Town of Bridgewater, MA

Stormwater Management Program (SWMP): Volume 3

NPDES Phase II Small MS4 General Permit

June 2020

GOOD HOUSEKEEPING & POLLUTION PREVENTION

BETA
315 Norwood Park South
2nd Floor
Norwood, Massachusetts 02062
781.255.1982
www.BETA-Inc.com

Stormwater Management Program (SWMP): Volume 3

Town of Bridgewater, MA

NPDES Phase II Small MS4 General Permit

GOOD HOUSEKEEPING & POLLUTION PREVENTION

Prepared by: BETA GROUP, INC.
Prepared for: Town of Bridgewater, Ma

June 2020

TABLE OF CONTENTS

1.0 Introduction 1
2.0 Objective 1
3.0 Statement of Responsibilities 1
4.0 Definitions 2
5.0 Inventory of Municipal Owned Facilities 3
6.0 Municipal Facilities Operation and Maintenance Programs 3
6.1 Parks and Open Space 3
6.2 Buildings and Facilities 5
6.3 Vehicles and Equipment 8
7.0 Municipal Infrastructure Operation and Maintenance 11
7.1 Catch Basins 11
7.2 Streets and Parking Lots 12
7.3 Storage and Disposal of Catch Basin Cleanings and Street Sweepings 13
7.4 Winter Road Maintenance 14
7.5 Stormwater Treatment Structures (Structural BMPs) Inspection and Maintenance 16
8.0 Stormwater Pollution Prevention Plans (SWPPP)s 21
9.0 Training 21
10.0 Records and Reporting 21

LIST OF APPENDICES

Appendix A: Town-owned Facilities, BMPs and Stormwater Infrastructure Map
Appendix B: Town-owned Facilities Inventory and Reporting Log
Appendix C: Catch Basin Inspection Log
Appendix D: Street and Parking Lot Sweeping Log
Appendix E: Stormwater Treatment Structures Inspection and Maintenance Guide
Appendix F: SWPPP

1.0 INTRODUCTION

This Good Housekeeping and Pollution Prevention Plan has been developed by the Town of Bridgewater (the Town) to prevent and/or reduce pollutants in stormwater runoff from being discharged to the water of the United States in accordance with the 2016 MS4 general permit (the Permit). The Permit requires a Stormwater Management Program (SWMP), which is comprised of four volumes. This Good Housekeeping and Pollution Prevention Plan is Volume 3 of 4.

- SWMP Volume 1: Stormwater Management Program
- SWMP Volume 2: Illicit Discharge Detection and Elimination (IDDE) Plan
- **SWMP Volume 3: Good Housekeeping and Pollution Prevention Plan**
- SWMP Volume 4: Annual Reports

2.0 OBJECTIVE

The objective is to protect water quality from all permittee-owned operations by preventing or reducing pollutant runoff from town-owned facilities and maintaining town-owned MS4 infrastructure.

3.0 STATEMENT OF RESPONSIBILITIES

Bridgewater Department of Public Works (DPW) is the lead municipal department responsible for implementing the Good Housekeeping program with assistance from other Town departments.

The Department of Public Works will conduct meetings involving persons with key roles from the departments listed above to review the responsibilities and coordinate Good Housekeeping efforts between the departments. The meetings will educate the different departments about Good Housekeeping and the roles of each in identifying and resolving illicit discharges.

4.0 DEFINITIONS

The following definitions are provided for terms used in this Plan.

Best Management Practices (BMPs) is schedules of activities, practices (and prohibitions of practices), structures, vegetation, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants to waters of the United States. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Erosion is the removal of soil particles by wind and water. Often the eroded debris (silt or sediment) becomes a pollutant via stormwater runoff. Erosion occurs naturally but can be intensified by human activities such as farming, development, road-building, and timber harvesting.

Hazardous materials are common everyday products that are used in and around homes and municipal facilities including paint, paint thinner, herbicides, and pesticides-that, due to their chemical nature, can be hazardous if not properly disposed.

An **illicit discharge** is any discharge to a municipal separate storm sewer that is not composed entirely of stormwater, except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from firefighting activities.

Municipal Separate Storm Sewer is a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains):

(i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States;
(ii) Designed or used for collecting or conveying stormwater;
(iii) Which is not a combined sewer; and
(iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

Municipal Separate Storm Sewer System (MS4) means all separate storm sewers that are defined as “large” or “medium” or “small” municipal storm sewer systems pursuant to paragraphs 40 CFR 122.26 (b)(4) and (b)(7), or designated under paragraph 40 126.26(a) (1)(v). For the purposes of this permit “MS4” may also refer to the permittee with jurisdiction over the sewer system.

Pollutants are contaminants existing at a concentration high enough to endanger the environment or the public health or to be otherwise objectionable.

Sediment is solid material, both mineral and organic, that is being transported or has been moved from its site of origin by air, water, gravity, or ice and has come to rest on the earth's surface. Soil, sand, and minerals washed from land into water, usually after rain.

SWPPP stands for "Stormwater Pollution Prevention Plan." It is a plan of practices specific to a facility or site to make sure that the stormwater discharged from the site is clean and not polluted. The plan

describes all the site operator's activities to prevent stormwater contamination, control sedimentation and erosion, and comply with the requirements of the Clean Water Act.

5.0 Inventory of Municipal Owned Facilities

The Town has developed an inventory of all permittee owned facilities where drainage infrastructure is present and/or where pollutants may be exposed to stormwater within the following three categories: (1) parks and open space, (2) buildings and facilities and (3) vehicle and equipment storage. An inventory table and map of permittee owned facilities is provided in **Appendix A**.

6.0 Municipal Facilities Operation and Maintenance Programs

The following are Operation and Maintenance (O&M) procedures and best management practices (BMPs) for the three categories of municipally owned facilities identified in **Section 5.0** to be implemented at each facility as applicable. An inventory of facilities and reporting log for maintenance is included in **Appendix B**. Site specific O&M Maps are provided in the Appendix for sites with extensive drainage infrastructure and/or BMPs to clarify these features and their locations.

6.1 Parks and Open Space

Parks and open space operations and maintenance activities commonly involve the operation of equipment such as mowers and tractors; disposal of waste from mowing, planting, weeding, raking, pruning, and trash collection; application of pesticides, herbicides, and fertilizers; cleaning and maintenance of park amenities such as play equipment, restrooms, and structures; and snow removal. These activities have the potential to generate contaminants such as sediments and toxic chemicals that may be picked up by rainwater, thereby entering the storm drainage system and receiving waters.

Pesticides, Herbicides and Fertilizers

The Town currently does not use fertilizers, pesticides or herbicides in open spaces and public parks or as part of regular maintenance activities. The Town does not contract out work that requires these products nor does it store these products in its facilities. If for any reason fertilizer and/or pesticide is needed, use shall be in strict accordance with the manufacturer's instructions and with local regulations and use shall be minimized.

Lawn Maintenance and Landscaping Activities

Lawn maintenance and landscaping activities in town are minimal and limited to mowing, tree-trimming and general landscaping on Town-owned land. Lawn clippings are removed during mowing and delivered to Bridgewater Farm Supply for compost.

The use of landscaping equipment with small engines such as lawn mowers and weed whackers requires the transport and use of gasoline and oil, which provides a risk of spills. Spills may occur while fueling vehicles or equipment and poorly maintained equipment may leak during use.

Best management practices for lawn and landscaping activities include the following:

- All vehicles and equipment receive regular maintenance and are inspected for leaks or defective parts.

- Fueling activities should occur on impervious surfaces when possible with proper containment and a spill response kit in close proximity.
- Vehicles transporting landscaping equipment, pesticides, fertilizer, or paint shall be equipped with a spill response kit in case a spill or leak does occur.
- Personnel involved in fuel or oil handling are familiar with the spill response kit and spill response and cleanup procedures" and are properly trained to efficiently respond to spill and leak events.
- Never wash debris from parking lots into the storm drain.
- Leave clippings on grassy areas or dispose of them in the trash or by composting.
- Collect grass clippings and leaves after mowing. Do not blow or wash them into the street, gutter, or storm drains. Properly recycle or dispose of organic waste after mowing, weeding, and trimming.
- Brush off mowers (reels and decks) and tractors over grassy areas or in contained washout areas. Do not hose off mowers over paved areas that drain into the MS4 or directly to surface waters.
- Repair broken sprinkler heads as soon as possible.
- Only irrigate at a rate that can infiltrate into the soil to limit run-off and avoid irrigating close to impervious surfaces such as parking lots and sidewalks.
- When establishing new plantings, use alternative landscaping materials, such as drought resistant or native plants to reduce the need for irrigation and extensive application of fertilizers and pesticides.

Water Fowl

The Town does not currently have issues with waterfowl in specific areas. If needed to address waterfowl congregation areas and prevent droppings from entering the MS4, best management practices for waterfowl management include the following:

- Install signage discouraging the feeding waterfowl.
- Using good landscaping practices to discourage waterfowl. Plant low-growing bushes near the water's edge and avoid lawn areas around surface water, instead opt for more natural landscaping.

Pet Waste and Trash Management

Most parks in Town have trash barrels that are available year round. The town does not provide pet waste stations. The DPW collects from trash receptacles when notified. During Covid-19 restrictions, barrels have been removed and the town employs a carry in carry out policy.

The Bridgewater, MA Town Code, Chapter 14 Article I. Canine Control, regulates pet owners responsibilities including leash laws and proper disposal of pet waste so that no waste may be left on any public or private property in Town. The following site provides advice and recommendations on

installation, servicing, signage, location and quantity of dog waste stations: http://www.zerowasteusa.com/advice.asp

Best management practices for pet waste and trash management include the following:

- Provide pet waste stations with bags and trash receptacles where pets are permitted. Post signs describing the proper disposal of pet waste.
- All waste and recycling containers must be leak-tight with tight-fitting lids or covers.
- Place waste and recycling containers indoors or under a roof or overhang whenever possible.
- Clean and sweep up around outdoor waste containers regularly.
- Arrange for waste and recyclables to be picked up regularly and disposed of at approved disposal facilities.
- Do not wash out waste or recycling containers outdoors or in a parking lot.
- Conduct periodic inspections of waste areas to check for leaks and spills.
- Ensure there are enough trash and recycling containers at appropriate areas and monitor waste and recycling containers at heavily-used sites and on holidays to ensure that there is no overflow.

Erosion Control

Parks and open space maintenance activities include erosion control, specifically in regards to poor vegetation cover and particularly within 50 feet of surface water. Best management practices include the following:

- Prevention of erosion and sedimentation is preferable to installing treatments devices.
- Protect vegetated and wooded buffers and leave vegetated areas undisturbed to the extent possible.
- Inspect sites regularly for locations of poor vegetation cover, erosion and sedimentation and channelization. If stabilization is required, corrective actions should be identified and implemented as soon as possible.
- If exposed, soils should be stabilized by mulching, seeding with fast-growing native grass and/or planted with native tree and shrubs. Use erosion control blankets when seeding slopes.
- If necessary, slow stormwater runoff velocities with conveyance measures such as riprap channels or vegetated swales, check dams, level spreaders and outlet protection, etc.
- A buffer/filter strip should be left around surface waters. No fertilizers or pesticides should be applied in the buffer/filter strip except where necessary.

6.2 Buildings and Facilities

Municipal buildings and facilities (schools, municipal offices, police and fire stations, municipal pools, parking garages, etc.) often house various chemicals, such as petroleum products and hazardous

materials. As a result, these buildings and facilities are potential sources of pollutant discharges to the storm drainage system. The goal of these procedures is to provide guidance to municipal employees on the use, storage, and disposal of chemicals and other stormwater pollutants to reduce the discharge of pollutants from the MS4.

Use Storage and Disposal of Potential Pollutants

Potential pollutants or hazardous wastes that may be used and stored in or around municipal building and facilities include pesticides, paints, cleaners, petroleum products, fertilizers, and solvents. Careful handling and proper storage of these products are the best means of preventing spills and pollution to the environment. Best management practices include the following:

- Storage and handling areas should be covered or enclosed to reduce potential contact with stormwater and wind.
- Potential pollutants should be transported using approved methods and containers to minimize the chance of spillage, and by employees that have familiarity with the potential environmental and human health hazards of the products.
- Proper spill kits applicable to the products being used at each specific building or facility should be easily accessible, and marked clearly so employees can follow procedures quickly and effectively. Leaks or spills should be cleaned up in a timely manner.
- Establish separate storage areas for these types of products with measures in place to contain any spill leaking out of the storage area.
- A designated person should be responsible for these areas.
- The storage area should be inspected frequently, kept clean and in good order with proper labels and signs, and consistent disposal practices.
- Floor drains in storage areas should be disconnected from the stormwater system.
- Routinely inspect buildings and facilities for areas of potential leaks.
- Paint and other chemicals should not be applied on the outside of buildings when it is raining or prior to expected rain.
- When sanding, painting, power washing, etc., ensure that sites are properly prepared (e.g., use tarps) and cleaned (e.g., use dry cleaning methods) especially if they are near storm drains. Protect catch basins when maintenance work is conducted upgradient of them.
- When painting, use a drop cloth and clean up any spills immediately.
- Do not leave open containers on the ground where they may accidentally tip over.
- Do not discharge chlorinated pool water into the stormwater system. Water must be properly dechlorinated and tested before it is discharged.
- Ensure that the washwater does not flow into the storm system. Containment or filtering systems should be provided.

Spill Prevention Plans

The Town has spill kits and prevention and control plans in place at the Sewer Treatment Facility Highway Garage and Fire Department. These are coordinated with the fire department as necessary.

Per the Massachusetts Clean Water Toolkit Fact Sheet for Spill Prevention and Control Plans, it is recommended that Spill Prevention and Control Plans (SPCP) clearly state measures to stop the source of a spill, contain the spill, clean up the spill, dispose of contaminated materials, and train personnel to prevent and control future spills. The SPCP should define material handling procedures and storage requirements and outline actions necessary to reduce spill potential and impacts on stormwater quality. The plan can be a procedural handbook or a poster placed in several locations at the site.

Waste Management

All liquid and solid waste must be disposed of properly. Some of the most common sources of pollution at municipal facilities are a result of littering, improper collection of debris, and improper disposal of solid or liquid waste. Best management practices for handling, storage, transfer and disposal of trash and recyclables include the following:

- All waste and recycling receptacles must be leak-tight with tight-fitting lids or covers.
- Keep lids on dumpsters and containers closed at all times unless adding or removing material. If using an open-top roll-off dumpster, cover it and tie it down with a tarp unless adding materials.
- Place waste or recycling receptacles indoors or under a roof or overhang whenever possible.
- Locate dumpsters on a flat, paved surface and install berms or curbs around the storage area to prevent run-on and run-off.
- Do not locate dumpsters over or adjacent to catch basins.
- Prior to transporting waste, trash, or recycling, ensure that containers are not leaking (double bag if needed) and properly secure containers to the vehicle.
- Clean up any liquid leaks or spills with dry cleanup methods.
- Arrange for waste or recycling to be picked up regularly and disposed of at approved disposal facilities.
- Never place hazardous materials, liquids, or liquid-containing wastes in a dumpster or recycling or trash container.
- Do not wash trash or recycling containers outdoors or in parking lots.
- Conduct periodic inspections of solid and liquid waste storage areas to check for leaks and spills.
- Conduct periodic inspections of work areas to ensure that all wastes are being disposed of properly.
- In dumpster areas, regularly pick up surrounding trash and debris and regularly sweep the area.
- In compactor areas, regularly check the hydraulic fluid hoses and reservoir to ensure that there are no cracks or leaks. Regularly sweep the area.

Sweeping and Cleaning of Parking Lots

Vehicle surfaces can collect a variety of contaminants such as sediments, oil, grease, and metals during daily activities. The MS4 permit requires that parking lots are swept and surrounding areas of the facility are kept clean to reduce runoff of pollutants.

Parking lot sweeping and cleaning follows the same schedule as street sweeping, at least twice per year in Spring and Fall, with additional sweeping as need for specific sites. Procedures for sweeping parking lots are included in Section 7.2 Streets and Parking Lots.

Catchbasin and Stormwater Management BMP Maintenance

All catchbasin on town-owned sites are to be included in the Town catchbasin inspection and cleaning optimization program described in **Section 7.1**.

Stormwater BMPs for facilities are to be included in the Town Stormwater Treatment Structures BMP Inspection and Maintenance program described in **Section 7.5** and maintained as necessary to provide optimum treatment of stormwater runoff.

6.3 VEHICLES AND EQUIPMENT

Regular maintenance of both municipal and contracted vehicles and heavy equipment not only prolongs the life of municipal assets but also helps reduce the potential for leaking of fluids associated with normal wear and tear. Potential pollutants include fuels, oil, antifreeze, brake fluid, solvents, and battery acid. The goal of this procedure is to provide guidance to municipal employees to help reduce the discharge of pollutants from the MS4 as a result of leaks from vehicles and equipment.

Storage

Rainfall on vehicles and equipment storage areas has the potential to collect pollutants and result in high loads of nutrients, metals, and hydrocarbons in stormwater runoff. To prevent this, best management practices include the following:

- All vehicles, equipment and hazardous waste storage containers should receive regular maintenance and be inspected for leaks or defective parts.
- Vehicles and equipment should be stored on a covered slab or within a building with a common drain that discharges to an oil/water separator.
- Outdoor storage of vehicles and equipment should not occur in areas that drain to the storm drain system unless adequate devices are in place to remove oil, sediment and other pollutants.
- Vehicles with fluid leaks should be stored indoors or containment be provided until repaired.

Vehicle and Equipment Maintenance

Vehicle and equipment maintenance shall be conducted in a manor to reduce the discharge of pollutants by following these best management practices:

- Conduct routine inspections of heavy equipment and vehicles to proactively identify maintenance needs or potential leaks.
- Use drip pans as needed until repairs can be performed and when drip pans are used, avoid overtopping.

