

TOWN OF VESTAL



STORMWATER MANAGEMENT PROGRAM PLAN (SWMP)

2-22-2011

Revision #1, 9-15-14



Town of Vestal

STORMWATER MANAGEMENT PROGRAM

To report stormwater related violations contact:

Stormwater Management Officer:

Gary Campo, P.E.
Town Engineer
133 Front Street, Vestal, NY 13850
607-786-0980 ext 209
607-786-0984 – fax
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1. **Pollutants of Concern:** sediments and nutrients
2. **Number of Stormwater Outfalls:** 180 with Visual Inspections every 5 years or less
3. **Municipal Facilities Affected by the SWMP:**
Water Shop, Parks Shop, Highway Garage, 4 Fire Stations, Town Hall Building, Records Building, Library, Museum
4. **Stormwater Pollution Prevention Plan (SWPPP) Review:**
Gary Campo, P.E.
5. **Stormwater Pollution Prevention Plan (SWPPP) Review:**
Gary Campo, P.E.
6. **Municipal Construction Site Inspection:**
Engineering Department
7. **Post Construction Stormwater Management Practices Inspection:**
Engineering Department

TOWN OF VESTAL STORMWATER MANAGEMENT PROGRAM PLAN

INTRODUCTION

The Town of Vestal's Stormwater Management Program (SWMP) Plan was developed to comply with the New York State Department of Environmental Conservation (NYSDEC) State Pollution Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Municipal Separate Storm Sewer Systems (MS4s) (Current Permit No. GP-0-10-002 dated 5/1/2010).

Town of Vestal is a member of the Broome Tioga Stormwater Coalition.

The SWMP Plan is based on the most current NYSDEC SPDES General Permit (GP-0-10-002) issued under the Federal Stormwater Phase II rule (issued in 1999) which requires MS4 owners and operators, to develop a SWMP Plan. There are six program elements designed to reduce the discharge of pollutants to the maximum extent practicable. The program elements, titled Minimum Control Measures, include:

1. Public Education and Outreach
2. Public Involvement / Participation
3. Illicit Discharge Detection and Elimination
4. Construction Site Runoff Control
5. Post-Construction Stormwater Management
6. Pollution Prevention / Good Housekeeping for Municipal Operations.

Each Minimum Control Measure, the Measurable Goals and the Best Management Practices that have been implemented to maintain compliance with GP-0-10-002 are described in this SWMP Plan. For each Measurable Goal, responsibilities to achieve and sustain compliance are clearly defined. Portions of the work necessary are provided through the collective efforts of the BTSC members. The remaining work is the responsibility of Town of Vestal's designated Stormwater Management Officer or other designated Department or person.

Certain components of this program have been codified into local law. Refer to the Local Law for Stormwater Management and Erosion and Sediment Control and the Local Law to Prohibit Illicit Discharges, Activities and Connections to Separate Storm Sewer Systems. These laws were adopted by Town of Vestal in 2007.

This SWMP Plan will be updated on periodic basis in order to take into consideration the latest technologies and information to maintain compliance with changes in the NYSDEC General Permit.

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GENERAL DEFINITIONS AND REQUIREMENTS

Best Management Practice (BMP) - means scheduled activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the state. BMPs also include treatment requirements (if determined necessary by the covered entity), operating procedures, and practices to control runoff, spillage and leaks, sludge or waste disposal, or drainage from areas that could contribute pollutants to stormwater discharges. BMP is referred to in EPA's fact sheets and other materials. BMPs are also referred to as "activities" or "management practices" throughout this SPDES general permit.

Better Site Design (BSD) - Better Site Design incorporates non-structural and natural approaches to new and redevelopment projects to reduce impacts on watersheds by conserving natural areas, reducing impervious cover and better integrating stormwater treatment. Better site design is a form of Green Infrastructure and is similar to Low Impact Development (LID). See also Green Infrastructure and Low Impact Development.

Clean Water Act - Amendments incorporated into the Federal Water Pollution Control Act in 1972 to establish water quality standards and to create the National Pollutant Discharge Elimination System to protect the waters of the U. S. by regulating the discharge of pollutants from point source discharges and municipal separate storm sewer systems.

Combined Sewer System – A sewer system designed to convey both sanitary wastewater and stormwater.

Detention Pond – Pond that stores a volume of water for a given period of time and then discharges to downstream waters.

Discharge(s) - any addition of any pollutant to waters of the State through an outlet or point source.

Ecosystem – all of the plants and animals in an area that interact to make up the local environment.

Erosion – the overall process of the transport of material on the earth's surface including the movement of soil and rock by agents such as water, wind, or gravity.

Green Infrastructure - Green infrastructure approaches essentially infiltrate, evapotranspire or reuse stormwater, with significant utilization of soils and vegetation rather than traditional hardscape collection, conveyance and storage structures. Common green infrastructure approaches include green roofs, trees and tree boxes, rain gardens, vegetated swales, pocket wetlands, infiltration planters, vegetated median strips, reforestation, and protection and enhancement of riparian buffers and floodplains. See also Low Impact Development and Better Site Design.

Groundwater - means waters in the saturated zone. The saturated zone is a subsurface zone in which all the interstices are filled with water under pressure greater than that of the atmosphere. Although the zone may contain gas-filled interstices or interstices filled with fluids other than water, it is still considered saturated.

Heavy Metals - Metals such as zinc, copper, lead, mercury, chromium, cadmium, iron, manganese, nickel, molybdenum and silver that, even in low concentrations can be toxic or lethal to humans, animals and aquatic life.

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Illicit Discharges - discharges not entirely composed of stormwater into the small MS4, except those identified in Part I.A.2. Examples of illicit discharges are non-permitted sanitary sewage, garage drain effluent, and waste motor oil. However, an illicit discharge could be any other non-permitted discharge which the covered entity or Department has determined to be a substantial contributor of pollutants to the small MS4.

Industrial Waste - Unwanted materials from an industrial operation. It may be liquid, sludge, solid, or hazardous waste.

Large Municipal Separate Storm Sewer System (Large MS4) – all municipal separate storm sewers that are located in an incorporated place with a population of 250,000 or more according to the latest Census.

Low Impact Development - is a site design strategy with a goal of maintaining or replicating the predevelopment hydrologic regime through the use of design techniques to create a functionally equivalent hydrologic landscape. Hydrologic functions of storage, infiltration, and ground water recharge, as well as the volume and frequency of discharges are maintained through the use of integrated and distributed micro scale stormwater retention and detention areas, reduction of impervious surfaces, and the lengthening of flow paths and runoff time. Other strategies include the preservation/protection of environmentally sensitive site features such as riparian buffers, wetlands, steep slopes, valuable (mature) trees, flood plains, woodlands and highly permeable soils. LID principles are based on controlling stormwater at the source by the use of micro scale controls that are distributed throughout the site. This is unlike conventional approaches that typically convey and manage runoff in large facilities located at the base of drainage areas. See also Green Infrastructure and Better Site Design.

Maximum Extent Practicable (MEP) – is a technology-based standard established by Congress in the Clean Water Act '402(p)(3)(B)(iii). Since no precise definition of MEP exists, it allows for maximum flexibility on the part of MS4 operators as they develop their programs. (40CFR 122.2 See also: Stormwater Phase II Compliance Assistance Guide EPA 833-R-00-002, March 2000). When trying to reduce pollutants to the MEP, there must be a serious attempt to comply, and practical solutions may not be lightly rejected. If a covered entity chooses only a few of the least expensive methods, it is likely that MEP has not been met. On the other hand, if a covered entity employs all applicable BMPs except those where it can be shown that they are not technically feasible in the locality, or whose cost would exceed any benefit to be derived, it would have met the standard. MEP required covered entities to choose effective BMPs, and to reject applicable BMPs only where other effective BMPs will serve the same purpose, the BMPs would not be technically feasible, or the cost would be prohibitive.

Measurable Goals - are the goals of the SWMP that should reflect the needs and characteristics of the covered entity and the areas served by its small MS4. Furthermore, the goals should be chosen using an integrated approach that fully addresses the requirements and intent of the MCM. The assumption is that the program schedules would be created over a 5 year period and goals would be integrated into that time frame. For example, a larger MS4 could do an outfall reconnaissance inventory for 20% of the collection system every year so that every outfall is inspected once within the permit cycle.

Medium Municipal Separate Storm Sewer System (Medium MS4) – all municipal separate storm sewers that are located in an incorporated place with a population of more than 100,000 but less than 250,000.

Minimum Control Measures (MCMs) – six program elements designed to reduce the discharge of pollutants to the maximum extent practicable.

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Municipal Separate Storm Sewer System (MS4) - a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):

1. owned or operated by a State, city, town, village, 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 surface waters of the State;
2. designed or used for collecting or conveying stormwater;
3. which is not a combined sewer; and
4. which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

National Pollutant Discharge Elimination System (NPDES) – means the national system for the issuance of wastewater and stormwater permits under the Federal Water Pollution Control Act (Clean Water Act).

Non-Point Source Pollutants (NPS) – pollution coming from many diffuse sources whose origin is often difficult to identify. This pollution occurs as rain or snowmelt travels over the land surface and mobilizes pollutants such as fertilizer, pesticides, and chemicals from cars. This pollution is difficult to regulate due to its origin from many different sources. These pollutants enter waterways untreated and are a major threat to aquatic organisms and people who fish or use waterways for recreational purposes.

Notice of Intent (NOI) - An application to notify the permitting authority of a facility's intention to be covered by a general permit. This exempts a facility from having to submit an individual or group application.

Nutrients - The term typically refers to nitrogen and phosphorus or compounds containing free amounts of the two elements. These elements are essential for the growth of plant life, but can create problems in the form of algal blooms, depletion of dissolved oxygen and pH changes in streams and other water bodies when higher concentrations are allowed to enter drainage systems and lakes.

Operator - the person, persons or legal entity that is responsible for the small MS4, as indicated by signing the NOI to gain coverage for the MS4 under this SPDES general permit.

