Stormwater Management Program (SWMP)

Town of Dover, MA

2 Dedham Street

Dover, MA 02030

EPA NPDES Permit Number: MAR041107

Issued: June 28, 2019

Updated: June 30, 2020

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Certification

Authorized Representative (Optional): All reports, including SWPPPs, inspection reports, annual reports, monitoring reports, reports on training and other information required by this permit must be signed by a person described in Appendix B, Subsection 11.A or by a duly authorized representative of that person in accordance with Appendix B, Subsection 11.B. If there is an authorized representative to sign MS4 reports, there must be a signed and dated written authorization.
The authorization letter is:

☒ Attached to this document (document name listed below)

See Attachment C: Certification Letter for Delegation of "Authorized Representative"

☒ Publicly available at the website below

http://www.doverma.org/185/stormwater

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Printed Name Michael J. Angieri, P.E., Town Engineer

Signature Michael J Angieri PE Town Engr Date 6/23/20

Click Here for Revisions

Background

Stormwater Regulation

The Stormwater Phase II Final Rule was promulgated in 1999 and was the next step after the 1987 Phase I Rule in EPA's effort to preserve, protect, and improve the Nation's water resources from polluted stormwater runoff. The Phase II program expands the Phase I program by requiring additional operators of MS4s in urbanized areas and operators of small construction sites, through the use of NPDES permits, to implement programs and practices to control polluted stormwater runoff. Phase II is intended to further reduce adverse impacts to water quality and aquatic habitat by instituting the use of controls on the unregulated sources of stormwater discharges that have the greatest likelihood of causing continued environmental degradation. Under the Phase II rule all MS4s with stormwater discharges from Census designated Urbanized Area are required to seek NPDES permit coverage for those stormwater discharges.

Permit Program Background

On May 1, 2003, EPA Region 1 issued its Final General Permit for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (2003 small MS4 permit) consistent with the Phase II rule. The 2003 small MS4 permit covered "traditional" (i.e., cities and towns) and "non-traditional" (i.e., Federal and state agencies) MS4 Operators located in the states of Massachusetts and New Hampshire. This permit expired on May 1, 2008 but remained in effect until operators were authorized under the 2016 MS4 general permit, which became effective on July 1, 2018.

Stormwater Management Program (SWMP)

The SWMP describes and details the activities and measures that will be implemented to meet the terms and conditions of the permit. The SWMP accurately describes the permittees plans and activities. The document should be updated and/or modified during the permit term as the permittee's activities are modified, changed or updated to meet permit conditions during the permit term. The main elements of the stormwater management program are (1) a public education program in order to affect public behavior causing stormwater pollution, (2) an opportunity for the public to participate and provide comments on the stormwater program (3) a program to effectively find and eliminate illicit discharges within the MS4 (4) a program to effectively control construction site stormwater discharges to the MS4 (5) a program to ensure that stormwater from development projects entering the MS4 is adequately controlled by the construction of stormwater controls, and (6) a good housekeeping program to ensure that stormwater pollution sources on municipal properties and from municipal operations are minimized.

Town Specific MS4 Background (optional)

Small MS4 Authorization

The NOI was submitted on September 28, 2018

The NOI can be found at the following (document name or web address):

Included as Attachment A in the Dover Stormwater Management Program (SWMP) located at the following web address: http://www.doverma.org/185/stormwater

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Authorization to Discharge was granted on March 5, 2019

The Authorization Letter can be found (document name or web address):

Included as Attachment B in the Dover SWMP located at the following web address: http://www.doverma.org/185/stormwater

Stormwater Management Program Team

SWMP Team Coordinator

Name	Craig S. Hughes	Title	Superintendent of Streets
Department	Highway Department		
Phone Number	(508) 785-0058	Email	towngarage@doverma.org
Responsibilities	- Supervise Personnel - Oversee enforcement of ordinances and standard operating procedures		

SWMP Team

Name	Michael Angieri	Title	Town Engineer
Department	Town Engineer		
Phone Number	508-785-0058 x112	Email	engineer@doverma.org
Responsibilities	- Oversee enforcement of ordinances and standard operating procedures -Record keeping		

Name		Title	
Department			
Phone Number		Email	
Responsibilities			

Add SWMP Member

Receiving Waters

The following table lists all receiving waters, impairments and number of outfalls discharging to each waterbody segment.

OR

The information can be found in the following document or at the following web address:

Waterbody segment that receives flow from the MS4	Number of outfalls into receiving water segment	Chloride	Chlorophyll-a	Dissolved Oxygen/ DO Saturation	Nitrogen	Oil & Grease/ PAH	Phosphorus	Solids/ TSS/ Turbidity	E. coli	Enterococcus	Other pollutant(s) causing impairments
Tubwreck Brook	20	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Charles River	23	☐	☐	☐	☐	☐	☒	☐	☐	☐	DDT, Excess Algal Growth, Fishes Bioassessments, Nutrient/Eutrophication Biological Indicators, PCB in Fish Tissue, Eurasian Water Millfoil, Myriophyllum spicatum, Non-Native Aquatic Plants, Other flow regime operations, Other
Trout Brook	35	☐	☐	☐	☐	☐	☐	☐	☐	☐	Nutrient/Eutrophication Biological Indicators, Temperature, water
Mill Brook	9	☐	☐	☐	☐	☐	☐	☐	☐	☐	
North Brook	17	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Noanet Brook	3	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Hales Pond	6	☐	☐	☐	☐	☐	☐	☐	☐	☐	

Bubbling Brook	1	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Reserve Pond	5	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed water bodies/tributaries	17	☐	☐	☐	☐	☐	☐	☐	☐	☐	
		☐	☐	☐	☐	☐	☐	☐	☐	☐	
		☐	☐	☐	☐	☐	☐	☐	☐	☐	
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Click here to lengthen table

Eligibility: Endangered Species and Historic Properties

*Reminder: The proper consultations and updates to the SWMP must be conducted for construction projects related to your permit compliance where Construction General Permit (CGP) coverage, which requires its own endangered species and history preservation determination, is NOT being obtained.

Attachments:

- ☒ The results of Appendix C U.S. Fish and Wildlife Service endangered species screening determination
- ☐ The results of the Appendix D historic property screening investigations
- ☐ If applicable, any documents from the State Historic Preservation Officer (SHPO), Tribal Historic Preservation Officer (THPO), or other Tribal representative to mitigate effects

These attachments are required within one year of the permit effective date and are:

- ☒ Attached to this document (document names listed below)

  Attachment A: Notice of Intent - Attachment B

- ☒ Publicly available at the website listed below

  http://www.doverma.org/185/stormwater

Under what criterion did permittee determine eligibility for ESA?

☐ Criterion A ☐ Criterion B ☒ Criterion C

Under what criterion did permittee determine eligibility for Historic Properties?

☒ Criterion A ☐ Criterion B ☐ Criterion C ☐ Criterion D (NH only)

Below add any additional measures for structural controls that you're required to do through consultation with U.S. Fish and Wildlife Service (if applicable):

N/A

Below add any additional measures taken to avoid or minimize adverse impacts on places listed, or eligible for listing, on the NRHP, including any conditions imposed by the SHPO or THPO (if applicable):

N/A

MCM 1
Public Education and Outreach
Permit Part 2.3.2

Objective: The permittee shall implement an education program that includes educational goals based on stormwater issues of significance within the MS4 area. The ultimate objective of a public education program is to increase knowledge and change behavior of the public so that the pollutants in stormwater are reduced.

Examples and Templates:
EPA's Stormwater Education Toolbox
MassDEP's Stormwater Outreach Materials

Other templates relevant to MCM 1 can be found here: https://www.epa.gov/npdes-permits/stormwater-tools-new-england#peo

BMP: Web Page

BMP Number (Optional) **1-1**

Document Name and/or Web Address: http://www.doverma.org/185/stormwater

Description:

Dover will develop a webpage link for Stormwater activities including the Town's current SWMP, stormwater SOPs, announcements, etc.

Targeted Audience: Residents

Responsible Department/Parties: Highway Department

Measurable Goal(s):

Annual updates to the official town website to post stormwater events, milestones, documents, educational materials, etc.

Message Date(s): 2019

BMP: Local Public Service Announcements

BMP Number (Optional) **1-2**

Document Name and/or Web Address: http://www.doverma.org/185/stormwater

Description:

Research and purchase a video(s) regarding proper stormwater management practices and standard operating procedures.

Targeted Audience: Businesses, institutions and commercial facilities

Responsible Department/Parties: Highway Department

Measurable Goal(s):

Broadcast video annually on local public access television.

Message Date(s): 2020

BMP: Web Page

BMP Number (Optional) **1-3**

Document Name and/or Web Address: TBD

Description:

Announcements directed toward developers and contractors noting Town by-laws and ordinances relative to construction site runoff control, site inspection and enforcement. Develop a memo for posting summarizing recent updates to packet of requirements that must be included when filing a Building Permit.

Targeted Audience: Developers (construction)

Responsible Department/Parties: Highway Department

Measurable Goal(s):

Two announcements on Town website during permit period.

Message Date(s): 2021

BMP: Videos

BMP Number (Optional) **1-4**

Document Name and/or Web Address: TBD

Description:

Research and purchase a video regarding proper stormwater management practices.

Targeted Audience: Businesses, institutions and commercial facilities

Responsible Department/Parties: Highway Department

Measurable Goal(s):

Broadcast video annually on local public access television.

Message Date(s): 2022

BMP: Brochures/Pamphlets

BMP Number (Optional) **1-5**

Document Name and/or Web Address: http://www.doverma.org/185/stormwater

Description:

Pet waste disposal requirements, proper use and disposal of grass clippings, encourage the proper use of slow-release and phosphorus-free fertilizers, septic system maintenance and effects on catchments to meet the bacteria and pathogen TMDL requirement.

Targeted Audience: Residents

Responsible Department/Parties: Highway Department/Engineering

Measurable Goal(s):

Develop informational pamphlets for distribution at Town offices, bill stuffers, and display at Town website. Update message annually. Distribute a minimum of 250 brochures/pamphlets.

Message Date(s): 2019

BMP: Contests

BMP Number (Optional) **1-6**

Document Name and/or Web Address: TBD

Description:

Stormwater poster contest or other activities in schools.

Targeted Audience: Schools

Responsible Department/Parties: Highway Department

Measurable Goal(s):

Develop a stormwater poster contest and activities promoting education on stormwater with the local schools.

Message Date(s): 2022

BMP:[BMP name here]

BMP Number (Optional)

Document Name and/or Web Address:

Description:

Targeted Audience: No Industrial Facilities in Town

Responsible Department/Parties:

Measurable Goal(s):

Message Date(s):

BMP:[BMP name here]

BMP Number (Optional) _____

Document Name and/or Web Address:

Description:

Targeted Audience:

Responsible Department/Parties:

Measurable Goal(s):

Message Date(s):

Add BMP

MCM 2
Public Involvement and Participation
Permit Part 2.3.3

Objective: The permittee shall provide opportunities to engage the public to participate in the review and implementation of the permittee's SWMP.

BMP: Public Review of Stormwater Management Program

BMP Number (Optional) **2-1**

Location of Plan and/or Web Address: http://www.doverma.org/185/stormwater

Responsible Department/Parties: Highway Department

Measurable Goal(s):

Allow annual review of stormwater management program and posting of stormwater management program on Town website.

BMP: Public Participation in Stormwater Management Program Development

BMP Number (Optional) **2-2**

Description:

SWMP Review

Responsible Department/Parties: Highway Department

Measurable Goal(s):

Allow public to comment on stormwater management plan annually.

BMP: Public Participation

BMP Number (Optional) **2-3**

Document Name and/or Web Address: N/A

Description:

Dover Annual Clean Up Month

Responsible Department/Parties: Dover Recycling Committee

Measurable Goal(s):

Annual Dover Cleanup Month scheduled throughout the month of April each year.

BMP: Public Participation

BMP Number (Optional) **2-4**

Document Name and/or Web Address: N/A

Description:

Dover Household Hazardous Waste Collection Day. This typically occurs one Saturday in April.

Responsible Department/Parties: Highway Department

Measurable Goal(s):

Event held annually.

BMP: Public Participation

BMP Number (Optional) **2-5**

Document Name and/or Web Address: N/A

Description:

Catch Basin Stenciling/Markers

Responsible Department/Parties: Highway Department

Measurable Goal(s):

Develop a Catch Basin Stenciling Program with the local schools or scout group.

Add BMP

MCM 3
Illicit Discharge Detection and Elimination (IDDE) Program

Permit Part 2.3.4

Objective: The permittee shall implement an IDDE program to systematically find and eliminate illicit sources of non-stormwater discharges to its municipal separate storm sewer system and implement procedures to prevent such discharges.

Examples and Templates:
IDDE Program Template and SOPs

Other templates relevant to IDDE can be found here: https://www.epa.gov/npdes-permits/stormwater-tools-new-england#idde

BMP: IDDE Legal Authority

BMP Number (Optional) **3-1** **Completed** (by May 1, 2008) ☒

Ordinances Link or Reference: Document Name: Dover Stormwater Management Program
Web Address: http://www.doverma.org/185/stormwater

Department Responsible for Enforcement: Highway Department

BMP: Sanitary Sewer Overflow (SSO) Inventory

BMP Number (Optional) **3-2** **Completed** (by year 1) ☒

Document Name and/or Web Address: Document Name: Dover Stormwater Management Program
Web Address: http://www.doverma.org/185/stormwater

Description:

Develop SSO inventory in accordance with permit conditions. There is no municipal sewer system in the Town of Dover.

Responsible Department/Parties: Highway Department

Measurable Goal(s):

Annually track and report the following SSO information: the location; a clear statement of whether the discharge entered a surface water directly or entered the MS4; date(s) and time(s) of each known SSO occurrence; estimated volume(s) of the occurrence; description of the occurrence indicating known or suspected cause(s); mitigation and corrective measures completed with dates implemented; and mitigation and corrective measures planned with implementation schedules. Update inventory as needed.

SSO Reporting:

In the event of an overflow or bypass, a notification must be reported within 24 hours by phone to MassDEP, EPA, and other relevant parties. Follow up the verbal notification with a written report following MassDEP's Sanitary Sewer Overflow (SSO)/Bypass notification form within 5 calendar days of the time you become aware of the overflow, bypass, or backup.

The MassDEP contacts are:	The EPA contacts are:
Northeast Region (978) 694-3215 205B Lowell Street Wilmington, MA 01887 Central Region (508) 792-7650 8 New Bond Street Worcester, MA 01606 Southeast Region (508) 946-2750 20 Riverside Drive Lakeville, MA 02347 Western Region (413) 784-1100 436 Dwight Street Springfield, MA 01103 24-hour Emergency Line 1-888-304-1133	EPA New England (617) 918-1510 5 Post Office Square Boston, MA 02109

BMP: Map of Storm Sewer System

BMP Number (Optional) **3-3**

Phase I Completed (by year 2) ☒ **Phase II Completed** (by year 10) ☐

Document Location and/or Web Address: Document Name: Dover Stormwater Management Program
Web Address: http://www.doverma.org/185/stormwater

Description:

Update storm sewer mapping with Phase I and Phase II requirements.

Responsible Department/Parties: Highway Department

Measurable Goal(s):

Map 100% of outfalls and receiving waters, open channel conveyances, interconnections with other MS4s and other storm sewer systems, municipally-owned stormwater treatment structures, waterbodies identified by name and indication of all use impairments, and initial catchment delineations within 2 years of the permit's effective date. Map 100% of outfall spatial locations, pipes, manholes, catch basins, refined catchment delineations, municipal sanitary sewer system (if available), and municipal combined sewer system (if applicable) within 10 years of the permit's effective date.

BMP: IDDE Program

BMP Number (Optional) **3-4**

Written Document Completed (by year 1) ☒

Document Name and/or Web Address: Document Name: Dover Stormwater Management Program
Web Address: http://www.doverma.org/185/stormwater

Description:

Create written IDDE plan incorporating all requirements in the permit. Implement catchment investigations

according to program and permit conditions. Catchments draining to water bodies impaired due to bacteria or pathogens will be designated as high priority to address the bacteria and pathogens TMDL.

Responsible Department/Parties: Highway Department

Measurable Goal(s):

Conduct 100% of outfall screening on High and Low Priority Outfalls within 3 years of the permit's effective date. Complete catchment investigations for 100% of the Problem Outfalls within 7 years of the permit's effective date. Complete 100% of all catchment investigations within 10 years of the permit's effective date.

The outfall/interconnection inventory and initial ranking and the dry weather outfall and interconnection screening and sampling results can be found:

Initial ranking is provided in the written IDDE Plan, which is attached to the SWMP.
Web Address: http://www.doverma.org/185/stormwater
Dry weather outfall and interconnection screening and sampling results to be determined.

BMP: Employee Training

BMP Number (Optional) **3-5**

Description:

Train employees on IDDE identification, removal of non-stormwater sources, and IDDE program implementation.

Responsible Department/Parties: Highway Department

Measurable Goal(s):

Annual IDDE training began in 2019.

BMP: Conduct Dry Weather Screening

BMP Number (Optional) **3-6** **Completed** ☐

Document Name and/or Web Address: TBD

Description:

Conduct dry weather outfall screening in accordance with the procedures and conditions outlined in the permit.

Responsible Department/Parties: Highway Department

Measurable Goal(s):

Complete 3 years after effective date of permit.

BMP: Conduct Wet Weather Screening

BMP Number (Optional) **3-7** **Completed** ☐

Document Name and/or Web Address: TBD

Description:

Conduct in accordance with outfall screening procedure.

Responsible Department/Parties: Highway Department

Measurable Goal(s):

Complete 10 years after effective date of permit.

BMP: Ongoing Screening

BMP Number (Optional) **3-8** **Completed** ☐

Document Name and/or Web Address: TBD

Description:

Conduct dry weather and wet weather screening (as necessary).

Responsible Department/Parties: Highway Department

Measurable Goal(s):

Complete ongoing outfall screening upon completion of IDDE program.

BMP: Illicit Discharge Identification

BMP Number (Optional) **3-9** **Completed** ☒

Document Name and/or Web Address: N/A

Description:

Request that contractors report observed illicit discharges during catch basin cleaning.

Responsible Department/Parties: Highway Department

Measurable Goal(s):

Complete during annual catch basin cleaning.

Add BMP

MCM 4
Construction Site Stormwater Runoff Control
Permit Part 2.3.5

Objective: The objective of an effective construction stormwater runoff control program is to minimize or eliminate erosion and maintain sediment on site so that it is not transported in stormwater and allowed to discharge to a water of the U.S. through the permittee's MS4.

Examples and Templates:
Examples and templates relevant to MCM 4, including model ordinances and site inspection templates, can be found here: https://www.epa.gov/npdes-permits/stormwater-tools-new-england#csrc

BMP: Sediment and Erosion Control Ordinance

BMP Number (Optional) **4-1** **Completed** (by May 1, 2008) ☒

Ordinances Link or Reference: Document Name: Dover Stormwater Management Program
Web Address: http://www.doverma.org/185/stormwater

Department Responsible for Enforcement: Highway Department

BMP: Site Plan Review Procedures

BMP Number (Optional) **4-2** **Written procedures completed** (by year 1) ☒

Document Name and/or Web Address: Document Name: Dover Stormwater Management Program
Web Address: http://www.doverma.org/185/stormwater

Description:

Provide Town's written site plan review procedures.

Responsible Department/Parties: Highway Department

Measurable Goal(s):

Conduct site plan review of 100% of projects according to the procedures outlined above. Complete within 1 year of the effective date of permit.

BMP: Site Inspections and Enforcement of Sediment and Erosion Control Measures Procedures

BMP Number (Optional) **4-3** **Completed** (by year 1) ☒

Document Name and/or Web Address: Document Name: Dover Stormwater Management Program
Web Address: http://www.doverma.org/185/stormwater

Description:

Written procedures for site inspections and enforcement procedures as required in the new permit.

Responsible Department/Parties: Highway Department

Measurable Goal(s):

Inspect 100% of construction sites as outlined in the above document and take enforcement actions as needed. Complete within 1 year of the effective date of permit.

BMP: Erosion and Sediment Control

BMP Number (Optional) **4-4** **Completed** ☒

Document Name and/or Web Address: Document Name: Dover Stormwater Management Program
Web Address: http://www.doverma.org/185/stormwater

Description:

Implement requirements for construction operators to implement a sediment and erosion control program.

Responsible Department/Parties: Highway Department.

Measurable Goal(s):

Complete within 1 year of the effective date of permit.

BMP: Waste Control

BMP Number (Optional) **4-5** **Completed** ☐

Document Name and/or Web Address: TBD

Description:

Develop and implement written requirements to control wastes, including but not limited to, discarded building materials, concrete truck wash out, chemicals, litter, and sanitary wastes.

Responsible Department/Parties: Highway Department

Measurable Goal(s):

Complete within 2 years of the effective date of permit.

Add BMP

MCM 5
Post Construction Stormwater Management in New Development and Redevelopment

Permit Part 2.3.6

Objective: The objective of an effective post construction stormwater management program is to reduce the discharge of pollutants found in stormwater to the MS4 through the retention or treatment of stormwater after construction on new or redeveloped sites and to ensure proper maintenance of installed stormwater controls.

Examples and Templates:
Examples and templates relevant to MCM 5, including model ordinances and bylaw review templates and guidance can be found here: https://www.epa.gov/npdes-permits/stormwater-tools-new-england#pcsm

BMP: Post-Construction Ordinance

BMP Number (Optional) **5-1** **Completed** (by year 2) ☐

Town Ordinances Link or Reference: TBD

Department Responsible for Enforcement: Highway Department

BMP: Street Design and Parking Lot Guidelines Report

BMP Number (Optional) **5-2** **Completed** (by year 4) ☐

Document Name and/or Web Address: TBD

Description:

Develop a report assessing requirements that affect the creation of impervious cover. The assessment will help determine if changes to design standards for streets and parking lots can be modified to support low impact design options.

Responsible Department/Parties: Highway Department

Measurable Goal(s):

Complete 4 years after effective date of permit. Recommendations shall be implemented by July 1, 2022 with progress reported annually.

BMP: Green Infrastructure Report

BMP Number (Optional) **5-3** **Completed** (by year 4) ☐

Document Name and/or Web Address: TBD

Description:

Develop a report assessing existing local regulations to determine the feasibility of making green infrastructure practices allowable when appropriate site conditions exist. Dover is currently a Green Community.

Responsible Department/Parties: Highway Department

Measurable Goal(s):

Complete 4 years after effective date of permit. Recommendations shall be implemented by July 1, 2022 with progress reported annually.

BMP: List of Municipal Retrofit Opportunities

BMP Number (Optional) **5-4** **Completed** (by year 4) ☐

Document Name and/or Web Address: TBD

Description:

Identify at least 5 permittee-owned properties that could be modified or retrofitted with BMPs to reduce impervious areas and update annually.

Responsible Department/Parties: Highway Department

Measurable Goal(s):

Complete 4 years after effective date of the permit and report annually on retrofitted properties. The list shall be completed by July 1, 2022 and updated as needed.

BMP: As-Built Plans for On-Site Stormwater Control

BMP Number (Optional) **5-5** **Completed** ☐

Document Name and/or Web Address: TBD

Description:

The Town currently has procedures in place requiring the submittal of as-built plans for new construction. Further development of these procedures in accordance with the MS4 General Permit to require submission of as-built drawings and ensure long term operation and maintenance will be a part of the SWMP.

Responsible Department/Parties: Highway Department

Measurable Goal(s):

Require submission of as-built plans for completed projects within 2 years after completion of construction.

BMP: Post-Construction Design Standards

BMP Number (Optional) **5-6** **Completed** ☐

Document Name and/or Web Address: TBD

Description:

Update Town stormwater design standards to further promote infiltration of post-construction stormwater runoff, i.e. grassed swales, infiltration basins and trenches, porous pavement, etc.

Responsible Department/Parties: Highway Department

Measurable Goal(s):

Complete 3 years after effective date of permit.

Add BMP

MCM 6
Good Housekeeping and Pollution Prevention for Permittee Owned Operations

Permit Part 2.3.7

Objective: The permittee shall implement an operations and maintenance program for permittee-owned operations that has a goal of preventing or reducing pollutant runoff and protecting water quality from all permittee-owned operations.

Examples and Templates:
Examples and templates relevant to MCM 6, including SOP templates for catch basin cleaning, street sweeping, vehicle maintenance, parks and open space management, winter deicing, and Stormwater Pollution Prevention Plans can be found here: https://www.epa.gov/npdes-permits/stormwater-tools-new-england#gh

PERMITTEE OWNED FACILITIES

BMP: Parks and Open Spaces Operations and Maintenance Procedures

BMP Number (Optional) **6-1** **Written Document Completed** (by year 2) ☒

Document Name and/or Web Address: Document Name: Dover Stormwater Management Program
Web Address: http://www.doverma.org/185/stormwater

Description:

Create written O&M procedures including all requirements contained in 2.3.7.a.ii for parks and open spaces.

Responsible Department/Parties: Highway Department

Measurable Goal(s):

Implement the SOP listed above on 100% of the parks and open spaces. Complete and implement 2 years after effective date of permit.

Properties List (Optional)**:**

N/A

BMP: Buildings and Facilities Operations and Maintenance Procedures

BMP Number (Optional) **6-2** **Written Document Completed** (by year 2) ☒

Document Name and/or Web Address: Document Name: Dover Stormwater Management Program
Web Address: http://www.doverma.org/185/stormwater

Description:

Create written O&M procedures including all requirements contained in 2.3.7.a.ii for buildings and facilities.

Responsible Department/Parties: Highway Department

Measurable Goal(s):

Implement the SOP listed above on 100% of buildings and facilities. Complete and implement 2 years after effective date of permit.

Properties List (Optional)**:**

N/A

BMP: Vehicles and Equipment Operations and Maintenance Procedures

BMP Number (Optional) **6-3** **Written Document Completed** (by year 2) ☒

Document Name and/or Web Address: Document Name: Dover Stormwater Management Program
Web Address: http://www.doverma.org/185/stormwater

Description:

Create written O&M procedures including all requirements contained in 2.3.7.a.ii for vehicles and equipment.

Responsible Department/Parties: Highway Department

Measurable Goal(s):

Implement the SOP listed above for 100% of vehicles and equipment. Complete and implement 2 years after effective date of permit.

Properties List (Optional)**:**

N/A

INFRASTRUCTURE

BMP: Infrastructure Operations and Maintenance Procedures

BMP Number (Optional) **6-4** **Written Procedure Completed** (by year 2) ☒

Document Name and/or Web Address: Document Name: Dover Stormwater Management Program
Web Address: http://www.doverma.org/185/stormwater

Description:

Establish and implement program for repair and rehabilitation of MS4 infrastructure.

Responsible Department/Parties: Highway Department

Measurable Goal(s):

100% of infrastructure is maintained to ensure proper function in accordance with these procedures. Complete 2 years after effective date of permit.

BMP: Catch Basin Cleaning Program

BMP Number (Optional) **6-5** **Written Procedure Completed** (by year 1) ☒

Document Name and/or Web Address: Document Name: Dover Stormwater Management Program
Web Address: http://www.doverma.org/185stormwater

Description:

Written SOP for catch basin cleaning operations. Maintain schedule for catch basin cleaning such that each

catch basin is no more than 50% full and clean catch basins as dictated by the schedule.

Responsible Department/Parties: Highway Department

Measurable Goal(s):

All catch basins are cleaned in accordance to the document above such that no catch basin is more than 50% full at any given time. Clean catch basins on established schedule and report number of catch basins cleaned and volume of material moved annually. Complete and implement program 1 year after effective date of permit.

BMP: Street Sweeping Program

BMP Number (Optional) **6-6** **Written Procedure Completed** (by year 1) ☒

Document Name and/or Web Address: Document Name: Dover Stormwater Management Program
Web Address: http://www.doverma.org/185/stormwater

Description:

Written SOP for street sweeping operations. Sweep all municipal owned streets and parking lots in accordance with permit conditions.

Responsible Department/Parties: Highway Department

Measurable Goal(s):

Sweep all municipal owned streets and parking lots twice per year, once in the spring and once in the fall.

BMP: Winter Road Maintenance Program

BMP Number (Optional) **6-7** **Written Procedure Completed** (by year 1) ☒

Document Name and/or Web Address: Document Name: Dover Stormwater Management Program
Web Address: http://www.doverma.org/185/stormwater

Description:

Written winter road maintenance procedures including the use and storage of salt and sand, minimizing the use of road salt, and forbidding disposal of snow into waters.

Responsible Department/Parties: Highway Department

Measurable Goal(s):

Complete and implement 1 year after effective date of permit. Implement salt use optimization during deicing season.

BMP: Stormwater Treatment Structures Inspection and Maintenance Procedures

BMP Number (Optional) **6-8** **Completed** (by year 1) ☒

Document Name and/or Web Address: Document Name: Dover Stormwater Management Program
Web Address: http://www.doverma.org/185/stormwater

Description:

SOP for inspection and maintenance procedures and frequencies associated with stormwater treatment structures.

Responsible Department/Parties: Highway Department

Measurable Goal(s):

Inspect and maintain treatment structures annually. Complete and implement 1 year after effective date of permit.

BMP: SWPPP

BMP Number (Optional) **6-9** **Completed** (by year 2) ☒

Document Name and/or Web Address: Document Name: SWPPP Highway Garage
Document Name: SWPPP Transfer Station
Hard copies of the SWPPPs are available at the respective Dover facilities.

Description:

Created SWPPPs for the Highway Garage and Transfer Station.

Responsible Department/Parties: Highway Department

Measurable Goal(s):

Develop and implement SWPPPs for 100% of facilities. Complete and implement 2 years after effective date of permit.

BMP: Inventory

BMP Number (Optional) **6-10** **Completed** ☒

Document Name and/or Web Address: Document Name: Dover Stormwater Management Program
Web Address: http://www.doverma.org/185/stormwater

Description:

Create inventory of all permittee-owned parks and open spaces, buildings and facilities, and vehicles and

equipment.

Responsible Department/Parties: Highway Department

Measurable Goal(s):

Complete 2 years after effective date of permit and implement annually.

BMP: O&M Program (General)

BMP Number (Optional) **6-11** **Completed** ☒

Document Name and/or Web Address: N/A

Description:

Use environmentally safe and pet-friendly de-icing pellets consisting of calcium chloride on sidewalks around public buildings.

Responsible Department/Parties: Highway Department

Measurable Goal(s):

Ongoing annual use by the Town of Dover.

BMP: O&M Program (Grounds Care/Integrate Pest Management)

BMP Number (Optional) **6-12** **Completed** ☒

Document Name and/or Web Address: N/A

Description:

Treat all Town-owned lawns with organic fertilizers.

Responsible Department/Parties: Parks/Recreation/Cemetery

Measurable Goal(s):

Ongoing annual use by the Town of Dover.

BMP: Sidewalk Sweeping

BMP Number (Optional) **6-13**

Completed ☒

Document Name and/or Web Address: N/A

Description:

Annual sweeping of Town sidewalks.

Responsible Department/Parties: Highway Department

Measurable Goal(s):

The Town of Dover completes sweeping of Town sidewalks once per year.

BMP: Employee Training - General Stormwater Topics

BMP Number (Optional) **6-14**

Completed ☒

Document Name and/or Web Address: N/A

Description:

Conduct an annual in-house training session reviewing general pollution abatement practices associated with municipal facilities.

Responsible Department/Parties: Highway Department

Measurable Goal(s):

Implement 2 years after effective date of permit.

Add BMP

Annual Evaluation

Year 1 Annual Report

Document Name and/or Web Address:

Web Address: http://www.doverma.org/185/stormwater

Year 2 Annual Report

Document Name and/or Web Address:

Year 3 Annual Report

Document Name and/or Web Address:

Year 4 Annual Report

Document Name and/or Web Address:

Year 5 Annual Report

Document Name and/or Web Address:

Year X Annual Report

Document Name and/or Web Address:

Add a Year

TMDLs and Water Quality Limited Waters

Select the applicable Impairment(s) and/or TMDL(s).

Impairment(s)

☐ Bacteria/Pathogens ☐ Chloride ☐ Nitrogen ☒ Phosphorus

☐ Solids/oil/grease (hydrocarbons)/metals

TMDL(s)

In State:

☐ Assabet River Phosphorus ☒ Bacteria and Pathogen ☐ Cape Cod Nitrogen

☒ Charles River Watershed Phosphorus ☐ Lake and Pond Phosphorus

Out of State:

☐ Bacteria and Pathogen ☐ Metals ☐ Nitrogen ☐ Phosphorus

Clear Impairments and TMDLs

Bacteria/Pathogens

Combination of Impaired Waters Requirements and TMDL Requirements as Applicable

Applicable Receiving Waterbody(ies)	TMDL Name (if applicable)	Add/Delete Row
Charles River Watershed		+ -

Annual Requirements Beginning Year 1

Rank outfalls to these receiving waters as high priority for IDDE implementation in the initial outfall ranking

The relevant BMP number(s) listed above in the Stormwater Management Program OR the description of implementation actions and document location(s) are:

3-4

Public Education and Outreach

(Public education messages can be combined with other public education requirements as applicable (see Appendix H and F for more information))

Annual message encouraging the proper management of pet waste, including noting any existing ordinances where appropriate

The relevant BMP number(s) listed above in the Stormwater Management Program OR the description of implementation actions and document location(s) are:

1-1, 1-5

Permittee or its agents disseminate educational material to dog owners at the time of issuance or renewal of dog license, or other appropriate time

The relevant BMP number(s) listed above in the Stormwater Management Program OR the description of implementation actions and document location(s) are:

1-5

Provide information to owners of septic systems about proper maintenance in any catchment that discharges to a water body impaired for bacteria

The relevant BMP number(s) listed above in the Stormwater Management Program OR the description of implementation actions and document location(s) are:

1-5

Phosphorus

Combination of Impaired Waters Requirements and TMDL Requirements as Applicable

Applicable Receiving Waterbody(ies)	TMDL Name (if applicable)	Add/Delete Row
Lower Charles River		+ -

Annual Requirements Beginning Year 1

Rank outfalls to these receiving waters as high priority for IDDE implementation in the initial outfall ranking

The relevant BMP number(s) listed above in the Stormwater Management Program OR the description of implementation actions and document location(s) are:

3-4

Public Education and Outreach

(Public education messages can be combined with other public education requirements as applicable (see Appendix H and F for more information))

Distribute an annual message in the spring(April/May) that encourages the proper use and disposal of grass clippings and encourages the proper use of slow-release and phosphorus-free fertilizers

The relevant BMP number(s) listed above in the Stormwater Management Program OR the description of implementation actions and document location(s) are:

1-1, 1-6

Distribute an annual message in the summer (June/July) encouraging the proper management of pet waste, including noting any existing ordinances where appropriate

The relevant BMP number(s) listed above in the Stormwater Management Program OR the description of implementation actions and document location(s) are:

1-1, 1-5

Distribute an annual message in the fall (August/September/October) encouraging the proper disposal of leaf litter

The relevant BMP number(s) listed above in the Stormwater Management Program OR the description of implementation actions and document location(s) are:

1-1, 1-5

Good Housekeeping and Pollution Prevention for Permittee Owned Operations

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Increase street sweeping frequency of all municipal owned streets and parking lots subject to Permit part 2.3.7.a.iii.(c) to a minimum of two times per year (spring and fall)

The relevant BMP number(s) listed above in the Stormwater Management Program OR the description of implementation actions and document location(s) are:

6-6

Establish procedures to properly manage grass cuttings and leaf litter on permittee property, including prohibiting blowing organic waste materials onto adjacent impervious surfaces

The relevant BMP number(s) listed above in the Stormwater Management Program OR the description of implementation actions and document location(s) are:

SOP - Managing Grass Clippings and Leaf Litter on Permittee Property.
See Attachment Q.

Stormwater Management in New Development and Redevelopment

Retrofit inventory and priority ranking under 2.3.6.1.b. shall include consideration of BMPs to reduce nitrogen discharges

The relevant BMP number(s) listed above in the Stormwater Management Program OR the description of implementation actions and document location(s) are:

5-4

Nitrogen Reduction Tracking BMP

Any structural BMPs listed in Table 3 of Attachment 1 to Appendix H already existing or installed in the regulated area by the permittee or its agents shall be tracked and the permittee shall estimate the phosphorus removal by the BMP consistent with Attachment 1 to Appendix H.

The BMP type, total area treated by the BMP, the design storage volume of the BMP and the estimated phosphorus removed in pass per year by the BMP is found in the following document or website and is updated yearly at a minimum:

Dover is reviewing the noted structural BMPs currently in place and evaluating means to track phosphorous removal.

Requirements Due by Year 2

Stormwater Management in New Development and Redevelopment

The requirement for adoption/amendment of the permittee's ordinance or other regulatory mechanism shall include a requirement that new development and redevelopment stormwater management BMPs be optimized for phosphorus removal

The relevant BMP number(s) listed above in the Stormwater Management Program OR the description of implementation actions and document location(s) are:

5-1, 5-4, 5-6

Requirements Due by Year 4

Complete a Phosphorus Source Identification Report

The document name (if attached) and/or web address is/are:

TBD

Stormwater Management in New Development and Redevelopment

Retrofit inventory and priority ranking under 2.3.6.1.b. shall include consideration of BMPs that infiltrate stormwater where feasible

The relevant BMP number(s) listed above in the Stormwater Management Program OR the description of implementation actions and document location(s) are:

5-4

Requirements Due by Year 5

Potential Structural BMPs

Evaluate all permittee-owned properties identified as presenting retrofit opportunities or areas for structural BMP installation under Permit part 2.3.6.d.ii or identified in the Phosphorus Source Identification Report that are within the drainage area of the impaired water or its tributaries

The relevant BMP number(s) listed above in the Stormwater Management Program OR the description of implementation actions and document location(s) are:

5-4

Complete a listing of planned structural BMPs and a plan and schedule for implementation

The relevant BMP number(s) listed above in the Stormwater Management Program OR the description of implementation actions and document location(s) are:

5-4

Charles River Watershed Phosphorus TMDL

PCP Phase	Document Location
I (completed by year 5)	
II (completed by year 10)	
III (completed by year 15)	

ATTACHMENT A

NOTICE OF INTENT

Notice of Intent (NOI) for coverage under Small MS4 General Permit

Part I: General Conditions

General Information

Name of Municipality or Organization: Dover

State: MA

EPA NPDES Permit Number (if applicable): MAR041107

Primary MS4 Program Manager Contact Information

Name: Craig S. Hughes

Title: Superintendent of Streets

Street Address Line 1: 2 Dedham Street

Street Address Line 2: P.O. Box 250

City: Dover

State: MA

Zip Code: 02030

Email: towngarage@doverma.org

Phone Number: (508) 785-0058

Fax Number: (508) 785-8115

Other Information

Stormwater Management Program (SWMP) Location (web address or physical location, if already completed): SWMP to be completed within the required time frame stated in the permit. When complete, the SWMP with be stored at the Highway Department Office and available on the Town's website.

