



Town of Christiansburg, Virginia

Municipal Separate Storm Sewer System Annual Report

For
General Permit No. VAR040025

Permit Year
July 1, 2022 through June 30, 2023

This annual report is submitted in accordance with 9VAC25-890-40 as part of the requirement for permit coverage to discharge stormwater to surface waters of the Commonwealth of Virginia consistent with the VAR04 General Permit effective date November 1, 2018.

Submitted: October 1, 2023

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BMP	Best Management Practices
DEQ	Virginia Department of Environmental Quality
ESC	Erosion and Sediment Control
IDDE	Illicit Discharge Detection and Elimination
MCM	Minimum Control Measure
MS4	Municipal Separate Storm Sewer System
POC	Pollutants of Concern
SWPPP	Stormwater Pollution Prevention Plan
TMDL	Total Maximum Daily Load
TOC	Town of Christiansburg
VESCP	Virginia Erosion and Sediment Control Program
VSMP	Virginia Stormwater Management Program
VPDES	Virginia Pollution Discharge Elimination System
WLA	Wasteload Allocation

1.0 GENERAL ANNUAL REPORTING REQUIREMENTS

1.1. General Information (Part I.D.2.a)

Permittee Name: Town of Christiansburg

Permit Number: VAR040025

1.2. Reporting Period (Part I.D.2.b)

The reporting period for which the annual report is being submitted:

July 1, 2022 through June 30, 2023

1.3. Signed Certification (Part I.D.2.c)

A signed certification as per Part III K

"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 ensure 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."

Printed Name: *Randy Wingfield*

Title: *Town Manager*

Signature: *Randy Wingfield* Date: *9-22-23*

1.4. Reporting for MCMs #1 - #6 (Part I.D.2.d)

Include information for each annual reporting item specified in Part LE:

Reporting information for each Minimum Control Measure is provided in Section 2.0.

1.5 Evaluation of the MS4 Program Implementation (Part I.D.2.e)

An evaluation of the MS4 program implementation, including a review of each MCM to determine the MS4 program's effectiveness and whether changes to the MS4 Program Plan are necessary:

An evaluation for each Minimum Control Measure is provided in Section 2.0. Changes that are necessary to be made to the MS4 Program Plan are summarized in Table 1.

Table 1: Summary of MS4 Program Plan Changes

Please note this table only includes changes for the 22-23 reporting year. The Town will provide the previous annual report summaries upon request.

MCM #1- The Town did not specifically publish an article outlining the sources of PCB pollution. Instead, information on Household Hazardous Waste collections was provided in the Drinking Water Quality Reports and via links embedded in Facebook posts and Town homepage posts advertising the Fall and Spring Clean-up events. The Town also utilized a public meeting for the Crab Creek Restoration Project to discuss E. coli pollution solutions and lawn/yard care BMPs that help minimize sediment pollution. Additionally, meetings with the Villas at Peppers Ferry HOA and Clifton HOA focused on maintaining property to reduce sedimentation in BMPs and maintain the health of wetlands within the communities.

MCM #3 Illicit Discharge Detection and Elimination: The Town's monitoring, documentation, and enforcement procedures still need review, including documentation on land disturbance issues on non-regulated sites. The Program Plan and IDDE manual/MCM 4 SOPs may be amended to address this issue. Changes to enforcement are being looked at within the bounds of the current Town code. The Town has also hired additional staff and reallocated staff duties to better address these issues.

MCM #5 Post-construction Stormwater Management: The Town has hired additional staff and all accessible privately maintained stormwater management facilities have been inspected in the last five years. The Town has completed engineering studies of multiple older Town owned and/or maintained stormwater BMPs for maintenance and is reviewing the studies. The Town plans to incorporate a targeted approach to inspecting the privately owned stormwater management facilities in the Program Plan for the 2023-2028 permit.

Sediment Action Plan: The Lomoor Channel stabilization pollutant of concern reductions were not calculated from the Urban Stream Restoration protocols due to the stabilization being done with Flexamat. The Town is exploring other protocols that may allow quantification of sediment reductions as this was a significant gully that directly discharged into a stream.

2.0 MINIMUM CONTROL MEASURES

2.1. MCM #1: Public Education and Outreach

2.1.1. High Priority Stormwater Issues (Part I.E.1.g(1))

A list of high-priority stormwater issues addressed in the public education and outreach program:

A list of high-priority stormwater issues addressed in public education and outreach program is provided in Table 2.

2.1.2. High Priority Stormwater Issue Communication Strategies (Part I.E. 1.g(2))

A list of strategies used to communicate each high-priority stormwater issue:

A list of strategies used to communicate each high-priority stormwater issue is provided in Table 2. Appendix A includes documentation of the communication efforts described in Table 2.

Table 2: High Priority Stormwater Issues

#	Stormwater Issue	Strategy	Communication	Completion Status			
1	Education on special water quality concerns (PCBs/Household Hazardous Waste)	Media materials	Links in articles about Spring and Fall Cleanup events posted on the Town's Facebook page.	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No
2,3	Education on special water quality concerns (E. coli) and stream health (sediment/lawn care)	Speaking Engagements	Crab Creek Beautification Public meeting presentation included information on E. coli and sediment TMDLs as well as BMPs to assist in pollutant reductions.	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No
2,3	Education on Stream Health (E. coli and lawn care/sediment)	Media & Traditional Written Material	Article in the Christiansburg Connection newsletter and multiple posts on Facebook and Town website promoting the Crab Creek Beautification Project	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No

3	Education on Stream Health (Stream restorations)	Media Materials	Facebook post on stream restorations to visit	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
1,2,3	Education on special water quality concerns, (E. coli, PCBs) and stream health (sediment)	Media and Traditional Written Materials	Public Stewardship blurb on back cover of the Town's 2022 Public Drinking Water Quality Report. Report disseminated on paper in Town Hall, available on Town webpage, and posted on Town Facebook page twice.	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
2	Education on stream health (lawn care/sediment)	Speaking Engagements	Meetings/presentations to Clifton HOA and Villas at Peppers Ferry HOA concerning lawn care, sediment, BMP maintenance and wetland health.	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No

2.1.3. MCM #1 Evaluation (Part I.D.2.e)

Review the MCM to determine the MS4 Program's effectiveness and whether or not changes to the MS4 Program Plan are necessary:

Were all MCM #1 communications accomplished to the intended public audience indicated in the MS4 Program Plan? Yes (Effective) No (Ineffective)

If any communications were determined to be ineffective, describe changes necessary to the MS4 Program. Include the response in Section 1.5.

2.2. MCM #2: Public Involvement and Participation

2.2.1. Public Input Summary (Part I.E.2.f(1))

A summary of any public input on the MS4 program received (including stormwater complaints) and responses:

If any MS4 Program inputs or stormwater complaints were received from the public, were responses provided?

Yes (Refer to Table 3) No Not Applicable

Table 3: Public Input or Complaints and Responses
Input/Complaint Illicit Discharges/Spills: 19 Reported Complaints and 1 Program Input Response: Site visits by Town employee or Fire Department per Town's IDDE Manual. The 1 Program input was multiple conversations and suggestions from a volunteer Master Naturalist who works on our Towne Branch stream restoration maintenance.
Input/Complaint Land Disturbing Activities: 42 Reported Complaints Response: Response by Environmental Inspector/Environmental Program Manager within 24 hours of complaint or next business day. Appendix D includes documentation of Land Disturbance Complaints.

2.2.2. MS4 Program Webpage (Part I.E.2.f(2))

A webpage address to the MS4 program and stormwater website:

The webpage address is <https://www.christiansburg.org/250/Stormwater-Information-and-Education>

2.2.3. Public Involvement Activities Implemented (Part I.E.2.f(3))

A description of the public involvement activities implemented:

A description of the implemented public involvement activities is provided in Table 4.

2.2.4. Public Involvement Activity Metric and Evaluation (Part I.E.2.f(4))

A report of the metric as defined for each activity and an evaluation as to whether or not the activity is beneficial to improving water quality:

A report of the metric as defined for each activity and an evaluation as to whether or not the activity is beneficial to improving water quality is provided in Table 4. Appendix B includes documentation of the public involvement activities.

Table 4: Public Involvement Activities Implemented

Activity Description	Metric	Collaboration	Beneficial		
Stream Monitoring Towne Branch Native Plant monitoring and remediation	Continue survey/remove invasive plants	No	<input checked="" type="checkbox"/>	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Stream/Wetland Monitoring: Biodiversity survey at Diamond Hills stream restoration and wetlands	Report returned to Town of Christiansburg	Virginia Tech	<input checked="" type="checkbox"/>	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Restoration: Towne Branch Stream Cleanup in Depot Park on 4/8/2023	7 bags of trash, one traffic control sign, 3 participants	No	<input checked="" type="checkbox"/>	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Restoration: Diamond Hills stream cleanup on 3/25/2023	9 bags of trash, 6 participants.	No	<input checked="" type="checkbox"/>	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Educational Event: Stormwater Information Booth at Steppin' Out Street Festival	Attendance estimate by the Town of Blacksburg is 30,000 to 40,000. 30 medication disposal pouches and approximately 120 pet waste bag rolls or dispensers with rolls were distributed. Approximately County 70 Water Quality & Watershed Health Flyers were distributed.	Virginia Tech, Montgomery County, Town of Blacksburg	<input checked="" type="checkbox"/>	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Stream Monitoring: Save Our Streams monitoring group	Monitoring report returned to Town and SOS	No	<input checked="" type="checkbox"/>	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Educational Event: CAC FINS summer camp stream day 8/4/2022	35 participants	No	<input checked="" type="checkbox"/>	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Educational Event: Montgomery County Public Schools Stormwater Days	4/4/23: 348 7 th graders from Blacksburg Middle School, and 73 7 th graders from Shawsville Middle School, 4/5/23: 108 7 th graders from Auburn Middle School and 310 7 th graders from Christiansburg Middle School as well as approx. 22 chaperones	Virginia Tech, Montgomery County, Town of Blacksburg	<input checked="" type="checkbox"/>	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Educational Event: Stormwater Information Booth at NRV Home Expo,	Est 1200 attendees. Polling by MS4 group indicated attendance from Christiansburg	Virginia Tech, Montgomery County, Town of Blacksburg	<input checked="" type="checkbox"/>	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Stream/Wetland Monitoring: Turtle Research Project in Stormwater Ponds	Report/thesis shared with Town at project completion (project is not complete)	Virginia Tech	<input checked="" type="checkbox"/>	<input type="checkbox"/> Yes	<input type="checkbox"/> No

MS4 Collaboration (Part I.E.2.f(5))

2.2.5 The name of other MS4 permittees collaborated with in the public involvement opportunities:

If applicable, the name of other MS4 permittees collaborated with for any of the public involvement opportunities are provided in Table 4.

2.2.6. MS4 Program Plan BMP Measurable Goals

The MS4 Program Plan BMPs measurable goals are provided in Table 5.

Table 5: MS4 Program Plan BMP Measurable Goals for MCM #2		
BMP	Measurable Goal	Completeness Status
2.1	Was documentation of the public input or complaints on the MS4 program and MS4 Program Plan maintained?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable
2.1	Is the effective MS4 permit and coverage letter on the webpage?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
2.1	Is the most current MS4 Program Plan on the webpage?	<input checked="" type="checkbox"/> Yes
2.1	Is the annual report for each year of the term covered by this permit posted to the webpage no later than 30 days after submittal to the department?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
2.1	Is there a mechanism for the public to report potential illicit discharges, improper disposal or spills to the MS4, complaints regarding land disturbing activities or other potential stormwater pollution concerns on the webpage?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
2.1	Is there a method for how the public can provide input of the MS4 Program Plan on the webpage?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

2.2.7. MCM #2 Evaluation (Part I.D.2.e)

Review the MCM to determine the MS4 Program's effectiveness and whether or not changes to the MS4 Program Plan are necessary:

Were all MCM #2 responses Yes or Not Applicable?

Yes (Effective) No (Still effective, see below)

Additionally, the Program Plan was revised and posted in September, 2022, to provide more flexibility in selecting activities.

If any items are determined to be ineffective, describe changes necessary to the MS4 Program. Include the response in Section 1.5.

2.3. MCM #3: Illicit Discharge Detection and Elimination

2.3.1. MS4 Map and Information Table (Part I.E.3.e(1))

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:

Were the MS4 storm sewer map and outfall information table updated to reflect any changes to the MS4 occurring on or before June 30 of the reporting year? Yes No
 N/A (no additional outfalls) See Section 2.3.5. No outfalls were added.

2.3.2. Dry Weather Screening (Part I.E.3.e(2))

The total number of outfalls screened during the reporting period as part of the dry weather screening program:

Were at least 50 outfalls screened during the reporting period? Yes No

The number of outfalls screened during the reporting yard as part of the dry weather screening program is 78. This represents 54% of the total outfalls.

2.3.3. Illicit Discharges (Part I.E.3.e(3))

A list of illicit discharges to the MS4 including spills reaching the MS4:

Were there any illicit discharges to the MS4 including spills reaching the MS4?

Yes (Refer to Table 6) Not Applicable (No illicit discharges)

Table 6: Illicit Discharges

Illicit Discharge See Appendix C

Part I.E.3.e(3)(a) Source: See Appendix C

Part I.E.3.e(3)(b) Date Observed & Date Reported: See Appendix C

Part I.E.3.e(3)(c) Detected during Screening, Reported by Public or Other (Describe): See Appendix C

Part I.E.3.e(3)(d) Investigation Resolution: See Appendix C

Part I.E.3.e(3)(e) Description of Follow-up Activities: See Appendix C

Part I.E.3.e(3)(f) Date Investigation Closed: See Appendix C

2.3.4. MS4 Program Plan BMP Measurable Goals

The MS4 Program Plan BMPs measurable goals are provided in Table 7.

Table 7: MS4 Program Plan BMP Measurable Goals for MCM #3		
BMP	Measurable Goal	Completeness Status
3.1	Was a GIS compatible shapefile submitted to DEQ?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
3.1	Was written notification provided to any downstream adjacent MS4 of any known interconnection established or discovered during the permit reporting year?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Not Applicable (No new or discovered)
3.2	Were all reported or observed non-stormwater discharges eliminated?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
3.2	Were inspections, surveillance, monitoring and enforcement procedures in response to all reports implemented?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
3.3	Were illicit discharge detection and elimination procedures implemented, enforced and documentation maintained?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

2.3.5. MCM #3 Evaluation (Part I.D.2.e)

Review the MCM to determine the MS4 Program's effectiveness and whether or not changes to the MS4 Program Plan are necessary:

Were all MCM #3 responses Yes or Not Applicable?

Yes (Effective) No (Investigations and corrective actions ongoing and/or completed outside reporting year) The Town has a recurring issue with petroleum odors in the storm drains near Town Hall/downtown, a mulch discharge issue from a business, a trash issue in at least two streams, and other recurring complaints. These investigations are ongoing as solutions are sought. Additionally, several outfalls were discharging during dry weather screening. Monitoring continued into the 22-23 reporting year. One report of an outfall at the Town's Public Works Operations Center that was thought to be completely closed off and removed in August 2020 was found to be discharging during a mapping effort in March 2022. Additionally, an older pipe was found that was not on the outfall map (it was not discharging). The storm sewer system at the Public Works Operations Center is actively being remapped as of fall 2023. The Town is updating its tracking and documentation procedures. The Program Plan and IDDE manual/MCM 4 SOPs may be amended to address this issue. The Town has also hired additional staff and reallocated staff duties to better address these issues.

If any items are determined to be ineffective, describe changes necessary to the MS4 Program. Include the response in Section 1.5.

2.4. MCM #4: Construction Site Stormwater Runoff Control

2.4.1. Implementation of VESCP and Town Ordinance (Part I.E.4.a(1))

The MS4 has adopted a Virginia Erosion and Sediment Control Program (VESCP). The MS4 implements the VESCP consistent with the Virginia Erosion and Sediment Control Law and Virginia Erosion and Sediment Control Regulations.

Table 8: Project(s) Not in Conformance with VESCP and Town Ordinance

Project Name: NA

Explanation: NA

2.4.2. Site Stormwater Runoff Inspections (Part I.E.4.d(2))

Total number of inspections conducted:

The total number of site stormwater runoff inspections conducted for regulated land disturbance activities is 1466.

