

**TOWN OF BLACKSBURG STORMWATER
MANAGEMENT PROGRAM
VPDES PERMIT NO. VAR 040019
(Effective November 1, 2018)**

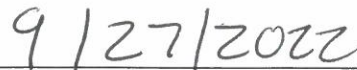
**Municipal Separate Storm Sewer System (MS4) Annual
Report for the reporting period:
July 1, 2021 to June 30, 2022**

Date Submitted: October 1, 2022

"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."



Marc Vermel, Town Manager



Date

TOWN OF
Blacksburg
VIRGINIA

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Introduction

Regulatory compliance related to stormwater 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, 2021** through **June 30, 2022** for the **Town of Blacksburg** (TOB), General Permit No. **VAR040019** (effective November 1, 2018 – October 31, 2023). In this permit year, each department has completed their roles and responsibilities as it is described in the 2018 TOB Program Plan. All of the policies and procedures referenced in this annual report support the goals of the Program Plan. In the future, minor revisions to BMPs will be described in the body of the annual report based upon evaluations made upon the end of each reporting period.

Annual Report Requirements, General

- 1) Permittee, system name and permit number; **(Coversheet)**
- 2) The reporting period for which the annual report is being submitted; **(Coversheet)**
- 3) Signed Certification as per Part III K; **(Coversheet)**
- 4) Each annual reporting item as specified in the MCMs in Part I E; and **(body)**
- 5) An evaluation of the MS4 program implementation, including a review of each MCM to determine the MS4 program's effectiveness and whether or not changes to the MS4 program plan are necessary. **(body)**

MCM 1: Public Education & Outreach

The goals of the Public Education and Outreach Minimum Control Measure (MCM) are (1) To increase public knowledge of how to reduce pollution with a focus on the specific water quality issues of our local waters, (2) To increase public knowledge of hazards associated with illegal discharges and improper disposal of waste, and (3) To implement a diverse program with strategies that target those groups most likely to have stormwater impacts. Measures described below are intended to meet the public outreach and outreach goals as described in the Program Plan.

List of Minimum Control Measure #1 BMP's:

- A. Storm Drain Marking Program
- B. Illicit Discharge Education for Commercial Businesses
- C. Town Stormwater Webpage and Digital Media
- D. Outreach Targeting School Aged Children and University Students

The high priority stormwater issues listed below are identified in the Town of Blacksburg Program Plan. The public education and outreach best management practices focus on these issues as is described in the section below.

High Priority Stormwater Issues:

- Local TMDLs
- Illicit Discharges from Commercial Sites
- Pet Wastes

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 is illustrated how each of our BMPs addresses the specific high-priority water quality issues listed in the Program Plan.

Evaluation of Consistency with High Priority Stormwater Issues			
MINIMUM CONTROL MEASURE ONE BMPs	<i>Local TMDLs</i>	<i>Illicit/Commercial</i>	<i>Pet Wastes</i>
BMP 1.A (Storm Drain Marking Program)	✓	✓	
BMP 1.B (Illicit Discharge Education for Commercial Businesses)	✓	✓	
BMP 1.C (Town Stormwater Webpage and Digital Media)	✓	✓	✓
BMP 1.D (Outreach Targeting School Aged Children and University Students)	✓		✓

Annual Report Required Documentation:

- A list of the high-priority stormwater issues the permittee addressed in the public education and outreach program; **(this page)** and
- A list of the strategies used to communicate each high-priority stormwater issue. **(below)**

Strategies from Table 1							
MCM1 BMPs	Written	Alternative	Signage	Media	Speaking	Curriculum	Training
BMP 1.A (Storm Drain Marking Program)	✓		✓	✓			
BMP 1.B (Illicit Discharge Education for Commercial Businesses)	✓						
BMP 1.C (Town Stormwater Webpage and Digital Media)				✓			
BMP 1.D (Outreach Targeting School Aged Children and University Students)				✓	✓	✓	✓

A. Storm Drain Marking Program Implementation

The Town plans to mark storm drains in high pedestrian areas with information that identifies that the waters go to local streams. This may be done with a stamp or marker, or alternative messages such as art work and other high visibility method. The goal is to draw attention to the storm drain network and educate citizens that these waters are not treated prior to discharge to local waters.

Measurable Goals Identified and Achieved:	Years Achieved				
Sponsor Local Artists to Paint Storm Drains	2018	2019	-	2021	2022
Mark Storm Drains with Metal Marker (<i>alternative</i>)			<i>not achieved</i>		
Progress Toward Meeting Objectives of Permit					
The sponsorship of local artists was restarted this reporting period. A new artist was chosen to install three new storm drain paintings and the locations were chosen at high profile areas near public schools. The paintings will occur in the following year 2022-23.					
Proposed Changes to BMP or Measurable Goals					
No changes are proposed.					
Next Reporting Period Activities Planned (YEAR 5)					
This next reporting year the Town will implement the three storm drain painting locations and continue to evaluate additional areas for either storm drain painting or markings.					

B. Illicit Discharge Education for Commercial Businesses

The Town continues to research and update the commercial best management practices, alternative treatment and storage options, and proper disposal techniques for non-stormwater discharges to better educate the commercial business community. This information will be sent to businesses annually. Additionally, the Town will continue to send out a survey asking businesses about non-stormwater discharges specific to their business every five years. Responses to the survey will allow the Town to evaluate the existing program and prioritize potential hazards for the future.

Measurable Goals Identified and Achieved:	Years Achieved				
Send out Non-stormwater discharger survey	2018	-	-	-	
Send Illicit Discharge Educational Info to Businesses and Residents	-	2019	2020	2021	
Progress Toward Meeting Objectives of Permit					
During this reporting period, the Town sent out a Power Washing Flyer to Commercial businesses. This mailer was sent out to all contractors that provide these services within the Town. This flyer provided best management					

practices for power-washing businesses and detailed how to safely clean and dispose of wash waters. The Town continues to develop material that addresses on-going illicit discharge issues here in the Town of Blacksburg.
Proposed Changes to BMP or Measurable Goals
None proposed.
Next Reporting Period Activities Planned (YEAR 5)
In the next reporting period, the Town’s goal is to continue to reach out to all commercial businesses and provide literature regarding illicit discharges and proper waste disposal.

C. Town Stormwater Page Educational Information and Digital Media

Stormwater related information is available on the Town’s website for the general public. The site contains links to DEQ, DCR, and EPA web pages related to stormwater pollution, MS4, and TMDLs. The Town’s stormwater management ordinance, MS4 Program plan and annual reports, and local TMDLs are also posted on the website. The Town will continue to provide digital content relating to local stormwater issues.

Measurable Goals Identified and Achieved:	Years Achieved				
	2018	2019	2020	2021	
Update Stormwater webpage					
Review Alternative Digital Media Sources for Outreach		2019	2020		
Implement Alternative Digital Media Sources for Outreach			2020	2021	
Progress Toward Meeting Objectives of Permit					
<p>This past year the webpage was updated with the most current MS4 Program Plan information and alternative sources of digital media were researched and implemented this year. The Town collaborated with the New River Land Trust organization to continue to develop more informational videos that address local water quality from different perspectives. Three were developed during Year 3 and one additional video was developed this reporting period. These videos are listed below and can be viewed through YouTube website.</p> <ul style="list-style-type: none"> • Stream Conservation in Montgomery County Virginia – Agricultural Perspective • Stream Conservation in Montgomery County Virginia – Childrens Perspective • Stream Conservation in Montgomery County Virginia – Endangered Species (Logperch) Perspective • NEW VIDEO: Water Quality and History of the Land - https://www.youtube.com/watch?v=26yral4tJIA 					
Proposed Changes to BMP or Measurable Goals					
The Town is continuing to look into alternative methods of providing digital media for outreach due to the desire to provide in-person education as well as digital alternatives.					
Next Reporting Period Activities Planned (YEAR 5)					
In the next reporting period, the Town’s goal is to continue to provide alternative methods for Outreach. These are desirable to continue to have a diverse program to continue to target a diverse audience.					