Eligibility Determination

Endangered Species Act (ESA) Determination Complete? Yes

Eligibility Criteria (check all that apply): ☐ A ☐ B ☒ C

National Historic Preservation Act (NHPA) Determination Complete? Yes

Eligibility Criteria (check all that apply): ☒ A ☐ B ☐ C

☑ Check the box if your municipality or organization was covered under the 2003 MS4 General Permit

MS4 Infrastructure (if covered under the 2003 permit)

Estimated Percent of Outfall Map Complete? *(Part II, III, IV or V, Subpart B.3.(a.) of 2003 permit)*: 100%

If 100% of 2003 requirements not met, enter an estimated date of completion (MM/DD/YY):

Web address where MS4 map is published:

If outfall map is unavailable on the internet an electronic or paper copy of the outfall map must be included with NOI submission (see section V for submission options)

A PDF of the Town's current outfall map is attached to this NOI.

Regulatory Authorities (if covered under the 2003 permit)

Illicit Discharge Detection and Elimination (IDDE) Authority Adopted? *(Part II, III, IV or V, Subpart B.3.(b.) of 2003 permit)*: Yes

Effective Date or Estimated Date of Adoption (MM/DD/YY): 05/02/16

Construction/Erosion and Sediment Control (ESC) Authority Adopted? *(Part II,III,IV or V, Subpart B.4.(a.) of 2003 permit)*: Yes

Effective Date or Estimated Date of Adoption (MM/DD/YY): 07/16/07

Post- Construction Stormwater Management Adopted? *(Part II, III, IV or V, Subpart B.5.(a.) of 2003 permit)*: Yes

Effective Date or Estimated Date of Adoption (MM/DD/YY): 02/15/95

Notice of Intent (NOI) for coverage under Small MS4 General Permit

Part II: Summary of Receiving Waters

Please list the waterbody segments to which your MS4 discharges. For each waterbody segment, please report the number of outfalls discharging into it and, if applicable, any impairments.

Massachusetts list of impaired waters: *Massachusetts 2014 List of Impaired Waters*- http://www.mass.gov/eea/docs/dep/water/resources/07v5/14list2.pdf

Check off relevant pollutants for discharges to impaired waterbodies (see above 303(d) lists) without an approved TMDL in accordance with part 2.2.2.a of the permit. List any other pollutants in the last column, if applicable.

Waterbody segment that receives flow from the MS4	**Number of outfalls into receiving water segment**	**Chloride**	**Chlorophyll-a**	**Dissolved Oxygen/ DO Saturation**	**Nitrogen**	**Oil & Grease/ PAH**	**Phosphorus**	**Solids/ TSS/ Turbidity**	**E. coli**	**Enterococcus**	**Other pollutant(s) causing impairments**
Tubwreck Brook	20	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Charles River	23	☐	☐	☐	☐	☐	☒	☐	☐	☐	DDT, Excess Algal Growth, Fishes Bioassessments, Nutrient/Eutrophication Biological Indicators, PCB in Fish Tissue, Eurasian Water Milfoil, Myriophyllum spicatum, Non-Native Aquatic Plants, Other flow regime operations, Other
Trout Brook	35	☐	☐	☐	☐	☐	☐	☐	☐	☐	Nutrient/Eutrophication Biological Indicators, Temperature, water
Mill Brook	9	☐	☐	☐	☐	☐	☐	☐	☐	☐	
North Brook	17	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Noanet Brook	3	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Hales Pond	6	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Bubbling Brook	1	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Reserve Pond	5	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed water bodies/tributaries	17	☐	☐	☐	☐	☐	☐	☐	☐	☐	
		☐	☐	☐	☐	☐	☐	☐	☐	☐	
		☐	☐	☐	☐	☐	☐	☐	☐	☐	
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Click to lengthen table

Notice of Intent (NOI) for coverage under Small MS4 General Permit

Part III: Stormwater Management Program Summary

Identify the Best Management Practices (BMPs) that will be employed to address each of the six Minimum Control Measures (MCMs). For municipalities/organizations whose MS4 discharges into a receiving water with an approved Total Maximum Daily Load (TMDL) and an applicable waste load allocation (WLA), identify any additional BMPs employed to specifically support the achievement of the WLA in the TMDL section at the end of part III.

For each MCM, list each existing or proposed BMP by category and provide a brief description, responsible parties/departments, measurable goals, and the year the BMP will be employed (public education and outreach BMPs also requires a target audience). **Use the drop-down menus in each table or enter your own text to override the drop down menu.**

MCM 1: Public Education and Outreach

BMP Media/Category (enter your own text to override the drop down menu)	**BMP Description**	**Targeted Audience**	**Responsible Department/Parties** (enter your own text to override the drop down menu)	**Measurable Goal**	**Beginning Year of BMP Imple-mentation**
Web Page	Dover will develop a webpage link for Stormwater activities including the Town's current SWMP, stormwater SOPs, announcements, etc.	Residents	Highway Department	Annual updates to the official town website to post stormwater events, milestones, documents, educational materials, etc.	2019
Local Public Service Announcements	Research and purchase a video(s) regarding proper stormwater management practices and standard operating procedures	Businesses, Institutions and Commercial Facilities	Highway Department	Broadcast video annually on local public access television.	2020

Web Page	Announcements directed toward developers and contractors noting Town by-laws and ordinances relative to construction site runoff control, site inspection and enforcement. Develop a memo for posting summarizing recent updates to packet of requirements that must be included when filing a Building Permit.	Developers (construction)	Highway Department	Two announcements on Town website during permit period	2021
Videos	Research and purchase a video regarding proper stormwater management practices.	Businesses, Institutions and Commercial Facilities	Highway Department	Broadcast video annually on local public access television.	2022
Brochures/Pamphlets	Pet waste disposal requirements, septic system maintenance and effects on catchments to meet the bacteria and pathogen TMDL requirement.	Residents	Highway Department/Engineering	Develop informational pamphlets for distribution at Town offices, bill stuffers, and display at Town website. Update message annually.	2019
Contests	Stormwater poster contest or other activities in schools	Schools	Highway Department	Develop a stormwater poster contest and activities promoting education on stormwater with the local schools	2022
		No Industrial Facilities in Town			

Notice of Intent (NOI) for coverage under Small MS4 General Permit

Part III: Stormwater Management Program Summary (continued)

MCM 2: Public Involvement and Participation

BMP Categorization	Brief BMP Description (enter your own text to override the drop down menu)	Responsible Department/Parties (enter your own text to override the drop down menu)	Additional Description/ Measurable Goal	Beginning Year of BMP Implementation
Public Participation	Dover Annual Clean Up Day	Dover Recycling Committee	Annual Dover Cleanup Day scheduled in March or April each year	2018
Public Participation	Dover Household Hazardous Waste Collection Day	Highway Department	Event held annually	2018
Public Review	SWMP Review	Highway Department	Allow annual review of stormwater management plan and posting of stormwater management plan on Town website	2019
Public Participation	SWMP Review	Highway Department	Allow public to comment on stormwater management plan annually	2019
Public Participation	Catch Basin Stenciling/Markers	Highway Department	Develop a Catch Basin Stenciling Program with the local schools or scout group	2020

Notice of Intent (NOI) for coverage under Small MS4 General Permit

Part III: Stormwater Management Program Summary (continued)

MCM 3: Illicit Discharge Detection and Elimination (IDDE)

BMP Categorization (enter your own text to override the drop down menu)	**BMP Description**	**Responsible Department/Parties** (enter your own text to override the drop down menu)	**Measurable Goal** (all text can be overwritten)	**Beginning Year of BMP Imple-mentation**
SSO inventory	Develop SSO inventory in accordance with permit conditions	Highway Department	Complete within 1 year of effective date of permit	2019
Storm sewer system map	Update storm sewer system mapping with Phase I requirements	Highway Department	Update map within 2 years of effective date of permit and complete full system map 10 years after effective date of permit	2020
Written IDDE program	Create written IDDE plan incorporating all requirements in the permit	Highway Department	Complete within 1 year of the effective date of permit and update as required	2019
Implement IDDE program	Implement catchment investigations according to program and permit conditions. Catchments draining to waterbodies impaired due to bacteria or pathogens will be designated as high priority to address the bacteria and pathogens TMDL.	Highway Department	Complete 10 years after effective date of permit	2028
Employee training	Train employees on IDDE identification, removal of non-stormwater sources, and IDDE program implementation	Highway Department	Train annually beginning in year 2 of the permit	2020
Conduct dry weather screening	Conduct dry weather outfall screening in accordance with the procedures and conditions outlined in the permit	Highway Department	Complete 3 years after effective date of permit	2021

Conduct wet weather screening	Conduct in accordance with outfall screening procedure	Highway Department	Complete 10 years after effective date of permit	2028
Ongoing screening	Conduct dry weather and wet weather screening (as necessary)	Highway Department	Complete ongoing outfall screening upon completion of IDDE program	2029
Illicit discharge identification	Request that contractors report observed illicit discharges during catch basin cleaning	Highway Department	Complete during annual catch basin cleaning	2018
IDDE Ordinance/Bylaw	Enforce requirements in the Town's existing IDDE Bylaw	Highway Department	Bylaw is in effect and enforced	2018

Notice of Intent (NOI) for coverage under Small MS4 General Permit

Part III: Stormwater Management Program Summary (continued)

MCM 4: Construction Site Stormwater Runoff Control

BMP Categorization (enter your own text to override the drop down menu or entered text)	**BMP Description**	**Responsible Department/Parties** (enter your own text to override the drop down menu)	**Measurable Goal** (all text can be overwritten)	**Beginning Year of BMP Implementation**
Site inspection and enforcement of Erosion and Sediment Control (ESC) measures	Complete written procedures for site inspections and enforcement procedures as required in the new permit	Highway Department	Complete within 1 year of the effective date of permit	2019
Site plan review	Update Town's existing site plan review written documentation to include additional requirements outlined in the permit	Highway Department	Complete within 1 year of the effective date of permit	2019
Erosion and Sediment Control	Implement requirements for construction operators to implement a sediment and erosion control program	Highway Department	Complete within 1 year of the effective date of permit	2019
Waste Control	Develop and implement written requirements to control wastes, including but not limited to, discarded building materials, concrete truck wash out, chemicals, litter, and sanitary wastes	Highway Department	Complete within 1 year of the effective date of permit	2019

Notice of Intent (NOI) for coverage under Small MS4 General Permit

Part III: Stormwater Management Program Summary (continued)

MCM 5: Post-Construction Stormwater Management in New Development and Redevelopment

BMP Categorization (enter your own text to override the drop down menu or entered text)	**BMP Description**	**Responsible Department/Parties** (enter your own text to override the drop down menu)	**Measurable Goal** (all text can be overwritten)	**Beginning Year of BMP Imple-mentation**
As-built plans for on-site stormwater control	Procedures to require submission of as-built drawings and ensure long term operation and maintenance will be a part of the SWMP	Highway Department	Require submission of as-built plans for completed projects within 2 years after completion of construction	2019
Target properties to reduce impervious areas	Identify at least 5 permittee-owned properties that could be modified or retrofitted with BMPs to reduce impervious areas and update annually	Highway Department	Complete 4 years after effective date of permit and report annually on retrofitted properties	2022
Allow green infrastructure	Develop a report assessing existing local regulations to determine the feasibility of making green infrastructure practices allowable when appropriate site conditions exist. Dover is currently a Green Community.	Highway Department	Complete 4 years after effective date of permit and implement recommendations of report	2022
Street design and parking lot guidelines	Develop a report assessing requirements that affect the creation of impervious cover. The assessment will help determine if changes to design standards for streets and parking lots can be modified to support low impact design options	Highway Department	Complete 4 years after effective date of permit and implement recommendations of report	2022

Enforce stormwater controls or management practices for new development and redevelopment that meet the retention or treatment requirements of the permit and all applicable requirements of the Massachusetts Stormwater Handbook	Update/amend existing Town bylaws to address post-construction site runoff in new development and redevelopment that meet permit requirements	Highway Department	Complete 2 years after effective date of permit	2020
Post-Construction Design Standards	Update Town stormwater design standards to further promote infiltration of post-construction stormwater runoff, i.e. grassed swales, infiltration basins and trenches, porous pavement, etc.	Highway Department	Complete 3 years after effective date of permit	2021

Notice of Intent (NOI) for coverage under Small MS4 General Permit

Part III: Stormwater Management Program Summary (continued)

MCM 6: Municipal Good Housekeeping and Pollution Prevention

BMP Categorization (enter your own text to override the drop down menu or entered text)	**BMP Description**	**Responsible Department/Parties** (enter your own text to override the drop down menu)	**Measurable Goal** (all text can be overwritten)	**Beginning Year of BMP Imple-mentation**
O&M procedures	Create written O&M procedures including all requirements contained in 2.3.7.a.ii for parks and open spaces, buildings and facilities, and vehicles and equipment	Highway Department	Complete and implement 2 years after effective date of permit	2020
Inventory all permittee-owned parks and open spaces, buildings and facilities, and vehicles and equipment	Create inventory	Highway Department	Complete 2 years after effective date of permit and implement annually	2020
Infrastructure O&M	Establish and implement program for repair and rehabilitation of MS4 infrastructure	Highway Department	Complete 2 years after effective date of permit	2020
Stormwater Pollution Prevention Plan (SWPPP)	Create SWPPPs for maintenance garages, transfer stations, and other waste-handling facilities	Highway Department	Complete and implement 2 years after effective date of permit	2020
Catch basin cleaning	Maintain schedule for catch basin cleaning such that each catch basin is no more than 50% full and clean catch basins as dictated by the schedule	Highway Department	Clean catch basins on established schedule and report number of catch basins cleaned and volume of material moved annually	2018
Street sweeping program	Sweep all municipal owned streets and parking lots in accordance with permit conditions	Highway Department	Sweep all municipal owned streets and parking lots twice per year, once in the spring and once in the fall	2018

Road salt use optimization program/winter road maintenance	Develop and implement winter road maintenance procedures including the use and storage of salt and sand, minimizing the use of road salt, and forbidding disposal of snow into waters	Highway Department	Complete and implement 1 year after effective date of permit. Implement salt use optimization during deicing season	2019
Inspection and maintenance of stormwater treatment structures	Establish and implement inspection and maintenance procedures and frequencies	Highway Department	Inspect and maintain treatment structures at least annually	2020
O&M Program (General)	Use environmentally safe and pet-friendly de-icing pellets consisting of calcium chloride on sidewalks around public buildings	Highway Department	Ongoing annual use	2018
O&M Program (Grounds Care/Integrate Pest Management)	Treat all Town-owned lawns with organic fertilizers	Parks/Recreation/Cemetery	Ongoing annual use	2018
Sidewalk sweeping	Annual sweeping of Town sidewalks	Highway Department	Complete once per year. Ongoing.	2018
Employee Training - General Stormwater Topics	Conduct an annual in-house training session reviewing general pollution abatement practices associated with municipal facilities	Highway Department	Implement 2 years after effective date of permit	2020

Notice of Intent (NOI) for coverage under Small MS4 General Permit

Part III: Stormwater Management Program Summary (continued)

Actions for Meeting Total Maximum Daily Load (TMDL) Requirements

Use the drop-down menus to select the applicable TMDL, action description to meet the TMDL requirements, and the responsible department/parties. If no options are applicable, or more than one, **enter your own text to override drop-down menus.**

Applicable TMDL	Action Description	Responsible Department/Parties (enter your own text to override the drop down menu)
Lower Charles River (Phosphorus)	Adhere to requirements in part A.I of Appendix F	Highway Department
Charles River Watershed (Bacteria/Pathogen)	Adhere to requirements in part A.III of Appendix F	Highway Department

Notice of Intent (NOI) for coverage under Small MS4 General Permit

Part III: Stormwater Management Program Summary (continued)

Actions for Meeting Requirements Related to Water Quality Limited Waters

Use the drop-down menus to select the pollutant causing the water quality limitation and enter the waterbody ID(s) experiencing excursions above water quality standards for that pollutant. Choose the action description from the dropdown menu and indicate the responsible party. If no options are applicable, or more than one, **enter your own text to override drop-down menus.**

Pollutant	Waterbody ID(s)	Action Description	Responsible Department/Parties (enter your own text to override the drop down menu)
Phosphorus	Charles River MA72-06	Adhere to requirements in part II of Appendix H	Highway Department

Notice of Intent (NOI) for coverage under Small MS4 General Permit

Part IV: Notes and additional information

Use the space below to indicate the part(s) of 2.2.1and 2.2.2 that you have identified as not applicable to your MS4 because you do not discharge to the impaired water body or a tributary to an impaired water body due to nitrogen or phosphorus. Provide all supporting documentation below or attach additional documents if necessary. Also, provide any additional information about your MS4 program below.

Endangered Species Act (ESA) Determination Statement: Discharge and discharge related activities will have no affect or impact on listed species or critical habitat. The Town of Dover intends to comply with the Massachusetts MS4 General Permit and Appendix C.

National Historic Preservation Act (NHPA) Determination Statement: The Town of Dover has completed a determination and certifies its eligibility for this permit using Criterion A. At this time the Town does not have any planned projects involving subsurface land disturbance of less than one acre on NHPA sites. Any planned work will be outside of historic property areas. The Town met this requirement in the 2003 MS4 General Permit.

Attached are the following documents:

Attachment A - GIS Outfall Map dated May 2017.

Attachment B - US Department of the Interior Fish and Wildlife Service threatened and endangered species listing, dated August 29, 2018.

Additional Information

The Town cleans all 1,029 of its catch basins annually. Typically, up to 75% of the Town's catch basins are cleaned a second time on an annual basis. All Town streets are swept at least twice annually. All Town sidewalks are swept annually. The Town cleans hundreds of linear feet of drain pipe or paved drainage swales on an annual basis.

The Highway Department continues to minimize the tonnage of sodium chloride used on roadways during the winter by blending it with sand.

The Town continues to implement stormwater management and protection of the surrounding landscape and receiving waters due to new development by using the Town's Site Plan Review and Building Permit processes. As part of this process, the Town regularly inspects newly constructed stormwater mitigation structures (such as detention basins) as well as other temporary stormwater management and erosion controls measures from areas currently under construction.

Dover holds bi-weekly Town Inspector's meetings, including personnel involved in all ongoing construction projects throughout Town (public and private), to review the status of the projects and ongoing construction monitoring such that all construction projects meet Town standards and requirements prior to completion of the work.

Notice of Intent (NOI) for coverage under Small MS4 General Permit

Part V: Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, I certify that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name:	David W. Ramsay	Title:	Town Administrator
Signature:	David W. Ramsay	Date:	09/28/18

(To be signed according to Appendix B, Subparagraph B.11, Standard Conditions)

Note: When prompted during signing, save the document under a new file name

ATTACHMENT A

Stormwater Outfalls
Dover, Massachusetts
TATA & HOWARD
Approximate Scale: 1" = 1,300'
May 2017
N
Legend
Outfalls
Open Water
Stream
WELLESLEY
NEEDHAM
NATICK
DEDHAM
SHERBORN
WESTWOOD
MEDFIELD
WALPOLE
MILLIS
Charles River
Trout Brook
Noanet Brook
North Brook
Mill Brook
Tubwreck Brook
Bubbling Brook
Channings Pond
Lymans Pond
Noanet Pond
Wilsondale Street Pond
Hales Pond
RESERVATION ROAD
DOVER ROAD
CLAYBROOK ROAD
MEADOWBROOK ROAD
WAKELAND ROAD
MAIN STREET
PLEASANT STREET
EDGEWATER DRIVE
TROUT BROOK ROAD
CHICKERING DRIVE
GLEN STREET
HAVEN STREET
CRANBERRY LANE
PHILLIPS LANE
MAPLE LANE
SPRINGDALE AVENUE
CHURCH STREET
YORKSHIRE ROAD
SHERBORN ROAD
GREYSTONE ROAD
FARM STREET
CROSS STREET
WILLOW STREET
DEDHAM STREET
WILSONDALE STREET
STRAWBERRY HILL STREET
OLD MEADOW ROAD
OLD FARM ROAD
KNOLLWOOD DRIVE
CORNELL ROAD
PERRY LN
WOODLAND RD
PINE STREET
VALLEY ROAD
TAYLOR LANE
BRIDGE STREET
SMITH STREET
CENTRE STREET
MILLER HILL ROAD
GRAND HILL DRIVE
SNOWS HILL LANE
FOX RUN ROAD
JUNCTION STREET
HUNT DRIVE
POWISSETT STREET
WALPOLE STREET
CEDAR HILL ROAD
COLONIAL ROAD
BROOKFIELD ROAD
LEDGEWOOD DRIVE
ABBOTT ROAD
HARTFORD STREET
HILLTOP ROAD
STONEGATE LANE
TISDALE DRIVE
DRAPER ROAD
FRANCIS STREET
HILL STREET
109

ATTACHMENT B

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
Phone: (603) 223-2541 Fax: (603) 223-0104
http://www.fws.gov/newengland

In Reply Refer To: August 29, 2018
Consultation Code: 05E1NE00-2017-SLI-1539
Event Code: 05E1NE00-2018-E-06870
Project Name: Dover, Massachusetts Small MS4 General Permit Notice of Intent

Subject: Updated list of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
(603) 223-2541

Project Summary

Consultation Code: 05E1NE00-2017-SLI-1539

Event Code: 05E1NE00-2018-E-06870

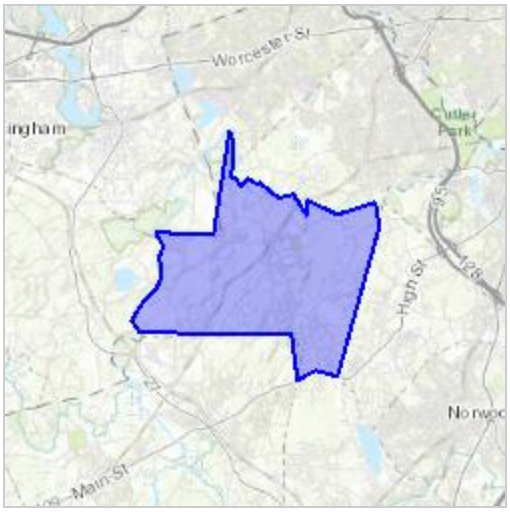
Project Name: Dover, Massachusetts Small MS4 General Permit Notice of Intent

Project Type: Regulation Promulgation

Project Description: On behalf of the Town of Dover, Massachusetts, we are preparing to submit a Notice of Intent (NOI) to the U.S. Environmental Protection Agency (EPA) for coverage under the 2016 Massachusetts Small MS4 General Permit for Stormwater Discharge. As part of the submission, the Town is required to consult with the U.S. Fish and Wildlife Service (USFWS) with regard to Federal Endangered and Threatened Species and Critical Habitat Protection. The Town is not planning any new stormwater Best Management Practices (BMPs) within any habitat areas. No earth moving and no tree cutting activities are planned and thus no effects on species of concern are anticipated.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/42.2417221558906N71.28381509611224W



Counties: Middlesex, MA | Norfolk, MA

Endangered Species Act Species

There is a total of 1 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

ATTACHMENT B

EPA STORMWATER DISCHARGE AUTHORIZATION LETTER

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 1
5 POST OFFICE SQUARE, SUITE 100
BOSTON, MA 02109-3912

VIA EMAIL

March 5, 2019

David W. Ramsay
Town Administrator

And;

Craig S. Hughes
Superintendent of Streets
2 Dedham Street
P.O. Box 250
Dover, MA. 02030
towngarage@doverma.org

Re: National Pollutant Discharge Elimination System Permit ID #: MAR041107, Town of Dover

Dear Craig S. Hughes:

The 2016 NPDES General Permit for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems in Massachusetts (MS4 General Permit) is a jointly issued EPA-MassDEP permit. Your Notice of Intent (NOI) for coverage under this MS4 General Permit has been reviewed by EPA and appears to be complete. You are hereby granted authorization by EPA and MassDEP to discharge stormwater from your MS4 in accordance with the applicable terms and conditions of the MS4 General Permit, including all relevant and applicable Appendices. This authorization to discharge expires at midnight on **June 30, 2022.**

For those permittees that certified Endangered Species Act eligibility under Criterion C in their NOI, this authorization letter also serves as EPA's concurrence with your determination that your discharges will have no effect on the listed species present in your action area, based on the information provided in your NOI.

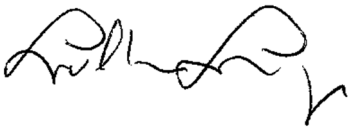
As a reminder, your first annual report is due by **September 30, 2019** for the reporting period from May 1, 2018 through June 30, 2019.

Information about the permit and available resources can be found on our website: https://www.epa.gov/npdes-permits/massachusetts-small-ms4-general-permit. Should you have any questions regarding this permit please contact Newton Tedder at tedder.newton@epa.gov or (617) 918-1038.

Sincerely,

Thelma Murphy, Chief
Stormwater and Construction Permits Section
Office of Ecosystem Protection
United States Environmental Protection Agency, Region 1

and;



Lealdon Langley, Director
Wetlands and Wastewater Program
Bureau of Water Resources
Massachusetts Department of Environmental Protection

ATTACHMENT C

CERTIFICATION LETTER FOR DELEGATION OF "AUTHORIZED REPRESENTATIVE"

TOWN OF DOVER

5 SPRINGDALE AVENUE
P.O. BOX 250
DOVER, MASSACHUSETTS 02030

TELEPHONE (508) 785-0032
www.doverma.org

MEMORANDUM TO FILE

Re: Town of Dover, Massachusetts
Documentation for delegation of "Authorized Representative" for NPDES 2016 Massachusetts Small Municipal Separate Storm Sewer System (MS4) General Permit

This document serves to affirm that Craig S. Hughes (Superintendent of Streets) and Michael J. Angieri, P.E. (Town Engineer) have responsibility for the operation of the MS4 and are hereby designated as authorized persons for signing all reports including but not limited to the Stormwater Management Plan (SWMP), Stormwater Pollution Prevention Plans (SWPPPs), inspection reports, annual reports, monitoring reports, reports on training, and other information required by the General Permit for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (MS4) in Massachusetts for Dover. This authorization cannot be used for signing a NPDES permit application (e.g., Notice of Intent (NOI)) in accordance with 40 CFR 122.22).

By signing this authorization, I confirm that I meet the following requirements to make such a designation as set forth in Part B.11 of Appendix B of the Small MS4 General Permit:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Carl F. Valente

Carl F. Valente
Interim Town Administrator
Town of Dover

6/26/2019
[Date]

ATTACHMENT D

IDDE LEGAL AUTHORITY/BYLAW

Chapter 159. Stormwater Management and Erosion Control

[HISTORY: Adopted ATM 5-2-2016, Art. 21.[1] Amendments noted where applicable.]

GENERAL REFERENCES
Groundwater protection districts — See Ch. **116**.
Wetlands protection — See Ch. **181**.
Zoning — See Ch. **185**.

[1] *Editor's Note: This article was adopted as Ch. 117 but was renumbered to fit into the alphabetical organization of the Code.*

§ 159-1. Purpose.

A. The purpose of this bylaw is to provide for the health, safety, and general welfare of the citizens of the Town of Dover through the regulation of non-stormwater discharges to the storm drainage system to the maximum extent practicable as required by federal and state law. The bylaw establishes methods for controlling the introduction of pollutants into the municipal separate storm sewer system (MS4) in order to comply with requirements of the National Pollutant Discharge Elimination System (NPDES) permit process.

B. The objectives of this bylaw are:

(1) To prevent pollutants from entering Dover's municipal separate storm sewer system;

(2) To prohibit illicit connections and unauthorized discharges to the MS4;

(3) To require the removal of all such illicit discharges;

(4) To comply with state and federal regulations relating to stormwater discharges; and

(5) To establish legal authority to ensure compliance with the provisions of this bylaw through inspection, monitoring, and enforcement.

§ 159-2. Definitions.

For the purposes of this bylaw, the following shall mean:

AUTHORIZED ENFORCEMENT AGENCY
The Town of Dover's Board of Selectmen shall administer and implement this bylaw. The Town's Highway Department shall enforce this bylaw. Any powers granted to or duties imposed must be delegated in writing by the Board of Selectmen to the appropriate agents of the Town, i.e. the employees of and agents of the Highway Department, the Board of Health, the Conservation Commission, Building Inspector, and Town Engineer.

BEST MANAGEMENT PRACTICES (BMPS)
Schedules of activities, prohibitions of practices, general good housekeeping practices, pollution prevention and educational practices, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants directly or indirectly to stormwater, receiving waters, or stormwater conveyance systems. BMPs also include treatment practices, operating procedures, and practices to control site runoff, spillage or leaks, sludge or water disposal, or drainage from raw materials storage.

CLEAN WATER ACT

The federal Water Pollution Control Act (33 U.S.C. § 1251 et seq.) and any subsequent amendments thereto.

HAZARDOUS MATERIAL

Any material, including any substance, waste, or combination thereof, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may cause, or significantly contribute to, a substantial present or potential hazard to human health, safety, property, or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

ILLEGAL DISCHARGE

Any direct or indirect non-stormwater discharge to the storm drain system, except as exempted in § **159-5** of this bylaw.

ILLICIT CONNECTIONS

An illicit connection is defined as either of the following: Any drain or conveyance, whether on the surface or subsurface, which allows an illegal discharge to enter the storm drain system including but not limited to any conveyances which allow any non-stormwater discharge including sewage, process wastewater, and wastewater to enter the storm drain system and any connections to the storm drain system from indoor drains and sinks, regardless of whether said drain or connection had been previously allowed, permitted, or approved by an authorized enforcement agency, or any drain or conveyance connected from a commercial or industrial land use to the storm drain system which has not been documented in plans, maps, or equivalent records and approved by an authorized enforcement agency.

INDUSTRIAL ACTIVITY

Activities subject to NPDES Industrial Permits as defined in 40 CFR Section 122.26(b)(14).

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) STORMWATER DISCHARGE PERMIT

A permit issued by EPA that authorizes the discharge of pollutants to waters of the United States, whether the permit is applicable on an individual, group, or general area-wide basis.

NON-STORMWATER DISCHARGE

Any discharge to the storm drain system that is not composed entirely of stormwater.

PERSON

Any individual, association, organization, partnership, firm, corporation or other entity recognized by law and acting as either the owner or as the owner's agent.

POLLUTANT

Anything which causes or contributes to pollution. Pollutants may include, but are not limited to: paints, varnishes, and solvents; oil and other automotive fluids; nonhazardous liquid and solid wastes and yard wastes; refuse, rubbish, garbage, litter, or other discarded or abandoned objects, ordnance, and accumulations, so that same may cause or contribute to pollution; floatables; pesticides, herbicides, and fertilizers; hazardous substances and wastes; sewage, fecal coliform and pathogens; dissolved and particulate metals; animal wastes; wastes and residues that result from constructing a building or structure; and noxious or offensive matter of any kind.

PREMISES

Any building, lot, parcel of land, or portion of land whether improved or unimproved including adjacent sidewalks and parking strips.

STORM DRAIN SYSTEM

Publicly owned facilities by which stormwater is collected and/or conveyed, including but not limited to any roads with drainage systems, municipal streets, gutters, curbs, inlets, piped storm drains, pumping facilities, retention and detention basins, natural and human-made or altered drainage channels, reservoirs, and other drainage structures.

STORMWATER

Any surface flow, runoff, and drainage consisting entirely of water from any form of natural precipitation, and resulting from such precipitation.

WASTEWATER

Any water or other liquid, other than uncontaminated stormwater, discharged from a facility.

§ 159-3. Applicability.

This bylaw shall apply to all water entering the storm drain system generated on any developed and undeveloped lands unless explicitly exempted by an authorized enforcement agency.

§ 159-4. Responsibility for administration.

The Board of Selectmen shall administer and implement the provisions of this bylaw. The Highway Department shall enforce this bylaw. Any powers granted or duties imposed upon the authorized enforcement agency may be delegated in writing by the Chairman of the Board of Selectmen to persons or entities acting in the beneficial interest of the Town of Dover.

§ 159-5. Discharge prohibitions.

A. Prohibition of illegal discharges. No person shall discharge or cause to be discharged into the municipal separate storm sewer system (MS4) or watercourses any materials, including but not limited to pollutants or waters containing pollutants that cause or contribute to a violation of applicable water quality standards, other than stormwater. The commencement, conduct or continuance of any illegal discharge to the storm drain system is prohibited except as described as follows:

(1) The following discharges are exempt from discharge prohibitions established by this bylaw:

(a) Water line flushing or other potable water sources.

(b) Landscape irrigation or lawn watering.

(c) Diverted stream flows.

(d) Rising groundwater.

(e) Uncontaminated groundwater infiltration from storm drains.

(f) Uncontaminated pumped groundwater.

(g) Foundation or footing drains.

(h) Crawl space pumps.

(i) Air conditioning condensation.

(j) Springs.

(k) Individual resident car washing.

(l) Natural riparian habitat or wetland flows.

(m) Dechlorinated swimming pools.

(n) Street wash waters.

(o) Residential building wash waters without detergents.

(p) Firefighting activities.

(2) Discharges specified in writing by the authorized enforcement agency as being necessary to protect public health and safety.

(3) Dye testing is an allowable discharge, but requires a verbal notification to the authorized enforcement agency prior to the time of the test.

(4) The prohibition shall not apply to any non-stormwater discharge permitted under an NPDES permit, waiver, or waste discharge order issued to the discharger and administered under the authority of the Federal Environmental Protection Agency, provided that the discharger is in full compliance with all requirements of the permit, waiver, or order and other applicable laws and regulations, and provided that written approval has been granted for any discharge to the storm drain system.

B. Prohibition of illicit connections.

(1) The construction, use, maintenance or continued existence of illicit connections to the storm drain system is prohibited.

(2) This prohibition expressly includes, without limitation, illicit connections made in the past, regardless of whether the connection was permissible under law or practices applicable or prevailing at the time of connection.

(3) A person is considered to be in violation of this bylaw if the person connects a line conveying sewage to the MS4 or watercourse, or allows such a connection to continue.

§ 159-6. Notification of spills.

Notwithstanding other requirements of law, as soon as any person responsible for a facility or operation, or responsible for emergency response for a facility or operation has information of any known or suspected release of materials which are resulting or may result in illegal discharges or pollutants discharging into stormwater, the MS4 system, or water of the U.S., said person shall take all the necessary steps to ensure the discovery, containment, and cleanup of such release. In the event of such a release of hazardous materials said person shall immediately notify emergency response agencies and the Town of Dover Highway Department. In the event of nonhazardous materials, said person shall notify the Town of Dover Highway Department in person or by phone or facsimile no later than the next business day. Notifications in person or by phone shall be confirmed by written notice addressed and mailed to the Town of Dover Highway Department within three business days of the phone notice. If the discharge of prohibited material emanates from a commercial or industrial establishment, the owner or operator of such establishment shall also retain an on-site written record of the discharge and the actions taken to prevent its recurrence. Such records shall be retained for at least three years.

§ 159-7. Monitoring of discharges.

Inspectors authorized by the Board of Selectmen shall be permitted to enter and inspect facilities subject to regulation under this bylaw as often as may be necessary to determine compliance with this bylaw. If a discharger has security measures in force which require proper identification and clearance before entry into its premises, the discharger shall make the necessary arrangements to allow access to representatives of the authorized inspectors.

§ 159-8. Enforcement.

The Board of Selectmen, through the Highway Department, shall enforce this bylaw, regulations, orders, violation notices, and enforcement orders, and may pursue all civil and criminal remedies for such violations.

A. Civil relief. If a person violates the provisions of this bylaw, regulations, permit, notice, or order issued thereunder, the Board of Selectmen may seek injunctive relief in a court of competent jurisdiction restraining the person from activities which would create further violations or compelling the person to perform abatement or remediation of the violation.

B. Orders.

(1) The Board of Selectmen or another authorized agent may issue a written order to enforce the provisions of this bylaw or the regulations thereunder, which may include:

(a) Elimination of illicit connections or discharges to the MS4;

(b) Performance of monitoring, analyses, and reporting;

(c) That unlawful discharges, practices, or operations shall cease and desist; and

(d) Remediation of contamination in connection therewith.

(2) If the enforcing body determines that abatement or remediation of contamination is required, the order shall set forth a deadline by which such abatement or remediation must be completed. Said order shall further advise that, should the violator or property owner fail to abate or perform remediation within the specified deadline, the enforcing body may, at its option, undertake such work, and expenses thereof shall be charged to the violator.

C. Criminal penalty. Any person who violates any provision of this bylaw, regulation, order or permit issued thereunder, shall be punished by a fine of not more than $250. Each day or part thereof that such violation occurs or continues shall constitute a separate offense.

