



MS4 TASKS & STORMWATER COMPLIANCE

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Water Permitting and Enforcement Division
Bureau of Material Management and Compliance Assurance

PRESENTATION OUTLINE

1. Small MS4 General Permit

Permit Overview
Minimum Control Measures
Proposed Permit Modifications

2. Stormwater Quality Manual

Overview of Major Updates

3. Other Happenings at DEEP

4. Question and Answer

STORMWATER PERMITTING

- ☁ Stormwater runs over surfaces and collects pollutants, which can be transported – untreated – to our waterbodies.
- ☁ EPA published a study that found stormwater runoff has the potential to collect a pollutant load resembling raw sewage and developed national regulations.
- ☁ Phase I & II Stormwater Permits implemented to authorize stormwater discharges to waters of the state.

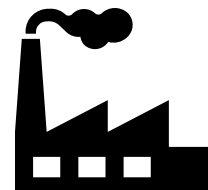
FOUR MAIN STORMWATER GENERAL PERMITS IN CONNECTICUT:



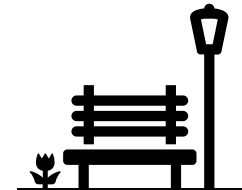
**Commercial Stormwater
General Permit**



**Construction Stormwater
General Permit**

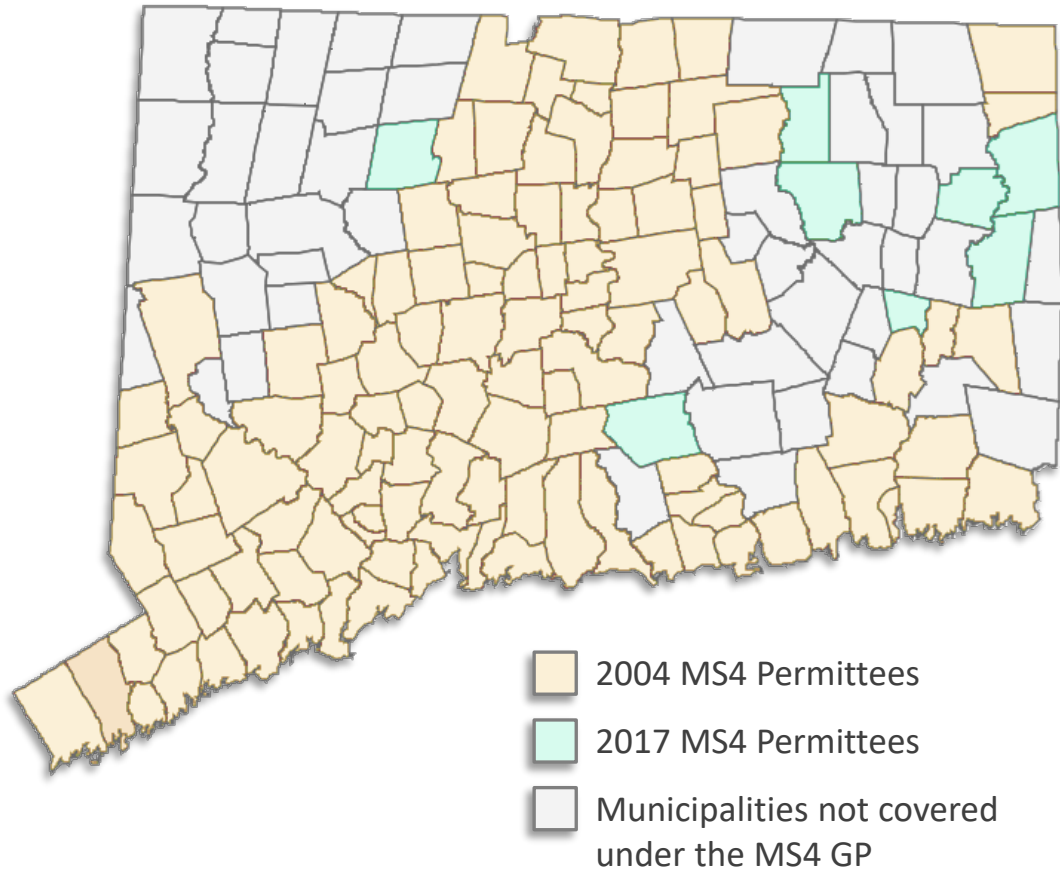


**Industrial Stormwater
General Permit**



**Small MS4
General Permit**

SMALL MS4 GENERAL PERMIT OVERVIEW



Permit History

- 1992: EPA Phase I Stormwater Rule
- 1999: EPA Phase II Stormwater Rule
- 2004: Small MS4 GP issued
- 2017: MS4 GP reissued with Modifications
- 2022: 2017 MS4 permit expired
- 2023: 2017 MS4 permit reissued without modifications

Permit Coverage

- Under the 2004 permit: 113 Municipalities
- Under the 2017 permit: 121 Municipalities, 12 Institutions
 - ⊃ Permit coverage is determined based on the Decennial Census.

THE SIX MINIMUM CONTROL MEASURES:



Public Education & Outreach

1



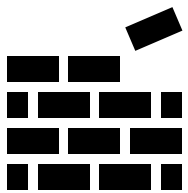
Public Participation & Involvement

2



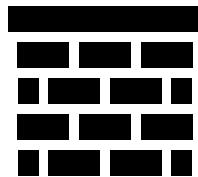
Illicit Discharge Detection & Elimination

3



Construction Stormwater Runoff Control

4



Post-construction Stormwater Runoff Control

5



Good Housekeeping

6



Impaired Waters Monitoring

MINIMUM CONTROL MEASURES

MCMs 1 & 2: Public Education & Participation

MCM 1: Public Education & Outreach Tasks

Implement a public education program

- ⊃ Public education programs often include:
