

# Stormwater Management Program (SWMP) Plan

City of Fall River, Massachusetts

May 7, 2019

## Prepared For:

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# Table of Contents

## Stormwater Management Program Plan – City of Fall River

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|          |   |           |
|----------|---|-----------|
| <b>1</b> | <b>Introduction .....</b>   | <b>1</b>  |
| 1.1      | Regulatory Background .....                                       | 1         |
| 1.2      | MS4 Program Requirements .....                                    | 1         |
| 1.3      | Regulated Area.....   | 2         |
| 1.4      | How to Use this Plan.....   | 3         |
| 1.5      | Program Responsibilities .....                                    | 4         |
| <b>2</b> | <b>City Characteristics.....</b>                                  | <b>6</b>  |
| 2.1      | Community Information .....                                       | 6         |
| 2.2      | Land Use .....  | 6         |
| 2.3      | 303(d) Impaired Waterbodies.....                                  | 6         |
| 2.4      | NPDES Permitted Facilities.....                                   | 7         |
| 2.5      | Endangered Species Act Determination .....                        | 8         |
| 2.6      | National Historic Preservation Act Determination .....            | 8         |
| <b>3</b> | <b>MCM 1: Public Education and Outreach .....</b>                 | <b>9</b>  |
| 3.1      | Summary of Permit Requirements .....                              | 9         |
| 3.1.1    | Core Permit Requirements.....                                     | 9         |
| 3.1.2    | TMDL & Impaired Waters Requirements.....                          | 10        |
| 3.2      | Existing Public Education Program.....                            | 10        |
| 3.3      | Ongoing Public Education Program.....                             | 11        |
| <b>4</b> | <b>MCM 2: Public Participation &amp; Involvement .....</b>        | <b>15</b> |
| 4.1      | Summary of Permit Requirements .....                              | 15        |
| 4.2      | Existing Public Participation and Involvement Opportunities ..... | 15        |
| 4.3      | Ongoing Public Participation and Involvement Opportunities.....   | 15        |
| 4.4      | Public Participation and Involvement Summary .....                | 15        |
| <b>5</b> | <b>MCM 3: Illicit Discharge, Detection, and Elimination .....</b> | <b>17</b> |
| 5.1      | Existing IDDE Program .....                                       | 18        |
| 5.2      | Ongoing IDDE Program .....  | 18        |
| 5.2.1    | Establish Legal Authority .....                                   | 18        |
| 5.2.2    | Complete System Mapping.....                                      | 19        |
| 5.2.3    | Complete Sanitary Sewer Overflow Inventory.....                   | 19        |
| 5.2.4    | Develop and Implement Written IDDE Program .....                  | 19        |
| 5.2.5    | Perform Annual IDDE Training .....                                | 19        |
| 5.3      | IDDE Program Summary .....  | 20        |
| 5.4      | Indicators of IDDE Program Progress .....                         | 21        |
| <b>6</b> | <b>MCM 4: Construction Site Stormwater Runoff Control .....</b>   | <b>22</b> |
| 6.1      | Summary of Permit Requirements .....                              | 22        |

|           |  |           |
|-----------|--|-----------|
| 6.2       | <b>Existing Construction Site Stormwater Runoff .....</b>                      | <b>22</b> |
| 6.3       | <b>Ongoing Construction Site Stormwater Runoff Control Program.....</b>        | <b>23</b> |
| 6.3.1     | Establish Legal Authority .....  | 23        |
| 6.3.2     | Establish Written Procedures for Site Plan Review .....                        | 24        |
| 6.3.3     | Establish Procedures for Site Inspections and Enforcement .....                | 24        |
| 6.3.4     | Establish a Sediment and Erosion Control Program.....                          | 25        |
| 6.4       | <b>Construction Site Stormwater Runoff Control Program Summary .....</b>       | <b>26</b> |
| <b>7</b>  | <b>MCM 5: Stormwater Management in New Development and Redevelopment .....</b> | <b>27</b> |
| 7.1       | <b>Summary of Permit Requirements .....</b>                                    | <b>27</b> |
| 7.2       | <b>Existing Post Construction Stormwater Management.....</b>                   | <b>28</b> |
| 7.3       | <b>Ongoing Post-Construction Stormwater Management Program .....</b>           | <b>28</b> |
| 7.3.1     | Establish Legal Authority .....  | 28        |
| 7.3.2     | Require Submittal of As-Built Plans .....                                      | 29        |
| 7.3.3     | Require Long Term Operation and Maintenance .....                              | 30        |
| 7.3.4     | Complete Regulatory Assessment .....   | 30        |
| 7.3.5     | Complete Inventory of Potential BMP Retrofit Sites .....                       | 30        |
| 7.4       | <b>Stormwater Management in New and Redevelopment Program Summary .....</b>    | <b>30</b> |
| <b>8</b>  | <b>MCM 6: Good Housekeeping and Pollution Prevention .....</b>                 | <b>32</b> |
| 8.1       | <b>Summary of Permit Requirements .....</b>                                    | <b>32</b> |
| 8.2       | <b>Existing Good Housekeeping and Pollution Prevention Program .....</b>       | <b>32</b> |
| 8.3       | <b>Ongoing Good Housekeeping and Pollution Prevention Program .....</b>        | <b>33</b> |
| 8.3.1     | Complete Facilities O&M Plan .....   | 33        |
| 8.3.2     | Complete Infrastructure O&M Plan .....   | 34        |
| 8.3.3     | Stormwater Pollution Prevention Plans .....                                    | 35        |
| 8.3.4     | Structural Stormwater BMP Inspections .....                                    | 35        |
| 8.4       | <b>Good Housekeeping and Pollution Prevention Program Summary .....</b>        | <b>36</b> |
| <b>9</b>  | <b>TMDL and Impaired Waters Controls .....</b>                                 | <b>38</b> |
| 9.1       | <b>Permit Requirements.....</b>  | <b>38</b> |
| 9.2       | <b>Discharges to Approved TMDL Waterbodies .....</b>                           | <b>38</b> |
| 9.2.1     | Fecal Coliform TMDL Requirements .....   | 38        |
| 9.3       | <b>Discharges to Water Quality Limited Waterbodies .....</b>                   | <b>39</b> |
| 9.3.1     | Nitrogen Water Quality Limited Waterbody Requirements.....                     | 39        |
| 9.4       | <b>TMDL and Impaired Waters Controls Program Summary .....</b>                 | <b>40</b> |
| <b>10</b> | <b>Annual Reporting .....</b>  | <b>42</b> |
| <b>11</b> | <b>Implementation of Best Management Practices .....</b>                       | <b>43</b> |

## Tables

|   |                  |
|---|------------------|
| Table 1-1. Program Responsibilities.....  | 5                |
| Table 2-1. Impaired Waters .....  | 7                |
| Table 2-2. NPDES Permitted Facilities .....   | 8                |
| Table 3-1. Residential Public Outreach Topics and Messages.....                       | 12               |
| Table 3-2. Businesses, Institutions, & Commercial Public Outreach Topics and Messages | 13               |
| Table 3-3. Developers and Construction Public Outreach Topics and Messages .....      | 14               |
| Table 3-4. Industrial Public Outreach Topics and Messages .....                       | 14               |
| Table 4-1. Public Participation and Involvement Summary.....                          | 16               |
| Table 5-1. IDDE Program Summary .....   | 20               |
| Table 6-1. Construction Site Stormwater Runoff Control Program Summary .....          | 26               |
| Table 7-1. Stormwater Management in New and Redevelopment Program Summary .....       | 31               |
| Table 8-1. Good Housekeeping and Pollution Prevention Program Summary .....           | 36               |
| Table 9-1. TMDL and Impaired Waters Requirements.....                                 | 38               |
| Table 9-2. TMDL and Impaired Waters Controls Program Summary.....                     | 41               |
| Table 11-1. Proposed BMP Plan – Implementation of Phase II Activities .....           | End of this Plan |

## Figures

|                                   |                  |
|-----------------------------------|------------------|
| Figure 1-1. Urbanized Area .....  | End of this Plan |
| Figure 2-1. Land Use .....        | End of this Plan |
| Figure 2-2. Impervious Area.....  | End of this Plan |
| Figure 2-3. Resource Waters ..... | End of this Plan |

## Appendices

**Appendix A** – Notice of Intent and Authorization to Discharge

**Appendix B** – Impaired Waterbodies

**Appendix C** – Endangered Species Act Determination

**Appendix D** – Legal Authority, Municipal Stormwater System Rules

**Appendix E** – Stormwater System Mapping

**Appendix F** – Sanitary Sewer Overflow Inventory

**Appendix G** – Inventory and Ranking of City-Owned Property

**Appendix H** – Catch Basin Optimization Plan

**Appendix I** – SWPPP Facilities

**Appendix J** – List of Stormwater BMPs

**Appendix K** – Annual Reports

**Appendix L** – 2016 NPDES General Permit for Stormwater Discharges from MS4 in  
Massachusetts

# 1 Introduction

Fall River is 1 of many Massachusetts communities regulated under the Environmental Protection Agency's (USEPA) National Pollutant Discharge Elimination System (NPDES) Phase II rule (40 CFR 122). The rule requires regulated operators of municipal separate storm sewer systems (MS4) to develop a Stormwater Management Program (SWMP) and Best Management Practices (BMPs) to reduce the impacts of stormwater discharges. The requirements are outlined in the NPDES General Permits for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (MS4s) in Massachusetts, which was signed on April 4, 2016, with an effective date of July 1, 2018, hereinafter referred to as the 2016 MS4 Permit.

This SWMP Plan describes and details the activities and measures that will be implemented to meet the terms and conditions of the permit.

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## 1.1 Regulatory Background

The Stormwater Phase II Final Rule was promulgated in 1999 and was the next step after the 1987 Phase I Rule in USEPA'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 operators of Small MS4s in urbanized areas, through the use of National Pollutant Discharge Elimination System (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.

On May 1, 2003, EPA Region 1 issued its Final General Permit for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (2003 MS4 Permit) consistent with the Phase II rule. The 2003 MS4 Permit covered "traditional" (i.e., cities and towns) and "non-traditional" (i.e., certain Federal and state agencies and/or facilities) 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 Permit.

The 2016 MS4 Permit was signed on April 13, 2016 with an effective date of July 1, 2018. The permit was cosigned by the Massachusetts Department of Environmental Protection (MassDEP) and thus is jointly regulated by EPA and MassDEP.

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## 1.2 MS4 Program Requirements

This permit requires each regulated community to submit a Notice of Intent (NOI) briefly outlining how it will meet the 6 Minimum Control Measures (MCMs) and impaired waters requirements of the permit and requesting authorization to discharge under the new permit.

The 6 MCMs 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.

Permittees must also address water quality impacts from waterbodies with approved Total Maximum Daily Loads (TMDLs) and certain impairments, generally known as water quality limited waterbodies.

As required by the 2016 MS4 Permit, The City of Fall River submitted a NOI and required accompanying information, including endangered species, historic preservation, and an outfall map to EPA Region 1 by the September 29, 2018 deadline (**Appendix A**) requesting authorization to discharge under the new permit. Fall River received official authorization to discharge stormwater from its MS4 on February 14, 2019 [waiting on EPA] as per the letter from USEPA provided in **Appendix A**. Authorization to discharge expires at June 30, 2022.

