking/Stenciling
Continuing with the Town's Storm Drain Marking/Stenciling program, Town Staff had distributed approximately 50 stencils to a local scout troop for application on catch basins located in the Plum Ridge condominium complex. The Benedict Drive area of town has been identified as the next area in town to apply stencils due to the age of the storm sewer system and lack of sumps in many of the catch basins.

1.6 Tributary Signage

Responsible Party: Department of Public Works

Start Date: 1/3/2006	End Date: 6/30/2017

Permits Years during which activities are scheduled:

Year 1 **X** Year 2 **X** Year 3 **X** Year 4 Year 5

Name of Separate Implementing Entity:
Not Applicable

BMP Description:
The benefits associated with this BMP include public awareness of local water resources. These include rivers, streams and tributaries along Town roadways.

Permit Years 1-5 (2014-2018) - Public Works Department and SWSC to evaluate success of tributary signage program and implement changes and repair signs as needed.

Has Goal Been Accomplished: YES

Work Performed

Date: 1/3/2006	Responsible Party: Department of Public Works

1. Tributary Signage Program
A Tributary Signage Program has been developed by Town Staff in which a total of 32 roadway crossings have been identified throughout the Town for placement of signage identifying the particular waterbody being crossed to increase public awareness. Working in conjunction with the Department of Public Works, Town Staff developed a list prioritizing the locations of the crossings. It is anticipated that 10 to 12 signs will be installed per year. To date, all of the signage has been fabricated by Public Works Personnel and 2 signs have been installed.

Date: 12/19/2007	Responsible Party: Department of Public Works

2. Tributary Signage Program
To date, 23 of the 32 signs designated for placement have been installed. It is anticipated that the remaining 9 signs will be installed in year 2008.

Date: 12/18/2008	Responsible Party: Department of Public Works

3. Tributary Signage Program
The remainder of the tributary roadway crossing signs have been installed. There are a total of 32 signs installed identifying various waterbodies throughout the Town.

Public Participation/Involvement

Descriptive Text:

To satisfy this minimum control measure, the operator of a regulated small MS4 must:

1. Comply with applicable State, Tribal, and local public notice requirements; and

2. Determine the appropriate best management practices (BMPs) and measurable goals for this minimum control measure.

EPA believes that the public can provide valuable input and assistance to a regulated small MS4's municipal storm water management program and, therefore, suggests that the public be given opportunities to play an active role in both the development and implementation of the program. An active and involved community is crucial to the success of a storm water management program because it allows for:

1. Broader public support since citizens who participate in the development and decision making process are partially responsible for the program and, therefore, may be less likely to raise legal challenges to the program and more likely to take an active role in its implementation;

2. Shorter implementation schedules due to fewer obstacles in the form of public and legal challenges and increased sources in the form of citizen volunteers;

3. A broader base of expertise and economic benefits since the community can be a valuable, and free, intellectual resource; and

4. A conduit to other programs as citizens involved in the storm water program development process provide important cross-connections and relationships with other community and government programs. This benefit is particularly valuable when trying to implement a storm water program on a watershed basis, as encouraged by EPA.

Number of BMPs associated with control measure:

4

Important Dates:

Earliest Start Date: 4/1/2004

End Date: 6/30/2017

Details of BMPs and Work Performed for Them

2.1 Develop Public Involvement/Participation Program

Responsible Party: Department of Public Works

Start Date: 5/11/2004 | End Date: 6/30/2017

Permits Years during which activities are scheduled:

Year 1 **X** Year 2 **X** Year 3 **X** Year 4 Year 5

Name of Separate Implementing Entity:
Not Applicable

BMP Description:
The development of a public involvement/participation program that includes the public in developing, implementing, and reviewing the stormwater management program is required.

Permit Years 1-5 (2014-2018) - SWSC to continue to coordinate with local civic groups or organizations to sponsor annual volunteer activities.

Has Goal Been Accomplished: YES

Work Performed

Date: 5/11/2004 | Responsible Party: Joseph Perna, Project Engineer

1. South Windsor Stormwater Committee Meeting
Held kick-off meeting to review and discuss DEP General Permit requirements, minimum control measures, and program costs.

Date: 5/19/2004 | Responsible Party: Joseph Perna, Project Engineer

2. South Windsor Stormwater Committee Meeting
SWSC meeting to continue discussion on minimum control measures, BMP's, and development of Stormwater Management Plan.

Date: 7/1/2004 | Responsible Party: Joseph Perna, Project Engineer

3. South Windsor Stormwater Committee Meeting
Draft version of SWMP presented to Committee for review and comment.

Date: 12/20/2004 | Responsible Party: Joseph Perna, Project Engineer

4. South Windsor Stormwater Committee Meeting
SWSC meeting to review actions undertaken during the last year for each BMP identified in the Stormwater Management Plan, progress towards achieving established goals, and discussion of proposed activities to be implemented during the next reporting cycle.

Date: 1/3/2005 | Responsible Party: Jeff Folger, Environmental Planner/Conservation Officer

5. Public Involvement/Participation Program
Jeff Folger, the Town's Environmental Planner/Conservation Officer has been instrumental in developing and coordinating various outreach activities within the community in the last few years. Jeff has acted as liason to several town committee's such as the Inland Wetlands Agency/Conservation Commission and the Open Space Task Force in developing Public Involvement/Participation programs. Listed below are some examples of these programs that have been developed and are currently under way:

Storm Drain Marking/Stenciling - Jeff Folger has coordinated this program in conjunction with CTDEP, the town's Board of Education, and the IWACC. Several civic groups have been involved in this program including several scout troops.

Open Space Task Force - The task force has developed a public education program to address the public's rights and responsibilities regarding Town open space. The task force recently had a booth set

up at the Town's annual Strawberry Festival where educational materials were distributed.

Inland Wetlands Agency/Conservation Commission - The Commission oversees the management of the Town's Wildlife Santuary as well as other programs. Maintenance of the santuary is carried out by numerous volunteers. The Commission also supports the Sustainable Forest Resource Grant project on selected open space parcels. Eagle Scouts have carried out many of the management recommendations listed in the project. They have also sponsored the annual purchase and planting of witch hazel plants in which several civic groups have participated. The Commission took a lead role in the support of the construction of a walking trail at the Major Michael Donnelly Land Preserve. The trail project was divided into sections that could be adopted by interested parties as community service projects. These projects, and the stocking of a pond by cub scouts involved the volunteer efforts of over 40 individuals.

Date: 12/28/2005	Responsible Party: Joseph Perna, Project Engineer

6. South Windsor Stormwater Committee Meeting
SWSC meeting to review activities undertaken during the last year for each BMP identified in the Stormwater Management Plan.

Date: 1/18/2008	Responsible Party: Joseph Perna, Project Engineer

7. South Windsor Stormwater Committee Meeting
SWSC meeting to review activities undertaken during the last year for each BMP identified in the Stormwater Management Plan and to discuss measures and modifications to BMP's not completed.

Date: 1/23/2013	Responsible Party: Joseph Perna, Project Engineer

8. South Windsor Stormwater Committee Meeting
A SWSC meeting was held to review activities undertaken during the last year for each BMP identified in the Stormwater Management Plan and to discuss measures and modifications to BMP's not completed.

2.2 Comply with state and local public notice and FOI requirements

Responsible Party: Joseph Perna, Project Engineer

Start Date: 7/19/2004	End Date: 6/30/2017

Permits Years during which activities are scheduled:

Year 1 **X** Year 2 **X** Year 3 **X** Year 4 Year 5

Name of Separate Implementing Entity:
Not Applicable

BMP Description:
Compliance with applicable State and local public notice and freedom of Information regulations are required when implementing a public involvement/participation program.

Permit Years 1-5 (2014-2018) - At least thirty days prior to submission of each Annual Report to the DEEP, the Town of South Windsor shall make available for public review and comment a draft copy of the complete Annual Report. Reasonable efforts to inform the public of this document shall be undertaken. Draft copies shall be made available at the Town Hall and local library for public inspection and copying consistent with the federal and state Freedom of Information Acts. A copy of the annual stormwater report will also be posted on the Town's website.

Has Goal Been Accomplished: YES

Work Performed

Date: 7/19/2004	Responsible Party: Jeff Doolittle, Town Engineer

1. Public Notification
Presentation of Stormwater Management Plan made to Town Council by Town Staff. Overview of Phase II Program, permit requirements, and Stormwater Management Plan was presented.

Date: 7/21/2004	Responsible Party: Joseph Perna, Project Engineer
2. Public Notification Draft copies of the Town of South Windsor Stormwater Management Plan were made available at the Town Hall and Public Library for public review. A press release was submitted to the local newspapers.	
Date: 12/19/2007	Responsible Party: Joseph Perna, Project Engineer
3. Public Notification Draft copies of the Town of South Windsor Stormwater Management Plan were made available at the Town Hall and Public Library.	
Date: 12/21/2011	Responsible Party: Joseph Perna, Project Engineer
4. Public Notification Draft copies of the Town of South Windsor Stormwater Management Plan Annual Report (2009-2011) were made available at the Town Hall and Public Library.	
Date: 1/2/2013	Responsible Party: Joseph Perna, Project Engineer
5. Public Notification Draft copies of the Town of South Windsor Stormwater Management Plan Annual Report (2012) were made available at the Town Hall and Public Library. A press release was submitted to the local newspapers.	
Date: 3/27/2014	Responsible Party: Joseph Perna, Project Engineer
6. Public Notification A copy of the Town of South Windsor Stormwater Management Plan Annual Report (2013) was made available at the Town Hall and posted on the Town's website.	
Date: 1/5/2015	Responsible Party: Joseph Perna, Project Engineer
7. Public Notification A copy of the Town of South Windsor Stormwater Management Plan Annual Report (2014) was made available at the Town Hall and posted on the Town's website.	
Date: 1/26/2017	Responsible Party: Joseph Perna, Project Engineer
8. Public Notification A copy of the Town of South Windsor Stormwater Management Plan Annual Report (2015/2016) was made available at the Town Hall and posted on the Town's website.	

2.3 Storm Drain Marking/Stenciling

Responsible Party: Department of Public Works	
Start Date: 4/1/2004	End Date: 6/30/2017
Permits Years during which activities are scheduled: Year 1 **X** Year 2 **X** Year 3 **X** Year 4 Year 5	
Name of Separate Implementing Entity: Not Applicable	
BMP Description: The benefits associated with this BMP include increased public participation in the stormwater management program and increased awareness by the general public. It will educate and demonstrate to the public the direct link between the storm sewer system and the surface waters to which it drains. A priority system will be developed to determine which areas in town should be targeted for the program first. Older residential subdivisions that contain catch basins with no sumps and drainage systems that discharge directly to a water body will be identified. Town Staff will track and record installation of the stencils as they are completed. Permit Years 1-5 (2014-2018) - SWSC to evaluate Storm Drain Stenciling Program for continued availability of stenciling kits, areas in town to be targeted, and success of installations.	

Has Goal Been Accomplished: YES

Work Performed

Date: 4/1/2004	Responsible Party: Jeff Folger, Environmental Planner/Conservation Officer
1. Storm Drain Marking/Stenciling As part of the Town's Storm Drain Marking/Stenciling pilot program, Town Staff has distributed approximately 75 to 80 stencils to the South Windsor High School for application. The Quarry Brook Drive / Stanley Drive neigborhood has initially been targeted where stencils were applied early this spring.	
Date: 12/6/2006	Responsible Party: Jeff Folger, Environmental Planner/Conservation Officer
2. Storm Drain Marking/Stenciling Continuing with the Town's Storm Drain Marking/Stenciling program, Town Staff had distributed approximately 50 stencils to a local scout troop for application on catch basins located in the Plum Ridge condominium complex. The Benedict Drive area of town has been identified as the next area in town to apply stencils due to the age of the storm sewer system and lack of sumps in many of the catch basins.	

2.4 Wetland & Riparian Buffer Plantings

Responsible Party: Jeff Folger, Environmental Planner/Conservation Officer	
Start Date: 4/12/2006	End Date: 6/30/2017
Permits Years during which activities are scheduled: Year 1 **X** Year 2 **X** Year 3 **X** Year 4 Year 5	
Name of Separate Implementing Entity: Not Applicable	
BMP Description: The benefits associated with this BMP include increased public participation in the stormwater management program and increased awareness by the general public. It will educate and demonstrate to the public how wetlands and riparian buffers can serve a dual role in controlling stormwater pollution while providing a pleasing natural area. Permit Years 1-5 (2014-2018) - SWSC (South Windsor Stormwater Committee) to continue to sponsor annual volunteer activities as determined by availibility of funding and which areas in Town should be targeted for the program.	
Has Goal Been Accomplished: YES	

Work Performed

Date: 4/12/2006	Responsible Party: Jeff Folger, Environmental Planner/Conservation Officer
1. Volunteer Activities In April of 2006, citizen volunteers working under the direction of Town Staff planted over 650 hardwood shrubs in an effort to restore stream embankment areas at Podunk Park, a Town-owned open space preserve. The plantings will help to stabilize the stream embankments, thus preventing further erosion caused by stormwater runoff. The volunteers learned that sediment loading in waterbodies can destroy aquatic habitats. Another planting activity is scheduled for the Spring of 2007 in which an additional 550 shrubs are scheduled to be planted. Funding for these projects were made possible through a USDA grant (W.H.I.P.).	

Illicit Discharge Detection and Elimination

Descriptive Text:

Recognizing the adverse effects illicit discharges can have on receiving waters, the Phase II final rule requires an operator of a regulated small MS4 to develop, implement and enforce an illicit discharge detection and elimination program. This program must include the following:

1. A storm sewer system map, showing the location of all outfalls and the names and location of all waters of the United States that receive discharges from those outfalls;

2. Through an ordinance, or other regulatory mechanism, a prohibition (to the extent allowable under State, Tribal, or local law) on non-storm water discharges into the MS4, and appropriate enforcement procedures and actions;

3. A plan to detect and address non-storm water discharges, including illegal dumping, into the MS4;

4. The education of public employees, businesses, and the general public about the hazards associated with illegal discharges and improper disposal of waste; and

5. The determination of appropriate best management practices (BMPs) and measurable goals for this minimum control measure.

This minimum control measure is critical to the success of the stormwater management program as it will identify and reduce untreated discharges that contribute high levels of pollutants, including heavy metals, toxic materials, oil and grease, solvents, nutrients, viruses and bacteria to receiving waterbodies. Pollutant levels from these illicit discharges have been shown to be high enough to significantlly degrade receiving water quality and threaten aquatic, wildlife, and human health.

Number of BMPs associated with control measure:

5

Important Dates:

Earliest Start Date: 10/8/2004

End Date: 6/30/2017

Details of BMPs and Work Performed for Them

3.1 Map Outfalls greater than 15" in Urbanized Area (2009-2014)

Responsible Party: Division of Engineering

Start Date: 12/20/2004	End Date: 6/30/2017

Permits Years during which activities are scheduled:

Year 1 **X** Year 2 **X** Year 3 **X** Year 4 Year 5

Name of Separate Implementing Entity:
Not Applicable

BMP Description:
A storm sewer system map has been developed which shows the location of all outfalls owned or operated by the Town of South Windsor within the Town limits. The map includes, but is not limited to, all Town owned facilities including buildings, roadways, parks and open space land. Rather then concentrating on urbanized areas or outfalls based on size, Town Staff elected to concentrate on geographical areas when locating the outfalls.

The Town has established a database system to manage all the information associated with the storm sewer system map. The database utilizes a Geographical Information System (GIS) to build and query the information. Field surveys were performed by Town Staff when available, utilizing GPS technology to verify structure locations. The storm sewer system map can be plotted at any scale. For each discharge point mapped, the following information is available:

a. Type, material, and size of conveyance, outfall or channelized flow;
b. The name and Surface Water Quality Classification of the immediate surface waterbody or wetland to which the stormwater runoff discharges;
c. The name of the nearest named waterbody to which the outfall eventually discharges, if the outfall does not discharge directly to a named waterbody;
d. The name of the watershed in which the discharge is located.
e. Type of outlet protection, condition of outfall, and access condition.

The storm sewer map is a component of the SWMP that will require continuous updating after its initial development. The Town will allocate the necessary personnel and materials needed to keep the map up to date with the latest storm sewer system configurations and information.

The benefits associated with this BMP include providing awareness of the intake and discharge areas of the Town's storm drainage systems. This information will be helpful in determining the extent of dry weather flows, potential sources and the particular waterbodies that these flows may be affecting. The map(s) will also be useful in identifying the responsible parties associated with specific illicit discharges.

Permit Years 1-5 (2014-2018) - The Town will continue to update the mapping of outfalls as needed. SWSC (South Windsor Stormwater Committee) to review progress of mapping and provide input as needed.

Has Goal Been Accomplished: YES

Work Performed

Date: 12/20/2004	Responsible Party: Division of Engineering

1. Mapping of Outfalls
The Town's Engineering Department has compiled information and mapping of existing storm sewer systems from various available sources. These sources include a Comprehensive Plan for Stormwater Drainage which was developed in 1977. The Engineering Department has also developed a comprehensive Town-wide culvert map with locations, type and size of conveyance indicated. The department is in the process of developing up-to-date storm drainage base maps.

Date: 6/15/2005	Responsible Party: Division of Engineering

2. Location and Mapping of Outfalls
The Town's Engineering Department has developed a program to establish a database system to manage all of the information associated with Stormwater Outfalls. Utilizing the Town's Geographical Information System (GIS) and available GPS equipment, Town Staff has begun to locate stormwater outfalls throughout the town with the aid of part-time interns.

Utilizing existing available mapping, over 300 outfalls have been identified for location. A database was constructed to gather information such as outfall location, outfall type, pipe size and material, receiving waterbody, etc. All information was gathered in the field with the GPS unit and transfered to the GIS system. Each outfall has been assigned an identification number which is related to the Town Assesor's street alpha code. A file has also been created with digital photographs logged for each outfall located. To date, 109 outfalls have been located and photographed.

Rather then concentrating on urbanized areas or outfalls based on size, Town Staff elected to concentrate on geographical areas when locating outfalls. For example, location began in the northeast corner of the town, and all outfalls in that area were located unless they were inaccessible. Although many outfalls were located during the summer months, it was recognized that field location work was more easily accomplished during the winter months when there was less vegetation.

Date: 12/18/2008	Responsible Party: Division of Engineering

3. Location and Mapping of Outfalls
No additional outfalls have been located since year 2005 due to constraints in the Town budget which eliminated the use of summer interns to work on this program. In addition, town staff has had some difficulty with operation of the existing GPS equipment.

It is anticipated that work will begin again in the year 2009 by utilizing Town personnel involved in the GIS program along with repairs to the GPS equipment.

Date: 12/22/2011	Responsible Party: Division of Engineering

4. Location and Mapping of Outfalls
To date, 121 outfalls have been located, photographed, and cataloged.

Date: 12/21/2012	Responsible Party: Division of Engineering

5. Location and Mapping of Outfalls
To date, 311 outfalls have been located, photographed, and cataloged which encompasses all of the outfalls owned or operated by the Town of South Windsor within the Town limits. Files have been developed with each outfall cataloged by street identification number and each file contains information such as outfall location, outfall type, pipe size and material, receiving waterbody, etc.

Now that all of the outfalls have been located, Town staff will begin to create a database system utilizing the Town's Geographical Information System (GIS) as well as the Asist MS4 Professional facility browser to manage all the information associated with the outfalls.

Along with utilizing the mapping of outfalls to help identify potential illicit discharges throughout the Town, this information is also being used to identify storm sewer system structures (in this case - outfalls) that are in need of repair. Refer to Section 6.5 of this report for additional information regarding upgrades/repairs to the storm sewer system.

3.2 Map Outfalls greater than 15" Town-Wide (2009-2014)

Responsible Party: Division of Engineering	
Start Date: 6/15/2005	End Date: 6/30/2017

Permits Years during which activities are scheduled:

Year 1 **X** Year 2 **X** Year 3 **X** Year 4 Year 5

Name of Separate Implementing Entity:
Not Applicable

BMP Description:
Refer to Section 3.1 of the SWMP for updates regarding the locations of all outfalls owned or operated by the Town of South Windsor that are greater than or equal to 15" in diameter for the entire Town.

Permit Years 1-5 (2014-2018) - Town will continue to update mapping of outfalls as described in Section 3.1.

Has Goal Been Accomplished: YES

Work Performed

Date: 6/15/2005	Responsible Party: Division of Engineering

1. Location and Mapping of Outfalls
The Town's Engineering Department has developed a program to establish a database system to manage all of the information associated with Stormwater Outfalls. Utilizing the Town's Geographical Information System (GIS) and available GPS equipment, Town Staff has begun to locate stormwater outfalls throughout the town.

Refer to Section 3.1 of this report for additional information regarding this program.

