



TOWN OF ORLEANS



STORMWATER MANAGEMENT PLAN UPDATE JUNE 2021



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1. INTRODUCTION

WHY IS THIS IMPORTANT?

Stormwater runoff frequently transports pollutants through municipal separate storm sewer systems (MS4s), where it is discharged, often untreated, into local waterbodies. To the public, the MS4 is more commonly known as a stormwater drainage system or simply as the “drain.” These stormwater drains have been constructed in developed areas to reduce the risk of flooding and damage to our infrastructure. Unfortunately, stormwater drainage systems carry pollution during rain events and snow melt – this can include oil, trash, nutrients, and any other materials found on lawns, streets, and parking lots.

In the Town of Orleans, stormwater runoff discharges that are conveyed by the MS4 to the environment are regulated under the Clean Water Act and require a Permit. Orleans is one of thousands of communities and institutions across the country that must comply with these regulations. The stormwater drainage system discharge Permit is known as the “MS4 General Permit” and is issued and managed jointly by the U.S. Environmental Protection Agency (EPA) and the State of Massachusetts Department of Environmental Protection (MassDEP).

WHAT DOES ORLEANS HAVE TO DO?

The Town of Orleans has had MS4 Permit coverage since 2003 and obtained permit coverage under the MS4 Permit that was reissued on April 4, 2016 and became effective July 1, 2018 (Permit No. MAR041146). As part of the permitting requirements, Orleans was required to develop a written Stormwater Management Plan (SWMP). This SWMP (or Plan) is a reference document that guides the Town’s implementation of requirements within the Permit. The Town is required to keep records of, and report on, the activities and measures that are implemented and consistent with this Plan. MS4 General Permit requirements are summarized (and simplified) as follows:



Implement public education programs to help Town residents, business owners, and developers understand their role in keeping stormwater clean.



Engage the public in decision-making throughout the program.



Find and address failed septic systems or leaky or unauthorized sanitary sewer lines that might be discharging into the drainage system. Orleans is constructing a sewer collection system in the downtown area.



Ensure that construction projects do not pollute runoff with sediments and debris.



Ensure that new development and redevelopment control and treat runoff before it leaves the property.



Engage in pollution prevention actions like road and parking area best practices (cleaning drainage systems and sweeping pavements), and ensure that municipal activities like vehicle washing, lawn maintenance, and materials storage do not contribute to stormwater pollution.



The Permit Year (PY) reference within this document corresponds to each regulatory year starting on July 1, 2018. Updates to the original version of this SWMP, dated June 24, 2019, and prepared by Wood, of Chelmsford, Massachusetts, have been incorporated into this document to reflect the Town of Orleans's stormwater management program updates and achievements through PY3 (ending June 30, 2021). Additional information related to the progress of the stormwater management program is provided in the MS4 Annual Report that is submitted to the US EPA and MassDEP in September. A revision log tracking these updates is located in **Appendix B**.

A copy of the original 2016 MS4 General Permit was included in **Appendix A** of the original version of this SWMP. On December 7, 2020, changes to the Permit were issued; these changes became effective on January 6, 2021. The modified 2016 MS4 General Permit and its appendices can be accessed on the EPA's website, at <https://www.epa.gov/npdes-permits/massachusetts-small-ms4-general-permit>.

Appendix C has remained unchanged since the original version of this SWMP was published; refer to the original SWMP document to view this appendix.

1.1 REGULATORY BACKGROUND AND REQUIREMENTS

No updates.

1.2 ELIGIBILITY DETERMINATION

No updates.

1.3 SPECIAL ELIGIBILITY DETERMINATION

No updates.

1.4 PERMIT YEAR DEFINITIONS

No updates.



2. TOWN OF ORLEANS

2.1 IMPAIRED WATERBODIES

Table 1: Listed Waterbodies and **Figure 2: Category 4A and 5 Waterbodies** in the original June 2019 SWMP are both based on the Final Massachusetts Year 2014 Integrated List of Waters. The 2016 Integrated List of Waters was released in December 2019. **Table 1** and **Figure 2** have been updated to reflect the 2016 Integrated List of Waters; the updated **Table 1** is provided below, and the updated **Figure 2** is located in **Appendix F**. Future reissuance and/or approval of the Massachusetts Integrated List of Waters may necessitate additional modifications to this Plan to maintain compliance with applicable requirements.

Table 1: Listed Waterbodies

Waterbody	MassDEP Segment ID	TMDL	Category	Impairment Cause	Impairment Source	Monitoring Requirements
Cedar Pond	MA96-88	No	5	Chlorophyll-a	Unknown	Total Phosphorus
				Dissolved Oxygen Saturation	Unknown	Dissolved Oxygen Temperature BOD ₅ Total Phosphorus
				Dissolved Oxygen	Unknown	Total Phosphorus
Crystal Lake	MA96050	No	5	Dissolved Oxygen	Internal Nutrient Recycling	Dissolved Oxygen Temperature BOD ₅ Total Phosphorus
Town Cove	MA96-68	No	5	Estuarine Bioassessments	Unknown	Contact MassDEP*
Uncle Harvey Pond	MA96319	No	5	Harmful Algal Blooms	Unknown	Total Phosphorus
Rock Harbor Creek	MA96-16	Yes	4A	Fecal Coliform	Waste from Pets Waterfowl Discharges from MS4 Municipal Point Source Discharges On-site Treatment Systems	Fecal Coliform
Little Namskaket Creek	MA96-26	Yes	4A	Fecal Coliform	Waterfowl Municipal Point Source Discharges	Fecal Coliform
Namskaket Creek	MA96-27	Yes	4A	Fecal Coliform	Unknown	Fecal Coliform



