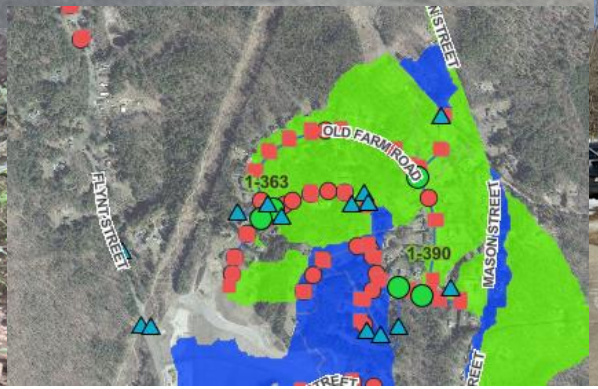


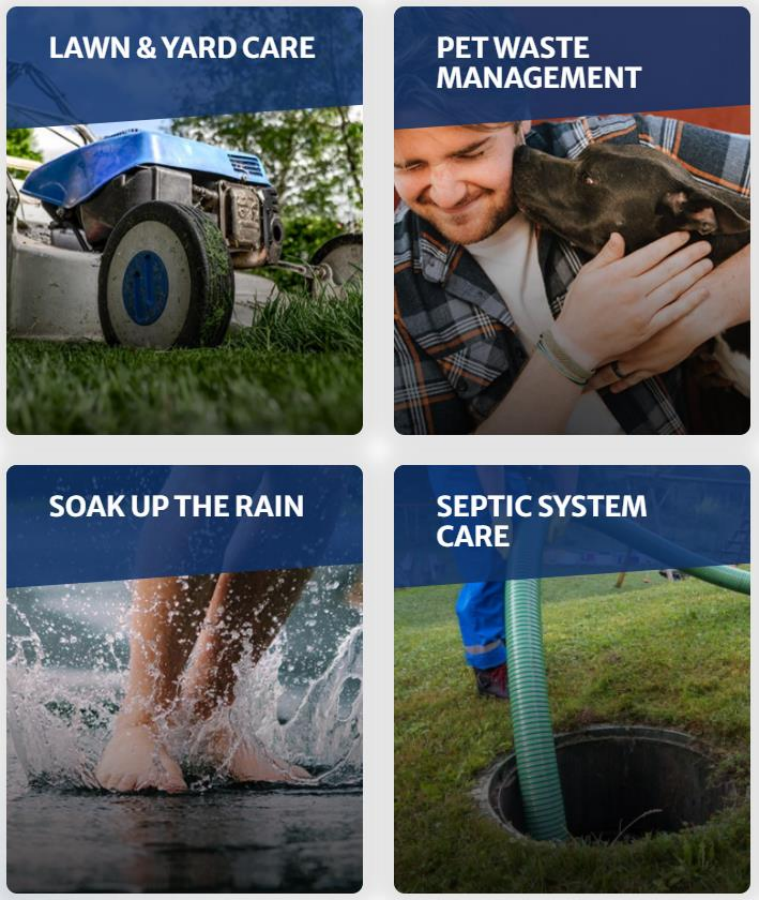
PALMER STORMWATER PROGRAM UPDATE

Conservation Commission Meeting
June 4, 2024

Kelly Doherty, Project Manager – Tighe & Bond
Haley Rivers – Tighe & Bond

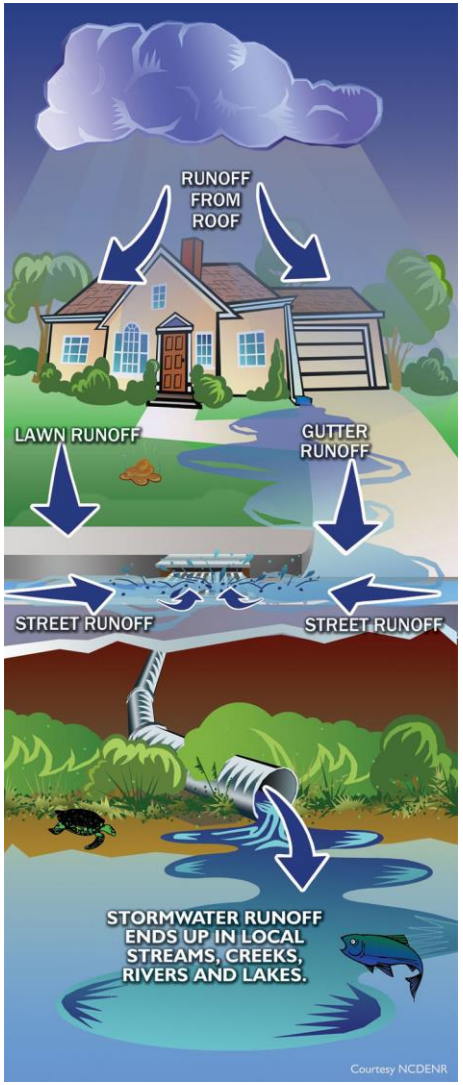
PURPOSE OF THIS MEETING

- **Provide an update on Palmer's ongoing stormwater management program**
  - Permit Year 6 accomplishments
  - Planned activities for Permit Year 7
  - Future Permit Year requirements
- **Solicit feedback on stormwater program**



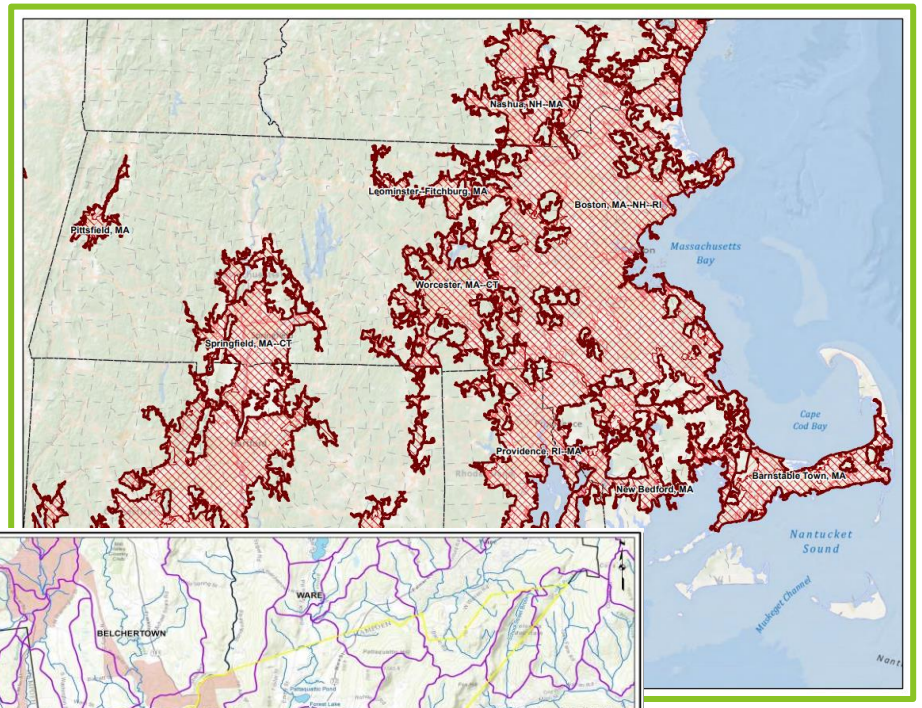
WHAT IS STORMWATER?

- Rainwater that falls on paved surfaces and lawns becomes stormwater
- If it doesn't soak into the ground, stormwater heads for the nearest storm drain
- Storm drains feed to outfalls that dump stormwater into waterways
- When stormwater picks up trash or chemicals, that's stormwater pollution
- Stormwater pollution is the fastest growing type of water pollution in Massachusetts



EPA'S SMALL MS4 STORMWATER PROGRAM

- **MS4 = Municipal Separate Storm Sewer System**
- **Jointly administered by EPA and MassDEP**
- **Palmer's MS4 area includes all drainage within the "urbanized area"**

