STORMWATER MANAGEMENT PLAN

TOWN OF ROCKY HILL

ROCKY HILL, CONNECTICUT

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INTRODUCTION

This Stormwater Management Plan (SWMP) was developed by the Town of Rocky Hill to protect water quality and reduce the discharge of pollutants from the municipality's storm sewer system to the Maximum Extent Practicable (MEP). This SWMP addresses the requirements established by the CT Department of Energy and Environmental Protection's (DEEP) General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems (MS4 General Permit). This permit is the local enforcement mechanism of the U.S. Environmental Protection Agency's (EPA) National Pollutant Discharge Elimination System (NPDES) Stormwater Phase II Rule.

SWMP Structure

The plan outlines a program of best management practices (BMPs), measurable goals, responsible individuals or departments, and implementation schedules for the following six minimum control measures:

(1) Public education and outreach
(2) Public involvement and participation
(3) Illicit discharge detection and elimination
(4) Construction site Stormwater runoff control
(5) Post-construction Stormwater management in new development and redevelopment sites
(6) Pollution prevention/good housekeeping

Appendices to this plan include the CT DEEP General Permit for the Discharge of Stormwater from Small MS4s and a map of the Town of Rocky Hill's impaired waterbodies & BMP's for Disposal of Snow Accumulations.

Area Subject to the Plan

The measures identified in this SWMP will be applied throughout the boundaries of the Town of Rocky Hill except as otherwise noted and be consistent with the MS4 General Permit requirements. Stormwater discharge from municipally-owned maintenance garages, salt sheds and other facilities subject to the DEEP Industrial Stormwater General Permit will continue to be regulated under the conditions of that permit.

SWMP Development

A Stormwater committee led by the Engineering Department and including representatives from public works, planning, zoning enforcement, parks and recreation, inland wetlands and watercourses agency, Rocky Hill volunteer fire department and Central Connecticut Health District was assembled to coordinate the development and implementation of the SWMP.

The SWMP's implementation will be tracked and documented in Annual Reports summarizing Stormwater management activities carried out by the Town of Rocky Hill and its partners. These reports will be submitted to DEEP on an annual basis no later than April 1.

Description of Municipality

The operator of the MS4 is the Town of Rocky Hill which is a public entity located in the county of Hartford, State of Connecticut. The Town of Rocky Hill is approximately 13.9 sq. miles in area and

has a population of 20,000 as of the 2010 census. It is bordered by Wethersfield to the north, Cromwell to the south, Berlin and Newington to the west, and the Connecticut River and Glastonbury to the east. The Town is subdivided into three major drainage areas. These drainage areas are: Sawmill Brook and the Mattabesset Basin to the west, Dividend Brook to the Connecticut River to the east and Valley Brook to Goff Brook to the north. Present land uses in the watershed varies from farmland, residential, commercial and industrial. The Town is served by the Metropolitan District Commission Water and Sewer which serves as the town's sewer authority. There are isolated areas of town served by septic and well, mostly along the Little Brook watershed. The latest plan of the Conservation and Development for the Town was developed in 2015.

The Town transportation system consists of approximately 63 centerline miles of improved roadways and three miles of unimproved roadways. Furthermore the Connecticut Department of Transportation (DOT) operates an MS4 on state highways located in the Town of Rocky Hill, including Interstate I-91. This system is regulated under the CT DOT's MS4 permit.

The Town owns two (2) garage facilities: The Parks Garage (Parsonage Street) and the Highway Department Garage (Old Forge Road). These facilities are presently participating in the Environmental Protection Agency's self-audit initiative and meet their requirements.

Impaired Waters

In preparing the SWMP, the CT DEEP's Water Quality Standards were reviewed in order to determine the Surface Water Quality Classifications for each watercourse in the Town of Rocky Hill. Certain BMP's address the watersheds containing watercourses designated as "impaired" by the CT DEEP. Table 1 shows the water quality classification for each watershed. Table 2 summarizes the water bodies within or that run through the municipality that are listed on the 2014 List of Connecticut Water Bodies not meeting water quality standards and are designated as "impaired".

TABLE 1
Water Quality Surface
Classifications Town of Rocky

Drainage Basin Number	Name	Surface Water Quality Classification	Impaired per Water Quality Standards
4000.00	Connecticut River	B	Yes
4600-07	Little Brook	A	Yes
4000-29	Hog Brook	A	No
4000-31	Dividend Brook	A	No
4010-00	Goff Brook	A	No
4010-01	Goff Brook	A	No
4010-03	Goff Brook	A	No
4010-04	Tumble Brook	A	No
4010-05	Valley Brook	A	No
4010-06	Valley Brook	A	No
4600-00	Mattabesset River	A	No
4600-18	Mattabesset River	A	No
4600-09	Saw Mill Brook	A	No
4600-10	Saw Mill Brook	A	No
4600-17	Saw Mill Brook	A	No
4600-22	Cold Spring Brook	A	No

TABLE 2 Town of Rocky Hill Impaired Waterbody					
Waterbody ID	Water Segment Description	Water Segment Length (miles)	Impaired Use	Pollutant	Cause/Potential Source
Connecticut River	From Reservoir Brook confluence (adjacent to Gildersleeve Island), Portland, US to Suffield, MA border.	35.26 miles	Recreation, Fish Consumptions	Polychlorinated Biphenyls (PCBS)	
Little Brook	From mouth at Mattabesset River US to source near Trinity Rd, Rocky Hill	1.92 miles	Recreation	Escherichia Coli (E. COLI)	Septic Systems

The surface water classifications currently assigned to the Town of Rocky Hill watercourses are defined below.

Class A

Surface water is known or presumed to meet Water Quality Criteria which support designated uses, which may include potential drinking water supply; fish and wildlife habitat; recreational use; agricultural, industrial supply and other legitimate uses, including navigation.

Class B

Class B designated uses are habitat for fish and aquatic life and wildlife; recreation; navigation; and industrial and agricultural water supply.

Based on the DEEP Surface Water Quality Classifications, Little Brook is identified as the surface water that should take the highest priority in Town of Rocky Hill's efforts to address Stormwater impacts. This was taken into consideration as the BMPs were developed.

(1) PUBLIC EDUCATION AND OUTREACH

This minimum control measure outlines a program to communicate common sources of Stormwater pollution and the impacts of polluted Stormwater to the public. This will be accomplished by distributing educational materials to the community and conducting outreach activities. The following BMPs and implementation schedule serve as Rocky Hill's MS4 Public Education Program.

Goals:

- Raise public awareness that polluted Stormwater runoff is the most significant source of water quality problems;
- Motivate residents to use Best Management Practices (BMPs) that reduce polluted Stormwater runoff; and
- Reduce polluted Stormwater runoff in Rocky Hill as a result of increased awareness and utilization of BMPs.

1.1 Implement public education program

Rocky Hill will collect and distribute Stormwater educational materials that, at a minimum, address the impacts of the following on water quality: pet waste, impervious cover, application of fertilizers, pesticides, and herbicides, and illicit discharges and improper disposal of wastes into the MS4.

Rocky Hill will maintain their own Stormwater website http://www.rockyhillct.gov/stormwater_management/index.php with links to their Stormwater Management Plan, Stormwater Ordinance and links to other educational materials such as UConn NEMO's comprehensive online library. The Town of Rocky Hill will also provide materials in a printed format to be on display in public locations within the Engineering Department in the Rocky Hill Town Hall with copies to the Town website.

Additional targeted outreach efforts will be completed by the Engineering Department to educate agricultural operators, commercial businesses, developers, and homeowners on particular aspects of Stormwater management.

Rocky Hill will coordinate with The Connecticut River Coastal Conservation District to ensure that all required topics listed in this plan are covered and tracked on an annual basis.

1.2 Address education and outreach for pollutants of concern

Rocky Hill will distribute information on common sources of phosphorus, nitrogen and bacteria pollution and how to prevent or reduce the amount reaching the MS4 and discharging into waterways.

The table below shows additional topics to be covered to address the phosphorus, nitrogen and bacteria impairments that exist in Rocky Hill

Phosphorus	Nitrogen	Bacteria
Septic systems	Septic systems	Septic systems
Fertilizer use	Fertilizer use	Sanitary cross connections
Grass clippings and leaves management	Grass clippings and leaves management	Waterfowl
Detergent use	Discharge of sediment (to which Nitrogen binds) from Construction sites	Pet waste
Discharge of sediment (to which Phosphorus binds) from Construction sites	Other erosive surfaces	Manure piles associated with livestock and horses

Public outreach and education schedule

BMP	Lead department / individual	Month / year of implementation	Measurable goal
Implement public education program	Engineering	June, 2018 and continue until permit expires	Provide educational materials on the Town website
Address education/outreach for pollutants of concern	Engineering	June, 2018 and continue until permit expires	Mail educational materials to 20% of the Town

(2) PUBLIC INVOLVEMENT AND PARTICIPATION

This minimum control measure identifies the process for public involvement and participation in the Town of Rocky Hill's Stormwater management efforts.

Goals:

- Involve the community in planning and implementing the Town of Rocky Hill's Stormwater management activities.
- Provide a minimum 30 day notice to the public for this plan and annual reports.

2.1 Comply with public notice requirements for the Stormwater Management Plan and Annual Reports

Rocky Hill will publish a public notice on the Town website http://www.rockyhillct.gov/stormwater_management/index.php. The notice will provide a contact name, phone number, address, and email to whom the public can send comments. Additionally, this plan and the Annual Reports will be publicly accessible and on display in the Engineering Department in the Rocky Hill Town Hall with copies to the Town website. The public notice will allow for a 30-day comment period, at a minimum.

Public involvement and participation schedule

BMP	Lead department / individual	Month / year of implementation	Measurable goal
Comply with public notice requirements for the SWMP and Annual Reports	Engineering	July, 2017 and continue until permit expires	Post SWMP and Annual Report on the Town website

(3) ILLICIT DISCHARGE DETECTION AND ELIMINATION

This minimum control measure outlines a program to detect and eliminate current illicit discharges to the MS4 and prevent further illicit discharges in the future. All activities for this measure will be completed in the Town of Rocky Hill's priority areas (urbanized area, catchment areas with directly connected impervious area (DCIA) > 11%, and outfalls that discharge to impaired waters).

Goal:

Find the source of any illicit discharges; eliminate those illicit discharges; and ensure ongoing screening and tracking to prevent and eliminate future illicit discharges.

3.1 Develop written IDDE plan

Rocky Hill will develop a written IDDE plan to detect, locate and eliminate illicit discharges (to the maximum extent practicable) from the MS4 within the Town of Rocky Hill's priority areas. The IDDE plan will provide enforceable legal authority to eliminate illicit discharges, assign responsibilities, and develop a citizen reporting program. The plan will also outline the outfall screening and IDDE protocols consistent with Appendix B of the MS4 General Permit to identify, prioritize, and investigate MS4 catchments for suspected illicit discharge of pollutants. Also, the IDDE plan will outline follow-up screening and illicit discharge prevention procedures.