This Stormwater Management Program (SWMP) Plan has been developed by the City of Fall River to detail the activities and measures outlined in the NOI to address the requirements of the 2016 MS4 Permit. This SWMP Plan documents BMPs, plans, activities, and measures that have been implemented to date, those that are ongoing, and those proposed for the future to comply with the 2016 MA MS4 Permit. This is a “living” document and will be updated and/or modified as required during the permit term as the City’s activities are modified, changed or updated to meet permit conditions. The plan has been organized to allow these updates to primarily occur within the appendices.

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### 1.3 Regulated Area

Requirements of the 2016 MS4 Permit are limited to a regulated area, defined as the City’s Urbanized Areas (UAs) which generally constitute the largest and most dense areas of settlement in a region. The Bureau of the Census determines UAs by applying a detailed set of published UA criteria to the latest decennial census data. Although the full UA definition is complex, the Bureau of the Census’ general definition of a UA, based on population and population density, is provided below:

*“An urbanized area (UA) is a densely settled core of census tracts and/or census blocks that have population of at least 50,000, along with adjacent territory containing non-residential urban land uses as well as territory with low population density included to link outlying densely settled territory with the densely settled core. It is a calculation used by the Bureau of the Census to determine the geographic boundaries of the most heavily developed and dense urban areas.”*

The most recent UA maps are based on the 2010 Census. **Figure 1-1** shows the UA in the City of Fall River, which covers the highly developed city center area and generally excludes the heavily wooded eastern area. Per the most recent census data, the UA covers 87,695 people out of the 88,317 total in the City, or approximately 99% of the population. The UA area increased slightly since the 2000 Census, generally including a slightly expanded area in the northern end of the City. The UA is subject to change every 10 years based on the application of the Census definition, thus a larger area may be covered in the future.

Of particular note to Fall River, the MS4 regulations only apply to areas of the City with a “separate” storm sewer system. Approximately 75% of the City is served by combined sewers that convey stormwater and sanitary wastewater to a wastewater treatment plant for processing, and thus are not subject to the MS4 regulations. Although Phase II activities are only required for areas served by separate storm sewers within the UA, some components make more sense to implement city-wide (e.g., local regulations and public education). Others should be prioritized to applicable areas within the UA (e.g. dry and wet weather sampling, catchment investigations). Subsequent sections of this Plan include additional information.

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## 1.4 How to Use this Plan

For the purposes of the 2016 MS4 Permit and ease of use, the City’s SWMP encompasses 3 separate written documents:

1. SWMP Plan (this document);
2. Illicit Discharge Detection and Elimination (IDDE) Plan; and
3. Facilities Operation and Maintenance (O&M) Plan.

Both the IDDE Plan and Facilities Operation and Maintenance Plan are prepared as separate standalone documents to this SWMP Plan. This SWMP Plan is divided into several sections and includes the following components:

- Section 2**      **City Characteristics** – Section 2 provides an overview of relevant characteristics, focusing on those aspects related to stormwater runoff and the water quality of surface waters.
- Section 3**      **MCM 1: Public Education and Outreach** – regulated operators of MS4s are required to implement a public education program. Section 3 discusses activities to comply with this measure.
- Section 4**      **MCM 2: Public Participation and Involvement** – regulated MS4s are required to obtain public participation throughout the stormwater management program. Section 4 discusses activities to comply with this measure.
- Section 5**      **MCM 3: Illicit Discharge, Detection, and Elimination** – regulated MS4s must develop and implement an illicit discharge detection and

elimination program and develop a regulation to prohibit illicit discharges to the storm drain system. Section 5 discusses activities to comply with this measure.

- Section 6**     **MCM 4: Construction Site Stormwater Runoff Control** – regulated MS4s are required to implement and enforce a program to reduce pollutants in stormwater runoff from construction activities that disturb 1 or more acres. This requires the development of a local regulation requiring implementation of proper erosion and sediment controls. Permittees are also responsible for inspects and enforcement. Section 6 discusses activities to comply with this measure.
- Section 7**     **MCM 5: Stormwater Management in New Development and Redevelopment** – regulated MS4s are required to develop and enforce a regulation requiring implementation of post-construction runoff controls at sites where construction activities disturb 1 or more acres. The controls must be designed to treat stormwater runoff from post-development sites and must be maintained over the long-term. Section 7 discusses activities to comply with this measure.
- Section 8**     **MCM 6: Good Housekeeping and Pollution Prevention** – regulated MS4s must review their operations at specific facilities and those that occur throughout City (i.e., catch basin cleaning and street sweeping) and make improvements where needed to minimize pollution to stormwater runoff. Staff involved in these operations must also be trained on appropriate operations and maintenance techniques. Section 8 discusses activities to comply with this measure.
- Section 9**     **TMDL and Impaired Waters Controls** – regulated MS4s are required to evaluate and address stormwater contributions to impaired waters. Section 9 discusses activities to comply with this measure.
- Section 10**    **Annual Reporting** – Section 10 provides a summary of annual reporting requirements in order to meet the 2016 MS4 Permit.
- Section 11**    **Implementation of Best Management Practices** – Section 11 provides a summary of proposed BMPs outlined in Sections 3 through 9 in a concise plan for easy reference.

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## 1.5 Program Responsibilities

This plan is intended to be used by City of Fall River staff whose job involves administering the MS4 permit and associated requirements. The City’s MS4 program will be headed by the following personnel:

|                    |                          |                     |
|--------------------|--------------------------|---------------------|
| Mr. Terry Sullivan | Administrator            | Community Utilities |
| Mr. John Lincourt  | Pretreatment Coordinator | Community Utilities |

The City of Fall River has over a dozen departments responsible for implementing portions of its MS4 program as identified in the NOI. **Table 1-1** provides a list of responsible departments and their general responsibilities within the MS4 program. The responsible person is the most senior person within each department listed below. The names of the responsible personnel are not provided so as to avoid the plan frequently becoming out of date due to changes in personnel and positions.

**Table 1-1. Program Responsibilities**

| <b>Department / Division</b>         | <b>General Responsibilities</b>  |
|--------------------------------------|--|
| Board of Health                      | Public education   |
| Building                             | Public education and participation; ordinance and regulation development; develop procedures for erosion/sediment control, site plan review, inspections, and long-term O&M, as-built submittal; inspections and enforcement; target properties for BMP improvements   |
| City Clerk                           | Public education   |
| Community Utilities                  | Public education and participation; IDDE program administration; ordinance and regulation development; develop procedures for erosion/sediment control, site plan review, inspections, and as-built submittal; inspections and enforcement; target properties for BMP improvements, SWPPP development and implementation, O&M procedures, BMP inspections, employee training |
| Conservation Commission              | Public education and participation; ordinance and regulation development; develop procedures for erosion/sediment control, site plan review, inspections, long-term O&M, and as-built submittal; inspections and enforcement; target properties for BMP improvements   |
| Engineering                          | Public education and participation; ordinance development; develop procedures for erosion/sediment control and site plan review; inspections, long-term O&M, and as-built submittal  |
| Facilities Maintenance               | Public education, SWPPP development and implementation, facility inventory, O&M procedures, employee training  |
| Information Tech.                    | Public education and participation   |
| Parks and Recreation                 | Public education, SWPPP development and implementation, facility inventory, O&M procedures   |
| Planning                             | Public education and participation; ordinance and regulation development; develop procedures for erosion/sediment control, site plan review, inspections, and long-term O&M, as-built submittal; inspections and enforcement; target properties for BMP improvements   |
| Public Works / Community Maintenance | Public participation, catch basin cleaning, street sweeping, road salt optimization, SWPPP development and implementation, facility inventory, O&M, employee training  |
| Schools                              | Public education   |
| Sewer Comm.                          | Public education   |
| Site Plan Review Committee           | Procedures to require long-term O&M, and as-built submittal  |
| Zoning Board                         | Ordinance and regulation development   |

## 2 City Characteristics

This section provides some background information on the City of Fall River, Massachusetts, useful in understanding the City's characteristics and resources to develop a tailored Stormwater Management Plan. City characteristics are described below.

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### 2.1 Community Information

Fall River is a coastal community located in southeastern Massachusetts within Bristol County, on the border with Rhode Island. It is generally bordered by the Taunton River to the west with Somerset Massachusetts immediately across the river, Freetown Massachusetts to the northeast, Dartmouth Massachusetts to the east, Westport MA to the southeast, and Tiverton, Rhode Island to the south. It lies within the Mount Hope Bay watershed. Select relevant community profile information is provided below:

- Total Area = 40.2 square miles (*source: Wikipedia*)
- 2010 Population = 88,317 (*source: EPA maps based on 2010 US Census*)
- Regulated Area Population = 87,695 (*source: EPA maps based on 2010 US Census*)

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### 2.2 Land Use

The land uses within the regulated area of the City of Fall River are shown on **Figure 2-1** and provided below. Impervious area is shown on **Figure 2-2**.

|                                |     |
|--------------------------------|-----|
| • Commercial                   | 11% |
| • Forest                       | 11% |
| • Industrial                   | 7%  |
| • Open Land and Agriculture    | 8%  |
| • Residential                  | 40% |
| • Transportation and Utilities | 6%  |
| • Wetlands                     | 3%  |
| • Water                        | 13% |

As shown above, Fall River has limited forest, open land, and water/wetland area within its regulated area (approximately 35%), with much of the remaining land uses consisting of residential development (approximately 40%) and other highly developed areas (24%).

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### 2.3 303(d) Impaired Waterbodies

The ultimate goal of this Stormwater Management Plan is to outline a program to effectively maintain the City's stormwater infrastructure and to improve the water quality of receiving waters (waters which receive stormwater discharges from the MS4) in compliance with the 2016 MS4 Permit. 303(d) impaired waters are those surface waters identified by the MassDEP as priority waters that do not meet water quality criteria. As part of the 2016 MS4 Permit, communities must implement BMPs to address waters with an approved Total Maximum Daily Load (TMDL) as of the issuance date of the permit (April 4, 2016) and to

address water quality limited waters, including but not limited to waters listed in categories 5 or 4a on the Massachusetts Integrated Report of waters listed pursuant to Clean Water Act section 303(d) and 305(b). **Table 2-1** lists the “impaired waters” for which Fall River must meet MS4 permit requirements based on the Final 2014 Massachusetts Integrated List of Waters produced by MassDEP every 2 years<sup>1</sup>. These waterbodies are shown on **Figure 2-3**. Fall River will review changes as new lists are published and record these changes and any new permit requirements in **Appendix B**.

**Table 2-1. Impaired Waters**

| Waterbody Name     | Segment ID and Category |    | Impairment(s)                | Approved TMDL <sup>2</sup> |
|--------------------|-------------------------|----|------------------------------|----------------------------|
| Copicut Reservoir  | MA95175                 | 5  | Mercury in Fish Tissue       |                            |
| Copicut River      | MA95-43                 | 5  | Mercury in Fish Tissue       |                            |
|                    |                         |    | PCB in Fish Tissue           |                            |
| Mount Hope Bay     | MA61-06                 | 5  | Chlorophyll-a                |                            |
|                    |                         |    | Fecal Coliform               | 38908                      |
|                    |                         |    | Fishes Bioassessments        |                            |
|                    |                         |    | Nitrogen (total)             |                            |
|                    |                         |    | Temperature, water           |                            |
| North Watuppa Pond | MA61006                 | 4a | Mercury in Fish Tissue       | 33880                      |
| Quequechan River   | MA61-05                 | 4c | Habitat Assessment (Streams) | N/A                        |
| Sawdy Pond         | MA61004                 | 4a | Mercury in Fish Tissue       | 42407                      |
| Taunton River      | MA62-04                 | 5  | Fecal Coliform               | 40310                      |
|                    |                         |    | Fishes Bioassessments        |                            |
|                    |                         |    | Oxygen, Dissolved            |                            |

Category 4a Waters – impaired waters with a completed TMDL.