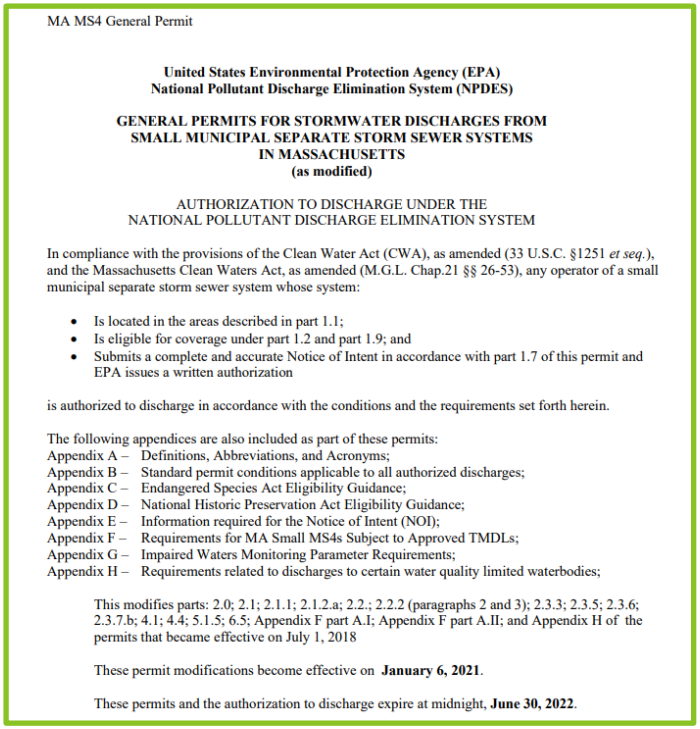


UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

PALMER, MASSACHUSETTS
Three Rivers
Bondsville
Depot Village
Thorndike
FOUNDED 1716

EPA'S SMALL MS4 STORMWATER PROGRAM

- Notice of Intent (NOI) under the 2016 Small MS4 General Permit submitted October 1, 2018
- Authorization to discharge stormwater received April 22, 2019, with an expiration date of June 30, 2022
- Administratively continued on May 16, 2022 until new permit issued
- Stormwater Management Plan (SWMP) finalized June 2019, updated annually



MA MS4 General Permit

United States Environmental Protection Agency (EPA)
National Pollutant Discharge Elimination System (NPDES)

GENERAL PERMITS FOR STORMWATER DISCHARGES FROM SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS IN MASSACHUSETTS
(as modified)

AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Clean Water Act (CWA), as amended (33 U.S.C. §1251 *et seq.*), and the Massachusetts Clean Waters Act, as amended (M.G.L. Chap.21 §§ 26-53), any operator of a small municipal separate storm sewer system whose system:

- Is located in the areas described in part 1.1;
- Is eligible for coverage under part 1.2 and part 1.9; and
- Submits a complete and accurate Notice of Intent in accordance with part 1.7 of this permit and EPA issues a written authorization

is authorized to discharge in accordance with the conditions and the requirements set forth herein.

The following appendices are also included as part of these permits:
Appendix A – Definitions, Abbreviations, and Acronyms;
Appendix B – Standard permit conditions applicable to all authorized discharges;
Appendix C – Endangered Species Act Eligibility Guidance;
Appendix D – National Historic Preservation Act Eligibility Guidance;
Appendix E – Information required for the Notice of Intent (NOI);
Appendix F – Requirements for MA Small MS4s Subject to Approved TMDLs;
Appendix G – Impaired Waters Monitoring Parameter Requirements;
Appendix H – Requirements related to discharges to certain water quality limited waterbodies;

This modifies parts: 2.0; 2.1; 2.1.1; 2.1.2.a; 2.2.; 2.2.2 (paragraphs 2 and 3); 2.3.3; 2.3.5; 2.3.6; 2.3.7.b; 4.1; 4.4; 5.1.5; 6.5; Appendix F part A.I; Appendix F part A.II; and Appendix H of the permits that became effective on July 1, 2018

These permit modifications become effective on **January 6, 2021**.

These permits and the authorization to discharge expire at midnight, **June 30, 2022**.

https://www.townofpalmer.com/index.asp?SEC=6FBA4E8E-4E70-4D49-93F0-9ACD36A5DE29

PALMER'S STORMWATER MANAGEMENT PLAN (SWMP)

- **Minimum Control Measures (MCMs):**
  1. Public Education and Outreach
  2. Public Involvement and Participation
  3. Illicit Discharge Detection and Elimination (IDDE) Program
  4. Construction Site Stormwater Runoff Control
  5. Stormwater Management in New Development and Redevelopment
  6. Good Housekeeping and Pollution Prevention

Stormwater Management Program (SWMP)