3.2 Develop, list, and map of all MS4 outfalls and interconnections in priority areas

Rocky Hill will complete a database of all Stormwater discharges from a pipe or conduit located within and owned or operated by the municipality and all interconnections with other MS4s. Each entry will include:

a. Type, material, size, shape and location (identified with a latitude and longitude) of conveyance, outfall or channelized flow (e.g. 24" concrete pipe);
b. the name, water body ID and Surface Water Quality Classification of the immediate surface waterbody or wetland to which the Stormwater runoff discharges;
c. if the outfall does not discharge directly to a named waterbody, the name and water body ID of the nearest named waterbody to which the outfall eventually discharges;
d. the name of the watershed, including the sub regional drainage basin number (available from CT ECO at www.cteco.uconn.edu) in which the discharge is located;
e. date of most recent inspection of the outfall, the condition, and any indicators of potential non-Stormwater discharges as of most recent inspection;
f. Maintenance history

The database will be exported into excel format for annual reports. The spreadsheet will be maintained by the Engineering Department with data and reports from public works, planning, zoning enforcement, parks and recreation, inland wetlands and watercourses agency, Rocky Hill volunteer fire department and Central Connecticut Health District and will be updated quarterly.

3.3 Develop citizen reporting program

Rocky Hill will establish a system to allow for citizen reporting of suspected illicit discharges into the Stormwater system. The system will include a reporting form on the Town website which will include the date, time and location of the suspected illicit discharge and such form will be delivered electronically to the Engineer Department. Rocky Hill will affirmatively investigate and eliminate any illicit discharges for which a time and location of discharge are provided. Rocky Hill will promptly inspect the reported problem and proceed according to the requirements of the written IDDE program. All citizen reports and responses will be included in the Town of Rocky Hill's annual report.

3.4 Establish legal authority to prohibit illicit discharges

The Town of Rocky Hill has an established illicit discharge ordinance, Chapter 209 of the Town of Rocky Hill Town Code, dated 12/4/06, which addresses the following issues:

a. prohibit illicit discharges to its storm sewer system and require removal of such discharges consistent with the deadlines outlined in the MS4 general; and
b. authorize the investigation of suspected illicit discharges and elimination of illicit discharge, including from properties not owned or controlled by the MS4 that discharge to the MS4
c. control the discharge of spills and prohibit the dumping or disposal of materials including, but not limited to, residential, industrial and commercial wastes, trash, used motor vehicle fluids, pesticides, fertilizers, food preparation waste, leaf litter, grass clippings, and animal wastes into its MS4; and
d. authorize appropriate enforcement procedures and actions;
e. authorize fines or penalties and/or recoup costs incurred by the permittee from anyone creating an illicit discharge or spilling or dumping.

3.5 Develop record keeping system for IDDE tracking

The Town of Rocky Hill will keep a record of illicit discharge abatement activities including location (including latitude and longitude or address), description, date(s) of inspection, sampling data (if applicable), action(s) taken, date of removal or repair and responsible party.

3.6 Address IDDE in areas with pollutants of concern

Town of Rocky Hill will identify which areas in town are most likely to contribute nitrogen, phosphorus, and bacteria to the MS4. This assessment will consider: historic on-site sanitary system failures, proximity to bacterial impaired waters, low infiltrative soils, and shallow groundwater. Any areas determined to have a high potential for septic system failure will be reported to the Health Department for corrective action.

3.7 Detailed MS4 infrastructure mapping

The Town of Rocky Hill will update the existing MS4 map to include:

- Components of the MS4 within priority areas:
    - Outfalls & receiving waters;
    - Pipes; open channel conveyances; catch basins; manholes;
    - Interconnections with other MS4s and other storm sewer systems;

- Municipally-owned Stormwater treatment structures (e.g. detention & retention ponds, infiltration systems, bioretention areas, water quality swales, gross particle separators, oil/water separators, or other systems);
- Catchment delineations for each outfall;
- Impaired water bodies identified by name and use impairment as defined by the most recent integrated water quality report;

Illicit discharge detection and elimination schedule

BMP	Lead department / individual	Month / year of implementation	Measurable goal
Develop written IDDE program	Engineering	June, 2018	Establish a program
Develop list and maps of all MS4 Stormwater outfalls in priority areas	Engineering	June, 2019	Locate, map and create database of all outfalls
Develop citizen reporting program	Engineering	June, 2018	Create a fillable form to be place on the Town website
Establish legal authority to prohibit illicit discharges	Engineering	July, 2017	Completed
Develop record keeping system for IDDE tracking	Engineering	July, 2017	Create database
Address IDDE in areas with pollutants of concern	Engineering / Public Works	July, 2017	Target outfall locations in impaired stream watershed
Detailed MS4 infrastructure mapping	Engineering	June, 2020	Currently being developed
Complete list and maps of all MS4 Stormwater outfalls throughout municipality	Engineering	June, 2022	Currently being developed

(4) CONSTRUCTION SITE STORMWATER RUNOFF CONTROL

This minimum control measure outlines procedures for minimizing polluted Stormwater runoff from activities that disturb one or more acres of land. In Rocky Hill, this is determined on a site by site basis as part of site plan or subdivision plan approval process.

Goal:

Minimize polluted Stormwater runoff from construction sites and prevent such runoff from carrying sediment into waterways via MS4 infrastructure.

4.1 Implement, upgrade and enforce land use regulations to meet requirements of MS4 general permit

The Town of Rocky Hill has established land use regulations that establishes the legal authority to control Stormwater runoff from construction sites by requiring:

a. developers, construction site operators, or contractors maintain consistency with the 2002 Guidelines for Soil Erosion and Sedimentation Control, as amended, the 2004 Connecticut Stormwater Quality Manual, as amended and all Stormwater discharge permits issued by the DEEP within the municipal or institutional boundary pursuant to CGS 22a-430 and 22a-430b;
b. the implementation of additional measures to protect/improve water quality (in addition to the above requirements) as deemed necessary by the Town of Rocky Hill
c. The Town of Rocky Hill is authorized to carry out all inspection, surveillance and monitoring procedures necessary to determine compliance with municipal regulations, ordinances or programs or institutional requirements related to the management of Rocky Hill's MS4. Inspections shall be conducted, where allowed, to inventory the number of privately-owned retention ponds, detention ponds and other Stormwater basins that discharge to or receive drainage from the permittee's MS4;
d. the owner of a site seeking development approval from the Town of Rocky Hill shall provide and comply with a long term maintenance plan and schedule to ensure the performance and pollutant removal efficiency of privately-owned retention ponds, detention ponds and other Stormwater basins that discharge to or receive discharge from Rocky Hill's MS4 including short-term and long-term inspection and maintenance measures to be implemented by the private owner; and
e. The Town of Rocky Hill will control interagency contribution of pollutants between the permittee's MS4 and MS4s owned or operated by others.

4.2 Develop and implement plan for interdepartmental coordination of site plan review and approval

The Town of Rocky Hill's plan to coordinate the functions of all the departments and boards involved in the review, permitting, or approval of land disturbance projects is as follows:

All site plan/subdivision plan applications are reviewed by the Town Planner, Town Engineer, Wetlands Agent, Zoning Enforcement Officer, Fire Marshall and Central Connecticut Health District staff as applicable for compliance with land use regulations prior and after approval and during the construction phase in order to ensure compliance.

4.3 Review site plans for Stormwater quality concerns

The Town of Rocky Hill will conduct site plan reviews that incorporate consideration of Stormwater controls or management practices to prevent or minimize impacts to water quality on sites with soil disturbance of one acre or more.

4.4 Conduct site inspections

The Town of Rocky Hill staff will perform construction site inspections and take enforcement actions if necessary to ensure the adequacy of the installation, maintenance, operation, and repair of all construction and post-construction runoff control measures.

4.5 Implement procedure to allow public comment on site development

The Town of Rocky Hill's procedure for public involvement in proposed and ongoing development and land disturbance activities is as follows:

a. Public hearings are held on most applications for permits where public input is solicited and incorporated into the commission's decision.
b. Signs with telephone numbers are posted at the proposed site development location
c. Notices are published in the Hartford Courant and on the Town website prior and after a decision is rendered

4.6 Implement procedure to notify developers about DEEP construction Stormwater permit

The Town of Rocky Hill will notify developers and contractors of their potential obligation to obtain authorization under DEEP's General Permit for the Discharge of Stormwater and Dewatering Wastewaters Associated with Construction Activities (construction general permit) if their project disturbs more than 1 acre of land and results in a point source discharge to Connecticut surface waters directly or through the Rocky Hill's MS4. The Town will also require a copy of the Storm Water Pollution Control Plan be made available on request. The procedure to notify developers of the construction general permit is as follows:

The Town of Rocky Hill will inform developers that they have a potential obligation to obtain authorization under the DEEP's General Permit for the Discharge of Stormwater and Dewatering Wastewaters Associated with Construction Activities ("construction general permit") if their development or redevelopment project disturbs one or more acres of land, either individually or collectively, as part of a larger common plan, and results in a point source discharge to the surface waters of the state directly or through Rocky Hill's MS4. The notification shall include a provision informing the developer/contractor of their obligation to provide a copy of the Storm Water Pollution Control Plan (required by the construction general permit) to the Town of Rocky Hill upon request.

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.

Construction site Stormwater management schedule

BMP	Lead department / individual	Month / year of implement ation	Measurable goal
Implement, upgrade and enforce land use regulations to meet MS4 permit requirements	Town Engineer/Town Planner	July, 2017	Update Zoning Regulations
Develop/implement plan for interdepartmental coordination in site plan/subdivision review and approval	Town Planner	July, 2017	Procedure in place
Review site plans for Stormwater quality concerns	Town Engineer	July, 2017	Plans to comply with SWQ manual and LID's
Conduct site inspections	ZEO, Wetlands agent	July, 2017	Conformance to regulations
Implement procedure to allow public comment on site development	Town Engineer/Town Planner	July, 2017	Procedure in place
Implement procedure to notify developers about DEEP construction Stormwater permit	Town Engineer/Town Planner	July, 2017	DEEP Stormwater permits to be posted on construction site

(5) POST-CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT OR REDEVELOPMENT PROJECTS

This minimum control measure outlines the Town of Rocky Hill's program to address Stormwater runoff from new or re-development projects that disturb one or more acres of land.

Goal:

Mitigate the long-term impacts of new and re-development projects on water quality through proper use of low impact development and runoff reduction practices.