- Drain fluids from leaking or wrecked vehicles and parts as soon as possible. Dispose of fluids properly.
- Perform routine preventive maintenance to ensure heavy equipment and vehicles are operating optimally.
- Recycle or dispose of waste properly and promptly.
- Conduct all body repair and painting work indoors.
- Minimize waste from paints and thinners. Calculate paint needs based on surface area.
- Do not wash or hose down storage areas unless there is prior approval to collect and discharge the water into the sanitary sewer. Use dry cleanup methods (vacuum, sweep) to clean up metal filings and dust and paint chips from grinding, shaving and sanding. Sweep debris from wet sanding after allowing it to dry overnight on the shop floor. Dispose of waste properly; never dump waste into storm or sanitary sewers.
- Do not dump any liquids or other materials outside, especially near or in storm drains or ditches.
- Store materials and waste in labeled containers under cover and in secondary containment.
- Chemicals should not be combined in containers.
- Carefully transfer collected fluids from containers into designated storage areas as soon as possible.
- Store new and used batteries securely to avoid breakage. Store indoors or in secondary containment to contain potential acid leaks. Recycle used batteries.

Fueling Areas

Vehicle fueling activities can result in gasoline and diesel fuel entering the storm drain system. Spills can occur by topping off fuel tanks and during deliveries. If possible, fueling areas are to be places under cover in order to minimize exposure. Best management practices for fueling areas include the following:

- Deliveries to fuel tanks and fueling of vehicles and equipment should occur on impervious surfaces with proper containment and that spill response kits be readily accessible at fueling and maintenance areas.
- Fueling areas owned or operated by the municipality should be covered.

Parts Cleaning

Cleaning of parts can transport pollutants into the municipal system storm drain system or surface waters. The Permit does not authorize these types of discharges. Best management practices to avoid this include the following:

- Use designated areas for engine, parts, or radiator cleaning. Do not wash or rinse parts outdoors. If parts cleaning equipment is not available, then capture parts cleaning fluids.
- Recycle cleaning solution. Never discharge waste to the sanitary sewer or storm sewer.

- Use steam cleaning or pressure washing of parts instead of solvent cleaning. Cleaning equipment must be connected to an oil/water interceptor prior entering the sanitary sewer.
- When using solvents for cleaning, drain parts over the solvent tank to avoid drips to the floor. Catch excess solutions and divert them back to tank. Allow parts to dry over the hot tank.

Vehicle and Equipment Wash Waters

Washing down of maintenance and fueling areas and vehicles can transport pollutants into the municipal system storm drain system or surface waters. The Permit does not authorize these types of discharges. Best management practices to ensure that vehicle wash waters are not discharged to the municipal system or surface waters include the following:

- Vehicles and equipment should be washed inside whenever possible to reduce runoff to the stormwater system.
- Grassy and pervious (porous) surfaces may be used to promote direct infiltration of wash water, providing treatment before recharging groundwater and minimizing runoff to an adjacent stormwater system. Pervious surfaces or other infiltration-based systems should not be used within wellhead protection areas or within other protected resources.
- Avoid discharge of any wash water directly to the storm drainage system or surface water (e.g., stream, pond, or drainage swale)
- Do not use solvents except in dedicated solvent parts washer systems.
- Wash vehicles with non-toxic, phosphate-free, biodegradable cleaners
- Wash vehicles on an asphalt lot using a collection system with containment berms and discharge to water quality devices that will remove pollutants. Detergents should not be used in areas where oil/water separators provide pre-treatment of drainage.
- Floor drains should be connected to a sanitary sewer or tight tank. Floor drains discharging to adjacent surface water bodies or engineered storm drain systems should be permanently plugged or otherwise abandoned before any vehicle wash activities are completed.
- Designate separate areas for routine maintenance and vehicle cleaning. This helps prevent contamination of wash water by motor oils, hydraulic lubricants, greases, or other chemicals.

7.0 Municipal Infrastructure Operation and Maintenance

The Permit requires a written program detailing the activities and procedures the Town will implement so that the MS4 infrastructure is maintained in a timely manner to reduce the discharge of pollutants from the MS4. This program includes operation and maintenance of stormwater infrastructure such as catch basins and treatment structures and the impervious surfaces, streets and parking lots that are tributary to them.

7.1 Catch Basin Inspection and Maintenance Optimization

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 Town has established this procedure to optimize routine inspections, cleaning and maintenance of catch basins with a goal that the frequency of routine cleaning will ensure that no catch basin at any time will be more than 50 percent full.

For the purposes of this part, an excessive sediment or debris loading is a catch basin sump 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.

Optimization Procedure:

As part of routine inspections/cleaning events, debris levels in catchbasins will be recorded prior to cleaning in one of three conditions (<25% full, 25-50% full, and >50%) – See Catchbasin Inspection Form in **Appendix C**.

Records from consecutive inspections/cleaning events will be compared to identify basins that may be cleaned every other period, basin that need clean each period and basins that will require additional interim cleaning.

Inspection and maintenance for catch basins located near construction activities (roadway construction, residential, commercial, or industrial development or redevelopment) will be prioritized. Clean catch basins in such areas more frequently if inspection and maintenance activities indicate excessive sediment or debris loadings.

If a catch basin sump is more than 50 percent full during two consecutive cleanings the Town will document that finding, investigate the contributing drainage area for sources of excessive sediment loading, and to the extent practicable, and abate contributing sources. The Town will describe any actions taken in its annual report.

Record Keeping

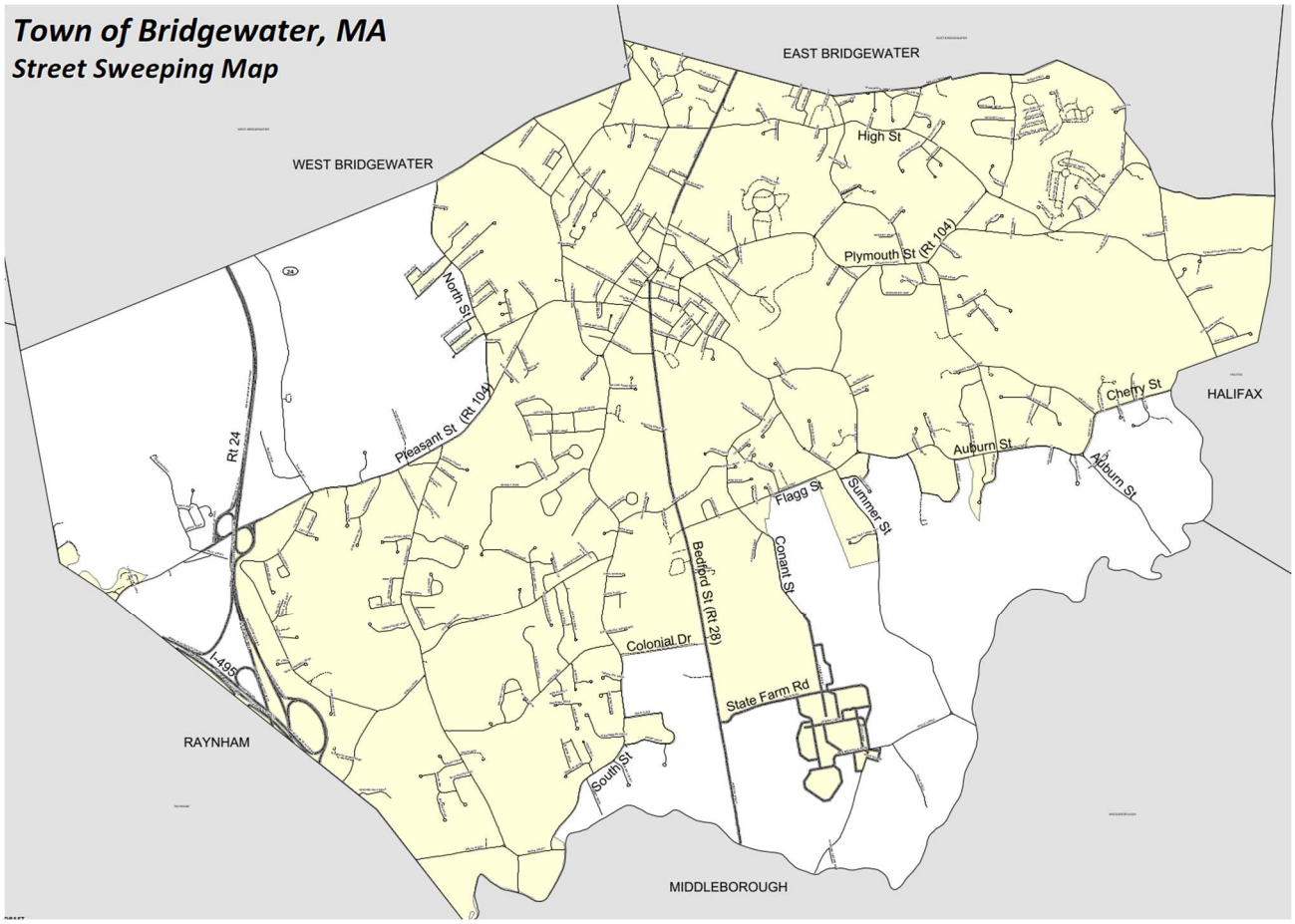
The Town will keep a log of catch basins cleaned or inspected and report in each annual report the total number of catch basins inspected and cleaned, and the total volume of material removed from catch basins. Record keeping forms can be found in **Appendix C**.

7.2 Streets and Parking Lots

Regular sweeping of streets and municipally-owned parking lots is important for maintaining clean and safe roadways. It also plays a vital role in keeping pollutants like sand, trash, and leaves out of the MS4. All streets in the MS4 area with the exception of rural uncurbed roads with no catch basins or high speed limited access highways are required to be swept and/or cleaned a minimum of twice per year, once in the spring (following winter activities such as sanding) and at least once in the fall (Sept 1 – Dec 1; following leaf fall) due to nutrient-impaired waters. For rural uncurbed roadways with no catch basins and limited access highways, the Town must either meet the minimum frequencies or develop and implement an inspection, documentation and targeted sweeping plan within year 2 of the effective date of the permit, and submit such plan with its year two annual report. **The Town's current practice includes street sweeping all main town roads once per year as staff availability allows.**

Sweeping frequency is to be increased as necessary to target areas as determined by the Town on the basis of pollutant load reduction, based on inspections, pollutant loads, catch basin cleaning or inspection results, land use, water quality limited or TMDL waters or other relevant factors.

In Bridgewater the twice per year sweeping requirement applies to all of the MS4 area in Town because the entire Town is within the Taunton River Watershed which has a nitrogen impairment. In addition the Matfield River has a phosphorus impairment. **See Map of Bridgewater's MS4 area requiring twice/year sweeping in yellow (below).**



Record Keeping

The Town will report in each annual report the number of miles cleaned and/or volume of material removed. Record keeping forms can be found in **Appendix D**.

7.3 Storage and Disposal of Catch Basin Cleanings and Street Sweepings

The Town ensures proper storage of catch basin cleanings and street sweepings prior to disposal or reuse so that they do not discharge to receiving waters, in compliance with current MassDEP policies. The policies as listed in Section 2.3.7.a.iii.4 of the Permit include the following:

- Properly dispose of collected sediments and catch basin cleanings (solid material, such as leaves, sand, and twigs removed from stormwater collection systems during cleaning operations).
- Cleanings from stormwater-only drainage systems may be disposed at any landfill that is permitted by MassDEP to accept solid waste. MassDEP does not routinely require stormwater-only catch basin cleanings to be tested before disposal, unless there is evidence that they have been contaminated by a spill or some other means.
- Screenings may need to be placed in a drying bed to allow water to evaporate before proper disposal. In this case, ensure that the screenings are managed properly to prevent pollution.
- Catch Basin Cleanings disposal shall follow:

  http://www.mass.gov/eea/agencies/massdep/recycle/regulations/management-of-catch-basin-cleanings.html
- Street Sweepings disposal shall follow Mass DEP Policy #BWP-94-092: Reuse & Disposal of Street Sweepings:

  http://www.mass.gov/eea/docs/dep/recycle/laws/stsweep.pdf

7.4 Winter Road Maintenance

The Town has established and implemented the following procedures for winter road maintenance including the use and storage of salt and sand; minimize the use of sodium chloride and other salts, and evaluate opportunities for use of alternative materials; and ensure that snow disposal activities do not result in disposal of snow into waters of the United States. For purposes of this MS4 Permit, salt shall mean any chloride-containing material used to treat paved surfaces for deicing, including sodium chloride, calcium chloride, magnesium chloride, and brine solutions.

The Department of Public Works reserves the right to modify any plan as needed to adjust to various circumstances that a storm might present. The Director of Public Works will be responsible for carrying out this policy and distributing copies to each employee and posting it on the Town website. Parking during snow removal shall comply with the General Bylaws.

Priorities

1. The **first priority** is to ensure that police, fire and medical emergency equipment can move safely on streets.
2. The **second priority** is to open main and secondary roads for use by the public.
3. The **third priority** is to open residential streets.
4. The **fourth priority** is to open all schools, public facilities, and clear sidewalks used to walk to schools/businesses/public transportation.

Materials Used

With safety as the priority, the Town's goal is to minimize the use of salt and sand through optimization of application. This is achieved through the use, where practicable, of automated application equipment, anti-icing and pre-wetting techniques, implementation of pavement management systems, and alternate chemicals. The types of materials used by the DPW are detailed below.

- Rock Salt (Sodium Chloride): Salt is used to expedite the melting of snow and ice from the street surface and also to keep the ice from forming a bond to the street surface.
- Sand: Sand is used as an abrasive for traction on slick roadways.
- Other Materials: The Town may choose to use alternative chloride-containing materials used to treat paved surfaces for deicing, including sodium chloride, calcium chloride, magnesium chloride, and brine solutions.

Materials Storage

All salt, sand and deicing compounds are properly stored under cover to ensure they are not exposed to precipitation or otherwise carried to a catch basin, resource area or waterbodies. Diversion berms and good housekeeping practices shall be used to minimize runoff from storage areas.

Application and Equipment Calibration

Each piece of application equipment owned by the Town is calibrated prior to the winter season. Salt application shall be calibrated to dispense at minimum rates while maintaining safety rates (EPA guidance recommends 200 pounds per mile lane). Trucks equipped with pre-wetting brine tanks are calibrated to dispense at minimum rates while maintaining safety rates (EPA guidance recommends 8 gallons of pre-wet liquid to 1 ton of salt, to be varied based on temperature).

Snow Disposal

The MS4 Permit prohibits snow disposal into waters of the United States. Snow disposal activities, including selection of appropriate snow disposal sites, will adhere to the Massachusetts Department of Environmental Protection Snow Disposal Guidance, Guideline No. BWR G2015-01 (Effective Date: December 21, 2015).

Record Keeping

The Town maintains records of prioritized plow routes, miles of roads plowed annually, the quantity of salt and other materials used annually, and equipment calibration records.

7.5 Stormwater Treatment Structures (Structural BMPs) Inspection and Maintenance

Stormwater treatment structures, also referred to as structural BMPs, include water quality swales, retention/detention basins, infiltration structures, proprietary treatment devices or other similar structures. The Town has established and implemented inspection and maintenance frequencies and procedures for all structural BMPs. Inspection frequency for all permittee-owned stormwater treatment structures (excluding catch basins) shall be determined at initial and subsequent inspections based on observed conditions. Structures that are routinely observed with accumulated sediment or other performance issues will be inspected at lease annually and Records from consecutive inspections/cleaning events will be compared to identify structures that may need to be cleaned more or less frequently than once per year.

If a structure proves to be problematic during two consecutive inspections the Town will document that finding, investigate the contributing drainage area for sources of excessive sediment loading, and to the extent practicable, address the source. Actions taken will be described in the annual report.

The Town will keep a log of stormwater management structures inspected and report on the condition and maintenance performed in each annual report. An inventory and inspection checklist for BMPs is provided in Appendix E and identified on the stormwater infrastructure map in Appendix A. The following are maintenance activities and procedure for each category of BMP based on the Massachusetts Stormwater Handbook:

Structural Pretreatment BMPs

WATER QUALITY UNIT (OIL/GRIT SEPARATOR)

Water quality units, also referred to as oil/grit separators, are underground storage tanks with chambers designed to remove heavy particles, floating debris and hydrocarbons from stormwater. These units are typically considered a pretreatment BMP for land uses with higher potential pollutant loads and risk of petroleum spills. Cleaning these units is important to prevent sediment from re-suspending and discharging during future storm events. Inspection and maintenance should include the following:

- Inspect and clean unit – cleaning includes removal of accumulated oils and grease and sediment using a vacuum truck or other ordinary catch basin cleaning device
- Polluted water or sediments removed from an oil grit separator unit should be disposed of in accordance with all applicable local, state and federal laws and regulations including M.G.L.c. 21C and 310 CMR 30.00.

