TOWN OF OXFORD

MUNICIPAL STORMWATER INFRASTRUCTURE OPERATION AND MAINTENANCE PLAN

August 25, 2020

TOWN OF OXFORD

DPW

DEPARTMENT OF PUBLIC WORKS

Municipal Stormwater Infrastructure Operation and Maintenance Plan

1. INTRODUCTION

This Operation and Maintenance (O&M) Plan has been developed by the Town of Oxford to address the municipal stormwater infrastructure operation and maintenance activities and compliance with the U.S. EPA National Pollutant Discharge Elimination System General Permit for Municipal Separate Stormwater Sewer Systems in Massachusetts (MS4 Permit).

This O&M Plan addresses Minimum Control Measure 6, Good Housekeeping and Pollution Prevention for Permittee-Owned Operations, Section 2.3.7.iii. of the MS4 Permit and outlines the procedures that the Town will take to reduce the discharge of pollutants to the MS4 located within the urbanized area. A map of the urbanized area is included in Appendix A. The following activities are covered in this plan:

- Stormwater Control Panel
- Catch Basin Optimization Plan
- Catch Basin Inspection and Cleaning
- Street and Municipally-owned Parking Lot Sweeping
- Proper Storage of Catch Basin Cleanings and Street Sweepings
- Winter Road Maintenance
- Stormwater Structure Inspection and Maintenance Procedures
- Employee Training
- Recordkeeping and Reporting

2. STORMWATER CONTROL PANEL

The Town of Oxford utilizes an online Stormwater Inventory and Tracking System developed by PeopleGIS for members of the Central Massachusetts Regional Stormwater Coalition. This system consists of a Stormwater Control Panel where staff can review, update and process inspection and cleaning data. The Control Panel is located at: https://www.mapsonline.net/oxfordma/dpw.php. The town's drainage inventory data was collected in 2010(?) and was transferred into this system. One of the features that PeopleGIS created within the Control Panel is the ability to track catch basin cleanings, depth of sediment removed and catch basins due to be cleaned. The Stormwater Inventory and Tracking System will be used to fulfill the recordkeeping and support the reporting requirements of the Good Housekeeping and Pollution Prevention for Permittee-owned Operations Minimum Control Measure as well as other requirements of the MS4 permit. PeopleGIS continually updates the system with features to aid towns to meet their MS4 permit requirements.

3. CATCH BASIN OPTIMIZATION PLAN

The MS4 Permit requires permittees to establish a schedule with a goal that the frequency of routine cleanings will ensure that no catch basin at anytime will be more than 50 percent full. Refer to Part 2.3.7.a.iii.2. of the MS4 permit.

The permit defines excessive sediment or debris loading as a catch basin sump more than 50 percent full. A catch basin sump is more than 50% 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.

The Town of Oxford's plan to inspect and optimize cleaning and meet the 50% goal requirement of the permit is outlined in the following steps.

Initial Inspection and Evaluation

- Initially inspect and clean all catch basins within the regulated area annually during the first two years of the permit. Priority will be given to those catch basins located near construction activities such as roadway construction, residential, commercial, or industrial development or redevelopment.
- During these inspections, the depth of the sediment will be recorded and the percentage full in the catch basin sump will be determined. Any basins that are more than 50% full will be flagged. The Catch Basin Inspection and Cleaning Standard Operation Procedures will be followed and all inspection and cleaning data will be recorded.
- After the second year of inspection and cleaning, the recorded depth of sediment and percentage full in the sumps will be analyzed.
- If a catch basin sump is more than 50 percent full during the two initial inspections and cleaning events then the contributing drainage area will be investigated for sources of excessive sediment loading. Sources to look for include construction sites, forest cuttings,

unstable site conditions, industrial or other activities.
- Upon identifying the contributing sources, the Town will take steps to abate the source, to the extent practicable.
- If no contributing sources are found, the inspection and cleaning frequency will be increased to two times per year.
- In addition to the above listed steps to meet the 50% goal for sediment loading, known locations of excessive leaf accumulation will be noted and cleaned after rain events as needed.
- All findings and actions taken will be recorded and documented in the Annual Report.

Ongoing Inspection and Cleaning

- Ongoing catch basin inspection and cleaning will be performed according to Section 4 of this plan.

Annual Evaluation and Reporting

- The Town will annually review the catch basin cleaning records, conduct investigations into excessive sediment loading as necessary and take appropriate actions as outlined above. The frequency of inspections and cleanings will be adjusted accordingly.

4. CATCH BASIN INSPECTION AND CLEANING

The Town of Oxford will inspect and clean all catch basins in the MS4 regulated area at frequencies established through the Catch Basin Optimization Plan described in Section 3 of this plan. Tracking of frequency and inspection/cleanings due will be accomplished through the Stormwater Control Panel described in Section 2 of this plan.

Inspection and cleaning activities will be performed in accordance with the *Standard Operating Procedures (SOP) for Catch Basin Inspection and Cleaning* included in Appendix B of this plan.

Data collected during inspections and cleanings will be entered into the Stormwater Inventory and Tracking System as outlined in the SOP. A Catch Basin Cleaning Log, included in Appendix D of this plan, will be maintained and the total number of catch basins within the MS4 regulated area, number of catch basins inspected and cleaned, and the total volume of material removed shall be documented in the Annual Report.

5. STREET AND MUNICIPALLY-OWNED PARKING LOT SWEEPING

The Town of Oxford sweeps over 90 miles of public streets and 19 municipal parking lots. The map in Appendix A indicates those streets that are within the UA. A list of Municipal Parking Lots is provided in Appendix E. The streets and parking lots are swept two times per year as outlined below.