D. Outreach Targeting School Aged Children and University Students

The Town will continue to develop and implement a public education program specifically targeting school-age children and university students. This plan will cover stream and watershed education, information regarding local TMDLs and impairments and impacts of uncollected pet waste. School-age content will be consistent with the Virginia Science Standards of Learning (SOL) curriculum. University education will be tailored to be relevant to the course and incorporate the high-priority stormwater issues as appropriate.

Measurable Goals Identified and Achieved:	Years Achieved				
Provide Curriculum Materials for 4 th and 5 th Grade Stream Field Trips	2018	2019	Cancelled	2021	
Provide Curriculum Materials for 6 th Grade Stormwater Day	2018	2019	Cancelled	2021	
Oral Presentation to University Undergraduate Student Classes: CEE 4304 Hydrology, CEE 4274 Land Development, CEE 4254 Municipal Engineering or NR 4444 Practicing Sustainability	2018	Cancelled	Cancelled	2021	
Oral Presentation to University Graduate Classes: CEE 5734 Urban Hydrology, CEE 5324 Advanced Hydrology or Municipal Engineering		Cancelled	Cancelled	-	
Stream Exploration Backpack Kits (Blacksburg Library)			2020	2021	
Progress Toward Meeting Objectives of Permit					
Stream Field Trips: (September 14th, September 17th, April 22nd and May 19th)					
<p>The Stream field trips are held at a local conservation easement property and Hale Community Garden for the fourth and fifth grade classes for the Private Blacksburg New School, and the Public Gilbert Linkous, Harding Avenue and Kipps Elementary Schools. The field trips' objectives are to increase connectedness with the land through a meaningful watershed experience and local history lesson, teach students about human impact on a watershed, measure the health of the local stream as well as increase awareness of the benefit of conservation work.</p>					
Stormwater Day Curriculum (April 11 & 12, 2022)					
<p>This event is attended by 7th Grade Students from Blacksburg Middle School. The educational materials focused on stream geomorphology and how human behavior can change the behavior of the stream. Other activities focus on how and why flooding occurs as well as the benefit of stormwater management ponds and water quality facilities in reducing stormwater impacts and filtering pollutants from stormwater.</p>					
CEE 4254: Municipal Engineering (Stormwater & MS4) March 28, 2022 – University Students					
<p>Content from this presentation covers the Role of regulatory programs in the management of municipal systems and services, a discussion of differences between E&S, TMDL, MS4 program, illicit discharges and a discussion of how TMDL Implementation Programs are trying to address degradation of watersheds. A discussion on how students can have a beneficial impact on the local watershed was also examined.</p>					
Stream Exploration Backpack Kits (Blacksburg Library) – Ongoing					
<p>The Town has partnered with the Floyd-Montgomery Regional (Blacksburg) Library to offer Stream Exploration Backpack kits that include necessary materials and instructions for stream sampling as well as educational resources highlighting stormwater and watershed education. This is available to check-out at the library and there are several backpacks on-hand at any time.</p>					
Proposed Changes to BMP or Measurable Goals					
<p>The Town plans to continue to implement a variety of ways to target school aged kids and university students. The global pandemic has taught us that variety in educational methods is an important way to reach school-aged children of all socioeconomic backgrounds.</p>					
Next Reporting Period Activities Planned (YEAR 5)					
<p>The Town plans to continue to embrace outreach that targets school-aged kids as well as our local university student population.</p>					

MCM 2: Public Involvement and Participation

The goal of the Public Involvement and Participation measure is to increase public notice, involvement and participation in the Town’s stormwater program by providing diverse avenues for public input and reporting. The general permit requires that the Town have procedures for reporting spills or illicit discharges, providing input on the MS4 Program Plan, receiving complaints and documenting all responses.

Program Plan Goals:

- To provide diverse avenues for public input and reporting
- To provide citizen input on the MS4 Program Plan
- To provide an avenue for receiving complaints and documenting response

Measures described below are intended to meet these goals as described in the Program Plan.

List of Minimum Control Measure #2 BMP’s:

- A. Conduct Stakeholder Meetings for Watershed Management and Stormwater Quality Improvement and Comprehensive Planning
- B. Online Reporting Portal for Public
- C. Stormwater Webpage
- D. Stormwater Activities

Annual Report Required Documentation:

- A summary of any public input on the MS4 program received (including stormwater complaints) and how the permittee responded; (**Appendix A**)
- A webpage address to the permittee’s MS4 program and stormwater website; (**see BMP 2-C**)
- A description of the public involvement activities implemented by the permittee; (**see BMP 2-D**)
- A description of the metric as defined for each activity and an evaluation as to whether or not the activity is beneficial to improving water quality; (**see BMP 2-D**) and
- The name of other MS4 permittees with whom the permittee collaborated in the public involvement opportunities. (**see BMP 2-D**)

A. Conduct Stakeholder Meetings for Watershed Management, Stormwater Quality Improvement and Comprehensive Planning

Measurable Goals Identified and Achieved:	Years Achieved				
	2018	2019	2020	2021	
Staff attends community meetings and public hearings for new projects with stormwater concerns & documents citizens’ concerns					
Attend Meetings for Local Stream TMDL Implementation	-	-	-	-	
Meet w/ Local Stormwater Interest Groups and HOAs	-	-	-	-	
Update Stormwater Goals in Comprehensive Plan	-	-	-	-	
Progress Toward Meeting Objectives of Permit					
The Town had 3 community meetings and 5 public hearings in which stormwater issues were discussed. There were no stormwater stakeholders interest groups that met this reporting year. Updates to the Blacksburg Comprehensive Plan are complete until 2023. The Town received individual comments/input regarding stormwater at these meetings. All input has been summarized in Appendix A.					

Proposed Changes to BMP or Measurable Goals
None proposed.
Program Plan Goal Addressed by this BMP
To provide diverse avenues for public input and reporting.
Next Reporting Period Activities Planned (YEAR 5)
In the next reporting period, the Town’s goal is to continue to attend appropriate community meetings and public hearings. All in-person public meetings have returned with voluntary social distancing and mask wearing for all Town-sponsored public input meetings. Other meetings organized by private organizations are still in different stages of return. As soon as the local interest groups and HOAs begin to organize again, we will attend and report their input and comments regarding stormwater.

B. Online Reporting Portal for Public

The Town has a system named “At Your Request” which is designed to provide our residents, businesses and visitors access to staff 24-hours a day, 7-days a week. This system allows residents to contact staff via email regarding input, complaints, and reports of illicit discharges or dumping. Each request is sent directly to a designated staff and must be responded to within 5 days. The Town will maintain this system or a comparable system to provide this service. The portal can be found at <http://www.tobweb.org/ayr/>.

Measurable Goals Identified and Achieved:	Years Achieved				
Provide At-Your-Request Portal for 24-7 Reporting	2018	2019	2020	2021	
Progress Toward Meeting Objectives of Permit					
There were 2 issues identified through the “At Your Request” system. These reports were a predominantly drainage complaints submitted to the system by citizens during this reporting period. These were transferred to the Town’s Public Works maintenance division for review and repair.					
Proposed Changes to BMP or Measurable Goals					
None proposed.					
Program Plan Goal Addressed by this BMP					
To provide and avenue for receiving complaints and documenting response.					
Next Reporting Period Activities Planned (YEAR 5)					
In the next reporting period, the Town’s goal is to continue to respond to online complaints and close out questions, complaints and potential illicit discharges.					