PROPRIETARY SEPARATOR

A proprietary separator is a flow-through structure with a settling or separation unit to remove sediments and other pollutants. They typically use the power of swirling or flowing water to separate floatables and coarser sediments. Some rely solely on gravity separation and contain no swirl chamber. These units are typically considered a pretreatment BMP for land uses with higher potential pollutant loads and risk of petroleum spills. Vactor trucks are typically used to clean these units. Clamshell buckets typically used for cleaning catch basins are almost never allowed by

manufacturers. Sometimes it will be necessary to remove sediment manually. Inspection and maintenance should include the following:

- Inspect and clean these units in strict accordance with manufacturers' recommendations and requirements

Treatment BMPs

BIORETENTION AREAS & RAIN GARDEN

Bioretention areas and rain gardens are shallow depressions filled with sandy soil, topped with a thick layer of mulch and planted with dense native vegetation. Bioretention areas require careful attention while plants are being established and seasonal landscaping maintenance thereafter. Regular inspection and maintenance for sediment build-up, structural damage and standing water can extend the life of the soil media and prevent against premature failure of the system. Snow should never be stored or plowed into bioretention areas or rain gardens. Annual Inspection and maintenance should be conducted in the spring and include the following:

- Inspect and remove trash and sediment build-up
- Mow and/or Mulch
- Remove and replace dead vegetation
- Prune and remove invasive species as needed
- Upon failure, replace entire media and all vegetation

EXTENDED DRY DETENTION BASIN

Extended dry detention basins are designed to control both stormwater quantity and quality. These BMPs are designed to hold stormwater for at least 24 hours, allowing solids to settle and to reduce local and downstream flooding. Potential maintenance problems requiring immediate repairs include: erosion within the basin and banks, tree growth on the embankment, damage to the emergency spillway and sediment accumulation around the outlet. Annual Inspection and maintenance should be conducted in the spring and include the following:

- Inspect basin – examine outlet structure for clogging or high outflow release velocities
- Mow upper stage, side slopes, embankment and emergency spillway
- Remove trash and debris
- Remove sediment from basin

Conveyance BMPs

WATER QUALITY SWALE

Water quality swales are vegetated open channels designed to treat a required water quality volume and incorporate specific features to enhance pollutant removal. Inspection and maintenance should be conducted annually and include the following:

- Inspection – make sure vegetation is adequate and slopes are not eroding, check for rilling and gullying, ponding and sedimentation

- Manually remove sediment and debris
- Mow swale depending on vegetation type – if grass, now when height reaches 6 inches but do not cut shorter than 3 inches
- Repair eroded areas and re-vegetate if needed
- Re-seed as necessary

Infiltration BMPs

INFILTRATION BASIN

Infiltration basins are stormwater runoff impoundments that are constructed over permeable soils. Infiltration basins are prone to clogging and failure so pretreatment BMPs are typically included to reduce maintenance requirements for the basin itself. Runoff is stored until it exfiltrates through the soil of the basin floor. Inspection and maintenance should be conducted annually and include the following:

- Inspection to ensure proper functioning – look for signs of settlement, erosion, tree growth on embankments, condition of riprap and turf, ponding and sedimentation
- Preventative maintenance
- Mow the buffer area, side slopes, and basin bottom if grassed floor, rake if stone bottom
- Remove trash and debris, remove grass clippings and accumulated organic matter
- Remove sediment as necessary – use light equipment and caution so as not to compact underlying soils
- Inspect and clean pretreatment devices associated with the basin

INFILTRATION TRENCH

Infiltration trenches are shallow excavations filled with stone capturing sheet flow or piped inflow. The stored runoff gradually exfiltrates through the bottom and/or sides of the trench into the subsoils. The visible surface of the trench may be either stone of grassed. Infiltration trenches always require a pretreatment BMP such as a vegetated filter strip for sheet flow of a sediment forebay for piped flow. Inspection and maintenance should be conducted annually and include the following:

- Inspect – inspect the trench 24 hours or several days after a rain event to look for ponded water indicating that the trench is clogged or has failed
- Mow top of trench if it is grassed
- Remove accumulated sediment, trash, debris, leaves and grass clippings and tree seedlings
- Inspect and clean pretreatment BMPs –check inlets and outlets for clogging

INFILTRATION CHAMBERS (SUBSURFACE STRUCTURES)

Infiltration chambers, more generally referred to as subsurface structures, are underground systems that capture runoff and gradually infiltrate it into the groundwater through rock and gravel. The most common types include pre-cast concrete or plastic pits, chambers (manufactured pipes), perforated pipes, and galleys. Pretreatment is required for stormwater runoff from land uses or activities with the potential for high sediment or pollutant loads. Structural pretreatment BMPs for these systems include deep sump catch basins, proprietary separators, and oil/grit separators. Because they are underground, subsurface structures are difficult to maintain with inspection of water levels through an observation well pipe at grade. Inspection and maintenance should include the following:

- Inspect inlets
- Remove any debris that might clog the system
- Remove sediment from pretreatment BMPs

LEACHING CATCH BASINS

A leaching catch basin is a pre-cast concrete barrel and riser with an open bottom the allows runoff to infiltrate into the ground. These can be configured as a stand alone structure or combined with a deep sump catch basin to provide pretreatment. Leaching basins are typically set in an excavation lined with a geotextile liner to prevent fine soil particles from migrating into the void spaces of the stone surrounding it. Inspection and maintenance should include the following:

- Inspect unit and remove debris
- Remove sediment when the basin is 50% full
- Rehabilitate the basin as needed if it fails do to clogging

Other BMPs

POROUS PAVEMENT

Porous pavement is a permeable paving technique that allows parking lot, driveway and/or roadway runoff to infiltrate directly into the soil and receive water quality treatment. Permeable paving techniques include porous asphalt, pervious concrete, paving stones and manufactured “grass pavers” made of concrete or plastic. The systems consist of a durable, load-bearing pervious surface overlying a stone bed that stores rainwater before it infiltrates into the underlying soil. Inspection should be conducted annually and maintenance as needed including the following:

- Inspect the surface annually for deterioration and assess exfiltration capacity- monitor after a storm to ensure the paving surface drains properly
- For porous asphalts and concrete, clean the surface using power washer to dislodge trapped particles and then vacuum sweep the area. For paving stones, add joint material (sand) to replace material that has been transported
- Re-seed grass pavers to fill in bare spots

STONE CHIP OR GRAVEL DRIVEWAYS AND PARKING AREAS

Stone chip or gravel surfaces allows parking lot, driveway and/or roadway runoff to infiltrate directly into the soil. They need to be designed and constructed with a base similar to a traditional road in order to prevent ponding of water and washout. Inspection should be conducted annually and maintenance as needed including the following:

- Inspect the surface annually for deterioration and assess exfiltration capacity- monitor after a storm to ensure the surface drains properly without ponding
- Remove debris (leaves, sticks, weeds, etc) on a weekly basis
- Regrade surface for proper drainage and add new stone/gravel where necessary to fill holes and ruts
- Apply a fresh layer of gravel to the surface every 1-2 years

Additional guidance for Structural BMP operations and maintenance can be found in the latest version of the Massachusetts Department of Environmental Protection Stormwater Handbook, Volume 2, Chapter 2, located at: http://www.mass.gov/eea/docs/dep/water/laws/i-thru-z/v2c2.pdf

8.0 Stormwater Pollution Prevention Plans (SWPPP)s

The permit requires a Stormwater Pollution Prevention Plan (SWPPP) be developed and implemented for each of the following permittee-owned or operated facilities: maintenance garages, public works yards, transfer stations, and other waste handling facilities where pollutants are exposed to stormwater as determined by the permittee. The Town has these types of facilities located at two properties, the Highway Department Facility at 151 High Street and the Transfer Station at 1200 Bedford Street. The SWPPPs that have been developed and are being implemented are included in Appendix F.

9.0 Training

The MS4 permit requires employee training be provided as necessary so that those responsible for use, storage, and disposal of petroleum products and other potential stormwater pollutants know proper procedures outlined in this plan. The Town will provide training to employees involved in the Good Housekeeping program as follows:

- Employees who perform maintenance or other applicable work at municipal buildings and facilities shall be trained on the handling of products and the proper operation of related equipment that has the potential to cause stormwater pollution.
- DPW employees are also trained annually on stormwater pollution prevention, illicit discharge detection and elimination (IDDE) procedures, and spill and response procedures. Employees who work in areas where materials or activities are exposed to stormwater, or who are responsible for implementing activities identified in the SWPPP (e.g., inspectors, maintenance personnel), including all members of the Pollution Prevention Team are to be trained regularly. Training shall cover both the specific components and scope of the SWPPP and the control measures required, including spill response, good housekeeping, material management practices, any best management practice operation and maintenance, etc.
- Employees involved in hazardous waste handling will be made familiar with the spill response kit and spill response and cleanup procedures as outlined in the spill prevention and control plans for the building or facility.
- If outside services are contracted, the contractor should be given a copy of this and any applicable standard operating procedures to ensure compliance with MS4 regulations.

The DPW shall document the following information for each training:

- The training date, title and training duration;
- List of municipal attendees;
- Subjects covered during training

10.0 Records and Reporting

The progress and effectiveness of the Good Housekeeping program will be evaluated and reported on in each annual report. The success of the Good Housekeeping program will be measured by the activities completed within the required Permit timelines.

APPENDIX A – Town-owned Facilities, BMPs and Stormwater Infrastructure Map

Town of Bridgewater, MA

Town-owned Facilities, BMPs and MS4

Stormwater Infrastructure Map

DPW
Bridgewater Housing Authority
McElwain School Teen Center/Town Storage
WWTP
Bridgewater Public Library
Building Dept. Storage
Dartmouth Street Sewer PS
Memorial Bldg (Selectmen's Office)
Town Hall
Police Station
Fire Station
Recreation Department Office & Legion Field
Elm Street Sewer PS #2
Elm Street Sewer PS #1
Pleasant Street Sewer PS
Harvest Lane Sewer PS
COA Elderly Center
Wally Krueger Way Sewer PS
Well #1, 2, 4, 5; Carver's Pond WTP
Water Street Sewer PS
Pump Station (Water)
Olde Scotland Links
Transfer Station
Rainbows End and Flagg Street Soccer Complex
Flagg School Bldg (Meeting Hall)
Fire Station #2
Pratt School Bldg (Meeting Hall)
Water PS #2; Well #3, 6, 8, 9; Water Dept. Garage #1 & 2
High Street Nitrate Plant
High Pond Estates Sewer PS
Water PS; Well 10A & 10B

TOWN RIVER
MATTFIELD RIVER
TAUNTON RIVER
CARVER POND
LAKE NIPPENICKET

Map Legend

Stormwater Structures
- Town-Owned BMP
- Private BMP
- Leaching Catch Basin
- Catch Basin
- Manhole
- Inlet
- Stormwater Basin or Rain Garden Inlet
- Private or State Owned Outfall

Conveyance
- Pipe
- Culvert
- Swale/Channel

Hydrography
- Hydrologic Connection
- Open Water
- Wetland
- Major Watershed Boundary

***MassDEP 2016 Integrated List of Waters**
- Rivers: Category 4A
- Lakes, Estuaries: Category 4A
- Rivers: Category 4C
- Lakes, Estuaries: Category 4C
- Rivers: Category 5
- Lakes, Estuaries: Category 5

Regulated Areas
- MA MS4 Urban Area

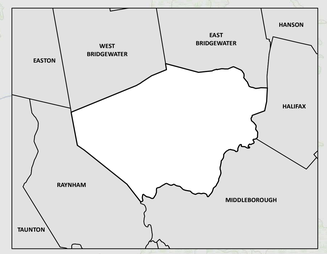
Roadway Owner
- State
- Town
- Other

Parcel Owner
- Town
- Other

Outfall Ranking Priority
- Outfall to Waterbody within MS4 Area (215 Total Outfalls)
- Outfall to Upland Area (>100' from wetland, >200' from waterbody, 60 Total Outfalls)

*Category 1: Unimpaired and not threatened for all designated uses;
Category 2: Unimpaired for some uses and not assessed for others;
Category 3: Insufficient information to make assessments for any uses;
Category 4: Impaired for one or more uses,
but not requiring the calculation of a Total Maximum Daily Load (TMDL);
(impairment due to "pollution" such as low flow,
habitat alterations or non-native species infestations).
Category 5: Impaired for one or more uses and requiring
a TMDL (impairment due to pollutant(s) such
as nutrients, metals, pesticides, solids and pathogens).

Data Source: Town of Bridgewater, 2020 field investigations and MassGIS



Issue Date: June 30, 2020
This Map is Intended for Planning Purposes Only

BETA
IMPROVING COMMUNITIES TOGETHER

0 0.25 0.5 1 Miles

APPENDIX B – Town-owned Facilities Inventory and Reporting Log

Town of Bridgewater, MA
Municipal Stormwater Operations and Maintenance Program
Permittee Owned Facilities Inventory and Reporting Log
Reporting Period: July 1 20___ - June 30, 20___

Notes:
1) There are no separate facilities for Vehicles and Equipment storage, these are included under Buildings and Facilities Sites
2) Inventory includes facilities and site within the designated MS4 area
3) Recommended maintenance to be conducted in accordance with the Operation and Maintenance (O&M) procedures and best management practices described in the Good Housekeeping and Pollution Prevention Plan developed by the Town.
4) O&M Maps are provided for site with extensive drainage infrastructure and/or BMPs to clarify these features and their locations.

PARKS AND OPEN SPACE

O&M Map #	Record Plan	Facility Name	Location	BMP/Feature Description	Standard Maintenance Recommendations	Recommended Maintenance	Follow-Up Required (Y/N)	Inspection Date
-	No	Rainbows End and Flagg Street Soccer Complex	118-194 Flagg Street	8 Soccer Fields, Maintained Lawn Area	Inspect for erosion or bare soils conditions, Re-seed as necessary			
				Stone Chip Parking Lot (~150 spaces)	Refresh stone chips			
				Dumpsters	Check for leaks and spills, covers in place			
				Storage container, garage for vehicle and equipment storage	Perform regular vehicle/equipment maintenance and inspection for leaks			
-	No	Olde Scotland Links	690 & 695 Pine Street	18-hole golf course with club house and pro shop	Inspect for erosion or bare soils conditions, Re-seed as necessary			
				Paved driveways	Sweep			
				Gravel Parking Area (~120 spaces)	Refresh gravel			
				Maintenance vehicle and equipment storage shed	Perform regular vehicle/equipment maintenance and inspection for leaks			

BUILDINGS AND FACILITIES

O&M Map #	Record Plan	Facility Name	Location	BMP/Feature Description	Standard Maintenance Recommendations	Recommended Maintenance	Follow-Up Required (Y/N)	Inspection Date
SWPPP	No	Department of Public Works	151 High Street	Vegetation Buffer/Filter Around Surface Water	Maintain vegetation & check for erosion within 50' of water's edge			
				Parking Area (~30 spaces)	Sweep			
				Dumpster	Check for leaks and spills, covers in place			
				Leaching Catch Basin	Remove sediments and debris			
				Storage container, garage for vehicle and equipment storage	Perform regular vehicle/equipment maintenance and inspection for leaks			
				Fuel tank on concrete pad	Check for leaks			
SWPPP	No	Transfer Station	1200 Bedford St	Vegetation Buffer/Filter Around Surface Water	Maintain vegetation & check for erosion within 50' of water's edge			
				Parking Area (~30 spaces)	Sweep			
				Solid waste containers	Check for leaks and spills, covers in place			
				Retention Basin	Remove trash and debris; Remove sediment from basin			
-	No	Water Treatment Plant	100 Wellfield Drive	Maintained Law Areas	Inspect for erosion or bare soils conditions, Re-seed as necessary			
				Paved Driveways	Sweep			
-	No	McElwain School Teen Center/Town Storage	250 Main Street	Maintained Lawn Area	Inspect for erosion or bare soils conditions, Re-seed as necessary			
				Parking Area (~42 spaces) and Driveways	Sweep			
-	No	Building Dept. Storage	76-78 Spring Street	Vegetation Buffer/Filter Around Surface Water	Maintain vegetation & check for erosion within 50' of water's edge			
				Parking Area (~12 spaces)	Sweep			
				Dumpster	Check for leaks and spills, covers in place			
				2 Deep Sump Catch Basins	Remove Sediments and Debris			
				Storage container, garage for vehicle and equipment storage	Perform regular vehicle/equipment maintenance and inspection for leaks			
-	No	Flagg School Bldg (Meeting Hall)	950 Summer Street	Maintained Lawn Area	Inspect for erosion or bare soils conditions, Re-seed as necessary			
				Gravel Parking Area (~30 spaces)	Refresh gravel			
-	No	Pratt School Bldg (Meeting Hall)	40 Orange Street	Maintained Lawn Area	Inspect for erosion or bare soils conditions, Re-seed as necessary			
				Parking Area (~10 spaces)	Sweep			
-	No	Memorial Bldg (Selectmen's Office)	25 South Street	Maintained Lawn Area	Inspect for erosion or bare soils conditions, Re-seed as necessary			
				Paved driveways	Sweep			
-	No	Bridgewater Public Library	15 South Street	Maintained Lawn Area	Inspect for erosion or bare soils conditions, Re-seed as necessary			
				Landscaped Area with Mulch	Refresh mulch			
				Parking Area (~40 spaces)	Sweep			
				Dumpster	Check for leaks and spills, covers in place			
				4 Deep Sump Catch Basins	Remove Sediments and Debris			
-	No	Town Hall	66 Central Square	Maintained Lawn Areas	Inspect for erosion or bare soils conditions, Re-seed as necessary			
				Parking Area (~27 spaces)	Sweep			
				Dumpster and trash receptacle	Check for leaks and spills, covers in place			
				Water Quality Unit	Remove accumulated oils, grease, and sediments			
				5 Deep Sump Catch Basins	Remove Sediments and Debris			
1	No	Recreation Department Office & Legion Field	90 Cottage Street/175 Bedford Street	9 baseball fields, 1 football field, 2 basketball courts and maintained lawn areas	Inspect for erosion or bare soils conditions, Re-seed as necessary			
				Parking Areas (~90 spaces)	Sweep			
				Trash Receptacles	Check for leaks and spills, covers in place			
				2 Leaching Catch Basins	Remove sediments and debris			
				7 Deep Sump Catch Basins	Remove sediments and debris			
				Storage buildings and storage containers	Perform regular vehicle/equipment maintenance and inspection for leaks			
-	No	Bridgewater Housing Authority	10 Heritage Circle	Maintained Lawn Areas	Inspect for erosion or bare soils conditions, Re-seed as necessary			
				Parking Areas (~50 spaces)	Sweep			
				Dumpsters	Check for leaks and spills, covers in place			
				5 Deep Sump Catch Basins	Remove Sediments and Debris			
				Garage for vehicle and equipment storage	Perform regular vehicle/equipment maintenance and inspection for leaks			

Town of Bridgewater, MA
Municipal Stormwater Operations and Maintenance Program
Permittee Owned Facilities Inventory and Reporting Log
Reporting Period: July 1 20___ - June 30, 20___

Notes:
1) There are no separate facilities for Vehicles and Equipment storage, these are included under Buildings and Facilities Sites
2) Inventory includes facilities and site within the designated MS4 area
3) Recommended maintenance to be conducted in accordance with the Operation and Maintenance (O&M) procedures and best management practices described in the Good Housekeeping and Pollution Prevention Plan developed by the Town.
4) O&M Maps are provided for site with extensive drainage infrastructure and/or BMPs to clarify these features and their locations.

