# TOWN OF BLACKSBURG STORMWATER MANAGEMENT PROGRAM
# VPDES PERMIT NO. VAR 040019

(Effective July 1, 2013)

# Municipal Separate Storm Sewer System (MS4)

## YEAR 2 ANNUAL REPORT

**Coverage Issued: July 1, 2013**
**Reporting Period: July 1, 2014 through June 30, 2015**

**Contact: Kafi Howard, Town Engineer**
**Date: October 1, 2015**

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# Introduction

Regulatory compliance related to storm water management and the Municipal Separate Storm Sewer System (MS4) program is part of a town wide program. This document serves as the annual report for the reporting period of **July 1, 2014 through June 30, 2015** for the **Town of Blacksburg** (TOB), General Permit No. **VAR040019** (effective July 1, 2013 – June 30, 2018). In this past permit year there have been no significant modifications to any department's roles and responsibilities as described in the TOB Program Plan (latest revision, September 2013). Minor revisions to BMPs are described in the body of the annual report based upon evaluations made upon the end of the first reporting year.

# Compliance with Objectives of General Permit

***Permit Condition: II.E.3.a***

1) Name and permit number
2) Annual report year
3) Modifications to any operator's departments roles and responsibilities
4) Number of new MS4 outfalls and associated acreage by HUC added during the permit year.
5) Signed Certification

The name, permit number and annual report year are located on the coversheet of the Town of Blacksburg MS4 Annual Report. There have been no modifications to operator's department's roles and responsibilities. There were no new MS4 outfalls added during this permit year. The Town staff has added a few existing outfalls to the database which impacts the total number of outfalls. The details of the added existing outfalls are discussed in the section MCM 3A – Develop and Update a Storm Sewer System Map.

The signed certification is included on the final page of this annual report.

***Permit Condition: II.E.3.b***

The status of compliance with state permit conditions, an assessment of the appropriateness of the identified best management practices and progress towards achieving the identified measurable goals for each of the minimum control measures.

In review of this stormwater program, the Town finds itself in compliance with the objectives of the General Permit. The Town review finds the identified best management practices (BMPs) successful in achieving the measurable goals for each of the minimum control measures (MCMs) as outlined in the Program Plan. The BMPs are found to be appropriate for addressing the discharges to impaired waterways and for meeting the objectives of the permit. The documentation to support this review is more specifically identified in the "Minimum Control Measure" section of this report for each BMP as:

- Measurable Goals Identified and Achieved,
- Appropriateness of BMP for Addressing Impaired Discharges,
- Progress Towards Meeting Objectives of the Permit,
- Consistency with Public Outreach and Education Plan, and
- Proposed Changes to the BMP or Measurable Goals

***Permit Condition: II.E.3.c***
Results of information collected and analyzed including monitoring data, if any, during the reporting period.

No monitoring is required as part of the implementation and evaluation of the TMDL action plan. Field screening monitoring results is included in this annual report in Appendix 3.A, Outfall Reconnaissance Collected Data.

***Permit Condition: II.E.3.d***
A summary of the stormwater activities the Town plans to undertake during the next reporting cycle.

Under each BMP the "Next Reporting Period Activities Planned" section discusses all plans for the next reporting period.

***Permit Condition: II.E.3.e***
A change in any identified best management practices or measurable goals for any of the minimum control measures including steps to be taken to address any deficiencies.

No changes have been planned for the best management practices or measurable goals.

***Permit Condition: II.E.3.f***
Notice that the operator is relying on another government entity to satisfy some of the state permit obligations (if applicable).

The Town of Blacksburg is not relying on any other government entity to satisfy any permit obligations.

***Permit Condition: II.E.3.g***
The approval status of any programs pursuant to Section IIC (if appropriate), or the progress towards achieving full approval of these programs.

This does not apply to the Town of Blacksburg.

***Permit Condition: II.E.3.h***
Information required for any applicable TMDL special condition contained in Section I.

The Town of Blacksburg has included all applicable TMDL special condition requirements in the TMDL Special Condition Requirements section of the annual report.

## TMDL Special Condition Requirements

TMDLs for both the Stroubles Creek and Upper Roanoke River watersheds were approved prior to the July 9, 2008 effective date of the General Permit. Therefore, special condition requirements (Section 1 B) apply to the Town during the current permit cycle. The Town is accountable for specific pollutant reductions through the assignment of a waste load allocation (WLA). The TOB currently has the following WLAs associated with a TMDL:

- 211 tons/year sediment to Stroubles Creek (aggregate WLA)
- 102 tons/year sediment to Upper Roanoke River watershed
- 3.15E+09 cfu/year bacteria (E coli) to Wilson Creek/ Upper Roanoke River watershed

List of TMDL Special Condition BMP's:

A. Maintain an Updated Program Plan that includes a TMDL Action Plan.
B. Maintain a List of Legal Authorities, Permits, and Agreements Applicable to Reducing the WLA.
C. Maintain a List of Additional Management Practices & Methods Beyond MCMs 1-6 Applicable to Reduce WLA.
D. Enhance the PEOP and Employee Training to Address Reducing WLA.
E. Assess all Significant Sources of Pollutants from Municipal Facilities.
F. Develop a Method to Assess TMDL Action Plans for Effectiveness in Reducing WLAs

### A. Maintain an Updated Program Plan that includes a TMDL Action Plan

The Town of Blacksburg will maintain an updated MS4 Program Plan that includes a specific TMDL Action Plan for pollutants associated to the MS4 in approved TMDLs. The TMDL Action Plans may be implemented in multiple phases over more than one permit cycle using the adaptive iterative approach provided adequate progress to reduce the pollutant discharge in a manner consistent with the assumptions and requirements of the specific TMDL WLA is demonstrated in accordance with the General Permit.

| **Measurable Goals Identified and Achieved:** | **Years Planned** | | | | | **Years Achieved** |
|---|---|---|---|---|---|---|
| Development of TMDL Action Plan | 2014 | 2015 | 2016 | 2017 | 2018 | **2015** |
| Evaluate TMDL Action Plan | | | 2016 | 2017 | 2018 | |
| **Progress Toward Meeting Objectives of Permit** | | | | | | |
| TMDL Action Plan has been completed this permit year as outlined in General Permit Table 1: Schedule of MS4 Plan Updates Required in this Permit. This document is included with the submittal of this current Annual Report. | | | | | | |
| **PEOP Consistency** | | | | | | |
| Currently there is no education or outreach component to this BMP. | | | | | | |
| **Proposed Changes to BMP or Measurable Goals** | | | | | | |
| No changes proposed. The Action Plan has been completed. | | | | | | |
| **Next Reporting Period Activities Planned (YEAR 3)** | | | | | | |
| The town plans to include information regarding the TMDL Action Plan into the Public Outreach Program. | | | | | | |

## B. Maintain a List of Legal Authorities and Agreements Applicable to Reducing the WLA

The Town of Blacksburg will maintain a list of its legal authorities such as ordinances, state and other permits, orders, specific contract language, and inter-jurisdictional agreements applicable to reducing the pollutant identified in each applicable waste load allocation.

| Measurable Goals Identified and Achieved: | Years Planned | | | | | Years Achieved |
|---|---|---|---|---|---|---|
| Development of List of Legal Authorities | 2014 | 2015 | 2016 | 2017 | 2018 | 2014, 2015 |
| Evaluate List of Legal Authorities | | 2015 | 2016 | 2017 | 2018 | 2015 |
| **Progress Toward Meeting Objectives of Permit** | | | | | | |
| The current list is located in the Program Plan document. The Town has evaluated these legal authorities and finds them effective in meeting the objectives of this permit. | | | | | | |
| **PEOP Consistency** | | | | | | |
| Currently there is no education or outreach component to this BMP. | | | | | | |
| **Proposed Changes to BMP or Measurable Goals** | | | | | | |
| None proposed. | | | | | | |
| **Next Reporting Period Activities Planned (YEAR 3)** | | | | | | |
| The town plans to review legal authorities and continue to evaluate for effectiveness. | | | | | | |

## C. Maintain a List of Additional Methods Beyond MCMs 1-6 Applicable to Reduce WLA

The Town of Blacksburg will maintain a list of additional management practices, control techniques and system design and engineering methods, beyond those included in the Minimum Control Measures 1-6 that are being implemented as part of the Program Plan, but are still applicable in reducing the pollutant identified in each waste load allocation

| Measurable Goals Identified and Achieved: | Years Planned | | | | | Years Achieved |
|---|---|---|---|---|---|---|
| Develop a List of Supplemental Methods beyond BMPs | 2014 | 2015 | 2016 | 2017 | 2018 | 2014, 2015 |
| Evaluate List of Supplemental Methods | | 2015 | 2016 | 2017 | 2018 | 2015 |
| **Progress Toward Meeting Objectives of Permit** | | | | | | |
| Currently all methods used to reducing the WLA are included in the MCM measures **and TMDL Action Plan**. Beyond those included in the Action Plan, no additional methods were included this reporting year. | | | | | | |
| **PEOP Consistency** | | | | | | |
| Currently there is no education or outreach component to this BMP. | | | | | | |
| **Proposed Changes to BMP or Measurable Goals** | | | | | | |
| None proposed. | | | | | | |
| **Next Reporting Period Activities Planned (YEAR 3)** | | | | | | |
| The town plans to continue to review methods beyond those in MCMs and Action Plan. If additional opportunities for management practices, techniques or design & engineering methods are incorporated, they will be included. | | | | | | |

## D. Enhance the PEOP and Employee Training to Address Reducing WLA

The Town of Blacksburg will enhance its public education and outreach and employee training programs to also promote methods to eliminate and reduce discharges of the pollutants identified in the WLA.

| Measurable Goals Identified and Achieved: | Years Planned | | | | | Years Achieved |
|---|---|---|---|---|---|---|
| Enhance PEOP to Address WLA | 2014 | 2015 | 2016 | 2017 | 2018 | 2014, 2015 |
| Enhance Employee Training to Address WLA | | 2015 | 2016 | 2017 | 2018 | 2015 |
| **Progress Toward Meeting Objectives of Permit** | | | | | | |

| |
|---|
| Currently the Public Education and Outreach Program has identified the pollutant of concern listed in the local TMDLs as two of the three water quality issues that will be addressed in the PEOP. The Town has incorporated WLA reduction and elimination methods in the employee training beginning in 2015 reporting year. This is detailed in BMP 6.E. |
| **PEOP Consistency** |
| • High Priority Issue: **Bacteria and Sediment**<br>• Targeted Group(s): **not applicable (Employee Impacts Only)** |
| **Proposed Changes to BMP or Measurable Goals** |
| None proposed. |
| **Next Reporting Period Activities Planned (YEAR 3)** |
| The Town plans to continue to incorporate these WLA strategies in employee training and SOPs. |

## E. Assess all Significant Sources of Pollutants from Municipal Facilities

The Town of Blacksburg will assess all significant sources of pollutant(s) from facilities of concern owned or operated by the Town of Blacksburg that are not covered under a separate VPDES permit. A significant discharge is a discharge where the expected pollutant loading is greater than the average pollutant loading for the land use identified in the TMDL. The Town will identify all municipal facilities that may be a significant source of the identified pollutant.

| **Measurable Goals Identified and Achieved:** | **Years Planned** | | | | | **Years Achieved** |
|---|---|---|---|---|---|---|
| Identify Facilities of Concern | 2014 | 2015 | 2016 | 2017 | 2018 | 2014, 2015 |
| Assess Facilities Potential Sources of Pollutants | | 2015 | 2016 | 2017 | 2018 | |
| **Progress Toward Meeting Objectives of Permit** | | | | | | |
| Currently the Town has completed the list of facilities of concern which are those municipal facilities that are located in watersheds with TMDL WLAs and are not covered under a separate permit. Inspections of these facilities have been performed for evidence of pollutants of concern (sediment and bacteria). No facilities were found to be discharging pollutants of concern. A complete list of the facilities is included in **Appendix SC-1.** | | | | | | |
| **PEOP Consistency** | | | | | | |
| Currently there is no education or outreach component to this BMP. | | | | | | |
| **Proposed Changes to BMP or Measurable Goals** | | | | | | |
| None proposed. | | | | | | |
| **Next Reporting Period Activities Planned (YEAR 3)** | | | | | | |
| The town plans to continue to inspect municipal facilities for sources of pollutants of concern. | | | | | | |

## F. Develop a Method to Assess TMDL Action Plans for Effectiveness in Reducing WLAs

The Town of Blacksburg will develop and implement a method to assess TMDL Action Plans for their effectiveness in reducing the pollutants identified in the WLAs. The evaluation shall use any newly available information, representative and adequate water monitoring results, or modeling tools to estimate pollutant reductions for the pollutants of concern from implementation of the MS4 Program Plan. The methodology used for assessment shall be described in the TMDL Action Plan.

| **Measurable Goals Identified and Achieved:** | **Years Planned** | | | | **Years Achieved** |
|---|---|---|---|---|---|
| Develop Evaluation Method | 2015 | 2016 | 2017 | 2018 | 2015 |
| Implement Evaluation Method | | 2016 | 2017 | 2018 | - |
| **Progress Toward Meeting Objectives of Permit** | | | | | |
| The method to assess the TMDL Action plan is identified in the TMDL Action Plan. The Town plans to use the Watershed Treatment Model to estimate pollutant reductions to assess water quality improvements in the Action Plan. | | | | | |

| PEOP Consistency |
| --- |
| Currently there is no education or outreach component to this BMP. |
| **Proposed Changes to BMP or Measurable Goals** |
| None proposed. |
| **Next Reporting Period Activities Planned (YEAR 3)** |
| The town plans to continue to assess TMDL Action Plans for effectiveness in reducing WLAs. |

## MCM 1: Public Education & Outreach on Stormwater Impacts

Continue to implement a public education program to distribute educational materials to the community or conduct equivalent outreach activities about the impacts of storm water discharges on water bodies and the steps that the public can take to reduce pollutants in storm water runoff. Measures described below are intended to meet public outreach and measurable goals as described 9VAC25-890-40, Section II B (1) and Section I B (2) C.

List of Minimum Control Measure #1 BMP's:

A. Public Education and Outreach Plan (PEOP) Development.
B. Storm Drain Marking Program Implementation.
C. Demonstration Projects Enhancement.
D. Household Waste, Business Waste, Universal and Hazardous Waste Education and Minimization.
E. Grease Program Enforcement.
F. Illicit Discharge Education.
G. Town Stormwater Page Maintenance.

### Appropriateness of the Minimum Control Measure One BMPs:

These BMPs increase awareness of the Town's local water quality issues by engaging the public in a variety of formats, introducing them to local impairments and ways in which they may be able to have some positive effect on the discharge to the Town's impaired waters. In the chart below, it illustrates how each of our BMPs addresses the specific impairments of our local waters.

| **2010 305(b)/303(d) Water Quality Assessment Report - Impairments** | | | |
|---|---|---|---|
| MINIMUM CONTROL MEASURE ONE BMPs | *Sediment* | *Bacteria* | *Temperature* |
| BMP 1.A (Public Education and Outreach Plan Development) | ✓ | ✓ | ✓ |
| BMP 1.B (Storm Drain Marking Program) | ✓ | ✓ | |
| BMP 1.C (Demonstration Projects Enhancement) | ✓ | ✓ | ✓ |
| BMP 1.D (Household, Business and Hazardous Waste Education) | | ✓ | |
| BMP 1.E (Grease Program Enforcement) | | ✓ | |
| BMP 1.F ( Illicit Discharge Education) | ✓ | ✓ | ✓ |
| BMP 1.G (Town Stormwater Page Maintenance) | ✓ | ✓ | ✓ |

### A. Public Education and Outreach Plan (PEOP) Development and Implementation

The Town will develop a public education and outreach plan (PEOP) to coordinate all outreach efforts into one campaign.

| **Measurable Goals Identified and Achieved:** | **Years Planned** | | | | **Years Achieved** |
|---|---|---|---|---|---|
| Identify three high-priority Issues | 2014 | | | | 2014 |
| Identify population size of the Target Audience | 2014 | | | | 2014 |
| Develop a Relevant Message | 2014 | | | | 2014 |
| Conduct Activities to Reach 20% of Target Audience | 2015 | 2016 | 2017 | 2018 | 2015 |
| Evaluate Plan for Appropriateness and Effectiveness | 2015 | 2016 | 2017 | 2018 | 2015 |
| Evaluate Audience Selection and High Priority Issues | 2015 | 2016 | 2017 | 2018 | 2015 |

| | | | |
|---|---|---|---|
| Provide Participation Opportunities | 2015 | 2018 | - |

**Progress Toward Meeting Objectives of Permit**

The Town has begun conducting activities as well as evaluating the program in this permit year. Below is a summary of the cumulative impact from all activities conducted as part of the Public Education and Outreach Plan during this reporting period. Details on the breakdown of all activities conducted and persons targeted is located in **Appendix 1.A (Summary of PEOP Implementation).**

**PEOP Consistency**

- High Priority Issue(s): **Oil & Grease, Bacteria and Sediment**
- Targeted Group(s) and Total number in group:
  - **Commercial Restaurant Employees (CRE) – 300 TOTAL**
  - **Young Residents (YR) – 17,474 TOTAL**
  - **Homeowners & Families (H&F) – 13,162 TOTAL**
- # People Reached: **CRE:300 (100%), YR:1763 (10%), H&F:4431 (33%)**

**Proposed Changes to BMP or Measurable Goals**

No changes are proposed. Additional outreach opportunities will be researched to expand outreach to the Young Residents target group.

**Next Reporting Period Activities Planned**

The town plans to continue to implement the Public Education and Outreach Plan and effectively reach 20% of each target audience will the activities detailed in it. The Town will expand the outreach to the Young Residents to successfully reach 20% of the target audience.

## B. Storm Drain Marking Program Implementation

The town plans to mark all storm drains within town limits with information regarding the storm drain system. A combination of painted storm drain stencils and the placement of permanent storm drain curb markers will be utilized for this program. Painted storm drain stencils will be used in areas where high traffic could dislodge a permanent curb marker. A permanent high visibility curb marker will be used in more pedestrian areas.

| **Measurable Goals Identified and Achieved:** | **Years Planned** | | | | | **Years Achieved** |
|---|---|---|---|---|---|---|
| Create Storm Drain Marking Inventory | 2014 | 2015 | 2016 | 2017 | 2018 | 2014 |
| Mark Storm Drains with Faded Markings | 2014 | 2015 | 2016 | 2017 | 2018 | 2014, 2015 |
| Mark Storm Drains with Permanent Marker | 2014 | 2015 | 2016 | 2017 | 2018 | 2014, 2015 |
| Evaluate BMP for Appropriateness and Effectiveness | | 2015 | 2016 | 2017 | 2018 | 2015 |

**Progress Toward Meeting Objectives of Permit**

The Town completed the marking of **700** high visibility metal markers on the highly pedestrian streets of downtown, Main Street and Prices Fork Road. A GIS map is being used to inventory marked locations and plan for future marking areas. The Town also marked **48** high visibility markers in student predominated residential areas. Maps and descriptions of locations marked is located in **Appendix 1.B (Student Storm Drain Marking and Town Forces Storm Drain Marking)**.

**PEOP Consistency**

- High Priority Issue(s): **Oil & Grease, Bacteria and Sediment**
- Targeted Group(s): **Commercial Restaurant Employees, Young Residents, and Homeowners & Families**
- # People Reached: **Young Residents (1040)**–Additional data on downtown foot traffic is not available at this time.

**Proposed Changes to BMP or Measurable Goals**

No changes are proposed for the BMP. The Town is continuing to look for ways to increase the locations of marking and ways to quantify the foot traffic in these highly pedestrian areas to better understand the impact this BMP is having on the target audiences.

**Next Reporting Period Activities Planned**

The town will continue to expand the installation of high visibility metal mark in highly visible areas. The Town will also continue to analyze more accurate ways to estimate audience reached.