5.1 Establish legal authority and guidelines regarding LID and runoff reduction in site development planning

The Town of Rocky Hill will establish the legal authority by zoning regulation to require, to the maximum extent practicable (MEP), developers and contractors seeking the Town of Rocky Hill's approval to consider the use of low impact development (LID) and runoff reduction site planning and development practices that meet or exceed those LID and runoff reduction practices in the 2004 CT Stormwater Quality Manual, as amended, prior to other Stormwater management practices allowed in Town of Rocky Hill's land use regulations, guidance or construction project requirements.

This legal authority will include the following standards:

a. for redevelopment of sites that are currently developed with Directly Connected Impervious Area (DCIA) of forty percent or more, the project must retain on-site half the water quality volume for the site, or
b. for new development and redevelopment of sites with less than forty percent DCIA, retain the water quality volume for the site, or
c. if those retention standards cannot be met, the developer will be required to provide a report indicating why the standard could not be met and a mitigation project on another property or pay a fee to fund a DCIA retrofit.

In developing this legal authority, the Town of Rocky Hill will consider the following watershed protection elements to manage the impacts of Stormwater on receiving waters:

a. Minimize the amount of impervious surfaces (roads, parking lots, roofs, etc.) within the municipality by minimizing the creation, extension, and widening of parking lots, roads, and associated development and encourage the use of LID's or green infrastructure practices.
b. Preserve, protect, create and restore ecologically sensitive areas that provide water quality benefits and serve critical watershed functions. These areas may include, but are not limited to; riparian corridors, headwaters, floodplains and wetlands.
c. Implement Stormwater management practices that prevent or reduce thermal impacts to streams, including requiring vegetated buffers along waterways, and disconnecting discharges to surface waters from impervious surfaces such as parking lots.
d. Seek to avoid or prevent hydromodification of streams and other water bodies caused by development, including roads, highways, and bridges.

e. Implement standards to protect trees, and other vegetation with important evapotranspirative qualities.
f. Implement policies to protect native soils, prevent topsoil stripping, and prevent compaction of soils.
g. Coordinate with state or local health officials to ensure no interference with performance of on-site septic systems.
h. Limit turf areas.

In addition, the Town will review its current regulations - site planning requirements, zoning regulations, street design regulations, and infrastructure specifications with minimum size criteria for impervious cover (roads, parking lots, etc.) to identify and, where appropriate, reduce or eliminate existing regulatory barriers to implementation of LID and runoff reduction practices to the MEP.

5.2 Implement long-term maintenance plan for Stormwater basins and treatment structures

The Town of Rocky Hill will develop a maintenance plan for retention/detention ponds and Stormwater treatment structures that it owns or over which it holds an easement or other authority and that are located in Rocky Hill's priority areas to ensure their long-term effectiveness. This plan will require an annual inspection of those retention/detention ponds and Stormwater treatment structures and removal of accumulated sediment and pollutants in excess of 50% design capacity.

5.3 Directly Connected Impervious Area (DCIA) mapping

The Town of Rocky Hill will follow guidance provided by DEEP and UConn CLEAR to calculate the Directly Connected Impervious Area (DCIA) that contributes Stormwater runoff to each of its MS4 outfalls. Progress on this task will be documented in each Annual Report until completion.

5.4 Address post-construction issues in areas with pollutants of concern

For areas contributing to waters where **Nitrogen, Phosphorus** or **Bacteria** is a Stormwater Pollutant of Concern and erosion or sedimentation problems are found during the annual inspections conducted under the long-term maintenance plan described in BMP 5.2, the Town of Rocky Hill will prioritize those areas for the DCIA retrofit program under minimum control measure 6 – Pollution Prevention/Good Housekeeping.

Post-construction Stormwater management schedule

BMP	Lead department / individual	Month / year of implementation	Measurable goal
Establish legal authority and guidelines regarding LID and runoff reduction in site development planning	Engineering and Planning	June, 2021	Draft and adopt LID regulations
Enforce LID/runoff reduction requirements for development and redevelopment projects	Engineering	June , 2021	Inspect developments for LID compliance
Implement long-term maintenance plan for Stormwater basins and treatment structures	Public Works	June , 2019	Create database of all stormwater basins and structures, inspect annually
Complete DCIA mapping	Engineering	June, 2020	Complete mapping
Address post-construction issues in areas with pollutants of concern	Engineering	June, 2019	Implement DCIA retrofit BMP's

(6) POLLUTION PREVENTION / GOOD HOUSEKEEPING

This minimum control measure outlines a program to mitigate the impact of the Town of Rocky Hill's operations and maintenance on Town owned and/or operated properties and the MS4 itself to water quality.

Goal:

Prevent or reduce pollutant runoff as a result of municipal operations.

The Town of Rocky Hill will implement an operations and maintenance program to prevent or reduce pollutant runoff from Town of Rocky Hill facilities and protect water quality.

6.1 Develop and implement formal employee training program

The Town of Rocky Hill will continue its MS4 training program for Town employees to increase awareness of water quality issues. Training will include:

- Standard operating procedures consistent with the MS4 general permit;
- General goals and objectives of this Stormwater Management Plan;
- Identification and reporting of illicit discharges and improper disposal; and
- Spill response protocols and responsibilities.

These trainings may also include regional or statewide trainings coordinated by UConn CLEAR or others.

The Town Engineer and Highway Superintendent will be responsible for the training of pertinent town employees.

6.2 Implement MS4 property and operations maintenance

The Town of Rocky Hill owned or operated properties, parks, and other facilities that are owned, operated, or otherwise the legal responsibility of the Town will be maintained so as to minimize the discharge of pollutants to its MS4. Such maintenance will include, but not be limited to:

(i) Parks and open space

The Town of Rocky Hill will optimize the application of fertilizers by municipal employees, institutional staff, or private contractors on lands and easements for which it is responsible for maintenance. Optimization practices considered may include:

- conducting soil testing and analysis to determine soil phosphorus levels,
- the reduction or elimination of fertilizers,
- reduction of fertilizer usage by adhering to the manufacturers' instructions,
- use of alternative fertilizers forms (i.e. products with reduced, slow-releasing, or insoluble phosphorus compositions),

- proper storage and application practices (i.e. avoid impervious surfaces),
- application schedule (i.e. appropriate season or month) and timing (i.e. coordinated with climatic conditions to minimize runoff potential);
- standard operating practices for the handling, storage, application, and disposal of pesticides and herbicides in compliance with applicable state and federal laws;
- evaluating reduced mowing frequencies and use of alternative landscaping materials like drought resistant and native plantings;
- establish procedures for management of trash containers at parks (scheduled cleanings; sufficient number).

The Town of Rocky Hill will establish practices for the proper disposal of grass clippings and leaves at Town owned lands. Clippings shall be composted or otherwise appropriately disposed. Clippings will not enter the MS4 system or waters of the state.

(ii) Pet waste management

The Town of Rocky Hill has identify locations where inappropriate pet waste management practices are immediately apparent and pose a threat to receiving water quality due to proximity and potential for direct conveyance of waste to its storm system and waters. In such areas, the Town has implemented targeted management efforts such as public education and enforcement (e.g. increased patrol for violators).

In Rocky Hill owned recreational areas where dog walking is allowed, the Town has installed educational signage, pet waste baggies, and disposal receptacles.

The Town of Rocky Hill will document its efforts in its annual reports. The Town will consider including information regarding the scope and extent of its education, compliance, and enforcement efforts (including the number of violations pursued and fines levied or other enforcement taken).

(iii) Waterfowl management

The Town of Rocky Hill has identified lands where waterfowl congregate and feeding by the public occurs.

To raise awareness regarding the water quality impacts, the Town has installed signage to educate the public about the detrimental impacts of feeding waterfowl (including the resulting feces deposition) and discourages such feeding practices.

The Town of Rocky Hill will also implement practices that discourage the undesirable congregation of waterfowl in these areas, or otherwise isolate the direct drainage from these areas away from its storm system and waters.

(iv) Buildings and Facilities

Building and Facilities under the jurisdiction of the Town of Rocky Hill will:

- evaluate the use, storage, and disposal of both petroleum and non-petroleum products and ensure, through employee training, that those responsible for handling these products know proper procedures;
- ensure that Spill Prevention Plans are in place, if applicable, and coordinate with the fire department as necessary;
- develop management procedures for dumpsters and other waste management equipment;

- sweep parking lots and keep areas surrounding the facilities clean to minimize runoff of pollutants;
- ensure that all interior building floor drains are not connected to the MS4 and are appropriately permitted.

(v) Vehicles and Equipment

The Town of Rocky Hill will

- establish procedures for the storage of Town owned or operated vehicles;
- require vehicles with fluid leaks to be stored indoors or in contained areas until repaired;
- evaluate fueling areas owned by the Town for compliance of the Stormwater permit.
- establish procedures to ensure that vehicle wash waters are not discharged to the municipal storm sewer system or to surface waters;
- ensure any interior floor drains are appropriately permitted.

(vi) Leaf Management

The Town of Rocky Hill will establish and implement procedures to minimize or prevent the deposition of leaves in catch basins, streets, parking lots, driveways, sidewalks or other paved surfaces that discharge to the MS4. Such procedures shall also apply to leaves collected by Rocky Hill.

6.3 Implement coordination with interconnected MS4s

The Town of Rocky Hill will coordinate with operators of interconnected MS4s (Town of Wethersfield, institutions and DOT) regarding the contribution of potential pollutants from the storm sewer systems, contributing land use areas and Stormwater control measures in the respective MS4s. This same coordination shall be conducted regarding operation and maintenance procedures utilized in the respective systems.

6.4 Develop and implement a program to control other sources of pollutants to the MS4

The Town of Rocky Hill will develop and implement a program to control the contribution of pollutants to its MS4 from commercial, industrial, municipal, institutional or other facilities, not otherwise authorized by permit issued pursuant to Sections 22a-430 or 22a-430b of the Connecticut General Statutes.

6.5 Evaluate additional measures for discharges to impaired waters

(i) For waters for which Nitrogen or Phosphorus is a Stormwater Pollutant of Concern (CT River):

On Town of Rocky Hill owned or operated lands, the Town will implement a turf management practices and procedures policy which includes, but is not limited to, procedures for proper fertilizer application and the planting of native plant materials to lessen the amount of turf area requiring mowing and the application of chemicals. Each Annual Report will discuss the actions taken to implement this policy with an estimate of fertilizer and turf reduction.

(ii) For waters for which Bacteria is a Stormwater Pollutant of Concern (Little Brook):

On Town of Rocky Hill owned or operated lands with a high potential to contribute bacteria (such as dog parks, parks with open water, sites with failing septic systems), the Town will develop, fund, implement, and prioritize a retrofit or source management program to correct the problem(s) within a specific timeframe. Each Annual Report will identify problem areas for which a retrofit or source management program were developed, the location of the closest outfall monitored in accordance with Section 6(*i*), the cost of such retrofit or program, and the anticipated pollutant reduction. On Town owned or operated lands, prohibit the feeding of geese or waterfowl and implement a program to manage geese and waterfowl populations. Each Annual Report will discuss the actions taken to implement this program.