BUILDINGS AND FACILITIES

O&M Map #	Record Plan	Facility Name	Location	BMP/Feature Description	Standard Maintenance Recommendations	Recommended Maintenance	Follow-Up Required (Y/N)	Inspection Date
-	No	COA Elderly Center	10 Wally Krueger Way	Maintained Lawn Area	Inspect for erosion or bare soils conditions, Re-seed as necessary			
				Parking Lot (~30 spaces)	Sweep			
				Dumpster	Check for leaks and spills, covers in place			
				1 Deep Sump Catch Basin	Remove Sediments and Debris			
				2 Storage Sheds	Check for leaks and proper storage			
-	No	Police Station	220 Pleasant Street	Maintained Lawn Areas	Inspect for erosion or bare soils conditions, Re-seed as necessary			
				Vegetation Buffer/Filter Around Surface Water	Maintain vegetation & check for erosion within 50' of water's edge			
				Parking Areas (~67 spaces) and driveway	Sweep			
				Dumpsters	Check for leaks and spills, covers in place			
				6 Deep Sump Catch Basins	Remove Sediments and Debris			
				Indoor and outdoor vehicle storage; 2 storage sheds	Perform regular vehicle/equipment maintenance and inspection for leaks			
-	No	Fire Station	22 School Street	Parking Areas (~15 spaces)	Sweep			
				Dumpsters	Check for leaks and spills, covers in place			
				1 Deep Sump Catch Basin	Remove Sediments and Debris			
				Garages attached to building	Perform regular vehicle/equipment maintenance and inspection for leaks			
-	No	Fire Station #2	774 Plymouth Street	Maintained Lawn Area	Inspect for erosion or bare soils conditions, Re-seed as necessary			
				Parking Area (~12 spaces) and driveway	Sweep			
				Stone Chip Parking Area (~12 spaces) and driveway	Refresh stone chips			
				Dumpster	Check for leaks and spills, covers in place			
				5 Deep Sump Catch Basins	Remove Sediments and Debris			
				Indoor and outdoor vehicle storage; 1 storage shed	Perform regular vehicle/equipment maintenance and inspection for leaks			
-	No	Water Pump Station #2; Well #3, 6, 8, 9; Water Department Garage #1 & 2	1425 High Street	Maintained Lawn	Inspect for erosion or bare soils conditions, Re-seed as necessary			
				Paved driveway	Sweep			
				Station Buildings - maintenance equipment and supplies storage	Check for leaks and proper storage			
				Fuel tank on concrete pad	Check for leaks			
-	No	Well #1, 2, 4, 5; Carver's Pond Water Treatment Plant	100 Wellfield Drive - 187R Conant Street	Paved driveway	Sweep			
				Station Buildings - maintenance equipment and supplies storage	Check for leaks and proper storage			
-	No	High Street Nitrate Plant	1400 High Street - Garage					
-	No	Water Pump Station; Well 10A & 10B	1729 Plymouth Street	Maintained Lawn	Inspect for erosion or bare soils conditions, Re-seed as necessary			
				Paved driveway	Sweep			
				Station Building - maintenance equipment and supplies storage	Check for leaks and proper storage			
				Fuel tank on concrete pad	Check for leaks			
-	No	WWTP	100 Morris Avenue	Maintained Lawn Areas	Inspect for erosion or bare soils conditions, Re-seed as necessary			
				Paved Driveways	Sweep			
-	No	Dartmouth Street Sewer Pump Station	Dartmouth & Colby Road	Paved driveway	Sweep			
				Station Building - maintenance equipment and supplies storage	Check for leaks and proper storage			
-	No	Wally Krueger Way Sewer Pump Station	Wally Krueger Way	Paved driveway	Sweep			
				Station Building - maintenance equipment and supplies storage	Check for leaks and proper storage			
				Fuel tank on concrete pad	Check for leaks			
-	No	High Pond Estates Sewer Pump Station	0 Country Drive	Stone Chip Parking Lot (~12 spaces) and driveway	Refresh stone chips			
				Station Building - maintenance equipment and supplies storage	Check for leaks and proper storage			
-		Water Street Sewer Pump Station	Pole #7A - Water Street					
-	No	Harvest Lane Sewer Pump Station	185 Harvest Lane	Maintained Lawn	Inspect for erosion or bare soils conditions, Re-seed as necessary			
				Station Building - maintenance equipment and supplies storage	Check for leaks and proper storage			
-	No	Pleasant Street Sewer Pump Station	1181 Pleasant Street	Stone chips around pump station	Refresh stone chips			
				Station Building - maintenance equipment and supplies storage	Check for leaks and proper storage			
-	No	Elm Street Sewer Pump Station #1	103 Elm Street	Paved driveway	Sweep			
				Station Building - maintenance equipment and supplies storage	Check for leaks and proper storage			
-	No	Elm Street Sewer Pump Station #2	601 Elm Street	Maintained Lawn	Inspect for erosion or bare soils conditions, Re-seed as necessary			
				Paved driveway	Sweep			
				Station Building - maintenance equipment and supplies storage	Check for leaks and proper storage			

Town of Bridgewater, MA
Municipal Stormwater Operations and Maintenance Program
Permittee Owned Facilities Inventory and Reporting Log
Reporting Period: July 1 20___ - June 30, 20___

Notes:
1) There are no separate facilities for Vehicles and Equipment storage, these are included under Buildings and Facilities Sites
2) Inventory includes facilities and site within the designated MS4 area
3) Recommended maintenance to be conducted in accordance with the Operation and Maintenance (O&M) procedures and best management practices described in the Good Housekeeping and Pollution Prevention Plan developed by the Town.
4) O&M Maps are provided for site with extensive drainage infrastructure and/or BMPs to clarify these features and their locations.

MS4 Drainage System BMPs								
O&M Map #	**Record Plan**	**Facility Name**	**Location**	**BMP/Feature Description**	**Standard Maintenance/Inspection Items**	Recommended Maintenance	Follow-Up Required (Y/N)	Inspection Date
-	No	Roadway Stormwater Management System	20 Country Club Drive	Stormwater Basin	Inspect outlets; Mow upper stage, side slopes, embankment and spillway; Remove trash and debris; Remove sediment from basin			
-	No	Roadway Stormwater Management System	43 Twin Diamond Drive	Stormwater Basin	Inspect outlets; Mow upper stage, side slopes, embankment and spillway; Remove trash and debris; Remove sediment from basin			
-	No	Roadway Stormwater Management System	50 Katie Court	Stormwater Basin	Inspect outlets; Mow upper stage, side slopes, embankment and spillway; Remove trash and debris; Remove sediment from basin			
-	No	Roadway Stormwater Management System	30 Leslie Lane	Stormwater Basin	Inspect outlets; Mow upper stage, side slopes, embankment and spillway; Remove trash and debris; Remove sediment from basin			
-	No	Roadway Stormwater Management System	20 Armstrong Court	Stormwater Basin	Inspect outlets; Mow upper stage, side slopes, embankment and spillway; Remove trash and debris; Remove sediment from basin			
-	No	Roadway Stormwater Management System	45 Trebors Way	Stormwater Basin	Inspect outlets; Mow upper stage, side slopes, embankment and spillway; Remove trash and debris; Remove sediment from basin			
-	No	Roadway Stormwater Management System	45 Tarkin Hill Lane	Stormwater Basin	Inspect outlets; Mow upper stage, side slopes, embankment and spillway; Remove trash and debris; Remove sediment from basin			
-	No	Roadway Stormwater Management System	0 Fern Hollow Road	Stormwater Basin	Inspect outlets; Mow upper stage, side slopes, embankment and spillway; Remove trash and debris; Remove sediment from basin			
-	No	Roadway Stormwater Management System	0 Hillside Lane	Stormwater Basin	Inspect outlets; Mow upper stage, side slopes, embankment and spillway; Remove trash and debris; Remove sediment from basin			
-	No	Roadway Stormwater Management System	50 Lady Slipper Road	Stormwater Basin	Inspect outlets; Mow upper stage, side slopes, embankment and spillway; Remove trash and debris; Remove sediment from basin			
-	No	Roadway Stormwater Management System	16 Bramblewood Street	Stormwater Basin	Inspect outlets; Mow upper stage, side slopes, embankment and spillway; Remove trash and debris; Remove sediment from basin			
-	No	Roadway Stormwater Management System	25 Calthrop Drive	Stormwater Basin	Inspect outlets; Mow upper stage, side slopes, embankment and spillway; Remove trash and debris; Remove sediment from basin			
-	No	Roadway Stormwater Management System	40 Tommi Ann Terrace	Stormwater Basin	Inspect outlets; Mow upper stage, side slopes, embankment and spillway; Remove trash and debris; Remove sediment from basin			
-	No	Roadway Stormwater Management System	15 Dominique Drive	Stormwater Basin	Inspect outlets; Mow upper stage, side slopes, embankment and spillway; Remove trash and debris; Remove sediment from basin			
-	No	Roadway Stormwater Management System	0 Lilac Lane	Stormwater Basin	Inspect outlets; Mow upper stage, side slopes, embankment and spillway; Remove trash and debris; Remove sediment from basin			
-	No	Roadway Stormwater Management System	1453 Plymouth Street	Stormwater Basin	Inspect outlets; Mow upper stage, side slopes, embankment and spillway; Remove trash and debris; Remove sediment from basin			
-	No	Roadway Stormwater Management System	1204 Plymouth Street Extension	Stormwater Basin	Inspect outlets; Mow upper stage, side slopes, embankment and spillway; Remove trash and debris; Remove sediment from basin			
-	No	Roadway Stormwater Management System	1175 High Street	Stormwater Basin	Inspect outlets; Mow upper stage, side slopes, embankment and spillway; Remove trash and debris; Remove sediment from basin			
-	No	Roadway Stormwater Management System	36 Bridge Street	Stormwater Basin	Inspect outlets; Mow upper stage, side slopes, embankment and spillway; Remove trash and debris; Remove sediment from basin			

Map 1 of 1

Recreation Department Office & Legion Field

90 Cottage Street/175 Bedford Street

Town of Bridgewater, MA
O&M Plan
Facilities Maps

WORCESTER STREET

BEDFORD STREET

COTTAGE STREET

Recreation Department Office

Stormwater Legend

- L Leaching Catch Basin
- Catch Basin
- Manhole
- Inlet
- Outfall
- Pipe

0 80 Feet

N

For Internal Review Only

Map Location

BETA

Document Path: C:\Users\HFaubert\Desktop\MS4 Year 2 Services\Working\Bridgewater\O&M_Bridgewater_11x17.mxd

APPENDIX C –Catch Basin Inspection Log

CATCHBASIN INSPECTION FORM

Inspector: ______________________ Date: ________________ Sheet ___ of ___.

CB ID	<25%	25-50%	>50%	CB ID	<25%	25-50%	>50%	CB ID	<25%	25-50%	>50%
______________ St/Rd/Ave				______________ St/Rd/Ave				______________ St/Rd/Ave			
	☐	☐	☐		☐	☐	☐		☐	☐	☐
	☐	☐	☐		☐	☐	☐		☐	☐	☐
	☐	☐	☐		☐	☐	☐		☐	☐	☐
	☐	☐	☐		☐	☐	☐		☐	☐	☐
	☐	☐	☐		☐	☐	☐		☐	☐	☐
	☐	☐	☐		☐	☐	☐		☐	☐	☐
	☐	☐	☐		☐	☐	☐		☐	☐	☐
	☐	☐	☐		☐	☐	☐		☐	☐	☐
	☐	☐	☐		☐	☐	☐		☐	☐	☐
	☐	☐	☐		☐	☐	☐		☐	☐	☐
	☐	☐	☐		☐	☐	☐		☐	☐	☐
	☐	☐	☐		☐	☐	☐		☐	☐	☐
	☐	☐	☐		☐	☐	☐		☐	☐	☐
	☐	☐	☐		☐	☐	☐		☐	☐	☐
	☐	☐	☐		☐	☐	☐		☐	☐	☐
	☐	☐	☐		☐	☐	☐		☐	☐	☐
	☐	☐	☐		☐	☐	☐		☐	☐	☐
	☐	☐	☐		☐	☐	☐		☐	☐	☐
	☐	☐	☐		☐	☐	☐		☐	☐	☐
	☐	☐	☐		☐	☐	☐		☐	☐	☐
	☐	☐	☐		☐	☐	☐		☐	☐	☐
	☐	☐	☐		☐	☐	☐		☐	☐	☐
	☐	☐	☐		☐	☐	☐		☐	☐	☐
	☐	☐	☐		☐	☐	☐		☐	☐	☐
	☐	☐	☐		☐	☐	☐		☐	☐	☐
	☐	☐	☐		☐	☐	☐		☐	☐	☐

APPENDIX D – Street and Parking Lot Sweeping Log

STREET/PAVEMENT SWEEPING RECORD FORM

Operator: ______________________ Date: ________________ Sheet ___ of ___.

Street/Location		Street/Location		Street/Location

APPENDIX E – Stormwater Treatment Structures Inspection and Maintenance Guide

MCM 6: GOOD HOUSEKEEPING - STORMWATER BMP INSPECTION & MAINTENANCE

The following establishes inspection and maintenance actions for permittee-owned stormwater treatment structures

#	BMP Description	Required Action
1	Water Quality Unit (Oil/Grit Separator)	a) Remove accumulated oils, grease and sediments
2	Proprietary Separator	a) Inspect and clean units according to manufacturers' recommendations
		b) Remove sediments & debris
3	Leaching Catch Basin	a) Remove sediments & debris
		b) Rehabilitate the basin if it fails due to clogging
4	Bio-retention Areas & Rain Garden	a) Remove sediments & debris
		b) Mow and/or mulch
		c) Replace vegetation if needed
		d) Remove Invasive species as needed
5	Extended Dry Detention Basin	a) Inspect outlets
		b) Mow upper stage, sides slopes, embankment & spillway
		c) Remove trash and debris
		d) Remove sediments from basin
6	Water Quality Swale	a) Make sure vegetation is adequate and slopes are not eroding, check for rilling and gullying, ponding and sedimentation
		b) Mow 3"-6"
		c) Remove sediments & debris
		d) Repair eroded areas if needed
		e) Re-seed as necessary
7	Infiltration Basin	a) Inspection for settlement, erosion, tree growth on embankments, condition of riprap and turf, ponding and sedimentation
		b) Mow the buffer area, side slopes, and basin bottom if grassed floor
		c) Inspect and clean pretreatment devices associated with the basin
		d) Remove sediments & debris
8	Infiltration Trench	a) Inspect the trench 24 hours or several days after a rain event
		b) Mow top of trench if is grassed
		c) Inspect and clean pretreatment BMPs, check inlets and outlets for clogging
		d) Remove sediments & debris
9	Infiltration Chamber	a) Inspect Inlets
		b) Remove sediment from pretreatment BMPs
		c) Remove sediments & debris
10	Porous Pavement	a) Vacuum sweep or Power wash surface
11	Maintained Lawn	a) Re-seed as necessary

APPENDIX F – SWPPP

Bridgewater, Massachusetts

Stormwater Pollution Prevention Plan (SWPPP)

.

June 2020

DEPARTMENT OF PUBLIC WORKS
151 HIGH STREET

BETA
315 Norwood Park South
2nd Floor
Norwood, Massachusetts 02062
781.255.1982
www.BETA-Inc.com

Stormwater Pollution Prevention Plan (SWPPP)

Bridgewater, Massachusetts

.

DEPARTMENT OF PUBLIC WORKS
151 HIGH STREET

Prepared by: BETA GROUP, INC.
Prepared for: Town of Bridgewater

June 2020

SWPPP 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.