Date: 12/18/2008	Responsible Party: Division of Engineering

2. Location and Mapping of Outfalls
Refer to Section 3.1 of this report for information regarding this program.

Date: 12/22/2011	Responsible Party: Division of Engineering

3. Location and Mapping of Outfalls
Refer to Section 3.1 of this report for information regarding this program.

Date: 12/21/2012	Responsible Party: Division of Engineering

4. Location and Mapping of Outfalls
Refer to Section 3.1 of this report for information regarding this program.

3.3 Map Outfalls greater than 12" in Urbanized Area (2009-2014)

Responsible Party: Division of Engineering

Start Date: 6/15/2005	End Date: 6/30/2017

Permits Years during which activities are scheduled:

Year 1 **X** Year 2 **X** Year 3 **X** Year 4 Year 5

Name of Separate Implementing Entity:
Not Applicable

BMP Description:
Refer to Section 3.1 of the SWMP for updates regarding the locations of all outfalls owned or operated by the Town of South Windsor that are greater than or equal to 12" in diameter for the urbanized areas within the Town.

Permit Years 1-5 (2014-2018) - Town will continue to update mapping of outfalls as described in Section 3.1.

Has Goal Been Accomplished: YES

Work Performed

Date: 6/15/2005	Responsible Party: Division of Engineering

1. Location and Mapping of Outfalls
The Town's Engineering Department has developed a program to establish a database system to manage all of the information associated with Stormwater Outfalls. Utilizing the Town's Geographical Information System (GIS) and available GPS equipment, Town Staff has begun to locate stormwater

outfalls throughout the town.

Refer to Section 3.1 of this report for additional information regarding this program.

Date: 12/18/2008	Responsible Party: Division of Engineering
2. Location and Mapping of Outfalls Refer to Section 3.1 of this report for information regarding this program.	
Date: 12/22/2011	Responsible Party: Division of Engineering
3. Location and Mapping of Outfalls Refer to Section 3.1 of this report for information regarding this program.	
Date: 12/21/2012	Responsible Party: Division of Engineering
4. Location and Mapping of Outfalls Refer to Section 3.1 of this report for information regarding this program.	

3.4 Develop Program to Detect and Eliminate Illicit Discharges

Responsible Party: Department of Public Works	
Start Date: 10/8/2004	End Date: 6/30/2017

Permits Years during which activities are scheduled:

Year 1 **X** Year 2 **X** Year 3 **X** Year 4 Year 5

Name of Separate Implementing Entity:
Not Applicable

BMP Description:
A program has been developed and implemented to detect, locate and eliminate illicit discharges (to the maximum extent practicable) into the Town's storm sewer systems. The plan utilizes sampling/monitoring techniques, personnel and equipment, along with the storm sewer map for locating sources of illicit discharge.

Stormwater monitoring is conducted by the Town annually. Two outfalls each are monitored from areas of primarily industrial development, commercial development and residential development respectively, for a total of six (6) outfalls monitored. Each monitored outfall was selected based on an evaluation of the MS4 that the drainage area of such outfall is representative of the overall nature of its respective land use type.

Samples are collected from discharges resulting from a storm event that is greater than 0.1 inch in magnitude and that occurs at least 72 hours after any previous storm event of 0.1 inch or greater. Runoff events resulting from snow or ice melt cannot be used to meet the minimum annual monitoring requirements. Grab samples are used for all monitoring. Grab samples are collected during the first 6 hours of a storm event discharge. A field sample of ph, turbidity and conductivity will be taken at the site. Samples for all discharges are usually taken during the same storm event.

The following information is collected for the storm events monitored:

The date, temperature, time of the start of the discharge, time of sampling, and magnitude (in inches) of the storm event sampled.

The duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event.

Unless otherwise specified, all pollutant parameters shall be tested according to methods prescribed in Title 40, CFR, Part 136 (1990). Testing of these parameters shall be performed at a certified state laboratory. The parameters to be tested at each discharge point shall include:

pH (SU) (taken with field equipment)
Hardness (mg/l)
Conductivity (umos) (taken with field equipment)
Oil and grease (mg/l)
Chemical Oxygen Demand (mg/l)
Turbidity (ntu) (taken with field equipment)
Total Suspended Solids (mg/l)
Total Phosphorous (mg/l)
Ammonia (mg/l)
Total Kjeldahl Nitrogen (mg/l)
Nitrate plus Nitrite Nitrogen (mg/l)
E. coli (col/100ml)
In addition to this list of parameters, uncontaminated rainfall pH shall be measured at the time the runoff sample is taken (taken with field equipment).

Documentation, including annual reports, will be performed, and will include information such as: the number of outfalls tested, complaints received and addressed, and the number of illicit discharges and quantities of flow eliminated. Reference is made to Section 6i of the MS4 General Permit for specific details regarding annual reports to CTDEEP.

The Town's facilities that are currently covered under the General Permit for the Discharge of Stormwater Associated with Industrial Activity (Phase 1) will remain under that permit, and therefore will not be subject to the requirements of this permit or covered under this stormwater management program.

The benefits associated with this BMP include the identification and elimination of point sources of pollutant discharges and establishing a working database of information that will be useful in locating problematic areas.

Permit Years 1-5 (2014-2018) - Town to continue outfall monitoring. SWSC to evaluate monitoring program/outfall selection sites and implement changes if needed.

Has Goal Been Accomplished: YES

Work Performed

Date: 10/8/2004	Responsible Party: Department of Public Works

01. Stormwater Monitoring and Testing
The Town of South Windsor has hired a Consultant to perform the annual monitoring and testing of stormwater as required under the MS4 General Permit. BETA Group, Inc. will collect grab samples and prepare an annual report to be submitted to the Town and CTDEP. Connecticut Testing Laboratories, Inc. will perform the laboratory analysis of the samples pulled. Monitoring and testing will begin in the Spring of 2005 and continue annually through to Winter of 2008.

Town Staff has evaluated and selected six (6) outfalls to be monitored for each land use type utilizing available Town mapping. Several outfalls for each land use zone were selected and inspected in the field. The final selection of outfalls was based on the drainage area of the MS4, potential for illicit discharges, ease of access for monitoring, and representation of the land use type.

Date: 8/5/2005	Responsible Party: Department of Public Works

02. Stormwater Monitoring and Testing - 2005
Grab samples were collected from the six selected outfalls on August 5, and September 15, 2005 by the Town's Consultant, BETA Group, Inc. The laboratory analysis was performed by Connecticut Testing Laboratories. The laboratory results were compiled in a stormwater monitoring report submitted to the Town on December 9, 2005.

The Stormwater Monitoring Report has been attached to the Town's annual Stormwater Report which

has been submitted to the CT DEP. This report has also been made available for public review.

Date: 8/25/2006	Responsible Party: Department of Public Works

03. Stormwater Monitoring and Testing - 2006
Grab samples were collected from the six selected outfalls on August 25, 2006 by the Town's Consultant, BETA Group, Inc. The laboratory analysis was performed by Connecticut Testing Laboratories. The laboratory results were compiled in a stormwater monitoring report submitted to the Town on September 14, 2006.

The Stormwater Monitoring Report has been attached to the Town's annual Stormwater Report which has been submitted to the CT DEP. This report has also been made available for public review.

Date: 5/8/2008	Responsible Party: Department of Public Works

04. Stormwater Monitoring and Testing - 2007
Grab samples were collected from the six selected outfalls on May 8, 2008 by the Town's Consultant, BETA Group, Inc. Due to less than favorable storm events in the year 2007 plus the desire to grab samples during the spring led to testing being performed on this date. The laboratory analysis was performed by Connecticut Testing Laboratories and the results were compiled in a stormwater monitoring report submitted to the Town.

The Stormwater Monitoring Report has been attached to the Town's annual Stormwater Report which has been submitted to the CT DEP. This report has also been made available for public review.

Date: 9/9/2008	Responsible Party: Department of Public Works

05. Stormwater Monitoring and Testing - 2008
Grab samples were collected from the six selected outfalls on September 9, 2008 by the Town's Consultant, BETA Group, Inc. The laboratory analysis was performed by Connecticut Testing Laboratories. The laboratory results were compiled in a stormwater monitoring report submitted to the Town on September 29, 2008.

The Stormwater Monitoring Report has been attached to the Town's annual Stormwater Report which has been submitted to the CT DEP. This report has also been made available for public review.

Date: 11/4/2010	Responsible Party: Department of Public Works

06. Stormwater Monitoring and Testing - 2010
Grab samples were collected from the six selected outfalls on November 4, 2010 by the Town's Consultant, Anchor Engineering Services, Inc. The laboratory analysis was performed by Phoenix Environmental Laboratories. The laboratory results were compiled in a stormwater monitoring report submitted to the Town on February 1, 2011.

The Stormwater Monitoring Report has been attached to the Town's annual Stormwater Report which has been submitted to the CT DEP. This report has also been made available for public review.

Date: 7/25/2011	Responsible Party: Department of Public Works

07. Stormwater Monitoring and Testing - 2011
Grab samples were collected from the six selected outfalls on July 25, 2011 by the Town's Consultant, Anchor Engineering Services, Inc. The laboratory analysis was performed by Phoenix Environmental Laboratories. The laboratory results were compiled in a stormwater monitoring report submitted to the Town on August 16, 2011.

The Stormwater Monitoring Report has been attached to the Town's annual Stormwater Report which has been submitted to the CT DEP. This report has also been made available for public review.

Date: 12/21/2012	Responsible Party: Department of Public Works

08. Stormwater Monitoring and Testing - 2012
Grab samples were collected from the six selected outfalls on May 22, 2012 and December 21, 2012

by the Town's Consultant, Anchor Engineering Services, Inc. The laboratory results were compiled in a stormwater monitoring report submitted to the Town.

The Stormwater Monitoring Report has been attached to the Town's annual Stormwater Report which has been submitted to the CT DEEP. This report has also been made available for public review.

Date: 8/13/2013	Responsible Party: Department of Public Works

09. Stormwater Monitoring and Testing - 2013
Grab samples were collected from the six selected outfalls on August 13, 2013 by the Town's Consultant, Anchor Engineering Services, Inc. Two of the sampling locations did not produce a discharge during the storm event, and were sampled on november 7, 2013. The laboratory analysis was performed by Phoenix Environmental Laboratories. The laboratory results were compiled in a stormwater monitoring report submitted to the Town on January 10, 2014.

The Stormwater Monitoring Report has been attached to the Town's annual Stormwater Report which has been submitted to the CT DEEP. This report has also been made available for public review.

Date: 6/6/2014	Responsible Party: Department of Public Works

10. Stormwater Monitoring and Testing - 2014
Grab samples were collected from the six selected outfalls on June 6, 2014 and October 16, 2014 by the Town's Consultant, Anchor Engineering Services, Inc. The laboratory analysis was performed by Phoenix Environmental Laboratories. The laboratory results were compiled in two stormwater monitoring reports submitted to the Town.

The Stormwater Monitoring Reports has been attached to the Town's annual Stormwater Report which has been submitted to the CT DEEP. This report has also been made available for public review.

Date: 4/20/2015	Responsible Party: Department of Public Works

11. Stormwater Monitoring and Testing - 2015
Grab samples were collected from the six selected outfalls on April 20, 2015 by the Town's Consultant, Anchor Engineering Services, Inc. The laboratory analysis was performed by Phoenix Environmental Laboratories. The laboratory results were compiled in a stormwater monitoring report submitted to the Town on May 1, 2015.

The Stormwater Monitoring Report has been attached to the Town's annual Stormwater Report which has been submitted to the CT DEEP. This report has also been made available for public review.

Date: 3/28/2015	Responsible Party: Department of Public Works

12. Stormwater Monitoring and Testing - 2016
Grab samples were collected from the six selected outfalls on March 28, 2016 by the Town's Consultant, Anchor Engineering Services, Inc. The laboratory analysis was performed by Phoenix Environmental Laboratories. The laboratory results were compiled in a stormwater monitoring report submitted to the Town on June 2, 2016.

The Stormwater Monitoring Report has been attached to the Town's annual Stormwater Report which has been submitted to the CT DEEP. This report has also been made available for public review.

3.5 Develop Illicit Discharge Ordinance

Responsible Party: Jeff Doolittle, Town Engineer

Start Date: 1/8/2014	End Date: 6/29/2017

Permits Years during which activities are scheduled:

Year 1 **X** Year 2 **X** Year 3 **X** Year 4 Year 5

Name of Separate Implementing Entity:
Not Applicable

BMP Description:
As part of the MS4 General Permit requirements, the Town shall implement an ordinance (or other regulatory mechanism) to effectively prohibit non-stormwater discharges, except as provided in Section 3(a)(2) of the General Permit, into the Town's storm drainage system, as well as provide sanctions to ensure compliance, to the extent allowable under State or local law.

An illicit discharge is defined as any discharge to a municipal (or county) separate storm sewer system (stormwater drainage system) that is not composed entirely of stormwater runoff (except for discharges allowed under an NPDES permit or non-polluting flows). These non-stormwater discharges occur due to illegal dumping or illegal connections to the stormwater drainage system.

The Illicit Discharge Ordinance will provide the Town of South Windsor with the authority to deal with illicit discharges and establishes enforcement actions for those persons or entities found to be in noncompliance or that refuse to allow access to their facilities.

Permit Years 1-5 (2014-2018) - SWSC (South Windsor Stormwater Committee) to develop draft of Illicit Discharge and Illegal Connection Ordinance.

Has Goal Been Accomplished: NO

Work Performed

Construction Site Runoff Control

Descriptive Text:

The Phase II Final Rule requires an operator of a regulated small MS4 to develop, implement, and enforce a program to reduce pollutants in storm water runoff to their MS4 from construction activities that result in a land disturbance of greater than or equal to one acre.
The small MS4 operator is required to:

1. Have an ordinance or other regulatory mechanism requiring the implementation of proper erosion and sediment controls, and controls for other wastes, on applicable construction sites;

2. Have procedures for site plan review of construction plans that consider potential water quality impacts;

3. Have procedures for site inspection and enforcement of control measures;

4. Have sanctions to ensure compliance (established in the ordinance or other regulatory mechanism);

5. Establish procedures for the receipt and consideration of information submitted by the public; and

6. Determine the appropriate best management practices (BMPs) and measurable goals for this minimum control measure.

This minimum control measure is a critical component of the stormwater management program because polluted stormwater runoff from construction sites often flows to storm sewer systems and ultimately is discharged into local rivers and streams. Sediment is typically the main pollutant of concern but other pollutants include solid and sanitary wastes, phosphorous (fertilizer), pesticides, nitrogen (fertilizer), oil and grease, concrete truck washout, construction chemicals and construction debris.

Sediment runoff rates from construction sites are typically greater than those of agricultural lands, and significantly greater than those of forest lands. During a short period of time, construction sites can contribute more sediment to streams than can be deposited naturally during several decades. The resulting siltation, and the contribution of other pollutants from construction sites can cause physical, chemical, and biological harm to the state's waters.

Number of BMPs associated with control measure:

7

Important Dates:

Earliest Start Date: 4/1/2004

End Date: 6/30/2017

Details of BMPs and Work Performed for Them

4.1 Review Land Use Regulations to meet requirements of MS4 Permit and E&S Guidelines

Responsible Party: Jeff Folger, Environmental Planner/Conservation Officer

Start Date: 4/1/2004	End Date: 6/30/2017

Permits Years during which activities are scheduled:

Year 1 **X** Year 2 **X** Year 3 **X** Year 4 Year 5

Name of Separate Implementing Entity:
Not Applicable

BMP Description:
The Town of South Windsor requires erosion and sediment controls for all projects in accordance with all state and federal regulations. Several documents are utilized for establishing guidelines and procedures for the use of erosion and sediment controls in planning, design and construction for Town projects and private development. These documents include the following:
Town of South Windsor Public Improvement Specifications
TOSW Subdivision Regulations
TOSW Inland Wetland/Watercourse and Conservation Regulations
TOSW Zoning Regulations
CT Guidelines for Soil Erosion and Sediment Control, 2002

TOSW Public Improvement Specifications
The Public Improvement Specifications specifically address the requirements for storm drainage design which includes pre and post development conditions for developed land, and the design of stormwater wetlands. These specifications also refer to the CTDOT Standard Specifications, Form 814A (or most current edition).

TOSW Zoning and Subdivision Regulations
These regulations specifically address the requirements for submmission of a Conservation Plan for all proposals and/or activities disturbing an area larger than one-half acre. The Conservation Plan functions as, and conforms to, the requirements of an "Erosion and Sediment Control Plan", as set forth in Public Act 83-388, as amended. The guide for preparation of the Conservation Plan refers to the CT Guidelines for Soil Erosion and Sediment Control, 2002. The Planning & Zoning Commission typically requires a bond to ensure implementation of all erosion and sediment control measures outlined in the Conservation Plan. The amount of the bond is established by the Inland Wetland Agency/Conservation Commission, based upon a recommendation of the Town Engineer and must be in place prior to commencement of any site work.

TOSW Inland Wetland/Watercourse and Conservation Regs.
The purpose of these regulations (see section 22a-36 of the Connecticut General Statutes as amended) is to protect the citizens of the Town by making provisions for the protection, preservation, maintenance and use of the inland wetlands and watercourses by minimizing their disturbance and pollution.

Ordinances, Regulatory Mechanisms and Sanctions
The Town has the authority to force corrective actions on behalf of the contractor or developer to comply with appropriate regulations and controls. In case of failure by the contractor or developer to perform pollution control work, the Town shall arrange for the performance of required work by approved forces. The cost of such work shall be deducted from the Erosion and Sediment Control Bond set by the IWACC.
If the IWACC finds that the public health, safety or welfare requires emergency action, and incorporates a finding to that effect in its order, it may order summary suspension of the wetlands permit pending further proceedings and may issue a cease and desist order to the permittee directing him to

immediately halt any and all regulated activities found to be in violation of the terms of the permit. In the event the cease and desist order is not obeyed, the Agency may bring an action pursuant to section 22a-44 of the Connecticut General Statutes, as amended.

Permit Years 1-5 (2014-2018) - Continue requirements and guidelines for erosion and sediment controls on all projects. SWSC (South Windsor Stormwater Committee) to review current land use regulations and recommend changes if needed.

Has Goal Been Accomplished: YES

Work Performed

4.2 Procedures for Notifying Construction Site Developers and Operators of Requirements for Registration

Responsible Party: Jeff Folger, Environmental Planner/Conservation Officer

Start Date: 1/8/2014 | End Date: 6/30/2017

Permits Years during which activities are scheduled:

Year 1 **X** Year 2 **X** Year 3 **X** Year 4 Year 5

Name of Separate Implementing Entity:
Not Applicable

BMP Description:
All projects with land disturbance of greater than or equal to one (1) acre associated with construction activities shall be registered under the General Permit for the Discharge of Stormwater and Dewatering Wastewaters Associated with Construction Activities with the CTDEEP. Registration shall be submitted a minimum of thirty (30) days before the initiation of construction activities as required by the General Permit. Construction activities as defined in the general permit include, but are not limited to, clearing, grubbing, grading, excavation, placement of fill and dewatering activities.

The SWSC (South Windsor Stormwater Committee) shall meet with the Town Planning and Engineering Departments to evaluate and implement notification requirements for the General Permit.

Permit Years 1-5 (2014-2018) - The Town's existing IWA/CC application will be modified to include requirement of registration for General Permit.

Has Goal Been Accomplished: NO

Work Performed

4.3 Requirements for Construction Site Operators to Implement Appropriate E&S Control BMP's

Responsible Party: Jeff Folger, Environmental Planner/Conservation Officer

Start Date: 4/1/2004 | End Date: 6/30/2017

Permits Years during which activities are scheduled:

Year 1 **X** Year 2 **X** Year 3 **X** Year 4 Year 5

Name of Separate Implementing Entity:
Not Applicable

BMP Description:
Construction site operators are required to implement appropriate erosion and sediment control best management practices as outlined in contract plans and specifications for all Town projects, and as outlined on the approved plans for all private land use development applications. The Town's Public

Improvement Specifications, Zoning/Subdivision Regulations, and Inland Wetland/Watercourse and Conservation Regulations outline the environmental protection requirements including sediment and erosion control, which a construction site operator or contractor for the Town is bound to meet under the terms of its contract, and under federal and state laws and regulations.

The contractor is required at all times to conduct his operations in conformity with all Federal and State permit requirements concerning water, air, noise pollution and the disposal of contaminated, or hazardous materials.

Typically, an approved Conservation Plan will contain a Sedimentation and Erosion Control Narrative, and an Operations and Maintenance Schedule which are site specific to the particular development or project under construction. The contractor must adhere to this Conservation Plan for the entire length of the project. In addition, the Town of South Windsor reserves the right to impose other BMP's as warranted during the course of construction.

The Operations and Maintenance schedule has full enforcement authority after the project has been completed due to its inclusion in the site plan approved by the Town Planning and Zoning Commission and the Inland WetlandsAgency/Conservation Commission.

Permit Years 1-5 (2014-2018) Continue requirements for construction site operators to implement appropriate erosion and sediment control Best Management Practices.