Category 4c Waters – impaired waters where the impairment is not caused by a pollutant. No TMDL required.

Category 5 Waters – impaired waters that require a TMDL.

## 2.4 NPDES Permitted Facilities

EPA’s NPDES program also covers other programs outside of MS4, including approving permits for private facilities to discharge non-stormwater from point sources to waters of the United States. **Table 2-2** lists facilities with an approved NPDES permit within the boundaries of Fall River’s regulated area.

<sup>1</sup>Note that at the time of preparation of this report (May 7, 2019), the 2014 303d list is the most up to date finalized 303d List as approved by USEPA on February 23, 2016.

<sup>2</sup>“Approved TMDLs” are those that have been approved by EPA as of the date of issuance of the 2016 MS4 Permit.

**Table 2-2. NPDES Permitted Facilities**

| <b>Facility Name</b>               | <b>Address</b>    | <b>NPDES ID</b> |
|------------------------------------|-------------------|-----------------|
| Borden & Remington Fall River LLC  | 63 Water St.      | MAR053675       |
| Capt. Joseph J. O’Connell Co. Inc. | 180 River St.     | MAR053102       |
| Duro Finishing Plant               | 110 Chace St.     | MAR053167       |
| Fall River Landfill                | 1080 Airport Rd.  | MAR053363       |
| Fall River Tool & Die Co Inc.      | 994 Jefferson St. | MAG250017       |
| Weavers Cove Energy LLC            | 1 New St.         | MA0004871       |

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## **2.5 Endangered Species Act Determination**

In order to be eligible to discharge stormwater under the 2016 MS Permit, the City of Fall River must certify that its stormwater system is not impacting federally listed rare or endangered species habitat or other critical environmental locations. This was completed in the summer of 2018 as meeting “Criterion C” on the Notice of Intent with the results documented in **Appendix C**. The Northern Long-eared Bat (*Myotis septentrionalis*) was the only species identified as potentially being present within Fall River’s regulated area. No critical habitats were identified.

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## **2.6 National Historic Preservation Act Determination**

Regulated MS4s must also evaluate whether its discharges have the potential to affect historic properties. If there have been no relevant changes in existing discharges since the 2003 MS4 General Permit, the discharge can still be considered to have no potential to have an effect on historic properties. This has been documented as “Criterion A” on the Notice of Intent (**Appendix A**) and thus no additional information is required for documentation.

Where there is disturbance of land through the construction and/or installation of control measures, there is a possibility that artifacts, records, or remains associated with historic properties could be impacted. In these cases, such as during future construction of structural stormwater BMPs, the City will ensure that historic properties will not be impacted by their activities, or that they are in compliance with a written agreement with the State Historic Preservation Officer (SHPO), Tribal Historic Preservation Officer (THPO), or other tribal representative that outlines all measures the applicant will carry out to mitigate or prevent any adverse effects on historic properties. This will be completed as required.

## 3 MCM 1: Public Education and Outreach

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### 3.1 Summary of Permit Requirements

#### 3.1.1 Core Permit Requirements

Under MCM 1, permittees must develop an educational program, define educational goals, express specific messages, define the targeted audience for each message, and identify responsible parties for program implementation. At a minimum, the program must provide information concerning the impact of stormwater discharges on water bodies within the community, especially those waters that are impaired or identified as priority waters. The program must identify steps and/or activities that the public can take to reduce the pollutants in stormwater runoff and their impacts to the environment.

Permittees must address 4 core target audiences, unless 1 of these audiences is not present in the MS4 community. The targeted audiences and educational topics requiring consideration under the permit are outlined below:

1. Residents
  - Effects of outdoor activities such as lawn care (use of pesticides, herbicides, and fertilizers) on water quality;
  - Benefits of appropriate on-site infiltration of stormwater;
  - Effects of automotive work and car washing on water quality;
  - Proper disposal of swimming pool water;
  - Proper management of pet waste; and
  - Maintenance of septic systems.
2. Businesses, Institutions, and Commercial Facilities
  - Proper lawn maintenance (use of pesticides, herbicides and fertilizer);
  - Benefits of appropriate on-site infiltration of stormwater;
  - Building maintenance and storage of materials;
  - Proper use and storage of salt or other de-icing and anti-icing materials;
  - Proper management of waste materials and dumpsters;
  - Proper management of parking lot surfaces;
  - Proper car care activities; and
  - Proper disposal of swimming pool water by entities such as motels, hotels, and health and country clubs.
3. Developers and Construction
  - Proper sediment and erosion control management practices;
  - Information about Low Impact Development (LID) principles and technologies; and
  - Information about EPA's construction general permit (CGP).
4. Industrial facilities
  - Equipment inspection and maintenance;

- Proper storage of industrial materials (emphasizing pollution prevention);
- Proper management of dumpsters;
- Minimization of use of salt or other de-icing/anti-icing materials;
- Proper storage of salt or other de-icing/anti-icing materials;
- Benefits of appropriate on-site infiltration of stormwater runoff from areas with low exposure to industrial materials such as roofs or employee parking;
- Proper maintenance of parking lot surfaces (sweeping); and
- Requirements for coverage under EPA's MSGP.

At least 2 educational messages must be distributed to each audience over the permit term spaced at least a year apart. See sections below for more information.

### 3.1.2 TMDL & Impaired Waters Requirements

Public education and outreach programs must also address impaired waterbodies or those identified as priority waters. Impaired waterbodies are shown in **Table 2-1**, with updates provided in **Appendix B** as they become available. As noted in **Table 2-1**, Fall River has several waterbodies in the community that are listed as impaired for bacteria and nitrogen. Therefore, relevant public information on these topics as outlined in the 2016 MS4 Permit, and summarized below, will be included within the education program.

#### Nitrogen Impaired Waterbody Requirements (Residents & Businesses)

- Spring (March/April): encourage proper use and disposal of grass clippings and use of slow-release fertilizers;
- Summer (June/July): encourage proper management of pet waste, including noting any existing ordinances; and
- Fall (August/September/October): encourage the proper disposal of leaf litter.

#### Bacteria TMDL Requirements (Residents)

- Annual message encouraging the proper management of pet waste, including noting any existing ordinances where appropriate;
- Disseminate educational materials to dog owners at the time of issuance or renewal of a dog license;
- Describe detrimental impacts of improper pet waste management, requirements for waste collection and disposal, and penalties for non-compliance; and
- Provide information to owners of septic systems about proper maintenance.

Due to the extent of impaired waters present throughout the City, each message will be distributed community-wide. For details, see the following sections.

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## 3.2 Existing Public Education Program

In response to requirements under the 2003 permit, Fall River has enacted a multifaceted approach to stormwater public education and outreach. The following summarizes Fall

River's current public education activities that will be continued under the 2016 MS4 Permit:

- **Stormwater Brochure** – provide an educational brochure on water quality and stormwater at the public libraries and city hall.
- **Stormwater Website** – maintain a web presence with information related to stormwater and combined sewer.
- **Pet Waste Bags and Signage** – install and maintain signs telling pet owners to clean up after their dogs at over 30 public gathering areas. Install and maintain dog bag dispensers and signage at areas frequented by dog walkers.
- **Pet Waste Fact Sheet** – distribute a pet waste fact sheet with dog registrations and renewals at the City Clerk's office.
- **Give Presentations** – periodically give public education and outreach presentations at schools, workshops, and other organizations.

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### 3.3 Ongoing Public Education Program

**Tables 3-1** through **3-4** summarize Fall River's public education program, by targeted audience, to meet the requirements of the 2016 MS4 Permit. Measurable goals, responsible departments and a schedule for implementation of all BMPs under the SWMP are provided in **Section 11**.

**Table 3-1. Residential Public Outreach Topics and Messages**

| Topics  | Materials  | Distribution                               | Measurable Goal/ Effectiveness                         | Schedule                                    | Responsible Party |            |             |           |             |             |              |          |          |
|---|--|--|--|---|-------------------|------------|-------------|-----------|-------------|-------------|--------------|----------|----------|
|   |  |  |  |   | Building          | City Clerk | Comm. Util. | Con. Com. | Engineering | Info. Tech. | Parks & Rec. | Planning | DPW / CM |
| <ul style="list-style-type: none"> <li>Pet waste management</li> </ul>  | Brochure / fact sheet  | With dog licenses                          | Track number distributed                               | With dog licenses / renewals                |                   |            | x           |           |             |             |              |          |          |
|   | Pet waste signage  | Signs at parks and schools                 | Track number of signs installed, repaired, or replaced | Continually available, maintained as needed |                   |            | x           |           |             |             | x            |          |          |
| <ul style="list-style-type: none"> <li>Pet waste management</li> <li>Lawn care</li> <li>Leaf litter</li> <li>On-site infiltration</li> <li>Auto &amp; car washing</li> <li>Swimming pool water disposal</li> <li>Septic system maintenance</li> </ul> | Relevant information & links for viewing and/or download from City webpage | Website                                    | Track number of hits                                   | Continually available, update as needed     |                   |            | x           | x         |             | x           | x            |          | x        |
|   | Brochure / fact sheet  | Available and Public Library and City Hall | Track number distributed                               | Continually Available                       |                   | x          | x           |           |             |             | x            |          |          |
|   | Presentation to watershed groups or similar organizations                  | Presentations                              | Track number of presentations given                    | At least 1 per year                         |                   |            | x           |           |             |             |              |          |          |

**Table 3-2. Businesses, Institutions, & Commercial Public Outreach Topics and Messages**

| Topics   | Materials  | Distribution                          | Measurable Goal/ Effectiveness | Schedule                                       | Responsible Party |            |             |           |             |             |              |          |          |   |
|--|--|---------------------------------------|--------------------------------|--|-------------------|------------|-------------|-----------|-------------|-------------|--------------|----------|----------|---|
|  |  |                                       |                                |  | Building          | City Clerk | Comm. Util. | Con. Com. | Engineering | Info. Tech. | Parks & Rec. | Planning | DPW / CM |   |
| <ul style="list-style-type: none"> <li>• Pet waste management</li> <li>• Lawn maintenance</li> <li>• Leaf litter</li> <li>• On-site infiltration</li> <li>• Building maintenance &amp; storage of materials</li> <li>• Salt use &amp; storage</li> <li>• Waste &amp; dumpster management</li> <li>• Parking lot management</li> <li>• Car care activities</li> <li>• Swimming pool water disposal</li> </ul> | Relevant information & links for viewing and/or download from City webpage | Website                               | Track number of hits           | Continually available, update as needed        |                   |            | x           | x         |             | x           | x            |          |          | x |
|  | Brochure / fact sheet  | Distributed with Business Certificate | Track number distributed       | With Business Certificate issuance or renewals |                   | x          | x           |           |             |             |              |          |          |   |

**Table 3-3. Developers and Construction Public Outreach Topics and Messages**

| Topics   | Materials  | Distribution                       | Measurable Goal/ Effectiveness | Schedule                                | Responsible Party |            |             |           |             |             |              |          |          |   |
|--|--|------------------------------------|--------------------------------|---|-------------------|------------|-------------|-----------|-------------|-------------|--------------|----------|----------|---|
|  |  |                                    |                                |   | Building          | City Clerk | Comm. Util. | Con. Com. | Engineering | Info. Tech. | Parks & Rec. | Planning | DPW / CM |   |
| <ul style="list-style-type: none"> <li>• Erosion &amp; sediment control</li> <li>• LID</li> <li>• EPA’s CGP</li> </ul> | Relevant information & links for viewing and/or download from City webpage | Website                            | Track number of hits           | Continually available, update as needed |                   |            | x           | x         |             | x           | x            |          |          | x |
|  | Brochure / fact sheet  | With site plan review applications | Track number distributed       | With site plan review applications      | x                 |            | x           | x         | x           |             |              |          | x        |   |