C. Stormwater Webpage

As discussed in MCM1-C, Stormwater related information is available on the Town’s website for the general public. In addition to general outreach and educational information, the Town will also provide opportunity for the public to view and comment on all stormwater permit information. The stormwater webpage is located at www.blacksburg.gov/stormwater.

Measurable Goals Identified and Achieved:	Years Achieved				
Post Program Plan Online for comment	2018	2019	2020	2021	
Post Annual Reports Online for comment	2018	2019	2020	2021	
Post MS4 Permit and Coverage Letter	2018	2019	2020	2021	
Provide an email address for comment	2018	2019	2020	2021	
Progress Toward Meeting Objectives of Permit					
The Town advertises an email address for comment at stormwater@blacksburg.gov . There were 8 individual comments/input or complaints submitted via email or phone to the Town of Blacksburg. All input has been summarized in Appendix A .					
Program Plan Goal Addressed by this BMP					

To provide an avenue for receiving complaints and documenting response
Proposed Changes to BMP or Measurable Goals
None proposed.
Next Reporting Period Activities Planned (YEAR 5)
In the next reporting period, the Town's goal is to continue to update the Stormwater webpage, and respond to complaints via email and phone.

D. Stormwater Activities

The Town will participate in a minimum of four activities per year to provide an opportunity for public input during this reporting period:

Education Events:

- **Steppin' Out** (Aug. 6th-7th, 2021) – This is a regional two-day outdoor festival that features local art, music and community engagement groups. During this event, a watershed informational booth is set up to engage the public on local water quality issues and accept public input.
- **Stormwater Days** (Fall 2021) was cancelled due to the COVID-19 pandemic.
- **Stormwater Days** (Spring 2021 – April 11th-12th, 2022) – This is an outdoor event that invites school aged kids from the local middle schools to attend. Stations are setup to educate small groups of kids on subjects such as stream geomorphology, 3D modeling, flooding and water quality for stormwater improvement.
- **The New River Home Expo** (Spring 2022 – April 8th & 9th) – This is an indoor exposition featuring home-improvement companies, landscapers and other vendors for homeowners. A stormwater informational booth is set up to provide information on local water quality issues and educate homeowners on best management practices around the home.

Collaborations:

- Steppin' Out – Virginia Tech (VAR040049) & Montgomery County (VAR040134)
- Stormwater Day (Spring and Fall) – Virginia Tech (VAR040049), Town of Christiansburg (VAR040025) & Montgomery County (VAR040134)
- The New River Home Show (Spring) – Virginia Tech (VAR040049), Town of Christiansburg (VAR040025) & Montgomery County (VAR040134)

Measurable Goals Identified and Achieved:	Years Achieved				
Participate in a minimum of four activities	2018	Not Achieved	Not Achieved	2021	
Progress Toward Meeting Objectives of Permit					
The Town participated in three Stormwater Activities, one of the four was cancelled due to the COVID-19 Pandemic. The remaining three event days are listed in the bulleted list above.					
Proposed Changes to BMP or Measurable Goals					
None proposed.					
Program Plan Goal Addressed by this BMP					
To provide diverse avenues for public input and reporting.					

MCM3: 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 these goals as defined in the Program Plan.

Program Plan Goals:

- To develop and maintain an accurate MS4 map.
- To provide notification to any downstream MS4 of physical interconnections.
- To enforce illicit discharges.

Measures described below are intended to meet these goals as described in the Program Plan.

Control Measure #3 BMP's:

- A. Storm Drain System Map
- B. Physical Interconnection Letters
- C. Illicit Discharge Ordinance and Procedures

Annual Report Required Documentation:

- A confirmation statement that the MS4 map and information table have been updated to reflect any changes to the MS4 occurring on or before June 30 of the reporting year; **(BMP 3-A)**
- The total number of outfalls screened during the reporting period as part of the dry weather screening program; **(BMP 3-A)** and
- A list of illicit discharges to the MS4 including spills reaching the MS4. **(BMP 3-C)**

A. Storm Drain System Map

The Town has been working with the Virginia Tech Civil Engineering Department to employ GIS and GPS technology to inventory the complete storm sewer system within the Town, including stormwater management facilities. This map is complete and needs updates as new development is underway. The contract with Virginia Tech has ended and Town staff is now tracking new stormwater infrastructure as development occurs and the stormwater infrastructure is accepted by the Town. The storm drain map includes the following:

- MS4 Outfalls
- A unique identifier for each mapped item
- MS4 Regulated Service Area
- Stormwater Management facilities (operated by the Town & private entities)
- Acreage to Outfall
- Name of Receiving Water
- 6th Order HUC of the Receiving Water
- Impaired status
- Predominant Land Use
- TMDL Name

Measurable Goals Identified and Achieved:	Years Achieved				
	2018	2019	2020	2021	2022
Confirmation that MS4 map and information table have been updated to reflect any known changes prior to July 1 of this reporting period.	Yes	Yes	Yes	Yes	
Report the number of outfalls screened.	Yes	Yes	Yes	Yes	
List of Illicit Discharges	Yes	Yes	Yes	Yes	
Progress Toward Meeting Objectives of Permit					
CONFIRMATION STATEMENT: <i>The Town of Blacksburg has updated the MS4 map and information table to reflect all known changes prior to July 1, 2022.</i>					
In this reporting period 57 MS4 outfalls were screened.					
Proposed Changes to BMP or Measurable Goals					
None proposed.					
Program Plan Goal Addressed by this BMP					
To develop and maintain and accurate MS4 map.					

B. Physical Interconnections

The Town will also provide written notification to adjacent MS4s of any known physical interconnections.

Measurable Goals Identified and Achieved:	Years Achieved				
	2018	2019	2020	2021	
Provide written notification to adjacent MS4s of interconnections					
Progress Toward Meeting Objectives of Permit					
No new physical interconnections were discovered or constructed during this permit cycle.					
Proposed Changes to BMP or Measurable Goals					
None proposed.					
Program Plan Goal Addressed by this BMP					
To provide notification to any downstream MS4 of physical interconnections					

C. Illicit Discharge Ordinance and Procedures

The Town continues to prohibit, through ordinance unauthorized non-stormwater discharges into the storm sewer system. The Town maintains written procedures designed to detect, identify, and address unauthorized non-stormwater discharges, including illegal dumping, to the Town's MS4 system.

Measurable Goals Identified and Achieved:	Years Achieved				
	2018	2019	2020	2021	
Adopt an Illicit Discharge Ordinance					
Maintain written procedures for Illicit Discharge and Detection					
Record all illicit discharges and report in Annual Report					
Progress Toward Meeting Objectives of Permit					
<ul style="list-style-type: none"> The Town adopted an Illicit Discharge Ordinance Section 18-604 of the Town Code. It was last updated in July 1, 2014. There were 14 reported illicit discharges during this reporting period. They are included in the Illicit Discharges Table in Appendix B. 					
Proposed Changes to BMP or Measurable Goals					
None proposed.					
Program Plan Goal Addressed by this BMP					
To enforce illicit discharges					

MCM4: Construction Site Runoff Control

To support efforts to enforce a program to reduce pollutants in storm water runoff from construction activities that is compliant with the Virginia Erosion and Sediment Control program administered by the Department of Environmental Quality, the Town will provide a consistent ESC & SWM administration program to address this goal. This program will establish the Town’s authority to enforce erosion and sediment control violations and document that we follow a pattern of consistent protocols of enforcement.