6.6 Track projects the disconnect DCIA

The Town of Rocky Hill will annually track the total acreage of Directly Connected Impervious Area (DCIA) that is disconnected from the MS4 as a result of redevelopment or retrofit projects within the Town. For each retrofit/redevelopment project, the Town will document the amount of existing DCIA that is disconnected. Starting on July 1, 2021, The Town of Rocky Hill's goal will be to reduce 1% of its total DCIA acreage per year to the maximum extent possible. The total amount of disconnected DCIA will be reported each year in the Annual Report. The Town will also incorporate all DCIA disconnections which occurred in the Town of Rocky Hill since July 1, 2012 towards meeting this goal.

6.7 Develop and implement an infrastructure repair, rehabilitation and retrofit program

The Town of Rocky Hill will begin a program to identify MS4 structures to repair, rehabilitate, or upgrade to reduce or eliminate the discharge of pollutants into water bodies. This program will be responsive to new information on outfalls discharging pollutants, impaired waters, inspections, or observations made during outfall mapping under the IDDE section of this plan.

6.8 Develop and implement plan to identify and prioritize retrofit projects

The Town of Rocky Hill will develop a Retrofit Project Plan to identify and prioritize potential DCIA disconnection projects. Prioritization will be based on several factors, including whether the project lies within one of the MS4 priority areas (urbanized area, DCIA > 11%, discharge to impaired waters). The Town will include in its annual report for the third year of the permit (2020-2021) its identification and prioritization process, a rationale for the selection of projects to be implemented, and the total acres of DCIA to be disconnected upon implementation. The implementation of projects in this plan will begin by June 30, 2022.

6.9 Develop and implement street sweeping program

The Town of Rocky Hill will implement a program to provide for regular inspection and maintenance of Town owned or operated streets, parking areas and other MS4 infrastructure.

The Town of Rocky Hill will establish and implement procedures for sweeping Town owned or operated streets and parking lots. All streets and parking lots within the MS4 Priority Areas will be inspected, swept and/or cleaned as necessary at least once per year in the spring following the cessation of winter maintenance activities. The procedures shall also include more frequent

inspections, cleaning and/or sweeping of targeted areas determined by the Town to have increased pollutant potential based on the presence of active construction activity or other potential pollutant sources. The Town will identify such potential pollutant sources based upon surface inspections, catch basin cleaning or inspection results, land use, winter road deicing and/or sand application, impaired or TMDL waters or other relevant factors as determined by the Town. If wet dust control is conducted, the use of water will be minimized such that a discharge of excess water to surface waters and/or the storm sewer system does not occur.

For streets and parking lots outside the MS4 Priority Areas, including any rural uncurbed streets and parking lots with no catch basins, the Town will meet the minimum frequencies above by June 30, 2018 and submit such plan with its year one Annual Report. For new and redeveloped municipal parking lots, the Town will evaluate options for reducing Stormwater runoff to surface waters and/or the storm sewer system by promoting sheet flow of Stormwater.

a. The Town of Rocky Hill will ensure the proper disposal of street sweepings in accordance with DEEP policies, guidance and regulations. Sweepings shall not be discharged back into the storm drain system and/or surface waters.

b. The Town of Rocky Hill will document results of its sweeping program in its annual reports including: a summary of inspection results, curb miles swept, dates of cleaning, volume or mass of material collected, and method(s) of reuse or disposal.

6.10 Develop and implement catch basin cleaning program

The Town of Rocky Hill will conduct routine cleaning of all catch basins and track catch basin inspection observations. Utilizing information compiled through its inventory of catch basins, operational staff and public complaints, the Town will optimize routine cleaning frequencies for particular structures or catchment areas as follows to maintain acceptable sediment removal efficiencies:

a. Inspect all Town owned catch basins within MS4 Priority Areas at least once by June 30, 2020. Catch basins outside the MS4 Priority Areas shall be inspected by June 30, 2022.
b. Prioritize inspection and maintenance for Town owned catch basins located near impaired waters and construction activities (roadway construction, residential, commercial, or industrial development or redevelopment). The Town will clean catch basins in such areas more frequently if inspection and maintenance activities indicate excessive sediment or debris loadings.
c. Establish a schedule such that the frequency of routine cleaning will ensure that no catch basin at any time will be more than fifty (50) percent full. A catch basin sump is more than 50 percent full if the contents within the sump exceed one half the distance between the bottom interior of the catch basin to the invert of the deepest outlet of the catch basin.
d. If a catch basin sump is more than fifty (50) percent full during two consecutive routine inspections/cleaning events, the Town will document that finding, investigate the contributing drainage area for sources of excessive sediment loading, and to the maximum extent practicable, abate contributing sources. The Town will describe any actions taken in its Annual Report.
e. The Town of Rocky Hill will detail its plan for optimizing catch basin cleaning, inspection plans, and its schedule for gathering information to develop the optimization plan in its first annual report. The Town will keep a log of catch basins cleaned or inspected.

f. The Town of Rocky Hill will report in each Annual Report the total number of catch basins, number inspected, number cleaned, the total volume or mass of material removed from all catch basins.

6.11 Develop and implement snow management practices

(i) Deicing Material Management

The Town of Rocky Hill will develop and implement standard operating practices for:

a. the use, handling, storage, application, and disposal of deicing products such as salt and to minimize exposure to Stormwater
b. consider means to minimize the use and optimize the application of chloride-based or other salts or deicing product while maintaining public safety and consider opportunities for use of alternative materials
c. any exterior containers of liquid deicing materials installed after July 1, 2017, the Town will provide secondary containment of at least 110% of the largest container or 10% of the total volume of all containers, whichever is larger, without overflow from the containment area.

(ii) Snow and Ice Control Practices

The Town of Rocky Hill will implement and refine its standard operating practices regarding its snow and ice control to minimize the discharge of anti-icing or de-icing chemicals and other pollutants while maintaining public safety. The Town will:

a. establish goals for the optimization of and/or chemical application rates through the use, where practicable, of automated application equipment (e.g. zero-velocity spreaders), anti-icing and pre-wetting techniques, implementation of pavement management systems, and alternate chemicals.
b. maintain records of the application of anti-icing and/or de-icing chemicals to document the reduction of chemicals to meet established goals.
c. will ensure the proper training for deicing applications for municipal employees, institutional staff, or private contractors on lands and easements for which it is responsible for maintenance.
d. will manage and dispose of snow accumulations in accordance with DEEP's Best Management Practices for Disposal of Snow Accumulations from Roadways and Parking Lots, revised 2/4/11 and as amended (Appendix C).

In its Annual Report, the Town will document results of its snow removal program including, at a minimum: the type of staff training conducted on application methods and equipment, type(s) of deicing materials used; lane-miles treated; total amount of each deicing material used; type(s) of deicing equipment used; any changes in deicing practices (and the reasons for the change); and snow disposal methods.

Pollution prevention/ good housekeeping schedule

BMP	Lead department / individual	Month / year of implement ation	Measurable goal
Develop/implement formal employee training program	Engineering / Public Works	July, 2017	Train Public Works and Parks employees in year 1
Implement MS4 property and operations maintenance	Parks and Rec / Public Works	July, 2017	Establish integrated pest management plan
Implement coordination with interconnected MS4s	Engineering	July, 2017	
Develop/implement program to control other sources of pollutants to MS4	Engineering	July, 2017	Notify commercial and industrial business of regulations by mail
Evaluate additional measures for discharges to impaired waters	Parks and Rec	July, 2017	Post signs at parks and water bodies
Track projects the disconnect DCIA	Engineering	July, 2017	Create database
Develop/implement infrastructure repair/rehab program	Engineering / Public Works	July, 2017	Rebuild last cb on line with 4' sump and hood
Develop/implement plan to identify/prioritize retrofit projects	Engineering / Public Works	June, 2020	Identify priority areas, retrofit last cb on line with 4' sump and hood
Develop/implement street sweeping program	Public Works	July, 2017	Sweep 100% of roads yearly
Develop/implement catch basin cleaning program	Public Works	July, 2017	Clean 33% of basins/year
Develop/implement snow management practices	Public Works	July, 2017	Follow DEEP BMP's for snow removal (Appendix C)

Outfall Monitoring

The Town of Rocky Hill will monitor and investigate all MS4 outfalls that discharge to impaired waterbodies by the end of the permit term. Using the outfall inventory developed under the IDDE minimum control measure, the Town will identify which outfalls discharge to impaired waters and screen them for the specific impairments.

Once half of all outfalls discharging to impaired waterbodies have been screened, the 6 outfalls contributing the highest level of pollutants will be identified and screened on an annual basis.

Based on the screening results, the Town will investigate the drainage areas of outfalls that are contributing to the impairment. The investigations may consider land use or development patterns, business or commercial activities, industrial activities, DCIA, natural contributors, MS4 maintenance issues, residential activities, or anything else potentially contributing to the source of the impairment.

Based on results of the drainage area investigations, the Town will implement measures to address sources of the impairments including the specific impaired waters provisions described within the permit control measures.

Plan Amendments

The Town of Rocky Hill will amend the SWMP whenever:

a. there is a change which has the potential to cause pollution of the waters of the state; or
b. the actions required by the Plan fail to prevent pollution of the waters of the state or fail to otherwise comply with any other provision of this general permit; or
c. the Commissioner requests modification of the Plan.

Monitoring Requirements

BMP	**Lead department / individual**	**Month / year of implement ation**	**Measurable goal**
Outfall Screening	Engineering	June, 2018	Screen and report of 33% of outfalls within impaired waters
Inventory and mapping of discharges into impaired waters	Engineering	June, 2019	Complete map
Follow up investigations of drainage areas	Engineering	June, 2019	Implement BMP
Annual monitoring of priority outfalls	Engineering	July, 2020	Screen 6 outfalls / year

Stormwater Management Plan Signatures

I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, the summited information is true, accurate and complete to the best of my knowledge and beliefs. I understand that a false statement made in this document or its attachments may be punishable as a criminal offense, in accordance with Section 22a-6 if the Connecticut General Statutes pursuant to section 53a-157b of the Connecticut General Statutes and , in accordance with any other applicable statute.