D. Noncriminal disposition. As an alternative to criminal prosecution or civil action, the Board of Selectmen may elect to utilize the noncriminal disposition procedure set forth in M.G.L. Ch. 40, § 21D, in which case the Highway Department shall be the enforcing Town department. The penalty for the 1st violation shall be $100. The penalty for the 2nd violation shall be $250. The penalty for the 3rd and subsequent violation shall be $300. Each day or part thereof that such violations occurs or continues shall constitute a separate offense.

E. Entry to perform duties under this bylaw. To the extent permitted by state law, or if authorized by the owner or other party in control of the property, the Highway Department, its agents, officers, and employees may enter upon privately owned property for the purpose of performing their duties under the bylaw and regulations and may make or cause to be made such examinations, surveys or sampling as the Department deems reasonably necessary.

F. Appeals. The decisions or orders of the Board of Selectmen shall be final. Further relief shall be to a court of competent jurisdiction.

G. Remedies not exclusive. The remedies listed in this bylaw are not exclusive of any other remedies available under any applicable federal, state or local law.

§ 159-9. Severability.

The provisions of this bylaw are hereby declared to be severable. If any provision, paragraph, sentence or clause of this bylaw or the application thereof to any person, establishment, or circumstances shall be held invalid, such invalidity shall not affect the other provisions or application of this bylaw.

ATTACHMENT E

PHASE I MAP OF STORM SEWER SYSTEM

N

WELLESLEY

NEEDHAM

NATICK

DEDHAM

SHERBORN

WESTWOOD

MEDFIELD

WALPOLE

MILLIS

Charles River: (Eurasian Water Milfoil, Myriophyllum spicatum), (Non-Native Aquatic Plants), (Other flow regime alterations), DDT in Fish Tissue, Excess Algal Growth, Fishes Bioassessments, Nutrient/Eutrophication Biological Indicators, PCB in Fish Tissue, Total Phosphorus

Charles River: (Eurasian Water Milfoil, Myriophyllum spicatum), (Fish-Passage Barrier), (Non-Native Aquatic Plants), (Other flow regime alterations), DDT in Fish Tissue, Escherichia coli, Fishes Bioassessments, Harmful Algal Bloom, Nutrient/Eutrophication Biological Indicators, PCB in Fish Tissue, Total Phosphorus

Trout Brook: Nutrient/Eutrophication Biological Indicators, Termperature, Water

Chickering School

Town Hall

Highland Cemetery

Highway Department Garage

Noannet Pond: Non-Native Aquatic Plants

Transfer Station

Dover-Sherborn Regional Middle School and High School

Legend

- Buildings
- Oil/Water Separator
- Oil/Water Separator/Infiltration Galleries
- Outfalls
- Catch Basin
- Retention Basin (Private)
- Retention Basin (Town Owned)
- Open Water
- Stream

Note: Stormwater catchment areas (not shown in Legend) are shown in various colors.

Phase I System Map
Dover, Massachusetts

TATA & HOWARD

Approximate Scale: 1" = 1,300'
June 2020

ATTACHMENT F

IDDE PLAN

ILLICIT DISCHARGE DETECTION AND ELIMINATION (IDDE) PLAN

JUNE 2019

UPDATED JUNE 2020

Town of Dover, Massachusetts

TATA & HOWARD

Illicit Discharge Detection and Elimination (IDDE) Plan
Dover, Massachusetts

Issued: June 28, 2019

Updated: June 30, 2020

Prepared by

TATA & HOWARD

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SECTION 1 - EXECUTIVE SUMMARY

1.1 General

This Illicit Discharge Detection and Elimination (IDDE) Plan has been developed by the Town of Dover to address the requirements of the United States Environmental Protection Agency's (USEPA's) 2016 National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (MS4) in Massachusetts, hereafter referred to as the "2016 Massachusetts MS4 Permit" or "MS4 Permit."

The 2016 Massachusetts MS4 Permit requires that each permittee, or regulated community, address six Minimum Control Measures. These measures include the following:

1. Public Education and Outreach
2. Public Involvement and Participation
3. Illicit Discharge Detection and Elimination Program
4. Construction Site Stormwater Runoff Control
5. Stormwater Management in New Development and Redevelopment (Post Construction Stormwater Management); and
6. Good Housekeeping and Pollution Prevention for Permittee Owned Operations.

Under Minimum Control Measure 3, the permittee is required to implement an IDDE program to systematically find and eliminate sources of non-stormwater discharges to its municipal separate storm sewer system and implement procedures to prevent such discharges. The IDDE program must also be recorded in a written (hardcopy or electronic) document. This IDDE Plan has been prepared to address this requirement.

1.2 Illicit Discharges

An "illicit discharge" is any discharge to a drainage system that is not composed entirely of stormwater, with the exception of discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the MS4) and discharges resulting from fire-fighting activities.

Illicit discharges may take a variety of forms. Illicit discharges may enter the drainage system through direct or indirect connections. Direct connections may be relatively obvious, such as cross-connections of sewer services to the storm drain system. Indirect illicit discharges may be more difficult to detect or address, such as failing septic systems that discharge untreated sewage to a ditch within the MS4, or a sump pump that discharges contaminated water on an intermittent basis.

Some illicit discharges are intentional, such as dumping used oil (or other pollutant) into catch basins, a resident or contractor illegally tapping a new sewer lateral into a storm drain pipe to avoid the costs of a sewer connection fee and service, and illegal dumping of yard wastes into surface waters.

Some illicit discharges are related to the unsuitability of original infrastructure to the modern regulatory environment. Examples of illicit discharges in this category include connected floor drains in old buildings, as well as sanitary sewer overflows that enter the drainage system. Sump pumps legally connected to the storm drain system may be used inappropriately, such as for the disposal of floor washwater or old household products, in many cases due to a lack of understanding on the part of the homeowner.

Elimination of some discharges may require substantial costs and efforts, such as funding and designing a project to reconnect sanitary sewer laterals. Others, such as improving self-policing of dog waste management, can be accomplished by outreach in conjunction with the minimal additional cost of dog waste bins and the municipal commitment to disposal of collected materials on a regular basis.

Regardless of the intention, when not addressed, illicit discharges can contribute high levels of pollutants, such as heavy metals, toxics, oil, grease, solvents, nutrients, and pathogens to surface waters.

1.3 Allowable Non-Stormwater Discharges

The following categories of non-storm water discharges are allowed under the MS4 Permit unless the permittee, USEPA or Massachusetts Department of Environmental Protection (MassDEP) identifies any category or individual discharge of non-stormwater discharge as a significant contributor of pollutants to the MS4:

- Water line flushing
- Landscape irrigation
- Diverted stream flows
- Rising ground water
- Uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(20))
- Uncontaminated pumped groundwater
- Discharge from potable water sources
- Foundation drains
- Air conditioning condensation
- Irrigation water, springs
- Water from crawl space pumps
- Footing drains
- Lawn watering
- Individual resident car washing
- De-chlorinated swimming pool discharges
- Street wash waters
- Residential building wash waters without detergents

If these discharges are identified as significant contributors to the MS4, they must be considered an “illicit discharge” and addressed in the IDDE Plan (i.e., control these sources so they are no longer significant contributors of pollutants, and/or eliminate them entirely).

1.4 Receiving Waters and Impairments

Table 1-1 lists the "impaired waters" within the boundaries of the Town of Dover's regulated area based on the Town of Dover Massachusetts 2014 Integrated List of Waters produced by MassDEP every two years. At the time of development of this plan, the 2014 Integrated List of Waters was the most recent list not in draft form. Impaired waters are water bodies that do not meet water quality standards for one or more designated use(s) such as recreation or aquatic habitat.

Table 1-1
Impaired Waters

Water Body Name	Segment ID	Category	Impairment(s)	Associated Approved TMDL
Noannet Pond	MA72084	4c	Non-Native Aquatic Plants	
Charles River	MA72-06	5	(Eurasian Water Milfoil, Myriophyllum spicatum), (Non-Native Aquatic Plants*), (Other flow regime alterations*), DDT in Fish Tissue, Excess Algal Growth, Fishes Bioassessments, Nutrient/Eutrophication Biological Indicators, PCB in Fish Tissue, Phosphorus (Total)	40317 – Nutrients in the Upper/Middle Charles River
Charles River	MA72-07	5	(Eurasian Water Milfoil, Myriophyllum spicatum*), (Fish-Passage Barrier*), (Non-Native Aquatic Plants*), (Other flow regime alterations*), DDT in Fish Tissue, Escherichia coli, Fishes Bioassessments, Harmful Algal Bloom, Nutrient/Eutrophication Biological Indicators, PCB in Fish Tissue, Phosphorus (Total)	32370 – Pathogens within the Charles River Watershed, 40317 – Nutrients in the Upper/Middle Charles River
Trout Brook	MA72-19	5	Nutrient/Eutrophication Biological Indicators, Temperature, water	40317 – Nutrients in the Upper/Middle Charles River

Category 4a Waters – impaired water bodies with a completed Total Maximum Daily Load (TMDL).
Category 4c Waters – impaired water bodies where the impairment is not caused by a pollutant. No TMDL required.
Category 5 Waters – impaired water bodies that require a TMDL.
"Approved TMDLs" are those that have been approved by EPA as of the date of issuance of the 2016 MS4 Permit.

In compliance with the TMDL for Nutrients in the Upper/Middle Charles River, IDDE programs implemented in the Charles River watershed shall involve conducting comprehensive system-wide assessments of drainage systems to identify illicit sewage sources. This includes dry- and wet-weather nutrient sampling and physical investigations, such as manhole inspections, dye testing, and videoing drains. "Easy to fix" sources, such as direct pipe connections, should be eliminated, and more complex illicit sources should be eliminated through prioritized planning with schedules.

In compliance with the Pathogen TMDL for the Charles River Watershed, the progress of the IDDE program should be evaluated by tracking metrics such as percent of manholes/structures inspected, percent of outfalls screened, estimated flow/volume of illicit discharges removed, number of homes inspected/dye tested, etc.

1.5 IDDE Program Goals, Framework, and Timeline

The goals of the IDDE program are to find and eliminate illicit discharges to the municipal separate storm sewer system and to prevent illicit discharges from happening in the future. The program consists of the following major components as outlined in the MS4 Permit:

- Legal authority and regulatory mechanism to prohibit illicit discharges and enforce this prohibition
- Storm system mapping
- Inventory and ranking of outfalls
- Dry weather outfall screening
- Catchment investigations
- Identification/confirmation of illicit sources
- Illicit discharge removal
- Follow-up screening
- Employee training.

The IDDE investigation procedure framework is shown in Figure 1-1. The required timeline for implementing the IDDE program is shown in Table 1-2.

Figure 1-1 IDDE Investigation Procedure Framework

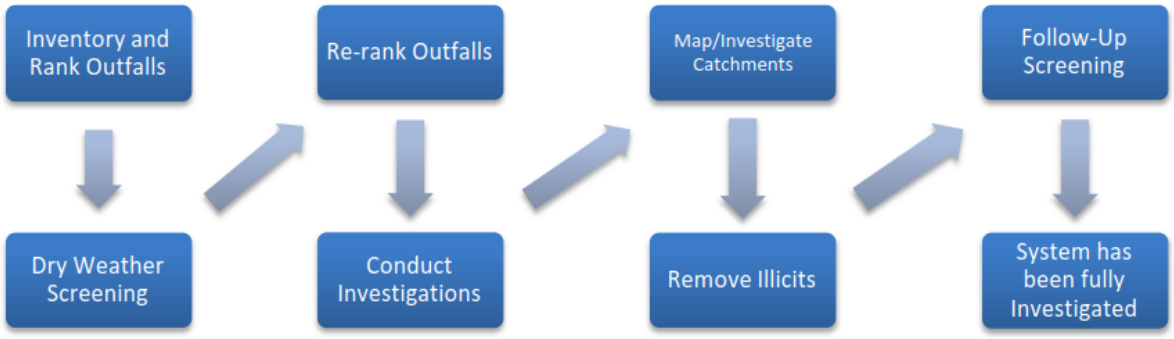


Table 1-2
IDDE Program Implementation Timeline

IDDE Program Requirement	Completion Date from Effective Date of Permit					
	1 Year	1.5 Years	2 Years	3 Years	7 Years	10 Years
Written IDDE Program Plan	X					
SSO Inventory	X					
Written Catchment Investigation Procedure		X				
Phase I Mapping			X			
Phase II Mapping						X
IDDE Regulatory Mechanism or By-law (if not already in place)				X		
Dry Weather Outfall Screening				X		
Follow-up Ranking of Outfalls and Interconnections				X		
Catchment Investigations – Problem Outfalls					X	
Catchment Investigations – all Problem, High and Low Priority Outfalls						X

1.6 Work Completed to Date

The 2003 MS4 Permit required each MS4 community to develop a plan to detect illicit discharges using a combination of storm system mapping, adopting a regulatory mechanism to prohibit illicit discharges and enforce this prohibition, and identifying tools and methods to investigate suspected illicit discharges. Each MS4 community was also required to define how confirmed discharges would be eliminated and how the removal would be documented.

The Town of Dover has completed the following IDDE program activities consistent with the 2003 MS4 Permit requirements:

- Developed a map of outfalls and receiving waters
- Adopted an IDDE bylaw or regulatory mechanism

In addition to the 2003 MS4 Permit requirements, other IDDE-related activities that may have been completed include:

- SSO inventory
- Additional storm system mapping, including the locations of catch basins

SECTION 2 - AUTHORITY AND STATEMENT OF IDDE RESPONSIBILITIES

2.1 Legal Authority

The Town of Dover has adopted a General Bylaw, Chapter 159, Stormwater Management and Erosion Control containing the illicit discharge bylaw, which was adopted at the Dover Annual Town Meeting on May 2, 2016. A copy of the Town of Dover Bylaw is provided in Appendix A. The Town of Dover Bylaw provides the Town of Dover with adequate legal authority to:

- Prohibit illicit discharges
- Investigate suspected illicit discharges
- Eliminate illicit discharges, including discharges from properties not owned by or controlled by the MS4 that discharge into the MS4 system
- Implement appropriate enforcement procedures and actions

2.2 Statement of Responsibilities

The Dover Highway Department is the lead municipal agency or department responsible for implementing the IDDE program pursuant to the provisions of the Town of Dover. Other agencies or departments with responsibility for aspects of the program include:

- Town Engineer/Engineering Department – IDDE enforcement with developers.

SECTION 3 - STORMWATER SYSTEM MAPPING

A copy of the Town's existing storm system map is provided in Appendix B. The 2016 MS4 Permit requires a more detailed storm system map than was required by the 2003 MS4 Permit. The revised mapping is intended to facilitate the identification of key infrastructure, factors influencing proper system operation, and the potential for illicit discharges.

The 2016 MS4 Permit requires the storm system map to be updated in two phases as outlined below. The Dover Highway Department is responsible for updating the stormwater system mapping pursuant to the 2016 MS4 Permit. The Town of Dover will report on the progress towards completion of the storm system map in each annual report. Updates to the stormwater mapping will be included in Appendix B.

3.1 Phase I Mapping

The Town of Dover has completed Phase I mapping, which includes the following information:

- Updated catch basin locations
- Water bodies
- Outfalls and receiving waters
- Open channel conveyances (swales, ditches, etc.)
- Interconnections with other MS4s and other storm sewer systems (do not exist)
- Municipally owned stormwater treatment structures
- Water bodies identified by name and indication of all use impairments as identified on the most recent EPA approved Massachusetts Integrated List of Waters report.
- Initial catchment delineations. Topographic contours and drainage system information may be used to produce initial catchment delineations.

3.2 Phase II Mapping

Phase II mapping must be completed within ten (10) years of the effective date of the permit (July 1, 2028) and include the following information:

- Outfall spatial location (latitude and longitude with a minimum accuracy of +/-30 feet)
- Pipes
- Manholes
- Catch basins
- Refined catchment delineations. Catchment delineations must be updated to reflect information collected during catchment investigations.

The Town of Dover will update its stormwater mapping by July 1, 2028 to include the remaining Phase II information.

SECTION 4 - SANITARY SEWER OVERFLOWS (SSOS)

The 2016 MS4 Permit requires municipalities to prohibit illicit discharges, including sanitary sewer overflows (SSOs), to the separate storm sewer system. SSOs are discharges of untreated sanitary wastewater from a municipal sanitary sewer that can contaminate surface waters, cause serious water quality problems and property damage, and threaten public health. SSOs can be caused by blockages, line breaks, sewer defects that allow stormwater and groundwater to overload the system, power failures, improper sewer design, and vandalism.

The Town of Dover does not currently have a municipal sanitary sewer system in operation. All wastewater facilities in Town of private. Therefore, completion of an inventory of SSOs that have discharged to the MS4 within the five (5) years prior to the effective date of the 2016 MS4 Permit is not applicable to the Town of Dover.

The inventory in Table 4-1 summarizes SSOs during wet or dry weather resulting from inadequate conveyance capacities or where interconnectivity of the storm and sanitary sewer infrastructure allows for transfer of flow between systems. Table 4-1 will be updated by the Dover Highway Department if a municipal sanitary sewer system is created and SSOs are detected. The SSO inventory will be included in the annual report, including the status of mitigation and corrective measures to address each identified SSO.

Upon detection of an SSO if a municipal sanitary sewer system is created in the future, the Town of Dover will eliminate it as expeditiously as possible and take interim measures to minimize the discharge of pollutants to and from its MS4 until the SSO is eliminated. Upon becoming aware of an SSO to the MS4, the Town of Dover will provide oral notice to EPA within 24 hours and written notice to EPA and MassDEP within five (5) days of becoming aware of the SSO occurrence.

Table 4-1
SSO Inventory
Revision Date: June 30, 2020

SSO Location[1]	Discharge Statement[2]	Date[3]	Time Start[3]	Time End[3]	Estimated Volume[4]	Description[5]	Mitigation Completed[6]	Mitigation Planned[7]

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

Section 5 - ASSESSMENT AND PRIORITY RANKING OF OUTFALLS

The 2016 MS4 Permit requires an assessment and priority ranking of outfalls in terms of their potential to have illicit discharges and SSOs and the related public health significance. The ranking helps determine the priority order for performing IDDE investigations and meeting permit milestones.

5.1 Outfall Catchment Delineations

A catchment is the area that drains to an individual outfall or interconnection. The catchments for each of the MS4 outfalls will be delineated to define contributing areas for investigation of potential sources of illicit discharges. Catchments are typically delineated based on topographic contours and mapped drainage infrastructure, where available. As described in **Section 3**, initial catchment delineations will be completed as part of the Phase I mapping, and refined catchment delineations will be completed as part of the Phase II mapping to reflect information collected during catchment investigations.

5.2 Outfall and Interconnection Inventory and Initial Ranking

The Dover Highway Department will complete an initial outfall and interconnection inventory and priority ranking to assess illicit discharge potential based on existing information. The initial inventory and ranking is complete. An updated inventory and ranking will be provided in each annual report thereafter. The inventory will be updated annually to include data collected in connection with dry weather screening and other relevant inspections.

The outfall and interconnection inventory will identify each outfall and interconnection discharging from the MS4, record its location and condition, and provide a framework for tracking inspections, screenings and other IDDE program activities.

Outfalls and interconnections will be classified into one of the following categories:

1. **Problem Outfalls**: Outfalls/interconnections with known or suspected contributions of illicit discharges based on existing information shall be designated as Problem Outfalls. This shall include any outfalls/interconnections where previous screening indicates likely sewer input. Likely sewer input indicators are any of the following:

    - Olfactory or visual evidence of sewage,
    - Ammonia $\geq$ 0.5 mg/L, surfactants $\geq$ 0.25 mg/L, and bacteria levels greater than the water quality criteria applicable to the receiving water, or
    - Ammonia $\geq$ 0.5 mg/L, surfactants $\geq$ 0.25 mg/L, and detectable levels of chlorine.

    Dry weather screening and sampling, as described in Section 6 of this IDDE Plan and Part 2.3.4.7.b of the MS4 Permit, is not required for Problem Outfalls.

2. **High Priority Outfalls**: Outfalls/interconnections that have not been classified as Problem Outfalls and that are:

    - Discharging to an area of concern to public health due to recreational areas or drinking water supplies.
    - Determined by the permittee as high priority based on the characteristics listed below or other available information.

3. **Low Priority Outfalls**: Outfalls/interconnections determined by the permittee as low priority based on the characteristics listed below or other available information.

4. **Excluded outfalls**: Outfalls/interconnections with no potential for illicit discharges may be excluded from the IDDE program. This category is limited to roadway drainage in undeveloped areas with no dwellings and no sanitary sewers; drainage for athletic fields, parks or undeveloped green space and associated parking without services; cross-country drainage alignments through undeveloped land.

Outfalls will be ranked into the above priority categories (except for excluded outfalls, which may be excluded from the IDDE program) based on the following characteristics of the defined initial catchment areas, where information is available. Additional relevant characteristics, including location-specific characteristics, may be considered but must be documented in this IDDE Plan.

- **Past discharge complaints and reports.**

- **Poor receiving water quality** – the following guidelines are recommended to identify waters as having a high illicit discharge potential:
    - Exceeding water quality standards for bacteria
    - Ammonia levels above 0.5 mg/l
    - Surfactants levels greater than or equal to 0.25 mg/l

- **Surrounding density of aging septic systems** – Septic systems thirty years or older in residential land use areas are prone to have failures and may have a high illicit discharge potential.

- **Culverted streams** – Any river or stream that is culverted for distances greater than a simple roadway crossing may have a high illicit discharge potential.

- **Water quality limited waterbodies** that receive a discharge from the MS4 or waters with approved TMDLs applicable to the permittee, where illicit discharges have the potential to contain the pollutant identified as the cause of the water quality impairment.

Table 5-1 provides the outfall inventory and priority ranking matrix.

Table 5-1
Outfall Inventory and Priority Ranking Matrix
Revision Date: June 30, 2020

Outfall ID	Receiving Water	Previous Screening Results Indicate Likely Sewer Input? [1]	Discharging to Area of Concern to Public Health? [2]	Frequency of Past Discharge Complaints	Receiving Water Quality [3]	Density of Generating Sites [4]	Age of Development/ Infrastructure [5]	Historic Combined Sewers or Septic? [6]	Aging Septic? [7]	Culverted Streams? [8]	Additional Characteristics	Score	Priority Ranking
Information Source		Outfall inspections and sample results	GIS Maps	Town Staff	Impaired Waters List	Land Use/GIS Maps, Aerial Photography	Land Use Information, Visual Observation	Town Staff, GIS Maps	Land Use, Town Staff	GIS and Storm System Maps	Other		
Scoring Criteria		Yes = 3 (Problem Outfall) No = 0	Yes = 3 No = 0	Frequent = 3 Occasional = 2 None = 0	Poor = 3 Fair = 2 Good = 0	High = 3 Medium = 2 Low = 1	High = 3 Medium = 2 Low = 1	Yes = 3 No = 0	Yes = 3 No = 0	Yes = 3 No = 0	TBD		
57	Charles River	0	3	0	2	3	1	0	0	0	None	9	Problem
58	Charles River	0	3	0	2	3	1	0	0	0	Tree Work Required	9	Problem
59	Charles River	0	3	0	2	3	1	0	0	0	Tree Work Required, Excessive Vegetation	9	Problem
60	Charles River	0	3	0	2	3	1	0	0	0	Tree Work Required, Excessive Vegetation	9	Problem
73a	Unnamed	0	0	0	0	3	1	0	3	3	None	10	Problem
73b	Unnamed	0	0	0	0	3	1	0	3	3	None	10	Problem
80	Trout Brook	0	3	0	2	3	1	0	0	0	Crumbling Pipe, Structural Corrosion	9	Problem
81	Trout Brook	0	3	0	2	3	1	0	0	0	Poor Swale Condition, Ditch Work, Excessive Sediment	9	Problem
82	Trout Brook	0	3	0	2	3	1	0	0	0	Poor Swale Condition, Structural Corrosion, Excessive Sediment	9	Problem
83	Trout Brook	0	3	0	2	3	1	0	0	0	Poor Swale Condition, Blocked Pipe, Excessive Sediment	9	Problem
84	Trout Brook	0	3	0	2	3	1	0	0	0	Poor Swale Condition, Ditch Work, Excessive Sediment	9	Problem
56	Bubbling Brook	0	3	0	0	1	1	0	0	0	None	5	High Priority
70	Trout Brook	0	3	0	2	2	1	0	0	0	None	8	High Priority
71	Trout Brook	0	3	0	2	2	1	0	0	0	None	8	High Priority
78	Trout Brook	0	3	0	2	1	1	0	0	0	None	7	High Priority
105	Noanet Brook	0	3	0	0	1	1	0	0	0	None	5	High Priority
108	Noanet Brook	0	3	0	0	1	1	0	0	0	None	5	High Priority
109	Noanet Brook	0	3	0	0	1	1	0	0	0	None	5	High Priority
110	Charles River	0	3	0	2	1	1	0	0	0	None	7	High Priority
111	Charles River	0	3	0	2	1	1	0	0	0	None	7	High Priority
112	Charles River	0	3	0	2	1	1	0	0	0	None	7	High Priority

113	Unnamed	0	3	0	0	1	1	0	0	0	Ditch Work, Excessive Sediment, Channelization	5	High Priority
1	North Brook	0	0	0	0	1	1	0	0	0	None	2	Low Priority
2	North Brook	0	0	0	0	1	1	0	0	0	None	2	Low Priority
3	North Brook	0	0	0	0	1	1	0	0	0	None	2	Low Priority
4	North Brook	0	0	0	0	1	1	0	0	0	Foam	2	Low Priority
5	North Brook	0	0	0	0	1	1	0	0	0	Algae, Ditch Work Required	2	Low Priority
6	North Brook	0	0	0	0	1	1	0	0	0	None	2	Low Priority
7	North Brook	0	0	0	0	1	1	0	0	0	Algae, Poor Swale Condition	2	Low Priority
8	North Brook	0	0	0	0	1	1	0	0	0	Algae	2	Low Priority
8a	North Brook	0	0	0	0	1	1	0	0	0	Algae	2	Low Priority
8b	North Brook	0	0	0	0	1	1	0	0	0	Algae	2	Low Priority
9	North Brook	0	0	0	0	1	1	0	0	0	Algae	2	Low Priority
10	North Brook	0	0	0	0	1	1	0	0	0	Fair Swale Condition	2	Low Priority
11	North Brook	0	0	0	0	1	1	0	0	0	Poor Swale Condition	2	Low Priority
12	North Brook	0	0	0	0	1	1	0	0	0	Excessive Sediment, Ditch Work Required	2	Low Priority
12a	North Brook	0	0	0	0	1	1	0	0	0	Ditch Work Required	2	Low Priority
13	North Brook	0	0	0	0	1	1	0	0	0	None	2	Low Priority
14	North Brook	0	0	0	0	1	1	0	0	0	None	2	Low Priority
15	North Brook	0	0	0	0	1	1	0	0	0	None	2	Low Priority
16	North Brook	0	0	0	0	1	1	0	0	0	Algae	2	Low Priority
17	North Brook	0	0	0	0	1	1	0	0	0	None	2	Low Priority
18	Hales Pond	0	0	0	0	1	1	0	0	0	Poor Swale Condition, Blocked Pipe, Excessive Vegetation	2	Low Priority
19	Hales Pond	0	0	0	0	1	1	0	0	0	Poor Swale Condition, Blocked Pipe	2	Low Priority
20	Hales Pond	0	0	0	0	1	1	0	0	0	Ditch Work Required	2	Low Priority
21	Hales Pond	0	0	0	0	1	1	0	0	0	Fair Swale Condition, Algae	2	Low Priority
22a	Unnamed	0	0	0	0	1	1	0	0	0	None	2	Low Priority
22b	Unnamed	0	0	0	0	1	1	0	0	0	None	2	Low Priority
23	Unnamed	0	0	0	0	1	1	0	0	0	Crumbling, Blocked Pipe	2	Low Priority
24	Hales Pond	0	0	0	0	1	1	0	0	0	Poor Swale Condition, Blocked Pipe	2	Low Priority
25	Unnamed	0	0	0	0	1	1	0	0	0	Rip Rap	2	Low Priority
26	Hales Pond	0	0	0	0	1	1	0	0	0	None	2	Low Priority
27	Unnamed	0	0	0	0	1	1	0	0	0	Fair Swale Condition, Scouring	2	Low Priority
28	Unnamed	0	0	0	0	1	1	0	0	0	None	2	Low Priority
29	Unnamed	0	0	0	0	1	1	0	0	0	None	2	Low Priority
30	Unnamed	0	0	0	0	1	1	0	0	0	None	2	Low Priority
31	Unnamed	0	0	0	0	1	1	0	0	0	None	2	Low Priority
32	Unnamed	0	0	0	0	1	1	0	0	0	Ditch Work Required	2	Low Priority
33	Unnamed	0	0	0	0	1	1	0	0	0	None	2	Low Priority
34	Unnamed	0	0	0	0	1	1	0	0	0	None	2	Low Priority
35	Unnamed	0	0	0	0	1	1	0	0	0	None	2	Low Priority
36	Unnamed	0	0	0	0	1	1	0	0	0	None	2	Low Priority

37	Mill Brook	0	0	0	0	1	1	0	0	0	None	2	Low Priority
38	Tubwreck Brook	0	0	0	0	1	1	0	0	0	Crumbling, Blocked Pipe, Fair Swale Condition	2	Low Priority
39	Tubwreck Brook	0	0	0	0	1	1	0	0	0	Fair Swale Condition, Blocked Pipe, Algae	2	Low Priority
40	Tubwreck Brook	0	0	0	0	1	1	0	0	0	None	2	Low Priority
41	Tubwreck Brook	0	0	0	0	1	1	0	0	0	Blocked Pipe	2	Low Priority
42	Tubwreck Brook	0	0	0	0	1	1	0	0	0	Submerged in Backed Up Water, Algae	2	Low Priority
43	Tubwreck Brook	0	0	0	0	1	1	0	0	0	None	2	Low Priority
44	Tubwreck Brook	0	0	0	0	1	1	0	0	0	Excessive Sediment	2	Low Priority
45	Tubwreck Brook	0	0	0	0	1	1	0	0	0	Excessive Sediment	2	Low Priority
46	Tubwreck Brook	0	0	0	0	1	1	0	0	0	Excessive Sediment	2	Low Priority
47	Tubwreck Brook	0	0	0	0	1	1	0	0	0	None	2	Low Priority
48	Tubwreck Brook	0	0	0	0	1	1	0	0	0	None	2	Low Priority
49	Mill Brook	0	0	0	0	1	1	0	0	0	None	2	Low Priority
50	Mill Brook	0	0	0	0	1	1	0	0	0	None	2	Low Priority
51	Mill Brook	0	0	0	0	1	1	0	0	0	None	2	Low Priority
52	Mill Brook	0	0	0	0	1	1	0	0	0	None	2	Low Priority
53	Mill Brook	0	0	0	0	1	1	0	0	0	None	2	Low Priority
54	Mill Brook	0	0	0	0	1	1	0	0	0	None	2	Low Priority
55	Mill Brook	0	0	0	0	1	1	0	0	0	None	2	Low Priority
61	Charles River	0	0	0	2	1	1	0	0	0	None	4	Low Priority
62	Charles River	0	0	0	2	1	1	0	0	0	Algae	4	Low Priority
63	Charles River	0	0	0	2	1	1	0	0	0	None	4	Low Priority
64	Charles River	0	0	0	2	1	1	0	0	0	None	4	Low Priority
65	Charles River	0	0	0	2	1	1	0	0	0	Poor Pipe and Swale Condition, Ditch Work, Excessive Vegetation	4	Low Priority
66	Charles River	0	0	0	2	1	1	0	0	0	Poor Swale Condition, Algae	4	Low Priority
67	Charles River	0	0	0	2	1	1	0	0	0	Poor Swale Condition, Ditch Work, Excessive Vegetation	4	Low Priority
68	Charles River	0	0	0	2	1	1	0	0	0	Poor Swale Condition, Tree Work, Excessive Sediment	4	Low Priority
69	Charles River	0	0	0	2	1	1	0	0	0	Poor Swale Condition, Ditch Work, Excessive Vegetation, Channelization	4	Low Priority
72	Charles River	0	0	0	2	1	1	0	0	0	None	4	Low Priority
74	Charles River	0	0	0	2	1	1	0	0	0	None	4	Low Priority
75a	Charles River	0	0	0	2	1	1	0	0	0	None	4	Low Priority
75b	Charles River	0	0	0	2	1	1	0	0	0	None	4	Low Priority
76	Charles River	0	0	0	2	1	1	0	0	0	None	4	Low Priority
77	Unnamed	0	0	0	0	1	1	0	0	0	None	2	Low Priority
79	Charles River	0	0	0	2	1	1	0	0	0	None	4	Low Priority
85	Trout Brook	0	0	0	2	1	1	0	0	0	Poor Swale Condition, Ditch Work, Excessive Sediment, Channelization	4	Low Priority

86	Trout Brook	0	0	0	2	1	1	0	0	0	Structural Corrosion, Excessive Sediment, Channelization	4	Low Priority
87	Trout Brook	0	0	0	2	1	1	0	0	0	Blocked Pipe, Excessive Sediment	4	Low Priority
87a	Trout Brook	0	0	0	2	1	1	0	0	0	Blocked Pipe, Excessive Sediment	4	Low Priority
88	Trout Brook	0	0	0	2	1	1	0	0	0	Blocked Pipe, Excessive Sediment	4	Low Priority
89	Trout Brook	0	0	0	2	1	1	0	0	0	None	4	Low Priority
90	Trout Brook	0	0	0	2	1	1	0	0	0	None	4	Low Priority
91	Trout Brook	0	0	0	2	1	1	0	0	0	Poor Swale Condition, Blocked Pipe, Excessive Sediment	4	Low Priority
92	Trout Brook	0	0	0	2	1	1	0	0	0	None	4	Low Priority
93	Trout Brook	0	0	0	2	1	1	0	0	0	None	4	Low Priority
94	Trout Brook	0	0	0	2	1	1	0	0	0	None	4	Low Priority
95	Trout Brook	0	0	0	2	1	1	0	0	0	Channelization	4	Low Priority
96	Trout Brook	0	0	0	2	1	1	0	0	0	None	4	Low Priority
97	Trout Brook	0	0	0	2	1	1	0	0	0	None	4	Low Priority
98	Trout Brook	0	0	0	2	1	1	0	0	0	None	4	Low Priority
99	Trout Brook	0	0	0	2	1	1	0	0	0	None	4	Low Priority
100	Trout Brook	0	0	0	2	1	1	0	0	0	None	4	Low Priority
101	Trout Brook	0	0	0	2	1	1	0	0	0	None	4	Low Priority
102	Trout Brook	0	0	0	2	1	1	0	0	0	None	4	Low Priority
103	Trout Brook	0	0	0	2	1	1	0	0	0	None	4	Low Priority
104	Trout Brook	0	0	0	2	1	1	0	0	0	None	4	Low Priority
106	Charles River	0	0	0	2	1	1	0	0	0	None	4	Low Priority
107	Charles River	0	0	0	2	1	1	0	0	0	None	4	Low Priority
114	Trout Brook	0	0	0	2	1	1	0	0	0	None	4	Low Priority
115	Trout Brook	0	0	0	2	1	1	0	0	0	None	4	Low Priority
116	Trout Brook	0	0	0	2	1	1	0	0	0	None	4	Low Priority
117	Unnamed	0	0	0	0	1	1	0	0	0	None	2	Low Priority
118	Reserve Pond	0	0	0	0	1	1	0	0	0	None	2	Low Priority
119	Reserve Pond	0	0	0	0	1	1	0	0	0	None	2	Low Priority
120	Reserve Pond	0	0	0	0	1	1	0	0	0	None	2	Low Priority
121	Reserve Pond	0	0	0	0	1	1	0	0	0	None	2	Low Priority
122	Reserve Pond	0	0	0	0	1	1	0	0	0	None	2	Low Priority
123	Trout Brook	0	0	0	2	1	1	0	0	0	None	4	Low Priority
124	Trout Brook	0	0	0	2	1	1	0	0	0	None	4	Low Priority
125	Trout Brook	0	0	0	2	1	1	0	0	0	None	4	Low Priority
126	Trout Brook	0	0	0	2	1	1	0	0	0	None	4	Low Priority
127	Tubwreck Brook	0	0	0	0	1	1	0	0	0	None	2	Low Priority
128	Tubwreck Brook	0	0	0	0	1	1	0	0	0	None	2	Low Priority
129	Tubwreck Brook	0	0	0	0	1	1	0	0	0	None	2	Low Priority
130	Tubwreck Brook	0	0	0	0	1	1	0	0	0	None	2	Low Priority
131	Tubwreck Brook	0	0	0	0	1	1	0	0	0	None	2	Low Priority
132	Tubwreck Brook	0	0	0	0	1	1	0	0	0	None	2	Low Priority
133	Tubwreck Brook	0	0	0	0	1	1	0	0	0	None	2	Low Priority
134	Tubwreck Brook	0	0	0	0	1	1	0	0	0	None	2	Low Priority
135	Tubwreck Brook	0	0	0	0	1	1	0	0	0	None	2	Low Priority

136	Tubwreck Brook	0	0	0	0	1	1	0	0	0	None	2	Low Priority

Scoring Criteria:

[1] Previous screening results indicate likely sewer input if any of the following are true:

- Olfactory or visual evidence of sewage,
- Ammonia ≥ 0.5 mg/L, surfactants ≥ 0.25 mg/L, and bacteria levels greater than the water quality criteria applicable to the receiving water, or
- Ammonia ≥ 0.5 mg/L, surfactants ≥ 0.25 mg/L, and detectable levels of chlorine

[2] Outfalls/interconnections that discharge to or near any of the following areas: public beaches, recreational areas, drinking water supplies, or shellfish beds

[3] Receiving water quality based on latest version of MassDEP Integrated List of Waters.