- Spring sweeping after snow and ice conditions cease, generally April-June
- Fall sweeping after leaf fall, generally between September – November

This frequency schedule meets Section 2.3.7.iii. of the MS4 permit requirement and meets the additional sweeping requirement in areas that discharge to waterbodies with a Phosphorus TMDL for selected French River Basin Lakes and in areas that discharge to waterbodies with an Out-of-State Nitrogen TMDL (French River Basin tributary to the Thames River/Long Island Sound).

Street and parking lot sweeping will be conducted in accordance with the Standard Operating Procedures for Street and Parking Lot Sweeping included in Appendix F of this plan.

A Sweeping Log, included in Appendix G of this plan, will be maintained and the total volume of sweepings will be documented in the Annual Report.

6. PROPER STORAGE OF CATCH BASIN CLEANINGS AND SWEEEPINGS

Catch basin cleanings and sweepings are stored at the Rocky Hill Waste Management Facility, Rocky Hill Rd., Oxford. The material is stored in a pile in an area that ensures that there is no discharge to any receiving waters.

The material is transported to a licensed facility by a contractor under State contract. Records of transport are retained at the DPW Headquarters, 450 Main St., Oxford.

7. WINTER ROAD MAINTENANCE

Procedures for winter road maintenance outlined in the attached Winter Road Maintenance Standard Operating Procedure, Appendix O.

8. STORMWATER STRUCTURE INSPECTION AND MAINTENANCE PROCEDURES

Detention Basins

The Town of Oxford currently maintains 12 stormwater detention basins within the urbanized area as listed in Appendix H. A map of the location of each basin is shown in Appendix I. The Town inspects each structure in the late spring, generally in May, to ensure that the basins are operating properly. Potential problems include: erosion within the basin and banks, tree growth on the embankment, damage to the emergency spillway and sediment accumulation around the outlet. Should any of these problems be encountered, necessary repairs should be made immediately.

Inspection and maintenance activities will be performed in accordance with the Standard Operating Procedures for Detention Basin Inspection and Maintenance included in Appendix J of this plan. The Inspection Form shown in Appendix K is used to record detention basin inspections.

Rain Gardens

The Town of Oxford has constructed two rain gardens on municipal properties; one at the Town Hall Parking Lot and one at Carbuncle Beach Park. These rain gardens are inspected twice a year and maintained as necessary. Potential problems include erosion, sediment build up and litter. Standard Operation Procedures for Rain Garden Inspection and Maintenance are included in Appendix L of this plan. The Inspection and Maintenance Form shown in Appendix M is used to record rain garden inspections and maintenance activities.

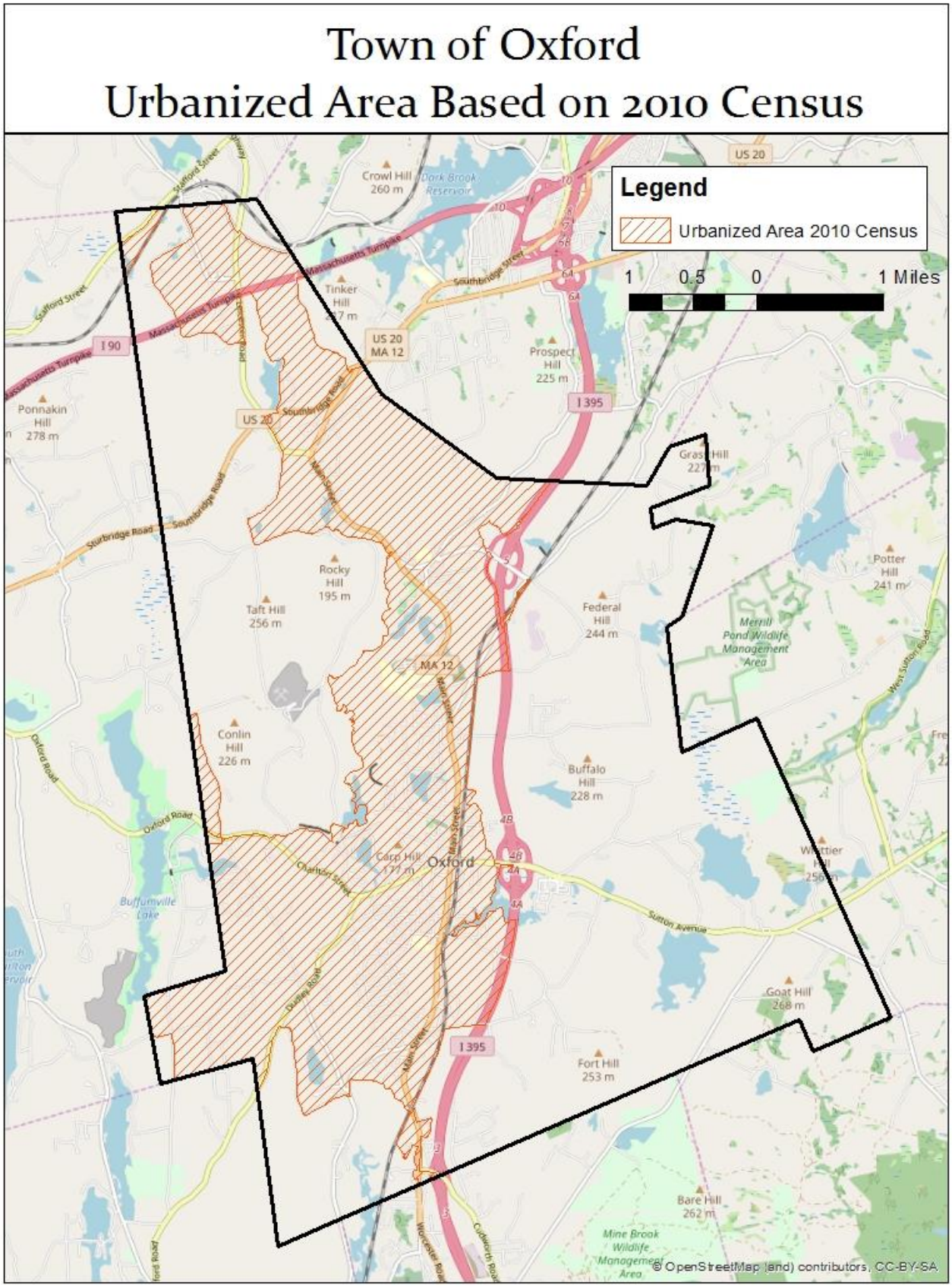
9. TRAINING

Employee Training for the preceding activities is accomplished by a variety of means including attending programs sponsored by local stormwater coalitions, classroom and field sessions, video trainings and self-guided programs. Employee Training is recorded in the Employee Training Log, Appendix N of this document.