Town of Palmer

4417 Main Street, Palmer MA 01069

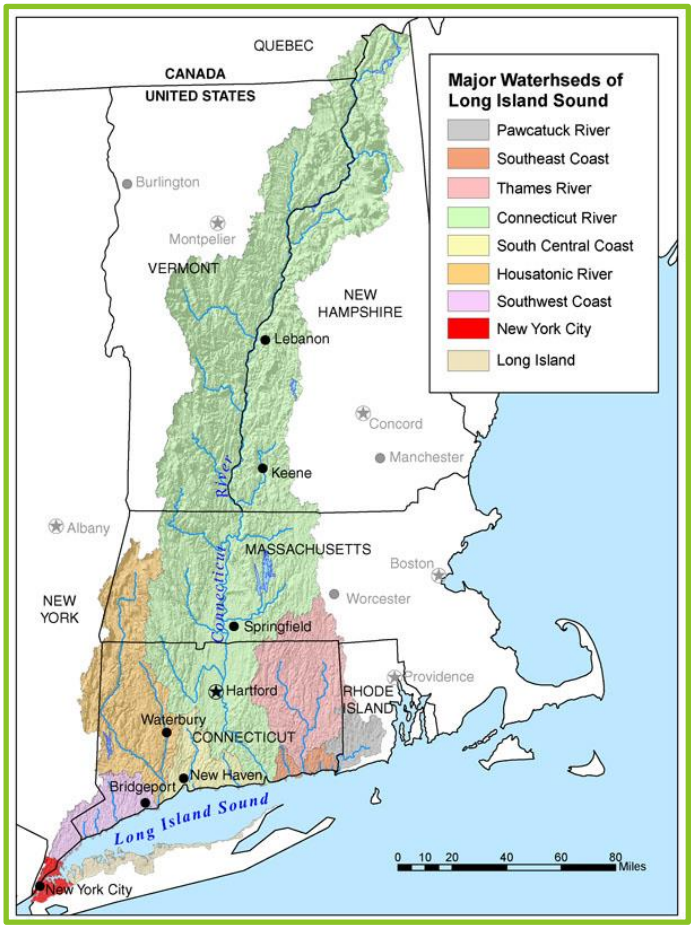
June 2020

EPA NPDES Permit Number MA041017

PALMER'S SWMP

Long Island Sound Total Maximum Daily Load (TMDL) for Nitrogen supplemental BMPs

- Annual timed messages on nutrient pollution related topics
- Stormwater management BMPs optimized for nitrogen removal
- Good Housekeeping SOPs for Town properties
- Street sweeping twice per year
- Nitrogen Source Identification Report



Summary of Palmer's TMDLs and Impaired Waters

Receiving Waterbody	Waterbody ID	Watershed	2022 Category	2022 Water Quality Impairments	Applicable to General Permit Section
Long Island Sound	Connecticut River	Connecticut	5	Nitrogen	Appendix F Part B.1
Ware River	MA36-06	Chicopee	5	(Non-Native Aquatic Plants) Escherichia Coli (E. Coli) Fecal Coliform	Appendix H Section 3
Quabog River	MA36-16	Chicopee	5	Escherichia Coli (E. Coli) Fecal Coliform	Appendix H Section 3
Quabog River	MA36-17	Chicopee	5	Escherichia Coli (E. Coli)	Appendix H Section 3
Chicopee River	MA36-22	Chicopee	5	(Eurasian Water Milfoil, Myriophyllum spicatum) Escherichia Coli (E. Coli) Mercury in Fish Tissue	Appendix H Section 3
Kings Brook	MA36-48	Chicopee	5	Temperature	

PALMER'S SWMP: PY6 IN REVIEW

MCM 1: Public Education and Outreach

- Annual messages to residents, businesses, institutions, and commercial facilities
- Central Massachusetts Regional Stormwater Coalition and PVPC CT River Stormwater Committee

MCM 2: Public Involvement and Participation

- SWMP available online

PALMER'S SWMP: PY6 IN REVIEW

MCM 3: IDDE Program

- Dry Weather Catchment Investigations completed for 76 key junction structures; no evidence of illicit discharges identified
- Fieldwork should be expected to continue in future permit years until all catchments are complete

PALMER'S SWMP: PY6 IN REVIEW

- **MCMs 4 & 5: Construction Site and Post-Construction Stormwater Management**
  - Due in PY4, Stormwater Ordinance revisions in process including updates to applicability and to meet additional requirements of 2016 Small MS4 General Permit
    - Post-construction stormwater management design standards for new development and redevelopment that are more stringent than those in the MassDEP Stormwater Standards and Handbook
    - Submission of as-built drawings no later than two (2) years after completion of construction