_____ _____

Authorized Official Title

_____

Date

TABLE OF CONTENTS

Introduction 1
1.0 Pollution Prevention Team 1
2.0 Description of Facility 2
2.1 Facility Summary 2
2.2 Site Map 2
2.2.1 Inventory of Building 3
2.2.2 Parking Areas 3
2.2.3 Inventory of Vehicles & Equipment 3
2.3 Site Drainage & Receiving Waters 3
2.4 Potential Pollutant Sources 3
3.0 Stormwater Controls 4
4.0 Management Practices 5
4.1 Minimize or Prevent Exposure 5
4.2 Good Housekeeping 7
4.3 Preventative Maintenance 8
4.4 Spill Prevention and Response 9
4.5 Erosion and Sediment Control 10
4.6 Management of Runoff 11
4.7 Salt Storage Piles or Piles Containing Salt 12
4.8 Employee Training 12
4.9 Maintenance of Control Measures 12
5.0 Site Inspections 13
6.0 Recommendations 14

LIST OF TABLES

Table 2-1 Inventory of Buildings

LIST OF APPENDICES

Appendix A Site Map
Appendix B Vehicle Inventory
Appendix C Summary of Site Activities and Potential Stormwater Pollutants
Appendix D SWPPP Inspection Form

INTRODUCTION

This Stormwater Pollution Prevention Plan (SWPPP) has been developed by BETA Group, Inc. (BETA) on behalf of the Town of Bridgewater (the Town), Massachusetts, Department of Public Works (DPW) to address the requirements of the United States Environmental Protection Agency (EPA) 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 PERMIT. This SWPPP is outlined as follows:

1. *Pollution Prevention Team*
2. *Description of Facility*
3. *Identification of Stormwater Controls*
4. *Management Practices*
5. *Site Inspections*

1.0 POLLUTION PREVENTION TEAM

The Bridgewater DPW has assigned a Pollution Prevention Team (PPT) for this SWPPP. PPT team members and contact information are summarized below. The role of the PPT is to develop, implement, maintain, and revise as necessary, this SWPPP. The PPT also has the following responsibilities:

Name:	**Jennifer Burke**	Title:	**Director**	Department	**Community and Economic Development**
Phone:	**508.697.0950**	Email:	**JBurke@bridgewaterma.org**		
Responsibilities: **MS4 Coordinator, IDDE Program, Good Housekeeping, Reporting & Record Keeping**					

Name:	**Azu Etoniru**	Title:	**Town Engineer**	Department:	**Department of Public Works**
Phone:	**508.697.0906**	Email:	**AEtoniru@bridgewaterma.org**		
Responsibilities: **MS4 Co-Coordinator IDDE Program, Good Housekeeping, SWPPP Training, Reporting & Record Keeping**					

Name:	**Phil Paradis, PE**	Title:	**Project Manager**	Company	**BETA Group**
Phone:	**781-255-7980**	Email:	**PParadis@beta-inc.com**		
Responsibilities: **MS4 Consultant to the Town**					

2.0 DESCRIPTION OF FACILITY

2.1 FACILITY SUMMARY

The Town of Bridgewater DPW facility is located at 151 High Street in Bridgewater, Massachusetts (the site) and is owned and operated by the Town. Information provided in this, and the following sections is based on observations made during a site visit on March 30, 2020. During the site visit, BETA personnel were escorted by Bridgewater DPW staff who provided a general overview and layout of facility operations, activities performed and material storage information[1].

The site consists of two contiguous irregular-shaped parcels that include approximately 18.4 acres of land improved with four buildings. The site buildings are located along the northern portion of the property, which is primarily paved. The southern and western portions of the site have an earthen surface and beyond that are wooded areas to the south and west. The Town River is located to the south and west of the site. The site is located in an area primarily used for residential purposes. An MBTA commuter rail line abuts the site to the east. The site's location is depicted on the **Site Map** included in **Appendix A**. Pertinent site details, including layout, location of any stormwater outfalls, receiving waters and structural controls, are depicted on the **Site Map.**

2.2 SITE MAP

The facility operated on approximately 7.9 acres and contains the structures and other features identified above, shown on the **Site Map** and described in detail in the following sections. Components shown on the site map include as applicable:

- Location of the engineered drainage system, including catch basins, ditches, drain manholes, and treatment BMPs
- Outfalls to a receiving water, and the name of the receiving water
- Direction of surface water flow
- Structural stormwater pollution control measures
- Vehicle fueling areas
- Aboveground storage tanks (indoors and outdoors)
- Salt storage areas
- Materials stockpiles
- Waste disposal areas

[1] Interior portions of the site buildings were not accessed or inspected due to concerns related to the COVID-19 pandemic.

2.2.1 Inventory of Building

The site includes the following buildings and structures and their use:

Table 2.1 - Inventory of Buildings

No.	Use	Floor Drain
1	Administration Office	☐Y ☒N
2	Vehicle Washing/Maintenance/Storage	☒Y ☐N
3	Salt Storage	☐Y ☒N
4	Construction Material Stockpile Storage	☐Y ☒N

2.2.2 Parking Areas

Employee parking is provided near the office (Building 1) and on northern portions of the site.

2.2.3 Inventory of Vehicles & Equipment

The Town maintains an inventory of vehicles and heavy equipment. A copy of the inventory is included in **Appendix B**.

2.3 Site Drainage & Receiving Waters

Drainage at the site generally follows surface topography and flows in a westerly-southwesterly direction over paved areas to unpaved and wooded areas on the western portion of the site. One leaching catchbasin is located at the site and collects stormwater runoff in front of (west) the maintenance garage building (Building 2). Floor drains located in the maintenance garage are connected to a water quality unit which discharges to the sanitary sewer. Southern and western portions of the site are a wooded buffer between the site and the Town River which flows through the southern and western portion of the property. Stormwater runoff in these areas likely infiltrates through impervious surfaces. Surface runoff flow direction, drainage structures and features are indicated on the **Site Map**.

The Town River is listed as a Category 3 Surface Water, indicating that not enough information exists to assess water quality impairment relative to designated uses.

2.4 Potential Pollutant Sources

An inventory of activities performed at the site and associated potential stormwater pollutants is provided in **Appendix C**. Locations of activities and potential stormwater pollutants are indicated in on the **Site Map**.

3.0 STORMWATER CONTROLS

Structural stormwater controls including drainage structures, pipes and conveyances; stormwater best management practices (BMPs) and outfall(s) are shown on the **Site Map**. These controls, used and maintained in accordance with good engineering practices, manufacturer's specifications and management practices detailed in **Section 4.0** below, address the quality of discharges from the site.

4.0 MANAGEMENT PRACTICES

The following sections summarize the management practices (non-structural stormwater controls) to be implemented at the site to mitigate the potential for potential pollutants to impact stormwater.

4.1 MINIMIZE OR PREVENT EXPOSURE

To the extent practicable, either locate materials and activities inside or protect them with storm-resistant coverings in order to prevent exposure to rain, snow, snowmelt and runoff (although significant enlargement of impervious surface area is not recommended). Materials do not need to be enclosed or covered if stormwater runoff from affected areas will not be discharged directly or indirectly to surface waters or to the MS4 or if discharges are authorized under another NPDES permit.

Fueling Areas

Vehicle fueling activities can result in gasoline and diesel fuel entering the storm drain system. Spills can occur by topping off fuel tanks and during deliveries. If possible, fueling areas should be placed under cover in order to minimize exposure. Best management practices for fueling areas include the following:

- Deliveries to fuel tanks and fueling of vehicles and equipment should occur on impervious surfaces with proper containment. Spill response kits should be readily accessible at fueling and maintenance areas.
- Fuel dispenser containment features (grooves in concrete pad perimeter) should be kept free of debris.
- Fueling areas owned or operated by the municipality should be covered.

Vehicle Storage

Rainfall on vehicles and equipment storage areas has the potential to collect pollutants and result in high loads of nutrients, metals, and hydrocarbons in stormwater runoff. To prevent this, best management practices include the following:

- All vehicles, equipment and hazardous waste storage containers should receive regular maintenance and be inspected for leaks or defective parts.
- Vehicles and equipment should be stored on a covered slab or within a building with a common drain that discharges to an oil/water separator.
- Outdoor storage of vehicles and equipment should not occur in areas that drain to the storm drain system unless adequate devices are in place to remove oil, sediment and other pollutants.
- Vehicles with fluid leaks should be stored indoors or containment be provided until repaired.

Vehicle and Equipment Maintenance[1]

Vehicle and equipment maintenance shall be conducted in a manor to reduce the discharge of pollutants by following these best management practices:

- Conduct routine inspections of heavy equipment and vehicles to proactively identify maintenance needs or potential leaks.
- Use drip pans as needed until repairs can be performed and when drip pans are used, avoid overtopping.

- Drain fluids from leaking or wrecked vehicles and parts as soon as possible. Dispose of fluids properly.
- Perform routine preventive maintenance to ensure heavy equipment and vehicles are operating optimally.
- Recycle or dispose of waste properly and promptly.
- Conduct all body repair and painting work indoors.
- Minimize waste from paints and thinners. Calculate paint needs based on surface area.
- Do not wash or hose down storage areas unless there is prior approval to collect and discharge the water into the sanitary sewer. Use dry cleanup methods (vacuum, sweep) to clean up metal filings and dust and paint chips from grinding, shaving and sanding. Sweep debris from wet sanding after allowing it to dry overnight on the shop floor. Dispose of waste properly; never dump waste into storm or sanitary sewers.
- Do not dump any liquids or other materials outside, especially near or in storm drains or ditches.
- Store materials and waste in labeled containers under cover and in secondary containment.
- Chemicals should not be combined in containers.
- Carefully transfer collected fluids from containers into designated storage areas as soon as possible.
- Waste liquids (oil, antifreeze, etc.) should be properly stored on-site and routinely disposed by licensed waste haulers at licensed disposal facilities.
- Store new and used batteries securely to avoid breakage. Store indoors or in secondary containment to contain potential acid leaks. Recycle used batteries.

Parts Cleaning

Cleaning of parts can transport pollutants into the storm drain system or surface waters. The MS4 Permit does not authorize these types of discharges. Best management practices to avoid this include the following:

- Use designated areas for engine, parts, or radiator cleaning. Do not wash or rinse parts outdoors. If parts cleaning equipment is not available, then capture parts cleaning fluids.
- Recycle cleaning solution. Never discharge waste to the sanitary sewer or storm sewer.
- Use steam cleaning or pressure washing of parts instead of solvent cleaning. Cleaning equipment must be connected to an oil/water interceptor prior entering the sanitary sewer.
- When using solvents for cleaning, drain parts over the solvent tank to avoid drips to the floor. Catch excess solutions and divert them back to tank. Allow parts to dry over the hot tank.

Vehicle and Equipment Wash Waters

Washing down of maintenance and fueling areas, as well as equipment and vehicles can transport pollutants into the storm drain system or surface waters. The MS4 Permit does not authorize these types of discharges. Best management practices to ensure that vehicle wash waters are not discharged to the municipal system or surface waters include the following:

- Vehicles and equipment should be washed inside whenever possible to reduce runoff to the stormwater system.
- Grassy and pervious (porous) surfaces may be used to promote direct infiltration of wash water, providing treatment before recharging groundwater and minimizing runoff to an adjacent stormwater system. Pervious surfaces or other infiltration-based systems should not be used within wellhead protection areas or within other protected resources.
- Avoid discharge of any wash water directly to the storm drainage system or surface water (e.g., stream, pond, or drainage swale)
- Do not use solvents except in dedicated solvent parts washer systems.
- Wash vehicles with non-toxic, phosphate-free, biodegradable cleaners
- Wash vehicles on an asphalt lot using a collection system with containment berms and discharge to water quality devices that will remove pollutants. Detergents should not be used in areas where oil/water separators provide pre-treatment of drainage.
- Floor drains should be connected to a sanitary sewer or tight tank. Floor drains discharging to adjacent surface water bodies or engineered storm drain systems should be permanently plugged or otherwise abandoned before any vehicle wash activities are completed.
- Designate separate areas for routine maintenance and vehicle cleaning. This helps prevent contamination of wash water by motor oils, hydraulic lubricants, greases, or other chemicals.

Earth Material Stockpile Areas

Stockpiling material on the site may be needed temporarily or permanently depending on the time or year or town projects. BMPs for protecting stockpiles include adequate cover or temporary stabilization as well as temporary sediment perimeter controls at the base of the stockpile.

- Divert stormwater runoff around stockpile areas.
- Cover stockpiles with plastic, geotextile or temporary seed.
- Temporary sediment perimeter controls, including silt fence, filters socks, or fiber rolls, may be placed a short distance from the base of the stockpile. Maintaining a short distance from the base of the stockpile to the perimeter control is important as it allows water to pond, if needed.

4.2 GOOD HOUSEKEEPING

All exposed areas that are potential sources of pollutants, shall be kept clean using such measures as sweeping at regular intervals. Ensure that trash containers are closed when not in use, keep storage areas well swept and free from leaking or damaged containers; and store leaking vehicles needing repair indoors.

Sweeping and Cleaning of Parking Lots

Vehicle surfaces can collect a variety of contaminants such as sediments, oil, grease, and metals during daily activities. The MS4 permit requires that parking lots are swept, and surrounding areas of the facility are kept clean to reduce runoff of pollutants.

Parking lot sweeping and cleaning follows the same schedule as street sweeping, at least twice per year in Spring and Fall, with additional sweeping as need for specific sites.

Waste Management

All liquid and solid waste must be disposed of properly. Some of the most common sources of pollution at municipal facilities are a result of littering, improper collection of debris, and improper disposal of solid or liquid waste. Best management practices for handling, storage, transfer and disposal of trash and recyclables include the following:

- All waste and recycling receptacles must be leak-tight with tight-fitting lids or covers.
- Keep lids on dumpsters and containers closed at all times unless adding or removing material. If using an open-top roll-off dumpster, cover it and tie it down with a tarp unless adding materials.
- Place waste or recycling receptacles indoors or under a roof or overhang whenever possible.
- Locate dumpsters on a flat, paved surface and install berms or curbs around the storage area to prevent run-on and run-off.
- Do not locate dumpsters over or adjacent to catch basins.
- Prior to transporting waste, trash, or recycling, ensure that containers are not leaking (double bag if needed) and properly secure containers to the vehicle.
- Clean up any liquid leaks or spills with dry cleanup methods.
- Arrange for waste or recycling to be picked up regularly and disposed of at approved disposal facilities.
- Never place hazardous materials, liquids, or liquid-containing wastes in a dumpster or recycling or trash container.
- Do not wash trash or recycling containers outdoors or in parking lots.
- Conduct periodic inspections of solid and liquid waste storage areas to check for leaks and spills.
- Conduct periodic inspections of work areas to ensure that all wastes are being disposed of properly.
- In dumpster areas, regularly pick up surrounding trash and debris and regularly sweep the area.
- In compactor areas, regularly check the hydraulic fluid hoses and reservoir to ensure that there are no cracks or leaks. Regularly sweep the area.

4.3 Preventative Maintenance

All equipment and systems shall be regularly inspected, tested, maintained, and repaired to avoid situations that may result in leaks, spills, and other releases of pollutants to stormwater and receiving waters. Inspections shall occur at a minimum once per quarter.

Use Storage and Disposal of Potential Pollutants

Potential pollutants or hazardous wastes that may be used and stored in or around municipal building and facilities include pesticides, paints, cleaners, petroleum products, fertilizers, and solvents. Careful handling and proper storage of these products are the best means of preventing spills and pollution to the environment. Best management practices include the following:

- Storage and handling areas should be covered or enclosed to reduce potential contact with stormwater and wind.
- Potential pollutants should be transported using approved methods and containers to minimize the chance of spillage, and by employees that have familiarity with the potential environmental and human health hazards of the products.
- Proper spill kits applicable to the products being used at each specific building or facility should be easily accessible and marked clearly so employees can follow procedures quickly and effectively. Leaks or spills should be cleaned up in a timely manner.
- Establish separate storage areas for these types of products with measures in place to contain any spill leaking out of the storage area.
- A designated person should be responsible for these areas.
- The storage area should be inspected frequently, kept clean and in good order with proper labels and signs, and consistent disposal practices.
- Floor drains in storage areas should be disconnected from the stormwater system.
- Routinely inspect buildings and facilities for areas of potential leaks.
- Paint and other chemicals should not be applied on the outside of buildings when it is raining or prior to expected rain.
- When sanding, painting, power washing, etc., ensure that sites are properly prepared (e.g., use tarps) and cleaned (e.g., use dry cleaning methods) especially if they are near storm drains. Protect catch basins when maintenance work is conducted upgradient of them.
- When painting, use a drop cloth and clean up any spills immediately.
- Do not leave open containers on the ground where they may accidentally tip over.
- Do not discharge chlorinated pool water into the stormwater system. Water must be properly dechlorinated and tested before it is discharged.
- Ensure that the washwater does not flow into the storm system. Containment or filtering systems should be provided.

4.4 Spill Prevention and Response

The permittee shall minimize the potential for leaks, spills, and other releases that may be exposed to stormwater and develop plans for effective response to such spills if or when they occur. At a minimum, the permittee shall have procedures that include:

- Preventive measures such as barriers between material storage and traffic areas, secondary containment provisions, and procedures for material storage and handling.

- Response procedures that include notification of appropriate facility personnel, emergency agencies, and regulatory agencies, and procedures for stopping, containing, and cleaning up leaks, spills and other releases. Measures for cleaning up hazardous material spills or leaks shall be consistent with applicable Resource Conservation and Recovery Act (RCRA) regulations at 40 CFR section 264 and 40 CFR section 265. Employees who may cause, detect, or respond to a spill or leak shall be trained in these procedures and have necessary spill response equipment available. If possible, one of these individuals should be a member of the Pollution Prevention Team; and
- Contact information for individuals and agencies that shall be notified in the event of a leak, spill, or other release. Where a leak, spill, or other release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under 40 CFR section 110, 40 CFR section 117, or 40 CFR section 302, occurs during a 24-hour period, the permittee shall notify the National Response Center (NRC) at (800) 424-8802 in accordance with the requirements of 40 CFR section 110, 40 CFR section 117, and 40 CFR section 302 as soon as the permittee has knowledge of the discharge. State or local requirements may necessitate reporting spills or discharges to local emergency, public health or drinking water supply agencies, and owners of public drinking water supplies. Contact information shall be in locations that are readily accessible and available.

Spill Prevention Plans

The Town has spill kits and prevention and control plans in place for all buildings and facilities where hazardous wastes are stored or used. These are coordinated with the fire department as necessary.

Per the Massachusetts Clean Water Toolkit Fact Sheet for Spill Prevention and Control Plans, it is recommended that Spill Prevention and Control Plans (SPCP) clearly state measures to stop the source of a spill, contain the spill, clean up the spill, dispose of contaminated materials, and train personnel to prevent and control future spills. The SPCP should define material handling procedures and storage requirements and outline actions necessary to reduce spill potential and impacts on stormwater quality. The plan can be a procedural handbook, or a poster placed in several locations at the site.