 - Stormwater informational webpage
 - Mailed informational flyers
 - School programs

MCM 2: Public Participation & Involvement Tasks

Public availability of Stormwater Management Plan (SMP) and Annual Reports

- ⊃ Both the SMP and the Annual Reports should be available on your website!

Public Participation events

- ⊃ Community/volunteer projects, school projects, Household hazardous waste days, etc.

NOTE: Qualifying Local Programs (QLPs)

Many tasks in the MS4 permit can be performed by a third party!



Public Education & Outreach

1



Public Participation & Involvement

2

MINIMUM CONTROL MEASURES

MCM 3: Illicit Discharge Detection & Elimination

MCM 3: Illicit Discharge Detection & Elimination Tasks

Develop written IDDE program

Establish and/or upgrade local authority to prohibit illicit discharges

System mapping

- ⊃ Outfall mapping of permittee-owned outfalls
- ⊃ Interconnection mapping
 - where your MS4 connects to neighboring municipalities, CTDOT, etc.
- ⊃ Systemwide mapping

Complete dry weather screening

- ⊃ Screening of all outfalls during dry weather for signs of illicit discharges
- ⊃ Outfall assessment based on results of screening
- ⊃ Outfall priority ranking (exempt, low, high, problem)
- ⊃ Catchment investigations based on priority



**Illicit Discharge
Detection
& Elimination**

3

MINIMUM CONTROL MEASURES

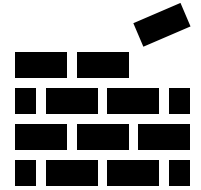
MCMs 4 & 5: Construction and Post-construction Runoff

MCM 4: Construction Stormwater Runoff Control Tasks

- Establish and/or upgrade local authority to comply with Manuals and Construction GP
- Review site plans and perform inspections of construction sites
- Allow public comment on proposed site development
- Notify developers of DEEP permit registration requirements

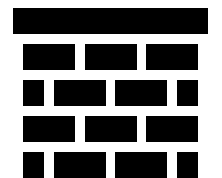
MCM 5: Post-construction Stormwater Runoff Control Tasks

- Establish and/or upgrade local authority to require consideration of LID practices
- Develop long-term maintenance plans for treatment structures and basins
- Directly Connected Impervious Area Mapping
 - ≧ Develop DCIA mapping
 - ≧ Develop a baseline DCIA acreage for your municipality
 - DCIA acreage should be less than Impervious Cover acreage (*tools provided by UCONN NEMO*)