New Development

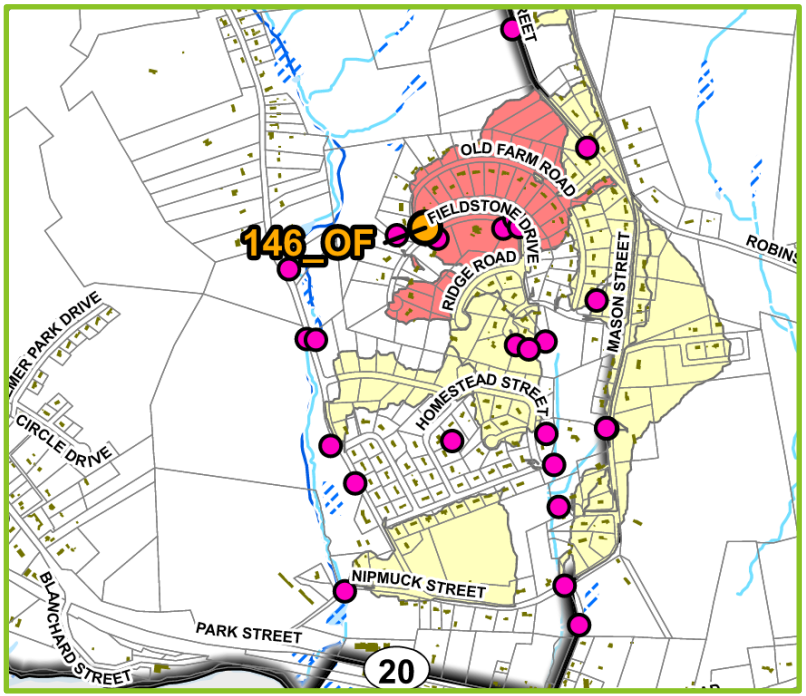
MS4 Requirement (greater than one acre)
▪ Remove 90% TSS ▪ Remove 60% Total Phosphorus ▪ Off-site mitigation allowed within HUC 12

Redevelopment

MS4 Requirement (greater than one acre)
▪ Remove 80% Total Suspended Solids ▪ Remove 50% Total Phosphorus ▪ Off-site mitigation allowed within HUC 12

PALMER'S SWMP: PY6 IN REVIEW

- **MCMs 4 & 5: Construction Site and Post-Construction Stormwater Management**
  - BMP Retrofit Analysis and Nitrogen Source Identification Report completed in 2022
    - Identification of high nutrient loading catchments and potential retrofit opportunities
  - Stormwater management improvements incorporated in the Forest Lake Boat Ramp project
  - Continue to maintain inventory of potential properties for BMP Retrofits
  - Incorporate retrofits into new projects



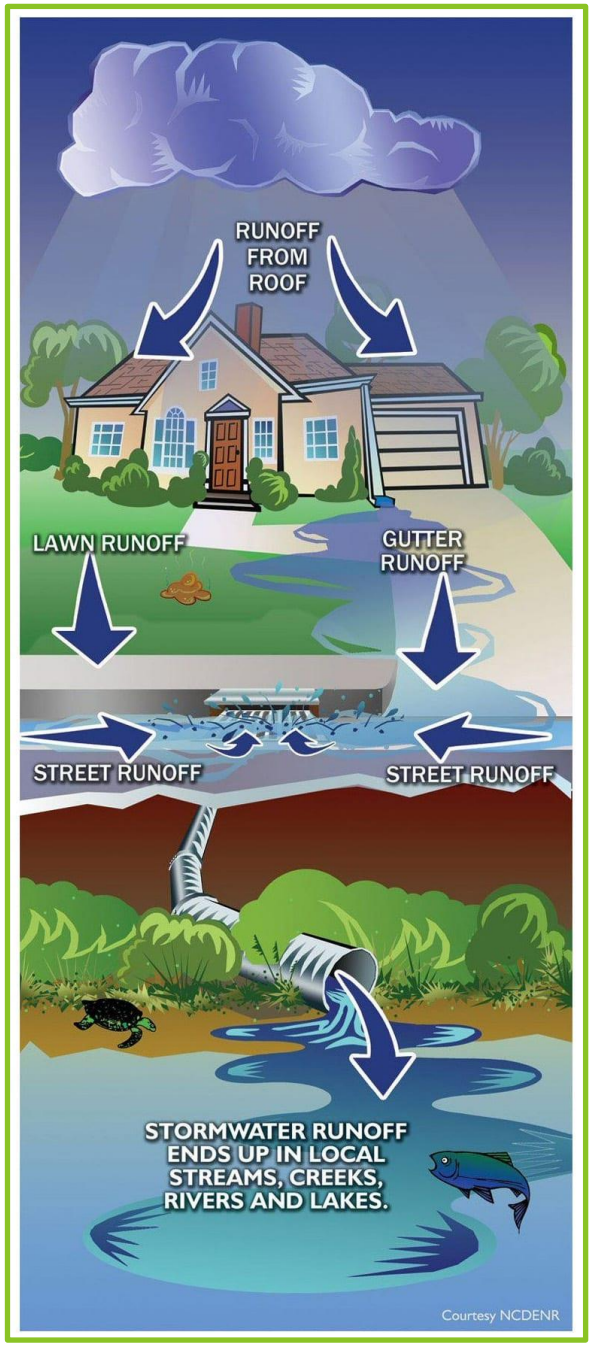
PALMER'S SWMP: PY6 IN REVIEW

- **MCM 6: Good Housekeeping and Pollution Prevention for Permittee Owned Operations**
  - Ongoing catch basin inspection / cleaning
  - Street sweeping
  - Implementation of Operations and Maintenance (O&M) program for municipal facilities and activities