Chief Elected Official/Principal Executive Officer

John Mehr	Interim Town Manager
Printed Name	Title
Signature	Date: July 1, 2017

Principal Plan Preparer

Stephen D. Sopelak	Town Engineer
Printed Name	Title
Signature	Date: July 1, 2017

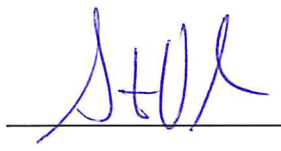
Stormwater Management Plan Engineering Certification

"I hereby certify that I am making this certification in connection with a registration under the General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems, submitted to the Commissioner by Stephen D. Sopelak, PE for an activity located at or within the Town of Rocky Hill, 761 Old Main Street, Rocky Hill, CT 06067 and that all terms and conditions of the general permit are being met for all discharges which have been created, initiated or maintained and such activity is eligible for authorization under such permit. I further certify that a system is in place to ensure that all terms and conditions of this general permit will continue to be met for all discharges authorized by this general permit at the site. I certify that I have personally examined and am familiar with the information that provides the basis for this certification, including but not limited to all information described in Section 3(b)(8)(A) of such general permit, and I certify, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining such information, that the information upon which this certification is based is true, accurate and complete to the best of my knowledge and belief. I certify that I have made an affirmative determination in accordance with Section 3(b)(8)(B) of this general permit. I understand that the registration filed in connection with such general permit is submitted in accordance with and shall comply with the requirements of Section 22a-430b of Connecticut General Statutes, as amended by Public Act 12-172. I also understand that knowingly making any false statement made in the submitted information and in this certification may be punishable as a criminal offense, including the possibility of fine and imprisonment, under section 53a-157b of the Connecticut General Statutes and any other applicable law."

Stephen D. Sopelak — Printed Name

Town Engineer — Title

Town of Rocky Hill, Engineering Department — Company

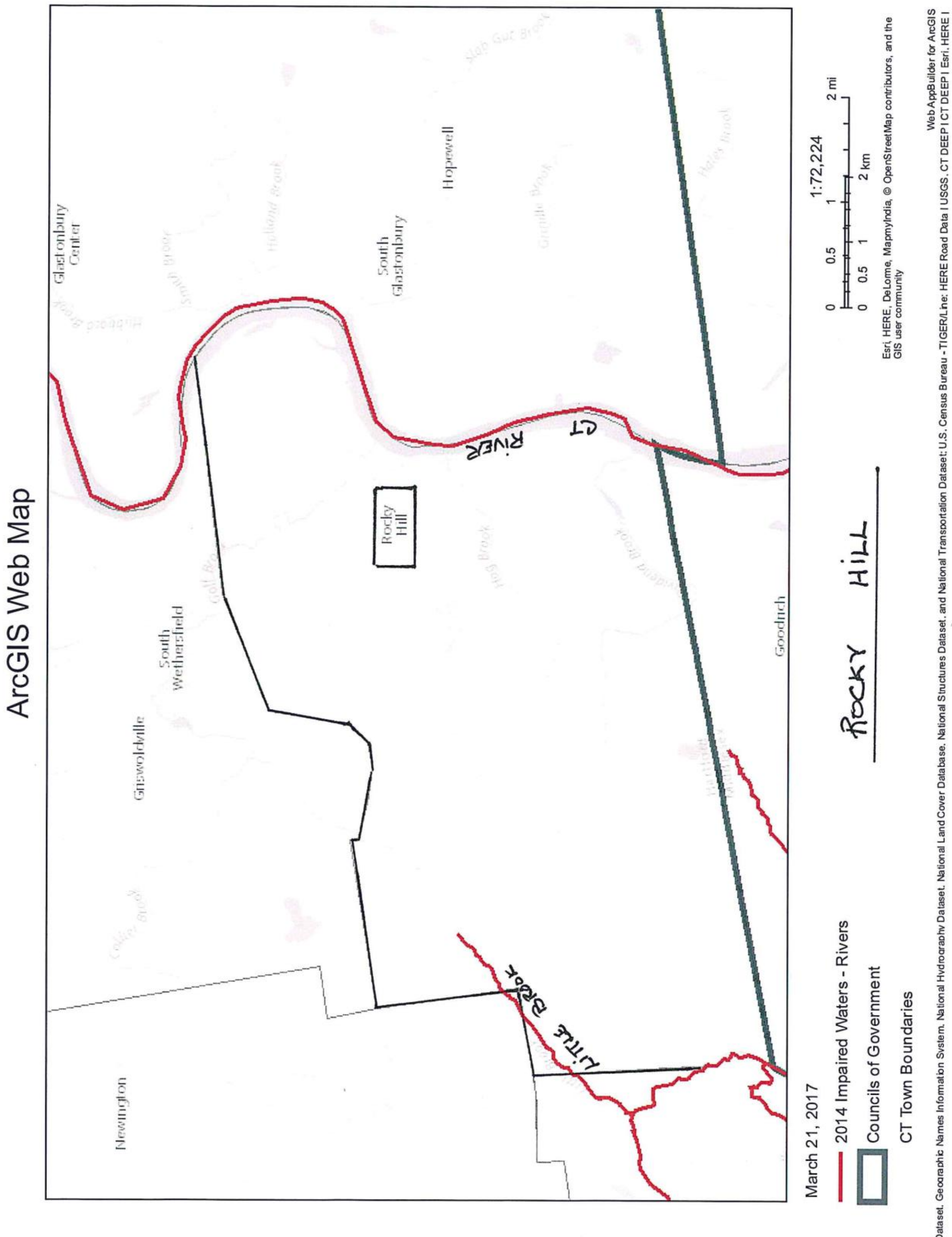


Signature

July 1, 2017

Date

APPENDIX A


ArcGIS Web Map
Glastonbury Center
South Glastonbury
Hopewell
Rocky Hill
South Wethersfield
Griswoldville
Goodrich
Newington
CT RIVER
LITTLE BROOK
ROCKY HILL
March 21, 2017
2014 Impaired Waters - Rivers
Councils of Government
CT Town Boundaries
1:72,224
0 0.5 1 2 mi
0 0.5 1 2 km
Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the GIS user community
Web AppBuilder for ArcGIS

APPENDIX B

Connecticut Department of
Energy & Environmental Protection
Bureau of Materials Management & Compliance Assurance
Water Permitting & Enforcement Division

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

Issued: January 20, 2016

Effective: July1, 2017

Expires: June 30, 2022

Appendix B
Illicit Discharge Detection and Elimination (IDDE) Program Protocol

(A) Illicit Discharge Detection and Elimination (IDDE) Program

Objective: The permittee shall implement an IDDE program to systematically find and eliminate sources of non-stormwater discharges to its MS4 and implement procedures to prevent such discharges.

During the development of the new components of the IDDE program required by this permit, permittees previously authorized by the permit issued January 9, 2004 must continue to implement their existing IDDE program required by that permit to detect and eliminate illicit discharges to their MS4.

(1) Definitions and Prohibitions

The permittee shall prohibit illicit discharges and sanitary sewer overflows (SSOs) to its MS4 and require removal of such discharges consistent with subsections (2) and (4), below.

An SSO is a discharge of untreated sanitary wastewater from a municipal sanitary sewer.

An illicit discharge is any discharge to an MS4 that is not composed entirely of stormwater, *except*:

(a) discharges authorized under a separate NPDES permit that authorize a discharge to the MS4

(b) non-stormwater discharges allowed by Section 3(a)(2) of this general permit

(2) Elimination of Illicit Discharges

(a) Upon detection, the permittee shall eliminate illicit discharges as soon as possible and require the immediate cessation of such discharges upon confirmation of responsible parties in accordance with its enforceable legal authorities established pursuant to subsection (B) below. Where elimination of an illicit discharge within sixty (60) days of its confirmation is not possible, the permittee shall establish a schedule for its elimination not to exceed 180 days (six (6) months). The permittee shall immediately commence actions necessary for elimination. The permittee shall diligently pursue elimination of all illicit discharges. In the interim, the permittee shall take all reasonable and prudent measures to minimize the discharge of pollutants to its MS4.

(b) The period between identification and elimination of an illicit discharge is not a grace period. Discharges from an MS4 that are mixed with an illicit discharge are not authorized by this general permit, are unlawful, and remain unlawful until eliminated.

(3) Non-Stormwater Discharges

The permittee may presume that the sources of non-stormwater listed in Section 3(a)(2) of this permit need not be addressed. However, if the permittee identifies any of these sources

as significant contributors of pollutants to the MS4, then the permittee shall implement measures to control these sources so they are no longer significant contributors of pollutants, and/or eliminate them entirely, consistent with this appendix.

(4) Sanitary Sewer Overflows

(a) Upon detection of an SSO the permittee shall eliminate it as expeditiously as possible and take interim mitigation measures to minimize the discharge of pollutants to and from its MS4 until elimination is completed.

(b) The permittee shall identify all known locations where SSOs have discharged to the MS4 within the previous five years. This shall include SSOs resulting, during dry or wet weather, from inadequate conveyance capacities, or where interconnectivity of the storm and sanitary sewer infrastructure allows for communication of flow between the systems. Within 120 days of the effective date of the permit, the permittee shall develop an inventory of all identified SSOs indicating:

- Location (approximate street crossing/address and receiving water, if any);
- A clear statement of whether the discharge entered a surface water directly or entered the MS4;
- Date(s) and time(s) of each known SSO occurrence (i.e. beginning and end of any known discharge);
- Estimated volume(s) of the occurrence;
- Description of the occurrence indicating known or suspected cause(s);
- Mitigation and corrective measures completed with dates implemented; and
- Mitigation and corrective measures planned with implementation schedules.

The permittee shall maintain the inventory as a part of the Plan and update the inventory annually.

(c) The permittee shall provide written notice to the Commissioner within five (5) days of becoming aware of the SSO occurrence and shall include the information in the updated inventory. The notice shall contain all of the information listed in subsection (b), above.

(d) The permittee shall include and update the SSO inventory in its annual report, including the status of mitigation and corrective measures implemented by the permittee to address each SSO identified pursuant to this appendix.

(e) The period between identification and elimination of a discharge from the SSO to the MS4 is not a grace period. Discharges from an MS4 that are mixed with an SSO are not authorized by this general permit, are unlawful and remain unlawful until eliminated.

(5) Outfall/Interconnection Inventory

The permittee shall develop an outfall and interconnection inventory that identifies each outfall and interconnection discharging from the MS4, records its location and condition, and provides a framework for tracking inspections, screenings and other activities under the permittee's IDDE program pursuant to Section 6(*a*)(3) of this general permit.

(a) An outfall means a point source as defined by 40 CFR § 122.2 and in Section 2 of this general permit as the point where the MS4 discharges to waters of the state. An outfall does not include open conveyances connecting two separate storm sewers or pipes, tunnels or other conveyances that connect segments of the same stream or other waters of the state and that are used to convey waters of the state. However, it is strongly recommended that a permittee inspect all accessible portions of the system as part of this process. Culverts longer than a simple road crossing shall be included in the inventory unless the permittee can confirm that they are free of any connections and simply convey waters of the state.