Ordinance - A law based on state statutory authority developed and approved by a governmental agency to allow them to regulate the enforcement of criteria contained within the specific law and to invoke sanctions and other enforcement measures to ensure compliance with the criteria.

Outfall – is defined as any point where a municipally owned and operated separate storm sewer system discharges to either surface waters of the State or to another MS4. Outfalls include discharges from pipes, ditches, swales, and other points of concentrated flow. However, areas of non-concentrated (sheet) flow which drain to surface waters of the State or to another MS4's system are not considered outfalls and should not be identified as such on the system map.

Point Source Pollution – pollution coming from a single, definable source, such as a factory.

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Pollutants of Concern (POC) - there are POCs that are primary (comprise the majority) sources of stormwater pollutants and others that are secondary (less likely).

. The POCs that are primarily of concern are: nitrogen, phosphorus, silt and sediment, pathogens, flow, and floatables impacting impaired waterbodies listed on the Priority Waterbody List known to come in contact with stormwater that could be discharged to that water body.

. The POCs that are secondarily of concern include but are not limited to petroleum hydrocarbons, heavy metals, and polycyclic aromatic hydrocarbons (PAHs), where stormwater or runoff is listed as the source of this impairment.

. The primary and secondary POCs can also impair waters not on the 303(d) list. Thus, it is important for the covered entity to assess known and potential POCs within the area served by their small MS4. This will allow the covered entity to address POCs appropriate to their MS4.

Qualified Professional - means a person that is knowledgeable in the principles and practices of stormwater management and treatment, such as a licensed Professional Engineer, Registered Landscape Architect or other Department endorsed individual(s). Individuals preparing SWPPPs that require the post-construction stormwater management practice component must have an understanding of the principles of hydrology, water quality management practice design, water quantity control design, and, in many cases, the principles of hydraulics in order to prepare a SWPPP that conforms to the Department's technical standard. All components of the SWPPP that involve the practice of engineering, as defined by the NYS Education Law (see Article 145), shall be prepared by, or under the direct supervision of, a professional engineer licensed to practice in the State of New York.

Retention Pond – Pond that stores a volume of water without allowing it to discharge downstream.

Retrofit - means modifying or adding to existing infrastructure for the purpose of reducing pollutant loadings. Examples, some of which may not be effective for all pollutants, include:

1. Better site design approaches such as roof top disconnection, diversion of runoff to infiltration areas, soil de-compaction, riparian buffers, rain gardens, cisterns
2. Rehabilitation of existing storm sewer system by installation of standard stormwater treatment systems (ponds, wetlands, filtering, infiltration) or proprietary practices
3. Stabilize dirt roads (gravel, stone, water bar, check dam, diversion)
4. Conversion of dirt parking lots to pervious pavement, grassed or stone cover
5. Conversion of dry detention ponds to extended detention or wetland treatment systems
6. Retrofit by converting abandoned buildings to stormwater treatment systems
7. Retrofit of abandoned building to open space
8. Retrofit road ditches to enhance open channel design
9. Control the downstream effects of runoff from existing paved surfaces resulting in flooding and erosion in receiving waters
10. Control stream erosion by plunge pool, velocity dissipaters, and flow control devices for discharges from conveyance systems

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11. Upgrade of an existing conveyance system to provide water quality and /or quantity control within the drainage structure

Runoff – any drainage that leaves an area as surface flow.

Sanitary Sewer – an underground pipe system that carries sanitary waste and other wastewater to a treatment plant.

Section 303(d) Listed Waters - Section 303(d) is part of the federal CWA that requires the Department to periodically to prepare a list of all surface waters in the State for which beneficial uses of the water B such as for drinking, recreation, aquatic habitat, and industrial use B are impaired by pollutants. These are water quality-limited estuaries, lakes, and streams that fall short of state surface water quality standards, and are not expected to improve within the next two years. Refer to impaired waters for more information.

Sediment – material derived from the weathering of rock such as sand and soil. This material can be detrimental to aquatic life and habitats if an excessive amount flows into rivers and ponds.

Site Plan – a geographic representation of the layout of buildings and other important features on a tract of land.

Small MS4 - MS4 system within an urbanized area or other areas designated by the State.

SPDES general permit - means a SPDES permit issued pursuant to 6 NYCRR Part 750-1.21 authorizing a category of discharges.

Staff - actual employees of the covered entity or contracted entity.

State Pollutant Discharge Elimination System (SPDES) - means the system established pursuant to Article 17 of the ECL and 6 NYCRR Part 750 for issuance of permits authorizing discharges to the waters of the state.

Storm Drain – any drain which discharges directly into the storm sewer system, usually found along roadways or in parking lots.

Storm Sewer – an underground pipe system that carries runoff from streets and other surfaces.

Storm Sewershed - the catchment area that drains into the storm sewer system based on the surface topography in the area served by the storm sewer. Adjacent catchment areas that drain to adjacent outfalls are not separate storm sewersheds.

Stormwater - means that portion of precipitation that, once having fallen to the ground, is in excess of the evaporative or infiltrative capacity of soils, or the retentive capacity of surface features, which flows or will flow off the land by surface runoff to waters of the state.

Stormwater Management – any measure associated with the planning, maintenance, and regulation of facilities which collect, store, or convey stormwater.

Stormwater Management Program (SWMP) - the program implemented by the covered entity. Covered entities are required at a minimum to develop, implement and enforce a SWMP designed to address POCs and reduce the discharge of pollutants from the small MS4 to the MEP, to protect water quality, and to satisfy the appropriate water quality requirements of the ECL and Clean Water Act. The SWMP must address the MCM described in Part VIII.

The SWMP needs to include measurable goals for each of the BMPs. The measurable goals will help the covered entities assess the status and progress of their program.

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The SWMP should:

1. describe the BMP / measureable goal;
2. identify time lines / schedules and milestones for development and implementation;
3. include quantifiable goals to assess progress over time; and
4. describe how the covered entity will address POCs.

Guidance on developing SWMPs is available from the Department on its website. Examples of successful SWMPs and suggested measurable goals are also provided in EPA's Menu of BMPs available from its website. Note that this information is for guidance purposes only. An MS4 may choose to develop or implement equivalent methods equivalent to those made available by the Department and EPA to demonstrate compliance with the MCMs.

When creating the SWMP, the covered entities should assess activities already being performed that could help meet, or be modified to meet, permit requirements and be included in the SWMP. Covered entities can create their SWMP individually, with a group of other individual covered entities or a coalition of covered entities, or through the work of a third party entity.

Stormwater Management Program (SWMP) Plan- used by the covered entity to document developed, planned and implemented SWMP elements. The SWMP plan must describe how pollutants in stormwater runoff will be controlled. For previously unauthorized small MS4s seeking coverage, information included in the NOI should be obtained from the SWMP plan. The SWMP plan is a separate document from the NOI and should not be submitted with the NOI or any annual reports unless requested.

The SWMP plan should include a detailed written explanation of all management practices, activities and other techniques the covered entity has developed, planned and implemented for their SWMP to address POCs and reduce pollutant discharges from their small MS4 to the MEP. The SWMP plan shall be revised to incorporate any new or modified BMPs or measurable goals.

Covered entities can create their SWMP plan individually, with a group of other individual covered entities or a coalition of covered entities, or through the work of a third party entity.

Documents to include are: applicable local laws, inter-municipal agreements and other legal authorities; staffing and staff development programs and organization charts; program budget; policy, procedures, and materials for each minimum measure; outfall and small MS4 system maps; stormwater management practice selection and measurable goals; operation and maintenance schedules; documentation of public outreach efforts and public comments; submitted construction site SWPPPs and review letters and construction site inspection reports.

The SWMP plan shall be made readily available to the covered entity's staff and to the public and regulators, such as Department and EPA staff. Portions of the SWMP plan, primarily policies and procedures, must be available to the management and staff of a covered entity that will be called upon to use them. For example, the technical standards and associated technical assistance documents and manuals for stormwater controls should be available to code enforcement officers, review engineers and planning boards. The local laws should be readily available to the town board and planning board. An integrated pest management program would have to be available to the parks department and the stormwater outfall and available sewer system mapping and catch basin cleaning schedule would have to be available to the department of public works.

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Stormwater Pollution Prevention Plan (SWPPP) - A plan developed by a facility or entity to comply with the requirements of the NYSDEC General Permit for Construction Activities (GP-0-10-002).

Surface Runoff – the flow of water across the land surface that occurs when the rainfall rate exceeds the ability of the soil to absorb the water. Also occurs on impervious surfaces, such as parking lots, where water cannot infiltrate at all.

Surface Waters of the State - shall be construed to include lakes, bays, sounds, ponds, impounding reservoirs, springs, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Atlantic ocean within the territorial seas of the state of New York and all other bodies of surface water, natural or artificial, inland or coastal, fresh or salt, public or private (except those private waters that do not combine or effect a junction with natural surface or underground waters), which are wholly or partially within or bordering the state or within its jurisdiction. Waters of the state are further defined in 6 NYCRR Parts 800 to 941.

Storm sewers are not waters of the state unless they are classified in 6 NYCRR Parts 800 to 941. Nonetheless, a discharge to a storm sewer shall be regulated as a discharge at the point where the storm sewer discharges to waters of the state. Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the Act and Environmental Conservation Law (other than cooling ponds as defined in 40 CFR 423.11(m)(see section 750 - 1.24) which also meet the criteria of this definition are not waters of the state. This exclusion applies only to manmade bodies of water which neither were originally created in waters of the State (such as a disposal area in wetlands) nor resulted from impoundment of waters of the state.

Total Maximum Daily Load (TMDL) – A TMDL is the sum of the allowable loads of a single pollutant from all contributing point and nonpoint sources. It is a calculation of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards, and an allocation of that amount to the pollutant's sources. A TMDL stipulates waste load allocations for point source discharges, load allocations for nonpoint sources, and a margin of safety.

Traditional Land Use Control MS4s - means a city, town or village with land use control authority.

Traditional Non-land Use Control MS4s - means any county agency without land use control.

Tributary – a stream which drains into another larger body of water.