Construction
Stormwater Runoff
Control

4



Post-construction
Stormwater Runoff
Control

5

MINIMUM CONTROL MEASURES

MCM 6: Pollution Prevention & Good Housekeeping

MCM6: Pollution Prevention & Good Housekeeping Tasks

Develop and Implement a formal employees training program

MS4 property maintenance

- ⊃ Fertilizer reduction in parks and other areas
- ⊃ Pet & animal waste management in parks and other areas
- ⊃ Street sweeping schedule
- ⊃ Catchbasin cleaning schedule

Infrastructure repair, rehabilitation, and retrofit

- ⊃ Infrastructure repair
- ⊃ Retrofit program
 - DCIA disconnection tracking
 - Retrofit planning
 - 1% retrofit goal

Review snow management practices



**Good
Housekeeping**

6

MINIMUM CONTROL MEASURES

OTHER: Impaired Waters Monitoring

Impaired Waters Monitoring Program Tasks

Identify impaired waterbodies within your municipality

Identify the primary pollutant for each impaired waterbody

- ⊃ Nutrients (nitrogen / phosphorous)
- ⊃ Bacteria
- ⊃ Mercury
- ⊃ Other pollutants of concern

Identify outfalls which discharge directly to impaired waters

Perform wet weather screening for all outfalls which discharge to impaired waters

- ⊃ Screen all outfalls discharging to impaired waters by July 2022

Follow-up investigations for results exceeding permit thresholds



**Impaired Waters
Monitoring**

THE SIX MINIMUM CONTROL MEASURES:



Public Education & Outreach

1



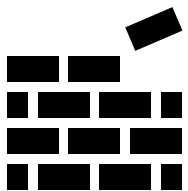
Public Participation & Involvement

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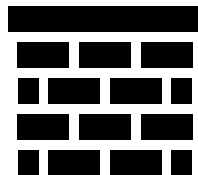
Illicit Discharge Detection & Elimination

3



Construction Stormwater Runoff Control

4



Post-construction Stormwater Runoff Control

5



Good Housekeeping

6



Impaired Waters Monitoring

THE SIX MINIMUM CONTROL MEASURES:



Public Education & Outreach

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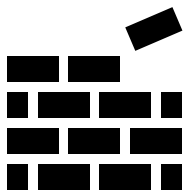
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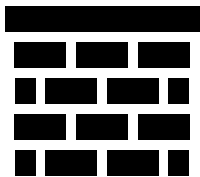
Illicit Discharge Detection & Elimination

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Construction Stormwater Runoff Control

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Post-construction Stormwater Runoff Control

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Good Housekeeping

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Impaired Waters Monitoring

COMMON COMPLIANCE ISSUES

Legal Authorities (MCMs 3, 4, & 5)

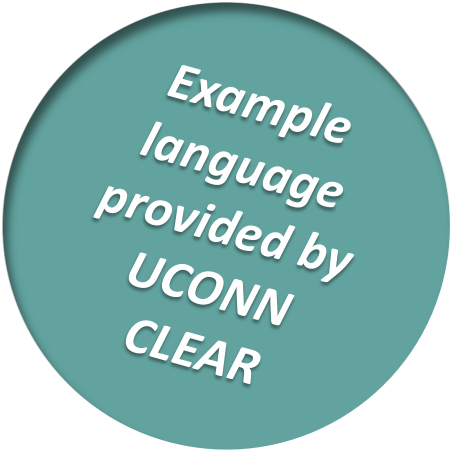
Municipalities are required to establish various legal authorities under:

- ≧ MCM 3: Illicit Discharge Detection & Elimination
- ≧ MCM 4: Construction Stormwater Runoff Control
- ≧ and MCM 5: Post-construction Stormwater Runoff Control

Legal Authorities ensure that the permittee can complete various permit tasks such as:

- Prohibit illicit discharges into their system and enforce the removal of such discharges
- Perform inspections at construction sites
- Require construction projects to conform with the Stormwater Quality Manual
- Require developers to consider Low Impact Development practices
- Require additional control measures in order to protect their system and/or water quality

Legal Authorities must be an enforceable. They can be an ordinance, bylaw, regulation, standard condition of approval, or another appropriate enforceable legal authority.



