Public Education and Outreach Plan
and
Public Involvement and Participation Program

Small MS4 MCM1 and MCM2

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LOVE your watershed
RIVANNA-STORMWATER.ORG

Prepared By:

Rivanna Stormwater Education Partnership

Albemarle County
Albemarle County Public Schools
Albemarle County Service Authority
City of Charlottesville
Rivanna Conservation Alliance
Rivanna Water and Sewer Authority
Thomas Jefferson Planning District Commission
Thomas Jefferson Soil and Water Conservation District
University of Virginia

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1.0 Rivanna Stormwater Education Partnership (RSEP)

Founded in March 2003, the Rivanna Stormwater Education Partnership (RSEP) meets a minimum of six times a year to plan and implement stormwater education initiatives and share information about each partner's stormwater programs. Education initiatives are undertaken by RSEP to help make citizens aware of stormwater issues, while also equipping them with practical knowledge and actions to help improve local water quality. RSEP utilizes a multi-faceted approach to educate and provide outreach across targeted urban areas (Figure 1). Past campaign materials, including print ads, movie theater ads, posters on public transit buses, magnets, radio spots, and utility bill inserts are written in simple, easy to understand language and often utilize simple pictures or drawings to help the message come across to all generations and all education levels. RSEP also provides some campaigns in Spanish. Education and outreach materials are available at www.rivanna-stormwater.org. Each partner pays an annual membership fee to help fund RSEP projects. In addition, the RSEP has successfully applied for and partnered on grants to supplement education efforts.

1.1 Members

RSEP was initially created as a collaborative effort among local public entities in the City of Charlottesville and the surrounding County of Albemarle that hold small Municipal Separate Storm Sewer (MS4) permits under the National Pollutant Discharge Elimination System program. RSEP has since expanded to also include non-MS4 members in the region who have interests related to education, outreach, and public participation in stormwater management. While the core premise of RSEP still remains focused on helping MS4 members achieve permit compliance with Minimum Control Measures (MCM) 1 and 2, the inclusion of non-MS4 members allows RSEP to look beyond compliance andreach a broader audience.

The MS4 permit holders that comprise RSEP are Albemarle County, the City of Charlottesville, and the University of Virginia. Other members of RSEP are Albemarle County Public Schools, the Albemarle County Service Authority, the Rivanna Water and Sewer Authority, the Rivanna Conservation Alliance, the Thomas Jefferson Planning District Commission, and the Thomas Jefferson Soil and Water Conservation District. The Thomas Jefferson Soil and Water Conservation District (TJSWCD) provides support to RSEP and serves as its coordinating body.

1.2 Collaboration Benefits

This program plan has been developed with the intent to increase public's knowledge on how to reduce stormwater pollution, increase the public's knowledge of hazards associated with illegal discharges and improper disposal of waste, and has been developed as a diverse program with strategies that are targeted toward individuals or groups likely to have significant stormwater impacts. RSEP has produced effective and far-reaching education programs that have benefited from the variety of expertise and resources each partner offers. Planning and implementing education initiatives through RSEP has resulted in Rivanna River watershed-focused projects and

has avoided the over-exposure and redundancy that might result if each partner were carrying out projects on their own.