- Poor = Waters with approved TMDLs (Category 4a Waters) where illicit discharges have the potential to contain the pollutant identified as the cause of the impairment
- Fair = Water quality limited waterbodies that receive a discharge from the MS4 (Category 5 Waters)
- Good = No water quality impairments

[4] Generating sites are institutional, municipal, commercial, or industrial sites with a potential to contribute to illicit discharges (e.g., car dealers, car washes, gas stations, garden centers, industrial manufacturing, etc.)

[5] Age of development and infrastructure:

- High = Industrial areas greater than 40 years old and areas where the sanitary sewer system is more than 40 years old
- Medium = Developments 20-40 years old
- Low = Developments less than 20 years old

[6] Areas once served by combined sewers and but have been separated, or areas once served by septic systems but have been converted to sanitary sewers.

[7] Aging septic systems are septic systems 30 years or older in residential areas.

[8] Any river or stream that is culverted for distance greater than a simple roadway crossing.

Section 6 - DRY WEATHER OUTFALL SCREENING AND SAMPLING

Dry weather flow is a common indicator of potential illicit connections. The MS4 Permit requires all outfalls/interconnections (excluding Problem and excluded Outfalls) to be inspected for the presence of dry weather flow. The Dover Highway Department is responsible for conducting dry weather outfall screening, starting with High Priority outfalls, followed by Low Priority outfalls, based on the initial priority rankings described in the previous section.

6.1 Weather Conditions

Dry weather outfall screening and sampling may occur when no more than 0.1 inches of rainfall has occurred in the previous 24-hour period and no significant snow melt is occurring. For purposes of determining dry weather conditions, program staff will use precipitation data from the National Weather Service (NWS), Norwood, Massachusetts weather station; https://www.weather.gov/box/stationobs?siteid=OWD. If the NWS Norwood location is not available or not reporting current weather data, then the NWS Taunton location will be used as a back-up; https://www.weather.gov/box/stationobs?siteid=TAN.

6.2 Dry Weather Screening/Sampling Procedure

The following summarizes general procedures, field equipment, and sample and collection analysis associated with dry weather outfall screening and sampling.

6.2.1 General Procedure

The dry weather outfall inspection and sampling procedure consists of the following general steps:

1. Identify outfall(s) to be screened/sampled based on initial outfall inventory and priority ranking
2. Acquire the necessary staff, mapping, and field equipment (see Table 6-1 for list of potential field equipment)
3. Conduct the outfall inspection during dry weather:
    a. Mark and photograph the outfall
    b. Record the inspection information and outfall characteristics (using paper forms or digital form using a tablet or similar device) (see form in Appendix C)
    c. Look for and record visual/olfactory evidence of pollutants in flowing outfalls including odor, color, turbidity, and floatable matter (suds, bubbles, excrement, toilet paper or sanitary products). Also observe outfalls for deposits and stains, vegetation, and damage to outfall structures.
4. If flow is observed, sample and test the flow following the procedures described in the following sections.
5. If no flow is observed, but evidence of illicit flow exists (illicit discharges are often intermittent or transitory), revisit the outfall during dry weather within one week of

the initial observation, if practicable, to perform a second dry weather screening and sample any observed flow. Other techniques can be used to detect intermittent or transitory flows including conducting inspections during evenings or weekends and using optical brighteners.

6. Input results from screening and sampling into spreadsheet/database. Include pertinent information in the outfall/interconnection inventory and priority ranking.
7. Include all screening data in the annual report.

6.2.2 Field Equipment

Table 6-1 lists field equipment commonly used for dry weather outfall screening and sampling.

Table 6-1
Field Equipment – Dry Weather Outfall Screening and Sampling

Equipment	Use/Notes
Clipboard	For organization of field sheets and writing surface
Field Sheets	Field sheets for both dry weather inspection and Dry weather sampling should be available with extras
Chain of Custody Forms	To ensure proper handling of all samples
Pens/Pencils/Permanent Markers	For proper labeling
Nitrile Gloves	To protect the sampler as well as the sample from contamination
Flashlight/headlamp w/batteries	For looking in outfalls or manholes, helpful in early mornings as well
Cooler with Ice	For transporting samples to the laboratory
Digital Camera	For documenting field conditions at time of inspection
Personal Protective Equipment (PPE)	Reflective vest, Safety glasses and boots at a minimum
GPS Receiver	For taking spatial location data
Water Quality Sonde	If needed, for sampling conductivity, temperature, pH
Water Quality Meter	Handheld meter, if available, for testing for various water quality parameters such as ammonia, surfactants and chlorine
Test Kits	Have extra kits on hand to sample more outfalls than are anticipated to be screened in a single day
Label Tape	For labeling sample containers
Sample Containers	Make sure all sample containers are clean. Keep extra sample containers on hand at all times. Make sure there are proper sample containers for what is being sampled for (i.e., bacteria requires sterile containers).
Pry Bar or Pick	For opening catch basins and manholes when necessary
Sandbags	For damming low flows in order to take samples
Small Mallet or Hammer	Helping to free stuck manhole and catch basin covers
Utility Knife	Multiple uses
Measuring Tape	Measuring distances and depth of flow
Safety Cones	Safety

Equipment	Use/Notes
Hand Sanitizer	Disinfectant/decontaminant
Zip Ties/Duct Tape	For making field repairs
Rubber Boots/Waders	For accessing shallow streams/areas
Sampling Pole/Dipper/Sampling Cage	For accessing hard to reach outfalls and manholes

6.2.3 Sample Collection and Analysis

If flow is present during a dry weather outfall inspection, a sample will be collected and analyzed for the required permit parameters listed in Table 6-2. The general procedure for collection of outfall samples is as follows:

1. Fill out all sample information on sample bottles and field sheets
2. Put on protective gloves (nitrile/latex/other) before sampling
3. Collect sample with dipper or directly in sample containers. If possible, collect water from the flow directly in the sample bottle. Be careful not to disturb sediments.
4. If using a dipper or other device, triple rinse the device with distilled water and then in water to be sampled (not for bacteria sampling)
5. Use test strips, test kits, and field meters (rinse similar to dipper) for most parameters (see Table 6-2)
6. Place laboratory samples on ice for analysis of bacteria and pollutants of concern
7. Fill out chain-of-custody form for laboratory samples
8. Deliver samples to laboratory or schedule pick up of samples by laboratory, if available.
9. Dispose of used test strips and test kit ampules properly
10. Decontaminate all testing personnel and equipment

In the event that an outfall is submerged, either partially or completely, or inaccessible, field staff will proceed to the first accessible upstream manhole or structure for the observation and sampling and report the location with the screening results. Field staff will continue to the next upstream structure until there is no longer an influence from the receiving water on the visual inspection or sampling.

Field test kits or field instrumentation are permitted for all parameters except indicator bacteria and any pollutants of concern. Field kits need to have appropriate detection limits and ranges. Table 6-2 lists various field test kits and field instruments that can be used for outfall sampling associated with the 2016 MS4 Permit parameters, other than indicator bacteria and any pollutants of concern.

Table 6-2
Sampling Parameters and Analysis Methods

Analyte or Parameter	Instrumentation (Portable Meter)	Field Test Kit
Ammonia	CHEMetrics™ V-2000 Colorimeter Hach™ DR/890 Colorimeter Hach™ Pocket Colorimeter™ II	CHEMetrics™ K-1410 CHEMetrics™ K-1510 (series) Hach™ NI-SA Hach™ Ammonia Test Strips
Surfactants (Detergents)	CHEMetrics™ I-2017	CHEMetrics™ K-9400 and K-9404 Hach™ DE-2
Chlorine	CHEMetrics™ V-2000, K-2513 Hach™ Pocket Colorimeter™ II	NA
Conductivity	CHEMetrics™ I-1200 YSI Pro30 YSI EC300A Oakton 450	NA
Temperature	YSI Pro30 YSI EC300A Oakton 450	NA
Salinity	YSI Pro30 YSI EC300A Oakton 450	NA
Temperature	YSI Pro30 YSI EC300A Oakton 450	NA
Indicator Bacteria: *E. coli* (freshwater) or Enterococcus (saline water)	EPA certified laboratory procedure (40 CFR § 136)	NA
Pollutants of Concern[1]	EPA certified laboratory procedure (40 CFR § 136)	NA

[1] *Where the discharge is directly into a water quality limited water or a water subject to an approved TMDL, the sample must be analyzed for the pollutant(s) of concern identified as the cause of the water quality impairment.*

Testing for indicator bacteria and any pollutants of concern must be conducted using analytical methods and procedures found in 40 CFR § 136. Samples for laboratory analysis must also be stored and preserved in accordance with procedures found in 40 CFR § 136. Table 6-3 lists analytical methods, detection limits, hold times, and preservatives for laboratory analysis of dry weather sampling parameters.

Table 6-3
Required Analytical Methods, Detection Limits,
Hold Times, and Preservatives

Analyte or Parameter	Analytical Method	Detection Limit	Max. Hold Time	Preservative
Ammonia	**EPA**: 350.2, **SM**: 4500-NH3C	0.05 mg/L	28 days	Cool ≤6°C, H_2SO_4 to pH <2, No preservative required if analyzed immediately
Surfactants	**SM**: 5540-C	0.01 mg/L	48 hours	Cool ≤6°C
Chlorine	**SM**: 4500-Cl G	0.02 mg/L	Analyze within 15 minutes	None Required
Temperature	**SM**: 2550B	*NA*	Immediate	None Required
Specific Conductance	**EPA**: 120.1, **SM**: 2510B	0.2 µs/cm	28 days	Cool ≤6°C
Salinity	**SM**: 2520	-	28 days	Cool ≤6°C
Indicator Bacteria: *E.coli* Enterococcus	*E.coli* **EPA**: 1603 **SM**: 9221B, 9221F , 9223 B **Other**: Colilert ®, Colilert-18® *Enterococcus* **EPA**: 1600 **SM**: 9230 C **Other**: Enterolert®	*E.coli* **EPA**: 1 cfu/100mL **SM**: 2 MPN/100mL **Other**: 1 MPN/100mL *Enterococcus* **EPA**: 1 cfu/100mL **SM**: 1 MPN/100mL **Other**: 1 MPN/100mL	8 hours	Cool ≤10°C, 0.0008% $Na_2S_2O_3$
Total Phosphorus	**EPA**: Manual-365.3, Automated Ascorbic acid digestion-365.1 Rev. 2, ICP/AES4-200.7 Rev. 4.4 **SM**: 4500-P E-F	**EPA**: 0.01 mg/L **SM** : 0.01 mg/L	28 days	Cool ≤6°C, H_2SO_4 to pH <2
Total Nitrogen (Ammonia + Nitrate/Nitrite, methods are for Nitrate-Nitrite and need to be combined with Ammonia listed above.)	**EPA**: Cadmium reduction (automated)-353.2 Rev. 2.0, **SM**: 4500-NO_3 E-F	**EPA**: 0.05 mg/L **SM** : 0.05 mg/L	28 days	Cool ≤6°C, H_2SO_4 to pH <2

SM = Standard Methods

6.3 Interpreting Outfall Sampling Results

Outfall analytical data from dry weather sampling can be used to help identify the major type or source of discharge. Table 6-4 shows values identified by the U.S. EPA and the Center for Watershed Protection as typical screening values for select parameters. These represent the typical concentration (or value) of each parameter expected to be found in stormwater. Screening values that exceed these benchmarks may be indicative of pollution and/or illicit discharges.

Table 6-4
Benchmark Field Measurements
for Select Parameters

Analyte or Parameter	Benchmark
Ammonia	>0.5 mg/L
Conductivity	>2,000 µS/cm
Surfactants	>0.25 mg/L
Chlorine	>0.02 mg/L (detectable levels per the 2016 MS4 Permit)
Indicator Bacteria: *E.coli* *Enterococcus*	*E.coli*: the geometric mean of the five most recent samples taken during the same bathing season shall not exceed 126 colonies per 100 ml and no single sample taken during the bathing season shall exceed 235 colonies per 100 ml *Enterococcus:* the geometric mean of the five most recent samples taken during the same bathing season shall not exceed 33 colonies per 100 ml and no single sample taken during the bathing season shall exceed 61 colonies per 100 ml

6.4 Follow-up Ranking of Outfalls and Interconnections

The Town of Dover will update and re-prioritize the initial outfall and interconnection rankings based on information gathered during dry weather screening. The rankings will be updated periodically as dry weather screening information becomes available, but will be completed within three (3) years of the effective date of the permit (July 1, 2021).

Outfalls/interconnections where relevant information was found indicating illicit discharges will be ranked at the top of the High Priority Outfalls category for investigation. Other outfalls and interconnections may be re-ranked based on any new information from the dry weather screening.

Section 7 - CATCHMENT INVESTIGATIONS

Once stormwater outfalls with evidence of illicit discharges have been identified, various methods can be used to trace the source of the potential discharge within the outfall catchment area. Catchment investigation techniques include but are not limited to review of maps, historic plans, and records; manhole observation; dry and wet weather sampling; video inspection; smoke testing; and dye testing. This section outlines a systematic procedure to investigate outfall catchments to trace the source of potential illicit discharges. All data collected as part of the catchment investigations will be recorded and reported in each annual report.

7.1 System Vulnerability Factors

The Dover Highway Department will review relevant mapping and historic plans and records to identify areas within the catchment with higher potential for illicit connections. The following information will be reviewed:

- Plans related to the construction of the drainage network
- Prior work on storm drains
- Board of Health or other municipal data on septic systems
- Septic system breakouts

Based on the review of this information, the presence of any of the following System Vulnerability Factors (SVFs) will be identified for each catchment:

- Any storm drain infrastructure greater than 40 years old.
- Widespread code-required septic system upgrades required at property transfers (indicative of inadequate soils, water table separation, or other physical constraints of the area rather that poor owner maintenance).
- History of multiple Board of Health actions addressing widespread septic system failures (indicative of inadequate soils, water table separation, or other physical constraints of the area rather that poor owner maintenance).

An SVF inventory will be documented for each catchment (see Table 7-1), retained as part of this IDDE Plan, and included in the annual report.

Table 7-1
Outfall Catchment System Vulnerability Factor (SVF) Inventory
Revision Date: TBD

Outfall ID	Receiving Water	1 History of SSOs	2 Common or Twin Invert Manholes	3 Common Trench Construction	4 Storm/Sanitary Crossings (Sanitary Above)	5 Sanitary Lines with Underdrains	6 Inadequate Sanitary Level of Service	7 Areas Formerly Served by Combined Sewers	8 Sanitary Infrastructure Defects	9 SSO Potential In Event of System Failures	10 Sanitary and Storm Drain Infrastructure >40 years Old	11 Septic with Poor Soils or Water Table Separation	12 History of BOH Actions Addressing Septic Failure
Sample 1	XYZ River	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No

Presence/Absence Evaluation Criteria:

1. History of SSOs, including, but not limited to, those resulting from wet weather, high water table, or fat/oil/grease blockages
2. Common or twin-invert manholes serving storm and sanitary sewer alignments
3. Common trench construction serving both storm and sanitary sewer alignments
4. Crossings of storm and sanitary sewer alignments where the sanitary system is shallower than the storm drain system
5. Sanitary sewer alignments known or suspected to have been constructed with an underdrain system
6. Inadequate sanitary sewer level of service (LOS) resulting in regular surcharging, customer back-ups, or frequent customer complaints
7. Areas formerly served by combined sewer systems
8. Sanitary sewer infrastructure defects such as leaking service laterals, cracked, broken, or offset sanitary infrastructure, directly piped connections between storm drain and sanitary sewer infrastructure, or other vulnerability factors identified through Inflow/Infiltration Analyses, Sanitary Sewer Evaluation Surveys, or other infrastructure investigations
9. Sewer pump/lift stations, siphons, or known sanitary sewer restrictions where power/equipment failures or blockages could readily result in SSOs
10. Any sanitary sewer and storm drain infrastructure greater than 40 years old
11. Widespread code-required septic system upgrades required at property transfers (indicative of inadequate soils, water table separation, or other physical constraints of the area rather that poor owner maintenance)
12. History of multiple Board of Health actions addressing widespread septic system failures (indicative of inadequate soils, water table separation, or other physical constraints of the area rather that poor owner maintenance)

7.2 Dry Weather Manhole Inspections

The Town of Dover will implement a dry weather storm drain network investigation that involves systematically and progressively observing, sampling and evaluating key junction manholes in the MS4 to determine the approximate location of suspected illicit discharges or SSOs.

The Dover Highway Department will be responsible for implementing the dry weather manhole inspection program and making updates as necessary. Infrastructure information will be incorporated into the storm system map, and catchment delineations will be refined based on the field investigation, where necessary. The SVF inventory will also be updated based on information obtained during the field investigations, where necessary.

Several important terms related to the dry weather manhole inspection program are defined by the MS4 Permit as follows:

- **Junction Manhole** is a manhole or structure with two or more inlets accepting flow from two or more MS4 alignments. Manholes with inlets solely from private storm drains, individual catch basins, or both are not considered junction manholes for these purposes.

- **Key Junction Manholes** are those junction manholes that can represent one or more junction manholes without compromising adequate implementation of the illicit discharge program. Adequate implementation of the illicit discharge program would not be compromised if the exclusion of a particular junction manhole as a key junction manhole would not affect the permittee's ability to determine the possible presence of an upstream illicit discharge. A permittee may exclude a junction manhole located upstream from another located in the immediate vicinity or that is serving a drainage alignment with no potential for illicit connections.

For all catchments identified for investigation, during dry weather, field crews will systematically inspect key junction manholes for evidence of illicit discharges. This program involves progressive inspection and sampling at manholes in the storm drain network to isolate and eliminate illicit discharges.

The manhole inspection methodology will be conducted in one of two ways (or a combination of both):

- By working progressively up from the outfall and inspecting key junction manholes along the way, or
- By working progressively down from the upper parts of the catchment toward the outfall.

For most catchments, manhole inspections will proceed from the outfall moving up into the system.

However, the decision to move up or down the system depends on the nature of the drainage system and the surrounding land use and the availability of information on the catchment and drainage system. Moving up the system can begin immediately when an illicit discharge is detected at an outfall, and only a map of the storm drain system is required. Moving down the system requires more advance preparation and reliable drainage system information on the upstream segments of the storm drain system, but may be more efficient if the sources of illicit discharges are believed to be located in the upstream portions of the catchment area. Once a manhole inspection methodology has been selected, investigations will continue systematically through the catchment.

Inspection of key junction manholes will proceed as follows:

1. Manholes will be opened and inspected for visual and olfactory evidence of illicit connections. A sample field inspection form is provided in Appendix C.

2. If flow is observed, a sample will be collected and analyzed at a minimum for ammonia, chlorine, and surfactants. Field kits can be used for these analyses. Sampling and analysis will be in accordance with procedures outlined in **Section 6**. Additional indicator sampling may assist in determining potential sources (e.g., bacteria for sanitary flows, conductivity to detect tidal backwater, etc.).

3. Where sampling results or visual or olfactory evidence indicate potential illicit discharges or SSOs, the area draining to the junction manhole will be flagged for further upstream manhole investigation and/or isolation and confirmation of sources.

4. Subsequent key junction manhole inspections will proceed until the location of suspected illicit discharges or SSOs can be isolated to a pipe segment between two manholes.

5. If no evidence of an illicit discharge is found, catchment investigations will be considered complete upon completion of key junction manhole sampling.

7.3 Wet Weather Outfall Sampling

Where a minimum of one (1) System Vulnerability Factor (SVF) is identified based on previous information or the catchment investigation, a wet weather investigation must also be conducted at the associated outfall. The Dover Highway Department will be responsible for implementing the wet weather outfall sampling program and making updates as necessary.

Outfalls will be inspected and sampled under wet weather conditions, to the extent necessary, to determine whether high groundwater in areas served by septic systems result in discharges of sanitary flow to the MS4.

Wet weather outfall sampling will proceed as follows:

1. At least one wet weather sample will be collected at the outfall for the same parameters required during dry weather screening.

2. Wet weather sampling will occur during or after a storm event of sufficient depth or intensity to produce a stormwater discharge at the outfall. There is no specific rainfall amount that will trigger sampling, although minimum storm event intensities that are likely to trigger sanitary sewer interconnections are preferred. To the extent feasible, sampling should occur during the spring (March through June) when groundwater levels are relatively high.

3. If wet weather outfall sampling indicates a potential illicit discharge, then additional wet weather source sampling will be performed, as warranted, or source isolation and confirmation procedures will be followed as described in Section 7.4.

4. If wet weather outfall sampling does not identify evidence of illicit discharges, and no evidence of an illicit discharge is found during dry weather manhole inspections, catchment investigations will be considered complete.

7.4 Source Isolation and Confirmation

Once the source of an illicit discharge is approximated between two manholes, more detailed investigation techniques will be used to isolate and confirm the source of the illicit discharge. The following methods may be used in isolating and confirming the source of illicit discharges

- Sandbagging
- Smoke Testing
- Dye Testing
- CCTV/Video Inspections
- Optical Brightener Monitoring
- IDDE Canines

These methods are described in the sections below. Instructions and Standard Operating Procedures (SOPs) for these and other IDDE methods are provided in Appendix F.

Public notification is an important aspect of a detailed source investigation program. Prior to smoke testing, dye testing, or TV inspections, the Dover Highway Department will notify property owners in the affected area.

7.4.1 Sandbagging

This technique can be particularly useful when attempting to isolate intermittent illicit discharges or those with very little perceptible flow. The technique involves placing sandbags or similar barriers (e.g., caulking, weirs/plates, or other temporary barriers) within outlets to manholes to form a temporary dam that collects any intermittent flows that may occur.

Sandbags are typically left in place for 48 hours, and should only be installed when dry weather is forecast. If flow has collected behind the sandbags/barriers after 48 hours, it can be assessed using visual observations or by sampling. If no flow collects behind the sandbag, the upstream pipe network can be ruled out as a source of the intermittent discharge. Finding appropriate durations of dry weather and the need for multiple trips to each manhole makes this method both time-consuming and somewhat limiting.

7.4.2 Smoke Testing

Smoke testing involves injecting non-toxic smoke into drain lines and noting the emergence of smoke from sanitary sewer vents in illegally connected buildings or from cracks and leaks in the system itself. Typically, a smoke bomb or smoke generator is used to inject the smoke into the system at a catch basin or manhole and air is then forced through the system. Test personnel are place in areas where there are suspected illegal connections or cracks/leaks, noting any escape of smoke (indicating an illicit connection or damaged storm drain infrastructure). It is important when using this technique to make proper notifications to area residents and business owners as well as local police and fire departments.

If the initial test of the storm drain system is unsuccessful then a more thorough smoke-test of the sanitary sewer lines can also be performed. Unlike storm drain smoke tests, buildings that do not emit smoke during sanitary sewer smoke tests may have problem connections and may also have sewer gas venting inside, which is hazardous.

It should be noted that smoke may cause minor irritation of respiratory passages. Residents with respiratory conditions may need to be monitored or evacuated from the area of testing altogether to ensure safety during testing.

7.4.3 Dye Testing

Dye testing involves flushing non-toxic dye into plumbing fixtures such as toilets, showers, and sinks and observing nearby storm drains and sewer manholes as well as stormwater outfalls for the presence of the dye. Similar to smoke testing, it is important to inform local residents and business owners. Police, fire, and local public health staff should also be notified prior to testing in preparation of responding to citizen phone calls concerning the dye and their presence in local surface waters.

A team of two or more people is needed to perform dye testing (ideally, all with two-way radios). One person is inside the building, while the others are stationed at the appropriate storm sewer and sanitary sewer manholes (which should be opened) and/or outfalls. The person inside the building adds dye into a plumbing fixture (i.e., toilet or sink) and runs a sufficient amount of water to move the dye through the plumbing system. The person inside the building then radios to the outside crew that the dye has been dropped, and the outside crew watches for the dye in the storm sewer and sanitary sewer, recording the presence or absence of the dye.

The test can be relatively quick (about 30 minutes per test), effective (results are usually definitive), and inexpensive. Dye testing is best used when the likely source of an illicit discharge has been narrowed down to a few specific houses or businesses.

7.4.4 CCTV/Video Inspection

Another method of source isolation involves the use of mobile video cameras that are guided remotely through stormwater drain lines to observe possible illicit discharges. IDDE program staff can review the videos and note any visible illicit discharges. While this tool is both effective and usually definitive, it can be costly and time consuming when compared to other source isolation techniques.

7.4.5 Optical Brightener Monitoring

Optical brighteners are fluorescent dyes that are used in detergents and paper products to enhance their appearance. The presence of optical brighteners in surface waters or dry weather discharges suggests there is a possible illicit discharge or insufficient removal through adsorption in nearby septic systems or wastewater treatment. Optical brightener monitoring can be done in two ways. The most common, and least expensive, methodology involves placing a cotton pad in a wire cage and securing it in a pipe, manhole, catch basin, or inlet to capture intermittent dry weather flows. The pad is retrieved at a later date and placed under UV light to determine the presence/absence of brighteners during the monitoring period. A second methodology uses handheld fluorometers to detect optical brighteners in water sample collected from outfalls or ambient surface waters. Use of a fluorometer, while more quantitative, is typically more costly and is not as effective at isolating intermittent discharges as other source isolation techniques.

7.4.6 IDDE Canines

Dogs specifically trained to smell human related sewage are becoming a cost-effective way to isolate and identify sources of illicit discharges. While not widespread at the moment, the use of IDDE canines is growing as is their accuracy. The use of IDDE canines is not recommended as a standalone practice for source identification; rather it is recommended as a tool to supplement other conventional methods, such as dye testing, in order to fully verify sources of illicit discharges.

7.5 Illicit Discharge Removal

When the specific source of an illicit discharge is identified, the Town of Dover will exercise its authority as necessary to require its removal. The annual report will include the status of IDDE investigation and removal activities including the following information for each confirmed source:

- The location of the discharge and its source(s)
- A description of the discharge
- The method of discovery

- Date of discovery
- Date of elimination, mitigation or enforcement action OR planned corrective measures and a schedule for completing the illicit discharge removal
- Estimate of the volume of flow removed

7.5.1 Confirmatory Outfall Screening

Within one (1) year of removal of all identified illicit discharges within a catchment area, confirmatory outfall or interconnection screening will be conducted. The confirmatory screening will be conducted in dry weather unless System Vulnerability Factors have been identified, in which case both dry weather and wet weather confirmatory screening will be conducted. If confirmatory screening indicates evidence of additional illicit discharges, the catchment will be scheduled for additional investigation.

7.6 Ongoing Screening

Upon completion of all catchment investigations and illicit discharge removal and confirmation (if necessary), each outfall or interconnection will be re-prioritized for screening and scheduled for ongoing screening once every five (5) years. Ongoing screening will consist of dry weather screening and sampling consistent with the procedures described in Section 6 of this plan. Ongoing wet weather screening and sampling will also be conducted at outfalls where wet weather screening was required due to System Vulnerability Factors and will be conducted in accordance with the procedures described in Section 7.3. All sampling results will be reported in the annual report.

Section 8 - TRAINING

Annual IDDE training will be made available to all employees involved in the IDDE program. This training will at a minimum include information on how to identify illicit discharges and SSOs and may also include additional training specific to the functions of particular personnel and their function within the framework of the IDDE program. Training records will be maintained in Appendix E. The frequency and type of training will be included in the annual report.

Section 9 - PROGRESS REPORTING

The progress and success of the IDDE program will be evaluated on an annual basis. The evaluation will be documented in the annual report and will include the following indicators of program progress:

- Number of SSOs and illicit discharges identified and removed
- Number and percent of total outfall catchments served by the MS4 evaluated using the catchment investigation procedure
- Number of dry weather outfall inspections/screenings
- Number of wet weather outfall inspections/sampling events
- Number of enforcement notices issued
- All dry weather and wet weather screening and sampling results
- Estimate of the volume of sewage removed, as applicable
- Number of employees trained annually.

The success of the IDDE program will be measured by the IDDE activities completed within the required permit timelines.

Appendix A

Legal Authority (IDDE Bylaw)

TATA & HOWARD

Town of Dover, MA
Wednesday, June 12, 2019

Chapter 159. Stormwater Management and Erosion Control

[HISTORY: Adopted ATM 5-2-2016, Art. 21.[1] Amendments noted where applicable.]

GENERAL REFERENCES
Groundwater protection districts — See Ch. **116**.
Wetlands protection — See Ch. **181**.
Zoning — See Ch. **185**.

[1] *Editor's Note: This article was adopted as Ch. 117 but was renumbered to fit into the alphabetical organization of the Code.*

§ 159-1. Purpose.

A. The purpose of this bylaw is to provide for the health, safety, and general welfare of the citizens of the Town of Dover through the regulation of non-stormwater discharges to the storm drainage system to the maximum extent practicable as required by federal and state law. The bylaw establishes methods for controlling the introduction of pollutants into the municipal separate storm sewer system (MS4) in order to comply with requirements of the National Pollutant Discharge Elimination System (NPDES) permit process.

B. The objectives of this bylaw are:

(1) To prevent pollutants from entering Dover's municipal separate storm sewer system;

(2) To prohibit illicit connections and unauthorized discharges to the MS4;

(3) To require the removal of all such illicit discharges;

(4) To comply with state and federal regulations relating to stormwater discharges; and

(5) To establish legal authority to ensure compliance with the provisions of this bylaw through inspection, monitoring, and enforcement.

§ 159-2. Definitions.

For the purposes of this bylaw, the following shall mean:

AUTHORIZED ENFORCEMENT AGENCY

The Town of Dover's Board of Selectmen shall administer and implement this bylaw. The Town's Highway Department shall enforce this bylaw. Any powers granted to or duties imposed must be delegated in writing by the Board of Selectmen to the appropriate agents of the Town, i.e. the employees of and agents of the Highway Department, the Board of Health, the Conservation Commission, Building Inspector, and Town Engineer.

BEST MANAGEMENT PRACTICES (BMPS)

Schedules of activities, prohibitions of practices, general good housekeeping practices, pollution prevention and educational practices, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants directly or indirectly to stormwater, receiving waters, or stormwater conveyance systems. BMPs also include treatment practices, operating procedures, and practices to control site runoff, spillage or leaks, sludge or water disposal, or drainage from raw materials storage.

CLEAN WATER ACT

The federal Water Pollution Control Act (33 U.S.C. § 1251 et seq.) and any subsequent amendments thereto.

HAZARDOUS MATERIAL

Any material, including any substance, waste, or combination thereof, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may cause, or significantly contribute to, a substantial present or potential hazard to human health, safety, property, or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

ILLEGAL DISCHARGE

Any direct or indirect non-stormwater discharge to the storm drain system, except as exempted in § **159-5** of this bylaw.

ILLICIT CONNECTIONS

An illicit connection is defined as either of the following: Any drain or conveyance, whether on the surface or subsurface, which allows an illegal discharge to enter the storm drain system including but not limited to any conveyances which allow any non-stormwater discharge including sewage, process wastewater, and wastewater to enter the storm drain system and any connections to the storm drain system from indoor drains and sinks, regardless of whether said drain or connection had been previously allowed, permitted, or approved by an authorized enforcement agency, or any drain or conveyance connected from a commercial or industrial land use to the storm drain system which has not been documented in plans, maps, or equivalent records and approved by an authorized enforcement agency.

INDUSTRIAL ACTIVITY

Activities subject to NPDES Industrial Permits as defined in 40 CFR Section 122.26(b)(14).

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) STORMWATER DISCHARGE PERMIT

A permit issued by EPA that authorizes the discharge of pollutants to waters of the United States, whether the permit is applicable on an individual, group, or general area-wide basis.

NON-STORMWATER DISCHARGE

Any discharge to the storm drain system that is not composed entirely of stormwater.

PERSON

Any individual, association, organization, partnership, firm, corporation or other entity recognized by law and acting as either the owner or as the owner's agent.

POLLUTANT

Anything which causes or contributes to pollution. Pollutants may include, but are not limited to: paints, varnishes, and solvents; oil and other automotive fluids; nonhazardous liquid and solid wastes and yard wastes; refuse, rubbish, garbage, litter, or other discarded or abandoned objects, ordnance, and accumulations, so that same may cause or contribute to pollution; floatables; pesticides, herbicides, and fertilizers; hazardous substances and wastes; sewage, fecal coliform and pathogens; dissolved

and particulate metals; animal wastes; wastes and residues that result from constructing a building or structure; and noxious or offensive matter of any kind.

PREMISES

Any building, lot, parcel of land, or portion of land whether improved or unimproved including adjacent sidewalks and parking strips.

STORM DRAIN SYSTEM

Publicly owned facilities by which stormwater is collected and/or conveyed, including but not limited to any roads with drainage systems, municipal streets, gutters, curbs, inlets, piped storm drains, pumping facilities, retention and detention basins, natural and human-made or altered drainage channels, reservoirs, and other drainage structures.

STORMWATER

Any surface flow, runoff, and drainage consisting entirely of water from any form of natural precipitation, and resulting from such precipitation.

WASTEWATER

Any water or other liquid, other than uncontaminated stormwater, discharged from a facility.

§ 159-3. Applicability.

This bylaw shall apply to all water entering the storm drain system generated on any developed and undeveloped lands unless explicitly exempted by an authorized enforcement agency.

§ 159-4. Responsibility for administration.

The Board of Selectmen shall administer and implement the provisions of this bylaw. The Highway Department shall enforce this bylaw. Any powers granted or duties imposed upon the authorized enforcement agency may be delegated in writing by the Chairman of the Board of Selectmen to persons or entities acting in the beneficial interest of the Town of Dover.

§ 159-5. Discharge prohibitions.

A. Prohibition of illegal discharges. No person shall discharge or cause to be discharged into the municipal separate storm sewer system (MS4) or watercourses any materials, including but not limited to pollutants or waters containing pollutants that cause or contribute to a violation of applicable water quality standards, other than stormwater. The commencement, conduct or continuance of any illegal discharge to the storm drain system is prohibited except as described as follows:

(1) The following discharges are exempt from discharge prohibitions established by this bylaw:

(a) Water line flushing or other potable water sources.

(b) Landscape irrigation or lawn watering.

(c) Diverted stream flows.

(d) Rising groundwater.

(e) Uncontaminated groundwater infiltration from storm drains.

(f) Uncontaminated pumped groundwater.

(g) Foundation or footing drains.

(h) Crawl space pumps.

(i) Air conditioning condensation.

(j) Springs.

(k) Individual resident car washing.

(l) Natural riparian habitat or wetland flows.

(m) Dechlorinated swimming pools.

(n) Street wash waters.

(o) Residential building wash waters without detergents.

(p) Firefighting activities.

(2) Discharges specified in writing by the authorized enforcement agency as being necessary to protect public health and safety.

(3) Dye testing is an allowable discharge, but requires a verbal notification to the authorized enforcement agency prior to the time of the test.

(4) The prohibition shall not apply to any non-stormwater discharge permitted under an NPDES permit, waiver, or waste discharge order issued to the discharger and administered under the authority of the Federal Environmental Protection Agency, provided that the discharger is in full compliance with all requirements of the permit, waiver, or order and other applicable laws and regulations, and provided that written approval has been granted for any discharge to the storm drain system.

B. Prohibition of illicit connections.

(1) The construction, use, maintenance or continued existence of illicit connections to the storm drain system is prohibited.

(2) This prohibition expressly includes, without limitation, illicit connections made in the past, regardless of whether the connection was permissible under law or practices applicable or prevailing at the time of connection.

(3) A person is considered to be in violation of this bylaw if the person connects a line conveying sewage to the MS4 or watercourse, or allows such a connection to continue.

§ 159-6. Notification of spills.

Notwithstanding other requirements of law, as soon as any person responsible for a facility or operation, or responsible for emergency response for a facility or operation has information of any known or suspected release of materials which are resulting or may result in illegal discharges or pollutants discharging into stormwater, the MS4 system, or water of the U.S., said person shall take all the necessary steps to ensure the discovery, containment, and cleanup of such release. In the event of such a release of hazardous materials said person shall immediately notify emergency response agencies and the Town of Dover Highway Department. In the event of nonhazardous materials, said person shall notify the Town of Dover

Highway Department in person or by phone or facsimile no later than the next business day. Notifications in person or by phone shall be confirmed by written notice addressed and mailed to the Town of Dover Highway Department within three business days of the phone notice. If the discharge of prohibited material emanates from a commercial or industrial establishment, the owner or operator of such establishment shall also retain an on-site written record of the discharge and the actions taken to prevent its recurrence. Such records shall be retained for at least three years.

§ 159-7. Monitoring of discharges.

Inspectors authorized by the Board of Selectmen shall be permitted to enter and inspect facilities subject to regulation under this bylaw as often as may be necessary to determine compliance with this bylaw. If a discharger has security measures in force which require proper identification and clearance before entry into its premises, the discharger shall make the necessary arrangements to allow access to representatives of the authorized inspectors.

§ 159-8. Enforcement.

The Board of Selectmen, through the Highway Department, shall enforce this bylaw, regulations, orders, violation notices, and enforcement orders, and may pursue all civil and criminal remedies for such violations.

A. Civil relief. If a person violates the provisions of this bylaw, regulations, permit, notice, or order issued thereunder, the Board of Selectmen may seek injunctive relief in a court of competent jurisdiction restraining the person from activities which would create further violations or compelling the person to perform abatement or remediation of the violation.

B. Orders.

   (1) The Board of Selectmen or another authorized agent may issue a written order to enforce the provisions of this bylaw or the regulations thereunder, which may include:

      (a) Elimination of illicit connections or discharges to the MS4;

      (b) Performance of monitoring, analyses, and reporting;

      (c) That unlawful discharges, practices, or operations shall cease and desist; and

      (d) Remediation of contamination in connection therewith.

   (2) If the enforcing body determines that abatement or remediation of contamination is required, the order shall set forth a deadline by which such abatement or remediation must be completed. Said order shall further advise that, should the violator or property owner fail to abate or perform remediation within the specified deadline, the enforcing body may, at its option, undertake such work, and expenses thereof shall be charged to the violator.