Waterbody	MassDEP Segment ID	TMDL	Category	Impairment Cause	Impairment Source	Monitoring Requirements
Baker Pond	MA96008	Yes	4A	Mercury in Fish Tissue	Unknown Atmospheric Deposition - Toxics	NMR**
Areys Pond	MA96-70	Yes	4A	Estuarine Bioassessments	Agriculture Discharges from MS4 On-site Treatment Systems Yard Maintenance Unrestricted Cattle Access	Contact MassDEP*
				Total Nitrogen	Agriculture Discharges from MS4 On-site Treatment Systems Yard Maintenance Unrestricted Cattle Access	Total Nitrogen
Paw Wah Pond	MA96-72	Yes	4A	Fecal Coliform	Unspecified Urban Stormwater Waste from Pets Waterfowl	Fecal Coliform
				Estuarine Bioassessments	On-site Treatment Systems Unspecified Urban Stormwater Yard Maintenance	Contact MassDEP*
				Total Nitrogen	On-site Treatment Systems Yard Maintenance Unspecified Urban Stormwater Unknown	Total Nitrogen
Quanset Pond	MA96-74	Yes	4A	Total Nitrogen	Unspecified Urban Stormwater Yard Maintenance Discharges from MS4 On-site Treatment Systems	Total Nitrogen
Pleasant Bay	MA96-77	Yes	4A	Total Nitrogen	Discharges from MS4 Agriculture Golf Courses Unspecified Urban Stormwater Yard Maintenance	Total Nitrogen



Waterbody	MassDEP Segment ID	TMDL	Category	Impairment Cause	Impairment Source	Monitoring Requirements
Little Pleasant Bay	MA96-78	Yes	4A	Total Nitrogen	Unspecified Urban Stormwater Yard Maintenance Discharges from MS4 On-site Treatment Systems	Total Nitrogen
Namequoit River	MA96-71	Yes	4A	Estuarine Bioassessments	Agriculture On-site Treatment Systems Unspecified Urban Stormwater Yard Maintenance	Contact MassDEP*
				Total Nitrogen	Agriculture On-site Treatment Systems Unspecified Urban Stormwater Yard Maintenance	Total Nitrogen
Pochet Neck	MA96-73	Yes	4A	Fecal Coliform	Unspecified Urban Stormwater Waterfowl Yard Maintenance	Fecal Coliform
				Estuarine Bioassessments	Discharge from Biosolids (Sludge) Storage On-site Treatment Systems Unspecified Urban Stormwater Yard Maintenance	Contact MassDEP*
				Total Nitrogen	On-site Treatment Systems Unspecified Urban Stormwater Yard Maintenance Discharge from Biosolids (Sludge) Storage	Total Nitrogen
The River	MA96-76	Yes	4A	Fecal Coliform	Discharges from MS4 Marina/boating Pumpout Releases Waterfowl	Fecal Coliform
				Estuarine Bioassessments	Agriculture Discharges from MS4 Yard Maintenance On-site Treatment Systems Unspecified Urban Stormwater	Contact MassDEP*
				Total Nitrogen	Unknown	Total Nitrogen

*Contact MassDEP to determine monitoring requirements, per Appendix G of the 2016 MS4 General Permit.

**NMR = No monitoring required.



2.2 RECEIVING WATERBODIES

Per the requirements of Part 1.10.2 of the MS4 General Permit, a list of all Integrated List waterbody segments that receive discharge from the Town's MS4 is provided in **Table 1**, above. The Town's MS4 General Permit Notice of Intent submission to the EPA, dated September 26, 2018, included the estimated number of outfalls that discharge directly to each Integrated List waterbody segment. A copy of the original NOI can be accessed on the EPA's website. Any updates to the numbers reported in the NOI will be included in future revisions of this document, if necessary.

Uncle Harvey Pond was added to the Integrated List of Waters in 2016, and two outfalls discharge to this waterbody.

2.3 INTERCONNECTED SEPARATE STORM SEWER SYSTEMS

Per the requirements of Part 1.10.2 of the MS4 General Permit, all known interconnected MS4s and other separate storm sewer systems receiving a discharge from the Town's MS4, as well as the waterbody segment(s) that ultimately receive the discharge, are shown on the updated Separate Storm Sewer System Map in **Appendix E**.

2.4 SURFACE PUBLIC DRINKING WATER SUPPLIES

The Town of Orleans has no surface public drinking water supply sources or surface water supply watersheds within its Town boundary. A list of all known waterbody segments that receive discharge from Orleans's MS4 is included in the Town's MS4 General Permit Notice of Intent (NOI) submission to the EPA, dated September 26, 2018, which can be accessed on the EPA's website at <https://www.epa.gov/npdes-permits/regulated-ms4-massachusetts-communities>. As detailed in the NOI, there are no known direct discharges to public surface drinking water supplies. Any updates to the waterbody segments receiving discharges from Orleans's MS4 will be included in future revisions of this document, if necessary.

2.5 INCREASED DISCHARGES

The Town of Orleans shall comply with the provisions of 314 CMR 4.04 Massachusetts Surface Water Quality Standards, including information submittal requirements and obtaining authorization for increased discharges where appropriate. Any authorization of an increased discharge by MassDEP shall be incorporated within this SWMP.

