STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION

STORMWATER MANAGEMENT PLAN

March 2019

This plan is based on a template originally created by Western Connecticut Council of Governments staff and modified for Statewide use by staff from UConn Center for Land use Education and Research (CLEAR).

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Introduction

The mission of the Connecticut Department of Transportation (CTDOT or the Department) is to provide a safe and efficient intermodal transportation network that improves the quality of life and promotes economic vitality for the State and the region. This Stormwater Management Plan (SWMP) was developed by CTDOT to improve the quality of stormwater runoff collected from this network and ultimately reduce the discharge of pollutants to waterbodies Statewide. 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 Department of Transportation Separate Storm Sewer Systems (DOT MS4 General Permit) that will become effective on July 1, 2019. This permit is the State enforcement mechanism of the U.S. Environmental Protection Agency's (EPA) National Pollutant Discharge Elimination System (NPDES) Stormwater Phase II Rule.

SWMP Structure

This plan outlines a program of best management practices (BMPs), measurable goals, responsible individuals or departments, and sets forth an implementation schedules for the following six minimum control measures specified in the permit:

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

Additionally, the SWMP outlines the Department's plan to monitor and improve the quality of stormwater runoff from DOT's stormwater system to impaired surface water bodies.

Area Subject to the Plan

The measures identified in this SWMP will be implemented to the maximum extent practicable (MEP) throughout the boundaries of CTDOT's highways, roadways, railways and associated facilities. Implementation of these measures will be prioritized to focus on Urbanized Areas (UA) as indicated by the 2010 US Census as well as sub-watershed areas where the directly connected impervious area (DCIA) is greater than 11% and in areas where a CTDOT drainage system discharges to an impaired waterbody as listed in the current edition of CTDEEP's Integrated Water Quality Report. Stormwater discharges from some State-owned facilities such as maintenance garages, salt sheds and other miscellaneous facilities are regulated under the CTDEEP Industrial Stormwater General Permit and will continue to be regulated under the conditions of that permit.

Description of Connecticut Department of Transportation

The Department is a State agency established and governed by the General Statutes of Connecticut responsible for all aspects of the planning, development, maintenance and improvement of transportation in the State. The Department is divided into five bureaus including Finance and Administration, Engineering and Construction, Highway Operations, Policy and Planning and Public Transportation. Within each bureau, the Department is further divided into separate offices as shown on the following organizational chart.

CTDOT Organizational Chart

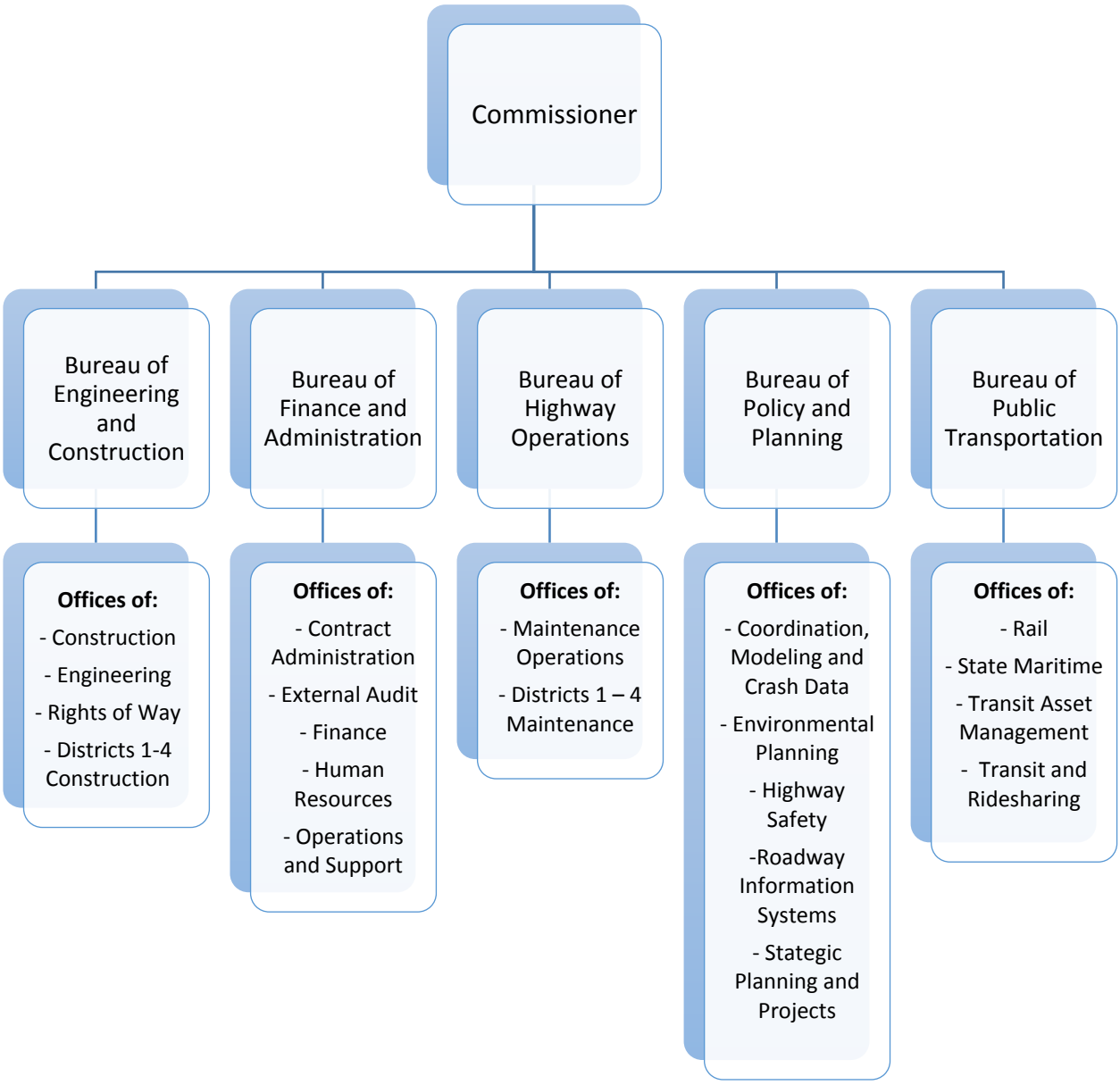


FIGURE 1: CTDOT ORGANIZATIONAL CHART

As of July 2018 the Department's facilities within the State included the following:

- 3,719 centerline miles of pavement on State maintained highways and roads
- 4,016 bridges
- 257 miles of railroad right of way
- 5 office facilities (1 headquarters, 4 district offices)
- 4 rail facilities
- 61 maintenance facilities (garages, sign shops, repair facilities, etc.) *
- 87 salt storage facilities*
- 15 Service Plazas

When compared to the total mileage of all roads within the State, including those maintained by municipalities, the portion maintained by the Department represents approximately 19% of the total.

The Department does not possess statutory enforcement or taxing powers similar to those of the one hundred and sixty-nine municipalities within the State. Additionally, the Department does not have the authority to regulate land use, zoning, building/development permits beyond the State owned right of way associated with the highways and roadways owned and operated by the State. The Department relies upon the legislative and enforcement authority of other State agencies and municipalities to regulate stormwater quality and establish water policy throughout the State for any land outside of the Department's control. Specifically, the CTDEEP is relied upon to protect and/or restore the State's surface and ground waters.

For construction and maintenance purposes, the Department has divided the State of Connecticut into 4 districts. Each district is responsible for construction projects that occur within that region (under the Bureau of Engineering and Construction) and the maintenance activities that occur within that region (under the Bureau of Highway Operations).

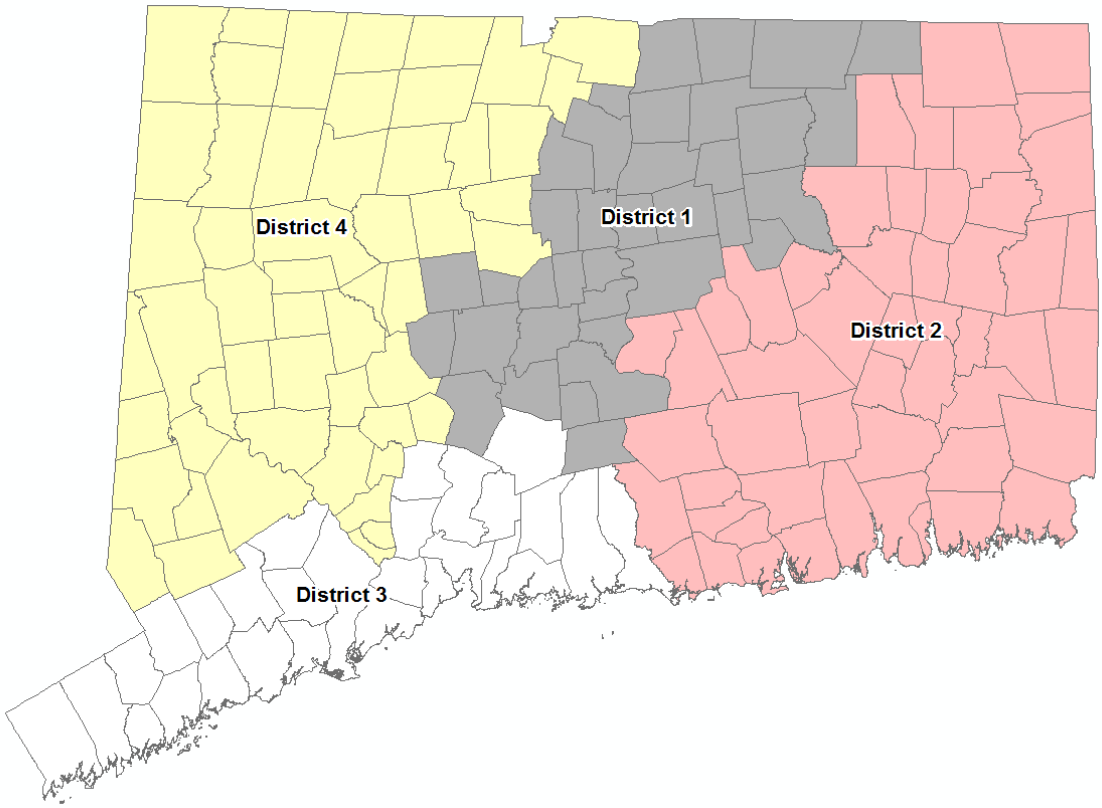


FIGURE 2: CTDOT DISTRICTS

Each District has targeted priority areas as outlined in *The Area Subject to the Plan* section. The following maps provide those priority areas by District.