An interconnection means the point where the permittee's MS4 discharges to another MS4 or other storm sewer system, through which the discharge is conveyed to waters of the state or to another storm sewer system and eventually to a water of the state.

(b) The permittee shall complete its outfall and interconnection inventory in accordance with the timelines in Sections 6(*a*)(3)(C)(ii) and (iii) and shall include the progress of this inventory in each annual report. The inventory shall be updated annually to include data collected in connection with the dry weather screening under subsection (7(d)), below, and other relevant inspections conducted by the permittee.

(c) The inventory shall include the following information: unique identifier, receiving water, date of most recent inspection, dimensions, shape, material (concrete, PVC), spatial location (latitude and longitude with a minimum accuracy of +/-30 feet, physical condition and indicators of potential non-stormwater discharges (including presence or evidence of suspect flow and sensory observations such as odor, color, turbidity, floatables, or oil sheen) as of the most recent inspection.

(6) System mapping

The permittee shall develop a revised and more detailed map than was required by the previous permit issued January 9, 2004. This revised map of the MS4 shall include, at a minimum, parts of the MS4 within the Urbanized Area and those catchment areas of the MS4 with either DCIA of greater than 11% or which discharge to impaired waters ("priority" areas). This map shall be completed within three (3) years of the effective date of this permit for existing 2004 MS4 permittees and by the end of the permit term for new 2004 MS4 permittees. This permit does not provide additional time for existing 2004 MS4 permittees for completion of the mapping that was required by the previous permit.

(a) The mapping shall include, at a minimum, a depiction of the permittee's separate storm sewer system in the priority areas described above. The mapping is intended to facilitate the identification of key infrastructure and factors influencing proper system operation, and the potential for illicit sanitary sewer discharges. The map shall include the required infrastructure and water resources information as indicated in subparagraph (i), below, and shall include the information in subparagraph (ii), below, where available. The Commissioner also recommends the inclusion of additional items as indicated in subparagraph (iii), below.

(i) Required mapping elements

- Municipal separate storm sewer system
  - outfalls and receiving waters (required by previous permit)
  - pipes
  - open channel conveyances (swales, ditches, etc.)
  - catch basins
  - manholes
  - interconnections with other MS4s and other storm sewer systems
  - municipally-owned stormwater treatment structures (e.g. detention and retention basins, infiltration systems , bioretention areas, water quality swales, gross particle separators, oil/water separators, or other proprietary systems)
- Catchment delineations as defined in Section 2 for use in priority rankings required in subsection (7)(c), below, or prioritizing BMP retrofits.
- Waterbodies identified by name and indication of all use impairments as identified on the most recent Integrated Water Quality Report pursuant to Clean Water Act section 303(d) and 305(b).

(ii) Elements required where available

- Municipal sanitary sewer system;
- Municipal combined sewer system, if applicable

(iii) Recommended elements

- Storm sewer material, size and age.
- Sanitary sewer system material, size and age
- Where a municipal sanitary sewer system exists, properties known or suspected to be served by a septic system, especially in high-density urban areas
- Area where the permittee's MS4 has received or could receive flow from septic system discharges (e.g. areas with poor soils, or high ground water elevations unsuitable for conventional subsurface disposal systems)
- Seasonal high water table elevations impacting sanitary alignments
- Topography
- Orthophotography
- Alignments, dates and representation of work completed (with legend) of past illicit discharge investigations (e.g. flow isolation, dye testing, CCTV)
- Locations of suspected, confirmed and corrected illicit discharges (with dates and flow estimates)

(b) The mapping may be produced by hand or through computer-aided methods (e.g. GIS). The required scale and detail of the map shall be appropriate to facilitate a rapid understanding of the system by the permittee and the Commissioner. In addition, the mapping shall serve as a planning tool for the implementation and phasing of the IDDE program and demonstration of the extent of complete and planned investigations and corrections. The permittee shall update the mapping as necessary to reflect newly discovered information and required corrections or modifications.

(c) The permittee shall report on the progress towards the completion of the map required by this permit in each annual report.

(7) Written Illicit Discharge Detection and Elimination Program

The IDDE program shall be recorded in a written document pursuant to Section 6(*a*)(3) of the general permit. The IDDE program shall include each of the elements described in subsections (a) – (h), below, unless the permittee provides a written explanation within the IDDE program as to why a particular element is not applicable to the permittee.

Notwithstanding the permittee's explanation, the Commissioner may at any time determine that a particular element is in fact applicable to the permittee and require the permittee to add it to the IDDE program. The written IDDE program shall be completed within one (1) year of the effective date of the permit for existing 2004 MS4 permittees and within two (2) years of the effective date of this general permit for new MS4 permittees. The permittee shall implement the IDDE program in accordance with the goals and milestones set forth in subsection (8), below.

(a) Legal Authority

The IDDE program shall provide that the permittee has adequate legal authority to accomplish the following tasks: prohibit illicit discharges; investigate suspected illicit discharges; eliminate illicit discharges, including discharges from properties not owned by or controlled by the MS4 that discharge into the MS4 system; and implement appropriate enforcement procedures and actions. Adequate legal authority consists of a currently effective ordinance, by-law, or other regulatory mechanism. For existing 2004 MS4 permittees, the ordinance, by-law, or other regulatory mechanism was a requirement of that permit and was required to be effective by January 8, 2009. These permittees shall update their IDDE legal authority within one year of the effective date of this permit. New MS4 permittees must establish this legal authority on or before two (2) years of the effective date of this permit. The written IDDE program shall include a reference or citation of the authority the permittee will use to implement all aspects of the IDDE program.

(b) Statement of IDDE Program Responsibilities

The permittee shall establish a written statement that clearly identifies responsibilities with regard to eliminating illicit discharges. The statement shall identify the lead permittee agency(ies), department(s) or personnel responsible for implementing the IDDE Program as well as any other agencies, departments or personnel that may have responsibilities for aspects of the program (e.g. state or local health officials responsible for overseeing septic system construction; sanitary sewer system staff; inspectional services for enforcing plumbing codes; town counsel responsibilities in enforcement actions, institutional support staff etc.). Where multiple departments, agencies or personnel have responsibilities with respect to the IDDE program specific areas of responsibility shall be defined and processes for coordination and data sharing shall be established and documented.

(c) Assessment and Priority Ranking of Catchments

The permittee shall assess and priority rank the catchments, delineated as required by subsection (6)(a), above, in terms of their potential to have illicit discharges and SSOs and the related public health significance. This ranking will determine the priority order for screening of outfalls and interconnections pursuant to subsection (d), below, catchment investigations for evidence of illicit discharges and SSOs pursuant to subsection (e), below, and provides the basis for determining permit milestones pursuant to subsection (8), below.

(i) The permittee shall classify each catchment into one of the following categories:

- Excluded catchments: Catchments with no potential for illicit discharges may be excluded from the IDDE program. This category is limited to roadway drainage in undeveloped areas with no dwellings and no sanitary sewers; drainage for athletic fields, parks or undeveloped green space and associated parking without services; cross-country drainage alignments (that neither cross nor are in proximity to sanitary sewer alignments) through undeveloped land.
- Problem Catchments: Catchments with known or suspected contributions of illicit discharges based on existing information shall be designated as Problem Catchments. This shall include any catchments where previous outfall/interconnection screening indicates sewer input based on olfactory/visual evidence or sampling results (ammonia $\geq$ 0.5 mg/l, surfactants $\geq$ 0.25 mg/l, and bacteria levels greater than the water quality criteria applicable to the receiving water; or ammonia $\geq$ 0.5 mg/l, surfactants $\geq$ 0.25 mg/l, and detectable levels of chlorine). Problem Catchments need not be screened pursuant to subsection (d), below, and shall be scheduled for catchment investigation pursuant to subsection (e), below. Problem catchments shall be identified during the initial ranking of catchments and subsequent rankings shall not add any catchments to the Problem Catchment category.
- High Priority Catchments: Catchments that have not been classified as Problem Catchments and that are discharging to an area of concern to public health due to proximity of public beaches, recreational areas, drinking water supplies or shellfish beds; catchments determined by the permittee as high priority based on outfall/interconnection screening under subsection (d), below, and catchment characteristics assessment under subparagraph (c)(ii), below. Any catchment where outfall/interconnection screening indicates sewer input based on olfactory/visual evidence or sampling results (ammonia $\geq$ 0.5 mg/l, surfactants $\geq$ 0.25 mg/l, and bacteria levels greater than the water quality criteria applicable to the receiving water; or ammonia $\geq$ 0.5 mg/l, surfactants $\geq$ 0.25 mg/l, and detectable levels of chlorine) shall be ranked at the top of the High Priority Catchments category and scheduled for catchment investigation pursuant to subsection (e), below.
- Low Priority Catchments: Catchments determined by the permittee as low priority based on outfall/interconnection screening under subsection (d), below, and catchment characteristics assessment under subparagraph (c)(ii), below.

(ii) The permittee shall priority rank catchments within each category (except for excluded catchments), based on screening factors. The permittee shall, at a minimum, consider the following screening factors:

- Past discharge complaints and reports.

- Poor dry weather receiving water quality- the following guidelines are recommended to identify waters as having a high illicit discharge potential: exceeding water quality standards for bacteria; ammonia levels above 0.5 mg/l; surfactants levels greater than or equal to 0.25 mg/l.
- Density of generating sites - Generating sites are those places, including institutional, municipal, commercial, or industrial sites, with a potential to generate pollutants that could contribute to illicit discharges. Examples of these sites include, but are not limited to, car dealers; car washes; gas stations; garden centers; and industrial manufacturing areas.
- Age of surrounding development and infrastructure – Industrial areas greater than 40 years old and areas where the sanitary sewer system is more than 40 years old will probably have a high illicit discharge potential. Developments 20 years or younger will probably have a low illicit discharge potential.
- Sewer conversion – Catchments that were once serviced by septic systems, but have been converted to sewer connections may have a high illicit discharge potential.
- Historic combined sewer systems – Catchments that were once serviced by a combined sewer system, but have been separated may have a high illicit discharge potential.
- Density of aging septic systems – Septic systems thirty years or older in residential land use areas are prone to have failures and may have a high illicit discharge potential. Consultation with local or state health officials is strongly encouraged.
- Culverted streams – any river or stream that is culverted for distances greater than a simple roadway crossing may have a high illicit discharge potential.

The permittee may also consider as priorities for evaluation for illicit discharges, although not necessarily indicators of the presence of illicit connections or discharges:

- Water bodies that receive a discharge from the MS4 and are drinking water supplies, shell fishing areas, beaches or waters used for contact recreation.
- Impaired waterbodies that receive a discharge from the MS4 or waters with approved TMDLs applicable to the permittee, where illicit discharges have the potential to contain the pollutant identified as the cause of the impairment.