There shall be no increased discharges, including increased pollutant loading(s) from the MS4 to impaired waters listed in categories 4A or 5 on the most recent Massachusetts Integrated Report of waters listed pursuant to Clean Water Act Section 303(d) and 305(b) unless the discharger demonstrates that there is no net increase in loading from the MS4 to the impaired water of the pollutant(s) for which the waterbody is impaired.

Unless otherwise determined by the U.S. EPA or by MassDEP, compliance with the Part 2.2.2 and 2.3.6 requirements of the MS4 General Permit, including all reporting and documentation requirements, are considered as demonstrating no net increase or increased discharge. Part 2.2.2 and 2.3.6 requirements were included in the BMPs outlined in the June 2019 SWMP and any updates are provided in Section 3 of this SWMP Update.

If necessary, the Town of Orleans will demonstrate compliance with this provision by either:

- Documenting that the pollutant(s) for which the waterbody is impaired is not present in the MS4's discharge and retaining documentation of this finding with the SWMP documents; or



-
- Documenting that the total load of the pollutant(s) of concern from the MS4 to any impaired portion of the receiving water will not increase as a result of the activity and retaining documentation of this finding in the SWMP documents.



3. BEST MANAGEMENT PRACTICES FOR MINIMUM CONTROL MEASURES

3.1 ENHANCED BMPs FOR IMPAIRED WATERBODIES

No updates.

3.2 MCM 1: PUBLIC EDUCATION AND OUTREACH

Education and outreach materials shall note any existing Town regulations where appropriate.

3.2.1 BMPs

Table 2: MCM1 BMPs and Implementation Actions has been updated to reflect the development of new educational messages and changes to the Town's anticipated distribution schedule of each educational message. The updated **Table 2** is provided on the next page.



Table 2: MCM1 BMPs and Implementation Actions

BMP ID	BMP Media/Category	BMP Description	Targeted Audience	Responsible Personnel	Measurable Goal	PY1	PY2	PY3	PY4	PY5
1A	Brochures/Pamphlets	Educational information on stormwater pollution control issues	Residents	Department of Public Works (DPW) Operations Manager	Prepare and distribute all resident appropriate stormwater management messages annually	First message	Redistribute first message	Second message	Redistribute first message	Redistribute second message
1B	Web Page	Stormwater web pages updated with stormwater management topics	General Public	DPW Operations Manager/Management Information Services (MIS) Coordinator	Promote stormwater awareness by posting updated stormwater activities and articles. Track hits with goal of increasing hits annually	Update Town website with brochures, EPA website links, SWMP, and annual reports	Update website as needed	Update website as needed	Update website as needed	Update website as needed
1C	Brochures/Pamphlets	Brochures to educate developers on stormwater pollution and proper management of new and redevelopment projects	Developers (construction)	DPW Operations Manager/Planning Department	Prepare and distribute appropriate stormwater control messages to local development community every 2 years	First message	Redistribute first message	Second message	Redistribute second message	Redistribute first message
1D	Brochures/Pamphlets	Brochures to educate industrial facility staff on required stormwater regulations and use of appropriate BMPs	Industrial Facilities	DPW Operations Manager	Prepare and distribute appropriate stormwater management messages targeting industrial operations every 2 years	First message	Redistribute first message	Second message	Redistribute second message	Redistribute first message
1E	Brochures/Pamphlets	Pamphlets to be developed encouraging proper pet waste management	Residents	DPW Operations/Town Clerk	Update annually and distribute with dog license information	First message	Redistribute first message	Second message	Redistribute second message	Redistribute first message
1F	Brochures/Pamphlets	Pamphlets to be developed on proper maintenance of septic systems	Septic System Owners	Health Agent	Update and distribute bi-annually to septic system owners	Develop and distribute materials bi-annually	Distribute materials bi-annually	Distribute materials bi-annually	Distribute materials bi-annually	Distribute materials bi-annually
1G	Brochures/Pamphlets and Public Announcement	Use pamphlets and other outreach methods to distribute spring, summer, and fall messages in support of minimizing nitrogen loads in local waterways	Residential/Business/Commercial/Institutions	DPW Operations Manager	Supplement public education efforts with three annual timed messages on proper grass clipping, fertilizer, pet waste, and leaf litter management	Develop and distribute spring, summer, and fall message	Distribute spring, summer, and fall message	Distribute spring, summer, and fall message	Distribute spring, summer, and fall message	Distribute spring, summer, and fall message
1H	Meetings	Broadcast Board of Selectman (BOS) meetings that cover stormwater management topics on local cable TV	General Public	DPW & NR Director/Board of Selectmen	Continue to provide cable coverage of quarterly stormwater updates at BOS meetings	TV broadcast of quarterly updates	TV broadcast of quarterly updates	TV broadcast of quarterly updates	TV broadcast of quarterly updates	TV broadcast of quarterly updates
		Develop, implement, and complete BMP by the end of permit year to fulfill requirements								
		Continue to implement BMP								
		Continue to implement BMP annually								
		Continue to implement BMP bi-annually								
		Continue to implement BMP quarterly								



3.2.1.1 BMP 1A Brochures for Residences and Businesses

The Town will provide brochures to residents to educate them on proper waste disposal and proper lawn care. To comply with this requirement, the DPW Operations Manager will oversee the development and distribution of brochures educating residents on the effects of outdoor lawn care techniques, car and boat washing, and household hazardous waste in PY1, PY2, and PY4 and on water quality protection in PY3 and PY5.