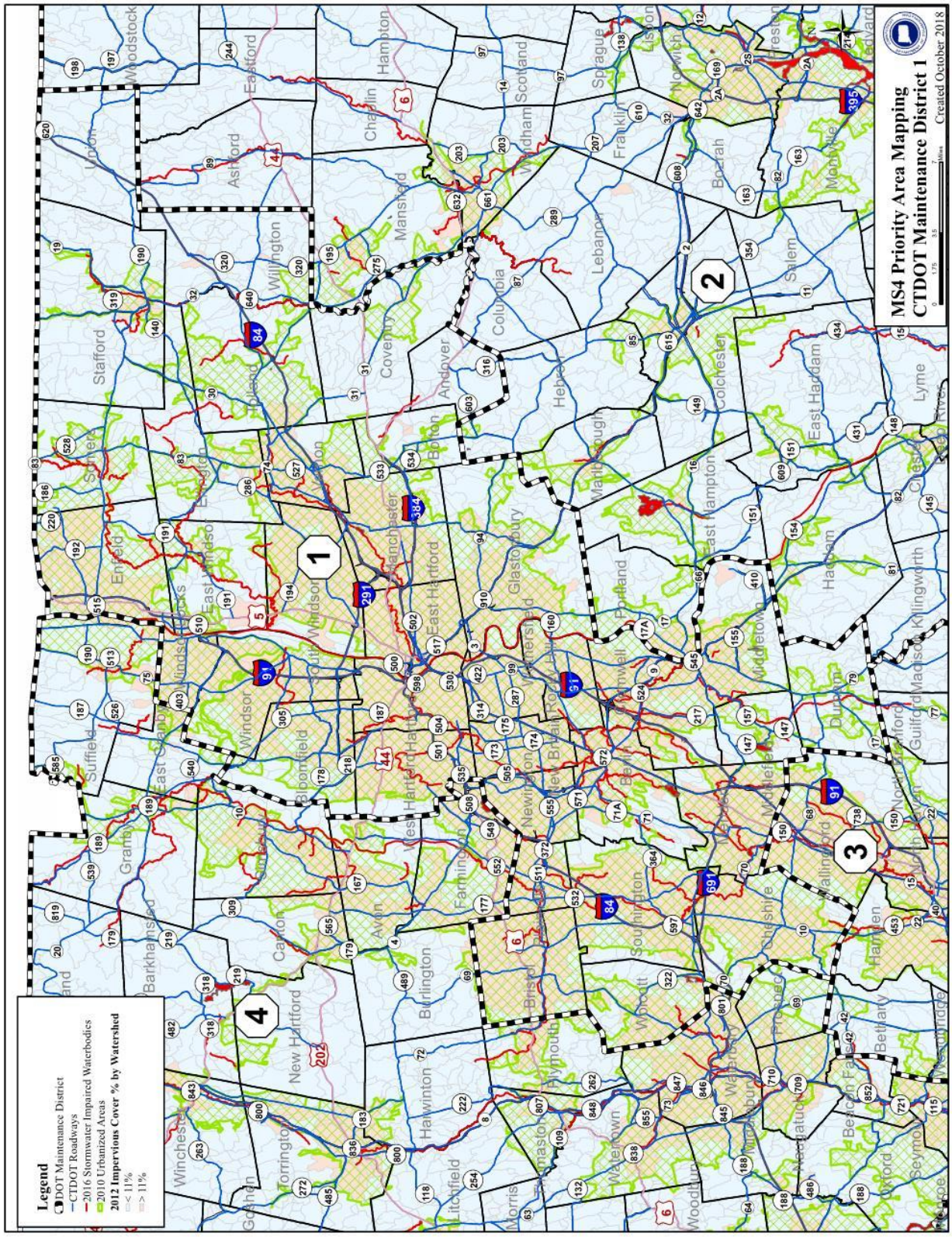


FIGURE 3: DISTRICT 1 PRIORITY AREA MAP

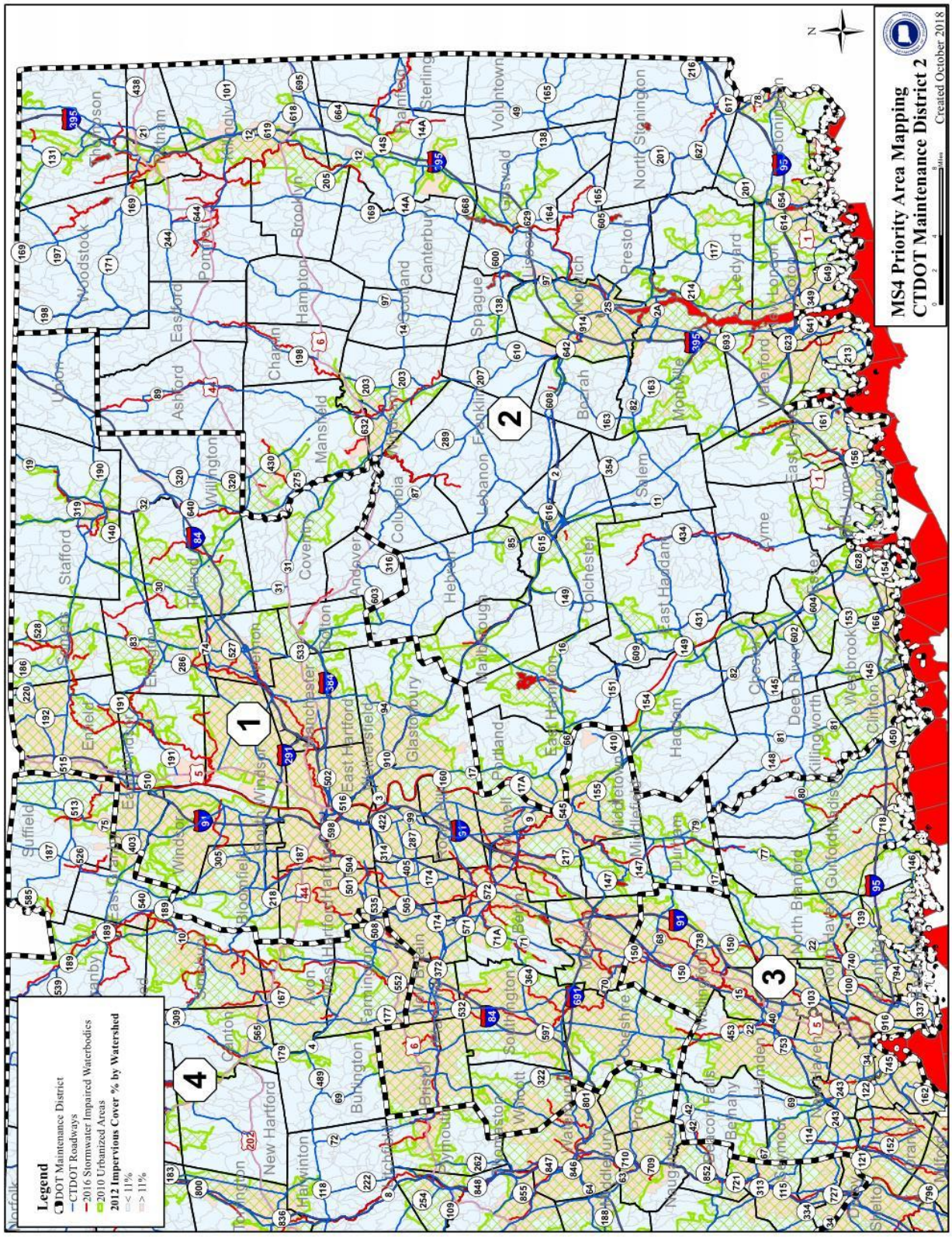


FIGURE 4: DISTRICT 2 PRIORITY AREA MAP

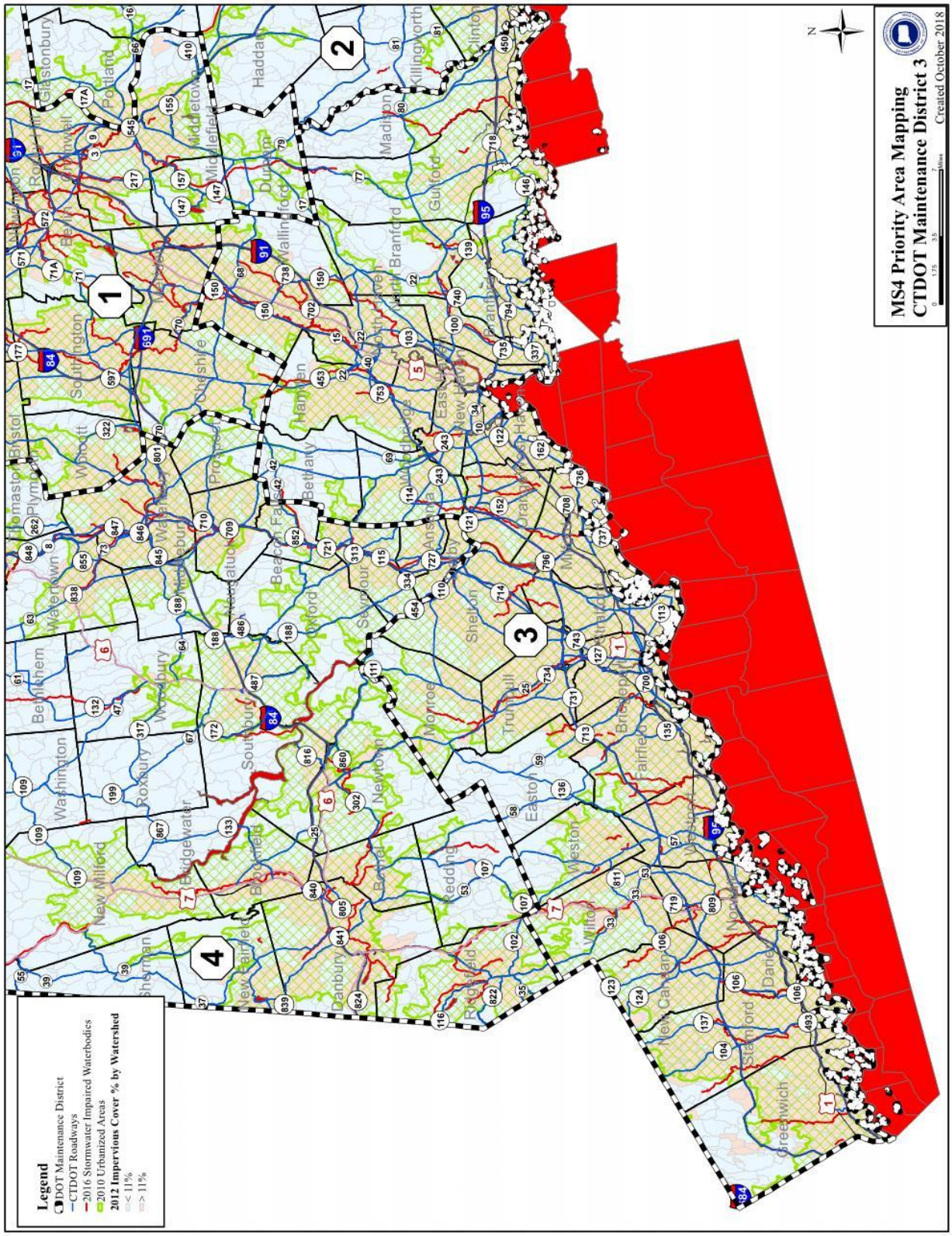


FIGURE 5: DISTRICT 3 PRIORITY AREA MAP

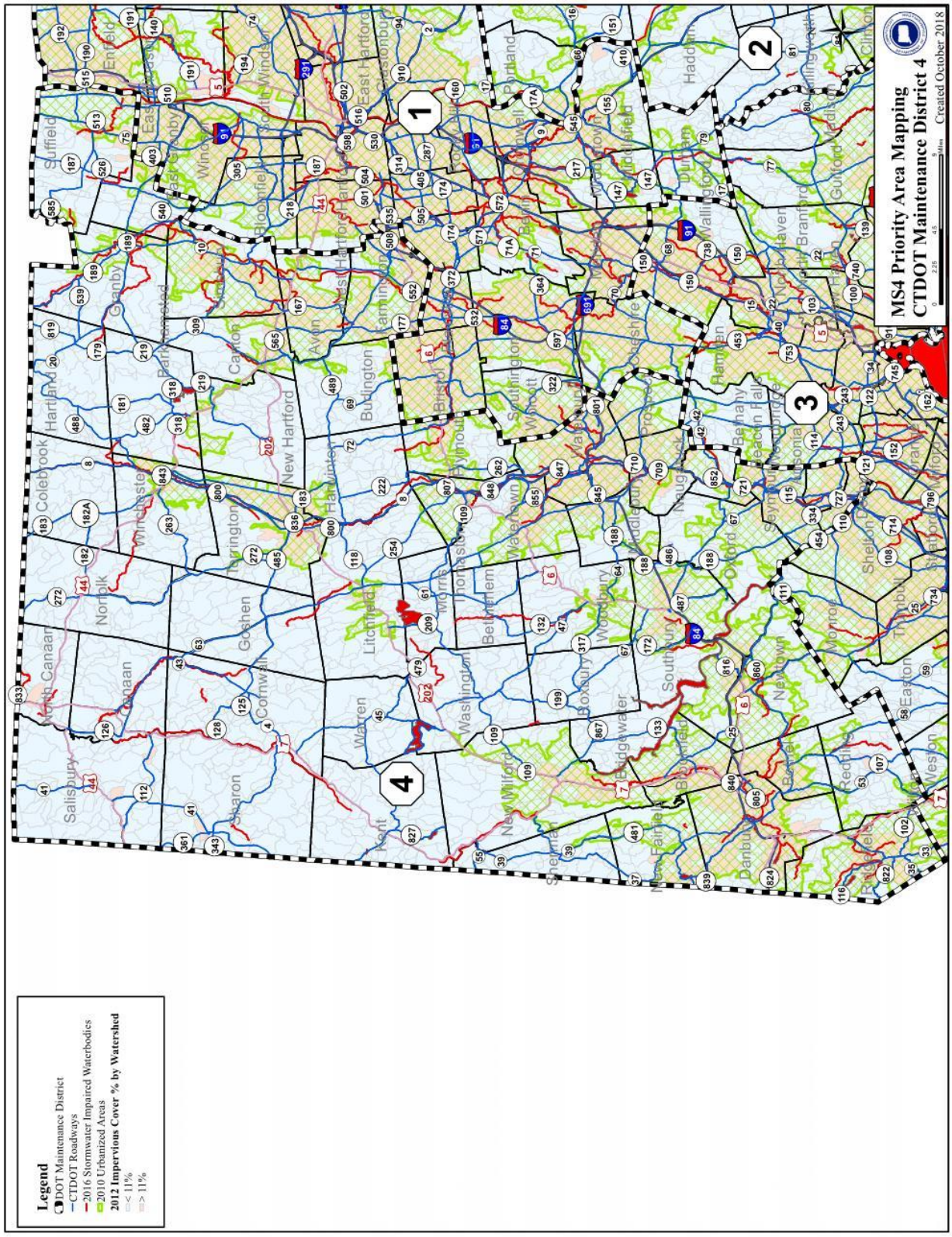


FIGURE 6: DISTRICT 4 PRIORITY AREA MAP

SWMP Development

The divisions primarily responsible for the development of this stormwater management plan (SWMP) and the overall development of the Department's MS4 program are the Environmental Compliance Section within the Division of Facilities and Transit (Bureau of Engineering and Construction) and the Water/Noise Compliance Section within the Office of Environmental Planning (Bureau of Policy and Planning). The SWMP's implementation will be tracked and documented in annual reports summarizing stormwater management activities carried out by the Department. These reports will be submitted to DEEP on an annual basis no later than September 29th, which is 90 days after the one-year anniversary of the effective date of the permit.