Urbanized Area (UA) - is a land area comprising one or more places (central place(s)) and the adjacent densely settled surrounding area (urban fringe) that together have a residential population of at least 50,000 and an overall population density of at least 1,000 people per square mile, as defined by the US Bureau of Census. Outlines the extent of automatically regulated areas, often do not extend to the political boundaries of a city, town, or village. SWMPs are only required within the UA. However, the Department encourages covered entities to voluntarily extend their SWMP programs at least to the extent of the storm sewershed that flows into the UA or extend further to their entire jurisdiction. For ease of creation and administration of local laws, ordinances or other regulatory mechanisms, these should be created to apply to the full jurisdictional boundary of municipalities.

Water Quality Standard - means such measures of purity or quality for any waters in relation to their reasonable and necessary use as promulgated in 6 NYCRR Part 700 et seq.

Watershed – a geographic area in which water flowing across the surface will drain into a certain stream or river and flow out of the area via that stream or river. All of the land that drains

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to a particular body of water. Also known as a drainage basin.

Wetlands – an area of land where part of the surface is covered with water or the soil is completely saturated with water for a large majority of the year. Wetlands provide an important habitat for many different types of plant and animal species. Wetlands are also natural stormwater control areas, since they filter out pollutants and are able to retain large amounts of water during storm events.

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LIST OF COMMONLY USED ABBREVIATIONS

- BMPs** – Best Management Practices
- BTSC** – Broome Tioga Stormwater Coalition
- CFR** – Code of Federal Regulations
- CWA** – Clean Water Act
- ECL** – Environmental Conservation Law
- MCM** – Minimum Control Measure
- MEP** – Maximum Extent Practicable
- MS4** - Municipal Separate Storm Sewer System
- NOI** – Notice of Intent
- NPDES** – National Pollution Discharge Elimination System
- NPS** – Non-Point Source Pollutants
- NYSDEC** – New York State Department of Environmental Conservation
- POC** – Pollutant of Concern
- SPDES** – State Pollution Discharge Elimination System
- SOP** – Standard Operating Procedure
- SWMP** – Stormwater Management Program
- SWPPP** – Stormwater Pollution Prevention Plan
- TMDL** – Total Maximum Daily Load
- TOV** – Town of Vestal
- UA** – Urbanized Area
- USACOE** – United States Army Corps of Engineers
- USEPA** – United States Environmental Protection Agency
- UST** – Underground Storage Tank

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1. PUBLIC EDUCATION AND OUTREACH ON STORMWATER IMPACTS

1.1 Description of Minimum Control Measure

The Public Education and Outreach minimum control measure consists of Best Management Practices (BMPs) that focus on the development of educational materials designed to inform the public about the impacts that stormwater discharges have on local water bodies. The educational materials contain specific actions as to how the public, as individuals or collectively as a group, can participate in reducing pollutants and their impact on the environment.

1.2 General Permit Requirements

An MS4 must, at a minimum:

- a. Identify POCs, waterbodies of concern, geographic areas of concern, target audiences;
- b. Implement an ongoing public education and outreach program designed to describe:
 - a. The impacts of stormwater discharges on waterbodies;
 - b. POCs and their sources;
 - c. Steps that contributors of these pollutants can take to reduce pollutants in stormwater runoff; and
- c. Educational materials to be made available at, various locations within the Town.
- d. Record, periodically assess, and modify as needed, measurable goals; and
- e. Select and implement appropriate education and outreach activities and measurable goals to ensure the reduction of all POCs in stormwater discharges to the MEP.

Non-stormwater discharges are defined in the MS4 Permit (GP-0-10-002) Part I.A.2 and include:

Water line flushing
Landscape irrigation
Diverted stream flows
Rising ground waters
Uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(20))
Uncontaminated ground water
Discharges from potable water sources
Foundation drains
Air conditioning condensate
Irrigation water
Springs
Water from crawl space and basement sump pumps
Footing drains
Lawn and landscaping watering runoff provided that all pesticides and fertilizers have been applied in accordance with the manufacturer's product label
Water from individual residential car washing
Flows from riparian habitats and wetlands
Dechlorinated swimming pool discharges
Residual street wash water
Discharges or flows from fire fighting activities
Dechlorinated water reservoir discharges
Any SPDES permitted discharge

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1.3 Methodology for Compliance with Permit Requirements

The BTSC has developed many of the BMP's necessary for this MCM. These include brochures, posters, webpage, education packages, and display for community events.

1.4 Best Management Practices

1.4.1 Identification of POCs, Waterbodies of Concern, Geographic Areas of Concern, Target Audiences

The Town of Vestal has identified the following for the areas covered by the Town:

POCs as targets for public education: sediment/silt, and nutrients.

Potential sources: urban runoff and erosion.

Target audiences for the public education and outreach program:

Households, developers and contractors and small businesses.

Geographic Areas of Concern: Areas that discharge to Susquehanna River and its tributaries, including Town Roadways that ultimately discharge to this waterbodies.

The public education materials developed by the Town address these POCs and will be used to educate the Town's general target audience.

1.4.2 Distribution of Public Education Printed Materials

Brochures/handouts of printed public education materials to address stormwater pollution prevention for the general public, target businesses/activities, schools, and other target audiences is an ongoing activity of the BTSC and the Town.

The Town distributes this information in municipal buildings in lobbies or other areas in which information is generally available and employee break rooms where the target audience is expected to encounter the materials.

Measurable Goals

Distribute brochures at public outreach events.

Distribute Household Guide and posters to Town public library.

Provide additional brochures and posters to businesses, schools, and the general public upon request.

Update educational materials and distribute.

Maintain records of number of educational materials distributed.

Town will continue to partner with the BTSC for distribution of brochures and posters to fulfill regional public education goals.

1.4.3 Maintain Stormwater Webpage

The Broome County Department Planning hosts a webpage on behalf of the BTSC to educate the public on the impacts of stormwater runoff

1.4.4 Education Packages

The Town will assist the BTSC with package for distribution to local educators

The Town has purchased 1.000 permanent drain markers, with the goal of community involvement with their placement, such as Boy Scout groups.

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1.4.5 Trainings and Displays

Educational materials are available for targeted employees and public at applicable Town Buildings.

1.5 Required Reporting

- a. List education / outreach activities performed, either by the Town or by the BTSC or other entity through intermunicipal agreement, for the general public and target audiences and provide any results (for example, number of people attended, amount of materials distributed, etc.);
- b. Education of the public about the hazards associated with illegal discharges and improper disposal of waste as required by General Permit G-0-10-002
- c. Maintain records of all training activities.

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2. PUBLIC PARTICIPATION / INVOLVEMENT

2.1 Description of Minimum Control Measure

The Public Involvement/Participation minimum control measure consists of Best Management Practices (BMPs) that focus on involving the local public in development and implementation of the SWMP. The Town of Vestal must comply with State and local public notice requirements to facilitate public participation. The BMPs include a number of practices designed to seek public input on the SWMP and Annual Report accomplishments

2.2 General Permit Requirements

An MS4 must, at a minimum:

- a. Comply with State Open Meetings Law and local public notice requirements, such as Open Meeting Law, when implementing a public involvement/participation program
- b. Develop and implement a public involvement/participation program that:
Identifies who their public is (staff, visitors, contractors, etc.); Posts notifications (as needed) in areas viewable by the public. Such as common areas, bulletin boards, agency/office web pages, etc. Provide the opportunity for the public to participate in the development, implementation, review, and revision of the SWMP.
- c. A meeting that is open to the public, is scheduled by BTSC, where public attendees are able to ask questions about the annual report and make comments on the report. The annual report is also placed on BTSC web page
- d. Ensure that a copy of the final report and the SWMP plan are available for public inspection.

2.3 Methodology for Compliance with Permit Requirements

By participating in the BTSC, the Town accomplishes regional goal such as public participation at the BTSC meetings, incorporating a feedback mechanism into the webpage, community cleanup Events.

2.4 Best Management Practices

2.4.1 Identify key individuals and groups who are interested in/or affected by the permitting program

Environmental groups identified as having an interest in the BTSC's Stormwater Management Program include: Broome County Environmental Management Council (EMC), Vestal's Conservation Advisory Committees (CAC's).

2.4.2 Public Participation of Stormwater Management Program

Provide the public with an opportunity to participate in the development, implementation, review and revision of the SWMP Plan, Town of Vestal will make the SWMP Plan available in public offices during normal working hours and on the internet.

2.4.3 Public Involvement/Participation Activities

Inform and encourage residents about opportunities to participate in community cleanup events. Events include tire drop off and appliance pick Educate public through advertisements on options for disposal of household hazardous waste including the location, schedule and guidelines for facilities accepting the waste.

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2.4.4 Identify Local Stormwater Public Contact

Establish a “Stormwater Management Officer” that is responsible for the management of the MS4’s stormwater management program. Town Engineer is designated the Management Officer.

2.4.5 Annual Report Presentation

All regulated MS4s must submit an annual report by June 1 of each year that updates the NYSDEC on the status of their SWMP. Before submittal of the annual report to NYSDEC, the draft report will be prepared and presented to the public for their review and comment.

2.5 Required Reporting

At a minimum, The Town of Vestal shall report on the items below:

- a. annual report presentation information (date, time, attendees) or information about how the annual report was made available for comment;
- b. comments received and intended responses (as an attachment); and
- c. report on effectiveness of the program, BMP and measurable goal assessment.

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3 ILLICIT DISCHARGE DETECTION & ELIMINATION

3.1 Description of Minimum Control Measure

The Illicit Discharge Detection and Elimination minimum control measure consists of Best Management Practices (BMPs) that focus on the detection and elimination of illicit discharges into the MS4. The BMPs describe outfall mapping and update procedures; the legal authority mechanism that will be used to effectively prohibit illicit discharges; enforcement procedures and actions to ensure that the regulatory mechanism is implemented; the dry weather screening program and procedures for tracking down and locating the source of an illicit discharge; procedures for locating priority areas; and procedures for removing the source of the illicit discharge.

