

*Aquatic Pesticide Discharge Management Plan*

City of Hampton Mosquito Control  
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The Environmental Services section assists the Stormwater Operations Division of the Hampton Public Works Department with removing organic and inorganic debris from Stormwater Management facilities and drainage ditches in Hampton. Because of this responsibility, aquatic herbicide may be utilized in some areas.

A number of aquatic plants thrive in our area and if left unchecked they can seriously obstruct drainage areas and cause flooding to nearby neighborhoods. An Integrated Pest Management approach is utilized to minimize impact to non-target organisms and water quality and to offer maximum cost effectiveness. The following information focusses upon the licensed personnel's and criteria necessary to apply aquatic herbicides within the City of Hampton's Municipal Separate Storm Sewer System (MS4) system.

A. Pesticide Discharge Management Team. All persons may be contacted at:

1. Person(s) responsible for managing pests in relation to the pest management area.

a. Environmental Services Team Manager

Chris DeHart, CBLP  
Office: 757-727-2807  
Emergency Contact: 757-506-4226

b. Biologist

Michael Bowry  
Office: 757-727-2808  
Emergency Contact: 757-751-5108

2. Person(s) responsible for developing and revising the PDMP.

a. Environmental Services Team Manager

Chris DeHart, CBLP  
Office: 757-727-2807  
Emergency Contact: 757-506-4226

b. Biologist

Michael Bowry  
Office: 757-727-2808  
Emergency Contact: 757-751-5108

3. Person(s) responsible for developing, revising, and implementing corrective actions and other effluent limitation requirements.

a. Environmental Services Team Manager

Chris DeHart, CBLP  
Office: 757-727-2807  
Emergency Contact: 757-506-4226

- Environmental Services manager must hold licensing mandated through state regulating bodies permitting aquatic herbicide applications; Virginia Department of Environmental Quality (DEQ), Virginia Department of Agriculture and Consumer Services (VDACS)
- Suggested Licensing- Chesapeake Bay Landscape Professional (CBLP)

b. Biologist

Michael Bowry  
Office: 757-727-2808  
Emergency Contact: 757-751-5108

c. Stormwater Management Inspector

Robert Tweedy  
Office: 757-727-2803  
Emergency Contact: 757-390-1360

4. Person(s) responsible for pesticide applications (mix, load, apply).

a. Environmental Services Team Manager

Chris DeHart, CBLP  
Office: 757-727-2807  
Emergency Contact: 757-506-4226  
VDACS License #: 55456-G (3A, 3B, 5, 6, 8)  
DEQ Dual SMI License #: DIN0101

b. Biologist

Michael Bowry  
Office: 757-727-2808  
Emergency Contact: 757-751-5108  
VDACS License #: 136256-G/T (60,8)

c. Pest Control Technicians

Edward Bishop  
VDACS License #: 41486-G (8)

Josh Snyder  
VDACS License #: 124454-G/T (8)

John Miller  
VDACS License #: 95563-G/T (6, 8)

Caitlin Sciulli  
VDACS Certificate #: 148337-T (60)

d. Stormwater Management Facility Inspector

Robert Tweedy  
VDCAS License #: 103371-T

## Pest Management Area Description:

1. Pest Problem Area Description: The City of Hampton is located in the Tidewater Region along the east coast of Virginia. Hampton is located on the southeastern tip of the Peninsula in the Hampton Roads area, and shares borders with the City of Newport News, York County and the City of Poquoson. Hampton consists of 54.8 square miles of land and 84.4 square miles of water. Pest problem areas can best be separated into 4 broad types within our service area that can be further divided into more specific groups based on habitat type.
  - a. Municipality Owned Ditches – There is currently over 194 miles of open ditch line in the City of Hampton. Drainage crews are responsible for maintaining the ditch lines for flow of stormwater. When circumstances are in place where mechanical control is not feasible or cost-effective, Herbiciding crews may be called in and treat.
  - b. Drainage Inlets and Outlets –There are a number of drainage inlets and outlets on the right-of-way areas in the City of Hampton. When circumstances are in place where mechanical control is not feasible, Herbiciding crews may be called in and treat.
  - c. Stormwater Management Facilities (SWMF's) – There are currently 30+ municipal owned SWMF's or BMP's in the City of Hampton. Maintenance involves both mechanical and pesticide control of sites.
  - d. Right-of-Way Areas – Areas may include property not owned by the municipality, but impede the flow of stormwater for proper drainage.
2. Pest Problem Description: Pest descriptions can be broken down further once in the specific areas listed above. Below are the categories and subcategories that we maintain.
  - a. Rooted Terrestrial Plants
    - i. *Herbaceous Plants*
    - ii. *Woody Plants*
  - b. Aquatic Weeds
    - i. *Immersed Plants*
    - ii. *Submersed Plants*
    - iii. *Floating Plants*