Program Plan Goals:

- Address sediment discharges entering the MS4 from regulated construction activities.
- Provide appropriate controls to prevent non-stormwater discharges to the MS4, such as wastewater, concrete washout, fuels and oils and other illicit discharges from construction activities.

Measures described below are intended to meet these goals as described in the Program Plan.

Control Measure #4 BMP’s:

- Maintain Enforcement Authority for Runoff Control Through ESC Ordinance
- Stormwater Pollution Prevention Controls during Construction
- Reporting of Inspections and Enforcement Actions

Annual Report Required Documentation:

- Total number of inspections conducted; (*BMP 4-A*) and
- The total number and type of enforcement actions implemented. (*BMP 4-C*)

A. Maintain Enforcement Authority for Runoff Control through SWM & ESC Ordinance

The Town will utilize the Erosion and Sediment Control and Stormwater ordinances to address discharges entering the MS4 from regulated construction site stormwater runoff. The Stormwater Ordinance is consistent with the state regulations and the VSMP Permit regulations. We are in the process of adopting a Virginia Erosion and Sediment Control Program (VESCP) consistent with State code. Our ESC Programmatical components are consistent with the state VESCP program, but the ESC Ordinance refers to out of date State regulatory code.

Measurable Goals Identified and Achieved:	Years Achieved				
Adopt a Stormwater Ordinance consistent with State SWM Requirements	2018	2019	2020	2021	
Adopt an Erosion and Sediment Control Ordinance consistent with State ESC requirements.	*Not achieved	*Not achieved	*Not achieved	*In Progress	
Progress Toward Meeting Objectives of Permit					
The Town has an ESC ordinance that was codified in 2007. It still references the State code from that time period. We are currently in the process of updating the ESC Ordinance to reference the correct section in the State code. The code reference has been changed, it will be introduced to Town Council on September 13, and approved at a public hearing scheduled for October 11, 2022.					
Proposed Changes to BMP or Measurable Goals					
None proposed.					
Program Plan Goal Addressed by this BMP					

This item addresses the goal of having adequate legal means to maintain enforcement authority for runoff control through the Erosion and Sediment Control Ordinance and Stormwater Management Ordinance.

B. Stormwater Pollution Prevention Controls During Construction

The Town implements controls to prevent non-stormwater discharges to the MS4, such as wastewater, concrete washout, fuels and oils, and other illicit discharges identified during land disturbing activity inspections within the MS4. The discharge of non-stormwater discharges other than those identified in 9VAC25-890-20 D to the MS4 is not authorized by this state permit.

Measurable Goals Identified and Achieved:	Years Achieved				
Perform SWPPP Inspections in compliance with the Pollution Prevention Plan Protocol	2018	2019	2020	2021	
Progress Toward Meeting Objectives of Permit					
The Pollution Prevention Plan Enforcement Protocol was completed in the 2014 permit cycle. 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 outlining best management practices such as spill prevention kits and concrete washout areas that are required to be included in every approved SWPPP document. Inspections and results from the program are documented in the Town of Blacksburg MS4 Program Plan. The Town also performs SWPPP Inspections to confirm that construction sites are in conformance with their SWPPP and Town protocols. The Town currently has 29 site with active SWPPPs. The Town completed 661 SWPPP inspections during this permit cycle.					
Proposed Changes to BMP or Measurable Goals					
None proposed.					
Program Plan Goal Addressed by this BMP					
Provide appropriate controls to prevent non-stormwater discharges to the MS4, such as wastewater, concrete washout, fuels and oils and other illicit discharges from construction activities					

C. Reporting of ESC Inspections and Enforcement Actions

The Town will include in the Annual Report a summary of the total number of ESC inspections conducted and the total number and type of enforcement actions implemented and the type. This reporting shows that the Town of Blacksburg is utilizing a consistent protocol of Erosion and Sediment Control enforcement.

Measurable Goals Identified and Achieved:	Years Achieved				
Total ESC Inspections reported	2018	2019	2020	2021	
Enforcement Actions reported	2018	2019	2020	2021	
Stop Work Orders reported	2018	2019	2020	2021	
Progress Toward Meeting Objectives of Permit					
In the past reporting period, the Town has performed 963 inspections, 298 Notices to Comply, 9 Notices of Violation and 0 Stop Work Orders.					
Proposed Changes to BMP or Measurable Goals					
None proposed.					
Program Plan Goal Addressed by this BMP					
Address sediment discharges entering the MS4 from regulated construction activities.					

MCM5: Post Construction Stormwater Management

The Town of Blacksburg has an approved Virginia Stormwater Management Program (VSMP) administration program in accordance with Part I E 5 a (1) and (2) to address stormwater impacts from regulated land disturbances. In addition, the Town will continue to address post-construction stormwater runoff that enters the MS4 by implementing a post-construction stormwater runoff management program consistent with the Virginia Stormwater Management Act (§ 62.1-44.15:24 et seq. of the Code of Virginia) and VSMP Regulations (9VAC25-870) as well as continue our inspection and maintenance program in accordance with Parts I E 5 b and c.

Program Plan Goals:

- To maintain written inspection and maintenance procedures in order to ensure adequate long-term operation and maintenance of stormwater facilities;
- To inspect facilities owned by private operators every five years, at a minimum.
- To inspect facilities owned/operated by the Town, once a year.
- To provide necessary maintenance for facilities owned by the Town, as needed.

Measures described below are intended to meet these goals as described in the Program Plan.

Control Measure #5 BMP's:

- A. Stormwater Facility Inspection Program
- B. Stormwater Facility Database

Annual Report Required Documentation:

- The number of privately owned stormwater management facility inspections conducted; **(BMP 5-A)**
- The number of enforcement actions initiated by the permittee to ensure long-term maintenance of privately owned stormwater management facilities including the type of enforcement action; **(BMP 5-A)**
- Total number of inspections conducted on stormwater management facilities owned or operated by the Town of Blacksburg; **(BMP 5-A)**
- A description of the significant maintenance, repair, or retrofit activities performed on the stormwater management facilities owned or operated by the permittee; **(Appendix C)**
- A confirmation statement that the permittee submitted stormwater management facility information through the Virginia Construction Stormwater General Permit database; **(BMP 5-B)** and
- A confirmation statement that the permittee electronically reported BMPs using the DEQ BMP Warehouse. **(BMP 5-B)**

A. Stormwater Program

The Town of Blacksburg relies on its Stormwater Management Program as regulated under the Virginia Stormwater Management Regulations to address post-construction stormwater runoff. The Stormwater Management Program has procedures for plan review, inspection, enforcement, and penalties. The Town has a full time Stormwater Engineer and Stormwater Inspector position

that are responsible for administering the activities regulating the Stormwater Management Program.

Measurable Goals Identified and Achieved:	Years Achieved				
Report number of privately owned stormwater facility inspections completed	2018	2019	2020	2021	
Report number of enforcement actions initiated to ensure long-term maintenance of privately owned facilities	2018	2019	2020	2021	
Report number of inspections conducted on facilities owned by the Town	2018	2019	2020	2021	
Description of maintenance, repair & retrofit of publicly owned facilities	2018	2019	2020	2021	
Confirmation of Construction General Permit and BMP Warehouse reporting	2018	2019	2020	2021	
Progress Toward Meeting Objectives of Permit					
<ul style="list-style-type: none"> • A total of 86 privately owned facilities were inspected this permit year. • There were no enforcement actions initiated to ensure long-term maintenance of private facilities, all inspections that resulted in a maintenance action was completed or a schedule for completion was provided. All facility maintenance is proceeding in compliance with our program. • All of the sixty-one (61) Town owned facilities were inspected this reporting year. • None (0) of the 61 town facilities needed non-routine maintenance upon inspection. The only maintenance activities needed was routine vegetative maintenance, trash removal and stabilization of minor bare areas. 					
Proposed Changes to BMP or Measurable Goals					
No changes are proposed.					
Program Plan Goal(s) Addressed by this BMP					
<ul style="list-style-type: none"> • To inspect facilities owned by private operators every five years, at a minimum. • To inspect facilities owned/operated by the Town, once a year. • To provide necessary maintenance for facilities owned by the Town, when needed. 					