This BMP has been updated to reflect the development of new educational messages and changes to the Town's message distribution schedule.

3.2.1.3 BMP 1C Brochures for Developers

The Town will provide brochures to construction developers to educate them on stormwater pollution prevention best practices. To comply with this requirement, the DPW Operations Manager will oversee the development and distribution of brochures educating developers on erosion and sediment controls, BMPs, and low impact development in PY1, PY2, and PY5 and proper erosion and sediment control management in PY3 and PY4.

This BMP has been updated to reflect the topics of educational messages and changes to the Town's message distribution schedule.

3.2.1.4 BMP 1D Brochures for Industrial Facilities

The Town will provide brochures to industrial facility owners to educate operators on proper management of waste materials and good housekeeping BMPs. To comply with this requirement, the DPW Operations Manager will oversee the development and distribution of brochures educating industrial facility managers on proper management of waste material in PY1, PY2, and PY5, and waste container management and site cleaning in PY3 and PY4.

This BMP has been updated to reflect the topics of educational messages and changes to the Town's message distribution schedule.

3.2.1.5 BMP 1E Brochures for Dog Owners and Residents

Table 2 has been updated to reflect the development of a second educational message for proper pet waste management and changes to the Town's message distribution schedule.

3.2.1.9 Effectiveness Assessment Surveys

The Town has decided to discontinue the use of Effectiveness Assessment Surveys in their Stormwater Management Program. Moving forward, the Town plans to solicit feedback from residents, business owners, institutions, commercial, and industrial facility managers, developers, and the general public on an ongoing basis. The Town's stormwater webpage, maintained annually in accordance with BMP 1B, has the contact information for the Town's DPW Operations Manager and Assistant DPW Manager and allows stakeholders to provide feedback on the Town's educational messages.

This BMP has been discontinued.

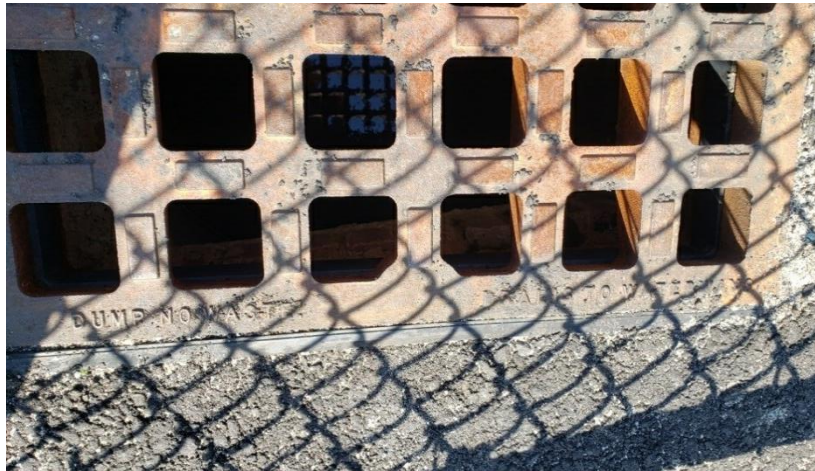


3.3 MCM 2: PUBLIC INVOLVEMENT AND PARTICIPATION

3.3.1 BMPs

3.3.1.2 BMP 2B Catch Basin Stenciling/Markers

The Town has provided opportunities for public involvement through catch basin stenciling events. The DPW Operations Manager has coordinated with the Highway Department and local civic groups and volunteers to maintain or replace storm drain markers. The DPW Operations Manager will continue to track the number of stenciling events and which drains have been marked or remarked in a database and will provide this information in the annual report. In addition to catch basin stenciling events, the Town has worked with local civic groups and volunteers to design a new drain manhole cover and catch basin grate to implement at areas in Town that are frequented by the public. The goal of this activity is to increase public involvement in the Town's stormwater program and to raise awareness of the Town's efforts and commitment to protecting waterways.



Orleans catch basin grate: "Dump No Waste – Drains to Waterways"



New Orleans manhole cover designed by volunteers

This BMP has been updated to reflect the Town's work with local civic groups and volunteers to design new drain manhole covers and catch basin grates.



3.4 MCM 3: ILLICIT DISCHARGE AND DETECTION ELIMINATION

3.4.1 BMPs

3.4.1.2 BMP 3B Stormwater Sewer System Map

The Town has developed a Separate Stormwater Sewer System Map consistent with the requirements of Part 2.3.4.5.a of the MS4 General Permit. The map, provided in **Appendix E** of this SWMP Update, includes the following information:

- Outfalls and receiving waters
- Open channel conveyances
- Interconnections with other MS4s and other storm sewer systems
- Municipally-owned stormwater treatment structures
- Waterbodies identified by name and indication of all use impairments per the 2016 Massachusetts Integrated List of Waters report
- Initial catchment delineations
- Drain pipes, manholes, and catch basins

The map was updated to incorporate municipally-owned stormwater treatment structures that were constructed in PY2. The map was updated in PY3 to incorporate changes in the 2016 Massachusetts Integrated List of Waters and new drainage infrastructure.

This BMP has been updated to provide more information regarding the contents of the Town's Separate Storm Sewer System Map.