**Table 3-4. Industrial Public Outreach Topics and Messages**

| Topics   | Materials  | Distribution              | Measurable Goal/ Effectiveness | Schedule                                       | Responsible Party |            |             |           |             |             |              |          |          |   |
|--|--|---------------------------|--------------------------------|--|-------------------|------------|-------------|-----------|-------------|-------------|--------------|----------|----------|---|
|  |  |                           |                                |  | Building          | City Clerk | Comm. Util. | Con. Com. | Engineering | Info. Tech. | Parks & Rec. | Planning | DPW / CM |   |
| <ul style="list-style-type: none"> <li>• Equipment inspection &amp; maintenance</li> <li>• Storage &amp; management of materials &amp; dumpsters</li> <li>• Waste management &amp; disposal</li> <li>• Salt use &amp; storage</li> <li>• Parking lot maintenance</li> <li>• EPA’s CGP</li> </ul> | Relevant information & links for viewing and/or download from City webpage | Website                   | Track number of hits           | Continually available, update as needed        |                   |            | x           | x         |             | x           | x            |          |          | x |
|  | Brochure / fact sheet  | With Business Certificate | Track number distributed       | With Business Certificate issuance or renewals |                   | x          | x           |           |             |             |              |          |          |   |

## 4 MCM 2: Public Participation & Involvement

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### 4.1 Summary of Permit Requirements

Under MCM 2, permittees must provide annual opportunities for public participation in the review and implementation of the City's SWMP as part of a public education and involvement program. All public involvement activities must comply with state public notice requirements. The SWMP and annual reports must be made available so that the public has opportunities to review and comment.

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### 4.2 Existing Public Participation and Involvement Opportunities

The City of Fall River provides multiple public participation and involvement opportunities throughout the year. The following summarizes Fall River's current public participation activities that will be continued under the 2016 MS4 Permit:

- **Used Oil Collection Events** – allow the public to drop off used oil periodically throughout the year at the City Garage.
- **Annual Shoreline Cleanup** – host and sponsor an annual shoreline cleanup event along the Quequechan River.
- **Annual Rail Trail Cleanup** – host and sponsor an annual rail trail cleanup event along the Quequechan Rail Trail.
- **Annual Report Availability** – Fall River's annual reports are available electronically on EPA's website.

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### 4.3 Ongoing Public Participation and Involvement Opportunities

This written SWMP Plan and annual reports are available for review and comment via the City's website, along with the name, email address and/or phone number of a contact person from the City government to request additional information or submit comments. This allows the public to comment on the program at least once per year. An updated SWMP Plan will be posted to the website as additional tasks are completed.

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### 4.4 Public Participation and Involvement Summary

**Table 4-1** summarizes Fall River's ongoing Public Participation and Involvement Opportunities BMPs to meet the requirements of the 2016 MS4 Permit. Measurable goals, responsible departments and a schedule for implementation of all BMPs under the SWMP are provided in **Section 11**.

**Table 4-1. Public Participation and Involvement Summary**

| <b>BMP ID#</b> | <b>BMP Description</b>                                 | <b>Responsible Parties</b>                                     | <b>Measurable Goal</b>   |
|----------------|--|--|--|
| 2-1            | Make SWMP Plan and Annual Reports Available on Website | Information Technology, Community Utilities                    | Annual review of stormwater management plan and posting on website. Allow public to comment on the plan at least annually. Track number of website hits. |
| 2-2            | Used Oil Collection                                    | Public Works / Community Maintenance                           | Allow public to drop off used oil periodically throughout the year   |
| 2-3            | Annual Shoreline Cleanup                               | Community Groups, Conservation Commission, Community Utilities | Sponsor an annual shoreline clean up   |
| 2-4            | Annual Rail Trail Cleanup                              | Community Groups, Conservation Commission, Community Utilities | Sponsor an annual rail trail cleanup   |

## 5 MCM 3: Illicit Discharge, Detection, and Elimination

Under MCM 3, permittees must implement an IDDE program to systematically find and eliminate sources of non-stormwater discharges to its MS4 and implement procedures to prevent such discharges. An “illicit discharge” is any discharge to a municipal separate storm sewer that is not composed entirely of stormwater except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the MS4) and discharges resulting from fire-fighting activities. A summary of the required IDDE activities and timelines are provided below.

- **Legal Authority** – the IDDE program shall include adequate legal authority in the form of a currently effective ordinance, bylaw, or other regulatory mechanism to prohibit, investigate, and eliminate illicit discharges. For permittees authorized by the MS4-2003 permit such as Fall River, the ordinance, bylaw, or other regulatory mechanism was required to be effective by May 1, 2008.
- **Sanitary Sewer Overflow** – 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. Regulated communities must identify all known locations where sanitary sewer overflows (SSOs) have discharged to the MS4 within the previous 5-years. Permittees must also develop an inventory within 1-year of the effective date and update it annually. Upon detection of an SSO, the permittee must eliminate it as quickly as possible and take interim mitigation measures to minimize or eliminate the discharge of pollutants until remediation work is complete.
- **System Mapping** – regulated communities must complete a comprehensive map of their stormwater system in 2 phases. Phase 1 must be completed within 2 years and include infrastructure such as outfalls and preliminary catchment delineations, waterbodies, open channel conveyances, interconnections with other MS4s, and structural stormwater BMPs. Phase 2 must be completed within 10 years and include information such as outfalls with high accuracy GPS location and refined catchment delineations, catch basins, manholes, pipe connectivity, and sanitary or combined sewer systems as available/applicable.
- **Written Illicit Discharge, Detection, and Elimination Plan** – the 2016 MS4 Permit requires preparation of a comprehensive written IDDE Program or IDDE Plan that provides detailed procedures for assessment and priority ranking of outfalls and interconnections, dry and wet weather outfall sampling, catchment investigation procedures, system vulnerability factor (SVF) assessment, identification of an illicit discharge, illicit discharge removal, and ongoing screening requirements. The written IDDE Program must be prepared as a standalone IDDE Plan separate from this SWMP Plan.

- **Annual IDDE Training** – the 2016 MS4 Permit requires annual IDDE training to be provided to all employees involved in the IDDE program. 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.

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## 5.1 Existing IDDE Program

The City of Fall River has completed a number of existing program measures in response to implementing its IDDE program. The following summarizes Fall River’s current illicit discharge activities that will be continued under the 2016 MS4 Permit:

- **Adopted an IDDE Ordinance** – enacted a “Municipal Stormwater System Rules” under Chapter 74 Utilities, Section 74-141.
- **Comprehensive GIS Map** – developed a of the City’s MS4 on Infonet, including catch basins, outfalls, pipes, major watersheds, and receiving waters. The City has also mapped combined sewer and sanitary sewer as standalone GIS libraries.
- **Written IDDE Plan** – completed a comprehensive written IDDE Plan that addresses illicit discharge requirements of the 2016 MS4 Permit, including procedures for assessing and priority ranking of outfalls and interconnections, dry and wet weather outfall sampling, catchment investigations, SVF assessment, identification and removal of illicit discharges, and ongoing screening requirements.
- **Outfall Sampling Program** – perform ongoing dry weather inspections and screening on stormwater outfalls throughout the year to inspect for illicit discharges.

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## 5.2 Ongoing IDDE Program

Fall River has conducted multiple activities to identify illicit discharges. A separate written IDDE plan is available and outlines legal authority, program responsibilities, ranks catchment areas, and outlines procedures for investigation and removal in accordance with the permit. This written plan will be updated and refined as needed to incorporate findings of field investigations.

The following sections outlines how Fall River will meet the requirements of the 2016 MS4 Permit to implement an IDDE program to locate, eliminate, and prohibit illicit discharges.

### 5.2.1 Establish Legal Authority

The City of Fall River has adopted a Municipal Stormwater System Rules under Chapter 74 Utilities, Section 74-141 dated December 15, 2009 to meet IDDE regulatory mechanism requirements, and is provided under the standalone IDDE Plan. The Municipal Stormwater System Rules provides the City of Fall River with adequate legal authority to:

- Establish legal authority to comply with state and federal regulatory requirements;
- Prohibit illicit discharges and unauthorized discharges to the MS4;
- Investigate suspected illicit discharges;
- Require the removal of all such illicit connections;
- Eliminate illicit discharges, including discharges from properties not owned by or controlled by the MS4 that discharge into the MS4 system; and
- Implement appropriate enforcement procedures and actions.

Legal authority meets all permit requirements and is documented in **Appendix D**.

### 5.2.2 Complete System Mapping

The City of Fall River has already mapped many aspects of its stormwater system. Mapping status as of the end of Year 1 and accompanying maps are provided in **Appendix E**, and are being continuously updated. Fall River will continue to update its stormwater mapping by the required deadlines to include the above information. All information will be incorporated into its GIS library. Where applicable, GIS information can be exported into other formats, such as Microsoft Excel, for use with annual reporting or tracking.

### 5.2.3 Complete Sanitary Sewer Overflow Inventory

The City of Fall River will annually complete an inventory of SSOs that have discharged to the MS4 within the 5 years prior to the effective date of the 2016 MS4 Permit, based on review of available documentation pertaining to SSOs. The SSO inventory will be included in the annual report, including the status of mitigation and corrective measures to address each identified SSO. An ongoing list of SSOs that have discharged to the MS4 in the past 5 years is maintained in **Appendix F**.

### 5.2.4 Develop and Implement Written IDDE Program

Fall River has developed a written IDDE Plan as a separate standalone document to address the illicit discharge requirements of the 2016 MS4 Permit. This will include dry and wet weather screening on City outfalls, including those with SVFs where applicable and address select requirements of bacteria-impaired TMDL and water quality limited waterbody requirements. Ongoing screening will also be performed after the conclusion of the initial sampling rounds. Fall River will work towards implementing a comprehensive IDDE Plan and program, according to the schedule set forth in the permit.

### 5.2.5 Perform Annual IDDE Training

The 2016 MS4 Permit requires annual IDDE training to be provided to all employees involved in the IDDE program. Therefore, Fall River will provide annual training that will at a minimum include information on how to identify illicit discharges and may also include additional training specific to the functions of particular personnel and their function within the framework of the IDDE program. Frequency and type(s) of training will be included in the annual report.

## 5.3 IDDE Program Summary

The following table outlines Fall River's IDDE program to meet permit requirements.

