

Colonial Heights MS4 Annual Report 2025

Stormwater Management
Program October 1, 2025

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TABLE OF CONTENTS

Annual Report Narrative	Page 1
Certification Statement	Page 3
Annual Report (Appendix A)	Page 4
Reference 1	Developing a Stormwater-Friendly Lawn
Reference 2	10 Easy Ways to Conserve Water
Reference 3	Our Hazardous Households
Reference 4	Pet Waste Initiative
Reference 5	Builder's Guide to Low Impact Development
Reference 6	IDDE Hotline Information
Reference 7	IDDE Information to Businesses
Reference 8	Annual Activity Log
Reference 9	Illicit Discharge Tracking
Reference 10	Personnel Training Records

a. Background Information

1. Colonial Heights Municipal Separate Storm Sewer System - VA040009
2. This annual report covers the period of July 1, 2024 through June 30, 2025.
3. Per a Consent Special Order issued to the City by the Soil & Water Conservation Board on October 8, 2009, the City hired a MS4 Coordinator on August 6, 2008 and appointed a Stormwater Foreman from existing Department of Public Works (DPW) personnel. These roles and their concurrent responsibilities have not been modified since that time.
4. Zero (0) new municipal outfalls were added during this reporting cycle.
5. City's Webpage containing the current and past MS4 reports:
<http://www.colonialheightsva.gov/328/MS4-Annual-Reports>
6. Signed certification (see last page of this report)

b. Status of Compliance

Attached as **Appendix A** is an Excel® spreadsheet depicting the updated 5 Year Action Plan showing the Fiscal Year BMP goals. Please see that appendix for a complete understanding of the status of compliance of the Colonial Heights permit.

c. Monitoring Data

Appendix B of this report is BMP data for all known BMPs in the City. Type, drainage area, owner information and operation and maintenance (O&M) status is determined for all known BMPs. O&M Inspections are then administered accordingly per this BMP Data Monitoring log. **Appendix C** of this report are copies of the illicit discharge and dry-weather screening mechanisms utilized by the City's stormwater program. Paper recordation is used for these as they are conducted in the field. Both of which may be provided upon request.

d. Reporting Cycle - July 1, 2024 through June 30, 2025

e. Minimum Control Measure (MCM) Changes

All MCM change explanations and evaluations are located in the "Evaluation" column of **Appendix A**.

f. Not applicable to VA040009

g. Not applicable to VA040009

h. Estimated discharge information pursuant to Section I B 9 may be found in **Appendix F+G**

i. Illicit Discharge(s) Control

Colonial Heights City Code, per §245 (ORDINANCE NO. 09-1, adopted March 11, 2009), authorizes the Department of Public Works to enforce the prohibition of illicit discharges and illegal connections. Via that ordinance, DPW may determine a deadline by which an illicit discharge must be corrected, and otherwise may correct the situation itself at the sole cost of the responsible party and/or land owner. Civil and criminal penalties are prescribed for willful, knowing violations.

In conjunction with the passage of this ordinance, an illicit discharge hotline was established during the first reporting year. **Appendix D** for an explanation of the recorded incidents for this reporting period and is available upon request.

During this reporting cycle, no projects were constructed within the City that interconnected with other MS4s.

j. Regulated Land Disturbing Activities

Attached as **Appendix E** is the regulated land disturbing activity data for this reporting cycle. The data reflects the information as compiled in the land disturbance activity reports as sent monthly to DEQ.

k. Stormwater Management Facility Data

Appendix B is an Excel® spreadsheet containing data for all the stormwater management facilities in the City. All of the facilities for which Maintenance Agreements exist are inspected, per the terms of the agreements, by a Professional Engineer on a five-year cycle (**§ 245-37E**). Copies of archived Maintenance Inspection Records are archived with the City's DPW-Engineering Division personnel.

Appendix B displays the year each BMP is recorded by the City as 'END 1-YMP', whether a maintenance agreement exists as 'Easement' and facilities added during the reported year as shaded yellow. No BMPs were adopted by the City during this reporting year.

l. Maintenance Agreements

Maintenance Agreements for all of the structural stormwater facilities as noted in Section K exist between the City and the respective private entity. The agreements require the owner to have operations and maintenance inspections conducted by a professional engineer on a five-year schedule. The owner is then responsible for documenting the results of that report with the City, via a completed Operation and Maintenance Inspection Record, and is responsible for any necessary repairs. An example Operation and Maintenance Record is provided in **Reference 18** and is available upon request.

m. Not applicable during this reporting cycle

Municipal Separate Storm Sewer System (MS4) Phase II Report Certification Statement

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

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

A person is a duly authorized representative only if:

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

CERTIFICATION

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

Responsible Official Signature

Date

VA040009 City of Colonial Heights, Virginia
Permit Number MS4 Name

ANNUAL PROGRAM REPORT

City of Colonial Heights

Minimum Control Measure	Report Requirement	Page Number
E.1 Public education and outreach	E.1.g.(1) A list of the high-priority stormwater issues the permittee addressed in the public education and outreach program.	The City has identified the following high-priority stormwater issues: Pet Waste , Litter Control , and illicit discharges from commercial sites.
	E.1.g.(2) A summary of the public education and outreach activities conducted for the report year, including the strategies used to communicate the identified high-priority issues.	References 1, 2, 3, 4, 5, 6, & 7 are resources made available in public facilities and/or provided to citizens on a case by case basis. Additionally, the City has a quarterly newsletter. The Public Works Department had articles each quarter with a different high-priority issue as the focus.
	E.1.g.(3) A description of any changes in high-priority stormwater issues, including, strategies used to communicate high-priority stormwater issues or target audiences for the public education and outreach plan. The permittee shall provide a rationale for any of these changes.	The City has implemented the use of a quarterly newsletter sent to residents, the City Focus. A physical copy is provided by mail to all residents of the City and a digital copy is accessible via the City's website. This allows for greater outreach and allows for a measurable metric.
	E.1.g.(4) A description of public education and outreach activities conducted that included education regarding climate change.	The City has completed multiple stormwater rehabilitation projects, during which City employees meet with the surrounding property owners to explain the project that may be affecting them. Additionally, the City has a student government day. During this activity, City forces provide educational information on climate change and the impacts it may have to the locality and surrounding areas.

ANNUAL PROGRAM REPORT

City of Colonial Heights

Minimum Control Measure	Report Requirement	Page Number
E.2 Public involvement and participation	E.2.i.(1) A summary of any public comments on the MS4 program received and how the permittee responded.	No public comments were received in regards to the MS4 program this reporting cycle.
	E.2.i.(2) A summary of stormwater pollution complaints received under the procedures established in Part I E 2 a (1), excluding natural flooding complaints, and how the permittee responded.	Reference 8
	E.2.i.(3) A webpage address to the permittee's MS4 program and stormwater website.	The following url leads to the City of Colonial Heights MS4 Program and Stormwater website: http://www.colonialheightsva.gov/323/Stormwater-Management
	E.2.i.(4) Federal and state nontraditional permittees with security policies preventing the MS4 program and stormwater pollution prevention webpage from being publicly accessible utilizing an internal staff accessible website, such as intranet, shall provide evidence of the current internal MS4 program and stormwater pollution prevention webpage.	Not applicable.
	E.2.i.(5) A description of the public involvement activities implemented by the permittee, including any efforts to reach out and engage all economic and ethnic groups.	Yearly City Clean Up & Adopt-A-Roadway Event. Information was shared via the quarterly newsletter that all residents receive via the mail. 6 FOLAR events were completed throughout the reporting year.
	E.2.i.(6) A description of public education and outreach activities conducted that also included education regarding climate change.	The City has an annual student government day and Citizen's Academy. During these activities, City forces provide educational information on climate change and the impacts it may have to the locality and surrounding areas.
	E.2.i.(7) 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.	<u>From the 6 FOLAR Events:</u> # of volunteers: 12; Total volunteer hours: 32; # of Staff: 2; # Trash bags removed: 8; Acreage improved: 1; Evaluation: The City deems these activities beneficial to improving water quality. <u>City Clean Up & Adopt-A-Roadway Event:</u> # of volunteers: 117; Total volunteer hours: 34; # of Staff: 20; # Trash bags removed: 120; Evaluation: The City deems this activity beneficial to improving water quality. <u>Student Government Day:</u> # of participants: 28; # of Staff: 50; Evaluation: The City deems this activity beneficial to improving water quality. <u>Colonial Heights' Citizens Academy:</u> # of participants: 10 (max number allowable); # of Staff: 15; Evaluation: The City deems this activity beneficial to improving water quality. <u>Colonial Heights' City Focus (Quarterly Newsletter):</u> Approx. # of recipients: 9000; Evaluation: The City deems this activity beneficial to improving water quality.
	E.2.i.(8) The name of other MS4 permittees with whom the permittee collaborated in the public involvement opportunities.	No other MS4 permittees were collaborated with this reporting cycle.

ANNUAL PROGRAM REPORT

City of Colonial Heights

Minimum Control Measure	Report Requirement	Page Number
E.3 Illicit discharge detection and elimination	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	The City of Colonial Heights confirms that the MS4 map and information table has been updated to reflect any changes to the MS4 on or before June 30 of the reporting year.
	E.3.e.(2) The total number of outfalls screened during the reporting period as part of the dry weather screening program	50 outfalls were screened during the reporting period. The City of Colonial Heights has a total number of MS4 outfalls greater than 50. The City has a schedule to screen a minimum of 50 outfalls annually such that no more than 50% are screened in the previous 12-month period.
	E.3.e.(3) A list of illicit discharges to the MS4 including spills reaching the MS4 with information as follows: (a) The source of illicit discharge; (b) The dates that the discharge was observed, reported, or both; (c) Whether the discharge was discovered by the permittee during dry weather screening, reported by the public, or other method (describe); (d) How the investigation was resolved; (e) A description of any follow-up activities; and (f) The date the investigation was closed.	Reference 9
E.4 Construction site stormwater runoff control.	E.4.e.(1) Total number of erosion and sediment control inspections conducted.	59 inspections were conducted this reporting cycle.
	E.4.e.(2) Total number of each type of compliance action and enforcement action implemented.	1 Notice to Comply was implemented this reporting cycle. No other enforcement actions were conducted.
	E.4.e.(3) If the permittee implements a construction site stormwater runoff program in accordance with Part I E 4 a (3): (a) A confirmation statement that land disturbing projects that occurred during the reporting period have been conducted in accordance with the current department approved standards and specifications for erosion and sediment control; and (b) If one or more of the land disturbing projects were not conducted with the department approved standards and specifications, an explanation as to why the projects did not conform to the approved standards and specifications.	The City of Colonial Heights confirms that land disturbing projects that occurred during the reporting period have been conducted in accordance with the current department approved standards and specification for erosions and sediment control.

ANNUAL PROGRAM REPORT

City of Colonial Heights

Minimum Control Measure	Report Requirement	Page Number
E.5 Post-construction stormwater management for new development and development on prior developed lands.	E.5.e.(1) If the permittee implements a Virginia Stormwater Management Program in accordance with Part I E 5 a (1), (2), or (3): (a) The number of privately owned stormwater management facility inspections conducted; and (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;	(a) 8 privately owned inspections conducted; (b) 0 enforcement actions initiated this reporting cycle.
	E.5.e.(2) Total number of inspections conducted on stormwater management facilities owned or operated by the permittee	11 inspections
	E.5.e.(3) A description of the 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	No significant maintenance, repair, or retrofit activities were performed on the stormwater management facilities owned or operated by the City of Colonial this reporting cycle.
	E.5.e.(4) For traditional permittees as specified in Part I E 5 a (1), 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 III B 1 or a statement that the permittee did not complete any projects requiring coverage under the General VPDES Permit for Discharges of Stormwater from Construction Activities (9VAC25-880).	The City of Colonial Heights confirms that stormwater management facility information was submitted 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 this reporting cycle.
	E.5.e.(5) A confirmation statement that the permittee electronically reported stormwater management facilities using the DEQ BMP Warehouse in accordance with Part III B 1 and 2.	The City of Colonial Heights confirms BMPs installed for water quality were electronically reported BMPs using the DEQ BMP Warehouse.
	E.5.e.(6) A confirmation statement that the permittee electronically reported stormwater management facilities inspected using the DEQ BMP Warehouse in accordance with Part III B 5.	The City of Colonial Heights confirms BMPs installed for water quality were electronically reported BMPs using the DEQ BMP Warehouse.