## C. Demonstration Projects Enhancement

The town will continue utilizing Demonstration Projects on Town property as examples and educational resources for citizens:

- Wong Park Bioretention and Urban Forestry Area
- Recreation Building Bioretention (research partnership with Virginia Tech)
- Aquatic Center Bioretention (Bioretention retrofit)
- Blacksburg Motor Company (Bioretention, porous concrete, rain gardens, and rain barrels)
- South End Fire Station LID practices
- Farmer's Market (Redevelopment, reduction of impervious cover, Urban beautification)
- College Avenue Promenade (Urban streetscape Bioretention)

| **Measurable Goals Identified and Achieved:** | **Years Planned** | | | | | **Years Achieved** |
|---|---|---|---|---|---|---|
| Conduct tour(s) of Stormwater Demonstration Projects | 2014 | 2015 | 2016 | 2017 | 2018 | 2014, 2015 |
| Evaluate BMP for Appropriateness and Effectiveness | | 2015 | 2016 | 2017 | 2018 | 2015 |
| Construct New Demonstration Projects | | | | | 2018 | - |
| **Progress Toward Meeting Objectives of Permit** | | | | | | |
| Two tour was provided this reporting year utilizing Town Demonstration Projects as educational resources:<br>• Provided a tour of the LEED Certified Blacksburg Motor Company Building for a Civil Engineering Class of 25 on October 23, 2014.<br>Details regarding this BMP are located in **Appendix 1.C – Demonstration Project Activities for Reporting Year 2.** | | | | | | |
| **PEOP Consistency** | | | | | | |
| • High Priority Issue: **Bacteria and Sediment**<br>• Targeted Group(s): **Young Residents (YR), and Homeowners & Families (H&F)**<br>• # People Reached: **Young Residents (20), Homeowners & Families (0)** | | | | | | |
| **Proposed Changes to BMP or Measurable Goals** | | | | | | |
| None proposed. | | | | | | |
| **Next Reporting Period Activities Planned** | | | | | | |
| Continue to provide tours of demonstration projects and utilize them as educational resources. These tours are provided upon request and not initiated by the Town; therefore no estimates for audiences can be provided. | | | | | | |

## D. Household Waste, Business Waste, Universal and Hazardous Waste Education and Minimization

The Town's Office of Waste Minimization and Recycling employs two full time positions dedicated to addressing municipal solid waste, universal waste, and hazardous waste issues. Staff also addresses employee awareness and community education regarding these topics.

| **Measurable Goals Identified and Achieved:** | **Years Planned** | | | | | **Years Achieved** |
|---|---|---|---|---|---|---|
| Conduct Household Hazardous Waste Days | 2014 | 2015 | 2016 | 2017 | 2018 | 2014, 2015 |
| Record HHHW date, attendance & weight of collection. | 2014 | 2015 | 2016 | 2017 | 2018 | 2014, 2015 |
| Town Sponsored Electronics Recycling | 2014 | 2015 | 2016 | 2017 | 2018 | 2014, 2015 |
| Evaluate BMP for Appropriateness and Effectiveness | | 2015 | 2016 | 2017 | 2018 | 2015 |
| **Progress Toward Meeting Objectives of Permit** | | | | | | |
| The Household Hazardous Waste Days are now being scheduled once a month. The events are described in Appendix 1-C, Household Hazardous Waste Days Summary and Evaluation. | | | | | | |
| **PEOP Consistency** | | | | | | |

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| • High Priority Issue: **Sediment** & Bacteria<br>• Targeted Group(s): **Homeowners & Families (H&F)**<br>• # People Reached: **H&F (421)** |
| **Proposed Changes to BMP or Measurable Goals** |
| None proposed. |
| **Next Reporting Period Activities Planned** |
| The town will continue to sponsor monthly Household Hazardous Waste Collection days. Additional advertisement for the HHHW days will be incorporated into the PEOP. |

## E. Grease Program Enforcement

The Town "grease program" has established education, inspection, and enforcement guidelines. The Town has identified gas station and food service businesses that use or generate grease and/or oils. The businesses are targeted for education and outreach concerning BMPs that address the storage, disposal, and spills annually. The Town also sends an annual reminder to all historic violators. The Town maintains a database of violations that is utilized in the geographical informational systems to track trends in the system.

| **Measurable Goals Identified and Achieved:** | **Years Planned** | | | | | **Years Achieved** |
|---|---|---|---|---|---|---|
| Send Educational Brochures to Restaurants | 2014 | | 2016 | | 2018 | 2014 |
| Send Educational Brochures to Fuel Centers | | 2015 | 2016 | 2017 | | **Not achieved this year** |
| Send a reminder to businesses historic violations | 2014 | | 2016 | 2017 | 2018 | 2014 |
| Maintain database of oil & grease violators | 2014 | 2015 | 2016 | 2017 | 2018 | 2014, 2015 |
| Evaluate BMP for Appropriateness and Effectiveness | | 2015 | 2016 | 2017 | 2018 | 2015 |
| **Progress Toward Meeting Objectives of Permit** | | | | | | |
| Because this year the Non-stormwater discharger survey was distributed to all businesses within the Town, we did not have the opportunity to send out grease education to fuel centers or reminders to historic violators. These will be completed in reporting year 3. The discharger survey reached 100% of the commercial restaurant employee target group, so our requirements have been met with BMP 1.F. | | | | | | |
| **PEOP Consistency** | | | | | | |
| • High Priority Issue: Oil & Grease<br>• Targeted Group**: Commercial Restaurant Employees (CRE)**<br>• # People Reached: **CRE (0)** | | | | | | |
| **Proposed Changes to BMP or Measurable Goals** | | | | | | |
| None proposed. | | | | | | |
| **Next Reporting Period Activities Planned** | | | | | | |
| Distribute illicit discharge brochures to the following: all fuel centers in town, all restaurants, and all historic violators. | | | | | | |

## F. Illicit Discharge Education

The Town continues to research and update the BMPs, alternative options, and proper disposal techniques for non-stormwater discharges.

| **Measurable Goals Identified and Achieved:** | **Years Planned** | | | | | **Years Achieved** |
|---|---|---|---|---|---|---|
| Send Illicit Discharge Educational Information to Businesses | 2014 | 2015 | 2016 | 2017 | 2018 | 2014, 2015 |
| Send out Non-stormwater discharger survey | | 2015 | | | | 2015 |
| Evaluate BMP for Appropriateness and Effectiveness | | 2015 | 2016 | 2017 | 2018 | 2015 |
| **Progress Toward Meeting Objectives of Permit** | | | | | | |

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|---|
| The Town mailed out **985** of the Non-stormwater discharger survey to businesses in the Town. All commercial restaurants were targeted which is a target group of 3**00.** A copy of the Non-stormwater Discharger Survey is included in Appendix 1-F, Illicit Discharge Education Summary and Evaluation. |
| **PEOP Consistency** |
| • High Priority Issue: **Oil & Grease**<br>• Targeted Group(s): **Commercial Restaurant Employees (CRE)**<br>• # People Reached: **CRE (300), H&F (685)** |
| **Proposed Changes to BMP or Measurable Goals** |
| None proposed. |
| **Next Reporting Period Activities Planned** |
| In the next reporting period, the plan is to continue to reach out to target group "Commercial Restaurant Employees" and provide illicit discharge educational information to all restaurants in this target group, which would be (**100%)** of the target audience. |

## G. Town Stormwater Page Maintenance

Stormwater related information is available on the Town's website for the general public.

| **Measurable Goals Identified and Achieved:** | **Years Planned** | | | | | **Years Achieved** |
|---|---|---|---|---|---|---|
| Update Stormwater webpage | 2014 | 2015 | 2016 | 2017 | 2018 | 2014, 2015 |
| Review Stormwater webpage for Appropriate Content | 2014 | 2015 | 2016 | 2017 | 2018 | 2014, 2015 |
| Evaluate BMP for Appropriateness and Effectiveness | | 2015 | 2016 | 2017 | 2018 | 2015 |
| **Progress Toward Meeting Objectives of Permit** | | | | | | |
| The Town Stormwater page was updated to include information regarding the new Stormwater Utility ordinance, the Stormwater VSMP Program ordinance, and associated documents such as: the construction general permit, registration statement, termination form, fee table, single family SWPPP, and link to the BMP Clearinghouse. All listed updates were made prior to July 1, 2014. No additional updates were made this reporting period. | | | | | | |
| **PEOP Consistency** | | | | | | |
| • High Priority Issue: Oil & Grease, Bacteria and Sediment (ALL)<br>• Targeted Group(s): **Commercial Restaurant Employees, Young Residents, and Homeowners & Families**<br>• # People Reached: **Unknown – data on website usage is unknown at this time.** | | | | | | |
| **Proposed Changes to BMP or Measurable Goals** | | | | | | |
| None proposed. The Town is continuing to look into ways to better quantify the website usage to better quantify the impact this BMP is having on the target audiences. | | | | | | |
| **Next Reporting Period Activities Planned** | | | | | | |
| Continue to update website with pertinent and local information. Until additional data is provided regarding the existing usage of the website; no estimates can be performed concerning future usage. | | | | | | |

## MCM 2: Public Involvement and Participation

The Town must, at a minimum, comply with state, tribal, and local public notice requirements when implementing a public involvement/participation program. The goal is to increase public notice, involvement and participation in the Town's stormwater program. Measures described below are intended to meet these goals as described 9VAC25-890-40, Section II B (2).

List of Minimum Control Measure #2 BMP's:

A. Conduct Stakeholder Meetings for Watershed Management and Stormwater Quality Improvement.
B. TMDL Implementation Planning and Participation.
C. Participate and Support Stream Clean-up Efforts.
D. Posting of Program Plan and Annual Reports Online for General Public.
E. Outreach Event Participation.

### Appropriateness of the BMPs:

These BMPs in conjunction succeed in increasing public involvement and participation in the Town's stormwater program. Participation and citizen support for stormwater measures increases citizen advocacy and provides for more successful stormwater program. Below shows how each of our program plan BMPs addresses the specific impairments of our local waters.

| 2010 305(b)/303(d) Water Quality Assessment Report - Impairments | | | |
|---|---|---|---|
| MINIMUM CONTROL MEASURE TWO BMPs | *Sediment* | *Bacteria* | *Temperature* |
| BMP 2.A (Stakeholder Meetings) | ✓ | ✓ | ✓ |
| BMP 2.B (TMDL Implementation Planning and Participation) | ✓ | ✓ | ✓ |
| BMP 2.C (Participate and support stream clean-up efforts) | ✓ | ✓ | ✓ |
| BMP 2.D (Posting of Program Plan and Annual Reports online) | ✓ | ✓ | |
| BMP 2.E (Outreach Event Participation) | ✓ | ✓ | ✓ |

### A. Conduct Stakeholder Meetings for Watershed Management and Stormwater Quality Improvement

| **Measurable Goals Identified and Achieved:** | **Years Planned** | | | | | **Years Achieved** |
|---|---|---|---|---|---|---|
| Attend community meetings and public hearings for new projects with stormwater concerns. | 2014 | 2015 | 2016 | 2017 | 2018 | 2014, 2015 |
| Document Citizen Comments | 2014 | 2015 | 2016 | 2017 | 2018 | 2014, 2015 |
| Update Stormwater Goals in Comprehensive Plan | | | 2016 | | 2018 | - |
| Meet w/ Local Stormwater Interest Groups | | 2015 | 2016 | 2017 | 2018 | 2015 |
| Evaluate BMP for Appropriateness and Effectiveness | | 2015 | 2016 | 2017 | 2018 | 2015 |
| **Progress Toward Meeting Objectives of Permit** | | | | | | |
| The Town had 7 community meetings and 2 public hearings in which stormwater issues were discussed. A total of 225 citizens attended these meetings. There were 5 stormwater stakeholders interest groups met this reporting year. No updates were made to the comprehensive plan regarding The meetings are described in Appendix 2-A, Stormwater Stakeholders Meetings. | | | | | | |
| **PEOP Consistency** | | | | | | |

| |
|---|
| • High Priority Issue: **Sediment & Bacteria**<br>• Targeted Group(s): **Homeowners & Families**<br>• # People Reached: **H&F (384)** |
| **Proposed Changes to BMP or Measurable Goals** |
| None proposed. |
| **Next Reporting Period Activities Planned** |
| None proposed. The community meetings and public hearings are dependent on proposed development and the resulting community concerns. These are not initiated by the Town. The Town will also attend as many conferences and other stormwater related events as possible. The evaluation suggests having stormwater meetings that address a larger audience so more impacts can be seen. |

## B. TMDL Implementation Planning and Participation

| **Measurable Goals Identified and Achieved:** | **Years Planned** | | | | | **Years Achieved** |
|---|---|---|---|---|---|---|
| Attend Stroubles Creek TMDL IP Meetings | 2014 | 2015 | 2016 | 2017 | 2018 | 2014, 2015 |
| Attend Roanoke River TMDL IP Meetings | 2014 | 2015 | 2016 | 2017 | 2018 | 2014, 2015 |
| Evaluate BMP for Appropriateness and Effectiveness | | 2015 | 2016 | 2017 | 2018 | 2015 |
| **Progress Toward Meeting Objectives of Permit** | | | | | | |
| Town staff attended 8 meetings concerning the planning or implementation of TMDLs for the Stroubles Creek and Roanoke River watersheds. The meetings conducted in this reporting period focused on grant management for the construction of new high profile stormwater features. No outreach activities were planned for this reporting period. The meetings are described in Appendix 2-B, TMDL Implementation Planning Activities. | | | | | | |
| **PEOP Consistency** | | | | | | |
| • High Priority Issue: **Oil & Grease, Bacteria and Sediment**<br>• Targeted Group(s): **Commercial Restaurant Employees, Young Residents, and Homeowners & Families**<br>• # Target People Reached: **H&F(94)** | | | | | | |
| **Proposed Changes to BMP or Measurable Goals** | | | | | | |
| None proposed. | | | | | | |
| **Next Reporting Period Activities Planned** | | | | | | |
| Four additional meetings concerning the Stroubles Creek and Roanoke River TMDL planning and participation are expected to occur during the next reporting period. A community meeting is planned for the Roanoke River TMDL where an estimated **25** homeowners and families may attend. | | | | | | |

## C. Participate and Support Stream Clean-up Efforts

The Town will participate and assist local groups for stream clean-up efforts, including assistance with funding, trash collection, mapping and documentation for determining stream stretches, drainage ways, channels and other areas in need of clean-up and record keeping of these activities.

| **Measurable Goals Identified and Achieved:** | **Years Planned** | | | | | **Years Achieved** |
|---|---|---|---|---|---|---|
| Participate Local Stream Clean-up Efforts | 2014 | 2015 | 2016 | 2017 | 2018 | 2014, 2015 |
| Assist in Local Stream Clean-up Efforts | | 2015 | 2016 | 2017 | 2018 | 2015 |
| Evaluate BMP for Appropriateness and Effectiveness | | 2015 | 2016 | 2017 | 2018 | 2015 |
| **Progress Toward Meeting Objectives of Permit** | | | | | | |
| The Town participated in one stream clean-up event on October 11, 2014 in the Stroubles Creek Watershed. The Town plans on assisting in more stream clean-up efforts with citizen groups in the following reporting years. The event is described in Appendix 2-C, Stream Clean-up Summary and Evaluation. | | | | | | |
| **PEOP Consistency** | | | | | | |
| • High Priority Issue: **Bacteria, Sediment** | | | | | | |

| |
|---|
| • Targeted Group(s): **Young Residents, Homeowners and Families**<br>• # People Reached: **YR (5), H&R(0)** |
| **Proposed Changes to BMP or Measurable Goals** |
| None proposed. |
| **Next Reporting Period Activities Planned** |
| Assist in stream clean-ups (dates to be determined) and reach our target audience "Young Residents". Our goal for next reporting period is to reach **100** young residents in this practice. |

## D. Posting of Program Plan and Annual Reports Online for General Public

| **Measurable Goals Identified and Achieved:** | **Years Planned** | | | | | **Years Achieved** |
|---|---|---|---|---|---|---|
| Post Program Plan or Updates on Website | 2014 | 2015 | 2016 | 2017 | 2018 | 2014, 2015 |
| Post Annual Report on Website by November 1 | 2014 | 2015 | 2016 | 2017 | 2018 | 2014, 2015 |
| Evaluate BMP for Appropriateness and Effectiveness | | 2015 | 2016 | 2017 | 2018 | 2015 |
| **Progress Toward Meeting Objectives of Permit** | | | | | | |
| The Town posted Year 1 Annual report on the www.blacksburg.gov/stormwater webpage on October 30, 2014. The activity is described and evaluated in Appendix 2-D, Posting of Program Plan and Annual Report Summary and Evaluation. | | | | | | |
| **PEOP Consistency** | | | | | | |
| • High Priority Issue: Oil & Grease, Bacteria and Sediment (ALL)<br>• Targeted Group(s): **Commercial Restaurant Employees, Young Residents, and Homeowners & Families**<br>• # People Reached: **Unknown – data on website usage is unknown at this time.** | | | | | | |
| **Proposed Changes to BMP or Measurable Goals** | | | | | | |
| None proposed. | | | | | | |
| **Next Reporting Period Activities Planned** | | | | | | |
| Post the Year 2 annual report and TMDL Action Plan on the Blacksburg Stormwater webpage by October 31, 2015. | | | | | | |

## E. Outreach Event Participation

| **Measurable Goals Identified and Achieved:** | **Years Planned** | | | | | **Years Achieved** |
|---|---|---|---|---|---|---|
| Sponsor or Participate in at least 4 Outreach Events | 2014 | 2015 | 2016 | 2017 | 2018 | 2014, 2015 |
| Evaluate BMP for Appropriateness and Effectiveness | | 2015 | 2016 | 2017 | 2018 | 2015 |
| **Progress Toward Meeting Objectives of Permit** | | | | | | |
| Town staff participated in "Steppin' Out", Sustainability Week, The Big Event, and a general membership meeting of the New River Valley Homebuilders Association. These events occurred on 8/2/13, 9/18/13, 4/7/14 and 6/18/14, and Town staff had direct engagement with approximately 490 people. | | | | | | |
| **PEOP Consistency** | | | | | | |
| • High Priority Issue: **Sediment, Oil and Grease, Bacteria**<br>• Targeted Group(s): **Commercial Restaurant Employees, Young Residents, and Homeowners & Families (H&F),**<br>• # People Reached: **YR (343), H&F (25)** | | | | | | |
| **Proposed Changes to BMP or Measurable Goals** | | | | | | |
| None proposed. | | | | | | |
| **Next Reporting Period Activities Planned** | | | | | | |
| Participate in the following events: Steppin' Out, Sustainability Week, The Big Event and Community Association meetings. The target audience continues to be Homeowners and Families and our target goal is to reach **700** people. | | | | | | |

## MCM 3: Illicit Discharge Detection and Elimination

Develop a comprehensive map of the storm drain system, establish and carry out procedures to identify and remove illicit discharges, establish legal authority for enforcement actions, and encourage public education and involvement in eliminating illicit discharges. Measures described below are intended to meet public outreach and measurable goals as described 9VAC25-890-40, Section II B (3).

List of Minimum Control Measure #3 BMP's:

A. Develop a Storm Drain System Map
B. Develop Procedures for Identifying Areas with High Potential for Introducing Illicit Discharges to the Storm System
C. Enforce an Ordinance Prohibiting Illegal Dumping and Non-storm Water Discharges
D. Enforce an Ordinance Prohibiting Diverted Stream Flows in Environmentally Sensitive Areas and Encouraging Buffering Around Creeks
E. Establish a Plan to Identify and Remove Illicit Discharges by Utilizing Public Involvement, Education, and Enforcement of Illicit Discharge Ordinance.
F. Estimate Volume of Stormwater Discharged and Quantity of WLA Pollutant.
G. Develop Written Procedures to Detect, Identify, and Address Discharges Including Illegal Dumping
H. Notify, in Writing, any Downstream Regulated MS4 to which the Small Regulated MS4 is Physically Interconnected of the Small Regulated MS4's Connection to that System.

### Appropriateness of the BMPs:

These BMPs in conjunction succeed in establish legal authority for enforcement actions, and encourage public education and involvement in eliminating illicit discharges. Enforcement and awareness are critical to identify and eliminate illicit discharged to the storm drain network. Below shows how each of our BMPs addresses the specific impairments of our local waters.

| **2010 305(b)/303(d) Water Quality Assessment Report - Impairments** | | | |
|---|---|---|---|
| MINIMUM CONTROL MEASURE THREE BMPs | *Sediment* | *Bacteria* | *Temp.* |
| BMP 3.A (Develop a Storm Drain System Map) | ✓ | ✓ | ✓ |
| BMP 3.B (Procedures for Identifying Illicit Discharge Potential) | ✓ | ✓ | ✓ |
| BMP 3.C (Enforce Non-Stormwater Discharge Ordinance) | ✓ | ✓ | ✓ |
| BMP 3.D (Enforce Ordinance Preventing Diverted Streams/Overlays) | ✓ | ✓ | ✓ |
| BMP 3.E (Plan to Identify and Remove Illicit Discharge) | ✓ | ✓ | ✓ |
| BMP 3.F (Estimate Volume discharged and quantity of WLA pollutant) | ✓ | ✓ | |
| BMP 3.G (Develop written procedures to detect, identify, and address stormwater discharges including illegal dumping) | ✓ | ✓ | ✓ |
| BMP 3.H (Notification of Downstream Regulated MS4) | ✓ | ✓ | |

## A. Develop and Update a Storm Drain System Map

| Measurable Goals Identified and Achieved: | Years Planned | | | | | Years Achieved |
|---|---|---|---|---|---|---|
| Storm Sewer Inventory Mapping Update | 2014 | 2015 | 2016 | 2017 | 2018 | 2014, 2015 |
| Report number of new structures and channels mapped | 2014 | 2015 | 2016 | 2017 | 2018 | 2014, 2015 |
| Report number of new outfalls, acreage and HUC | 2014 | 2015 | 2016 | 2017 | 2018 | 2014, 2015 |
| Evaluate BMP for Appropriateness and Effectiveness | | 2015 | 2016 | 2017 | 2018 | 2015 |
| **Progress Toward Meeting Objectives of Permit** | | | | | | |
| In the past year the Town has mapped 625 new structures and 571 new channels. The Town has mapped 11 outfalls. These outfalls are not associated with new construction. These outfalls were existing structures and were added to our digital storm sewer map as a part of our storm sewer system mapping update. Details regarding the update to the storm sewer system is discussed in Appendix 3.A Storm Drain System Map Summary and Evaluation. | | | | | | |
| **Proposed Changes to BMP or Measurable Goals** | | | | | | |
| None proposed. | | | | | | |
| **Next Reporting Period Activities Planned** | | | | | | |
| Continue to update and correct the storm drain system map. | | | | | | |

## B. Develop Procedures for Identifying Areas with High Potential for Illicit Discharge

| Measurable Goals Identified and Achieved: | Years Planned | | | | | Years Achieved |
|---|---|---|---|---|---|---|
| Develop Illicit Discharge Potential Assessment | 2014 | 2015 | 2016 | 2017 | 2018 | 2014, 2015 |
| Develop Outfall Reconnaissance Inventory | | 2015 | 2016 | 2017 | 2018 | 2015 |
| Perform screening for 20% of Outfalls | 2014 | 2015 | 2016 | 2017 | 2018 | 2014, 2015 |
| Evaluate BMP for Appropriateness and Effectiveness | | 2015 | 2016 | 2017 | 2018 | 2015 |
| **Progress Toward Meeting Objectives of Permit** | | | | | | |
| The Town has completed its Discharge Potential assessment and Outfall Reconnaissance Inventory as part of the Comprehensive Illicit Discharge Detection and Elimination Program (revised June 17, 2014) which outlines all details of the program. The Town has also screened 30 outfalls in reporting year 2, which is 20% of the total number of outfalls within the Town. Details regarding the outfalls screened and the evaluation of the illicit discharge program is discussed in Appendix 3.B Illicit Discharge Protocol and Procedures Summary and Evaluation. | | | | | | |
| **Proposed Changes to BMP or Measurable Goals** | | | | | | |
| None proposed. | | | | | | |
| **Next Reporting Period Activities Planned** | | | | | | |
| Continue to perform screening for 20% of outfalls and evaluate BMP for effectiveness. | | | | | | |