Has Goal Been Accomplished: YES

Work Performed

4.4 Requirements for Construction Site Operators to Control Waste at the Site

Responsible Party: Jeff Folger, Environmental Planner/Conservation Officer

Start Date: 4/1/2004 | End Date: 6/30/2017

Permits Years during which activities are scheduled:

Year 1 **X** Year 2 **X** Year 3 **X** Year 4 Year 5

Name of Separate Implementing Entity:
Not Applicable

BMP Description:
Building materials and other construction site wastes must be properly managed and disposed of to reduce the risk of pollution from materials such as surplus or refuse building materials or hazardous wastes. Practices such as trash disposal, recycling, proper material handling, and spill prevention and clean-up measures can reduce the potential for stormwater runoff to mobilize construction site wastes and contaminate surface or ground water.

The proper management and disposal of wastes must be practiced at any construction site to reduce contamination of stormwater runoff. Waste management practices can be used to properly locate refuse piles, to cover materials that may be displaced by rainfall or stormwater runoff, and to prevent spills and leaks from hazardous materials that were improperly stored.

Construction site operators shall be required to control waste including discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site, that may cause adverse impacts to water quality. The operators typically are required to control the above mentioned waste by contract specifications for Town projects, or through approved plans and additional requirements for private site developments. Typically, these requirements are addressed during pre-construction meetings and weekly/monthly job meetings on site, or through routine site inspections.

Permit Years 1-5 (2014-2018) - Continue requirements for construction site operators to control waste

at the site.

Has Goal Been Accomplished: YES

Work Performed

4.5 Procedures for Site Plan Review

Responsible Party: Jeff Folger, Environmental Planner/Conservation Officer

Start Date: 4/1/2004	End Date: 6/30/2017

Permits Years during which activities are scheduled:

Year 1 **X** Year 2 **X** Year 3 **X** Year 4 Year 5

Name of Separate Implementing Entity:
Not Applicable

BMP Description:
Procedures for site plan review which incorporate consideration of potential water quality impacts are utilized by the Town. Construction plans and specifications are reviewed by the Town's Environmental Planner and the Town Engineer for conformance to the Town's requirements.

As part of the Town's land use regulations, any activity that involves site construction requires submission of application and construction plans for approval by the Town's regulatory agencies including the Planning and Zoning Commission and the Inland Wetlands Agency/Conservation Commission. If deemed necessary, the Agencies hold a public hearing on an application if found to be in the best interest of the public. Permits are issued by the IWACC to specific applicants for conducting regulated activities upon approval, for a duration of five (5) years.

Projects requiring registration under the General Permit for the Discharge of Stormwater associated with Construction Activities shall include site plans along with the permit application and a site specific stormwater pollution control plan for review and registration by the CTDEEP.

Permit Years 1-5 (2014-2018) - Continue site plan review procedures.

Has Goal Been Accomplished: YES

Work Performed

4.6 Procedures for Receipt and Consideration of Information Submitted by the Public

Responsible Party: Jeff Folger, Environmental Planner/Conservation Officer

Start Date: 4/1/2004	End Date: 6/30/2017

Permits Years during which activities are scheduled:

Year 1 **X** Year 2 **X** Year 3 **X** Year 4 Year 5

Name of Separate Implementing Entity:
Not Applicable

BMP Description:
Procedures for receipt and consideration of information submitted by the public are utilized by the Town. Information or complaints submitted by the public are forwarded to the appropriate department within the Town for consideration.

Information related to construction site runoff is forwarded to and considered by the Environmental Planner and/or the Town Engineer / Public Works - Street Services Division.

Permit Years 1-5 (2014-2018) Continue procedures for receipt and consideration of information

submitted by the public.

Has Goal Been Accomplished: YES

Work Performed

4.7 Procedures for Site Inspection and Enforcement of Control Measures

Responsible Party: Jeff Folger, Environmental Planner/Conservation Officer

Start Date: 4/1/2004	End Date: 6/30/2017

Permits Years during which activities are scheduled:

Year 1 **X** Year 2 **X** Year 3 **X** Year 4 Year 5

Name of Separate Implementing Entity:
Not Applicable

BMP Description:
Site inspection and enforcement of control measures are utilized on all Town projects and private site developments.

Inspectors employed by the Town are authorized to inspect all work performed and materials furnished for each project. The inspection may extend to all or any part of the work, and to the preparation or manufacture of the materials to be used including work and materials relating to construction site runoff control. Additional inspection is also provided by the Environmental Planner.

The Inland Wetlands Agency/Conservation Commission and/or its designated agent(s) make routine inspections of all activities for which permits have been issued under their regulations. If the agency finds that any person is conducting an activity which can be expected to impair, alter or destroy the wetlands or watercourses of the Town of South Windsor, or can be expected to create a source of pollution, it may be issued a written warning or order to correct such facility or condition. If the agency finds that the public health, safety or welfare requires emergency action, and incorporates a finding to that effect in its order, it may order summary suspension of the permit pending further proceedings and may issue a cease and desist order to the permittee directing him to immediately halt any and all regulated activities found to be in violation of the terms of the permit. In the event said cease and desist order is not obeyed, the Agency may bring an action pursuant to section 22a-44 of the Connecticut General Statutes, as amended.

Permit Years 1-5 (2014-2018) - Continue site inspection and enforcement of control measures.

Has Goal Been Accomplished: YES

Work Performed

Post-Construction Stormwater Management

Descriptive Text:

The Phase II Final Rule requires an operator of a regulated small MS4 to develop, implement, and enforce a program to reduce pollutants in post-construction runoff to their MS4 from new development and redevelopment projects that result in the land disturbance of greater than or equal to 1 acre. The small MS4 operator is required to:

1. Develop and implement strategies which include a combination of structural and/or non-structural best management practices (BMPs);

2. Have an ordinance or other regulatory mechanism requiring the implementation of post-construction runoff controls to the extent allowable under State, Tribal or local law,

3. Ensure adequate long-term operation and maintenance of controls;

4. Determine the appropriate best management practices (BMPs) and measurable goals for this minimum control measure.

Post-construction storm water management in areas undergoing new development or redevelopment is necessary because runoff from these areas has been shown to significantly effect receiving waterbodies. Many studies indicate that prior planning and design for the minimization of pollutants in post-construction storm water discharges is the most cost-effective approach to storm water quality management.

There are generally two forms of substantial impacts of post-construction runoff. The first is caused by an increase in the type and quantity of pollutants in storm water runoff. As runoff flows over areas altered by development, it picks up harmful sediment and chemicals such as oil and grease, pesticides, heavy metals, and nutrients (e.g., nitrogen and phosphorus). These pollutants often become suspended in runoff and are carried to receiving waters, such as lakes, ponds, and streams. Once deposited, these pollutants can enter the food chain through small aquatic life, eventually entering the tissues of fish and humans. The second kind of post-construction runoff impact occurs by increasing the quantity of water delivered to the waterbody during storms. Increased impervious surfaces interrupt the natural cycle of gradual percolation of water through vegetation and soil. Instead, water is collected from surfaces such as asphalt and concrete and routed to drainage systems where large volumes of runoff quickly flow to the nearest receiving water. The effects of this process include streambank scouring and downstream flooding, which often lead to a loss of aquatic life and damage to property.

Number of BMPs associated with control measure:

5

Important Dates:

Earliest Start Date: 4/1/2004

End Date: 6/30/2017

Details of BMPs and Work Performed for Them

5.1 Review Land Use Regulations to meet requirements of MS4 Permit and E&S Guidelines

Responsible Party: Jeff Folger, Environmental Planner/Conservation Officer

Start Date: 4/1/2004	End Date: 6/30/2017

Permits Years during which activities are scheduled:

Year 1 **X** Year 2 **X** Year 3 **X** Year 4 Year 5

Name of Separate Implementing Entity:
Not Applicable

BMP Description:
The Town of South Windsor requires stormwater management design for all projects in accordance with all state and federal regulations. Several documents are utilized for establishing guidelines and procedures for the use of stormwater management controls in planning, design and construction for Town projects and private development. These documents include the following:
Town of South Windsor Public Improvement Specifications
TOSW Subdivision Regulations
TOSW Inland Wetland/Watercourse and Conservation Regulations
TOSW Zoning Regulations
CT Guidelines for Soil Erosion and Sediment Control, 2002
EPA Phase II Regulations

TOSW Public Improvement Specifications
The Public Improvement Specifications specifically address the requirements for storm drainage design which includes pre and post development conditions for developed land, and the design of stormwater wetlands. These specifications also refer to the CTDOT Standard Specifications, Form 814A (or most current edition).

TOSW Zoning and Subdivision Regulations
These regulations specifically address the requirements for the design of a stormwater management system for all site developments. The guide for design of the Stormwater Management System refers to the CT Guidelines for Soil Erosion and Sediment Control, 2002. The Planning & Zoning Commission typically requires a public improvement or subdivision bond to ensure implementation of all control measures outlined in the plans and specifications. The amount of the bond is established by the Planning & Zoning Commission, based upon a recommendation of the Town Engineer and must be in place prior to commencement of any site work.

TOSW Inland Wetland/Watercourse and Conservation Regulations
The purpose of these regulations (see section 22a-36 of the Connecticut General Statutes as amended) to protect the citizens of the Town by making provisions for the protection, preservation, maintenance and use of the inland wetlands and watercourses by minimizing their disturbance and pollution.

Ordinances, Regulatory Mechanisms and Sanctions
The Town has the authority to force corrective actions on behalf of the contractor or developer to comply with appropriate regulations and controls regarding Stormwater Management. In case of failure by the contractor or developer to perform pollution control work, the Town shall arrange for the performance of required work by approved forces. The cost of such work shall be deducted from the Public Improvement or Subdivision Bond set by the PZC.

Permit Years 1-5 (2014-2018) - Continue requirements and guidelines for stormwater management controls on all projects. SWSC (South Windsor Stormwater Committee) to review current land use regulations and recommend changes if needed.

Has Goal Been Accomplished: YES

Work Performed

5.2 Develop Post-Construction Ordinance or Regulation

Responsible Party: Jeff Folger, Environmental Planner/Conservation Officer

Start Date: 4/1/2004 | End Date: 6/30/2017

Permits Years during which activities are scheduled:

Year 1 **X** Year 2 **X** Year 3 **X** Year 4 Year 5

Name of Separate Implementing Entity:
Not Applicable

BMP Description:
As part of the MS4 General Permit requirements, the Town shall implement an ordinance (or other regulatory mechanism) to address stormwater runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development, that discharge into the MS4 or directly to waters of the State.

The ordinance/regulatory mechanism shall ensure that controls are implemented that require appropriate infiltration practices, reduction of impervious surface, creation of or conversion to sheet flow, measures and/or structures to reduce sediment discharge and any other innovative measures that will prevent or minimize water quality impacts.

The Town of South Windsor utilizes current Town regulations to establish guidelines and procedures in addressing post-development stormwater runoff quality. The TOSW Zoning Regulations (Section 5.9.6.D) and the TOSW Public Improvement Specifications (Section 2.9.0) specifically address requirements for a Stormwater Management System. These regulations provide the Town with the authority to deal with post-development stormwater management.

Permit Years 1-5 (2014-2018) - SWSC (South Windsor Stormwater Committee) to evaluate the current land use regulations to determine if an ordinance is necessary to satisfy the requirements of the MS4 General Permit.

Has Goal Been Accomplished: YES

Work Performed

Date: 12/29/2006 | Responsible Party: Jeff Folger, Environmental Planner/Conservation Officer

1. Post-Construction Regulations
After evaluating the effectiveness of the Town's current land use regulations regarding Post-Construction Stormwater Management, the SWSC has determined that the regulations as written have been effective and enforceable. It is now standard practice for Town Staff to require a standard Operations and Maintenance Plan be placed on all approved site plans to address Post-Construction Stormwater Management. This policy in effect establishes a Maintenance Plan which must be followed by the developer by virtue of the original conditions of approval.

The SWSC will determine if an additional sub-section of the Planning and Zoning Regulations should be added to the Stormwater Management section to specifically address an Operations and Maintenance Plan and responsibilities of the Developer or Land Owner.

5.3 Develop and Implement Post-Construction BMP Strategy

Responsible Party: Jeff Folger, Environmental Planner/Conservation Officer

Start Date: 12/29/2006 | End Date: 6/30/2017

Permits Years during which activities are scheduled:

Year 1 **X**	Year 2 **X**	Year 3 **X**	Year 4	Year 5

Name of Separate Implementing Entity:
Not Applicable

BMP Description:
As part of the MS4 General Permit requirements, the Town will require structural and non-structural Best Management Practices for projects disturbing greater than or equal to one acre. The Town of South Windsor has been pro-active in requiring design of stormwater systems that utilize the best available technology. Criteria has been established and incorporated into the Town regulations to help evaluate stormwater discharges and the methods that may be used for the treatment of stormwater before it reaches an outlet.

The following is a summary of recommended design guidelines and possible BMP's or treatment measures that typically are required for Town projects or private site development. Each project is evaluated on a case by case basis with specific BMP's/ measures required for each unique project.

1. Storm sewer systems will be designed in accordance with the Town of South Windsor Public Improvement Specifications. Zero net increase in stormwater runoff between pre- and post-development conditions is to be maintained for all storm events, unless it can be demonstrated that there will be no deleterious downstream effects.

2. Eliminate curbing if possible, design for sheet flow and utilize natural vegetation to help filter particulates. On steep embankment slopes, erosion protection measures shall be employed.

3. Utilize oversized catch basins or catch basins with four-foot sumps where appropriate. Typical locations include the last structure in a drainage system run, or at sags in the roadway. If end treatments such as hydrodynamic separators (gross particle separators), wet ponds or detention basins are constructed at the terminus of the drainage system, deep catch basin sumps may be eliminated.

4. Utilize outlet protection such as riprap energy dissipators; scour holes, stone check dams, erosion control matting and vegetative linings in outlet channels.

5. For larger drainage systems, outlet areas may be designed so that an open channel with check dams, a sediment basin, or a combination of both is utilized; these shall be designed to accommodate the peak runoff associated with the "first flush". The last option is to specify a Hydrodynamic Separator also known as a Gross Particle Separator.

6. If a Hydrodynamic Separator is utilized, it shall be designed to accomodate the peak runoff associated with the "first flush". The chambers shall be placed "off-line" and a bypass system shall be designed to convey the peak flow rate for the design storm.

Other Structural BMP's typically utilized on Town projects or private developments include:
Dry Extended Detention Ponds
Sedimentation Basins
Wet Ponds
Infiltration Basins
Infiltration Trenches
Bioretention (Rain Gardens)
Stormwater Wetlands
Grassed Swales
Grassed Filter Strips

Detention and retention structures are typically uitlized to limit increases in peak flow rates and volumes as required by the Town's land use regulations and Public Improvement Specifications. These facilities

are designed and constructed in accordance with Town specfications and the Connecticut Guidelines for Soil Erosion and Sediment Control.

Permit Years 1-5 (2014-2018) Continue requirements and guidelines for stormwater management controls on all projects. SWSC (South Windsor Stormwater Committee) to review current land use regulations and recommend changes if needed.

Provisions will be made to provide resources for continuing education for the person(s) responsible for developing and maintaining the SWMP. This will include attending pertinent workshops and conventions where "state-of-the-art" information of stormwwater BMP's are highlighted and demonstrated.

Has Goal Been Accomplished: YES

Work Performed

Date: 12/29/2006	Responsible Party: Jeff Folger, Environmental Planner/Conservation Officer

1. Post-Construction BMP Strategy
After evaluating the effectiveness of the Town's current land use regulations regarding Post-Construction Stormwater Management, the SWSC has determined that the regulations as written have been effective and enforceable.

The Town will continue to support continuing education as part of the Employee Development Program. Employees will continue to have the ability to attend erosion and sediment control, and stormwater workshops and seminars. This program will allow Town employees the opportunity to be exposed to the latest "state-of -the-art" treatment measures and BMP's.

5.4 Develop Program to Ensure Long-Term Operation and Maintenance of BMP's

Responsible Party: Department of Public Works

Start Date: 1/18/2008	End Date: 6/30/2017

Permits Years during which activities are scheduled:

Year 1 **X** Year 2 **X** Year 3 **X** Year 4 Year 5

Name of Separate Implementing Entity:
Not Applicable

BMP Description:
The South Windsor Public Works Department will be responsible for the long term operation and maintenance of the Town's facilities. This will include storm sewer maintenance including cleaning and maintenance of catch basins, stormwater treatment systems and detention/retention and sedimentation structures.

Long term operation and maintenance of best management practices shall be in accordance with Section 6 - Pollution Prevention/Good Housekeeping of this Stormwater Management Plan.

The Town's Engineering Department, a division of Public Works, will work in conjunction with the Town's Planning Department/Environmental Planner to evaluate and monitor operations and maintenance programs for Town projects and private site developments. Operations and Maintenance programs are typically required and delineated in an Erosion and Sedimentation Control Narrative as part of the site plan of development/conservation plan.

Permit Years 1-5 (2014-2018) - Continue to monitor and evaluate long-term Operation and Maintenance Programs and implement changes if needed.

Has Goal Been Accomplished: YES

Work Performed

Date: 1/18/2008	Responsible Party: Department of Public Works

1. Evaluation of long-term Operation and Maintenance Programs
The SWSC (South Windsor Stormwater Committee) has evaluated the operations and maintenance programs for Town projects and private site developments.

The South Windsor Public Works Department has on-going programs in place for storm sewer maintenance which includes inspection, cleaning and replacement of catch basins, culverts and other stormwater treatment systems. In addition, there is a program in place for maintenance of detention areas including tree/brush removal and mowing.

Operations and Maintenance programs are typically required for new Town projects and for private site developments. A Conservation Plan and Erosion and Sedimentation Control Narrative's are now required on all site plans and construction plans.

The SWSC will continue to monitor and evaluate the long-term Operation and Maintenance Programs. Targeted areas of improvement include developing a schedule for inspections of outfalls and detention basin outlet structures. It should be noted that the SWSC recognized that all of the long-term O&P Programs are subject to budget constraints and thus the approach will be to continually monitor the programs and set priorities.

5.5 Develop and Implement Strategies which include Non-Structural BMP's

Responsible Party: Jeff Folger, Environmental Planner/Conservation Officer

Start Date: 4/1/2004	End Date: 6/30/2017

Permits Years during which activities are scheduled:

Year 1 **X** Year 2 **X** Year 3 **X** Year 4 Year 5

Name of Separate Implementing Entity:
Not Applicable

BMP Description:
Non-structural BMP's are preventative actions that involve management and source controls such as: policies and ordinances that provide requirements and standards to direct growth to identified areas, protect sensitive areas such as wetlands and riparian areas, maintain and/or increase open space (including a dedicated funding source for open space acquisition), provide buffers along sensitive water bodies, minimize impervious surfaces, and minimize disturbance of soils and vegetation.

The Town of South Windsor has long been proactive in the planning and implementation of non-structural BMP's. The following are current practices that have been adopted by the Town:

Buffer Zones - The primary function of aquatic/wetlands buffers is to physically protect and separate a stream, pond, or wetland from future disturbance or encroachment. The Town Inland Wetlands Agency / Conservation Commission regulates all activity within eighty (80) feet of wetlands or a watercourse including earth moving, construction, or clear-cutting of trees.

Open Space Preservation - The Town Planning and Zoning Commission has been responsible for the acquisition of hundreds of acres of open space through the Commission's open space subdivision regulations. Current open space subdivision regulations allow the PZC to require that 50% of the land proposed to be subdivided be set aside as open space when a property for which a subdivision is proposed is selected for preservation based on the Town's Open Space Master Plan. This Master Plan was developed by the Town's Open Space Task Force and adopted by the Town Council in April, 2001. The Town Council, acting as the legislative body for the Town, is the primary decision-making authority regarding open space preservation. The Council can authorize funds, arrange referenda and bond issues, accept land gifts, and authorize other programs (such as Purchase of Development Rights). The Town's Open Space Ordinance was adopted in April, 1996.

Urban Forestry - In 1999, the Town developed a Strategic Plan for Natural Resource Management. The overall intent of this plan is to provide a coordinated approach to managing the Town's forest, wildlife and other natural resources consistent with the Town Plan of Conservation and Development, the Open Space Master Plan, and the Town's Strategic Plan. Implementation of this plan has begun with initial funding by the Town Council and a USDA Forestry grant. These funds will result in the inventory and development of forestry and wildlife management plans for the Town's six major land holdings.

Conservation Easements - The Town Inland Wetlands Agency / Conservation Commission is instrumental in securing conservation easements over sensitive and vulnerable wetlands areas, through the inland wetlands permitting process. The conservation easements are generally private-property easements, granted to the Town, that prohibit destruction or alteration of the protected area. The primary purpose of the easements is conservation, and the easement areas are usually not open to the public.

Permit Years 1-5 (2014-2018) - Continue to evaluate and implement non-structural BMP's such as Open Space Design, Conservation Easements, Urban Forestry and Buffer Zones.