10. RECORDKEEPING AND REPORTING

All inspection and maintenance activities described in the preceding sections are recorded electronically in the Stormwater Inventory and Tracking System described in Section 2 or are recorded on paper forms shown as Appendices to this document.

All inspection and maintenance activities related to the Municipal Stormwater Infrastructure are reported in the NPDES Small MS4 General Permit Annual Report which is submitted to the EPA and MA DEP at the end of each year of the permit (by September 30th).


Town of Oxford
Urbanized Area Based on 2010 Census
Legend
Urbanized Area 2010 Census
1 0.5 0 1 Miles
Oxford
Crowl Hill 260 m
Tinker Hill 227 m
Prospect Hill 225 m
Ponnakin Hill 278 m
Rocky Hill 195 m
Taft Hill 256 m
Conlin Hill 226 m
Carp Hill 177 m
Federal Hill 244 m
Buffalo Hill 228 m
Fort Hill 253 m
Goat Hill 268 m
Bare Hill 262 m
Potter Hill 241 m
Merrill Pond Wildlife Management Area
Mine Brook Wildlife Management Area
Buffumville Lake
Dark Brook Reservoir
US 20
MA 12
I 90
I 395
Massachusetts Turnpike
Southbridge Street
Stafford Street
Sturbridge Road
Oxford Road
Main Street
Charlton Street
Dudley Road
Sutton Avenue
West Sutton Road
Worcester Road
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Appendix B

TOWN OF OXFORD
DPW
DEPARTMENT OF PUBLIC WORKS

Standard Operating Procedures Catch Basin Inspection and Cleaning	**Issue Date:** 6/30/2019

Purpose of SOPs:

Procedures for inspecting, cleaning and maintenance of catch basins, frequency of cleaning, disposal of debris, and recordkeeping to prevent pollution from entering the stormwater drainage systems. This SOP meets the requirements of the Massachusetts Small MS4 General Permit Part 2.3.7.a.iii.2.

Equipment Inventory:

The following is a list of catch basin cleaning equipment:

Equipment Number	Make	Description	Other Notes
Truck 36	*International 7400*	*CB Cleaner*	*Stetco Clamshell Bucket*

Inspection and Cleaning Procedures

Catch basin inspection and cleaning procedures should address both the grate opening and the basin's sump. Document any and all observations about the condition of the catch basin structure and water quality on the *Catch Basin Inspection and Cleaning Form* (attached).

1. Work upstream to downstream.
2. Clean sediment and trash off grate.
3. Visually inspect the outside of the grate.
4. Visually inspect the inside of the catch basin to determine cleaning needs.
5. Measure (in feet) and record Depth to Sediment. Calculate and record Depth of Sediment as follows:
   - Depth of Sediment equals Depth of Sump minus Depth to Sediment.

   If the Depth of Sump has not already been determined for the catch basin, take measurements of the following and record on the Catch Basin Inspection and Cleaning Form:
   - Depth to Bottom of Basin
   - Depth to Lowest Invert
   - Depth of Sump equals Depth of Bottom of Basin minus Depth to Lowest Invert

Standard Operating Procedures Catch Basin Inspection and Cleaning	**Issue Date:** 6/30/2019

6. Inspect catch basin for structural integrity.
7. Visually inspect inside of catch basin for standing water and record height, color and odor on the *Catch Basin Cleaning and Inspection Form.*
8. Record observations of any possible pollutants or illicit discharges including oil sheen, bacterial sheen, orange staining, foam, sanitary waste, floatables, pet waste, optical enhancers, excessive sediment or any other non-stormwater indicator.
9. Remove sediment from catch basin using clam shell and deposit material into dump truck.
10. If contamination is suspected, collect a sample for chemical analysis to determine if the materials comply with the Massachusetts DEP Hazardous Waste Regulations, 310 CMR 30.000 (http://www.mass.gov/dep/service/regulations/310cmr30.pdf). Chemical analysis required will depend on suspected contaminants. Note the identification number of the catch basin on the sample label, and note sample collection on the *Catch Basin Inspection and Cleaning Form*.
11. Properly dispose of catch basin cleanings. See following Storage and Disposal section for guidance.
12. If illicit discharges are observed or suspected, notify the appropriate Department (*see Standard Operating Procedures for Addressing Illicit Discharges).*
13. At the end of each day, document location and number of catch basins cleaned, amount of waste collected, and disposal method for all screenings. Use attached *Catch Basin Cleaning Log*.
14. Report additional maintenance or repair needs to the Operations Manager.

Maintenance of Cleaning Equipment

1. The clamshell truck will be checked for leaks once per week. Immediately contain and properly clean up any spills.
2. Regular preventative maintenance to prolong equipment use such as greasing moving parts and minor adjustments occur a minimum of four times per year.
3. Parts are replaced as needed.
4. Equipment is washed at the DPW garage located at 34 Charlton St., Oxford to trap grease, oils and sediment.