3.2 General Permit Requirements

An MS4 must, at a minimum:

- a. Develop, implement and enforce a program to detect and eliminate illicit discharges
- b. Develop and maintain a map within the covered entity's jurisdiction in the urbanized area and additionally designated area, at a minimum, and showing the location of all outfalls and the names and locations of all surface waters of the State that receive discharges from those outfalls;
- c. Field verify outfall locations;
- d. Conduct outfall reconnaissance inventory, as described in the EPA publication entitled Illicit Discharge Detection and Elimination within the Town at least once every five years, with reasonable progress every year;
- e. Map new outfalls as they are constructed or newly discovered within the urbanized area and additionally designated area;
- f. Prohibit through a law, ordinance, or other regulatory mechanism, illicit discharges into the small MS4 and implement appropriate enforcement procedures and actions. The law, ordinance or other regulatory mechanism must be equivalent to the State's model IDDE local law "NYSDEC Model Local Law to Prohibit Illicit Discharges, Activities and Connections to Separate Storm Sewer Systems" developed by the State, as determined and certified to be equivalent by the attorney representing the small MS4;
- g. Develop and implement a program to detect and address non-stormwater discharges, including illegal dumping. The program must include procedures for identifying priority areas of concern (geographic, audiences, or otherwise) for the IDDE program; description of priority areas of concern, available equipment, staff, funding, etc.; procedures for identifying and locating illicit discharges (track down); procedures for eliminating illicit discharges; and procedures for documenting actions;
- h. Inform the public of hazards associated with illegal discharges and improper disposal of waste, and maintain records of notification;
- i. Address the categories of non-stormwater discharges or flows (listed in Section 1.2 of this document) as necessary;
- j. Develop, record and periodically assess, and modify as needed, measurable goals; and
- k. Select and implement appropriate IDDE BMPs and measurable goals to ensure the reduction of all POCs in stormwater discharges to the MEP.

3.3 Methodology for Compliance with the Permit Requirements

Broome County planning department has mapped the outfalls for the Town of Vestal. The Town of Vestal has since reviewed and updated outfall locations and information. accordance with their annual inspections. The Outfall Location map and

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database are available electronically through the Broome County managed Countywide GIS website.

To prohibit illicit discharges to the MS4 and establish enforcement procedures, the Town of Vestal has enacted a law equivalent to NYS's Model Local Law to Prohibit Illicit Discharges, Activities and Connections to Separate Storm Sewer System.

3.4 Best Management Practices

3.4.1 Outfall Mapping

The BTSC has a shared GIS Outfall Locator map that is housed by the Broome County Department of Environment and Planning's Office of GIS Services. The map includes outfalls for the Town of Vestal. Each outfall point can be queried to obtain specific data including its identification number, some have photos, surface water discharge point, physical attributes, observations at the time of inspection and GPS coordinates. These data can be printed in report format directly from the Town of Vestal's Engineering office.

Once an illicit discharge is detected at a specific outfall, the existing basin information and boundaries will be used to define the potential area where the source is located. When grant funds are successfully acquired, storm sewer system mapping will commence.

Measurable Goals

Manage GIS data and web based mapping system to ensure MS4 access to maps.

Update the outfall map as necessary with additional outfalls that have been added or changes made to the system by MS4 request.

Continue to evaluate County systems and connecting points from adjacent MS4s during scheduled annual inspections.

The inspection records will be compared to the records contained on the Broome County web site

3.4.2 Outfall Reconnaissance Inventory (ORI)

Town of Vestal will conduct an Outfall Reconnaissance Inventory, essentially a dry weather, routine, visual inspection of every mapped outfall and interconnection. The ORI is intended to detect illicit discharges and will be conducted according to procedures set forth in the WNYSC's Illicit Discharge Track Down Protocol and Sampling Procedure guidance document which is based on EPA guidance.

Inherent in the ORI process are opportunities for the MS4 to field verify outfall locations (required), update existing data, add outfalls that are newly discovered or newly constructed (required) and prioritize outfalls for illicit discharge follow up.

Town of Vestal will schedule inspections so that a portion of the outfalls/interconnections will be inspected yearly based on geographic location and all outfalls/interconnections are visually inspected once every 5 years.

3.4.3 Local Ordinance Prohibiting Illicit Discharges into the MS4

A stormwater management ordinance to prohibit illicit discharges and implement enforcement procedures and actions is required under GP-0-10-002. The Town of Vestal formally adopted an attorney certified version of NYS's Model Local Law to Prohibit Illicit Discharges, Activities and Connections to Separate Storm Sewer System in 2007.

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3.4.4 Pollutant Source Tracking Procedures

The Town of Vestal will develop a plan to investigate potential discharge water quality issues at interconnections or outfalls based on indicating parameters evaluated during outfall inspections performed annually or due to complaints received by the public or adjoining municipalities.

Measurable Goals

Continue to evaluate outfalls and complaints for potential discharge water quality issues. (Refer to Section 3.4.3)

Continue to work with the BTSC on setting up field and laboratory equipment to perform sampling of outfall/interconnection discharges where potential illicit discharges are indicated.

Set up a program to perform periodic random sampling to establish baselines.

3.4.5 Public Education of Hazards Associated with Illegal Discharges

The public education materials developed by the BTSC to comply with the regional public education goals include target audiences and provisions to inform the public of the hazards associated with illegal discharges and improper disposal of waste. Similarly, employee training programs, particularly the Pollution Prevention and Good Housekeeping for Municipal Operations training, include instruction on the hazards of illegal discharges as well as identification and prevention.

3.4.6 Addressing Categories of Non-Stormwater Discharges

The following discharges are exempt from discharge prohibitions established by local law unless the NYSDEC or the municipality has determined them to be substantial contributors of pollutants: water line flushing, landscape irrigation, diverted stream flows, rising ground water, uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(20)), uncontaminated ground water, discharges from potable water sources, foundation drains, air conditioning condensate, irrigation water, spring, water from crawl space or basement sump pumps, footing drain, lawn and landscape watering runoff provided that all pesticides and fertilizers have been applied in accordance with the manufacturer's product label, water from individual residential car washing, flows from riparian habitat or wetlands, dechlorinated swimming pool discharges, residual street wash water, discharges or flows from fire fighting activities, dechlorinated water reservoir discharges, and any SPDES permitted discharge.

3.5 Required Reporting

- a. Number and percent of outfalls mapped;
- b. Number of illicit discharges detected and eliminated;
- c. Percent of outfalls for which an outfall reconnaissance inventory has been performed;
- d. Status of system mapping;
- e. Activities in and results from informing public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste;

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4. CONSTRUCTION SITE RUNOFF CONTROL

4.1 Description of Minimum Control Measure

The Construction Site Runoff minimum control measure consists of Best Management Practices (BMP's) that focus on the reduction of pollutants to the MS4 from construction activities that result in a land disturbance of greater than or equal to one acre. Reduction of stormwater discharges from construction activity disturbing less than one acre will be considered if it is part of a larger common plan of development or sale that would disturb one acre or more. The BMPs describe the legal authority mechanism that will be used to require erosion and sediment controls; enforcement procedures and actions to ensure compliance; requirements for construction site operators to implement appropriate erosion and sediment control BMPs; requirements for construction site operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter and sanitary waste at the construction site; procedures for site plan review which incorporate the consideration of potential water quality impacts; procedures for receipt and consideration of information submitted by the public; and procedures for site inspection and enforcement of control measures.

The stormwater regulations for Construction Site Runoff Control apply to both privately owned and managed projects, and MS4-owned and managed projects.

4.2 General Permit Requirements

An MS4 must, at a minimum:

Develop, implement, and enforce a program that:

- a. provides equivalent protection to the NYS SPDES General Permit for Stormwater Discharges from Construction Activities
- b. addresses stormwater runoff to the small MS4 from construction activities that result in a land disturbance of greater than or equal to one acre. Control of stormwater discharges from construction activity disturbing less than one acre must be included in the program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more;
- c. Incorporates mechanisms for construction runoff requirements from new development and redevelopment projects to the extent allowable under State and local law.
- d. allows for sanctions to ensure compliance to the extent allowable by State law;
- e. describes procedures for receipt and follow up on complaints or other information submitted by the public regarding construction site storm water runoff;
- f. educates construction site owner / operators, design engineers, municipal staff and other individuals to whom these regulations apply about the construction requirements in the covered entity's jurisdiction including the procedures to submit a SWPP Plan, construction site inspections and any other procedures associated with control of construction stormwater;
- g. ensures that construction site operators have received erosion and sediment control training including the trained contractors as defined in the SPDES General Permit for Construction before they do work within the covered entity's jurisdiction;
- h. establishes and maintains an inventory of active construction sites, including the location of the site, owner / operator contact information;
- i. develop, record, periodically assess and modify measurable goals as needed;

4.3 Methodology for Compliance with Permit Requirements

The Town of Vestal has adopted NYS's Sample Local Law for Stormwater Management and Erosion & Sediment Control. This ordinance authorizes the Town to enforce a program

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that reduces pollutant runoff from construction sites. The Town of Vestal will review SWPP Plan's and enforce the ordinance as necessary. The BTSC, on behalf of its member communities, provides training to developers, contractors, and design engineers in order to inform of the regulations. In addition, the BTSC often co-sponsors NYSDEC sponsored/approved trainings provided by Broome County Soil and Water Conservation

4.4 Best Management Practices

4.4.1 Local Ordinance for Stormwater Management and Erosion & Sediment Control

The Town of Vestal adopted a version of NYS's Sample Local Law for Stormwater Management and Erosion & Sediment Control on 2007. The ordinance was certified as equivalent to New York State's Sample Local Law for Stormwater Management and Erosion & Sediment Control.

The stormwater management ordinance establishes minimum stormwater management requirements and controls to protect the general health, safety, and welfare of the public. The ordinance addresses issues relating Erosion and Sediment Control, Stormwater Design Requirements, Construction Requirements and Fees for municipal services relating to SWPPP reviews, inspections

4.4.2 Design Requirements

Evaluate existing in-house practices related to review of project planning and design criteria for required changes based on compliance with local, state and/or federal construction stormwater regulations. Develop project planning and design requirements, and communicate requirements to the design and construction communities.