ANNUAL PROGRAM REPORT

City of Colonial Heights

Minimum Control Measure	Report Requirement	Page Number
E.6 Pollution prevention and good housekeeping for facilities owned or operated by the permittee within the MS4 service area	E.6.y.(1) A summary of any written procedures developed or modified in accordance with Part I E 6 a and b during the reporting period.	No operational procedures were developed or modified this reporting period.
	E.6.y.(2) A confirmation statement that all high-priority facilities were reviewed to determine if SWPPP coverage is needed during the reporting period.	The City of Colonial Heights confirms that all high-priority facilities were reviewed to determine if SWPPP coverage is needed during this reporting period.
	E.6.y.(3) A list of any new SWPPPs developed in accordance Part I E 6 i during the reporting period.	No new SWPPPs were developed this reporting period.
	E.6.y.(4) A summary of any SWPPPs modified in accordance with Part I E 6 j, 6 l, or 6 m.	No SWPPPs were modified during this reporting period.
	E.6.y.(5) The rationale of any high-priority facilities delisted in accordance with Part I E 6 l or m during the reporting period.	No facilities were delisted this reporting period.
	E.6.y.(6) The status of each nutrient management plan as of June 30 of the reporting year (e.g., approved, submitted and pending approval, and expired).	No new turf and landscape plans developed this reporting year. All nutrient management plans are approved.
	E.6.y.(7) A list of the training activities conducted in accordance with Part I E 6 d, including the following information: (a) The completion date for the training activity; (b) The number of employees who completed the training activity; and (c) The objectives and good housekeeping procedures covered by the training activity.	Reference 10

ANNUAL PROGRAM REPORT

City of Colonial Heights

Minimum Control Measure	Report Requirement	Page Number
Part II A	14.d.(1) A list of Chesapeake Bay TMDL action plan BMPs, not including annual practices, implemented prior to the reporting period that includes the following information for reported BMP: (a) The number of BMPs for each BMP type; (b) The estimated reduction of pollutants of concern achieved by each BMP type and reported in pounds of pollutant reduction per year; and (c) A confirmation statement that the permittee electronically reported Chesapeake Bay TMDL action plan BMPs inspected using the DEQ BMP Warehouse in accordance with Part III B 5.	No water quality BMPS are being used for our TMDL Action Plan.
	14.d.(2) A list of newly implemented BMPs including annual practices implemented during the reporting period that includes the following information for each reported BMP or a statement that no BMPs were implemented during the reporting period: (a) The BMP type and a description of the location for each BMP; (b) The estimated reduction of pollutants of concern achieved by each BMP and reported in pounds of pollutant reduction per year; and (c) A confirmation statement that the permittee electronically reported BMPs using the DEQ BMP Warehouse in accordance with Part III B 3.	No water quality BMPS were implemented this reporting cycle.
	14.e. If the permittee acquired credits during the reporting period to meet all or a portion of the required reductions in Part II A 3, A 4, or A 5, a statement that credits were acquired.	The City of Colonial Heights did not acquire credits during this reporting period. The City recently signed an agreement to purchase credits over the next three years. The first purchase was made 7/15/2025 (after this reporting cycle).
	14.g. The progress, using the final design efficiency of the BMPs, toward meeting the required cumulative reductions for total nitrogen and total phosphorus.	The City of Colonial Heights has reduced total phosphorous 181.20 lbs of the required 540.533; and has reduced nitrogen 875.58 lbs of the required 2653.717 as of the end of this reporting cycle. The City of Colonial Heights did make a nutrient credit purchase July 15, 2025 (outside this reporting cycle). The purchase was for 163.08 lbs of phosphorous and 802.35 lbs of Nitrogen.
	14.h. Any revisions made to the Chesapeake Bay TMDL action plan.	The City received comments from DEQ after their review. It was found that the reduction values were incorrect. The values were corrected this reporting cycle and the Action Plan was updated appropriately.
	14.1. A list of BMPs that are planned to be implemented during the next reporting period.	No BMPs are planned to be implemented the next reporting period.
Part II B	11. A summary of actions conducted to implement each local TMDL action plan	Actions the City of Colonial Heights has conducted to implement each local TMDL action plan were pet waste controls via pet waste stations at all parks (regularly maintained), sanitary sewer system rehabilitation and currently undergoing a City-wide sanitary sewer assessment to help develop repair and preventative measures, enforce policies related to outdoor wastewater such as car washing, and source controls at City-owned and operated properties.



Developing a Stormwater-friendly Lawn

How >

Many people think maintaining a perfectly manicured landscape or green and plush yard involves harsh chemicals, plenty of pesticides and an endless amount of work, when actually, something of the opposite is true. While maintaining a picture-perfect landscape does require hard work and time, home-owners can save significant amounts of money, time and toil by utilizing a few natural products and taking some natural factors into account in their landscape planning. With a combination of organic products and some advanced planning, lawns and landscapes can be lush and hearty, while at the same time contributing far fewer pollutants to our surrounding waters.

Getting started >

Getting started is easy. There are many great books and guides available that detail all the methods to get you started and the materials you'll need. Your local book retailer can point you in the right direction, but the links below can help as well:

<http://chlibrary.colonial-heights.com/cataloging/servlet/handlebasicsearchform.do>

www.organiclandscape.org/en/Books_27.html

<http://library.co.chesterfield.va.us/search/w?SEARCH=organic+gardening>

www.epa.gov/npdes/pubs/waterefficiency.pdf

A first step >

One of the first things to do is get your lawn's soil sampled. Start by collecting a sample of your soil - a garden shovel scoop at least 4" deep without rocks - and take it to a local lawn and garden store. Many home and garden stores have do-it-yourself tests for sale, and some extension offices offer services that test your sample at a lab. Testing your soil will help you know the exact types and quantities of fertilizers your lawn needs rather than buying the kinds and amounts of nutrients your lawn may already have an abundance of. The key to successful fertilization is getting the right mixture of quality and quantity. Learn more about getting a soil test:

<http://www.ext.vt.edu/pubs/compost/452-129/452-129.html>

www.soiltest.vt.edu/soiltest.html

Fertilizing >

Once you've gotten the results of your soil test you'll know what nutrients your lawn needs or has an excess of. Finding natural substitutes for the traditional synthetic fertilizers is much easier than you might think, and these natural fertilizers are often more effective and less damaging than synthetics. Manures, dried blood, feather and bone meal, for example, can be used to add nitrogen to your lawn, and are less likely to burn turfgrass or cause rapid growth spurts due to their slow release properties. Because of this, these natural fertilizers may provide longer lasting benefit to your lawn and are much less apt than are water-soluble fertilizers to leach from the soil, thus reducing the ground and surface-water contamination commonly seen with synthetic fertilizers.

Important to understanding what natural fertilizers your lawn will need is knowing what levels of which nutrients are contained in any given compound or fertilizer. One thing that will help you determine this is NPK numbers. The make-up of fertilizers is determined by the three numbers on their packaging - 10-10-10, for example - each of which represent the percentage of nitrogen (N), phosphorous (P) or potassium (K) the compound contains. Each of these nutrients is important for proper plant growth

and development. Nitrogen helps plant foliage grow strong. Phosphorous helps roots and flowers grow and develop. Potassium (Potash) is important for overall plant health.

While many types of natural compounds can be used as fertilizers, some common fertilizing compounds are:

Bat Guano

Bat guano is the ultimate 100 percent natural fertilizer. Farmers and gardeners have used bat guano as a fertilizer for hundreds of years. Bat guano has a high humus content and works great as a soil builder and fertilizer. It is rated as a 10-3-1 fertilizer.

Fish Meal

Fish meal is a natural organic fertilizer that was traditionally used by gardeners and farmers before the advent of inorganic fertilizers. It contains important trace elements that make it a complete plant food. Rated as a 10-5-0 organic fertilizer, fish meal works quickly and provides plenty of phosphorous and organic nitrogen.

Kelp

Kelp meal fertilizer is made from brown seaweed harvested from ocean waters. The dried kelp maintains a high content of plant growth hormones, essential minerals and organic material. An added benefit is that kelp meal provides a slow, sustained release of nutrients, and works great for flowers, trees, and your lawn.

Garret Juice

Garret Juice, a highly effective liquid organic fertilizer mix, can be purchased ready-made in exact proportions or can be made at home. It contains compost tea, molasses, vinegar and seaweed and works as a foliar spray for all plants, ornamentals and food crops, or can be added directly to the soil. It works great on potted plants as well.

Kelp Lawn Starter

Organic kelp fertilizer is made from giant sea kelp and is specifically designed to help stimulate turf root growth, important for newly seeded lawns. It will also give your established lawn a quick boost, and as kelp is a slow release organic fertilizer, will work over time to keep your grass growing strong .

Organic Liquid Lawn Fertilizer

For a green, lush and chemical free yard, give your grass a dose of organic liquid lawn fertilizer. It is a great source of macronutrients, micronutrients, minerals, amino acids and peptides and has a NPK of 2-3-1. With this organic product the nutrients actually remain as solid amino acids in the soil, allowing for a slow release of nutrients that are absorbed thoroughly through the roots, minimizing waste. Your plants will absorb about 97 percent of the nutrients from this fertilizer, compared to the 20 percent which is more typical of chemical fertilizers.

Horticultural Cornmeal

Horticultural cornmeal helps to strengthen beneficial soil fungi. These beneficial soil organisms will help fight off the harmful fungi that can attack your plants, which is especially important for vegetable crops that are often susceptible to fungal diseases. Horticultural cornmeal also helps build up the quality of the soil, which will benefit all the plants in your garden, from grass to tomatoes. It can also be used to safely remove algae from ponds and water features.

Garden Molasses

Garden molasses stimulates soil microorganisms and is a perfect compliment to organic fertilizers. It works as a foliar treatment when applied directly to the leaves of your plants, providing your plants trace minerals such as sulfur, potash, and iron.

For more information on types of organic fertilizers and the nutrients each provide, visit:

www.cmg.colostate.edu/gardennotes/234.pdf

www.basic-info-4-organic-fertilizers.com/organicfertilizers.html

Healthy maintenance >

Using organic fertilizers and soil amendments isn't the only thing that home-owners and gardeners can do to minimize their lawns' impact on Colonial Heights waters. There are several practices that can be obeyed to help your lawn naturally fight off disease, combat the effects of summer heat and naturally support itself. One of the easiest things to do is leave your grass clippings on the lawn as opposed to bagging or collecting them. Doing this will keep the nutrients that have already been absorbed by the existing grass' blades on the lawn, thus continuing to fertilize the turf and helping to

lessen the frequency of re-fertilization. In fact, one 1996 study suggests that mulching grass clippings into the lawn can, in some cases, eliminate the need of re-fertilization altogether. One common source of fertilizer runoff is over-watering. To prevent this, water at a rate of no more than 1/2 an inch per hour. Set several cans within your sprinkler's range and check how much water they collect every 15 minutes and adjust your sprinkler accordingly. Watering in the early morning, as well, is best. Plants and lawns allowed to stay wet overnight are more susceptible to disease. Keeping your lawn mowed at a regular height also acts as a natural defense. When mowing, make it a point to cut no more than 1/3 of the blade length, and remember to cut at a higher level than you might be used to. Increasing your mowing height to between 3 and 3 and one-half inches helps your lawn hold moisture and keeps the soil temperature cooler than it would be with shorter cut grass.