Inspection and Cleaning Schedule

1. Catch basin cleaning will primarily take place between the months of April and June. Those catch basins identified as requiring a second cleaning will generally be cleaned between September and November.
2. Priority catch basins are identified according to the *Catch Basin Cleaning Optimization Plan* and are listed below. The priority catch basin list will be reassessed and updated at a minimum of every spring prior to cleaning and as denoted in the optimization plan.
3. A map of the municipal stormwater system including catch basins is located at https://www.town.oxford.ma.us/sites/oxfordma/files/uploads/oxford_stormwater_map.pdf

Standard Operating Procedures Catch Basin Inspection and Cleaning	**Issue Date:** 6/30/2019

Priority Catch Basins	**Reason**

Storage and Disposal

1. If contamination is suspected, the cleanings will be temporarily stored at 34 Charlton St. on an impervious surface. A third party is contracted to handle suspected contamination.
2. Catch basin cleanings are stored at the Rocky Hill Road Waste Facility. The material is removed annually by a third party contractor.
3. Measurement of Volume: The amount of material removed from the catch basins shall be determined daily based on the volume in cubic yards filled in the truck. The amount shall be recorded in cubic yards with a list of the catch basins cleaned in *Catch Basin Cleaning Log*.

Training

1. Employees are trained annually on this procedure and the proper operation of equipment. Employees are also trained on stormwater pollution prevention, spill and response, and illicit discharge detection and elimination procedures.

Record Keeping

1. Records are kept at the DPW Garage, 34 Charlton St., Oxford and in the online *Oxford Stormwater Control Panel* at: mapsonlin.net/oxfordma/dpw.php.
2. A *Catch Basin Inspection and Cleaning Form* (paper or electronic) is completed for every catch basin inspected and cleaned.
3. The *Catch Basin Cleaning Log* is updated daily to record the streets cleaned, number of catch basins cleaned, number of catch basins inspected and the amount of material removed.
4. A list of employees implementing the SOPs and the completion of their training(s) can be found in the *Town of Oxford Good Housekeeping Plan* located at the DPW Headquarters, 450 Main St., Oxford.

Revising the SOPs

1. These procedures are reviewed annually and updated as needed.

Appendix C

Catch Basin Inspection and Cleaning Form

6-30-2019

CB ID#: _____ Inspection Date: _____

Address: _____ Weather Conditions: _____

◯ Dry more than 24 hours ◯ Wet

A. Depth to Sediment: _____._____ feet B. Depth to Bottom of Basin: _____._____ feet

C. Depth to Lowest Invert: _____._____feet

D. Depth of Sump (B - C): _____._____ feet E. Depth of Sediment (B - A): _____._____ feet

Is Depth of Sediment (E) > 50% of Depth of Sump (D)? ◯ Yes ◯ No

Is Cleaning Required? ◯ Yes ◯ No

Cleaning Method Used:

◯ Clam-Shell ◯ Vacuum Truck ◯ No Cleaning ◯ Other:_____

Catch Basin Condition: ◯ Good ◯ Fair ◯ Poor ◯ Crumbling

Unusual Water Color? ◯ Yes ◯ No
If yes, describe in comments below.

Unusual Odor? ◯ Yes ◯ No
If yes, describe in comments below.

Observations:

◯ Foam ◯ Oil Sheen ◯ Bacterial Sheen ◯ Orange Staining

◯ Sanitary Waste ◯ Floatables ◯ Pet Waste ◯ Optical Enhancers

◯ Excessive Sediment ◯ Other: _____

Sample of Screenings Collected for Analysis? ◯ Yes ◯ No

Sample of Water Collected for Analysis? ◯ Yes ◯ No

Comments:_____

_____

Inspector's Name: _____

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Catch Basin Cleaning Log

To be filled out daily

Date	Street	# of CBs Inspected	# of CBs Cleaned	Volume of Material in Cubic Yards	Disposition

Appendix E

Municipal Parking Lots

Name	Address
Carbuncle Beach	12 Carbuncle Dr
High School	100 Carbuncle Dr
DPW Garage	34 Charlton St
Treasure Land	Church St
Chaffee School	9 Clover St
Clara Barton School	25 Depot Rd
Ruel Field	27 Locust St
Fire Dept Headquarters	181 Main St
Town Hall/Senior Center	325 Main St
Library	339 Main St
DPW Headquarters	450 Main St
Middle School	497 Main St
Police Station	503 Main St
North Fire Station	656 Main St
Dog Park	660 Main St
Little League Field	660 Main St
Community Center	4 Maple Rd
North Cemetery	Old Rt 12
RR Ave Parking Lot	Railroad Ave

TOWN OF OXFORD
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DEPARTMENT OF PUBLIC WORKS

Standard Operating Procedures Sweeping Streets and Parking Lots	Updated: 9/11/2020

Purpose of SOPs:

Procedures for the operation and maintenance of street sweepers, frequency of sweeping, disposal of debris, and recordkeeping to prevent pollution from entering the stormwater sewer systems. This SOP meets the requirements of the Massachusetts Small MS4 General Permit Part 2.3.7.a.iii.3.

Equipment Inventory:

The following is a list of street sweeping equipment:

Equipment Number	Make	Description	Sweeper Speed or Other Notes
NP-41597	Elgin	Street Sweeper	Leased

Operations

1. Operate all sweepers and equipment according to the manufacturer's recommended settings, standards, and procedures.
2. While sweeping, drive between the optimal sweeping speed limit, as recorded in the equipment list above.
3. Sweeping will not take place during inclement weather; light rain is optimal.
4. If spills occur or illegal discharges are seen, report to Oxford Fire Department, 508-987-6012 or 508-987-0156.

Maintenance of Equipment

1. Sweepers will be checked for leaks daily.
2. Immediately contain and properly clean up any spills.
3. Regular preventative maintenance to prolong equipment use (such as greasing moving parts and minor adjustments) occurs daily. Grease tubs are filled daily. Machine has an automatic greaser.
4. Parts are replaced as needed. Brushes are replaced when bristle length is less than six inches.
5. Equipment is washed at 34 Charlton St.
6. The hopper is cleaned daily. (Coating in hopper prevents sticking; scraping is not needed.)