3. Action Threshold
  - a. Action thresholds are set based on storm water drainage properties, crew safety, citizen requesting and aesthetics.
  - b. Current thresholds for directing herbiciding applications are as follows:
    - i. Concrete swales, rip rap areas, inlets, outlets, and bulk heads in all city easements need to have soil surface cleared for proper drainage to eliminate debris hang-ups.
    - ii. Major outfalls (i.e. Government and Magruder ditches, Shell Rd. Basin, etc.) need to have soil surface cleared for proper drainage to eliminate debris hang-ups.
    - iii. City easements that are inaccessible to effectively maintain through manual or mechanical control may be sprayed to promote drainage efficiency.
    - iv. Best Management Practices or Stormwater Management facilities may be sprayed to control algae or vegetative growth that inhibits proper drainage functionality or aesthetics.
    - v. Stormwater Conveyance Ditches bottoms when dry and past threshold levels containing invasive weed pests.
4. Water Quality Standards – There are no waterways in the City of Hampton that are impaired with any pesticides used by our agency.

B. Control Measure Description:

1. Below is a description of the control measures to demonstrate how the pest control technicians use the implementation of an IPM to meet the applicable technology-based limitations.
  - a. No action can be used in areas that are prone to erosion problems or threatened/endangered species are present.
  - b. Prevention – Maintaining cleanliness of the ditches and eliminating blockages to allow free flowing storm water thus eliminating standing water and wet conditions that promote vegetative growth.
  - c. Mechanical Control – The City of Hampton utilizes mechanical control through its close relationship with the drainage division of Hampton Public Works department. The Drainage division routinely uses mowers, weed-eaters, and other mechanical technology to maintain cleanliness and promote outward vegetative growth stabilizing erosion prone areas. Fountains and aerators are used in some Best Management Practices to improve drainage efficacy and eliminate the need for use of pesticides.
  - d. Ecological Control (Cultural) – Scout and identify plants that have vertical growth instead of horizontal growth that stabilize erosion prone areas and eliminates the need for the use of pesticides and is aesthetically pleasing. The use of rip rap in areas to reduce or eliminate areas of vegetative growth is utilized in certain situations.
  - e. Biological Control - The City of Hampton maintains the right to use triploid grass carp for reduction or elimination of submersed vegetation and algae.
  - f. Pesticide Control – The City of Hampton utilizes a variety of herbicides that are labeled for aquatic use and are registered with the EPA, state and local regulations. Pesticide control is used in combination with other control measures implemented in the IPM program.

Operators must consider impact to non-target organisms, impact to water quality, pest resistance, feasibility, and cost effectiveness when evaluating and selecting the most efficient and effective means of pest management to minimize pesticide discharge to waters of the U.S.

C. Schedules and Procedures:

1. Pertaining to Control Measures Used to Comply with the Effluent Limitations in Part 2.

a. Application Rate and Frequency Procedures.

i. Application Rate Determination

1. Types of Plants (Woody/Herbaceous, Floating/Submersed/Immersed)
2. Environmental Conditions (Temperature, Humidity, Wind Speed, precipitation etc.)
3. Target Area Accessibility
4. Determine appropriate application rate based on product label recommendations, previous experience and efficacy tests.

ii. Frequency Determination

1. Determine target site treatment history with selected pesticide
2. Evaluate effect of selected pesticide use on frequency and quantity thresholds for active ingredient.
3. Consider alternate treatment options

iii. Resistance Considerations

1. Consider documented resistance of target species to selected herbicide and/or any other compounds that are in the same class or exhibit similar modes of action. Also consider the possibility of cross resistance.
2. Consider the use of alternate control options.

b. Spill Prevention Procedures.

i. Perform daily and weekly inspections of chemical storage buildings.

ii. Refer to City of Hampton Public Works Operations Policy Manual:

Section: PW-SAFE-0007: Hazardous & Non-Hazardous Material Cleanup & Plan; Procedures.