B. Stormwater Facility Databases

The Town of Blacksburg commits to using the DEQ Construction Stormwater Database to report each stormwater facility installed after July 1, 2014 to address the control of post-construction runoff from land disturbances for which the Town is required to obtain a stormwater general permit. Any stormwater facility installed after 2014 that is not covered under a State VSMP permit will be reported to the DEQ BMP Warehouse each reporting period.

Measurable Goals Identified and Achieved:	Years Achieved				
Confirmation of Construction General Permit and BMP Warehouse reporting	2018	2019	2020	2021	
Progress Toward Meeting Objectives of Permit					
<ul style="list-style-type: none"> • The Town of Blacksburg confirms that for all projects that submitted a Termination form, all stormwater management facility information has been submitted to DEQ through the Virginia Construction Stormwater General Permit database. This reporting period, a total of 14 facilities were reported through this process. • The Town did not have any new stormwater facilities needing to be electronically reported to the DEQ BMP Warehouse in accordance with Part I E 5 g this permit year. All new stormwater facilities brought online were covered under a VSMP permit and were reported through the general permit termination process. 					
Proposed Changes to BMP or Measurable Goals					
No changes are proposed.					
Program Plan Goal(s) Addressed by this BMP					
<ul style="list-style-type: none"> • To inspect facilities owned by private operators every five years, at a minimum. • To inspect facilities owned/operated by the Town, once a year. • To provide necessary maintenance for facilities owned by the Town, when needed. 					

MCM6: Pollution Prevention and Good Housekeeping for Facilities Operated by the Permittee within the MS4 Service Area

The Town of Blacksburg will maintain and implement written procedures for all activities performed, such as road, street, and parking lot maintenance; equipment maintenance, and the application, storage, transport and disposal of pesticides, herbicides, and fertilizers so that the Town can do the following:

Program Plan Goals:

- Prevent illicit discharges,
- Ensure the proper disposal of waste materials, including landscape wastes,
- Prevent the discharge of wastewater or permittee vehicle wash water or both into the MS4 without authorization under a separate VPDES permit,
- Require implementation of best management practices when discharging water pumped from utility construction and maintenance activities,
- Minimize the pollutants in stormwater runoff from bulk storage areas (e.g., salt storage, topsoil stockpiles) through the use of best management practices,
- Prevent pollutant discharge into the MS4 from leaking municipal automobiles and equipment; and
- Ensure that the application of materials, including fertilizers and pesticides, is conducted in accordance with the manufacturer's recommendations.

Measures described below are intended to meet these goals as described in the Program Plan.

Control Measure #6 BMP's:

- A. Standard Operating Procedures for Town Operations
- B. SWPPPs for Town Facilities
- C. Nutrient Management Plans for Town Sites
- D. Training Plan for Town Staff

Annual Report Requirements:

- A summary of any operational procedures developed during the reporting period; **(BMP 6-A)**
- A summary of any new SWPPPs developed during the reporting period; **(BMP 6-B)**
- A summary of any SWPPPs modified during the reporting period; **(BMP 6-B)**
- A summary of any new turf and landscape nutrient management plans developed; **(BMP 6-C)** and
- A list of the training events conducted in accordance with Part I E 6 m. **(BMP 6-D)**

A. Standard Operating Procedures for Town Operations

Measurable Goals Identified and Achieved:	Years Achieved				
Prepare operational procedures for Town Practices	2018	2019	2020	2021	
Update operational procedures to reflect better practices					
Progress Toward Meeting Objectives of Permit					

The Town has prepared Standard Operating Procedures for the following activities:

- Stormwater Collection and Conveyance System Maintenance,
- De-icing and Snow Removal,
- Storage, washing and maintenance of vehicle fleets and fueling facilities,
- External building maintenance, including cleaning and painting.
- Proper application of fertilizer, pesticides and herbicides on municipal land as well as sediment and erosion control, landscape maintenance and vegetation disposal, and trash management for those areas.
- Stormwater protection at material storage areas, heavy equipment storage areas and maintenance areas not covered under other permits.
- Any other facilities that would reasonably be expected to discharge contaminated runoff.

This Operating Procedures Plan was approved in 2015. It was updated in 2017 and it applies to all Town employees, interns, contractors and subcontractors providing service and support for the Town’s municipal operations. This plan is periodically reviewed for effectiveness, appropriateness and updated as new practices become available.

Proposed Changes to BMP or Measurable Goals

No changes are proposed.

Program Plan Goal Addressed by this BMP

All goals addressed by this BMP.

B. SWPPPs for Town Facilities

Measurable Goals Identified and Achieved:	Years Achieved				
Maintain SWPPPs for all areas developed in accordance with Part I E 6 c.	2018	2019	2020	2021	
Review Town owned & operated sites for changes that would require new SWPPPs	2018	2019	2020	2021	
Progress Toward Meeting Objectives of Permit					
The Town requires a SWPPP at the Public Works Facility in accordance with Part I E 6 c. This SWPPP was developed in 2017 and is maintained on site. No changes to other Town owned and operated sites has triggered the need for additional site SWPPPs.					
Proposed Changes to BMP or Measurable Goals					
No changes are proposed.					
Program Plan Goal Addressed by this BMP					
All goals addressed by this BMP.					

C. Nutrient Management Plans (NMPs) for Town Sites

Measurable Goals Identified and Achieved:	Years Achieved				
Maintain DCR-approved NMPs for all Town lands developed.	2018	2019	2020	2021	
Review Town owned & operated lands for changes that would require new NMPs	2018	2019	2020	2021	
Progress Toward Meeting Objectives of Permit					
The Town has approved Nutrient Management Plans that were updated on <i>January 1, 2020</i> for the following sites: Municipal Park Complex, Seneca Drive Park, Winfrey Fields, Primrose park, and the Toms Creek Park. The Town’s Nutrient Management Plan for the Blacksburg Municipal Golf Course expired on December 21, 2021. This plan was updated as of May 1, 2022 and is valid until May 1, 2027.					
There are no changes to Town owned and operated lands that would require new Nutrient Management Plans. The Town has acquired two new parks, the Municipal Bike park and the Meadows park. In addition, the Town was gifted a 190 acre undeveloped parcel where a hiking/biking trail has been constructed. None of these parcels have nutrients applied; therefore they do not require NMPs.					
Proposed Changes to BMP or Measurable Goals					

No changes are proposed. The Town of Blacksburg will be gifted Brush Mountain #2 during the next permit year and will include this in the list of Town parks. It is not expected that this new park will require a NMP since currently no nutrients are planned to be applied.

Program Plan Goal Addressed by this BMP

Ensure that the application of materials, including fertilizers and pesticides, is conducted in accordance with the manufacturer's recommendations.