Building supporting landscape features >

All of us enjoy those perfectly manicured landscape features that accent the lawns we work so hard on. In planning these features and selecting the right foliage to plant them with, we can utilize designs that maximize our lawn's ability to sustain itself without unnecessary work and chemicals.

rain gardens >

Rain gardens are a great way to both accent and utilize those difficult or otherwise unusable spaces in the yard. Built essentially in the form of a slight depression filled with native plants, rain gardens can optimize low spots in your yard where water ponds. As another option, they can be placed at the base of slopes where water runoff from regularly fertilized turfs will feed the more nutrient-needy plant species that, in other areas of the yard, require more work. Rain gardens are often planted with bird, bee, and butterfly attracting species, and can really be an eye-catching addition to any landscape.



For plans on choosing and building the right rain garden for your landscape, visit:

www.dof.virginia.gov/mgt/resources/pub-Rain-Garden-Tech-Guide_2008-05.pdf
www.raingardennetwork.com/build.htm
www.epa.gov/nps/toolbox/other/cwc_raingardenbrochure.pdf
www.enterprise.mtu.edu/att/powerpoints/raingardens.ppt

utilizing the lay of your land >

Just as you would place a rain garden in a naturally low lying area, you can design your landscape areas to conserve water and maximize your fertilization applications. Many of the brightly colored and flowering species we all enjoy planting in the spring and summer require more fertilization than some of our native and less colorful species. Lilies and daylilies are popular selections, thriving in full sun to partial shade. Though they require adequate drainage and mulch to keep their roots cool, a down-slope area of your yard that borders frequently fertilized turf may be perfect for these, as they prefer soils high in organic matter. Iris, another favorite that prefer partial shade and well-drained soil, demand acidic soils amended with organic matter. Due to this they make attractive bed borders and color-fills for low spots. Dahlias, as well, thrive in full sun or partial shade and prefer moist, well-drained soil. Gladiolus summer bulbs thrive in full sun locations with moist soil that is well drained and has good air circulation. Cannas love the hot summer, growing well in full sun but needing rich soil and a good moisture supply. Because proper soil drainage is important for all these species to prevent bacterial rot, they all thrive in soils rich with organic matter and they all require concentrated nutrient levels, beds on down-slope areas or at well-drained bases of slopes may be perfect places to feature colorful plants like these. These 'border' or 'slope' beds will maximize your lawn's natural drainage while capturing the lawn's fertilizer runoff.



Learn more about sustainable landscaping at:

www.ext.vt.edu/pubs/envirohort/vagardlist.html

Did you know?

...there are an estimated 25 to 30 million acres of turf lawn in the U.S.

...the average acre of maintained lawn receives roughly seven pounds of pesticides per year

...if lawns were classified as a crop, they would rank as the fifth largest crop in the nation

...over-doing lawn fertilizer causes plant roots to dehydrate, much like over-salting our food does to us

Using your plants for more than aesthetics >

Any landscape design requires planning. In much the same way that plants can be placed in areas where they utilize fertilizer and water runoff, landscape features can be built in a manner that makes plants as beneficial as they are attractive. With the aid of good resources and some preliminary landscape planning you can choose plants and arrangement patterns that help minimize your need for things like pesticides. Many plants repel certain types of insects due simply to their natural characteristics and the insects' aversion to them. Utilizing a method often referred to as companion planting, you can group certain kinds of plants, or surround insect-susceptible plants with insect repelling plants, to act as a natural insect repellent. Chrysanthemums and dahlias, for example, kill parasitic root nematodes (*tiny roundworms*). Daisies attract beneficial insects like the tiny and non-stinging parasitic wasp, which preys on pests like aphids, flies, beetles and caterpillars. Geraniums, in addition to herbs like angelica and tansy, attract ladybugs which feed aggressively on pests like aphids, mealybugs and spider mites. Marigolds, as well, ward off parasitic nematodes and certain types of beetles. Mint, which makes a good controlled accent plant, repels ants and some types of moths. It also helps to control rodents, flea beetles, and aphids. Citronella grass, as its name might indicate, deters mosquitoes, one of our peskiest backyard foes. These annual grasses can grow quite large, but can help alleviate some of your need for chemical mosquito repellents. Petunias repel pesky leaf-hoppers and several types of beetles. Nasturtium, a late-blooming flower, will repel the whitefly. When planning your next landscape or new lawn feature, take a look at the following resources for some great ideas on getting started companion planning.



Parasitic wasp

www.markham.ca/NR/rdonlyres/8937D562-A0B4-405E-A21C-CD01FC13481D/0/ens_insects.pdf
www.homeandgardensite.com/companion_planting.htm
<http://attra.ncat.org/attra-pub/complant.html>

Pesticides >

Fertilizers aren't the only substances that can be supplanted with organic substitutes. As we've seen, many plant species can help repel certain types of insects, but there are also natural substances and compounds that are effective in preventing pests. Milky Spore Grub Control - a compound made from *bacillus popilliae* spores - is a product that can be spread onto the lawn to provide a natural and effective grub control. Horticultural, cottonseed and soybean oils are effective pesticides for many types of ornamentals. Pyrethrins - naturally occurring insecticides made from the chrysanthemum - can be found in powder form and, though not long lasting, can produce fast and highly effective pest-killing results. Diatomaceous earth is a naturally occurring, chalk-like sedimentary rock that is crumbled into a fine white powder and used as a lawn insecticide. It absorbs lipids from the insects' exoskeletons and causes them to dehydrate, and is very effective for all types of bugs. For certain bugs, as well as crabgrass, try corn gluten. There are even natural plant pesticides you can make at home utilizing certain types of oils and citrus juices. The next time you need to apply a pesticide to your lawn or landscaping features, take a look at the following to gather some great ideas:

www.beyondpesticides.org/pesticidefreelawns/resources/index.htm
www.organiclawncare101.com/articles.html
http://vegetablegardens.suite101.com/article.cfm/organic_pest_control_and_pesticide
www.colostate.edu/Dept/CoopExt/4DMG/VegFruit/organic.htm

A Note on Bugs >

When landscaping and caring for our lawns, it is important to remember that not all bugs are bad. Of course, there are those types that are particularly burdensome and cause a lot of damage if left to their natural actions. Other types of bugs, however, are an essential part of any healthy backyard ecosystem and are in fact beneficial to our lawns and landscapes. The earthworm, though not actually an insect, converts organic material into nutrients that plants can absorb, loosens the soil making it easier for roots to grow and air and water to circulate in the soil, increases the soil's water retention capability, and brings minerals and other nutrients located deep in the soil to the top layer where they can be absorbed by the plants. Some species of ground beetles and certain species of ants, as well, are carnivorous and feed upon the pest insects found in many lawns. Spiders, though also not classified in the insect family, catch and eat many of the pests that commonly disturb our

...savings for a typical quarter-acre lot where clippings were left on the lawn amount to almost \$100 for fertilizer and plastic bags

...home-owners use 10 times the pesticides per acre that farmers use

...one acre of lawn costs \$400 to \$700 per year to maintain

lawns. The following chart shows some other insects that prey on the damaging insects in our yards.

Assassin bug	Aphids, caterpillars, potato beetles, Japanese beetles, leafhoppers, Mexican bean beetles
Damsel bug	Aphids, leafhoppers, mites, caterpillars
Big-eyed bug	Aphids, caterpillar eggs and larvae, immature bugs, leafhoppers, spider mites
Predacious stink bug	Potato beetles, caterpillar larvae
Syrphid fly larvae	Aphids, mealybugs
Lady beetle	Aphids, mealybugs, spider mites
Green lacewing larvae	Insect eggs, aphids, spider mites, thrips, leafhopper nymphs, caterpillar larvae
Trichogramma wasp	200 pest insect eggs including cutworms, corn borers, corn earworms, armyworms, codling moths
Encarsia wasp	Greenhouse whiteflies

Table 1 - Beneficial bugs (noted in green) and the pests they prey upon

Visit the links below for some great resources to help you start targeting the pests with the help of beneficial bugs.

- www.helpfulgardener.com/organic/2006/beneficial.html
- www.beneficialinsects101.com/garden-insects-article.html
- www.ext.colostate.edu/Pubs/water/xcm221.pdf
- www.ext.vt.edu/pubs/plantdiseases/450-725/450-725.html

Saving a lot >

The health of Colonial Heights' waters starts in our yards. Utilizing natural and organic fertilizers, pest repellants and organically-based planting and maintenance practices will help you save time, headaches and money, but will also keep a significant amount of chemicals from finding their way into Swift and Oldtown Creeks and the Appomattox River. With the help of some good resources and a little advanced planning, our lawns can be as healthy and attractive as our waters.



10 Easy Ways to Conserve Water



Do the following headlines sound familiar:

'Rainfall Four Inches Below Normal'... 'Groundwater Deficit'...
'Lake Chesdin at Low Levels'... 'Localities to Institute Water Restrictions'?

In a hot, dry Virginia summer, they should...

Our most important resource

All of us realize that water is an important resource in our lives, but sometime we forget just how important it is to our health, our welfare and our economy. About 60% of the human body, for example, is water. Muscle tissue is 75% water by weight, blood is 95% water, and the human heart is roughly 75% water. It takes 37 gallons of water to produce, package and ship the beans in your morning cup of coffee, and 4,200 gallons of water to produce just two pounds of beef.

It's clear, then, that water is entirely more important than we often give it credit for. The facts above, taken together with the fact that only about 1 to 2% of the world's water is suitable for human consumption, clearly demonstrate that it's an area where conservation is important.

Water mandates

We're all familiar with the dry months of July and August when our lawns dry up and we begin to hear headlines about low water levels and water restrictions. In Colonial Heights, Ordinance 07-26 authorizes water restrictions when "the Appomattox River Water Authority (ARWA) requests or directs such restriction or when the governor... or other state or federal authority, pursuant to applicable law, declares an emergency [or] imposes mandatory water conservation measures." Under this authority, the City Manager imposes either voluntary or mandatory usage restrictions, dependant upon the severity of the shortfall. The restrictions include limits on lawn and landscape watering, limits on the washing of paved areas, vehicle washing and pool filling, among other actions.

Penalties for violating mandatory restrictions include civil penalties ranging from \$50 dollars to \$400 dollars, and failure to pay any assessed penalty authorizes the City to collect the fine in any manner authorized for the collection of utility bills.

The good news about water conservation

We can help reduce the necessity for water restrictions like those mentioned by conserving water on a daily basis. The good news is that there are many easy steps we can take to limit or water usage and, by so doing, help conserve our most precious resource. Around the home, around the yard, and at work there are ways to conserve water that we may never have thought about before and that, with little effort and, in some cases, no added expense, can be incorporated into our daily routines. Remember, 1 to 2% of the world's water has to be shared between more than 6,710,000,000 people.



1. Check for leaks

Inside the home, checking for leaks can cut water usage by nearly 14 percent. Leaky toilets, for example, can waste as many as 30 gallons of water each day and dripping faucets can waste about 2,000 gallons of water each year. Leaky faucets, pipes and toilets are among the leading sources of water waste every year. Fixing them will not only help you conserve water, but could save you money on utility bills you probably didn't even know you were wasting.

2. Wash full loads

By washing clothes only when each load is a full load, you can save nearly half of the washing machine's capacity in water. Depending upon the size and settings of your washing machine, one load uses anywhere from 40 to 60 gallons of water. Washing only when each load is full inevitably lowers washing frequency, saves water and electricity; a savings you could notice in your water and electricity bills.