4.5 Erosion and Sediment Control

Structural and non-structural control measures shall be used at the facility to stabilize and contain runoff from exposed areas and to minimize or eliminate onsite erosion and sedimentation. Efforts to achieve this may include the use of flow velocity dissipation devices at discharge locations and within outfall channels where necessary to reduce erosion.

Erosion Control

Site maintenance activities include erosion control, specifically with respect to poor vegetation cover and particularly within 50 feet of surface water. Best management practices include the following:

- Prevention of erosion and sedimentation is preferable to installing treatments devices.
- Protect vegetated and wooded buffers and leave vegetated areas undisturbed to the extent possible.
- Inspect sites regularly for locations of poor vegetation cover, erosion and sedimentation and channelization. If stabilization is required, corrective actions should be identified and implemented as soon as possible.

- If exposed, soils should be stabilized by mulching, seeding with fast-growing native grass and/or planted with native tree and shrubs. Use erosion control blankets when seeding slopes.
- If necessary, slow stormwater runoff velocities with conveyance measures such as riprap channels or vegetated swales, check dams, level spreaders and outlet protection, etc.
- A buffer/filter strip should be left around surface waters. No fertilizers or pesticides should be applied in the buffer/filter strip except where necessary.

4.6 MANAGEMENT OF RUNOFF

The permittee shall manage stormwater runoff from the facility to prevent or reduce the discharge of pollutants. This may include management practices which divert runoff from areas that are potential sources of pollutants, contain runoff in such areas, or reuse, infiltrate or treat stormwater to reduce the discharge of pollutants.

Catchbasin Cleaning Program

All catchbasins on the site are to be included in the catchbasin inspection and cleaning optimization program.

Stormwater Management BMP Maintenance

Stormwater BMPs for this facility (excluding catch basins) are to be inspected quarterly and maintained as necessary to provide optimum treatment of stormwater runoff. The Town will keep a log of stormwater management structures inspected and report on the condition and maintenance performed. BMPs are included in the SWPPP inspection form provided in **Appendix D.**

The following are maintenance activities and procedures for each type of BMP on the site based on the Massachusetts Stormwater Handbook:

Infiltration BMPs

LEACHING CATCH BASINS

A leaching catch basin is a pre-cast concrete barrel and riser with an open bottom the allows runoff to infiltrate into the ground. These can be configured as a stand-alone structure or combined with a deep sump catch basin to provide pretreatment. Leaching basins are typically set in an excavation lined with a geotextile liner to prevent fine soil particles from migrating into the void spaces of the stone surrounding it. Inspection and maintenance should include the following:

- Inspect unit and remove debris
- Remove sediment when the basin is 50% full
- Rehabilitate the basin as needed if it fails do to clogging

Other BMPs

STONE CHIP OR GRAVEL DRIVEWAYS AND PARKING AREAS

Stone chip or gravel surfaces allows parking lot, driveway and/or roadway runoff to infiltrate directly into the soil. They need to be designed and constructed with a base similar to a traditional road in order to prevent ponding of water and washout. Inspection should be conducted annually, and maintenance as needed including the following:

- Inspect the surface annually for deterioration and assess exfiltration capacity- monitor after a storm to ensure the surface drains properly without ponding
- Remove debris (leaves, sticks, weeds, etc.) on a weekly basis
- Regrade surface for proper drainage and add new stone/gravel where necessary to fill holes and ruts

Apply a fresh layer of gravel to the surface every 1-2 years

Additional guidance for Structural BMP operations and maintenance can be found in the latest version of the Massachusetts Department of Environmental Protection Stormwater Handbook, Volume 2, Chapter 2, located at: http://www.mass.gov/eea/docs/dep/water/laws/i-thru-z/v2c2.pdf

4.7 Salt Storage Piles or Piles Containing Salt

For storage piles of salt or piles containing salt used for deicing or other purposes (including maintenance of paved surfaces) for which the discharge during precipitation events discharges to the permittee's MS4, any other storm sewer system, or to a Water of the US, the permittee shall prevent exposure of the storage pile to precipitation by enclosing or covering the storage piles. As of July 1, 2020, such piles shall be enclosed or covered. The permittee shall implement appropriate measures (e.g., good housekeeping, diversions, containment) to minimize exposure resulting from adding to or removing materials from the pile. The permittee is encouraged to store piles in such a manner as not to impact surface water resources, ground water resources, recharge areas, and wells.

4.8 Employee Training

The permittee shall regularly train employees who work in areas where materials or activities are exposed to stormwater, or who are responsible for implementing activities identified in the SWPPP (e.g., inspectors, maintenance personnel), including all members of the Pollution Prevention Team. Training shall cover both the specific components and scope of the SWPPP, and the control measures required under this part, including spill response, good housekeeping, material management practices, any best management practice operation and maintenance, etc. EPA recommends annual training.

The permittee shall document the following information for each training:

- The training date, title and training duration
- List of municipal attendees
- Subjects covered during training

4.9 Maintenance of Control Measures

The permittee shall maintain all control measures, required by the permit in effective operating condition. The permittee shall keep documentation onsite that describes procedures and a regular schedule for preventative maintenance of all control measures and discussions of back-up practices in place should a runoff event occur while a control measure is off-line. Nonstructural control measures shall also be diligently maintained (e.g., spill response supplies available, personnel trained).

5.0 Site Inspections

Inspect all areas that are exposed to stormwater and all stormwater control measures. Inspections shall be conducted at least once each calendar quarter (winter, spring, summer and fall). The quarters begin on January 1, April 1, July 1 and October 1. More frequent inspections may be required if significant activities are exposed to stormwater. Inspections shall be performed when the facility is in operation. At least one of the quarterly inspections shall occur during a period when a stormwater discharge is occurring.

The permittee shall document the following information for each facility inspection:

- The inspection date and time
- The name of the inspector
- Weather information and a description of any discharge occurring at the time of the inspection
- Identification of any previously unidentified discharges from the site
- Any control measures needing maintenance or repair
- Any failed control measures that need replacement
- Any SWPPP changes required as a result of the inspection

If during the inspections, or any other time, the permittee identifies control measures that need repair or are not operating effectively, the permittee shall repair or replace them before the next anticipated storm event if possible, or as soon as practicable following that storm event. In the interim, the permittee shall have back-up measures in place.

A SWPPP inspection form is provided in **Appendix D**. The permittee shall report the findings from the Site Inspections in the annual report.

6.0 RECOMMENDATIONS

Based on BETA's March 30, 2020 site visit, we are providing the following recommendations to attain or maintain compliance with the MS4 permit requirements.

1. The current vehicle fueling area is uncovered. Petroleum is a potential stormwater pollutant and releases during vehicle fueling may impact stormwater runoff if occurring during a rain event. We recommend that a cover or roof structure be installed over the vehicle fueling area to mitigate this condition.
2. There are several uncovered material stockpiles on the southern and western portions of the property. These are generally on earthen cover where stormwater runoff would be expected to infiltrate the ground. We recommend following BMPs summarized in **Section 4.1** to address any potential impacts to stormwater runoff resulting from these stockpiles.
3. There is a scrap pile consisting of debris, old tires and other miscellaneous waste, on the southern portion of the site (see **Appendix A**). Some of these items are potential stormwater pollutants and we recommended maintaining and routinely removing these items from the site for solid waste disposal or recycling.
4. Empty barrels stored outside should be stored indoors or removed from the site if not being used.

APPENDIX A – Site Map

Map 1 of 1

Department of Public Works

151 High Street

Town of Bridgewater, MA SWPPP Map

Stormwater Legend

- Outfall
- Leaching Catch Basin
- Manhole
- Surface Water Flow Direction

N

0 40 80 Feet

Plot Date: 6/27/2020

Map Location

BETA

APPENDIX B – Vehicle Inventory

APPENDIX B
VEHICLE INVENTORY
DEPARTMENT OF PUBLIC WORKS
151 HIGH STREET
BRIDGEWATER, MASSACHUSETTS

DPW VEHICLE LIST

Vehicle ID	Year	Make	Model	Registration	VIN
2-1	2014	FORD	F250 PICKUP	M64924	1FT7X2B66EEA04586
2-2	2019	FORD	F450 - CHIP TRUCK	M3488A	1FD0X4HT6KEC37224
2-8	1989	INTERNATIONAL	CATCH BASIN TRUCK	M87207	1HTDTVR6KH629098
2-9	2012	FORD	F250 PICKUP	M64925	1FT7X2B69CEC69578
2-10	2018	FORD	F550	M2228A	1FDOX5HT6JEB74954
2-11	2001	FORD	TRUCK	M74781	1FDWF37FX1EB31215
2-12	2015	FORD	F550 DUMP TRUCK	M90968	1FDUF5HT4FED58785
2-13	2001	FORD	TRUCK	M65898	1FDXF47F51EB31214
2-14	2016	FORD	F550	M96816	1FDUF5HT0GEB87812
2-15	2019	FORD	F550 SWITCH & GO	M4580A	1FDUF5HT8KEF72754
2-16	2020	FREIGHTLINER	10 WHEEL DUMP	M6215A	1FVHG3DV8LHLX3819
2-17	2018	FREIGHTLINER	10 WHEEL DUMP	M3604A	1FVHG3DV2JHJW4766
2-18	1990	INTERNATIONAL	TRUCK	M73608	1HSHANGNXLH299881
2-19	2015	FREIGHTLINER	114SD	M93179	1FVAG3CY4FHGF6783
2-20	2006	INTERNATIONAL	TRUCK	M95458	1HTMMAAN26H286405
2-21	2012	FORD	E350	M1066A	1FDSE3FL1CDB36675
2-24	1998	INTERNATIONAL	TRUCK	M60223	1HTSDAARWH586143
2-25	2006	INTERNATIONAL	TRUCK	M1054A	1HTMMAAN96H286403
2-26	2001	INTERNATIONAL	TRUCK	M87210	1HTSDAAR81H376418
2-27	2001	INTERNATIONAL	TRUCK	M70296	1HTSDAAR61H376417
2-28	2006	INTERNATIONAL	DUMP TRUCK	M73615	1HTWDAARX6J297771
2-29	2006	INTERNATIONAL	DUMP TRUCK	M73616	1HTWDAAR16J297772
BACKHOE	1998	JOHN DEERE	BACKHOE TRACTOR	M49963	T0410EX838798
BOBCAT	1998	BOBCAT	LOADER	M65818	512229567
BOMBADIER	1988	BOMBARDIER	SIDEWALK PLOW	M44172	1881049
FORESTCHIP	2013	BANDIT	CHIPPER	M85893	4FMUS1518DR001456
FORKLIFT			FORKLIFT		
Vehicle ID	**Year**	**Make**	**Model**	**Registration**	**VIN**
HOLDER	2007	HOLDER	TRACTOR	M93669	52410568
HWYCHIP	1999	BANDIT	CHIPPER	M63400	14976
MOWER	2018	JOHN DEERE	ROADSIDE MOWER	M3835A	1LV5090MAJJ400681
SW PLOW	2019	PRINOTH	SW4S	M4762A	900200775
MINI EXCAV	2019	JOHN DEERE	EXCAVATOR		1FF050GXVJH289227
LOADER	2006	JOHN DEERE	LOADER	M53154	DW624JZ602413
SCREENALL	1987	READ	SCREEN ALL	M45187	40313387
SPRAYER	1982	FMC	SPRAYER	M29974	A256890
SWEEP	2017	FREIGHTLINER	M2106 - ELGIN SWEEPER	M97255	1FVACXDT1HHH7740
TRACKLESS	2006	TRACKLESS	TRACTOR	M73384	MT5T3290
COMPRESSOR	2008	ATLAND COPCO	AIR COMPRESSOR	M77100	4500A10168R030497
TRAILER	2019	CAM SUPERLINE	EXCAVATOR TRAILER	M3680A	5JWCF1920KP501979
TRAILER	2010	CARMATE	SMALL EMERGENCY RESPONSE	M84528	5A3C612S9AL001347
TRAILER	2011	VHA/PAMU	HOMELAND SECURITY	M87205	53PAB1628BP211112
TRAILER	2012	DOWNEASTER	PAINT TRAILER	M86799	5RSLU1215CT000093
TRAILER	2015	DOWNEASTER	MOWING TRAILER	M93670	5RSLU1628FT000449
TRAILER	2017	CARRY-ON	LEAF VAC TRAILER	M99407	4YMBU0615HV061353

APPENDIX C –Summary of Site Activities and Potential Stormwater Pollutants

APPENDIX C: Summary of Site Activities and Potential Stormwater Pollutants

Activity	Description	Building Reference	Material Inventory	Potential Stormwater Pollutants	Quantity	Potential Exposure to Stormwater	Management Practices	
							Structural	Non-structural
Vehicle Fueling	Fueling of Town-owned and operated vehicles	N/A	Diesel Fuel	Petroleum Hydrocarbons	4,000-gal AST	**High -** during a release, uncovered storage	N/A	Spill Kit in Close Proximity
			Gasoline	Petroleum Hydrocarbons	4,000-gal AST			
Vehicle Maintenance	Maintenance and Storage of Town-owned and operated vehicles and equipment	1	Motor Oil	Petroleum Hydrocarbons	Varies	**Low** - in covered bldg	Floor Drains to oil/water/grit separator; discharges to sanitary sewer	Maintenance conducted inside building, good housekeeping, catchbasin and oil/water separator cleaning
			Hydraulic Fluid	Petroleum Hydrocarbons				
			Lubricants	Petroleum Hydrocarbons				
			Transmission Fluid	Petroleum Hydrocarbons				
			Waste Oil	Petroleum Hydrocarbons				
			Antifreeze	Ethylene glycol				
			Coolant	Ethylene glycol				
			Brake Fluid	Glycols				
		N/A	Used Tires	N/A		**High** - stored outside and uncovered	N/A	Regular removal for recycling
Vehicle Washing	Washing of Town-owned and operated vehicles	1	Detergents	Surfactants	Varies	**Low -** washwater discharges to sanitary sewer via a water quality unit	Water-quality unit	Good housekeeping practices
				Wastewater				
Construction Materials	Storage and handling of construction materials and miscellaneous maintenance products (gravel, loam, aggregates, etc.)	N/A	Asphalt Millings	Petroleum Hydrocarbons	Varies	**Low** - covered storage	Covered storage	Routine inspection and maintenance, sweeping and good housekeeping practices
			Sand	Sediment				
			Loam	Sediment				
			Aggregate	Sediment, debris				
			Screened Material	Sediment, debris				
			Street sweepings	Sediment, debris				
			Brush/Compost	Nutrients, debris		**High** - stored outside, uncovered on earthen/gravel surfaces	N/A	
			Castings, blocks	Metals				
			Scrap Metal	Metals				
Salt Storage and Handling	Storage and handling of salt for winter roadway applications	3	Salt	Chlorides	3,000-ton (approx.)	**Low -** not covered	Covered storage for salt	Routing sweeping
								Good housekeeping practices
Above Ground Storage Tanks	De-icing	3	Magnesium Chloride	Chlorides	1,500-gal	**Low** - stored in covered area	Covered/container storage	Good housekeeping practices
					2,000-gal	**Low** - stored in covered area		
	Waste oil	1	Waste Oil	Petroleum Hydrocarbons	2 x 200-gal	**Low** - stored in covered area	Covered Storage	
Emergency Generators	Facility back-up generator	2	Natural Gas	N/A	N/A	**Low** - natural gas not a potential stormwater pollutant	N/A	N/A
Parking Areas	Parking for DPW Employees	1	N/A	Sediment, oil from vehicles	Varies	**Low -** stormwater runoff from parking areas discharges to a wooded areas for infiltration	Catchbasin maintenance	Routine sweeping
								Good housekeeping practices
Administration	DPW Administration/Offices	1	Miscellaneous equipment and supplies	Paints, cleaning supplies, etc.	Varies	**Low** - stored in covered areas	Covered storage	Good housekeeping practices

APPENDIX D – SWPPP Inspection Form

Report No. _____

STORMWATER POLLUTION PREVENTION PLAN (SWPPP) INSPECTION FORM

Location:	Department of Public Works: 151 High Street	Date:		Last Insp:	
		Arrive:		Leave:	
Inspector:					
Recent Rainfall:		Current Weather:			
Unidentified Discharges? Spills?					
Add. Info:					

CONTROL MEASURES/ACTION REQUIRED: ☐ YES ☐ NO

(INSPECT FOR ALL APPLICABLE CONTROLS LISTED)

Control	Condition	Required Action	Completed (by)	Date
☐ Fuel Dispensing Area BMPs			☐	
☐ Vehicle Washing Area BMPs			☐	
☐ Vehicle Repair Indoors			☐	
☐ Pavement Sweeping			☐	
☐ Trash Management			☐	
☐ Spill Prevention & Response			☐	
☐ Erosion & Sediment Controls			☐	
☐ Manage Runoff			☐	
☐ Salt Storage Area			☐	
☐ Oil/Grit Separator			☐	
☐ Other			☐	