D. Training Plan for Town Staff

Measurable Goals Identified and Achieved:	Years Achieved				
Report a list of training events including the following: <ul style="list-style-type: none"> • The date of the training event; • The number of employees who attended the training event; and • The objective of the training event. 	2018	2019	2020	2021	
Progress Toward Meeting Objectives of Permit					
The Training plan for Town Staff is included in Appendix D . New training protocols are being created for Public Works, Parks and Recreation and Emergency Services staffs. The Engineering Department and Landscaping staff have continued with their current training programs.					
Proposed Changes to BMP or Measurable Goals					
No changes are proposed.					
Program Plan Goal Addressed by this BMP					
All goals addressed by this BMP.					

TMDL Special Conditions

TMDLs for both the Stroubles Creek and Upper Roanoke River watersheds were approved prior to the July 1, 2013 effective date of the prior General Permit. No new TMDLs have been approved between 2013 and 2018. 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
- 7.8 mg/yr of polychlorinated biphenyl to the Roanoke River watershed

The Town of Blacksburg has implemented a local TMDL Action Plan designed to reduce loadings for the specific pollutants of concern listed in each impaired watershed.

Program Plan Goals:

- Maintain a local TMDL Action Plan for waters with approved TMDLs prior to June 30, 2018.
- Complete implementation of the TMDL Action Plans.

Measures described below are intended to meet these goals as described in the Program Plan.

BMPs for TMDL Special Conditions:

A. TMDL Action Plan Actions

Annual Report Required Items:

- Summary of actions conducted to implement the local TMDL Action Plan. **(Appendix E)**

A. TMDL Action Plan Actions

Measurable Goals Identified and Achieved:	Years Achieved			
Provide a summary of actions completed as part of the TMDL Action Plan.	2018	2019	2020	2021
Progress Toward Meeting Objectives of Permit				
The following activities were completed as part of the TMDL Action Plan:				
<ul style="list-style-type: none"> • MS4 Program Plan Implementation • Confirmed funding for a Stream Restoration Project. The design will occur in reporting year 2022. • Street sweeper AS-606 ran 1425 miles. This corresponds to 49.14 tons of sediment removed. (See Appendix E for details) • Incorporated additional controls for hydraulic fluid containment on active construction sites. 				
Proposed Changes to BMP or Measurable Goals				
No changes are proposed.				
Program Plan Goal Addressed by this BMP				
Implementation of the TMDL Action Plans.				

Appendix A: Summary of Stormwater Complaints & Other Public Input (2021-22)

Time Period: 2021-2022		Public Input Meetings		
Development Meetings	6/9/2022	RZN22-0001: 402 Clay Street PRD - Neighborhood Meeting	No SWM discussed.	YEAR FOUR REPORTING PERIOD
	11/30/2021	CUP21-0006: Rugby Field Townhomes - Neighborhood Meeting	No SWM discussed.	
	1/4/2022	CUP21-0006: Rugby Field Townhomes - Planning Commission Public Hearing	No SWM discussed.	
	2/22/2022	CUP21-0006: Rugby Field Townhomes - Town Council Public Hearing	No SWM discussed.	
	7/30/2021	Boundary Line Adjustment Request - Stroubles Ridge Neighborhood Meeting	Yes	
	12/14/2021	Boundary Line Adjustment Request - Stroubles Ridge Public Hearing	Yes	
	7/7/2022	SUB22-0006: Berewick Preliminary Plat Public Hearing	Yes	
	12/1/2021	RZN21-0005: Legacy on S Main - Neighborhood Meeting	Yes	
	2/1/2022	RZN21-0005: Legacy on S Main - Planning Commission Public Hearing	No SWM discussed.	
	3/8/2022	RZN21-0005: Legacy on S Main - Town Council Public Hearing	No SWM discussed.	
	11/27/2021	CUP21-0005: Sheetz on S Main - Neighborhood Meeting	Yes	
	12/7/2021	CUP21-0005: Sheetz on S Main - Planning Commission Public Hearing	No SWM discussed.	
	1/11/2022	CUP21-0005: Sheetz on S Main - Town Council Public Hearing	Yes	
	7/6/2021	RZN21-0002: Marlinton St Townhomes - Planning Commission Public Hearing	Yes	
	8/10/2021	RZN21-0002: Marlinton St Townhomes - Town Council Public Hearing	No SWM discussed.	
8/10/2021	RZN21-0001: Clover Valley Townhomes - Town Council Public Hearing	Yes		
	TMDL Implementation Meeting		None.	
	Other Community Meetings		None.	

At Your Request: On-Line Complaints 2021-22				
Report #	Date:	Description:	Solution:	Closed
#2272	7/1/2021	Allendale Court (911) – Drainage issue regarding an inadequate pipe draining rear yard.	Public Works Project completed on 5/26/2022.	YES
#2436	11/24/2021	Lucas Drive (119) – Stormwater ditch behind development has filled with leaves.	Work Order for Public works produced.	YES

Phone and Email Complaints 2021-22									
Contact Date	Name	Address	Street Name	Phone #	Email	Summary of Concern	Staff	Resolution	Resolution Date
24-Aug-21	Jessica Thornton	1403	Highland Circle	No Ph#	jess.thornton@gmail.com	I do have one clarifying question. The 1405A lot was created in 2016 - prior to that the land associated was either part of the 1405 property or the 1403 property. The lot lines changed significantly - and in fact, the lot does not have a number because i	KAFI HOWARD	Jess, I have attached the 2016 survey. It shows that even though there was land associated with the 1403 and 1405 homes, the land still consisted of several lots/tracts. It was one of these extra lots that was consolidated later in 2019.	03-Sep-21
22-Sep-21	Javad Torabinejad	The Hub Development	Patrick Henry Drive & Hunt Club Road	(540) 320-9705	jtorabinejad@yahoo.com	Good morning Kafi, I hope you are doing well. I appreciate it if you please inspect the Hub development for possible sediment release violation. They are good in cleaning up the mess after it happens. This has happened several times during the construction	KAFI HOWARD	Referred to ESC Inspection Staff (D. Shaver) for inspection.	22-Sep-21
18-Nov-21	Javad Torabinejad	Midtown Development	S. Main St.	(540) 320-9705	jtorabinejad@yahoo.com	Good morning Kafi, Thanks for sending me the map. So, is it correct to say that the amount of acreage for the stormwater that bypasses the SWM facility is about 5 acres or more? If this is incorrect, please provide me with the exact acreage. Thanks. A	KAFI HOWARD	Information requested has been sent.	19-Nov-21
03-Dec-21	Javad Torabinejad	Hayes Colony Development	Mt. Tabor Road & N. Main St.	(540) 320-9705	jtorabinejad@yahoo.com	Please send the stormwater plan for the Hayes Colony	KAFI HOWARD	Information sent on 12/4/2021.	04-Dec-21
29-Dec-21	Javad Torabinejad	Wyatt Farm Neighborhood	Vineyard Ave	(540) 320-9705	jtorabinejad@yahoo.com	Hello. Thank you very much for your prompt response. I'm glad you are seeking various sources of funds. In the past year or so, I have been in contact with Ms Howard about a particular project on the somewhat neglected Toms Creek watershed. A few year	RANDY FORMICA	Staff has reviewed the proposal and finds that applying for a Community Flood Preparedness Grant is a good idea for the Town. No funding is possible until a Climate Action Plan has been performed and approved by the Department.	03-Jan-22
07-Jan-22	Javad Torabinejad	The Hub Development	Patrick Henry Dr. & Hunt Club Rd	(540) 320-9705	jtorabinejad@yahoo.com	Yesterday, on my way to Christiansburg, I noticed mud deposits on Toms Creek Rd to the bypass and even on 460! Although I could guess who the culprit was, on my way back I took the attached picture. This is not the first time that the HUB development (T	KAFI HOWARD	I have spoken to our inspector and they have been working with the Hub builders about cleaning this up. We will keep trying to	08-Jan-22