2.4.3. Enforcement Actions (Part I.E.4.d(3))

The total number and type of enforcement actions implemented:

The total number of enforcement actions implemented is 1.

The total number of Notices to Comply issued is 1.

The total number of Stop Work Orders issued is 0. There is one Stop Work Order still in effect from previous reporting years.

2.4.4. MCM #4 Evaluation (Part I.D.2.e)

Review the MCM to determine the MS Program's effectiveness and whether or not changes to the MS4 Program Plan are necessary:

Did the Town implement a VESCP consistent with the Virginia Erosion and Sediment Control Law and Virginia Erosion and Sediment Control Regulations?

Yes (Effective) No (Ineffective)

If any items are determined to be ineffective, describe changes necessary to the MS4 Program. Include the response in Section 1.5.

2.5. MCM #5: Post-Construction Stormwater Management

2.5.1. Implementation of VSMP and Town Ordinance (Part I.E.5.i (1))

The MS4 has approved Virginia Stormwater Management Program (VSMP) and implements the VSMP consistent with the Virginia Stormwater Management Act and VSMP Regulations as well as has developed an inspection and maintenance program in accordance with Parts I.E.5.b and c.

2.5.1.1. Privately-Owned VSMP Inspections (Part I.E.5.i (1)(a))

The number of privately-owned stormwater management facility inspections conducted:

The number of privately-owned stormwater management facility inspections conducted is 67

2.5.1.2. Privately-Owned VSMP Enforcement Actions (Part I.E.5.i (1)(b))

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:

The number of enforcement actions initiated by the MS4 to ensure long-term maintenance of privately-owned stormwater management facilities is 0.

The type of enforcement actions issued are Not Applicable.

2.5.2. Stormwater Management Facility Inspections (Part I.E.5.i(2))

Total number of inspections conducted on stormwater management facilities owned or operated by the permittee:

Were inspections conducted on stormwater management facilities during the reporting year? Yes No

The total number of inspections conducted on stormwater management facilities is 28.

2.5.3. Stormwater Management Facility Maintenance (Part I.E.5.i(3))

A description of significant maintenance, repair, or retrofit activities performed on the stormwater management facilities owned or operated by the permittee to ensure it continues to perform as designed. This does not include routine activities such as grass mowing or trash collection:

Were significant maintenance, repair, or retrofit activities performed on any stormwater management facilities during the reporting year?

Yes No (Being assessed) Not Applicable (No maintenance required)

A description of significant maintenance, repair, or retrofit activities performed on the stormwater management facilities owned or operated by the MS4 to ensure it continues to perform as designed is provided in Table 9.

Table 9: Maintenance Activities Performed on Stormwater Management Facilities

Stormwater Management Facility	Significant Maintenance Activity
Huff Heritage	<ul style="list-style-type: none">Removed brush, Trees, Fixed Fence, and filled groundhog Holes (7-1-22)
Alder Ln	<ul style="list-style-type: none">Removed brush and reattached chain link fence to post (7-1-22)
655 Wades Ln	<ul style="list-style-type: none">Mowed and filled in ground hog holes (7-13-22)
White Pine	<ul style="list-style-type: none">Removed brush and mowed (7-18-22)
105 Oak Tree	<ul style="list-style-type: none">Mowed and cleaned the trash out (7-18-22)
VDOT Pond 114	<ul style="list-style-type: none">Removed trees and cattails from pond (6-30-23)
VDOT Pond 860 Pepper Ferry Rd.	<ul style="list-style-type: none">Removed woody undergrowth and mowed (6-15-23)

2.5.4. Virginia Construction Stormwater General Permit Database (Part I.E.5.i(4))

A confirmation statement that the permittee submitted stormwater management facility information through the Virginia Construction Stormwater General Permit database for those land disturbing activities for which the permittee was required to obtain coverage under the General VPDES Permit for Discharges of Stormwater from Construction Activities in accordance with Part I E 5 f or a statement that the Permittee did not complete any projects requiring coverage under the General VPDES Permit for Discharges of Stormwater form Construction Activities:

Stormwater management facility information for stormwater facilities installed after July 1, 2014 was submitted through the Virginia Construction Stormwater General Permit database for land disturbing activities requiring a General VPDES Permit for Discharges of Stormwater from Construction Activities.

Yes No (All stormwater management facility information for stormwater facilities installed during the reporting year was submitted through the Virginia Construction Stormwater General Permit database. Emma Danz of DEQ facilitated the submittal of the Town's previously missing information to the Virginia Construction Stormwater General Permit database. The response was that this counted as our submission, but that the actual time frame for updating the database was unknown.)

2.5.5. DEQ BMP Warehouse (Part I.E.5.i(5))

A confirmation statement that the permittee electronically reported BMPs using the DEQ BMP Warehouse in accordance with Part I E 5 g and the date on which the information was submitted:

No later than October 1 of each year, stormwater management facilities and BMPs implemented to meet a TMDL load reduction between July 1 and June 30 of each year were electronically reported using the DEQ BMP Warehouse for any practices not reported in accordance with Part I.E.5.f (requirement 2.5.4) including stormwater management facilities from land disturbing activities less than one acre in accordance with the Chesapeake Bay Preservation Act regulations and for which a General VPDES Permit for Discharges of Stormwater from Construction Activities was not required?

Yes, Date Submitted: NA No Not Applicable (The Town completed the stabilization of the Lomoor channel on 11/9/2022 with the intent of claiming a TMDL load reduction per the Sediment Action plan, however the load reduction calculations are not complete. See Table 1. No other BMPs qualified to be reported in the DEQ BMP Warehouse.)

2.5.6. MS4 Program Plan BMP Measurable Goals

The MS4 Program Plan BMPs measurable goals are provided in Table 10.

Table 10: MS4 Program Plan BMP Measurable Goals for MCM #5

BMP	Measurable Goal	Completeness Status
5.1	Was the inspection and maintenance program on post-construction stormwater management facilities owned and/or operated by the Town implemented?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
5.1	Was the inspection and maintenance program on privately owned post-construction stormwater management facilities implemented?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
5.1	Were all stormwater management facilities recorded with inspection and maintenance plans and/or agreements, where applicable?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
5.2	Was the stormwater management facility tracking database updated?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> Not Applicable (No new or discovered) <input type="checkbox"/> No

2.5.7. MCM #5 Evaluation (Part I.D.2.e)

Review the MCM to determine the MS4 program's effectiveness and whether or not changes to the MS4 Program Plan are necessary:

Were all MCM #5 responses Yes or Not Applicable?

Yes (Effective) No (Ineffective) No (Plan still effective, see 2.5.4 and 2.5.2 and below)

The Town plans to incorporate a targeted approach to inspecting the privately owned stormwater management facilities in the Program Plan for the 2023-2028 permit.

If any items are determined to be ineffective, describe changes necessary to the MS4 Program. Include the response in Section 1.5.

2.6. MCM #6: Pollution Prevention and Good Housekeeping

2.6.1. Operational Procedures (Part I.E.6.q(1))

A summary of any operational procedures developed or modified in accordance with Part I E 6 a during the reporting period:

Were any operational procedures developed or modified in accordance with Part I E 6 a during the reporting period?

Yes (Refer to Table 11) No Not Applicable (Not necessary)

Table 11: Good Housekeeping Operational Procedures Developed or Modified	
NA	

2.6.2. Newly Developed SWPPPs (Part I.E.6.q(2))

A summary of any new SWPPPs developed in accordance Part I.E.6.c during the reporting period:

Were any new SWPPPs developed in accordance Part I E 6 c during the reporting period?

Yes (Refer to Table 12) No Not Applicable (No new high priority facilities)

Table 12: New SWPPPs Developed	
SWPPP Name	SWPPP Address

2.6.3. Modified or Delisted SWPPPs (Part I.E.6.q(3))

A summary of any new SWPPPs modified in accordance with Part I.E.6.f or the rationale of any high priority facilities delisted in accordance with Part I.E.6.h during the reporting period:

Were any new SWPPPs modified after an unauthorized discharge, release or spill reported?

Yes (Refer to Table 13) No Not Applicable (No illicit discharges)

Were any high priority facilities delisted in accordance with Part I.E.6.h during the reporting period?

Yes (Refer to Table 13) No Not Applicable (No delisted high priority facilities)

If “Yes” is checked above, the rationale is provided for any high priority facilities delisted in accordance with Part I.E.6.h during the reporting period in Table 13.

Table 13: SWPPPs Modified or Delisted

SWPPPs Modified/Delisted	Rationale for Delisting

2.6.4. Newly Developed Nutrient Management Plans (Part I.E.6.q(4))

A summary of new turf and landscape nutrient management plans developed:

Were any new turf and landscape nutrient management plans developed?

Yes (Refer to Table 14) No Not Applicable (Not required this permit year)

2.6.4.1. Nutrient Management Plan Acreage (Part I.E.6.q(4)(a))

The location and the total acreage of each land area:

If “Yes” is checked above, the location and total acreage of the land area for any newly developed nutrient management plan is provided in Table 14.

2.6.4.2. Nutrient Management Plan Approval Date (Part I.E.6.q(4)(b))

The date of the approved nutrient management plan:

If “Yes” is checked above, the approval date of any newly developed nutrient management plan is provided in Table 14.

Table 14: New Turf and Landscape Nutrient Management Plans

Location	Total Acreages	Date Approved
NA, no new Nutrient Management Plans		

2.6.5. Training Events (Part I.E.6.q(5))

A list of the training events conducted in accordance with Part I.E.6.m, including the following information:

Was training conducted?

Yes (Refer to Table 15) No Not Applicable (Not required this permit year)

If “Yes” is checked above, a list of training events conducted in accordance with Part I.E.6.m is provided in Table 15.

2.6.5.1. Training Dates (Part I.E.6.q(5)(a))

The date of the training event:

If “Yes” is checked above, the date of the training event is provided in Table 15.

2.6.5.2. Quantity Trained (Part I.E.6.q(5)(b))

The number of employees who attended the training event:

If “Yes” is checked above, the number of employees who attended the training event is provided in Table 15.

2.6.5.3. Training Objective (Part I.E.6.q(5)(c))

The objective of the training event:

If “Yes” is checked above, the objective of the training event is provided in Table 15.

Table 15: Training Events		
Dates	# of Attendees	Training Objective
5/31/2023	9	Good Housekeeping, IDDE for applicable Parks and Recreation employees and one Engineering employee. Training done as a walk through of Stormwater BMP facilities and storm sewer at new Huckleberry Park.

2.6.6. MS4 Program Plan BMP Measurable Goals

The MS4 Program Plan BMPs measurable goals are provided in Table 16.

Table 16: MS4 Program Plan BMP Measurable Goals for MCM #6		
BMP	Measurable Goal	Completeness Status
6.1	Was good housekeeping and pollution prevention biennial training conducted this reporting year?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> Not Applicable (Not required this reporting year.) <input type="checkbox"/> No
6.2	Was the annual comprehensive compliance evaluations conducted?	<input checked="" type="checkbox"/> Yes (These are done monthly) <input type="checkbox"/> No
6.2	Were the SWPPPs reviewed within 30 days after an unauthorized discharge, release or spill reported?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Not Applicable (No illicit discharges at high priority facilities.) <input type="checkbox"/> No
6.2	Were the SWPPPs updated within 90 days after an unauthorized discharge?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Not Applicable (No illicit discharges at high priority facilities.) <input type="checkbox"/> No

6.2	Were the MS4's properties reviewed this reporting year to determine if the properties meet the criteria of a high priority facility?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
6.3	Were the nutrient management plans implemented through completion of application records?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> Not Applicable (No fertilizer applied) <input type="checkbox"/> No
6.5	Did all signed contracts executed for pesticide and herbicide application maintain proof of certifications on file?	<input type="checkbox"/> Yes <input type="checkbox"/> Not Applicable <input checked="" type="checkbox"/> No
6.5	Were proof of certifications maintained on file for employees performing pesticide and herbicide applications?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> Not Applicable <input type="checkbox"/> No
6.6	Were all applicable signed contracts executed with contract good housekeeping and pollution prevention language?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

2.6.7. MCM #6 Evaluation (Part I.D.2.e)

Review the MCM to determine the MS4 Program's effectiveness and whether or not changes to the MS4 Program Plan are necessary:

Were all MCM #6 responses Yes or Not Applicable?

Yes (Effective) No

The Program Plan is still effective. The Town has not been able to obtain proof of certification for the mowing contract, which does include the option of spraying weeds in a limited area of sidewalk if requested by the Town. Instead, the contractor signed a statement at contract renewal that he would not apply pesticides without certification. This contract was in its final year and will be going out for bid in fall 2023. This new contract requires the mowing contractor to be certified.

If any items are determined to be ineffective, describe changes necessary to the MS4 Program. Include the response in Section 1.5.

3.0 TMDL SPECIAL CONDITIONS

3.1. Crab Creek and Upper Roanoke River E.coli TMDL Action Plan

3.1.1. Bacteria TMDL Implementation (Part II.B.9)

A summary of actions conducted to implement each local TMDL action plan:

A summary of actions conducted to implement each local TMDL action plan is provided in Table 17.

Table 17: Bacteria TMDL Action Plan Summary of Actions		
BMP	Measurable Goals	Completeness Status
1	Is education on special water quality concerns, specifically E.coli, addressed in the Town's Public Education and Outreach Plan?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
2	Were methodologies determined to assess the most effective structural and nonstructural best management practices to employ?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
3	Did employees receive IDDE training to enhance efforts to minimize illicit discharges?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
4	Did the Town create an IDDE and construction site issue complaint link on the Town website to enhance public IDDE reporting capabilities?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
5	Did the Town develop a long-term capital and operating program to offset capital funding and operating costs associated with structural BMP installation and maintenance?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
6	Are the legal authorities outlined in plan in place?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
7	Is the FOG Ordinance in place?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
8	Does the stormwater website contain FOG information?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (BMP revised in May 2020 revision.)
9	Was the pet waste disposal public education completed?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
10	Does the stormwater website contain IDDE reporting information?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
11	Was the Crab Creek Interceptor Study completed?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

12	Was the Watershed Treatment Model spreadsheet's pet waste component used to quantify bacterial reductions?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
13	Have the locations of pet waste stations in public parks been mapped?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
14	Have options for additional pet waste stations on public land been evaluated?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
15	Have educational materials or messaging been distributed at targeted public participation events?	<input checked="" type="checkbox"/> Yes (in 2019, 2022, and 2023 at NRV Home Expo and 2022 Steppin' Out dog waste collection bags were distributed. Events in 2020 and 2021 were canceled.) <input type="checkbox"/> No
16	Has a mapped based approach been used to evaluate sanitary sewer overflows in the Wilson Creek watershed within Town limits?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
17	Has implementation of the Crab Creek Interceptor Study continued?	<input checked="" type="checkbox"/> Yes (see below) <input type="checkbox"/> No
18	Has coordination with the WWTF occurred to provide web-based educational information to reduce FOG sewerage system disposal?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
19	Has a procedure been created to quantify connections made to sanitary sewer from sites previously using a septic system?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

The following actions have been completed under the Crab Creek Interceptor Study:

- Phase I of College Street construction
- College Street Sanitary Sewer Evaluation Survey
- Phase I of Silver Lake Interceptor construction
- Arrowhead Sewershed Improvements, both design and construction, have been funded. Design work is at 60% completion

Additionally, we have completed:

- Construction of Phase I Silverlake is complete.
- Phase II of Silverlake Interceptor is going to bid in late 2023.
- Lomoor Channel Sewer Improvements in the Tower Sewershed were completed and we have seen improvements with a steep reduction in pump station overflows in the area
- Phase II Mill Lane portion of the College Street Basin was completed.

3.2. Crab Creek and Upper Roanoke River Sediment TMDL Action Plan

3.2.1. Sediment TMDL Implementation (Part II.B.9)

A summary of actions conducted to implement each local TMDL action plan: A summary of actions conducted to implement each local TMDL action plan is provided in Table 18.