3.4.1.6 BMP 3F Conduct Dry Weather Screening

Between PY2 and PY3, the Town completed dry weather inspections at 115 Town-owned outfalls. During screening activities, seven outfalls were not investigated either because the outfall and corresponding upstream drainage structure was not located, or the outfall was not located and the upstream drainage structure was filled with sediment and/or standing water. Screening and sampling results from the Town's outfall investigations will be submitted as an attachment to the Town's MS4 Annual Report (see Section 4.4 for more information). In PY4, the Town will begin investigating catchments associated with Problem Outfalls identified during dry weather outfall screening.

This BMP has been updated to reflect the progress made in the Town's IDDE dry weather screening program.

3.5 MCM 4: CONSTRUCTION SITE RUNOFF CONTROL

No updates.



3.6 MCM 5: POST-CONSTRUCTION STORMWATER MANAGEMENT

3.6.1 BMPs

3.6.1.5 BMP 5E Massachusetts Stormwater Handbook Compliance

The deadline to complete the assessment of local regulations and implement updates to meet the requirements of the MS4 General Permit was extended from the end of PY2 to the end of PY3.

This BMP has been updated to reflect the extension of the deadline to complete stormwater regulatory reviews and updates.

3.7 MCM 6: POLLUTION PREVENTION AND GOOD HOUSEKEEPING

3.7.1 BMPs

3.7.1.1 BMP 6A O&M Procedures

The Town developed a written Clean Water Best Practices (CWBP) Manual consistent with the requirements of Part 2.3.7.a of the MS4 General Permit. The objective of the Manual is to provide the Town with a general guidance document detailing best practices to prevent or minimize stormwater-transported pollution during typical activities on municipally-owned properties. The CWBP Manual includes:

- An inventory of municipally-owned facilities with the potential for stormwater-polluting activities (see Section 3.7.1.2, below)
- “Best practices” for municipal facilities that are not otherwise regulated under specific EPA or state permit programs (i.e., marinas, beaches, fire stations, etc.)
- Standard operating procedures (SOPs) for the following operation and maintenance activities:
 - Catch basin inspection, cleaning, and maintenance procedures, and a plan for optimization of these routine activities
 - Street sweeping and cleaning procedures
 - Management and disposal of catch basin cleanings and street sweepings
 - Winter road maintenance procedures that target minimal use of chlorides
 - Stormwater Treatment Structure inspection and maintenance procedures

The CWBP Manual can be accessed at the Department of Public Works and Natural Resources.

This BMP has been updated to reflect the completion of the Town’s O&M procedures for parks and open spaces, vehicles and equipment, buildings and facilities, and MS4 infrastructure.

3.7.1.2 BMP 6B Inventory Town Facilities

The Town has developed a Municipal Facility Inventory consistent with the requirements of Part 2.3.7.a.ii of the MS4 General Permit. The inventory includes all municipally-owned facilities with the potential for stormwater polluting activities, including, but not limited to:



- Parks and open space
- Buildings where pollutants are exposed to runoff (e.g., schools, town offices, fire stations, garages, etc.)
- Vehicle and equipment storage areas

The complete Facility Inventory is located in **Appendix A** of the CWBP Manual, which can be accessed at the Department of Public Works and Natural Resources.

This BMP has been updated to reflect the completion of the Town's Municipal Facility Inventory.

3.7.1.3 BMP 6C Infrastructure O&M

The Town has developed written Operations and Maintenance (O&M) Standard Operating Procedures (SOPs) consistent with the requirements of Part 2.3.7.a of the MS4 General Permit. The objectives of the O&M SOPs are to establish procedures for MS4 infrastructure maintenance that will help reduce the discharge of pollutants from municipally-owned facilities. The O&M SOPs include:

- Winter road maintenance procedures targeting minimal use and proper storage of sodium chloride and other salts
- Catch basin inspection, cleaning, and maintenance procedures, and a plan for optimization of these routine activities
- Street sweeping and cleaning procedures to ensure all Town-owned roadways are swept at least once per year
- Management and disposal of catch basin cleanings and street sweepings to avoid discharge into receiving waters
- Stormwater treatment structure inspections and maintenance procedures

The O&M SOPs are located in **Appendix B** of the CWBP Manual, which can be accessed at the Department of Public Works and Natural Resources.

This BMP has been updated to reflect the completion of the Town's written O&M SOPs.

3.7.1.4 BMP 6D SWPPP

The Town reviewed the need to develop and implement Stormwater Pollution Prevention Plans (SWPPPs) at Town owned or operated facilities in accordance with Part 2.3.7.b of the MS4 General Permit. These facilities include the DPW and Natural Resources Facility and Transfer Station/Landfill sites. The Town determined that SWPPPs are not needed for these facilities since they do not discharge to the MS4 or a surface water. The facilities have storm drain infrastructure that discharge to subsurface infiltration systems with no off-site discharges for all applicable storm event design criteria.

This BMP has been updated to state that a SWPPP will not be required for the Town's DPW and Natural Resources Facility and Transfer Station/Landfill sites, contrary to what was communicated in the original Stormwater Management Plan.

3.7.1.5 BMP 6E Catch Basin Cleaning

Catch basin cleaning procedures are located in Appendix B of the CWBP Manual, which can be accessed at the Department of Public Works and Natural Resources. The Town is in the process of developing an inspection form that will be used in Utility Cloud (asset management software) to document inspection and cleaning activities, as well as identify maintenance needs.



This BMP has been updated to reflect the new location of the Town's catch basin cleaning procedures and the development of a catch basin cleaning inspection form in Utility Cloud.

3.7.1.6 BMP 6F Street Sweeping Program

Street sweeping procedures are located in Appendix B of the CWBP Manual, which can be accessed at the Department of Public Works and Natural Resources. The Town is in the process of developing an inspection form that will be used in Utility Cloud (asset management software) to document sweeping activities.