Standard Operating Procedures Sweeping Streets and Parking Lots	**Updated:** 9/11/2020

Schedule

1. Street sweeping will primarily take place between the months of April - June, September-November.
2. All streets with curbing and/or catch basins shall be swept a minimum of once per year in the spring (following winter activities). Streets are swept according to type of road. Hot mix asphalt (HMA) roads are swept first in the spring, followed by non-HMA roads.
3. Priority roads and parking lots are identified on the basis of pollutant load reduction potential, based on inspections, pollutant loads, catch basin cleaning or inspection results, land use, impaired or TMDL waters or other relevant factors. These roads and parking lots are listed below and will be swept more frequently as indicated in the table.

Priority Road/Parking Lot Name (or Category)	**Frequency of Sweeping**
Sherwood Forest neighborhood	Extra as needed.
Rocky Hill Rd.	Extra as needed.
Church St.	Extra as needed.

The list of priority roads and parking lots will be reassessed every year.

4. The sweeping schedule is assessed annually and updated as necessary.
5. Location of town roads is shown on the Oxford Town Map at https://www.mapsonline.net/oxfordma/index.html. Municipal parking lots swept are listed in Appendix E of this document.
6. Events/activities that require special sweeping are parades, PanMass Challenge Bike Ride, road races and other miscellaneous events.

Storage and Disposal

1. Solid sweeping debris is stored at the Rocky Hill Road Waste Facility. The material is removed annually by a third party contractor.
2. Weighing process: The amount of solid sweeping debris is calculated by volume. A full truckload equals 10 yards.

Standard Operating Procedures Sweeping Streets and Parking Lots	**Updated:** 9/11/2020

Training

Employees are trained annually on this procedure and the proper operation of equipment. Employees are also trained on stormwater pollution prevention, spill and response, and illicit discharge detection and elimination procedures.

Record Keeping

5. Records are kept at the DPW Garage, 34 Charlton St., Oxford.
6. The *Street Sweeping Log,* is updated daily to record the streets cleaned and amount of material collected. The log is included in Appendix G of the *Municipal Stormwater Infrastructure Operation and Maintenance Plan* located at the DPW Headquarters, 450 Main St., Oxford.
7. A list of employees implementing the SOPs and the completion of their training(s) can be found in the *Municipal Stormwater Infrastructure Operation and Maintenance Plan* located at the DPW Headquarters, 450 Main St., Oxford.

Revising the SOPs

These procedures are reviewed annually and updated as needed.

FY20 Street Sweeping Log		
Date	**Street**	**Volume (cubic yards)**
7/8/2019	Dana Dr Hillcrest Dr Hillcrest Cir Heritage Dr Dana Rd- Underbridge Rollingwood Dr.	8
7/10/2019	Pine Ridge Dr Old Howarth Rd-Partial Cricket Dr Melvin Dr Old Farm Rd Grasshopper Ln	6
7/22/2019	Fort Hill-Lower Jasmine Dr. FortHill Rd- Upper	10
7/24/2019	Holbrook Rd Ester Cir Chris Rd Westview Dr-Finished	12
7/30/2019	George St Rose Ln Allen Ave Crescent St. Sutton Ave Charlton St- for Pan Mass	10

8/8/2019	State St Marshall St Bacon St Hamilton St Ashton St Carey Ln Patton St Nelson St Lambert Ct Lambert Cir Hope Ave Bridge on Dudley Rd	12
8/13/2019	High School Clara Barton School Millbury Rd from Federal Hill Rd to bridge	10
8/14/2019	Spring St Ashworth Dr Mill St	12
8/26/2019	Old Howarth Rd Jillian Rose Dr Kritin Ln Theresa Cir Charlton St at bottom of Conlin Rd Buffum Dam Rd Oakwood Terr	12
8/29/2019	Maple Ave Virginian Ln Cherdon Ln Thayer Ct Pinehill Dr Leicester St(from rte 12 to rte 20)	8

9/4/2019	Doldge Ct Drury Ln Country Ln Sunny Hill Rd Old Webster Rd(from Buffum Dam Rd to Asphalt Plant)	12
9/10/2019	Gardner St Howarth Rd	12
9/24/2019	Leicester St	10
9/26/2019	Marilyn Ln Old Webster Rd (from Marilyn Ln to Dudley Line)	10
10/25/2019	Sunset Ave Maid Marion Rd Bounty Rd Friar Tuck Ln Holly St Sherwood Dr Little John Cir Vine St Hemlock St Nottingham Rd Cherry St Aspen Dr Beech St	12
10/28/2019	Main St Front St Elm St East Main St Part of Water St Charlton St(from the Center to Dudley Rd)	8
2/24/2020	Dudley Rd. (from 4 way to Dudley Line)	25

	Millings	
2/26/2020	Dudley Rd. (from 4 way to Dudley Line) Charlton St. (from Dudley Rd to Main St)	8
3/2/2020	Main St Front St Elm St Sigourney St Parts of Quobaug Fairlawn Water St Maple Rd	8
3/3/2020	Charlton St Grasshopper Ln Fox Run Oakwood Terr Jillian Rose Dr Kristen Ln Theresa Cir	16
3/10/2020	Buffum Dam Rd Old Webster Rd (from Buffum Dam Rd to Dolge Ct) Drury Ln	10
3/12/2020	Dolge Ct Country Ln Sunny Hill Dr Old Webster Rd (from Doldge Ct to Asphalt Plant)	8
3/18/2020	Dudley Rd (from 4 way to Dudley Line) Old Webster Rd (from Dudley Rd to Asphalt Plant) Marilyn Ln around Islands in front of Comm. Center	8