**Table 5-1. IDDE Program Summary**

| <b>BMP ID#</b> | <b>BMP Description</b>           | <b>Responsible Parties</b> | <b>Measurable Goal</b>  |
|----------------|----------------------------------|----------------------------|---|
| 3-1            | Enact and Enforce IDDE Ordinance | Community Utilities        | Regulatory mechanism in place within 1 year of the permit effective date.                             |
| 3-2            | Phase I Storm Sewer System Map   | Community Utilities        | Complete preliminary system map within 2 years of effective date of permit                            |
| 3-3            | Phase II Storm Sewer System Map  | Community Utilities        | Complete full system map 10 years after effective date of permit                                      |
| 3-4            | Complete SSO Inventory           | Community Utilities        | Develop SSO inventory and complete within 1 year of effective date of permit                          |
| 3-5            | Written IDDE Program             | Community Utilities        | Create written IDDE program within 1 year of the effective date of the permit and update periodically |
| 3-6            | Outfall Inventory and Ranking    | Community Utilities        | Classify and rank outfalls and interconnections within 1 year of the effective date of the permit.    |
| 3-7            | Implement IDDE Program           | Community Utilities        | Implement catchment investigations and complete within 10 years of the effective date of the permit   |
| 3-8            | Dry Weather Screening            | Community Utilities        | Complete in accordance with outfall screening procedure within 3 years of the effective permit date   |
| 3-9            | Wet Weather Screening            | Community Utilities        | Complete in accordance with outfall screening procedure within 10 years of the effective permit date  |
| 3-10           | Ongoing Screening                | Community Utilities        | Conduct ongoing dry and wet weather outfall screening upon completion of the IDDE program             |
| 3-11           | Perform IDDE Training            | Community Utilities        | Complete annual training  |

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## 5.4 Indicators of IDDE Program Progress

The success of the IDDE Program will be evaluated according to the following parameters:

- Storm system mapping 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 procedures;
- Updated SVF and catchment inventory and ranking;
- Dry weather and wet weather screening and sampling results;
- Estimated volume or quantity of sewage removed; and
- Number of employees successfully trained on IDDE.

The above will be tracked throughout the year and reported as part of each annual report submitted to EPA each year by September 29.

## 6 MCM 4: Construction Site Stormwater Runoff Control

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### 6.1 Summary of Permit Requirements

Under MCM 4, permittees are required to implement and enforce a program to reduce pollutants in stormwater runoff discharged to the MS4 from all construction activities that result in a land disturbance of greater than or equal to 1 acre within the regulated area. This program shall also regulate disturbances less than 1 acre if they are part of a larger common plan of development or sale that would disturb 1 or more acres. A summary of the required Construction Site Stormwater Runoff Control Program activities and timelines are provided below:

- **Legal Authority** – the Construction Site Stormwater Runoff Control Program shall include adequate legal authority in the form of a currently effective ordinance, bylaw, or other regulatory mechanism to:
  - Require the use of sediment and erosion control practices at construction sites; and
  - Include controls for other wastes on construction sites.

For permittees authorized by the 2003 MS4 permit such as Fall River, the ordinance, bylaw, or other regulatory mechanism was required to be effective by May 1, 2008.

- **Construction Site Stormwater Runoff Control Program** – the 2016 MS4 Permit requires preparation of written Construction Site Stormwater Runoff Control Program procedures that includes the following:
  - Pre-construction plan review of the site design, planned operations, planned BMPs during the construction phase, and planned BMPs to manage runoff after development;
  - Site inspections and enforcement actions to take place both during construction of BMPs and after construction of BMPs; and
  - Requirements for construction site to implement a sediment and erosion control program that includes BMPs appropriate for the conditions at the construction site.

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### 6.2 Existing Construction Site Stormwater Runoff

The City of Fall River has completed a number of existing program measures to satisfy construction site stormwater runoff requirements. The following summarizes Fall River's current activities that will be continued under the 2016 MS4 Permit:

- **Adopted a Stormwater Management Ordinance** – enacted a “Stormwater Management for Discharges to Municipal Stormwater System” ordinance under Chapter 74 Utilities, Sections 74-144 through 74-160.

- **Required Site Plan Reviews** – the “Stormwater Management for Discharges to Municipal Stormwater System” requires review proposed site plans by the Site Plan Review Committee for stormwater, erosion, and sediment control impacts for sites proposing to disturb at least 1 acre.
- **Stormwater Management Plan** – the “Stormwater Management for Discharges to Municipal Stormwater System” requires developers to prepare a Stormwater Management Plan that meets the Massachusetts Stormwater Management Standards for submittal to the Site Plan Review Committee for sites proposing to disturb at least 1 acre. Note that the Stormwater Management Plan required by Fall River’s ordinance is different from this SWMP.
- **Erosion and Sediment Control Plans** – the “Stormwater Management for Discharges to Municipal Stormwater System” requires developers to prepare an Erosion and Sediment Control Plan for submission to the Site Plan Review Committee for sites proposing to disturb at least 1 acre.
- **Operation and Maintenance Plans** – the “Stormwater Management for Discharges to Municipal Stormwater System” requires developers to prepare an Erosion and Sediment Control Plan for submission to the Site Plan Review Committee for sites proposing to disturb at least 1 acre.
- **Monthly Inspection Reports** – the “Stormwater Management for Discharges to Municipal Stormwater System” requires developers and contractors to submit monthly erosion and sediment control inspection reports to the City for construction sites with disturbance of at least 1 acre.

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## 6.3 Ongoing Construction Site Stormwater Runoff Control Program

The following sections outline how Fall River will meet the requirements of the 2016 MS4 Permit to establish a Construction Site Stormwater Runoff Control Program.

### 6.3.1 Establish Legal Authority

The City of Fall River previously adopted a Stormwater Management for Discharges to Municipal Stormwater System under Chapter 74 Utilities, Sections 74-144 through 74-160 dated January 9, 2018 to meet regulatory mechanism requirements. This ordinance addresses many of the 2016 MS4 Permit requirements, including requirements to use sediment and erosion control at construction sites. However, the City performed a detailed regulatory assessment on its existing ordinance in March 2018 and determined that the ordinance in its current form does not specifically address controls for other wastes at construction sites, specifically demolition debris, litter, and sanitary wastes. Fall River anticipates that the final ordinance will be developed during 2019 and adopted during early 2020. Ongoing progress on legal authority is documented in **Appendix D**.

### 6.3.2 Establish Written Procedures for Site Plan Review

The City of Fall River currently requires preconstruction site plan reviews for stormwater, erosion, and sediment controls. The Stormwater Management for Discharges to Municipal Stormwater System ordinance (**Appendix D**) contains written procedures that require developers apply for a stormwater management permit which includes submittal of a Stormwater Management Plan to the Site Plan Review Committee. This plan generally requires applicants meet the Massachusetts Stormwater Management Standards which in part addresses potential water quality impacts and opportunities for use of LID and GI.

Stormwater Management Plans must be supplied with accompanying existing and proposed hydrology with supporting calculations, Operation and Maintenance Plan, and Sediment and Erosion Control Plan (described below). Additionally, the Stormwater Management Plan must include accompanying plans showing relevant information, such as:

- Existing and proposed topography;
- Existing and proposed watershed boundaries, stormwater conveyances, impoundments, and receiving waterbodies;
- Proposed BMPs and measures for detention, retention, or infiltration of water;
- Locations, cross sections, profiles, and methods of stabilization of all linear waterbodies and features;
- Measures to ensure protection of water quality; and
- Structural details for drainage and stormwater components.

The City of Fall River will review its current program for compliance with the 2016 MS4 Permit for compliance and make changes as require, however, it is not expected that major changes will be required based on the current program in place. It is possible that additional consideration of information submitted by the public may need to be incorporated, as this is currently only performed via public notification for projects submitting a Notice of Intent to the Conservation Commission. In addition, procedures must be established to track the number of site reviews, and will be done as part of the annual reporting requirements.

### 6.3.3 Establish Procedures for Site Inspections and Enforcement

The City of Fall River currently requires monthly inspection reports for construction sites disturbing at least 1 acre as outlined in the “Stormwater Management for Discharges to Municipal Stormwater System” ordinance. This regulatory mechanism (**Appendix D**) establishes written procedures that in part include the following:

- The Site Plan Review Committee or its designee is responsible for inspections;
- An initial site inspection prior to plan approval shall be performed;
- Periodic erosion control inspections shall be performed;
- Inspections prior to backfilling any underground drainage structure shall be performed; and

- A final inspection shall be performed after the stormwater management system has been constructed.

Additionally, the same regulatory mechanism allows the Site Plan Review Committee or authorized agent to issue orders, violation notices, and enforcement orders. This may include cease and desist construction or land disturbance, directive to repair or replace a stormwater system, perform monitoring and reporting, or remediate adverse impacts. Violators have 30 days to perform any required orders, and may face fines for each day or occurrence.

The City of Fall River will review its current program for compliance with the 2016 MS4 Permit for compliance and make changes as require, however, it is not expected that major changes will be required based on the current program in place.

### 6.3.4 Establish a Sediment and Erosion Control Program

The City of Fall River requires preparation of an Erosion and Sediment Control Plan under the “Stormwater Management for Discharges to Municipal Stormwater System” ordinance for submission to the Site Plan Review Committee. This regulatory mechanism (**Appendix D**) establishes written procedures that in part include the following:

- Drainage patterns and approximate slopes anticipated after major grading activities;
- Location and details of erosion and sediment control measures; and
- Narrative of the construction sequence/phasing of the project, including both operation and maintenance for structural and nonstructural measures, interim grading, and material stockpiling areas;

Erosion and Sediment Control Plans must be designed and stamped by a professional engineer or certified professional in erosion and sediment control to accomplish the following:

- Minimize total disturbance and sequence activities to minimize simultaneous areas of disturbance;
- Minimize soil erosion and control sedimentation during construction;
- Install and maintain all erosion and sediment control measures in accordance with the manufacturer's specifications and good engineering practices;
- Prevent off-site transport of sediment;
- Institute interim and permanent stabilization measures; and
- Protect and manage on- and off-site material storage areas (overburden and stockpiles of dirt, borrow areas, or other areas used solely by the permitted project are considered a part of the project).

Additionally, Erosion and Sediment Control Plans require contractors to properly manage on-site construction and waste materials, defined as excess or discarded building or site materials, including concrete truck washout, chemicals, litter and sanitary waste at a construction site. The plan must include a description of controls to reduce pollutants from

these materials, including storage practices to minimize exposure of the materials to stormwater, and spill prevention and response.

The City of Fall River will review its current program for compliance with the 2016 MS4 Permit for compliance and make changes as require, however, it is not expected that major changes will be required based on the current program in place.

## 6.4 Construction Site Stormwater Runoff Control Program Summary

The following table outlines Fall River’s Construction Site Stormwater Runoff Control program to meet permit requirements.

**Table 6-1. Construction Site Stormwater Runoff Control Program Summary**

| <b>BMP ID#</b> | <b>BMP Description</b>                      | <b>Responsible Parties</b>  | <b>Measurable Goal</b>  |
|----------------|---|---|---|
| 4-1            | Develop Construction Ordinance              | Engineering, Planning, Conservation Commission, Zoning Board, Building Department, Community Utilities    | Complete ordinance within 1 year of the effective date of the permit  |
| 4-2            | Procedures for Site Plan Review             | Engineering, Planning, Conservation Commission, Building Department                                       | Establish procedures for site plan review within 1 year of the effective date of the permit                                       |
| 4-3            | Site Inspections and Enforcement            | Engineering, Planning, Conservation Commission, Building Department                                       | Establish procedures for site inspections and enforcement within 1 year of the effective date of the permit                       |
| 4-4            | Procedures for Erosion and Sediment Control | Engineering, Planning, Conservation Commission, Building Department, Community Utilities                  | Establish procedures for development of an erosion and sediment control program within 1 year of the effective date of the permit |
| 4-5            | Develop Procedures for Waste Control        | Engineering, Planning, Conservation Commission, Building Department, Public Works / Community Maintenance | Establish requirements to control construction site wastes within 1 year of the effective date of the permit                      |

## 7 MCM 5: Stormwater Management in New Development and Redevelopment

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### 7.1 Summary of Permit Requirements

Under MCM 5, permittees shall develop, implement, and enforce a program to address post-construction stormwater runoff from new development and redevelopment sites that disturb 1 or more acres and discharge into an MS4 system. This program shall also regulate disturbances less than 1 acre if they are part of a larger common plan of development or sale that would disturb 1 or more acres. A summary of the required Stormwater Management in New Development and Redevelopment, also known as Post Construction Stormwater Management, activities and timelines are provided below:

- **Legal Authority** – the Post Construction Stormwater Management Program shall include adequate legal authority in the form of a currently effective ordinance, bylaw, or other regulatory mechanism to:
  - Require LID site planning and design strategies;
  - Meet many of the requirements of the Massachusetts Stormwater Handbook and associated stormwater standards;
  - Incorporate runoff volume storage and/or pollutant removal requirements; and
  - Meet additional requirements for TMDL and water quality limited waterbodies.