The permittee may add additional relevant factors, including location-specific screening factors; if so, the permittee shall include the additional factors in its written IDDE program.

(iii) An initial illicit discharge potential assessment and priority ranking based on existing information shall be completed within two (2) years from the effective date of the permit for existing 2004 MS4 permittees. New MS4 permittees shall complete this assessment and ranking by the end of the term of the permit. The permittee shall update its assessment and priority ranking annually based on catchment delineations pursuant to subsection (6), above, the results of screening pursuant to subsection (d), below, and other new relevant information. The permittee shall provide a listing of all catchments and the results of the ranking for each catchment in each annual report. For each catchment being investigated the

permittee shall also provide in its annual report (1) a summary of evidence of known or suspected illicit discharges and SSOs; (2) completed, ongoing or planned corrective measures addressing confirmed illicit discharges and SSOs; and (3) a schedule for completing and verifying measures correcting the confirmed illicit discharges and SSOs.

(d) Outfall and Interconnection Screening and Sampling

The IDDE program shall include a written procedure for screening and sampling of outfalls and interconnections from the MS4 in dry and wet weather for evidence of illicit discharges and SSOs. This screening procedure shall be used for:

- baseline outfall and interconnection screening pursuant to subparagraph (iii), below (dry weather);
- confirmatory screenings pursuant to subsection (f), below (dry and/or wet weather depending on catchment characteristics);
- follow-up screening pursuant to subsection (g), below (dry and/or wet weather depending on catchment characteristics).

(i) The screening and sampling procedure shall include procedures for sample collection, use of field kits, storage and conveyance of samples (including relevant hold times).

(ii) If an outfall is inaccessible or submerged, the permittee shall proceed to the first accessible upstream manhole or structure for the observation and sampling and report the location with the screening results. If an interconnection is inaccessible or submerged, interconnection screening shall occur at the first accessible location within the permittee's system upgradient of the interconnection.

(iii) Dry weather screening and sampling shall proceed only when no more than 0.1 inches of rainfall has occurred in the previous 24-hour period. When a flow is observed, a sample of the flow shall be collected and analyzed for the parameters listed in subparagraph (v), below. If no dry weather flow is observed, the permittee shall record the condition of the outfall and other relevant information. If no flow is observed, but evidence of dry weather flow exists, the permittee shall revisit the outfall during dry weather within one week of the initial observation, if practicable, to perform a second dry weather screening and sample any observed flow. The permittee shall identify in the annual report any other necessary follow-up actions to identify the source of any apparent intermittent flow not sampled.

(iv) Wet weather screening and sampling, which shall be conducted at an outfall and/or within the catchment area in accordance with subparagraph (e)(ii)b., below, shall proceed during or after a storm event of sufficient depth or intensity to produce a stormwater discharge but only during the spring (March to June) when groundwater levels are relatively high. The permit does not require a minimum rainfall event prior to wet weather screening. However, the purpose of wet weather screening and sampling under the IDDE program is to identify illicit discharges that may activate or become evident during wet weather. Permittees may incorporate provisions that assist in targeting such discharges, including avoiding sampling during the initial period of discharge ("first flush") and/or identifying minimum storm event intensities likely to trigger sanitary sewer interconnections.

(v) Samples shall be analyzed at a minimum for ammonia, chlorine, conductivity, salinity, *E. coli*. (freshwater receiving water) or enterococcus (saline or brackish receiving water), surfactants (such as MBAS), and temperature. All analyses with the exception of indicator bacteria can be performed with field test kits or field instrumentation. In addition, where the discharge is directly into a water quality limited water or a water subject to an approved TMDL, the sample shall be analyzed for the pollutants identified as the cause of the impairment. Sampling for pollutants of concern shall be conducted using the analytical methods found in 40 CFR §136, or alternative methods approved by the Commissioner in accordance with the procedures in 40 CFR §136. Other IDDE screening parameters shall be considered field screening and are not subject to 40 CFR Part 136 requirements.

(vi) Catchments where there is relevant information indicating sewer input to the MS4 or sampling results where ammonia $\geq$ 0.5 mg/l, surfactants $\geq$ 0.25 mg/l, and bacteria levels greater than the water quality criteria applicable to the receiving water (or alternatively, ammonia $\geq$ 0.5 mg/l, surfactants $\geq$ 0.25 mg/l, and detectable levels of chlorine) shall be considered highly likely to contain illicit discharges from sanitary sources, and such catchments shall be ranked at the top of the High Priority Catchments category for investigation.

(e) Catchment Investigation Procedure

The permittee shall develop a written systematic procedure for catchment investigation that includes (1) a review of mapping and historic plans and records for the catchment; (2) a manhole inspection methodology; and (3) procedures to isolate and confirm sources of illicit discharges, as set forth below.

(i) For each catchment being investigated, the permittee shall review relevant mapping and historic plans and records to the extent available, including but not limited to plans related to the construction of the storm drain and of sanitary sewers in the catchment, prior work performed on the storm drain or sanitary sewers, local health official or other municipal data on septic system failures or required upgrades, and complaint records related to SSOs, sanitary sewer surcharges, and septic system breakouts. This review shall be used to identify areas within the catchment with higher potential for illicit connections and System Vulnerability Factors that indicate a risk of sanitary or septic system inputs to the MS4 under wet weather conditions. Consultation with local or state health officials is strongly encouraged. The permittee shall identify and record the presence of any of the following specific System Vulnerability Factors:

- History of SSOs, including, but not limited to, those resulting from wet weather, high water table, or fat/oil/grease blockages;
- Sewer pump/lift stations, siphons, or known sanitary sewer restrictions where power/equipment failures or blockages could readily result in SSOs;
- Inadequate sanitary sewer level of service (LOS) resulting in regular surcharging, customer back-ups, or frequent customer complaints;
- Common or twin-invert manholes serving storm and sanitary sewer alignments;
- Common trench construction serving both storm and sanitary sewer alignments;

- Crossings of storm and sanitary sewer alignments;
- Sanitary sewer alignments known or suspected to have been constructed with an underdrain system;
- Sanitary sewer infrastructure defects such as leaking service laterals, cracked, broken, or offset sanitary infrastructure, directly piped connections between storm drain and sanitary sewer infrastructure, or other vulnerability factors identified through Inflow/Infiltration Analyses, Sanitary Sewer Evaluation Surveys, or other infrastructure investigations.
- Areas formerly served by combined sewer systems;
- Any sanitary sewer and storm drain infrastructure greater than 40 years old in medium and densely developed areas;
- Widespread code-required septic system upgrades required at property transfers (indicative of inadequate soils, water table separation, or other physical constraints of the area rather that poor owner maintenance);
- History of multiple local health department or sanitarian actions addressing widespread septic system failures (indicative of inadequate soils, water table separation, or other physical constraints of the area rather that poor owner maintenance);

The permittee shall document the presence or absence of System Vulnerability Factors for each catchment, retain this documentation as part of its IDDE program, and report this information in Annual Reports. Where System Vulnerability Factors are present, the catchment shall be investigated pursuant to subparagraph (ii)b., below.

(ii) The manhole inspection methodology shall describe a storm drain network investigation that involves systematically and progressively observing, sampling (as required below) and evaluating key junction manholes in the MS4 to narrow the location of suspected illicit discharges or SSOs to an isolated pipe segment between two manholes, locate evidence of illicit discharges or SSOs that may not be evident at the outfall under all circumstances, and confirm or identify potential system vulnerability factors. The written catchment investigation procedures shall detail how the permittee will further isolate and identify potential illicit discharges as indicated by field kit detections equal to or greater than the threshold values listed in subparagraph (d)(vi), above. The permittee is responsible for selecting key junction manholes in a manner such that the distance between key junction manholes is appropriate to ensure a thorough assessment of its system.

The manhole inspection methodology may either start from the outfall and work up the system or start from the upper parts of the catchment and work down the system or be a combination of both practices. Either method must, at a minimum, include an investigation of each key junction manhole within the MS4, even where no evidence of an illicit discharge is observed at the outfall. The Catchment Investigation Procedure must describe the method the permittee will use.

a. Dry weather investigation

Key junction manholes shall be opened and inspected for visual and olfactory evidence of illicit connections (e.g. excrement, toilet paper, gray filamentous bacterial growth, or sanitary products present). If flow is observed, the

permittee shall sample the flow at a minimum for ammonia, chlorine and surfactants and can use field kits for these analyses. Additional indicator sampling may assist in determining potential sources (e.g. bacteria for sanitary flows, conductivity to detect tidal backwater, etc.). Where sampling results or visual or olfactory evidence indicate potential illicit discharges or SSOs, the area draining to the junction manhole shall be flagged for further investigation, through upstream junction manhole investigation and/or isolation and confirmation of sources pursuant to subsection (e)(ii), above.

Manhole inspections in all areas shall also include identifying System Vulnerability Factors including common (twin invert) manholes, directly piped connections between storm drains and sanitary sewer infrastructure, common weir walls, sanitary sewer underdrain connections and other structural vulnerabilities where sanitary discharges could enter the storm drain system during wet weather. Where present, such System Vulnerability Factors shall be investigated pursuant to paragraph (b) below.

b. Wet weather investigation

Where the review of mapping and historic plans and records and/or manhole inspections indicate the presence of one or more System Vulnerability Factors as listed in subsection (e)(i), above, the permittee shall also inspect and sample under wet weather conditions to the extent necessary to determine whether wet weather- induced high flows in sanitary sewers or high groundwater in areas served by septic systems result in discharges of sanitary flow to the MS4. The permittee shall conduct at least one wet weather screening and sampling at the outfall for any catchment where one or more System Vulnerability Factors are present. This sampling can be done upon completion of any dry weather investigation but must be completed before catchment investigation is marked as complete. All data shall be recorded and reported in each annual report.

(iii) Isolation and Source Verification Procedures

The permittee shall develop procedures to be used to isolate and confirm sources where manhole investigations or other physical evidence or screening has identified MS4 alignments to be influenced by illicit discharges or SSOs. These shall include isolation of the drainage area for implementation of more detailed investigations, inspection of additional manholes along the alignment to refine the location of potential contaminant sources, and methods such as caulk damns, targeted internal plumbing inspections, dye testing, video inspections, or smoke testing to isolate and confirm the sources.

(f) Removal and Confirmation

When the source of an illicit discharge or SSO is identified and confirmed, the permittee shall exercise its authority as necessary to require its removal pursuant to subsections (2) or (3), above. For each confirmed source the permittee shall include in the annual report the following information: the location of the discharge and its source(s), a description of the discharge, the method of discovery, date of discovery, date of elimination, mitigation or enforcement action; and estimate of the volume of flow removed.