Impaired Waters

The Department's MS4 infrastructure discharges to many of the impaired waters of the State. The Figure below highlights all of the impaired waterbodies in the State as listed in CTDEEP's 2016 Integrated Water Quality Report in addition to showing all DOT maintained roadways. As the outfall mapping and inventory task under minimum control measure 3 is completed, the Department will be able to identify the specific waterbodies to which the Department's storm system discharges.

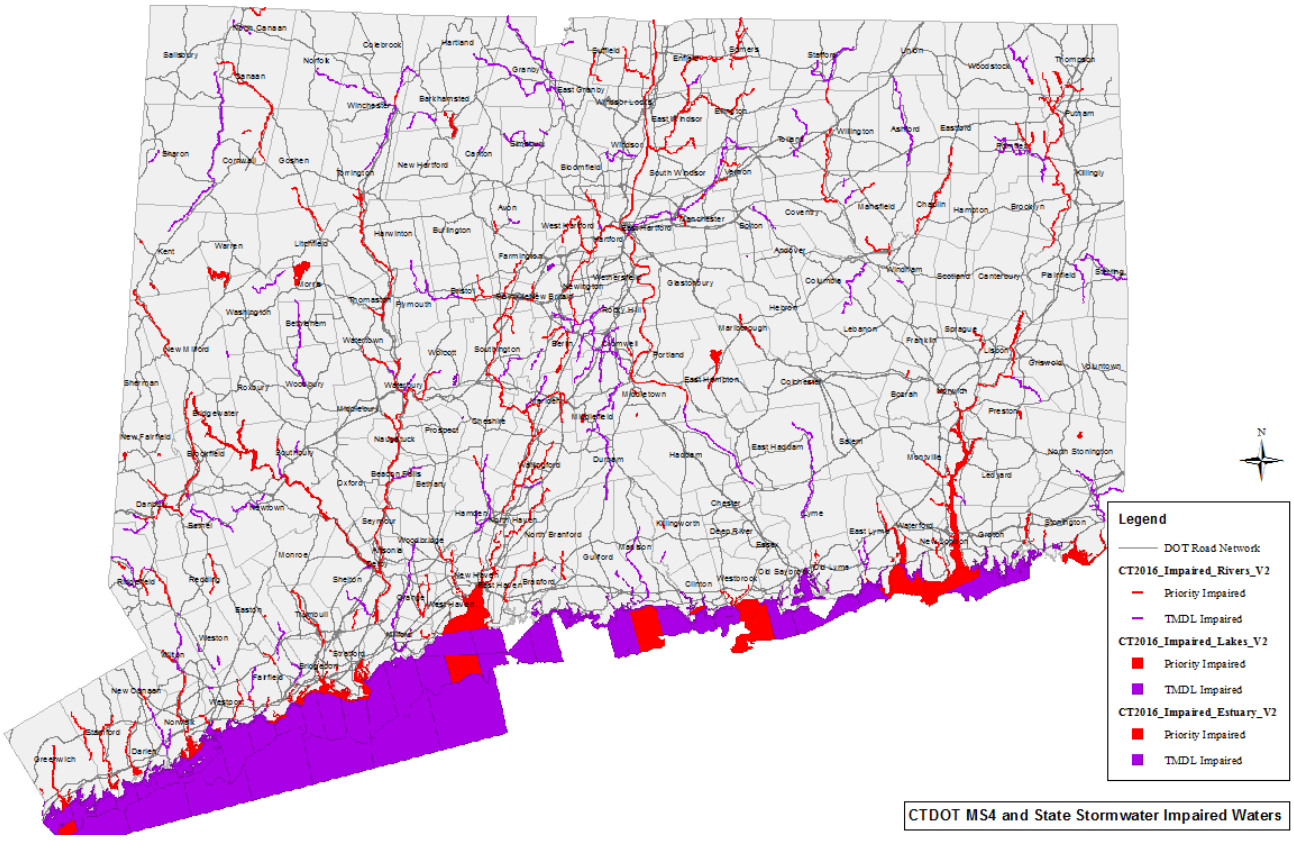


FIGURE 7: CTDOT ROAD NETWORK OVERLAID ON IMPAIRED WATERS

Surface Water Classifications

The Department's MS4 discharges to all surface water classifications as defined by Connecticut's Water Quality Standards. Each classification is summarized below with a brief listing of the designated uses and allowable discharges for each classification.

Inland Surface Water Classifications

Class AA

Designated uses: existing or proposed drinking water supply, fish and wildlife habitat, recreational use (may be restricted,) agricultural and industrial supply.

Class A

Designated uses: potential drinking water supply; fish and wildlife habitat; recreational use; agricultural and industrial supply, and navigation.

Class B

Designated uses: recreational use: fish and wildlife habitat; agricultural and industrial supply, and navigation.

Coastal and Marine Surface Waters

Class SA

Designated uses: marine fish, shellfish and wildlife habitat, shell fish harvesting for direct human consumption, recreation, and navigation.

Class SB

Designated uses: marine fish, shellfish and wildlife habitat, shellfish harvesting for transfer to approved areas for purification prior to human consumption, recreation, industrial supply, and navigation.

Activities Authorized by DOT's MS4 Permit

(A) Coastal Management and Permitting

The Department is authorized to perform activities within the Coastal Jurisdiction Line undertaken as part of implementing DOT's MS4 permit requirements provided the activity does not cause adverse impacts to coastal resources as defined in State section 22a-93(15) of the Connecticut General Statutes (CGS). In addition, the Department shall address all applicable goals and policies in CGS section 22a-92.

(B) Endangered and Threatened Species

Any Department activity undertaken as part of implementing DOT's MS4 permit requirements will not threaten the continued existence of any species listed as endangered or threatened pursuant to CGS section 26-306 and shall not result in the destruction or adverse modification of habitat designated as essential to such species.

(C) Aquifer Protection Areas

Any Department activity undertaken as part of implementing DOT's MS4 permit requirements within an aquifer protection area will comply with regulations adopted pursuant to CGS section 22a-354i. Stormwater run-off generated by the DOT MS4 shall be managed in a manner so as to prevent pollution of groundwater.

(D) Discharges to Publicly Owned Treatment Works

Stormwater discharges to a publicly owned treatment works facility is not authorized under the Department's MS4 permit.

(E) Discharges to Groundwater

As authorized by the permit, the Department may discharge stormwater to groundwater for up to, but not exceeding, a 100-year, 24-hour rainfall event.

(F) New or Increased Discharges to High Quality Waters

The Department will comply with the Connecticut Anti-Degradation Implementation Policy for any new or increased discharge to a high quality water as defined by section 22a-426-1(36) of the Regulations of Connecticut State Agencies (RCSA). The Connecticut Anti-Degradation Implementation Policy is provided as Appendix E of CT DEEP's 2011 Water Quality Standards Report. At a minimum, the Department will evaluate and implement to the maximum extent practicable the practices outlined in this Plan to prevent the discharge of the Water Quality Volume to a surface water body or implement other practices necessary to protect and maintain designated uses and meet standards and criteria contained in the Water Quality Standards.

(G) New or Increased Discharges to Impaired Waters

If a proposed activity of the Department will increase the volume of stormwater discharged from the DOT MS4 to an impaired water, then the Department will demonstrate that the activity will not result in a net increase in loading of the pollutant(s) for which the waterbody is impaired.

No net increase in pollutant load shall be demonstrated through two means: ensuring that DOT's manuals are consistent with DEEP requirements and meeting run-off reduction and low impact development standards to be established for post construction developments and redevelopments.

The Department will ensure that all DOT design and construction manuals are consistent with the post-construction measures in the Connecticut Stormwater Quality Manual and the General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities.

Post construction development or redevelopment standards will require the following run-off reduction goals be met to the maximum extent practicable:

- ½ the water quality volume (WQV) for redevelopment sites currently developed with ≥40% DCIA
- the full WQV will be required to be retained to the maximum extent practicable for new developments or redevelopment sites currently developed with <40% DCIA.

For DOT projects that may be unable to meet the respective retention requirement, DOT will:

a) provide additional stormwater treatment to the maximum extent achievable for the removal of sediment, floatables and nutrients for the volume above that which can be retained up to the water quality volume

b) implement to the maximum extent practicable stormwater mitigation on another site within existing DOT right-of-way within the same local drainage basin in order to achieve an amount of runoff reduction that the original project failed to achieve, and

c) document the site limitations, the runoff reduction and treatment practices implemented an explanation of why this constituted the maximum extent achievable, an alternative retention volume achieved, a description of any stormwater mitigation project, and, if the such mitigation project is not achievable, the reason for that being the case.

For projects ***not*** conducted by, or through contract to, DOT, the Department will document that the municipality approving the project has confirmed that such project has met the requirements of the Construction General Permit and the MS4 General Permit, if applicable.

(H) Conservation and Preservation Restrictions

Any activity located within a conservation or preservation restriction area will comply with section 47-42d of the Connecticut General Statutes by providing written notice to the holder of the restriction of the proposed activity's registration or a letter from the holder of the restriction verifying that the proposed activity is in compliance with the terms of the restriction.

(I) State Historic Preservation

Any activities with the potential to impact a property listed or eligible for listing on the Connecticut Register of Historic Places will be reviewed for consistency with State Historic Preservation statutes, regulations and policies. A review conducted for an Army Corps of Engineers Section 404 wetland permit would meet this qualification.

(J) Indian Lands

Any Department activity located on or proposed to be implemented on federally recognized Indian lands will address applicable Federal and/or Tribal regulations as part of the normal project development process.

Description of Minimum Control Measures

The following sections describe the minimum control measures the Department will implement to the MEP in order to satisfy the conditions of the permit. The following information is identified for each measure:

- Best management practices (BMPs) to be implemented
- The position within the Department responsible for implementing the practice
- The date by which the practice will be implemented
- The measurable goal by which each practice will be evaluated

(1) Public Education and Outreach

This minimum control measure is critical to the success of the stormwater management program as it helps to promote greater support for the program and improve the effectiveness of best management practices. Support for the program by the public results in a better understanding of the reasons why the program is necessary and how human activities affect water quality. Within two (2) years following the effective date of this general permit, the Department will implement a public education program and conduct outreach activities on the sources and impacts of stormwater discharges on waterbodies in addition to providing steps the public can take to reduce pollutants in stormwater runoff.

The target audience for the Department's Educational Program includes the traveling public, municipalities and Department employees. Methods for reaching the public include providing educational material at public meetings for DOT projects and including a description of the water quality measures designed into projects at public meetings. The Department will also post educational material at service plazas and rest stops across the State. The Department will also develop a dedicated MS4 webpage where the public can learn about non-point source pollution and Department activities being undertaken to reduce it.

In addition, the University of Connecticut's Non-Point Source Education for Municipal Officials (NEMO) program has a funding agreement in place with the DEEP to provide guidance, training, tools and other support to help MS4 communities and institutions comply with the requirements of the MS4 general permit. Throughout the duration of the DEEP/NEMO agreement, the Department will collaborate with NEMO on its outreach efforts. For example, the Department, NEMO, and the CT Regional Council of Governments will continue to collaborate on developing a recommended standard for digital mapping of MS4 infrastructure, which will be shared with MS4 communities.

For Department employees, annual trainings will be given to staff whose activities have the potential to contribute pollution to stormwater runoff. In addition to meeting the training requirements of the control measures specified in the permit, general non-point source pollution and impaired waters educational material will also be covered.

The following BMPs serve as The Department's MS4 Public Education and Outreach Program. The Department has an existing training and public outreach program that will be adjusted to incorporate the Pubic Outreach and Education requirements of the DOT's MS4 permit.

Goals of the Public Education and Outreach Minimum Control Measure:

- Raise public awareness that polluted stormwater runoff is the most significant source of water quality problems;
- To inform the permittee's community (i.e. general public, municipalities, business and commerce, staff, contractors, etc.) to use Best Management Practices (BMPs) to reduce polluted stormwater runoff; and
- Reduce polluted stormwater runoff in Connecticut as a result of increased awareness and utilization of BMPs.