PALMER'S SWMP: PLANNED FOR PY7

Annual Requirements

- Annual report submitted and available to the public
- Annual opportunity for public participation in review and implementation of SWMP
- Keep records relating to the permit available for 5 years and make available to the public
- Properly store and dispose of catch basin cleanings and street sweepings so they do not discharge to receiving waters
- Annual training to employees involved in IDDE program
- Update inventory of all known locations where SSOs have discharged to the MS4
- Continue public education and outreach program
- Update outfall and interconnection inventory and priority ranking and include data collected in connection with the dry weather screening and other relevant inspections conducted
- Implement IDDE program
- Review site plans of construction sites as part of the construction stormwater runoff control program
- Conduct site inspection of construction sites as necessary
- Inspect and maintain stormwater treatment structures
- Log catch basins cleaned or inspected
- Sweep all curbed streets at least annually
- Continue investigations of catchments associated with Problem Outfalls
- Implemented SWPPPs for all permittee owned or operated maintenance garages, public works yards, transfer stations, and other waste handling facilities
- Review inventory of all permittee owned facilities in the categories of parks and open space, buildings and facilities, and vehicles and equipment; update if necessary
- Review O&M programs for all permittee owned facilities; update if necessary
- Implement all maintenance procedures for permittee owned facilities in accordance with O&M programs
- Implement program for MS4 infrastructure maintenance to reduce the discharge of pollutants
- Enclose all road salt storage piles or facilities and implemented winter road maintenance procedures to minimize the use of road salt
- Review as-built drawings for new and redevelopment to ensure compliance with post construction bylaws, regulations, or regulatory mechanism consistent with permit requirements
- Inspect all permittee owned treatment structures (excluding catch basins)
- Identify additional permittee-owned properties that could potentially be modified or retrofitted with BMPs to reduce impervious areas so that the permittee maintains a minimum of 5 sites in their inventory, until such a time when the permittee has less than 5 sites remaining