## C. Enforce an Ordinance Prohibiting Illegal Dumping and Illicit Discharges

| Measurable Goals Identified and Achieved: | Years Planned | | | | | Years Achieved |
|---|---|---|---|---|---|---|
| Enforce Illicit Discharge Ordinance | 2014 | 2015 | 2016 | 2017 | 2018 | 2014, 2015 |
| Track all known illicit discharges and illegal dumping | | 2015 | 2016 | 2017 | 2018 | 2015 |
| Evaluate BMP for Appropriateness and Effectiveness | | 2015 | 2016 | 2017 | 2018 | 2015 |
| **Progress Toward Meeting Objectives of Permit** | | | | | | |
| The Town has adopted the Illicit Discharges ordinance (sec. 18-624) of the new stormwater ordinance on June 10, 2014. This ordinance is an update to the previous Illicit Discharges section 18-622 of the stormwater ordinance. The Town recorded 13 illicit discharge or dumping complaints last reporting year, all of which were determined to be true illicit discharges. These incidents were tracked and eliminated according to the program procedures. The discharges are described in Appendix 3C, Illicit Discharges and Enforcement 2015 Summary and Evaluation. | | | | | | |
| **Proposed Changes to BMP or Measurable Goals** | | | | | | |
| None proposed. | | | | | | |

## D. Enforce an Ordinance Prohibiting Diverted Stream Flows and Encouraging Buffering Around Creeks

| Measurable Goals Identified and Achieved: | Years Planned | | | | | Years Achieved |
|---|---|---|---|---|---|---|
| Enforce Creek Valley Overlay and Floodplain Districts | 2014 | 2015 | 2016 | 2017 | 2018 | 2014, 2015 |
| Evaluate BMP for Appropriateness and Effectiveness | | 2015 | 2016 | 2017 | 2018 | 2015 |
| **Progress Toward Meeting Objectives of Permit** | | | | | | |
| The Town continues to enforce the Creek Valley and Floodplain overlay districts. The Town reviewed two (2) subdivision/site plans where the Creek/Valley Overlay was enforced and two (2) site plans/subdivisions where the Floodplain Overlay was enforced. The details are described in Appendix 3D, Creek Valley and Floodplain Overlay Activities Summary and Evaluation. | | | | | | |
| **Proposed Changes to BMP or Measurable Goals** | | | | | | |
| None proposed. | | | | | | |

## E. Establish an Illicit Discharge Plan to Eliminate Discharges through Outreach

| Measurable Goals Identified and Achieved: | Years Planned | | | | | Years Achieved |
|---|---|---|---|---|---|---|
| Develop a Public Involvement Plan for Illicit Discharges | 2014 | | | | | 2014 |
| Outline Public Involvement & Education for Ill. Discharges | 2014 | | | | | 2014 |
| Outline the enforcement methodology | 2014 | | | | | 2014 |
| Document the methods used in outfall screening | 2014 | | | | | 2014 |
| Identify the outfall reconnaissance frequency | 2014 | | | | | 2014 |
| Detail actions required if a suspected discharge is found | 2014 | | | | | 2014 |
| Identify source identification, enforcement methods and reporting requirements. | 2014 | | | | | 2014 |
| Attend citizen event & distribute Information | | 2015 | 2016 | 2017 | 2018 | 2015 |
| Evaluate BMP for Appropriateness and Effectiveness | | 2015 | 2016 | 2017 | 2018 | 2015 |
| **Progress Toward Meeting Objectives of Permit** | | | | | | |
| The Town has completed the Comprehensive Illicit Discharge Detection and Elimination Program (revised June 17, 2014) which outlines all details of the program. This year's activities include sending out flyers to 315 residences, a non-stormwater discharger survey, participation at 4 events and O&M training for municipal staff. Details are described in Appendix 3-E, Elimination of Discharges through Outreach Summary and Evaluation. | | | | | | |
| **Proposed Changes to BMP or Measurable Goals** | | | | | | |
| None proposed. | | | | | | |

## F. Estimate Volume of Stormwater discharged and Quantity of WLA Pollutant

The TOB currently has the following WLAs associated with a TMDL:

- 211 tons/year sediment to Stroubles Creek
- 102 tons/year sediment to Upper Roanoke River watershed
- 3.15E+09 cfu/year bacteria (E coli) to Wilson Creek

| Measurable Goals Identified and Achieved: | Years Planned | | | | | Years Achieved |
|---|---|---|---|---|---|---|
| Estimate Volume of Water Discharged from each watershed | 2014 | 2015 | 2016 | 2017 | 2018 | 2014, 2015 |
| Estimate Amounts of WLA pollutants | 2014 | 2015 | 2016 | 2017 | 2018 | 2014, 2015 |
| Evaluate BMP for Appropriateness and Effectiveness | | 2015 | 2016 | 2017 | 2018 | 2015 |
| **Progress Toward Meeting Objectives of Permit** | | | | | | |
| The Town has estimated the volume and quantity of pollutants in prior years using the LTHIA Basic Spreadsheet. With the creation of the TMDL action plan, the Watershed Treatment Model has been utilized to estimate the volumes of stormwater and quantities of WLA pollutants. These results are discussed in detail in Appendix 3-F, | | | | | | |

| |
|---|
| Estimation of Volume and WLA for Town watersheds. |
| **Proposed Changes to BMP or Measurable Goals** |
| The only change proposed is to utilize the Watershed Treatment Model to continue to estimate the volume and quantities of pollutants of concern to be consistent with the Blacksburg TMDL Action Plan. |

## G. Develop Written Procedures to Detect, Identify, and Address Illegal Stormwater Discharges

| **Measurable Goals Identified and Achieved:** | **Years Planned** | | | | | **Years Achieved** |
|---|---|---|---|---|---|---|
| Identify and document written dry weather screening methodologies. | 2014 | 2015 | 2016 | 2017 | 2018 | 2014 |
| Develop a prioritized schedule of field screening. | 2014 | 2015 | 2016 | 2017 | 2018 | 2014 |
| Describe how discharge rate and visual observations will be described. | 2014 | 2015 | 2016 | 2017 | 2018 | 2014 |
| Identify a timeframe for follow-up. | 2014 | 2015 | 2016 | 2017 | 2018 | 2014 |
| Establish a database for tracking. | 2014 | 2015 | 2016 | 2017 | 2018 | 2014 |
| Expand outreach methods for public reporting. | 2014 | 2015 | 2016 | 2017 | 2018 | 2014 |
| Evaluate BMP for Appropriateness and Effectiveness | | 2015 | 2016 | 2017 | 2018 | 2015 |
| **Progress Toward Meeting Objectives of Permit** | | | | | | |
| The Town has completed the Comprehensive Illicit Discharge Detection and Elimination Program (revised June 17, 2014) which outlines all details of the program. An evaluation of this program is contained in Appendix 3-G, Evaluation of Procedures to Detect, Identify, and Address Illegal Stormwater Discharges. | | | | | | |
| **Proposed Changes to BMP or Measurable Goals** | | | | | | |
| None proposed. | | | | | | |

## H. Notify in Writing all Downstream MS4 of any Known Physical Interconnections

| **Measurable Goals Identified and Achieved:** | **Years Planned** | | | | | **Years Achieved** |
|---|---|---|---|---|---|---|
| Notify All Downstream MS4s of Interconnections | 2014 | 2015 | 2016 | 2017 | 2018 | 2014, 2015 |
| Evaluate BMP for Appropriateness and Effectiveness | | 2015 | 2016 | 2017 | 2018 | 2015 |
| **Progress Toward Meeting Objectives of Permit** | | | | | | |
| The Town notified Virginia Tech and VDOT in writing on 10/15/2013 and notified Montgomery County in writing on 4/13/2015 of all known physical interconnections. An evaluation of this program is contained in Appendix 3-H, Notify in Writing all Downstream MS4 of any Known Physical Interconnections Summary and Evaluation. | | | | | | |
| **Proposed Changes to BMP or Measurable Goals** | | | | | | |
| None proposed. | | | | | | |

## MCM 4: Construction Site Runoff Control

Develop, implement, and enforce a program to reduce pollutants in storm water runoff to the MS4 from construction activities that is compliant with the Virginia Erosion and Sediment Control program administered by the Department of Environmental Quality. Additionally, reduction of stormwater discharges from construction activity disturbing less than 5000 feet must be included in the program if that construction activity is part of a larger common plan of development or sale that would disturb 5000 square feet or more. Measures described below are intended to meet public outreach and measurable goals as described 9VAC25-890-40, Section II B (4).

The operator shall track regulated land-disturbance activities and submit the following information annually in accordance to Section II (E) (3) of 4VAC50-60

1. Total number of regulated land disturbing activities
2. Total disturbed acreage

List of Minimum Control Measure #4 BMP's:

A. Erosion and Sediment Control Ordinance, Certification and Land Disturbing Activities.
B. Respond To Erosion and Sediment Control Complaints.
C. Require construction site operators to control waste.
D. Require acknowledgement from agent (design engineer) or owner when a VSMP permit is needed for a plan under review.
E. E&S Inspection Protocol (July 2014)
F. Pollution Prevention Plan Enforcement Protocol (July 2015)

### Appropriateness of the BMPs:

These BMPs provide the Town with an E&S program that can successfully reduce pollutants in storm water runoff to the MS4 from construction. Sediment from construction sites can act as a vehicle for bacteria and sediment transport into the regulated MS4. The chart below shows how each BMP successfully targets the impairments of the Town's local streams.

| **2010 305(b)/303(d) Water Quality Assessment Report - Impairments** | | | |
|---|---|---|---|
| MINIMUM CONTROL MEASURE ONE BMPs | *Sediment* | *Bacteria* | *Temperature* |
| BMP 4.A (Erosion and Sediment Control Ordinance) | ✓ | ✓ | |
| BMP 4.B (Respond To Erosion and Sediment Control Complaints) | ✓ | ✓ | |
| BMP 4.C (Require Construction Site Operators to Control Waste) | | ✓ | |
| BMP 4.D (Measures to Assure Owners Acquire VSMP Permit) | ✓ | ✓ | ✓ |
| BMP 4.E (E&S Inspection Protocol) | ✓ | ✓ | |
| BMP 4.F (Pollution Prevention Plan Enforcement Protocol) | ✓ | ✓ | ✓ |

## A. Erosion and Sediment Control Ordinance, Certification and Land Disturbing Activities

| Measurable Goals Identified and Achieved: | Years Planned | | | | | Years Achieved |
|---|---|---|---|---|---|---|
| Erosion and Sediment Control Ordinance Review for State Compliance | | 2015 | | | | 2015 |
| Document number of E&S Inspections | 2014 | 2015 | 2016 | 2017 | 2018 | 2015 |
| Document number of enforcement actions | 2014 | 2015 | 2016 | 2017 | 2018 | 2015 |
| Certify that all staff has appropriate certification(s) | 2014 | 2015 | 2016 | 2017 | 2018 | 2015 |
| Track the number of land disturbances | 2014 | 2015 | 2016 | 2017 | 2018 | 2015 |
| Track the total area of disturbed land | 2014 | 2015 | 2016 | 2017 | 2018 | 2015 |
| Evaluate BMP for Appropriateness and Effectiveness | | 2015 | 2016 | 2017 | 2018 | 2015 |

**Progress Toward Meeting Objectives of Permit**

- The Erosion and Sediment Control Ordinance will be reviewed for compliance with the most current state Erosion and Sediment Control (FY2014) ordinance if any items are identified, they will be addressed. This ordinance review is scheduled for Year 2 of the permit cycle and the changes should be implemented immediately following the review.
- A total of 1554 erosion and sediment control inspections were conducted last reporting term, 20 verbal warnings, and 8 letters of violation.
- The Town employs 10 staff members that maintain Erosion and Sediment control certificates. Currently all employees are current on their certifications.
- In this reporting year, the Town approved 50 single family residences and 18 site plans and subdivisions. A total of 48 acres were disturbed.

**Proposed Changes to BMP or Measurable Goals**

One additional position has been identified as recommended for an Erosion and Sediment control certification. This staff person will achieve ESC Inspector certification in Year 3 of the permit cycle.

## B. Respond To Erosion and Sediment Control Complaints

| Measurable Goals Identified and Achieved: | Years Planned | | | | | Years Achieved |
|---|---|---|---|---|---|---|
| Respond to E&S control complaints | 2014 | 2015 | 2016 | 2017 | 2018 | 2014, 2015 |
| Evaluate BMP for Appropriateness and Effectiveness | | 2015 | 2016 | 2017 | 2018 | 2015 |

**Progress Toward Meeting Objectives of Permit**

The Town received 8 erosion and sediment control complaints in the past reporting period. All complaints were responded to within 24 business hours of reporting. All concerns were resolved in a timely manner.

**Proposed Changes to BMP or Measurable Goals**

It is recommended that the Town advertise the ESC reporting options to allow for more citizens to have access.

## C. Require Construction Site Operators to Control Waste

| Measurable Goals Identified and Achieved: | Years Planned | | | | | Years Achieved |
|---|---|---|---|---|---|---|
| Respond to Trash and Debris complaints | 2014 | 2015 | 2016 | 2017 | 2018 | 2014, 2015 |
| Evaluate BMP for Appropriateness and Effectiveness | | 2015 | 2016 | 2017 | 2018 | 2015 |

**Progress Toward Meeting Objectives of Permit**

All trash and debris control complaints were responded to within 24 hours of reporting. Since all debris was cleared immediately, no trash and debris reports were issued.

**Proposed Changes to BMP or Measurable Goals**

None proposed.

## D. Require a VSMP Permit or VSMP Authority Land Disturbance Permit for all Plans

| Measurable Goals Identified and Achieved: | Years Planned | Years Achieved |
|---|---|---|
| Provide a VSMP comment in site plan review letter to all disturbances >1acre (**ELIMINATED**) | 2014 | 2014 |
| Verify VSMP permit coverage at pre-con meeting (**ELIMINATED)** | 2014 | 2014 |
| Track all disturbances covered under a VSMP permit | 2015 2016 2017 2018 | 2015 |
| Track all disturbances covered under a VSMP Authority permit | 2015 2016 2017 2018 | 2015 |
| Evaluate BMP for Appropriateness and Effectiveness | 2016 2017 2018 | - |
| **Progress Toward Meeting Objectives of Permit** | | |
| All land disturbances over 1 acre is required to obtain a VSMP permit. These site provided confirmation of coverage prior to receiving a land disturbance permit. A total of 43 site plans were reviewed and 11 of those required a VSMP permit or was associated with an active VSMP permit. A list of all VSMP permitted sites is located in Appendix 4-D, VSMP Disturbances and VSMP Authority Permits. | | |
| **Proposed Changes to BMP or Measurable Goals** | | |
| The Town should continue the program of requiring VSMP coverage for all necessary sites prior to plan approval and VSMP Authority land disturbance permit. | | |

## E. E&S Inspection Protocol

| Measurable Goals Identified and Achieved: | Years Planned | Years Achieved |
|---|---|---|
| Document schedule for E&S inspections | 2014 | 2014 |
| Adopt a public mechanism for the promotion and receipt of complaints. | 2014 | 2014 |
| Outline procedures for use of legal authority to require compliance with the approved plan. | 2014 | 2014 |
| Document that inspections are performed by certified inspectors | 2014 2015 2016 2017 2018 | 2014, 2015 |
| Evaluate BMP for Appropriateness and Effectiveness | 2015 2016 2017 2018 | 2015 |
| **Progress Toward Meeting Objectives of Permit** | | |
| The Town has completed its E&S Inspection Protocol. This plan has been implemented and the frequency for inspections is in compliance with general permit. The plan also outlines our enforcement and plan revision procedures. In addition, the Town has adopted multiple public mechanisms for receipt of complaints regarding regulated land disturbing activities, one is called “At your Request” and another is called “Speakup Blacksburg!” Both strategies are opportunities for citizens to voice complaints regarding any issue within the Town. Details and evaluation of this ESC Inspection Protocol are located in Appendix 4-E, ESC Inspection Protocol Summary and Evaluation. | | |
| **Proposed Changes to BMP or Measurable Goals** | | |
| None proposed. | | |

## F. Pollution Prevention Plan Enforcement Protocol

| Measurable Goals Identified and Achieved: | Years Planned | Years Achieved |
|---|---|---|
| Implement a Pollution Prevention Plan Enforcement Protocol | 2015 | 2015 |
| Perform SWPPP Inspections in compliance with the Pollution Prevention Plan Protocol | 2015 2016 2017 2018 | 2015 |
| Document number of SWPPP Inspections performed | 2015 2016 2017 2018 | 2015 |
| Evaluate BMP for Appropriateness and Effectiveness | 2016 2017 2018 | - |

| **Progress Toward Meeting Objectives of Permit** |
| --- |
| The Pollution Prevention Plan Enforcement Protocol was completed in this reporting period. This protocol requires the implementation of controls to prevent non-stormwater discharges to the MS4 such as wastewater, concrete washout, fuels and oils or other illicit discharges. As part of this protocol, the Town has created several guidance documents regarding spill prevention kits and concrete washout areas that are required to be included in every SWPPP document. Inspections and results from the program are documented in Appenidx 4-F, Pollution Prevention Plan Enforcement Protocol. |
| **Proposed Changes to BMP or Measurable Goals** |
| None proposed. |

## MCM 5: Post Construction Stormwater Management

Develop, implement and enforce a program to reduce the volume and improve the quality of storm water runoff from development with a land disturbance of greater than or equal to 5000 square feet. Additionally, reduction of storm water 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 5000 square feet or more. Measures described below are intended to meet public outreach and measurable goals as described 9VAC25-890-40, Section II B (5).

List of Minimum Control Measure #5 BMP's:

A. Enforce a storm water ordinance designed to control runoff impacts
B. Implement a long term stormwater maintenance program.
C. Tracking of all known stormwater management facilities.
D. Stormwater Facilities Protocol

### Appropriateness of the BMPs:

These BMPs permanently reduce the volume and improve the quality of storm water runoff from development by enforcing permanent stormwater control facilities for all land disturbances of 5000 square feet and greater. The installation and appropriate maintenance of these facilities will trap sediment and pollutants and prevent sediment and bacteria from being transported through the system. Below shows how each of our program plan BMPs addresses the specific impairments of our local waters.

| **2010 305(b)/303(d) Water Quality Assessment Report - Impairments** | | | |
|---|---|---|---|
| MINIMUM CONTROL MEASURE ONE BMPs | *Sediment* | *Bacteria* | *Temperature* |
| BMP 5.A (Enforce a Stormwater Ordinance) | ✓ | ✓ | ✓ |
| BMP 5.B (Implement a SW Maintenance Program) | ✓ | ✓ | |
| BMP 5.C (Tracking of SW Management Facilities) | ✓ | ✓ | |
| BMP 5.D (Stormwater Facilities Protocol) | ✓ | ✓ | |

### A. Enforce a storm water ordinance designed to control runoff impacts

| **Measurable Goals Identified and Achieved:** | **Years Planned** | **Years Achieved** |
|---|---|---|
| Adopt a Stormwater Ordinance compliant with State Regulations | 2014 | 2014 |
| Review of ordinance for continued compliance with State regulations | 2015 2016 2017 2018 | 2015 |
| Evaluate BMP for Appropriateness and Effectiveness | 2015 2016 2017 2018 | 2015 |
| **Progress Toward Meeting Objectives of Permit** | | |
| A revised Stormwater Ordinance was adopted on June 10th, 2014. This ordinance has been reviewed for continued compliance and was found to be in compliance with all parts of 9VAC25-870 of the State stormwater regulations. In the ordinance, the threshold for stormwater was continued at 5000 square feet instead of adopting the state threshold of 1 acre. An evaluation of the stormwater ordinance is located in Appendix 5-A, Review and Evaluation of Stormwater Ordinance. | | |
| **Proposed Changes to BMP or Measurable Goals** | | |
| None proposed. | | |

## B. Implement a Long Term Stormwater Maintenance Program

| Measurable Goals Identified and Achieved: | Years Planned | | | | | Years Achieved |
|---|---|---|---|---|---|---|
| Require a Stormwater covenant prior to plan approval. | 2014 | 2015 | 2016 | 2017 | 2018 | 2014, 2015 |
| Inspect private facilities once every five years. | 2014 | 2015 | 2016 | 2017 | 2018 | 2014, 2015 |
| Inspect Town facilities every year. | 2014 | 2015 | 2016 | 2017 | 2018 | 2014, 2015 |
| Maintain a database of swm facilities with most recent inspection date. | 2014 | 2015 | 2016 | 2017 | 2018 | 2014, 2015 |
| Store inspection and maintenance forms for Town facilities. | 2014 | 2015 | 2016 | 2017 | 2018 | 2014, 2015 |
| Evaluate BMP for Appropriateness and Effectiveness | | 2015 | 2016 | 2017 | 2018 | 2015 |
| **Progress Toward Meeting Objectives of Permit** | | | | | | |
| All new construction stormwater management facilities (57) that have come online in the past reporting year have had recorded stormwater covenants associated with them. They have all been entered into the GIS database and were inspected prior to certificates of occupancy. All (46) Town owned facilities were inspected this reporting year and twenty-nine (68) private facilities were inspected. | | | | | | |
| **Proposed Changes to BMP or Measurable Goals** | | | | | | |
| The inspection total for existing private facilities is not enough to successfully complete all facilities on a 5-year interval. It is recommended that a higher nuber of inspections be performed. The Town is planning on hiring a stormwater inspector in Year 3, whose duties will include stormwater facility inspection. This should improve the inspection numbers to remain compliant. | | | | | | |

## C. Tracking of all Known Stormwater Management Facilities

| Measurable Goals Identified and Achieved: | Years Planned | | | | | Years Achieved |
|---|---|---|---|---|---|---|
| Collect GPS coordinate for all stormwater infrastructure | 2014 | 2015 | 2016 | 2017 | 2018 | 2014, 2015 |
| Add new SWM facilities to infrastructure database | 2014 | 2015 | 2016 | 2017 | 2018 | 2014, 2015 |
| Update database with stormwater facility type, latitude and longitude, acres treated, date online, HUC code, impaired stream, public/private, date of last inspection. | 2014 | 2015 | 2016 | 2017 | 2018 | 2014, 2015 |
| Evaluate BMP for Appropriateness and Effectiveness | | 2015 | 2016 | 2017 | 2018 | 2015 |
| **Progress Toward Meeting Objectives of Permit** | | | | | | |
| Through efforts to utilize field collection to map the infrastructure and model the storm drainage network throughout the town, **41** existing ponds were discovered and **16** new construction facilities were added to the database. The database has a total of **377** stormwater facilities. | | | | | | |
| **Proposed Changes to BMP or Measurable Goals** | | | | | | |
| None proposed. | | | | | | |

## D. Develop Stormwater Facilities Protocol

| Measurable Goals Identified and Achieved: | Years Planned | | | | | Years Achieved |
|---|---|---|---|---|---|---|
| Adopt written policies and procedures to ensure SWM facilities are designed and constructed properly. | 2014 | | | | | 2014 |
| Adopt inspection procedures for conducting all public and private facilities. | 2014 | | | | | 2014 |
| Identify roles and responsibilities of each Town departments in the management of the facilities. | 2014 | | | | | 2014 |
| Evaluate BMP for Appropriateness and Effectiveness | | 2015 | 2016 | 2017 | 2018 | 2015 |
| **Progress Toward Meeting Objectives of Permit** | | | | | | |
| The Stormwater Facilities protocol has been completed. It includes the policies of plan review, construction and post-construction documentation and inspection procedures for all public and private facilities. The maintenance of all Town stormwater facilities are the responsibility of Public Works and no formal agreement is needed. The summary and evaluation of this BMP is located in Appendix 5-D, Stormwater Facilities Protocol Evaluation. | | | | | | |

| Proposed Changes to BMP or Measurable Goals |
|---|
| None proposed. |

## MCM 6: Pollution prevention/Good housekeeping

Develop and implement an operation and maintenance program to prevent or reduce pollutant runoff from municipal operations in to the storm sewer system. Measures described below are intended to meet public outreach and measurable goals as described 9VAC25-890-40, Section II B (6).