3. Be water-savvy in the kitchen

The kitchen presents some excellent opportunities for saving water. Instead of defrosting meats and other items by running them under water or letting them sit in a large container of water, plan ahead and allow your items to thaw in the refrigerator. This will save excess water and maximize electricity for which you are already paying. If you wash dishes by hand, use two basins: one for washing and another for rinsing. Doing so will save all the water you would normally use by leaving the rinse water running the entire time. As with the washing machine, only run the dishwasher when you have a full load. Instead of letting your faucet run a minute or two each time you want a glass of cold water, keep a jug or bottled waters in the refrigerator.

4. Run less - collect more

This might be the easiest one yet. When doing the routine things around the home, think about ways you can run less water and collect what you have run. For example, don't let the water run while shaving or brushing your teeth. Better, still, is brushing your teeth while showering - a great way to save both water and time. When doing things like rinsing fruits or meats, collect the water in a container below and use it to water plants. The excess water from cleaning out fish tanks, as well, is a great source for feeding thirsty plants. When bathing, ask yourself if you really need to fill the tub three-quarters of the way; four to five inches of bath water will get us just as clean.

5. Upgrade to save

When your old water heater goes out, or you have to replace it's elements yet again, consider getting an instant water heater. Several brands are now on the market, in both whole-house and point-of-use models. These water heaters are tankless, allowing you to conserve 60 or more gallons of

Cool facts about water...

Health & Body>

A person can go weeks, and sometime months, without food, but can only go about seven days without water.

A person needs at least 6 to 8 cups of water per day to replenish what we naturally lose .

Water makes up 95% of the contents of human blood.

Headaches are often caused by an insufficient amount of water in the body.

The human brain is roughly 80% water.

Drinking at least 8 glasses of water a day can help you lose weight by keeping your kidneys functioning at full strength, thereby metabolizing more fat.

If you feel thirsty, you are already partly dehydrated.

Caffeine often acts as a diuretic, depleting the body of water.

A 2% drop in our body's water supply can trigger signs of dehydration like fuzzy short-term memory, trouble with basic math, difficulty focusing on smaller print and daytime fatigue.

reserve while saving you money on your electric bill. You'll already be facing an expense on your old heater, and instead of rejuvenating it, an upgrade to an instant heater will save you a lot in the long run.

6. Build a rain barrel

Saving water is as easy and appropriate for the lawn and garden as it is inside the home. Building a rain barrel is an excellent way to conserve water by storing and utilizing the rain we do get during the times we do not get any. Rain barrels connect to a gutter downspout and have a built-in pump or spigot to release the water when you need it, and all are entirely sealed to prevent mosquitoes and animals from getting into them. You can buy a ready-to-use rain barrel or, by checking out the links below, build your own with little expense.

7. Water smartly

If you've made sure your spigot is leak-free, you can buy a timer for very little cost and set your sprinklers to water at, and for, ideal times. Watering is best between 2 and 7am because it ensures that no excess water is dried by the hot sun. Instead of watering once for 30 minutes or an hour, water for 15 minutes at three different intervals. This allows the water at each interval to soak in, preventing excess runoff caused by the rate of watering exceeding the rate of infiltration.

8. Back to the broom

During the dry summer months, use a broom or leaf blower to keep sidewalks, driveways and garage floors clean instead of rinsing them down with a water hose. A broom will do the trick without using all the excess water.

9. Go native

The new landscaping we all plan during the spring presents yet another opportunity to conserve water. Native plants, once established, are often heartier than plants not native to this area and are generally more adapted to our hot, dry summers. Plant choice and placement can greatly reduce the amount of water your landscaping requires.

10. Use your pool wisely

If you have a pool, there are several ways you can conserve water, both by protecting it and utilizing its contents. When back-flushing your filter, use the water on your plants and landscaping. Consider, also, getting a pool cover. This will help prevent water evaporation and, in so doing, reduce the amount and volume of necessary refills. There are many types of pool covers on the market: everything from roll-up covers to the handy, though more expensive, automatic pool covers. Additional benefits of keeping your pool covered are the facts that you'll have fewer insects and trash in it and have fewer concerns about unattended swimmers.

Cool facts about water...

Sources & Production>

11 gallons of water are used to irrigate and wash the fruit in one half-gallon jug of orange juice.

The average person uses anywhere from 75 to 110 gallons of water per day.

It takes 264 gallons of water to produce one quart of milk.

Oceans and seas contain 96% of the world's water, and 2% is contained in the world's icebergs.

Acting as an insulator, water helps regulate the earth's temperature.

80% of the earth's surface is water.

Nationally, people pay over 25 cents for their water utility on a daily basis.

An average of 20 gallons is used in a five-minute shower.

Water utilities process 38 billion gallons of water per day.

It takes 62,600 gallons of water to produce one ton of steel.

400 gallons of water are used to grow and produce 1 chicken.

Learn more...

Facts

www.epa.gov/ogwdw/kids/water_trivia_facts.html
www.epa.gov/safewater/sdwa/30th/factsheets/pdfs/fs_30ann_waterfacts_web.pdf
www.allaboutwater.org/water-facts.html

Around the home

www.deq.state.va.us/waterresources/waterconservation.html
www.engr.uga.edu/service/extension/publications/c819-1.html
www.americanwater.com/49ways.htm
www.ext.colostate.edu/pubs/consumer/09952.html
www.wateruseitwisely.com/100-ways-to-conserve/index.php

Conservation

www.epa.gov/watersense/

Landscaping

pubs.ext.vt.edu/426/426-713/426-713.html
www.aces.edu/pubs/docs/A/ANR-0790/WQ1.3.4.pdf
www.wateruseitwisely.com/100-ways-to-conserve/outdoor-tips/how-to/landscape-to-xeriscape/index.php
http://www.dcr.virginia.gov/natural_heritage/nativeplants.shtml

Rain Barrels

www.watershedactivities.com/projects/spring/rainbarl.html
www.ehow.com/how_4615763_build-install-rain-barrel.html

Where does my water go?

Shower	up to 32 gallons for an 8-minute shower
Bath	31 gallons
Toilet	4 gallons per flush
Dishwashing	by hand: 8 gallons per wash
	machine: up to 24 gallons per wash
Clothes Washing	up to 66 gallons per wash for a large automatic
Car Washing	30 to 80 gallons
Garden Sprinkler	varies; 250 gallons per hour is not unusual
Dripping Tap	anywhere from 8 to 132 gallons per day
Leaking Pipe	up to 80 gallons per day

Visit the following to learn more about what groups in Virginia are doing to conserve:

VA Naturally
www.vanaturally.org/vanaturally/comm_water.html

Soil & Water Conservation Association
www.vaswcd.org/propertyowners.htm

VA Conservation Network
www.vcnva.org/anx/index.cfm/1,258,928,0,html/
Water-Conservation-Tips

Soil & Water Conservation Society\VA Chapter
www.bse.vt.edu/swcs/

Department of Public Works
201 James Avenue
Colonial Heights, VA 23834
(804) 520-9334
www.colonial-heights.com/PublicWorks



OUR HAZ[!]ARDOUS HOUSEHOLDS

There are three things that the winter season is certain to bring with it: chores, chores and chores! Inevitably, indoor projects, fall cleanings and holiday decorating require us to clean and reorganize areas in and around our homes. Fortunately for the space in our homes, these projects usually result in the accumulation and disposal of solid waste. Unfortunate for our local waterways, however, is the fact that solid debris is one of the most significant contributors to the amount of pollutants found in our waters. Man-made, solid material that enters our waterways, either directly or indirectly, accounts for roughly 86% of the trash found in Virginia's rivers and on Virginia's beaches.

The good news is that there are many simple steps each of us can take to reduce the amount of solid debris we produce. Practicing these will not only save our valuable water resources, they'll save us time, money and possibly backaches during our winter projects.

Reduce...Reuse...Recycle

Sure, it sounds cliché but if we really stop to think about the things we buy, why we buy them, and the amount that we use them, we can save ourselves significant expenditures and rid ourselves of a lot of household clutter. Since the easiest way to eliminate solid waste is by preventing it from ever becoming unwanted debris, try implementing the following steps around your home.

Reduce

- Look for items packaged with minimal packaging
- Buy in bulk when practical
- Avoid disposable, single-use items
- Buy concentrates
- Rent instead of buying; this works particularly well in cases where you'll only need the item a few times

Reuse

- Use cloth bags when shopping; most places offer a discount for this
- Pack your lunch in reusable food containers
- Use rechargeable batteries
- Use refillable pump/spray bottles
- Buy milk and water in refillable bottles

Recycle

- Participate in recycling programs; each item you recycle is likely one less that needs to be produced
- Buy recycled products; the recycling loop is not closed until we purchase products made from recycled materials



Reducing means less clutter, fewer backaches and more free time.

Remember

One half of all our household solid waste comes from the packaging of the things we buy.

It's estimated that 100 billion pieces of junk mail are delivered to mailboxes every year, an amount that requires 100 million trees to create. An estimated 30% of all mail delivered in the U.S. is junk mail, thrown away to become solid waste before its even opened. Take steps to cut down on your junk mail:

1. **Ask to be removed** - contact the [Direct Marketing Association](#) and ask to be removed from their affiliates' lists
2. **Ask for privacy** - when giving your name and info for any business transaction, ask that your info not be added to marketing lists
3. **Phone books** - consider an unlisted number, or request that the company list only your name and not your address
4. **Return to Sender** - any mail with *Address Correction Requested* or *Return Postage Guaranteed* can be returned unopened by writing *Refused-Return to Sender* on the envelope



The top 10 products recycled in 2009 were:

Computers
Batteries
Televisions
Paint
Aluminum Cans
Used Motor Oil
CFLs (Compact Fluorescent Lamps)
Glass
Fluorescent Lamps
Christmas Trees

Source: Earth911

7 Things You Probably Didn't Even Know Were Recyclable:

1. Batteries
2. Crayons
3. Wine Corks
4. Hair
5. Holiday Lights
6. Trophies
7. CDs/DVDs/Cassettes

THE GLOBAL LEADER

The United States have long led the world in many categories of global production. As with anything, this unfortunately means we lead the rest of the globe in some not-so-attractive categories. As of 2006, the United States produced around 236 million tons of waste annually, and by 2007 that number had increased to 254 million tons. The average American throws away nearly 5 pounds of trash on a daily basis. Despite making up only 5% of the world's population, the United States produce 30% of the world's waste. In only a year, Americans throw away around 26,800,000 tons of food, 8,550,000 tons of furniture and furnishings, and 6,330,000 tons of clothing and footwear.

Unfortunately, 80% of all products that are produced in the United States are used only once and then discarded, and 95% of plastic and 50% of all of the aluminum beverage cans that are thrown away never get recycled. By reducing, reusing and recycling we can help change these statistics, save ourselves time, money and backaches, and most importantly, help protect our invaluable water resources.

Table of Trash Types and Percentages

Trash Type	Percentage	Tonnage
paper	40.4%	71.6 million tons
yard trimmings	17.6%	31.6 million tons
metals	8.5%	15.3 million tons
plastics	8.0%	14.4 million tons
food scraps	7.4%	13.2 million tons
glass	7.0%	12.5 million tons
other	11.6%	20.8 million tons (<i>rubber, leather, textiles, wood, miscellaneous inorganic wastes</i>)

According to the 2001 International Coastal Cleanup, these ten items accounted for 85% of all the litter debris found in and along Virginia's waters:

1. Cigarette butts/cigarette filters
2. Bags/food wrappers
3. Beverage bottles (plastic) 2 liters or less
4. Beverage bottles (glass)
5. Beverage cans
6. Cups, plates, forks, knives, spoons
7. Caps, lids
8. Fast-food containers
9. Straws, stirrers
10. Tobacco packaging/wrappers

Harmful Impacts of Debris

- ◆ Each year, more than 100,000 marine mammals die when they ingest littered debris.
- ◆ 2 million seabirds die every year due to debris ingestion and entanglement.
- ◆ According to the National Oceanic and Atmospheric Administration (NOAA), marine debris threatens over 265 different species of marine and coastal wild-life.
- ◆ Virginia's Department of Transportation (VDOT) spends more than \$6 million to remove litter from our roadsides.
- ◆ Millions of dollars are spent every year in Virginia and across the U.S. just to minimize the damage of littered debris.