Has Goal Been Accomplished: YES

Work Performed

Date: 4/1/2004	Responsible Party: Matthew Galligan, Town Manager

1. Open Space Preservation
The Town owns in excess of 1750 acres of land, of which more than 1400 acres are parks, open spaces and other land with no buildings. The open lands are distributed throughout the Town and serve a variety of functions. Some highlights include:

Rye Street Park now has in excess of 170 acres on both sides of the railroad tracks, with the addition of the Barton Property purchased in 1998.

Nevers Road Park contains over 138 acres, with a variety of uses including active ballfields, a pavilion for picnics and concerts, and a walking/jogging trail that winds through the various areas.

The 117-acre Wildlife Sanctuary on Niederwerfer Road has a 42-acre property adjoining it to the north (owned jointly by the State DEP and the Town), for a total of 159 acres.

New to the Town's inventory is the 75-acre Priest Farm on Sullivan Avenue, with a 14 acre property connecting the farm to Pierce Road, and 19 acres of abutting land preserved by other organizations.

Also new are 170 contiguous acres of open space between Ellington Road and Clark Street called "Podunk Park", purchased in part with a grant from the Connecticut Department of Environmental Protection. This land adjoins existing subdivision open space lands.

The newest purchase of 72 acres of open space with frontage on both Sullivan Avenue and West Road, again with a grant from the CT DEP identified as the "Major Michael Donnelly Land Preserve", offers a walking trail with spectacular fall vistas.

The Town's Planning and Zoning Commission has acquired more than 600 acres of permanent open space through their subdivision open space provisions. The Town-Owned Land Map illustrates that, while many of the subdivision open spaces may not be large in size, the Commission has been successful at creating interconnected "green belts" along streams and power lines.

Pollution Prevention/Good Housekeeping

Descriptive Text:

Recognizing the benefits of pollution prevention practices, the Phase II final rule requires an operator of a regulated small MS4 to:

1. Develop and implement an operation and maintenance program with the ultimate goal of preventing or reducing pollutant runoff from municipal operations into the storm sewer system;

2. Include employee training on how to incorporate pollution prevention/good housekeeping techniques into municipal operations such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and storm water system maintenance. To minimize duplication of effort and conserve resources, the MS4 operator can use training materials that are available from EPA, their State or Tribe, or relevant organizations;

3. Determine the appropriate best management practices (BMPs) and measurable goals for this minimum control measure.

The Pollution Prevention/Good Housekeeping for municipal operations minimum control measure is a key element of the small MS4 storm water management program. This measure requires the small MS4 operator to examine and subsequently alter their own actions to help ensure a reduction in the amount and type of pollution that: (1) collects on streets, parking lots, open spaces, and storage and vehicle maintenance areas and is discharged into local waterways; and (2) results from actions such as environmentally damaging land development and flood management practices or poor maintenance of storm sewer systems. While this measure is meant primarily to improve or protect receiving water quality by altering municipal or facility operations, it also can result in a cost savings for the small MS4 operator, since proper and timely maintenance of storm sewer systems can help avoid repair costs from damage caused by age and neglect.

Number of BMPs associated with control measure:

8

Important Dates:

Earliest Start Date: 7/31/2001

End Date: 6/30/2017

Details of BMPs and Work Performed for Them

6.1 Develop training program for muncipal employees

Responsible Party: Department of Public Works

Start Date: 10/1/2012	End Date: 6/30/2017

Permits Years during which activities are scheduled:

Year 1 **X** Year 2 **X** Year 3 **X** Year 4 Year 5

Name of Separate Implementing Entity:
Not Applicable

BMP Description:
The Department of Public Works existing continuing education employee training program will add a stormwater management component, discussing potential sources of contaminants, and best management practices. This program will provide personnel with an understanding of the Town's Stormwater Management Plan, including BMP's, processes and materials with which they are working, safety hazards, practices for preventing discharges, and procedures for responding quickly and properly to toxic and hazardous material incidents. They will also be informed of the proper procedures for reporting and documenting any potential pollutants discovered.

The program will consist of scheduled training for all Public Works personnel, including both office and field positions. The training will focus on pollution prevention, best management practices and good housekeeping. Training may also include topics such as sedimentation and erosion control, illicit discharge detection, water quality monitoring, inspection, record keeping, internal reporting, general maintenance, preventative maintenance and other topics relating to proper stormwater management and the requirements of the MS4 General Permit.

The Town has currently assembled a DPW Training Team to develop a program that provides the proper guidance and tracking of all training offered to DPW employees. Training for stormwater management will be integrated into this program.

Permit Years 1-5 (2014-2018) - SWSC (South Windsor Stormwater Committee) and the Public Works Department to develop Employee Training Curriculum.

Has Goal Been Accomplished: YES

Work Performed

Date: 10/1/2012	Responsible Party: Department of Public Works

1. Employee Training - Public Works Facility
In order to meet the requirements set forth in the General Permit for the Discharge of Stormwater Associated with Industrial Activity (Phase 1) which was renewed for the Town's Public Works Facility in 2011, a Stormwater Pollution Prevention Plan (SWPPP) was developed. As part of that plan, an Employee Training program has been outlined to ensure that all Public Works Employees whose activities may affect stormwater quality receive training within ninety (90) days of employment and at least once a year thereafter to make them familiar with the components and goals outlined in the SWPPP. The training addresses topics such as emergency equipment location, spill response management, control measures, inspection requirements, good housekeeping, and materials management practices.

Training shall be conducted or supervised by a member of the Public Works Facility Pollution Prevention Team and a written record shall be maintained in the SWPPP, including date(s), employee name, employee responsibility and training agenda.

6.2 Sweep streets at least once a year as soon as possible after snowmelt

Responsible Party: Division of Street Services	
Start Date: 3/4/2003	End Date: 6/30/2017

Permits Years during which activities are scheduled:

Year 1 **X** Year 2 **X** Year 3 **X** Year 4 Year 5

Name of Separate Implementing Entity:
Not Applicable

BMP Description:
Street sweeping is practiced in most urban areas, to remove sediment buildup and large debris from curb gutters. Street sweeping is also used during the spring snowmelt to reduce pollutant loads from road salt and to reduce sand export to receiving waters.

The Department of Public Works will conduct street sweeping on a scheduled basis to minimize pollutant export to receiving waters. These cleaning practices will remove sediment and large debris from curb gutters and other pollutants from roadways, Town owned parking lots and facility surfaces, which are a potential source of pollution impacting local waterbodies.

Currently, the Public Works Department is sweeping all roadways, parking lots and facilities at least once every year. Sweeping generally is performed as soon as possible after snowmelt during the early spring.

Permit Years 1-5 (2014-2018) - Public Works Department to continue current street sweeping program.

Has Goal Been Accomplished: YES

Work Performed

Date: 3/24/2003	Responsible Party: Division of Street Services

01. Street Sweeping-Year 2003
For the Fiscal Year 2003, 138 miles of roadway were swept. 2,520 cubic yards of sand was collected.

Date: 3/10/2004	Responsible Party: Division of Street Services

02. Street Sweeping-Year 2004
For the fiscal year 2004, 138 miles of roadway were swept. 2,259 cubic yards of sand was collected.

Date: 3/30/2006	Responsible Party: Department of Public Works

03. Street Sweeping - Years 2005 & 2006
For the Fiscal years 2005 and 2006, 138 miles of roadway were swept annually. In year 2005, 2785 cubic yards of sand and silt were collected. In year 2006, approximately 800 cubic yards were collected. The dropoff in material collected is due to a change in the Public Works Department sanding/salting operations. During the last winter season, no sand was used on Town roads. Salting operations were modified and a new product called "Clearlane" was introduced. Clearlane is a enhanced deicer which is more environmentally friendly with less impact on watersheds and fewer chlorides being introduced to the environment. This new program has also effectively reduced the sediment load in the catch basins resulting in less maintenance and cleaner storm water.

The Town's Street Sweeping program will continue despite the elimination of road sanding. The sweeping of silt, sand, and debris due to erosion, storms, litter, etc. will continue on an annual basis. This program will still effectively minimize pollutant export to receiving waters.

Date: 3/27/2008	Responsible Party: Department of Public Works

04. Street Sweeping - Years 2007 & 2008
The Town's Street sweeping program has continued with sweeping of silt, sand, and debris due to erosion, storms, litter, etc. This program effectively minimizes pollutant export to receiving waters.

Date: 12/23/2010	Responsible Party: Department of Public Works

05. Street Sweeping - Years 2009 & 2010

The Town's street sweeping program has continued with sweeping of silt, sand, and debris due to erosion, storms, litter, etc. In year 2009, approximately 400 cubic yards of sediment was collected. Year 2010 marked the fourth consecutive year that the Town has been treating the roads and building parking lots with treated salt material only for snow and ice removal. This action has allowed the Town to complete the Street Sweeping program in thirty days.

The elimination of sand used in the treatment of winter snow and ice removal has resulted in a cost savings to the Town. Both the street sweeping and catch basin cleaning program costs and manpower allocations have been reduced.

Date: 12/21/2012	Responsible Party: Department of Public Works

06. Street Sweeping - Year 2011
The Town's street sweeping program has continued with sweeping of silt, sand, and debris due to erosion, storms, litter, etc. There were 38 days of street sweeping that was acomplished with the Town's Sweeper Unit.

Date: 1/2/2012	Responsible Party: Department of Public Works

07. Street Sweeping - Years 2012 & 2013
The Town's street sweeping program has continued with sweeping of silt, sand, and debris due to erosion, storms, litter, etc. There were 27 days in 2012 and 28 days in 2013 of street sweeping that was acomplished with the Town's Sweeper Unit.

Date: 1/2/2014	Responsible Party: Department of Public Works

08. Street Sweeping - Year 2014
The Town's street sweeping program has continued with sweeping of silt, sand, and debris due to erosion, storms, litter, etc. There were 29 days of street sweeping that was acomplished with the Town's sweeper unit.

Date: 1/2/2015	Responsible Party: Department of Public Works

09. Street Sweeping - Year 2015
The Town's street sweeping program has continued with sweeping of silt, sand, and debris due to erosion, storms, litter, etc. There were 140 miles of roadway swept in 32 days with the Town's sweeper unit.

Date: 1/4/2016	Responsible Party: Department of Public Works

10. Street Sweeping - Year 2016
The Town's street sweeping program has continued with sweeping of silt, sand, and debris due to erosion, storms, litter, etc. There was 140 miles of roadway swept in 32 days with the Town's sweeper unit.

6.3 Evaluate Urbanized Areas for possible sweeping more than once a year

Responsible Party: Division of Street Services

Start Date: 3/30/2007	End Date: 6/30/2017

Permits Years during which activities are scheduled:

Year 1 **X** Year 2 **X** Year 3 **X** Year 4 Year 5

Name of Separate Implementing Entity:
Not Applicable

BMP Description:
The Department of Public Works will evaluate the effectiveness of the current street sweeping program in the Urbanized areas of Town.

The goal of this BMP is to identify those areas in Town that generate heavier concentrations of sediment and debris. The SWSC and Department of Public Works will identify priority areas where sediment/debris have been known to accumulate in higher quantities. These priority areas will be based on the Public Works Department knowledge and experience of the degree of sediment

accumulation during the year. Geographical location, traffic patterns, road surface geometry, and other conditions will also be factors in determining priority areas.

In addition to the annual street sweeping program currently implemented, the Town is also pro-active in establishing erosion and sediment control measures for new construction sites. As part of the site plan approval process, E&S control measures such as construction of anti-tracking control pads at entrances to the site, and frequent sweepings of the public roads used by construction vehicles, are required. The process of mandating these erosion and sediment control measures will be continued and monitored by inspection during the length of the construction project.

Permit Years 1-5 (2014-2018) - The Department of Public Works will continue to evaluate the street sweeping program for all areas of Town including the urbanized areas.

Has Goal Been Accomplished: YES

Work Performed

Date: 3/30/2007	Responsible Party: Division of Street Services

1. Evaluation of Urbanized Areas
After monitoring the street sweeping program throughout the Town, it was found that there was not much difference in the amount of sediment deposition in rural areas vs. commercial and industrial zones. The Department of Public Works has identified areas such as public buildings, e.g. Town Hall and Library, Community Center, Schools, etc. as top priority for sweeping as a heavier dose of sanding or salting takes place due to higher volumes of pedestrian and vehicular traffic.

With the introduction of the Department of Public Works new salting program, there has also been a dramatic decrease in sediment loading throughout the entire town (see section 6.2).

Town Staff has also been pro-active in monitoring and regulating erosion control measures for new construction sites where street sweeping is mandatory.

6.4 Develop program to evaluate and clean stormwater structures at least once a year

Responsible Party: Division of Street Services

Start Date: 7/1/2003	End Date: 6/30/2017

Permits Years during which activities are scheduled:

Year 1 **X** Year 2 **X** Year 3 **X** Year 4 Year 5

Name of Separate Implementing Entity:
Not Applicable

BMP Description:
Catch basins constructed with sumps are intended to retain coarse sediment by trapping this material in a chamber or low area below the invert of the outlet pipe. By trapping sediment, the catch basin prevents solids from clogging the storm sewer and being washed into receiving waters. Catch basins must be cleaned to maintain their ability to trap sediment, and consequently their ability to prevent flooding. The removal of sediment, decaying debris and highly polluted water from catch basins has both aesthetic and water quality benefits. These include reducing foul odors, reducing suspended solids, and reducing the load of oxygen-demanding substances that reach receiving waters.

The Department of Public Works currently operates a catch basin maintenance program that consists of cleaning all catch basins located on Town owned land on a regularly scheduled basis. On average, catch basins are cleaned once every 2 years.

The SWSC (South Windsor Stormwater Committee) and Department of Public Works will evaluate the current catch basin cleaning program, including inspection procedures and documentation of a

maintenance schedule. Ultimately, the Town would like to establish a database system to manage the inspection and maintenance of all catch basins located on Town property. The database would utilize a Geographical Information System (GIS) to build and query the information. Field surveys could then be performed by Town Staff, utilizing GPS technology to locate each structure. This information could then be added to the Town's storm sewer system map(s).

As part of this program, the SWSC and DPW will develop criteria to establish routine scheduled field inspections of all catch basins. Priority areas will be established to maximize the effectiveness of the DPW's available resources for the routine inspections. These priority areas will be developed using the department's knowledge of problem areas, where sediment/debris has been known to accumulate in higher quantities. Geographical location, traffic patterns and vertical sag locations will also be factors in determining priority areas.

Permit Years 1-5 (2014-2018) - Public Works Department to continue current stormwater cleaning program. SWSC and DPW to evaluate the inspection and documentation program and implement changes as needed.

Has Goal Been Accomplished: YES

Work Performed

Date: 7/1/2003	Responsible Party: Division of Street Services
01. Clean Stormwater Structures-2003 For the Fiscal Year 02-03, 3143 catch basins were cleaned.	
Date: 3/10/2004	Responsible Party: Division of Street Services
02. Clean Stormwater Structures-2004 For the fiscal year 2004, 3,723 catch basins were cleaned. 745 cubic yards of material was recovered.	
Date: 8/5/2005	Responsible Party: Division of Street Services
03. Clean Stormwater Structures-2005/2006 For the fiscal year 2005, 4,035 catch basins were cleaned and 332 cubic yards of material was recovered. Total cost of this program for the fiscal year was $76,844. Also, the Culvert Cleaning program was undertaken during year 2005. Actual length of pipes cleaned was not available. Total cost of this program for the fiscal year was $12,172. There was no available information regarding this program for fiscal year 2006.	
Date: 12/30/2008	Responsible Party: Department of Public Works
04. Clean Stormwater Structures -2007/2008 799 catch basins were cleaned in year 2007 and 357 catch basins were cleaned in year 2008.	
Date: 12/22/2010	Responsible Party: Department of Public Works
05. Clean Stormwater Structures - 2009/2010 2,007 catch basins were cleaned in year 2009 and 2,831 catch basins were cleaned in year 2010.	
Date: 12/21/2012	Responsible Party: Department of Public Works
06. Clean Stormwater Structures - 2011 There was a total of 292 catch basins cleaned in year 2011.	
Date: 12/31/2012	Responsible Party: Department of Public Works
07. Clean Stormwater Structures - 2012/2013 There was a total of 2896 catch basins cleaned in 2012 and 1677 catch basins cleaned in 2013.	
Date: 4/1/2014	Responsible Party: Department of Public Works
08. Clean Stormwater Structures - 2014 There were a total of 2048 catch basins cleaned in year 2014.	
Date: 1/2/2015	Responsible Party: Department of Public Works
09. Clean Stormwater Structures - 2015	

There were a total of 49 catch basins cleaned in year 2015.

Date: 1/4/2016	Responsible Party: Department of Public Works

10. Clean Stormwater Structures - 2016
There were a total of 1736 basins cleaned in year 2016.

6.5 Develop program to evaluate and prioritize system for upgrade and/or repair

Responsible Party: Department of Public Works

Start Date: 7/1/2003	End Date: 6/30/2017

Permits Years during which activities are scheduled:

Year 1 **X** Year 2 **X** Year 3 **X** Year 4 Year 5

Name of Separate Implementing Entity:
Not Applicable

BMP Description:
Preventative maintenance takes a proactive approach to stormwater management and seeks to correct existing problems or prevent future problems before they occur. This measure involves the inspection, evaluation and replacement or repair of the existing storm sewer system structures. Inspection can identify cracks, leaks, and other conditions that could cause breakdowns or failures of stormwater structures, which in turn could result in discharging of pollutants to surface waters either by direct overland flow or through the storm drainage system.

In general, the preventative maintenance of drainage systems is accomplished through visual inspections conducted as a result of new construction projects, drainage studies, or routine maintenance such as catch basin cleaning.

Currently, the Department of Public Works operates an inspection and maintenance program for the Town's existing storm sewer system. Existing drainage structures that are identified as failing or in need of repair are reconstructed on an annual basis. Structural upgrades are included to conform with existing BMP's. In addition to existing drainage structures, other areas such as roadways, parking lots, Town facilities, etc. that require drainage improvements are analyzed and inspected. Construction plans and specifications are then prepared for installation of new drainage structures/systems. Typically, these drainage improvements are managed through Street Services, a division of the Town's Public Works Department. Larger projects are usually sub-contracted out as part of the Town's annual Miscellaneous Drainage Contract.

Permit Years 1-5 (2014-2018) - Public Works Department to continue current Preventative Maintenance program. SWSC (South Windsor Stormwater Committee) and DPW to evaluate inspection and documentation program and implement changes if needed.

Has Goal Been Accomplished: YES

Work Performed

Date: 7/1/2003	Responsible Party: Department of Public Works

1. Repair of Existing Storm Sewer System-2003
For the Fiscal Year 02-03, 101 drainage facilities were repaired.

Date: 7/1/2004	Responsible Party: Department of Public Works

2. Repair of Existing Storm Sewer System-2004
For the fiscal year 2004, 61 drainage structures were repaired.

Date: 1/2/2006	Responsible Party: Department of Public Works

3. Repair of Existing Storm Sewer System-2005/2006
For the fiscal year 2005, 78 drainage structures were repaired at a total program cost of $74,116.

There was no available information regarding this program for fiscal year 2006-2008.

Date: 12/30/2008	Responsible Party: Department of Public Works
4. Repair of Existing Storm Sewer System - 2007/2008 81 drainage structures were repaired in year 2007 and 115 drainage structures were repaired in year 2008.	
Date: 12/23/2010	Responsible Party: Department of Public Works
5. Repair of Existing Storm Sewer System - 2009/2010 105 drainage structures were repaired in year 2009 and 98 drainage structures were repaired in year 2010.	
Date: 12/21/2012	Responsible Party: Department of Public Works
6. Repair of Existing Storm Sewer System - 2011 There were 70 drainage facilities repaired or rebuilt by the Town's Public Works Department or Private Contractors in year 2011. This included repairs to catch basins, manholes, pipes, and other structures. As part of the Town's on-going program to locate and categorize all of the outfalls owned or operated by the Town of South Windsor, a list has also been developed which identifies outfalls that are in need of repair. Repairs may include replacement, structural upgrades, or clearing of vegetation. This list will be categorized by order of priority and type of work required. The repairs will be done as funding becomes available.	
Date: 12/28/2012	Responsible Party: Department of Public Works
7. Repair of Existing Storm Sewer System - 2012/2013 93 drainage structures were repaired or rebuilt in 2012 and 90 drainage structures were repaired or rebuilt in 2013.	
Date: 4/1/2014	Responsible Party: Department of Public Works
8. Repair of Existing Storm Sewer System - 2014 There were a total of 57 drainage facilities repaired or rebuilt by the Town's Public Works Department or Private Contractors in year 2014. This included repairs to catch basins, manholes, pipes, and other structures.	
Date: 1/2/2015	Responsible Party: Department of Public Works
9. Repair of Existing Storm Sewer System - 2015 There were a total of 118 drainage facilities repaired or rebuilt by the Town's Public Works Department or Private Contractors in year 2015. This included repairs to catch basins, manholes, pipes, and other structures.	