FAILED CONTROL MEASURES REQUIRE REPLACEMENT: ☐ YES ☐ NO

Control	Condition	Required Action	Completed (by)	Date
☐			☐	

SWPPP CHANGES: ☐ YES ☐ NO

Control	Change	Completed (by)	Date
☐		☐	

MANAGEMENT PRACTICES

1. **Minimize or Prevent Exposure:** To the extent practicable either locate materials and activities inside, or protect them with storm-resistant coverings in order to prevent exposure to rain, snow, snowmelt and runoff (although significant enlargement of impervious surface area is not recommended). Materials do not need to be enclosed or covered if stormwater runoff from affected areas will not be discharged directly or indirectly to surface waters or to the MS4 or if discharges are authorized under another NPDES permit.
2. **Good Housekeeping:** Keep clean all exposed areas that are potential sources of pollutants, using such measures as sweeping at regular intervals. Ensure that trash containers are closed when not in use, keep storage areas well swept and free from leaking or damaged containers; and store leaking vehicles needing repair indoors.
3. **Preventative Maintenance:** Regularly inspect, test, maintain, and repair all equipment and systems to avoid situations that may result in leaks, spills, and other releases of pollutants in stormwater to receiving waters. Inspections shall occur at a minimum once per quarter.
4. **Spill Prevention and Response:** Minimize the potential for leaks, spills, and other releases that may be exposed to stormwater and develop plans for effective response to such spills if or when they occur. At a minimum, the permittee shall have procedures that include:
    a. Preventive measures such as barriers between material storage and traffic areas, secondary containment provisions, and procedures for material storage and handling.
    b. Response procedures that include notification of appropriate facility personnel, emergency agencies, and regulatory agencies, and procedures for stopping, containing, and cleaning up leaks, spills and other releases. Measures for cleaning up hazardous material spills or leaks shall be consistent with applicable Resource Conservation and Recovery Act (RCRA) regulations at 40 CFR section 264 and 40 CFR section 265. Employees who may cause, detect, or respond to a spill or leak shall be trained in these procedures and have necessary spill response equipment available. If possible, one of these individuals should be a member of the Pollution Prevention Team; and
    c. Contact information for individuals and agencies that shall be notified in the event of a leak, spill, or other release. Where a leak, spill, or other release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under 40 CFR section 110, 40 CFR section 117, or 40 CFR section 302, occurs during a 24-hour period, the permittee shall notify the National Response Center (NRC) at (800) 424-8802 in accordance with the requirements of 40 CFR section 110, 40 CFR section 117, and 40 CFR section 302 as soon as the permittee has knowledge of the discharge. State or local requirements may necessitate reporting spills or discharges to local emergency, public health or drinking water supply agencies, and owners of public drinking water supplies. Contact information shall be in locations that are readily accessible and available.
5. **Erosion and Sediment Control:** Use structural and non-structural control measures at the facility to stabilize and contain runoff from exposed areas and to minimize or eliminate onsite erosion and sedimentation.
6. **Management of Runoff:** Manage stormwater runoff from the facility to prevent or reduce the discharge of pollutants. This may include management practices which divert runoff from areas that are potential sources of pollutants, contain runoff in such areas, or reuse, infiltrate or treat stormwater to reduce the discharge of pollutants.
7. **Salt Storage Piles or Piles Containing Salt:** Prevent exposure of the storage pile to precipitation by enclosing or covering the storage piles. Such piles shall be enclosed or covered within two (2) years of the permit effective date. Implement appropriate measures (e.g., good housekeeping, diversions, containment) to minimize exposure resulting from adding to or removing materials from the pile. Store piles in such a manner as not to impact surface water resources, ground water resources, recharge areas, and wells.

Bridgewater, Massachusetts

Stormwater Pollution Prevention Plan (SWPPP)

.

June 2020

TRANSFER STATION
1200 BEDFORD STREET

BETA
315 Norwood Park South
2nd Floor
Norwood, Massachusetts 02062
781.255.1982
www.BETA-Inc.com

Stormwater Pollution Prevention Plan (SWPPP)

Bridgewater, Massachusetts

.

TRANSFER STATION
1200 BEDFORD STREET

Prepared by: BETA GROUP, INC.
Prepared for: Town of Bridgewater

June 2020

SWPPP 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.

_____ _____

Authorized Official Title

_____

Date

TABLE OF CONTENTS

Introduction 1
1.0 Pollution Prevention Team 1
2.0 Description of Facility 2
2.1 Facility Summary 2
2.2 Site Map 2
2.2.1 Inventory of Building 3
2.2.2 Parking Areas 3
2.2.3 Inventory of Vehicles & Equipment 3
2.3 Site Drainage & Receiving Waters 3
2.4 Potential Pollutant Sources 3
3.0 Stormwater Controls 4
4.0 Management Practices 5
4.1 Minimize or Prevent Exposure 5
4.2 Good Housekeeping 5
4.3 Preventative Maintenance 6
4.4 Spill Prevention and Response 7
4.5 Erosion and Sediment Control 8
4.6 Management of Runoff 8
4.7 Salt Storage Piles or Piles Containing Salt 10
4.8 Employee Training 10
4.9 Maintenance of Control Measures 10
5.0 Site Inspections 11
6.0 Recommendations 12

LIST OF TABLES

Table 2-1 Inventory of Buildings

LIST OF APPENDICES

Appendix A Site Map
Appendix B Vehicle Inventory
Appendix C Summary of Site Activities and Potential Stormwater Pollutants
Appendix D SWPPP Inspection Form

INTRODUCTION

This Stormwater Pollution Prevention Plan (SWPPP) has been developed by BETA Group, Inc. (BETA) on behalf of the Town of Bridgewater (the Town), Massachusetts, Highway Department (HWD) to address the requirements of the United States Environmental Protection Agency (EPA) 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 PERMIT. This SWPPP is outlined as follows:

1. *Pollution Prevention Team*
2. *Description of Facility*
3. *Identification of Stormwater Controls*
4. *Management Practices*
5. *Site Inspections*

1.0 POLLUTION PREVENTION TEAM

The Town of Bridgewater HWD has assigned a Pollution Prevention Team (PPT) for this SWPPP. PPT team members and contact information are summarized below. The role of the PPT is to develop, implement, maintain, and revise as necessary, this SWPPP. The PPT also has the following responsibilities:

Name:	**Jennifer Burke**	Title:	**Director**	Department	**Community and Economic Development**
Phone:	**508.697.0950**	Email:	**JBurke@bridgewaterma.org**		
Responsibilities: **MS4 Coordinator, IDDE Program, Good Housekeeping, Reporting & Record Keeping**					

Name:	**Azu Etoniru**	Title:	**Town Engineer**	Department:	**Department of Public Works**
Phone:	**508.697.0906**	Email:	**AEtoniru@bridgewaterma.org**		
Responsibilities: **MS4 Co-Coordinator IDDE Program, Good Housekeeping, SWPPP Training, Reporting & Record Keeping**					

Name:	**Phil Paradis, PE**	Title:	**Project Manager**	Company	**BETA Group**
Phone:	**781-255-7980**	Email:	**PParadis@beta-inc.com**		
Responsibilities: **MS4 Consultant to the Town**					

2.0 DESCRIPTION OF FACILITY

2.1 FACILITY SUMMARY

The Town of Bridgewater Transfer Station is located at 1200 Bedford Street in Bridgewater, Massachusetts (the site) and is owned and operated by the Town. Information provided in this, and the following sections is based on observations made during a site visit on March 30, 2020. During the site visit, BETA personnel were escorted by Town of Bridgewater staff who provided a general overview and layout of facility operations, activities performed and material storage information.

The site consists of a rectangular-shaped parcel that includes 4.2 acres of land improved with one building. The transfer station operations and office building are located on the northern portion of the site. The southern portion of the site consists of wooded and wetland areas. Portions of the transfer station are paved. However, the majority of the transfer station area is gravel or earthen surfaced. A small stormwater basin is located on-site, with an outlet pipe discharging to a ditch upstream of the wetlands area. The site is located in an area used primarily for commercial purposes. Commercial properties are located to the west of the site, beyond Bedford Street. Wooded areas are located to the north, east and south of the site. The site's location is depicted on the **Site Map** included in **Appendix A**. Pertinent site details, including layout, location of any stormwater outfalls, receiving waters and structural controls, are depicted on the **Site Map.**

2.2 SITE MAP

The facility consists of approximately 2.7 acres and contains the structures and other features identified above, shown on the **Site Map** and described in detail in the following sections. Components shown on the site map include as applicable:

- Location of the engineered drainage system, including catch basins, ditches, drain manholes, and treatment BMPs
- Outfalls to a receiving water, and the name of the receiving water
- Direction of surface water flow
- Structural stormwater pollution control measures
- Vehicle fueling areas
- Aboveground storage tanks (indoors and outdoors)
- Salt storage areas
- Materials stockpiles
- Waste disposal areas

2.2.1 Inventory of Building

The site includes the following buildings and structures and their use:

Table 2.1 - Inventory of Buildings

No.	Use	Floor Drain
1	Administration Office	☐Y ☒N

2.2.2 Parking Areas

Employee parking is provided near the office (Building 1).

2.2.3 Inventory of Vehicles & Equipment

The Town maintains an inventory of vehicles and heavy equipment. A copy of the inventory is included in **Appendix B**.

2.3 Site Drainage & Receiving Waters

Drainage at the site generally follows surface topography. The on-site building is raised with respect to the remainder of the site and runoff generally flows radially from it. There is a small retention pond located to the east of the site building which collects runoff, which is then conveyed through a subsurface pipe south to a small brook and wetlands area. A berm located along the western portion of the site diverts runoff away from a wetland area beyond it. With most of the site being unpaved and gravel or earthen surfaces, a portion of stormwater is expected to infiltrate the ground. Surface runoff flow direction, drainage structures and features are indicated on the **Site Map**.

Wetlands are located on northwestern and southern portions of the site. An unnamed stream flows to the east of the site. This stream flows in a southerly direction to its confluence with the Sawmill Brook, approximately 2,500 feet southeast of the site. The Sawmill Brook is listed as a Category 3 Surface Water, indicating that not enough information exists to assess water quality impairment relative to designated uses.

2.4 Potential Pollutant Sources

An inventory of activities performed at the site and associated potential stormwater pollutants is provided in **Appendix C**. Locations of activities and potential stormwater pollutants are indicated in on the **Site Map**.

3.0 STORMWATER CONTROLS

Structural stormwater controls including drainage structures, pipes and conveyances; stormwater best management practices (BMPs) and outfall(s) are shown on the **Site Map**. These controls, used and maintained in accordance with good engineering practices, manufacturer's specifications and management practices detailed in **Section 4.0** below, address the quality of discharges from the site.

4.0 MANAGEMENT PRACTICES

The following sections summarize the management practices (non-structural stormwater controls) to be implemented at the site to mitigate the potential for potential pollutants to impact stormwater.

4.1 MINIMIZE OR PREVENT EXPOSURE

To the extent practicable, either locate materials and activities inside or protect them with storm-resistant coverings in order to prevent exposure to rain, snow, snowmelt and runoff (although significant enlargement of impervious surface area is not recommended). Materials do not need to be enclosed or covered if stormwater runoff from affected areas will not be discharged directly or indirectly to surface waters or to the MS4 or if discharges are authorized under another NPDES permit.

4.2 GOOD HOUSEKEEPING

All exposed areas that are potential sources of pollutants, shall be kept clean using such measures as sweeping at regular intervals. Ensure that trash containers are closed when not in use, keep storage areas well swept and free from leaking or damaged containers; and store leaking vehicles needing repair indoors.

Sweeping and Cleaning of Parking Lots

Vehicle surfaces can collect a variety of contaminants such as sediments, oil, grease, and metals during daily activities. The MS4 permit requires that parking lots are swept, and surrounding areas of the facility are kept clean to reduce runoff of pollutants.

Parking lot sweeping and cleaning follows the same schedule as street sweeping, at least twice per year in Spring and Fall, with additional sweeping as need for specific sites.

Waste Management

All liquid and solid waste must be disposed of properly. Some of the most common sources of pollution at municipal facilities are a result of littering, improper collection of debris, and improper disposal of solid or liquid waste. Best management practices for handling, storage, transfer and disposal of trash and recyclables include the following:

- All waste and recycling receptacles must be leak-tight with tight-fitting lids or covers.
- Keep lids on dumpsters and containers closed at all times unless adding or removing material. If using an open-top roll-off dumpster, cover it and tie it down with a tarp unless adding materials.
- Place waste or recycling receptacles indoors or under a roof or overhang whenever possible.
- Locate dumpsters on a flat, paved surface and install berms or curbs around the storage area to prevent run-on and run-off.
- Do not locate dumpsters over or adjacent to catch basins.
- Prior to transporting waste, trash, or recycling, ensure that containers are not leaking (double bag if needed) and properly secure containers to the vehicle.
- Clean up any liquid leaks or spills with dry cleanup methods.

- Arrange for waste or recycling to be picked up regularly and disposed of at approved disposal facilities.
- Never place hazardous materials, liquids, or liquid-containing wastes in a dumpster or recycling or trash container.
- Do not wash trash or recycling containers outdoors or in parking lots.
- Conduct periodic inspections of solid and liquid waste storage areas to check for leaks and spills.
- Conduct periodic inspections of work areas to ensure that all wastes are being disposed of properly.
- In dumpster areas, regularly pick up surrounding trash and debris and regularly sweep the area.
- In compactor areas, regularly check the hydraulic fluid hoses and reservoir to ensure that there are no cracks or leaks. Regularly sweep the area.

4.3 Preventative Maintenance

All equipment and systems shall be regularly inspected, tested, maintained, and repaired to avoid situations that may result in leaks, spills, and other releases of pollutants to stormwater and receiving waters. Inspections shall occur at a minimum once per quarter.

Use Storage and Disposal of Potential Pollutants

Potential pollutants or hazardous wastes that may be used and stored in or around municipal building and facilities include pesticides, paints, cleaners, petroleum products, fertilizers, and solvents. Careful handling and proper storage of these products are the best means of preventing spills and pollution to the environment. Best management practices include the following:

- Storage and handling areas should be covered or enclosed to reduce potential contact with stormwater and wind.
- Potential pollutants should be transported using approved methods and containers to minimize the chance of spillage, and by employees that have familiarity with the potential environmental and human health hazards of the products.
- Proper spill kits applicable to the products being used at each specific building or facility should be easily accessible and marked clearly so employees can follow procedures quickly and effectively. Leaks or spills should be cleaned up in a timely manner.
- Establish separate storage areas for these types of products with measures in place to contain any spill leaking out of the storage area.
- A designated person should be responsible for these areas.
- The storage area should be inspected frequently, kept clean and in good order with proper labels and signs, and consistent disposal practices.
- Floor drains in storage areas should be disconnected from the stormwater system.
- Routinely inspect buildings and facilities for areas of potential leaks.

- Paint and other chemicals should not be applied on the outside of buildings when it is raining or prior to expected rain.
- When sanding, painting, power washing, etc., ensure that sites are properly prepared (e.g., use tarps) and cleaned (e.g., use dry cleaning methods) especially if they are near storm drains. Protect catch basins when maintenance work is conducted upgradient of them.
- When painting, use a drop cloth and clean up any spills immediately.
- Do not leave open containers on the ground where they may accidentally tip over.
- Do not discharge chlorinated pool water into the stormwater system. Water must be properly dechlorinated and tested before it is discharged.
- Ensure that the washwater does not flow into the storm system. Containment or filtering systems should be provided.

4.4 Spill Prevention and Response

The permittee shall minimize the potential for leaks, spills, and other releases that may be exposed to stormwater and develop plans for effective response to such spills if or when they occur. At a minimum, the permittee shall have procedures that include:

- Preventive measures such as barriers between material storage and traffic areas, secondary containment provisions, and procedures for material storage and handling.
- Response procedures that include notification of appropriate facility personnel, emergency agencies, and regulatory agencies, and procedures for stopping, containing, and cleaning up leaks, spills and other releases. Measures for cleaning up hazardous material spills or leaks shall be consistent with applicable Resource Conservation and Recovery Act (RCRA) regulations at 40 CFR section 264 and 40 CFR section 265. Employees who may cause, detect, or respond to a spill or leak shall be trained in these procedures and have necessary spill response equipment available. If possible, one of these individuals should be a member of the Pollution Prevention Team; and
- Contact information for individuals and agencies that shall be notified in the event of a leak, spill, or other release. Where a leak, spill, or other release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under 40 CFR section 110, 40 CFR section 117, or 40 CFR section 302, occurs during a 24-hour period, the permittee shall notify the National Response Center (NRC) at (800) 424-8802 in accordance with the requirements of 40 CFR section 110, 40 CFR section 117, and 40 CFR section 302 as soon as the permittee has knowledge of the discharge. State or local requirements may necessitate reporting spills or discharges to local emergency, public health or drinking water supply agencies, and owners of public drinking water supplies. Contact information shall be in locations that are readily accessible and available.

Spill Prevention Plans

The Town has spill kits and prevention and control plans in place for all buildings and facilities where hazardous wastes are stored or used. These are coordinated with the fire department as necessary.

Per the Massachusetts Clean Water Toolkit Fact Sheet for Spill Prevention and Control Plans, it is recommended that Spill Prevention and Control Plans (SPCP) clearly state measures to stop the source of

a spill, contain the spill, clean up the spill, dispose of contaminated materials, and train personnel to prevent and control future spills. The SPCP should define material handling procedures and storage requirements and outline actions necessary to reduce spill potential and impacts on stormwater quality. The plan can be a procedural handbook, or a poster placed in several locations at the site.

4.5 Erosion and Sediment Control

Structural and non-structural control measures shall be used at the facility to stabilize and contain runoff from exposed areas and to minimize or eliminate onsite erosion and sedimentation. Efforts to achieve this may include the use of flow velocity dissipation devices at discharge locations and within outfall channels where necessary to reduce erosion.

Erosion Control

Site maintenance activities include erosion control, specifically with respect to poor vegetation cover and particularly within 50 feet of surface water. Best management practices include the following:

- Prevention of erosion and sedimentation is preferable to installing treatments devices.
- Protect vegetated and wooded buffers and leave vegetated areas undisturbed to the extent possible.
- Inspect sites regularly for locations of poor vegetation cover, erosion and sedimentation and channelization. If stabilization is required, corrective actions should be identified and implemented as soon as possible.
- If exposed, soils should be stabilized by mulching, seeding with fast-growing native grass and/or planted with native tree and shrubs. Use erosion control blankets when seeding slopes.
- If necessary, slow stormwater runoff velocities with conveyance measures such as riprap channels or vegetated swales, check dams, level spreaders and outlet protection, etc.
- A buffer/filter strip should be left around surface waters. No fertilizers or pesticides should be applied in the buffer/filter strip except where necessary.