Table 18: Sediment TMDL Action Plan Summary of Actions

BMP	Measurable Goals	Completeness Status
1	Did the Town implement SWPPPs for the Town Public Works Station (Station B)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
2	Did the Town implement SWPPPs for the historic Town landfill?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
3	Does the Town Code address Erosion and Sediment Control and Virginia Stormwater Management Program standards and permitting requirements?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
4	Were methodologies determined to assess the most effective structural and nonstructural best management practices to employ?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
5	Is education on special water quality concerns, specifically sediment, addressed in the Town's Public Education and Outreach Plan?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
6	Does the Town implement an ESC and VSMP Inspection and Enforcement Program for land disturbing activities?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
7	Does the Town implement a Post-construction Inspection and Maintenance Program for structural BMPs?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
6	Did the Town develop a long-term capital and operating program to offset capital funding and operating costs associated with structural BMP installation and maintenance?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
7	Does the Town provide Good Housekeeping and Pollution Prevention Training to employees?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
8	Did the Town create an IDDE and construction site issue complaint link on the Town website to enhance public IDDE reporting capabilities?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
9	Did the Town participate in the development of the Crab Creek and Roanoke River Implementation Plans?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

10	Were street sweeping measurable goals implemented?	<input checked="" type="checkbox"/> Yes, ongoing, see below <input type="checkbox"/> No
11	Is the Diamond Hills Phase I Project implemented?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
12	Is the Diamond Hills Phase II Project implemented?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (Removed BMP in May 2020 revision.)
13	Were neighboring MS4 coordination efforts implemented?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
14	Was the railroad coordination efforts for funding a stream restoration project implemented?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (BMP removed in May 2020 revision.)
15	Was the Watershed Treatment Model spreadsheet used to evaluate sediment reductions associated with public and private BMPs?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
16	Have sediment reduction calculations as applicable to the MS4 been completed for Diamond Hills, Blue Leaf and Towne Branch stream restorations?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
17	Has the Blue Leaf Stream Restoration sediment reduction credit been recertified?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (evaluation complete)
18	Have the Lomoor Channel and Christiansburg Industrial Park Detention Basin BMPs been installed?	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No (see update below)
19	Has the Town submitted to the Department the anticipated end date by which the permittee will meet the WLA for sediment?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
20	Has the Town developed a targeted approach to inspecting privately owned stormwater management	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

The following actions have occurred in reference to the Sediment Action Plan

- The Town contracted a study of possible ways to implement and quantify a targeted street sweeping/inlet cleaning program based on TMDL waste load allocations and the current Chesapeake Bay Program 2016 Street Sweeping Expert Panel Report in April 2021. Results obtained in July 2021. This information is under review.
- Lomoor Channel stabilization was completed in October 2022.
- Christiansburg Industrial Park Basin and Stream Restoration is in final design and fully funded. This will be going to bid in late 2023.
- Blue Leaf Stream Restoration sediment reduction credit recertification has been delayed pending maintenance needs detailed in the recertification inspection.

A summary of quantifiable pollutant of concern reductions is provided in Table 19.

Table 19: 2020-2021 POC Reductions	
BMP #10: Street Sweeping – Crab Creek	
Required tons of material swept	27.57 tons
Estimated tons of material swept	183 tons
BMP #10: Street Sweeping – Roanoke River	
Required tons of material swept	22.9 tons
Estimated tons of material swept	106 tons

3.3. Roanoke River PCB TMDL Action Plan

3.3.1. PCB TMDL Implementation (Part II.B.9)

A summary of actions conducted to implement each local TMDL action plan:

A summary of actions conducted to implement each local TMDL action plan is provided in Table 20.

Table 20: PCB TMDL Action Plan Summary of Actions

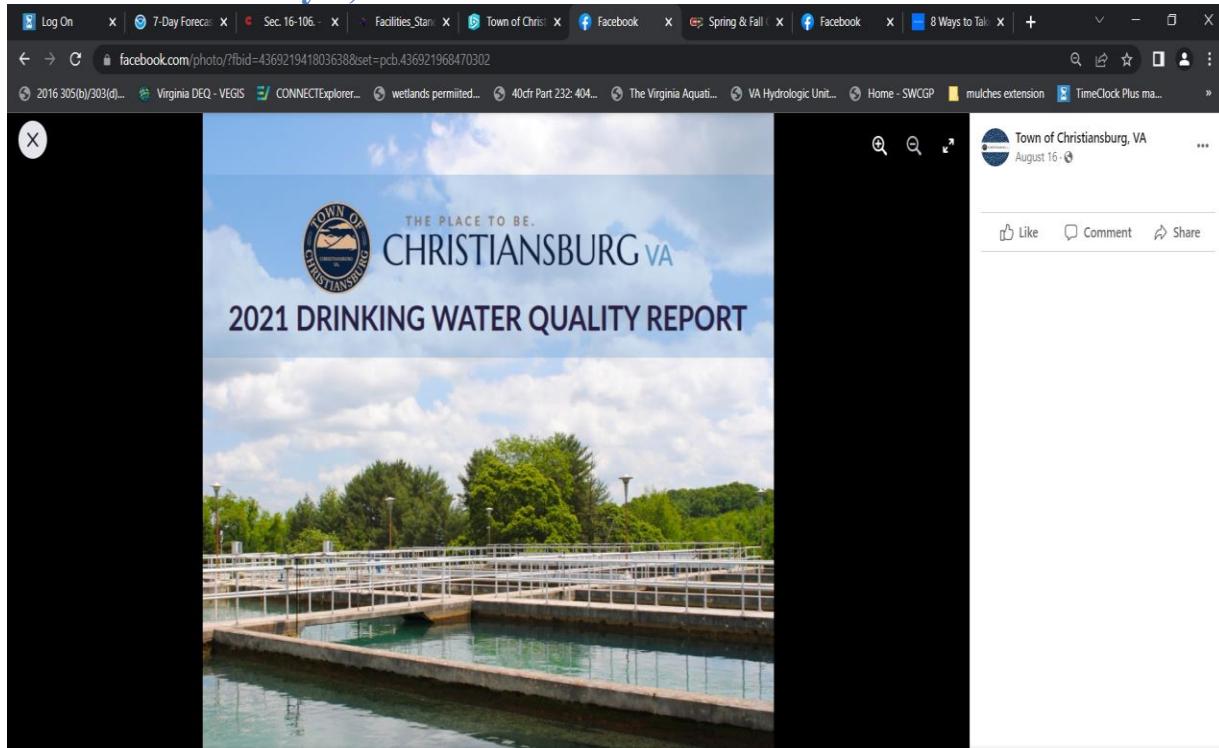
BMP	Measurable Goal	Completeness Status
1	Was an evaluation on the substitution or addition of education on PCB sources and elimination as a high-priority water quality issue completed?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
2	Was information included about PCB as a Pollutant of Concern in annual mailers that are attached to the annual drinking water quality information?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A (Mailers are no longer distributed.)
3	Did the Town participate in the New River TAC to advocate for consistent TMDL requirements across all town watersheds?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
4	Did coordination occur with the town Public Works Wastewater Treatment Plant (WWTP) to gather information on potential PCB sources through the WWTP Industrial Waste Surveys?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
5	Was IDDE ordinance language researched at other localities for specific PCB prohibition?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
6	Was existing PCB-free purchasing ordinance language surveyed at other localities and evaluated for the potential to add such language to Town Code?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
7	Were methods examined to determine historical land uses to identify potential legacy sources of PCBs?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (Removed BMP in May 2020 revision.)
8	Was the Montgomery Regional Solid Waste Authority (MRSWA) contacted regarding disposal of PCB products and the potential for partnership?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
9	Was the Good Housekeeping SWPPP materials reviewed for potential revisions to more specifically address PCBs as a pollutant of concern?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

10	Were the properties identified in the 2016 Action Plan as needing to be investigated for significant sources of the Pollutant of Concern investigated?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
11	Were PCBs added to the staff Good Housekeeping/IDDE training?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
12	Was the Montgomery Regional Solid Waste Authority contacted for updates to their Household Hazardous Waste collection and outreach efforts?	<input checked="" type="checkbox"/> Yes (These events are now listed on the FAQ page for the Town's Fall and Spring clean up. See MCM #1) <input type="checkbox"/> No
13	Was an outreach effort beyond that detailed in the MS4 program plan initiated?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Appendix A: Documentation of Public Education and Outreach Activities

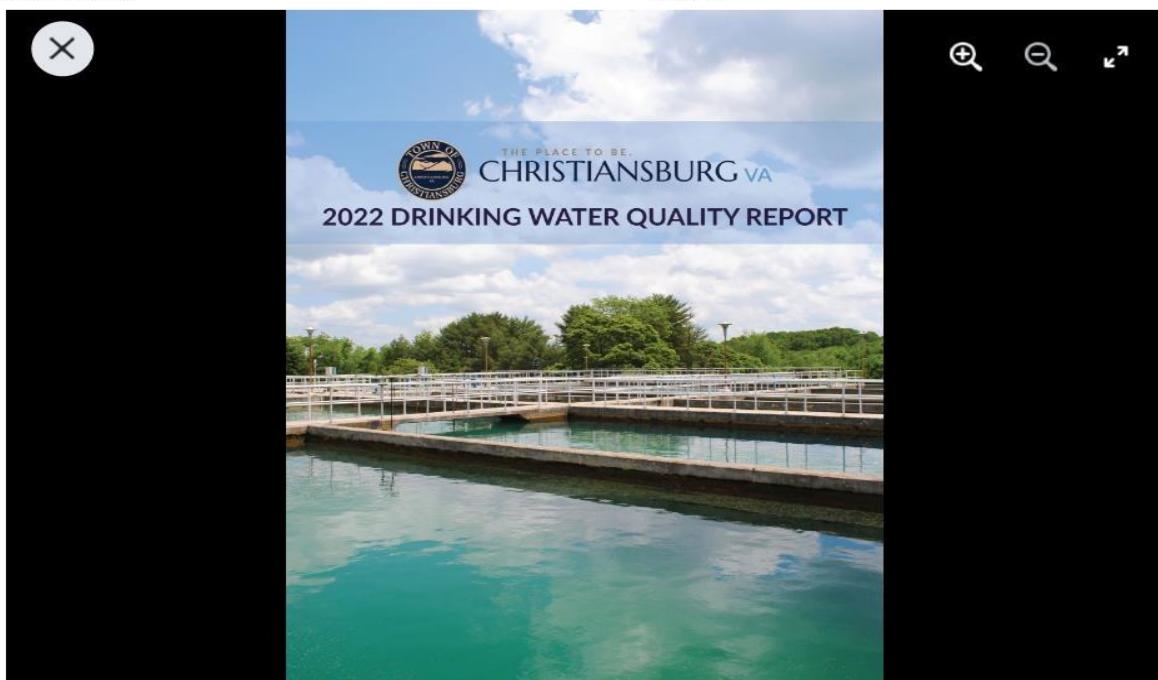
Town of Christiansburg 2021 and 2022 Drinking Water Quality Report

Facebook Post May 9, 2023 and 8/16/2022



9/13/23, 11:36 AM

Facebook



Town of Christiansburg, VA

May 9 ·

...

The Town of Christiansburg understands the importance of residents being fully informed about the quality of their drinking water. To view a complete version of the latest report visit: <https://www.christiansburg.org/drinkingwater>



THE PLACE TO BE.
CHRISTIANSBURG VA

2022 DRINKING WATER QUALITY REPORT



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A NOTE FROM THE TOWN MANAGER



Every year, our water systems undergo extensive testing to ensure our drinking water is safe. The results of these tests, performed during the 2022 calendar year, demonstrate that our drinking water is safe and meets all federal and state requirements.

It is important to me that residents are fully informed about the quality of their drinking water. This report covers test results, general information about the drinking water and drinking water treatment plant, and additional resources the public may find useful.

If you have further questions, please contact the Town's Engineering Director Mike Kelley at 540-382-6120.

Sincerely,

Randy Wingfield
Town Manager

A handwritten signature in black ink that reads "Randy Wingfield".

TREATMENT PLANT INFORMATION



Above: Residents tour the sedimentation basins at the NRV Regional Water Authority's treatment plant.

The NRV Regional Water Authority (NRVRWA) owns and operates a water treatment plant capable of processing 12.4 million gallons per day, as well as two raw water pump stations located near the New River. The NRVRA is a bulk supplier and provides finished water to the Town of Blacksburg, Town of Christiansburg, Virginia Tech and Montgomery County. This means the NRVRA services an estimated population of approximately 102,000.

The original raw water intake and water treatment plant were constructed in 1957 with a capacity of 4.1 million gallons per day. In 1968, the water treatment plant capacity was expanded to 10 million gallons per day, and a raw water booster pump station was also constructed. In 1977, the water treatment plant capacity was again expanded to its current capacity of 12.4 million gallons per day, and a new raw water intake was added. Minimal upgrades and improvements have taken place since 1977, with the majority of work being routine maintenance and replacement.

The NRVRA completed a comprehensive evaluation of its existing raw water pumping facilities and the water treatment plant in 2016. The evaluation concluded that the facilities required a number of upgrades to maintain a safe work environment, improve efficiency and continue providing high quality water to customers. The raw water pumping facilities and water treatment plant began major renovations in 2020. This construction is estimated to be completed by the end of 2023 /first quarter of 2024. These renovations will enable the Authority to continue to provide high quality water to its customers for years to come.

The NRVRA has completed two projects that expanded service to its members. These projects provide redundant feeds to members, so in the event of a malfunction or failure of critical infrastructure, there are alternate routes and systems to deliver water to NRVRA members.

ABOUT YOUR WATER

Christiansburg is a member of the NRV Regional Water Authority (NRVRWA), which provides the Town of Christiansburg with drinking water sourced from the New River. The NRVRWA treats surface water obtained from the New River using conventional treatment methods such as coagulation, flocculation, sedimentation, filtration and, finally, disinfection. The water is pumped from the treatment system through a network of pipes to storage tanks, where it is then distributed to your tap. The Town of Christiansburg operates and maintains four pump stations, four water storage tanks and 150 miles of water main lines. On average, the Town delivers over 2.3 million gallons of drinking water to residences and businesses each day.

In order to ensure that tap water is safe to drink, the Environmental Protection Agency (EPA) prescribes regulations that limit the amount of certain contaminants in water provided by public systems. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells.

Drinking water, including bottled drinking water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at 800-426-4791.

Possible contaminants include:

- *Microbial Contaminants*, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations or wildlife.
- *Inorganic Contaminants*, such as salts and metals, which can be naturally occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.
- *Pesticides and Herbicides*, which may come from a variety of sources such as agriculture, urban stormwater runoff and residential uses.
- *Organic Chemical Contaminants*, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban runoff, and septic systems.
- *Radioactive Contaminants*, which can be naturally occurring, or the result of oil and gas production and mining activities.



HEALTH INFORMATION

Vulnerability to Contaminants

As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons, such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, the elderly and infants can be particularly at risk for infections. These people should seek advice about drinking water from their healthcare providers.

A source water assessment was conducted in 2002 that determined the New River to be highly susceptible to contamination. This is common of other water systems in Virginia when the source is from surface waters. Information from this report may be obtained through the NRVRA (www.nrvwater.org).

Lead in Homes

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing.

The Town of Christiansburg is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. If your water has been sitting for several hours, you can minimize the potential for lead exposure by running your tap for 30 seconds to 2 minutes before using water for drinking and cooking.

If you are concerned about lead in your water, you may have your water tested. Information on lead in drinking water, testing methods and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at 800-426-4791 or at tinyurl.com/EPALeadInWater.



SAMPLING RESULTS

The NRV Regional Water Authority and the Town of Christiansburg routinely monitor contaminants in your drinking water according to federal and state laws. The tables below list all of the drinking water contaminants that are applicable for the calendar year of this report.

The presence of contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in this table is from testing done in the calendar year of the report. The EPA or the state requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not change.