Example
language
provided by
UCONN
CLEAR

COMMON COMPLIANCE ISSUES

Directly Connected Impervious Area (MCMs 5 & 6)

Directly Connected Impervious Area (DCIA)

“[DCIA] means that impervious area from which stormwater runoff discharges directly to waters of the state or directly to a storm sewer system that discharges to waters of the state. Impervious areas that discharge through a system designed to retain the appropriate portion of the Water Quality Volume ... are not considered DCIA.”

DCIA Retrofit Program

Develop baseline (completed in MCM 5)

- ≧ Identify impervious cover
- ≧ Apply Sutherland Equations to determine DCIA based on land use (provided by UCONN CLEAR)

Track redevelopment projects that disconnect DCIA

- ≧ Disconnections can be from any project, both private and public
- ≧ Disconnection credits can be used from as far back as 2012

Retrofit disconnection plan

- ≧ Identify and prioritize disconnection projects
 - 2% DCIA disconnection by 2022, 1% DCIA disconnection each year after

METRICS

Average Baseline DCIA:
1,100 acres

DCIA Disconnections:
Average: 0.7 acres

21 Municipalities have reached 1% goal

13 municipalities have reached 2% goal



Good Housekeeping

6

COMMON COMPLIANCE ISSUES

Illicit Discharge Detection & Elimination (MCM 3)

Illicit Discharge Detection and Elimination Compliance Issues

Develop written IDDE program

System mapping

≧ Interconnection mapping

- where your MS4 connects to neighboring municipalities, CTDOT, etc.

≧ Systemwide mapping

Complete dry weather screening

≧ Screening of all outfalls for signs of illicit discharges

≧ Outfall assessment based on results of screening

≧ Outfall priority ranking (exempt, low, high, problem)

≧ Catchment investigations based on priority

METRICS

61% of municipalities
have a Written Plan

System Mapping:

~70% have completed
Outfall Mapping

~30% have completed
Interconnection
Mapping

~45% have completed
Systemwide Mapping



**Illicit Discharge
Detection
& Elimination**

3

COMMON COMPLIANCE ISSUES

Impaired Waters Monitoring (other)

Impaired Waters Monitoring Program Issues

Identify impaired waterbodies within your municipality

- ≥ Reminder: the Integrated Water Quality Report (IWQR) is updated every two years

Identify outfalls which discharge directly to impaired waters

- ≥ Outfalls discharging into an interconnected system (such as DOT's) and then into the impaired waterbody are not the responsibility of the municipality *so long as the interconnection is documented*

Perform wet weather screening for all outfalls which discharge to impaired waters

- ≥ Screen all outfalls discharging to impaired waters by July 2022
- ≥ “Who performs screening?”
- ≥ Timing of sampling
 - Especially bacteria samples

Follow-up investigations for results exceeding permit thresholds



**Impaired Waters
Monitoring**

COMMON COMPLIANCE ISSUES

Annual Reports (general)

Permittees are required to submit a report detailing their compliance efforts over the past year.

Reports are due April 1 each year and must be available for public comment for 30 days prior to submittal.

≥ Annual Report Templates are available on the Stormwater webpage for both New and Existing permittees

A detailed annual report is a good annual report!

≥ Re-read the permit and your Stormwater Management Plan (SMP)!

≥ Compare the permit requirements with the timelines you laid out in your SMP!

≥ Compare what you've done over the past year with your SMP!

≥ Explain discrepancies!

≥ Include lots of detail!

Annual Reports must be signed by a chief elected official or principal executive officer, as well as the person who prepared it.

DETERMINING MS4 COMPLIANCE

Compliance is primarily determined through Annual Reports and inspections.

Annual Reports

- ⇒ Annual Reports are very useful for documenting what has been accomplished each year and permit term, both for individual permittees and to understand overall compliance of all MS4 permittees.