List of Minimum Control Measure #6 BMP's:

A. Maintenance procedure and scheduling for pollutant reduction in roads, parking lots, and storage yards.
B. Controls for reducing the discharge of pollutants from publicly maintained areas.
C. Reduce the amount of solid waste from government facilities by encouraging employees to recycle and by implementing source reduction methods.
D. Reduce the use of hazardous chemicals where practicable and ensure that all chemicals are stored, handled, used, and disposed of properly.
E. Develop and implement an operation and maintenance program to prevent or reduce the pollutant runoff from municipal operations and train employees on proper procedures to accomplish pollution prevention objectives.
F. Turf and Landscape Nutrient Management Plans
G. Regional Solid Waste Authority Hazardous Waste Collection Event

### Appropriateness of the BMPs:

These BMPs serve to reduce the pollutants discharged from municipal areas. Municipalities often have the potential of discharge in their facilities such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and MS4 maintenance. This BMP minimizes the likelihood of discharge through education and good housekeeping programs. Below shows how each of our program plan BMPs addresses the specific impairments of our local waters.

| 2010 305(b)/303(d) Water Quality Assessment Report - Impairments | | | |
|---|---|---|---|
| MINIMUM CONTROL MEASURE SIX BMPs | *Sediment* | *Bacteria* | *Temperature* |
| BMP 6.A (Pollution Reduction in Road, Parking and Storage) | ✓ | ✓ | |
| BMP 6.B (Reducing Pollutants from Publicly Maintained Areas) | ✓ | ✓ | |
| BMP 6.C (Reduction of Solid Waste from Municipal Facilities) | ✓ | ✓ | |
| BMP 6.D (Reduction of Hazardous Chemicals) | | ✓ | |
| BMP 6.E (Developing and Implementing an O&M Program) | ✓ | ✓ | |
| BMP 6.F (Turf and Landscape Nutrient Management Plans) | | ✓ | ✓ |
| BMP 6.G (Regional Solid Waste Authority Hazardous Waste Collection) | | ✓ | |

## A. Maintenance Actions for Pollutant Reduction in Roads, Parking Lots, and Storage Yards

| Measurable Goals Identified and Achieved: | Years Planned | | | | | Years Achieved |
|---|---|---|---|---|---|---|
| Perform leaf and Christmas tree pickup | 2014 | 2015 | 2016 | 2017 | 2018 | 2014, 2015 |
| Perform twice yearly brush and bulk item pickup | 2014 | 2015 | 2016 | 2017 | 2018 | 2014, 2015 |
| Daily removal of trash and litter in the Downtown areas | 2014 | 2015 | 2016 | 2017 | 2018 | 2014, 2015 |
| Evaluate BMP for Appropriateness and Effectiveness | | 2015 | 2016 | 2017 | 2018 | 2015 |
| **Progress Toward Meeting Objectives of Permit** | | | | | | |
| In addition to this routine bulk and brush pickup, the Town is transitioning from an Environmental Management Program to a Virginia Exemplary Environmental Program (SP) Sustainability Partners. This program is a separate but complementary framework to traditional EMS programs, which are better suited to industrial operations. The VEEP SP framework will assist the Town in maintaining high standards for environmental compliance while providing organizational mechanisms for continual, measurable environmental improvements across the municipality – its buildings, operations, and vehicular fleet - while also ensuring the Town will provide leadership by example for citizens, community groups, and local businesses. | | | | | | |
| **Proposed Changes to BMP or Measurable Goals** | | | | | | |
| Revisions based upon new direction from the VEEP SP program are anticipated. | | | | | | |

## B. Controls for Reducing the Discharge of Pollutants in Publicly Maintained Areas

| Measurable Goals Identified and Achieved: | Years Planned | | | | | Years Achieved |
|---|---|---|---|---|---|---|
| Perform Sanitary Sewer Line Maintenance to reduce clogging | 2014 | 2015 | 2016 | 2017 | 2018 | 2014, 2015 |
| Perform Sanitary Sewer Line Upgrades to maintain capacity | 2014 | 2015 | 2016 | 2017 | 2018 | 2014, 2015 |
| Continue Managing the Town-Wide recycling Program | 2014 | 2015 | 2016 | 2017 | 2018 | 2014, 2015 |
| Maintain Spill Prevention Programs for the Facilities at risk | | 2015 | 2016 | 2017 | 2018 | Not completed this period. |
| Maintain Stormwater Pollution Prevention Plans for the Facilities in need | | | 2016 | 2017 | 2018 | - |
| Evaluate BMP for Appropriateness and Effectiveness | | 2015 | 2016 | 2017 | 2018 | 2015 |
| **Progress Toward Meeting Objectives of Permit** | | | | | | |
| The Town performs annual sanitary sewer line cleaning to reduce the amount of root intrusion into the sewer lines. This allows the sewer line to function without clogging. In addition, the sanitary sewer is continually studied for areas in need of upgrades to maintain capacity with growth in population. The Town also manages a Town-wide recycling program for all residential homes. | | | | | | |
| **Proposed Changes to BMP or Measurable Goals** | | | | | | |
| In year 3, Town facilities that require spill prevention plans and stormwater pollution prevention plans will be completed. The Town will also enact single stream recycling to all refuse customers. | | | | | | |

## C. Reduce the Amount of Solid Waste from Municipal Facilities

| Measurable Goals Identified and Achieved: | Years Planned | | | | | Years Achieved |
|---|---|---|---|---|---|---|
| Continue municipal building recycling of co-mingled containers, mixed paper, toner cartridges, electronics, and rechargeable/alkaline batteries. | 2014 | 2015 | 2016 | 2017 | 2018 | 2014, 2015 |
| Continue the recycling of oil, antifreeze, tires, and metal at the Public Works and Transit garage. | 2014 | 2015 | 2016 | 2017 | 2018 | 2014, 2015 |
| Continue recycling used fluorescent lamps from all facilities. | 2014 | 2015 | 2016 | 2017 | 2018 | 2014, 2015 |
| Continue the recycling of electronic equipment and computers through the Purchasing Division and Technology Department. | 2014 | 2015 | 2016 | 2017 | 2018 | 2014, 2015 |
| Evaluate BMP for Appropriateness and Effectiveness | | 2015 | 2016 | 2017 | 2018 | 2015 |
| **Progress Toward Meeting Objectives of Permit** | | | | | | |
| The Town has continued these programs to reduce the amount of waste from government facilities with recycling and implementing source reduction methods. | | | | | | |
| **Proposed Changes to BMP or Measurable Goals** | | | | | | |
| The departments that recycle do not currently track the amount being recycled to identify trends or improvements. In future years, the Town would like to begin tracking the amounts of each type of recycled material to identify if programs are being utilized and if they are necessary. | | | | | | |

## D. Reduce the Use and Discharge Potential of Hazardous Chemicals

| Measurable Goals Identified and Achieved: | Years Planned | | | | | Years Achieved |
|---|---|---|---|---|---|---|
| Provide training for all Registered Technicians or Certified Applicators through the State | 2014 | 2015 | 2016 | 2017 | 2018 | 2014, 2015 |
| Update the Towns MSDS Management Program | 2014 | 2015 | 2016 | 2017 | 2018 | 2014, 2015 |
| Evaluate BMP for Appropriateness and Effectiveness | | 2015 | 2016 | 2017 | 2018 | 2015 |
| **Progress Toward Meeting Objectives of Permit** | | | | | | |
| All registered technicians and certified applicators have been trained this reporting year, see Appendix 6-D for Details, Evaluation and Recommendations for this BMP. | | | | | | |
| **Proposed Changes to BMP or Measurable Goals** | | | | | | |
| The Universal Waste Policy will be incorporated into this BMP next year. | | | | | | |

## E. Develop and Implement an O&M and Training Program to Prevent or Reduce the Pollutant Runoff from Municipal Operations

| Measurable Goals Identified and Achieved: | Years Planned | | | | | Years Achieved |
|---|---|---|---|---|---|---|
| Develop a Pollution Prevention Program for Municipal Operations | 2014 | 2015 | 2016 | 2017 | 2018 | 2014, 2015 |
| Implement the Pollution Prevention Program | | 2015 | 2016 | 2017 | 2018 | 2015 |
| Evaluate BMP for Appropriateness and Effectiveness | | 2015 | 2016 | 2017 | 2018 | 2015 |
| **Progress Toward Meeting Objectives of Permit** | | | | | | |
| Outlines for training programs have been developed for the Town Police Department, Fire and Rescue, Public Works Grounds and Fueling and Vehicle Maintenance staff. The following training programs have been completed this reporting period: ESC/SWM training for Engineering staff, Spill Response for Emergency Services staff and Fertilizer, Pesticide and Landscape Materials for Applicators. The training on the written O&M procedures will begin in Year 3 of the permit cycle. See Appendix 6-E for Details, Evaluation and Recommendations for this BMP. | | | | | | |
| **Proposed Changes to BMP or Measurable Goals** | | | | | | |
| None proposed. | | | | | | |

## F. Turf and Landscape Nutrient Management Plans

The operator shall implement turf and landscape nutrient management plans that have been developed by a certified turf and landscape nutrient management planner in accordance with § 10.1-104.2 of the Code of Virginia on all lands owned or operated by the MS4 operator where nutrients are applied to a contiguous area greater than one acre.

| Measurable Goals Identified and Achieved: | Years Planned | | | | | Years Achieved |
|---|---|---|---|---|---|---|
| Identify all Applicable Lands where Nutrients are Applied – Latitude and Longitude | 2014 | 2015 | 2016 | 2017 | 2018 | 2014, 2015 |
| Implement Turf Management Plans to 15% of Lands | | 2015 | 2016 | 2017 | 2018 | Not completed. |
| Implement Turf Management Plans to 40% of Lands | | | 2016 | 2017 | 2018 | - |
| Implement Turf Management Plans to 75% of Lands | | | | 2017 | 2018 | - |
| Evaluate BMP for Appropriateness and Effectiveness | | 2015 | 2016 | 2017 | 2018 | 2015 |
| **Progress Toward Meeting Objectives of Permit** | | | | | | |
| The Town has completed its identification of lands requiring Turf and Landscape Nutrient Management Plans. A total of six sites meet this description. See Appendix 6-F for Details, Evaluation and Recommendations for this BMP. | | | | | | |
| **Proposed Changes to BMP or Measurable Goals** | | | | | | |
| None proposed. Nutrient plans will be completed in Year 3. | | | | | | |

## G. Regional Solid Waste Authority Hazardous Waste Collection

The Town's Office of Waste Minimization and Recycling employs two full time positions dedicated to addressing municipal solid waste, universal waste, and hazardous waste issues. Staff also addresses employee awareness and community education regarding these topics.
**This BMP has been re-numbered as BMP 1-E.**

## Appendix SC-1 (List of Facilities and Pollutants of Concern)

| Assess all Significant Sources of Pollutants from Municipal Facilities | | | | |
|---|---|---|---|---|
| **#** | **Site** | **Pollutant(s) of Concern** | **TMDL Watershed** | **Site Condition** |
| 1 | **Red Maple Water Tank** | Sediment | Stroubles Creek | Stabilized |
| 2 | **Neil Street Water Tank** | Sediment | Stroubles Creek | Stabilized |
| 3 | **Maple Ridge Pump Station** | Sediment and Bacteria | Roanoke River | Stabilized. No bacterial contributions. |
| 4 | **Blacksburg Rescue Squad** | Sediment | Stroubles Creek | Under Construction. Covered under VAR10G421. |
| 5 | **Community Center Complex** | Sediment | Stroubles Creek | Stabilized |
| 6 | **Dundas Heights Open Space** | Sediment and Bacteria | Roanoke River | Stabilized. No bacterial contributions. |
| 7 | **Windsor Hills Pump Station** | Sediment | Stroubles Creek | Stabilized |
| 8 | **Cork Drive Open Space** | Sediment | Stroubles Creek | Forested |
| 9 | **McBryde Village Park** | Sediment | Stroubles Creek | Forested |
| 10 | **Dundas Heights Park Land** | Sediment | Stroubles Creek | Forested |
| 11 | **Owens Street Park** | Sediment | Stroubles Creek | Stabilized |
| 12 | **Kabrich Open Space** | Sediment | Stroubles Creek | Stabilized |
| 13 | **Clay St Water Tank** | Sediment | Stroubles Creek | Stabilized |
| 14 | **Wong Park** | Sediment | Stroubles Creek | Stabilized |
| 15 | **Oddfellows Hall** | Sediment | Stroubles Creek | Stabilized |
| 16 | **African American Cemetery** | Sediment | Stroubles Creek | Stabilized |
| 17 | **Cooks Clean Center** | Sediment | Stroubles Creek | Stabilized |
| 18 | **Progress Street Parking Lot** | Sediment | Stroubles Creek | Stabilized |
| 19 | **Dickerson Estates Park** | Sediment | Stroubles Creek | Forested |
| 20 | **DOWNTOWN FIRE & RESCUE** | Sediment | Stroubles Creek | Stabilized |
| 21 | **Knob Hill Open Space** | Sediment | Stroubles Creek | Stabilized |
| 22 | **Price House** | Sediment | Stroubles Creek | Stabilized |
| 23 | **Church Street Parking Lot** | Sediment | Stroubles Creek | Stabilized |
| 24 | **Clay Street Spring Park** | Sediment | Stroubles Creek | Stabilized & Forested |
| 25 | **The Armory Building** | Sediment | Stroubles Creek | Stabilized |
| 26 | **Farmers Market** | Sediment | Stroubles Creek | Stabilized |
| 27 | **Black House and Thomas Conner** | Sediment | Stroubles Creek | Stabilized |
| 28 | **Municipal Building** | Sediment | Stroubles Creek | Stabilized |
| 29 | **Blacksburg Motor Company** | Sediment | Stroubles Creek | Stabilized |
| 30 | **Municipal Golf Course** | Sediment | Stroubles Creek | Stabilized |
| 31 | **Huckleberry Trail** | Sediment | Stroubles Creek | Stabilized |
| 32 | **Oak Manor Well House** | Sediment | Stroubles Creek | Stabilized |
| 33 | **Highland Park Pump Station** | Sediment and Bacteria | Roanoke River | Stabilized. No bacterial contributions. |
| 34 | **Graves Open Space** | Sediment | Stroubles Creek | Stabilized |
| 35 | **Crestview Water Tank and Park** | Sediment and Bacteria | Roanoke River | Stabilized. No bacterial contributions. |
| 36 | **Sheffield Open Space** | Sediment | Stroubles Creek | Stabilized |
| 37 | **Hardie Hills Open Space** | Sediment and Bacteria | Roanoke River | Stabilized. No bacterial contributions. |
| 38 | **Kipps Ball Fields** | Sediment | Stroubles Creek | Stabilized |
| 39 | **Landsdowne Open Space** | Sediment and Bacteria | Roanoke River | Stabilized. No bacterial contributions. |
| 40 | **Downtown Police Station** | Sediment | Stroubles Creek | Stabilized |
| 41 | **Nellies Cave Park** | Sediment and Bacteria | Roanoke River | Stabilized. No bacterial contributions. |
| 42 | **Dehart Open Space** | Sediment | Stroubles Creek | Stabilized |
| 43 | **Gardenspring Open space** | Sediment | Stroubles Creek | Stabilized |
| 44 | **Hubbard Street Fire Station** | Sediment and Bacteria | Roanoke River | Stabilized. No bacterial contributions. |
| 45 | **Tall Oaks Pump Station** | Sediment | Stroubles Creek | Stabilized |
| 46 | **Cedar Run Open Space** | Sediment and Bacteria | Roanoke River | Stabilized. No bacterial contributions. |
| 47 | **CRC PH II Pump Station** | Sediment | Stroubles Creek | Stabilized |
| 48 | **Cedar Hill Park** | Sediment and Bacteria | Roanoke River | Stabilized. No bacterial contributions. |
| 49 | **Cedar Run Pump Station** | Sediment and Bacteria | Roanoke River | Stabilized. No bacterial contributions. |
| 50 | **Public Works Complex** | Sediment and Bacteria | Roanoke River | Stabilized. No bacterial contributions. |
| 51 | **Cedar Run Springs and Open Space** | Sediment | Stroubles Creek | Stabilized |
| 52 | **Cedar Run Open Space** | Sediment and Bacteria | Roanoke River | Stabilized. No bacterial contributions. |
| 53 | **CRC PH I Pump Station** | Sediment | Stroubles Creek | Stabilized |
| 54 | **Blacksburg Transit** | Sediment and Bacteria | Roanoke River | Stabilized. No bacterial contributions. |
| 55 | **South Point Park** | Sediment | Stroubles Creek | Stabilized |
| 56 | **Hospital Pump Station** | Sediment | Stroubles Creek | Stabilized |
| 57 | **Industrial Park Pump Station** | Sediment and Bacteria | Roanoke River | Stabilized. No bacterial contributions. |
| 58 | **Westview Cemetery** | Sediment | Stroubles Creek | Stabilized |

**Town of Blacksburg Engineering and GIS Department**
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# OUTREACH ACTIVITY SUMMARY: Implementation of the Public Education and Outreach Plan 2015

The Town has developed a public education and outreach plan (PEOP) to coordinate all outreach efforts into one campaign. This plan has identified three high-priority issues that affect the Town of Blacksburg. Below are the results of the PEOP efforts for the reporting year 2015.

Homeowners & Families – 4431/13,162 **(33%)**
Young Residents – 1763/17,474 **(10%)**
Restaurant Employees – 300/300 **(100%)**

| Activities with Outreach Components | Target Issue | Target Group | # Impacted |
|---|---|---|---|
| SC.D (Enhance the PEOP and Employee Training to Address Reducing WLAs) | Bacteria & Sediment | Employees | - |
| SC.E (Assess all Significant Sources of Pollutants from Municipal Facilities) | Bacteria & Sediment | Employees | - |
| BMP 1.A (Public Education and Outreach Plan) – | | | - |
| Development Community Meeting (9/16/14) | Sediment | Homeowners & Families | 17 |
| Homebuilders Meeting (8/20/14) | Sediment | Homeowners & Families | 22 |
| MAC-ISA Annual Meeting (10/7/14) | Bacteria, Sediment | Homeowners & Families | 300 |
| Master Naturalist Meeting (3/2/15) | Sediment, Bacteria, Oil/Grease | Homeowners & Families | 25 |
| Residential Illicit Discharge Flyer | Bacteria and Sediment | Young Residents | 315 |
| Urban Hydrology Class (4/16/15) | Bacteria & Sediment | Young Residents | 40 |
| Virginia Trees Workshop (3/12/15) | Bacteria & Sediment | Homeowners & Families | 119 |
| Blacksburg Alert Mass Email (5/22/15) | Sediment & Bacteria | Homeowners & Families | 3024 |
| BMP 1.B (Storm Drain Marking Program) | Oil and Grease, Bacteria & Sediment | Restaurant Employees<br>Young Residents<br>Homeowners & Families | -<br>1040<br>- |
| BMP 1.C (Demonstration Projects Enhancement) | Bacteria & Sediment | Young Residents<br>Homeowners & Families | 20<br>- |
| BMP 1.D (Household, Business and Hazardous Waste Education) | Sediment | Homeowners & Families | 421 |
| BMP 1.E (Grease Program Enforcement) | Oil and Grease | Restaurant Employees | - |
| BMP 1.F ( Illicit Discharge Education) | Oil and Grease | Restaurant Employees<br>Homeowners & Families | 300<br>685 |
| BMP 1.G (Town Stormwater Page Maintenance) | Oil and Grease, Bacteria & Sediment | Restaurant Employees<br>Young Residents<br>Homeowners & Families | -<br>-<br>- |
| BMP 2.A (Stakeholder Meetings) | Sediment | Homeowners & Families | 384 |
| BMP 2.B (TMDL Implementation Planning and Participation) | Oil and Grease, Bacteria & Sediment | Restaurant Employees<br>Young Residents<br>Homeowners & Families | -<br>-<br>94 |
| BMP 2.C (Participate and support stream clean-up efforts) | Oil and Grease, Bacteria & Sediment | Young Residents<br>Homeowners & Families | 5<br>- |
| BMP 2.D (Posting of Program Plan and | Oil and Grease, | Restaurant Employees | - |

| | | | |
|---|---|---|---|
| Annual Reports online) | Bacteria & Sediment | Young Residents<br>Homeowners & Families | -<br>- |
| BMP 2.E (Outreach Event Participation) | Oil and Grease, Bacteria & Sediment | Restaurant Employees<br>Young Residents<br>Homeowners & Families | -<br>343<br>25 |

**TMDL POC:** Oil & Grease, Bacteria and Sediment

**Evaluation:**

This program has been evaluated for appropriateness and effectiveness in reaching the water quality goals of the community.