(A) Public Education Program and Educational Materials

The Department's public education program will utilize a variety of formats and outreach activities. Implementation of a public education program requires the distribution of educational materials to the public and appropriate outreach activities regarding the sources and impacts of stormwater discharges on waterbodies and the steps that the public can take to reduce pollutants in stormwater runoff.

i. Brochures/Fact Sheets

Brochures and fact sheets have been developed that address the effects of stormwater quality on the environment and measures that can be taken to improve stormwater quality. Brochures will be made available to the public at public information meetings and public hearings during the Department's project design process. Brochures will continue to be developed and fact sheets will be updated to provide the public with easy-to-comprehend stormwater knowledge that, at a minimum, addresses the impacts of the following potential sources of pollution on water quality: pet waste, impervious cover, application of fertilizers, pesticides, and herbicides, and illicit discharges and improper disposal of wastes into the DOT's MS4. CTDOT will also acquire educational material from DEEP and other sources that identify common non-point source pollutants (such as pathogens/bacteria, nitrogen, phosphorus, sediments, metals, oils & greases) associated with stormwater discharges, the potential sources of the pollutants, the environmental impacts of these pollutants, and related pollution reduction practices.

DOT may coordinate with other MS4 permittees in the same area to develop and implement a public education program. Information shall be disseminated to an audience including, but not limited to, citizens utilizing DOT roadways and/or facilities (e.g. parking facilities, rest areas and service areas) with flyers, brochures, signage,

billboards, storm drain labeling, television public service announcements, and/or web based tools. Each Annual Report shall summarize the types, sources, number of, and methods by which materials disseminated.

FIGURE 8: CTDOT PUBLISHED BROCHURE FOR CONTROLLING STORMWATER RUNOFF

ii. Alternative Information Sources – Website

A dedicated MS4 web page has been developed on the Department's website as a home for CTDOT MS4 Program information. The Public Education and Outreach section of the webpage addresses the effects of stormwater quality on the environment. The information will be a resource for the public and for DOT staff. The web site URL is: http://www.ct.gov/dot/CTDOT-MS4. The webpage will continue to be developed and updated throughout the permit term.

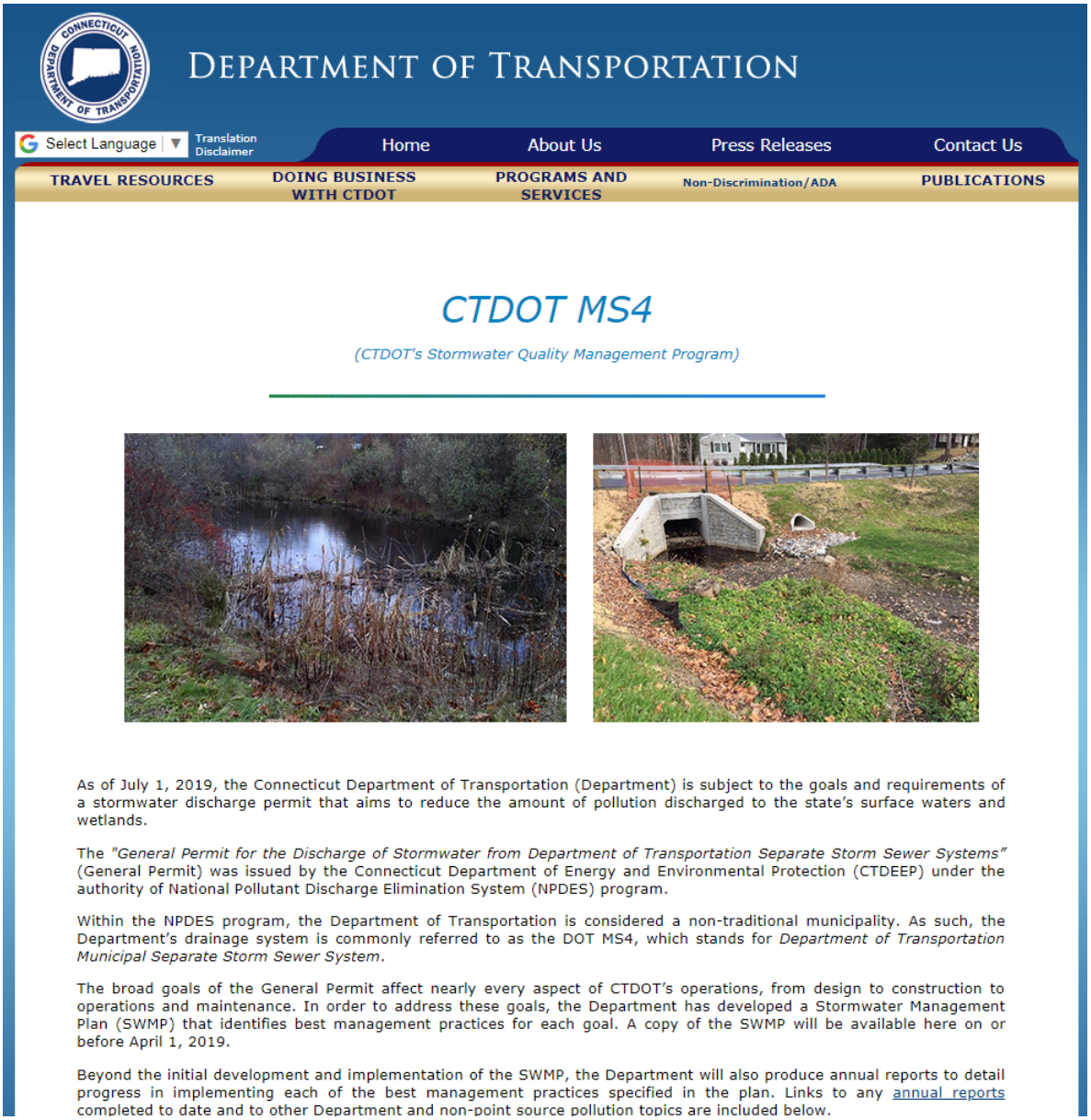


FIGURE 9: CTDOT MS4 WEBSITE HOMEPAGE

The benefits associated with this BMP include creating awareness and making information available to a very large, diverse audience. A wealth of information can be uploaded to the website and will act as a digital library.

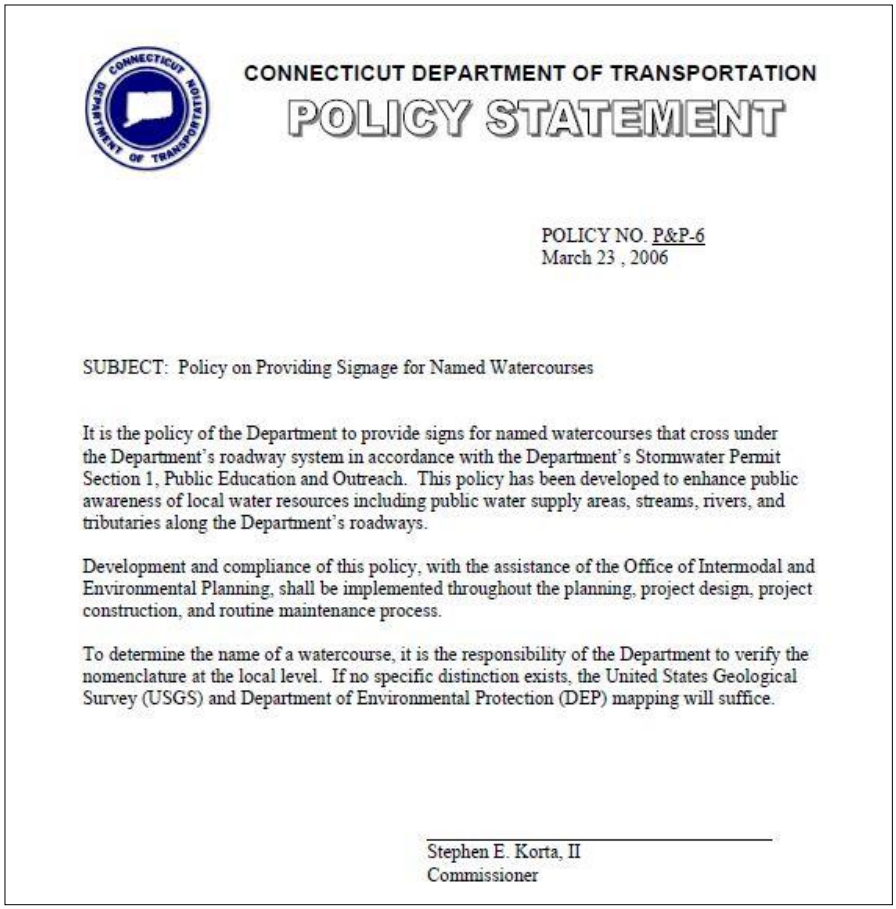
iii. Tributary Signage

A tributary signage was implemented in 2006. DOT Policy NO. P&P-6 states the policy for providing tributary signage over named watercourses. The Division of Traffic Engineering has guidelines and standards for the placement of various signs at a variety of waterbodies and watercourses throughout the State, including public water supply areas. The signs include bridge and river information and notice of public drinking water protection

areas. A significant number of water resources have already been signed along the department's highways and roadways. Maintenance and placement of additional signs will occur during construction and maintenance projects throughout the State.

The benefits associated with this BMP include public awareness of local water resources. These include public water supplies areas, rivers, streams and tributaries along the Department's roadways.

FIGURE 10: EXAMPLE OF TRIBUTARY SIGNAGE AT ANGUILLA BROOK



CONNECTICUT DEPARTMENT OF TRANSPORTATION

POLICY STATEMENT

POLICY NO. P&P-6
March 23 , 2006

SUBJECT: Policy on Providing Signage for Named Watercourses

It is the policy of the Department to provide signs for named watercourses that cross under the Department's roadway system in accordance with the Department's Stormwater Permit Section 1, Public Education and Outreach. This policy has been developed to enhance public awareness of local water resources including public water supply areas, streams, rivers, and tributaries along the Department's roadways.

Development and compliance of this policy, with the assistance of the Office of Intermodal and Environmental Planning, shall be implemented throughout the planning, project design, project construction, and routine maintenance process.

To determine the name of a watercourse, it is the responsibility of the Department to verify the nomenclature at the local level. If no specific distinction exists, the United States Geological Survey (USGS) and Department of Environmental Protection (DEP) mapping will suffice.

Stephen E. Korta, II
Commissioner

FIGURE 11: CTDOT POLICY ON PROVIDING SIGNAGE FOR NAMED WATERCOURSES

iv. Municipalities

To reach municipalities, the Department anticipates continuing to work with staff from the University of Connecticut's Non-Point Source Education for Municipal Officials (NEMO) in developing and participating in webinars and workshops

v. Employees

For Department employees, annual trainings will be given to staff whose activities have the potential to contribute pollution to stormwater runoff. In addition to meeting the training requirements of the control measures specified in the permit, general non-point source pollution and impaired waters educational material will also be covered. The Department will also continue to participate in regional New England DOT meetings to discuss issues common to implementing a transportation MS4 permit.

(B) Additional Measures for Pollutants of Concern

Information is available on the CTDOT webpage on common sources of pollution such as phosphorus, nitrogen, bacteria, and mercury and how to prevent or reduce the amount reaching the DOT's MS4 and discharging into waterways.

The table below shows additional topics to be covered to address the phosphorus, nitrogen, bacteria, and mercury impairments that exist throughout Connecticut.

Table 1: Common Sources of Stormwater Pollutants of Concern

Phosphorus	Nitrogen	Bacteria	Mercury
Septic systems	Septic systems	Septic systems	Thermometers
Fertilizer use	Fertilizer use	Sanitary cross connections	Thermostats
Grass clippings and leaves management	Grass clippings and leaves management	Waterfowl	Fluorescent lights
Detergent use	Discharge of sediment (to which Nitrogen binds) from Construction sites	Pet waste	Button cell batteries
Discharge of sediment (to which Phosphorus binds) from Construction sites	Other erosive surfaces	Manure piles associated with livestock and horses	Other mercury-containing items

Table 2: Public Education & Outreach Minimum Control Measures

BMP ID	Task Deadline	Activity	Responsible Position	Measurable Goal
MCM1.1	June 30, 2021	Implement a Public Education Program	Bureau Chief of Policy & Planning	Educational Program Areas Implemented
MCM1.2	June 30, 2021	Track Department public meetings where non-point source educational material is distributed	Bureau Chief of Policy & Planning	Number of Meetings where Material is Distributed
MCM1.3	June 30, 2021	Develop Dedicated MS4 Webpage on DOT Website	Bureau Chief of Policy & Planning	Status of Webpage
MCM1.4	June 30, 2021	Collaborate with non-profits, municipalities and other DOTs on MS4 permit requirements and non-point source pollution education	Bureau Chief of Policy & Planning	Number of Collaborations
MCM1.5	June 30, 2021	Educate Department Employees on DOT's MS4 via internal and external trainings	Bureau Chief(s) – Engineering and Construction, Policy and Planning, Maintenance, Public Transit	Conduct Annual Trainings for Bureaus
MCM1.6	June 30, 2021	River and Stream Signs	Bureau Chief of Policy & Planning	Number of Signs Installed

(2) Public Involvement /Participation

This minimum control measure is a key component to the stormwater management program as it helps to ensure broader public support and shorter implementation schedules, as well as provide a broader base of knowledge. Persons who are personally involved with the decision making process become more invested in the program and can be a valuable resource that will be beneficial to the development, implementation and enforcement of the program.