This BMP has been updated to reflect the new location of the Town's street sweeping procedures and the development of a street sweeping inspection form in Utility Cloud.

3.7.1.7 BMP 6G Road Salt Optimization Program

Winter road maintenance and road salt optimization procedures are located in Appendix B of the CWBP Manual, which can be accessed at the Department of Public Works and Natural Resources.

This BMP has been updated to reflect the new location of the Town's winter road maintenance and road salt optimization procedures.

3.7.1.8 BMP 6H Stormwater Treatment Structures Inspections

Stormwater treatment structure inspection procedures are located in Appendix B of the CWBP Manual, which can be accessed at the Department of Public Works and Natural Resources. The Town is in the process of developing an inspection form that will be used in Utility Cloud to document inspections and track maintenance needs.

This BMP has been updated to reflect the new location of the Town's stormwater treatment structure inspection procedures and the development of a stormwater treatment structure inspection form in Utility Cloud.

3.7.1.9 BMP 6I Nitrogen Loading Reductions

The nitrogen loading reduction procedures implemented by the Town are incorporated in the CWBP Manual, which can be accessed at the Department of Public Works and Natural Resources.

This BMP has been updated to reflect that the Town's nitrogen loading reduction procedures are incorporated in the Town's CWBP Manual.



4. PROGRAM MANAGEMENT, EVALUATION, RECORD KEEPING, AND REPORTING

4.1 PROGRAM MANAGEMENT

No updates.

4.2 PROGRAM EVALUATION

The Town of Orleans conducts annual evaluations of its program compliance, the appropriateness of its identified BMPs, whether it's meeting new Permit requirements, and progress towards achieving its identified measurable goals, which include reducing the discharge of pollutants to the maximum extent practicable ("MEP"). The Town documents the findings of these annual evaluations in their MS4 Program annual report, submitted to the EPA and MassDEP by September 28th.

Changes to the Town's stormwater permit compliance program do not need to be updated in their NOI, however, this information will be included in the Town's annual reports and SWMP updates.

4.3 RECORD KEEPING

No updates.

4.4 ANNUAL REPORTS

The MS4 Annual Report is due by September 28th. All annual reports are available for public access on the Town's and the EPA's website.



5. CERTIFICATION

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

Signature

J L F Kelly
Name

Date

9/23/21



Appendices





APPENDIX A: 2016 GENERAL PERMIT WITH APPENDICES



A copy of the original 2016 MS4 General Permit was included in Appendix A of the original version of this SWMP. On December 7, 2020, changes to the Permit were issued; these changes became effective on January 6, 2021. The modified 2016 MS4 General Permit and its appendices can be accessed on the EPA's website, at <https://www.epa.gov/npdes-permits/massachusetts-small-ms4-general-permit>.



APPENDIX B: STORMWATER MANAGEMENT PLAN REVISION TRACKING FORM



Revision No.	Revision Date	Section of SWMP	Revision(s) Made/Reasoning
00	6/24/2019	--	--
01	6/19/2020	1.	Introduction to the Town's stormwater program and adding reference to the original SWMP prepared by Wood.
		2.1	Note added to address how the approved 2016 Massachusetts List of Integrated Waters will be incorporated into this SWMP
		2.2	NEW SECTION: Added language to reflect that receiving waterbodies are listed in the Town's MS4 General Permit NOI submission to the EPA
		2.3	NEW SECTION: Added language to reflect that interconnections are shown on the updated Separate Storm Sewer System Map in Appendix E
		2.4	NEW SECTION: Added language to reflect that the Town has no surface public drinking water supply sources
		2.5	NEW SECTION: Added language to reflect that the Town will comply with proper provisions to authorize any future increased discharges
		3.2	Added language to reflect that education and outreach materials shall note any existing Town regulations where appropriate.
		3.3.1.2	Added an update on the Town's catch basin stenciling program and drainage manhole cover design
		3.4.1.2	Revised language to reflect that a copy of the Separate Storm Sewer System Map will be updated annually and included in Appendix E
		3.4.1.6	Added an update on the Town's IDDE program
		3.6.1.5	Added language to reflect that the deadline to assess and update Town regulations has been extended by one year
		3.7.1.1 – 3.7.1.3 and 3.7.1.5 – 3.7.1.9	Revised language to reflect that a Clean Water Best Practices Manual has been prepared for the Town and contains all required inventories and procedures to complete BMPs 6A – 6C and 6E – 6I;
		3.7.1.4	Revised language to reflect that the Town does not need to prepare SWPPPs for its DPW and Natural Resources Facility and Transfer Station/Landfill sites
		4.2	Revised language to reflect that the Town's annual program evaluations can be found in their MS4 annual reports
4.4	Added a link to access the Town's annual reports on the EPA website		
Appendix E	NEW SECTION: Added Separate Storm Sewer System Map		
02	6/22/2021	2.1	Updated Table 1: Listed Waterbodies to reflect approved 2016 Massachusetts Integrated List of Waters
		2.2	Revised language to reflect that Figure 2 was updated in PY3; added reference to the addition of Uncle Harvey Pond to the Integrated List and the number of outfalls discharging to the waterbody
		3.2.1	Updated Table 2: MCM1 BMPs and Implementation Actions to reflect the development of new educational messages and changes to the Town's anticipated distribution schedule of each educational message
		3.2.1.1 and 3.2.1.3 – 3.2.1.5	Revised language to reflect the topics of educational messages and changes to the Town's message distribution schedule
		3.2.1.9	Revised language to reflect that the Town's Effectiveness Assessment Surveys have been discontinued
		3.4.1.6	Added an update on the Town's IDDE program
		Appendix E	Revised Separate Storm Sewer System Map
		Appendix F	NEW SECTION: Added Impaired Waters Map to replace Figure 2: Impaired Waterbodies in the original SWMP



APPENDIX C: ENDANGERED SPECIES ACT AND NATIONAL HISTORIC PRESERVATION ACT REVIEW



No updates.