Dollars and Sense

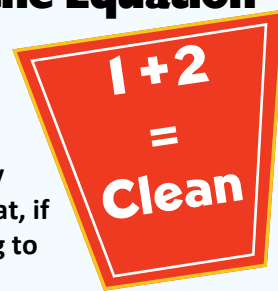
Practicing the "3 Rs" doesn't just protect our waters; it saves us money and that just makes good sense.

- Recycling one aluminum can saves enough energy to run a TV for three hours - or the equivalent of a half a gallon of gasoline.
- \$1 out of every \$11 Americans spend for food goes for packaging.
- One pound of recyclable aluminum is worth 85¢, on average.
- The average bottled water costs \$1.60; a savings of well over \$500 per year for a person who switches to a reusable bottle.



...the Other Part of the Equation

Solid waste is unfortunately just part of the danger our homes pose for our waters. Hazardous wastes are a significant source of the pollution in our rivers, streams, and lakes. Many of the harmful chemicals used in the cleaners, solvents and pesticides we use on a regular basis in and around our homes end up severely degrading the health and habitat of our watercourses. Holiday clean-up, winter room renovations and closet reorganizations all utilize solvents and chemicals that, if handled, used and disposed of in a more environmentally-friendly way, could be far less damaging to our waters.



Again, there are some simple things each of us can practice around the home to reduce the amount of hazardous waste we produce. In disposing of any chemical agents or solvents containing chemical agents, **NEVER** pour them down a floor drain or a storm sewer. The City Recycling Center, located behind the Sheetz on Conduit Road, accepts many types of chemicals and solvents. To find out more, call them at 479-7056 or visit their [website](#). For disposal of

insecticides, poisons, acids or other caustic compounds, appliances containing Polychlorinated Biphenyls (PCBs) or other toxic materials, please contact the [Central Virginia Waste Management Authority](#) at 800-732-3493 or [Safety-Kleen](#) at 804-748-3767. When storing, write the date of purchase on each item's



Projects that clean the home don't have to jeopardize our waters.

container with a permanent marker to keep a check on the age of any item and follow any and all disposal labels carefully. Keep all substances in their original containers and make sure to properly dispose of items if their containers have become corroded or unstable. Do the same for items intended for exterior use, but also make sure that any items such as these are stored above ground level, in a covered area, where there is no potential for them to come in contact with any

stormwater runoff. In the event that any chemicals or solvents leak or are spilled onto the ground or impervious surfaces like paved driveways or sidewalks, use absorbents and a broom and dustpan to clean them up rather than a water hose. Remember that ultimately, everything we dispose of - whether its yard waste or household chemical cleaners and solvents - can end up

impacting our local waters. Clean houses don't have to mean dirty waters.



LESS MEAN...MORE CLEAN

Household cleaners don't have to be as mean as they are to be effective. Many of them can be much less damaging to the environment than they currently are and yet be equally as effective in performing the cleaning task for which you need them.

Think alternatively:

Alternative cleaners generally refer to cleaners that can be made at home, using non-toxic or less toxic chemicals than those found in commercial cleaners. Some alternative cleaners still utilize synthetic products by substituting the most toxic ingredients for alternatives, while other alternative cleaners utilize all natural ingredients, staying entirely away from synthetics. The best way to decide which type of alternative works for you is to evaluate what your cleaning needs are specific to the types of stains or substances you find yourself regularly cleaning; some heavier commercial stains or substances might require a less toxic alternative, while many of the common household surfaces and stains are easily cleanable and removable using a non-toxic alternative.

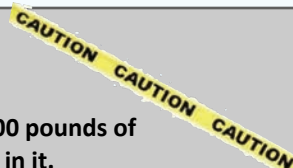
Ingredients common to many of the less toxic alternatives include the following:

Baking Soda - Cleans and deodorizes. Softens water to increase sudsing and cleaning power of soap. Good scouring powder.

Borax - Cleans and deodorizes. Excellent disinfectant. Softens water. Available in laundry section of grocery store.

Soap - Is non-toxic. Available in grocery stores and health food

HOME SWEET HAZARD



- The average home has 50 to 100 pounds of hazardous chemicals & solvents in it.
- American households generate 1.6 million tons of hazardous wastes annually.
- **Chlorine** - found in common household cleaners like bathroom disinfectants, window & oven cleaners, and furniture polish - is the #1 cause of child poisonings.
- Bathroom cleaners often contain *sodium hypochlorite*, a corrosive that irritates or burns skin & eyes, causes fluid in the lungs, & can lead to coma or death.
- Less than 2% of synthetic chemicals have been tested for toxicity, mutagenic, carcinogenic, or birth defects.
- An EPA survey concluded that indoor air could be as much as 70 times more polluted than outdoor air.
- National Cancer Association released results of a 15 year study concluding that women who work in the home are at a 54% higher risk of developing cancer than women who work outside the home.
- There are more than 3 million poisonings every year. Household cleaners are the #1 cause of poisoning of children.

stores. Sold as liquid, flakes, powder or in bars. Bars can be grated to dissolve more easily in hot water. Insist on soap without synthetic scents, colors or other additives.

Washing Soda - Cuts grease and removes stains. Disinfects and softens water. Available in laundry section of grocery store or in pure form from chemical supply houses as "sodium carbonate."

White Vinegar or Lemon Juice - Cuts grease and freshens.

Try the following recipes to begin making your home less toxic and less dangerous to our waters and our environment:

Household Cleaner -- Mix together:

1 tsp. liquid soap (castile, peppermint)

1 tsp. borax

Squeeze of lemon

1 qt. warm water

OR

¼ c. baking soda

½ c. borax

½ c. vinegar

1 gal. water

Window Cleaner -- Mix together:

2 tsp. vinegar

1 qt. warm water

OR

2 tbsp. borax

3 c. water

Mildew Remover -- Dissolve together:

½ c. vinegar

½ c. borax in warm water

Apply with sponge or spray bottle

Furniture Polish

(Wood Surfaces) --

Rub toothpaste on wood furniture to remove water marks.

Polish wood with 2 tsp. lemon oil and 1 pint mineral oil in spray bottle. Spray, rub in and wipe clean.

Mix two parts olive oil to one part lemon juice. After rubbing the mixture in, let stand for several hours and then polish with a soft, dry cloth.

Melt 1 tbsp. carnauba wax into two pints mineral oil. Use sparingly and rub hard.



Using alternative cleaners protects your family and our waters.

These are just a few of the [many alternative cleaner recipes](#) that you can utilize to help make your home much less toxic than it is now. By doing so, you'll be healthier and will also be helping protect our waters.

The Problem with Pills...

What's above our sinks can often be as dangerous to our waters as what's below them: pharmaceuticals are increasingly being discovered in the nation's waters and in the animals that inhabit them. Studies discovering antibiotics such as penicillin, tetracycline, and vancomycin as well as hormone-disrupting compounds like endocrine continue to demonstrate the threat that medicine disposal from homes poses to our waters and our health. In waters with significant enough quantities, these chemicals have been found to severely alter the reproduction of species, turning male fish to female. Even more, researches are increasingly concerned that the presence of antibiotics will result in the presence of 'superbugs', new strains of bacteria that are resistant to antibodies. Pharmaceuticals enter our waters when they are flushed down the toilet or dumped down the sink, as wastewater treatment plants are not equipped to filter them.

If no local collection option exists for you, mix all old or unused pills together with such undesirable items as used coffee grounds and kitty litter in a securely sealable bag and discard in the garbage. **Never put them down a sink or flush them down a toilet!**

o Collecting Your Pet's Waste

Animal waste is a significant contributor to the bacteria and pollutants found in our waters. It deposits harmful bacteria into our drinking, swimming, fishing and recreational waters. The Appomattox, much like our other waterways, contains high amounts of fecal coliform as a result of animal waste. Picking up after your pet is a simple and easy way to help decrease the amount of contaminants that end up in our waters. Virginia's Department of Conservation and Recreation (VDCR) lists the following 10 reasons why picking up pet waste benefits our environments:

1. *Stormwater carries pet waste and other pollutants directly into waterways.*
2. *Animal waste adds nitrogen to the water. Excess nitrogen depletes the water's oxygen, which is necessary for healthy underwater grasses, wildlife and fish.*
3. *Animal waste contains harmful organisms such as Giardia, Salmonella and E. coli that can be transmitted to humans and other animals by ingesting contaminated water.*
4. *Roundworms and hookworms deposited by infected animals can live in the soil for a long time and be transmitted to other animals and humans.*
5. *It's the law! Many urban and suburban areas require you to pick up after your pet. Even if there is no restriction, cleaning up after your pet is the right thing to do.*
6. *By joining the growing number of responsible pet owners, you might encourage hotel managers to accept pets when you're traveling and keep extra fees to a minimum.*
7. *Let's face it - no one likes to step in pet waste and spread it into homes, cars and businesses.*
8. *Scooping on a daily basis and applying lime will help prevent odors.*
9. *It's easy to clean up by carrying small plastic bags and paper towels in your pocket. The bags can be secured and thrown away in the garbage.*
10. *Your neighbors will appreciate the good manners.*

From Colonial Heights Stormwater Management Program website, available at

www.colonial-heights.com/StormwaterManagementSteps.htm

PET WASTE

TRANSMITS DISEASE

LEASH AND CLEAN

UP AFTER

YOUR PET



**PLEASE KEEP
THIS AREA
CLEAN**

DOG POT



PLEASE CLEAN UP
AFTER YOUR DOG!



**FLORA M. HILL
PARK**
CITY OF
COLONIAL HEIGHTS
DEPARTMENT OF
RECREATION & PARKS

**TRESPASSING
AFTER DARK**



LORA M. HILL
PARK
CITY OF
COLONIAL HEIGHTS
DEPARTMENT OF
RECREATION & PARKS
NO
TRESPASSING
AFTER DARK

DOG WASTE

IS A THREAT TO THE HEALTH
OF OUR CHILDREN - DEGRADES
OUR TOWN - TRANSMITS DISEASE

LEASH - CURB AND
CLEAN UP
AFTER YOUR
DOG



ITS REQUIRED BY LAW!
MINIMUM FINE
\$ 25.00

What is Low Impact Development (LID)?

Have you ever wished you could simultaneously lower your site infrastructure costs, increase your project's marketability and protect the environment? You may have, but then you probably assumed that was impossible. With LID techniques, you can. LID is an ecologically friendly approach to site development and storm water management that aims to mitigate development impacts to land, water, and air. The approach emphasizes the integration of site design and planning techniques that conserve the natural systems and hydrologic functions of a site.



Low Impact landscaping utilizes techniques that conserve the natural systems and hydrologic functions of a site.

For more information visit the following:

- www.lowimpactdevelopment.org
- www.lid-stormwater.net/background
- www.epa.gov/nps/lid

Colonial Heights Department of Public Works

201 James Avenue
Colonial Heights, VA 23834

Phone: (804) 520-9334
Fax: (804) 520-9203
www.colonial-heights.com



Builder's Guide to Low Impact Development

Would you be interested in saving upwards of \$70,000* per mile in street infrastructure costs by eliminating one lane of on-street parking on residential streets? Did you know that communities designed to maximize open space and preserve mature vegetation are highly marketable and command higher lot prices? Are you aware that most homeowners perceive Low Impact Development practices, such as bioretention, as favorable since such practices are viewed as additional builder landscaping? Did you know that by reducing impervious surfaces, disconnecting runoff pathways, and using on-site infiltration techniques, you can reduce or eliminate the need for costly storm water ponds?



*Assumes paving costs of \$15/sq yd

LID Benefits

In addition to the practice just making good sense, LID techniques can offer many benefits to a variety of stakeholders.