Inspections

- ⇒ In-person inspections provide much more insight into individual permit compliance.
- ⇒ DEEP aims to inspect every MS4 permittee about once a permit term.
 - Inspections are decided randomly
 - Inspectors will contact you ahead of time to set up a meeting time and place
 - Expect the MS4 inspection to take about half a workday

UPDATES TO THE MS4 PERMIT

The permit is back in effect!

- ≧ Reissued with no modifications until September 30, 2025
- ≧ Annual Reports due April 1st, 2024

DEEP wants your feedback!

DEEP Staff are actively working on modifications to the permit.

To better understand the current state of the MS4 permit, DEEP will be holding a Listening Session for permittees, shareholders, and members of the public.

- ≧ Provides a venue to voice comments and concerns about the current permit and speak to what you would like to see in the modified permit
- ≧ Listening Session will be scheduled for late 2023 or early 2024
- ≧ Details will be sent to permittees and stakeholders, but any member of the public is invited to attend

Comments received from the Listening Session will be considered while finalizing permit modifications.

The background features a stylized landscape with a yellow sun in the top right, green hills in the middle, and light blue water at the bottom. All elements are separated by thick, dark blue outlines.

STORMWATER QUALITY MANUAL UPDATES

CT STORMWATER QUALITY MANUAL UPDATES

“The Connecticut Stormwater Quality Manual provides guidance on the measures necessary to protect the waters of the State of Connecticut from the adverse impacts of post-construction stormwater runoff.”

The Stormwater Quality Manual focuses on:

- site planning,
- source control, and
- stormwater treatment practices.

It is intended for use as a planning tool and design guidance document.

2023 updates to the Stormwater Quality Manual supersede the 2004 Stormwater Quality Manual.



CT STORMWATER QUALITY MANUAL UPDATES

Major Goals & Changes

1. **Improve coordination between the Stormwater Quality Manual and the Erosion and Sediment Control Guidelines.**
2. **Improve consistency with DEEP permits.**
3. **Improve climate resiliency.**
 - ⊃ Design Quality Storm (DQS) and Water Quality Volume (WQV) updated to reflect latest NOAA data
 - DQS is based on historical data of the 90th percentile rainfall volume; 1 inch in 2004, 1.3 inches in 2023
4. **Enhance Low Impact Development (LID) guidance for design and implementation.**
 - ⊃ New chapters dedicated solely to LID and infiltration design guidance
 - ⊃ Updated retrofit guidance
5. **Make guidance provided in the manual more function driven.**
 - ⊃ Flow of process emphasized (LID then retention then treatment)
 - ⊃ BMP guidance expanded and more function-driven
 - ⊃ Updated standards to provide site-specific flexibility
 - ⊃ BMP selection guidance enhanced with flow charts and BMP performance curves
 - ⊃ Plant appendix redesigned to point to more exhaustive (and more frequently updated) databases

CT STORMWATER QUALITY MANUAL UPDATES

IMPLEMENTATION PHASING:

Sept. 30, 2023

MANUAL IS PUBLISHED

- Get familiar with the new guidelines and update current practices.
- Update local regulations and authorities.

March 31, 2024

EFFECTIVE DATE

- Adopt updated guidelines for new projects.

GRACE PERIOD BEGINS

- for projects which have completed preliminary design.

Sept. 30, 2024

GRACE PERIOD ENDS

- Adopt updated guidelines for all projects.

OTHER HAPPENINGS AT DEEP

Connecticut Guidelines for Soil Erosion and Sediment Control also updated!

- ≧ Same implementation schedule as the Stormwater Quality Manual

New England Retrofit Manual published July 2022!

- ≧ Provides guidance on planning, siting, and designing retrofit stormwater control measures to manage stormwater in existing or reconstructed development situations
- ≧ Also presents an approach for crediting pollutant and runoff volume reductions associated with these measures

New Division Director & Asst. Director!

- ≧ Audra Dickson, Director of the Water Permitting & Enforcement Division
- ≧ Michelle Gore, Assistant Director of the Water Permitting & Enforcement Division

Stormwater Monitoring Reports (SMRs) can now be submitted electronically!

- ≧ Please be on the look out for instructions on the [Industrial Stormwater webpage](#)

Updates to the Industrial and Commercial Stormwater General Permits in progress!

QUESTIONS?

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