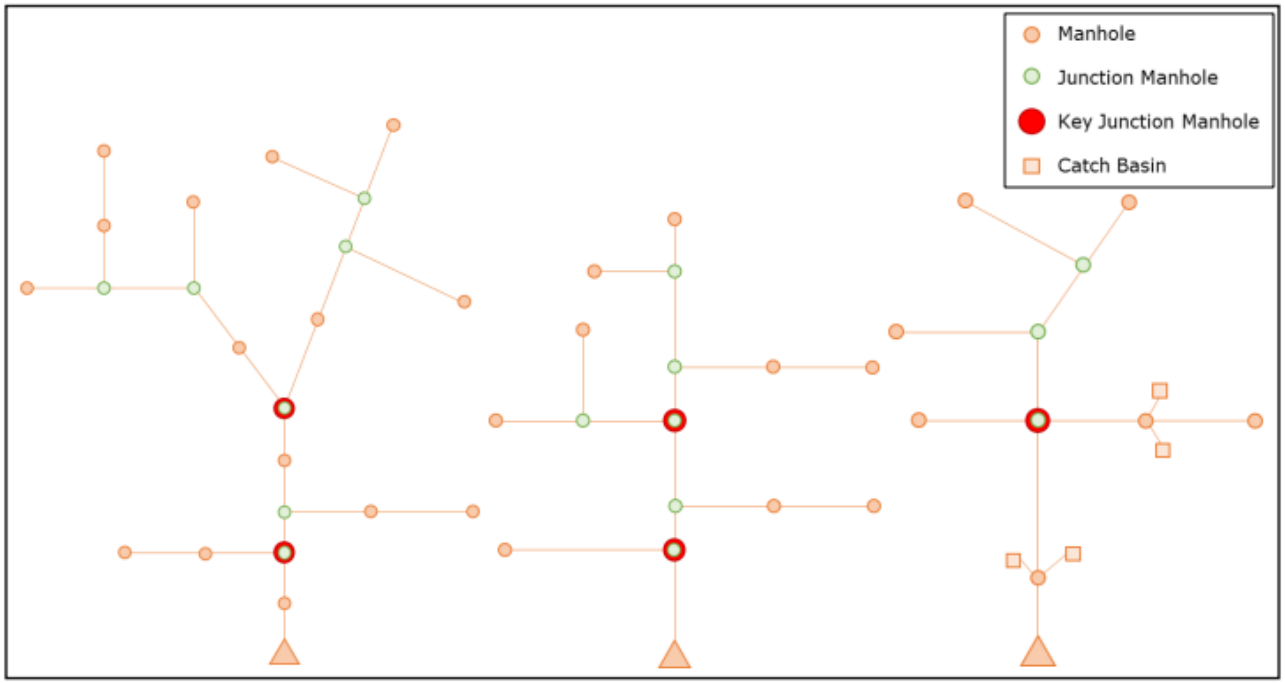


PALMER'S SWMP: PLANNED FOR PY7

- **MCM 1: Public Education and Outreach**
  - Continue with annual messages
  - Central Massachusetts Regional Stormwater Coalition and PVPC CT River Stormwater Committee
- **MCM 2: Public Involvement and Participation**
  - Continue to make SWMP available for public review and comment
  - Consider other, safe ways to involve public in stormwater program

PALMER'S SWMP: PLANNED FOR PY7

- **MCM 3: IDDE Program**
  - Catchment investigations and MS4 mapping updates are expected to be complete by June 30th
  - System Vulnerability Factors will be analyzed for all outfalls
  - Wet Weather Outfall Screenings will be planned for Permit Year 7 and will continue until complete

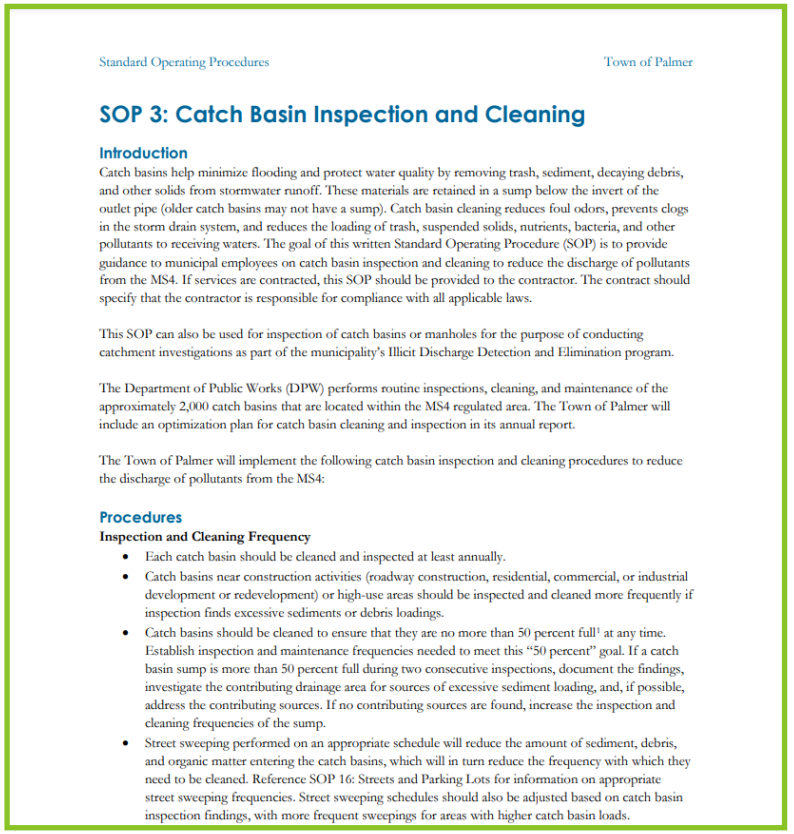


PALMER'S SWMP: PLANNED FOR PY7

- **MCM 4 & 5: Construction Site Stormwater Runoff Control and Post-Construction Stormwater Management**
  - Continue performing and tracking site plan reviews, inspections, and enforcement actions
  - Ordinance update in progress

PALMER'S SWMP: PLANNED FOR PY7

- **MCM 6: Good Housekeeping and Pollution Prevention for Permittee-Owned Operations**
  - Continued implementation of Good Housekeeping SOPs
  - Annual requirements, including advancing design and permitting and seeking funds to implement BMP retrofits
  - Record keeping



Standard Operating Procedures — Town of Palmer

SOP 3: Catch Basin Inspection and Cleaning

Introduction

Catch basins help minimize flooding and protect water quality by removing trash, sediment, decaying debris, and other solids from stormwater runoff. These materials are retained in a sump below the invert of the outlet pipe (older catch basins may not have a sump). Catch basin cleaning reduces foul odors, prevents clogs in the storm drain system, and reduces the loading of trash, suspended solids, nutrients, bacteria, and other pollutants to receiving waters. The goal of this written Standard Operating Procedure (SOP) is to provide guidance to municipal employees on catch basin inspection and cleaning to reduce the discharge of pollutants from the MS4. If services are contracted, this SOP should be provided to the contractor. The contract should specify that the contractor is responsible for compliance with all applicable laws.