Developers

- Reduce land clearing and grading costs
- Potentially reduce infrastructure costs (streets, curbs, gutters, sidewalks)
- Reduce storm water management costs
- Potentially reduce impact fees and increase lot yield
- Increase lot and community marketability

Municipalities

- Protect regional flora and fauna
- Balance growth needs with environmental protection
- Reduces municipal infrastructure and utility maintenance costs (streets, curbs, gutters, sidewalks, storm sewer)
- Increase collaborative public/private partnerships

Environment

- Preserve integrity of ecological and biological systems
- Protect site and regional water quality by reducing sediment, nutrient, and toxic loads to water bodies
- Reduce impacts to local terrestrial and aquatic plants and animals
- Preserve trees and natural vegetation

Case Study

Kensington Estates is a conventional development on 24 acres consisting of 103 single-family homes in Pierce County, WA. A study was conducted to redesign the site using a new state storm water model and to illustrate the full range of LID practices and technologies available to developers. Overall, the redesigned LID site could have:

- Resulted in construction cost savings of over 20%;
- Preserved 62% of the site in open space;
- Maintained the project density of 103 lots;
- Reduced the size of storm pond structures and eliminated catchments and piped storm conveyances; and
- Achieved “zero” effective impervious surfaces.

LID Site Planning and Design Concepts

Successful LID projects simultaneously reduce land development and infrastructure costs while protecting a property’s natural resources and functions. During the development process, the designer, developer, and reviewing agency should work together to identify solutions that integrate the following concepts:

- Preserve Open Space and Minimize Land Disturbance;
- Protect and Incorporate Natural Systems (wetlands, stream/wildlife corridors, mature forests) as Design Elements;
- Utilize Neo-Traditional Street and Lot Layouts and Designs; and
- Decentralize and Micromanage Storm Water at its Source Using LID Storm Water Management Practices.

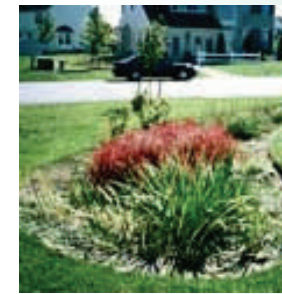
LID and Storm Water Management

LID aims to mimic natural hydrology and processes by using small-scale, decentralized practices that infiltrate, evaporate, and transpire rainwater. Specifically, LID aims to:

- Minimize impervious surfaces;
- Disconnect hydrologic elements (roofs, downspouts, parking areas);
- Maintain/increase flow paths and times; and
- Utilize decentralized treatment practices.

Bioretention Areas

Storm water directed to these shallow topographic depressions in the landscape is filtered, stored, and infiltrated into the ground using specialized



vegetation and engineered soils.

Grassed Swales

Water moving through these systems is slowed, filtered, and percolated into the ground. These systems can act as low cost alternatives to curbs,



gutters, and pipes.

CALL
520-2003

Help Protect Your Water!

from illegal dumping & illicit discharges...

Illegal discharges are:

- * polluted dumping
- * contaminated runoff
- * discolored outfall discharge
- * improperly connected floor drains



Illegal discharges can:

- * contaminate our water
- * cause fish kills
- * destroy our recreational areas and resources

Illegal discharges can be both intentional & unintentional. Dumping oils, solvents or yard waste into a storm drain, oily or soapy runoff from a business, leaky & unattended oil or chemical storage units, & discolored or chemical-smelling discharges from a sewer outfall all constitute an illegal discharge. These illegal discharges are punishable by civil & criminal penalties. They damage the health of Swift Creek, Old Town Creek &



the Appomattox River, and endanger our recreational and drinking waters. You can help: call the City's illegal discharge hotline & report any polluted discharges you see.

STOP Discharges...

CALL 520-2003

OR

REPORT ONLINE

Department of Public Works
City of Colonial Heights
201 James Avenue
Colonial Heights, VA 23834
(804) 520-9334



www.colonial-heights.com/PublicWorksStormWaterManagement

Anonymous callers welcomed

Citizens Action Center Home
Find Answers
Ask a Question
Make a Service Request
My Colonial Heights, VA

Service Request Type:

Description:

Stormwater Pollution

Report any miscellaneous stormwater pollution or illicit discharge.

*Location of Incident (please be as specific as possible):

*Please check the type of stormwater pollution observed:

- ☐ Materials being dumped down storm drain or onto parking lots, roads, and walks
- ☐ Litter pile, dump, or stockpile
- ☐ Earthen materials accumulated in or near ditches or drains
- ☐ Soil erosion visible from construction and maintenance activities
- ☐ Vehicle leaking fuel or oil products
- ☐ Illegal storm drain connection - a non-stormwater connection to the storm drain system

Submit

Cancel



Department of Public Works
201 James Avenue
Colonial Heights, VA 23834

What your
business
needs to
know about

Colonial Heights Stormwater Management Ordinance



Department of Public Works
City of Colonial Heights
201 James Avenue
Colonial Heights, Virginia 23834
(804) 520-9334

STORMWATER & YOUR BUSINESS

Stormwater Ordinance

Colonial Heights Stormwater Ordinance, driven by clean water regulations like the Clean Water Act, seeks to protect the City's receiving waters as well as the integrity and efficiency of the City's storm sewage system. As everyone operating or living in the City contributes to the storm sewer system, your business may be affected by the ordinance in some important ways.

What does the ordinance prohibit?

The ordinance is intended to prohibit two categories of activity: illicit connections and illegal discharges. An illicit connection is any drain or conveyance, either surface or subsurface, which allows an illegal discharge to enter the storm drain system, including any conveyances which allow any non-storm water discharge including sewage, wastewater, and wash water to enter the storm drain system and any connections to the system from indoor drains and sinks, regardless of whether such drain or connection had been previously allowed, permitted, or approved by the authorized enforcement agency. Any drain or conveyance connected from a commercial or industrial land use to the storm drain system which has not been documented in plans, maps, or equivalent records and approved by the authorized enforcement agency. An illegal discharge is any direct or indirect non-storm

water discharge to the storm drain system. The only permitted illegal discharge exemptions are water line flushing, landscape irrigation or lawn watering, rising ground water, ground water infiltration to storm drains, uncontaminated pumped ground water, foundation or footing drains (not including active groundwater dewatering systems), crawl space pumps, air conditioning condensation, non-commercial washing of vehicles, swimming pools (if dechlorinated - less than one PPM chlorine), fire fighting activities, discharges authorized by the enforcement agency as being necessary to protect public health and safety, and any other water source meeting applicable water quality standards. Dye testing, as well, is an allowable discharge, but requires a verbal notification to the Department of Public Works prior to the time of the test.

How does the ordinance impact my business?

Many businesses, as a natural byproduct of their daily business operations, produce or handle materials that are or will become waste. This is true particularly in the service industry. As well, many service business facilities have drains and other outlets that could be discharging wastes or be illegally connected to the storm sewer system. Penalties for violations include fines as high as \$30,000 dollars and revocation of access to the storm sewer system, so having an illegal discharge could greatly impact your business.

Ordinance Enforcement

Department of Public Works staff periodically inspect areas of the City for violations of the Stormwater Ordinance. Testing and reconnaissance of the storm sewer system allow Department personnel to understand if and where illicit connections have been made, and personnel routinely consider discharge practices and their adherence to the ordinance restrictions. Taking proactive steps to monitor and correct, if necessary, your business's discharges will save you time and monetary penalties in the future.

Preventing discharges before they begin...

Whether or not you operate an automotive service, a laundromat, a restaurant or a landscape service, there are several strategies you can employ to help eliminate the possibility of illegal discharges at your business. If your business, whatever its type, has facilities with floor drains, ask the Department of Public Works' Engineering Division if floor plans for your facilities exist. With these you may be able to determine if the floor drains are connected to the sanitary or storm sewer. Two other steps you can take follow below.

1. Keep water from contacting work areas

Work areas can be contaminated by raw materials, processed liquids, grease, oily wastes, heavy metals, and automotive and chemical fluids. Surfaces used for storing outdoor equipment or materials and for

maintaining vehicles, for example, could all be sources of illegal discharges. As water runs across these work areas, it picks up contaminants as it flows. If that water reaches a storm drain or ditch, those contaminants will be discharged to the storm sewer system and are then considered illegal discharges. To prevent these, consider the following:

- *Keep stormwater from contacting any industrial areas, either indoors or out.*
- *Install roofs or move industrial operations indoors to keep rain from falling onto work areas.*
- *Avoid practices like hosing down outdoor areas or washing commercial vehicles where the waste water will enter the storm sewer system.*

2. Educate employees about preventing stormwater pollution

The first strategy won't work unless your employees and coworkers accurately understand that improper disposal of materials into the storm sewer system endangers it and pollutes the City's waters, and could result in penalties. Inform and remind your coworkers and employees that:

- *Proper equipment washing procedures at designated washing areas prevents illegal discharges*
- *Closing all covers at dumpsters and other storage areas helps ensure compliance*
- *'Topping-off' or overfilling fuel tanks increases the chances that you are illegally discharging*

Illegal discharges at your business...

Different businesses, by discharging larger quantities or different types of wastewater and utilizing varied waste disposal practices, affect the storm sewer system in different ways. You can take business-specific prevention measures to decrease the chances that your business will be penalized for an illegal discharge.

⊕ Automotive Services

Vehicle maintenance, by its nature, involves circumstances that make illegal discharges possible. Take steps to eliminate discharges by disconnecting and covering any floor drains that are not necessary for your operation. Use absorbents for spills and sweep these up instead of hosing the areas down. Make sure that any chemicals and fluids are closed properly, stored above ground level either inside or out of any weather. Have any underground storage tanks evaluated for leaks or seepage, and maintain any grease or sand traps on a regular basis. If your facility produces untreated wash water, you will need to have some means to capture and treat it on-site.

⊕ Restaurants

Food preparation and dish washing also produce large amounts of waste water. As with automotive services, your business's wash water must discharge to the sanitary sewer, and not the storm sewer. Be certain that grease is disposed of in compliance with applicable law, and make certain that employees understand

that pouring any greases or wastes down storm drains constitutes an ordinance violation.

⊕ Landscapers and Lawn Services

Landscaping services often produce large amounts of brush and other debris. If you own or operate such a service, you'll need to ensure that no brush, leaves, debris or topsoil are being stored or disposed of in or near stream banks or other stormwater conveyance channels. Excess fertilizers or pesticides should never be disposed of in or around storm drains or stored where they will be exposed to rainfall and stormwater runoff.

⊕ Laundromats

Laundry and washing services, as well, need to take measures to ensure that wash water and cleaning agents and contaminants are not entering the storm sewer and are not being improperly stored, where they might come in contact with stormwater runoff.

Saving time and money...

Understanding the intent and the restrictions of the Stormwater Ordinance will save you time and money. Knowing what is prohibited and what is allowable will help determine your site's layout, how you'll need to retrofit your existing site, or what practices will prevent ordinance violations and fines.