C. Criminal penalty. Any person who violates any provision of this bylaw, regulation, order or permit issued thereunder, shall be punished by a fine of not more than $250. Each day or part thereof that such violation occurs or continues shall constitute a separate offense.

D. Noncriminal disposition. As an alternative to criminal prosecution or civil action, the Board of Selectmen may elect to utilize the noncriminal disposition procedure set forth in M.G.L. Ch. 40, § 21D, in which case the Highway Department shall be the enforcing Town department. The penalty for the 1st violation shall be $100. The penalty for the 2nd violation shall be $250. The penalty for the 3rd and

subsequent violation shall be $300. Each day or part thereof that such violations occurs or continues shall constitute a separate offense.

E. Entry to perform duties under this bylaw. To the extent permitted by state law, or if authorized by the owner or other party in control of the property, the Highway Department, its agents, officers, and employees may enter upon privately owned property for the purpose of performing their duties under the bylaw and regulations and may make or cause to be made such examinations, surveys or sampling as the Department deems reasonably necessary.

F. Appeals. The decisions or orders of the Board of Selectmen shall be final. Further relief shall be to a court of competent jurisdiction.

G. Remedies not exclusive. The remedies listed in this bylaw are not exclusive of any other remedies available under any applicable federal, state or local law.

§ 159-9. Severability.

The provisions of this bylaw are hereby declared to be severable. If any provision, paragraph, sentence or clause of this bylaw or the application thereof to any person, establishment, or circumstances shall be held invalid, such invalidity shall not affect the other provisions or application of this bylaw.

Appendix B

Storm System Mapping

TATA & HOWARD

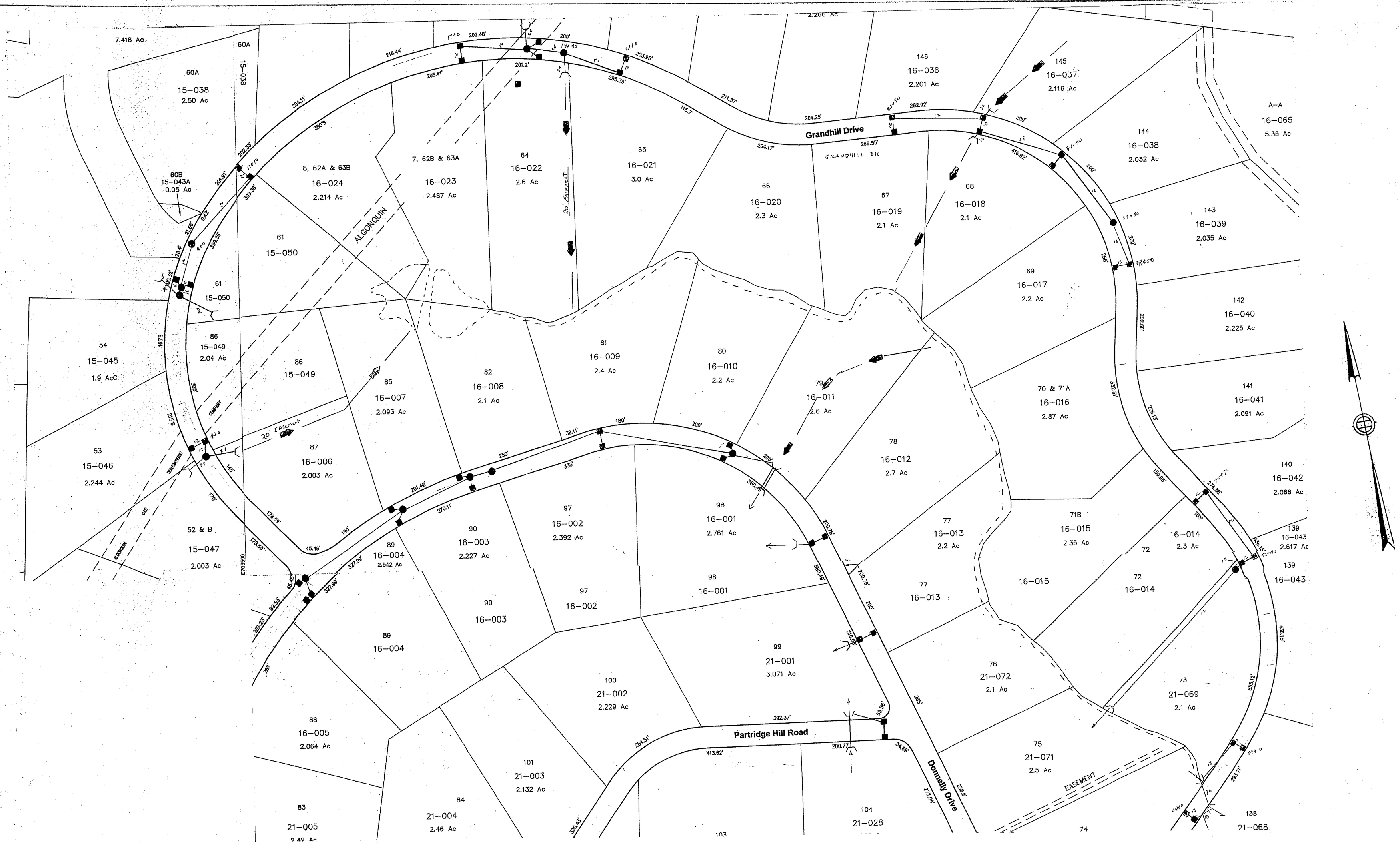
Outfall Map
Dover, Massachusetts

TATA & HOWARD

Approximate Scale: 1" = 1,300'

June 2020


Catchbasin Map
Dover, Massachusetts
TATA & HOWARD
Approximate Scale: 1" = 1,300'
June 2020
N
Legend
Catch Basin
Open Water
Stream
WELLESLEY
NEEDHAM
NATICK
DEDHAM
SHERBORN
WESTWOOD
MEDFIELD
WALPOLE
MILLIS
Charles River
RESERVATION ROAD
TURTLE LANE
DOVER ROAD
PLEASANT STREET
CIRCLE DRIVE
HAVEN STREET
CRANBERRY LANE
CHURCH STREET
SPRINGDALE AVENUE
DOVER FARMS ROAD
OLD MEADOW ROAD
OLD FARM ROAD
POWDER HOUSE ROAD
KNOLLWOOD DRIVE
NORMANDIE ROAD
VILLAGE HILL ROAD
BRETTON ROAD
FOREST STREET
PERRY LN
WOODLAND RD
BEN ARTHURS WAY
PINE STREET
PINEWOOD ROAD
OLD CENTRE STREET
CENTRE STREET
SNOWS HILL LANE
ROCKY BROOK ROAD
WALPOLE STREET
CROSS STREET
PARK AVENUE
MILL STREET
WILLOW STREET
DEDHAM STREET
WILSONS WAY
STRAWBERRY HILL STREET
WILSONDALE STREET
SULLIVANS LANE
HILL STREET
POWISSETT STREET
YORKSHIRE ROAD
WILDWOOD ROAD
GREYSTONE ROAD
GLEN STREET
FARM STREET
BRIDGE STREET
SMITH STREET
MILLER HILL ROAD
GRAND HILL DRIVE
PARTRIDGE HILL ROAD
FOX RUN ROAD
HUNT DRIVE
JUNCTION STREET
HAMLINS CROSSING
POND STREET
HIGHLAND ROAD
TOWER DRIVE
FRANCIS STREET
CEDAR HILL ROAD
COLONIAL ROAD
SHADY LANE
BROOKFIELD ROAD
LEDGEWOOD DRIVE
ABBOTT ROAD
HARTFORD STREET
KRAW DRIVE
HILLTOP ROAD
CREST DRIVE
STONEGATE LANE
SCHAFFNER LANE
TISDALE DRIVE
DRAPER ROAD
DANCER FARM DRIVE
OAK CIRCLE
109



TOWN OF DOVER, MA.
EPA PHASE II RULE
STORM WATER MANAGEMENT

URBAN AREA 1

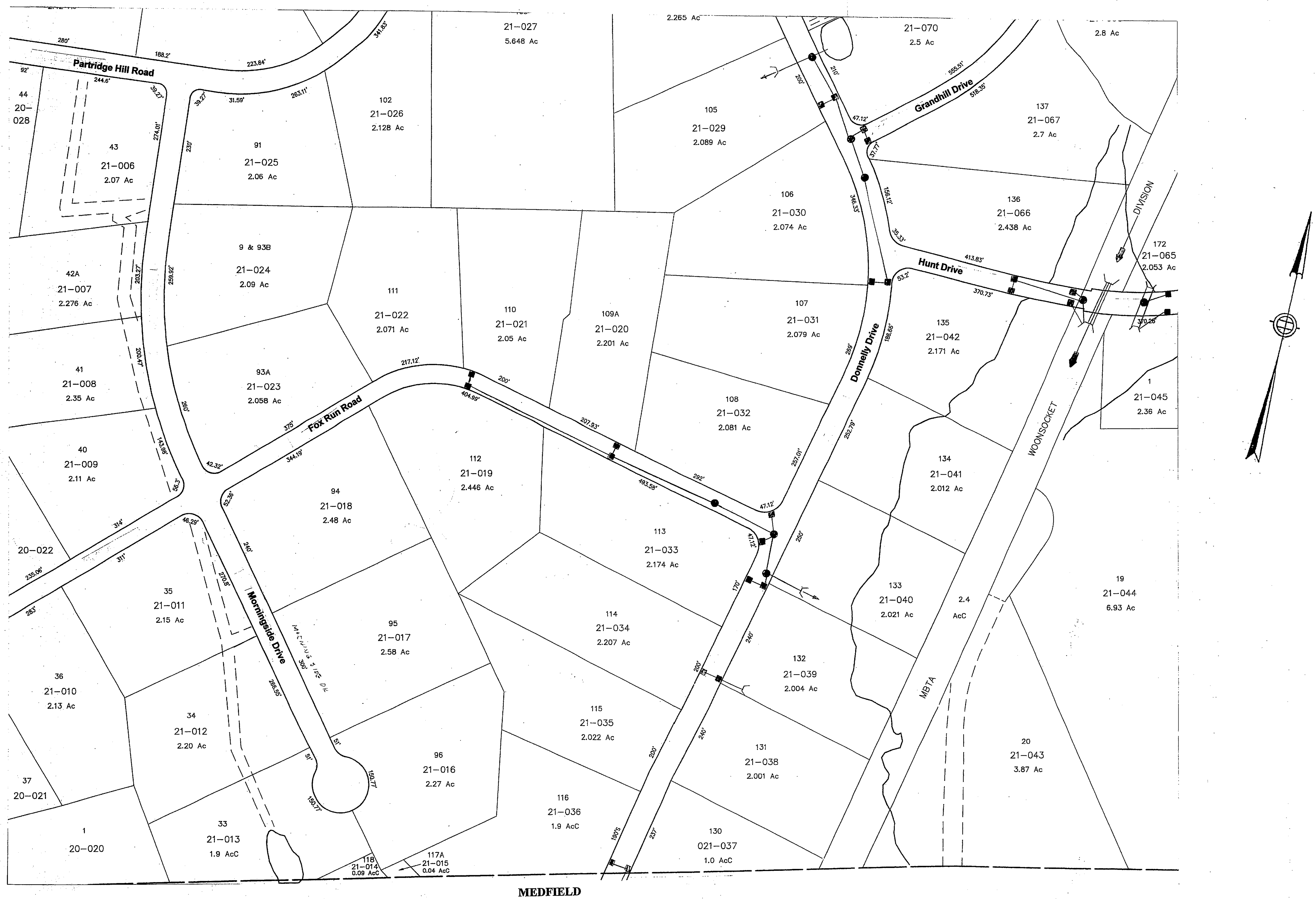
STORM DRAIN SYSTEMS

SCALE: 1 INCH = 100 FEET

DOVER ENGINEERING DEPARTMENT
DOVER GIS

JANUARY 2002

Sheet UA 1.2



URBAN AREA 1

STORM DRAIN SYSTEMS

SCALE: 1 INCH = 100 FEET

TOWN OF DOVER, MA.
EPA PHASE II RULE
STORM WATER MANAGEMENT

DOVER ENGINEERING DEPARTMENT
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Sheet UA 1.1

TOWN OF DOVER, MA.
EPA PHASE II RULE
STORM WATER MANAGEMENT

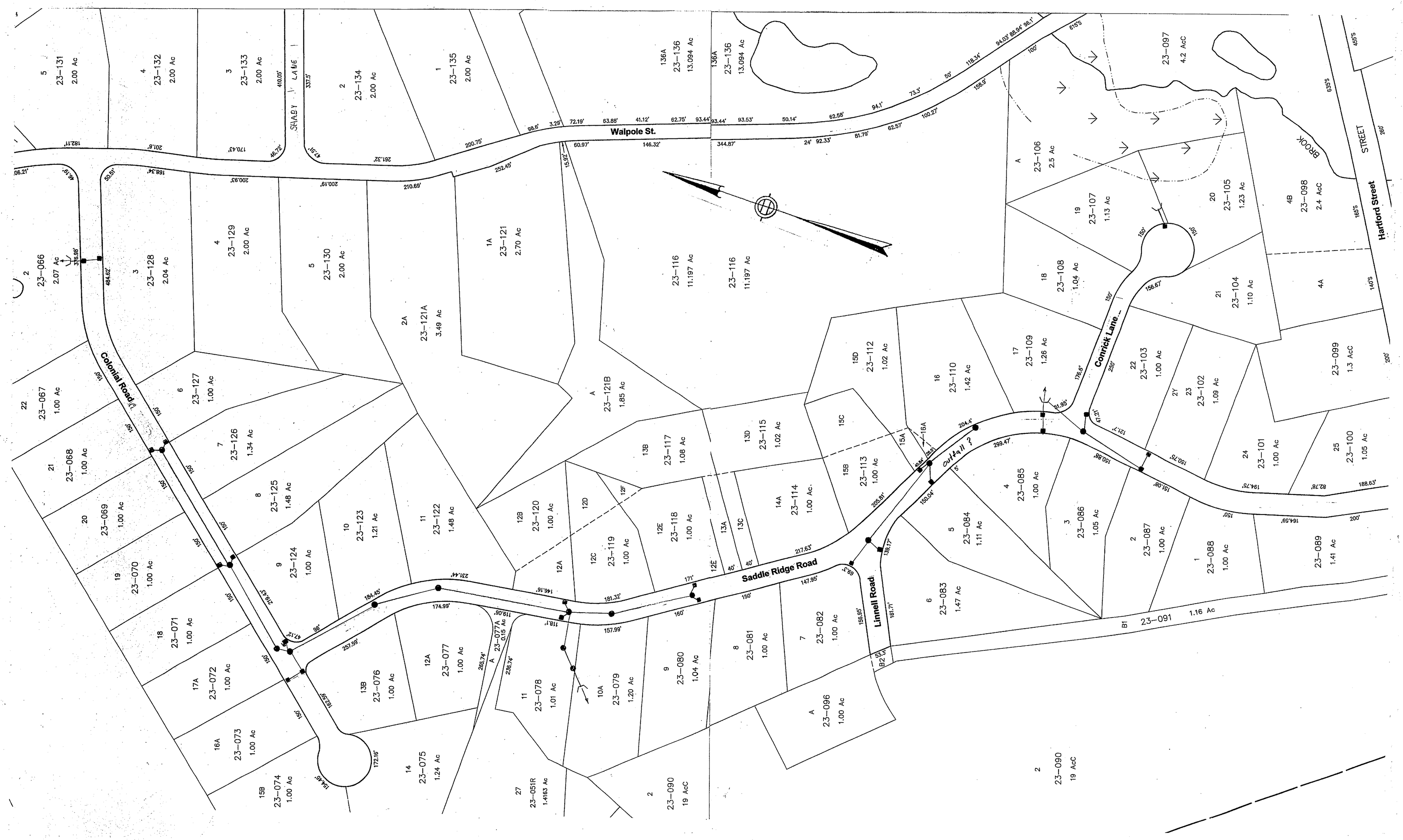
URBAN AREA 2

STORM DRAIN SYSTEMS

SCALE: 1 INCH = 100 FEET

DOVER ENGINEERING DEPARTMENT
DOVER GIS

JANUARY 2002



TOWN OF DOVER, MA.
EPA PHASE II RULE
STORM WATER MANAGEMENT

URBAN AREA 2

STORM DRAIN SYSTEMS

SCALE: 1 INCH = 100 FEET

DOVER ENGINEERING DEPARTMENT
DOVER GIS

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Sheet UA 2.4

TOWN OF DOVER, MA.
EPA PHASE II RULE
STORM WATER MANAGEMENT

URBAN AREA 2

STORM DRAIN SYSTEMS

SCALE: 1 INCH = 100 FEET

DOVER ENGINEERING DEPARTMENT
DOVER GIS

JANUARY 2002

Sheet UA 2.6

TOWN OF DOVER, MA.
EPA PHASE II RULE
STORM WATER MANAGEMENT

URBAN AREA 2

STORM DRAIN SYSTEMS

SCALE: 1 INCH = 100 FEET

DOVER ENGINEERING DEPARTMENT
DOVER GIS

JANUARY 2002

URBAN AREA 2

STORM DRAIN SYSTEMS

SCALE: 1 INCH = 100 FEET

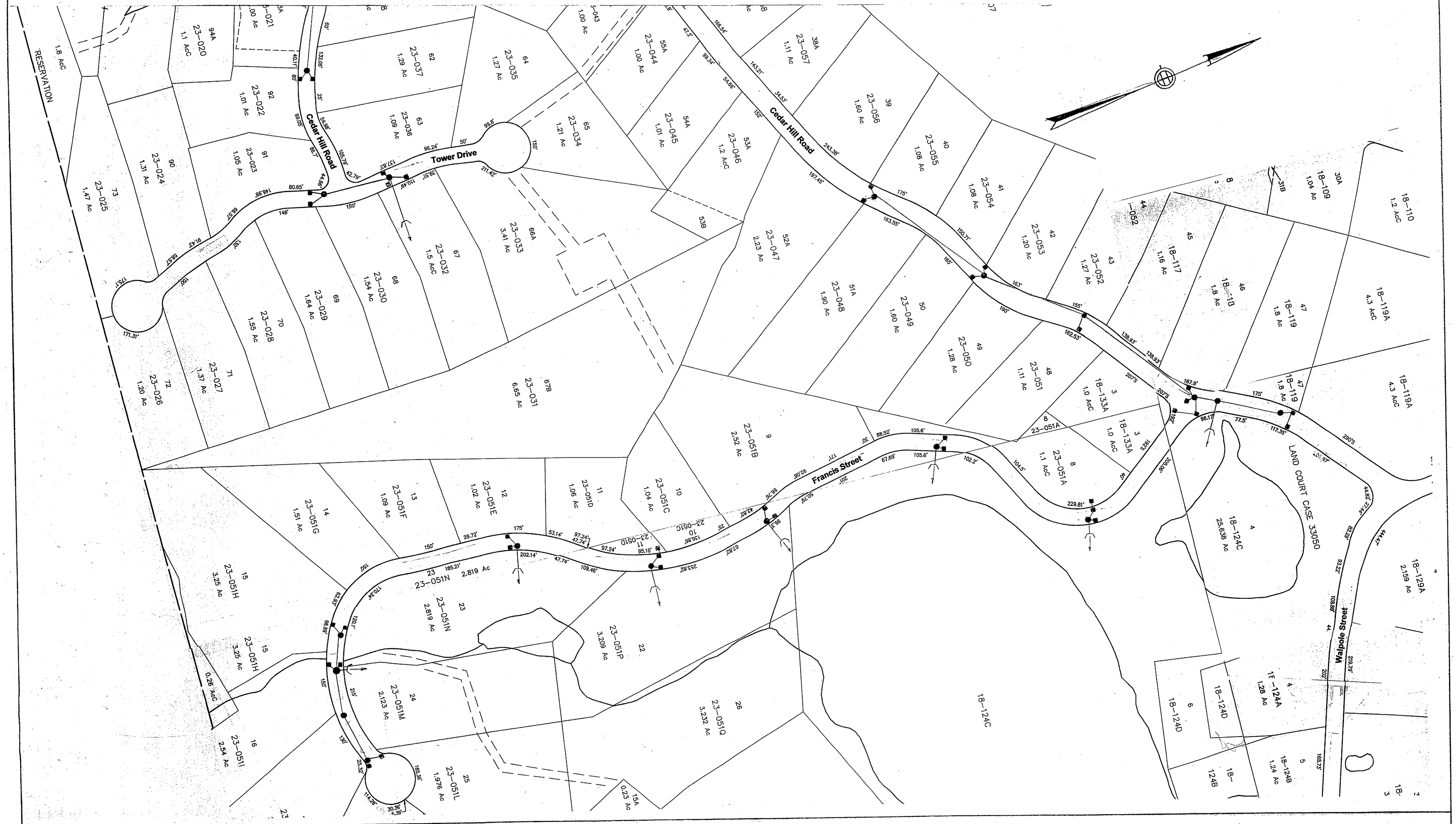
DOVER ENGINEERING DEPARTMENT
DOVER GIS
JANUARY 2002

Sheet UA 2.5

TOWN OF DOVER, MA.
EPA PHASE II RULE
STORM WATER MANAGEMENT

Saddle Ridge Road
Hartford Street
Schaffner Lane
Draper Road
Tisdale Drive
County Street
TUBWRECK
DOVER WATER COMPANY EASEMENT
R/W
40'
MEDFIELD
WALPOLE

23-092 1.36 Ac
1 23-093K 2.00 Ac
35A 23-093A 1.00 Ac
31 23-093B 1.00 Ac
30 23-093C 1.28 Ac
29 23-093D 1.98 Ac
1 23-093 0.59 Ac
2 23-094 3.5 AcC
1 23-094B 1.56 Ac
2 23-094A 1.86 Ac
8 23-095 2.07 Ac
7 23-095A 2.02 Ac
6 23-095B 2.21 Ac
5 23-095C 2.01 Ac
4 23-095D 2.02 Ac
2 23-093J 2.28 Ac
28 23-093E 1.80 Ac
3 23-093I
27 23-093F 1.31 Ac
4 23-093H 1.03 Ac
26 23-093G 1.29 Ac
5 25-003K 1.01 Ac
6 25-003J 1.01 Ac
7 25-003I 1.00 Ac
8 25-003H 1.03 Ac
9B
9A 25-003G 1.00 Ac
B
9 & 10A 25-004 1.00 Ac
3 25-003F 9.079 Ac
25A 25-003L 1.00 Ac
25B 25-012F 0.42 Ac
B
9 25-012 2.36 Ac
10 & 10B 25-003E 1.008 Ac
11 25-003D 1.04 Ac
12 25-003C 1.12 Ac
13R 25-003B 1.07 Ac
14R 25-003A 1.01 Ac
15 25-003 1.02 Ac
24A 25-003N 1,00 Ac
24B 25-003Y 1.11 Ac
24C 25-012E 0.40 Ac
A 25-012D 0.60 Ac
23A 25-003P 1.01 Ac
22A 25-003Q 1.39 Ac
21A 25-003R 1.39 Ac
20 25-003S 1.29 Ac
19 25-003U 1.01 Ac
18 25-003V 1.00 Ac
16R 25-003W 2.194 Ac
34 AcC 25-003T
9 25-012
B
8 23-095 2.07 Ac
7 23-095A 2.02 Ac
6 23-095B
5 23-095C
4
3 25-012A 2.03 Ac
2 25-012B 2.01 Ac
1 25-012C 2.00 Ac
A
6
5
4
3
2
1
8
7
25-012 B
C2 25-009A 3.831 Ac
C1 25-009B 1.882 Ac
A 25-008 2.10 Ac
A 25-011 1.00 Ac
B 25-010 1.00 Ac
B 25-007 0.74 Ac
7 25-006 9.8 AcC
25-005 0.65 AcC
9 25-001D 1.27 Ac
8 25-001C 1.14 Ac
7 25-001 1.05 Ac



TOWN OF DOVER, MA.
EPA PHASE II RULE
STORM WATER MANAGEMENT

URBAN AREA 2

STORM DRAIN SYSTEMS

SCALE: 1 INCH = 100 FEET

DOVER ENGINEERING DEPARTMENT
DOVER GIS

JANUARY 2002

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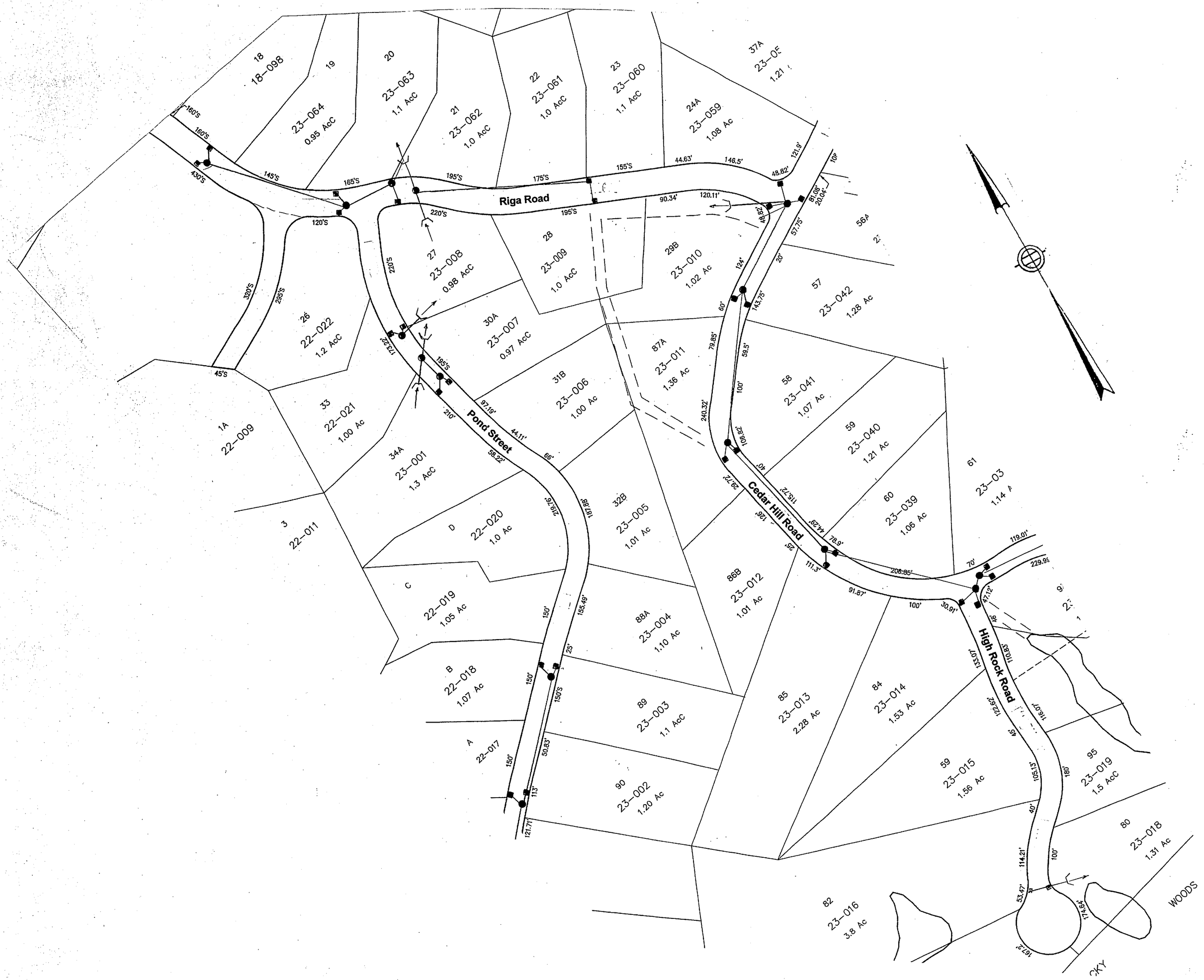

TOWN OF DOVER, MA.
EPA PHASE II RULE
STORM WATER MANAGEMENT

URBAN AREA 2

STORM DRAIN SYSTEMS

SCALE: 1 INCH = 100 FEET

DOVER ENGINEERING DEPARTMENT
DOVER GIS

JANUARY 2002

Sheet UA 2.2

Pond Street

Riga Road

Hales Hollow Road

Rocky Brook Road

Pine Street

HALES POND

TOWN OF DOVER, MA.
EPA PHASE II RULE
STORM WATER MANAGEMENT

URBAN AREA 2
STORM DRAIN SYSTEMS
SCALE: 1 INCH = 100 FEET

DOVER ENGINEERING DEPARTMENT
DOVER GIS

JANUARY 2002

Sheet UA 2.1

TOWN OF DOVER, MA.
EPA PHASE II RULE
STORM WATER MANAGEMENT

URBAN AREA 2

STORM DRAIN SYSTEMS
SCALE: 1 INCH = 100 FEET

DOVER ENGINEERING DEPARTMENT
DOVER GIS

JANUARY 2002

Sheet UA 2.7

TOWN OF DOVER, MA.
EPA PHASE II RULE
STORM WATER MANAGEMENT

URBAN AREA 3

STORM DRAIN SYSTEMS

SCALE: 1 INCH = 100 FEET

DOVER ENGINEERING DEPARTMENT
DOVER GIS

JANUARY 2002

TOWN OF DOVER, MA.
EPA PHASE II RULE
STORM WATER MANAGEMENT

URBAN AREA 3

STORM DRAIN SYSTEMS

SCALE: 1 INCH = 100 FEET

DOVER ENGINEERING DEPARTMENT
DOVER GIS

JANUARY 2002

Sheet UA 3.1

TOWN OF DOVER, MA.
EPA PHASE II RULE
STORM WATER MANAGEMENT

URBAN AREA 3

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SCALE: 1 INCH = 100 FEET

DOVER ENGINEERING DEPARTMENT
DOVER GIS

JANUARY 2002

Sheet UA 3.2

CHENEY DRIVE to Route 16

CHENEY BRIDGE

WELLESLEY

DOVER

Paved Access Road

ELM BANK HORTICULTURE CENTER

MASSACHUSETTS HORTICULTURAL SOCIETY

Paved Access Road

Paved Access Road

Paved Access Road

Paved Access Road

C H A R L E S R I V E R

C H A R L E S R I V E R

DOVER

WELLESLEY

TOWN OF DOVER, MA.
EPA PHASE II RULE
STORM WATER MANAGEMENT

URBAN AREA 3

STORM DRAIN SYSTEMS

SCALE: 1 INCH = 100 FEET

DOVER ENGINEERING DEPARTMENT
DOVER GIS

JANUARY 2002

Sheet UA 3.3

Appendix C

Field Forms, Sample Bottle labels, and Chain of Custody Forms

TATA & HOWARD

Job No.: _____ **Entity:** _____

Inspector: _____ **Date:** _____

CATCH BASIN INSPECTION FORM

Catch Basin I.D.	_____	**Final Discharge from Structure?** Yes ☐ No ☐ **If Yes, Discharge to Outfall No:**_____	
Catch Basin Label:	**Stencil** ☐ **Ground Inset** ☐ **Sign** ☐ **None** ☐ **Other**_____		
Basin Material:	Concrete ☐ Corrugated metal ☐ Stone ☐ Brick ☐ Other: _____ ☐	**Catch Basin Condition:**	Good ☐ Poor ☐ Fair ☐ Crumbling ☐
Pipe Material:	Concrete ☐ HDPE ☐ PVC ☐ Clay Tile ☐ Other:_____	**Pipe Measurements:**	Inlet Dia. (in): d= ____ Outlet Dia. (in): D= ____

Required Maintenance/ Problems (check all that apply):

- ☐ Tree Work Required
- ☐ New Grate is Required
- ☐ Pipe is Blocked
- ☐ Frame Maintenance is Required
- ☐ Remove Accumulated Sediment
- ☐ Pipe Maintenance is Required
- ☐ Basin Undermined or Bypassed
- ☐ Cannot Remove Cover
- ☐ Ditch Work
- ☐ Corrosion at Structure
- ☐ Erosion Around Structure
- ☐ Remove Trash & Debris
- ☐ Need Cement Around Grate

Other: _____

Catch Basin Grate Type :	**Sediment Buildup Depth :**	**Repair/Replace:**	**Street Name/ Structure Location:**
Bar: ☐ Cascade: ☐ Other:_____ Properly Aligned: Yes ☐ No ☐	0-6 (in): _____ 6-12(in): _____ 12-18 (in): _____ 18-24 (in): _____ 24 + (in): _____	Repair ☐ Replace ☐ No Action ☐ Comments:	

***If the outlet is submerged check yes and indicate approximate height of water above the outlet invert.** h above invert (in):___ Yes ☐ No ☐

☐ **Flow**

☐ **Standing Water**

(check one or both)

Observations:	
Color:	
Odor:	

Weather Conditions : Dry > 24 hours ☐ Wet ☐

Sample of Screenings Collected for Analysis? Yes ☐ No ☐

Comments:

Circle those present:

Foam	Oil Sheen
Sanitary Waste	Bacterial Sheen
Orange Staining	Floatables
Excessive sediment	Pet Waste
Other:_____	Optical Enhancers

Job No.: _____ **Entity:** _____

Inspector: _____ **Date:** _____

OUTFALL INSPECTION FORM

Outfall I.D.	_____	**Final Discharge from Structure?** Yes ☐ No ☐	
Outfall Label:	**Stencil** ☐ **Ground Inset** ☐ **Sign** ☐ **None** ☐ **Other**_____		
Headwall Material:	Concrete ☐ Corrugated metal ☐ Stone ☐ Brick ☐ Other: _____ ☐	**Outfall Condition:**	Good ☐ Poor ☐ Fair ☐ Crumbling ☐
Pipe Material:	Concrete ☐ HDPE ☐ PVC ☐ Clay Tile ☐ Other:_____	**Pipe Measurements:**	Inlet Dia. (in): d= ____ Outlet Dia. (in): D= ____

Required Maintenance/ Problems (check all that apply):

- ☐ Tree Work Required
- ☐ New Grate is Required
- ☐ Pipe is Blocked
- ☐ Headwall Maintenance is Required
- ☐ Remove Accumulated Sediment
- ☐ Pipe Maintenance is Required
- ☐ Outrfall Undermined or Bypassed
- ☐ Cannot Remove Cover
- ☐ Ditch Work
- ☐ Corrosion at Structure
- ☐ Erosion Around Structure
- ☐ Remove Trash & Debris
- ☐ Need Cement Around Grate

Other: _____

Sketch:	**Sediment Buildup Depth :**	**Repair/Replace:**	**Street Name/ Structure Location:**
	0-6 (in): _____ 6-12(in): _____ 12-18 (in): _____ 18-24 (in): _____ 24 + (in): _____	Repair ☐ Replace ☐ No Action ☐ Comments:	

***If the outlet is submerged check yes and indicate approximate height of water above the outlet invert.** h above invert (in):___ Yes ☐ No ☐

☐ **Flow**

☐ **Standing Water**

(check one or both)

Observations:

Color:	
Odor:	

Weather Conditions : Dry > 24 hours ☐ Wet ☐

Sample of Screenings Collected for Analysis? Yes ☐ No ☐

Comments:

Circle those present:

Foam	Oil Sheen
Sanitary Waste	Bacterial Sheen
Orange Staining	Floatables
Excessive sediment	Pet Waste
Other:_____	Optical Enhancers

Outfall ID: _____ **Town:** _____

Inspector: _____ **Date:** _____

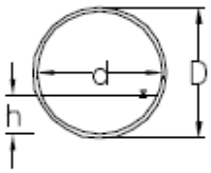
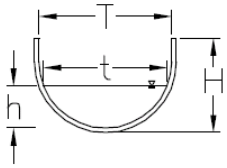
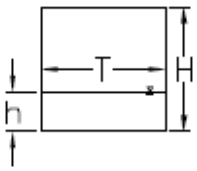
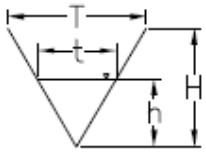
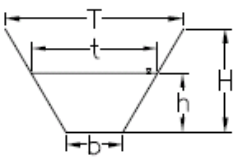
Street Name _____

Last rainfall event _____

DRY WEATHER OUTFALL INSPECTION SURVEY

Type of Outfall (check one):		**Pipe Outfall** ☐	**Open Swale Outfall** ☐
Outfall Label:	**Stencil** ☐ **Ground Inset** ☐ **Sign** ☐ **None** ☐ **Other**_____		
Pipe Material:	Concrete ☐ Corrugated metal ☐ Clay Tile ☐ Plastic ☐ Other: _____ ☐	**Pipe Condition:**	Good ☐ Poor ☐ Fair ☐ Crumbling ☐
Swale Material:	Paved (asphalt) ☐ Concrete ☐ Earthen ☐ Stone ☐ Other: _____ ☐	**Swale Condition:**	Good ☐ Poor ☐ Fair ☐ Crumbling ☐

Shape of Pipe/Swale (check one)

 ☐	 ☐	 ☐	 ☐	 ☐
Rounded Pipe/Swale		**Rectangular Pipe/Swale**	**Triangular Swale**	**Trapezoidal Swale**

Pipe Measurements:	**Swale Measurements:**	**Is there a headwall?**	**Location Sketch**
Inner Dia. (in): d= _____	Swale Width (in): T= _____	Yes ☐ No ☐	
Outer Dia. (in): D= _____	Flow Width (in): t = _____	**Condition:**	
Pipe Width (in): T= _____	Swale Height (in): H= _____	Good ☐ Poor ☐ Fair ☐ Crumbling ☐	
Pipe Height (in): H= _____	Flow Height (in): h= _____*		
Flow Width (in): h= _____*	Bottom Width (in): b=_____		

Description of Flow: Heavy ☐ Moderate ☐ Trickling ☐ Dry ☐

If the outlet is submerged check yes and indicate approximate height of water above the outlet invert. h above invert (in):	**Circle All Materials Present:**
Odor: Yes ☐ No ☐ **Optical enhancers suspected?** Yes ☐ No ☐ **Has channelization occurred?** Yes ☐ No ☐ **Has scouring occurred below the outlet?** Yes ☐ No ☐	Rip rap Excessive sediment Foam Sanitary Waste Orange Staining Sheen: Bacterial Sheen: Petroleum Floatables Algae Excessive Vegetation
Required Maintenance: Tree Work ☐ Ditch Work ☐ Structural Corrosion ☐ N/A ☐ Remove Trash/Debris ☐ Blocked Pipe ☐ Erosion at Structure ☐ Other ☐	
Comments:	

Outfall I.D.: _____ **Date:** _____

Inspector: _____

Time of Inspection: _____

Street Name _____

Last rainfall event _____

WET WEATHER OUTFALL INSPECTION SURVEY

Visual Inspection:	**Yes**	**No**	**Comments (Include probable source of observed contamination):**
Color	☐	☐	
Odor	☐	☐	
Turbidity	☐	☐	
Excessive Sediment	☐	☐	
Sanitary Waste	☐	☐	
Pet Waste	☐	☐	
Floatable Solids	☐	☐	
Oil Sheen	☐	☐	
Bacterial Sheen	☐	☐	
Foam	☐	☐	
Algae	☐	☐	
Orange Staining	☐	☐	
Excessive Vegetation	☐	☐	
Optical Enhancers	☐	☐	
Other _____			

Sample Parameters	**Analytical Test Method**	**Benchmark***	**Field Screening Result**	**Full Analytical?**
Ammonia[1]	EPA 350.2/SM4500-NH3C	>50.0 mg/L		☐ Yes ☐ No
Specific Conductance[1]	SM 2510B	>2,000		☐ Yes ☐ No
Detergents & Surfactants[2]	EPA 425.1/SM5540C	> 0.25 mg/L		☐ Yes ☐ No
Fluoride[2]	EPA 300.0	>0.25 mg/L		☐ Yes ☐ No
pH[1]	EPA 150.1/SM 4500H	<5		☐ Yes ☐ No
Potassium[1]	EPA 200.7	>20 mg/L		☐ Yes ☐ No
Comments:				

[1] – *Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments*, Center for Watershed Protection and Robert Pitt of University of Alabama, 2004, p. 134, Table 45.