Goals:

- Involve the community in planning and implementing the State's stormwater management activities.
- Provide a minimum 30-day notice to the public for this plan and annual reports.

(A) Publish a Public Notice

CTDOT will publish a public notice on its website (http://www.ct.gov/dot/CTDOT-MS4) to inform the public of the SWMP and the annual reports. The notice will provide a contact name, phone number, address, and the DOT.MS4@CT.gov email to whom the public can send comments. Additionally, this plan and the annual reports will be publicly accessible on the website. The public notice will allow for a 30-day comment period, at a minimum.

The following BMPs were utilized in the implementation of the program to address the minimum control measure for Public Participation and Involvement.

(B) Enlist Local Organizations

The Department will encourage local organizations to help implement their elements of the Plan.

(C) Additional Requirements

No additional requirements are specified for discharges to waters impaired for phosphorus, nitrogen, bacteria, or mercury.

Table 3: Public Involvement & Participation Minimum Control Measures

BMP ID	Task Deadline	Activity	Responsible Position	Measurable Goal
MCM2.1	Annual	Provide Public Notice of Annual Reports	Bureau Chief of Policy & Planning	Document Public Notices of Reports

(3) Illicit Discharge Detection and Elimination (IDDE)

The permit requires CTDOT to develop, implement and enforce a program to detect and eliminate illicit discharges. An illicit discharge is any discharge to the MS4 system that is not composed entirely of storm water unless the discharge is specifically exempted as listed in the permit. Pollutant levels from illicit discharges have been shown to be high enough to significantly degrade receiving water quality and threaten aquatic life, wildlife, and human health.

In order to prohibit, detect, track and eliminate illicit discharges the Department will develop and implement a number of distinct program elements including the legal authority to prohibit illicit discharges, a map and inventory of the stormwater system, a citizen reporting program, providing annual IDDE training to staff, performing field screenings of outfalls and performing illicit discharge abatement activities. As required by the permit, CTDOT will develop a written IDDE plan to address these program elements within 2 years of the effective date of the permit. At a minimum, CTDOT will implement the IDDE elements within priority areas. Priority areas are defined as urban areas, sub-watersheds with greater than 11% directly connected impervious area and areas 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.

As required by the permit, the Department's IDDE program will consist of the following major elements.

(A) Establish legal authority to prohibit illicit discharges

Unlike a traditional municipality, the Department does not have the ability to pass ordinances or to regulate land use in order to prohibit illicit discharges. However, existing Connecticut General Statutes are already in place to prohibit illicit discharges from entering the storm drainage system. CGS Section 22a-430 states that "No person or municipality shall initiate, create, originate or maintain any discharge of water, substance or material into waters of the State without a permit for such discharge issued by [DEEP]." The Department is committed to developing an IDDE program designed to: a) confirm the presence of illicit discharges to its DOT MS4 through screening and sampling, b) identify the responsible parties for any sources of illicit discharges through investigation, c) notify the responsible parties of their obligation to remove the illicit discharges, and d) confirming that the responsible parties have removed their illicit discharges. Any responsible party that does not take steps to remove its illicit discharge(s) after having been so notified by the Department shall be referred to DEEP and the State's Attorney General's Office for prosecution under CGS section 22a-430.

In addition to existing statutes, the Department will rely on its storm sewer connection agreements to provide a mechanism for illicit discharge prohibitions. For connections into DOT's MS4 system from a parcel development or redevelopment project, the Department requires a Discharge Connection Concurrence (DCC) to, among other things, declare that any discharge to DOT's MS4 system must consist of only uncontaminated stormwater. The Department may execute certain remedies in the event the DCC is breached. The Department does not anticipate prioritizing DCC's for municipal MS4 interconnections with the Department's system. Rather, the Department will rely on the respective General Permits' requirements imposed on the Department and the municipalities to

address illicit discharges and a programmatic approach to communicating the findings of screenings, samplings, and investigations.

(B) IDDE Written Plan

CTDOT will develop a written IDDE plan on or before June 30, 2021. The plan will include, at a minimum, information about the following program elements:

a. The legal authorities established to prohibit, investigate and eliminate illicit discharges.
b. Roles and responsibilities of departments and personnel responsible for implementing the IDDE program
c. A procedure by which catchments will be assessed and ranked
d. A written procedure for the screening and sampling of outfalls and interconnections
e. A catchment investigation procedure
f. A procedure for isolating and verifying the source of a confirmed illicit discharge
g. A procedure for the removal of illicit discharges
h. A procedure for following up screening to confirm the illicit discharge has been removed
i. The development of procedures and mechanisms designed to prevent illicit discharges

(C) Citizen Reporting System

CTDOT will establish a system to allow for citizen reporting of suspected illicit discharges into the stormwater system. The Department's webpage will include an email address (DOT.MS4@CT.gov) for submitting an illicit discharge report. These reports will be sent to the DOT Environmental Compliance unit, which will investigate the report directly, direct a consultant to investigate and/or direct the local district drainage engineer to investigate. Should there prove to be an illicit discharge of stormwater, CTDOT will proceed according to the procedures laid out in the written IDDE program.

The citizen's email describing the potential illicit discharge should include the date and approximate time the suspected illicit discharge was observed from the storm drain (either manhole, catch basin or outfall) and the weather conditions at the time. Additionally, there shall include a descriptive location, comprising of as much information as possible such as town, street name or intersection, cardinal directions, and other notable landmarks such as businesses and residences. A description of why the discharge is presumed illicit shall also be required. This will encourage citizens to describe the color of the discharge, odor, visible foam, oil sheen or sludge seen in the outfall or manhole. Photos will also be encouraged. All citizen reports and responses will be included in the annual reports.

(D) Record of Illicit Discharge Abatement Activities

CTDOT will maintain a record of illicit discharge activities that will be included in the annual reports. The record shall include the following:

a. Location (address or latitude and longitude)
b. Description
c. Date of Inspection
d. Sampling Date
e. Actions Taken
f. Date of Removal or Repair
g. Responsible Parities

(E) Identify Sanitary Sewer Overflows within Previous 5 Year

CTDOT will identify within 120 days of the effective date of the permit all known locations reported to the Department by interconnected MS4s where Sanitary Sewer Overflows (SSOs) have discharged to the DOT's MS4 within the previous 5 years. The inventory of reported SSO's shall include the following information:

a. Location (approximate street crossing / address and receiving water, if any)
b. A clear statement of whether the discharge entered a surface water directly or entered the DOT's MS4
c. Date(s) and time(s) of each reported SSO occurrence (i.e. beginning and end of any known discharge)
d. Estimated volume(s) of the occurrence
e. Description of the occurrence indicated known or suspected cause(s)
f. Mitigation and corrective measures completed by CTDOT or others with dates implemented
g. Mitigation and corrective measures planned by the permittee or the interconnected MS4 with implementation schedules.

The inventory shall be updated annually.

(F) Develop Inventory and Map(s) of DOT MS4 System

A map of the statewide stormwater drainage system that is owned and maintained by the Department is to be developed within 10 years of the effective date of this permit (July 1, 2029) with 50% of the system mapped within 5 years (July 1, 2024). The Department will be developing the map in a GIS format. The information for the map will initially come from digitizing existing construction plans and later from identifying assets in the field. The map will include:

a. Outfalls and receiving water information;
b. Pipes; open channel conveyances; catch basins; manholes;
c. Interconnections with other MS4s and other storm sewer systems;
d. CTDOT-owned and privately owned stormwater treatment structures that connect to the CTDOT system (e.g. detention and retention ponds, infiltration systems, bioretention areas, water quality swales, gross particle separators, oil/water separators, or other systems);
e. Inspection data on infrastructure (such as outfalls and interconnections) and any indicators of potential non-stormwater discharges;
f. Municipal sanitary sewer system (if available);
g. Municipal combined sewer system (if applicable and available).

Beyond the infrastructure and inspection components listed above, the Department will use GIS data such as CT Environmental Conditions Online created by CTDEEP and other public agencies to reference additional information critical to the DOT's MS4 program. This information includes:

a. Impaired water bodies identified by name and the use impairment as defined by the most recent integrated water quality report;
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; and
d. The name of the watershed, including the sub-regional drainage basin number which the discharge is located.

Progress on the mapping requirement will be provided in every annual report. A link to the Department's drainage map or database may be provided instead of providing an appendix in the report.

(G) Outfall Screening and Sampling

CTDOT will complete dry weather screening and sampling (where flowing) for every *mapped* MS4 outfall and interconnection by the end of the permit term. The Department's mapping schedule calls for 50% of the DOT's MS4 system to be mapped by June 30, 2024. Subsequently, the Department expects to have dry weather screened 50% of Department owned and mapped outfalls by the same date. Wet weather sampling shall be completed for mapped outfalls or key interconnection points that display system vulnerability factors (as defined in the permit) or that require follow up sampling based on the dry weather screening. The Department will document progress on this activity yearly in the annual report.

(H) Employee Training

CTDOT will provide annual training to employees involved in the IDDE program. The training will explain the program and include how to recognize illicit discharges and SSOs.

Table 4: Illicit Discharge, Detection and Elimination Minimum Control Measures

BMP ID	Task Deadline	Activity	Responsible Position(s)	Measurable Goal
MCM3.1	June 30, 2021	Develop Legal Authority to Prohibit Illicit Discharges	Environmental Compliance	Legal Authority Developed
MCM3.2	June 30, 2021	Develop Written IDDE Program	Environmental Compliance	Written IDDE Program Plan Completed
MCM3.3	June 30, 2021 & On-going	Develop program for citizen reporting of Illicit Discharges / Include citizen reports in annual report	Environmental Compliance	Illicit Discharge Program Developed and Reports Documented
MCM3.4	July 1, 2019	Develop tracking system for Illicit Discharge Investigation and Abatement Activities	Environmental Compliance	Illicit Discharge Tracking System Developed
MCM3.5	November 1, 2019	Identify all known locations of SSO's into DOT's MS4 over previous 5 years	Environmental Compliance	Identify SSO's within Previous 5 Years
MCM3.6	June 30, 2024	Identify and map 50% of DOT's MS4 System in Priority Areas	Bureau Chief(s) – Engineering and Construction, Policy and Planning, Maintenance, Public Transit	50% of Mapping Completed
MCM3.7	June 30, 2024	Screen and Sample all mapped outfalls and key interconnection points	Environmental Compliance	Mapped Outfalls and Interconnections Screened and/or Sampled
MCM3.8	June 30, 2021 & Annually	Provide Annual IDDE Training to Employees	Bureau Chief(s) – Engineering and Construction, Policy and Planning, Maintenance, Public Transit	Annual Bureau Trainings Completed

(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. The Department makes this determination on a project by project basis.

Goal:

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

(A) Legal Authority

The Department will establish the legal authority to the MEP to control discharges to or from the DOT MS4 during construction projects with one (1) or more acres of soil disturbance by requiring:

a. Developers, construction site operators, or contractors to maintain consistency with the 2002 Guidelines for Soil Erosion and Sedimentation Control, as amended, the Connecticut Stormwater Quality Manual, 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 Department;
c. Department and consultant personnel consisting of construction and environmental staff will inspect all construction projects to ensure compliance with the DOT MS4 permit;
d. The inventory (where allowed) of privately-owned detention and retention ponds and other stormwater basins that discharge to or receive drainage from the DOT's MS4
e. Any development seeking to discharge stormwater into the Department's stormwater infrastructure will need to comply with the municipality's MS4 stormwater regulations before an encroachment permit and Drainage Connection Concurrence (DCC) is issued.
f. The Department will control, through interagency or inter-jurisdictional agreements, the contribution of pollutants between the DOT's MS4 and MS4s owned or operated by others.

Any CTDOT construction project with a total disturbance of one or more acres of land area on a site (regardless of phasing) is registered under DEEP's *General Permit for the Discharge of Stormwater and Dewatering Wastewaters Associated with Construction Activities* (construction general permit). The DOT's Office of Environmental Planning ensures that all qualifying projects are registered under the Construction Stormwater General Permit prior to the start of construction activities.