3/20/2020	Sutton Ave (from Main St to Lower Forthill) Main St (in front of diner)	8
3/30/2020	Sunset Ave Maid Marion Rd Bounty Rd Friar Tuck Ln Nottingham Rd Sherwood Dr Little John Cir Lowes St. Brook St Parts of Cherry St	6
4/23/2020	Town Hall Parking lot Senior Center Parking Lot Sigourney St Freemont St Charlton St (from Barn to Dudley Rd.)	3
5/11/2020	Vine St Hemlock St Finished Cherry St Beech St Aspen Dr Clarence Dr Corey Dr Hazel Way Holly St Matthew Cir Windward Dr French River Cir Leeward Ln Locust St(from Holly St to Wayne Ave)	8

5/12/2020	Wayne Ave Anthony Dr Liberty Ln Blueberry Ln Spruce St Clover St Finished Locust St Wild Rose St June St Birch St Parts of Cypress & Wheelock St	8
5/14/2020	Fairlawn Ave Walnut St Oak St Linden St Wheelock Ct Laurel St Willow St Parts of Weelock St Pine St Cypress St	8
5/18/2020	Old Dudley Rd May St Quobaug Ave Finished Cypress St Pine St Wheelock St Middle School Carbuncle Dr.-Senior Center	12

5/19/2020	Housing for Elderly on Wheelock St Water St New St Columbus St Sibley Cir N. Water St Cedar St Bartlett St Tremont St Senior Center Hall Rd Carlton Ct Part of Main St	12
5/20/2020	Rocky Hill Rd Eddy St Vernon St Hammond St Chaffee Ln Foster St Angel St Rocky Hill Rd Ext. Paige Ln Birchwood Terr Founders Ct Manor Ln Homestead Ave	10
5/21/2020	Main St Jackson Ct Barton St Maple Rd Island on Sutton Ave	10

5/26/2020	Prince St Waite St Gannett St Ballard St West St West Ct Mckinstry Dr Westgate Dr Front St Elm St Part of Forest St	8
5/27/2020	Finished Forest St Spicebush Ln Church St Saad Dr Woodland Dr King St Queen St Highland St Minuteman Ln History Ln Monument Dr	10
5/29/2020	Corbin Rd Camphill Dr Gardner St Howarth Rd Pineridge Dr Melvin Dr	12
6/16/2020	Clara Barton Rd (from Main St to Polonia Dr) Spots on Leicester St the bottom of driveway of dog park Old Depot & Rte 12 Clara Barton School driveway	10

6/17/2020	Dudley Rd Charlton St Larnard Rd Dudley Rd Conlin Rd Charlton St Beverley St Belmont St Burbank St Bailey Rd Stuart St Depot Rd (from Old Worc to State Barn) Old Worc Rd (from Rte to Depot Rd)	10
6/18/2020	Finished Old Worc Rd Wellington Rd Shady Ln Harvard St Depot Rd(from School to 4 way stop)	8
6/24/2020	Newton Ave Carbuncle Dr High School	6
6/30/2020	Coughlin Rd	16
	Total Sweepings Collected (cubic yards)	**412**

Street & Parking Lot Sweeping Log - April 2019 - June 2019

2019 Street Sweeping Log		
Date	**Street**	**Volume** (cubic yards)
4/12/2019	Main St Front St Elm St	6
4/17/2019	High School Middle School Clara Barton School Carbuncle Dr	4
4/18/2019	Chaffee School Community Center	4
4/22/2019	Maid Marion Rd Bounty Rd Friar Tuck Ln Nottingham Rd Little John Cir Sherwood Dr Cherry St School St Ruel Field Main St - Partial	12
4/23/2019	Vine St Hemlock St Aspen Dr Holly St Matthew Cir Winward Dr	8

4/24/2019	French River Cir Leeward Ln Clarance Dr Corey Dr Hazel Way Locust St Wayne Ave Anthony Dr Birch St Spruce St Clover St	8
4/25/2019	North Fire Station Little League Field Maple Ave - Partial	6
4/29/2019	Fairlwan Ave Liberty Ln Blueberry Ln Oak St Wheelock Ct Wheelock St - Partial Pine St Cypress St June St Wildrose St	10
5/1/2019	Linden St Walnut St Willow St Old Dudley Rd Laurel St	10
5/8/2019	Quobaug Ave Wheelock St Pine St May St Cypress St Housing for Elderly Camphill Dr Corbin Rd Monuent Dr Minuteman Ln History Dr	10

5/9/2019	Johnson Ln Carron Ln Winter St Mayfair Cir Pratt Ave Linwood St Hubbard St Lucy Dr Malden Dr Colony Ave Esposito Way Woodlawn Ave	8
5/13/2019	Water St East Main St New St Columbus St Sibley Cir Cedar St N. Water St Tremont St Bartlett St Hall Rd Charlton Ct	12
5/14/2019	West St Gannette St Waite St Westgate Dr West Ct Mckinstry Dr Church St Saad Dr Spicebush Ln Forest St Woodland Dr Higland Ave King St Queen St	12

5/15/2019	Waite St Prince St Ballard St Homestead Ave Paige Ln Founders Ct Manor Ln	10
5/17/2019	Rocky Hill Rd Eddy St Vernon St Chaffee Ln Hammond St Foster St Angell St Rocky Hill Rd Ext Birchwood Terr	10
5/20/2019	Beverly St Belmont St Burbank St Baily Rd Stuart St Shady Ln Wellington Rd	10
5/21/2019	Old Worcester Rd Old Depot Rd Newton Ave Depot Rd - from State pit to Rte 12 Harvard St	12
5/22/2019	Park St Pond St Walcott St Lind St Railroad Ave Freemont St Rawson Ave Maple Rd	10