6.6 Develop and implement an Operation and Maintenance Program

Responsible Party: Department of Public Works	
Start Date: 12/22/2010	End Date: 6/30/2017
Permits Years during which activities are scheduled: Year 1 **X** Year 2 **X** Year 3 **X** Year 4 Year 5	
Name of Separate Implementing Entity: Not Applicable	
BMP Description: Operation and maintenance is an integral component of all storm water management programs. This measure is intended to improve the efficiency of these programs through appropriate maintenance practices, internal procedures and scheduling. Proper development and implementation of these programs reduces the risk of water quality problems. The South Windsor Public Works Department will include the following elements in the development and implementation of the program: Record Keeping The Department of Public Works procedures for record keeping will incorporate the documentation of	

information and data, resulting from the MS4 General Permit procedures. In general, record keeping will be conducted at all levels of the Department. The following list of topics are essential for a successful records keeping program, some of which are required for the MS4 General Permit annual report to CTDEP:
Public Education
Public Participation
Illicit Discharges (including corrective measures)
Water Quality Monitoring
Employee Training
Drainage Facility Inspections
Street Sweeping
Catch Basin Cleaning
The key to a successful records keeping program is to maintain records through regularly scheduled updates. The Public Works Department will utilize the following techniques to document and report data and results:
Field Notebooks
Timed and Dated Photographs
Drawings and Maps
Computer Spreadsheets and Database Programs (ASIST Software)
Record keeping will be coordinated with internal reporting and other BMP's as it is integrated into the development of the Town's Stormwater Pollution Prevention Plan.
The Town will submit annual reports containing records required by the MS4 General Permit, to the CTDEP.

Internal Reporting
Internal reporting provides a framework for "chain-of command" reporting of stormwater management issues, and is an essential part of any good records keeping program. When properly employed, an internal reporting program can clearly define individual's roles and responsibilities for implementing and maintaining the Stormwater Pollution Prevention Program, thereby making it easier to prevent and contain potential stormwater contamination.
The Public Works Department internal reporting procedures will incorporate the additional effort needed with this stormwater management task. In general, stormwater management issues will follow similar internal routing procedures followed by the Public Works Department. Stormwater problems identified in the field will be relayed from the maintainer (field personnel) to the immediate supervisor, then to the Superintendent of Streets, Town Engineer and Director of Public Works.

Maintenance Program
Maintenance involves pollution prevention techniques that reduce or eliminate pollutant loadings from existing roadways, parking lots and facility surfaces as part of the operation and maintenance program. Substantial amounts of sediment and pollutants are generated during daily roadway and facility use, and these pollutant loadings can threaten local water quality by contributing heavy metals, hydrocarbons, sediment, and debris to stormwater runoff.
The Town's maintenance plan for sweeping roadway, parking lots and facility surfaces and cleaning catch basins will meet the requirements of this Stormwater Management Program. In addition the Town has implemented a culvert cleaning program and a detention basin maintenance program.

Preventative Maintenance Program
Preventative maintenance will be utilized by the Department of Public Works for eliminating potential problems associated with drainage systems and public facilities. These measures are intended to reduce the frequency and quantity of pollutants that are discharged to waterbodies as a result of the failure and deterioration of aging systems. Preventative measures utilized by the Department of Public Works include the inspection of catch basins during routine maintenance and drainage system inspection for new construction/reconstruction.

Permit Years 1-5 (2014-2018) - SWSC (South Windsor Stormwater Committee) to evaluate existing

Public Works Operation and Maintenance Program and recommend changes if needed.

Has Goal Been Accomplished: YES

Work Performed

Date: 12/22/2010	Responsible Party: Department of Public Works

1. Evaluation of DPW Operation and Maintenance Program
The SWSC (South Windsor Stormwater Committee) has evaulated the DPW Operation and Maintenance Program and have determined that the department has a good preventative maintenance program in place. The SWSC will continue to evaluate the program and make recommendations for adjustments as needed.

6.7 Vehicle Washing Program

Responsible Party: Division of Street Services

Start Date: 7/31/2001	End Date: 6/30/2017

Permits Years during which activities are scheduled:

Year 1 **X** Year 2 **X** Year 3 **X** Year 4 Year 5

Name of Separate Implementing Entity:
Not Applicable

BMP Description:
This management measure addresses the impacts on water quality due to outdoor washing of vehicles and equipment. Outdoor washing has the potential to result in high loads of nutrients, hydrocarbons and road salt entering the storm drainage system.

To address the potential for polluted wash water entering the storm drainage system at the Town Public Works Facility during routine maintenance/cleaning of trucks and equipment, a Vehicle Wash Station has been constructed in one of the bays of the Public Works Garage. The wash station utilizes a grit chamber to collect sand and debris, which is periodically cleaned. Wash water is then discharged into the sanitary sewer system, which is ultimately treated at the Town's wastewater treatment plant.

This BMP effectively eliminates pollutants from entering the storm drainage system during routine maintenance/cleaning of trucks and equipment at the Public Works Facility as the operation now occurs in an enclosed environment.

Has Goal Been Accomplished: YES

Work Performed

Date: 7/31/2001	Responsible Party: Division of Street Services

1. Vehicle Wash Station
Construction of the Vehicle Wash Station was completed in July, 2001. The Wash Station is currently in operation.

Date: 12/22/2010	Responsible Party: Division of Street Services

2. Vehicle Wash Station
The Wash Station is currently in operation and effectively eliminates pollutants from entering the storm drainage system at the Town Public Works Facility.

6.8 Road Salt Application and Storage Program

Responsible Party: Division of Street Services

Start Date: 10/14/2003	End Date: 6/30/2017

Permits Years during which activities are scheduled:

Year 1 **X** Year 2 **X** Year 3 **X** Year 4 Year 5

6.8 Road Salt Application and Storage Program	
Responsible Party: Division of Street Services	
Start Date: 10/14/2003	End Date: 6/30/2017
Permits Years during which activities are scheduled: Year 1 **X** Year 2 **X** Year 3 **X** Year 4 Year 5	
Name of Separate Implementing Entity: Not Applicable	
BMP Description: The application and storage of de-icing materials, most commonly salts such as sodium chloride, can lead to water quality problems for surrounding areas. Salts, gravel, sand, and other materials are applied to highways and roads to reduce the amount of ice during winter storm events. Salts lower the melting point of ice, allowing roadways to stay free of ice buildup during cold winters. Many of the problems associated with contamination of local waterways stem from the improper storage of de-icing materials. Salts are very soluble when they come in contact with storm water. They can migrate into ground water used for public water supplies and also contaminate surface waters. Storing road salts correctly prevents the salt from lumping together, which makes it easier to load and apply. More importantly, covering salt storage piles reduces salt loss from storm water runoff and potential contamination to streams, aquifers, and estuarine areas. To prevent road salts from migrating into the surrounding wetlands and watercourse areas at the Town Public Works Facility, a new 10,000 sq. ft. enclosed salt storage shed has been constructed. Approximately 400 cubic yards of salt and 3000 cubic yards of sand/salt mix are now stored in the enclosure. The building was also designed to allow mixing of sand and salt to occur within the confines of the building. This BMP effectively eliminates pollutants from migrating to nearby watercourses and wetlands.	
Has Goal Been Accomplished: YES	

Work Performed

Date: 10/14/2003	Responsible Party: Division of Street Services
1. Salt Storage Facility Construction of the new Salt Storage Facility was completed in October, 2003. The storage facility is currently in operation.	
Date: 12/22/2011	Responsible Party: Division of Street Services
2. Salt Storage Facility The Salt Storage Facility is currently in operation and effectively eliminates pollutants from migrating to nearby watercourses and wetlands at the Town Public Works Facility.	

Section D

BMP Assignments by Responsible Party		
Public Education and Outreach		
Jeff Folger		
1.1 Stormwater Educational Materials - Brochures/Fact Sheets		
	4/7/2005	
Department of Public Works		
1.2 Alternative Information Sources (Web Site)		
	8/10/2011	
1.3 Educational Displays		
	5/18/2004	
1.4 Proper Disposal of Household Hazardous Wastes		
	7/1/2003	
1.5 Storm Drain Marking/Stenciling		
	4/1/2004	
1.6 Tributary Signage		
	1/3/2006	
Public Participation/Involvement		
Department of Public Works		
2.1 Develop Public Involvement/Participation Program		
	5/11/2004	
Joseph Perna		
2.2 Comply with state and local public notice and FOI requirements		
	7/19/2004	
Department of Public Works		
2.3 Storm Drain Marking/Stenciling		
	4/1/2004	
Jeff Folger		
2.4 Wetland & Riparian Buffer Plantings		
	4/12/2006	
Illicit Discharge Detection and Elimination		
Division of Engineering		
3.1 Map Outfalls greater than 15" in Urbanized Area (2009-2014)		
	12/20/2004	
3.2 Map Outfalls greater than 15" Town-Wide (2009-2014)		
	6/15/2005	
3.3 Map Outfalls greater than 12" in Urbanized Area (2009-2014)		
	6/15/2005	
Department of Public Works		
3.4 Develop Program to Detect and Eliminate Illicit Discharges		
	10/8/2004	
Jeff Doolittle		
3.5 Develop Illicit Discharge Ordinance		
	1/8/2014	

Construction Site Runoff Control		
Jeff Folger		
4.1 Review Land Use Regulations to meet requirements of MS4 Permit and E&S Guidelines		
	4/1/2004	
4.2 Procedures for Notifying Construction Site Developers and Operators of Requirements for Registration		
	1/8/2014	
4.3 Requirements for Construction Site Operators to Implement Appropriate E&S Control BMP's		
	4/1/2004	
4.4 Requirements for Construction Site Operators to Control Waste at the Site		
	4/1/2004	
4.5 Procedures for Site Plan Review		
	4/1/2004	
4.6 Procedures for Receipt and Consideration of Information Submitted by the Public		
	4/1/2004	
4.7 Procedures for Site Inspection and Enforcement of Control Measures		
	4/1/2004	
Post-Construction Stormwater Management		
Jeff Folger		
5.1 Review Land Use Regulations to meet requirements of MS4 Permit and E&S Guidelines		
	4/1/2004	
5.2 Develop Post-Construction Ordinance or Regulation		
	4/1/2004	
5.3 Develop and Implement Post-Construction BMP Strategy		
	12/29/2006	
Department of Public Works		
5.4 Develop Program to Ensure Long-Term Operation and Maintenance of BMP's		
	1/18/2008	
Jeff Folger		
5.5 Develop and Implement Strategies which include Non-Structural BMP's		
	4/1/2004	
Pollution Prevention/Good Housekeeping		
Department of Public Works		
6.1 Develop training program for muncipal employees		
	10/1/2012	
Division of Street Services		
6.2 Sweep streets at least once a year as soon as possible after snowmelt		
	3/4/2003	
6.3 Evaluate Urbanized Areas for possible sweeping more than once a year		
	3/30/2007	
6.4 Develop program to evaluate and clean stormwater structures at least once a year		
	7/1/2003	
Department of Public Works		
6.5 Develop program to evaluate and prioritize system for upgrade and/or repair		
	7/1/2003	

6.6 Develop and implement an Operation and Maintenance Program		
	12/22/2010	
Division of Street Services		
6.7 Vehicle Washing Program		
	7/31/2001	
6.8 Road Salt Application and Storage Program		
	10/14/2003	

Appendix A

Part V: Best Management Practice List (BMP)

BMP ID	Public Education	Responsible Dept. or Person	Measurable Goal
1-1	**Stormwater Educational Materials - Brochures/Fact Sheets**	**Jeff Folger**	**Distribute Brochures**
1-2	**Alternative Information Sources (Web Site)**	**Public Works**	**Develop Web Site**
1-3	**Educational Displays**	**Public works**	**Stormwater Display**
1-4	**Proper Disposal of Household Hazardous Wastes**	**Public Works**	**Haz. Waste Program**
1-5	**Storm Drain Marking/Stenciling**	**Public Works**	**Stenciling Program**
1-6	**Tributary Signage**	**Public Works**	**Tributary Sign Program**
1-7			
1-8			
1-9			
1-10			

BMP ID	Public Participation	Responsible Dept. or Person	Measurable Goal
2-1	Develop public involvement/participation program	**Public Works**	**Develop P.P. Program**
2-2	Comply with state and local public notice and FOI requirements	**Joseph Perna**	**Comply w/FOI Requirement**
2-3	**Storm Drain Marking/Stenciling**	**Public Works**	**Stenciling Program**
2-4	**Wetland & Riparian Buffer Plantings**	**Jeff Folger**	**Wetland Planting Program**
2-5			
2-6			
2-7			
2-8			
2-9			
2-10			

BMP ID	Illicit Discharge Detection & Elimination	Responsible Dept. or Person	Measurable Goal
3-1	Map outfalls greater than 15" in Urbanized Area (Year 2)	**Engineering Div**	**Map Outfalls**
3-2	Map outfalls greater than 15" in town-wide (Year 3)	**Engineering Div**	**Map Outfalls**
3-3	Map outfalls greater than 12" in Urbanized Area (Year 4)	**Engineering Div**	**Map Outfalls**
3-4	Develop program to detect and eliminate illicit discharges	**Public Works**	**Locate Illicit Discharge**
3-5	Develop illicit discharge ordinance	**Jeff Doolittle**	**Develop Ordinance**
3-6			
3-7			
3-8			
3-9			
3-10			

BMP ID	Construction Site Runoff Control	Responsible Dept. or Person	Measurable Goal
4-1	Review land use regulations to meet requirements of MS4 permit and E&S Guidelines	Jeff Folger	Review Land Use Regs.
4-2	**Procedures for Notification of Req'mts for Registration**	Jeff Folger	Notifiy for Registration
4-3	**Requirements for Site Operators to Implement E&S Control**	Jeff Folger	E&S Control BMP's
4-4	**Requirements for Site Operators to Control Waste On Site**	Jeff Folger	Control Waste On Site
4-5	**Procedures for Site Plan Review**	Jeff Folger	Site Plan Review
4-6	**Procedures for Receipt of Information Submitted by Public**	Jeff Folger	Receive Info from Public
4-7	**Site Inspection and Enforcement of Control Measures**	Jeff Folger	Site Insp. & Enforcment
4-8			
4-9			
4-10			

BMP ID	Post Construction Runoff Control	Responsible Dept. or Person	Measurable Goal
5-1	Review land use regulations to meet requirements of MS4 permit and E&S Guidelines	Jeff Folger	Review Land Use Regs.
5-2	Develop post-construction ordinance or regulation	Jeff Folger	Review Land Use Regs.
5-3	Develop and implement post-construction BMP strategy	Jeff Folger	Implement BMP Strategy
5-4	Develop program to ensure long-term operation and maintenance of BMPs	Public Works	Develop O&M of BMP's
5-5	**Implement Strategies which include Non-structural BMP's**	Jeff Folger	Non-structural BMP's
5-6			
5-7			
5-8			
5-9			
5-10			

BMP ID	Good Housekeeping	Responsible Dept. or Person	Measurable Goal
6-1	Develop training program for municipal employees	Public Works	Develop Training Program
6-2	Sweep streets at least once a year as soon as possible after snowmelt	Street Services	Street Sweeping
6-3	Evaluate Urbanized Area for possible sweeping more than once a year	Street Services	Evaluate Sweeping Prog.
6-4	Develop program to evaluate and clean stormwater structures at least once a year	Street Services	CB Cleaning Program
6-5	Develop program to evaluate and prioritize system for upgrade and/or repair	Public Works	Storm System Repair Prog
6-6	**Develop and Implement an Operation & Maintenance Program**	Public Works	Develop O&M Program
6-7	**Vehicle Washing Program**	Street Services	Vehicle Washing Program
6-8	**Road Salt Application and Storage Program**	Street Services	Salt Storage Program
6-9			
6-10			

BMP ID	Monitoring	Responsible Dept. or Person	Measurable Goal
S-1	Sample 6 outfalls once a year	Public Works	Stormwater Monitoring
S-2			

Part VIA: Best Management Practice Timeline

BMP ID	Permit Year Eleven				Permit Year Twelve				Permit Year Thirteen				Permit Year Fourteen				Permit Year Fifteen				Next Permit
	Spring 2014	Summer 2014	Fall 2014	Winter 2014-15	Spring 2015	Summer 2015	Fall 2015	Winter 2015-16	Spring 2016	Summer 2016	Fall 2016	Winter 2016-17	Spring 2017	Summer 2017	Fall 2017	Winter 2017-18	Spring 2018	Summer 2018	Fall 2018	Winter 2018-19	
Public Education																					
1-1	----	----	----	Done	----	----	----	Done	----	----	----	Done									
1-2	----	----	----	Done	----	----	----	Done	----	----	----	Done									
1-3									X												
1-4	X		X		X		X		X		X										
1-5	----	----	----	----	----	----	----	----	----	----	----	----									
1-6	Done																				
Public Participation																					
2-1	----	----	----	----	----	----	----	----	----	----	----	----									
2-2				X				X				X									
2-3	----	----	----	----	----	----	----	----	----	----	----	----									
2-4																					
Illicit Discharge Detection & Elimination																					
3-1	----	----	----	----	----	----	----	----	----	----	----	----									
3-2	----	----	----	----	----	----	----	----	----	----	----	----									
3-3	----	----	----	----	----	----	----	----	----	----	----	----									
3-4		X	X		X				X												
3-5	----	----	----	----	----	----	----	----	----	----	----	----									

----- Work in Progress

X Task Completed as a One-time Event During that Quarter

Done Task Completed

BMP ID	Permit Year Eleven				Permit Year Twelve				Permit Year Thirteen				Permit Year Fourteen				Permit Year Fifteen				Next Permit
	Spring 2014	Summer 2014	Fall 2014	Winter 2014-15	Spring 2015	Summer 2015	Fall 2015	Winter 2015-16	Spring 2016	Summer 2016	Fall 2016	Winter 2016-17	Spring 2017	Summer 2017	Fall 2017	Winter 2017-18	Spring 2018	Summer 2018	Fall 2018	Winter 2018-19	
Construction Site Runoff Control																					
4-1	Done				Done				Done												
4-2	----	----	----	----	----	----	----	----	----	----	----	----									
4-3	Done				Done				Done												
4-4	Done				Done				Done												
4-5	Done				Done				Done												
4-6	Done				Done				Done												
4-7	Done				Done				Done												
Post Construction Runoff Control																					
5-1	Done				Done				Done												
5-2	Done				Done				Done												
5-3	Done				Done				Done												
5-4	Done				Done				Done												
5-5	Done				Done				Done												
Good Housekeeping																					
6-1	----	----	----	----	----	----	----	----	----	----	----	----									
6-2	X				X				X												
6-3	Done				Done				Done												
6-4	X				X				X												
6-5	----	----	----	Done	----	----	----	Done	----	----	----	Done									
6-6	----	----	----	Done	----	----	----	Done	----	----	----	Done									
6-7	Done				Done				Done												
6-8	Done				Done				Done												
6-9																					
6-10																					
Monitoring																					
S-1		X	X		X				X												
S-2																					

Appendix B

QUADRANGLE MAP #38–MANCHESTER

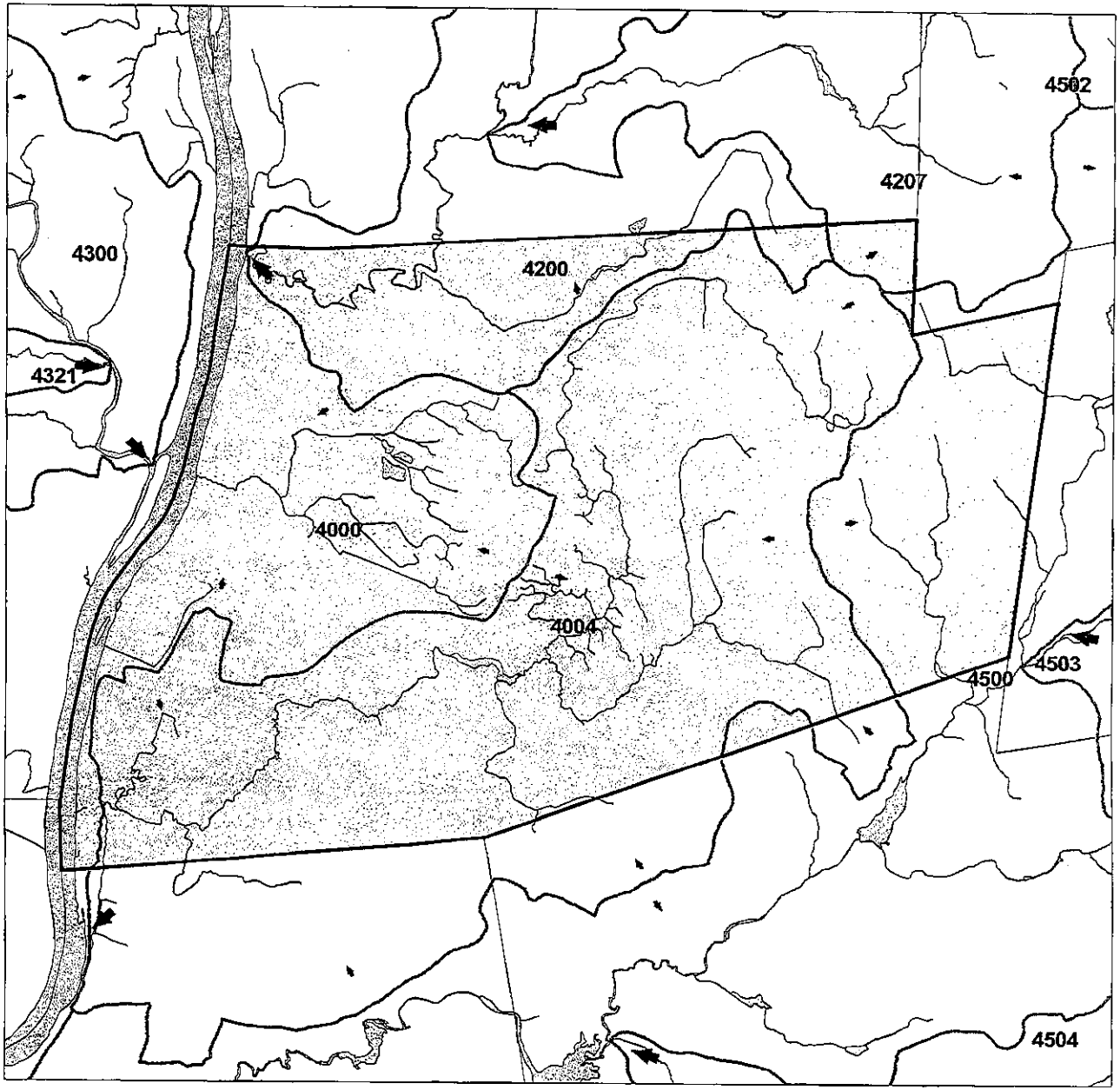
SOUTH WINDSOR
CONNECTICUT SUBREGIONAL BASINS AND SURFACE WATER FLOW DIRECTIONS

Explanation

- Town Boundary
- Subregional Watershed Boundary
- **4201** Subrg. Basin ID# - as designated by CTDEP
- Watercourse / Open Water
- Basin Outlet
- Surface Water Flow Direction

The table provides statistics for each subregional basin. Shown are the areas of the basin within the town, the percentage for that area, and the percent of the town covered by each basin.