Many MS4-owned and managed projects have special conditions which make implementation of standard pollution prevention practices, as defined in the NYS Stormwater Management Design Manual, impractical to implement. Such projects include highway reconstruction, waterline construction, and other linear type construction. Acceptable design criteria for these special condition projects must be approved by the MS4 or NYSDEC, as applicable, on a project-by-project basis, and the owner's preparation of the GP-0-10-001 Stormwater Pollution Prevention Plan (SWPPP) or Notice of Intent (NOI) is the mechanism by which accepted/equivalent practices are evaluated by approving agency.

4.4.3 Construction Plan Review

Develop a set of criteria to be utilized by the municipality to verify construction plan compliance with local, state, and/or federal construction stormwater regulations. Prepare a checklist of items that must be verified by the reviewer for each construction plan review. Develop internal procedures for tracking new and on-going construction activities. Maintain records of plans reviewed and approved for construction under this program.

Provide training for municipal engineers, building department staff, and other municipal representatives involved with construction design, inspection or compliance.

Measurable Goals

Review projects for applicability to this MCM and keep records.
Inspect Town construction projects in the MS4 area according to the individual SWPPP for each project.

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4.4.4 Public Review of Design Plans and Construction Projects

Provide the public with an opportunity to review and comment on proposed design plans and construction sites at the Planning Board meetings. Develop procedures for the public to request information and relay concerns to the representative of the municipality.

4.4.5 Education and Training Measures for Construction Site Operators

BTSC, on behalf of its member communities, provides educational material and training opportunities to developers, contractors, engineers, and architects to inform them of the local, state, and/or federal regulations that will impact their developments.

4.5 Required Reporting

At a minimum, the covered entity shall report on the items below:

- a. Number and type of sanctions employed;
- b. Status of regulatory mechanism - certify that mechanisms will assure compliance with the NYS SPDES General Permit for Stormwater Discharges from Construction Activities ;
- c. Number of construction sites authorized for disturbances of one acre or more; and
- d. Report on effectiveness of program, BMP and measurable goal assessment.

5. POST-CONSTRUCTION STORMWATER MANAGEMENT

5.1 Description of Minimum Control Measure

The Post-Construction Stormwater Management minimum control measure consists of Best Management Practices (BMP's) that focus on the prevention or minimization of water quality impacts from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale that discharge into the MS4. The BMP's describe structural and/or non-structural practices; the legal authority mechanism that will be used to address post-construction runoff from new development and redevelopment projects; and procedures to ensure long term operation and maintenance of BMP's.

5.2 General Permit Requirements

An MS4 must, at a minimum:

- a. Develop, implement, and enforce a program that:
 - i. provides equivalent protection to the NYS SPDES General Permit for Stormwater Discharges from Construction
 - ii. addresses stormwater runoff from new development and redevelopment projects even on Town owned property from projects that result in a land disturbance of greater than or equal to one acre.
 - iii. includes a combination of structural or non-structural management practices (according to standards defined in the most current version of the NYS Stormwater Management Design Manual) that will reduce the discharge of pollutants to the MEP. In the development of environmental plans such as watershed plans, open space preservation programs, local laws, and ordinances covered entities must incorporate principles of Low Impact Development (LID), Better Site Design (BSD) and other Green Infrastructure practices to the MEP. Covered entities must consider natural resource protection, impervious area reduction, maintaining natural hydrologic conditions in developments, buffers or set back distances for protection of environmentally sensitive areas such as streams, wetlands, and erodible soils in the development of environmental plans.
 - iv. establish and maintain an inventory of post construction stormwater management practices.
- b. Develop, implement, and provide adequate resources for a program to inspect development and re-development sites by trained staff and to enforce and penalize violators;
- c. Develop, record, annually assess and modify as needed measurable goals; and
- d. Select appropriate post-construction stormwater BMPs and measurable goals to ensure the reduction of all POCs in stormwater discharges to the MEP.

5.3 Methodology for Compliance with Permit Requirements

Town of Vestal has adopted a modified version of NYS's Sample Local Law for Stormwater Management and Erosion & Sediment Control which includes provisions to enforce a program that reduces pollutant runoff according to NYSDEC standards.

5.4 Best Management Practices:

5.4.1 Local Ordinance for Stormwater Management and Erosion & Sediment Control

A stormwater management ordinance is required under GP-0-10-002. The Town of Vestal adopted a version of NYS's Sample Local Law for Stormwater Management and Erosion & Sediment Control on 2-7-2007.

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The stormwater management ordinance establishes minimum stormwater management requirements and controls to protect the general health, safety, and welfare of the public. The ordinance addresses issues relating to:

- Erosion and Sediment Control
- Stormwater Design Requirements
- Construction Requirements

Measurable Goals

Maintain an inventory of private and Town owned post-construction devices.
Review qualifying construction projects for use of post-construction stormwater management / control devices.

5.4.3 Maintenance for Existing Storm Drainage Facilities

Develop an inventory, inspection and maintenance program for post construction facilities in the Town. Inventory will summarize practices, inspection dates and associated required maintenance. Identify the location of each storm drainage facility including:

Measurable Goals

Identify the existing post construction facilities.
Inspect a storm facilities according to manufacturer's recommendations.
Develop and maintain the prioritized list of necessary improvements.

5.5 Required Reporting

At a minimum, the covered entity shall report on the items below:

- a. Number and type of sanctions;
- b. Number and type of post-construction stormwater management practices ;
- c. Number and type of post-construction stormwater management practices inspected;
- d. Number and type of post-construction stormwater management practices maintained;
- e. Status of regulatory mechanism, equivalent mechanism, that regulatory mechanism is equivalent; and
- f. Report on effectiveness of program, BMP and measurable goal assessment, and implementation of banking and credit system, if applicable.

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6. POLLUTION PREVENTION / GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS

6.1 Description of Minimum Control Measure

The Pollution Prevention / Good Housekeeping minimum control measure consists of Best Management Practices (BMP's) that focus on training and on the prevention or reduction of pollutant runoff from municipal operations. The BMPs describe the training program for specific municipal employees responsible for operations impacted by the proposed operation and maintenance programs; inspection activities for Town Parks, buildings, and roads within the MS4 area; implementation of BMPs for facilities or activities; screening for BMP applicability for additional activities such as salt storage, and equipment operation.

6.2 General Permit Requirements

An MS4 must, at a minimum:

- a. Develop and implement a pollution prevention / good housekeeping program for municipal operations and facilities that:
 - addresses municipal operations and facilities that contribute or potentially contribute POCs.
 - includes the performance and documentation of a self assessment of all municipal operations to, determine the sources of pollutants potentially generated by the covered entity's operations and facilities and identify the municipal operations and facilities that will be addressed by the pollution prevention and good housekeeping program.
 - addresses pollution prevention and good housekeeping priorities;
 - include an employee pollution prevention and good housekeeping training program and ensures that staff receive and utilize training;The covered entity must also perform monitoring and record keeping in accordance with Part IV of the MSGP.
- b. Consider and incorporate cost effective runoff reduction techniques and green infrastructure in the routine upgrade of the existing stormwater conveyance systems and municipal properties to the MEP. Some examples include replacement of closed drainage with grass swales, replacement of existing islands in parking lots with rain gardens, or curb cuts to route the flow through below grade infiltration areas or other low cost improvements that provide runoff treatment or reduction.
- c. Develop, record and periodically assess and modify as needed measurable goals; and
- d. Select and implement appropriate pollution prevention and good housekeeping BMPs and measurable goals to ensure the reduction of all POCs in stormwater discharges to the MEP.
- e. Adapt techniques to reduce the use of fertilizers, pesticides, and herbicides, as well as their potential impact to surface water.

6.3 Methodology for Compliance with Permit Requirements

The Town of Vestal has identify the BMP's to reduce and prevent discharge of pollutants to the maximum extent practicable from municipal activities. These documents are reviewed annually to identify changes in operations that affect stormwater runoff, and develop / implement new BMPs or modify existing BMPs to better prevent the discharge of pollutants from municipal operations. Monitoring and maintenance programs are adjusted as necessary.

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6.4 Best Management Practices

Implement Pollution Prevention / Good Housekeeping BMPs

Checklists are completed by Water/Sewer, Maintenance, Parks Department and Highway Department supervisory employees. The documents are reviewed by the Town Engineer and updated to maintain reduction to the MEP.

Stormwater System Evaluation

Town of Vestal is responsible for roads, select parks and buildings in the MS4 area. The Town evaluates their stormwater systems, including catch basins, culverts, and ditches, to check the condition of facilities, structural integrity, and accumulation of debris and/or sediment. Evaluations generally occur during dry weather and are coordinated with outfall inspections. Results of the evaluations are summarized and transmitted to the appropriate department for follow up.

Municipal Training Program

Develop and implement a program that provides training to each member of the municipality whose work may potentially impact stormwater. This includes engineering, highway, buildings and grounds, parks, and recreation departments. Training programs include: Pollution Prevention and Good Housekeeping for Municipal Operations, Performing and Environmental Self Assessment of Municipal Operations and Facilities, Evaluating Green Infrastructure and Low Impact Development.

A GUIDANCE DOCUMENT OF BEST MANAGEMENT PRACTICES AND INSPECTION CHECKLISTS

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INTRODUCTION

This group of (11) Pollution Prevention/Good Housekeeping Best Management Practices and Inspection checklists that relate to municipal operations and their potential effects on stormwater have been developed and assembled by a group of municipal officials that have a wealth of experience pertaining to operations and maintenance within municipalities. The information that has been formulated as guidance material for implementation of the Stormwater Phase II Municipal Separate Storm Sewer System Permit has not been designed to be comprehensive in all aspects of each topic. Municipalities should be "flexible" in their use of this information as pertains to their own unique municipal operations.