Phone and Email Complaints 2021-22

Contact Date	Name	Address	Street Name	Phone #	Email	Summary of Concern	Staff	Resolution	Resolution Date
01-Apr-22	Javad Torabinejad	South Point Drive Development	South Point Drive	540-320-9705	jtorabinejad@yahoo.com	Will new development on S Point Drive need to construct a new SWM facility?	KAFI HOWARD	Currently the vacant outparcel at S Pointe drive shares a stormwater facility with the existing senior facility. Any new construction proposed can use that pond for their stormwater management or build something new or retrofit the old VDOT pond that is act	01-Apr-22
22-May-22	Erin Evans	3010	Stradford Lane	540-320-8108	erinevans20@yahoo.com	When we first moved in, we were unable to get into our driveway without bottoming out our vehicle because the road sunk. Public works fixed the road and "shaved" a few feet of our driveway in the process to make it possible to drive in without scraping. T	KAFI HOWARD	Set up a meeting w/ the Evans' on 5/23/22 to review issue. Met w/ John Boyer on 6/20/22 to discuss solutions. PW will install	01-Aug-22

Appendix B: List of Illicit Discharges

Illicit Discharges for 2020-21 Permit Year

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.

Last reporting period, the Town had **17** confirmed illicit discharges and 1 unconfirmed discharge. The standardization of the illicit discharge protocol has established a guideline for scheduling, identifying and eliminating illicit discharges. All actions have been in conformance with this protocol.

Date	Type	Severity	Notification	Contact List	Response	Enforcement	Actions	Status	Site Name
7/1/2021	ESC Discharge	Moderate - Reached MS4 System	Reported to TOB Engineering	DEQ, TOB Engineering	Site visit; ESC Inspection	Inspection Report (Midtown & Public Safety)	Stabilized	Closed 7/2/2021	Midtown Development Blacksburg Public Safety Building
7/14/2021	ESC Discharge	Moderate - Reached MS4 System	Reported to TOB Engineering	DEQ, TOB Engineering	Site visit; ESC Inspection	Inspection Report (Midtown & Public Safety)	Failure Addressed	7/16/2021	Midtown Development Blacksburg Public Safety Building
7/29/2021	SSO	Unknown	Reported to TOB Public Works	TOB Public Works, DEQ PREP	Unknown	Unknown	Unknown	7/30/2021	Existing Sanitary Sewer System - Ellett Road
8/2/2021	Concrete	Moderate - Reached MS4 System	Reported to TOB Engineering	TOB Engineering	Site visit	None.	Owner cleaned up	8/2/2021	Stop In Food Store #8163
9/22/2021	ESC Discharge	Minor - no impact to MS4	Reported to TOB Engineering	TOB Engineering	Site visit	Inspection Report (The Hub Blacksburg)	Failure Addressed	9/23/2021	The Hub Apartments
11/11/2021	SSO	Minor - no impact to MS4	Reported to TOB Public Works	TOB Public Works, DEQ PREP	Blockage Removed; Area cleansed	None.	Blockage removed.	11/11/2021	Existing Sanitary Sewer System - Roanoke Street

12/6/2021	SSO	Moderate - Reached MS4 System	Reported to TOB Public Works	TOB Public Works, DEQ PREP	Break in Sanitary Sewer force main pipe	None.	Pipe repaired	12/6/2021	Existing Sewer Force Main - Windsor Hills Apartments
12/9/2021	SSO	Unknown	Reported to TOB Public Works	TOB Public Works, DEQ PREP	Unknown	Unknown	Unknown	12/9/2021	Existing Sanitary Sewer System - 1155 Draper Rd
1/7/2022	ESC Discharge	Minor - no impact to MS4	Reported to TOB Engineering	TOB Engineering	Site visit	Inspection Report (The Hub)	Failure Addressed	1/8/2022	The Hub Apartments
1/18/2022	SSO	Major - Discharge to State Waters	Reported to TOB Public Works	TOB Public Works, DEQ PREP	Blockage Removed; Area cleansed	None.	Blockage removed.	1/18/2022	Existing Sanitary Sewer System - 1700 Liberty Ln (on Fairfax Rd.)
2/25/2022	SSO	Minor - no impact to MS4	Reported to TOB Public Works	TOB Public Works, DEQ PREP	Break in Sanitary Sewer force main pipe	None.	Pipe repaired	2/25/2022	Existing Sanitary Sewer Force Main - 2804 Farmview Drive
3/31/2022	SSO	Major - Discharge to State Waters	Reported to TOB Public Works	TOB Public Works, DEQ PREP	Break in Sanitary Sewer force main pipe	None.	Pipe repaired	3/31/2022	Existing Sanitary Sewer Force Main - Murphy's Pump Station
5/6/2022	ESC Discharge	Major - Discharge to State Waters	Reported to TOB Engineering	DEQ, TOB Engineering	Site visit; ESC Inspection	Inspection Report (Midtown & Public Safety)	Stabilized	5/10/2022	Midtown Development Blacksburg Public Safety Building
6/28/2022	SSO	Minor - no impact to MS4	Reported to TOB Public Works	TOB Public Works, DEQ PREP	Break in Sanitary Sewer force main pipe	None.	Pipe repaired	6/28/2022	Existing Sanitary Sewer Force Main - Sturbridge Square Pump Station

Appendix C: Maintenance Performed on Town-Owned/Operated Stormwater Facilities

#	Type	Owner	Location	Inspected	Maintenance Needed (Routine?)
6-1	Dry Detention Pond	Town of Blacksburg	Maple Ridge Phase 3	12/13/2021	Yes
12-1	Dry Detention Pond	Town of Blacksburg	Northside (undeveloped park)	3/29/2022	Yes
108-1	Bioretention	Town of Blacksburg	Community Center Patrick Henry Drive	6/29/2022	Yes
108-2	Bioretention	Town of Blacksburg	Community Center Patrick Henry Drive	6/29/2022	Yes
108-3	Dry Detention Pond	Town of Blacksburg	Community Center Patrick Henry Drive	6/29/2022	Yes
109-1	Dry Detention Pond	Town of Blacksburg	Public Works Inert Debris Site	9/28/2021	Yes
127-1	Dry Detention Pond	Town of Blacksburg	Interchange 3A - 21D-1	9/27/2021	Yes
140-1	Extended Detention	Town of Blacksburg	Progress/Givens Extension Project	6/27/2022	Yes
140-2	Wet Pond	Town of Blacksburg	Progress/Givens Extension Project	6/27/2022	Yes
141-1	Underground Detention	Town of Blacksburg	Floyd - Montgomery Regional Library	5/3/2022	Yes
143-1	Bioretention	Town of Blacksburg	407 Hubbard St - Fire Station South	6/27/2022	Yes
144-1	Extended Detention	Town of Blacksburg	Blacksburg UCB Improvements and SWM	9/27/2021	Yes
149-1	Bioretention	Town of Blacksburg	College Avenue Improvements	9/15/2021	Yes
149-2	Bioretention	Town of Blacksburg	College Avenue Improvements	9/15/2021	Yes
149-3	Bioretention	Town of Blacksburg	College Avenue Improvements	9/15/2021	Yes
149-4	Bioretention	Town of Blacksburg	College Avenue Improvements	9/15/2021	Yes
149-5	Bioretention	Town of Blacksburg	College Avenue Improvements	9/15/2021	Yes
149-6	Bioretention	Town of Blacksburg	College Avenue Improvements	9/15/2021	Yes
149-7	Bioretention	Town of Blacksburg	College Avenue Improvements	9/15/2021	Yes
149-8	Bioretention	Town of Blacksburg	College Avenue Improvements	9/15/2021	Yes
15-1	Dry Detention Pond	Town of Blacksburg	Shenandoah	9/28/2021	Yes
153-1	Dry Detention Pond	Town of Blacksburg	Karr Heights Pump Station	5/2/2022	Yes
159-1	Dry Detention Pond	Town of Blacksburg	Blacksburg Stadium (Kipps Elementary)	5/9/2022	Yes
16-1	Dry Detention Pond	Town of Blacksburg	Shenandoah	4/13/2022	Yes
162-1	Underground Detention	Town of Blacksburg	Clay Street Extension Box Culvert	9/16/2021	Yes
165-1	Bioretention	Town of Blacksburg	Commerce St Extension	9/2/2021	Yes