Subregional Basin	Area (Acres)	Percent of Basin	Percent of Town
4000	4263.74	4.2	23.2
4004	9530.81	73.3	51.9
4200	1928.05	5.0	10.5
4207	191.12	4.3	1.0
4500	2457.66	10.8	13.4



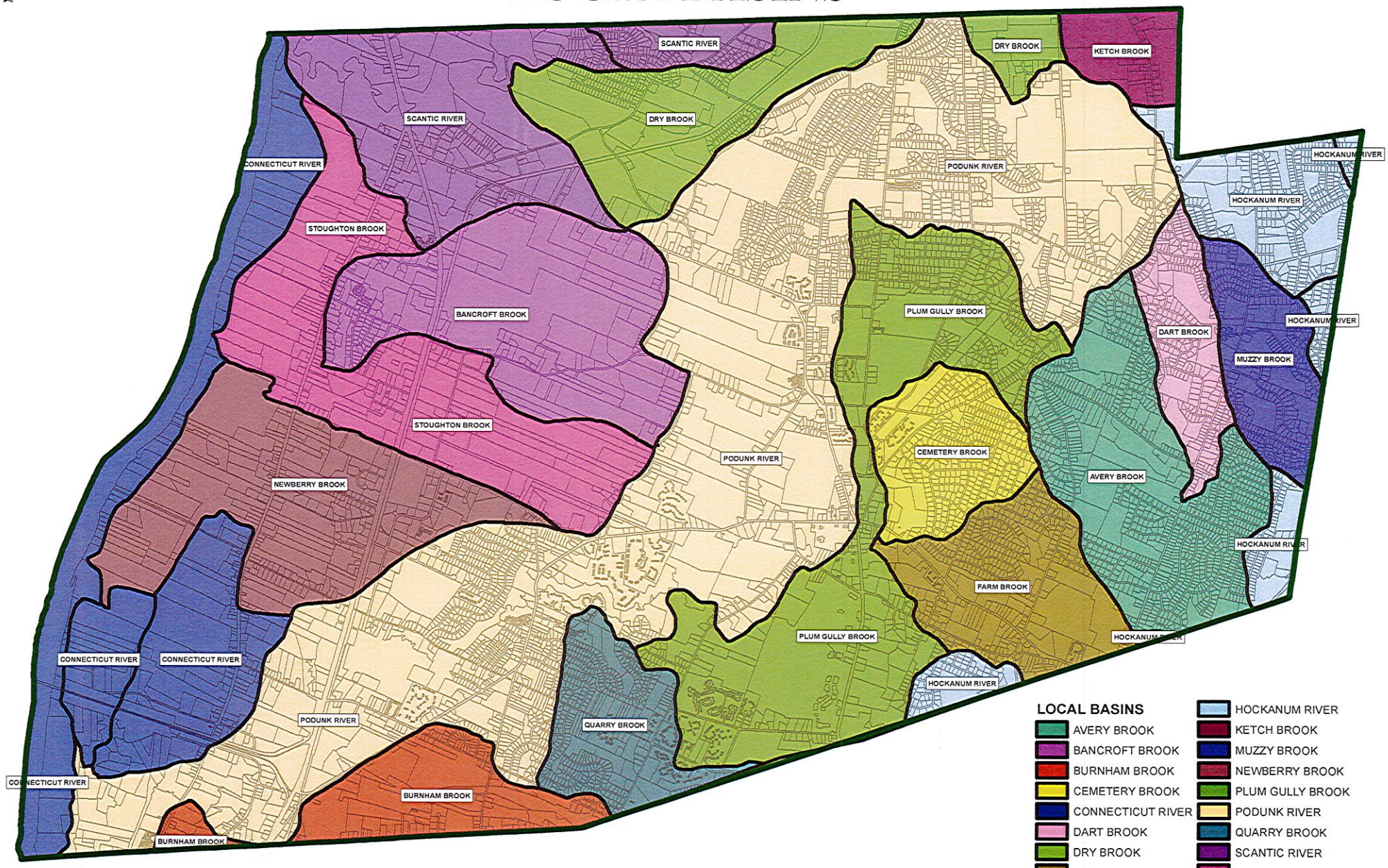
Digital layers provided by the CTDEP.
Map composed by the NEMO project.
For educational purposes only.

1 0 1 Miles

Town Area: 18371 Acres

The University of Connecticut, CES: November 01, 1999

TOWN OF SOUTH WINDSOR
LOCAL BASINS

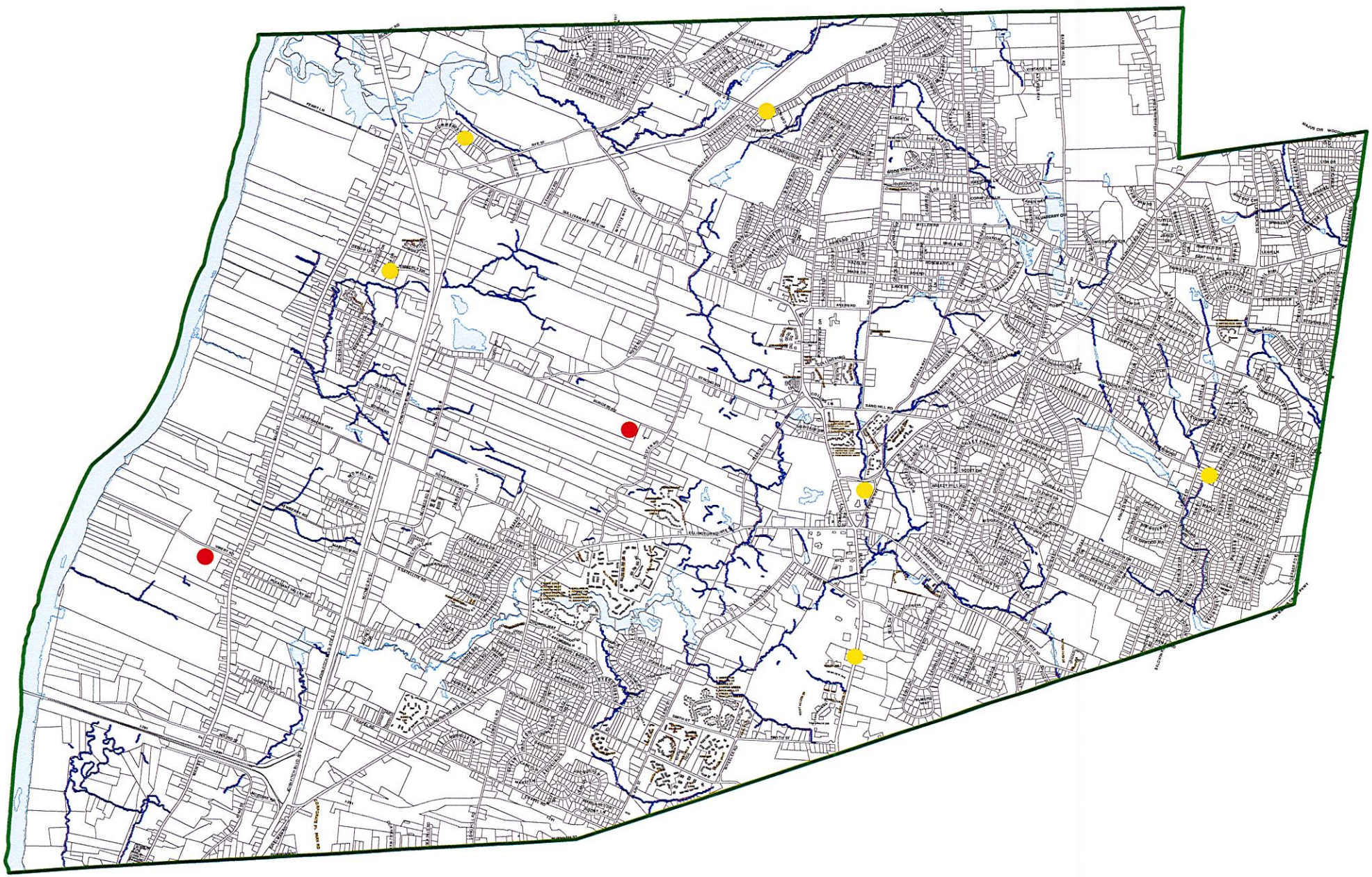


One Town One Future

South Windsor GIS
Geographic Information System

MAPPING PROVIDED BY SBC UNDER CONTRACT.
DATA MANAGED BY THE SOUTH WINDSOR
ENGINEERING DEPARTMENT AND IT TECHNOLOGY DEPARTMENT.
S:\GIS\PROJECTS\PLANNING\Impervious Soils-LOCAL BASINS 8.5X11

Appendix C



STORMWATER MONITORING SITES

1 inch = 4,000 feet

SITES
- PHASE 1
- PHASE 2
- TOWN LINE
- PARCELS
- BROOKS, RIVERS, ETC.
- WATERBODIES

Data provided by SBC under contract and is based on an aerial flight performed in spring of 2005. This map is a graphical representation of property information and is subject to change. The Town of South Windsor and SBC assume no legal responsibility for information depicted on this map and is to be used for planning purposes only.

South Windsor GIS
Geographic Information System

S:\GIS\PROJECTS\PUBLIC WORKS\Stormwater Outfalls-MONITORING SITES

ANCHOR
ENGINEERING SERVICES INC

860.633.8770
860.633.5971
www.anchorengr.com

41 Sequin Drive · Glastonbury, CT · 06033

May 1, 2015

Mr. Jeffrey Doolittle, P.E.
Town Engineer
South Windsor Town Hall
1540 Sullivan Avenue
South Windsor, Connecticut 06074

Re: DEEP Phase II MS4 Stormwater General Permit
Stormwater Monitoring Reports: 2015 Samples

Dear Mr. Doolittle:

On April 20, 2015, Anchor Engineering personnel collected six stormwater samples at different Town of South Windsor storm outfalls for MS4 stormwater analysis. The samples were transported under chain-of-custody procedures to Phoenix Environmental Laboratories for chemical analyses.

The analytical results have been received from the laboratory and the data has been transcribed onto six Stormwater Monitoring Report (SMR) forms. An original copy of each SMR form and the corresponding laboratory analytical results are attached. Please review these forms at your earliest convenience.

After you have reviewed and finalized the six SMRs, please sign and date the bottom of each form. Once signed, the six completed SMRs must be submitted to the Connecticut DEEP as part of your Annual Report (per the current permit). If you have any questions regarding submitting the annual report, you can check the DEEP's web site or call us at (860) 633-8770.

Sincerely,

Eric A. Andruk
Environmental Scientist

Paul W. Martell, LEP
Environmental Project Manager

Attachments

General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems

Stormwater Monitoring Report Form

Please send completed form to: STORMWATER GROUP
BUREAU OF MATERIALS MANAGEMENT & COMPLIANCE ASSURANCE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
79 ELM STREET
HARTFORD, CT 06106-5127

PERMITTEE INFORMATION

Town: Town of South Windsor

Mailing Address: 1540 Sullivan Avenue, South Windsor, CT 06074

Contact Person: Jeff Doolittle Title: Engineer

Phone: 860 644-2511 ext. 245 Permit Registration #GSM: GSM000081

SAMPLING INFORMATION

Discharge Location (Lat/Long or other description): SW-R1, between #285 & 295 Griffin Road N41 51.67' , W72 33.77'

Please check the appropriate area description: ☐ Industrial ☐ Commercial ☒ Residential

Receiving Water (name, basin): Podunk River, 4004

Time of Start of Discharge: Approx 12:00 p.m.

Date/Time Collected: 4/20/15 13:20 Water Temperature: approx.55 deg F

Person Collecting Sample: TJ Therriault

Storm Magnitude (inches): 1.89 in Storm Duration (hours): approx.8

Date of Previous Storm Event: 4/7/15

MONITORING RESULTS

Parameter	Method	Results (units)	Laboratory
Sample pH	4500-H B/9045	7.22 S.U.	Phoenix
Rain pH	Field Measured	approx. 6.5 S.U.	Field measured
Hardness	200.7	18.4 mg/L	Phoenix
Conductivity	SM2510B	200 umhos/cm	Phoenix
Oil & Grease	EPA 1664A	5.5 mg/L	Phoenix
COD	SM5220 D	36 mg/L	Phoenix
Turbidity	E180.1	18.6 NTU	Phoenix
TSS	SM2540 D	12 mg/L	Phoenix
TP	SM4500P E	0.12 mg/L	Phoenix
Ammonia	350.1	0.21 mg/L	Phoenix
TKN	E351.1	0.66 mg/L	Phoenix
NO_3+NO_2	E353.2	0.28 mg/L	Phoenix
E. coli	SM9222G	<10/100 mls	Phoenix

STATEMENT OF ACKNOWLEDGMENT

I certify that the data reported on this document were prepared under my direction or supervision in accordance with the MS4 General Permit. The information submitted is, to the best of my knowledge and belief, true, accurate and complete.

Authorized Official: Jeffrey Doolittle
(Print Name)

Signature: Jeffrey Doolittle Date: 5-8-15

General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems

Stormwater Monitoring Report Form

Please send completed form to: STORMWATER GROUP
BUREAU OF MATERIALS MANAGEMENT & COMPLIANCE ASSURANCE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
79 ELM STREET
HARTFORD, CT 06106-5127

PERMITTEE INFORMATION

Town: Town of South Windsor

Mailing Address: 1540 Sullivan Avenue, South Windsor, CT 06074

Contact Person: Jeff Doolittle Title: Engineer

Phone: 860 644-2511 ext. 245 Permit Registration #GSM: GSM000081

SAMPLING INFORMATION

Discharge Location (Lat/Long or other description): SW-R2 at Avery Street N 41°49.84', W72°30.93'

Please check the appropriate area description: ☐ Industrial ☐ Commercial ☒ Residential

Receiving Water (name, basin): Podunk River, 4004

Time of Start of Discharge: Approx 12:00 p.m.

Date/Time Collected: 4/20/15 14:00 Water Temperature: approx.55 deg F

Person Collecting Sample: TJ Therriault

Storm Magnitude (inches): 1.89 in Storm Duration (hours): approx. 8

Date of Previous Storm Event: 4/7/15

MONITORING RESULTS

Parameter	Method	Results (units)	Laboratory
Sample pH	4500-H B/9045	7.25 S.U.	Phoenix
Rain pH	Field Measured	approx. 6.5 S.U.	Field measured
Hardness	200.7	58.3 mg/L	Phoenix
Conductivity	SM2510B	420 umhos/cm	Phoenix
Oil & Grease	EPA 1664A	6.2 mg/L	Phoenix
COD	SM5220 D	29 mg/L	Phoenix
Turbidity	E180.1	12.3 NTU	Phoenix
TSS	SM2540 D	14 mg/L	Phoenix
TP	SM4500P E	0.11 mg/L	Phoenix
Ammonia	350.1	0.06 mg/L	Phoenix
TKN	E351.1	0.70 mg/L	Phoenix
NO_3+NO_2	E353.2	0.75 mg/L	Phoenix
E. coli	SM9222G	200/100 mls	Phoenix

STATEMENT OF ACKNOWLEDGMENT

I certify that the data reported on this document were prepared under my direction or supervision in accordance with the MS4 General Permit. The information submitted is, to the best of my knowledge and belief, true, accurate and complete.

Authorized Official: Jeffrey Doolittle
(Print Name)

Signature: Jeffrey Doolittle Date: 5-8-15

General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems

Stormwater Monitoring Report Form

Please send completed form to: STORMWATER GROUP
BUREAU OF MATERIALS MANAGEMENT & COMPLIANCE ASSURANCE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
79 ELM STREET
HARTFORD, CT 06106-5127

PERMITTEE INFORMATION

Town: Town of South Windsor

Mailing Address: 1540 Sullivan Avenue, South Windsor, CT 06074

Contact Person: Jeff Doolittle Title: Engineer

Phone: 860 644-2511 ext. 245 Permit Registration #GSM: GSM000081

SAMPLING INFORMATION

Discharge Location (Lat/Long or other description): SW-C1 at 1540 Sullivan Avenue N 41°49.79', W 72°33.14'

Please check the appropriate area description: ☐ Industrial ☒ Commercial ☐ Residential

Receiving Water (name, basin): Podunk River, 4004

Time of Start of Discharge: Approx 12:00 p.m.

Date/Time Collected: 4/20/15 14:20 Water Temperature: approx.55 deg F

Person Collecting Sample: TJ Therriault

Storm Magnitude (inches): 1.89 in Storm Duration (hours): approx. 8

Date of Previous Storm Event: 4/7/15

MONITORING RESULTS

Parameter	Method	Results (units)	Laboratory
Sample pH	4500-H B/9045	6.98 S.U.	Phoenix
Rain pH	Field Measured	approx. 6.5 S.U.	Field measured
Hardness	200.7	14.5 mg/L	Phoenix
Conductivity	SM2510B	42 umhos/cm	Phoenix
Oil & Grease	EPA 1664A	6.8 mg/L	Phoenix
COD	SM5220 D	29 mg/L	Phoenix
Turbidity	E180.1	23.9 NTU	Phoenix
TSS	SM2540 D	44 mg/L	Phoenix
TP	SM4500P E	0.14 mg/L	Phoenix
Ammonia	350.1	<0.05 mg/L	Phoenix
TKN	E351.1	0.36 mg/L	Phoenix
NO_3+NO_2	E353.2	0.10 mg/L	Phoenix
E. coli	SM9222G	10/100 mls	Phoenix

STATEMENT OF ACKNOWLEDGMENT

I certify that the data reported on this document were prepared under my direction or supervision in accordance with the MS4 General Permit. The information submitted is, to the best of my knowledge and belief, true, accurate and complete.

Authorized Official: Jeffrey Doolittle
(Print Name)

Signature: Jeffrey Doolittle Date: 5-8-15

General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems

Stormwater Monitoring Report Form

Please send completed form to: STORMWATER GROUP
BUREAU OF MATERIALS MANAGEMENT & COMPLIANCE ASSURANCE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
79 ELM STREET
HARTFORD, CT 06106-5127

PERMITTEE INFORMATION

Town: Town of South Windsor

Mailing Address: 1540 Sullivan Avenue, South Windsor, CT 06074

Contact Person: Jeff Doolittle Title: Engineer

Phone: 860 644-2511 ext. 245 Permit Registration #GSM: GSM000081

SAMPLING INFORMATION

Discharge Location (Lat/Long or other description): SW-C2 at Buckland Road N 41°48.74', W72°33.24'

Please check the appropriate area description: ☐ Industrial ☒ Commercial ☐ Residential

Receiving Water (name, basin): Podunk River, 4004

Time of Start of Discharge: Approx 12:00 p.m.