Department of Public Works
201 James Avenue
Colonial Heights, VA 23834
(804) 520-9334



1500 - Clean Catch Basins 24-25

Run Date: 09/29/2025 2:10 PM

Reference No	Request Address One	Action Taken	Code Number	Work Completion Date
W061671-092925	City Wide	Cleaned Basins at: Removed .25 cyd of debris 114 Chesterfield 228 Washington Conduit and Ivey	1500 - Clean Catch Basin	7/2/2024
W061672-092925	City Wide	Cleaned basins at: 95 Sherwood Dr 115 Boykins Ave 1001 Forestview Dr 300 Fairmont Dr Removed .5 CY of Debris	1500 - Clean Catch Basin	7/3/2024
W061673-092925	City Wide	Cleaned basins at: 318 Jefferson 309 E. Westover. Westover & Conduit Removed .5 CY of debris	1500 - Clean Catch Basin	7/11/2024
W061676-092925	City Wide	Cleaned basins at: 318 Jefferson Branders Bridge & Wakefield 1907 Wakefield Removed .25 CYD of debris	1500 - Clean Catch Basin	7/11/2024
W061677-092925	City Wide	Cleaned basins at: B Ave & Boulevard 604 Walnut 501 Lyons 309 E. Westover Removed .5 CY of debris	1500 - Clean Catch Basin	7/11/2024
W059962-101724	City Wide	Cleaned storm drains at: 1. 114 Chesterfield 2. 1000 Forestview 3. Hamilton & Boulevard 4. Fisher & Westover 5. Chesterfield & Marvin 6. Suffolk & Boulevard	1500 - Clean Catch Basin	7/12/2024
W059998-101824	Westover and Conduit	Used VacCon to flush out 3 catch basins.	1500 - Clean Catch Basin	7/24/2024
W059590-080524	224 danville ave	All Basins were clear.	1500 - Clean Catch Basin	8/7/2024
W060069-102424	City Wide	Cleaned basins at: 1. 114 Chesterfield 2. Franklin & Maple Ave 3. 121 Lakeside 4. 111 Lakeside 5. Rear of Dale Apts 6. Boulevard & Sherwood 7. 1023 Forestview 8. Springdale & Sherwood	1500 - Clean Catch Basin	8/8/2024
W059720-083024	526 Roslyn Ave	Flushed and Vacuumed pipe and basin. Enclosed work trailer parked in front of basin for months, finally moved. Resident is putting debris in basin, leaves, gumballs etc. 2 tubes of unused caulk wedged in pipe sideways causing main problem.	1500 - Clean Catch Basin	9/5/2024
W059733-090524	Pin Oak and Bent Oaks Drive	Cleaned basin and retrieved cell phone.	1500 - Clean Catch Basin	9/5/2024
W061678-092925	City Wide	Cleaned basins at: 1301 Hermitage 1102 Canterbury 1212 Dana Lane Removed .25 CY of debris	1500 - Clean Catch Basin	9/12/2024

Reference No	Request Address One	Action Taken	Code Number	Work Completion Date
W061679-092925	City Wide	Cleaned basins at: 130 Sadler Boulevard & C. Ave 3204 Dale Removed .25 Cy of debris	1500 - Clean Catch Basin	9/13/2024
W061680-092925	City Wide	Cleaned basins at: 318 Jefferson 1014 Kensington 607 Pinehurst	1500 - Clean Catch Basin	9/16/2024
W061681-092925	City Wide	Cleaned basins at: Branders Bridge & Wakefield Boulevard & Fairfax 200 Dupuy 646 Battery Place Removed .5 CY of debris	1500 - Clean Catch Basin	9/17/2024
W061682-092925	City Wide	Cleaned basins at: Westover & Conduit 131 Jennick 301 Jennick Removed 1.0 CY of debris	1500 - Clean Catch Basin	9/17/2024
W060862-042125	City Wide	Cleaned 12 storm basins at: 114 Chesterfield, Chesterfield & Marvin, Franklin & Maple, 2207 Wakefield, 1905 Wakefield, 121 Lakeside, 111 Lakeside, Behind Dale Apts, Sherwood & Blvd, 1023 Forestview, Forestview & Brookhill, Springdale & Sherwood.	1500 - Clean Catch Basin	9/18/2024
W060887-042525	City Wide	Checking and cleaning storm drains.	1500 - Clean Catch Basin	9/18/2024
W061684-092925	City Wide	Cleaned Basins at: 83 Sherwood Dr 700 Forestview 103 Laurens Ln 409 Taswell Removed .5 CY of debris	1500 - Clean Catch Basin	9/20/2024
W061685-092925	City Wide	Cleaned basins at: Pickwick Alley 212 Lyons 313 Dick Ewell	1500 - Clean Catch Basin	9/24/2024
W061687-092925	City Wide	Cleaned basins at: 233 Huntington 106 Salisbury 119 Huntington Removed .5 CY of debris	1500 - Clean Catch Basin	9/26/2024
W061729-092925	501 lake drive	Cleaned Basin at: 220 Orange Ave - Catch Basin 215 Hillcrest Ave - Catch Basin 3204 Dale Ave - Curb Inlet 304 Maple Grove Ave - Curb inlet	1500 - Clean Catch Basin	10/3/2024
W061727-092925	501 lake drive	Cleaned Basins at: 208 Crestwood Dr - curb inlet 306 walnut ave - curb inlet 307 highland ave - cub inlet 212 lyons ave - curb inlet .5 CBY debris hauled in barrel dumped at shop	1500 - Clean Catch Basin	10/7/2024
W061728-092925	501 lake drive	Cleaned Basin at: 920 Williamsburg rd - curb inlet 115 School Ave - catch basin 106 Lexington dr - curb inlet -.25 CBY Debris -Hauled in Barrel - Dumped at shop	1500 - Clean Catch Basin	10/7/2024
W059935-100924	111 Pickwick Avenue	Cleaned catch basin. Removed .5 CY of debris	1500 - Clean Catch Basin	10/10/2024

Reference No	Request Address One	Action Taken	Code Number	Work Completion Date
W061724-092925	501 lake drive	Cleaned Basins at: Branders Bridge Rd and Wakefield Ave - Curb inlet 119 Wrights Ave - 2 Curb inlets .25 CBY Debris hauled in barrel dumped in shop	1500 - Clean Catch Basin	10/11/2024
W061722-092925	501 lake drive	Cleaned Basins at 513 Old Town Dr - Curb Inlet 608 Fairley Rd - Curb Inlet 1209 Covington Rd - Curb inlet -1/2 CBY DEBRIS Hauled in Barrel Dumped at shop	1500 - Clean Catch Basin	10/16/2024
W061720-092925	501 lake drive	Cleaned Basins at: 125 Stratford Dr - curb inlet 118 Pinecliff Dr - Curb inlet 1042 Hoperidge Ct - Curb inlet -.25 CBY Debris -Hauled in Barrel -Dumped at shop	1500 - Clean Catch Basin	10/17/2024
W061719-092925	501 lake drive	Cleaned Basin At: 111 Lakeside drive - Catch Basin 121 Lakeside drive - Catch Basin 130 Sadler Ave - Curb inlet 1/2 CBY Debris Hauled in Barrel Dumped at shop	1500 - Clean Catch Basin	10/18/2024
W061718-092925	501 lake drive	Cleaned Basins at: 1907 Wakefield Ave - Catch Basin BLVD and C Ave - Curb inlet 200 Dupuy Ave - Curb inlet -.25 CBY Debris Hauled in Barrel Dumped at shop	1500 - Clean Catch Basin	10/22/2024
W061717-092925	501 lake drive	Cleaned Basins at: 114 Chesterfield Ave - Catch Basin 124 Carell Ave 0 Curb inlet 208 Crescent Ave - Curb inlet 417 Bradsher Ave - Curb inlet -.25 CBY Debris Hauled in Barrel Dumped at shop.	1500 - Clean Catch Basin	10/23/2024
W061716-092925	501 lake drive	Cleaned Basins at: 228 Washington Ave - Catch Basin E. Westover Ave & Conduit rd - 2 curb inlets -1/4 CBY Debris Hauled in Barrel Dumped at shop.	1500 - Clean Catch Basin	10/25/2024
W060129-102924	220 Archer Ave	Cleaned ditch line and sucked out basin. Basin was full of debris.	1500 - Clean Catch Basin	10/25/2024
W061715-092925	501 lake drive	Cleaned Basin at: 922 Forrestview Dr - Curb inlet 95 Sherwood Dr - Catch Basin 917 Lakeview Ave - Catch Basin 220 Orange Ave - Catch Basin - Haules in Barrel -Dumped at shop	1500 - Clean Catch Basin	10/30/2024

Reference No	Request Address One	Action Taken	Code Number	Work Completion Date
W061714-092925	501 lake drive	Cleaned Basins at: 920 Williamsburg Rd - Curb inlet 127 School Ave - Curb inlet 1314 Centerbury In - Curb inlet 1100 wellington Rd - Curb inlet 106 Lexington Dr. - curb inlet Hauled in Barrel Dumped at shop	1500 - Clean Catch Basin	10/31/2024
W061703-092925	City Wide	Cleaned basins at: 309 E. Westover 114 Chesterfield 200 Dupuy Removed .25 CY of debris	1500 - Clean Catch Basin	11/4/2024
W060154-110424	420 Dupuy Ave	Basins and pipes clear in this area.	1500 - Clean Catch Basin	11/5/2024
W060178-111224	713 Conduit Rd.	Cleaned catch basin of pine needles.	1500 - Clean Catch Basin	11/5/2024
W060252-112524	the intersection of Suffolk Ave, and the Boulevard	Removed leaves from basin.	1500 - Clean Catch Basin	11/25/2024
W061707-092925	City Wide	Cleaned basins at: 1205 Yacht Basin 513 Old Town Dr 720 Old Town Dr Removed .25 CY of debris	1500 - Clean Catch Basin	11/27/2024
W060325-121624	1101 Yacht Basin Drive	Cleaned catch basin of leaves and grass clippings.	1500 - Clean Catch Basin	12/17/2024
W061705-092925	City Wide	Cleaned catch basins at: 106 Salisbury 233 Huntington Removed .25 CY of Debris	1500 - Clean Catch Basin	12/23/2024
W060424-011325	418 Hamilton Avenue	Cleaned catch basin of leaves.	1500 - Clean Catch Basin	1/13/2025
W060507-013125	208 Biltmore Drive	Cleaned catch basin of leaves.	1500 - Clean Catch Basin	1/31/2025
W060545-020725	Heron Run and Kingfisher Way	cleaned and flushed storm basin and pipe to unstop.	1500 - Clean Catch Basin	2/6/2025
W061660-092825	City Wide	Checked and cleaned storm drains in problem area.	1500 - Clean Catch Basin	3/10/2025
W060696-031325	309 Fischer Ave	Cleaned storm drain.	1500 - Clean Catch Basin	3/13/2025
W061725-092925	501 lake drive	Cleaned Basins at: 318 Jefferson Oak Ave - Curb Inlet 110 Royal Oak Ave - Catch Basin 526 Roslyn Ave - Curb inlet 319 Bristol Ave - Catch Basin -.5 CBY Debris Hauled in Barrel Dumped at shop	1500 - Clean Catch Basin	3/19/2025
W061029-052725	Prince Albert and Hamilton		1500 - Clean Catch Basin	5/9/2025

1501 - Repair Catch Basins 24-25

Run Date: 09/29/2025 1:43 PM

Reference No	Request Address One	Action Taken	Code Number	Work Completion Date
W059952-101624	2207 Wakefield Avenue	Restored Stormwater cut in front of basin with asphalt.	1501 - Repair Catch Basin	10/17/2024
W059953-101624	Dunlop Farms @ Gilcreef	Basin Repair. Same as W059954	1501 - Repair Catch Basin	10/29/2024
W059954-101624	Dunlop Farms BLVD/Gilcreef Ct	Excavated and hauled away 10 tons of asphalt and dirt. Tree roots causing problem. Used 6 tons of #5 stone and 4 tons of 21A stone. Installed weep hole screen too.	1501 - Repair Catch Basin	10/29/2024
W060888-042525	2408 Boulevard	Installed rebar in front of basin to keep pets out.	1501 - Repair Catch Basin	9/26/2024

4

1502 - Clean Storm Sewer 24-25

Run Date: 09/29/2025 1:59 PM

Reference No	Request Address One	Action Taken	Code Number	Work Completion Date
W057918-101023	415 Norwood Drive	Cleaned some time ago.	1502 - Clean Storm Sewer	7/3/2024
W061184-062725	221 Biltmore Dr	Flushed storm drain and pvc pipe in rear, water is now draining.	1502 - Clean Storm Sewer	6/6/2025