5/23/2019	Main St Sutton Ave -Rt 12 to Jughandle Front St Elm St East Main St Church St- near cemetery wall	20
5/29/2019	Howe Ave Russell Ln Hugenot Rd- Partial Westview- Partial	12
5/30/2019	Hugenot Rd - Finished Garrison Hgts Rhonda Rheault Dr	8
6/3/2019	Old Merriam Rd Suzanne Dr Michelle Ln	16
6/5/2019	Merriam Rd - finished Wells St Watch St Pleasant St Hartwell St Leicester St - Partial	12
6/6/2019	Pleasant Ct Laurelwood Dr Leicester St - Partial	12
6/12/2019	Old Southbridge Rd - one way only Dudley Rd - from Walnut St to Dudley Line	10
6/14/2019	Carbuncle Dr Carbuncle Parking Lot Millbury Blvd Federal Hill Rd - Rt 12 to RR tracks	4

Appendix H

Town-Maintained Detention Basins within the Urbanized Area

Basin ID	Street Serviced	Access Address	Property Ownership	Map/Parcel	Latitude	Longitude
1	Deer Hill Rd	46 Prospect St	private	07/A03.015	42.16824	-71.88022
2	Founders Ct	1 Founders Ct	private	29A/C51.34	42.13181	-71.86729
3	Manor Ln	25 Manor Ln	private	29A/C51.14	42.12883	-71.87151
4	Minuteman Ln	1 Minuteman Ln	private	33B/A46.011	42.11815	-71.86906
5	Monument Dr	10 Monument Dr	private	33B/A46.427	42.11717	-71.87063
6	Monument Dr	33 Monument Dr	private	34A/C46.411	42.12081	-71.87375
7	Spring St	3 Spring St	private	02/F02.14	42.18457	-71.89206
8	Main St - Police Station	503 Main St	town-owned	24/A02	42.13828	-71.86806
9	Main St - High School	100 Carbuncle Dr	town-owned	24/A04	42.13806	-71.8733
10	Spicebush Ln	5 Spicebush Ln	private	29D/A49.08	42.1239	-71.86967
11	Old Webster Rd/Country Ln	Old Webster Rd	private	32/C01	42.11293	-71.89413
12	Misty Meadow Ln	12 Misty Meadow Ln	town-owned	48/C04.08	42.09569	-71.90277
13	Wayne Ave Ext	Wayne Ave Ext	Private	46B/B52	42.1071	-71.8763

Town-Maintained Rain Gardens within the Urbanized Area

Location	Access Address	Property Ownership	Map/Parcel	Latitude	Longitude
Town Hall Parking Lot	Sigourney St.	town-owned	07/A03.015	42.16824	-71.88022
Carbuncle Pond Beach	12 Carbuncle Dr.	town-owned	29A/C51.34	42.13181	-71.86729

Appendix I

The Town-Maintained Detention Basins Map is on the following page.

TOWN OF OXFORD

DPW

DEPARTMENT OF PUBLIC WORKS

Standard Operating Procedures Detention Basin Inspection and Maintenance	**Issue Date:**

Purpose of SOPs:

Procedures for the inspection and maintenance of municipal detention basins, frequency of activities, disposal of debris, and recordkeeping to prevent pollution from entering waterbodies.

Sedimentation

Sediment accumulation in the basin can affect the original design volume and the proper functioning of the basin. Regular minor sediment removal from the forebay can significantly reduce the frequency of major sediment removal activities that require dredging from the main basin.

Inspection Procedures

Municipally-maintained Detention Basins are inspected annually to ensure ongoing functionality.

5. Site plans for each basin are located at DPW Headquarters, 450 Main St. and are to be reviewed and referred to during the field inspections.
6. Inspect upper stage, side slopes, embankment, lower stage and emergency spillway for structural damage, erosion, overgrowth of vegetation and stabilization.
7. Examine outlet structure for clogging or high outflow release velocities and inspect for structural integrity.
8. Examine inlet energy dissipater rip rap for displacement, erosion and sedimentation buildup.
9. Measure and record depth of sediment in the forebay and basin.
10. Record observations and required maintenance on the Detention Basin Inspection and Maintenance Inspection Form.

Standard Operating Procedures Detention Basin Inspection and Maintenance	**Issue Date:**

Maintenance Procedures

In addition to any needed maintenance identified during the annual inspection, the following activities are to be conducted annually:

1. Mow upper stage, side slopes, embankment and emergency spillway.
2. Remove all trash and debris.
3. Remove sediment from the forebay and basin as necessary.
   Minor sediment removal can be conducted with shovels and smaller equipment without damaging the integrity of the structure.
   Major sediment removal will require use of a skid steer or back hoe. This work requires the DPW Engineer to assess the situation and ensure design grades and volumes are achieved.
4. Record maintenance activities on the Detention Basin Inspection and Maintenance Inspection Form.

At least once every five years:

1. Remove sediment from forebay and basin.

Sediment Disposal

3. Sediment debris is brought to the Rocky Hill Road Disposal Facility.
4. Other trash and debris is disposed of in DPW trash receptacle.

Training

Employees are trained annually on the inspection and maintenance of detention basins.

Record Keeping

Records are kept at the DPW Headquarters, 450 Main St., Oxford.

Revising the SOPs

These procedures are reviewed annually and updated as needed.