Regulated Contaminants*

Contaminants (units)	MCLG or MRDLG	MCL, TT or MRDL	Level Detected	Range (lowest - highest)	Violation	Typical Sources
Nitrite and Nitrate ¹ (ppm)	10	10	0.62	N/A	No	Runoff from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Haloacetic acids [HHA5] (ppm)	N/A	60	30	15-35	No	Byproduct of drinking water disinfection
Total Trihalomethanes [TTHM] (ppm)	N/A	80	41	12-46	No	Byproduct of drinking water disinfection
Total organic carbon (removal ratio)	N/A	TT in compliance if ≥ 1.0	1	1	No	Naturally present in the environment
Barium ² (ppm)	2	2	0.023	N/A	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Chlorine (ppm)	4	4	2.84	0.60 - 3.90	No	Water additive to control microbes
Turbidity (NTU) ³	N/A	TT, 1 NTU max TT, ≤ 0.3 (95% of the time)	0.18, 100% of the time	0.06 - 0.17	No	Soil runoff
Fluoride ⁴ (ppm)	4	4	0.57	N/A	No	Erosion of natural deposits; discharge from fertilizer and aluminum factories
Alpha Emitters (pCi/L)	0	15	0.04	N/A	No	Erosion of natural deposits
Combined Radium (pCi/L)	0	5	0.04	N/A	No	Erosion of natural deposits

* These tables only show those contaminants that were detected in the water.

¹ Infants below the age of six months who drink water containing nitrate in excess of the MCL could become seriously ill and if untreated, may die. Symptoms include shortness of breath and blue-baby syndrome.

² Some people who drink water containing barium in excess of the MCL over many years could experience an increase in their blood pressure.

³ Turbidity is a measure of the cloudiness of water. We monitor it because it is a good indicator of the effectiveness of our filtration system. The EPA requires that we report the highest single turbidity result measured during the year.

⁴ Some people who drink water containing fluoride in excess of the MCL over many years could get bone disease, including pain and tenderness of the bones. Children may get mottled teeth.

Lead & Copper Contaminants*

Contaminants (units)	MCLG	Action Level	Amount Detected (90 th Percentile)	Sample Date	Violation	Sites above action level	Typical sources
Copper (mg/L)	1.3	1.3	0.0531	Aug. 2020	No	0	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead ⁵ (ppb)	0	15	<2 ⁶	Aug. 2020	No	0	Corrosion of household plumbing systems, erosion of natural deposits

* These tables only show those contaminants that were detected in the water.

⁵ The Town of Christiansburg participates in lead and copper monitoring every three years with the Town of Blacksburg and Belview distribution systems.

⁶ The 90th percentile was below the detection limit of 2 ppb.

SAMPLING RESULTS CONT.

Unregulated Contaminants*

Contaminant (unit)	Level Detected	Sample Date	Typical Sources
Sodium ¹	9.7 mg/L	March 2022	Naturally occurring; Addition of treatment chemicals/processes

*These tables only show those contaminants that were detected in the water.

¹For individuals on a very low sodium diet (500 mg/day), EPA recommends not to drink water that exceeds 20 mg/L. Should you have a health concern, contact your healthcare provider.

Definitions

The following definitions may assist in understanding the results tables.

- **Maximum Contaminant Level Goal (MCLG)** is the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
- **Maximum Contaminant Level (MCL)** is the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
- **Maximum Residual Disinfectant Level Goal (MRDLG)** is the level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
- **Maximum Residual Disinfectant Level (MRDL)** is the highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
- **Treatment Technique (TT)** is a required process intended to reduce the level of a contaminant in drinking water.
- **Violation** means that the level of a contaminant or disinfectant in your drinking water has exceeded the maximum level allowed by the EPA.
- **Action Level** means the concentration of a contaminant that, if exceeded, triggers treatment or other requirements that an owner shall follow.
- **PPB (parts per billion)** means one part substance per billion parts water (or micrograms per liter).
- **PPM (parts per million)** means one part substance per million parts water (or milligrams per liter).
- **Picocuries per liter (pCi/L)** picocuries per liter is a measure of the radioactivity in water.
- **Nephelometric Turbidity Unit (NTU)** nephelometric turbidity unit is a measure of the clarity, or cloudiness, of water. Turbidity in excess of 5 NTU is just noticeable to the average person. Turbidity is monitored because it is a good indicator of the effectiveness of our filtration system.

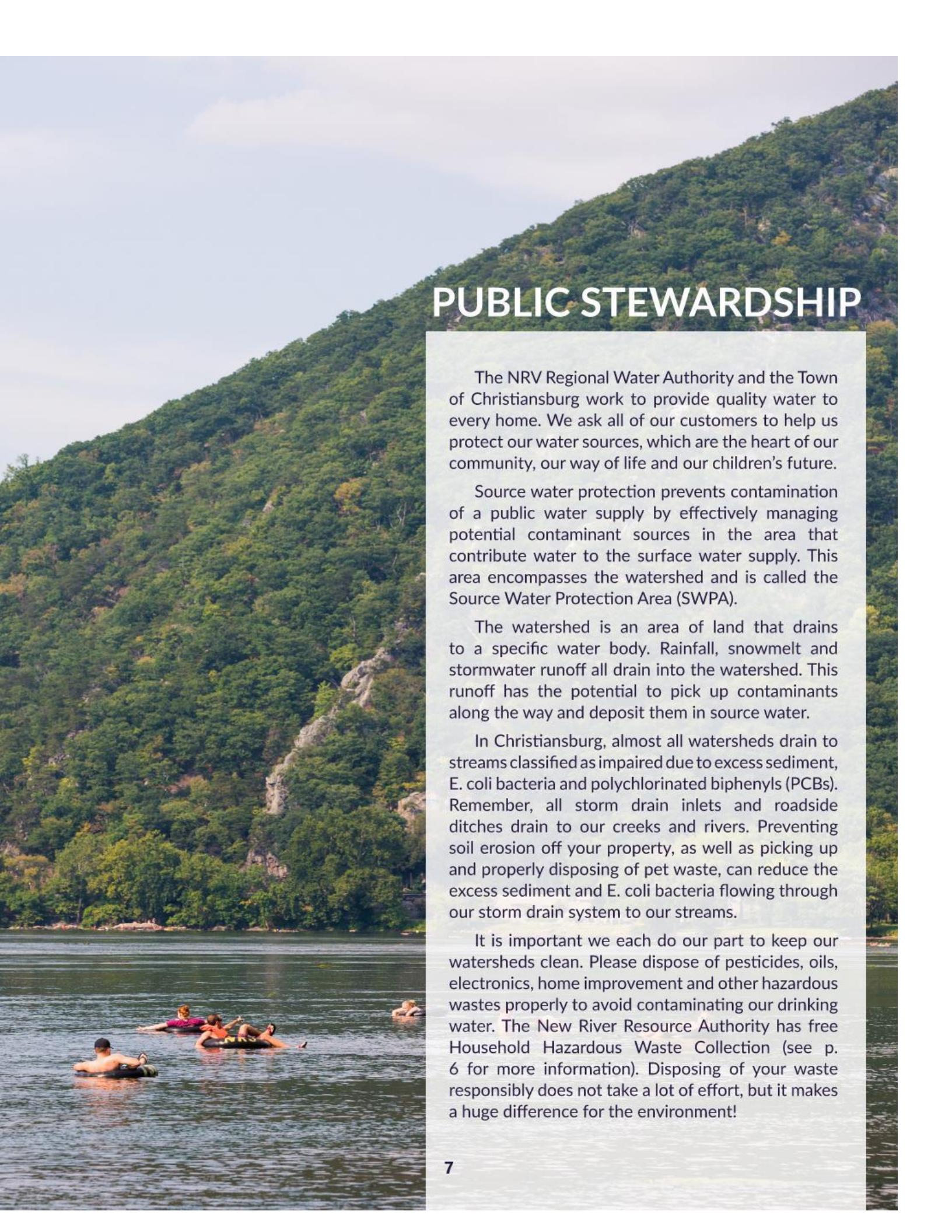
Sodium is an essential element required for normal body function, including nerve impulse transmission, fluid regulations and muscle contraction and relaxation. However, in excess amounts, sodium increases individual risk of hypertension, heart disease and stroke. One of the chief sources of sodium is the consumption of salt; therefore, salt restrictions are often recommended as a first line of treatment for individuals suffering from these conditions.

Additional Resources

- **Attend an NRV Regional Water Authority meeting.** Community members are welcome to attend NRVRWA meetings, which are held virtually at 4 p.m. every third Wednesday of the month. Please contact Caleb Taylor at 540-639-2575 to participate in a meeting.
- **Take a tour of the water treatment plant.** To schedule a tour, please contact Executive Director Caleb Taylor at 540-639-2575.
- **Dispose of household hazardous waste.** Please dispose of these items at one of the New River Resource Authority's Household Hazardous Waste Collection events. Learn more by calling 540-674-1677 or visiting www.newriverresourceauthority.org.
- **Learn more.** If you have questions about this report, please contact the Engineering Department at 540-382-6120. For more information about water in the New River Valley, please visit www.nrvwater.org.

The EPA (www.epa.gov/Your-Drinking-Water) and the Centers for Disease Control and Prevention (www.cdc.gov/healthywater/drinking) websites offer a substantial amount of information on many issues related to water resources, water conservation and public health.

The Virginia Health Department's Office of Drinking Water (www.vdh.virginia.gov/ODW) provides current information on water issues in Virginia, including valuable information about our watershed.



PUBLIC STEWARDSHIP

The NRV Regional Water Authority and the Town of Christiansburg work to provide quality water to every home. We ask all of our customers to help us protect our water sources, which are the heart of our community, our way of life and our children's future.

Source water protection prevents contamination of a public water supply by effectively managing potential contaminant sources in the area that contribute water to the surface water supply. This area encompasses the watershed and is called the Source Water Protection Area (SWPA).

The watershed is an area of land that drains to a specific water body. Rainfall, snowmelt and stormwater runoff all drain into the watershed. This runoff has the potential to pick up contaminants along the way and deposit them in source water.

In Christiansburg, almost all watersheds drain to streams classified as impaired due to excess sediment, E. coli bacteria and polychlorinated biphenyls (PCBs). Remember, all storm drain inlets and roadside ditches drain to our creeks and rivers. Preventing soil erosion off your property, as well as picking up and properly disposing of pet waste, can reduce the excess sediment and E. coli bacteria flowing through our storm drain system to our streams.

It is important we each do our part to keep our watersheds clean. Please dispose of pesticides, oils, electronics, home improvement and other hazardous wastes properly to avoid contaminating our drinking water. The New River Resource Authority has free Household Hazardous Waste Collection (see p. 6 for more information). Disposing of your waste responsibly does not take a lot of effort, but it makes a huge difference for the environment!

Spring and Fall Clean up Facebook posts

9/13/23, 12:41 PM

Facebook



Town of Christiansburg, VA

August 18, 2022

...

From October 1 to the 14, the Town will offer free special collection periods for residents to place out larger items for pickup. For a full list of rules and acceptable items, please visit www.christiansburg.org/cleanupFAQ.

41

2 76

Like

Comment



Julie Reeves Brewer
Ben Brewer

1y



Heather Poole
Jolie Oieda Christina Bower-Smethurst Annie Hilscher



Town of Christiansburg, VA

March 31 ·

...

Spring Cleanup will be held April 10-21! Simply place your cleanup items outside at any time between April 10-21, and crews will be by in the next few weeks to pick them up.

To make the collection easier on our crews, please place cleanup items within 10 feet of the street pavement and separate them from your regular trash. Please also separate materials by type (bagged leaves, brush, furniture, etc.) and do not block drainage ditches, gutters, sidewalks, water meters, or sewer cleanouts.

Questions about what we'll pick up? Learn more at <https://www.christiansburg.org/676/Spring-Fall-Cleanup-FAQs> [See less](#)



CRAB CREEK BEAUTIFICATION PROJECT

Certain Christiansburg property owners can now receive financial assistance with things like landscaping and rain garden installation!

Spring is right around the corner, which means yard work is not far behind. Landscaping helps make your property beautiful, but things like green grass, gardens and even mulching can also help prevent erosion and reduce stormwater runoff. Basic gardening is great, but you too can play a more active part of the water quality solution and receive funding assistance thanks to a recently awarded grant!

This year, the New River Valley Regional Commission is implementing the Crab Creek Beautification Project. If you live in the Crab Creek Watershed, you can apply for rebate funds to install a variety of Best Management Practices (BMPs). BMPs help improve water quality and promote soil conservation. Residential, commercial, churches, HOA and other property owners can all apply for the funds! A few examples of BMPs include rain gardens, conservation landscaping, rainwater harvesting and planters, impervious surface removal (asphalt, paver, gravel, etc.), and pet waste disposal stations.

For more information, applications, and to find out if you live within the Crab Creek Watershed, visit christiansburg.org/crabcreekbeautification.



CHRISTIANSBURG HUCKLEBERRY PARK



Crews are putting the finishing touches on Christiansburg Huckleberry Park! Who's excited?!

Once open, you and your family, friends, and out-of-town visitors can enjoy a variety opportunities for recreation, exercise and play! In case you haven't heard - the

park will have an all-inclusive playground with interactive opportunities for people with all abilities! This feature will include specialized equipment that will be the first of its kind in Virginia!

The park will also boast more than two miles of trails and sidewalks, four full-sized playing fields with artificial turf, a dog park with separate areas for small and large dogs, a splash pad for those hot summer days, and MUCH MORE!

We are also excited to announce the opportunity for special events to be hosted at Christiansburg Huckleberry Park! If you are interested in hosting an event, there are two pavilions and multiple shelter options available for rent, beginning this year!

In addition to outdoor event space, if you are a sports team looking to use a field for your game or tournament, we are accepting inquiries! Contact Erin Ruyle at eruyle@christiansburg.org for more information and pricing for both field and special event rentals.

Interested in partnering with Christiansburg Huckleberry Park? Did you know a third-party sports tourism consultant projects more than 221,000 visitors are expected to visit the park in its first year alone?! Let us help your organization reach park-goers in the New River Valley and beyond with sponsorship opportunities that fit your needs. Contact Christina Edney at cedney@christiansburg.org for available sponsorships.

We hope you are excited for this state-of-the art park coming to Christiansburg! The park will open in Spring 2023.

Want to stay in the know?
Sign up for our Notify Me and Citizen Alert systems
to receive Town info via phone, text or email.
Notify Me: www.christiansburg.org/notifyme
Citizens Alert: www.christiansburg.org/alerts



THE PLACE TO BE.
CHRISTIANSBURG VA

Have a question? Let us know!
540-382-6128, ext. 1151
info@christiansburg.org
www.christiansburg.org

The Christiansburg Connection

Newsletter for the Town of Christiansburg

March/April 2023



YARD SALE FAQ'S

For a lot of folks, yard sales are an ideal way to spend weekend mornings when the weather is warm.

If you have been considering hosting your own treasure hunting event, it may be helpful to know that the Town of Christiansburg allows each house to hold two yard sales per calendar year with each sale lasting no more than two consecutive days.

When using signage to advertise your yard sale, remember that signs are not permitted to be placed in any street right-of-way, examples of this include on curbs, utility poles or street signs. The best locations for yard sale signs are on private property, either where the yard sale is being held, or on property which permission has been granted to display the signs. Any signs in violation may be removed. Please remember to remove your signs immediately after your yard sale.

AQUATIC CENTER

SWIM MEETS

March 4 NCAA Last Chance Meet hosted by VT

March 23-26 USA Swimming Eastern Zone Sectionals

April 28-30 H2Okies May Day Invitational

SPLISH, SPLASH FITNESS EXPO

Friday, April 7 from 9-11 a.m.

Interested in joining our fitness programs but not sure where to start?

Make some waves with us at this free fitness expo! 15-20 minute demos of each class will be taught giving participants the chance to find which class is their best fit and talk with instructors about each program!

UPCOMING COUNCIL MEETINGS*

March 14 at 7 p.m.

April 11 at 7 p.m.

March 28 at 7 p.m.

April 25 at 7 p.m.

*Meetings are held in Council Chambers at Town Hall. Opportunity to provide public comment in person will be provided; however, contactless comment methods are also available at christiansburg.org/publiccomment.

Never miss a meeting! Sign up for notifications at christiansburg.org/notifyme.

All meetings are recorded and posted to the Town's YouTube page at christiansburg.org/YouTube.

Follow us!

@CburgVAGov



EVENTS CALENDAR

EVENTS IN APRIL

Egg-Streme Easter Egg Party

Friday, April 7 games and activities start at 7 p.m. Hunt starts at 8 p.m. at Kiwanis Park
Ages 18 and up

Easter egg hunts aren't just for kids anymore! This egg hunt is sure to be a wild time! Can you find Easter eggs in the dark? If you can, you could win prizes! Prizes range from gift cards to local restaurants, to VA Tech merch., to big screen TVs. You WILL NOT want to miss out! Before the Easter egg hunt, come out and play cornhole, giant Connect 4, or pong.