All non-DOT projects seeking to connect to the Department's stormwater system must also apply for and receive approval for a DOT Encroachment Permit and DCC. For any non-DOT project also subject to the Construction Stormwater General Permit, the Encroachment Permit applicant will be required to certify to DOT that the project has met the construction general permit's local-approval or DEEP-registration requirement, as applicable, prior to the Department issuing the Encroachment Permit. If a drainage connection is needed, the Department also requires the execution of a Drainage Connection Concurrence (DCC) to reinforce that only clean, uncontaminated stormwater is permitted to enter the drainage system.

The Office of Construction under the Bureau of Engineering and Construction has construction inspectors who inspect all DOT construction projects to verify that the contractor is adhering to the project's plans and specifications, including those for erosion and sedimentation control, and any stormwater permit conditions. DOT district maintenance personnel will also inspect non-DOT construction projects subject to an Encroachment Permit to verify that the conditions of the Encroachment Permit are being adhered to, including stormwater-related conditions. Additionally, staff from the Office of Environmental Planning also conduct periodic site inspections of DOT construction projects to verify appropriate mitigation measures are being followed. These inspections will continue to ensure compliance with the Department's MS4 permit and construction general permit requirements. The inspectors will identify to the maximum extent practical privately owned stormwater management facilities when performing site inspections and will create an inventory of any identified features.

(B) Consistency with DEEP Requirements

The Department will update its manuals to remain consistent with the construction measures in the 2002 Guidelines for Soil Erosion and Sedimentation Control, as amended, the Connecticut Stormwater Quality Manual and the construction general permit. These manuals shall include, but are not limited to, the following DOT manuals (as amended) and all supplements thereto: CTDOT Construction Manual, CTDOT Highway Design Manual, CTDOT Consultant Design Manual, CTDOT Bridge Design Manual, CTDOT Drainage Manual and CTDOT Standard Specifications for Roads, Bridges, Facilities and Incidental Construction (Form 817).

(C) Interdepartmental Coordination

The DOT will continue to coordinate the functions of all internal departments with jurisdiction over the review, permitting, or approval of land disturbance and development projects within the DOT MS4.

(D) Conduct Plan Reviews and Site Inspections

The Department, through the design review process, will ensure stormwater controls or management practices to prevent and minimize impacts to water quality are considered by designers. Comments will be provided to designers by the Office of Environmental Planning, Environmental Compliance, Environmental Permit Coordination Unit and Hydraulics & Drainage to ensure permit compliance. Construction site inspections to ensure permit compliance are currently a Department standard and will continue to be performed by the Office of Construction and the Office of Environmental Planning.

(E) State Permit Notification

The Office of Environmental Planning will continue to implement the existing procedure that registers all projects that have a total disturbance of one or more acres of land area on a site (regardless of phasing) under the construction general permit. This applies to all developers conducting projects that will connect to the DOT MS4s, and any consultants or contractors working under contract to DOT. The notification will include a provision informing the developer/contractor of their obligation to provide a copy of the project's Storm Water Pollution Control Plan (required by the construction general permit) upon request.

Table 5: Construction Site Stormwater Runoff Control Minimum Control Measures

BMP ID	Task Deadline	Activity	Responsible Position(s)	Measurable Goal
MCM4.1	June 30, 2022	Establish bylaw, regulation, standard conditions of approval, construction requirements or other legal authority that meet the requirements of the permit	Office of the State Traffic Administration (OSTA) and Bureau Chief – Engineering and Construction	Legal Authority Developed
MCM4.2	On-Going	Ensure all DOT manuals are consistent with the construction measures in DEEP's E&S Manual, Stormwater Quality Manual and construction general permit requirements	Bureau Chief - Engineering & Construction	DOT Manuals are Consistent with E&S Manual, Stormwater Quality Manual and Construction Permit Requirements
MCM4.3	July 1, 2019	Develop and implement a plan outlining how all internal departments with jurisdiction over the review, permitting, or approval of land disturbance and development projects within the DOT MS4 will coordinate their functions with one another.	Bureau Chief - Engineering & Construction	Internal Coordination Plan Developed
MCM4.4	July 1, 2019	Conduct a site plan review or confirm that a site plan review was completed by the appropriate authority. The review should verify that consideration of storm water controls or management practices to prevent or minimize impacts to water quality where considered.	Bureau Chief - Engineering & Construction	Standard Practice in Place to Verify Appropriate Review was Completed
MCM4.5	July 1, 2019	Conduct or confirm that a site inspection(s) and enforcement was completed to assess the adequacy of the installation, maintenance, operation, and repair of construction and post construction control measures.	Bureau Chief(s) – Maintenance, Public Transit, Policy & Planning	Standard Practice in Place to Verify Appropriate Inspections were Completed
MCM4.6	July 1, 2019	Implement a procedure for notifying developers conducting projects that will connect to the DOT of their obligation to comply with the requirements of DEEP's construction general permit.	Bureau Chief - Engineering & Construction	Standard Practice in Place to Verify Developers and/or Contractors have been Notified
MCM4.7	June 30, 2020	Include tracking information as part of each annual report.	Bureau Chief – Policy & Planning	Standard Practice in Place to Track, Inventory and Report MCM4 Activities

(5) Post-Construction Stormwater Management in New Development or Redevelopment

This minimum control measure outlines the Department'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.

(A) Legal Authority

The permit requires the Department to establish the Legal Authority to require developers or contractors seeking to discharge to the DOT MS4 to consider using LID and runoff reduction site planning and development practices prior to the consideration of other practices. This Legal Authority will also require DOT, for construction projects over one (1) acre, to consider the use of LID and runoff reduction site planning and development practices prior to the consideration of other practices.

Unlike a traditional municipality, the Department does not have the ability to pass ordinances or to regulate land use in order to meet this requirement. Instead the Department will rely on internal design and project review procedures to ensure that LID and runoff reduction practices are incorporated to the maximum extent practicable (MEP). For DOT projects, this includes updating existing stormwater design procedures and guidelines. For non-DOT projects (municipal, private, etc.) that connect to the Department's storm system, this will include a new process to verify that the proposed project has received planning and zoning approval prior to DOT's review of the project.

In addition to the specific retention and/or treatment requirements in Section C below, the Department will also strive to implement the following watershed protection elements where ever possible to manage the impacts of stormwater on receiving waters:

a. Minimize the amount of Directly Connected Impervious Area (DCIA) such as roads, parking lots, roofs, etc., by minimizing the creation, extension, and widening of parking lots, roads, and associated development and encouraging the use of Low Impact Development 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 evapotranspirative qualities.
f. Implement policies to protect native soils, prevent topsoil stripping, and prevent compaction of soils.

(B) Consistency with DEEP Requirements

DOT manuals will remain consistent with the construction measures in the 2002 Guidelines for Soil Erosion and Sedimentation Control, as amended, the Connecticut Stormwater Quality Manual and the construction general permit. These manuals shall include, but are not limited to, the following DOT manuals (as amended) and all supplements thereto: CTDOT Construction Manual, CTDOT Highway Design Manual, CTDOT Consultant Engineers Manual, CTDOT Bridge Design Manual, CTDOT Drainage Manual and CTDOT Form 817.

(C) Runoff Reduction/Low Impact Development (LID) Measures

Post construction stormwater management practices shall be implemented to the MEP to reduce post-development runoff volume delivered to receiving waters for development and redevelopment projects within the Department's MS4 area. For non-DOT projects, the Department shall document that the project has received the approval of the local planning and zoning commission.

For DOT projects, the requirements of DEEP's construction general permit and the applicable runoff reduction and alternative requirements shall be met. The runoff reduction requirement is based on the existing DCIA of the site as given below:

- 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.
- For new development and redevelopment of sites with less than forty percent DCIA, the full water quality volume for the site shall be retained.

If the respective standard cannot be met for a given project, the Department shall meet the retention and/or treatment requirements to the maximum extent practicable. Additionally, the Department will look for an opportunity to implement a stormwater mitigation project on another site within existing DOT right of way and within the same local drainage basin. The intent of the mitigation project will be to retain the portion of the runoff reduction requirement that was not met on the development (or redevelopment) project. For linear redevelopment projects that do not increase the DCIA, the applicable retention requirement is not required to be met provided treatment for the removal of sediment, floatables and nutrients is provided. All projects shall document the stormwater management practices implemented and the site and/or project constraints that impacted the design.

(D) Directly Connected Impervious Area

The Department will follow guidance provided by DEEP and UConn CLEAR to calculate the amount of CTDOT's Directly Connected Impervious Area (DCIA) that contributes stormwater runoff to each of its MS4 outfalls. The Department will calculate DCIA for areas of the DOT's MS4 mapped under the IDDE section. The Department has a goal of calculating the DCIA that contributes stormwater runoff to fifty percent (50%) of its MS4 outfalls by year 5 of the permit. Progress on this task will be documented in each annual report until completion.

(E) Long Term Maintenance

The Department will implement a maintenance plan for ensuring the long-term effectiveness of DOT and privately owned stormwater retention, detention and treatment practices in priority areas that discharge to DOT's MS4 on or before the end of the third year of the permit. At a minimum, these stormwater management practices shall be inspected annually and maintained as needed to ensure proper function.

Table 6: Post Construction Stormwater Management Minimum Control Measures

BMP ID	Task Deadline	Activity	Responsible Position(s)	Measureable Goal
MCM5.1	June 30, 2022	Establish updated standard procedures, forms and conditions of approval that meet the LID / Runoff Reduction Legal Authority requirements of the permit	OSTA & Bureau Chief – Engineering & Construction	Legal Authority Developed
MCM5.2	On-Going	Ensure all DOT manuals are consistent with the construction measures in DEEP's E&SC Guidelines, Stormwater Quality Manual, and construction general permit requirements	Bureau Chief - Engineering & Construction	DOT Manuals are Consistent with E&S Manual, Stormwater Quality Manual and Construction Permit Requirements
MCM5.3	June 30, 2022	Implement runoff reduction / LID measures for development and redevelopment projects within DOT's MS4 area	Bureau Chief(s) –Policy & Planning, Engineering & Construction	Document runoff reduction / LID implementation efforts for projects
MCM5.4	June 30, 2024	Calculate DCIA for 50% of DOT's MS4 Catchment Areas (Local Watershed Basins)	Bureau Chief - Engineering & Construction	Determine the Percentage of DCIA for DOT's Mapped Catchment or Local Watershed Areas
MCM5.5	June 30, 2022	Implement a plan to ensure long term maintenance of stormwater management facilities	Bureau Chief(s) – Maintenance, Engineering & Construction	Develop and Implement a Plan to Ensure Long Term Maintenance of Stormwater Management Facilities

(6) Pollution Prevention / Good Housekeeping

This minimum control measure outlines a program to mitigate the impact of CTDOT operations and maintenance activities on CTDOT owned and/or operated properties, the DOT's MS4 system and ultimately surface waters.

Goal:

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

(A) Employee Training

CTDOT will develop a DOT MS4 training program for DOT employees to increase awareness of water quality issues within two years of the permit's effective date. Training will include:

- Non-point source pollution and DOT MS4 permit basics
- Standard operating procedures consistent with the DOT MS4 general permit;
- General goals and objectives of this Stormwater Management Plan;
- Identification and reporting of illicit discharges and improper disposal;
- Spill response protocols and responsibilities; and
- Proper training for deicing applications (including private contractors).

Employee training will occur at a variety of locations including DOT headquarters in Newington, the four District offices, individual maintenance garages and other Department facilities. Staff may also attend regional or Statewide trainings coordinated by UConn CLEAR or others. All Department key staff will be required to attend DOT MS4 training a minimum of once a year. To make the training process more efficient, the Department may utilize a train-the-trainer model where members of the MS4 team provide training to District Engineers and upper level staff who will then train other staff.

(B) Infrastructure Repair and Rehabilitation

As the Department completes the mapping and inspection requirements under the IDDE minimum control measure or as otherwise identified by field staff, the condition of outfalls and other stormwater infrastructure will be recorded. Repair of infrastructure will be prioritized based on the condition of the asset, any future redevelopment projects in the area, and available financial resources.

(C) Retrofit Program

The goal of the retrofit program is to "disconnect" existing DCIA through retrofitting existing DOT MS4 areas by implementing Low Impact Development (LID) and runoff reduction measures. The permit requires that the Department begin tracking changes in DCIA Statewide as of July 1, 2019 and sets a goal of disconnecting 2% of the DOT's calculated DCIA by the end of the permit term. These retrofits can be stand-alone retrofit projects or BMPs incorporated into pre-planned redevelopment projects. Due to current resource and fiscal limitations, the Department plans on prioritizing redevelopment project opportunities during this permit term to reduce the amount of DCIA.

Stand-alone retrofit projects are not anticipated to be implemented during this permit term but will be considered as resources allow and partnerships with non-profits or municipalities present themselves. As required by the permit, the Department will develop a retrofit plan by the end of the third year to identify specific projects that in sum would meet the 2% reduction goal.