Date/Time Collected: 4/20/15 14:40 Water Temperature: approx.55 deg F

Person Collecting Sample: TJ Therriault

Storm Magnitude (inches): 1.89 in Storm Duration (hours): approx. 8

Date of Previous Storm Event: 4/7/15

MONITORING RESULTS

Parameter	Method	Results (units)	Laboratory
Sample pH	4500-H B/9045	7.41 S.U.	Phoenix
Rain pH	Field Measured	approx. 6.5 S.U.	Field measured
Hardness	200.7	52.7 mg/L	Phoenix
Conductivity	SM2510B	360 umhos/cm	Phoenix
Oil & Grease	EPA 1664A	6.1 mg/L	Phoenix
COD	SM5220 D	38 mg/L	Phoenix
Turbidity	E180.1	28.0 NTU	Phoenix
TSS	SM2540 D	63 mg/L	Phoenix
TP	SM4500P E	0.19 mg/L	Phoenix
Ammonia	350.1	<0.05 mg/L	Phoenix
TKN	E351.1	0.72 mg/L	Phoenix
NO_3+NO_2	E353.2	0.24 mg/L	Phoenix
E. coli	SM9222G	370/100 mls	Phoenix

STATEMENT OF ACKNOWLEDGMENT

I certify that the data reported on this document were prepared under my direction or supervision in accordance with the MS4 General Permit. The information submitted is, to the best of my knowledge and belief, true, accurate and complete.

Authorized Official: Jeffrey Doolittle
(Print Name)

Signature: Jeffrey Doolittle Date: 5-8-15

General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems

Stormwater Monitoring Report Form

Please send completed form to: STORMWATER GROUP
BUREAU OF MATERIALS MANAGEMENT & COMPLIANCE ASSURANCE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
79 ELM STREET
HARTFORD, CT 06106-5127

PERMITTEE INFORMATION

Town: Town of South Windsor

Mailing Address: 1540 Sullivan Avenue, South Windsor, CT 06074

Contact Person: Jeff Doolittle Title: Engineer

Phone: 860 644-2511 ext. 245 Permit Registration #GSM: GSM000081

SAMPLING INFORMATION

Discharge Location (Lat/Long or other description): SW-I1 at 40 Sandra Drive

N 41 50.96', W 72 36.24'

Please check the appropriate area description: ☒ Industrial ☐ Commercial ☐ Residential

Receiving Water (name, basin): Connecticut River, 4000

Time of Start of Discharge: Approx 12:00 p.m.

Date/Time Collected: 4/20/15 12:30 Water Temperature: approx.55 deg F

Person Collecting Sample: TJ Therriault

Storm Magnitude (inches): 1.89in Storm Duration (hours): approx. 8

Date of Previous Storm Event: 4/7/15

MONITORING RESULTS

Parameter	Method	Results (units)	Laboratory
Sample pH	4500-H B/9045	6.97 S.U.	Phoenix
Rain pH	Field Measured	approx. 6.5 S.U.	Field measured
Hardness	200.7	36.3 mg/L	Phoenix
Conductivity	SM2510B	300 umhos/cm	Phoenix
Oil & Grease	EPA 1664A	7.3 mg/L	Phoenix
COD	SM5220 D	38 mg/L	Phoenix
Turbidity	E180.1	25.9 NTU	Phoenix
TSS	SM2540 D	13 mg/L	Phoenix
TP	SM4500P E	0.09 mg/L	Phoenix
Ammonia	350.1	0.11 mg/L	Phoenix
TKN	E351.1	0.66 mg/L	Phoenix
NO_3+NO_2	E353.2	0.66 mg/L	Phoenix
E. coli	SM9222G	<10/100 mls	Phoenix

STATEMENT OF ACKNOWLEDGMENT

I certify that the data reported on this document were prepared under my direction or supervision in accordance with the MS4 General Permit. The information submitted is, to the best of my knowledge and belief, true, accurate and complete.

Authorized Official: Jeffrey Doolittle
(Print Name)

Signature: [signature] Date: 5-8-15

General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems

Stormwater Monitoring Report Form

Please send completed form to: STORMWATER GROUP
BUREAU OF MATERIALS MANAGEMENT & COMPLIANCE ASSURANCE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
79 ELM STREET
HARTFORD, CT 06106-5127

PERMITTEE INFORMATION

Town: Town of South Windsor

Mailing Address: 1540 Sullivan Avenue, South Windsor, CT 06074

Contact Person: Jeff Doolittle Title: Engineer

Phone: 860 644-2511 ext. 245 Permit Registration #GSM: GSM000081

SAMPLING INFORMATION

Discharge Location (Lat/Long or other description): SW-I2 at 124 Commerce Way

N 41 51.51' W 72 35.77'

Please check the appropriate area description: ☒ Industrial ☐ Commercial ☐ Residential

Receiving Water (name, basin): Scantic River, 4200

Time of Start of Discharge: Approx 12:00 p.m.

Date/Time Collected: 4/20/15 13:00 Water Temperature: approx.55 deg F

Person Collecting Sample: TJ Therriault

Storm Magnitude (inches): 1.89 in Storm Duration (hours): approx. 8

Date of Previous Storm Event: 4/7/15

MONITORING RESULTS

Parameter	Method	Results (units)	Laboratory
Sample pH	4500-H B/9045	6.89 S.U.	Phoenix
Rain pH	Field Measured	approx. 6.5 S.U.	Field measured
Hardness	200.7	40.6 mg/L	Phoenix
Conductivity	SM2510B	280 umhos/cm	Phoenix
Oil & Grease	EPA 1664A	5.6 mg/L	Phoenix
COD	SM5220 D	14 mg/L	Phoenix
Turbidity	E180.1	10.3 NTU	Phoenix
TSS	SM2540 D	5.5 mg/L	Phoenix
TP	SM4500P E	0.07 mg/L	Phoenix
Ammonia	350.1	0.07 mg/L	Phoenix
TKN	E351.1	0.40 mg/L	Phoenix
NO_3+NO_2	E353.2	1.11 mg/L	Phoenix
E. coli	SM9222G	120/100 mls	Phoenix

STATEMENT OF ACKNOWLEDGMENT

I certify that the data reported on this document were prepared under my direction or supervision in accordance with the MS4 General Permit. The information submitted is, to the best of my knowledge and belief, true, accurate and complete.

Authorized Official: Jeffrey Doolittle
(Print Name)

Signature: Jeffrey Doolittle Date: 5-8-15

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

April 27, 2015

FOR: Attn: Mr. Paul Martell
Anchor Engineering
Services, Inc.
41 Sequin Drive
Glastonbury, CT 06033

Sample Information		Custody Information		Date	Time
Matrix:	STORM WATER	Collected by:	TJ	04/20/15	13:20
Location Code:	ANCHOR	Received by:	SW	04/20/15	16:46
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	047-11				

Laboratory Data

SDG ID: GBJ04974
Phoenix ID: BJ04976

Project ID: TOWN OF SOUTH WINDSOR
Client ID: SW-R1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Hardness (CaCO3)	18.4	0.1	mg/L	1	04/22/15		E200.7
Escherichia Coli	<10	10	MPN/100 mls	1	04/20/15 18:25	RS/KDB	SM9223B-04
Total Coliforms	5480	10	MPN/100 mls	1	04/20/15 18:25	RS/KDB	SW9223B
C.O.D.	36	10	mg/L	1	04/21/15	MSF	SM5220D-97
Conductivity	200	5	umhos/cm	1	04/21/15	TC	SM2510B-97
Ammonia as Nitrogen	0.21	0.05	mg/L	1	04/23/15	WHM	E350.1
Nitrate-Nitrite (N)	0.28	0.01	mg/L	1	04/23/15	GD	E353.2
Oil and Grease by EPA 1664	5.5	1.4	mg/L	1	04/24/15	MSF	E1664A
pH	7.22	0.10	pH Units	1	04/20/15 22:32	RR/EG	SM4500-H B-00
Nitrogen Tot Kjeldahl	0.66	0.10	mg/L	1	04/23/15	WHM	E351.1
Phosphorus, as P	0.12	0.01	mg/L	1	04/22/15	JR	SM4500PE-99
Total Suspended Solids	12	5.0	mg/L	1	04/22/15	KH	SM2540D-97
Turbidity	18.6	0.20	NTU	1	04/20/15 22:32	RR/EG	SM2130B-01
Total Metals Digestion	Completed				04/20/15	AG	

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

April 27, 2015

FOR: Attn: Mr. Paul Martell
Anchor Engineering
Services, Inc.
41 Sequin Drive
Glastonbury, CT 06033

Sample Information		Custody Information		Date	Time
Matrix:	STORM WATER	Collected by:	TJ	04/20/15	14:00
Location Code:	ANCHOR	Received by:	SW	04/20/15	16:46
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	047-11				

Laboratory Data

SDG ID: GBJ04974
Phoenix ID: BJ04977

Project ID: TOWN OF SOUTH WINDSOR
Client ID: SW-R2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Hardness (CaCO3)	58.3	0.1	mg/L	1	04/22/15		E200.7
Escherichia Coli	200	10	MPN/100 mls	1	04/20/15 18:25	RS/KDB	SM9223B-04
Total Coliforms	19860	10	MPN/100 mls	1	04/20/15 18:25	RS/KDB	SW9223B
C.O.D.	29	10	mg/L	1	04/21/15	MSF	SM5220D-97
Conductivity	420	5	umhos/cm	1	04/21/15	TC	SM2510B-97
Ammonia as Nitrogen	0.06	0.05	mg/L	1	04/23/15	WHM	E350.1
Nitrate-Nitrite (N)	0.75	0.01	mg/L	1	04/23/15	GD	E353.2
Oil and Grease by EPA 1664	6.2	1.4	mg/L	1	04/24/15	MSF	E1664A
pH	7.25	0.10	pH Units	1	04/20/15 22:40	RR/EG	SM4500-H B-00
Nitrogen Tot Kjeldahl	0.70	0.10	mg/L	1	04/23/15	WHM	E351.1
Phosphorus, as P	0.11	0.01	mg/L	1	04/22/15	JR	SM4500PE-99
Total Suspended Solids	14	5.0	mg/L	1	04/22/15	KH	SM2540D-97
Turbidity	12.3	0.20	NTU	1	04/20/15 22:40	RR/EG	SM2130B-01
Total Metals Digestion	Completed				04/20/15	AG	

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

April 27, 2015

FOR: Attn: Mr. Paul Martell
Anchor Engineering
Services, Inc.
41 Sequin Drive
Glastonbury, CT 06033

Sample Information		Custody Information		Date	Time
Matrix:	STORM WATER	Collected by:	TJ	04/20/15	14:20
Location Code:	ANCHOR	Received by:	SW	04/20/15	16:46
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	047-11				

Laboratory Data

SDG ID: GBJ04974
Phoenix ID: BJ04978

Project ID: TOWN OF SOUTH WINDSOR
Client ID: SW-C1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Hardness (CaCO3)	14.5	0.1	mg/L	1	04/22/15		E200.7
Escherichia Coli	10	10	MPN/100 mls	1	04/20/15 18:25	RS/KDB	SM9223B-04
Total Coliforms	14140	10	MPN/100 mls	1	04/20/15 18:25	RS/KDB	SW9223B
C.O.D.	29	10	mg/L	1	04/21/15	MSF	SM5220D-97
Conductivity	42	5	umhos/cm	1	04/21/15	TC	SM2510B-97
Ammonia as Nitrogen	< 0.05	0.05	mg/L	1	04/23/15	WHM	E350.1
Nitrate-Nitrite (N)	0.10	0.01	mg/L	1	04/23/15	GD	E353.2
Oil and Grease by EPA 1664	6.8	1.4	mg/L	1	04/24/15	MSF	E1664A
pH	6.98	0.10	pH Units	1	04/20/15 22:50	RR/EG	SM4500-H B-00
Nitrogen Tot Kjeldahl	0.36	0.10	mg/L	1	04/23/15	WHM	E351.1
Phosphorus, as P	0.14	0.01	mg/L	1	04/22/15	JR	SM4500PE-99
Total Suspended Solids	44	5.0	mg/L	1	04/22/15	KH	SM2540D-97
Turbidity	23.9	0.20	NTU	1	04/20/15 22:50	RR/EG	SM2130B-01
Total Metals Digestion	Completed				04/20/15	AG	

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

April 27, 2015

FOR: Attn: Mr. Paul Martell
Anchor Engineering
Services, Inc.
41 Sequin Drive
Glastonbury, CT 06033

Sample Information		Custody Information		Date	Time
Matrix:	STORM WATER	Collected by:	TJ	04/20/15	14:40
Location Code:	ANCHOR	Received by:	SW	04/20/15	16:46
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	047-11				

Laboratory Data

SDG ID: GBJ04974
Phoenix ID: BJ04979

Project ID: TOWN OF SOUTH WINDSOR
Client ID: SW-C2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Hardness (CaCO3)	52.7	0.1	mg/L	1	04/22/15		E200.7
Escherichia Coli	370	10	MPN/100 mls	1	04/20/15 18:25	RS/KDB	SM9223B-04
Total Coliforms	>24200	10	MPN/100 mls	1	04/20/15 18:25	RS/KDB	SW9223B
C.O.D.	38	10	mg/L	1	04/21/15	MSF	SM5220D-97
Conductivity	360	5	umhos/cm	1	04/21/15	TC	SM2510B-97
Ammonia as Nitrogen	< 0.05	0.05	mg/L	1	04/23/15	WHM	E350.1
Nitrate-Nitrite (N)	0.24	0.01	mg/L	1	04/23/15	GD	E353.2
Oil and Grease by EPA 1664	6.1	1.4	mg/L	1	04/24/15	MSF	E1664A
pH	7.41	0.10	pH Units	1	04/20/15 22:58	RR/EG	SM4500-H B-00
Nitrogen Tot Kjeldahl	0.72	0.10	mg/L	1	04/23/15	WHM	E351.1
Phosphorus, as P	0.19	0.01	mg/L	1	04/22/15	JR	SM4500PE-99
Total Suspended Solids	63	5.0	mg/L	1	04/22/15	KH	SM2540D-97
Turbidity	28.0	0.20	NTU	1	04/20/15 22:58	RR/EG	SM2130B-01
Total Metals Digestion	Completed				04/20/15	AG	

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

April 27, 2015

FOR: Attn: Mr. Paul Martell
Anchor Engineering
Services, Inc.
41 Sequin Drive
Glastonbury, CT 06033

Sample Information		Custody Information		Date	Time
Matrix:	STORM WATER	Collected by:	TJ	04/20/15	12:30
Location Code:	ANCHOR	Received by:	SW	04/20/15	16:46
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	047-11				

Laboratory Data

SDG ID: GBJ04974
Phoenix ID: BJ04974

Project ID: TOWN OF SOUTH WINDSOR
Client ID: SW-I1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Hardness (CaCO3)	36.3	0.1	mg/L	1	04/22/15		E200.7
Escherichia Coli	<10	10	MPN/100 mls	1	04/20/15 18:25	RS/KDB	SM9223B-04
Total Coliforms	15530	10	MPN/100 mls	1	04/20/15 18:25	RS/KDB	SW9223B
C.O.D.	38	10	mg/L	1	04/21/15	MSF	SM5220D-97
Conductivity	300	5	umhos/cm	1	04/21/15	TC	SM2510B-97
Ammonia as Nitrogen	0.11	0.05	mg/L	1	04/23/15	WHM	E350.1
Nitrate-Nitrite (N)	0.66	0.01	mg/L	1	04/23/15	GD	E353.2
Oil and Grease by EPA 1664	7.3	1.4	mg/L	1	04/24/15	MSF	E1664A
pH	6.97	0.10	pH Units	1	04/20/15 22:14	RR/EG	SM4500-H B-00
Nitrogen Tot Kjeldahl	0.66	0.10	mg/L	1	04/23/15	WHM	E351.1
Phosphorus, as P	0.09	0.02	mg/L	2	04/21/15	MA	SM4500PE-99
Total Suspended Solids	13	5.0	mg/L	1	04/22/15	KH	SM2540D-97
Turbidity	25.9	0.20	NTU	1	04/20/15 22:14	RR/EG	SM2130B-01
Total Metals Digestion	Completed				04/20/15	AG	

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

April 27, 2015

FOR: Attn: Mr. Paul Martell
Anchor Engineering
Services, Inc.
41 Sequin Drive
Glastonbury, CT 06033

Sample Information		Custody Information		Date	Time
Matrix:	STORM WATER	Collected by:	TJ	04/20/15	13:00
Location Code:	ANCHOR	Received by:	SW	04/20/15	16:46
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	047-11				

Laboratory Data

SDG ID: GBJ04974
Phoenix ID: BJ04975

Project ID: TOWN OF SOUTH WINDSOR
Client ID: SW-I2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Hardness (CaCO3)	40.6	0.1	mg/L	1	04/22/15		E200.7
Escherichia Coli	120	10	MPN/100 mls	1	04/20/15 18:25	RS/KDB	SM9223B-04
Total Coliforms	9210	10	MPN/100 mls	1	04/20/15 18:25	RS/KDB	SW9223B
C.O.D.	14	10	mg/L	1	04/21/15	MSF	SM5220D-97
Conductivity	280	5	umhos/cm	1	04/21/15	TC	SM2510B-97
Ammonia as Nitrogen	0.07	0.05	mg/L	1	04/23/15	WHM	E350.1
Nitrate-Nitrite (N)	1.11	0.01	mg/L	1	04/23/15	GD	E353.2
Oil and Grease by EPA 1664	5.6	1.4	mg/L	1	04/24/15	MSF	E1664A
pH	6.89	0.10	pH Units	1	04/20/15 22:24	RR/EG	SM4500-H B-00
Nitrogen Tot Kjeldahl	0.40	0.10	mg/L	1	04/23/15	WHM	E351.1
Phosphorus, as P	0.07	0.02	mg/L	2	04/21/15	MA	SM4500PE-99
Total Suspended Solids	5.5	5.0	mg/L	1	04/22/15	KH	SM2540D-97
Turbidity	10.3	0.20	NTU	1	04/20/15 22:24	RR/EG	SM2130B-01
Total Metals Digestion	Completed				04/20/15	AG	

ANCHOR
ENGINEERING SERVICES, INC.

T: 860.633.8770
F: 860.633.5971
www.anchorengr.com

41 Sequin Drive • Glastonbury, CT • 06033

June 2, 2016

Mr. Jeffrey Doolittle, P.E.
Town Engineer
South Windsor Town Hall
1540 Sullivan Avenue
South Windsor, Connecticut 06074

Re: **DEEP Phase II MS4 Stormwater General Permit**
Stormwater Monitoring Reports: 2016 Samples

Dear Mr. Doolittle:

On March 28, 2016, Anchor Engineering personnel collected six stormwater samples at different Town of South Windsor storm outfalls for MS4 stormwater analysis. The samples were transported under chain-of-custody procedures to Phoenix Environmental Laboratories for chemical analyses.

The analytical results have been received from the laboratory and the data has been transcribed onto six Stormwater Monitoring Report (SMR) forms. An original copy of each SMR form and the corresponding laboratory analytical results are attached. Please review these forms at your earliest convenience.

After you have reviewed and finalized the six SMRs, please sign and date the bottom of each form. Once signed, the six completed SMRs must be submitted to the Connecticut DEEP as part of your Annual Report (per the current permit). If you have any questions regarding submitting the annual report, you can check the DEEP's web site or call us at (860) 633-8770.

Sincerely,

Eric A. Andruk
Environmental Scientist

Paul W. Martell, LEP
Environmental Project Manager

Attachments

General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems

Stormwater Monitoring Report Form

Please send completed form to: STORMWATER GROUP
BUREAU OF MATERIALS MANAGEMENT & COMPLIANCE ASSURANCE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
79 ELM STREET
HARTFORD, CT 06106-5127

PERMITTEE INFORMATION

Town: Town of South Windsor

Mailing Address: 1540 Sullivan Avenue, South Windsor, CT 06074

Contact Person: Jeff Doolittle Title: Engineer

Phone: 860 644-2511 ext. 245 Permit Registration #GSM: GSM000081

SAMPLING INFORMATION

Discharge Location (Lat/Long or other description): SW-C1 at 1540 Sullivan Avenue N 41□49.79', W 72□33.14'

Please check the appropriate area description: ☐ Industrial ☒ Commercial ☐ Residential

Receiving Water (name, basin): Podunk River, 4004

Time of Start of Discharge: Approx 07:00

Date/Time Collected: 3/28/16 10:15 Water Temperature: approx.55 deg F

Person Collecting Sample: Kevin Flowers

Storm Magnitude (inches): 0.81 Storm Duration (hours): approx. 8

Date of Previous Storm Event: 3/1/16

MONITORING RESULTS

Parameter	Method	Results (units)	Laboratory
Sample pH	4500-H B/9045	6.90 S.U.	Phoenix
Rain pH	Field Measured	approx. 6.5 S.U.	Field measured
Hardness	200.7	14.2 mg/L	Phoenix
Conductivity	SM2510B	94 umhos/cm	Phoenix
Oil & Grease	EPA 1664A	<1.4 mg/L	Phoenix
COD	SM5220 D	<10 mg/L	Phoenix
Turbidity	E180.1	6.1 NTU	Phoenix
TSS	SM2540 D	9.0 mg/L	Phoenix
TP	SM4500P E	0.05 mg/L	Phoenix
Ammonia	350.1	0.05 mg/L	Phoenix
TKN	E351.1	0.23 mg/L	Phoenix
NO_3+NO_2	E353.2	0.05 mg/L	Phoenix
E. coli	SM9222G	<10/100 mls	Phoenix

STATEMENT OF ACKNOWLEDGMENT

I certify that the data reported on this document were prepared under my direction or supervision in accordance with the MS4 General Permit. The information submitted is, to the best of my knowledge and belief, true, accurate and complete.