TOWN OF OXFORD
DPW
DEPARTMENT OF PUBLIC WORKS

Inspection Form Detention Basin Inspection and Maintenance	**Inspection Date:**

Detention Basin ID: _____ Address:

_____

Inspector's Name:

Vegetation Cover Condition:

- ☐ Vegetation Healthy. No overgrowth.
- ☐ Moderate Overgrowth. Mowing, trimming or removal necessary to maintain capacity and flow paths.
- ☐ Vegetation Overgrowth presents hazards to inflows, outflows and retention. Maintenance required immediately.
- ☐ Comments:

Visual Assessment of Inlets and Outlets:

- ☐ Inlets and outlets fully stabilized, no signs of erosion or scour. No repair necessary.
- ☐ Inlets/outlets require minor repair or retrofit to control erosion or scour.
- ☐ Inlets/outlets show signs of erosion or scour more than 2". Repairs required immediately.
- ☐ Comments:

Sediment Accumulation:

- ☐ No evidence of sediment accumulation at forebay, base, inlets or outlets. No impacts to outflow.
- ☐ Sediment accumulation less than 15% of basin depth or partially obstructing inlet or outlet. No significant impact to outflow.
- ☐ Sediment accumulation greater than 25% of basin depth. Maintenance required to remove sediment.
- ☐ Depth of sediment: _____
- ☐ Comments:

Inspection Form Detention Basin Inspection and Maintenance	**Inspection Date:**

Sidewalls and Embankment:

- ☐ No evidence of erosion, rodent holes or compromise.
- ☐ Minor damage due to erosion or rodent holes. Repair or stabilization is required.
- ☐ Evidence of piping through sidewalls due to rodent holes or erosion damage. Immediate repair required.
- ☐ Comments:

Presence of Debris or Illicit Activity:

- ☐ No debris, litter or evidence of illicit dumping.
- ☐ Small amounts of debris or litter removed at time of inspection.
- ☐ Significant quantity of debris or litter. Evidence of illicit dumping. Cleanup activity is required.
- ☐ Comments:

Perimeter Fencing and Access:

- ☐ Perimeter fence and access is secure.
- ☐ Perimeter fence or access is unsecure and requires repair.
- ☐ Comments:

Description of Photos Taken:

Additional Notes:

Appendix L

TOWN OF OXFORD
DPW
DEPARTMENT OF PUBLIC WORKS

Standard Operating Procedures Rain Gardens	**Issue Date:** 6/30/2019

Purpose of SOPs:

Procedures for the inspection and maintenance of Rain Gardens to prevent premature failure. This SOP meets the requirements of the Massachusetts Small MS4 General Permit Part 2.3.7.a.iii.6.

Inspection

Visually inspect for soil erosion, dead vegetation and sediment buildup twice a year (spring/fall). Use the Rain Garden Inspection and Maintenance Form to record inspection activities.

Maintenance

Maintenance activities are recorded on a Rain Garden Inspection and Maintenance Form.

Spring and Fall Activities:

1. Repair any eroded areas and add supplemental mulch/stone as needed.
2. Shovel out sediment as needed. Dispose of any sediment with catch basin cleanings at the Rocky Hill Road Waste Facility.
3. Remove dead vegetation and dispose of at the Rocky Hill Road Waste Facility.
4. Plant new vegetation as needed.
5. Prune as needed.

Winter Activities:

Do not plow snow into the rain gardens.

Monthly Activities:

Remove trash.

Record Keeping

1. Records are kept at the DPW Headquarters, 450 Main St., Oxford.
2. A list of employees implementing the SOPs and the completion of their training(s) can be found in the *Town of Oxford Good Housekeeping Plan* located at the DPW Headquarters.

TOWN OF OXFORD
DPW
DEPARTMENT OF PUBLIC WORKS

Inspection and Maintenance Form Rain Gardens	**Inspection Date:**

Rain Garden Address: _____

Inspector's Name:

Vegetation Cover Condition:

- ☐ Vegetation Healthy.
- ☐ Dead vegetation or weeds needing removal.
- ☐ Maintenance Conducted: _____
  _____

Visual Assessment of Inlets and Outlets:

- ☐ Inlets and outlets fully stabilized and there are no signs of erosion or scour. No repair necessary.
- ☐ Inlets/outlets require minor repair or supplemental stone.
- ☐ Maintenance Conducted:_____
  _____

Sediment Accumulation:

- ☐ Sediment buildup needing removal.
- ☐ Maintenance Conducted:_____
  _____

Presence of Debris or Illicit Activity:

- ☐ No debris, litter or evidence of illicit dumping.
- ☐ Small amounts of debris or litter removed at time of inspection.
- ☐ Significant quantity of debris or litter. Evidence of illicit dumping. Cleanup activity is required.
- ☐ Maintenance Conducted:_____
  _____

Inspection and Maintenance Form Rain Gardens	**Inspection Date:**

Fencing:

- ☐ Fence is intact.
- ☐ Fence requires repair.
- ☐ Maintenance Conducted:_____
  _____

Other Observations/Maintenance Activities:

Description of Photos Taken and Location:

Appendix N

Employee Training Log

Date	Employee Name	Training Name/Description
YEAR 1		
2/14/2019	Judy Lochner	PeopleGIS Stormwater Control/Quick Assess Workshop, Auburn
4/22/2019	John Winsky	Catch Basin Cleaning & Inspection Forms and Tablet Use, DPW Headquarters
5/30/2019	Judy Lochner	IDDE Requirements, On-Line Video
YEAR 2		
8/12/2019	Dylan Labelle	Outfall Inspection, Screening, WQ Testing, On-Line Video
9/12/2019	John Winsky Dylan Labelle	PeopleGIS Stormwater Control/Quick Access Workshop, Auburn
2/26/2020	Matt Krupsky	Street Sweeping Training (conducted by JoeFallavollita)
4/30/2020	Mike Lupus	SOP Training Workshop, Online Training, CMRSWC
5/7/2020	Matt Masiello Jim Esposito	IDDE Training, Online Training, CMRSWC
6/9/2020	Judy Lochner	MS4 SOP Workshop, Online Training, SRSWC
6/18/2020	Peter Gerhard	Stormwater Pollution Prevention Plans Workshop, Online Training, CMRSWC
YEAR 3		
9/17/2020	John Winsky Dylan Labelle Judy Lochner	PeopleGIS Stormwater Control/Quick Access Workshop, online with Tyler Stearns. Emphasis on new culvert inventory and new updates.