Environmental Services Team Pesticide Spill Procedures Checklist located in all vehicles containing pesticides.

- c. Pesticide Application Equipment Procedures.
  - i. Truck Mounted Sprayer
    - 1. Operations:
      - a. A visual inspection of spray equipment for leaks or wear in the lines, tanks and nozzle is done prior to the startup of spray equipment.
      - b. Routine cleaning and maintenance of the spray system must be performed to ensure system is operating properly.
      - c. Calibrate Herbiciding equipment on a quarterly basis.
    - 2. Maintenance:
      - a. Daily Checks - Visually check the Herbiciding equipment before every use and make any necessary adjustments and /or repairs. Before making any repairs ensure that required PPE is worn.
        - i. Check all gasoline hoses, pesticide lines and fittings for cracks, leaks or wear. Replace if needed.
        - ii. Check all bolts and fasteners and tighten as necessary.
        - iii. Ensure that pesticide tanks have sufficient herbicide for assigned spray mission.
        - iv. Check all nozzle parts for wear or physical damage. Replace damaged parts.
        - v. Check engine oil. Add oil as needed.
        - vi. Check fuel level.
        - vii. Start engine, listen for any unusual noises and watch for excessive smoke or any engine oil leaks.



- ii. One to Four Gallon Sprayer
  - 1. Operations
    - i. Calibrate sprayer for each specific task.
    - ii. Flush and neutralize sprayer after every use.
  - 2. Maintenance
    - i. Check all pesticide lines and fittings for cracks, leaks or wear. Replace if needed.
    - ii. Ensure that pesticide tanks have sufficient herbicide for assigned spray mission.
    - iii. Check all nozzle parts for wear or physical damage. Replace damaged parts.
  
- d. Pest Surveillance Procedures.
  - i. Routine Seasonal Inspections
    - 1. Seasonal Inspections are done prior to the growing season, and are limited to a number of problematic areas within the City of Hampton.
    - 2. Routine Inspections are done during the growing season to determine when Herbiciding applications are needed.
  - ii. Citizen and Special Requests
    - 1. Service Requests are routed through the City of Hampton's 311 Call Center and directs problem areas to Environmental Services Division for inspection and possible treatment.
    - 2. Maintenance crews also notify the Environmental Services Division of problem areas while maintaining city right-of-ways. Inspections must be done to eliminate all other possibilities of control.

- e. Assessing Environmental Conditions Procedures.
  - i. Climatic conditions are always checked prior to any ground applications. Wind speed, wind direction, temperature, humidity, and impending rain must be taken into consideration to avoid drift to non-target plants, dilution of herbicide, or pesticide volatility.
- 2. Pertaining to Other Actions Necessary to Minimize Discharges.
  - a. Spill Response Procedures.
    - i. Chemical Spill Response OSHA Level II (Sigma Consulting Inc.) training is required for staff handling, loading or applying pesticides.
    - ii. Refer to City of Hampton Public Works Operations Policy Manual:
      - Section: PW-SAFE-0007: Hazardous & Non-Hazardous Material Cleanup & Plan; Procedures.
      - Environmental Services Team Pesticide Spill Procedures Checklist located in all vehicles containing pesticides.
  - b. Adverse Incident Response Procedures.
    - i. NPDES Regulations require any adverse incidents to be reported annually to the Virginia DEQ office. Pesticide applicators are given annual recertification courses which inform applicators of any rules and regulations that may have changed.
    - ii. To help avoid or at least minimize adverse incidents, City of Hampton applicators utilize all parts of the aquatic plan to minimize the usage of herbicide before application. Weather conditions are closely monitored to reduce the chance of runoff or drift.

- c. Pesticide Monitoring Schedules and Procedures.
  - i. For application by, or under the supervision of, personnel certified/trained in Right-of-Way (Category 6) and/or Aquatic Pest Control (Category 5). For each application, a record must be kept of:
    - 1. Applicator Name and License number.
    - 2. Date and Time where application occurred.
    - 3. Location and amount of area treated.
    - 4. Quantity of herbicide product and surfactants used during application.
    - 5. Dilution and Application rate.
    - 6. A description of herbicide delivery system used for the specific application.
    - 7. These records must be kept by the responsible public agency or their designee for a minimum of seven years using storage methods that will allow the records to be easily retrieved.

\*Revised 1/11/19