[2] – *Appendix I – Field Measurements, Benchmarks and Instrumentation*, Draft Massachusetts North Coastal Small MS4 General Permit, 2009.

Appendix D

Water Quality Analysis Instructions, User's Manuals and Standard Operating Procedures

TATA & HOWARD

Water Quality Analysis Instructions, User's Manuals, and Standard Operating Procedures – TO BE DETERMINED.

Appendix E

IDDE Employee Training Record

TATA & HOWARD

Illicit Discharge Detection and Elimination (IDDE)
Employee Training Record

Town of Dover, Massachusetts

Date of Training: DECEMBER 12, 2019

Duration of Training: 75 MINUTES

Name (PRINT)	Title	Signature
ANDREW WILLS	Mechanic/Highway	
Craig Hughes	Superintendent of Streets	
Mark Stephenson	Equip Operator	
ROBERT BECKWITH	EQUIP OPERATOR	
James Gorman	Equip Operator	
DAVID TIBERI	FIRE INSP	
[illegible]	CLERK	
Karl Warnick	Superintendent	

Illicit Discharge Detection and Elimination (IDDE)
Employee Training Record

Town of Dover, Massachusetts

Date of Training: _____

Duration of Training: _____

Name	Title	Signature

Appendix F

Source Isolation and Confirmation Methods: Instructions, Manuals, and SOPs

TATA & HOWARD

Source Isolation and Confirmation Methods: Instructions, Manuals, and SOPs – TO BE DETERMINED.

TATA & HOWARD

OFFICE LOCATIONS:
MA | NH | CT | ME | VT | AZ

800-366-5760
www.tataandhoward.com

ATTACHMENT G

SEDIMENT AND EROSION CONTROL ORDINANCE

Chapter 248. Subdivision of Land

Article V. Design Standards

§ 248-13. Drainage.

A. General drainage, subsurface drains.

(1) New storm drainage construction shall consist of a subsurface, closed catch basin to drain manhole systems. Stormwater carried on the street surface shall be collected by catch basins with sumps and hoods on the outlet pipe discharging to drain manholes. Storm sewers connecting drain manholes shall be discharged to a detention basin, if a waiver for such detention basin has been granted, and or recharge areas. Catch basins in series will not be permitted. The minimum size storm drain is 12 inches.
[Amended 12-15-1997]

(2) Where it appears that any street may be extended so as to connect with an existing or proposed street on land adjoining the subdivision, the Board may require that provision be made for extension of the drainage system to a point at or near the property line at such size as will allow for such extension.

(3) A stormwater management plan incorporating the Department of Environmental Protection (DEP) policy for the improvement of water quality in stormwater runoff shall be required. The design of stormwater collection systems shall conform to the best management practices (BMP's) established by the DEP.
[Added 12-15-1997]

(4) Erosion control measures shall conform to the following specifications to prevent down gradient or adjacent areas from being adversely impacted. Erosion Control Notes must be shown on the Definitive Plan.
[Added 7-16-2007]

(a) Prior to any disturbance or alterations on any portion of the site, a hay bale and silt fence sediment barrier shall be installed and inspected in the locations shown on the site plan.

(b) Barriers shall be constructed in accordance with hay bale and silt fence detail shown in the construction standards.

(c) Once installed, the staked hay bale and silt fence sediment barriers shall be maintained in place until all areas up gradient from the barriers have been stabilized as specified herein. Upon completion and stabilization of the project, the hay bales and silt fence shall be removed.

(d) The staked hay bales and silt fence sediment barriers are intended to act as a limit of disturbance. Any land down gradient from the barrier accidentally disturbed shall be immediately repaired and restored to its original condition.

(e) All disturbed areas are not otherwise developed or incorporating special stabilization measures or landscape plantings shall be loamed and seeded. No less than 4 inches of loam topsoil shall be spread and the area shall be seeded with conservation mix.

(f) All areas outside the limit of work shall be undisturbed. During site work all persons and equipment shall stay outside these areas. Existing vegetation shall be preserved.

(g) All slopes caused by excavation of existing ground conditions or fill placement over existing ground to create berms of earth materials or result from recontouring land for proposed house locations shall be no

greater than 3:1 horizontal to vertical. The toe of slopes in fill areas or top of slope in excavated areas shall be no closer than 5 feet from adjacent lot lines. Failure to comply with these requirements will result in enforcement action.

B. Drainage easements.

(1) Where it is necessary to carry storm drains across lots within the subdivision, easements shall be provided of such width to accommodate the size of the pipe to be installed.

(2) Where it is necessary to extend the drainage system across land beyond the subdivision boundaries to an approved point of discharge, the easement shall be secured by the applicant and shown on the Definitive Plan.

C. Drainage patterns.

(1) Natural drainage patterns shall be used wherever possible. All existing watercourses shall be left open unless approval to enclose with a piped system is obtained through the Conservation Commission.

(2) Proposed alteration of land on the site shall be such that changes in existing drainage patterns shall not adversely affect properties outside the subdivision by increasing the predevelopment peak flows.

D. Maintenance. The Planning Board may require that a lot owner trust or association be created to operate, maintain and repair the drainage and detention facilities and any appurtenances thereto. The trustee of the trust or association shall be authorized and required to assess and collect charges for the operation, maintenance and repair from the beneficiaries of the trust or members of the association. The owners of the record of lots within the subdivision shall be the beneficiaries of the trust or members of the association. The town shall be a third party beneficiary of the trust or association with the right, but not the duty, to enforce the obligations of the association and trustees. The requirements of the section shall be included on and referenced in the deed of each lot of the subdivision and on the Definitive Plan and recorded at the Registry of Deeds or Land Court, whichever is appropriate. A model declaration of trust for the purposes is attached to these subdivision rules and regulations as Exhibit A.[1]

[1] *Editor's Note: Exhibit A is included at the end of this chapter.*

E. Drainage calculations.

(1) Pre-development peak flows. To substantiate the proposed subdivision drainage system, the drainage calculations shall be prepared by a Massachusetts registered professional engineer and filed as part of the Definitive Plan. A stormwater runoff plan within the perimeter of the proposed subdivision shall be drawn to a scale of 1 inch equals 40 feet and, beyond the perimeter of the subdivision, contributing watershed areas shall be drawn to a scale of 1 inch equals 200 feet. Predevelopment peak flows shall be calculated for two-, ten-, twenty-five-, fifty- and one-hundred-year storms. The runoff plans and calculations shall be submitted as part of the Definitive Plan.

(2) Post-development peak flows.

(a) The forty-scale plan shall show existing and proposed contours and the incremental watershed areas contributing runoff to each catch basin, ditch, stream or detention pond. Peak flows shall be calculated for two-, ten-, twenty-five-, fifty- and one-hundred-year storms. In no case shall the post-development flows for each storm event exceed the predevelopment peak flows.

(b) Calculations of post-development peak flows shall include the subcatchment areas of the closed system and the overland flow of mini-watersheds contributing to the total peak flows at the point of discharge to detention ponds or leaching basins.

(c) Provided that soil conditions allow, recharge basins or leaching trenches may be designed to mitigate or reduce the peak flows. Recharge basins or leaching basins shall be designed based on the rate of discharge determined by standard, falling head permeability tests.

F. Design criteria.

(1) Hydraulics. The closed system shall be designed using the Rational Method or TR20 of the Soils Conservation Service. The design storm shall be 25 years.

(a) Rational Method.

[1] If the Rational Method is used, weighted coefficients shall be computed based on the following minimum values:

[a] Paved or roof areas: 0.90.

[b] Steep (greater than 10%) grass: 0.70.

[c] Lawns and buildings: 0.43.

[d] Natural areas: 0.30.

[2] Rainfall intensities shall be obtained from the Town of Dover Rainfall Intensity Curves in Appendix C. [2]

[Amended 7-16-2007]

[2] *Editor's Note: Appendix C is included at the end of this chapter.*

[3] The minimum times of concentration shall be 10 minutes for closed systems and 20 minutes for cross culverts.

(b) TR20.

[1] If TR20 is used, the curve numbers designated by the SCS for similar areas shall apply.

[2] All drains shall be designed to flow full by gravity, using the Manning Formula to determine pipe sizes. Drains shall be sloped to provide a minimum velocity of 2 feet per second and a maximum velocity of 10 feet per second.

(2) Hydrology.

(a) Watershed analyses shall be made for pre and post development peak flows using the latest version of HYDROCAD or approved equal.
[Amended 7-16-2007]

(b) Detention basins shall be designed for a one-hundred-year storm. The release rate shall result in a storage duration of not greater than 72 hours. Maximum depth of storage for one-hundred-year peak flows shall be 2 feet. Side slopes shall not be greater than 10% and shall conform as closely as possible to the natural contours of the land.

(c) Outlet structures shall be designed for multistage discharge to release the peak flows of each design storm at a rate no greater than the calculated predevelopment peak flows. An emergency overflow shall be provided to accommodate storms in excess of a one-hundred-year event.

(d) Cross culverts shall be designed for a one-hundred-year storm, with inlet control. Submerged outlets during periods of storm flow or during dry periods will not be permitted.

(e) Infiltration basins, leaching trenches and leaching basins intended to recharge rainfall runoff shall be designed based on a permeability test performed after bore holes and standard constant head permeability tests have determined the conductivity of the soils. The computed rate of recharge based on the hydrology analysis of the watershed and catchment areas shall not exceed the conductivity of the soils as indicated by the foregoing permeability tests. The design storm selected shall be subject to approval by the Town Engineer. Infiltration areas having a high groundwater table shall be analyzed for groundwater mounding and approved by the Town Engineer for adequacy.
[Added 7-16-2007]

ATTACHMENT H

SITE PLAN REVIEW ORDINANCE

Chapter 185. Zoning Bylaws

Article VI. Special Regulations

§ 185-36. Site plan review.

[Added ATM 5-2-2016 by Art. 16[1]]

A. Purposes. The site plan review process regulates allowed uses set forth in Article **III**, Use Regulations, which require site plan approval. Site plan review is not a means to prohibit such allowed uses, but rather to regulate them by considering the design aspects of a site as defined in this section. Site plan review is also intended to promote harmony in architectural treatment and avoidance of incongruous or inappropriate character or architectural appearance and arrangement of buildings. Its purpose is to ensure the most advantageous use of all properties within the applicable districts, to promote public safety, to minimize impacts on the surrounding area, and to reasonably protect the legitimate interests of adjoining property owners, the community, and the Town.

B. Applicability.

(1) Site plan review is required for the uses specified in Article **III**, Use Regulations, requiring site plan approval. It includes any expansion of use, extension of use, change of use, or substantial change, as defined in Subsection **C** below, in the Business District, Medical-Professional District, and Manufacturing District. This section operates in concert with § **185-40** for site plan review in the Official or Open Space District; and with § **185-46** for site plan review of personal wireless communications facilities.

(2) In all instances specified in Article **III**, Use Regulations, requiring site plan approval: no building permit to establish a new building or to alter an existing building shall be issued by the Building Inspector; no expansion, extension, or change of use of an existing building or lot shall be permitted; and no area for parking, loading or vehicular access shall be established, expanded or altered until a site plan has been reviewed and approved or approved with conditions in accordance with the requirements of this section.

(3) In cases where a Special Permit is also required for a use requiring site plan approval, site plan review shall be conducted as part of the Special Permit process and any conditions required for site plan approval shall be included in the Special Permit decision. In cases where the special permit granting authority is the Zoning Board of Appeals, the Planning Board shall conduct a site plan review and make a written recommendation regarding approval or approval with conditions to the Zoning Board of Appeals.

(4) Where site plan review is a component of the review process for Official or Open Space, the Planning Board shall conduct a site plan review and shall make a written recommendation regarding approval or approval with conditions to the Board of Selectmen.

(5) To ensure clarity in interpretation, a property owner or applicant shall confer with the Planning Board prior to instituting any substantial change as defined in Subsection **C(4)** below in order to determine whether a new or modified site plan is required, regardless of whether there is an existing approved site plan for the property.

C. Interpretation.

(1) "Expansion of use" means an increase in the physical area in which a use takes place resulting in a substantial change, including both interior building space and exterior area.

(2) "Extension of use" means a difference in the quality or degree of a use that may have different effects on the neighborhood due to aspects including but not limited to: parking; pedestrian, bicycle, and vehicular traffic; lighting; signage; landscape and screening; noise; surface and subsurface drainage; the location of utilities; and the adequacy and location of methods to handle wastewater and waste removal.

(3) "Change of use" means a change to part or all of an existing building or lot from one use category to another, as specified in Article **III**, Use Regulations. However, rearranging uses in a multi-use building shall not be construed as a change of use for site plan review purposes, unless the change results in an extension of use or an increase in the required number of parking or loading spaces as determined by the Building Inspector based on the requirements of § **185-34**, Off-street parking.

(4) "Substantial change" means proposed additions of more than 250 square feet or 10% of the existing gross floor area of a building, whichever is less, within a five-year period; additional structures; changes in the layout or location of parking or loading spaces, an increase in pavement area of more than 250 square feet, or any relocation or change in a driveway; or external alterations to an aspect of a site constituting an extension of use.

(a) Normal repair and maintenance that does not substantially alter the appearance of a building or lot as seen from a public way does not constitute a substantial change under this section.

(b) The Planning Board may treat individual changes that would aggregate into a substantial change as separate changes thereby not triggering site plan review, provided that each such change has no substantial effect on the neighborhood.

(c) Resurfacing a pavement area shall not constitute a substantial change unless it involves a change of surface material.

D. Application process.

(1) Property owners are encouraged to confer with the Planning Board to determine whether or not a proposed change requires any form of site plan review. Anyone seeking review of a site plan shall obtain an application from the Planning Board office and shall file with the Town Clerk a completed application form and all supporting materials required by this section.

(2) All applicants for proposed changes requiring site plan review shall submit a preliminary site plan. A preliminary site plan may be sufficient for site plan review of a minor nature.

(3) Preliminary site plan review. Before filing a formal site plan review application:

(a) An applicant shall submit drawings accurately depicting existing structures and any proposed additions, additional structures, or external alterations to an aspect of the site as defined in Subsection **C(2)** above.

(b) An applicant shall also submit a narrative statement describing:

[1] The nature of the proposed change and the reasons for the change, including any expansion, extension, or change of use; and

[2] A description of any approvals required from, or communication with, other Town boards or departments.

(c) The Planning Board shall review a preliminary site plan application and supporting materials to determine whether the application is complete and shall review the substance of an application at its first scheduled meeting after notifying an applicant in writing that the application is deemed complete.

(d) The Planning Board may then:

[1] Approve the preliminary site plan as submitted or approve it with conditions, in which case the preliminary site plan shall constitute the final, approved site plan of record;

[2] Request additional information to better illustrate the nature of the proposed change in order to qualify for approval with or without conditions; or

[3] Determine that the proposed change requires a full site plan application.

(e) The Planning Board shall act on a preliminary site plan application within 30 days following the meeting at which the application is deemed complete. Failure of the Planning Board to act on a preliminary plan within 30 days shall be considered unconditional approval.

(4) Full site plan review.

(a) Applications the Planning Board has determined require full site plan review shall include:

[1] A site plan prepared by a registered architect, professional engineer, or registered landscape architect. The plan shall be prepared at a scale of one inch equals 20 feet (or other such scale as may be approved by the Planning Board) and shall clearly and adequately present the boundaries of the subject parcel; existing and proposed aspects of the site as defined in Subsection **C(2)** above; and the potential impacts on the natural landscape and abutting properties;

[2] Plans prepared by a registered architect showing the elevation of all buildings and one or more perspective colored renderings indicating the materials and colors to be used and the relationship of proposed buildings with adjacent buildings, and/or a model of the same;

[3] A narrative statement including but not limited to: the purpose of the proposed change; the expected volume of pedestrian, bicycle, or vehicular traffic; the relationship to existing buildings, historic and architectural heritage and other community assets in the area, and the natural landscape; the impact on natural resources, including groundwater and open space; and the impact on Town resources, including protective agencies, streets, and public spaces; and

(b) The Planning Board also may require studies of traffic, drainage, lighting or other impacts prepared by an appropriately licensed or otherwise qualified professional.

(c) The Planning Board shall review a full site plan application and supporting materials to determine whether the application is complete, shall notify the applicant in writing that the application is deemed complete, and shall then review the substance of the application in accordance with the notification requirements and time limits specified for a Special Permit application in MGL Chapter 40A, Section 9.

E. Review criteria.

(1) In evaluating a site plan application, the Planning Board shall consider criteria including but not limited to:

(a) Compliance with the requirements for lot size, frontage, lot coverage of buildings, height, parking and loading spaces, yards, and all other provisions of this chapter;

(b) The location of driveway openings in relation to street traffic, and the convenience and safety of pedestrian, bicycle, and vehicular traffic to, from, and on the site;

(c) The adequacy of arrangement and number of parking and loading spaces in relation to the proposed use of the premises;

(d) The arrangement and appearance of proposed new buildings, structures, colors and materials, or changes to the aspects of a site as defined in Subsection **C(2)** above;

(e) Provisions to protect surrounding premises against detrimental impacts;

(f) The relationship of structures, design aspects, and open spaces to the natural landscape, existing buildings, historic and architectural heritage, and other community assets;

(g) Potential impacts on natural resources, including groundwater and open space;

(h) Potential impacts on Town resources, including protective agencies, streets, and public spaces;

(i) Harmony in architectural treatment and avoidance of incongruous or inappropriate character or architectural appearance and arrangement of buildings; and

(j) Compliance with all other requirements of this chapter.

(2) The Planning Board shall provide the Board of Selectmen, the Superintendent of Streets, and the Building Inspector with copies of all full site plan applications for their review, comment, and recommendation. The Planning Board shall consider any such written comments and recommendations it receives within 30 days of providing an application.

(3) If the Planning Board determines that adequate review of a site plan application requires the assistance of an outside consultant(s), the procedures, requirements and financial responsibility in Chapter **248**, Subdivision of Land, Article **VII**, § **248-26**, Review fees, shall apply.

F. Site plan compliance.

(1) In all circumstances in which site plan review is required by this section, the Building Inspector shall not issue a certificate of occupancy until the Planning Board has certified that an as-built plan submitted by the applicant documents that the site has been developed in compliance with an approved site plan. If completion is delayed by seasonal considerations, the Building Inspector, in consultation with the Planning Board, may issue a temporary occupancy permit and may require sufficient security to ensure full compliance within six months.

(2) For the purposes of Subsection **F(1)** above, sufficient security shall be one or more of the following instruments delivered to the Town Treasurer in an amount the Building Inspector determines will cover the cost of all uncompleted work within six months:

(a) A properly issued surety company bond or negotiable surety;

(b) A passbook account held in the joint names of the applicant and the Town; or

(c) A binding agreement between the applicant and a lender providing for the lender's retention of sufficient funds and a schedule of disbursements upon milestones to completion.

[1] *Editor's Note: This article also repealed former § 185-36, Site plan approval in Business District, Medical-Professional District and Manufacturing District, as amended.*

ATTACHMENT I

SITE INSPECTION FOR EROSION CONTROL SOP

SOP: CONSTRUCTION SITE INSPECTION

Construction sites that lack adequate stormwater controls can contribute a significant amount of sediment to nearby bodies of water. This Standard Operating Procedure describes the major components of a municipal Stormwater Construction Inspection Plan, as well as procedures for evaluating compliance of stormwater controls at construction sites.

Stormwater Construction Inspection Plan

A stormwater Construction Site Inspection program is a program developed by municipalities to track, inspect, and enforce local stormwater requirements at construction sites.

A municipal stormwater Construction Site Inspection program should include or address the following:

1. Construction Site Inventory
    - A tracking system to inventory projects and identify sites for inspection.
    - Track the results of inspection and prioritize sites based on factors such as proximity to waterways, size, slope, and history of past violations.
2. Construction Requirements and BMPs
    - Municipalities provide contractors with guidance on the appropriate selection and design of stormwater BMPs.
3. Plan Review Procedures
    - Submitted plans must be reviewed to ensure they address local requirements and protect water quality.
4. Public Input
    - The Program shall allow the public to provide comment on inspection procedures, and consider information provided by the public.
5. Construction Site Inspections
    - Identify an inspection frequency for each site.
    - See more detailed information below.
6. Enforcement Procedures
    - A written progressive enforcement policy for the inspection program.
    - Sanctions, both monetary and non-monetary, shall be utilized to ensure compliance with the program
7. Training and Education
    - Municipal staff conducting inspections should receive training on regulatory requirements, BMPs, inspections, and enforcement.

Conducting Stormwater Inspections at Construction Sites

The role of the construction inspector is to ensure that site operations match the approved site plans and the Stormwater Pollution Prevention Plan (SWPPP) for the project, and

that all precautions are taken to prevent pollutants and sediment from the construction site from impacting local waterways. The inspector is also expected to determine the adequacy of construction site stormwater quality control measures.

The attached Construction Site Stormwater Inspection Report shall be used by the inspector during site visits. Construction site inspectors should abide by the following guidelines:

1. Inspections to monitor stormwater compliance should be performed at least once per month at each active construction site, with priority placed on sites that require coverage under the USEPA 2017 Construction General Permit (i.e., that disturb one or more acres), and sites that are located in the watershed of any 303(d) water bodies.
2. The inspection shall begin at a low point and work uphill, observing all discharge points and any off-site support activities.
3. Written and photographic records shall be maintained for each site visit.
4. During the inspection, the inspector should ask questions of the contractor. Understanding the selection, implementation, and maintenance of BMPs is an important goal of the inspection process, and requires site-specific input.
5. The inspector should not recommend or endorse solutions or products. The inspector may offer appropriate advice, but all decisions must be made by the contractor.
6. The inspector shall always wear personal protective equipment appropriate for the site.
7. The inspector shall abide by the contractor's site-specific safety requirements.
8. The inspector has legal authority to enter the site. However, if denied permission to enter the site, the inspector should never force entry.

Prior to planning a site visit, the inspector shall determine if the project is subject to USEPA's 2017 Construction General Permit, which is true if the the project disturbs one or more acres, total. The 2017 Construction General Permit replaces the 2012 Construction General Permit, which expired on February 16, 2017. Operators of sites that required coverage under the USEPA's 2012 and/or 2008 Construction General Permits but continue to be active should have submitted a new Notice of Intent (NOI) under the 2017 Permit.

If the site requires this coverage, the inspector shall visit the USEPA Region 1 eNOI website (http://cfpub.epa.gov/npdes/stormwater/cgpenoi.cfm or http://cfpub.epa.gov/npdes/stormwater/ noi/noisearch.cfm) to determine if the contractor filed for coverage under the 2017, 2012, and/or 2008 Construction General Permits, respectively. Print a copy of the project's NOI.

If the project disturbs one or more acres and is under construction, but does not show up in either database, the project is in violation of the Construction General Permit. Call the contractor to determine if the NOI process has been started. If not, notify the contractor verbally of this requirement and the violation. Work cannot proceed on the site until a

Notice of Intent (NOI) for coverage under the 2017 Construction General Permit has been approved by USEPA. The inspector may choose to print instructions on how to file an NOI and meet with the contractor to review these. Issue a written Stop Work Order until the NOI has been approved by USEPA.

Once it has been determined that the site is in compliance with the 2017 Construction General Permit, the site inspection process can continue. The Construction Site Inspection process shall include the following:

1. Plan the inspection before visiting the construction site
    a. Obtain and review permits, site plans, previous inspection reports, and any other applicable information.
    b. Print the approved NOI from the USEPA 2017 Construction General Permit NOI website, listed previously.
    c. Inform the contractor of the planned site visit.
2. Meet with the contractor
    a. Review the Construction SWPPP (if the site includes over one acre of disturbance) or other document, as required by the Town of Dover. Compare BMPs in the approved site plans with those shown in the SWPPP.
    b. Review the project's approved NOI and confirm that information shown continues to be accurate.
    c. Get a general overview of the project from the contractor.
    d. Review inspections done by the contractor.
    e. Review the status of any issues or corrective actions noted in previous inspection reports.
    f. Discuss any complaints or incidents since the last meeting.
3. Inspect perimeter controls
    a. Examine perimeter controls to determine if they are adequate, properly installed, and properly maintained.
    b. For each structural BMP, check structural integrity to determine if any portion of the BMP needs to be replaced or requires maintenance.
4. Inspect slopes and temporary stockpiles
    a. Determine if sediment and erosion controls are effective.
    b. Look for slumps, rills, and tracking of stockpiled materials around the site.
5. Compare BMPs in the site plan with the construction site conditions
    a. Determine whether BMPs are in place as specified in the site plan, and if the BMPs have been adequately installed and maintained.
    b. Note any areas where additional BMPs may be needed which are not specified in the site plans.
6. Inspect site entrances/exits
    a. Determine if there has been excessive tracking of sediment from the site.
    b. Look for evidence of additional entrances/exits which are not on the site plan and are not properly stabilized.
7. Inspect sediment basins

   a. Look for signs that sediment has accumulated beyond 50% of the original capacity of the basin.
8. Inspect pollution prevention and good housekeeping practices
   a. Inspect trash areas and material storage/staging areas to ensure that materials are properly maintained and that pollutant sources are not exposed to rainfall or runoff.
   b. Inspect vehicle/equipment fueling and maintenance areas for the presence of spill control measures and for evidence of leaks or spills.
9. Inspect discharge points and downstream, off-site areas
   a. Walk down the street and/or in other directions off-site to determine if erosion and sedimentation control measures are effective in preventing off-site impacts.
   b. Inspect down-slope catch basins to determine if they are protected, and identify whether sediment buildup has occurred.
10. Meet with the contactor again prior to leaving
   a. Discuss the effectiveness of current controls and whether modifications are needed.
   b. Discuss possible violations or concerns noted during the site inspection, including discrepancies between approved site plans, the SWPPP, and/or the implementation of stormwater controls.
   c. Agree on a schedule for addressing all discrepancies, and schedule a follow-up inspection.
11. Provide a written copy of the inspection report to the contractor.
12. Follow up, as determined, and provide copy of subsequent inspection to the contractor.
13. Use Stop Work orders, as needed, until compliance with the 2017 Construction General Permit and/or other document, as required by the municipality's legal authority, can be achieved.

Attachments

1. Construction Site Stormwater Inspection Report

CONSTRUCTION SITE STORMWATER INSPECTION REPORT

General Information

Project Name			
Project Location			
Site Operator			
Inspector's Name			
Date of Inspection		Date of Last Inspection	
Start Time		End Time	
Subject to USEPA Construction General Permit? Yes ☐ No ☐ If yes, has NOI been approved? Yes ☐ No ☐ If yes, attach approved NOI to this report. **If no, contact site operator immediately to determine status of NOI.**			
Type of Inspection: Regular ☐ Pre-Storm Event ☐ During Storm Event ☐ Post-Storm Event ☐			
Describe the weather conditions at time of inspection			
Describe the current phase of construction			

Site-Specific BMPs

Customize the following BMPs to be consistent with the SWPPP for the site being inspected.

	BMP Description	Installed and Operating Properly?	Corrective Action Needed
1		Yes ☐ No ☐	
2		Yes ☐ No ☐	

(continued)

	BMP Description	Installed and Operating Properly?	Corrective Action Needed
3		Yes ☐ No ☐	
4		Yes ☐ No ☐	
5		Yes ☐ No ☐	
6		Yes ☐ No ☐	
7		Yes ☐ No ☐	
8		Yes ☐ No ☐	
9		Yes ☐ No ☐	
10		Yes ☐ No ☐	
11		Yes ☐ No ☐	
12		Yes ☐ No ☐	
13		Yes ☐ No ☐	
14		Yes ☐ No ☐	
15		Yes ☐ No ☐	
16		Yes ☐ No ☐	
17		Yes ☐ No ☐	
18		Yes ☐ No ☐	
19		Yes ☐ No ☐	
20		Yes ☐ No ☐	

Erosion and Sedimentation Control

Document any of the following issues found on the construction site, and the corrective action(s) required for each.

Issue	Status	Corrective Action Needed
Have all ESC features been constructed before initiating other construction activities?	Yes ☐ No ☐	
Is the contractor inspecting and maintaining ESC devices regularly?	Yes ☐ No ☐	
Is existing vegetation maintained on the site as long as possible?	Yes ☐ No ☐	
Is construction staged so as to minimize exposed soil and disturbed areas?	Yes ☐ No ☐	
Are disturbed areas restored as soon as possible after work is completed?	Yes ☐ No ☐	
Is clean water being diverted away from the construction site?	Yes ☐ No ☐	
Are sediment traps and sediment barriers cleaned regularly?	Yes ☐ No ☐	
Are vegetated and wooded buffers protected and left undisturbed?	Yes ☐ No ☐	
Are soils stabilized by mulching and/or seeding when they are exposed for a long time?	Yes ☐ No ☐	
Has vegetation been allowed to establish itself before flows are introduced to channels?	Yes ☐ No ☐	
Is regular, light watering used for dust control?	Yes ☐ No ☐	
Is excessive soil compaction with heavy machinery avoided, to the extent possible?	Yes ☐ No ☐	

(continued)

Issue	Status	Corrective Action Needed
Are erosion control blankets used when seeding slopes?	Yes ☐ No ☐	
Are trees and vegetation that are to be retained during construction adequately protected?	Yes ☐ No ☐	
Are areas designated as off-limits to construction equipment flagged or easily distinguishable?	Yes ☐ No ☐	
If excavated topsoil has been salvaged and stockpiled for later use on the project, are stockpiles adequately protected?	Yes ☐ No ☐	
Are temporary slope drains or chutes used to transport water down steep slopes?	Yes ☐ No ☐	
Do all entrances to the storm sewer system have adequate protection?	Yes ☐ No ☐	

Overall Site Conditions

Document any of the following issues found on the construction site, and the corrective action(s) required for each.

Issue	Status	Corrective Action Needed
Are slopes and disturbed areas not being actively worked properly stabilized?	Yes ☐ No ☐	
Are material stockpiles covered or protected when not in use?	Yes ☐ No ☐	
Are natural resource areas protected with sediment barriers or other BMPs?	Yes ☐ No ☐	
Are perimeter controls and sediment barriers installed and maintained?	Yes ☐ No ☐	

(continued)

Issue	Status	Corrective Action Needed
Are discharge points and receiving waters free of sediment deposits and turbidity?	Yes ☐ No ☐	
Are storm drain inlets properly protected?	Yes ☐ No ☐	
Is there evidence of sediment being tracked into streets?	Yes ☐ No ☐	
Is trash/litter from the construction site collected and placed in dumpsters?	Yes ☐ No ☐	
Are vehicle/equipment fueling and maintenance areas free of spills and leaks?	Yes ☐ No ☐	
Are potential stormwater contaminants protected inside or under cover?	Yes ☐ No ☐	
Is dewatering from site properly controlled?	Yes ☐ No ☐	
Are portable restroom facilities properly sited and maintained?	Yes ☐ No ☐	
Are all hazardous materials and wastes stored in accordance with local regulations?	Yes ☐ No ☐	

Non-Compliance Actions

The Town of Dover shall provide the site operator with a copy of this report, and notice of the corrective action(s) to be taken. The site operator shall have thirty days from the receipt of the notice to commence curative action of the violation.

ATTACHMENT J

SEDIMENT AND EROSION CONTROL SOP

SOP: EROSION AND SEDIMENTATION CONTROL

Erosion and sedimentation from land-disturbing human activities can be a significant source of stormwater pollution. This Standard Operating Procedure describes methods for reducing or eliminating pollutant loading from such activities.

Controlling Erosion and Sediment through Design and Planning

Prevention of erosion and sedimentation is preferable to installing treatment devices. Consistent application and implementation of the following guidelines during the design and review phases can prevent erosion and sedimentation:

1. Avoid sensitive areas, steep slopes, and highly erodible soils to the maximum extent possible when developing site plans.
2. Identify potential problem areas before the site plan is finalized and approved.
3. Plan to use sediment barriers along contour lines, with a focus on areas where short-circuiting (i.e., flow around the barrier) may occur.
4. Use berms at the top of a steep slopes to divert runoff away from the slope's edge.
5. Design trapezoidal or parabolic vegetated drainage channels, not triangular.
6. Use vegetated channels with rip rap check dams, instead of impervious pavement or concrete, to reduce the water velocity of the conveyance system.
7. Design a check dam or sediment forebay with level spreader at the exit of outfalls to reduce water velocity of the discharge and collect sediment.
8. Use turf reinforcement matting to stabilize vegetated channels, encourage vegetation establishment, and withstand flow velocities without scouring the base of the channel.
9. Plan open channels to follow land contours so natural drainage is not disrupted.
10. Use organic matting for temporary slope stabilization and synthetic matting for permanent stabilization.
11. Provide a stable channel, flume, or slope drain where it is necessary to carry water down slopes.

Controlling Erosion and Sediment on Construction Sites

During the construction phase, it is important to inspect active sites regularly to ensure that practices are consistent with approved site plans and the site's Stormwater Pollution Prevention Plan (SWPPP) or other document, as required by the Town of Dover. The following guidelines apply:

1. Erosion and sediment control features should be constructed before initiating activities that remove vegetated cover or otherwise disturb the site. These shall be installed consistent with the approved site plans and with manufacturer's instructions.
2. Erosion and sediment control devices shall be inspected by the contractor regularly, and maintained as needed to ensure function.

3. In the SWPPP or other document, the contractor shall clearly identify the party responsible for maintaining erosion and sediment control devices.
4. An inspection should be completed of active construction sites every month, at a minimum, to check the status of erosion and sedimentation controls.
5. Existing vegetation should be maintained on site as long as possible.
6. Construction should proceed progressively on the site in order to minimize exposed soil, and disturbed areas should be restored as soon as possible after work has been completed.
7. Stockpiles shall be stabilized by seeding or mulching if they are to remain for more than two weeks.
8. Disturbed areas shall be protected from stormwater runoff by using protective Best Management Practices (BMPs).
9. Clean water shall be diverted away from disturbed areas on construction sites to prevent erosion and sedimentation.
10. Sediment traps and sediment barriers should be cleaned out regularly to reduce clogging and maintain design function.
11. Vegetated and wooded buffers shall be protected.
12. Soils shall be stabilized by mulching and/or seeding when they would be exposed for more than one week during the dry season, or more than two days during the rainy season.
13. Vegetation shall be allowed to establish before introducing flows to channels.
14. Regular light watering shall be used for dust control, as this is more effective than infrequent heavy watering.
15. Excessive soil compaction with heavy machinery shall be avoided, to the extent possible.
16. Construction activities during months with higher runoff rates shall be limited, to the extent possible.

Controlling Erosion and Sediment by Proper Maintenance of Permanent BMPs

Many construction phase BMPs can be integrated into the final site design, but ongoing inspection and maintenance are required to ensure long-term function of any permanent BMP. The following guidelines summarize the requirements for long-term maintenance of permanent BMPs.

1. Responsibility for maintaining erosion and sediment control devices shall be clearly identified.
2. Erosion and sediment control devices shall be inspected following heavy rainfall events to ensure they are working properly.
3. Erosion control blankets shall be utilized when seeding slopes.
4. Vegetated and wooded buffers shall be protected, and left undisturbed to the extent possible.
5. Runoff shall not be diverted into a sensitive area unless this has been specifically approved.
6. Sedimentation basins shall be cleaned out once sediment reaches 50% of the basin's design capacity.

7. Snow shall not be plowed into, or stored within, retention basins, rain gardens, or other BMPs.
8. Easements and service routes shall be maintained, to enable maintenance equipment to access BMPs for regular cleaning.

EROSION AND SEDIMENTATION CONTROL INSPECTION REPORT

General Information

Project Name			
Project Location			
Inspector's Name			
Site Operator			
Date of Inspection		Date of Last Inspection	
Start Time		End Time	

Subject to USEPA Construction General Permit? Yes ☐ No ☐

If yes, has NOI been approved? Yes ☐ No ☐

If yes, attach approved NOI to this report.