This SOP can also be used for inspection of catch basins or manholes for the purpose of conducting catchment investigations as part of the municipality's Illicit Discharge Detection and Elimination program.

The Department of Public Works (DPW) performs routine inspections, cleaning, and maintenance of the approximately 2,000 catch basins that are located within the MS4 regulated area. The Town of Palmer will include an optimization plan for catch basin cleaning and inspection in its annual report.

The Town of Palmer will implement the following catch basin inspection and cleaning procedures to reduce the discharge of pollutants from the MS4:

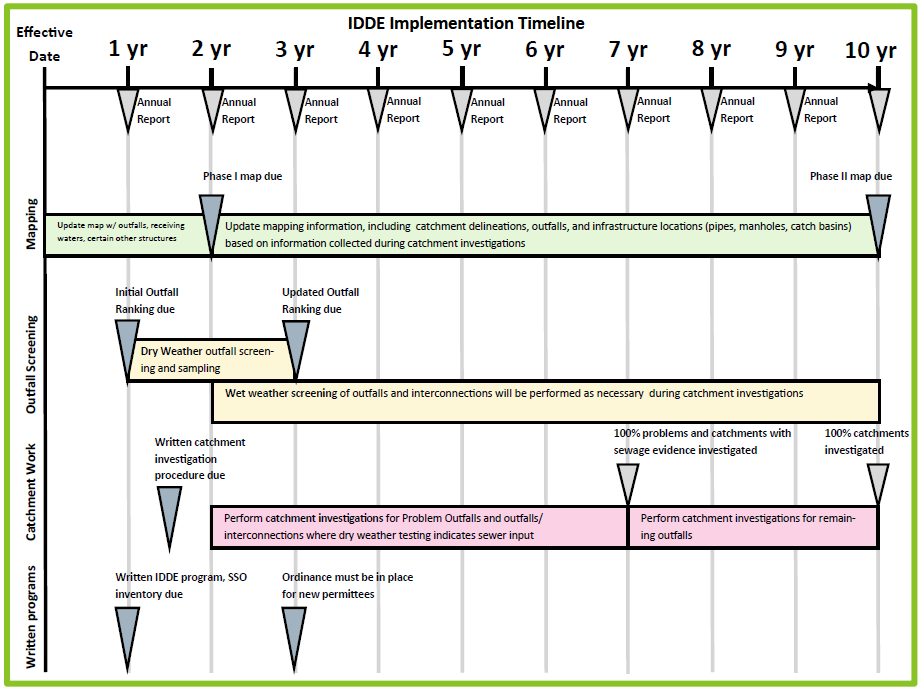
Procedures

Inspection and Cleaning Frequency

- Each catch basin should be cleaned and inspected at least annually.
- Catch basins near construction activities (roadway construction, residential, commercial, or industrial development or redevelopment) or high-use areas should be inspected and cleaned more frequently if inspection finds excessive sediments or debris loadings.
- Catch basins should be cleaned to ensure that they are no more than 50 percent full[1] at any time. Establish inspection and maintenance frequencies needed to meet this "50 percent" goal. If a catch basin sump is more than 50 percent full during two consecutive inspections, document the findings, investigate the contributing drainage area for sources of excessive sediment loading, and, if possible, address the contributing sources. If no contributing sources are found, increase the inspection and cleaning frequencies of the sump.
- Street sweeping performed on an appropriate schedule will reduce the amount of sediment, debris, and organic matter entering the catch basins, which will in turn reduce the frequency with which they need to be cleaned. Reference SOP 16: Streets and Parking Lots for information on appropriate street sweeping frequencies. Street sweeping schedules should also be adjusted based on catch basin inspection findings, with more frequent sweepings for areas with higher catch basin loads.

SUMMARY OF PALMER'S SWMP

- Palmer is actively working to meet its requirements under the MS4 program
- PY6 Annual Report due to be submitted to EPA and MassDEP by September 28, 2024
- MS4 General Permit was administratively continued until a new permit is issued.



LOOKING AHEAD AT FUTURE REQUIREMENTS

Annual reporting and tracking requirements

PY10: complete Phase II map and catchment investigations

TBD: New MS4 Permit Requirements

QUESTIONS AND DISCUSSION