The Great Easter Egg Hunt

Saturday, April 8 at 10 a.m. at Kiwanis Park
visit christiansburg.org/parksandrecreation for age group times

Children bring their own baskets and search for surprises the Easter Bunny has left behind! Children are divided into age groups for the hunts. The Easter Bunny will also stop by to take photos!

Spring Kickoff Festival

Saturday, April 22 from 6-9 p.m.
at the Christiansburg Recreation Center

Join the party at the Recreation Center (outdoors)! The Town of Christiansburg will be hosting our Spring Kickoff Festival, an evening of adult fun! Try your hand (or swing!) at our golf simulator or football toss, while enjoying food from local food trucks, a brew or a glass of wine, and great music.

Spring Cleanup

April 10-21 for FAQs about what items will be accepted during Spring Cleanup, please visit christiansburg.org/cleanupFAQ.

UPCOMING OR RECURRING EVENTS

Car Seat Installation & Safety Checks

Each Tuesday and Thursday
from 8 a.m. to noon at the Christiansburg Police Station

Third Thursday of each month
from 4-6 p.m. at the Fire Station

Rockin' Main Street

May 13 from 5-9 p.m. on Main Street
Music by: The Carolina Shreds and Miller Holler

Farmers Market

Each Thursday, beginning May 18 from 3-7 p.m. in the Christiansburg Recreation Center parking lot

Want to stay in the know?

Sign up for our Notify Me and Citizen Alert systems

to receive Town info via phone, text or email.

Notify Me: www.christiansburg.org/notifyme

Citizens Alert: www.christiansburg.org/alerts



THE PLACE TO BE.
CHRISTIANSBURG VA

Have a question? Let us know!

540-382-6128, ext. 1151

info@christiansburg.org

www.christiansburg.org

Crab Creek Beautification Project posts

9/13/23, 12:46 PM

Facebook

CRAB CREEK BEAUTIFICATION PROJECT

Learn how you can help improve local water quality by planting native plants on your property and get support while you do it!

JOIN US FOR A PUBLIC MEETING

March 2, 2023
6-7 p.m.
Great Road on Main

Your property must be located in the Crab Creek Watershed





Town of Christiansburg, VA

March 1 · 

...

Join us in learning about the Crab Creek Watershed initiative this Thursday, March 2 from 6-7 p.m. at Great Road on Main. The discussion will include how to get reimbursed for watershed friendly landscaping, how to get a free bareroot tree, and how you can take part in helping improve the health of this important, but impaired, water source!

For more information, applications, and to find out if you live within the Crab Creek Watershed, visit <https://storymaps.arcgis.com/.../501dcba294d94423ba58b25e....> **See less**

Posted on: February 24, 2023

Crab Creek Beautification Project



Beginning Spring 2023, the New River Valley Regional Commission is implementing the Crab Creek Beautification Project. If you live in the Crab Creek Watershed, you can apply for rebate funds to install a variety of Best Management Practices (BMPs). BMPs help improve water quality and promote soil conservation. Residential, commercial, churches, HOA and other property owners can all apply for the funds. A few examples of BMPs include rain gardens, conservation landscaping, rainwater

harvesting and planters, impervious surface removal (asphalt, paver, gravel, etc.), and pet waste disposal stations.

For more information, applications, and to find out if you live within the Crab Creek Watershed, visit <https://storymaps.arcgis.com/stories/501dcba294d94423ba58b25e759fa191> or scan the QR code below.



Facebook post on Stream Restorations

Log On Sec. 16-106. - In general. | Facilities_Standards_Manual | Town of Christiansburg Geo | Facebook | Spring & Fall Cleanup FAQ | +

2016 305(b)/303(d)... Virginia DEQ - VEGIS CONNECTExplorer... wetlands permitted... 40cfr Part 232: 404... The Virginia Aquati... VA Hydrologic Unit... Home - SWCGP mulches extension TimeClock Plus ma... »

A Facebook post from the Town of Christiansburg, VA. The post features a large circular image of a young girl in a purple shirt crouching by a stream, with water cascading over rocks. To the left of the image is a dark blue circle containing the text "Keeping our Streams Clean". The post includes the Town of Christiansburg logo and the "Embrace ECO" logo. The caption reads: "The Town of Christiansburg is focused on keeping the Town a clean, healthy, and safe place to live. Leading up to National Recycling Day (November 15), we will be sharing some of our efforts in making Christiansburg a more sustainable place to live. We have hosted several stream clean-up events with citizens and community groups. The volunteers cleaned up trash while learning the importance of these streams to the environment. You can visit Diamond Hills or Depot Park to see how we have progressed, or serve as a volunteer at our next cleanup in late fall. [See less](#)". The post has 6 likes and 2 shares.

 Town of Christiansburg, VA
September 14 at 10:50 AM · [......](#)

The Town of Christiansburg is focused on keeping the Town a clean, healthy, and safe place to live. Leading up to National Recycling Day (November 15), we will be sharing some of our efforts in making Christiansburg a more sustainable place to live.

We have hosted several stream clean-up events with citizens and community groups. The volunteers cleaned up trash while learning the importance of these streams to the environment. You can visit Diamond Hills or Depot Park to see how we have progressed, or serve as a volunteer at our next cleanup in late fall. [See less](#)

 6 2 Shares

 Like  Comment  Share

See more of Town of Christiansburg, VA on Facebook

[Log In](#)

or

[Create new account](#)

Meetings with Clifton and Villas at Peppers Ferry HOAs

On Wed, Jun 7, 2023 at 10:41 PM Patricia Colatosti <pcolatosti@christiansburg.org> wrote:
Yes, those times and dates will work. We will see you on Tuesday. Thanks,

Patricia

Patricia Colatosti

Environmental Program Supervisor
Town of Christiansburg
[100 E. Main St](http://100E>MainSt)
[Christiansburg, VA 24073](http://Christiansburg,VA24073)
540.382.6120 ext. 1157

From: Ginny Peeples <ginny@townside.com>
Sent: Wednesday, June 7, 2023 4:27 PM
To: Patricia Colatosti <pcolatosti@christiansburg.org>; jbyersiii@gmail.com
Cc: Clayton Morgan <cmorgan@christiansburg.org>
Subject: RE: Villas at peppers ferry update

Patricia,

John is away until Monday. Why don't we plan on the Villas at Pepper's Ferry the 13th at 4pm and Clifton the 14th at 4pm. Would that work for you? I meet with Clifton tonight at 5:30pm. They would love to hear your feedback on their future items. I meet with the Villas at PF Friday and can give them a head's up too.

Thank you!

Ginny

From: Patricia Colatosti <pcolatosti@christiansburg.org>
Sent: Wednesday, June 7, 2023 4:06 PM
To: jbyersiii@gmail.com
Cc: Ginny Peeples <ginny@townside.com>; Clayton Morgan <cmorgan@christiansburg.org>
Subject: RE: Villas at peppers ferry update

John,

Sorry for the delay, again. Are you all available next week to meet on the Villas site? We can also look at the master association responsibility. We have availability on June 13th and 14th if you are available.

We should probably look at Clifton separately. It's relatively complicated and we are still working on getting the final as-built drawings and calculations from the engineer.

Thanks,

Patricia

From: jbyersiii@gmail.com <jbyersiii@gmail.com>
Sent: Monday, January 30, 2023 12:43 PM
To: Patricia Colatosti <pcolatosti@christiansburg.org>
Cc: 'Ginny Peeples' <ginny@townside.com>
Subject: RE: Villas at peppers ferry update

Thanks for the follow up. I think it would be beneficial to us to have you visit the property when you can. In the mean time we will coordinate with Four Seasons Landscaping to follow your advice.

We also want to follow up on the master association responsibility as Villas at Peppers Ferry and also Clifton (we also manage it) are part of the master association and want to make sure that is being handled correctly as well.

Thanks, John 540-239-6895

John Byers

President/Property Mgr
CMCA (Certified Mgr Community Assns)
AMS (Association Mgmt Specialist)
Licensed Broker in Virginia

Soli Deo Gloria
www.townside.com
220 Professional Park Dr.
Blacksburg, VA 24060
Email jbyersiii@gmail.com
Office 540-552-4000 Cell 540-239-6895

-----Original Message-----

From: Patricia Colatosti <pcolatosti@christiansburg.org>
Sent: Monday, January 30, 2023 12:08 PM
To: John Byers <jbyersiii@gmail.com>
Cc: Ginny Peeples <ginny@townside.com>; Tom Irish Vpf <teirish@gmail.com>
Subject: RE: Villas at peppers ferry update

John,

Sorry to take so long to reply. I have changed the contact information for the HOA management to you and Ginny at Townside. I kept Tom Irish on the contact list.

Essentially, keep doing what you all are doing! The most important part of maintaining the stormwater system is really just maintaining soil cover. Anyplace you have erosion, try to grow grass or some other vegetation.

Thanks,

Patricia

-----Original Message-----

From: John Byers <jbyersiii@gmail.com>
Sent: Thursday, January 12, 2023 2:48 PM
To: Patricia Colatosti <pcolatosti@christiansburg.org>
Cc: Ginny Peeples <ginny@townside.com>; Tom Irish Vpf <teirish@gmail.com>
Subject: Villas at peppers ferry update

Patricia, I wanted to let you know that Townside property is now handling the villas at Peppers Ferry on route 114. Hoping you will update your records and also let us know if there's things that we should be doing to maintain the property. Your advice is always appreciated. Please review and confirm back

John Byers 540-239-6895
Soli Deo Gloria
jbyersiii@gmail.com

Appendix B: Documentation of Public Involvement Activities

Towne Branch Master Naturalist exotic invasive plant removal-sample correspondence

I looked more closely last night. Multiflora rose is in the middle. I rethought my request.

Could Fred and I slowly remove the invasive plants over a few years and replace them with native shrubs and trees? They are seedlings of an oak, red buds and a small (ash?).

The two remaining hop trees are struggling in the hot sun, but sending up lots of shoots and I am excited as they are host for giant swallowtail butterflies.

It is our hope to prevent the burning bush and multiflora rose from producing seed. And to have the birds spreading native shrub seeds.

Thanks,
Beth

On Fri, Jul 29, 2022 at 1:18 PM Patricia Colatosti <pcolatosti@christiansburg.org> wrote:

Beth,

I will bring this up with the Aquatic Center and our Public Works dept.

Thanks for looking, our inspections are in the winter, and besides the invasive Euonymus that was planted nothing else was noted.

Patricia Colatosti

Environmental Program Supervisor
Town of Christiansburg
100 E. Main St
Christiansburg, VA 24073
540.382.6120 ext. 1157

From: Beth Umberger <megachile300@gmail.com>

Sent: Tuesday, July 26, 2022 12:20 PM

To: Patricia Colatosti <pcolatosti@christiansburg.org>

Subject: Rain garden below Aquatic Center

Hi,

The rain garden below the Aquatic Center is full of invasive plants, both planted and seeded in by birds. Would it be possible to have all the plants removed by town?

Then this fall I could plant native shrubs, ground covers and maybe trees. Or maybe next spring. All donated plants and labor.

Beth

Towne Branch Stream Clean up 4/8/2023



Diamond Hills Stream Clean up 3/25/2023

Christiansburg hosting stream cleanup

<https://www.wdbj7.com/2023/03/24/christiansburg-hosting-stream-clean-up/>



Diamond Hills Wetland Monitoring Virginia Tech Biodiversity Class

Virginia Tech produced a promotional video about this project available at:

: https://news.vt.edu/videos/k/2023/04/1_27bwjzxz.html?fbclid=IwAR2F5MqD8xziOtubQECq6XxK7Mp1-fL775x0X-XTf_rJ56cjKKz1rz-Y-ec

Virginia Tech Turtle Research Project communications

Kevin,

Thank you, I will forward the pictures on to our mowing and maintenance crews.

I would be interested to see the data to look at which wetland cell is changing. We did recently plug a large hole where an abandoned pipe had collapsed, and the hole was draining that wetland cell really quickly.

I appreciate your data. It is helping me manage community expectations for nature based stormwater management.

Thanks,

Patricia

Patricia Colatosti

Environmental Program Supervisor

Town of Christiansburg

100 E Main St

Christiansburg, VA 24073

540-382-6120 ext 1157

From: Hamed, Kevin <khamed@vt.edu>

Sent: Monday, July 10, 2023 1:56:45 PM

To: Patricia Colatosti <pcolatosti@christiansburg.org>

Subject: RE: Turtle Project

Patricia,

Thank you so much for all of your help. I have attached photographs and the Town is not responsible for the traps. We realize at any of our locations, traps can be damaged or stolen.

We noticed that one of the cells at Diamond Hills is no longer effective. Our frog and toad data shows they are not using it. Most likely since it is not holding water long enough for their breeding cycle.

Thank you again for all of your help!

M. Kevin Hamed

Collegiate Associate Professor of Wildlife Conservation &

Collection Curation

Certified Wildlife Biologist®

Department of Fish and Wildlife Conservation

Virginia Tech

101 Cheatham Hall (MC0321)

310 West Campus Drive

Blacksburg, VA 24061

(540) 231-1887

khamed@vt.edu

From: Patricia Colatosti <pcolatosti@christiansburg.org>
Sent: Thursday, June 29, 2023 10:55 AM
To: Hamed, Kevin <khamed@vt.edu>
Subject: RE: Turtle Project

Kevin,

Our Public Works Dept has okayed the turtle traps. Please send me a picture of a trap and let me know what days you will be trapping at least by the day before. I can push that out to our crews so we can avoid mowing or disturbing the area on those days. They wanted me to also state that we are not responsible for the traps.

We may be doing an embankment repair on two of the wetland cells in the Diamond Hills Stream Restoration this summer. I will let you know before it happens in case it impacts the turtle trapping or surveys.

Thanks again for choosing to do research in Christiansburg.

Patricia

Patricia Colatosti

Environmental Program Supervisor
Town of Christiansburg
100 E. Main St
Christiansburg, VA 24073
540.382.6120 ext. 1157

From: Hamed, Kevin <khamed@vt.edu>
Sent: Wednesday, June 28, 2023 12:10 PM
To: Patricia Colatosti <pcolatosti@christiansburg.org>
Subject: RE: Turtle Project

Patricia,

CIP 2 Smaller WQ
Diamond Hills Stream Restoration (formerly Edgemont)
Ridge View Subdivision

Thank you for your help.

The University produced a video about the Biodiversity Class and Diamond Hills: https://news.vt.edu/videos/k/2023/04/1_27bwjzxz.html?fbclid=IwAR2F5MqD8xziOtubQECq6XxK7Mp1-fL775x0X-XTf_rJ56cjKKz1rz-Y-ec

Please let me know what additional information you might need for the turtle trapping.

Thank you,

M. Kevin Hamed
Collegiate Associate Professor of Wildlife Conservation &
Collection Curation
Certified Wildlife Biologist®

Department of Fish and Wildlife Conservation
Virginia Tech
101 Cheatham Hall (MC0321)
310 West Campus Drive
Blacksburg, VA 24061
(540) 231-1887
khamed@vt.edu

From: Patricia Colatosti <pcolatosti@christiansburg.org>
Sent: Monday, June 26, 2023 2:19 PM
To: Hamed, Kevin <khamed@vt.edu>
Subject: RE: Turtle Project

Kevin,

Which Town owned ponds does he need to put the traps into?

And thank you for continuing to collect data from Diamond Hills! We may be doing some maintenance to one of the wetland cells this summer as we seem to have a minor embankment breach.

Thanks,

Patricia

Patricia Colatosti

Environmental Program Supervisor
Town of Christiansburg
100 E. Main St
Christiansburg, VA 24073
540.382.6120 ext. 1157

From: Hamed, Kevin <khamed@vt.edu>
Sent: Monday, June 26, 2023 1:27 PM
To: Patricia Colatosti <pcolatosti@christiansburg.org>
Subject: Turtle Project

Patricia,

Thank you so much for supporting our Turtle Research Project. I wanted to check-in with you about the second and final year of the project. Brandon collected much data from the study ponds including Diamond Hills. After the first year of observations, we discovered that we could not adequately document small and hatchling turtles. To help answer new questions, Brandon is requesting to place 4 small (10 x 10 x 17 inch) minnow traps into ponds for 12 hours. The traps will be unbaited to not draw the attention of predators. He is also placing a float in the trap to provide a space for any captured small turtle to breath. We plan on placing a small tag (3x5") on the trap stating that the traps are there for research purposes with our phone number for questions. We will also explain the project goal and state that all turtles will be released unharmed.