Within one year of removal of all identified illicit discharge and SSO sources within a catchment area, confirmatory outfall or interconnection screening shall be conducted. The confirmatory screening shall be conducted in dry weather unless System Vulnerability Factors have been identified in the catchment pursuant to subsection (e)(i), above, in which case both dry weather and wet weather confirmatory screening shall be conducted. If confirmatory screening indicates evidence of additional illicit discharges, the catchment shall be scheduled for additional investigation. Confirmatory screening is not required in catchments where no illicit discharges or system vulnerability factors have been identified and no previous screening indicated suspicious flows.

(g) Follow-up Screening

Upon completion of catchment investigation pursuant to subsection (e), above, and illicit discharge removal and confirmation (if necessary) pursuant to subsection (f), above, the catchment outfall or interconnection shall be scheduled for follow-up screening within five years, or sooner as determined by the permittee based on the catchment's illicit discharge priority. Follow-up screening shall consist of dry weather screening and sampling except that wet weather screening and sampling shall also be required in catchments where wet weather screening was required by subparagraph (e)(ii)b., above.

(h) Illicit Discharge Prevention Procedures

The permittee shall develop and implement mechanisms and procedures designed to prevent illicit discharges and SSOs, such as: spill response and prevention procedures including identification of spills, reporting procedures, containment procedures, and documentation; public awareness (this may be a part of the education program required by subsection (2), above); reporting (hotlines) and training of public employees involved in the IDDE program on ways to identify potential illicit discharges and SSOs.

(8) IDDE Program Implementation Goals and Milestones

The permittee shall implement the IDDE Program to meet the following goals and milestones:

(a) The permittee shall complete dry weather screening and sampling (where flowing) of every MS4 outfall and interconnection (except Excluded and Problem Catchments) no later than three years from the permit effective date for existing 2004 MS4 permittees and by the end of the permit term for new MS4 permittees. Existing 2004 MS4 permittees may rely on screening conducted under the previous permit issued January 9, 2004, pursuant to an enforcement action, or by the Commissioner to the extent that it meets the requirements of subsection (7), above. New MS4 permittees shall complete dry weather screening and sampling of every MS4 outfall and interconnection (except Excluded and Problem Catchments) no later than the end of the permit term. All data shall be reported in each annual report. Permittees that have conducted substantially equivalent monitoring to that required by subsection (7)(d), above, as part of an enforcement action can request an exemption from the requirements of subsection (7)(d), above, by submitting a written request to the Commissioner and retaining exemption approval from the Commissioner as part of the Plan. Until the permittee receives formal written approval of the exemption from subsection (7)(d), above, from

the Commissioner the permittee remains subject to all requirements of subsection (7)(d), above.

(b) Existing 2004 MS4 permittees shall begin investigations using the procedure developed in accordance with subsection (7)(d), above, within three months of investigation procedure finalization and no later than 15 months (1 year and 3 months) from the effective date of the permit. New MS4 permittees shall begin these investigations no later than 2 years and 3 months from the effective date of the permit. All permittees shall make continued progress each year toward meeting the milestones of subsection (8)(c), below. The permittee shall continue investigation, including Problem Catchments, using its existing IDDE program until such time as the procedure under subsection (7)(e), above, is developed.

(c) The permittee shall implement the Catchment Investigation Procedure in every catchment of the MS4, even where dry weather screening does not indicate evidence of illicit discharges. The permittee shall begin implementation of the procedure in Problem Catchments and those catchments with the highest ranking in the Assessment of Priority Catchments pursuant to subsection (7)(c), above, Implementation of the Catchment Investigation Procedure shall comply with the following milestones. For purposes of these milestones, a catchment investigation is considered complete if a permittee has completed all elements of subsection (7)(e), above.

i. The permittee shall complete the Catchment Investigation Procedure in a minimum of 80% of the MS4 area served by Problem Catchments within three years of the permit effective date and 100% of Problem Catchments within five years of the permit effective date.

ii. The permittee shall complete the Catchment Investigation Procedure in every catchment of the MS4 where information indicates sewer input including outfall/interconnection screening that indicates sewer input based on olfactory/visual evidence or sampling results (ammonia $\geq$ 0.5 mg/l, surfactants $\geq$ 0.25 mg/l, and bacteria levels greater than the water quality criteria applicable to the receiving water; or ammonia $\geq$ 0.5 mg/l, surfactants $\geq$ 0.25 mg/l, and detectable levels of chlorine) within five (5) years of the permit effective date.

iii. The permittee shall complete the Catchment Investigation Procedure in 40% of the area served by all MS4 catchments within five (5) years of the permit effective date, and in 100% of the area served by all MS4 catchments within ten (10) years of the permit effective date. The permittee may count the area of low priority catchments only if the Catchment Investigation has been started in all other MS4 catchments. For the purposes of this section, catchment investigations that have been started include those where provisions of subsections (7)(e)(i) and (ii), above, have been completed.

a. Where catchments do not contain junction manholes, the dry weather screening and sampling shall be considered as meeting the manhole inspection requirement. In these catchments, dry weather screenings that indicate potential presence of illicit discharges shall be further investigated pursuant to subsection (7)(e)(iii), above. Investigations in these catchments may be considered complete where dry weather screening reveals no flow; no evidence of illicit discharges or SSOs is indicated through sampling results or visual or olfactory means; and no wet weather System Vulnerability Factors are

identified.

b. The permittee shall track progress towards these milestones in each annual report.

(9) Indicators of IDDE Program Progress

The permittee shall define or describe indicators for tracking program success. At a minimum, indicators shall include measures that demonstrate efforts to locate illicit discharges, the number of SSOs and illicit discharges identified and removed, the percent and area in acres of the catchment area served by the MS4 evaluated using the catchment investigation procedure, and volume of sewage removed. The permittee shall evaluate and report the overall effectiveness of the program based on the tracking indicators in the annual report.

(10) Training

The permittee shall, at a minimum, annually provide training to employees involved in IDDE program about the program, including how to recognize illicit discharges and SSOs. The permittee shall report on the frequency and type of employee training in the annual report.

APPENDIX C

Connecticut DEEP Best Management Practices for Disposal of Snow Accumulations from Roadways and Parking Lots

Purpose:

These guidelines have been developed to clarify DEEP recommendations to state and municipal officials, and others regarding the removal and disposal of snow accumulations from roadways and parking lots. For purposes of this guidance snow accumulations refers to snow banks and snow piles that are removed by front-end loader or by loading on trucks for disposal. This guidance does not apply to normal snow plowing operations that must, inevitably, discharge some snow into wetlands and watercourses.

Implementation:

While following these guidelines does not constitute a permit or authorization, the Department recognizes there is a considerable need for flexibility in implementation of this policy, particularly in emergency situations. There is no intent to interfere with snow plowing operations. Where trucking and snow dumping operations are undertaken the Department recommends these guidelines be followed.

Problem:

Current road maintenance activities include removal of snow accumulations from bridges, roads and parking areas for the purpose of providing more space for subsequent snow storms and for ease of travel and parking. Sometimes this snow is moved by truck or with a front-end loader and deposited directly into surface waters of the state including streams, wetlands and Long Island Sound. This practice is not recommended due to the presence of dirt, salt, litter and other debris, which are routinely mixed in the accumulated snow.

Under normal conditions of snowmelt, the majority of these contaminants remains on or next to the paved surface or may be captured in stormwater catch basins. These contaminants can then be swept from streets and bridges or vacuumed from catch basin sumps. However, when accumulated snow is collected and dumped into surface waters, this mixture of snow, sand and debris may smother aquatic life in the bottom of streams and rivers and degrade the aesthetics of the surface water with silt plumes and litter. Large quantities of snow (and the sand and debris) may also cause blockage of storm drainage systems, resulting in increased chance for localized flooding.

Recommended Management Practice: Snow accumulations removed from roadways, bridges, and parking lots should be placed in upland areas only, where sand and other debris will remain after snowmelt for later removal. Care must be exercised not to deposit snow in the following areas:

- freshwater or tidal wetlands or in areas immediately adjacent to such areas where sand and debris may be flushed during rainstorms;
- on top of storm drain catch basins;
- in storm drainage swales;
- on stream or river banks which slope toward the water, where sand and debris can get into the watercourse; and
- in areas immediately adjacent (within at least 100 feet) of private or public drinking water well supplies (due to the possible presence of road salt).

For Governmental Entities: In normal winter conditions, governmental entities should follow the recommended management practices outlined above. In extraordinary winter conditions, the commissioner may, upon public notification, offer governmental entities the flexibility of limited in-water disposal. When such flexibility is offered, governmental entities who have determined that extraordinary

circumstances exist where all upland, land-based disposal options have been fully exhausted (i.e., disposal capacity is not available) and snow needs to be removed to meet public safety demands (i.e., clear access ways for police, emergency medical and fire responders), may use certain waterways for snow disposal in accordance with the following conditions:

- Upland storage and disposal of snow (i.e., athletic fields, parks and other flat, open-field sites) and other snow management methods (i.e., snow melting equipment) must be the first alternatives explored and exhausted. Environmentally sensitive areas must be avoided;
- This guidance applies only to snow and ice which is not visibly contaminated with material other than salt and sand from road clearing activities;
- For coastal communities, preference should be given to snow disposal in salt water where available;
- Disposal in rivers or streams must be limited to those water bodies that have adequate flow and mixing and are not prone to ice jams;
- The disposal must occur only in open water in areas that will not interfere with navigation;
- Disposal must be conducted in a manner so as to prevent ice dam formation or damage to bridges, docks or other structures;
- Disposal in ponds and lakes is discouraged;
- There shall be no disposal in coastal or freshwater wetlands, eelgrass beds, vegetated shallows, vernal pools, shellfish beds mudflats, public water supply reservoirs and their tributaries, or others areas designated as being environmentally sensitive;
- The activity must comply with local laws and requirements;
- Precautions must be taken to avoid shoreline or stream bank damage or erosion from truck/equipment activity; and
- Governmental entities must notify the Department by email (address email to kevin.sowa@ct.gov) prior to disposing of snow and ice in waterways or, if advance notification is not possible, then the Department must be contacted as soon as possible after snow disposal has begun.

Notification:

Notification can be made by addressing an email to Kevin Sowa at: kevin.sowa@ct.gov. The notification must include the following: (1) the name of the governmental entity making the notification; (2) contact information for the governmental entity including name, email address and phone number; (3) the street address where the snow disposal activity will occur; (4) the name of the waterbody where the snow will be disposed; (5) the estimated quantity of snow to be disposed; (6) the dates during which the disposal activity will occur; and (7) a statement that the governmental entity has exhausted all disposal alternatives and snow management methods and will make best efforts to adhere to these snow disposal guidelines.

Information: For further information please call the Water Permitting and Enforcement Division Engineer of the Day at 860-424-3025.

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