4.6 Management of Runoff

The permittee shall manage stormwater runoff from the facility to prevent or reduce the discharge of pollutants. This may include management practices which divert runoff from areas that are potential sources of pollutants, contain runoff in such areas, or reuse, infiltrate or treat stormwater to reduce the discharge of pollutants.

Stormwater Management BMP Maintenance

Stormwater BMPs for this facility (excluding catch basins) are to be inspected quarterly and maintained as necessary to provide optimum treatment of stormwater runoff. The Town will keep a log of stormwater management structures inspected and report on the condition and maintenance performed. An inventory and inspection checklist and forms for BMPs is provided in **Appendix D.**

The following are maintenance activities and procedures for each type of BMP on the site based on the Massachusetts Stormwater Handbook:

Conveyance BMPs

WATER QUALITY BERM

Water quality berms are raised beds that are used to direct runoff. Inspection and maintenance should be conducted annually and include the following:

- Inspection – make sure vegetation is adequate and slopes are not eroding, check for rilling and gullying, ponding and sedimentation
- Manually remove sediment and debris
- Mow berm depending on vegetation type – if grass, now when height reaches 6 inches but do not cut shorter than 3 inches
- Repair eroded areas and re-vegetate if needed
- Re-seed as necessary

Infiltration BMPs

INFILTRATION BASIN

Infiltration basins are stormwater runoff impoundments that are constructed over permeable soils. Infiltration basins are prone to clogging and failure so pretreatment BMPs are typically included to reduce maintenance requirements for the basin itself. Runoff is stored until it exfiltrates through the soil of the basin floor. Inspection and maintenance should be conducted annually and include the following:

- Inspection to ensure proper functioning – look for signs of settlement, erosion, tree growth on embankments, condition of riprap and turf, ponding and sedimentation
- Preventative maintenance
- Mow the buffer area, side slopes, and basin bottom if grassed floor, rake if stone bottom
- Remove trash and debris, remove grass clippings and accumulated organic matter
- Remove sediment as necessary – use light equipment and caution so as not to compact underlying soils
- Inspect and clean pretreatment devices associated with the basin

Other BMPs

STONE CHIP OR GRAVEL DRIVEWAYS AND PARKING AREAS

Stone chip or gravel surfaces allows parking lot, driveway and/or roadway runoff to infiltrate directly into the soil. They need to be designed and constructed with a base similar to a traditional road in order to prevent ponding of water and washout. Inspection should be conducted annually, and maintenance as needed including the following:

- Inspect the surface annually for deterioration and assess exfiltration capacity- monitor after a storm to ensure the surface drains properly without ponding
- Remove debris (leaves, sticks, weeds, etc.) on a weekly basis
- Regrade surface for proper drainage and add new stone/gravel where necessary to fill holes and ruts

- Apply a fresh layer of gravel to the surface every 1-2 years

Additional guidance for Structural BMP operations and maintenance can be found in the latest version of the Massachusetts Department of Environmental Protection Stormwater Handbook, Volume 2, Chapter 2, located at: http://www.mass.gov/eea/docs/dep/water/laws/i-thru-z/v2c2.pdf

4.7 Salt Storage Piles or Piles Containing Salt

For storage piles of salt or piles containing salt used for deicing or other purposes (including maintenance of paved surfaces) for which the discharge during precipitation events discharges to the permittee's MS4, any other storm sewer system, or to a Water of the US, the permittee shall prevent exposure of the storage pile to precipitation by enclosing or covering the storage piles. As of July 1, 2020, such piles shall be enclosed or covered. The permittee shall implement appropriate measures (e.g., good housekeeping, diversions, containment) to minimize exposure resulting from adding to or removing materials from the pile. The permittee is encouraged to store piles in such a manner as not to impact surface water resources, ground water resources, recharge areas, and wells.

4.8 Employee Training

The permittee shall regularly train employees who work in areas where materials or activities are exposed to stormwater, or who are responsible for implementing activities identified in the SWPPP (e.g., inspectors, maintenance personnel), including all members of the Pollution Prevention Team. Training shall cover both the specific components and scope of the SWPPP, and the control measures required under this part, including spill response, good housekeeping, material management practices, any best management practice operation and maintenance, etc. EPA recommends annual training.

The permittee shall document the following information for each training:

- The training date, title and training duration
- List of municipal attendees
- Subjects covered during training

4.9 Maintenance of Control Measures

The permittee shall maintain all control measures, required by the permit in effective operating condition. The permittee shall keep documentation onsite that describes procedures and a regular schedule for preventative maintenance of all control measures and discussions of back-up practices in place should a runoff event occur while a control measure is off-line. Nonstructural control measures shall also be diligently maintained (e.g., spill response supplies available, personnel trained).

5.0 SITE INSPECTIONS

Inspect all areas that are exposed to stormwater and all stormwater control measures. Inspections shall be conducted at least once each calendar quarter (winter, spring, summer and fall). The quarters begin on January 1, April 1, July 1 and October 1. More frequent inspections may be required if significant activities are exposed to stormwater. Inspections shall be performed when the facility is in operation. At least one of the quarterly inspections shall occur during a period when a stormwater discharge is occurring.

The permittee shall document the following information for each facility inspection:

- The inspection date and time
- The name of the inspector
- Weather information and a description of any discharge occurring at the time of the inspection
- Identification of any previously unidentified discharges from the site
- Any control measures needing maintenance or repair
- Any failed control measures that need replacement
- Any SWPPP changes required as a result of the inspection

If during the inspections, or any other time, the permittee identifies control measures that need repair or are not operating effectively, the permittee shall repair or replace them before the next anticipated storm event if possible, or as soon as practicable following that storm event. In the interim, the permittee shall have back-up measures in place.

A SWPPP inspection form is provided in **Appendix D**. The permittee shall report the findings from the Site Inspections in the annual report.

6.0 RECOMMENDATIONS

Based on BETA's March 30, 2020 site visit, we are providing the following recommendations to attain or maintain compliance with the MS4 permit requirements.

1. During our site visit we observed debris and litter outside of containers and in uncovered areas throughout the site. All solid waste stored at the site should be stored in leak-proof containers with covers. We recommend routine inspections and regular site clean-ups to ensure that all waste is managed properly. Please refer to **Section 4.2**-Good Housekeeping of this plan and ensure that these guidelines are followed during operations at the site.
2. Existing stormwater control structures at the site, such as the berm and retention pond should be inspected and maintained routinely to maintain their effectiveness. Refer to **Section 4.6** for appropriate BMPs.

APPENDIX A – Site Map

Map 1 of 1

Transfer Station

1200 Bedford Street

Town of Bridgewater, MA SWPPP Map

Wetlands

Solid Waste Management

Stormwater Basin

Outlet to Drainage Swale to Wetlands Area

Approximate Extent of Transfer Station Operations

Berm

Solid Waste Management

Building 1 Office/Covered Drive

Solid Waste Management

Solid Waste Management

Wetlands

BEDFORD STREET

Stormwater Legend

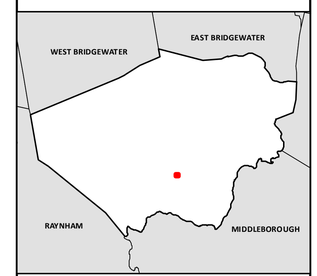
- BMP
- Pipe
- Surface Water Flow Direction

N

0 20 40 Feet

Plot Date: 6/29/2020

Map Location



BETA

APPENDIX B – Vehicle Inventory

APPENDIX B
VEHICLE INVENTORY
DEPARTMENT OF PUBLIC WORKS - TOWN TRANSFER STATION
1200 BEDFORD STREET
BRIDGEWATER, MASSACHUSETTS

DPW VEHICLE LIST

Vehicle ID	Year	Make	Model	Registration	VIN
2-1	2014	FORD	F250 PICKUP	M64924	1FT7X2B66EEA04586
2-2	2019	FORD	F450 - CHIP TRUCK	M3488A	1FD0X4HT6KEC37224
2-8	1989	INTERNATIONAL	CATCH BASIN TRUCK	M87207	1HTDTVR6KH629098
2-9	2012	FORD	F250 PICKUP	M64925	1FT7X2B69CEC69578
2-10	2018	FORD	F550	M2228A	1FDOX5HT6JEB74954
2-11	2001	FORD	TRUCK	M74781	1FDWF37FX1EB31215
2-12	2015	FORD	F550 DUMP TRUCK	M90968	1FDUF5HT4FED58785
2-13	2001	FORD	TRUCK	M65898	1FDXF47F51EB31214
2-14	2016	FORD	F550	M96816	1FDUF5HT0GEB87812
2-15	2019	FORD	F550 SWITCH & GO	M4580A	1FDUF5HT8KEF72754
2-16	2020	FREIGHTLINER	10 WHEEL DUMP	M6215A	1FVHG3DV8LHLX3819
2-17	2018	FREIGHTLINER	10 WHEEL DUMP	M3604A	1FVHG3DV2JHJW4766
2-18	1990	INTERNATIONAL	TRUCK	M73608	1HSHANGNXLH299881
2-19	2015	FREIGHTLINER	114SD	M93179	1FVAG3CY4FHGF6783
2-20	2006	INTERNATIONAL	TRUCK	M95458	1HTMMAAN26H286405
2-21	2012	FORD	E350	M1066A	1FDSE3FL1CDB36675
2-24	1998	INTERNATIONAL	TRUCK	M60223	1HTSDAARWH586143
2-25	2006	INTERNATIONAL	TRUCK	M1054A	1HTMMAAN96H286403
2-26	2001	INTERNATIONAL	TRUCK	M87210	1HTSDAAR81H376418
2-27	2001	INTERNATIONAL	TRUCK	M70296	1HTSDAAR61H376417
2-28	2006	INTERNATIONAL	DUMP TRUCK	M73615	1HTWDAARX6J297771
2-29	2006	INTERNATIONAL	DUMP TRUCK	M73616	1HTWDAAR16J297772
BACKHOE	1998	JOHN DEERE	BACKHOE TRACTOR	M49963	T0410EX838798
BOBCAT	1998	BOBCAT	LOADER	M65818	512229567
BOMBADIER	1988	BOMBARDIER	SIDEWALK PLOW	M44172	1881049
FORESTCHIP	2013	BANDIT	CHIPPER	M85893	4FMUS1518DR001456
FORKLIFT			FORKLIFT		
Vehicle ID	**Year**	**Make**	**Model**	**Registration**	**VIN**
HOLDER	2007	HOLDER	TRACTOR	M93669	52410568
HWYCHIP	1999	BANDIT	CHIPPER	M63400	14976
MOWER	2018	JOHN DEERE	ROADSIDE MOWER	M3835A	1LV5090MAJJ400681
SW PLOW	2019	PRINOTH	SW4S	M4762A	900200775
MINI EXCAV	2019	JOHN DEERE	EXCAVATOR		1FF050GXVJH289227
LOADER	2006	JOHN DEERE	LOADER	M53154	DW624JZ602413
SCREENALL	1987	READ	SCREEN ALL	M45187	40313387
SPRAYER	1982	FMC	SPRAYER	M29974	A256890
SWEEP	2017	FREIGHTLINER	M2106 - ELGIN SWEEPER	M97255	1FVACXDT1HHH7740
TRACKLESS	2006	TRACKLESS	TRACTOR	M73384	MT5T3290
COMPRESSOR	2008	ATLAND COPCO	AIR COMPRESSOR	M77100	4500A10168R030497
TRAILER	2019	CAM SUPERLINE	EXCAVATOR TRAILER	M3680A	5JWCF1920KP501979
TRAILER	2010	CARMATE	SMALL EMERGENCY RESPONSE	M84528	5A3C612S9AL001347
TRAILER	2011	VHA/PAMU	HOMELAND SECURITY	M87205	53PAB1628BP211112
TRAILER	2012	DOWNEASTER	PAINT TRAILER	M86799	5RSLU1215CT000093
TRAILER	2015	DOWNEASTER	MOWING TRAILER	M93670	5RSLU1628FT000449
TRAILER	2017	CARRY-ON	LEAF VAC TRAILER	M99407	4YMBU0615HV061353

APPENDIX C –Summary of Site Activities and Potential Stormwater Pollutants

APPENDIX C: Summary of Site Activities and Potential Stormwater Pollutants

Activity	Description	Building Reference	Material Inventory	Potential Stormwater Pollutants	Quantity	Potential Exposure to Stormwater	Management Practices	
							Structural	Non-structural
Solid Waste Management	Dumpsters for solid waste transfer and disposal	Site-wide	Solid waste (bulky and household waste, electronics recycling, etc.	Debris, metals	Varies	**High** - some debris stored outside on ground and debris/litter exposed to stormwater	Container storage	Solid waste removal Good housekeeping practices
Administration	Transfer Station Office	1	Miscellaneous equipment and supplies	Paints, cleaning supplies, etc.	Varies	**Low** - stored in covered areas	Covered storage	Good housekeeping practices

APPENDIX D – SWPPP Inspection Form

Report No. _____

STORMWATER POLLUTION PREVENTION PLAN (SWPPP) INSPECTION FORM

Location:	Transfer Station: 1200 Bedford Street	Date:		Last Insp:	
		Arrive:		Leave:	
Inspector:					
Recent Rainfall:		Current Weather:			
Unidentified Discharges? Spills?					
Add. Info:					

CONTROL MEASURES/ACTION REQUIRED: ☐ YES ☐ NO

(INSPECT FOR ALL APPLICABLE CONTROLS LISTED)

Control	Condition	Required Action	Completed (by)	Date
☐ Fuel Dispensing Area BMPs			☐	
☐ Vehicle Washing Area BMPs			☐	
☐ Vehicle Repair Indoors			☐	
☐ Pavement Sweeping			☐	
☐ Trash Management			☐	
☐ Spill Prevention & Response			☐	
☐ Erosion & Sediment Controls			☐	
☐ Manage Runoff			☐	
☐ Salt Storage Area			☐	
☐ Stormwater Basin			☐	
☐ Other			☐	

FAILED CONTROL MEASURES REQUIRE REPLACEMENT: ☐ YES ☐ NO

Control	Condition	Required Action	Completed (by)	Date
☐			☐	

SWPPP CHANGES: ☐ YES ☐ NO

Control	Change	Completed (by)	Date
☐		☐	

MANAGEMENT PRACTICES

1. **Minimize or Prevent Exposure:** To the extent practicable either locate materials and activities inside, or protect them with storm-resistant coverings in order to prevent exposure to rain, snow, snowmelt and runoff (although significant enlargement of impervious surface area is not recommended). Materials do not need to be enclosed or covered if stormwater runoff from affected areas will not be discharged directly or indirectly to surface waters or to the MS4 or if discharges are authorized under another NPDES permit.
2. **Good Housekeeping:** Keep clean all exposed areas that are potential sources of pollutants, using such measures as sweeping at regular intervals. Ensure that trash containers are closed when not in use, keep storage areas well swept and free from leaking or damaged containers; and store leaking vehicles needing repair indoors.
3. **Preventative Maintenance:** Regularly inspect, test, maintain, and repair all equipment and systems to avoid situations that may result in leaks, spills, and other releases of pollutants in stormwater to receiving waters. Inspections shall occur at a minimum once per quarter.
4. **Spill Prevention and Response:** Minimize the potential for leaks, spills, and other releases that may be exposed to stormwater and develop plans for effective response to such spills if or when they occur. At a minimum, the permittee shall have procedures that include:
    a. Preventive measures such as barriers between material storage and traffic areas, secondary containment provisions, and procedures for material storage and handling.
    b. Response procedures that include notification of appropriate facility personnel, emergency agencies, and regulatory agencies, and procedures for stopping, containing, and cleaning up leaks, spills and other releases. Measures for cleaning up hazardous material spills or leaks shall be consistent with applicable Resource Conservation and Recovery Act (RCRA) regulations at 40 CFR section 264 and 40 CFR section 265. Employees who may cause, detect, or respond to a spill or leak shall be trained in these procedures and have necessary spill response equipment available. If possible, one of these individuals should be a member of the Pollution Prevention Team; and
    c. Contact information for individuals and agencies that shall be notified in the event of a leak, spill, or other release. Where a leak, spill, or other release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under 40 CFR section 110, 40 CFR section 117, or 40 CFR section 302, occurs during a 24-hour period, the permittee shall notify the National Response Center (NRC) at (800) 424-8802 in accordance with the requirements of 40 CFR section 110, 40 CFR section 117, and 40 CFR section 302 as soon as the permittee has knowledge of the discharge. State or local requirements may necessitate reporting spills or discharges to local emergency, public health or drinking water supply agencies, and owners of public drinking water supplies. Contact information shall be in locations that are readily accessible and available.
5. **Erosion and Sediment Control:** Use structural and non-structural control measures at the facility to stabilize and contain runoff from exposed areas and to minimize or eliminate onsite erosion and sedimentation.
6. **Management of Runoff:** Manage stormwater runoff from the facility to prevent or reduce the discharge of pollutants. This may include management practices which divert runoff from areas that are potential sources of pollutants, contain runoff in such areas, or reuse, infiltrate or treat stormwater to reduce the discharge of pollutants.
7. **Salt Storage Piles or Piles Containing Salt:** Prevent exposure of the storage pile to precipitation by enclosing or covering the storage piles. Such piles shall be enclosed or covered within two (2) years of the permit effective date. Implement appropriate measures (e.g., good housekeeping, diversions, containment) to minimize exposure resulting from adding to or removing materials from the pile. Store piles in such a manner as not to impact surface water resources, ground water resources, recharge areas, and wells.