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LANDSCAPING AND LAWN CARE POLLUTION PREVENTION/GOOD HOUSEKEEPING PRACTICES

1. IDENTIFY IMPACTS TO/ON STORMWATER/RECEIVING WATERS (SURFACE WATERS)

- Nutrient loading (nitrogen and phosphorous) from fertilizer runoff can cause excessive aquatic plant growth

2. PROBLEM EVALUATION: ASSESS IMPACT ON RECEIVING WATERS, PRIORITIZE

- Biochemical Oxygen Demand

3. IDENTIFY (AND CHOOSE APPROPRIATE) SOLUTIONS (BMP's)

- Purchase only enough lawn care products necessary for one year – store properly to avoid waste generation (spills, leaks)
- Use slow release or naturally derived (organic) fertilizers
- Train employees in the proper application of lawn care products
- Develop zero input/low input lawns
- Consider alternative landscape techniques (i.e. naturescaping, xeriscaping)
- Plant trees away from sewer lines or other underground utilities
- Use drip irrigation techniques for landscaping

4. INSPECTION PROCEDURES

- Routinely monitor lawns to identify problems during their early stages
- Identify nutrient/water needs of plants, inspect for problems by testing soils

5. MAINTENANCE PROCEDURES

- Minimize/eliminate fertilizer application
- Leave grass clippings on lawn, or mulch clippings into lawn
- Limit watering as necessary to supplement rainwater (1 inch/week is adequate)
- Mow with sharpened blades set high (3 inches) – remove only the top 1/3 of the grass
- Water plants in the early A.M.

6. ADVISORY

- Refer to the Cornell University website (Dept. of Horticulture)

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SPILL RESPONSE AND PREVENTION

POLLUTION PREVENTION/GOOD HOUSEKEEPING PRACTICES

1. IDENTIFY MATERIALS THAT IMPACT STORMWATER/RECEIVING WATERS (SURFACE WATERS)

- Liquids associated with vehicle/equipment maintenance products (oils, fuels, antifreeze, etc.)
- Rock salt
- Chemicals (fertilizers, pesticides)

2. PROBLEM EVALUATION: ASSESS IMPACT ON RECEIVING WATERS, PRIORITIZE

- Toxicity
- Biochemical oxygen demand

3. IDENTIFY (AND CHOOSE APPROPRIATE) SOLUTIONS (BMP's)

- Keep all materials properly stored in closed, labeled containment systems
- Use secondary containment systems where appropriate
- Obtain spill recovery materials for immediate response to a spill

4. INSPECTION PROCEDURES

- Inspect secondary containment systems, oil/water separators periodically
- Inspect containers for leaks, areas near storm receiver inlets and outlets, floor drains for indications of spills

5. MAINTENANCE PROCEDURES

- Use reusable spill clean up materials (sponge mops, oil absorbent pads, etc.)
- Pump out oil water separators as needed
- Protect drains with oil absorbent materials
- Clean out receivers on regular schedule
- Remove spilled salt from salt loading area

6. ADVISORY

- Report petroleum spills (as necessary) to the NYSDEC (1-800-457-7362)
- Refer to NYSDOT guidance information (Environmental Handbook for Transportation Operations)

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VEHICLE/EQUIPMENT MAINTENANCE

POLLUTION PREVENTION/GOOD HOUSEKEEPING PRACTICES

IDENTIFY IMPACTS TO/ON STORMWATER/RECEIVING WATERS (SURFACE WATERS)

- Trace amounts of metals/hydrocarbons are found in materials (i.e. fuels, antifreeze, batteries, motor oils, grease, parts cleaning solvents) that are typically used in maintenance operations

PROBLEM EVALUATION: ASSESS IMPACT ON RECEIVING WATERS, PRIORITIZE

- Toxicity
- Biochemical oxygen demand

IDENTIFY (AND CHOOSE APPROPRIATE) SOLUTIONS (BMPs)

- Conduct maintenance work indoors – if work must be performed outside, guard against spillage of materials that could discharge to storm receivers
- Seal floor drains that discharge directly to the environment, if possible
- Initiate single purpose use of vehicle bays – dedicate one (or more) bays that have no (or sealed) floor drains for repairs/maintenance
- Clean up spilled materials immediately, using “dry” methods
- Install pretreatment systems (oil/water separators) where necessary in sewer lines to capture contaminants (oil, grit), and maintain as needed
- Never leave vehicles unattended while refueling
- Identify appropriate recycling/disposal options for wastes

INSPECTION PROCEDURES

- Inspect (for maintenance purposes) floor drain systems, oil/water separators
- Monitor “parked” vehicles/equipment for leaks

MAINTENANCE PROCEDURES

- Maintain a clean work area – remove contaminants from floors, drains, catch basins, using “dry” methods
- Use non-hazardous cleaners. Use non chlorinated solvents instead of chlorinated solvents
- Repair or replace any leaking containers
- Use steam cleaning /pressure washing instead of solvent for parts cleaning
- Store waste fluids in properly capped, labeled storage containers
- Store batteries in leak-proof, compatible (i.e. non reactive) containers
- Rinse grass from lawn care equipment on permeable (grassed) areas
- Protect against pollution if outside maintenance is necessary (cover storm receivers, use secondary containment vessels, etc.)

ADVISORY

- Report petroleum spills (as necessary) to the NYSDEC (1-800-457-7362)
- Refer to NYSDOT guidance information (Environmental Handbook for Transportation Operations)

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VEHICLE/EQUIPMENT WASHING POLLUTION PREVENTION/GOOD HOUSEKEEPING PRACTICES

1. IDENTIFY IMPACTS TO/ON STORMWATER/RECEIVING WATERS (SURFACE WATERS)

- Nutrients (biodegradable soaps)
- Metals
- Petroleum based wastes (organic pollutants)

2. PROBLEM EVALUATION: ASSESS IMPACT ON RECEIVING WATERS, PRIORITIZE

- Biochemical oxygen demand from nutrient sources
- Toxicity
- Hydraulic loading

3. IDENTIFY (AND CHOOSE APPROPRIATE) SOLUTIONS (BMPs)

- Initiate single purpose use of vehicle bays - dedicate only one bay for washing (with floor drain system)
- Perform cleaning with pressurized cold water, without the use of soaps, if wastewaters will flow to a storm sewer system
- Use minimal amounts of biodegradable soaps only if wastewaters will discharge to a sanitary sewer system
- Rinse with hoses that are equipped with automatic shutoff devices and spray nozzles
- Steam clean (without soap) where wastes can be captured for proper disposal (i.e. oil/water separator)

4. INSPECTION PROCEDURES

- Inspect floor drain systems regularly - use only those that discharge to a sanitary sewer, identify the need for cleaning of catch basins, oil/water separators

5. MAINTENANCE PROCEDURES

- Map storm drain locations accurately to avoid illegal discharges
- Perform steam cleaning or pressure washing where wastes can be captured for proper disposal
- Take precautions against excess use of/spillage of detergents

6. ADVISORY

- Require all facilities to connect floor drain systems to sanitary sewers (if available)
- Refer to NYSDOT guidance information (Environmental Handbook for Transportation Operations)

TOWN OF VESTAL STORMWATER MANAGEMENT PROGRAM PLAN

ROADWAY AND BRIDGE MAINTENANCE

POLLUTION PREVENTION/GOOD HOUSEKEEPING PRACTICES

1. IDENTIFY IMPACTS TO/ON STORMWATER/RECEIVING WATERS (SURFACE WATERS)

- Road salt components - sodium, calcium, and chlorides
- Hydrocarbons
- Particulates – such as dry paint or abrasive compounds, road debris
- Debris

2. PROBLEM EVALUATION: ASSESS IMPACT ON RECEIVING WATERS, PRIORITIZE

- Particulate matter
- Toxicity (paint – may contain metals such as lead, barium, cadmium)

3. IDENTIFY (AND CHOOSE APPROPRIATE) SOLUTIONS (BMPs)

- Incorporate preventive maintenance and planning for regular operations & maintenance activities
- Pave in dry weather only.
- Stage road operations and maintenance activity (patching, potholes) to reduce spillage. Cover catch basins and manholes during this activity.
- Clean up fluid leaks or spills from paving equipment/materials immediately
- Restrict the use of herbicides/pesticide application to roadside vegetation
- Use porous asphalt for pothole repair and shoulder work
- Sweep and vacuum paved roads and shoulders to remove debris and particulate matter
- Maintain roadside vegetation; select vegetation with a high tolerance to road salt
- Control particulate wastes from bridge sandblasting operations
- Clean out bridge scuppers and catch basins regularly
- Direct water from bridge scuppers to vegetated areas
- Mechanically remove (i.e. sweep) debris from bridge deck and structure prior to washing

4. INSPECTION PROCEDURES

- Inspect paving, sweeping, vacuuming, and all other maintenance vehicles/equipment as appropriate
- Inspect roads and bridges for implementation of applicable BMP's

5. MAINTENANCE PROCEDURES

- Clean bridge scuppers routinely and keep free of debris
- Direct runoff water from bridges to vegetated areas
- Install catch basins in place of bridge scuppers
- Use tarps, booms, and vacuums during painting or blasting activities (refer to reference information to control/capture particulate matter)
- Repair leaking/defective containers or equipment on paving equipment

6. ADVISORY

- Refer to NYSDOT guidance information (Environmental Handbook for Transportation Operations

TOWN OF VESTAL STORMWATER MANAGEMENT PROGRAM PLAN

ALTERNATIVE DISCHARGE OPTIONS FOR CHLORINATED WATER POLLUTION PREVENTION/GOOD HOUSEKEEPING PRACTICES

1. IDENTIFY IMPACTS TO/ON STORMWATER/RECEIVING WATERS (SURFACE WATERS)

- Discharge of chlorinated (i.e. swimming pool, POTW) waters to surface waters can injure or kill aquatic life

2. PROBLEM EVALUATION: ASSESS IMPACT ON RECEIVING WATERS, PRIORITIZE

- Toxicity – very low levels of chlorine can detrimentally affect aquatic life
- Hydraulic loading

3. IDENTIFY (AND CHOOSE APPROPRIATE) SOLUTIONS (BMPs)

- Dechlorinate pool water before any discharge, be it over land or to the sanitary sewer, or allow the “disinfectant” to dissipate with sunlight, use, etc. prior to discharge
- Backwash water should be discharged to the sanitary sewer, if available – if not available, discharge water over vegetated areas, not to surface waters

Note that: Hydrant flushing is exempt from this practice.