If no, contact contractor immediately to determine status of NOI.

Type of Inspection:

Regular ☐ Pre-Storm Event ☐ During Storm Event ☐ Post-Storm Event ☐

Describe the weather conditions at time of inspection	
Describe the current phase of construction	

Erosion and Sediment Control (ESC) on Construction Sites

Document any of the following issues found on the construction site, and the corrective action(s) required for each.

Issue	Status	Corrective Action Needed
Have all ESC features been constructed before initiating other construction activities?	Yes ☐ No ☐	
Is the contractor inspecting and maintaining ESC devices regularly?	Yes ☐ No ☐	
Is existing vegetation maintained on the site as long as possible?	Yes ☐ No ☐	
Is construction staged so as to minimize exposed soil and disturbed areas?	Yes ☐ No ☐	
Are disturbed areas restored as soon as possible after work is completed?	Yes ☐ No ☐	
Is clean water being diverted away from the construction site?	Yes ☐ No ☐	
Are sediment traps and sediment barriers cleaned regularly?	Yes ☐ No ☐	
Are vegetated and wooded buffers protected and left undisturbed?	Yes ☐ No ☐	
Are soils stabilized by mulching and/or seeding when they are exposed for a long time?	Yes ☐ No ☐	
Has vegetation been allowed to establish itself before flows are introduced to channels?	Yes ☐ No ☐	
Is regular, light watering used for dust control?	Yes ☐ No ☐	
Is excessive soil compaction with heavy machinery avoided, to the extent possible?	Yes ☐ No ☐	

(continued)

Issue	Status	Corrective Action Needed
Are erosion control blankets used when seeding slopes?	Yes ☐ No ☐	
Are trees and vegetation that are to be retained during construction adequately protected?	Yes ☐ No ☐	
Are areas designated as off-limits to construction equipment flagged or easily distinguishable?	Yes ☐ No ☐	
If excavated topsoil has been salvaged and stockpiled for later use on the project, are stockpiles adequately protected?	Yes ☐ No ☐	
Are temporary slope drains or chutes used to transport water down steep slopes?	Yes ☐ No ☐	
Do all entrances to the storm sewer system have adequate protection?	Yes ☐ No ☐	

Non-Compliance Actions

The Town of Dover shall provide the site operator with a copy of this report, and notice of the corrective action(s) to be taken. The site operator shall have thirty days from the receipt of the notice to commence curative action of the violation.

ATTACHMENT K

PARKS AND OPEN SPACES OPERATIONS AND MAINTENANCE PROCEDURES

SOP: OPERATIONS AND MAINTENANCE OF PARKS AND OPEN SPACES

Introduction

Parks and open space operations and maintenance activities commonly involve the operation of equipment such as mowers and tractors; disposal of waste from mowing, planting, weeding, raking, pruning, and trash collection; application of pesticides, herbicides, and fertilizers; cleaning and maintenance of park amenities such as play equipment, restrooms, and structures; and snow removal. These activities have the potential to generate contaminants such as sediments and toxic chemicals that may be picked up by rainwater, thereby entering the storm drainage system and receiving waters. The goal of this written Standard Operating Procedure (SOP) is to provide guidance to municipal employees to reduce the discharge of pollutants from the MS4 and to receiving waters as a result of parks and open space operations and maintenance. If services are contracted, this SOP should be provided to the contractor. The contract should specify that the contractor is responsible for compliance with all applicable laws.

The Town of Dover performs a variety of operations and maintenance activities at its municipal parks and open spaces.

The Town of Dover has created an inventory of all municipal parks and open spaces and updates this inventory annually (refer to the attached inventory sheet).

Procedures

The Town of Dover will implement the following procedures at municipal parks and open spaces to reduce the discharge of pollutants from the MS4:

General

- Repair damage to landscaped or mulch or vegetated bare areas as soon as possible to prevent erosion. If there are areas of erosion or poor vegetation, repair them as soon as possible, especially if they are within 50 feet of a surface water (e.g., pond, lake, or river).
- Remove (sweep or shovel) materials such as soil, mulch, and grass clippings from parking lots, streets, curbs, gutters, sidewalks, and drainage-ways.
- Do not clean up any unidentified or possibly hazardous materials found during maintenance; notify a supervisor immediately.

Maintenance

- Wastewater from power washing signs, structures, or bleachers cannot be discharged into the stormwater system.
- When painting park equipment, use a drop cloth and clean up any spills immediately.
- Do not leave open containers on the ground where they may accidentally tip over.
- Sweep parking lots with a street sweeper and dispose of street sweepings in designated

areas.
- Never wash debris from parking lots into the storm drain.

Mowing

- Remove debris and trash from landscaped areas prior to mowing.
- Collect grass clippings and leaves after mowing. Do not blow or wash them into the street, gutter, or storm drains.
- Properly recycle or dispose of organic waste after mowing, weeding, and trimming.
- Reduce mowing frequencies wherever possible by establishing low/no-mow areas in lesser-used spaces.
- Brush off mowers (reels and decks) and tractors over grassy areas or in contained washout areas.
- Leave clippings on grassy areas or dispose of them in the trash or by composting.
- Do not hose off mowers over paved areas that drain into the MS4 or directly to surface waters.
- Follow proper vehicle and equipment maintenance procedures to prevent leaks (see SOP: Operations and Maintenance of Municipal Vehicles and Equipment).
- Do not allow grease from mowers to fall onto areas where they can be washed into the stormwater system.

Irrigation

- Repair broken sprinkler heads as soon as possible.
- Only irrigate at a rate that can infiltrate into the soil to limit run-off.
- Avoid irrigating close to impervious surfaces such as parking lots and sidewalks.

Landscaping

- When establishing new plantings, use alternative landscaping materials, such as drought resistant or native plants to reduce the need for irrigation and extensive application of fertilizers and pesticides.
- Follow proper fueling procedures for all equipment to ensure that petroleum products do not enter the stormwater system.
- Fertilizers, herbicides, and pesticides should be properly used, stored, and handled.
- Municipalities that discharge into waters with phosphorus or nitrogen Total Maximum Daily Loads (TMDLs):
    - In accordance with the Total Maximum Daily Load for Nutrients in the Upper/Middle Charles River, Massachusetts requirements, the Town of Dover will use slow-release fertilizers in addition to reducing fertilizer use to reduce runoff to the Charles River. Phosphorus will only be applied in areas where a soil test indicates that it is not present in sufficient quantities. Phosphorus-free fertilizer options will be considered.
- Municipalities subject to Charles River Watershed Phosphorus TMDL Requirements:
    - In accordance with the Charles River Watershed Phosphorus TMDL requirements, the Town of Dover will document its compliance with Massachusetts Regulation 330 CMR 31 in its Phosphorus Control Plans (PCPs)

and certify that all turf grass areas and fertilizer use are managed in accordance with the policy (https://www.mass.gov/files/documents/2018/01/22/330cmr31.pdf).

- The Town of Dover discharges into the following phosphorus impaired waterbodies: Charles River. Under MS4 Permit requirements, the Town of Dover acknowledges that blowing organic waste material (grass cuttings, leaf litter) is strictly prohibited.

Snow Removal

- Store salt or sand for snow removal indoors under a roof or in a covered container and on impervious surfaces.
- See SOP: Winter Road Maintenance for more information on proper snow disposal and storage procedures.
- Any damage done to vegetated areas caused by plows or deicing materials should be repaired as early as possible in the spring.

Trash Management

- All waste and recycling containers must be leak-tight with tight-fitting lids or covers.
- Place waste and recycling containers indoors or under a roof or overhang whenever possible.
- Clean and sweep up around outdoor waste containers regularly.
- Arrange for waste and recyclables to be picked up regularly and disposed of at approved disposal facilities.
- Do not wash out waste or recycling containers outdoors or in a parking lot.
- Conduct periodic inspections of waste areas to check for leaks and spills.
- Ensure there are enough trash and recycling containers at appropriate areas.
- Monitor waste and recycling containers at heavily-used sites and on holidays to ensure that there is no overflow.

Other Activities

- Provide pet waste stations with bags and trash receptacles where pets are permitted. Post signs describing the proper disposal of pet waste.
- All portable toilets should be staked down in flat, secure locations where they are less likely to be knocked down or blown over. They should be placed in a location that would retain any spillage from washing into the MS4 or receiving waters. Ensure routine maintenance and cleaning of portable toilets.
- Identify undesirable waterfowl congregation areas and take steps to prevent waterfowl droppings from entering the stormwater system or surrounding waterbodies.
    - Take measures to discourage congregation near waterbodies and the storm system (e.g., use strobe lights or reflective tape, establish no-mow zones to reduce available feeding areas, or plant thick vegetation along waterlines). If waterfowl congregation cannot be managed, then isolate the drainage from congregation areas away from the storm system and waterbodies.

Install signage to educate the public on the negative effects of waterfowl feces entering the stormwater system or nearby waterbodies in order to discourage public feeding.

Alternatively, enact feeding bans.

Employee Training

- Employees who perform maintenance or other applicable work at municipal parks and open spaces are trained once per year on these procedures and the proper operation of related equipment.
- Employees are also trained on stormwater pollution prevention, illicit discharge detection and elimination (IDDE) procedures, and spill and response procedures.
- If services are contracted, the contractor should be given a copy of this and any applicable SOPs to ensure compliance with MS4 regulations.

Attachments

1. Inventory of Municipal Parks and Open Spaces.

Inventory of Municipal Parks and Open Spaces
Town of Dover, Massachusetts

Name of Park/Open Space	Location	Manager/Contact – Name, Position, Department, Phone Number	Potential Stormwater Pollutant Sources (e.g., trash containers, fertilizers, fuel)
Caryl Park	Dedham St., Dover, MA	Mark Ghiloni, Parks and Recreation Director, Parks and Recreation Dept., 508-785-0476	Trash containers, fertilizers
Chickering Fields	123 Dedham St., Dover, MA	Mark Ghiloni, Parks and Recreation Director, Parks and Recreation Dept., 508-785-0476	Trash containers, fertilizers
Highland Cemetery	Centre Street, Dover, MA	Lawrence 'Rusty' Dauphinee, Cemetery Supervisor, 508-906-3328	Trash containers, fertilizers

ATTACHMENT L

BUILDINGS AND FACILITIES OPERATIONS AND MAINTENANCE PROCEDURES

SOP: OPERATIONS AND MAINTENANCE OF MUNICIPAL BUILDINGS AND FACILITIES

Introduction

Municipal buildings and facilities (schools, municipal offices, police and fire stations, municipal pools, parking garages, etc.) often house various chemicals, such as petroleum products and hazardous materials. As a result, these buildings and facilities are potential sources of pollutant discharges to the storm drainage system. The goal of this written Standard Operating Procedure (SOP) is to provide guidance to municipal employees on the use, storage, and disposal of chemicals and other stormwater pollutants to reduce the discharge of pollutants from the MS4. If services are contracted, this SOP should be provided to the contractor. The contract should specify that the contractor is responsible for compliance with all applicable laws.

The Town of Dover performs a variety of operations and maintenance activities at its municipally owned and operated buildings.

The Town of Dover has created an inventory of all municipal buildings and facilities and updates this inventory annually (refer to the attached buildings and facilities inventory sheet).

Procedures

The Town of Dover will implement the following procedures for municipally owned or operated buildings and facilities to reduce the discharge of pollutants from the MS4:

Handling, Storage, Transfer, and Disposal of Trash and Recyclables

All liquid and solid waste must be disposed of properly. Some of the most common sources of pollution at municipal facilities are a result of littering, improper collection of debris, and improper disposal of solid or liquid waste.

- All waste and recycling receptacles must be leak-tight with tight-fitting lids or covers.
- Keep lids on dumpsters and containers closed at all times unless adding or removing material. If using an open-top roll-off dumpster, cover it and tie it down with a tarp unless adding materials.
- Place waste or recycling receptacles indoors or under a roof or overhang whenever possible.
- Locate dumpsters on a flat, paved surface and install berms or curbs around the storage area to prevent run-on and run-off.
- Do not locate dumpsters over or adjacent to catch basins.
- Prior to transporting waste, trash, or recycling, ensure that containers are not leaking (double bag if needed) and properly secure containers to the vehicle.
- Clean and sweep up around outdoor waste containers regularly.
- Clean up any liquid leaks or spills with dry cleanup methods.
- Arrange for waste or recycling to be picked up regularly and disposed of at approved

disposal facilities.
- Never place hazardous materials, liquids, or liquid-containing wastes in a dumpster or recycling or trash container.
- Do not wash trash or recycling containers outdoors or in parking lots.
- Conduct periodic inspections of solid and liquid waste storage areas to check for leaks and spills.
- Conduct periodic inspections of work areas to ensure that all wastes are being disposed of properly.
- In dumpster areas, regularly pick up surrounding trash and debris and regularly sweep the area.
- In compactor areas, regularly check the hydraulic fluid hoses and reservoir to ensure that there are no cracks or leaks. Regularly sweep the area.

Building Maintenance

- When power washing buildings and facilities, ensure that the wash water does not flow into the storm system. Containment or filtering systems should be provided.
- Paint and other chemicals should not be applied on the outside of buildings when it is raining or prior to expected rain.
- When sanding, painting, power washing, etc., ensure that sites are properly prepared (e.g., use tarps) and cleaned (e.g., use dry cleaning methods) especially if they are near storm drains. Protect catch basins when maintenance work is conducted upgradient of them.
- When painting, use a drop cloth and clean up any spills immediately.
- Do not leave open containers on the ground where they may accidentally tip over.
- Buildings should be routinely inspected for areas of potential leaks.
- Do not discharge chlorinated pool water into the stormwater system. Water must be properly dechlorinated and tested before it is discharged.
- Streets and parking lots surrounding municipal buildings and facilities should be swept and kept clean to reduce runoff of pollutants and debris to the stormwater system.
- Streets and parking lots around buildings and facilities will be swept in accordance with the procedures in SOP: Streets and Parking Lots.

Storage of Petroleum Products and Potential Pollutants

- Floor drains in storage areas should be disconnected from the stormwater system.
- Routinely inspect buildings and facilities for areas of potential leaks.
- All municipal buildings and facilities should be periodically inspected to address potential pollutant sources (e.g., leaks).

Spill Prevention Plan

- Spill prevention plans such as Spill Prevention Control and Countermeasure (SPCC) Plans should be in place where applicable, based on inventories of material storage and potential pollutants. Coordinate with the local fire department, if necessary.

Employee Training

- Employees who perform maintenance or other applicable work at municipal buildings and facilities are trained once per year on these procedures and the proper operation of related equipment.
- Employees are also trained on stormwater pollution prevention, illicit discharge detection and elimination (IDDE) procedures, and spill and response procedures.
- If services are contracted, the contractor should be given a copy of this and any applicable SOPs to ensure compliance with MS4 regulations.

Attachments

1. Inventory of Municipal Buildings and Facilities.

Inventory of Municipal Buildings and Facilities
Town of Dover, Massachusetts

Name of Building/Facility	Location	Manager/Contact – Name, Position, Department, Phone Number	Potential Stormwater Pollutant Sources (e.g., trash containers, fertilizers, fuel)
Dover-Sherborn High School	9 Junction Street, Dover, MA	Ralph Kelley, Facilities Director, 508-785-7507	Trash containers, mowing
Dover-Sherborn Regional Middle School	155 Farm Street, Dover, MA	Ralph Kelley, Facilities Director, 508-785-7507	Trash containers, mowing
Chickering School	29 Cross Street, Dover, MA	Ralph Kelley, Facilities Director, 508-785-7507	Trash containers, mowing
Dover Town Hall	5 Springdale Avenue, Dover, MA	Karl Warnick, Superintendent of Building Maintenance, Building Maintenance Dept., 508-785-0032 ext. 235	Trash containers, mowing
Town of Dover Highway Department Garage	2 Dedham Street, Dover, MA	Craig Hughes, Superintendent of Streets, Highway Department, 508-785-0058	Trash containers, mowing, fuel
Town of Dover Transfer Station	Powissett Street, Dover, MA	Wade Hayes, Transfer Station Operator, 781-329-7733 or 508-785-0058	Trash containers
Dover Police Department	3 Walpole Street, Dover, MA	Peter McGowan, Police Chief, 508-785-1130	Mowing
Dover Fire Department	1 Walpole Street, Dover, MA	Craig Hughes, Fire Chief, 508-785-1130	Mowing
Dover Town Library	56 Dedham Street, Dover, MA	Karl Warnick, Superintendent of Building Maintenance, Building Maintenance Dept., 508-785-0032 ext. 235	Mowing
Caryl School (Council for Aging)	4 Springdale Avenue, Dover, MA	Karl Warnick, Superintendent of Building Maintenance, Building Maintenance Dept., 508-785-0032 ext. 235	Mowing

ATTACHMENT M

VEHICLES AND EQUIPMENT OPERATIONS AND MAINTENANCE PROCEDURES

SOP: OPERATIONS AND MAINTENANCE OF MUNICIPAL VEHICLES AND EQUIPMENT

Introduction

Regular maintenance of both municipal and contracted vehicles and heavy equipment not only prolongs the life of municipal assets but also helps reduce the potential for leaking of fluids associated with normal wear and tear. Potential pollutants include fuels, oil, antifreeze, brake fluid, solvents, and battery acid. The goal of this written Standard Operating Procedure (SOP) is to provide guidance to municipal employees to help reduce the discharge of pollutants from the MS4 as a result of leaks from vehicles and equipment. If services are contracted with respect to vehicles and equipment, this SOP should be provided to the contractor. The contract should also specify that the contractor is responsible for compliance with all applicable laws.

The Town of Dover undertakes various procedures in regard to its municipal vehicles and equipment.

The Town of Dover has created an inventory of all municipal vehicles and equipment and updates this inventory annually (refer to the attached vehicles and equipment inventory sheet).

Procedures

The Town of Dover will implement the following procedures for municipally owned and operated vehicles and equipment to reduce the discharge of pollutants from the MS4:

Vehicle and Equipment Maintenance

Vehicle Storage

- Monitor vehicles and equipment for leaks and use drip pans as needed until repairs can be performed.
- When drip pans are used, avoid overtopping.
- Drain fluids from leaking or wrecked vehicles and parts as soon as possible. Dispose of fluids properly.
- Store and park vehicles on impervious surfaces and/or under cover or indoors whenever possible.

Vehicle Maintenance

- Conduct routine inspections of heavy equipment and vehicles to proactively identify maintenance needs or potential leaks.
- Perform routine preventive maintenance to ensure heavy equipment and vehicles are operating optimally.
- Recycle or dispose of waste properly and promptly.
- Sweep and pick up trash and debris as needed.

- Do not dump any liquids or other materials outside, especially near or in storm drains or ditches.

Body Repair and Painting

- Conduct all body repair and painting work indoors.
- Minimize waste from paints and thinners. Calculate paint needs based on surface area.
- Use dry cleanup methods (vacuum, sweep) to clean up metal filings and dust and paint chips from grinding, shaving and sanding. Sweep debris from wet sanding after allowing it to dry overnight on the shop floor. Dispose of waste properly; never dump waste into storm or sanitary sewers.
- Use sanding tools equipped with vacuum capability to pick up debris and dust.

Fueling

- Fueling areas owned or operated by the municipality should be covered.
- Fueling areas should be evaluated to ensure that pollutants (e.g., gasoline or oil) do not enter the MS4.

Material Management

- Store materials and waste in labeled containers under cover and in secondary containment.
- Chemicals should not be combined in containers.
- Hazardous waste must be labeled and stored according to hazardous waste regulations.
- Carefully transfer collected fluids from containers into designated storage areas as soon as possible.
- Store new and used batteries securely to avoid breakage. Store indoors or in secondary containment to contain potential acid leaks. Recycle used batteries.
- Conduct periodic inspections of storage areas to detect possible leaks.
- Do not wash or hose down storage areas unless there is prior approval to collect and discharge the water into the sanitary sewer. Use dry cleanup methods whenever possible.
- Keep lids on containers. Store them indoors or under cover to reduce exposure to rain.
- Inspect and maintain all pretreatment equipment, including interceptors, according to the manufacturer's maintenance schedule and at least once per year.
- Proper spill protocol should be followed to prevent chemicals from entering the stormwater system.

Parts Cleaning

- Use designated areas for engine, parts, or radiator cleaning. Do not wash or rinse parts outdoors. If parts cleaning equipment is not available then capture parts cleaning fluids.
- Recycle cleaning solution. Never discharge waste to the sanitary sewer or storm sewer.
- Use steam cleaning or pressure washing of parts instead of solvent cleaning. Cleaning equipment must be connected to an oil/water interceptor prior entering the sanitary sewer.
- When using solvents for cleaning, drain parts over the solvent tank to avoid drips to the

floor. Catch excess solutions and divert them back to tank. Allow parts to dry over the hot tank.

Vehicle and Equipment Washing

Vehicle washing can result in the discharge of nutrients, sediment, petroleum products, and other contaminants to a surface water body or to a stormwater system. The MS4 Permit does not authorize the discharge of municipal vehicle washing byproducts into the MS4.

Outdoor Vehicle Washing Procedures

Outdoor washing of municipal vehicles should be avoided unless wash water is contained in a tight tank or similar structure. Where no alternative wash system is available, and full containment of wash water cannot be achieved, adhere to the following procedures:

- Avoid discharge of any wash water directly to the storm drainage system or surface water (e.g., stream, pond, or drainage swale).
- Minimize the use of water to the extent practicable.
- Where the use of detergent cannot be avoided, use products that do not contain regulated contaminants. The use of a biodegradable, phosphate-free detergent is preferred.
- Do not use solvents except in dedicated solvent parts washer systems or in areas not connected to a sanitary sewer.
- Do not power wash, steam clean, or perform engine or undercarriage cleaning.
- Grassy and pervious (porous) surfaces may be used to promote direct infiltration of wash water, providing treatment before recharging groundwater and minimizing runoff to an adjacent stormwater system. Pervious surfaces or other infiltration-based systems should not be used within wellhead protection areas or within other protected resources.
- Impervious surfaces discharging to the storm drainage system should not discharge directly to a surface water unless treatment is provided. The treatment device should be positioned such that all drainage must flow through the device, preventing bypassing or short-circuiting.
- Periodic sweeping and/or cleaning should be completed to prevent accumulation from forming on the washing area.
- Maintain absorbent pads and drip pans to capture and collect spills or noticeable leaks observed during washing activities.
- Heavily soiled vehicles or vehicles dirtied from salting or snow removal efforts should follow the SOPs in the “Heavy Equipment Washing Procedures” below.

Indoor Vehicle Washing Procedures

- Vehicles and equipment should be washed inside whenever possible to reduce runoff to the stormwater system.
- Where the use of detergent cannot be avoided, use products that do not contain regulated contaminants. The use of biodegradable, phosphate-free detergent is preferred.
- Detergents should not be used in areas where oil/water separators provide pre-treatment of drainage.

- Floor drains should be connected to a sanitary sewer or tight tank. Floor drains discharging to adjacent surface water bodies or engineered storm drain systems should be permanently plugged or otherwise abandoned before any vehicle wash activities are completed.
- Designate separate areas for routine maintenance and vehicle cleaning. This helps prevent contamination of wash water by motor oils, hydraulic lubricants, greases, or other chemicals.
- Dry cleanup methods are recommended within garage facilities. Do not wash down floors and work areas with water.
- Bring smaller vehicles to commercial washing stations.
- Maintain absorbent pads and drip pans to capture and collect spills or noticeable leaks observed during washing activities.

Heavy Equipment Washing Procedures

- Mud and heavy debris removal should occur on impervious surfaces or within a retention area.
- Maintain these areas with frequent mechanical removal and proper disposal of waste.
- Impervious surfaces with engineered storm drain systems should not discharge directly to a surface water.
- Floor drains should be connected to a sanitary sewer or tight tank. Floor drains discharging to adjacent surface waterbodies or engineered storm drain systems should be permanently plugged or otherwise abandoned before any vehicle wash activities are completed.
- Where the use of detergent cannot be avoided, use products that do not contain regulated contaminants. The use of biodegradable, phosphate-free detergent is preferred.
- Detergents should not be used in areas where oil/water separators provide pre-treatment of drainage.
- Maintain absorbent pads and drip pans to capture and collect spills or noticeable leaks observed during washing activities.

Engine and Steam Washing Procedures

- Do not wash parts outdoors.
- Maintain drip pans and smaller containers to contain motor oils, hydraulic lubricants, greases, etc. and to capture and collect spills or noticeable leaks observed during washing activities, to the extent practicable.
- Where use of detergent cannot be avoided, use products that do not contain regulated contaminants. The use of a biodegradable, phosphate-free detergent is preferred.
- Avoid cleaning with solvents except in dedicated solvent parts washer systems. Make use of pressure washing and steam cleaning.
- Recycle clean solutions and rinse water to the extent practicable.
- Wash water should discharge to a tight tank or a sanitary sewer via an oil/water separator. Detergents should not be used in areas where oil/water separators provide pre-treatment of drainage.

Employee Training

- Employees who perform work on/with municipal vehicles or equipment are trained once per year on these procedures and the proper operation of related equipment.
- Employees are also trained on stormwater pollution prevention, illicit discharge detection and elimination (IDDE) procedures, and spill and response procedures.
- If services are contracted, the contractor should be given a copy of this and any applicable SOPs to ensure compliance with MS4 regulations.

Attachments

1. Inventory of Municipal Vehicles and Equipment.

Inventory of Municipal Vehicles and Equipment
Town of Dover, Massachusetts

Vehicle/Equipment	Department/Location	Contact – Name, Position, Department, Phone Number	Date of Last Inspection/Calibration
1970 Water Trailer	Highway Department	Craig Hughes, Superintendent of Streets, Highway Department, 508-785-0058	Inspected/calibrated a minimum of once per year in June with periodic smaller inspections and checks as needed. Last inspection: June 6, 2020.
H-14 1977 Mack Diesel Conv Truck Snow Removal and Spread Mix	Highway Department	Craig Hughes, Superintendent of Streets, Highway Department, 508-785-0058	Inspected/calibrated a minimum of once per year in June with periodic smaller inspections and checks as needed. Last inspection: June 6, 2020.
H-15 1979 Mack Diesel Truck Snow Removal	Highway Department	Craig Hughes, Superintendent of Streets, Highway Department, 508-785-0058	Inspected/calibrated a minimum of once per year in June with periodic smaller inspections and checks as needed. Last inspection: June 6, 2020.
H-5 1986 Mack Dump Truck Snow Removal and Spread Mix	Highway Department	Craig Hughes, Superintendent of Streets, Highway Department, 508-785-0058	Inspected/calibrated a minimum of once per year in June with periodic smaller inspections and checks as needed. Last inspection: June 6, 2020.
1990 AMC – Utility Trailer	Highway Department	Craig Hughes, Superintendent of Streets, Highway Department, 508-785-0058	Inspected/calibrated a minimum of once per year in June with periodic smaller inspections and checks as needed. Last inspection: June 6, 2020.
H-17 1993 Bandit – Wood/Brush Chipper	Highway Department	Craig Hughes, Superintendent of Streets, Highway Department, 508-785-0058	Inspected/calibrated a minimum of once per year in June with periodic smaller inspections and checks as needed. Last inspection: June 6, 2020.
H-8 1995 Mack RD690S Dump Truck Spread Mix	Highway Department	Craig Hughes, Superintendent of Streets, Highway Department, 508-785-0058	Inspected/calibrated a minimum of once per year in June with periodic smaller inspections and checks as needed. Last inspection: June 6, 2020.
H-22 1997 Volvo – Auto Car	Highway Department	Craig Hughes, Superintendent of Streets, Highway Department, 508-785-0058	Inspected/calibrated a minimum of once per year in June with periodic smaller inspections and checks as needed. Last inspection: June 6, 2020.
1998 Samsung – Front End Loader Model #1802	Highway Department	Craig Hughes, Superintendent of Streets, Highway Department, 508-785-0058	Inspected/calibrated a minimum of once per year in June with periodic smaller inspections and checks as needed. Last inspection: June 6, 2020.
H-4 2002 Mack – Dump Truck	Highway Department	Craig Hughes, Superintendent of Streets, Highway Department, 508-785-0058	Inspected/calibrated a minimum of once per year in June with periodic smaller inspections and checks as needed. Last inspection: June 6, 2020.
2003 John Deere – Backhoe Loader 310C	Highway Department	Craig Hughes, Superintendent of Streets, Highway Department, 508-785-0058	Inspected/calibrated a minimum of once per year in June with periodic smaller inspections and checks as needed. Last inspection: June 6, 2020.

2006 Ford F350 Pickup Snow Removal	Highway Department	Craig Hughes, Superintendent of Streets, Highway Department, 508-785-0058	Inspected/calibrated a minimum of once per year in June with periodic smaller inspections and checks as needed. Last inspection: June 6, 2020.
2007 Sullair – Air Compressor	Highway Department	Craig Hughes, Superintendent of Streets, Highway Department, 508-785-0058	Inspected/calibrated a minimum of once per year in June with periodic smaller inspections and checks as needed. Last inspection: June 6, 2020.
2008 Caterpillar – Loader	Highway Department	Craig Hughes, Superintendent of Streets, Highway Department, 508-785-0058	Inspected/calibrated a minimum of once per year in June with periodic smaller inspections and checks as needed. Last inspection: June 6, 2020.
2011 Ford F250 Snow Removal	Highway Department	Craig Hughes, Superintendent of Streets, Highway Department, 508-785-0058	Inspected/calibrated a minimum of once per year in June with periodic smaller inspections and checks as needed. Last inspection: June 6, 2020.
2013 Elgin Pelican Street Sweeper	Highway Department	Craig Hughes, Superintendent of Streets, Highway Department, 508-785-0058	Inspected/calibrated a minimum of once per year in June with periodic smaller inspections and checks as needed. Last inspection: June 6, 2020.
H 3 2014 Slide in Sander Spread Mix	Highway Department	Craig Hughes, Superintendent of Streets, Highway Department, 508-785-0058	Inspected/calibrated a minimum of once per year in June with periodic smaller inspections and checks as needed. Last inspection: June 6, 2020.
H-16 2015 Ford F450 Snow Removal	Highway Department	Craig Hughes, Superintendent of Streets, Highway Department, 508-785-0058	Inspected/calibrated a minimum of once per year in June with periodic smaller inspections and checks as needed. Last inspection: June 6, 2020.
H-23 2015 Trackless Sidewalk Plow Snow Removal	Highway Department	Craig Hughes, Superintendent of Streets, Highway Department, 508-785-0058	Inspected/calibrated a minimum of once per year in June with periodic smaller inspections and checks as needed. Last inspection: June 6, 2020.
H 16 2016 Ford DRWSUP Snow Removal	Highway Department	Craig Hughes, Superintendent of Streets, Highway Department, 508-785-0058	Inspected/calibrated a minimum of once per year in June with periodic smaller inspections and checks as needed. Last inspection: June 6, 2020.
H-4 2016 Slide in Sander Spread Mix	Highway Department	Craig Hughes, Superintendent of Streets, Highway Department, 508-785-0058	Inspected/calibrated a minimum of once per year in June with periodic smaller inspections and checks as needed. Last inspection: June 6, 2020.
2019 Stalker – MM10690 Message Board	Highway Department	Craig Hughes, Superintendent of Streets, Highway Department, 508-785-0058	Inspected/calibrated a minimum of once per year in June with periodic smaller inspections and checks as needed. Last inspection: June 6, 2020.
1979 John Deere – 850S Tractor	Parks & Recreation Department	Craig Hughes, Superintendent of Streets, Highway Department, 508-785-0058	Inspected/calibrated a minimum of once per year at the beginning of the respective season of high usage with periodic smaller inspections and checks as needed.
2011 Ford – F350	Parks & Recreation Department	Craig Hughes, Superintendent of Streets, Highway Department, 508-785-0058	Inspected/calibrated a minimum of once per year at the beginning of the respective season of high usage with periodic smaller inspections and checks as needed.
2014 Ford – Explorer	Parks & Recreation Department	Craig Hughes, Superintendent of Streets, Highway Department, 508-785-0058	Inspected/calibrated a minimum of once per year at the beginning of the respective season of high usage with periodic smaller inspections and checks as needed.

2017 Bri-Mar – Utility Trailer	Parks & Recreation Department	Craig Hughes, Superintendent of Streets, Highway Department, 508-785-0058	Inspected/calibrated a minimum of once per year at the beginning of the respective season of high usage with periodic smaller inspections and checks as needed.
2013 John Deere – Utility XUV	Cemetery Department	Craig Hughes, Superintendent of Streets, Highway Department, 508-785-0058	Inspected/calibrated a minimum of once per year at the beginning of the respective season of high usage with periodic smaller inspections and checks as needed.
2016 Ford – F350	Cemetery Department	Craig Hughes, Superintendent of Streets, Highway Department, 508-785-0058	Inspected/calibrated a minimum of once per year at the beginning of the respective season of high usage with periodic smaller inspections and checks as needed.
2016 Ford Explorer Interceptor	Police Department	Peter McGowan, Police Chief, Police Department, 508-785-1130	Inspected a minimum of once per year.
2016 Ford Explorer	Police Department	Peter McGowan, Police Chief, Police Department, 508-785-1130	Inspected a minimum of once per year.
2017 Ford Explorer	Police Department	Peter McGowan, Police Chief, Police Department, 508-785-1130	Inspected a minimum of once per year.
2017 Ford Explorer	Police Department	Peter McGowan, Police Chief, Police Department, 508-785-1130	Inspected a minimum of once per year.
2019 Ford Explorer	Police Department	Peter McGowan, Police Chief, Police Department, 508-785-1130	Inspected a minimum of once per year.
2016 Chevy Impala	Police Department	Peter McGowan, Police Chief, Police Department, 508-785-1130	Inspected a minimum of once per year.
2016 Ford Fusion	Police Department	Peter McGowan, Police Chief, Police Department, 508-785-1130	Inspected a minimum of once per year.
1984 International Pumper SQ. 2	Fire Department	Craig Hughes, Fire Chief, Fire Department, 508-785-0058	Inspected/calibrated a minimum of once per year in June. Last inspection: June 6, 2020.
1987 Ford – Attack Pumper Fire Truck SQ. 1	Fire Department	Craig Hughes, Fire Chief, Fire Department, 508-785-0058	Inspected/calibrated a minimum of once per year in June. Last inspection: June 6, 2020.
1989 Pierce – Lance Fire Truck Engine #1	Fire Department	Craig Hughes, Fire Chief, Fire Department, 508-785-0058	Inspected/calibrated a minimum of once per year in June. Last inspection: June 6, 2020.
1990 Pierce – Pumper Engine #3	Fire Department	Craig Hughes, Fire Chief, Fire Department, 508-785-0058	Inspected/calibrated a minimum of once per year in June. Last inspection: June 6, 2020.

1997 Dodge – Truck Red 250	Fire Department	Craig Hughes, Fire Chief, Fire Department, 508-785-0058	Inspected/calibrated a minimum of once per year in June. Last inspection: June 6, 2020.
1999 Mack – Pumper Tanker Truck	Fire Department	Craig Hughes, Fire Chief, Fire Department, 508-785-0058	Inspected/calibrated a minimum of once per year in June. Last inspection: June 6, 2020.
2006 EZ Loader – 800 Boat Trailer	Fire Department	Craig Hughes, Fire Chief, Fire Department, 508-785-0058	Inspected/calibrated a minimum of once per year in June. Last inspection: June 6, 2020.
2007 Ford – E450 Ambulance	Fire Department	Craig Hughes, Fire Chief, Fire Department, 508-785-0058	Inspected/calibrated a minimum of once per year in June. Last inspection: June 6, 2020.
2009 KME – Tanker	Fire Department	Craig Hughes, Fire Chief, Fire Department, 508-785-0058	Inspected/calibrated a minimum of once per year in June. Last inspection: June 6, 2020.
2013 KME – Fire Truck	Fire Department	Craig Hughes, Fire Chief, Fire Department, 508-785-0058	Inspected/calibrated a minimum of once per year in June. Last inspection: June 6, 2020.
2017 John Deere - 825129	Fire Department	Craig Hughes, Fire Chief, Fire Department, 508-785-0058	Inspected/calibrated a minimum of once per year in June. Last inspection: June 6, 2020.
2018 Aluma – Utility Trailer	Fire Department	Craig Hughes, Fire Chief, Fire Department, 508-785-0058	Inspected/calibrated a minimum of once per year in June. Last inspection: June 6, 2020.
2018 Ford – Expedition	Fire Department	Craig Hughes, Fire Chief, Fire Department, 508-785-0058	Inspected/calibrated a minimum of once per year in June. Last inspection: June 6, 2020.
2013 Ford – Transit Van	Animal Control	Lori Sallee, Animal Control Officer, Police Department, 508-785-1130	Inspected a minimum of once per year.
2008 Hallmark - Trailer	Board of Health	Mike Angieri, Septic Agent, Board of Health, 508-785-0032 ext. 232	Inspected a minimum of once per year.
1990 Trailer - Generator	Water Department	Karl Warnick, Superintendent of Building Maintenance, Building Maintenance Dept., 508-785-0032 ext. 235	Inspected a minimum of once per year.

ATTACHMENT N

INFRASTRUCTURE OPERATIONS AND MAINTENANCE PROCEDURES

SOP: CATCH BASIN INSPECTION AND CLEANING

Introduction

Catch basins help minimize flooding and protect water quality by removing trash, sediment, decaying debris, and other solids from stormwater runoff. These materials are retained in a sump below the invert of the outlet pipe. Catch basin cleaning reduces foul odors, prevents clogs in the storm drain system, and reduces the loading of suspended solids, nutrients, and bacteria to receiving waters.