APPENDIX D: MS4 PERMIT-RELATED STANDARD OPERATING PROCEDURES



Finalized MS4 permit-related standard operating procedures (SOPs) are located in Appendix B of the Town's Clean Water Best Practice Manual, which can be found at the Department of Public Works and Natural Resources. These include the following:

- Winter Road Maintenance
- Catch Basin Inspection and Cleaning
- Street Sweeping
- Stormwater Treatment Structure Inspections



APPENDIX E: SEPARATE STORM SEWER SYSTEM MAP

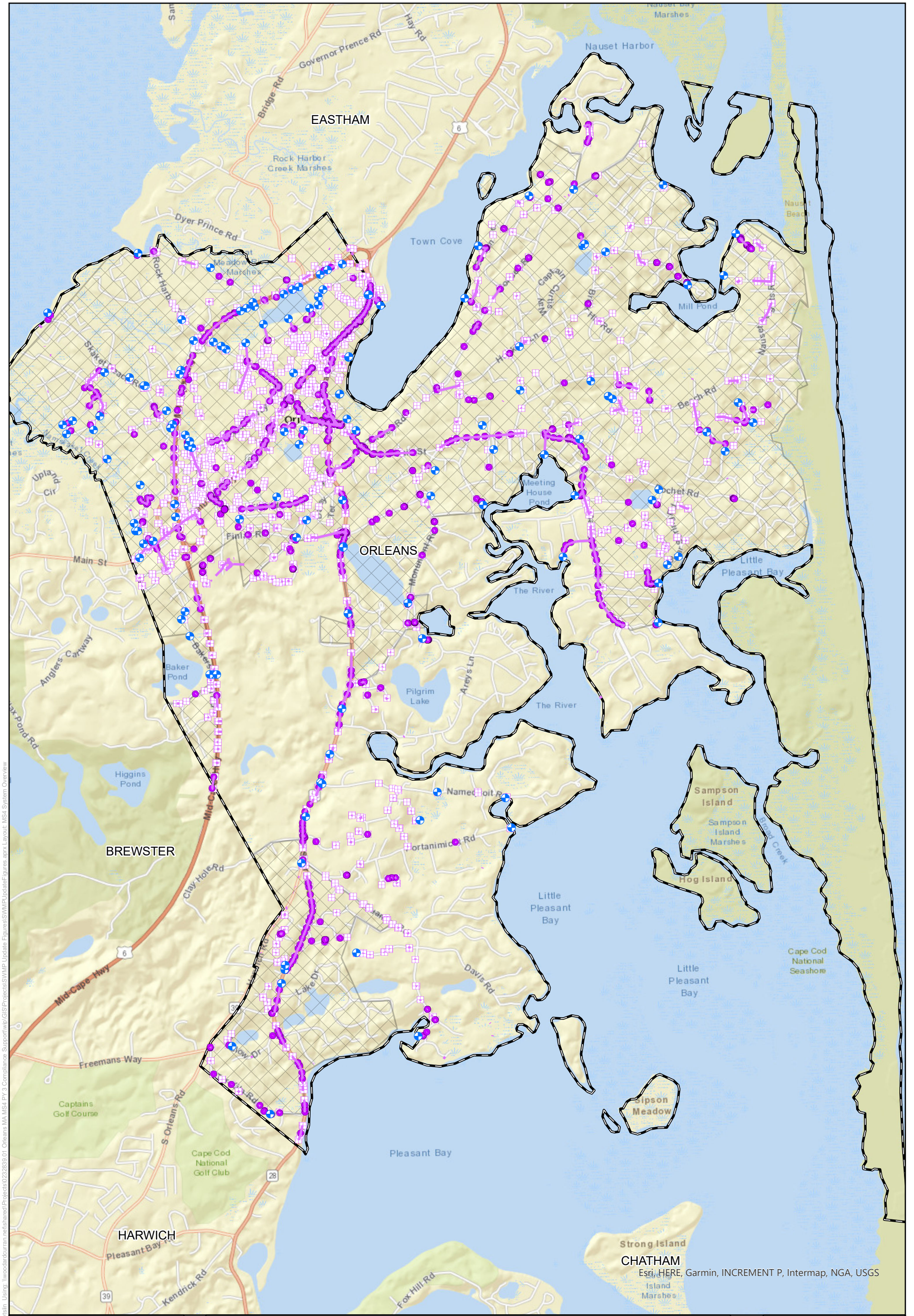


Figure Exported: 3/19/2021 8:31:51 AM Using: \\woodardcurran.net\shared\Projects\2022\2839\01_Orleans_MA_MS4_PY3_Compliance_Support\GIS\Projects\SMP_Update\Figures\SMP_Update\Figures.aprx Layout: MS4_System_Overview