(D) DOT MS4 Property and Operations Maintenance

CTDOT owned or -operated properties, parks, and other facilities that are owned, operated, or are otherwise the legal responsibility of CTDOT 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 General Permit requires CTDOT to optimize the application of fertilizers by DOT employees or private contractors on lands and easements for which it is responsible for maintenance. CTDOT does not utilize fertilizers.

(ii) Pet waste management

CTDOT will continue to provide educational signage, pet waste baggies and disposal receptacles in places such as rest areas and service areas where dog walking is allowed. CTDOT will document its efforts in its annual reports. CTDOT will consider including information regarding the scope and extent of its education and compliance.

(iii) Waterfowl management

CTDOT will seek to identify areas where waterfowl congregate. However, any habitat under the jurisdiction of the Department that would be attractive to waterfowl, such as large vegetated medians and shoulders to limited access highways, are not accessible to the public and feeding by the public could not occur. Through the course of the IDDE investigations and impaired water, any areas suspected as contributing to a bacterial impairment will be evaluated for waterfowls as a contributing factor, and control measures shall be developed accordingly.

(iv) Buildings, parking facilities, rest areas, service areas and other facilities

Many CTDOT facilities and buildings are regulated under DEEPs industrial stormwater permit (maintenance garages) and DEEP's commercial stormwater permit (service plazas with greater than 5 acres of impervious area). The remaining CTDOT facilities including parking facilities, non-maintenance buildings and service/rest areas less than 5 acres in size are regulated under DOT's MS4 permit. For those facilities, CT DOT shall address the following requirements, as applicable:

- 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/clean 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 DOT's MS4 and are appropriately permitted.

(v) Vehicles and Equipment

CTDOT facilities with the primary purpose of repairing or washing vehicles and CTDOT owned fueling stations are regulated under DEEP's industrial stormwater permit. Other facilities and equipment regulated under the DOT's MS4 permit will:

- establish procedures for the storage of CTDOT - owned or -operated vehicles;
- require vehicles with fluid leaks to be stored indoors or in contained areas until repaired;
- evaluate fueling areas owned by CTDOT and used by CTDOT owned or -operated vehicles and if possible, place fueling areas under cover in order to minimize exposure;
- 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

CTDOT does not have a leaf collection program. CTDOT will work with municipalities to address areas where leaf litter is negatively impacting the State road and drainage system.

(E) Street, Parking & DOT MS4 Maintenance

(i) Street Sweeping

CTDOT has an existing sweeping program where State-owned or operated streets and parking lots are typically swept a minimum of once a year. Under the DOT's MS4 permit, CTDOT will formalize procedures so that all Department owned streets and parking lots within the DOT MS4 Priority areas are inspected and swept, where necessary, annually to the maximum extent practicable. The annual sweepings shall start in the spring following the cessation of winter maintenance activities. Targeted areas determined to have increased pollutant potential based on the presence of active construction activity or other potential pollutant sources will be inspected, cleaned, or swept more frequently than other areas. Streets and parking lots outside the DOT's MS4 Priority Areas, including any rural uncurbed streets and parking lots with no catch basins, will either be inspected by CT DOT at least annually or CTDOT will develop and implement an alternative inspection, documentation and targeted sweeping and/or cleaning plan. The Department will submit the number of miles cleaned and work towards providing an estimate of the volume of material collected annually in the annual report.

(ii) Catch Basin Cleaning

CTDOT has an existing program to conduct routine cleaning of Department catch basins. Under the DOT's MS4 permit, CTDOT will formalize procedures so that all catch basins are inspected and cleaned to the maximum extent practicable in accordance with the requirements of the permit. The permit requires all catch basins within priority areas to be inspected and cleaned, where necessary, by June 30, 2022. However, an alternative schedule will be developed for cleaning catch basins that require lane closures or confined space entry. Catch basins outside priority areas shall be inspected and cleaned, where necessary, by June 30, 2024. Utilizing information compiled through the inventory of catch basins, operational staff and public complaints, CTDOT will optimize routine cleaning frequencies for particular structures or catchment areas in an effort to ensure that no catch basin is more than 50% 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.

In the case of limited access highways and other DOT roads with limited rights-of-way, the department will develop an alternate program to inspect and evaluate catch basins due to the need to address safety issues inherent to this type of roadway (i.e. lane closures, confined space entry).

CTDOT 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, actions taken to abate sources of excessive sediment loading and, if practicable, the volume or mass of material removed from each catch basin draining to water quality limited waters. The annual report will also summarize the Department's efforts to optimize catch basin cleaning.

(iii) Bridge Rinsing Operations

All bridge rinsing conducted by the permittee shall minimize the discharge of pollutants to the DOT's MS4 and receiving waterbody to the MEP and shall be in accordance with the "Department of Transportation Bureau of Highway Operations Bridge Cleaning Program", dated March 2013, as amended. A list of structures rinsed will be reported within the Annual Report.

(F) Snow Management Practices

(i) Deicing Material Management

The CTDOT facilities that handle and store deicing material are all regulated under DEEP's Industrial Permit. CTDOT will continue to look at ways of refining existing standard operating practices for the handling, storage and disposal of deicing materials while also investigating methods to optimize the application of deicing products.

(ii) Snow and Ice Control Practices

DOT will continue to refine standard operating practices regarding its snow and ice control to minimize the discharge of sand, anti-icing or de-icing chemicals and other pollutants (while maintaining public safety) to the MEP. The work will be performed in accordance with the Department's Snow and Ice Guidelines.

(iii) Snow Melting Operations

Snow melting operations will only be used by the DOT for the disposal of snow accumulations in the event winter storm accumulations exceed the snow storage capacity available both on-site and in the nearby right of way. The discharge from the snow melting unit must be clear and not contain any floating or solid materials. If any floatables, gross solids and/or oily runoff is observed from the snow melting units than the Department shall use best management practices (BMPs) to treat the runoff. These BMPs include but are not limited to:

- Filter bags
- Silt sacks for catch basins
- Settling ponds
- Absorbent pads and booms

The Department will make every effort to ensure that the runoff temperature from melting snow does not exceed 48F.

(G) Interconnected MS4s

As mapping the DOT storm sewer system progresses, CTDOT will coordinate with MS4s that are interconnected regarding the contribution of potential pollutants form the storm sewer systems, contributing land use areas and stormwater control measures. This same coordination will be conducted regarding operation and maintenance procedures utilized in the respective systems.

(H) Additional measures for discharges to impaired waters (with or without a TMDL)

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

On DOT- owned or -operated lands, DOT will evaluate alternative turf management practices and procedures during development and redevelopment which include, but is not limited to, the planting of native plant materials to lessen the amount of turf area requiring mowing. The Department does not use fertilizers on DOT owned or operated lands. 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:

On DOT-owned or -operated lands with a high potential to contribute bacteria (such as service plazas with dog areas and sites with failing septic systems), DOT will evaluate potential retrofits or source management programs to mitigate any problems identified. Any retrofits or programs will be prioritized and implemented based on the severity of the problems identified, the cost to implement and the resources available. 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.

Table 7: Pollution Prevention & Good Housekeeping Minimum Control Measures

BMP ID	Task Deadline	Activity	Responsible Position	Measureable Goal
MCM6.1	June 30, 2021	Develop & implement formal employee training program	All Bureaus	Conduct Annual Trainings for Bureaus
MCM6.2	June 30, 2022	Implement infrastructure repair/rehabilitation program	Bureau Chief - Engineering & Construction	Develop and Implement a repair/rehabilitation program
MCM6.3	July 1, 2019	Track DCIA that is disconnected during redevelopment and retrofit projects	Bureau Chief - Engineering & Construction	Develop and Implement a Procedure to Track DCIA for Projects
MCM6.4	June 30, 2022	Develop and Implement a plan to disconnect 2% of calculated DCIA	Bureau Chief - Engineering & Construction	Develop and Implement a Plan to Disconnect 2% of DCIA
MCM6.5	July 1, 2019	Implement DOT MS4 Property and Operations Maintenance	Bureau Chief Maintenance	Document and Report on Maintenance Activities Implemented
MCM6.6	July 1, 2019	Develop and implement sweeping program	Bureau Chief Maintenance	Document and Report on Sweeping Activities
MCM6.7	July 1, 2019	Develop plan to optimize catch basin cleaning	Bureau Chief Maintenance	Map, Inspect and Prioritize Catch Basins
MCM6.8	July 1, 2022	Inspect and clean (where necessary) catch basins	Bureau Chief Maintenance	Map, Inspect and Prioritize Catch Basins
MCM6.9	June 30, 2024	Develop, implement and optimize standard operating procedures for snow management practices	Bureau Chief Maintenance	Optimize, Document and Report on Snow Management Practices
MCM6.10	June 30, 2020	Track and report types of deicing materials used, lane miles treated and total amount of deicing material used	Bureau Chief Maintenance	Document and Report on Deicing Material Usage
MCM6.11	July 1, 2019	Implement additional measures for discharges to impaired waters from sites with high potential to contribute to the impairment	Bureau Chief - Engineering & Construction	Identify, Develop and Implement Measures to Mitigate Discharges with High Potential to Contribute to Impaired Waters

Outfall Monitoring

In consideration of the thousands of outfalls connected to the state drainage systems, an automatic outfall sampling option was incorporated into the DOT MS4 permit to address impaired waters sampling requirements. The approach has been successfully used by other state DOT's across the country including Mass DOT. The Department will work with the United States Geological Survey (USGS) to collect representative runoff samples from a variety of Department highway outfalls from across the State. USGS and the Department will also use an existing highway runoff model tailored to Connecticut-specific conditions to assess a) the potential effects of runoff from the highway system on receiving water quality and b) the potential benefit of providing stormwater best management practices (BMPs).

In order to meet the permit's monitoring requirements, the USGS, on behalf of the Department, will be implementing a rigorous program. The program consists of continuously monitoring a total of nine outfalls from highways for a period of approximately two years each. The nine sites were selected based upon land use type, impervious area, and the average daily traffic that passes through the drainage area for the outfall. The nine locations are:

Table 8: Automatic Monitoring Outfall Locations

YEAR 1 & 2	YEAR 3 & 4
1. I-91 Hartford	6. I-95 Milford
2. Route 2 Glastonbury	7. Route 15 Orange
3. Route 3 Glastonbury	8. Route 8 Trumbull
4. Route 74 Vernon	9. Route 110 Stratford
5. Route 8 Torrington	

USGS will set up monitoring stations in Hartford, Glastonbury (2), Vernon and Torrington in the Spring of 2019. These stations will collect stormwater runoff data for approximately 2 years before the equipment will be moved to the Milford area sites where the process will be repeated. The anticipated schedule calls for the monitoring to be completed by the spring of 2023.

Parameters that will be continuously monitored at each site include water temperature, specific conductance, precipitation, snow depth and air temperature.

In addition, samples will be collected 15 to 18 times from each location. Samples will be submitted to a state-certified laboratory for analysis of over 40 constituents. The list of constituents to be measured in the composite samples is given in the table below.

Table 9: List of Constituents for Composite Samples at Automatic Monitoring Outfall Locations

Analyte	Reporting level	Unit	Analyte	Reporting level	Unit
Alkalinity	4.6	mg/L	specific conductance	5	uS/cm
Aluminum (whole water)	3.8	ug/L	Sulfate (dissolved)	0.02	mg/L
Arsenic (whole water)	0.2	ug/L	Zinc (whole water)	2	ug/L
Barium (whole water)	0.3	ug/L	Suspended sediment	1	mg/L
Cadmium (whole water)	0.03	ug/L	Total suspended solids	15	mg/L
Calcium (dissolved)	0.022	mg/L	Acenaphthylene	0.3	ug/L
Dissolved organic carbon	0.23	mg/L	Acenaphthene	0.28	ug/L
Chloride (dissolved)	0.02	mg/L	Anthracene	0.38	ug/L
Potassium (dissolved)	0.03	mg/L	Benzo[b]fluoranthene	0.3	ug/L
Sodium (dissolved)	0.06	mg/L	Benzo[k]fluoranthene	0.3	ug/L
Chromium (whole water)	0.4	ug/L	Benzo[a]pyrene	0.32	ug/L
Copper (whole water)	0.8	ug/L	Chrysene	0.32	ug/L
Iron (whole water)	4.6	ug/L	Fluoranthene	0.3	ug/L
Lead (whole water)	0.04	ug/L	Fluorene	0.34	ug/L
Magnesium (dissolved)	0.011	mg/L	Indeno[1,2,3-cd]pyrene	0.38	ug/L
Manganese (whole water)	0.4	ug/L	Nitrobenzene	0.26	ug/L
Nickel (whole water)	0.2	ug/L	Phenanthrene	0.32	ug/L
Dissolved total nitrogen	0.05	mg/L	Pyrene	0.36	ug/L
Particulate nitrogen	0.03	mg/L	Benzo[ghi]perylene	0.38	ug/L
Mercury (whole water)	0.005	ug/L	Benzo[a]anthracene	0.26	ug/L
Phosphorus (whole water)	0.004	mg/L	Dibenz[a,h]anthracene	0.42	ug/L
pH	0.1	pH	Naphthalene	0.22	ug/L

An update on the automatic sampling and laboratory analytical results will be provided in each of the Department's annual reports. Once the sampling is completed, all of the data collected will be added to the Federal Highway Runoff Database where it can be referenced by the highway runoff model.