- The Public Education and Outreach Plan is an effective way to target specific goals to the target groups that have the most impact in the pollutants of concern.
- The current program effectively reached out to the Restaurant community and the Homeowners and Families, getting (100%) and (33%) of those target audiences.
- The current program needs to identify more ways to reach out to the Young Resident audience. They are a large portion of the Town's population and this past reporting year only reached 10% of that audience. The town's goal is to reach a total of 3500 young residents per year.

**Recommendation:**

- Provide additional opportunities for outreach to the Young Residents target group. Continue existing outreach for Restaurant and Homeowners groups.

**Appendix 1.B – Storm Drain Marking Program and Evaluation**

**Town of Blacksburg Engineering and GIS Department**
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## OUTREACH ACTIVITY SUMMARY: Student Storm Drain Marking 2015

The Big Event on April 11, 2015 gathers students to perform various outreach and educational activities. The Town recruited several groups of students to mark storm drains in areas designated as high traffic student areas. These areas may be apartment complexes, student recreational areas or public areas frequented by the student populace. These locations are entirely within the Town of Blacksburg and are not located on campus.

**About this Event**

The locations visited during this event were the Smiths Landing Apartment Complex and the Oak Manor Townhome community. Both are rented by large student populations.

**Students Impacted:** 640 (# of units in the complex)

**Watershed:** Stroubles Creek

**TMDL POC:** Sediment

**Evaluation:**

This program has been evaluated for appropriateness and effectiveness in reaching the water quality goals of the community.

- The storm drain markings are a clear reminder that the inlets go directly to the stream and provide a disincentive to allow non-stormwater discharges.
- The walking areas in the student communities are heavy trafficked due to high volumes of students taking mass transit (bus service) to the university.
- Students who are engaged in water quality will advocate to friends and family.

**Recommendation:**

- A better understanding of the number of impacted students needs to be gained. A review of studies on similar impacts should be performed so that a better understanding of the estimated impact is attained.
- More student gathering areas should be marked to increase the percentage of the target group that is impacted by this BMP.

**Appendix 1.B (2): Town Forces Storm Drain Marking and Evaluation**

**Town of Blacksburg Engineering and GIS Department**
400 South Main Street
Blacksburg, VA 24060
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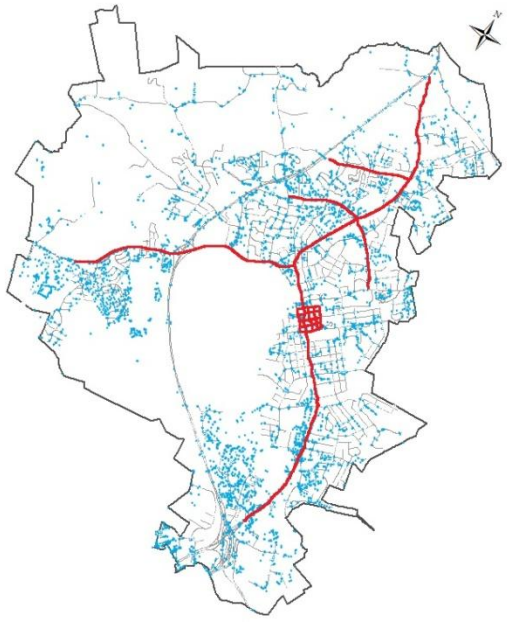
## OUTREACH ACTIVITY SUMMARY: Town Forces Storm Drain Marking 2015

Town staff also installed 400 storm drain markers in the public right of way in association with any storm drain structure inspection and maintenance. Below is a map of the areas targeted this year with the permanent storm drain markers.



### About this Event

The locations marked by Town forces were highly trafficked areas along Patrick Henry Drive, Givens Lane, Prices Fork and the Downtown 16-Squares areas.

**People Impacted:** unknown, 700 Markers were placed.

**Watershed:** Stroubles Creek and Roanoke River

**TMDL POC:** Sediment and Bacteria


### Evaluation:

This program has been evaluated for appropriateness and effectiveness in reaching the water quality goals of the community.

- The storm drain markings are a clear reminder that the inlets go directly to the stream and provide a disincentive to allow non-stormwater discharges.
- The public roads in this university community are heavy trafficked due to high volumes of citizens and students taking mass transit around town.
- A better way to estimate impact must be identified.

### Recommendation:

- Continue to utilize markers as they are noticeable and durable. Choose a marker that will have a low replacement rate (less than 10% annually) once applied.
- Provide estimate for citizen impact. Currently there is no known correlation between markers provided and number of citizens impacted.

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## OUTREACH ACTIVITY SUMMARY: Tour of the Blacksburg Motor Company 2015

The Director of Engineering and GIS performed a tour of the Blacksburg Motor Company Site for a class of 25 on October 23, 2014. The Blacksburg Motor Company building was restored using Leadership in Energy and Environmental Design (LEED) principals, and the project team considered sustainability in every design and construction decision. As a result, the town has achieved a Platinum LEED certification (26kb pdf), the highest level achievable.

The building serves as the home to the Town of Blacksburg Planning and Building, and Engineering and GIS departments. In addition, the site and structure illustrate green building and low impact development techniques throughout.

Features of the LEED renovation include a geothermal heat pump, where the constant temperature of the earth reduces heating and cooling energy use; carpet made of 77% recycled material including reclaimed carpet; refurbished original tin ceilings; motion sensor lighting; and environmental site design including rain gardens, porous concrete, and native landscaping.


**About this Event**

This facility is used as an educational resource to show the community the benefits of environmental site design, historic preservation and stormwater management. These tours are provided upon request and are not initiated by the Town.

**Students Impacted:** 25

**Watershed:** Stroubles Creek

**TMDL POC:** Sediment

**Evaluation:**

This program has been evaluated for appropriateness and effectiveness in reaching the water quality goals of the community.

- The educational value of an applied use of environmental site design in a historic and aesthetic context is valuable to illustrate these concepts to the community and young student body.

**Recommendation:**

Continue to provide tours upon request.

**Appendix 1.D – Household Hazardous Waste Days Summary and Evaluation**

**Town of Blacksburg Engineering and GIS Department**
400 South Main Street
Blacksburg, VA 24060
(540) 961-1124

## OUTREACH ACTIVITY SUMMARY: Household Hazard Waste Events 2015

The Town of Blacksburg collaborates with Montgomery County and the Town of Christiansburg to provide a permanent Household Hazardous Waste facility that will accept residential waste on a monthly basis, on the 3rd Saturday of the month.

### Acceptable Items at Monthly Collection Events

The following items are accepted at monthly collection events, with limitations of 75 pounds of solids and 5 gallons of liquids:

Cleaning Products
Bleach
Degreasers
Drain cleaners
Oven cleaners
Pool chemicals
Toilet cleaners
Tub / tile / shower cleaners
Wood and metal cleaners / polishes
Aerosol cans
Workshop / Painting Supplies
Adhesives and glue
Fixatives and other solvents
Furniture strippers
Oil or enamel-based paint
Latex paint
Paint strippers and removers
Paint thinners and turpentine
Photographic chemicals
Stains and finishes
Indoor Pesticides
Ant poisons
Cockroach poisons
Flea repellants
Household insecticides
Moth repellants
Mouse and rat poisons
Batteries
Alkaline / Zinc Carbon Batteries
Rechargeable Lithium Ion (Li-ion) batteries
Rechargeable Nickel Cadmium (Ni-Cd) batteries
Rechargeable Nickel Metal Hydride (Ni-MH) batteries
Rechargeable, small-sealed lead acid batteries
Lead acid automobile batteries
Driveway Sealer
Fertilizer
Herbicides
Insecticides
Pesticides
Weed killers
Wood preservatives / fungicides
Aerosol cans
Gas / oil mixtures
Home-heating oil
Kerosene
Lighter fluid
Nail polish removers
Propane tanks/cylinders (1 to 20 lbs)
Air-conditioning refrigerants
Antifreeze
Automotive batteries
Carburetor and fuel injector cleaners
Fuel additives
Gasoline / diesel fuel
Motor oil
Starting fluids
Transmission and brake fluid
Light bulbs - Fluorescent and incandescent
Metallic mercury
Pool / spa chemicals
Mercury-containing thermostats
Mercury thermometers

The following materials are not accepted at Montgomery Regional Solid Waste Authority residential HHW events:

Asbestos material – Contact us for disposal assistance
Biologically active or infectious material
Explosive material (including ammunition)
LPG/propane gas tanks larger than 20 lbs
Other large commercial compressed gas cylinders (ie oxygen, nitrogen, CO2)
Radioactive material
Prescription drug medications

**About this Event**

This facility is used as a resource to provide a safe and environmentally responsible way to dispose of common household hazardous wastes.

**Family Target Group Impacted:** 421* This is an estimate based on the total cars served and the percentage of total County residents that live in the Town of Blacksburg (45%).

**Watershed:** Stroubles Creek and Roanoke River

**TMDL POC:** Sediment and Bacteria

**Evaluation:**

This program has been evaluated for appropriateness and effectiveness in reaching the water quality goals of the community.

- The safe and environmentally responsible disposal of common household hazardous materials will reduce the occurrence of unlawful disposal of materials.
- The numbers of Towns person utilizing this service is low as compared to the total household population (3%). Increasing the usage of this service would improve illicit discharges and unlawful disposal of materials in landfills.

**Recommendation:**

- Continue to provide monthly household waste days.
- Incorporate advertisement of the household waste days into the Public Education and Outreach Campaign.

**Appendix 1.E – Grease Program Enforcement Summary and Evaluation**

**(This BMP was not achieved this year.)**

**Appendix 1-F Illicit Discharge Education (Non-stormwater discharger survey)**

**Town of Blacksburg Engineering and GIS Department**
400 South Main Street
Blacksburg, VA 24060

## Outreach Activity Summary and Evaluation: Illicit Discharge Education

The Town continues to research and update the BMPs, alternative options, and proper disposal techniques for non-stormwater discharges. Below is the Non-stormwater Discharger Survey. This form is distributed to all businesses within the Town. Each business is required to fill it out and return it to the Town for informational purposes.

**People Impacted:** 985

Commercial Restaurant (300)
Homeowners and Families (685)

**Watershed(s):** Stroubles Creek, Roanoke River, Toms Creek

**TMDL POC:** Sediment and Bacteria

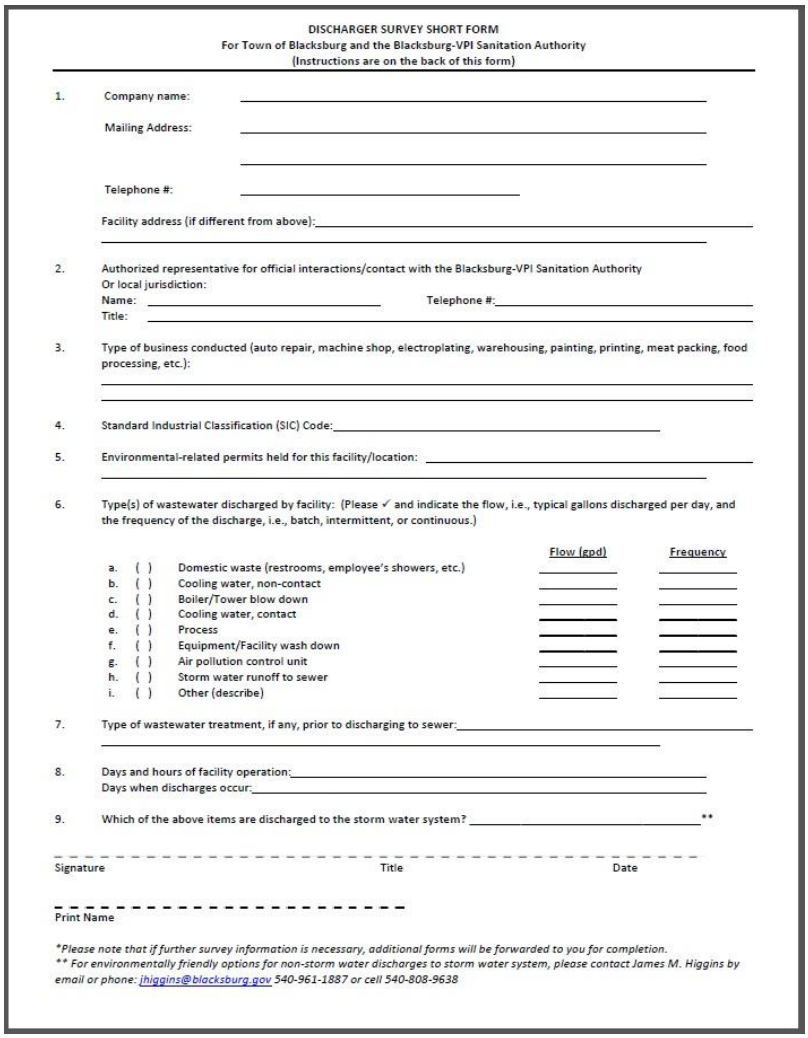
**Evaluation:**

The discharger survey has been evaluated for appropriateness and effectiveness in reaching the water quality goals of the community. The findings are below:

- The survey collects data regarding all businesses within the Town to determine if additional information is necessary.
- Response is required, therefore the impact group is clearly understood.
- The impact group is met with each issuance of the survey.

**Recommendations:**

- It is recommended that the Town continue to send out the Non-stormwater Discharger survey on a 5 year basis.



DISCHARGER SURVEY SHORT FORM
For Town of Blacksburg and the Blacksburg-VPI Sanitation Authority
(Instructions are on the back of this form)

1. Company name: _____
   Mailing Address: _____
   _____
   Telephone #: _____
   Facility address (if different from above): _____
   _____
2. Authorized representative for official interactions/contact with the Blacksburg-VPI Sanitation Authority Or local jurisdiction:
   Name: _____ Telephone #: _____
   Title: _____
3. Type of business conducted (auto repair, machine shop, electroplating, warehousing, painting, printing, meat packing, food processing, etc.):
   _____
   _____
4. Standard Industrial Classification (SIC) Code: _____
5. Environmental-related permits held for this facility/location: _____
   _____
6. Type(s) of wastewater discharged by facility: (Please ✓ and indicate the flow, i.e., typical gallons discharged per day, and the frequency of the discharge, i.e., batch, intermittent, or continuous.)

| | | | Flow (gpd) | Frequency |
|---|---|---|---|---|
| a. | ( ) | Domestic waste (restrooms, employee's showers, etc.) | | |
| b. | ( ) | Cooling water, non-contact | | |
| c. | ( ) | Boiler/Tower blow down | | |
| d. | ( ) | Cooling water, contact | | |
| e. | ( ) | Process | | |
| f. | ( ) | Equipment/Facility wash down | | |
| g. | ( ) | Air pollution control unit | | |
| h. | ( ) | Storm water runoff to sewer | | |
| i. | ( ) | Other (describe) | | |

7. Type of wastewater treatment, if any, prior to discharging to sewer: _____
   _____
8. Days and hours of facility operation: _____
   Days when discharges occur: _____
9. Which of the above items are discharged to the storm water system? _____**

Signature Title Date

Print Name

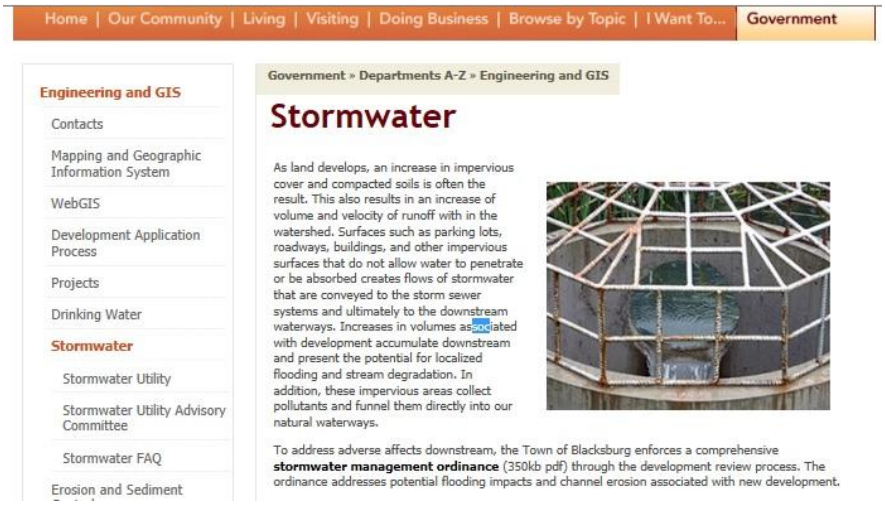
*Please note that if further survey information is necessary, additional forms will be forwarded to you for completion.
** For environmentally friendly options for non-storm water discharges to storm water system, please contact James M. Higgins by email or phone: jhiggins@blacksburg.gov 540-961-1887 or cell 540-808-9638

**Appendix 1-G: Stormwater Webpage Summary and Evaluation**

**Town of Blacksburg Engineering and GIS Department**
400 South Main Street
Blacksburg, VA 24060
(540) 961-1124

## Outreach Activity Summary and Evaluation: Stormwater Webpage 2015

Stormwater related information is available on the Town's website for the general public at www.blacksburg.gov/stormwater. This webpage gives general information about stormwater, the MS4 program, the Town's stormwater utility and information regarding the Town's administration of the state VSMP permit.




There is a section regarding the MS4 permit which provides links to the Program Plan and all annual reports of this permit cycle. There is also a contact for questions and requests for copies of the Program Plan.

There is also a detailed section regarding the TMDLs for the watersheds within the Town's jurisdiction; there are four. At each title of the TMDL, a link has been provided to download the body of the TMDL document should a citizen want more information regarding the condition of the Town's streams.

Additionally, there are links to the Town's Erosion and Sediment Control webpage, the NFIP and floodplain development and information on the Town's wastewater system.

**About this BMP**

This webpage is used as an educational resource to show the community the challenges and benefits of stormwater management. It provides an email and phone number of the Town's Stormwater Engineer for questions or comments and provides information regarding the Town's MS4 program and policies.

**People Impacted:** Unknown

**Watershed(s):** Stroubles Creek, Roanoke River and Toms Creek

**TMDL POC:** Sediment and Bacteria

**Evaluation:**

The website has been evaluated for appropriateness and effectiveness in reaching the water quality goals of the community. The findings are below:

- The website content is appropriate and consistent with the Town's water quality goals.
- The effectiveness cannot be evaluated at this time due to a lack of statistical information on the usage of the site.
- It is recommended that statistics be gathered regarding the website usage, at best on a page by page basis. Additionally, providing some correlation to the total usage and the target audiences will aid in the future evaluation of the effectiveness of this BMP.

**Appendix 2-A: Stormwater Stakeholder Meetings Summary and Evaluation**

**Town of Blacksburg Engineering and GIS Department**
400 South Main Street
Blacksburg, VA 24060

# Public Participation Summary: Stormwater Stakeholder Meetings 2015

One of the many ways to increase public notice, involvement and participation in the Town's stormwater program is to conduct Stakeholder Meetings for Watershed Management and Stormwater Quality Improvement. These meetings can be any interaction with citizens and other stakeholders that have the desire to understand and improve the stormwater conditions of the Town of Blacksburg.

Within the Town, many citizens are well aware of stormwater concerns as related to new development. Below is a list of community meetings for new development projects where stormwater issues were discussed. These comments were recorded by Town staff and are considered when the review of the new development plan is completed.

Additionally, other meetings with neighborhood groups or other stormwater professionals that allow input to be provided to Town officials are also listed below. All of these avenues of contact allow input and education to improve the stormwater program run by the Town of Blacksburg.

| | | | |
|---|---|---|---|
| **Neighborhood Meetings for New Development** | 8/6/2014 | Eheart and Main | 40 |
| | 8/13/2014 | Eheart and Main | 15 |
| | 9/12/2014 | Shelter Alternatives | 20 |
| | 10/14/4014 | Resolution 10.C.14 - Stormwater Utility Credits | 50 |
| | 11/11/2014 | Ord. 1750 - Stormwater Utility Fund Appropriations | 45 |
| | 1/8/2015 | The Retreat | 25 |
| | 2/10/2015 | Whipple South RZN | 30 |
| | 4/2/2015 | First Bank and Trust CUP | 0 |
| | 4/2/2015 | 1st Security Storage CUP | 0 |
| **Stormwater Group Meetings** | 12/11/2014 | Regional MS4 Coordination Meeting | 6 |
| | 3/2/2015 | Master Naturalist Meeting | 30 |
| | 3/12/2015 | Roanoke Tree Workshop | 119 |
| | 3/16/2015 | Meet w/ Neighboring MS4 to Discuss Program Issues | 2 |
| | 5/13/2015 | Virginia MS4 Forum | 2 (in town) |
| | | Total: | **384** |

**About this BMP**

These meetings succeed in increasing public involvement and participation in the Town's stormwater program. Participation and citizen support for stormwater measures increases citizen advocacy and provides for more successful stormwater program.

**People Impacted:** 384

**Watershed(s):** Stroubles Creek, Roanoke River and Toms Creek

**TMDL POC:** Sediment and Bacteria

**Evaluation:**

The stakeholder meetings have been evaluated for appropriateness and effectiveness in reaching the water quality goals of the community. The findings are below:

- The meeting topics are appropriate and consistent with the Town's water quality goals.
- One on one contact increases the effectiveness since two-way interaction guarantees an active and not passive audience.
- The main challenge for these stakeholder meetings is the small amount of people that are impacted by these one-on-one opportunities.

**Recommendations:**

- It is recommended that the Town organize larger events that allow additional opportunities for interaction.