4. INSPECTION PROCEDURES

- Check chlorine residuals prior to discharge.
- Do not discharge wastewaters into the sanitary sewer system during periods of high flow.

5. MAINTENANCE PROCEDURES

- Maintain proper levels of chlorine residuals in pool.
- Allow disinfectant to dissipate prior to discharge of pool waters.

6. ADVISORY

- Obtain permission from the municipal POTW prior to discharging any chlorinated pool waters to a sanitary sewer system.

TOWN OF VESTAL STORMWATER MANAGEMENT PROGRAM PLAN

HAZARDOUS AND WASTE MATERIALS MANAGEMENT POLLUTION PREVENTION/GOOD HOUSEKEEPING PRACTICES

1. IDENTIFY IMPACTS TO/ON STORMWATER/RECEIVING WATERS (SURFACE WATERS)

- Lube oils
- Coatings and their compatible solvents (paints, thinners, etc.)
- Anti freeze
- Cleaning agents
- Fuels (gas, diesel, kerosene)

2. PROBLEM EVALUATION: ASSESS IMPACT ON RECEIVING WATERS, PRIORITIZE

- Biochemical oxygen demand
- Toxicity to aquatic plants and wildlife
- Particulate loading

3. IDENTIFY (AND CHOOSE APPROPRIATE) SOLUTIONS (BMP's)

- Ensure that all materials are stored in closed, labeled containers – if stored outside, drums should be placed on pallets, away from storm receivers – inside storage areas should be located away from floor drains
- Eliminate floor drain systems that discharge to storm drains, if possible
- Use a pretreatment system to remove contaminants prior to discharge
- Reduce stock of materials “on hand” – use “first in/first out” management technique
- Use the least toxic material (i.e. non hazardous) to perform the work
- Install/use secondary containment devices where appropriate
- Eliminate wastes by reincorporating coating/solvent mixtures into the original coating material for reuse
- Recycle materials if possible, or ensure proper disposal of wastes

4. INSPECTION PROCEDURES

- Physical on-site verification of sealed floor drains (or redirected to sanitary sewer)
- Regular inspection of material storage areas (inside and outside)
- Regular inspection and cleaning of oil/water separators by qualified contractor
- Inspect stormwater discharge locations regularly (for contaminants, soil staining, plugged discharge lines)

5. MAINTENANCE PROCEDURES

- Repair or replace any leaking/defective containers, and replace labels as necessary
- Maintain caps and/or covers on containers
- Maintain aisle space for inspection of products/wastes

6. ADVISORY

- Abide by NYSDEC regulations (6NYCRR Part 372) and OSHA regulations (29 CFR Part 1910) pertaining to these topics • Refer to NYSDOT guidance information (Environmental Handbook for Transportation Operations)

TOWN OF VESTAL STORMWATER MANAGEMENT PROGRAM PLAN

CATCH BASIN AND STORM DRAIN SYSTEM CLEANING POLLUTION PREVENTION/ GOOD HOUSEKEEPING PRACTICES

IDENTIFY IMPACTS TO/ON STORMWATER/RECEIVING WATERS (SURFACE WATERS)

- Catch basins capture grit and debris, which, if not removed in a timely fashion, can discharge toxic and biological pollutants during rain and/or snow melt events
- Storm drainage systems, while not designed for capture of solid materials can perform in the same manner with similar results.
- Storm ditches, if stripped of vegetation during cleaning, can result in silt deposition in receiving waters

PROBLEM EVALUATION: ASSESS IMPACT ON RECEIVING WATERS, PRIORITIZE

- Toxicity – heavy metals, organic compounds, etc.
- Biochemical oxygen demand
- Sediment loading

IDENTIFY (AND CHOOSE APPROPRIATE) SOLUTIONS (BMP's)

-catch basins and floor drain systems inside of buildings should be either:

- sealed to prevent discharge
- “permitted” by NYSDEC
- discharged to sanitary sewers
- Contaminated wastewaters should not be discharged to a catch basin/street receiver/ditch
- Increase frequency of cleaning, as necessary
- Repair/replace storm drain receiver and catch basin receiver grates as necessary

INSPECTION PROCEDURES

- Physical inspection – prioritize storm drain systems and catch basins – catch basins on steep grades may need more frequent cleaning
- Clean catch basin when depth of deposits are $>1/3$ the depth from the bottom of the basin to the invert of the lowest pipe/opening into or out of basin – Institute temporary street parking bans to facilitate access to catch basins
- Ditch inspections – ID problems while traveling to job site
- Storm event inspection – identify pollution problems (i.e. sediments) to determine the need for additional protective measures
- Post storm event inspection – ID problems (i.e. blockages)

MAINTENANCE PROCEDURES

- Catch basins/storm sewer pipe – cleaning in spring to remove sand/grit/salt from winter road maintenance, cleaning in fall to remove leaves/silt/debris
- Established ditch:
 - Maintain proper slope
 - Maintain vegetation by cutting (to capture sediment) – Do not allow vegetation to grow to a height that would impair sight lines of drivers of motor vehicles
 - Remove obstacles/ debris – (i.e. trash, tree branches, brush, cut vegetation)
 - Excavation/ditch scraping – if necessary, use devices (i.e. hay bales, silt fence) to capture sediment prior to stormwater discharge into receiving waters, reseed ditch
- New installation – capture particulate matter – install sediment basins/other devices in ditch
- Proper disposal of debris

ADVISORY • Refer to NYSDOT guidance information (Environmental Handbook for Transportation Operations)

TOWN OF VESTAL STORMWATER MANAGEMENT PROGRAM PLAN

STREET CLEANING AND MAINTENANCE POLLUTION PREVENTION/GOOD HOUSEKEEPING PRACTICES

1. IDENTIFY IMPACTS TO/ON STORMWATER/RECEIVING WATER (SURFACE WATERS)

- Poorly maintained streets allow for a “build up” of trash, grit, and debris, from which sediment and toxic/biological pollutants can be “washed out” during rain and /or snow melt events.
- Street repair/paving processes use materials that can contaminate receiving waters if they interact with stormwater.

2. PROBLEM EVALUATION: ASSESS IMPACT ON RECEIVING WATERS, PRIORITIZE

- Particulate matter – can cause sediment loading
- Biochemical oxygen demand
- Toxicity to aquatic plants and wildlife

3. IDENTIFY (AND CHOOSE APPROPRIATE) SOLUTIONS (BMP's)

- Street sweeping/vacuuming - at regular intervals, and “as needed”
- Perform operations such as paving in dry weather only.
- Prior to road reconstruction, consider/evaluate the use of “shouldered roads” instead of “curbed roads”
- Maintain roadside vegetation; select plants/trees that can withstand the action of road salt. Direct runoff to these areas.

4. INSPECTION PROCEDURES

- Inspect streets, and plan (as needed) for maintenance/repairs
- Prioritize – some streets (i.e. those with high traffic flows, on flat grades, or with many trees) may need more frequent cleaning

5. MAINTENANCE PROCEDURES

- Spring sweeping/vacuuming – remove salt/sand residues
- Fall sweeping, collection of leaves at appropriate time intervals
- Dry sweep or vacuum streets during dry weather
- Initiate temporary street by street parking bans to allow access for cleaning
- Maintain equipment - check for/repair fluid leaks
- Stage road operations and maintenance activity (patching, pothole repair) to reduce spillage of materials.

Cover catch basins and manholes during activity

6. ADVISORY

- Refer to NYSDOT guidance information (Environmental Handbook for Transportation Operations)

TOWN OF VESTAL STORMWATER MANAGEMENT PROGRAM PLAN

ROAD SALT STORAGE AND APPLICATION GOOD HOUSEKEEPING/POLLUTION PREVENTION PRACTICES

1. IDENTIFY IMPACTS TO/ON STORMWATER/RECEIVING WATERS (SURFACE WATERS)

- Salt is very soluble in water, and, in high concentrations, can have a deleterious effect on plants and aquatic life.

2. PROBLEM EVALUATION: ASSESS IMPACT ON RECEIVING WATERS, PRIORITIZE

- Toxicity

3. IDENTIFY (AND CHOOSE APPROPRIATE) SOLUTIONS (BMP's)

- Require covered facility for salt storage (prevents lumping and run-off loss), and size properly for seasonal needs
- Store salt on highest ground elevation to allow for infiltration of stormwater
- Calibrate salt spreaders for proper application
- Consider alternative deicing materials (i.e. calcium chloride, magnesium chloride)
- Use a wetting agent with salt to minimize "bouncing" during application
- Cover salt loading area, or build into storage shed
- Unload salt deliveries directly into storage facility, or if not possible, move inside immediately

4. INSPECTION PROCEDURES

- Look for physical evidence of problems:
 - inspect salt storage shed for leaks, structural problems
 - inspect salt piles for proper coverage, tarps for leaks or tears
 - inspect salt application equipment
 - inspect salt regularly for lumping or water contamination
 - inspect surface areas for evidence of runoff – salt stains on ground near and around the salt shelter, loading area, or downslope
 - inspect for excessive amounts of salt on roads

5. MAINTENANCE PROCEDURES

- Service trucks and calibrate spreaders regularly to ensure accurate, efficient distribution of salt
- Educate and train operators on hazards of over-salting to roads and environment
- Repair salt storage shed – structural problems can lead to salt spillage
- Repair/replace tarps

6. ADVISORY

- Refer to NYSDOT guidance information (Environmental Handbook for Transportation Operations)