We would like to sample on 6 occasions from late June until early October. We have been granted permission from the Department of Wildlife Resources for the project and will place the permit number on the interpretive tag. If you have any questions, please feel free to contact me and I would be happy to provide any additional information you might need.

Thank you again for your help supporting our research project,

I also have our 2023 data from Diamond Hills!

M. Kevin Hamed
Collegiate Associate Professor of Wildlife Conservation &
Collection Curation
Certified Wildlife Biologist®
Department of Fish and Wildlife Conservation
Virginia Tech
101 Cheatham Hall (MC0321)
310 West Campus Drive
Blacksburg, VA 24061
(540) 231-1887
khamed@vt.edu
:



IZAAK WALTON LEAGUE OF AMERICA



Biological Monitoring Data Form for Rocky Bottom Method

Name of Stream: Towne Branch

Site ID: M8-01

Your Name: CAROL KAUFFMAN

Name of Certified Monitor(s): CAROL KAUFFMAN, KAREN IANNACCONE, LAURIE HUGGINS

Group or Organization Name: NRVMN

Number of Participants: 4

Latitude: _____ Longitude: _____

County/State: Montgomery Survey Date: 10/24/22 Start Time: _____ End Time: _____

Description of Site Location: Stream runs through Depot Park in Christiansburg
Adjacent to ballfields, picnic areas

ROCKY BOTTOM SAMPLING

Using a kick-sieve net, take up to four samples in the riffle area of 20 to 90 seconds each (75% of the time rubbing rocks, 25% of the time disturbing the streambed). Adjust the length of the sampling period to ensure you collect at least 200 macroinvertebrates. Write the length of each sampling period in seconds and place a check mark next to the net mesh size used.

Net 1 90 sec Net 2 90 sec Net 3 90 sec Net 4 _____ sec Net mesh size: 1/16" 1/32" 1/50"

PHYSICAL CONDITIONS (check all that apply)

Today: Sunny Overcast Intermittent Rain Steady Rain Heavy Rain Snow

Yesterday: Sunny Overcast Intermittent Rain Steady Rain Heavy Rain Snow

Day Before Yesterday: Sunny Overcast Intermittent Rain Steady Rain Heavy Rain Snow

Water Temperature 58.0 or C° (circle F° or C°) Avg. Stream Width 20 ft. Avg. Stream Depth 6 in. Flow Rate low (high, normal, low, negligible)

OTHER COMMENTS _____

50° 90 seconds - 63 22

MACROINVERTEBRATE COUNT

Macroinvertebrate	Tally	Count
Alderflies, Fishflies, and Hellgrammies	///	3
Beetles	///	3
Black Flies	///	4
Cardiides (not Common Netspinning)		11
Ciliates		0
Clams		3
Common Netspinning Caddflies		5
Crayfish		5
Dragonflies and Damselflies		3
Flat Worms		0
Gilled Snails		0

BIOLOGICAL MONITORING DATA FORM FOR ROCKY BOTTOM METHOD

2
72
48
36
12

Macroinvertebrate	Tally	Count
Leeches		
Linged Snails		3
Mayflies		2
Midges		5
Scuds		3
Sowbugs		3
Stoneflies		1
True Flies	 Crossflies - 11	7
Worms		5
Other benthic macroinvertebrates		
Total number of organisms in the sample (include "other" category)		23

INDIVIDUAL METRICS

	Organism Groups	Number of Organisms		Total Number of Organisms in the Sample		Percent (This is your value for this metric.)
Metric 1	Mayflies + Stoneflies + Most Caddisflies (not Common Netspinning)	14	÷	231	Multiply by 100	6%
Metric 2	Common Netspinning Caddisflies	179	÷	231	Multiply by 100	77.5%
Metric 3	Lunged Snails	0	÷	231	Multiply by 100	0%
Metric 4	Beetles	3	÷		Multiply by 100	1.3%

Metric 5: Tolerant

Organism Groups	Number of Organisms
Black Flies	4
Clams	
Dragonflies and Damselflies	
Flatworms	
Leeches	
Lunged Snails	
Midges	9
Scuds	
Sowbugs	5
Worms	9

Total Tolerant

27
÷
231

Multiply by 100

11.68 %

Percent
(This is your value for Metric 5.)

Metric 6: Non-Insect

Organism Groups	Number of Organisms
Clams	
Crayfish	1
Flatworms	
Gilled Snails	
Leeches	
Lunged Snails	
Scuds	
Sowbugs	5
Worms	9

Total Tolerant

15

+

231

Total number of organisms in sample

Multiply by 100

6.49 %

Percent
(This is your value for Metric 6.)

MULTIMETRIC INDEX (STREAM HEALTH SCORE)

Metric Number	Metric Organism	Your Metric Value	2	1	0
1	Mayflies + Stoneflies + Most Caddisflies	6	Greater than 32.2	16.1 - 32.2	Less than 16.1
2	Caddisflies: Common Netspinning	77.5	Less than 19.7	19.7 - 34.5	Greater than 34.5
3	Snails: Lunged	0	Less than 0.3	0.3 - 1.5	Greater than 1.5
4	Beetles	1,3	Greater than 6.4	3.2 - 6.4	Less than 3.2
5	Tolerant	11,68	Less than 46.7	46.7 - 61.5	Greater than 61.5
6	Non-Insects	6,49	Less than 5.4	5.4 - 20.8	Greater than 20.8
			Total # of 2s: 1	Total # of 1s: 1	Total # of 0s: 3
		SUBTOTALS	Multiply by 2: 2	Multiply by 1: 1	Multiply by 0: 0

Add the three subtotals to get the Save Our Streams Multimetric Index Score: 3

- Acceptable Ecological Condition (9 - 12)
- Ecological conditions cannot be determined at this time (8)
- Unacceptable Ecological Condition (0 - 7)

STREAM CONDITIONS

Fish water quality Indicators: <input checked="" type="checkbox"/> scattered individuals <input type="checkbox"/> scattered schools <input type="checkbox"/> trout (pollution sensitive) <input type="checkbox"/> bass (somewhat sensitive) <input type="checkbox"/> catfish (pollution tolerant) <input type="checkbox"/> carp (pollution tolerant)	Barriers to fish movement: <input type="checkbox"/> beaver dams <input type="checkbox"/> man-made dams <input type="checkbox"/> waterfalls (> 1 ft.) <input checked="" type="checkbox"/> none <input type="checkbox"/> other _____	Surface water appearance: <input checked="" type="checkbox"/> clear <input type="checkbox"/> clear, but tea-colored <input type="checkbox"/> colored sheen (oily) <input type="checkbox"/> foamy <input type="checkbox"/> milky <input type="checkbox"/> muddy <input type="checkbox"/> black <input type="checkbox"/> grey <input type="checkbox"/> other _____	Streambed deposit (bottom): <input type="checkbox"/> grey <input type="checkbox"/> orange/red <input type="checkbox"/> yellow <input type="checkbox"/> black <input checked="" type="checkbox"/> brown <input checked="" type="checkbox"/> silt <input type="checkbox"/> sand <input type="checkbox"/> other _____
Odor: <input checked="" type="checkbox"/> musky <input type="checkbox"/> oil <input type="checkbox"/> sewage <input type="checkbox"/> other _____ <input type="checkbox"/> none	Stability of streambed (bed sinks beneath your feet in): <input type="checkbox"/> no spots <input checked="" type="checkbox"/> a few spots <input type="checkbox"/> many spots	Algae appearance: <input type="checkbox"/> light green <input type="checkbox"/> dark green <input checked="" type="checkbox"/> brown coated <input type="checkbox"/> matted on stream bed <input type="checkbox"/> hairy	Algae located: <input checked="" type="checkbox"/> everywhere <input type="checkbox"/> in spots _____ % bed covered
Stream channel shade: <input type="checkbox"/> More than 75% full <input type="checkbox"/> 50% - 74% high <input checked="" type="checkbox"/> 25% - 49% moderate <input type="checkbox"/> 1% - 24% slight <input type="checkbox"/> none	Streambank composition (-100%): 20% trees 50% shrubs 15% grass 15% bare soil % rocks % other	Streambank erosion: <input type="checkbox"/> More than 75% severe <input type="checkbox"/> 50% - 75% high <input type="checkbox"/> 25% - 49% moderate <input type="checkbox"/> 1% - 24% slight <input checked="" type="checkbox"/> none	Riffle composition (-100%): 50% silt (mud) % sand (1/16" - 1/4" grains) 15% gravel (1/4" - 2" stones) 20% cobbles (2" - 10" stones) 15% boulders (> 10" stones)

LAND USES IN THE WATERSHED (UPSTREAM AND SURROUNDING SAMPLING SITE)

Indicate whether the following land uses within a one-mile radius of your sampling site have a high (H), moderate (M), slight (S), or no (N) potential impact to the quality of your stream.

<input checked="" type="checkbox"/> N Oil & gas drilling	<input checked="" type="checkbox"/> M Urban uses (parking lots, highways, etc.)	<input checked="" type="checkbox"/> N Agriculture (type: _____)
<input checked="" type="checkbox"/> N Housing developments	<input checked="" type="checkbox"/> N Sanitary landfill	<input checked="" type="checkbox"/> S Trash dump
<input checked="" type="checkbox"/> M Forestry	<input checked="" type="checkbox"/> N Active construction	<input checked="" type="checkbox"/> N Fields
<input checked="" type="checkbox"/> N Logging	<input checked="" type="checkbox"/> N Mining (type: _____)	<input checked="" type="checkbox"/> N Livestock Pasture
		Other _____

COMMENTS: Describe the amount and type of litter in and around the stream and indicate the current and potential future threats to the stream's health.

No litter but rocks, cobbles etc. coated with thick brown algae. Stirred up water very muddy-much more so than last visit in May 2022

Please send your data sheets to your regional coordinator or submit them online at www.vasos.org. If you have any questions about this protocol, please contact the VA SOS Coordinator at vasos@iwsa.org. Data sheets must be stored for five years after sampling. If you are unable to keep your datasheets, please contact the VA SOS Coordinator.

Christiansburg Aquatic Center FINS Summer Camp Stream Day

Fantastic idea--- I completely understand that! We will meet you all at the bridge!! 😊

From: Patricia Colatosti <pcolatosti@christiansburg.org>
Sent: Thursday, August 4, 2022 8:22 AM
To: Jilliann Kowalcik <jkowalcik@christiansburg.org>
Subject: RE: Fins Summer Camp

Yes that will work fine. We are leaving the equipment by the stream this year so the kids don't have to carry anything, or have sword fights with the secchi tubes... 😊

Patricia Colatosti

Environmental Program Supervisor
Town of Christiansburg
100 E. Main St
Christiansburg, VA 24073
540.382.6120 ext. 1157

From: Jilliann Kowalcik <jkowalcik@christiansburg.org>
Sent: Wednesday, August 3, 2022 5:21 PM
To: Patricia Colatosti <pcolatosti@christiansburg.org>
Subject: RE: Fins Summer Camp

Hello!

We are so excited about tomorrow! 😊 Do you want us to meet you all at the bridge around 10:30am like last year?

From: Patricia Colatosti <pcolatosti@christiansburg.org>
Sent: Friday, June 17, 2022 4:08 PM
To: Jilliann Kowalcik <jkowalcik@christiansburg.org>
Cc: Katherine Wright <kwright@christiansburg.org>
Subject: RE: Fins Summer Camp

I have it on my calendar and we look forward to this!

Patricia Colatosti

Environmental Program Supervisor
Town of Christiansburg
100 E. Main St
Christiansburg, VA 24073
540.382.6120 ext. 1157

From: Jilliann Kowalcik <jkowalcik@christiansburg.org>
Sent: Friday, June 17, 2022 3:51 PM
To: Patricia Colatosti <pcolatosti@christiansburg.org>
Cc: Katherine Wright <kwright@christiansburg.org>
Subject: RE: Fins Summer Camp

Wonderful!! Thank you SO much—the campers will be so excited 😊
We have 35 this summer—the counselors are willing to help with whatever you should need as well!

From: Patricia Colatosti <pcolatosti@christiansburg.org>
Sent: Friday, June 17, 2022 2:34 PM

To: Jilliann Kowalcik <jkowalcik@christiansburg.org>
Subject: RE: Fins Summer Camp

Hi Jilliann,

Yes I can do that time. I may bring two helpers with me this year

Patricia Colatosti

Environmental Program Supervisor
Town of Christiansburg
100 E. Main St
Christiansburg, VA 24073
540.382.6120 ext. 1157

From: Jilliann Kowalcik <jkowalcik@christiansburg.org>
Sent: Friday, June 10, 2022 3:04 PM
To: Patricia Colatosti <pcolatosti@christiansburg.org>
Subject: Fins Summer Camp

Hi Patricia!

I hope you are well! Our campers really enjoyed the session you all had with them at the stream last summer and we were hoping you all may be available again for something similar? We have a "Town Spirit" week this year and we were hoping for Thursday, August 4 at 10:30am? If an earlier time is preferred we can work that out as well.

Please let me know what would work best with your schedule as we would love to have you!

Jilliann Kowalcik

Program Supervisor
Christiansburg Aquatic Center
595 North Franklin Street. Christiansburg, VA. 24073.
(540)381-7665 jkowalcik@christiansburg.org



MCPS Seventh Grade Stormwater Days April 11 and 12 2022

Stormwater Day Participants:

In the event that you need to report or account for your educational activities, here is a spreadsheet showing the number of students and chaperones who participated in the 2023 Stormwater Days events from the 4 MCPS middle schools.

Thanks, again, for your willingness to share your time, energy and expertise with our students.

Have a great summer!