**Appendix 2-B: TMDL Implementation Activities Summary and Evaluation**

**Town of Blacksburg Engineering and GIS Department**
400 South Main Street
Blacksburg, VA 24060

## Public Participation Summary: TMDL Implementation Activities

One of the many ways to increase public notice, involvement and participation in the Town's local TMDLs and their Implementation plans is to attend Stakeholder Meetings so all pertinent information can be communicated to the community. These meetings are often initiated by the Department of Environmental Quality, and they provide many opportunities for interaction with citizens and other stakeholders that have the desire to improve the stormwater conditions of the Town of Blacksburg and meet the requirements of the TMDLs.

| TMDL Implementation Planning and Participation (Events) | | | |
|---|---|---|---|
| 5/7/2014 | | Meet w/ Virginia Tech and VDOT about TMDL Action Planning | 3 |
| 7/9/2014 | | Stroubles Creek Implementation Plan Quarterly Meeting | 6 |
| 8/20/2014 | | Roanoke River Implementation Plan Part I - Steering Committee | 15 |
| 4/20/2015 | | Roanoke River Implementation Plan Part I - Steering Committee | 15 |
| 4/30/2015 | | Stroubles Creek Implementation Plan Quarterly Meeting | 5 |
| 4/30/2015 | | Roanoke River Implementation Plan Part II - Kickoff Meeting | 12 |
| 6/16/2015 | | Roanoke River Implementation Plan Part II - Residential and Agricultural Groups | 30 |
| 6/18/2015 | ` | Stroubles Creek Implementation Plan Stakeholders Committee | 8 |

**About this BMP**

These meetings succeed in increasing public involvement and participation in the Town's TMDL Implementation plans. Participation and citizen support for stormwater measures increases citizen advocacy and provides for more successful TMDL program.

**People Impacted:** 94

**Watershed(s):** Stroubles Creek, Roanoke River and Toms Creek

**TMDL POC:** Sediment and Bacteria

**Evaluation:**

The TMDL meetings have been evaluated for appropriateness and effectiveness in reaching the water quality goals of the community. The findings are below:

- The meeting topics are appropriate and consistent with the Town's water quality goals.
- One on one contact increases the effectiveness since two-way interaction guarantees an active and not passive audience.
- The main challenge for these stakeholder meetings is the small amount of people that are impacted by these one-on-one opportunities.

**Recommendations:**

- It is recommended that the Town provide its own TMDL meetings to support those initiated by DEQ. This may impact a greater number of target audience.

**Appendix 2-C: Stream Clean-up Activities Summary and Evaluation**

**Town of Blacksburg Engineering and GIS Department**
400 South Main Street
Blacksburg, VA 24060

# Public Participation Summary and Evaluation: Stream Clean-up Activities

One of the many ways to increase public notice, involvement is participation in the local stream cleanup efforts. The Town will participate and assist local groups for stream clean-up efforts, including assistance with funding, trash collection, mapping and documentation for determining stream stretches, drainage ways, channels and other areas in need of clean-up and record keeping of these activities.

**Summary:** An alliance of environmental-focused student groups cleaned portions of Stroubles Creek on Saturday October 11th, 2014 from 10:00 AM – 12:30 PM. The group collected a total of 20 bags of trash, including a discarded traffic cone that was stuck inside of a culvert near Webb Branch and Prices Fork road. Other interesting trash included a $20 and $1 bill that were found in different locations of Webb Branch near the new Edge apartment complex as well as an iPhone 5 that was found in Stroubles Creek as it enters the Duck Pond on VT campus. In total, nearly 2.5 miles of stream and pond shoreline were cleaned.

## About this BMP

These meetings succeed in increasing public involvement and participation in local stream clean-ups. Participation and citizen support for stormwater clean-ups increases citizen advocacy and provides for more successful stormwater program.

**People Impacted:** 5

**Watershed(s):** Stroubles Creek

**TMDL POC:** Sediment and Bacteria

## Evaluation:

The stream clean-ups have been evaluated for appropriateness and effectiveness in reaching the water quality goals of the community. The findings are below:

- The effort to clean-up local streams is appropriate and consistent with the Town's water quality goals.
- Participatory activities such as these raise awareness and result in behavioral change.
- The impact number falls short of the Towns goal of reaching 100 people in the young residents or homeowners and families target groups.
- The main challenge for these events is the small amount of people that are impacted by these one-on-one opportunities.

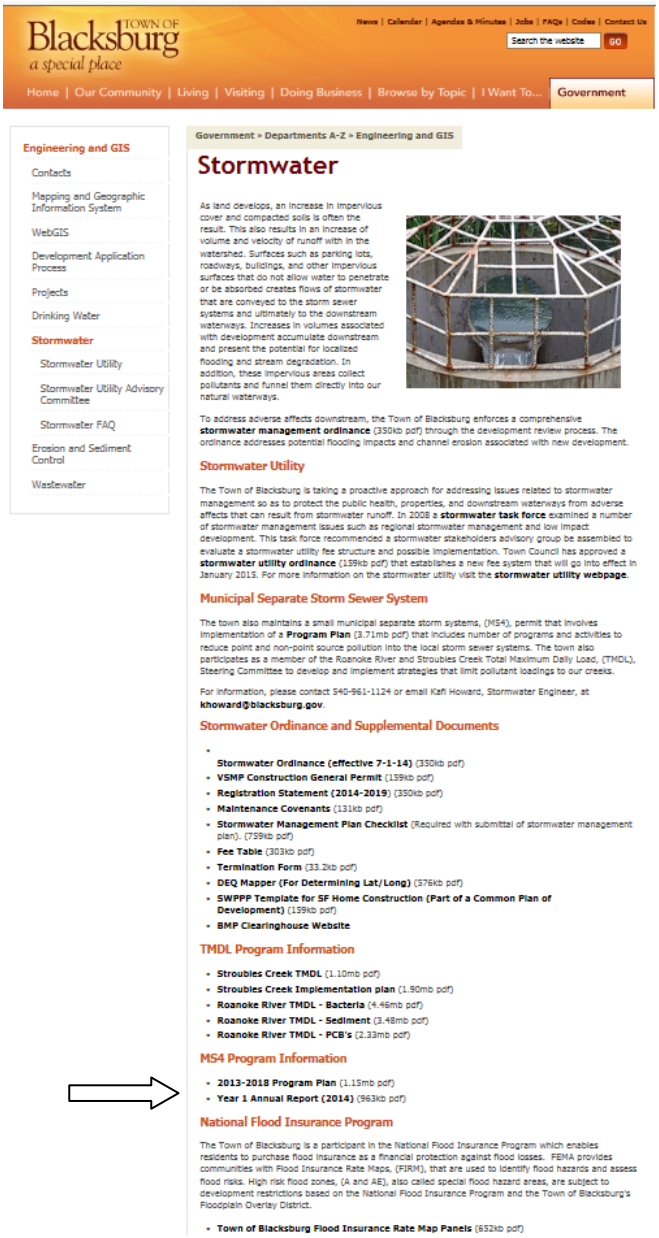
## Recommendations:

- It is recommended that the Town collaborate with other localities to enhance stream clean up events and expand participation across the region.

**Appendix 2-D: Posting of the Towns Program Plan and Annual Report Summary and Evaluation**

**Town of Blacksburg Engineering and GIS Department**
400 South Main Street
Blacksburg, VA 24060

# Public Participation Summary: Posting of the Program Plan and Annual Report




### About this BMP

One of the many ways to increase public notice, involvement and participation in the Town's local TMDLs and their Implementation plans is to post the MS4 Program Plan and Annual Reports on the stormwater webpage. This provides opportunity for citizens to review these materials and ask questions regarding the stormwater program. The goal is to post the most recent information by October 31 of each reporting year.

- The Program Plan for this permit cycle was posted on October 4, 2013.
- Year One Annual Report was posted on October 30, 2014.

**People Impacted:** unknown

**Watershed(s):** Stroubles Creek, Roanoke River and Toms Creek

**TMDL POC:** Sediment and Bacteria

**Evaluation and Recommendation:**

The posting of the Program Plan and Annual Report have been evaluated for appropriateness and effectiveness in reaching the water quality goals of the community. The findings are below:

- This is a requirement of the MS4 permit regulations and therefore it is appropriate and consistent with the Town's water quality goals.
- The effectiveness cannot be evaluated at this time due to a lack of statistical information on the usage of the site.
- It is recommended that statistics be gathered regarding the website usage, at best on a page by page basis. Additionally, providing some correlation to the total usage and the target audiences will aid in the future evaluation of the effectiveness of this BMP.
- Post MS4 Annual Report and TMDL Action Plan on website by Oct. 31, 2015.

**Appendix 2-E: Outreach Event Participation Summary and Evaluation**

**Town of Blacksburg Engineering and GIS Department**
400 South Main Street
Blacksburg, VA 24060

# Public Participation Summary: 2015 Outreach Event Participation

## About this BMP

The town will continue public outreach efforts by sponsoring or participating in at least four annual events. If additional events need to be added, these will be included in revisions to the Program Plan. Below are the events participated in this reporting period.

- "Steppin' Out" event (August 1st and 2nd, 2014): A watershed informational booth is set up to engage the public on local water quality issues.
- Gobblerfest (September 5, 2014) is an annual festival occurring on Virginia Tech's campus to engage students in on-campus and off-campus activities in addition to connecting with the surrounding community. An estimated 22,000 people attended in previous years.
- Sustainability Fair (September 17, 2014): This event provides informational sessions, community educational fair, and demonstration events to educate citizens on a wide variety of issues including impacts of household wastes on storm water quality.
- The Big Event (April 11, 2015) engages student volunteers from the local university to provide service efforts throughout Blacksburg. Approximately 6800 students participated- only 5 were engaged in stormwater activities.

## People Impacted: 368

| Event | Target Audience | Number Impacted |
|---|---|---|
| **Steppin' Out** | Students | 148 |
| **Gobblerfest** | Students | 190 |
| **Sustainability Fair** | Homeowners and Families | 25 |
| **The Big Event** | Students | 5 |

**Watershed(s):** Stroubles Creek

**TMDL POC:** Sediment and Bacteria, Oil and Grease

## Evaluation:

The Outreach Event Participation BMP has been evaluated for appropriateness and effectiveness in reaching the water quality goals of the community. The findings are below:

- The participation in these events is appropriate and consistent with the Town's water quality goals.
- Participatory activities such as these raise awareness and result in behavioral change.
- The main challenge for these events is the small amount of people that are impacted by these one-on-one opportunities.

## Recommendation:

- It is recommended that the Town collaborate with other localities to enhance outreach events and expand participation across the region.

**Appendix 3-A: Storm Drain System Map Summary and Evaluation**

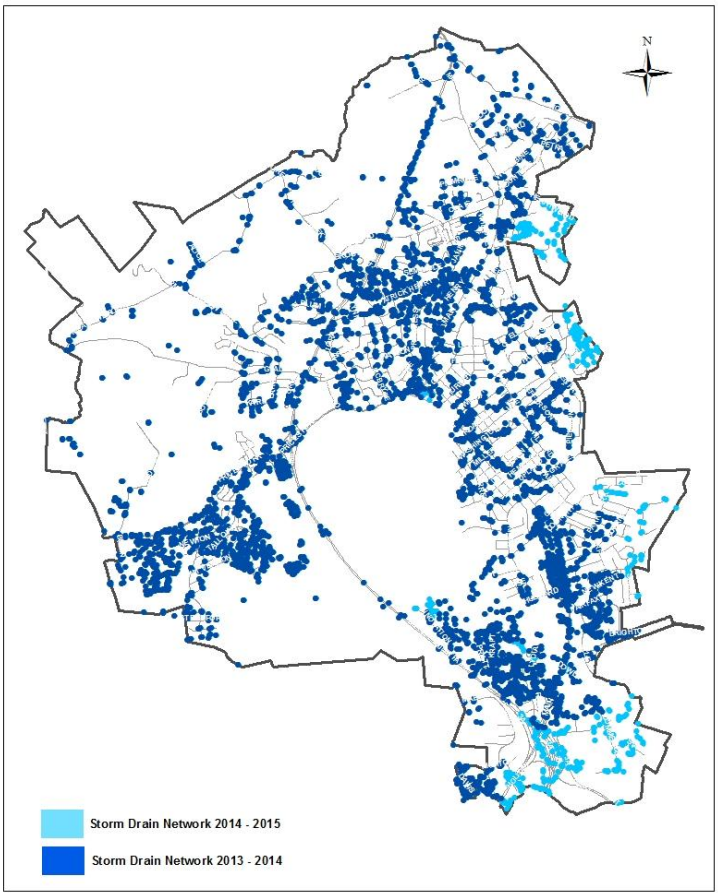
**Town of Blacksburg Engineering and GIS Department**
400 South Main Street
Blacksburg, VA 24060
(540) 961-1124

# Illicit Discharge and Detection Activity: Storm Drain System Map 2015

The Town has been working with the Virginia Tech Civil Engineering Department to inventory and update the storm sewer system within the Town, including stormwater management facilities.

**About this Activity**

During this reporting period, a total of 6,934 structures are recorded in our storm sewer drain GIS map. This is an increase of 625 from last reporting period. A total of 6921 channels are also included in the map, which is an increase of 571 channels this reporting year. All of these structures are existing and not associated with new development. The Town also mapped 11 new outfalls from the existing system, not new construction.




**New Storm Drains Mapped 2014 - 2015**

**Watershed:** Stroubles Creek, Toms Creek & Roanoke River

**TMDL POC:** Sediment and Bacteria

**Evaluation:**

This program has been evaluated for appropriateness and effectiveness in reaching the water quality goals of the community.

- The informative value of a complete map of the storm sewer system is valuable in the discovery of illicit discharges, the understanding of the storm drain system and in the planning for future BMPs for TMDL Action Plan implementation.

**Recommendation:**

- Continue to GPS and update new storm water infrastructure and incorporate this information into the overall storm structure database.

**Appendix 3-B: Illicit Discharge Protocol and Procedures**

**Town of Blacksburg Engineering and GIS Department**
400 South Main Street
Blacksburg, VA 24060
(540) 961-1124

# Illicit Discharge and Detection Activity: Illicit Discharge Protocol and Procedures 2015

During the previous permit cycle, the Town contracted Virginia Tech to perform an Illicit Discharge Potential (IDP) assessment and Outfall Reconnaissance Protocol using procedures from the departments recommended publication entitled "Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments," completed on April, 2008. With the identification of outfalls from the IDP, the ORI established data collection and water quality sampling protocol, along with a database for record keeping.

**About this Activity**

Last reporting period, the Town completed an Illicit Discharge Protocol submitted to DEQ on February 2, 2015. The standardization of the illicit discharge protocol estabilshes a guideline for scheduling, identifying and eliminating illicit disharges. Since then all illicit discharge scheduleing, identification, elimination and enforcement has been in conformance with this protocol.

**Watershed:** Stroubles Creek, Toms Creek & Roanoke River

**TMDL POC:** Sediment, Bacteria, Oil & Grease

**Evaluation:**

This program has been evaluated for appropriateness and effectiveness in reaching the water quality goals of the community.

- Providing for standard procedures for the scheduling, identification and elimination of illicit discharges provides a training protocol for staff and private businesses.
- A standard procedure for identification of common illicit discharges allows for a quicker turnaround between discovery and elimination.
- Creating standardized enforcement methods provides a framework for better and more consistent enforcement of the illicit discharge program.

**Recommendation:**

- Continue to follow the Illicit Discharge Protocol in all inspections, identifications and eliminations of illicit discharge.
- Continue to provide information for identification of more types of illicit discharge as staff will need to be trained in additional types of illicit discharge.

**Appendix 3-C: Illicit Discharges and Enforcement Summary and Evaluation**

**Town of Blacksburg Engineering and GIS Department**
400 South Main Street
Blacksburg, VA 24060
(540) 961-1124

## Illicit Discharge and Detection Activity: Illicit Discharges and Enforcement 2015 Summary and Evaluation

The Town has established an ordinance to prohibit illicit discharges that was adopted by Town Council in spring of 2008 and again in 2014 as part of a Comprehensive Stormwater Ordinance. The Town will track and enforce all known instances of illegal dumping and illicit discharges in a GIS database. The GIS database will be used to detect trends and identify repeat offenders.

**About this Activity**

Last reporting period, the Town had 13 confirmed illicit discharges. The standardization of the illicit discharge protocol has estabilshed a guideline for scheduling, identifying and eliminating illicit disharges. All actions have been in conformance with this protocol. Below is a list of the discharges and the response and enforcement generated for each discharge.

| TYPE | Infraction Type | Notification | Contact List | Response | Enforcement | Actions | Status | Date |
|---|---|---|---|---|---|---|---|---|
| Hydraulic Fluid Spill | Minor - no impact to MS4 | Town Inspector | Engineering | Site visit; confirmed source | Verbal Warning | Clean-up & BMPs | Eliminated. 12/3/2014 | 12/3/2014 |
| Hydraulic fluid spill interstate | Minor - no impact to MS4 | Unknown | Engineering, Emergency Services | No site visit; limited access area | Verbal Warning | Clean-up; Removed 7-8 drums of soil | Eliminated | 7/9/2014 |
| SSO (blockage) | Major - surface waters | citizen | Engineering, DEQ | Site visit; confirmed source | None. | Clean-up. | Eliminated. | 8/8/2014 |
| Flammable Fluid Spill | Minor - no impact to MS4 | Town Inspector | Fire/Rescue, Engineering | Site visit; confirmed source; clean-up | None. | Clean-up (1/9/2015) | Eliminated | 1/9/2015 |
| Hydraulic fluid | Minor - no impact to MS4 | Engineering | Engineering | Site visit; confirmed source; clean-up | None. | Clean-up (3/17/2015) | Eliminated | 3/17/2015 |
| Hydraulic Fluid | Minor - no impact to MS4 | Town Inspector | Engineering, Site Contractor | Site visit; confirmed source; clean-up | None. | Clean-up. | Eliminated. | 12/1/2014 |
| Major - surface waters | SSO | Public Works | Public Works, DEQ, VDH | Site visit; confirmed source; clean-up | None. | Clean-up. | Eliminated | 9/18/2014 |
| SSO | Minor - no impact to MS4 | Public Works | Public Works, DEQ, VDH | Site visit; confirmed source; clean-up | None. | Clean-up. | Eliminated | 12/2/2014 |
| SSO | Major - surface waters | Public Works | Public Works, DEQ, VDH | Site visit; confirmed source; clean-up | None. | Clean-up | Eliminated | 12/8/2014 |
| SSO (blockage) | Major - surface waters | Public Works | Public Works, DEQ, VDH | Site visit; confirmed source; clean-up | None. | Clean-up | Eliminated | 2/11/2015 |
| SSO (blockage) | Major - surface waters | Public Works | Public Works, DEQ, VDH | Site visit; confirmed source; clean-up | None. (debris | Clean-up | Eliminated | 2/23/2015 |
| SSO | Minor - no impact to MS4 | Public Works | Public Works, DEQ, VDH | Site visit; confirmed source; clean-up | None. (blockage) | Clean-up | Eliminated | 3/17/2015 |
| SSO | Minor - no impact to MS4 | Public Works | Public Works, DEQ, VDH | Site visit; confirmed source; clean-up | None. (blockage) | Clean-up | Eliminated | 4/15/2015 |

**Watershed:** Stroubles Creek, Toms Creek & Roanoke River

**TMDL POC:** Sediment, Bacteria, Oil & Grease

**Evaluation:**

This program has been evaluated for appropriateness and effectiveness in reaching the water quality goals of the community.

- Providing for standard procedures for the tracking, enforcing and planning for elimination can create the structure of an effective illicit discharge program.
- The data is collected in a GIS database to aid in the spatial analysis of the causes of some of the illicit discharges.

**Recommendation:**

- Continue to track illicit discharges in a GIS database and record the response, enforcement and status of the discharges.

**Appendix 3-D: Enforce an Ordinance Prohibiting Diverted Stream Flows and Encouraging Buffering Around Creeks Summary and Evaluation**

**Town of Blacksburg Engineering and GIS Department**
400 South Main Street
Blacksburg, VA 24060

# Public Participation Summary: Creek Valley and Floodplain Overlay Activities Summary and Evaluation

The Town of Blacksburg has adopted by Ordinance two zoning overlay districts ("Creek Valley Overlay District", "Floodplain Overlay District") and has adopted amendments to the Subdivision Ordinance that protects floodplain areas, streams, and adjacent lands. (Ordinance Numbers 1184, 1215, 1225, 1308, 1310, and 1339.) The Overlay Districts prohibit development in areas detailed in Ordinances.