Authorized Official: Jeffrey Doolittle
(Print Name)

Signature: Jeffrey Doolittle Date: 6-9-16

General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems

Stormwater Monitoring Report Form

Please send completed form to: STORMWATER GROUP
BUREAU OF MATERIALS MANAGEMENT & COMPLIANCE ASSURANCE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
79 ELM STREET
HARTFORD, CT 06106-5127

PERMITTEE INFORMATION

Town: Town of South Windsor

Mailing Address: 1540 Sullivan Avenue, South Windsor, CT 06074

Contact Person: Jeff Doolittle Title: Engineer

Phone: 860 644-2511 ext. 245 Permit Registration #GSM: GSM000081

SAMPLING INFORMATION

Discharge Location (Lat/Long or other description): SW-I1 at 40 Sandra Drive

N 41□50.96', W 72□36.24'

Please check the appropriate area description: ☒ Industrial ☐ Commercial ☐ Residential

Receiving Water (name, basin): Connecticut River, 4000

Time of Start of Discharge: Approx 07:00

Date/Time Collected: 3/28/16 08:40 Water Temperature: approx.55 deg F

Person Collecting Sample: Kevin Flowers

Storm Magnitude (inches): 0.81 Storm Duration (hours): approx. 8

Date of Previous Storm Event: 3/1/16

MONITORING RESULTS

Parameter	Method	Results (units)	Laboratory
Sample pH	4500-H B/9045	6.93 S.U.	Phoenix
Rain pH	Field Measured	approx. 6.5 S.U.	Field measured
Hardness	200.7	11.8 mg/L	Phoenix
Conductivity	SM2510B	165 umhos/cm	Phoenix
Oil & Grease	EPA 1664A	<1.4 mg/L	Phoenix
COD	SM5220 D	182 mg/L	Phoenix
Turbidity	E180.1	15 NTU	Phoenix
TSS	SM2540 D	34 mg/L	Phoenix
TP	SM4500P E	0.11 mg/L	Phoenix
Ammonia	350.1	0.21 mg/L	Phoenix
TKN	E351.1	1.10 mg/L	Phoenix
NO_3+NO_2	E353.2	0.17 mg/L	Phoenix
E. coli	SM9222G	156/100 mls	Phoenix

STATEMENT OF ACKNOWLEDGMENT

I certify that the data reported on this document were prepared under my direction or supervision in accordance with the MS4 General Permit. The information submitted is, to the best of my knowledge and belief, true, accurate and complete.

Authorized Official: Jeffrey Doolittle
(Print Name)

Signature: [signature] Date: 6-9-16

General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems

Stormwater Monitoring Report Form

Please send completed form to: STORMWATER GROUP
BUREAU OF MATERIALS MANAGEMENT & COMPLIANCE ASSURANCE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
79 ELM STREET
HARTFORD, CT 06106-5127

PERMITTEE INFORMATION

Town: Town of South Windsor

Mailing Address: 1540 Sullivan Avenue, South Windsor, CT 06074

Contact Person: Jeff Doolittle Title: Engineer

Phone: 860 644-2511 ext. 245 Permit Registration #GSM: GSM000081

SAMPLING INFORMATION

Discharge Location (Lat/Long or other description): SW-I2 at 124 Commerce Way

N 41□51.51' W 72□35.77'

Please check the appropriate area description: ☒ Industrial ☐ Commercial ☐ Residential

Receiving Water (name, basin): Scantic River, 4200

Time of Start of Discharge: Approx 07:00

Date/Time Collected: 3/28/16 09:15 Water Temperature: approx.55 deg F

Person Collecting Sample: Kevin Flowers

Storm Magnitude (inches): 0.81 Storm Duration (hours): approx. 8

Date of Previous Storm Event: 3/1/16

MONITORING RESULTS

Parameter	Method	Results (units)	Laboratory
Sample pH	4500-H B/9045	7.01 S.U.	Phoenix
Rain pH	Field Measured	approx. 6.5 S.U.	Field measured
Hardness	200.7	21.7 mg/L	Phoenix
Conductivity	SM2510B	237 umhos/cm	Phoenix
Oil & Grease	EPA 1664A	<1.4 mg/L	Phoenix
COD	SM5220 D	21 mg/L	Phoenix
Turbidity	E180.1	14 NTU	Phoenix
TSS	SM2540 D	45 mg/L	Phoenix
TP	SM4500P E	0.09 mg/L	Phoenix
Ammonia	350.1	0.08 mg/L	Phoenix
TKN	E351.1	0.42 mg/L	Phoenix
NO_3+NO_2	E353.2	0.35 mg/L	Phoenix
E. coli	SM9222G	41/100 mls	Phoenix

STATEMENT OF ACKNOWLEDGMENT

I certify that the data reported on this document were prepared under my direction or supervision in accordance with the MS4 General Permit. The information submitted is, to the best of my knowledge and belief, true, accurate and complete.

Authorized Official: Jeffrey Doolittle
(Print Name)

Signature: [signature] Date: 6-9-16

General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems

Stormwater Monitoring Report Form

Please send completed form to: STORMWATER GROUP
BUREAU OF MATERIALS MANAGEMENT & COMPLIANCE ASSURANCE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
79 ELM STREET
HARTFORD, CT 06106-5127

PERMITTEE INFORMATION

Town: Town of South Windsor

Mailing Address: 1540 Sullivan Avenue, South Windsor, CT 06074

Contact Person: Jeff Doolittle Title: Engineer

Phone: 860 644-2511 ext. 245 Permit Registration #GSM: GSM000081

SAMPLING INFORMATION

Discharge Location (Lat/Long or other description): SW-C2 at Buckland Road N 41□48.74', W72□33.24'

Please check the appropriate area description: ☐ Industrial ☒ Commercial ☐ Residential

Receiving Water (name, basin): Podunk River, 4004

Time of Start of Discharge: Approx 07:00

Date/Time Collected: 3/28/16 10:45 Water Temperature: approx.55 deg F

Person Collecting Sample: Kevin Flowers

Storm Magnitude (inches): 0.81 Storm Duration (hours): approx. 8

Date of Previous Storm Event: 3/1/16

MONITORING RESULTS

Parameter	Method	Results (units)	Laboratory
Sample pH	4500-H B/9045	7.17 S.U.	Phoenix
Rain pH	Field Measured	approx. 6.5 S.U.	Field measured
Hardness	200.7	22.3 mg/L	Phoenix
Conductivity	SM2510B	157 umhos/cm	Phoenix
Oil & Grease	EPA 1664A	<1.4 mg/L	Phoenix
COD	SM5220 D	34 mg/L	Phoenix
Turbidity	E180.1	23 NTU	Phoenix
TSS	SM2540 D	90 mg/L	Phoenix
TP	SM4500P E	0.23 mg/L	Phoenix
Ammonia	350.1	0.07 mg/L	Phoenix
TKN	E351.1	0.88 mg/L	Phoenix
NO_3+NO_2	E353.2	0.10 mg/L	Phoenix
E. coli	SM9222G	282/100 mls	Phoenix

STATEMENT OF ACKNOWLEDGMENT

I certify that the data reported on this document were prepared under my direction or supervision in accordance with the MS4 General Permit. The information submitted is, to the best of my knowledge and belief, true, accurate and complete.

Authorized Official: Jeffrey Doolittle
(Print Name)

Signature: Jeffrey Doolittle Date: 6-9-16

General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems

Stormwater Monitoring Report Form

Please send completed form to: STORMWATER GROUP
BUREAU OF MATERIALS MANAGEMENT & COMPLIANCE ASSURANCE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
79 ELM STREET
HARTFORD, CT 06106-5127

PERMITTEE INFORMATION

Town: Town of South Windsor

Mailing Address: 1540 Sullivan Avenue, South Windsor, CT 06074

Contact Person: Jeff Doolittle Title: Engineer

Phone: 860 644-2511 ext. 245 Permit Registration #GSM: GSM000081

SAMPLING INFORMATION

Discharge Location (Lat/Long or other description): SW-R1, between #285 & 295 Griffin Road N41□51.67' , W72□33.77'

Please check the appropriate area description: ☐ Industrial ☐ Commercial ☒ Residential

Receiving Water (name, basin): Podunk River, 4004

Time of Start of Discharge: Approx 07:00

Date/Time Collected: 3/28/16 09:45 Water Temperature: approx.55 deg F

Person Collecting Sample: Kevin Flowers

Storm Magnitude (inches): 0.81 Storm Duration (hours): approx.8

Date of Previous Storm Event: 3/1/16

MONITORING RESULTS

Parameter	Method	Results (units)	Laboratory
Sample pH	4500-H B/9045	6.82 S.U.	Phoenix
Rain pH	Field Measured	approx. 6.5 S.U.	Field measured
Hardness	200.7	8.2 mg/L	Phoenix
Conductivity	SM2510B	141 umhos/cm	Phoenix
Oil & Grease	EPA 1664A	<1.4 mg/L	Phoenix
COD	SM5220 D	23 mg/L	Phoenix
Turbidity	E180.1	23 NTU	Phoenix
TSS	SM2540 D	29 mg/L	Phoenix
TP	SM4500P E	0.11 mg/L	Phoenix
Ammonia	350.1	0.11 mg/L	Phoenix
TKN	E351.1	0.51 mg/L	Phoenix
NO_3+NO_2	E353.2	0.07 mg/L	Phoenix
E. coli	SM9222G	41/100 mls	Phoenix

STATEMENT OF ACKNOWLEDGMENT

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Authorized Official: Jeffrey Doolittle
(Print Name)

Signature: [signature] Date: 6-9-16

General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems

Stormwater Monitoring Report Form

Please send completed form to: STORMWATER GROUP
BUREAU OF MATERIALS MANAGEMENT & COMPLIANCE ASSURANCE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
79 ELM STREET
HARTFORD, CT 06106-5127

PERMITTEE INFORMATION

Town: Town of South Windsor

Mailing Address: 1540 Sullivan Avenue, South Windsor, CT 06074

Contact Person: Jeff Doolittle Title: Engineer

Phone: 860 644-2511 ext. 245 Permit Registration #GSM: GSM000081

SAMPLING INFORMATION

Discharge Location (Lat/Long or other description): SW-R2 at Avery Street N 41□49.84', W72□30.93'

Please check the appropriate area description: ☐ Industrial ☐ Commercial ☒ Residential

Receiving Water (name, basin): Podunk River, 4004

Time of Start of Discharge: Approx 07:00

Date/Time Collected: 3/28/16 11:20 Water Temperature: approx.55 deg F

Person Collecting Sample: Kevin Flowers

Storm Magnitude (inches): 0.81 Storm Duration (hours): approx. 8

Date of Previous Storm Event: 3/1/16

MONITORING RESULTS

Parameter	Method	Results (units)	Laboratory
Sample pH	4500-H B/9045	6.98 S.U.	Phoenix
Rain pH	Field Measured	approx. 6.5 S.U.	Field measured
Hardness	200.7	32.4 mg/L	Phoenix
Conductivity	SM2510B	246 umhos/cm	Phoenix
Oil & Grease	EPA 1664A	<1.4 mg/L	Phoenix
COD	SM5220 D	23 mg/L	Phoenix
Turbidity	E180.1	10 NTU	Phoenix
TSS	SM2540 D	17 mg/L	Phoenix
TP	SM4500P E	0.11 mg/L	Phoenix
Ammonia	350.1	0.09 mg/L	Phoenix
TKN	E351.1	0.63 mg/L	Phoenix
NO_3+NO_2	E353.2	0.18 mg/L	Phoenix
E. coli	SM9222G	422/100 mls	Phoenix

STATEMENT OF ACKNOWLEDGMENT

I certify that the data reported on this document were prepared under my direction or supervision in accordance with the MS4 General Permit. The information submitted is, to the best of my knowledge and belief, true, accurate and complete.

Authorized Official: Jeffrey Doolittle
(Print Name)

Signature: Jeffrey Doolittle Date: 6-9-16

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

April 01, 2016

FOR: Attn: Mr. Paul Martell
Anchor Engineering
Services, Inc.
41 Sequin Drive
Glastonbury, CT 06033

Sample Information		Custody Information		Date	Time
Matrix:	STORM WATER	Collected by:		03/28/16	10:45
Location Code:	ANCHOR	Received by:	SW	03/28/16	15:46
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	047-11				

Laboratory Data

SDG ID: GBK92192
Phoenix ID: BK92196

Project ID: TOWN OF SOUTH WINDSOR MS4
Client ID: SW-C2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Hardness (CaCO3)	22.3	0.1	mg/L	1	03/30/16		E200.7
Escherichia Coli	282	10	MPN/100 mls	10	03/28/16 16:25	RM/KDB	SM9223B-04
Total Coliforms	5480	10	MPN/100 mls	10	03/28/16 16:25	RM/KDB	SW9223B
C.O.D.	34	10	mg/L	1	03/30/16	EG	SM5220D-97
Conductivity	157	5.00	umhos/cm	1	03/29/16	RR/EG	SM2510B-97
Ammonia as Nitrogen	0.07	0.05	mg/L	1	03/30/16	WHM	E350.1
Nitrate-Nitrite (N)	0.10	0.01	mg/L	1	03/29/16	CAL	E353.2
Oil and Grease by EPA 1664	< 1.4	1.4	mg/L	1	03/31/16	MSF	E1664A
pH	7.17	0.10	pH Units	1	03/29/16 03:14	RR/EG	SM4500-H B-00
Nitrogen Tot Kjeldahl	0.88	0.10	mg/L	1	03/30/16	WHM	E351.1
Phosphorus, as P	0.23	0.01	mg/L	1	03/30/16	JR	SM4500PE-99
Total Suspended Solids	90	5.0	mg/L	1	03/30/16	KH	SM2540D-97
Turbidity	23	0.20	NTU	1	03/28/16 19:04	RWR	SM2130B-01
Total Metals Digestion	Completed				03/28/16	AG	

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

April 01, 2016

FOR: Attn: Mr. Paul Martell
Anchor Engineering
Services, Inc.
41 Sequin Drive
Glastonbury, CT 06033

Sample Information		Custody Information		Date	Time
Matrix:	STORM WATER	Collected by:		03/28/16	10:15
Location Code:	ANCHOR	Received by:	SW	03/28/16	15:46
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	047-11				

Laboratory Data

SDG ID: GBK92192
Phoenix ID: BK92195

Project ID: TOWN OF SOUTH WINDSOR MS4
Client ID: SW-C1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Hardness (CaCO3)	14.2	0.1	mg/L	1	03/30/16		E200.7
Escherichia Coli	<10	10	MPN/100 mls	10	03/28/16 16:25	RM/KDB	SM9223B-04
Total Coliforms	5480	10	MPN/100 mls	10	03/28/16 16:25	RM/KDB	SW9223B
C.O.D.	< 10	10	mg/L	1	03/30/16	EG	SM5220D-97
Conductivity	94	5.00	umhos/cm	1	03/29/16	RR/EG	SM2510B-97
Ammonia as Nitrogen	0.05	0.05	mg/L	1	03/30/16	WHM	E350.1
Nitrate-Nitrite (N)	0.05	0.01	mg/L	1	03/29/16	CAL	E353.2
Oil and Grease by EPA 1664	< 1.4	1.4	mg/L	1	03/31/16	MSF	E1664A
pH	6.90	0.10	pH Units	1	03/29/16 03:11	RR/EG	SM4500-H B-00
Nitrogen Tot Kjeldahl	0.23	0.10	mg/L	1	03/30/16	WHM	E351.1
Phosphorus, as P	0.05	0.01	mg/L	1	03/30/16	JR	SM4500PE-99
Total Suspended Solids	9.0	5.0	mg/L	1	03/30/16	KH	SM2540D-97
Turbidity	6.1	0.20	NTU	1	03/28/16 19:04	RWR	SM2130B-01
Total Metals Digestion	Completed				03/28/16	AG	

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

April 01, 2016

FOR: Attn: Mr. Paul Martell
Anchor Engineering
Services, Inc.
41 Sequin Drive
Glastonbury, CT 06033

Sample Information		Custody Information		Date	Time
Matrix:	STORM WATER	Collected by:		03/28/16	8:40
Location Code:	ANCHOR	Received by:	SW	03/28/16	15:46
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	047-11				

Laboratory Data

SDG ID: GBK92192
Phoenix ID: BK92192

Project ID: TOWN OF SOUTH WINDSOR MS4
Client ID: SW-I1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Hardness (CaCO3)	11.8	0.1	mg/L	1	03/30/16		E200.7
Escherichia Coli	156	10	MPN/100 mls	10	03/28/16 16:25	RM/KDB	SM9223B-04
Total Coliforms	4880	10	MPN/100 mls	10	03/28/16 16:25	RM/KDB	SW9223B
C.O.D.	182	10	mg/L	1	03/30/16	EG	SM5220D-97
Conductivity	165	5.00	umhos/cm	1	03/29/16	RR/EG	SM2510B-97
Ammonia as Nitrogen	0.21	0.05	mg/L	1	03/30/16	WHM	E350.1
Nitrate-Nitrite (N)	0.17	0.01	mg/L	1	03/29/16	CAL	E353.2
Oil and Grease by EPA 1664	< 1.4	1.4	mg/L	1	03/31/16	MSF	E1664A
pH	6.93	0.10	pH Units	1	03/29/16 03:02	RR/EG	SM4500-H B-00
Nitrogen Tot Kjeldahl	1.10	0.10	mg/L	1	03/30/16	WHM	E351.1
Phosphorus, as P	0.11	0.01	mg/L	1	03/30/16	JR	SM4500PE-99
Total Suspended Solids	34	5.0	mg/L	1	03/30/16	KH	SM2540D-97
Turbidity	15	0.20	NTU	1	03/28/16 19:04	RWR	SM2130B-01
Total Metals Digestion	Completed				03/28/16	AG	

PHOENIX

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Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

April 01, 2016

FOR: Attn: Mr. Paul Martell
Anchor Engineering
Services, Inc.
41 Sequin Drive
Glastonbury, CT 06033

Sample Information		Custody Information		Date	Time
Matrix:	STORM WATER	Collected by:		03/28/16	9:15
Location Code:	ANCHOR	Received by:	SW	03/28/16	15:46
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	047-11				

Laboratory Data

SDG ID: GBK92192
Phoenix ID: BK92193

Project ID: TOWN OF SOUTH WINDSOR MS4
Client ID: SW-I2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Hardness (CaCO3)	21.7	0.1	mg/L	1	03/30/16		E200.7
Escherichia Coli	41	10	MPN/100 mls	10	03/28/16 16:25	RM/KDB	SM9223B-04
Total Coliforms	1580	10	MPN/100 mls	10	03/28/16 16:25	RM/KDB	SW9223B
C.O.D.	21	10	mg/L	1	03/30/16	EG	SM5220D-97
Conductivity	237	5.00	umhos/cm	1	03/29/16	RR/EG	SM2510B-97
Ammonia as Nitrogen	0.08	0.05	mg/L	1	03/30/16	WHM	E350.1
Nitrate-Nitrite (N)	0.35	0.01	mg/L	1	03/29/16	CAL	E353.2
Oil and Grease by EPA 1664	< 1.4	1.4	mg/L	1	03/31/16	MSF	E1664A
pH	7.01	0.10	pH Units	1	03/29/16 03:05	RR/EG	SM4500-H B-00
Nitrogen Tot Kjeldahl	0.42	0.10	mg/L	1	03/30/16	WHM	E351.1
Phosphorus, as P	0.09	0.01	mg/L	1	03/30/16	JR	SM4500PE-99
Total Suspended Solids	45	5.0	mg/L	1	03/30/16	KH	SM2540D-97
Turbidity	14	0.20	NTU	1	03/28/16 19:04	RWR	SM2130B-01
Total Metals Digestion	Completed				03/28/16	AG	