The highway runoff model, which was developed by the USGS in collaboration with the Federal Highway Administration, is known as the **S**tochastic **E**mpirical **L**oading **D**ilution **M**odel (SELDM). SELDM has been tested and/or reviewed by USGS, USEPA, US Fish and Wildlife Service and 16 agencies including the MassDOT and the Massachusetts Department of Environmental Protection. The SELDM model is a planning level tool that can be used to assess impaired waterbody segments to determine if highway runoff may be contributing to the impairment and if the runoff has a reasonable potential to cause an exceedance of water quality standards.

USGS will perform preliminary model runs on each sub-regional basin in the State using the collected runoff quality data and basin characteristics as inputs to predict pollutant loads. The model then simulates the impact of the pollutant loads on the impaired receiving water. If modeling activities do not support a potential link between a receiving water's impairment and the associated DOT MS4 discharge, the Department will document these findings and include it in the annual report.

For each receiving water for which SELDM indicates a potential link between the impairment and the DOT MS4 discharge, the Department will conduct a follow up investigation in an attempt to identify the causes of the impairment and potential mitigation. The investigations will be prioritized based on where the data suggest that the concentration of the pollutant of concern in the outfall discharge may exceed the applicable water quality standards.

Potential mitigation strategies will include the use of best management practices (BMP) within the DOT right-of-way in the watershed to retain and/or treat runoff discharged from the DOT MS4. SELDM will also be used assess the effectiveness of BMPs to predict the change in flow, concentrations, and loading. These simulations will ultimately be used to develop a procedure to assist in identifying prospective BMP sites with the greatest potential for improving the quality of the receiving water bodies. The Department will use this procedure to plan and prioritize stormwater BMPs along Department roadways statewide as part of the required retrofit program to disconnect DCIA.

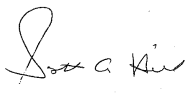
Plan Amendments

The Department will amend the SWMP whenever there is a substantial change in the best management practices specified in the plan. The SWMP will also be updated if; (1) there is a change in operations that has the potential to cause pollution of the waters of the State; (2) 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 the general permit; or (3) The Commissioner of the Department of Energy and Environmental Protection (DEEP) requests a modification to the plan.

Plan Certifications

Stormwater Management Plan Signature

"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 submitted information is true, accurate and complete to the best of my knowledge and belief. 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 of the Connecticut General Statutes, pursuant to Section 53a-157b of the Connecticut General Statutes, and in accordance with any other applicable statute."



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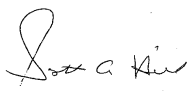
Scott A. Hill, P.E
Transportation Engineering Administrator
Bureau of Engineering and Construction

Date

Stormwater Management Plan Engineering Certification

"I hereby certify that I am a qualified professional engineer, as defined in the General Permit for the Discharge of Stormwater from Department of Transportation Separate Storm Sewer Systems. I am making this certification in connection with a registration under such general permit, submitted to the Commissioner by the Connecticut Department of Transportation for an activity located at or within the State of Connecticut. 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*)(10)(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, based on my review of all information described in Section 3(*b*)(10)(A) of such general permit and on the standard of care for such projects, that I have made an affirmative determination in accordance with Section 3(*b*)(10)(B) of this general permit. I understand that this certification is part of a registration submitted in accordance with Section 22a-430b of Connecticut General Statutes and is subject to the requirements and responsibilities for a qualified professional in such statute. I also understand that knowingly making any false statement 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."



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Scott A. Hill, P.E
Transportation Engineering Administrator
Bureau of Engineering and Construction

Date

Appendix

Summary of Best Management Practices by Minimum Control Measure

BMP ID	Task Deadline	Activity	Responsible Position	Measurable Goal
Minimum Control Measure 1 (Public Education and Outreach)				
MCM1.1	June 30, 2021	Implement a Public Education Program	Bureau Chief of Policy & Planning	Educational Program Areas Implemented
MCM1.2	June 30, 2021	Track Department public meetings where non-point source educational material is distributed	Bureau Chief of Policy & Planning	Number of Meetings where Material is Distributed
MCM1.3	June 30, 2021	Develop Dedicated MS4 Webpage on DOT Website	Bureau Chief of Policy & Planning	Status of Webpage
MCM1.4	June 30, 2021	Collaborate with non-profits, municipalities and other DOTs on MS4 permit requirements and non-point source pollution education	Bureau Chief of Policy & Planning	Number of Collaborations
MCM1.5	June 30, 2021	Educate Department Employees on DOT's MS4 Program via internal and external trainings	Bureau Chief(s) – Engineering and Construction, Policy and Planning, Maintenance, Public Transit	Conduct Annual Trainings for Bureaus
MCM1.6	June 30, 2021	River and Stream Signs	Bureau Chief of Policy & Planning	Number of Signs Installed
Minimum Control Measure 2 (Public Involvement/Participation)				
MCM2.1	Annual	Provide Public Notice of Annual Reports	Bureau Chief of Policy & Planning	Document Public Notices of Reports

BMP ID	Task Deadline	Activity	Responsible Position	Measurable Goal
Minimum Control Measure 3 (Illicit Discharge Detection and Elimination)				
MCM3.1	June 30, 2021	Develop Legal Authority to Prohibit Illicit Discharges	Environmental Compliance	Legal Authority Developed
MCM3.2	June 30, 2021	Develop Written IDDE Program	Environmental Compliance	Written IDDE Program Plan Completed
MCM3.3	June 30, 2021 & On-going	Develop program for citizen reporting of Illicit Discharges / Include citizen reports in annual report	Environmental Compliance	Illicit Discharge Program Developed and Reports Documented
MCM3.4	July 1, 2019	Develop tracking system for Illicit Discharge Investigation and Abatement Activities	Environmental Compliance	Illicit Discharge Tracking System Developed
MCM3.5	November 1, 2019	Identify all known locations of SSO's into DOT's MS4 over previous 5 years	Environmental Compliance	Identify SSO's within Previous 5 Years
MCM3.8	June 30, 2024	Identify and map 50% of DOT's MS4 System in Priority Areas	Bureau Chief(s) – Engineering and Construction, Policy and Planning, Maintenance, Public Transit	50% of Mapping Completed
MCM3.10	June 30, 2024	Screen and Sample all mapped outfalls and key interconnection points	Environmental Compliance	Mapped Outfalls and Interconnections Screened and/or Sampled
MCM3.11	June 30, 2021 & Annually	Provide Annual IDDE Training to Employees	Bureau Chief(s) – Engineering and Construction, Policy and Planning, Maintenance, Public Transit	Annual Bureau Trainings Completed

BMP ID	Task Deadline	Activity	Responsible Position	Measurable Goal
Minimum Control Measure 4 (Construction Site Runoff Control)				
MCM4.3	July 1, 2019	Develop and implement a plan outlining how all internal departments with jurisdiction over the review, permitting, or approval of land disturbance and development projects within the DOT MS4 will coordinate their functions with one another.	Bureau Chief - Engineering & Construction	Internal Coordination Plan Developed
MCM4.4	July 1, 2019	Conduct a site plan review or confirm that a site plan review was completed by the appropriate authority. The review should verify that consideration of storm water controls or management practices to prevent or minimize impacts to water quality where considered.	Bureau Chief - Engineering & Construction	Standard Practice in Place to Verify Appropriate Review was Completed
MCM4.5	July 1, 2019	Conduct or confirm that a site inspection(s) and enforcement was completed to assess the adequacy of the installation, maintenance, operation, and repair of construction and post construction control measures.	Bureau Chief(s) – Maintenance, Public Transit, Policy & Planning	Standard Practice in Place to Verify Appropriate Inspections were Completed
MCM4.6	July 1, 2019	Implement a procedure for notifying developers conducting projects that will connect to the DOT of their obligation to comply with the requirements of DEEP's construction general permit.	Bureau Chief - Engineering & Construction	Standard Practice in Place to Verify Developers and/or Contractors have been Notified
MCM4.7	June 30, 2020	Include tracking information as part of each annual report.	Bureau Chief – Policy & Planning	Standard Practice in Place to Track, Inventory and Report MCM4 Activities

BMP ID	Task Deadline	Activity	Responsible Position	Measurable Goal
Minimum Control Measure 5 (Post Construction Stormwater Management)				
MCM5.1	June 30, 2022	Establish updated standard procedures, forms and conditions of approval that meet the LID / Runoff Reduction Legal Authority requirements of the permit	OSTA & Bureau Chief – Engineering & Construction	Legal Authority Developed
MCM5.2	On-Going	Ensure all DOT manuals are consistent with the construction measures in DEEP's E&SC Guidelines, Stormwater Quality Manual, and construction general permit requirements	Bureau Chief - Engineering & Construction	DOT Manuals are Consistent with E&S Manual, Stormwater Quality Manual and Construction Permit Requirements
MCM5.3	June 30, 2022	Implement runoff reduction / LID measures for development and redevelopment projects within DOT's MS4 area	Bureau Chief(s) – Policy & Planning, Engineering & Construction	Document runoff reduction / LID implementation efforts for projects
MCM5.4	June 30, 2024	Calculate DCIA for 50% of DOT's MS4 Catchment Areas (Local Watershed Basins)	Bureau Chief - Engineering & Construction	Determine the Percentage of DCIA for DOT's Mapped Catchment or Local Watershed Areas
MCM5.5	June 30, 2022	Implement a plan to ensure long term maintenance of stormwater management facilities	Bureau Chief(s) – Maintenance, Engineering & Construction	Develop and Implement a Plan to Ensure Long Term Maintenance of Stormwater Management Facilities
Minimum Control Measure 6 (Monitoring Requirements)				
MCM6.1	June 30, 2021	Develop & implement formal employee training program	All Bureaus	Conduct Annual Trainings for Bureaus
MCM6.2	June 30, 2022	Implement infrastructure repair/rehabilitation program	Bureau Chief - Engineering & Construction	Develop and Implement a repair/rehabilitation program

BMP ID	Task Deadline	Activity	Responsible Position	Measurable Goal
Minimum Control Measure 6 (Monitoring Requirements - continued)				
MCM6.3	July 1, 2019	Track DCIA that is disconnected during redevelopment and retrofit projects	Bureau Chief - Engineering & Construction	Develop and Implement a Procedure to Track DCIA for Projects
MCM6.4	June 30, 2022	Develop and Implement a plan to disconnect 2% of calculated DCIA	Bureau Chief - Engineering & Construction	Develop and Implement a Plan to Disconnect 2% of DCIA
MCM6.5	July 1, 2019	Implement DOT MS4 Property and Operations Maintenance	Bureau Chief Maintenance	Document and Report on Maintenance Activities Implemented
MCM6.6	July 1, 2019	Develop and implement sweeping program	Bureau Chief Maintenance	Document and Report on Sweeping Activities
MCM6.7	July 1, 2019	Develop plan to optimize catch basin cleaning	Bureau Chief Maintenance	Map, Inspect and Prioritize Catch Basins
MCM6.8	July 1, 2022	Inspect and clean (where necessary) catch basins	Bureau Chief Maintenance	Map, Inspect and Prioritize Catch Basins
MCM6.9	June 30, 2024	Develop, implement and optimize standard operating procedures for snow management practices	Bureau Chief Maintenance	Optimize, Document and Report on Snow Management Practices
MCM6.10	June 30, 2020	Track and report types of deicing materials used, lane miles treated and total amount of deicing material used	Bureau Chief Maintenance	Document and Report on Deicing Material Usage
MCM6.11	July 1, 2019	Implement additional measures for discharges to impaired waters from sites with high potential to contribute to the impairment	Bureau Chief - Engineering & Construction	Identify, Develop and Implement Measures to Mitigate Discharges with High Potential to Contribute to Impaired Waters

BMP ID	Task Deadline	Activity	Responsible Position	Measurable Goal
Monitoring Requirements				
Monitoring	July 1, 2023	USGS to complete automatic sampling at nine locations across State	Bureau Chief – Policy & Planning, Engineering & Construction	Complete Sampling at nine sites
Modeling	On-Going	Use SELDM to assess impaired water body segments to determine if highway runoff is contributing to the impairment	Bureau Chief – Policy & Planning, Engineering & Construction	Use model to assess impaired waterbodies