### About this BMP

The Creek Valley Overlay limits the development in the following areas:

- Tom's Creek and the Tom's Creek 100-year floodplain,
- Stroubles Creek and the Stroubles Creek floodplain west of West Campus Drive,
- Slate Branch and the Slate Branch floodplain west of U.S. 460 Bypass,
- All areas of twenty-five (25) percent or greater slopes adjacent to the floodplain, or if no floodplain is present, twenty-five (25) percent or greater slopes that begin within fifty (50) feet of the creek channel; and
- All wetlands contiguous to lands in Toms Creek and Stroubles Creek;

The Floodplain ordinance restricts development in the following areas:

- Areas identified as floodplain, floodway or flood fringe on FEMA flood rate maps.
- Areas identified as a floodplain, floodway or flood fringe through study, when 100 acres or more of drainage is upstream of the point of analysis.

| Site Plans Reviewed where Creek Valley (CVO) or Floodplain (FP) Regulations Apply | | | |
|---|---|---|---|
| SITE PLAN | | The Retreat | CVO |
| FLOOD STUDY | | Virginia Tech's New Classroom Building | FP |
| SITE PLAN | | Kipps Farm | FP |
| SUBDIVISION | | Hungate Property Subdivision | CVO |

**Watershed(s):** Stroubles Creek and Toms Creek

**TMDL POC:** (none)

### Evaluation and Recommendation:

The enforcement of the Creek Valley Overlay and the Floodplain Overlay areas have been evaluated for appropriateness and effectiveness in reaching the water quality goals of the community. The findings are below:

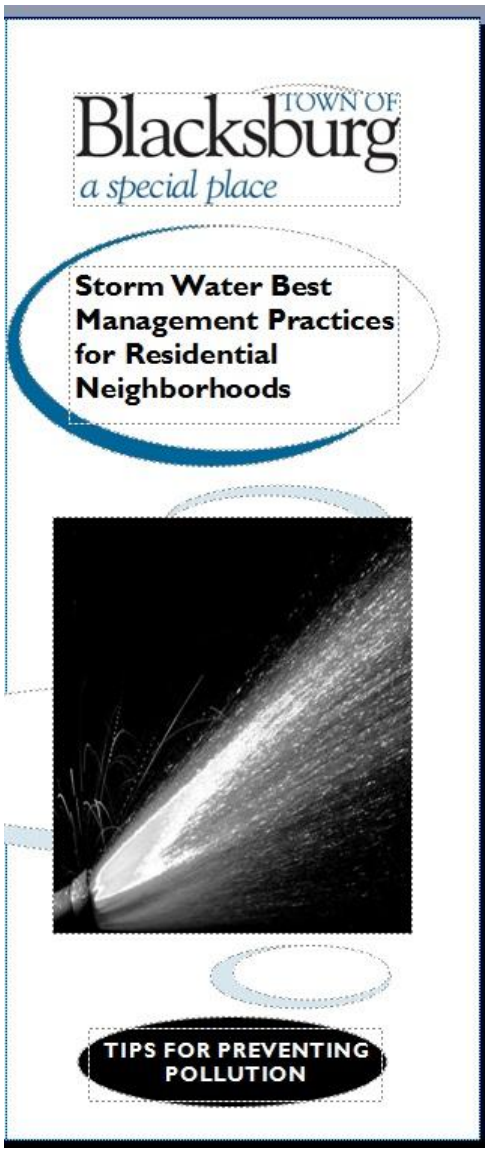
- Limiting development on these sensitive areas prevents development from further reducing riparian areas, and maintains these existing areas in a more natural state.
- Quantifying prevention is much more difficult and will require some additional methods to document the effectiveness.
- Some research will be needed to find alternatives for documenting the effectiveness of this BMP.

**Appendix 3-E: Elimination of Discharges through Outreach Summary and Evaluation**

**Town of Blacksburg Engineering and GIS Department**
400 South Main Street
Blacksburg, VA 24060

# Illicit Discharge Elimination Activity: Elimination of Discharges through Outreach

The Town of Blacksburg will utilize the Town website, Town newsletter, mailings to businesses, brochures, and Public Outreach events to publicize the Illicit Discharge Program. This plan will incorporate a comprehensive outreach element, covered in BMP 1-F. The plan will outline how Town employees will receive guidance on detecting illicit discharges and related enforcement actions covered in BMP 6-M. The plan will also detail how illicit discharges will continue to be tracked by the Town Geographical Information System to help detect trends and identify repeat offenders provided in BMP 3-D.




**Activities:**

BMP 1-A: Residential Flyer (315)
BMP 1-F: Stormwater Discharger Survey Mailer (985)
BMP 2-E: Illicit Discharge Poster at Outreach Events (4 events)
BMP 6-E: O&M and Training Program to Prevent or Reduce the Pollutant Runoff from Municipal Operations

**Watershed(s):** Stroubles Creek, Roanoke River, Toms Creek

**TMDL POC:** Sediment, Bacteria, Oil & Grease

**Evaluation:**

These activities have been evaluated for appropriateness and effectiveness, below are the results:

- Providing a diverse education and outreach program for Illicit Discharge is critical for increasing public awareness, reporting and behavior change.
- The impact group should be expanded to engage a larger portion of the Town's population.
- Better reporting methods should be considered as a way to streamline the information distribution.

**Recommendations:**

- It is recommended that the Town continue to expand on the Illicit Discharge Education outreach program.

**Appendix 3-F: Estimate Volume of Stormwater discharged and Quantity of WLA Pollutant**

**Town of Blacksburg Engineering and GIS Department**
400 South Main Street
Blacksburg, VA 24060

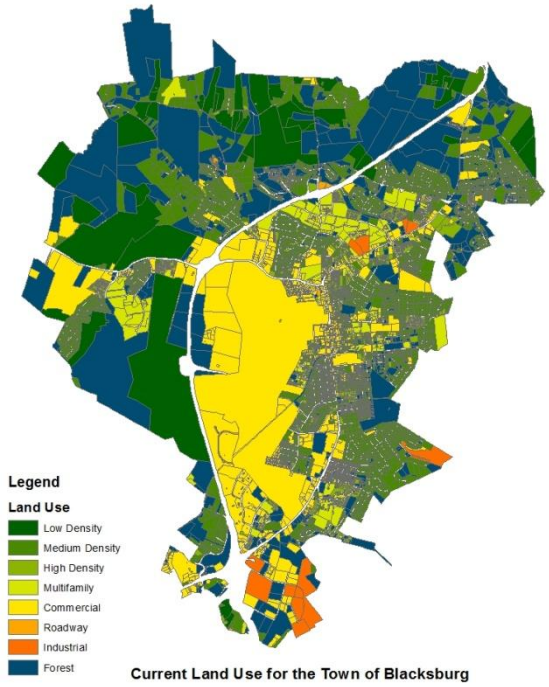
# Illicit Discharge Elimination Activity: Elimination of Discharges through Outreach

The VSMP permit requires the Town to estimate the volume discharged and the amount of WLA pollutant, in units consistent with the associated TMDL, for watersheds assigned a WLA. The TOB currently has the following WLAs associated with a TMDL:

- 211 tons/year sediment to Stroubles Creek
- 102 tons/year sediment to Upper Roanoke River watershed
- 3.15E+09 cfu/year bacteria (E coli) to Wilson Creek

**Watershed(s):** Stroubles Creek, Roanoke River, Wilson Creek (within Roanoke River watershed)

**TMDL POC:** Sediment, Bacteria, Oil & Grease



Current Land Use for the Town of Blacksburg

**Results of Watershed Treatment Model Analysis:**

| TMDL Watershed | Volume Stormwater | Sediment (tons/yr) | Bacteria (cfu/yr) |
|---|---|---|---|
| **Stroubles Creek** | 3,967 ac/ft | 375.66 | n/a |
| **Upper Roanoke River** | 1,956 ac/ft | 191.37 | n/a |
| **Wilson Creek** | 316.8 ac/ft | n/a | 5.39E+12 |

**Evaluation:**

These activities have been evaluated for appropriateness and effectiveness, below are the results:

- Estimating the volume discharged and the amount of WLA pollutant for TMDL watersheds is a requirement of this permit and therefore consistent with the Town's water quality goals and assumptions.
- This process allows Town officials to understand better the association between land use and water quality concerns.

**Recommendations:**

- It is recommended that the Town continue to estimate the volume of stormwater discharged and pollutants of concern for TMDL watersheds.

**Appendix 3-G: Evaluation of Procedures to Detect, Identify, and Address Illegal Discharges**

**Town of Blacksburg Engineering and GIS Department**
400 South Main Street
Blacksburg, VA 24060

# Illicit Discharge Elimination Activity: Evaluation of Procedures to Detect, Identify, and Address Illegal Stormwater Discharges

The development of this document required the Town to identify and document written dry weather screening methodologies. These methodologies include:

A prioritized schedule of field screening activities determined by age of system, land use and other factors was developed.

- The minimum amount of field screenings to be completed each year was outlined.
- The methodologies to collect information such as last rain, conveyance type, estimated discharge rate and visual observations were also described.
- A time frame for follow-up investigation was defined.
- The method to determine source and eliminate such source was provided.
- These procedures incorporated the current methods to use a database of tracking discharges.
- The existing outreach methods for publicizing and facilitation of public reporting of illicit discharges were to be expanded.

The Illicit Discharge Procedures were completed in the year one reporting period and was included with the Year 1 annual report submission. Below is the evaluation of this BMP for appropriateness and effectiveness.

**Watershed(s):** Stroubles Creek, Roanoke River, Toms Creek

**TMDL POC:** Sediment, Bacteria, Oil & Grease

**Evaluation:**

These activities have been evaluated for appropriateness and effectiveness, below are the results:

- Standardization of procedures for detection, identification, and elimination of illicit discharges is consistent with the Town's water quality goals.
- The first draft of the procedures addresses most of the Town's goals for the procedures.
- The outreach methods for publicizing and facilitation of public reporting of illicit discharges have not been expanded. Currently the only method is a phone number and website for submitting questions or concerns town-wide. It is recommended that a stormwater or illicit discharge specific method should be incorporated into the Town's reporting options.
- Additional reporting methods should be considered as a way to streamline the information distribution.

**Recommendations:**

- It is recommended that the Town continue to expand on the outreach methods for the Procedures for the Detection, Identification and Elimination of Illicit Discharges.

**Appendix 3-H: Notify in Writing all Downstream MS4 of any Known Physical Interconnections**

**Town of Blacksburg Engineering and GIS Department**
400 South Main Street
Blacksburg, VA 24060

# Illicit Discharge Elimination Activity: Notify in Writing all Downstream MS4 of any Known Physical Interconnections

The MS4 general permit requires the Town to notify in writing all downstream MS4 entities of any known physical storm sewer interconnections. This notification will aid in the illicit discharge detection, analysis and elimination through better understanding of the storm drainage network outside of the boundaries of each MS4 jurisdiction.

The Town sent letters to both VDOT and Virginia Tech in 2013 notifying them of all physical storm sewer interconnections. This past reporting period, the Town notified Montgomery County of all physical interconnections, as it has just reached the designation of MS4. Below is a map that was included in the letter, showing all parcels owned by Montgomery County that are within the Town of Blacksburg.

**Watershed(s):** Stroubles Creek and Roanoke River

**TMDL POC:** Sediment, Bacteria, Oil & Grease

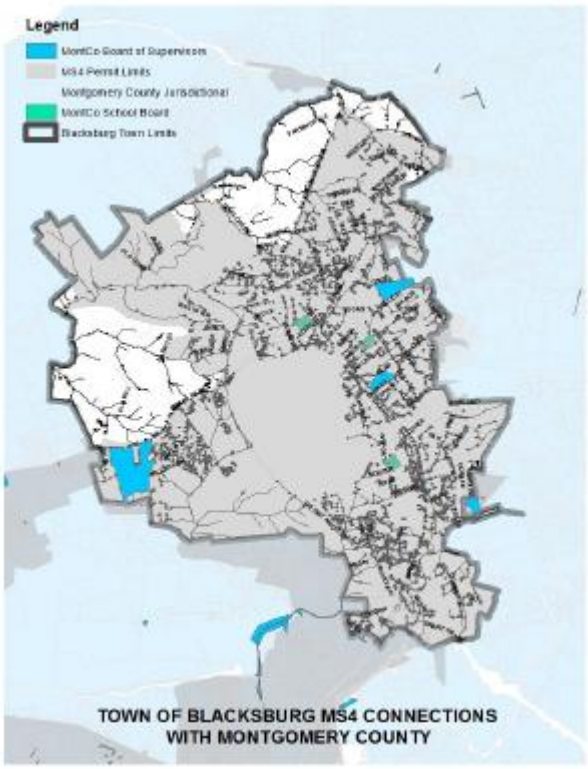
**Evaluation:**

These activities have been evaluated for appropriateness and effectiveness, below are the results:

- Notification of physical interconnected MS4s is consistent with the Town's water quality goals and it enhances the understanding of the storm drain network outside of jurisdictional boundaries.

**Recommendations:**

- It is recommended that the Town continue to notify neighboring MS4 of physical interconnections when new connections are constructed.



**Appendix 4-A: Erosion and Sediment Control Ordinance, Certification and Land Disturbing Activities**

**Town of Blacksburg Engineering and GIS Department**
400 South Main Street
Blacksburg, VA 24060

# Construction Site Runoff Control Activity: Erosion and Sediment Control Ordinance, Certification and Land Disturbing Activities

The Town of Blacksburg relies on its erosion and sediment control program as regulated under the Virginia Erosion and Sediment Control Law (ESCL) and attendant regulations. The Town has more restrictive controls than the ESCL to protect water quality by requiring land disturbers of more than 5,000 square feet to comply with the Town of Blacksburg Erosion and Sediment Control Program. The E&S Program has procedures for plan review, inspection, enforcement, and penalties. A certified Land Disturber is required prior to approval of any E&S plan and public plan reviewers will be certified E&S reviewers.

- The Erosion and Sediment Control Ordinance has been reviewed for compliance with the most current state Erosion and Sediment Control (FY2014) ordinance and it was found to be fully compliant. No changes are planned for the Erosion and Sediment Control Ordinance.
- A total of 1554 erosion and sediment control inspections were conducted last reporting term, 20 verbal warnings, and 8 Letters of Violation. No Notices to Comply or Stop Work Orders were given during this time period.
- The Town employs 10 staff members that maintain Erosion and Sediment control certificates. Currently all employees are current on their certifications.
- In this reporting year, the Town approved 50 single family residences and 18 site plans and subdivisions. A total of 48 acres were disturbed.

**ESC Certified Staff**

| Name | Certification | Certificate Number | Expiration Date |
|---|---|---|---|
| **Cathy Cook** | Inspector | 1883 | 30-Nov-15 |
| **Randy Formica** | Program Administrator | 217 | 31-May-16 |
| **James Higgins** | Inspector | 5228 | 31-May-16 |
| **Lori Lester** | Plan Reviewer | 8005 | 30-Nov-16 |
| **Lori Lester** | Inspector | 1863 | 31-May-16 |
| **Sam Sapienza** | Inspector | 5847 | 30-Nov-15 |
| **Doug Shaver** | Inspector | 3332 | 30-Nov-17 |
| **Will Yager** | Inspector | 5887 | 30-Nov-15 |
| **Kafi Howard** | Plan Reviewer | 8035 | 31-May-16 |
| **Roy Nester** | Combined Administrator | 6020 | 30-Nov-16 |

**Watershed(s):** Stroubles Creek, Roanoke River & Toms Creek

**TMDL POC:** Sediment

**Evaluation:**

These activities have been evaluated for appropriateness and effectiveness, below are the results:

- Maintaining an Erosion and Sediment Control ordinance that is consistent with state law protects the Town from the misapplication of outdated code.
- Tracking the certifications that staff is required to maintain aids in the continuing education of our municipal staff who are tasked with enforcing all disturbances in Town.

**Recommendations:**

- It is recommended that the Town continue to review its Erosion and Sediment control ordinance, if changes are made on the state level.

**Town of Blacksburg Engineering and GIS Department**
400 South Main Street
Blacksburg, VA 24060

## Construction Site Runoff Control Activity: Respond To Erosion and Sediment Control Complaints

The Town employs a full time Construction Manager and a Site Improvement Construction Inspector. The Construction Manager is the point of contact for E&S complaints and problems. The Erosion and Sediment Control Ordinance has been reviewed for compliance with the most current state Erosion and Sediment Control (FY2014) ordinance and it was found to be fully compliant. No changes are planned for the Erosion and Sediment Control Ordinance.

**Statistics:**

- A total of 8 erosion and sediment control complaints were reported in the last reporting period.
- All complaints were responded to within 24 hours of reporting.
- All concerns were resolved in a timely manner.

**Watershed(s):** Stroubles Creek, Roanoke River & Toms Creek

**TMDL POC:** Sediment

**Evaluation:**

These activities have been evaluated for appropriateness and effectiveness, below are the results:

- Tracking the erosion and sediment control complaints allows the Town to document patterns that could be addressed system wide, such as contractor behavior, geographical challenges and administrative weaknesses.
- Tracking the response to ESC complaints provides a tool to evaluate the administration of the ESC program and the Town's effectiveness in addressing known problems.
- The low number of complaints received by the Town indicates that a more aggressive outreach may be needed to empower more citizens to report. Documentation suggests that a few select citizens call repeatedly instead of calls coming from a diverse range of the population.

**Recommendations:**

- It is recommended that the Town advertise the erosion and sediment control reporting option to allow for more citizens to have knowledge and access to this avenue of contact.

**Appendix 4-D: Require Acknowledgement when a VSMP Permit is Needed for a Plan under Review**

**Town of Blacksburg Engineering and GIS Department**
400 South Main Street
Blacksburg, VA 24060

# Construction Site Runoff Control Activity: Require a VSMP Permit for all Plans

The Town has developed a new protocol as a VSMP Authority. No land disturbances will be authorized without proof of VSMP coverage or coverage under a VSMP Authority land disturbance permit. Measurable goals tracking site plan review comments and pre-construction meeting have been eliminated and replaced with tracking of VSMP covered permits and VSMP Authority land disturbance permits. All land disturbances, except single family development requires a VSMP Authority land disturbance permit and all disturbances that exceed 1.0 acre of disturbance must attain a VSMP permit.

**Statistics:**

- A total of 43 site plans were reviewed by the Town this last permitting period.
- A total of 11 required VSMP permits or were associated with existing permits.
- All plans where a VSMP permit was required, one was obtained prior to land disturbance issuance.

| VSMP PLAN NAME | ADDRESS | RECEIVED | VSMP PERMIT |
|---|---|---|---|
| 1ST SECURITY STORAGE | 501 Industrial Park Road | 08/14/14 | **Y** |
| BLACKSBURG RESCUE SQUAD STATION | 1230 Patrick Henry Drive | 11/03/14 | **Y** |
| BOLD SPRINGS CONSTRUCTION PLANS | 725 Givens Lane | 11/17/14 | **Y** |
| KIPPS FARM FINAL SUBDIVISION PLAN | 2240 Merrimac Road | 02/11/15 | **Y** |
| KIPPS FARM SITE DEVELOPMENT PLAN | 2240 Merrimac Road | 02/11/15 | **Y** |
| SHELTER ALTERNATIVES SITE DEVELOPMENT PLAN | 701 Progress Street NE | 02/02/15 | **Y** |
| THE EDGE APARTMENTS EASEMENT REVISION AND DEDICATION PLAT | 801 Meadow Drive | 05/08/15 | **Y** |
| THE RETREAT AT BLACKSBURG | 2010 Prices Fork Road | 03/11/15 | **Y** |
| UNIVERSITY CROSSROADS | 900 Prices Fork Road | 09/12/14 | **Y** |
| VILLAS ON NORTH MAIN | 2415 N. Main Street | 10/31/14 | **Y** |
| ZOE'S KITCHEN SITE PLAN/1ST & MAIN OUTPARCEL #3 | 1500 S. Main Street | 03/12/15 | **Y** |

**Watershed(s):** Stroubles Creek, Roanoke River & Toms Creek

**TMDL POC:** Sediment

**Evaluation:**

These activities have been evaluated for appropriateness and effectiveness, below are the results:

- The need for a VSMP permit is now a requirement prior to issuance of land disturbance permit is a requirement of the Stormwater Ordinance and our VSMP authority status.
- The Town has been successful in implementing this program for 100% of sites where conditions require a VSMP permit.
- This BMP has a high rate of success and should be continued to maintain VSMP coverage for all necessary sites.

**Recommendations:**

- It is recommended that the Town continue the program of requiring VSMP coverage prior to plan approval and land disturbance permit issuance.

**Town of Blacksburg Engineering and GIS Department**
400 South Main Street
Blacksburg, VA 24060

## Construction Site Runoff Control Activity: ESC Protocol and Implementation

The Town has completed its E&S Inspection Protocol. This plan has been implemented and the frequency for inspections is in compliance with general permit. The plan also outlines our enforcement and plan revision procedures. In addition, the Town has adopted multiple public mechanisms for receipt of complaints regarding regulated land disturbing activities, one is called "At your Request" and another is called "Speakup Blacksburg!" Both strategies are opportunities for citizens to voice complaints regarding any issue within the Town. Details and evaluation of this ESC Inspection Protocol are located in Appendix 4-E, ESC Inspection Protocol Summary and Evaluation.

**Statistics:**

- A total of 1554 Erosion and Sediment control inspections were performed by the town this last permitting period.
- All inspectors are certified ESC inspectors with valid licenses.
- All inspections were performed by certified inspectors.

**Watershed(s):** Stroubles Creek, Roanoke River & Toms Creek

**TMDL POC:** Sediment

**Evaluation:**

These activities have been evaluated for appropriateness and effectiveness, below are the results:

- Standardization of erosion and sediment control inspections provides for consistent and more effective results in the construction community.
- Enforcement will be legally defensible with standard operating procedures.
- This BMP is effective in keeping all inspectors adequately certified and providing a consistent method of inspection.

**Recommendations:**

- It is recommended that the Town continue the program of the ESC protocol and make any necessary changes in the future.

**Town of Blacksburg Engineering and GIS Department**
400 South Main Street
Blacksburg, VA 24060

# Construction Site Runoff Control Activity: Pollution Prevention Plan Enforcement Protocol

The Pollution Prevention Plan Enforcement Protocol was completed in this reporting period. This protocol requires the implementation of controls to prevent non-stormwater discharges to the MS4 such as wastewater, concrete washout, fuels and oils or other illicit discharges.

Inspections and results from the program are documented below:

**Statistics:**

- A total of 12 SWPPP inspections were performed by the town this last permitting period.
- Two of the town's inspectors are SWM inspectors with valid DEQ certifications.
- All SWPPP inspections were performed by certified inspectors.


**Watershed(s):** Stroubles Creek, Roanoke River & Toms Creek

**TMDL POC:** Sediment, Bacteria, Oil & Grease

**Evaluation:**

These activities have been evaluated for appropriateness and effectiveness, below are the results:

- Standardization of SWPPP inspections provides for consistent and more effective results in the construction community.
- Enforcement will be legally defensible with standard operating procedures.
- This BMP is effective in keeping all inspectors adequately certified and providing a consistent method of inspection.

**Recommendations:**

- It is recommended that the Town continue the program of the SWPPP protocol and make any necessary changes in the future.

**Appendix 5-A: Stormwater Ordinance**

**Town of Blacksburg Engineering and GIS Department**
400 South Main Street
Blacksburg, VA 24060

## Post-Construction Stormwater Management: Stormwater Ordinance

The Town of Blacksburg relies on its Stormwater Management Program as regulated under the Virginia Stormwater Management Regulations and attendant regulations. The Storm Water Management Program has procedures for plan review, inspection, enforcement, and penalties. The Town has a full time Stormwater Engineer position that is responsible for administering the Storm Water Management Ordinance and Program.