Tony Deibler
Administrator: Science, STEM & Library-Media
Montgomery County Public Schools
540-382-5100
www.mcps.org

Participants

Date/Time	School (7th grade)	Number of Students	Number of Chaperones
April 4 Tuesday AM	Blacksburg Middle School	118	7
April 4 Tuesday AM	Shawsville Middle School	73	5
	Total	191	12
April 4 Tuesday PM	Blacksburg Middle School	230	12
	Total	230	12
April 5 Wednesday AM	Auburn Middle School	108	5
	Christiansburg Middle		
April 5 Wednesday AM	School	46	5
	Total	154	10
April 5 Wednesday PM	Christiansburg Middle		
	School	202	12
	Total	202	12

Stations/Presenters				
Date/Time	Rotation	Station Name	Group Presenting	Description of Station
April 4 Tuesday AM/PM	A	Emriver Stream Table	Town of Blacksburg, Virginia Tech Biological Systems Engineering	Students manipulate a stream model to see stormwater effects and collaborate on modeling solutions. Kafi Howard, khoward@blacksburg.gov This station will introduce students to the macroinvertebrates that live on the bottom of our streams and how we use them to evaluate stream health. Bethany Bookout, youthoutreach@newriverlandtrust.org
		Benthic Macroinvertebrates	New River Land Trust	Enviroscape is a model landscape where you can model different types of "pollution" and show how run-off events affect streams. Amy Guerin, amyguerin@mcps.org
		Enviroscape	Montgomery County Public Schools	Students engaged in a conversation about how Bioretention Cells work and the importance of material choice and time when filtering water through it. Katelyn Muldoon, katelyn5@vt.edu, Andy Gould, gandy98@vt.edu
		Bioretention Filters	Virginia Tech MS4 Program-Site and Infrastructure Development	Presenters use tree cookies to show how trees grow, and discuss respiration, the carbon cycle, regeneration of forest after a disturbance, and stormwater runoff effects of forests. Denny McCarthy, dennis.mccarthy@dof.virginia.gov
		Forestry and Water Quality	Virginia Department of Forestry	Discussion of pet waste and affect on streams, including testing water from a local creek for ammonia and pH and talking about bacteria and diseases. Michelle Dickerson, adickerson@vt.edu
	B	Bacteria in Water	Montgomery County Cooperative Extension	This station will introduce students to the macroinvertebrates that live on the bottom of our streams and how we use them to evaluate stream health. Mary Dail, mary.dail@deq.virginia.gov
		Benthic Macroinvertebrates	Virginia Department of Environmental Quality	This station will introduce students to the interaction of the surface and groundwater, including the water cycle and water quality. Erin Ling, ejling@vt.edu
		Ground water model	Virginia Cooperative Extension Household Water Quality Program	Students learn about water quality requirements for fish species, and try out fly casting and reel casting. info@cburgiwa.org
		Flycasting	Izaak Walton Club	Students learn about environmental factors for raising trout in a run with live trout. Mike Brosius, info@cburgiwa.org, Patricia Colatosti, pcolatosti@christiansburg.org, John Burke, burkejw@montgomerycountyva.gov
		Trout Run and Stream Walk	Izaak Walton Club, Town of Christiansburg, Montgomery County	The AR Sandbox allows students to model landforms and control the rain to see how changes in land shape affect the movement of water. Tony Deibler, tonydeibler@mcps.org
April 5 Wednesday AM/PM	A	Emriver Stream Table	Town of Blacksburg, Virginia Tech Biological Systems Engineering	Students manipulate a stream model to see stormwater effects and collaborate on modeling solutions. Kafi Howard, khoward@blacksburg.gov This station will introduce students to the macroinvertebrates that live on the bottom of our streams and how we use them to evaluate stream health. Bethany Bookout, youthoutreach@newriverlandtrust.org
		Benthic Macroinvertebrates	New River Land Trust	Students learned about the Blueheaded Chub while painting fish and building nests to model the behaviors of this organism.
		Frimpong Lab- Blueheaded Chub	VT Frimpong Lab	Students engaged in a conversation about how Bioretention Cells work and the importance of material choice and time when filtering water through it. Katelyn Muldoon, katelyn5@vt.edu, Andy Gould, gandy98@vt.edu
		Bioretention Filters	Virginia Tech MS4 Program-Site and Infrastructure Development	Presenters use tree cookies to show how trees grow, and discuss respiration, the carbon cycle, regeneration of forest after a disturbance, and stormwater runoff effects of forests. Denny McCarthy, dennis.mccarthy@dof.virginia.gov
		Forestry and Water Quality	Virginia Department of Forestry	Discussion of pet waste and affect on streams, including testing water from a local creek for ammonia and pH and talking about bacteria and diseases. Michelle Dickerson, adickerson@vt.edu
	B	Bacteria in Water	Montgomery County Cooperative Extension	This station will introduce students to the macroinvertebrates that live on the bottom of our streams and how we use them to evaluate stream health. Mary Dail, mary.dail@deq.virginia.gov
		Benthic Macroinvertebrates	Virginia Department of Environmental Quality	Students learn about water quality requirements for fish species, and try out fly casting and reel casting. info@cburgiwa.org
		Flycasting	Izaak Walton Club	Students participate in a demonstration of land development's effects on downstream areas and possible mitigation strategies. Clayton Morgan, cmorgan@christiansburg.org
		Ward's Flood model	Town of Christiansburg	Students learn about environmental factors for raising trout in a run with live trout. Mike Brosius, info@cburgiwa.org, Patricia Colatosti, pcolatosti@christiansburg.org, John Burke, burkejw@montgomerycountyva.gov
		Trout Run and Stream Walk	Izaak Walton Club, Town of Christiansburg, Montgomery County	The AR Sandbox allows students to model landforms and control the rain to see how changes in land shape affect the movement of water. Tony Deibler, tonydeibler@mcps.org
	C	Augmented Reality Sandbox	Montgomery County Public Schools	This station demonstrated water conservation methods. The students participated in a demonstration that compared typical water usage to conserved water usage. The rain barrel provided a concrete example of a rain water collection system. Katelyn Muldoon, katelyn5@vt.edu
		Rain Barrel	Virginia Tech MS4 Program-Site and Infrastructure Development	Students learned about evolution and how it ties into seed varieties that are bread for certain genetic traits. Students then planted seeds in a mini greenhouse. Wendy Silverman, wss@vt.edu
		Planting a Garden	New River Valley Master Gardeners	Students participate in a demonstration of land development's effects on downstream areas and possible mitigation strategies. Clayton Morgan, cmorgan@christiansburg.org
		Ward's Flood model	Town of Christiansburg	Students learn about environmental factors for raising trout in a run with live trout. Mike Brosius, info@cburgiwa.org, Patricia Colatosti, pcolatosti@christiansburg.org, John Burke, burkejw@montgomerycountyva.gov
		Emriver Stream Table	Town of Blacksburg, Virginia Tech Biological Systems Engineering	Students manipulate a stream model to see stormwater effects and collaborate on modeling solutions. Kafi Howard, khoward@blacksburg.gov

Stormwater Information Booth at NRV Home Expo

Home Expo Attendance April 1-2, 2023

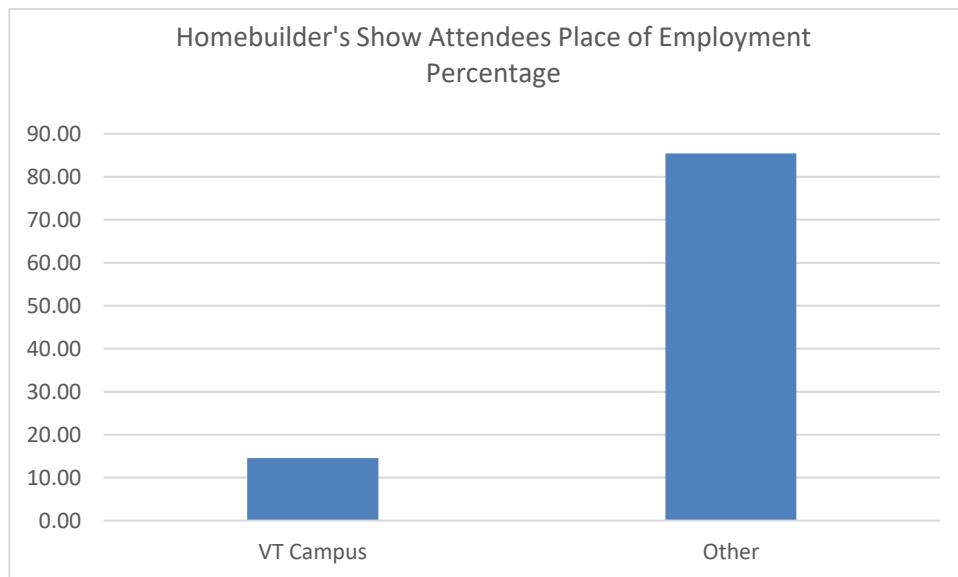
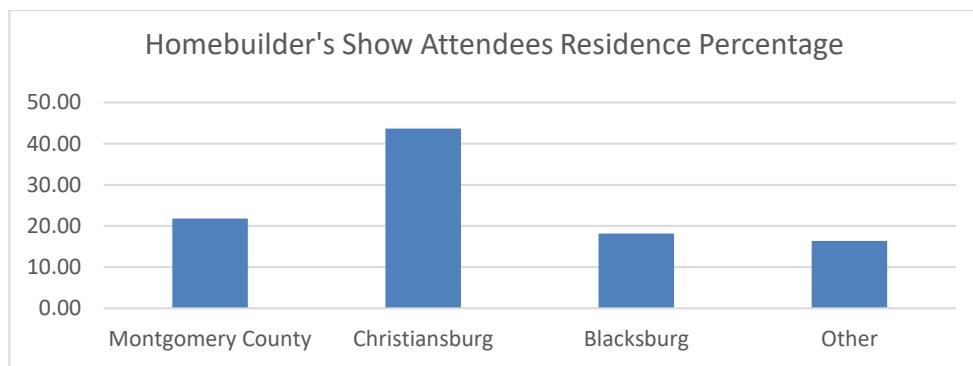
Virginia Tech, Blacksburg, Christiansburg, and Montgomery County operated a booth at the New River Valley Homebuilders Association (NRVHBA) Home Expo.

The NRVHBA estimated 1,200 persons attended.

Staff had significant contact with 110 persons, discussing the goals of our MS4 programs, areas of concern, websites to learn more, and/or upcoming events. Staff handed out approximately 75 pet waste bags or dispensers. Coloring books, DCR lawn care guides, Scoop the poop magnets, and pamphlets from the MS4s were dispensed.

The event was successful in engaging the public in meaningful dialogue and dispensing educational materials and pet waste bags and dispensers.

The charts below report the residence percentages and percentage of persons indicating an affiliation with Virginia Tech. The figures indicate that the event was successful in outreach to the public across all four MS4 permittees that participated in the event.



Appendix C: List of Illicit Discharges

Table 6: Illicit Discharges

Illicit Discharge	Part I.E.3.e(3)(a) Source	Part I.E.3.e(3)(b) Date Observed & Date Reported:	Part I.E.3.e(3)(c) Detected during Screening, Reported by Public or Other (Describe):	Part I.E.3.e(3)(d) Investigation Resolution:	Part I.E.3.e(3)(e) Description of Follow-up Activities:	Part I.E.3.e(3)(f) Date Investigation Closed:
Mulch moving in quantity into storm drain system in Oak Tree Phase I and II. Expanded to all phases 10/2019	Oak Tree Development	7/9/2018, 10/24/2019, 3/20/2020, 1/27/2021, 3/23/2021	Originally reported by Public Works employee, 2019-20 and 2020-21 reports by Public	Investigation of all phases of Oak Tree development noted multiple areas where mulch could be moving into the storm drain. No evidence of dumping mulch.	Continue to talk to HOAs about alternative ground covers and edging for mulch beds.	ongoing as of 6/30/2022, no complaints or calls during 21-22 reporting year, no complaints or calls 22-23 reporting year. One TOC employee has reported mulch in the ditches in Oak Tree that washes off the steep adjacent mulched areas in heavy rains. Closed 6/30/2023
Resident asked Justin St Clair about trash in the stream behind the mall (UT to Slate Branch) and whether the Town did stream clean ups at that location	Specific source of trash not found. Illicit discharge not investigated	Reported 8/31/2020	Reported by Public	Not resolved	None	open

Mulch in road and storm drains from vehicles leaving American Mulch on College St (100 Radford St). Reported as an intermittent problem requiring the Town to use the street sweeper to clean up the road		Reported on 6/1/2021 as an ongoing concern	Reported by TOC employee	Did not visit site prior to 6/30/2021	Discussion of how to document and charge for cost of Town cleaning up spills	ongoing as of 6/30/2022 as we received a new complaint for the same issue on 7/20/2022, detailed below
Eroding slopes on the VDOT median and ramps on I-81 discharging muddy water and sediment into the new stormwater detention pond at Reagan's Pointe on Glade Dr	not found	Reported 9/30/2021	Reported by public	Was not resolved. Complaint not forwarded to VDOT.	Still need to talk to VDOT MS4 manager about the erosion issues	Reported to VDOT and detailed below
Gas/petroleum odor coming from storm drain system in the area of Ellett Dr and Roanoke St	no source found	3/18/2022	Reported by public	No odor found on 3/22/22 and 3/23/22 by walking from Hagan St. to the Hardees on Roanoke St. See the applicable investigation note document(s) in the folder for additional information. On 3/24, a faint petroleum odor was detected coming from two storm drain inlets in front of the FedEx building. Have not received any more complaints 22-23 reporting year	This is upgradient and about 0.33 miles from the continuing investigation of petroleum odors in the vicinity of Town Hall. This is added to the continuing investigation of petroleum odors from the storm drains in the downtown area.	Closed 6/30/2023 as no further complaints

Outfalls discharging at Public Works yard	no source found	3/30/2022 and one discharging 4/5/2023 during dry weather screening	Town employees were mapping the outfalls at the Public Works facility and saw that two outfalls were discharging what appeared to be clear water	Both outfalls are connected to the same DI in the parking lot. No evidence of water flowing over parking lot. One of the same outfalls was flowing in 4/2023 during screening	The storm drain system at the Public Works yard will be remapped over the next year, as one of these outfalls was reported as being removed/sealed.	open
Unknown pipes are in the stream behind Alder Lane pond.	source not found	1/25/2022	Detected during Town inspection of adjacent Town owned SWM facility	Pipes were checked twice and do not appear to be connected to any source. Appear to be old drain pipes	rechecked 2/10/2022. Will be checked again at next inspection of adjacent Alder Lane SWM facility. As of 6/23/2023 was not rechecked.	open until determine pipes not connected
Discharging outfalls	under investigation		detected during screening	no resolution. Multiple outfalls noted to be discharging during screening. Suspect springs and streams piped to storm sewer.	Investigation during extended dry weather	Remains open as investigations continue.
Mulch in road and storm drains from vehicles leaving American Mulch on College St (100 Radford St)	American Mulch 505 College St	7/19/2022	Reported by Town Employee	No resolution	Adjacent storm drains and ditches have been photographed during adjacent stream investigation	Open until determination on requirements of site to control mulch
Storm water allegedly running into sanitary sewer	Storm water in ditch behind 250 Slate Creek Dr was said to be entering the sanitary sewer manhole in the ditch	8/12/2022	Reported by public	ESC measures at construction site upgradient were investigated and were functioning correctly. Storm water did not appear to be entering the sanitary sewer	None	8/15/2022

Water Main break 2300 Glade Drive	Water Main Break potable water discharge	10/24/2022	Public Works	Water was turned off and pipe repaired	No reportable issue found. No in-stream impact (quantified as dead fish). Potable water discharged through the storm sewer system. Cannot quantify sediment discharge as impact.	10/26/2022. Break was reported to DEQ as it was suspected to have reached jurisdictional waters
Water Main break 460 Arrowhead Dr	Water Main Break	10/24/2022	Public Works	Water was turned off and pipe repaired	No reportable issue found. No in-stream impact (quantified as dead fish). Potable water discharged through the storm sewer system. Cannot quantify sediment discharge as impact.	10/26/2022. Break was reported to DEQ as it was suspected to have reached jurisdictional waters
Observed dumping of greasy substance into the drop inlet behind 2745 Market St NE behind Jersey Mike's Subs	Storm drain showed evidence of grease and possibly mop wash water. Jersey Mike's manager	10/24/2022	Reported by Fire Marshall	P Colatosti spoke to every store in the strip mall. Sandro's Italian, Orangetheory Fitness, Elegant Nails, Jersey Mikes and Uptown Cheapskate. Jersey Mikes' store manager	None	10/28/2022

	admitted to having trouble with employees not following procedures and dumping into storm drain			admitted that employees had dumped food waste down the storm drain despite training to do otherwise.		
Chalky substance in ditch near culvert at 515 Arrowhead Dr	Tile saw in front yard of 515 Arrowhead with catch bucket underneath	10/26/2022	Seen by Town Employee while investigating water main break	P Colatosti and Steven Cardenas spoke to the resident, explained that the ditch flows directly into the stream behind their house. Asked that they wash out to the grass or a tarp.	none	10/26/2022
Potable Water main break in front of 100 Independence Blvd discharging into storm sewer	Potable Water main break in front of 100 Independence Blvd discharging into storm sewer	12/5/2022	Town employee	Public Works was notified by the Christiansburg Police Dept at approximately 5 am on 12/5/22 of a water line break at 100 Independence Blvd. Potable Water entered the storm drain on and immediately south of Independence Blvd and is assumed to have discharged into any unnamed tributary to Crab Creek located at approximately 37.1422, -80.4162. Investigation at the confluence with Crab Creek did not reveal any dead fish.	none	12/6/2022
Potable water main break discharging into Towne Branch in front of Christiansburg Aquatic Center	Potable water main break discharging into Towne Branch in front of Christiansburg Aquatic Center	11/28/2022		Public Works was notified Monday, November 28th in the afternoon of a water main break near the Skate Park. Potable water discharged into Town Branch after flowing into a ditch and overland for a total of	None	12/2/2022

				200 ft. Two sets of straw bales were placed in the discharge flow to help filter sediment. Due to the location of the busted watermain, a new section of watermain had to be installed at a different location on Nov. 30th, to provide the neighborhood with reliable, safe potable water before the busted watermain line could be turned off. The busted watermain will remain off until repairs can be made. Observation of pools downstream in Town Branch on Friday morning, 12/2/22, did not reveal any dead fish.		
White discharge/oily substance/sewage smell in stream at College and Radford Sts.	Resident complained of white substance coating all the rocks in the stream behind his house at 350 College St as well as a grey film and oily substance on the creek and a sewage smell. He indicated the film had been there for a while but the smell was newer	1/6/2023	Reported by Public	White material may be from ground water rising through pipe bedding material near 8 Radford St. The storm pipe section has a rusted out bottom from 8 Radford St to the outfall in the stream under Radford St. Problem seemed to partially resolve itself as the weather got warmer and less flow came through the rusted out pipe upstream.	Pipe replacement was added to the list of pipes needing maintenance. This was combined with a later Illicit Discharge complaint from the same exact spot.	Open as we have received follow up complaints and situation has changed over the seasons. Area is being monitored.