TOWN OF VESTAL STORMWATER MANAGEMENT PROGRAM PLAN

CONSTRUCTION AND LAND DISTURBANCE POLLUTION PREVENTION/GOOD HOUSEKEEPING PRACTICES

1. IDENTIFY IMPACTS TO/ON STORMWATER/RECEIVING WATERS (SURFACE WATERS)
 - Sediment runoff (i.e. silt, debris) can affect fish reproduction and habitat
 - Removal of shade trees from stream banks can increase water temperature which can result in reduced dissolved oxygen content in streams
2. PROBLEM EVALUATION: ASSESS IMPACT ON RECEIVING WATERS, PRIORITIZE
 - Particulate matter – can cause sediment loading
 - Biochemical oxygen demand – increases with temperature, depletes oxygen
3. IDENTIFY (AND CHOOSE APPROPRIATE) SOLUTIONS (BMP's)
 - Plan the construction and/or land clearing activities so that soil is not exposed for long periods of time
 - Minimize compaction of soils and impervious cover
 - Maximize opportunities for infiltration
 - Install sediment control devices before disturbing soil
 - Limit grading to small areas
 - Stabilize site to protect against sediment runoff
 - Protect against sediment flowing into storm drains
 - Maintain native vegetation (especially near waterways)
 - Install sediment barriers on slopes or divert stormwater
4. INSPECTION PROCEDURES
 - Regularly scheduled inspections (of sediment control devices, erosion safeguards)
 - Inspect during storm or snow melt events
5. MAINTENANCE PROCEDURES
 - Check/repair all devices that have been installed to ensure protection against erosion
6. ADVISORY
 - Refer to NYSDOT guidance information (Environmental Handbook for Transportation Operations)
 - NY State Standards and Specifications for Sediment and Erosion Control
 - NY State Stormwater Management Design Manual

TOWN OF VESTAL STORMWATER MANAGEMENT PROGRAM PLAN

LANDSCAPING AND LAWN CARE-Checklist

INSPECTION PROCEDURES

- Routinely monitor lawns to identify problems during their early stages
- Identify nutrient/water needs of plants, inspect for problems by testing soils

MAINTENANCE PROCEDURES

- Minimize/eliminate fertilizer application
- Leave grass clippings on lawn, or mulch clippings into lawn
- Limit watering as necessary to supplement rainwater (1 inch/week is adequate)
- Mow with sharpened blades set high (3 inches) – remove only the top 1/3 of the grass
- Water plants in the early A.M.

Signature _____

Date _____

TOWN OF VESTAL STORMWATER MANAGEMENT PROGRAM PLAN

SPILL RESPONSE AND PREVENTION - Checklist

INSPECTION PROCEDURES

- Inspect secondary containment systems, oil/water separators periodically
- Inspect containers for leaks, areas near storm receiver inlets and outlets, floor drains for indications of spills

MAINTENANCE PROCEDURES

- Use reusable spill clean up materials (sponge mops, oil absorbent pads, etc.)
- Pump out oil water separators as needed
- Protect drains with oil absorbent materials
- Clean out receivers on regular schedule
- Remove spilled salt from salt loading area

Signature _____

Date _____

TOWN OF VESTAL STORMWATER MANAGEMENT PROGRAM PLAN

VEHICLE/EQUIPMENT MAINTENANCE - Checklist

INSPECTION PROCEDURES

- Inspect (for maintenance purposes) floor drain systems, oil/water separators
- Monitor “parked” vehicles/equipment for leaks

MAINTENANCE PROCEDURES

- Maintain a clean work area – remove contaminants from floors, drains, catch basins, using “dry” methods
- Use non-hazardous cleaners. Use non chlorinated solvents instead of chlorinated solvents
- Repair or replace any leaking containers
- Use steam cleaning /pressure washing instead of solvent for parts cleaning
- Store waste fluids in properly capped, labeled storage containers
- Store batteries in leak-proof, compatible (i.e. non reactive) containers
- Rinse grass from lawn care equipment on permeable (grassed) areas
- Protect against pollution if outside maintenance is necessary (cover storm receivers, use secondary containment vessels, etc.)

Signature _____

Date _____

TOWN OF VESTAL STORMWATER MANAGEMENT PROGRAM PLAN

VEHICLE/EQUIPMENT WASHING - Checklist

INSPECTION PROCEDURES

- Inspect floor drain systems regularly - use only those that discharge to a sanitary sewer, identify the need for cleaning of catch basins, oil/water separators

MAINTENANCE PROCEDURES

- Map storm drain locations accurately to avoid illegal discharges
- Perform steam cleaning or pressure washing where wastes can be captured for proper disposal
- Take precautions against excess use of/spillage of detergents

Signature _____

Date _____

TOWN OF VESTAL STORMWATER MANAGEMENT PROGRAM PLAN

ROADWAY AND BRIDGE MAINTENANCE - Checklist

INSPECTION PROCEDURES

- Inspect paving, sweeping, vacuuming, and all other maintenance vehicles/equipment as appropriate
- Inspect roads and bridges for implementation of applicable BMP's

MAINTENANCE PROCEDURES

- Clean bridge scuppers routinely and keep free of debris
- Direct runoff water from bridges to vegetated areas
- Install catch basins in place of bridge scuppers
- Use tarps, booms, and vacuums during painting or blasting activities (refer to reference information to control/capture particulate matter)
- Repair leaking/defective containers or equipment on paving equipment

Signature _____

Date _____

TOWN OF VESTAL STORMWATER MANAGEMENT PROGRAM PLAN

ALTERNATIVE DISCHARGE OPTIONS FOR CHLORINATED WATER - Checklist

INSPECTION PROCEDURES

- Check chlorine residuals prior to discharge.
- Do not discharge wastewaters into the sanitary sewer system during periods of high flow.

MAINTENANCE PROCEDURES

- Maintain proper levels of chlorine residuals in pool.
- Allow disinfectant to dissipate prior to discharge of pool waters.

Signature _____

Date _____

TOWN OF VESTAL STORMWATER MANAGEMENT PROGRAM PLAN

HAZARDOUS AND WASTE MATERIALS MANAGEMENT – Check list

. INSPECTION PROCEDURES

- Physical on-site verification of sealed floor drains (or redirected to sanitary sewer)
- Regular inspection of material storage areas (inside and outside)
- Regular inspection and cleaning of oil/water separators by qualified contractor
- Inspect stormwater discharge locations regularly (for contaminants, soil staining, plugged discharge lines)

MAINTENANCE PROCEDURES

- Repair or replace any leaking/defective containers, and replace labels as necessary
- Maintain caps and/or covers on containers
- Maintain aisle space for inspection of products/wastes

Signature _____

Date _____

TOWN OF VESTAL STORMWATER MANAGEMENT PROGRAM PLAN

CATCH BASIN AND STORM DRAIN SYSTEM CLEANING - Checklist

INSPECTION PROCEDURES

- Physical inspection – prioritize storm drain systems and catch basins – catch basins on steep grades may need more frequent cleaning
- Clean catch basin when depth of deposits are $>1/3$ the depth from the bottom of the basin to the invert of the lowest pipe/opening into or out of basin – Institute temporary street parking bans to facilitate access to catch basins
- Ditch inspections – ID problems while traveling to job site
- Storm event inspection – identify pollution problems (i.e. sediments) to determine the need for additional protective measures
- Post storm event inspection – ID problems (i.e. blockages)

MAINTENANCE PROCEDURES

- Catch basins/storm sewer pipe – cleaning in spring to remove sand/grit/salt from winter road maintenance, cleaning in fall to remove leaves/silt/debris
- Established ditch:
 - Maintain proper slope
 - Maintain vegetation by cutting (to capture sediment) – Do not allow vegetation to grow to a height that would impair sight lines of drivers of motor vehicles
 - Remove obstacles/ debris – (i.e. trash, tree branches, brush, cut vegetation)
 - Excavation/ditch scraping – if necessary, use devices (i.e. hay bales, silt fence) to capture sediment prior to stormwater discharge into receiving waters, reseed ditch
- New installation – capture particulate matter – install sediment basins/other devices in ditch
- Proper disposal of debris

Signature _____

Date _____

TOWN OF VESTAL STORMWATER MANAGEMENT PROGRAM PLAN

STREET CLEANING AND MAINTENANCE - Checklist

INSPECTION PROCEDURES

- Inspect streets, and plan (as needed) for maintenance/repairs
- Prioritize – some streets (i.e. those with high traffic flows, on flat grades, or with many trees) may need more frequent cleaning

MAINTENANCE PROCEDURES

- Spring sweeping/vacuuming – remove salt/sand residues
- Fall sweeping, collection of leaves at appropriate time intervals
- Dry sweep or vacuum streets during dry weather
- Initiate temporary street by street parking bans to allow access for cleaning
- Maintain equipment - check for/repair fluid leaks
- Stage road operations and maintenance activity (patching, pothole repair) to reduce spillage of materials.

Cover catch basins and manholes during activity

Signature _____

Date _____

TOWN OF VESTAL STORMWATER MANAGEMENT PROGRAM PLAN

ROAD SALT STORAGE AND APPLICATION - Checklist

. INSPECTION PROCEDURES

- Look for physical evidence of problems:
 - inspect salt storage shed for leaks, structural problems
 - inspect salt piles for proper coverage, tarps for leaks or tears
 - inspect salt application equipment
 - inspect salt regularly for lumping or water contamination
 - inspect surface areas for evidence of runoff – salt stains on ground near and around the salt shelter, loading area, or downslope
 - inspect for excessive amounts of salt on roads

MAINTENANCE PROCEDURES

- Service trucks and calibrate spreaders regularly to ensure accurate, efficient distribution of salt
- Educate and train operators on hazards of over-salting to roads and environment
- Repair salt storage shed – structural problems can lead to salt spillage
- Repair/replace tarps

Signature _____

Date _____

TOWN OF VESTAL STORMWATER MANAGEMENT PROGRAM PLAN

CONSTRUCTION AND LAND DISTURBANCE - Checklist

INSPECTION PROCEDURES

- Regularly scheduled inspections (of sediment control devices, erosion safeguards)
- Inspect during storm or snow melt events

MAINTENANCE PROCEDURES

- Check/repair all devices that have been installed to ensure protection against erosion

Signature _____

Date _____

Revision #1 - 9-15-14 (page 24, correction of TOV name)