#	Type	Owner	Location	Inspected	Maintenance Needed
165-2	Bioretention	Town of Blacksburg	Commerce St Extension	9/2/2021	Yes
165-3	Bioretention	Town of Blacksburg	Commerce St Extension	9/2/2021	Yes
165-4	Bioretention	Town of Blacksburg	Commerce St Extension	9/2/2021	Yes
165-5	Bioretention	Town of Blacksburg	Commerce St Extension	9/2/2021	Yes
165-6	Bioretention	Town of Blacksburg	Commerce St Extension	9/2/2021	Yes
173-1	Bioretention	Town of Blacksburg	Motor Company Building	9/27/2021	Yes
173-2	Bioretention	Town of Blacksburg	Motor Company Building	9/27/2021	Yes
173-3	Bioretention	Town of Blacksburg	Motor Company Building	9/27/2021	Yes
173-4	Permeable Pavement	Town of Blacksburg	Motor Company Building	9/15/2021	Yes
173-5	Permeable Pavement	Town of Blacksburg	Motor Company Building	9/15/2021	Yes
174-1	Dry Detention Pond	Town of Blacksburg	Community Center Patrick Henry	6/27/2022	Yes
174-2	Bioretention	Town of Blacksburg	Community Center - Kaboose Park	6/27/2022	Yes
21-1	Dry Detention Pond	Town of Blacksburg	Collegiate Suites/Park-37	9/3/2021	Yes
214-1	Water Quality Swale	Town of Blacksburg	Blacksburg Rescue Squad Building	6/27/2022	Yes
214-2	Permeable Pavement	Town of Blacksburg	Blacksburg Rescue Squad Station	6/27/2022	Yes
214-3	Permeable Pavement	Town of Blacksburg	Blacksburg Rescue Squad Building	6/27/2022	Yes
218-1	Bioretention	Town of Blacksburg	Progress Street Parking Lot	6/24/2022	Yes
22-1	Dry Detention Pond	Town of Blacksburg	Owens Street Park	3/23/2022	Yes
237-1	Bioretention	Town of Blacksburg	The Park at South Point	9/16/2021	Yes
237-2	Bioretention	Town of Blacksburg	The Park at South Point	9/16/2021	Yes
24-1	Dry Detention Pond	Town of Blacksburg	Francis Lane Lower	3/23/2022	Yes
24-2	Dry Detention Pond	Town of Blacksburg	Francis Lane Upper	3/23/2022	Yes
254-1	Bioretention	Town of Blacksburg	Hand n Hand Park	9/16/2021	Yes
257-1	Compost Amended Soils	Town of Blacksburg	Huckleberry Trail - Linwood	3/23/2022	Yes
260-1	Dry Detention Pond	Town of Blacksburg	Airport Acres Park	9/28/2021	Yes
32-1	Dry Detention Pond	Town of Blacksburg	Golf Course (graves ave)	12/14/2021	Yes
37-1	Dry Detention Pond	Town of Blacksburg	Village at Toms Creek No. 2	12/13/2021	Yes
41-1	Bioretention	Town of Blacksburg	Wilson Ave.	6/28/2022	Yes
41-2	Infiltration Practices	Town of Blacksburg	Wong Park - Wilson Avenue	6/28/2022	Yes
49-1	Dry Detention Pond	Town of Blacksburg	Trillium Place No. 1	12/13/2021	Yes

#	Type	Owner	Location	Inspected	Maintenance Needed
49-2	Dry Detention Pond	Town of Blacksburg	Trillium Place No. 2	12/13/2021	Yes
81-1	Underground Detention	Town of Blacksburg	Turner Street Improvements	9/27/2021	Yes
81-2	Manufactured Treatment	Town of Blacksburg	Turner Street Improvements -	9/27/2021	Yes

Appendix D: Schedule of Staff Training

Appendix E: Schedule of Training for 2021-22			
Applicable Staff	Certifications	Training Classes	Attendees
Engineering Staff - Engineer – Stormwater (1) Engineer – Construction (1) Inspector - Utility and ESC (1) Inspector – ESC (1)	Dual ESC/SWM Combined Administrator PE (ESC Plan Reviewer) Dual ESC/SWM Inspector ESC Inspector	ESC/SWM Training	
		Plants in SWM and ESC 2.0 (4/19/22)	1
		Wetlands for ESC and SWM Professionals (4/21/22)	1
		Karst Resources of the New River Valley (5/3/2022)	1
		DEQ Seeding Demystified	1
Emergency Services Staff - Fire - 2 employees (50 volunteers) Rescue – no employees (volunteer only) Police Captains (2) Alfa, Bravo, Charlie, Delta Shift(s) – (16) Investigations (8) Community Services (7)	Hazmat Awareness and Operations (online) Hazmat Awareness and Operations (online)	Spill Response for Emergency Services Currently 100% of Emergency Services staff currently has had this training.	50
		Scheduled Training for 2021-22 The additional (6) trainings were completed this reporting period. (online)	6
Horticulturist (1) Horticulture Crew (3)	Certified Fertilizer Applicator (CFA) Training	Fertilizers, Pesticides and Landscaping Material Waste (online training)	4
Parks Staff – Director & Assistant Director of Parks and Recreation (2) Golf Course Supervisor and staff (4) Outdoor Programs Supervisor (1) Athletic Supervisor (1) Community Programs/Special Events Supervisor (1)		Illicit Discharge Prevention (none)	
Public Works Staff – Sustainability Manager (1) Water & Wastewater Crews (10) Field Operations Crews (24) Fleet Operations Staff (3) Blacksburg Transit Management (8)		Operations and Maintenance Trainings	Currently Public Works staff has been short staffed that scheduling training did not occur in the 2021-22 reporting period.
		Illicit Discharge Prevention	
		Wastewater Prevention	
		Municipal Wash Water	
		Utility, Construction & Maintenance	
		Bulk Storage Area Discharge Prevention Municipal Automobiles & Equipment Discharge Prevention	

Appendix E: TMDL Action Plan Activities

Street Sweeping for 2021-22

Pollutant Removal Calculation for Street Sweeper

L = Annual Loads (lbs)

R = Annual Runoff (42")

C = Pollutant concentration (54.5 mg/l)

A = Area (1 Acre Impervious)

0.226 = Unit Conversion Factor

$$L = 0.226 * R * C * A$$

Lane Miles Maintained		1,425	miles	(2081 mileage)
Starting Mileage	4231			
Ending Mileage	6312			
Lane Feet Maintained (mi*5280)		7,524,000	feet	
Impervious Acres at 11-ft lane width		1,900	ac	
Pre-Sweeping Load (TSS) lbs		982,897	lbs	
Street Sweeping Reductions				
Mechanical Removal (0.1 lbs/yr)		98,290	lbs	
	tons/yr	49.14	tons	

TSS Pre-sweeping annual nutrient load calculated using the Simple Method (Schuler 1987)