Trash complaint for trash on and around N Franklin St Kroger and blowing into the adjacent park and stream	Kroger lot, possibly dumpsters	2/15/2023	Reported by Public	Management of dumpsters on private property is covered under the Zoning section of the Town code, so this was handled by Town Administration and the Planning Dept. The Town Manager called Kroger and spoke to the manager. In April 2023, P Colatosti noticed a landscaper picking up trash in the Kroger parking lot. Communication with Town Administration/Planning Dept at that time indicated Kroger had been sent a violation notice. Enforcement is being held off until the vegetation dies back in fall 2023 to see if the trash problem has been fully addressed.	Continued monitoring of area by Town employees.	Open pending inspection after vegetation dies back and zoning violation is resolved
Depot and Roanoke St Water Line Break	Potable water entered the stream through overland flow on Depot St midway between Roanoke St and Park St	3/5/2023		Water was shut off and water line repaired.	Steve Woodyard at DEQ notified by phone on 3/6/2023. 5 Day letter sent indicating dead fish downstream of Clark St culverts. No further contact from DEQ	3/9/2023
350 College St "Algae Bloom?"	TOC received a call from Mr. Mueller at 350 College St. He stated that there is a large	3/20/2023 and 4/13/2023 and 5/12/2023 (last two are really about the smell) (Reported by	Reported by Public	Not resolved. C Morgan walked this section of stream in March and May 2023 and documented the mats of brown and white	Continued visits over the summer suggest that this problem washes out after heavy	open

	amount of strange algae in the stream behind his house	two different residents on different days)		algae. There is no algae or smell or white/grey substance in the stream upstream of Radford St.	rains and may be seasonal. There is also a significant amount of mulch washing into the stream from a mulch yard on College St. Contacted DEQ for any help on algae issues and have possible contacts at VT and Ferrum. Investigation continues.	
United Therapeutics R&D hydraulic fluid leak	A crane from the construction site lost 30 gallons of hydraulic fluid into the adjacent ditch on Corporate Dr.	3/27/2023	Reported by Public	Contractor contained the leak and removed the contaminated soils. Spill did not reach jurisdictional waters. Contractor removed soil from the ditch and reworked the ditch.	None	3/27/2023
Complaint of power washing water discharged into storm drain	A resident sent an email of a contractor reclaiming wash water from power washing the Public Safety Building on West Main and S Franklin Sts. Resident claimed the contractor was discharging to the storm drain.	4/25/2023	Reported by Public	This was not followed up on as the photo sent showed the contractor doing exactly what he had said he would do during multiple phone calls prior to washing the building. The photo shows the storm drain closed off and the wash water being reclaimed into a barrel. The contractor planned to settle out the wash water where it would infiltrate into grass.	None	4/25/2023

Prospect Dr oil in ditch	Possible oily substance in ditch in front of LAS Trucking on Prospect Dr	4/25/2023	Reported by Town Employees	Site visit on 5/1/2023 showed what could be an oily substance in the ditch at the LAS Trucking. Storm drain with running water down hill did not have any oily sheen. Investigation closed.	none	5/1/2023
Reagan's Pointe storm sewer dry weather discharge	significant flows coming out of a storm drain into the Reagan's Pointe SWM facility during a permanent stabilization inspection. Strom drain was flowing more than 24 hours after rain event and all other storm drains in the area were dry.	4/28/2023	Reported by Town Employees	Public Works tested the water on 4/28/23 and confirmed it was not a potable water leak and it was not sanitary sewer. Source was narrowed down to be under Glade Dr. Public Works will be asked to camera the lines to see if a pipe was connected when the storm sewer was installed. Follow up will be conducted to see if this is likely a spring piped to the storm drain. A. Shaw checked area on 5/2/23 and the pipe was dry.	Will need to have a camera run through the storm drain under the new section of Glade Drin the Reagan's Pointe subdivision. Possibly a pipe connection under the road. Monitoring for any continued flows	open
Hardees wash water 103 Roanoke St	soapy water coming off the Hardees parking lot into the storm drains on Roanoke St	5/17/2023	Reported by Town Employee	A Hardees employee was observed washing the sidewalks and drivethru lanes with a soapy substance and using a hose to wash off the sidewalks and parking lot, which drained directly to the storm drain. P Colatosti spoke with the store manager. Store manager had the regional Director of Operations, Charlene Gotsby, call P Colatosti. Ms. Gotsby indicated	Site will be monitored for repeat actions	5/18/2023

				that she would inform the regional manager, JW Smith, to have the practice stopped. Washing was not observed the following day. This was also reported to DEQ via email.		
Long John Silvers Roanoke St washing paint into ditch	A paint crew was observed cleaning out a paint jug and brushes into the ditch line at 1625 Roanoke St	5/18/2023	Reported by Town Employee	Public works employee spoke to the painters and they stopped washing out paint.	none	5/19/2023

Appendix D: Documentation of Land Disturbance Complaints

Town of Christiansburg 2021 -2022 MS4 Annual Report

MCM2 – Input/Complaint Land Disturbing Activities

Location/Project Name	Date	Description of Response
MCPS Operations Center	7/25/2022	A Shaw got a complaint about not all E and S Controls are installed, an area that is not to be disturbed is disturbed and not following the approved plan. I met with the contractor and MCPS. I thank we have it worked out.
Christiansburg Primary and Elementary School Building Additions	7/25/2022	A Shaw had a complaint about the storm sewer on Betty Dr. The new pipe should be installed next week. And it was.
Sheetz Roanoke Street	7/27/2022	A Shaw got a complaint of tracking mud onto the Street. Checked and they have cleaned it up.
250 Slate Creek Dr	8/12/2022	P Colatosti received a complaint of water in the ditch behind 250 Slate Creek Dr entering the sanitary sewer manhole. C Hammonds investigated and did not find a problem.
Sheetz Roanoke Street	8/26/2022	A Shaw. They put the curb and gutter in wrong along Roanoke St. I told them it has to be taken out and redone.
350 Tomahawk Dr.	9/6/2022	A Shaw got a complaint of sediment wash out. They did have some issues with washing out. They have cleaned up what they could. The water is draining to the area it is supposed to. The sediment controls were repaired.
Sheetz Roanoke Street	9/12/2022	A Shaw got a complaint on the water meter box being broken. It is and Leon is taking care of it.
Clifton (Stateson Homes)	9/28/2022	A Shaw checked on a complaint of drainage in the back yards on Jefferson Cir. Working on a solution.
1050 Peppers Ferry Rd, Todd's Jewelry	10/17/2022	P Colatosti received a complaint of grading next to 1050 Peppers Ferry Rd. C Hammonds and P Colatosti spoke with the owner and it is a pond for cattle. Property is in Land Use program with Montgomery County and a pond is a valid agricultural exemption.
Bojangles	11/16/2022	A Shaw got a complaint about them being outside the LOD. Checked and they are. Got with the contractor about where they should be. They are going to make corrections. I will keep an eye on them to make sure that they do make the corrections.
Bojangles	11/29/2022	A Shaw checked on a complaint of land disturbance and parking on the Discount Tire site. The land disturbance part is OK. There was one pickup park on the lot . They moved it before I left the site.
Varsity Storage, Cambria Pointe Expansion	11/30/2022	A Shaw got a complaint of the topsoil pile running off into the hole where the sediment basin is being installed. I checked and did not see a lot of topsoil runoff in the hole. But the topsoil pile does need to be permanently stabilized back. See 1/5/2023 for resolution
165 Ash Dr SE	12/2/2022	A Shaw got a complaint from the house on the right side of this site that they are going to put up a fence down the property line. There is an easement on the inside of this lot line. No fence was planned to be installed.
Scattergood Rough Grading and E&S Plan	12/6/2022	A Shaw checked on a complaint of grading with no E and S Controls installed. Unfounded.
Varsity Storage, Cambria Pointe Expansion	12/15/2022	P Colatosti received complaint of silt coming off the adjacent topsoil stockpile and entering the sediment basin that the contractor is trying to excavate. This is one in a series of the same complaints. Solution noted in next Varsity Storage complaint entry.
Varsity Storage, Cambria Pointe Expansion	12/28/2022	A Shaw checked on a complaint of the topsoil pile slumping and eroding. There are some areas on the pile that are. The new run of silt fence has not been installed yet. Staking out the outfall and property line at the lower end

		of the site today. Town will not maintain the new silt fence. See resolution on 1/5/2023.
Christiansburg Primary and Elementary School Building Additions	12/29/2022	A Shaw checked on a complaint of a pipe being stopped up. The DI still has the inlet protection in. The inlet protection was functioning as intended by ponding water and the inlet protection is still needed.
Varsity Storage, Cambria Pointe Expansion	1/5/2023	Mike Kelley, Don Cole and Alans Shaw checked on a complaint or the topsoil pile slumping. Town of Christiansburg Public Works Dept moved a portion of the stockpile that is on TOC property and then seeded an strawed the part of the stockpile on TOC property.
Bojangles	1/6/2023	A Shaw checked on a complaint of them taking out an old well. They did not run into anything.
Bojangles	1/19/2023	A Shaw checked on a complaint of them haling dirt off site. All documentation has been done for this to take place.
1050 Peppers Ferry Rd, Todd's Jewelry	2/6/2023	Complaint about grading at Todd's Jewelry on Peppers Ferry Rd. Notified Cole Hammonds since he investigated similar complaint in October 2022. This is still the ag exemption pond grading from October. Mr Ratliff talked to C Hammonds and P Colatosti and reiterated that he was putting cattle on the land and not adding any buildings.
385 Robin Rd	2/7/2023	C Hammonds received a complaint from Eric Woody regarding town messing up his silt fence at Robin Rd, town crews repaired the SF the following day
Roanoke Street Water Line Replacement	2/8/2023	Complaint from of EC pace truck carrying excavated fill from the Roanoke St Water line project hauling said fill to an unpermitted site in Montgomery County. P Colatosti notified D Cole, TOC project manager for the water line project. D Cole told EC Pace to stop hauling to any unpermitted sites and only haul to sites with valid Land Disturbance permits and/or Construction General Permits The contractor acknowledged D Cole and agreed not to haul to sites without a valid permit.
RWW 36 Falling Branch Mass Grading Plan	2/8/2023	P Colatosti and D Shields saw evidence of a logging operation while doing a site plan review site visit. The owner received an email saying to stop clearing as they did not yet have an approved plan or permits. Clearing ceased.
Varsity Storage, Cambria Pointe Expansion	2/17/2023	A Shaw checked on a complaint of someone getting into the offsite topsoil pile. Unfounded
Kensington Estates Phase X 10	2/21/2023	C Hammonds received complaint from citizen regarding leaking oil drum. Upon investigation found a oil drum next to Diana dr with a small amount of oil in it and an oil stain in the dirt. Contacted Jason Trout who had a crew remove the oil drum and the small amount of saturated soil.
Chick-fil-A 5049	3/7/2023	A Shaw got a complaint that they where removing the asphalt. I checked and they are not.
Robin Hood Estates Ph II / Little John Circle	3/7/2023	A Shaw checked on a complaint about the E and S Controls. It looks like they are OK with where they are today.
Corporate Drive	3/9/2023	C Hammonds received complaint from Chris Smith regarding tracking and poor finish grading on Corporate Dr, Martin utility company contacted and road swept and finish grading dressed up.
RWW36 Falling Branch Mass Grading Plan	3/21/2023	A Shaw got a complaint about they may not be following the sequence of construction. Checked and they are OK.
RWW36 Falling Branch Mass Grading Plan	3/23/2023	A Shaw checked on a complaint of the Street being blocked and equipment messing up the asphalt.

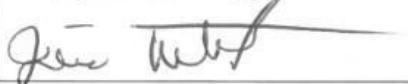
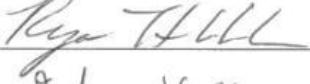
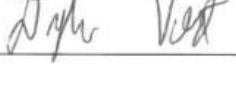
Bojangles	3/23/2023	A Shaw checked on a complaint of the type of stone being put on the road. The stone is the correct type.
Bojangles	3/24/2023	A Shaw investigated. They are only putting in 4" of stone for now. It looks to be OK. The second 4 inches of stone was added when the road was paved.
RWW36 Falling Branch Mass Grading Plan	3/24/2023	A Shaw checked asphalt on Falling Branch Rd. It is OK.
Bojangles	4/3/2023	A Shaw got a complaint of mud being tracked onto N. Franklin Street. Checked and it looks like it did not come off this site.
Chick-fil-A 5049	4/20/2023	A Shaw got a complaint today from Mark Osborne with Greenway about the work in VDOT R/W. I checked and it was unfounded.
Birds Nest	4/28/2023	C Hammonds received complaint from Edward Keen at 210 Slate creek Dr regarding storm flow in the drainage behind his house coming from the birds nest site. The low flow plug in the Birds nest structure had become dislodged allowing pond to drain. contractor was contacted and the plug was repaired.
Varsity Storage, Cambria Pointe Expansion	5/16/2023	A Shaw got a complaint of tracking mud onto Cambria Street. They did and where getting ready to sweep and shovel it up.
Varsity Storage, Cambria Pointe Expansion	5/24/2023	A Shaw checked on a complaint of the Huckleberry Trail being messed up. It is and the contractor will need to address it. This was addressed the same day.
RWW36 Falling Branch Mass Grading Plan	5/30/2023	A Shaw checked on a dust complaint today from 5/26/2023. Not sure where on the site the complaint came from. Also site is very wet today from all the rain yesterday. Also got a complaint from 535 Falling Branch Rd. about the mulch blowing over on them. Just about all of it has washed off. The unit on the left had most of the mulch. They are no longer grinding trees on this site.
Chick-fil-A 5049	6/6/2023	A Shaw checked on a complaint about the tree removal. They are following the approved plans.
Christiansburg High School Additions and Renovations - Traffic Circulation Phase Temp. Bus Loop and Parking Plan	6/9/2023	A Shaw got a complaint on the CG-12 at the Huckleberry Trail. 6/12/2023 Taken Care of. They removed the plastic from the CG-12

Appendix E: Documentation of Staff Training and Nutrient Management Plan Implementation

Illicit Discharge Detection/Good Housekeeping/Pollution Prevention Training
Town of Christiansburg Parks and Recreation Staff
May 31, 2023

Goal: Review illicit discharge detection and elimination, the TOC Good Housekeeping Manual, basic stormwater pollution prevention and contact/reporting guidelines. Introduce SWM facilities/features of Huckleberry Park

Please sign in:

Print name	Signature
Brandon Decker	
Jim Whetzel	
Forest Redd	
Ryan Hubble	
Dylan Vest	
Isaac Ritenour	
Erin Ruyke	
Clayton Morgan	
Brad Epperley	

HARKRAEDE TNSFIELD

Fertilizer Application Records

When was the last time your fertilizer equipment was calibrated???

For information on calibration, see Chapter 10 of the "Urban Nutrient Management Handbook".

Available for download at <http://pubs.ext.vt.edu/430/430-350/430-350.html>

HARK RADER Outfields

Fertilizer Application Records

When was the last time your fertilizer equipment was calibrated???

For information on calibration, see Chapter 10 of the "Urban Nutrient Management Handbook".

Available for download at <http://pubs.ext.vt.edu/430/430-350/430-350.html>

Fertilizer Application Records

Kiwanis

When was the last time your fertilizer equipment was calibrated???

For information on calibration, see Chapter 10 of the "Urban Nutrient Management Handbook".

Available for download at http://pubs.ext.vt.edu/430/430-350/430_350.html

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