Updates must be made within 2 years of the effective permit date.

- **As-Built Submittals** – the permittee must require the submission of as-built drawings within 2 years after completion of construction projects and include structural and non-structural controls.
- **Operation and Maintenance** – the program must include procedures to ensure adequate long-term operation and maintenance of BMPs are established after completion of a construction project, along with a dedicated funding source within 2 years of the effective permit date.
- **Regulatory Assessment** – the permittee must complete an assessment of existing regulations that could affect creation of impervious cover to determine if changes are required to support LID. Additionally, the permittee must assess current regulations to ensure that certain green infrastructure is allowable where feasible. Any required changes must be completed within 4 years of the effective permit date.
- **Inventory of Potential Retrofit Sites** – the permittee must complete an inventory of municipal properties with significant impervious cover within 4 years of the effective permit date to determine at least 5 properties that could be modified or retrofitted with stormwater BMP improvements.

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## 7.2 Existing Post Construction Stormwater Management

The City of Fall River has completed a number of existing program measures to satisfy post-construction stormwater management requirements. The following summarizes Fall River's current activities that will be continued under the 2016 MS4 Permit:

- **Adopted a Stormwater Management Ordinance** – enacted a “Stormwater Management for Discharges to Municipal Stormwater System” ordinance under Chapter 74 Utilities, Sections 74-144 through 74-160.
- **Stormwater Management Plan** – the “Stormwater Management for Discharges to Municipal Stormwater System” requires developers to prepare a Stormwater Management Plan that meets the Massachusetts Stormwater Management Standards for submittal to the Site Plan Review Committee for sites proposing to disturb at least 1 acre. Note that the Stormwater Management Plan required by Fall River's ordinance is different from this SWMP.
- **As-Built Submission** – the “Stormwater Management for Discharges to Municipal Stormwater System” requires developers to submit as-built record drawings of all structural stormwater controls to the Site Plan Review Committee.
- **Operation and Maintenance Plans** – the “Stormwater Management for Discharges to Municipal Stormwater System” requires developers to prepare an Operation and Maintenance Plan for submission to the Site Plan Review Committee for sites proposing to disturb at least 1 acre.

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## 7.3 Ongoing Post-Construction Stormwater Management Program

The following sections outlines how Fall River will meet the requirements of the 2016 MS4 Permit to establish a Post-Construction Stormwater Management Program.

### 7.3.1 Establish Legal Authority

The City of Fall River has adopted a Stormwater Management for Discharges to Municipal Stormwater System under Chapter 74 Utilities, Sections 74-144 through 74-160 dated January 9, 2018 to meet regulatory mechanism requirements (see **Appendix D**). This ordinance addresses many of the 2016 MS4 Permit requirements, including requirements to meet many of the Massachusetts Stormwater Handbook stormwater standards. However, the ordinance in its current form does not address all requirements, such as the runoff volume storage and/or pollutant removal requirements. In addition, the City needs to update the ordinance to address nitrogen removal optimization for new development and redevelopment projects.

Therefore, the City of Fall River will review and update its ordinance within 2 years of the effective permit date to require provisions that are as least as stringent as the following:

1. Use LID site planning and design strategies to the maximum extent feasible;
2. Design of treatment and infiltration practices should follow Volume 2 of the Massachusetts Stormwater Handbook and associated Standards;
3. Stormwater management systems on new development sites shall be designed to:
  - a) Not allow untreated stormwater discharges (Standard 1), control peak runoff rates (Standard 2), recharge groundwater (Standard 3), eliminate or reduce discharge of pollutants from land uses with higher pollutant loads (Standard 5), protect Zone II or Interim Wellhead Protection Areas (Standard 6), and implement long term maintenance practices (Standard 9); and
  - b) Require that all stormwater management systems be designed to:
    - 1) Retain the volume of runoff equal to at least 1.0 inches over the total post-construction impervious surface area on the site and/or
    - 2) Remove 90% of the average annual Total Suspended Solids (TSS) load and 60% of the average annual Total Phosphorus (TP) load from the total post-construction impervious surface area on the site.
4. Redevelopment Requirements
  - a) Stormwater management systems on Redevelopment sites shall meet the following to the maximum extent feasible:
    - 1) Standards 1, 2, and 3, and pretreatment and structural BMP requirements of Standards 5 and 6.
  - b) Stormwater management systems on Redevelopment sites shall also improve existing conditions by requiring stormwater BMPs be designed to:
    - 1) Retain the volume of runoff equal to at least 0.80 inches over the total post-construction impervious surface area on the site and/or
    - 2) Remove 80% of the average annual TSS load and 50% of the TP load from the total post-construction impervious area on the site.
  - c) Redevelopment activities that are limited to maintenance and improvement of existing roads, (including widening less than a single lane, adding shoulders, improving existing drainage systems, and repaving projects) shall improve existing conditions where feasible and are exempt from other parts above.
5. Nitrogen Requirements
  - a) Include requirements for stormwater structural BMPs proposed as part of new or redevelopment to be optimized for nitrogen removal for development within the Mount Hope Bay watershed. See Section 9 for more information.

Fall River is reviewing a sample ordinance and determining changes that must be made to suit the City. Fall River anticipates that the final ordinance will be developed during 2019 and adopted during early 2020. Ongoing progress on legal authority is documented in **Appendix D**.

### 7.3.2 Require Submittal of As-Built Plans

Fall River's Stormwater Management for Discharges to Municipal Stormwater System ordinance requires developers to submit as-built record drawings of all structural stormwater

controls to the Site Plan Review Committee. However, the ordinance does not specifically require depiction of non-structural stormwater controls or a timeframe for submittal. Therefore, the City of Fall River will review and update its ordinance within 2 years of the effective permit date to meet permit requirements.

### 7.3.3 Require Long Term Operation and Maintenance

Fall River's Stormwater Management for Discharges to Municipal Stormwater System ordinance requires developers to prepare an Operation and Maintenance Plan for submission to the Site Plan Review Committee for sites proposing to disturb at least 1 acre, however does not appear to meet the funding source requirements. The City requires the O&M Plan in part to comply with the Massachusetts surface water quality standards. Therefore, the City of Fall River will review and update its ordinance within 2 years of the effective permit date to meet permit requirements.

### 7.3.4 Complete Regulatory Assessment

The City of Fall River has not yet performed a comprehensive review of all regulations for the above items, however, existing regulations do encourage the use of LID. Although no known barriers to LID and GI exist, the City will review and update relevant regulations to include recommendations and proposed schedules to incorporate policies and standards. Any required changes to reduce mandatory creation of impervious cover in support of LID should be made within 4 years of the effective permit date.

### 7.3.5 Complete Inventory of Potential BMP Retrofit Sites

The City of Fall River will complete an inventory of municipal properties (**Appendix G**) that could be retrofitted with stormwater BMPs, along with a review of existing site conditions. This inventory will be updated continuously starting in Year 5. Retrofit opportunities must also consider the potential to reduce nitrogen discharges for properties within the Mount Hope Bay watershed. As BMPs are constructed, the inventory should be updated so that it always contains at least 5 sites in the inventory for potential improvement.

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## 7.4 Stormwater Management in New and Redevelopment Program Summary

The following table outlines Fall River's Stormwater Management in New Development and Redevelopment program to meet permit requirements.

**Table 7-1. Stormwater Management in New and Redevelopment Program Summary**

| <b>BMP ID#</b> | <b>BMP Description</b>                       | <b>Responsible Parties</b>   | <b>Measurable Goal</b>  |
|----------------|--|--|---|
| 5-1            | Develop Post-Construction Ordinance          | Site Plan Review Committee, Engineering, Planning, Conservation, Community Utilities, Building Department            | Complete ordinance within 2 years of the effective date of the permit   |
| 5-2            | Require Stormwater As-Built Plan Submittal   | Site Plan Review Committee, Engineering, Planning, Conservation Commission, Building Department, Community Utilities | Require submittal of as-built plans for completed projects within 2 years of completion   |
| 5-3            | Require Long Term Operation and Maintenance  | Site Plan Review Committee, Engineering, Planning, Conservation Commission, Building Department, Community Utilities | Require submittal of operation and maintenance plans and dedicated funding to ensure long term maintenance within 2 years of the effective date of the permit |
| 5-4            | Allow green infrastructure                   | Planning, Conservation Commission, Building Department, Community Utilities  | Complete regulatory updates within 4 years of the effective date of the permit  |
| 5-5            | Street design and parking lot guidelines     | Planning, Conservation Commission, Zoning Board, Building Department, Community Utilities                            | Complete regulatory updates within 4 years of the effective date of the permit  |
| 5-6            | Target properties to reduce impervious areas | Engineering, Planning, Community Utilities, Facilities Maintenance   | Complete inventory within 4 years of the effective date of the permit and update annually on retrofitted properties   |

## 8 MCM 6: Good Housekeeping and Pollution Prevention

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### 8.1 Summary of Permit Requirements

Under MCM 6, permittees shall develop and implement an operations and maintenance program to reduce stormwater pollution from permittee activities. This includes optimizing existing activities related to parks and open space, buildings and facilities, vehicles and equipment, and stormwater infrastructure maintenance. A summary of the required Good Housekeeping and Pollution Prevention for Permittee Owned Operations activities and timelines is provided below.

- **Operations and Maintenance Programs** – permittees shall develop written operations and maintenance procedures for parks and open space, buildings and facilities, vehicles and equipment, winter road maintenance, stormwater infrastructure, and structural stormwater BMPs within 2 years of the effective permit date. This program shall also optimize catch basin cleaning and street sweeping, along with establishing proper storage techniques for cleaning residuals. All maintenance activities, inspections, and training shall be logged for annual reporting.
- **Stormwater Pollution Prevention Plans** – develop and implement Stormwater Pollution Prevention Plans (SWPPPs) for municipally-owned maintenance garages, public works yards, transfer stations within 2 years of the effective permit date.

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### 8.2 Existing Good Housekeeping and Pollution Prevention Program

The City of Fall River has completed a number of existing program measures to satisfy good housekeeping and pollution prevention program requirements. The following summarizes Fall River's current activities that will be continued under the 2016 MS4 Permit:

- **Street and Parking Lot Sweeping** – sweep streets and permittee-owned parking lots in the spring. Additional commercial areas are swept daily on a rotating schedule.
- **Catch Basin Cleaning** – clean all catch basins at least every 3 to 4 years and repair as needed.
- **Parks and Open Space Maintenance Optimization** – eliminated the use of herbicides, pesticides, and fertilizers within City-owned park areas.
- **Winter Roadway Maintenance Optimization** – calibrate salt spreading equipment at least annually to minimize usage and ensure proper application rates.
- **Vehicle Washing Optimization** – wash all municipal vehicles in areas that drain to combined sewer systems to minimize pollution to the MS4 system.