**Statistics:**

- The stormwater ordinance was adopted by Town Council on June 10, 2014 to be in place by July 1, 2014.
- The stormwater ordinance was reviewed this permit period and it is still in compliance with State Stormwater Management regulations.

**Watershed(s):** Stroubles Creek, Roanoke River & Toms Creek

**TMDL POC:** Sediment, Bacteria, Oil & Grease

**Evaluation:**

These activities have been evaluated for appropriateness and effectiveness, below are the results:

- A fully compliant stormwater ordinance allows for the effective understanding and enforcement of current stormwater regulations.
- Enforcement will be legally defensible.

**Recommendations:**

- It is recommended that the Town continue to review the Stormwater Management Ordinance and address any changes made on the State level.

**Appendix 5-B: Long Term Stormwater Maintenance Program**

**Town of Blacksburg Engineering and GIS Department**
400 South Main Street
Blacksburg, VA 24060

## Post-Construction Stormwater Management: Implement a Long Term Stormwater Maintenance Program

The Town has implemented a storm water maintenance program that requires proper long term operation and maintenance of storm water management facilities and the conduction of inspections and enforcement measures consistent with Virginia Stormwater Management Act and attendant regulations. The Stormwater Management ordinance requires a Maintenance Covenant on stormwater management facilities for all new development. This is enforced at the plan review stage, and approval of the plan is not granted until a receipt is provided from the Montgomery County Courthouse. The covenant is signed by the Owner of the facility and reviewed by the Town Attorney and Town Stormwater Engineer prior to recordation.

The Covenant also provides access to the Town for inspection of these new stormwater facilities (those approved post-ordinance). As part of the Stormwater Program described in the Ordinance, the Town will inspect these facilities at least once during a permit cycle. Maintenance forms from these inspections will be maintained in a database. This database will be linked to a GIS database of stormwater facilities.

If maintenance is found to be needed, a request to perform maintenance will be sent to the Owner. Upon failure of Owner response, the Town reserves the right to maintain the facility at the Owner's expense. It is noted that training for stormwater facility inspections and maintenance will be obtained during the first year of the permit cycle.

**Statistics:**

All newly constructed stormwater management facilities (57) that have come online in the past reporting year have had recorded stormwater covenants associated with them. They have all been entered into the GIS database and were inspected prior to certificates of occupancy. All (46) Town owned facilities were inspected this reporting year and twenty-nine (68) private facilities were inspected.

**Watershed(s):** Stroubles Creek, Roanoke River & Toms Creek

**TMDL POC:** Sediment, Bacteria, Oil & Grease

**Evaluation:**

These activities have been evaluated for appropriateness and effectiveness, below are the results:

- An effective long-term maintenance program supports the longevity of the stormwater facilities.
- The inspection frequency for new facilities is effective, since every facility must be inspected prior to certificate of occupancy.
- The inspection totals for existing private stormwater facilities is not large enough to successfully complete all known facilities on a 5-year interval. It is recommended that a higher number of inspections be completed for existing stormwater facilities to meet the required 5 year frequency.

**Town of Blacksburg Engineering and GIS Department**
400 South Main Street
Blacksburg, VA 24060

# Post-Construction Stormwater Management: Tracking of all Known Stormwater Facilities

The Town is currently working with, and under contract with the Virginia Tech Civil Engineering Department as described above under BMP 3-A. This work includes efforts to compile data for stormwater modeling throughout the Town. As part of these efforts, GPS location of storm infrastructure is collected in the field. This field collection will include collection of data, and the mapped location of all found, and known stormwater facilities. New facilities will be added as constructed for all years of the permit cycle.

**Statistics:**
Through efforts to utilize field collection to map the infrastructure and model the storm drainage network throughout the town, 41 existing ponds were discovered and 16 new construction facilities were added to the database. The database has a total of 377 stormwater facilities.

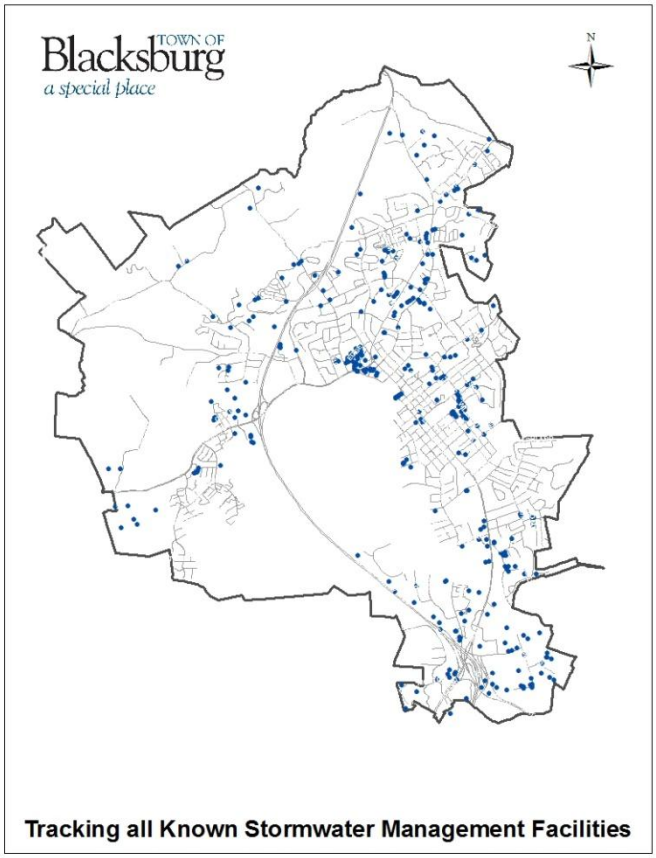
**Watershed(s):** Stroubles Creek, Roanoke River & Toms Creek

**TMDL POC:** Sediment, Bacteria, Oil & Grease

**Evaluation:**

These activities have been evaluated for appropriateness and effectiveness, below are the results:

- An effective program of tracking the stormwater facilities in a GID database improves the ability for the MS4 to inspect for maintenance.
- It is recommended that the Town continue to track these facilities and add new stormwater management measures to the database when necessary.




**Tracking all Known Stormwater Management Facilities**

**Appendix 5-D: Stormwater Facilities Protocol**

**Town of Blacksburg Engineering and GIS Department**
400 South Main Street
Blacksburg, VA 24060

# Post-Construction Stormwater Management: Stormwater Facilities Protocol

The Town of Blacksburg has developed a stormwater facilities protocol that includes written policies and procedures utilized to ensure that facilities are designed and constructed in accordance with Section IIB 5b. Also included are inspection procedures and policies for conducting all stormwater facility inspections, public and private. The roles and responsibilities of each of the Town departments, divisions or subdivisions have been defined. In addition, the stormwater management database has been enhanced to include a) stormwater facility type, b) Location (lat or long), c) acres treated, d) date brought online, e) 6th order HUC code, f) impaired stream discharge, g) public or private, and h) date of last inspection. This Protocol was completed in the Year 1 reporting period of this permit and was submitted to DEQ with the Year 1 Annual Report.

**Statistics:**
In this past reporting year (46) Town owned facilities were inspected and twenty-nine (68) private facilities were inspected. All inspection completed were in conformance with the Stormwater Facilities Protocol.

**Watershed(s):** Stroubles Creek, Roanoke River & Toms Creek

**TMDL POC:** Sediment, Bacteria, Oil & Grease

**Evaluation:**

- Providing for standard procedures for the scheduling, inspection and enforcement of stormwater facility maintenance provides a training protocol for staff and guidance for private businesses.
- A standard procedure for scheduling facility inspections allows for appropriate planning to meet all inspection requirements of this permit.
- Creating standardized enforcement methods provides a framework for better and more consistent enforcement of the maintenance of these facilities.

## Recommendation:

- Continue to follow the Stormwater Facilities Inspection Protocol in all planning, inspection, and enforcement of maintenance.
- Continue to evaluate program to see if improvements are needed in future years.

**Appendix 6-A: Pollutant Reduction in Roads, Parking Lots, and Storage Yards**

**Town of Blacksburg Engineering and GIS Department**
400 South Main Street
Blacksburg, VA 24060
(540) 961-1124

# Pollution prevention/Good housekeeping Activity: Maintenance Actions for Pollutant Reduction in Roads, Parking Lots, and Storage Yards

The Town of Blacksburg has had an Environmental Management System in place since 2002 as part of its comprehensive Environmental Management Program. The program is designated an Exemplary Environmental Enterprise (E3) with the VDEQ as part of the Virginia Environmental Excellence Program. Pollutant reduction programs include seasonal Leaf and Christmas tree pickup, twice yearly brush pickup, twice yearly pick-up of discarded larger items, and street sweeping. Town employees also pick up loose trash, leaves, and tree limbs as properties are maintained. Litter is removed from the Downtown area on a daily basis.

## About this Activity

Last reporting period, the Town completed all activities associated with the Environmental Management System such as Leaf and Christmas tree pickup, twice yearly Brush and Bulk item Pickup, and daily removal of trash and litter in the highly pedestrian areas such as Downtown.

**Watershed:** Stroubles Creek, Toms Creek & Roanoke River

**TMDL POC:** Sediment, Bacteria, Oil & Grease

## Evaluation:

This program has been evaluated for appropriateness and effectiveness in reaching the water quality goals of the community.

- Providing the curb-side leaf and Christmas tree pickup free-of-charge reduces the amount of organic waste that is dumped into storm drainage system. The leaves and trees are then ground up and taken to a local composting site. This organic material is then redistributed at no charge to citizens who are in need of compost material.
- The twice yearly brush and bulk pickup collects both organic material and non-organic material from the curbside. These sponsored events reduce the amount of bulk organic items and non-organic material from being illegally dumped in areas where they could have a multitude of negative impacts to the surroundings.
- The daily removal of trash from the highly pedestrian areas such as downtown allows for the routine removal of trash and debris such as cigarette butts, food and drink containers, and other trash items that do not make it to a receptacle. This not only improves the aesthetics of the areas which are most impacted by negligent pedestrians, but it reduces the amount of floatables that could enter the storm drain system.

## Recommendation:

- Continue to provide the activities associated with the Environmental Management System such as Leaf and Christmas tree pickup, twice yearly Brush and Bulk item Pickup, and daily removal of trash and litter in the highly pedestrian areas such as Downtown.

**Engineering and GIS Department**
400 South Main Street
Blacksburg, VA 24060
(540) 961-1124

# Pollution prevention/Good housekeeping Activity: Controls for Reducing the Discharge of Pollutants in Publicly Maintained Areas

The Town will continue to evaluate all town operations for ways to reduce pollution through the Environmental Management Program. Pollution prevention activities will include evaluating public facilities for problems to correct, continue upgrades to sanitary sewer lines and manholes to reduce sanitary sewer overflows, recycling, employee training, spill prevention program, watershed management and incorporating LID practices on publicly owned properties.

## About this Activity

The Town performs annual sanitary sewer line cleaning to reduce the amount of root intrusion into the sewer lines. This allows the sewer line to function without clogging. In addition, the sanitary sewer is continually studied for areas in need of upgrades to maintain capacity with growth in population. The Town also manages a Town-wide recycling program for all residential homes.

The following activities were completed in Year 2:

- Perform Sanitary Sewer Line Maintenance to reduce clogging
- Perform Sanitary Sewer Line Upgrades to maintain capacity
- Continue Managing the Town-Wide recycling Program

In year 2, the Public Works Complex was identified as being in need of a Stormwater Pollution Prevention Plan and in need of evaluation for a Spill Prevention Plan. This will be completed in Year 3 of this reporting period.

**Watershed:** Stroubles Creek, Toms Creek & Roanoke River

**TMDL POC:** Sediment, Bacteria, Oil & Grease

## Evaluation:

This program has been evaluated for appropriateness and effectiveness in reaching the water quality goals of the community.

- Performing sanitary sewer line maintenance on an annual basis is effective in reducing sanitary sewer overflows due to clogging. In the past reporting year, the town only had 8 sewer overflows due to clogging. In the past these events were often caused by root intrusion into the lines, now most of the clogging overflows are caused by improper disposal of paper products such as flushable wipes and paper towels.
- Performing sanitary sewer line upgrades to maintain capacity is effective in reducing sanitary sewer overflows due to the impacts of growth. The town continues to evaluate the sewer system and the goal is to have no capacity overflows during dry weather conditions and no capacity overflows during wet weather events of a 10 year frequency or less. In the last reporting period the town had 0 overflows due to capacity issues.
- The Town continues to manage its town wide recycling program. This is offered to every residential home within the Town and also serves 66 apartment complexes. In Year 3, the Town will be implementing single stream recycling to enable more material to be recycled by Town citizens.

## Recommendation:

- Continue to provide the Pollution prevention activities include evaluating public facilities for problems to correct, continue upgrades to sanitary sewer lines and manholes to reduce sanitary sewer overflows, recycling, employee training, spill prevention program, watershed management and incorporating LID practices on publicly owned properties.

**Appendix 6-C: Reduce the Amount of Solid Waste from Municipal Facilities**

**Town of Blacksburg Engineering and GIS Department**
400 South Main Street
Blacksburg, VA 24060
(540) 961-1124

# Pollution prevention/Good housekeeping Activity: Reduce the Amount of Solid Waste from Municipal Facilities

Town facilities contain a centralized recycling area. Employees recycle, co-mingled containers, mixed paper, toner cartridges, electronics, and rechargeable/alkaline batteries. Educational materials are displayed at each recycling site. Recycling Assistants from each department help the Waste Reduction and Recycling staff to promote the program. The Public Works and Transit garages recycle oil, antifreeze, tires, and metal. The Town also recycles used fluorescent lamps and metal from discarded items. In addition, the Purchasing Division and Technology Department work closely to ensure that all electronic equipment is properly recycled.

## About this Activity

The following activities were completed in Year 2:

- Continued municipal building recycling of co-mingled containers, mixed paper, toner cartridges, electronics, and rechargeable/alkaline batteries.
- Continued the recycling of oil, antifreeze, tires, and metal at the Public Works and Transit garage.
- Continued recycling used fluorescent lamps from all facilities.
- Continued the recycling of electronic equipment and computers through the Purchasing Division and Technology Department.

**Watershed:** Stroubles Creek, Toms Creek & Roanoke River

**TMDL POC:** Sediment, Bacteria, Oil & Grease

## Evaluation:

This program has been evaluated for appropriateness and effectiveness in reaching the water quality goals of the community.

- The municipal buildings create large amounts of trash in the form of reports, plans, and applications while utilizing large amounts of document printing materials such as toner as well as daily use of small electronics and batteries. Many of these actions cannot be eliminated, so efforts to target Town buildings for recycling is critical in reducing the potential waste these activities can generate. This provides a viable alternative to the wastebasket and minimizes the volume of materials sent to the landfill.
- The public works facility and Blacksburg Transit garage utilizes large amounts of oil, antifreeze, tires and metal in the maintenance of the town's infrastructure and municipal fleet. The recycling of all these materials will reduce the potential for these items to end up in the landfill.
- All municipal buildings utilize fluorescent lamps. All spent fluorescent lamps from municipal buildings are recycled.
- The Technology Department has a recycling program for all computers through the Purchasing Division. Computers that have expended their useful life are first re-purposed in areas with lower demands such as interns or part time staff, then they are put on a surplus auction for reuse in the community.

## Recommendation:

- Continue to recycle at current levels and evaluate additional resources to minimize the impacts from municipal waste.
- Track the amounts of each type of recycled material to identify if programs are being utilized and if they need expansion.

**Appendix 6-D: Reduce the Use and Discharge Potential of Hazardous Chemicals**

**Town of Blacksburg Engineering and GIS Department**
400 South Main Street
Blacksburg, VA 24060
(540) 961-1124

# Pollution prevention/Good housekeeping Activity: Reduce the Use and Discharge Potential of Hazardous Chemicals

The Town Horticulturist will provide annual update training for all employees licensed as Registered Technicians or Certified Applicators through the State of Virginia. The Safety & Emergency Manager is responsible for developing and updating the MSDS Management Program. The Operations Coordinator in the Office of Waste Reduction and Recycling will finalize a Universal Waste Policy and provide employee training on the subject.

**About this Activity**

The following activities were completed in Year 2:

- Update the Towns MSDS Program
- Provide training for all Registered Technicians or Certified Applicators through the State

**Watershed:** Stroubles Creek, Toms Creek & Roanoke River

**TMDL POC:** Sediment, Bacteria, Oil & Grease

**Evaluation:**

This program has been evaluated for appropriateness and effectiveness in reaching the water quality goals of the community.

- The Towns MSDS program is currently being evaluated for updates. This evaluation will be complete and recommendations provided in Year 3 of this permit cycle.
- All registered technicians and certified applicators have been trained and their certifications are up to date. Below is a list of all certified staff:

| Registered Technician: | | |
|---|---|---|
| **Justin R. Begley** | 133733 | 6/30/17 |
| **Douglas W. Huff** | 120293 | 6/30/17 |
| **James "Jimmy" Bishop** | 88250 | 6/30/16 |
| **Gary L. Dowdy** | 131034 | 6/30/17 |
| **Commercial Certified Pesticide Applicator:** | | |
| **Elizabeth Carson** | 55258 | 6/30/16 |
| **Jenifer Lucas** | 66884 | 6/30/16 |
| **Anthony "Todd" Duncan** | 87985 | 6/30/16 |
| **James "Jimmy" Bishop** | 88250 | 6/30/16 |
| **David K. McCoy** | 87984 | 6/30/16 |
| **Timothy A. Turman** | 100313 | 6/30/16 |
| **Michael S. Agud** | 87986 | 6/30/16 |
| **Randy St. Clair** | 88249 | 6/30/16 |
| **Gary L. Dowdy** | 131034 | 6/30/17 |
| **Robert G. Thompson** | 66987 | 6/30/17 |

**Recommendation:**

- Continue to review MSDS program and maintain training and certifications for technicians and applicators.

**Appendix 6-E: O&M and Training Program**

**Town of Blacksburg Engineering and GIS Department**
400 South Main Street
Blacksburg, VA 24060
(540) 961-1124

# Pollution prevention/Good housekeeping Activity: Develop and Implement an O&M and Training Program to Prevent or Reduce the Pollutant Runoff from Municipal Operations

Outlines for training programs have been developed for the Town Police Department, Fire and Rescue, Public Works Grounds and Fueling and Vehicle Maintenance staff. The following training programs have been completed this reporting period: ESC/SWM training for Engineering staff, Spill Response for Emergency Services staff and Fertilizer, Pesticide and Landscape Materials for Applicators. See Appendix 6-E for Details, Evaluation and Recommendations for this BMP.

**About this Activity**

The following activities were completed in Year 2:

- Engineering Staff received training to maintain ESC and SWM certifications.
- Emergency Services staff received training on spill response.
- Landscaping staff received training to maintain applicator certifications.
- Written Operation and Maintenance procedures have been completed. Trainings for written O&M procedures will occur in Year 3-5 of the permit cycle.

**Watershed:** Stroubles Creek, Toms Creek & Roanoke River

**TMDL POC:** Sediment, Bacteria, Oil & Grease

**Evaluation:**

This program has been evaluated for appropriateness and effectiveness in reaching the water quality goals of the community.

- The training for certifications has a high rate of compliance for staff working in areas which may have significant impact to local water quality. It is important to keep staff appropriately trained so that any new information and recommendations for standards of use can quickly be incorporated in to common practice.
- The written O&M procedures, which documents these standards of use and practice will allow staff to standardize the implementation of these actions.


**Recommendation:**

- Continue to evaluate this BMP once the written O&M training is complete. Feedback from those training sessions may provide useful information to keep these procedures as effective as possible.

**Appendix 6-F: Turf and Landscape Nutrient Management Plans**

**Town of Blacksburg Engineering and GIS Department**
400 South Main Street
Blacksburg, VA 24060
(540) 961-1124

# Pollution prevention/Good housekeeping Activity: Turf and Landscape Nutrient Management Plans

The Town shall implement turf and landscape nutrient management plans that have been developed by a certified turf and landscape nutrient management planner in accordance with § 10.1-104.2 of the Code of Virginia on all lands owned or operated by the MS4 operator where nutrients are applied to a contiguous area greater than one acre.

**About this Activity**

The following activities were completed in Year 1:

- The Town has completed its identification of lands requiring Turf and Landscape Nutrient Management Plans.
- A total of six sites meet this description.

The following activities were completed in Year 2:

- The town included in the Capital Improvement Program budget monies to begin contracting the Nutrient Management Plans for the selected sites.
- This CIP project has been funded and will commence in Year 3.

**Watershed:** Stroubles Creek, Toms Creek & Roanoke River

**TMDL POC:** Sediment, Bacteria, Oil & Grease

**Evaluation:**

This program has been evaluated for appropriateness and effectiveness in reaching the water quality goals of the community.

- The completion of the Nutrient Management Plans will provide an educational resource and guideline for the application and treatment of the Town's large managed land. This will prevent the overuse of nutrients which can protect those nutrients from burdening our local waters.

**Recommendation:**

- Continue to proceed with contracting the Nutrient Management Plans.

## CERTIFICATION STATEMENT AND SIGNATORY REQUIREMENTS FOR MS4 PERMIT APPLICATIONS AND REPORTS

As required by 9VAC25-870-370 B, all reports required by state permits, and other information requested by the board shall, be signed by a responsible official or by a duly authorized representative of that person. A responsible official is:

*1. For a corporation: by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy-making or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided the manager is authorized to make management decisions that govern the operation of the regulated facility, including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long-term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for state permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;*
*2. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or*
*3. For a municipality, state, federal, or other public agency: by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a federal agency includes (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.*

A person is a duly authorized representative only if:

1. The authorization is made in writing by a person described above;
2. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. A duly authorized representative may thus be either a named individual or any individual occupying a named position; and
3. The written authorization is submitted to the department.

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**CERTIFICATION**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

10/1/15

Marc Verniel, Town Manager — Date

VAR 040019 — Town of Blacksburg

Permit Number — MS4 Name