Stormwater Collection System Overview

Town of Orleans, MA

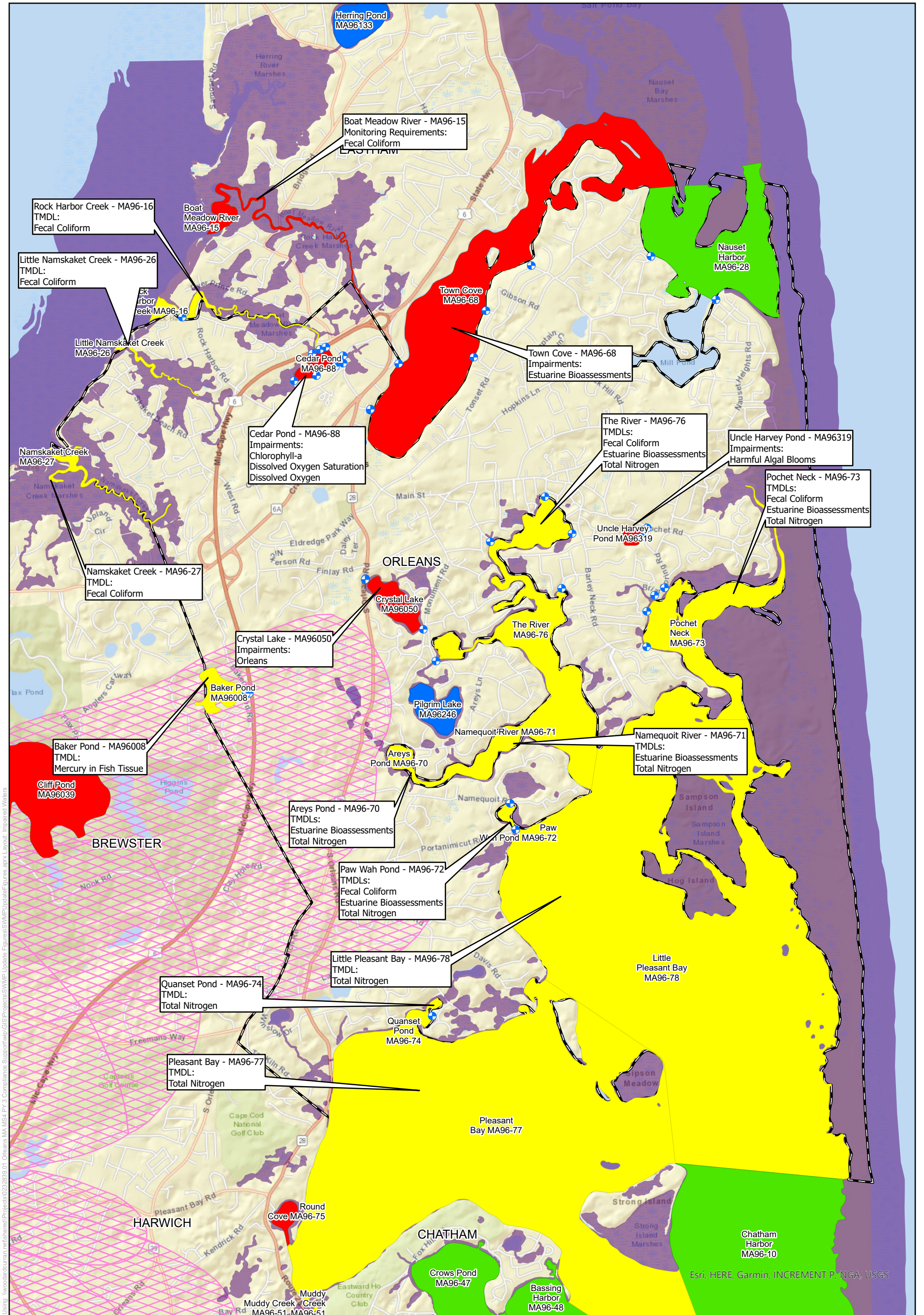
Legend	Outfalls	Drain Pipe
	Drain Manhole	Orleans Boundary
	Drain Catch Basin	Urbanized Area

Project #: 0232839.01
Map Created: March 2021

Third Party GIS Disclaimer: This map is for reference and graphical purposes only and should not be relied upon by third parties for any legal decisions. Any reliance upon the map or data contained herein shall be at the users' sole risk. **Data Sources:**



APPENDIX F: IMPAIRED WATERS AND SPECIAL RESOURCE WATERS



Town of Orleans Water Resources

Town of Orleans, MA

Legend

- Outfalls with Direct Discharge to Impaired Waters
- Outstanding Resource Waters
- MassDEP Approved Zone IIs
- Surface Water Protection Area - Zone A
- Orleans Boundary

2016 Integrated List Data - 305(b)/303(d)

- Category**
- 2 - Attaining some uses; other uses not assessed
 - 3 - No uses assessed
 - 4A - Impaired - TMDL is completed
 - 4C - Impairment not caused by a pollutant
 - 5 - Impaired - TMDL required



Project #: 232839
Map Created: June 2021

Figure Exported: 6/24/2021 10:41:00 AM. Using: \\woodardcurran.net\shared\Projects\2022\232839\01_Orleans_MA_MS4_PY3_Compilance_Support\GIS\Projects\SWMP_Update\Figures\SWMP_Update_Figures.aprx Layout: Impaired Waters

Third Party GIS Disclaimer: This map is for reference and graphical purposes only and should not be relied upon by third parties for any legal decisions. Any reliance upon the map or data contained herein shall be at the users' sole risk. **Data Sources:**