- **Pet Waste Collection** – employ 3 full-time Animal Control Officers to enforce the pet waste ordinance.
- **Frequent Trash Pickup** – complete frequent trash barrel collection in public areas to encourage proper disposal.
- **Employee Training Program** – complete employee training on a 5-year rotating cycle. Topics such as spill response and prevention, vehicle maintenance, and washing procedures are addressed.

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## 8.3 Ongoing Good Housekeeping and Pollution Prevention Program

The following sections outlines how Fall River will meet the requirements of the 2016 MS4 Permit to establish a Good Housekeeping and Pollution Prevention Program.

### 8.3.1 Complete Facilities O&M Plan

The City of Fall River will complete an inventory of all parks and open space, buildings and facilities where pollutants are exposed to stormwater runoff, including those coming from vehicles and equipment, within 2 years of the permit effective date. The inventory must be reviewed annually and updated as necessary. Upon completion, the City must establish written procedures as part of a Facilities Operation and Maintenance Plan within 2 years of the permit effective date for the following items:

#### Parks and Open Space

- Proper use, storage, and disposal of pesticides, herbicides, and fertilizers;
- Lawn maintenance and landscaping activities to protect water quality, such as reducing mowing, lawn clippings handling, and use of alternative materials;
- Pet waste handling collection and disposal locations at all locations where pets are permitted, including signage;
- Control of waterfowl in areas where they congregate to reduce waterfowl droppings from entering the MS4s;
- Management of trash containers; and
- Addressing erosion or poor vegetative cover, particularly near a surface waterbody.

#### Buildings and Facilities

- Use, storage, and disposal of petroleum products and other potential pollutants.
- Materials handling training to applicable employees;
- Ensuring that Spill Prevention, Control, and Countermeasures (SPCC) Plans are in place if needed (aboveground petroleum storage greater than 1,320 gallons or underground petroleum storage greater than 42,000 gallons);
- Dumpsters and other waste management equipment; and

- Sweeping parking lots and keeping facility areas clean to reduce pollutants in runoff.

#### Vehicles and Equipment

- Storage of vehicles to prevent fluid leaks to stormwater;
- Fueling area evaluation, including feasibility of fueling under cover; and
- Preventing vehicle wash waters from entering surface waters or the MS4.

In addition, the City must establish requirements for use of slow release fertilizers on City-owned properties currently using fertilizer and establish procedures to manage grass cuttings and leaf litter on City property for areas of the city within the nitrogen-impaired Mount Hope Bay watershed.

As noted previously, the City has discontinued all use of herbicides, pesticides, and fertilizers within City-owned park areas. Should use be reestablished at a later date, appropriate good housekeeping procedures must be established. Additionally, the City has several existing practices in place, including procedures to address trash pickup, pet waste collection, parking lot sweeping, and proper vehicle washing. Remaining items above will be incorporated into a detailed written Facilities Operation and Maintenance Plan, a standalone document separate from this SWMP Plan, to cover applicable City-owned facilities. This document will also include the inventory of relevant city-owned properties.

### 8.3.2 Complete Infrastructure O&M Plan

The City of Fall River has established written procedures as part of an Infrastructure Operation and Maintenance Plan to ensure that MS4 infrastructure is maintained in a timely manner to reduce the discharge of pollutants from the MS4. The City recently updated its existing street sweeping, catch basin cleaning, and winter O&M procedures to meet permit requirements in accordance with the following:

#### Catch Basin Optimization Plan (Appendix H)

- Prioritization of catch basins located near construction activities for more frequent inspection and maintenance;
- Establishing a schedule with a goal that at the time of maintenance, no catch basin is more than 50% full;
- For catch basins that are more than 50% full during 2 consecutive inspections or cleaning events, methods for investigating the contributing drainage area for sources of excessive sediment loads;
- Establishing a plan for optimizing catch basin cleaning, inspections, and documentation; and
- Review results each year to determine next steps.

#### Street Sweeping Prioritization Plan (Figure 8-1)

- Sweeping all streets and City-owned parking lots, with the exception of rural uncurbed roads with no catch basins or high-speed limited access highways at least 1 per year in the spring following winter sanding events;

- More frequent sweeping of targeted areas based on inspections, land use, or known water quality impacts;
- Increasing street sweeping frequency of all municipal owned streets and parking lots to a minimum of 2 times per year; once in the spring (following winter activities such as sanding) and at least once in the fall (Sept 1 – Dec 1; following leaf fall) for areas within the nitrogen-impaired watersheds; and
- For rural uncurbed roadways with no catch basins or limited access highways, either an evaluation to meet the minimum frequencies above or development and implementation of an inspection, documentation, and targeted sweeping plan within 2 years of the effective date and submitted with the Year 1 annual report.

#### Catch Basin and Street Sweeping Residuals Management

- Ensure proper storage of catch basins cleanings and street sweepings prior to disposal or reuse such that they will not be discharged to receiving waters based on available MassDEP policies.

#### Winter Operation and Maintenance

- Establish and implement procedures for winter road maintenance including the use and storage of salt and sand;
- Minimizing use of sodium chloride and other salts and evaluation of opportunities to use alternative materials; and
- Ensuring that snow disposal activities do not result in disposal of snow into waters of the United States.

### 8.3.3 Stormwater Pollution Prevention Plans

The City of Fall River conducted a preliminary analysis of regulated facilities and determined that all applicable facilities are located within areas that drain to a combined sewer system and not the MS4. Therefore, these facilities would not be required to prepare SWPPPs, as they are not located within regulated areas. Should future evaluation determine that facilities drain to the MS4, the City will prepare a SWPPP as required under the 2016 MS4 Permit.

### 8.3.4 Structural Stormwater BMP Inspections

The City of Fall River will perform an inventory (**Appendix J**) of known structural stormwater BMPs within the City's regulated area. Once complete, the City will establish and implement written inspection and maintenance procedures and frequencies for all stormwater treatment structures, such as infiltration and detention basins, proprietary stormwater treatment structures, gravel wetlands, etc. at least annually. The Facilities O&M Plan will also document logs for BMP inspection and maintenance.

## 8.4 Good Housekeeping and Pollution Prevention Program Summary

The following table outlines Fall River’s Good Housekeeping and Pollution Prevention program to meet permit requirements.

**Table 8-1. Good Housekeeping and Pollution Prevention Program Summary**

| <b>BMP ID#</b> | <b>BMP Description</b>  | <b>Responsible Parties</b>  | <b>Measurable Goal</b>   |
|----------------|---|---|--|
| 6-1            | Inventory open spaces, buildings and facilities, and vehicles and equipment | Public Works / Community Maintenance, Parks and Recreation, Facilities Maintenance                      | Complete inventory of open spaces, buildings and facilities, and vehicles and equipment within 2 years of the effective date of the permit       |
| 6-2            | Establish Operation and Maintenance Procedures                              | Public Works / Community Maintenance, Parks and Recreation, Facilities Maintenance                      | Create written O&M Plan for open spaces, buildings and facilities, and vehicles and equipment within 2 years of the effective date of the permit |
| 6-3            | Review Infrastructure O&M Procedures  | Community Utilities   | Create written O&M Plan for stormwater infrastructure within 2 years of the effective date of the permit   |
| 6-4            | Catch Basin Cleaning  | Community Utilities   | Clean catch basins on established schedule and report number of catch basins cleaned and volume of material moved annually                       |
| 6-5            | Street Sweeping   | Public Works / Community Maintenance  | Sweep all streets and parking lots at least annually and sweep all streets within nitrogen-impaired waterbody watersheds twice per year.         |
| 6-6            | Road salt optimization program  | Public Works / Community Maintenance  | Implement salt use optimization during winter maintenance operations   |
| 6-7            | Assess regulated facilities to determine SWPPP eligibility                  | Community Utilities, Public Works / Community Maintenance, Facilities Maintenance, Parks and Recreation | Complete facilities assessment within 2 years of the effective date of permit.   |

**Table 8-1 (continued). Good Housekeeping and Pollution Prevention Program Summary**

| <b>BMP ID#</b> | <b>BMP Description</b>                   | <b>Responsible Parties</b>  | <b>Measurable Goal</b>  |
|----------------|--|---|---|
| 6-8            | Develop SWPPPs for applicable facilities | Community Utilities, Public Works / Community Maintenance, Facilities Maintenance, Parks and Recreation | Complete and implement within 2 years of the effective date of the permit                                 |
| 6-9            | Establish BMP O&M Procedures             | Community Utilities   | Create written O&M Plan for stormwater BMPs within 2 years of the effective date of the permit            |
| 6-10           | Inspect and maintain stormwater BMPs     | Community Utilities   | Inspect and maintain treatment structures annually  |
| 6-11           | Vehicle maintenance and washing          | Public Works / Community Maintenance, Community Utilities, Facilities Maintenance                       | Maintain all vehicles indoors and wash vehicles indoors at facilities that drain to combined sewer system |
| 6-12           | Training                                 | Community Utilities, Public Works / Community Maintenance, Facilities Maintenance                       | Train staff on good housekeeping procedures annually  |

## 9 TMDL and Impaired Waters Controls

### 9.1 Permit Requirements

The 2016 MS4 Permit requires regulated operators of MS4s to determine whether stormwater discharges from their MS4 contribute to any impaired waterbodies, including those subject to an approved TMDL and certain water quality limited waterbodies. Water quality limited waters are any waterbodies that do not meet applicable water quality standards, including waterbodies listed in categories “4a” and “5” on the Massachusetts Integrated List of Waters, also known as the “303(d) List”. MassDEP is responsible for preparing TMDLs for many of these listed waters to identify the problem pollutant and establish water quality goals. As shown in **Table 2-1**, the City of Fall River has multiple waterbodies on the Massachusetts Integrated List, however, not all of these impairments are associated with pollutants and not all must be addressed under the 2016 MS4 Permit. Under the 2016 MS4 Permit, the City of Fall River must address certain TMDL and water quality limited waterbody requirements for bacteria and nitrogen as shown below:

**Table 9-1. TMDL and Impaired Waters Requirements**

| Waterbody Name                                      | Impairment                | 2016 Permit Requirements |
|---|---------------------------|--------------------------|
| Mount Hope Bay (MA61-06)<br>Taunton River (MA62-04) | Bacteria (fecal coliform) | Appendix F, Part A.III   |
| Mount Hope Bay (MA61-06)                            | Nitrogen                  | Appendix H, Part I       |

### 9.2 Discharges to Approved TMDL Waterbodies

Approved TMDLs are those that have been approved by EPA as of the effective date of the permit, or July 1, 2018. The City of Fall River currently has 2 waterbodies, Mount Hope Bay and the Taunton River with an approved TMDL for fecal coliform. Thus, the City is required to implement the following requirements as outlined in Appendix F of the 2016 MS4 Permit. Note that 4 waterbodies have an approved TMDL for mercury in fish tissue. However, the 2016 MS4 Permit does not require any additional compliance measures to address this impairment.

#### 9.2.1 Fecal Coliform TMDL Requirements

The City of Fall River currently has 2 waterbodies as outlined in **Table 9-1** with an approved TMDL for fecal coliform. Thus, the City is required to implement the following requirements as outlined under Appendix F, Part III of the 2016 Permit. The City of Fall River will include the following additional or enhanced BMPs, in addition to the 6 MCMs outlined previously:

- **Public Education** – supplement its Residential program with an annual message encouraging the proper management of pet waste and disseminate educational materials to dog owners at the time of issuance or renewal of a dog license.