2

1503 - Clean Drainage Ditch 24-25

Run Date: 09/29/2025 1:45 PM

Reference No	Request Address One	Action Taken	Code Number	Work Completion Date
W053604-040822	1024 Taylor Ln	Cleaned part of ditch that we could get to.	1503 - Clean Drainage Ditch	8/6/2024
W059394-070524	949 Edinborough Drive	Cut down brush & vines, sprayed vegetation in ditch line also.	1503 - Clean Drainage Ditch	7/8/2024
W059404-070824	309 Piedmont ave	Cleaned ditch & sprayed vegetation.	1503 - Clean Drainage Ditch	7/10/2024
W059596-080524	316 Wright Ave	Cleaned pipe and cut ditch.	1503 - Clean Drainage Ditch	9/19/2024
W059601-080624	2207 Wakefield	Cleaned ditch and outfall. 6 CYDS Removed.	1503 - Clean Drainage Ditch	7/8/2024
W059899-100124	315 Wright Ave.	Removed branches and debris from ditch. High water went down.	1503 - Clean Drainage Ditch	10/1/2024
W059926-100724	3517 Boulevard	Cleaned ditch of grass and dirt not allowing water to run to basin. 2.0 CY of debris	1503 - Clean Drainage Ditch	10/8/2024

7

1504 - Clean Drainage Pipe 21-22

Run Date: 09/29/2025 1:48 PM

Reference No	Request Address One	Action Taken	Code Number	Work Completion Date
W059839-092624	2105 Snead Ave.	Used small camera to TV Line, Found nothing wrong with pipe or basin.	1504 - Clean Drainage Pipe	9/27/2024
W059895-100124	300 Kingfisher Wy.	Removed sticks and debris from drainage ditch that had collected in front of pipe.	1504 - Clean Drainage Pipe	10/1/2024
W060557-021225	404 James Avenue	Used flusher to unstop storm sewer basins & pipes. Clothes, shirts, bra, blanket and robe in pipe.	1504 - Clean Drainage Pipe	2/12/2025

3

1505 - Repair Storm Sewer 24-25

Run Date: 09/29/2025 1:52 PM

Reference No	Request Address One	Action Taken	Code Number	Work Completion Date
W055106-110322	410 Nottingham Dr.	Dug out street and installed 6' of 4" PVC pipe and couplings to connect to basin & keep weep hole for excess draining. Installed 3 tons #5 stone and 6 tons of 21a stone and compacted.	1505 - Repair Storm Sewer	9/25/2024
W060597-022525	204 WINDMERE DR	Found no problems with basin or pipe. Old tree stump rotting out near back fence that is settling.	1505 - Repair Storm Sewer	2/26/2025

2

1506 - Repair Drop Inlet 24-25

Run Date: 09/29/2025 2:01 PM

Reference No	Request Address One	Action Taken	Code Number	Work Completion Date
W060598-022525	189 Charlotte Ave.	Spoke with residents and homeowners. Placed 2 Barrels and old sign blank over hole.	1506 - Repair Drop Inlet	2/25/2025
				1

1507 - Clean Curb and Gutters 24-25

Run Date: 09/29/2025 1:47 PM

Reference No	Request Address One	Action Taken	Code Number	Work Completion Date
W058268-010324	3005 wildwood	Used flusher to clean gutter and driveway pipe.	1507 - Clean Curb and Gutters	7/8/2024
W058816-040924	204 A Battery Place	Used both sweepers to sweep and cut grass from concrete gutter.	1507 - Clean Curb and Gutters	10/15/2024
W059075-052124	302 Lynchburg Avenue	Cleaned gutters and sprayed.	1507 - Clean Curb and Gutters	7/10/2024
W059544-072824	909 Jamestown Road	Cleaned cub & gutter with sweeper.	1507 - Clean Curb and Gutters	10/21/2024
W059582-080224	914 Conjurers Dr.	Cleaned curb & gutter with street sweeper.	1507 - Clean Curb and Gutters	8/5/2024
W059597-080524	909 Jamestown Road	Cleaned curb and gutter with sweeper.	1507 - Clean Curb and Gutters	10/21/2024
W059603-080824	304 Plumtree Avenue	Swept and sprayed Plumtree Ave.	1507 - Clean Curb and Gutters	10/21/2024
W059894-093024	101 Princeton Road	Cleaned curb and gutter with sweeper.	1507 - Clean Curb and Gutters	10/21/2024
W060371-122624	James and Elko Avenue	Cleaned and swept curb & gutter.	1507 - Clean Curb and Gutters	2/28/2025
W060697-031325	Fischer Ave (one block long)	Cleaned curb & gutter.	1507 - Clean Curb and Gutters	3/20/2025
W061089-060525	220 Biltmore Dr.	Swept curb and gutters on Biltmore with Ravo.	1507 - Clean Curb and Gutters	6/10/2025
W061090-060525	131 Swift Creek Ln.	Swept curb and gutter with Ravo.	1507 - Clean Curb and Gutters	6/10/2025

12

1509 - Drainage Miscellaneous 24-25

Run Date: 09/29/2025 1:54 PM

Reference No	Request Address One	Action Taken	Code Number	Work Completion Date
W049098-102920	132 Archer Ave.	Met with resident and informed him that the land behind him was private and did not belong to City.	1509 - Drainage Miscellaneous	7/11/2024
W053448-032422	2111 Wakefield Ave.	Second investigation; There's nothing the City can do water sheening across backyard from neighbor's yard.	1509 - Drainage Miscellaneous	9/9/2024
W056612-072723	906 Williamsburg Rd	Small amount of water standing due to no fall in the curb and gutter. There are several small areas in that neighborhood with the same issue. No repairs needed at this time.	1509 - Drainage Miscellaneous	3/19/2025
W059583-080324	711 Meadowview Road	installed temporary berm and sandbags.	1509 - Drainage Miscellaneous	8/7/2024
W059929-100724	212 Richmond Ave	None, Yard is lower than surrounding areas.	1509 - Drainage Miscellaneous	10/10/2024
W060089-102424	906 Williamsburg Road	Small amount of water standing due to no fall in the curb and gutter. There are several small areas in that neighborhood with the same issue. No repairs needed at this time.	1509 - Drainage Miscellaneous	3/19/2025
W060323-121324	307 Brookedge Drive	Cars cutting across the front yard causing problem. Water cannot drain to basin. Private property issue.	1509 - Drainage Miscellaneous	12/13/2024
W060505-013125	680 Southpark Boulevard-Wendy's	Did not witness. Referred to Engineering.	1509 - Drainage Miscellaneous	1/31/2025
W061115-061125	3498 East Ave.	Patched are in front of inlet and flow line behind inlet with asphalt.	1509 - Drainage Miscellaneous	6/12/2025

9

1516 - Cleaned BMP's 21-22

Run Date: 09/29/2025 1:46 PM

Reference No	Request Address One	Action Taken	Code Number	Work Completion Date
W059714-082924	Chesterfield/ Marvin AVE	Cleaned ditch and BMP. 3 cyd od debris.	1516 - Inspect/Clean BMP	9/18/2024
W059664-082024	100 Highland Ave	Cleaned ditch and BMP.	1516 - Inspect/Clean BMP	9/30/2024
W059665-082024	201 James Ave	Cleaned ditch and BMP.	1516 - Inspect/Clean BMP	10/4/2024
W059666-082024	Chesterfield at Marvin Ave	Cleaned ditch & BMP. 3 cyd of debris.	1516 - Inspect/Clean BMP	10/10/2024
W061536-090425	Chesterfield and Marvin Ave	Cleaned ditch & BMP.	1516 - Inspect/Clean BMP	10/10/2024

5

Illicit Discharge Incident Reference Guide						
Reference Number	Location	Description	Incident Date	Discharge Discovered By	Investigation Resolution and Additional Follow-Up Activities	Date Closed
00001	Sherwood Drive Pump Station	Wastewater seeped through 2 manholes on Sherwood Drive and small amount entered storm basin.	7/9/2024	Government Employee	Pump station was cut off and reset.	7/9/2024
00002	206 Chesterfield Ave	Wastewater line on the 100 block of Lafayette Ave was blocked with grease and debris. Wastewater seeped into open storm drain at 206 Chesterfield Ave.	9/9/2024	Citizen	Sewer line was flushed and vacuumed.	9/9/2024
00003	2701 Conduit Road (Main Pump Station)	Main pump station was overwhelmed with infiltration during storm. Pump station was about to be flooded. Release valve was partially opened to relieve the water. Water was discharged into Old Town Creek to lower level in pump station.	10/1/2024	Government Employee	Valve was closed off and discharge stopped once the level was brought down.	10/1/2024
00004	Hillcrest Pump Station	Wastewater manhole on line in rear of Hillcrest Pump Station overflowed. Pump station float malfunctioned.	10/8/2024	Government Employee	New float was installed and corrected the problem.	10/8/2024
00005	Hillcrest Pump Station	Wastewater manhole on line in rear of Hillcrest Pump Station overflowed. Pump station stopped working.	10/20/2024	Government Employee	Pump station was cut off and reset.	10/20/2024
00006	Hillcrest Pump Station	Wastewater manhole on line in rear of Hillcrest Pump Station overflowed. Failed pipe in dry well.	11/1/2024	Government Employee	By-pass pump was set in place to alleviate overflow. Pipe was repaired.	11/1/2024
00007	Hillcrest Pump Station	Wastewater manhole on line in rear of Hillcrest Pump Station overflowed. Failed repair of pipe in dry well.	11/4/2024	Government Employee	By-pass pump was set in place to alleviate overflow. Pipe was repaired again.	11/4/2024
00008	2701 Conduit Road (Main Pump Station)	Wastewater escaped from manhole on City property when wet well ran at high elevations. SCADA failed to read well level correctly causing the pumps to fail to engage.	11/15/2024	Government Employee	Pumps were operated manually while contractor worked on the SCADA system. Once the system was repaired, pump went back to normal operating procedures.	11/15/2024
00009	151 Chesterfield Ave	Wastewater seeped out of manhole cover.	1/27/2025	Citizen	Sewer line was flushed and vacuumed to unstop and remove grease build up.	1/27/2025
00010	3201 Dale Ave	Force Main failed and discharge into nearby drainage ditch.	4/17/2025	Government Employee	Emergency repair was completed on the force main.	4/18/2025

STORMWATER TRAINING
2024 WATERJAM - VIRGINIA AWWA CONFERENCE
VIRGINIA BEACH, VA

SESSION NAME	PRESENTATION TITLE	EMPLOYEES ATTENDED
Asset Management I 9/11/24	Amping up Your GIS to Support More effective Asset Management and Utility Operations.	Ted Berberich Daniel Kanusek Mike West Randy Carter
Stormwater & Flood Mitigation Planning I 9/11/24	Development of a Comprehensive Coastal Stormwater Asset Management Program.	Ted Berberich Daniel Kanusek Mike West
Stormwater & Flood Mitigation Planning II 9/11/24	Predicting Interior Flooding: Building an Integrated Flood Model for Washington, DC.	Ted Berberich Daniel Kanusek Mike West
Stormwater Design 9/12/24	Nature had different Plans: A Stream Story.	Ted Berberich Daniel Kanusek Mike West Randy Carter

STORMWATER TRAINING
2025 APWA MID-ATLANTIC CONFERENCE
OCEAN CITY, MD

SESSION NAME	PRESENTATION TITLE	EMPLOYEES ATTENDED
ENVIRONMENTAL 05/01/25	PFAS in Water Supplies - Challenges and Solutions	Daniel Kanusek Brandon Owen Rickey Corn
ENVIRONMENTAL 05/01/25	You Own A BMP! Everyone Owns A BMP! - Identifying & Educating Owners of Stormwater Control Measures	Daniel Kanusek Brandon Owen Rickey Corn
ENVIRONMENTAL 05/01/25	Stormwater Asset Management Driven CIP Planning	Daniel Kanusek Brandon Owen Rickey Corn