During regular cleaning and inspection procedures, data can be gathered related to the condition of the physical basin structure and its frame and grate and the quality of stormwater conveyed by the structure. Observations such as the following can indicate sources of pollution within the storm drain system:

- Oil sheen
- Discoloration
- Trash and debris

Both bacteria and petroleum can create a sheen on the water surface. The source of the sheen can be differentiated by disturbing it, such as with a pole. A sheen caused by an oil will remain intact and move in a swirl pattern; a sheen caused by bacteria will separate and appear "blocky". Bacterial sheen is not a pollutant but should be noted.

Observations such as the following can indicate a potential connection of a sanitary sewer to the storm drain system, which is an illicit discharge.

- Indications of sanitary sewage, including fecal matter or sewage odors
- Foaming, such as from detergent
- Optical enhancers, fluorescent dye added to laundry detergent

Each catch basin should be cleaned and inspected at least annually. Catch basins in high-use areas may require more frequent cleaning. Performing street sweeping on an appropriate schedule will reduce the amount of sediment, debris, and organic matter entering the catch basins, which will in turn reduce the frequency with which structures need to be cleaned.

Cleaning Procedure

Catch basin inspection cleaning procedures should address both the grate opening and the basin's sump. Document any and all observations about the condition of the catch basin structure and water quality on the Catch Basin Inspection Form (attached).

Catch basin inspection and cleaning procedures include the following:

1. Work upstream to downstream.
2. Clean sediment and trash off grate.

3. Visually inspect the outside of the grate.
4. Visually inspect the inside of the catch basin to determine cleaning needs.
5. Inspect catch basin for structural integrity.
6. Determine the most appropriate equipment and method for cleaning each catch basin.
    a. Manually use a shovel to remove accumulated sediments, or
    b. Use a bucket loader to remove accumulated sediments, or
    c. Use a high pressure washer to clean any remaining material out of catch basin while capturing the slurry with a vacuum.
    d. If necessary, after the catch basin is clean, use the rodder of the vacuum truck to clean downstream pipe and pull back sediment that might have entered downstream pipe.
7. If contamination is suspected, chemical analysis will be required to determine if the materials comply with the Massachusetts DEP Hazardous Waste Regulations, 310 CMR 30.000 (http://www.mass.gov/dep/service/regulations/310cmr30.pdf). Chemical analysis required will depend on suspected contaminants. Note the identification number of the catch basin on the sample label, and note sample collection on the Catch Basin Inspection Form.
8. Properly dispose of collected sediments. See following section for guidance.
9. If fluids collected during catch basin cleaning are not being handled and disposed of by a third party, dispose of these fluids to a sanitary sewer system, with permission of the system operator.
10. If illicit discharges are observed or suspected, notify the Highway Department.
11. At the end of each day, document location and number of catch basins cleaned, amount of waste collected, and disposal method for all screenings.
12. Report additional maintenance or repair needs to the Highway Department.

Disposal of Screenings

Catch basin cleanings from storm water-only drainage systems may be disposed at any landfill that is permitted by MassDEP to accept solid waste. MassDEP does not routinely require stormwater-only catch basin cleanings to be tested before disposal, unless there is evidence that they have been contaminated by a spill or some other means.

Screenings may need to be placed in a drying bed to allow water to evaporate before proper disposal. In this case, ensure that the screenings are managed to prevent pollution.

Attachments

1. Catch Basin Inspection Form

Job No.: _____ **Town:** _____

Inspector: _____ **Date:** _____

CATCH BASIN INSPECTION FORM

Catch Basin I.D.	_____	**Final Discharge from Structure?** Yes ☐ No ☐ **If Yes, Discharge to Outfall No:**_____	
Catch Basin Label:	**Stencil** ☐ **Ground Inset** ☐ **Sign** ☐ **None** ☐ **Other**_____		
Basin Material:	Concrete ☐ Corrugated metal ☐ Stone ☐ Brick ☐ Other: _____ ☐	**Catch Basin Condition:**	Good ☐ Poor ☐ Fair ☐ Crumbling ☐
Pipe Material:	Concrete ☐ HDPE ☐ PVC ☐ Clay Tile ☐ Other:_____	**Pipe Measurements:**	Inlet Dia. (in): d= ____ Outlet Dia. (in): D= ____

Required Maintenance/ Problems (check all that apply):

- ☐ Tree Work Required
- ☐ New Grate is Required
- ☐ Pipe is Blocked
- ☐ Frame Maintenance is Required
- ☐ Remove Accumulated Sediment
- ☐ Pipe Maintenance is Required
- ☐ Basin Undermined or Bypassed
- ☐ Cannot Remove Cover
- ☐ Ditch Work
- ☐ Corrosion at Structure
- ☐ Erosion Around Structure
- ☐ Remove Trash & Debris
- ☐ Need Cement Around Grate

Other: _____

Catch Basin Grate Type :	**Sediment Buildup Depth :**	**Description of Flow:**	**Street Name/ Structure Location:**
Bar: ☐ Cascade: ☐ Other:_____ Properly Aligned: Yes ☐ No ☐	0-6 (in): _____ 6-12(in): _____ 12-18 (in): _____ 18-24 (in): _____ 24 + (in): _____	Heavy ☐ Moderate ☐ Slight ☐ Trickling ☐	

***If the outlet is submerged check yes and indicate approximate height of water above the outlet invert.** h above invert (in):___ Yes ☐ No ☐

☐ **Flow**

☐ **Standing Water**

(check one or both)

Observations:

Color:

Odor:

Weather Conditions : Dry > 24 hours ☐ Wet ☐

Sample of Screenings Collected for Analysis? Yes ☐ No ☐

Comments:

Circle those present:

Foam	Oil Sheen
Sanitary Waste	Bacterial Sheen
Orange Staining	Floatables
Excessive sediment	Pet Waste
Other:_____	Optical Enhancers

SOP: INSPECTING CONSTRUCTED BEST MANAGEMENT PRACTICES

Best Management Practices (BMPs) are policies, procedures and structures designed to reduce stormwater pollution, prevent contaminant discharges to natural water bodies, and reduce stormwater facility maintenance costs. Constructed BMPs are permanent site features designed to treat stormwater before infiltrating it to the subsurface or discharging it to a surface water body.

This Standard Operating Procedure provides a general summary of inspection procedures for eight common constructed BMPs, including:

1. Bioretention Areas and Rain Gardens
2. Constructed Stormwater Wetlands
3. Extended Dry Detention Basins
4. Proprietary Media Filters
5. Sand and Organic Filters
6. Wet Basins
7. Dry Wells
8. Infiltration Basins

This SOP is based on the Massachusetts Stormwater Handbook and is not intended to replace that document. This SOP is also not intended to replace the Stormwater BMP Operation and Maintenance (O&M) Plan required by the Massachusetts Wetlands Protection Act, Order of Conditions.

Bioretention Areas and Rain Gardens

Bioretention areas and rain gardens are shallow depressions filled with sandy soil, topped with a thick layer of mulch and planted with dense native vegetation. There are two types of bioretention cells:

1. Filtering bioretention area: Areas that are designed solely as an organic filter; and
2. Exfiltration bioretention area: Areas that are configured to recharge groundwater in addition to acting as a filter.

Inspection & Maintenance

Regular inspection and maintenance are important to prevent against premature failure of bioretention areas or rain gardens. Regular inspection and maintenance of pretreatment devices and bioretention cells for sediment buildup, structural damage and standing water can extend the life of the soil media.

Maintenance Schedule: Bioretention Areas and Rain Gardens

Activity	Time of Year	Frequency
Inspect for soil erosion and repair	Year round	Monthly
Inspect for invasive species and remove if present	Year round	Monthly
Remove trash	Year round	Monthly
Mulch Void Areas	Spring	Annually
Remove dead vegetation	Fall and Spring	Bi-Annually
Replace dead vegetation	Spring	Annually
Prune	Spring or Fall	Annually
Replace all media and vegetation	Late Spring/Early Summer	As Needed

When failure is discovered, excavate the bioretention area, scarify the bottom and sides, replace the filter fabric and soil, replant vegetation and mulch the surface.

Never store snow within a bioretention area or rain garden. This would prevent required water quality treatment and the recharge of groundwater.

Constructed Stormwater Wetlands

Constructed stormwater wetlands maximize the pollutant removal from stormwater through the use of wetland vegetation uptake, retention and settling. Constructed storm water wetlands must be used in conjunction with other BMPs, such as sediment forebays.

Inspection & Maintenance

Regular inspection and maintenance are important to prevent against premature failure of bioretention areas or rain gardens. Regular inspection and maintenance of pretreatment devices and bioretention cells for sediment buildup, structural damage and standing water can extend the life of the soil media.

Maintenance Schedule, Constructed Stormwater Wetlands: Years 0-3

Activity	Time of Year	Frequency
Inspect for invasive species and remove if present	Year round	Monthly
Record and Map:	Year round	Annually
Types and distribution of dominant wetland plants	Year round	Bi-Annually
Presence and distribution of planted wetland species	Spring	Annually
Presence and distribution of invasive species	Fall and Spring	Bi-Annually
Indications other species are replacing planted wetland species	Spring	Annually
Percent of standing water that is not vegetated	Spring or Fall	Annually

Replace all media and vegetation	Late Spring/Early Summer	As Needed
Stability of original depth zones and micro-topographic features		
Accumulation of sediment in the forebay and micropool and survival rate of plants		

Maintenance Schedule, Constructed Stormwater Wetlands: Years 4-Lifetime

Activity	Time of Year	Frequency
Inspect for invasive species and remove if present	Year round	Monthly
Clean forebays	Year round	Annually
Clean sediment in basin/wetland system	Year round	Once every 10 years
Mulch Void Areas	Spring	Annually
Remove dead vegetation	Fall and Spring	Bi-Annually
Replace dead vegetation	Spring	Annually
Prune	Spring or Fall	Annually
Replace all media and vegetation	Late Spring/Early Summer	As Needed

When failure is discovered, excavate the bioretention area, scarify the bottom and sides, replace the filter fabric and soil, replant vegetation and mulch the surface.

Never store snow within a constructed stormwater wetland. This would prevent required water quality treatment and the recharge of groundwater.

Extended Dry Detention Basins

Extended dry detention basins are designed to control both stormwater quantity and quality. These BMPs are designed to hold stormwater for at least 24 hours, allowing solids to settle and to reduce local and downstream flooding. Pretreatment is required to reduce the potential for overflow clogging. The outflow may be designed as either fixed or adjustable. Additional nutrient removal may be achieved by a micropool or shallow marsh.

Inspection & Maintenance

Annual inspection of extended dry detention basins is required to ensure that the basins are operating properly. Potential problems include: erosion within the basin and banks, tree growth on the embankment, damage to the emergency spillway and sediment accumulation around the outlet. Should any of these problems be encountered, necessary repairs should be made immediately.

Maintenance Schedule: Extended Dry Detention Basins

Activity	Time of Year	Frequency
Inspect basins	Spring and Fall	Bi-Annually, and during and after major storms
Examine outlet structure for clogging or high outflow release velocities	Spring and Fall	Bi-Annually
Mow upper stage, side slopes, embankment and emergency spillway	Spring through Fall	Bi-Annually
Remove trash and debris	Spring	Bi-Annually
Remove sediment from basin	Year round	At least once every 5 years

Proprietary Media Filters

Media Filters are designed to reduce total suspended solids and other target pollutants, such as organics, heavy metals or nutrients, which are sorbed onto the filter media, which is contained in a concrete structure. The substrate used as filter media depends on the target pollutants, and may consist of leaf compost, pleated fabric, activated charcoal, perlite, amended sand in combination with perlite, and zeolite. Two types of Media Filters are manufactured: Dry Media Filters, which are designed to dewater within 72 hours; and Wet Media Filters, which maintain a permanent pool of water as part of the treatment system.

Inspection & Maintenance

Maintenance in accordance with the manufacturer's requirements is necessary to ensure stormwater treatment. Inspection or maintenance of the concrete structure may require OSHA confined space training. Dry Media Filters are required to dewater in 72 hours, thus preventing mosquito and other insect breeding. Proper maintenance is essential to prevent clogging. Wet Media Filters require tight fitting seals to keep mosquitoes and other insects from entering and breeding in the permanent pools. Required maintenance includes routine inspection and treatment.

Maintenance Schedule: Proprietary Media Filters

Activity	Time of Year	Frequency
Inspect for standing water, trash, sediment and clogging	Per manufacturer's schedule	Bi-Annually (minimum)
Remove trash and debris	N/A	Each Inspection
Examine to determine if system drains in 72 hours	Spring, after large storm	Annually
Inspect filtering media for clogging	Per manufacturer's schedule	Per manufacturer's schedule

Sand and Organic Filters

Sand and organic filters, also known as filtration basins, are intended for quality control rather than quantity control. These filters improve water quality by removing pollutants through a filtering media and settling pollutants on top of the sand bed and/or in a pretreatment basin. Pretreatment is required to prevent filter media from clogging. Runoff from the filters is typically discharged to another BMP for additional treatment.

Inspection & Maintenance

If properly maintained, sand and organic filters have a long design life. Maintenance requirements include raking the sand and removing sediment, trash and debris from the surface of the BMP. Over time, fine sediments will penetrate deep into the sand requiring replacement of several inches or the entire sand layer. Discolored sand is an indicator of the presence of fine sediments, suggesting that replacement of the sand should be completed.

Maintenance Schedule: Proprietary Media Filters

Activity	Frequency
Inspect filters and remove debris	After every major storm for the first 3 months after construction completion. Every 6 months thereafter.

Wet Basins

Wet basins are intended to treat stormwater quality through the removal of sediments and soluble pollutants. A permanent pool of water allows sediments to settle and removes the soluble pollutants, including some metals and nutrients. Additional dry storage is required to control peak discharges during large storm events, and if properly designed and maintained wet basins can add fire protection, wildlife habitat and aesthetic values to a property.

Inspection & Maintenance

To ensure proper operation, wet basin outfalls should be inspected for evidence of clogging or excessive outfall releases. Potential problems to investigate include erosion within the basin and banks, damage to the emergency spillway, tree growth on the embankment, sediment accumulation around the outlet and the emergence of invasive species. Should any of these problems be encountered, perform repairs immediately. An on-site sediment disposal area will reduce sediment removal costs.

Maintenance Schedule: Wet Basins

Activity	Time of Year	Frequency
Inspect wet basins	Spring and/or Fall	Annually (Minimum)

Mow upper stage, side slopes, embankment and emergency spillway	Spring through Fall	Bi-Annually (Minimum)
Remove sediment, trash and debris	Spring through Fall	Bi-Annually (Minimum)
Remove sediment from basin	Year round	As required, but at least once every 10 years

Dry Wells

Dry wells are used to infiltrate uncontaminated runoff. These BMPs should never be used to infiltrate stormwater or runoff that has the potential to be contaminated with sediment and other pollutants. Dry wells provide groundwater recharge and can reduce the size and cost required of downstream BMPs or storm drains. However, they are only applicable in drainage areas of less than one acre and may experience high failure rates due to clogging.

Inspection & Maintenance

Proper dry well function depends on regular inspection. Clogging has the potential to cause high failure rates. The water depth in the observation well should be measured at 24 and 48 hour intervals after a storm and the clearance rate calculated. The clearance rate is calculated by dividing the drop in water level (inches) by the time elapsed (hours).

Maintenance Schedule: Dry Wells

Activity	Frequency
Inspect dry wells	After every major storm for the first 3 months after construction completion. Annually thereafter.

Infiltration Basins

Infiltration basins are designed to contain stormwater quantity and provide groundwater recharge. Pollution prevention and pretreatment are required to ensure that contaminated stormwater is not infiltrated. Infiltration basins reduce local flooding and preserve the natural water balance of the site, however high failure rates often occur due to improper siting, inadequate pretreatment, poor design and lack of maintenance.

Inspection & Maintenance

Regular maintenance is required to prevent clogging, which results in infiltration basin failure. Clogging may be due to upland sediment erosion, excessive soil compaction or low spots. Inspections should include signs of differential settlement, cracking, erosion, leakage in the embankments, tree growth on the embankments, riprap condition, sediment accumulation and turf health.

Maintenance Schedule: Infiltration Basins

Activity	Time of Year	Frequency
Preventative maintenance	Spring and Fall	Bi-Annually
Inspection	Spring and Fall	After every major storm for the first 3 months after construction completion. Bi-annually thereafter and discharges through the high outlet orifice.
Mow/rake buffer area, side slopes and basin bottom	Spring and Fall	Bi-Annually
Remove trash, debris and organic matter	Spring and Fall	Bi-Annually

INSPECTION OF BIORETENTION AREAS / RAIN GARDENS

General Information

BMP Description	Bioretention Area / Rain Garden		
BMP Location			
Inspector's Name			
Date of Inspection		Date of Last Inspection	
Start Time		End Time	
Type of Inspection: Regular ☐ Pre-Storm Event ☐ During Storm Event ☐ Post-Storm Event ☐			
Describe the weather conditions at time of inspection			

Specific Information

Maintenance Activity	Maintenance Frequency	Is Status of BMP Satisfactory?	Corrective Action Needed
Inspect for soil erosion and repair	Monthly	Yes ☐ No ☐	
Inspect for invasive species and remove if present	Monthly	Yes ☐ No ☐	
Remove trash	Monthly	Yes ☐ No ☐	
Mulch void areas	Annually	Yes ☐ No ☐	
Remove dead vegetation	Bi-Annually	Yes ☐ No ☐	
Replace dead vegetation	Annually	Yes ☐ No ☐	
Prune	Annually	Yes ☐ No ☐	
Replace all media and vegetation	As Needed	Yes ☐ No ☐	

INSPECTION OF CONSTRUCTED STORMWATER WETLANDS
Years 0-3 of Operation

General Information

BMP Description	Constructed Stormwater Wetland		
BMP Location			
Inspector's Name			
Date of Inspection		Date of Last Inspection	
Start Time		End Time	
Type of Inspection: Regular ☐ Pre-Storm Event ☐ During Storm Event ☐ Post-Storm Event ☐			
Describe the weather conditions at time of inspection			

Specific Information

Maintenance Activity	Maintenance Frequency	Is Status of BMP Satisfactory?	Corrective Action Needed
Inspect for invasive species and remove if present	Monthly	Yes ☐ No ☐	
Replace all media and vegetation	As Needed	Yes ☐ No ☐	

In addition, the following information should be recorded and mapped at least once per year:

- Types and distribution of dominant wetland plants
- Presence and distribution of planted wetland species
- Presence and distribution of invasive species
- Indications other species are replacing planted wetland species
- Percent of standing water that is not vegetated
- Replace all media and vegetation
- Stability of original depth zones and micro-topographic features
- Accumulation of sediment in the forebay and micropool and survival rate of plants

INSPECTION OF CONSTRUCTED STORMWATER WETLANDS
Year 4 - Lifetime of Operation

General Information

BMP Description	Constructed Stormwater Wetland		
BMP Location			
Inspector's Name			
Date of Inspection		Date of Last Inspection	
Start Time		End Time	
Type of Inspection: Regular ☐ Pre-Storm Event ☐ During Storm Event ☐ Post-Storm Event ☐			
Describe the weather conditions at time of inspection			

Specific Information

Maintenance Activity	Maintenance Frequency	Is Status of BMP Satisfactory?	Corrective Action Needed
Inspect for invasive species and remove if present	Monthly	Yes ☐ No ☐	
Clean forebays	Annually	Yes ☐ No ☐	
Clean sediment in basin/wetland system	Once every 10 years	Yes ☐ No ☐	
Mulch void areas	Annually	Yes ☐ No ☐	
Remove dead vegetation	Bi-Annually	Yes ☐ No ☐	
Replace dead vegetation	Annually	Yes ☐ No ☐	
Prune	Annually	Yes ☐ No ☐	
Replace all media and vegetation	As Needed	Yes ☐ No ☐	

INSPECTION OF EXTENDED DRY DETENTION BASINS

Inspections should be conducted bi-annually, and during and after major storm events.

General Information

BMP Description	Extended Dry Detention Basin		
BMP Location			
Inspector's Name			
Date of Inspection		Date of Last Inspection	
Start Time		End Time	
Type of Inspection: Regular ☐ Pre-Storm Event ☐ During Storm Event ☐ Post-Storm Event ☐			
Describe the weather conditions at time of inspection			

Specific Information

Maintenance Activity	Maintenance Frequency	Is Status of BMP Satisfactory?	Corrective Action Needed
Examine outlet structure for clogging or high outflow release velocities	Bi-Annually	Yes ☐ No ☐	
Mow upper stage, side slopes, embankment and emergency spillway	Bi-Annually	Yes ☐ No ☐	
Remove trash and debris	Bi-Annually	Yes ☐ No ☐	
Remove sediment from basin	At least once every 5 years	Yes ☐ No ☐	

INSPECTION OF PROPRIETARY MEDIA FILTERS

General Information

BMP Description	Media Filter		
BMP Location			
Media Type			
Inspector's Name			
Date of Inspection		Date of Last Inspection	
Start Time		End Time	
Type of Inspection: Regular ☐ Pre-Storm Event ☐ During Storm Event ☐ Post-Storm Event ☐			
Describe the weather conditions at time of inspection			

Specific Information

Maintenance Activity	Maintenance Frequency	Is Status of BMP Satisfactory?	Corrective Action Needed
Inspect for standing water, trash, sediment and clogging	Bi-Annually (minimum)	Yes ☐ No ☐	
Remove trash and debris	Each Inspection	Yes ☐ No ☐	
Examine to determine if system drains in 72 hours	Annually	Yes ☐ No ☐	
Inspect filtering media for clogging	Per manufacturer's schedule	Yes ☐ No ☐	

INSPECTION OF SAND AND ORGANIC FILTERS

Inspections should be conducted after every major storm event for the first 3 months following completion, then every 6 months thereafter.

General Information

BMP Description	Sand/Organic Filter		
BMP Location			
Media Type			
Inspector's Name			
Date of Inspection		Date of Last Inspection	
Start Time		End Time	
Type of Inspection: Regular ☐ Pre-Storm Event ☐ During Storm Event ☐ Post-Storm Event ☐			
Describe the weather conditions at time of inspection			

Specific Information

Maintenance Activity	Maintenance Frequency	Is Status of BMP Satisfactory?	Corrective Action Needed
Remove sediment, trash, and debris	Every 6 months	Yes ☐ No ☐	
Rake sand	Every 6 months	Yes ☐ No ☐	

INSPECTION OF DRY WELLS

Regular inspections should be conducted after every major storm event for the first 3 months following completion, then annually thereafter.

General Information

BMP Description	Dry Well		
BMP Location			
Inspector's Name			
Date of Inspection		Date of Last Inspection	
Start Time		End Time	
Type of Inspection: Regular ☐ Pre-Storm Event ☐ During Storm Event ☐ Post-Storm Event ☐			
Describe the weather conditions at time of inspection			
Describe condition of dry well at time of inspection			

After a major storm event, the water depth in the observation well should be measured at 24 and 48 hour intervals and the clearance rate calculated.

INSPECTION OF WET BASINS

Inspections should be conducted after every major storm event for the first 3 months following completion, then biannually thereafter.

General Information

BMP Description	Wet Basin		
BMP Location			
Inspector's Name			
Date of Inspection		Date of Last Inspection	
Start Time		End Time	
Type of Inspection: Regular ☐ Pre-Storm Event ☐ During Storm Event ☐ Post-Storm Event ☐			
Describe the weather conditions at time of inspection			
Describe condition of wet basin at time of inspection			

Specific Information

Maintenance Activity	Maintenance Frequency	Is Status of BMP Satisfactory?	Corrective Action Needed
Preventative maintenance	Bi-Annually	Yes ☐ No ☐	
Mow/rake buffer area, side slopes and basin bottom	Bi-Annually	Yes ☐ No ☐	
Remove trash, debris and organic matter	Bi-Annually	Yes ☐ No ☐	
Inspect and clean pretreatment devices	Every other month and after every major storm event	Yes ☐ No ☐	

INSPECTION OF OTHER BMP

General Information

BMP Description			
BMP Location			
Inspector's Name			
Date of Inspection		Date of Last Inspection	
Start Time		End Time	
Type of Inspection: Regular ☐ Pre-Storm Event ☐ During Storm Event ☐ Post-Storm Event ☐			
Describe the weather conditions at time of inspection			

Specific Information

Maintenance Activity	Maintenance Frequency	Is Status of BMP Satisfactory?	Corrective Action Needed
		Yes ☐ No ☐	
		Yes ☐ No ☐	
		Yes ☐ No ☐	
		Yes ☐ No ☐	
		Yes ☐ No ☐	
		Yes ☐ No ☐	
		Yes ☐ No ☐	

ATTACHMENT O

STREET SWEEPING PROGRAM SOP

STANDARD OPERATING PROCEDURE
DOVER HIGHWAY DEPARTMENT
DOVER, MASSACHUSETTS

PROGRAM:
Sweeping Streets and Parking Lots

Issue Date:

6-27-2019

Approved by:

Craig S. Hughes_____
Superintendent of Streets

Purpose of SOP:

Procedures for the operation and maintenance of street sweepers, frequency of sweeping, disposal of debris, and recordkeeping to prevent pollution from entering the stormwater sewer systems.

Equipment Inventory:

The following is a list of street sweeping equipment:

Equipment Number	Make	Description	Sweeper Speed (or other notes)
	Elgin Pelican	Street Sweeper	15 MPH

Operations

1. Operate all sweepers and equipment according to the manufacturer's recommended settings, standards, and procedures.
2. While sweeping, drive between the optimal sweeping speed limit, as recorded in the equipment list above.
3. Sweeping will not take place during significant rainfall events.
4. If spills occur or illegal discharges are seen, report to Craig Hughes, Superintendent of Streets at 508-785-0058.

Maintenance

1. Sweepers will be checked for leaks after every use. Immediately contain and properly clean up any spills.
2. Regular preventative maintenance to prolong equipment use (such as greasing moving parts and minor adjustments) occurs weekly.
3. Parts are replaced immediately upon need. Brushes are replaced once per month.
4. Equipment is washed at Highway Department Garage wash bay located at 2 Dedham Street to trap grease, oils and sediment.
5. The left-over debris is scraped out from the hopper after every debris dump.

STANDARD OPERATING PROCEDURE
DOVER HIGHWAY DEPARTMENT
DOVER, MASSACHUSETTS

PROGRAM:
Sweeping Streets and Parking Lots

Issue Date:

6-27-2019

Schedule

1. Street sweeping will primarily take place between the months of March and December.

2. All streets with curbing and/or catch basins shall be swept a minimum of twice per year: once in the spring (following winter activities such as sanding) and once in the fall. Priority streets are swept first followed by secondary streets. See list of priority roads below.

3. Priority roads and parking lots are identified on the basis of pollutant load reduction potential, based on inspections, pollutant loads, catch basin cleaning or inspection results, land use, impaired or TMDL waters or other relevant factors. These roads and parking lots are listed below and will be swept more frequently than secondary roads.

Priority Road/ Parking Lot Name	**Frequency of Sweeping**
Main Street	Min. 2-3 times annually
Farm Street	Min. 2-3 times annually
Walpole Street	Min. 2-3 times annually
Centre Street	Min. 2-3 times annually
Dedham Street	Min. 2-3 times annually
Hartford Street	Min. 2-3 times annually
County Street	Min. 2-3 times annually
Springdale Avenue	Min. 2-3 times annually
Claybrook Road	Min. 2-3 times annually
Pine Street	Min. 2-3 times annually
Parking Lots	**Frequency of Sweeping**
Town Hall	6+ times annually
Police & Fire Department	6+ times annually
Community Center	6+ times annually
Chickering Elementary School	6+ times annually
Highway Department	6+ times annually

- *The list of priority roads and parking lots will be reassessed every 3 months.*

4. The sweeping schedule is assessed every 3 months and updated as necessary.

5. A map of town roads and parking lots is located at the Highway Department Garage.

6. Events/activities that require special sweeping are Old Town Day, Elections, and Memorial Day exercises.

Storage and Disposal

1. Temporary storage of solid sweeping debris is on an impervious surface that is protected from runoff. The storage location is the Highway Department Garage.

2. Solid sweeping debris is brought to Lorusso Corp. – Plainville, MA for permanent disposal. Debris is permanently disposed of once per week.

3. Weighing process: The amount of solid sweeping debris will be weighed using the scale at the disposal facility.

Training

1. Employees are trained annually on this procedure and the proper operation of equipment. Employees are also trained on stormwater pollution prevention, spill and response, and illicit discharge detection and elimination procedures.

Record Keeping

1. Records are kept at the Highway Department Garage.

2. Weight of solid debris is measured at the disposal facility and tracked at the Highway Department Office.

3. The number of curb miles swept per week is calculated weekly.

4. A list of employees implementing the SOPs and the completion of their training(s) can be found at the Highway Department Garage.

Revising the SOPs

1. These procedures are reviewed annually and updated as needed.

ATTACHMENT P

WINTER ROAD MAINTENANCE PROGRAM SOP

STANDARD OPERATING PROCEDURE
DOVER HIGHWAY DEPARTMENT
DOVER, MASSACHUSETTS

PROGRAM:
Winter Road Maintenance

ISSUE DATE:

6-27-2019

APPROVED BY:

Craig S. Hughes_____
Superintendent of Streets

Personnel

The following personnel are responsible for snow and ice removal. Employees performing the procedures in this SOP shall attend yearly stormwater pollution prevention training.

TABLE 1

Name	Responsibility
Craig Hughes	Supervisor/Department Head
John Tosi	Foreman/Driver/Operator
Robert Beckwith	Heavy Equipment Operator/Driver
Mark Stephenson	Heavy Equipment Operator/Driver
James Gorman	Heavy Equipment Operator/Driver
Andrew Wills	System Mechanic

Equipment

The Dover Highway Department owns and maintains ice control and snow removal equipment listed in Table 2. The wash bay/ area is located at: front left of main garage.

Plowing
When conditions warrant, plows are installed on the 7 larger trucks to move snow from the traveled roadway. Average time to install a plow is approximately 5 minutes. 14 smaller trucks, including private Contractors, are available for plowing of residential streets and clearing public lots.

Sand and Salt Mix Spreaders
When conditions warrant, sand and salt mix spreaders are installed on the 5 larger trucks to spread mix on the traveled roadway. Each spreader is calibrated annually. Sand and salt mix spreaders are calibrated to dispense 200 pounds of mix per lane mile.

TABLE 2

Equipment Number	Make and Model	Description	Additional Equipment	Primary Use
H-14	1977 Mack	Diesel Conv Truck	Plow & Sander	Snow Removal and Spreading Mix
H-15	1979 Mack	Diesel Truck	Plow	Snow Removal
H-5	1986 Mack	Dump Truck	Plow & Sander	Snow Removal and Spreading Mix

H-3	1990 Mack	RD600 Dump	Sander	Spreading Mix
H-8	1995 Mack	RD690S Dump Truck	Sander	Spreading Mix
	2006 Ford	F350 Pickup	Plow	Snow Removal
	2008 Ford	F350	Plow	Snow Removal
	2011 Ford	F250	Plow	Snow Removal
H 3	2014	Slide in Sander	Sander	Spreading Mix
H-16	2015 Ford	F450	Plow	Snow Removal
H-23	2015 Trackless	Sidewalk Plow	Plow	Snow Removal
H 16	2016 Ford	One Ton Truck	Plow	Snow Removal
H-4	2016	Slide in Sander	Sander	Spreading Mix

Other Equipment available from other divisions:
1 Ton Dump Truck – Parks & Recreation Department
1 Ton Dump Truck – Cemetery Department

Materials

The primary materials used in snow and ice control are rock salt and washed sand. These materials are stockpiled at the Highway Department covered facility in advance of an event and are immediately available when needed and stocks are replenished between events.

Sand
Sand is used as an abrasive for traction on slick roadways. Approximately 350 tons are anticipated to be used per year and are ordered from P.A. Landers (Hanover) prior to each deicing season. Sand is stored in the covered facility located at the Highway Department Garage. Loading areas and yards are swept monthly to prevent sand build-up and run-off.

Salt
Salt is used to expedite the melting of snow and ice from the street surface and also to keep the ice from forming a bond to the street surface. Approximately 700 tons of rock salt are anticipated to be used per year and are ordered from Eastern Minerals, Inc. prior to each deicing season. Salt is stored in the covered facility located at the Highway Department Garage. Loading areas and yards are swept monthly to prevent salt build-up and run-off.

Procedures

Salt and Sand Mix Application

1. Whenever conditions warrant, salt and sand mix is applied to the roadway prior to accumulation of snow to prevent compacted snow from bonding to the roadway surface. Superintendent of Streets will instruct staff when application of mix is appropriate. Salting and sanding will not be done when pavement temperatures are above 34 degrees F or below 10 degrees F.

2. Prior to salt and sand mix application, equipment will be checked to ensure proper working order and ensure proper calibration of equipment. All fluid levels will be checked and filled to proper levels, all lights must be in working order. A visual walk-around inspection of the truck or equipment must be made. Any repairs must be made and reported to a supervisor or mechanic before leaving the yard.
3. The standard salt and sand mix application speed is: 25 mph.
4. Follow the prioritized route or schedule. This route is located at: Highway Garage.
5. Before parking any truck or equipment after use, all fluid levels will be checked and filled. All minor repairs will be done by the operator. Any repairs the operator cannot perform will be written up on the proper forms and turned in to Superintendent of Streets. Superintendent of Streets will determine importance and will assign the repairs according to schedule. All residual salt will be washed from equipment at the wash bay or designated wash area.

Snow Plowing

1. As the storm develops and 1-2 inches of snow have accumulated, all of the drivers and available equipment will begin to plow their assigned routes.
2. Prior to plowing operations, equipment will be checked to ensure proper working order. All fluid levels will be checked and filled to proper levels, all lights must be in working order. A visual walk-around inspection of the truck or equipment must be made. Any repairs must be made and reported to a supervisor or mechanic before leaving the yard.
3. Avoid plowing, pushing, blowing or storing excess snow, deicer, or other debris in or near creeks, watercourses or storm drainage systems.
4. Reduce plowing speed in sensitive areas (near creeks, wetlands or other water courses) to prevent snow and deicing materials from entering waterways.
5. The standard plowing speed is: 25 mph.
6. Follow the prioritized route or schedule. This schedule is located at: Highway Department Garage.
7. Before parking any truck or equipment after use, all fluid levels will be checked and filled. Blades or bolts, which need replacing, will be taken care of unless told to do otherwise. Chains that need repairs will be repaired. All minor repairs will be done by the operator. Any repairs the operator cannot perform will be written up on the proper forms and turned in to Superintendent of Streets. Superintendent of Streets will determine importance and will assign the repairs according to schedule.

Record Keeping and Documentation

1. Maintain a master schedule of prioritized snow and sanding routes and the miles or roads plowed or sanded at the Highway Department Office.
2. Keep copies of manufacturer's recommendations for equipment calibration, plowing speed and salt/sand application rates at the Highway Department Office.
3. Keep records of the amounts of salt, sand, liquid deicer, and salt alternatives applied per season at the Highway Department Office.
4. Keep a list of all employees trained in the Town's Stormwater Management Plan files.

STANDARD OPERATING PROCEDURE **DOVER HIGHWAY DEPARTMENT** **DOVER, MASSACHUSETTS** **PROGRAM:** Winter Road Maintenance	**ISSUE DATE:** 6-27-2019

Salt Alternatives

1. The Town of Dover recently conducted a salt alternatives study for winter road maintenance.
2. Alternative salt materials continue to be reviewed for possible use by the Highway Department.

ATTACHMENT Q

MANAGING GRASS CLIPPINGS AND LEAF LITTER SOP

STANDARD OPERATING PROCEDURE
DOVER HIGHWAY DEPARTMENT
DOVER, MASSACHUSETTS

Issue Date:

6-27-19

PROGRAM:
Managing Grass Clippings and Leaf Litter on Permittee Property

Approved by:

Craig S. Hughes_____
Superintendent of Streets

Personnel

The following personnel are responsible for municipal parks and open space management. Employees performing the procedures in this SOP shall attend annual stormwater pollution prevention training.

Name	**Responsibility**
Mark Ghiloni	Parks and Recreation Director
Rusty Dauphimee	Cemetery Supervisor
Wade Hayes	Transfer Station Operator

Lawn Mowing

Occurs at the following parks:

- Caryl Park
- Chickering Fields
- Town Hall
- Chickering School
- Library
- Community Center
- Police and Fire Department
- Highland Cemetery

On the following schedule: Weekly for 8 months per year

Responsible Personnel: Mark Ghiloni and Rusty Dauphinee

Standard Operating Procedures:

→ Lawns shall be mowed to a height of 2-inches.

→ Mowing pattern shall vary to prevent ruts and promote even growth.

→ Grass clippings shall be disposed of at the Caryl Park composting site so as to avoid entering the storm drain system.

STANDARD OPERATING PROCEDURE **DOVER HIGHWAY DEPARTMENT** **DOVER, MASSACHUSETTS** **PROGRAM:** Managing Grass Clippings and Leaf Litter on Permittee Property	**Issue Date:** 6-27-19

Other Landscaping

Involves the following *(add as appropriate):*

- Weeding
- Planting/reseeding
- Pruning
- Leaf litter removal

Occurs at the following parks:

- Caryl Park
- Chickering Fields
- Town Hall
- Chickering School
- Library
- Community Center
- Police and Fire Department
- Highland Cemetery

On the following schedule: Bi-monthly

Responsible Personnel: Mark Ghiloni and Rusty Dauphinee

Standard Operating Procedures:

→ Landscaping waste shall be disposed of at the Caryl Park composting site so as to avoid entering the storm drain system.

→ Weeding shall be done manually where possible to reduce herbicide use.

→ Leaf litter shall be disposed of at the Caryl Park composting site so as to avoid entering the storm drain system.

Trash Management

The Dover Parks and Recreation Department has a 'carry-in and carry-out' policy for trash.

Parks shall be inspected and cleaned for litter on the following schedule: Once per week

Responsible personnel: Mark Ghiloni and Rusty Dauphinee

Dog walking is not allowed in public parks and cemeteries in the Town of Dover.