Education materials shall describe the detrimental impacts of improper management of pet waste, requirements for waste collection and disposal, and penalties for non-compliance. The City also must provide information to owners of septic systems about proper maintenance in any catchment that discharges to a water body impaired for bacteria or pathogens.

- **Illicit Discharge, Detection, and Elimination** – designate catchments draining to pathogen impaired segments as “Problem Catchments” or “High” priority.

Public education requirements have been incorporated into future public education outreach components as described in Section 3. IDDE requirements have been incorporated into Fall River’s IDDE Plan.

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## 9.3 Discharges to Water Quality Limited Waterbodies

Water quality limited waterbodies are those that have been listed on the most recent approved Massachusetts Integrated List of Waters. For Fall River, existing water quality limited waterbodies listed in **Table 9-1** must adhere to the requirements in Appendix H of the 2016 MS4 Permit. The following sections describe those additional requirements. The City will review the most recent approved list of impaired waters as it is released and outline any additional requirements associated with the most recent list in **Appendix B**.

### 9.3.1 Nitrogen Water Quality Limited Waterbody Requirements

The City of Fall River is subject to the nitrogen water quality limited waterbody requirements for discharges to Mount Hope Bay and thus is required to implement the following requirements as outlined under Appendix H, Part I of the 2016 Permit. The City of Fall River will include the following additional or enhanced BMPs, in addition to the 6 MCMs outlined previously:

- **Public Education** – supplement its Residential and Business/Commercial/Institution programs with additional annual messages as follows:
  - Spring (April-May): Proper use and disposal of grass clippings and use of slow-release fertilizers;
  - Summer (June-July): Proper management of pet waste; and
  - Fall (August-October): Proper disposal of leaf litter.
- **Stormwater Management in New Development and Redevelopment** – supplement standard permit ordinance requirements to also mandate the use of stormwater BMPs optimized for nitrogen removal as part of new development and redevelopment projects. Additionally, retrofit opportunities must consider opportunities for constructing infiltration BMPs for properties within the Mount Hope Bay watershed.

- **Good Housekeeping and Pollution Prevention** – establish requirements for reducing fertilizer usage and/or using slow release fertilizers on City-owned properties, procedures for properly managing grass cuttings and leaf litter on City-owned property, and prohibit blowing organic waste onto impervious surfaces. Additionally, street sweeping must be increased to at least twice per year, once in the spring and once in the fall.

The City of Fall River will also prepare a Nitrogen Source Identification Report that generally does the following and must be completed by the end of Year 4:

- Identifies, delineates, and prioritizes areas of the city at the catchment-level that have the highest nitrogen loading potential based on land use and other factors;
- Accounts for the urbanized area that discharges to the Mount Hope Bay watershed;
- Determines impervious area based on catchment delineations;
- Accounts for any screening results performed under MCM 3 when developing conclusions; and
- Identifies potential retrofit opportunities for installing structural BMPs during redevelopment.

Upon completion of the Nitrogen Source Identification Report, the City will evaluate all properties identified under the report or using the procedures identified under Section 7.3.5 to complete a site-specific evaluation addressing the following:

- Identifies the next planned redevelopment activity or planned retrofit date;
- Determines an estimated cost of redevelopment or retrofit BMPs; and
- Determines the engineering and regulatory feasibility BMP installation.

Upon completion, the City will provide a list of planned structural BMPs, along with a plan and schedule for implementation by the end of Year 5. At least 1 BMP must be designed and constructed as a demonstration project by the end of Year 6 that targets a catchment with a high nitrogen load potential. Remaining structural BMPs must be constructed according to the provided plan and schedule. Nitrogen removals must be tracked and reported annually.

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## 9.4 TMDL and Impaired Waters Controls Program Summary

The following table outlines Fall River’s TMDL and Impaired Waters Controls program to meet permit requirements.

**Table 9-2. TMDL and Impaired Waters Controls Program Summary**

| <b>BMP ID#</b>                                      | <b>BMP Description</b> | <b>Responsible Parties</b>  | <b>Measurable Goal</b>                             |
|---|------------------------|---|--|
| <b>TMDL Requirements</b>                            |                        |   |  |
| 7-1   | Fecal Coliform         | Public Works / Community Maintenance, Community Utilities, Engineering, Planning, Conservation Commission | Adhere to requirements in part A.III of Appendix F |
| <b>Water Quality Limited Waterbody Requirements</b> |                        |   |  |
| 7-2   | Nitrogen               | Public Works / Community Maintenance, Community Utilities, Engineering, Planning, Conservation Commission | Adhere to requirements in Part I of Appendix H     |

## 10 Annual Reporting

The City of Fall River will submit annual reports each year of the permit term. The reporting period will be a one-year period commencing on the permit effective date, and subsequent anniversaries thereof, except that the first annual report under this permit shall also cover the period from May 1, 2018 to the permit effective date. The annual report is due 90 days from the close of each reporting period, or by September 29 of each year. The annual reports must contain the following relevant information which should be tracked throughout the year, and should be filed within **Appendix K**:

- A self-assessment review of compliance with the permit terms and conditions.
- An assessment of the appropriateness of the selected BMPs.
- The status of any plans or activities, including:
  - Identification of all discharges determined to be causing or contributing to an exceedance of water quality standards and description of response;
  - For discharges subject to TMDL or water quality limited waterbody requirements, identification of BMPs used to address the impairment and assessment of the BMPs effectiveness;
  - For discharges to water quality limited waters a description of each BMP and any deliverables required.
- An assessment of the progress towards achieving the measurable goals and objectives of each of the 6 MCMs:
  - Evaluation of the public education program including a description of the targeted messages for each audience; method and dates of distribution; methods used to evaluate the program; and any changes to the program.
  - Description of the activities used to promote public participation including documentation of compliance with state public notice regulations.
  - Description of IDDE activities including: status of mapping and results of the ranking and assessment; identification of problem catchments; status of all IDDE Plan components; number and identifier of catchments evaluated; number and identifier of outfalls screened; number of illicit discharges located and removed; gallons of flow removed; identification of tracking indicators and measures of progress; and employee training.
  - Evaluation of construction runoff management including number of project plans reviewed; number of inspections; and number of enforcement actions.
  - Evaluation of stormwater management for new and redevelopment including status of ordinance development; review and status of the street design and barriers to green infrastructure assessment; and inventory status.
  - Status of the O&M Programs.
  - Status of SWPPPs, including inspection results.
- All outfall screening and monitoring data during the reporting period and cumulative for the permit term; and a description of any additional monitoring data received by the City during the reporting period.
- Description of activities for the next reporting cycle.
- Description of any changes in identified BMPs or measurable goals.
- Description of activities undertaken by any entity contracted for achieving any measurable goal or implementing any control measure.

# 11 Implementation of Best Management Practices

The City of Fall River's Best Management Practices Plan as outlined in the City's NOI (**Appendix A**) is summarized in **Table 11-1**.

For consistency with the 6 MCMs and impaired water requirements, the BMPs are broken down into 7 categories:

1. Public Education and Outreach;
2. Public Participation and Involvement;
3. Illicit Discharge Detection and Elimination;
4. Construction Site Stormwater Runoff Control;
5. Stormwater Management in New Development and Redevelopment;
6. Good Housekeeping and Pollution Prevention; and
7. TMDL and Water Quality Limited Waterbodies Controls

The BMP tables also outline the measurable goals for each BMP to gauge permit compliance, the responsible party(ies) for implementing each BMP, and an implementation schedule to be used throughout the permit period. In addition to the implementation activities outlined in this plan, the City will also perform the following activities throughout the duration of the permit:

1. **Program Evaluation** – conduct annual evaluations of the Stormwater Management Program for compliance with permit conditions. The evaluation must include a determination of the appropriateness of the selected BMPs in efforts towards achieving the measurable goals outlined in **Table 11-1**.
2. **Record Keeping** – maintain records that pertain to the Stormwater Management Program for a period of at least 5 years. Records need to be made available to the public and the City may charge a reasonable fee for copying. Records need not be submitted to EPA or MassDEP unless specifically requested.
3. **Reporting** – submit an annual report to EPA and MassDEP, including the information as noted in Section 10.

Refer to **Appendix L** for a copy of the 2016 MA MS4 Permit.

## **Appendix A**

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Notice of Intent and Authorization to Discharge

## **Appendix B**

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Impaired Waterbodies

## Impaired Waters

| Waterbody Name     | Segment ID and Category |    | Impairment(s)                | Approved TMDL |
|--------------------|-------------------------|----|------------------------------|---------------|
| Copicut Reservoir  | MA95175                 | 5  | Mercury in Fish Tissue       |               |
| Copicut River      | MA95-43                 | 5  | Mercury in Fish Tissue       |               |
|                    |                         |    | PCB in Fish Tissue           |               |
| Mount Hope Bay     | MA61-06                 | 5  | Chlorophyll-a                |               |
|                    |                         |    | Fecal Coliform               | 38908         |
|                    |                         |    | Fishes Bioassessments        |               |
|                    |                         |    | Nitrogen (total)             |               |
|                    |                         |    | Temperature, water           |               |
| North Watuppa Pond | MA61006                 | 4a | Mercury in Fish Tissue       | 33880         |
| Quequechan River   | MA61-05                 | 4c | Habitat Assessment (Streams) | N/A           |
| Sawdy Pond         | MA61004                 | 4a | Mercury in Fish Tissue       | 42407         |
| Taunton River      | MA62-04                 | 5  | Fecal Coliform               | 40310         |
|                    |                         |    | Fishes Bioassessments        |               |
|                    |                         |    | Oxygen, Dissolved            |               |

Category 4a Waters – impaired waters with a completed TMDL.

Category 4c Waters – impaired waters where the impairment is not caused by a pollutant. No TMDL required.

Category 5 Waters – impaired waters that require a TMDL.

## **Appendix C**

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### Endangered Species Act Determination

## **Appendix D**

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Legal Authority

## **Appendix E**

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### Stormwater System Mapping

## Mapping Status

| Requirement Summary                                | Status                     |
|--|----------------------------|
| <b>Phase I – Must be Complete by July 1, 2020</b>  |                            |
| 1. Outfalls and receiving waters                   | Complete                   |
| 2. Open channel conveyances                        | Complete (updates ongoing) |
| 3. Interconnections with other MS4s                | Not started                |
| 4. Municipally owned structural BMPs               | Not started                |
| 5. Waterbodies names and impairments               | Complete                   |
| 6. Initial catchment delineations by topo          | Complete (updates ongoing) |
| <b>Phase II – Must be Complete by July 1, 2028</b> |                            |
| 1. Outfalls with spatial accuracy +/-30 feet       | Complete                   |
| 2. Pipe connectivity                               | Complete (updates ongoing) |
| 3. Manholes  | Complete                   |
| 4. Catch basins                                    | Complete                   |
| 5. Refined catchment delineations                  | Not started                |
| 6. Municipal sanitary system                       | Complete (updates ongoing) |
| 7. Municipal combined sewer system                 | Complete (updates ongoing) |

## **Appendix F**

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### Sanitary Sewer Overflow Inventory

## Appendix G

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## **Appendix H**

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### Catch Basin Optimization Plan

## **Appendix I**

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SWPPP Facilities

## **Appendix J**

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List of Stormwater BMPs

## **Appendix K**

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Annual Reports

## **Appendix L**

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2016 NPDES General Permit for Stormwater  
Discharges from MS4 in Massachusetts