

Catch Basin Cleaning Optimizing Plan



Town of Tewksbury, MA
Department of Public Works
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Introduction

This Catch Basin Cleaning Optimization Plan has been prepared by Tewksbury, MA to address the catch basin inspection, cleaning and maintenance requirements of the United States Environmental Protection Agency's (USEPA's) 2016 National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (MS4) in Massachusetts, hereafter referred to as the "2016 MS4 Permit."

The 2016 MS4 Permit requires the permittee to document its plan for optimizing catch basin cleaning, inspections, or its schedule for gathering information to develop the optimization plan. This plan documents the Town's existing catch basin cleaning program and its plans for gathering additional information to refine its program to meet the requirements of the permit.

Permit Requirements

This Catch Basin Cleaning Optimization Plan addresses Section 2.3.7.a.iii.2 of the 2016 MS4 Permit (Infrastructure Operations and Maintenance), which includes the following requirements:

- **Establish a schedule** with the goal that the frequency of routine cleaning will ensure that no catch basin at any time will be more than 50 percent full (A catch basin sump is more than 50 percent full if the contents within the sump exceed one half the distance between the bottom interior of the catch basin to the invert of the deepest outlet of the catch basin)
- **Prioritize** inspection and maintenance for catch basins:
 - Located near construction activities. These should be cleaned more frequently if inspection and maintenance activities indicate excessive sediment or debris loadings;
 - Discharging to impaired waters where the pollutant of concern is solids, oil and grease, metals or salts
 - Sumps more than 50% full during consecutive inspections (2 Years)
- **Establish proper documentation** of catch basin inspections to include:
 - the location and total number of catch basins;
 - the location and total number of catch basins cleaned or inspected; and
 - the total volume or mass of material removed from catch basins.
- **Develop an optimization plan** for catch basin cleaning, inspection plans, or a schedule for gathering information to develop the optimization plan in the annual report and in the SWMP.

Catch Basin Cleaning Optimization Methodology

The annual catch basin cleaning, inspections and screening disposals process will follow the procedures in the Catch Basin Cleaning Standard Operating Procedures included in the Town of Tewksbury’s Stormwater Management Plan (SWMP). The following is the method used by the Town of Tewksbury, MA to optimize its catch basin cleaning program.

- **Establish a schedule** – The Town of Tewksbury, MA Public Works has an annual contract for a private contractor that inspects, cleans and records data for all of the **2751** catch basins in town. The work is typically started in April and is completed by the end of June. After the prioritization (See below) the Town will then cleans the “high priority and critical” catch basins again in the Fall Season.
- **Prioritization** – The Town of Tewksbury’s data collection includes the use of a custom collections form on People GIS (See Appendix B.). The town’s cleaning contract requires the use of a tablet by the catch basin cleaning contractor to records all the data collected at each catch basin. The data recorded is linked with the GIS attribute of each catch basin. This allows for the town to keep and compare annual cleaning records of each individual catch basin.

After a minimum of two years of data collection and analysis, the determination of whether the sump is more than half full will be made. The catch basins that are more than 50% full will be cleaned twice a year and further investigated for potential factors that may have contributed to it being 50% full (i.e., sump size, nearby construction, land use, location etc.). The Town may consider other factors such as present of illicit discharges and location of outfall connected near impaired or drinking waters when prioritizing catch basins for cleaning.

The Town will keep an updated Catch Basin Cleaning Prioritization Map (See Appendix A). The map will be color coded and show each catch basin classified as the following:

<u>% of Sump Full</u>	<u>Classification</u>
0-24	Low Priority
25-49	Medium Priority
50-74	High Priority
75-100	Critical

- **Documentation** - The data collected by the contractor via the form is stored as a GIS attribute data assigned to each catch basin. The data is stored annual and allows for annual tracking of the amount of sediment in each catch basins cleans and in turn generates Catch Basin Cleaning Prioritization Map (See Appendix A.). The screenings are required to be disposed in accordance with all regulatory rules and regulations regarding material. The date and location of disposal, as well as volume of screening is recorded for annual reporting as specified in the town’s Catch Basin Inspection and Cleaning Standard Operating Procedures

Appendix A: Catch Basin Cleaning Prioritization Map

Appendix B: Catch Basin Cleaning Data Collection

INLET CLEANING

Cleaning Date:  clear

Cleaning By:

AM

DL

Truax

Cleaning Method Used:

Clam-Shell

Vacuum Truck

No Cleaning

Other

All measurements to be recorded from rim in feet.

Initial Depth to Sediment:

0 to 500

Final Depth of Structure:

0 to 500

Lowest Invert Depth:

0 to 500

Sediment Depth (calculated):

Sump Depth (calculated):

Percent of Sump Filled (calculated):

Upload Photo:

No file chosen

Comments:

Submit

Cancel



(new) of 2752



INLET INSPECTION

Inspection Date: September 17, 2020  clear

Inspection Type:

Surface

Pole Cam

CS Entry

Inspected By:

AM

DL

Truax

Weather:

Dry

Dry Weather/Wet Ground

Raining

Location Arrow:

Yes

Needed

Unknown

N/A

Medallion:

Yes

Needed

Unknown

N/A

Asset Scoring

Observations

Description of Flow:

Heavy

Moderate

Trickling

None

UNK

N/A

Reduction of Flow (GPM):

0

1

2

3

4

5

6

7

8

9

«

0 to 1000

Is Outlet Submerged?

Yes

No

Submit

Cancel



(new) of 2



Observations

Description of Flow:

- Heavy
- Moderate
- Trickling
- None
- UNK
- N/A

Reduction of Flow (GPM):

- 0
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- «
-
- 0 to 1000

Is Outlet Submerged?

- Yes
- No

Inlet Observations (Select All That Apply):

- Algae
- Color (Water)
- Discoloration of Pipe
- Excessive Sediment
- Excessive Vegetation
- Floatables
- Odor
- Optical Enhancers
- Pet Waste
- Sanitary Waste
- Scouring Below Inlet
- Turbidity

Other Observations:

Water Quality Field Screening

Lab Results

General Comments:

Submit

Cancel



(new) of 2