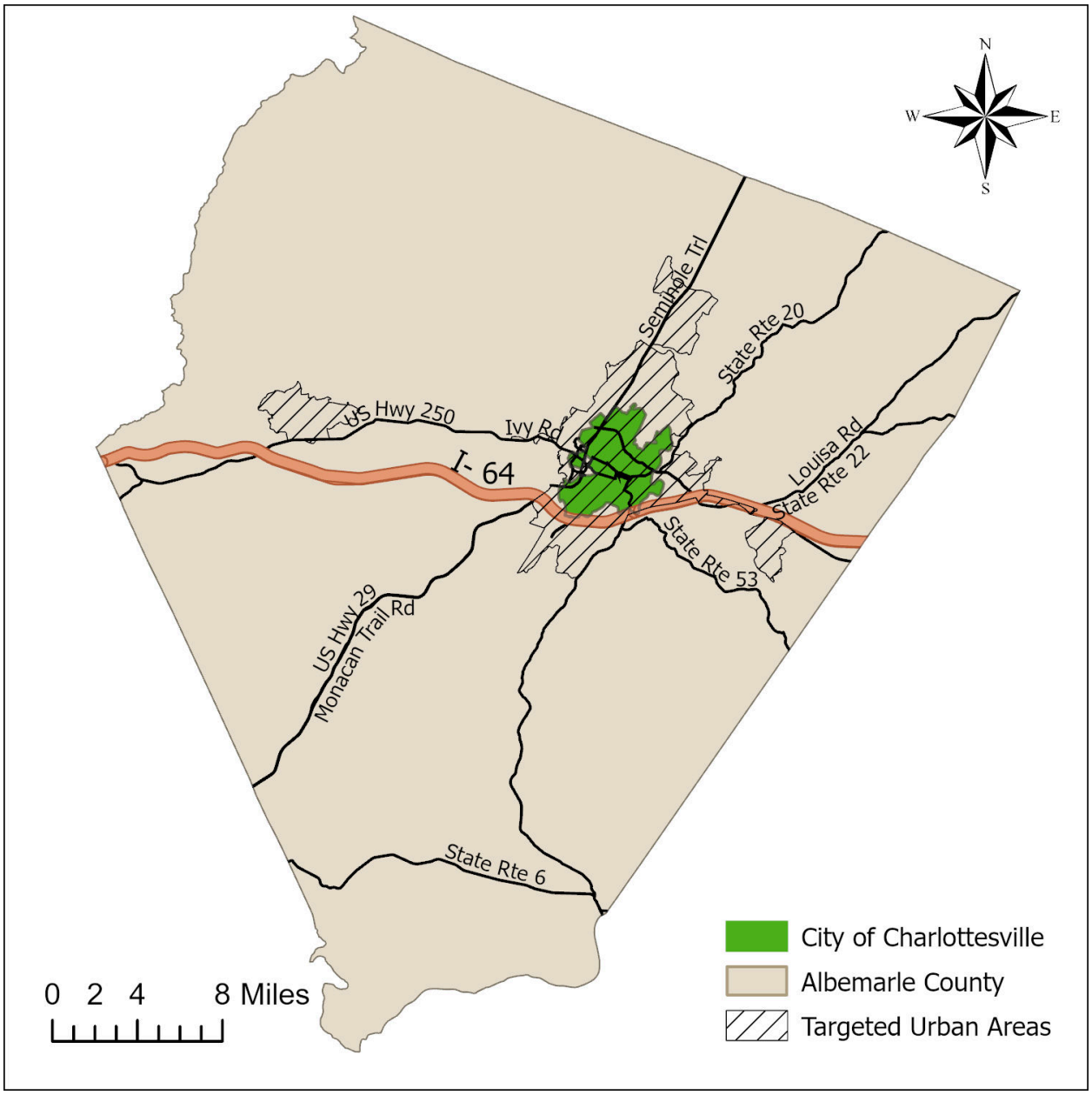

Figure 1. Urban areas targeted by RSEP Education and Outreach (US Census-designated urban areas, 2020)

2.0 High Priority Water Quality Issues

RSEP members collaborated to determine the high priority water quality issues for the region, which will be the focus of the education and outreach campaigns for the current MS4 permit cycle. During the 2013-2018 permit cycle, RSEP chose local and regional water quality impairments, bacteria, sediment, and nutrients (nitrogen and phosphorus), as their high priority

issues. Campaigns conducted during this time frame were considered successful. However, RSEP found the chosen issues somewhat limited the extent of outreach efforts that the group could undertake. For the 2018-2023 permit cycle, RSEP members chose to address broader categories of water quality issues, namely runoff volume reduction, potential runoff pollutants, and TMDL impairments as the high priority issues. By grouping regional water quality impairments as one high priority issue, RSEP was able to address this highly important topic, while allowing the group to also address other issues that also have the potential to impact water quality in the region. Due to the success of this approach, RSEP has decided to continue with these same high priority water quality issues for the 2023-2028 permit cycle.

2.1 Runoff Volume Reductions

One of the biggest challenges facing urban waterways is the sheer volume of runoff being transported from impervious surfaces to the streams. In developed areas, rainwater falls on impervious surfaces, such as buildings, parking lots, and driveways which prevent water from infiltrating into the ground and recharging local aquifers. This rainwater flows rapidly across impervious surfaces and into storm sewers, which direct the water to local streams. As a result of this rapid transport to local streams, stream flow volumes and velocities are significantly higher than would be observed under natural conditions. These high, rapid flows can cause stream bank erosion and changes in stream ecosystem habitats. In addition, flooding has become an increasing issue due to the severity and intensity of rainstorms in recent years, combined with concerns about other climate change impacts. Best management practices (BMPs) can be installed to mitigate the impacts of development by slowing down the transport of water from impervious surfaces to local streams.

While localities and developers are required to install BMPs for certain construction projects, maintenance of these BMPs is not always taken into account during their installation. In addition, there are many BMPs homeowners can implement or install to reduce the runoff volume and velocity from their properties and contribute to healthier streams. RSEP intends to provide education and outreach to both homeowners as well as new and existing BMP owners during the permit period. The goal of this education program will be to educate recipients on the negative impacts of increased stormwater volume and velocity and also provide ideas for ways they can reduce, mitigate, or treat runoff from their property. Example messaging may include information about rain barrel installations, downspout disconnections, or information about local flood resilience planning.

2.2 Potential Runoff Pollutants

As stormwater flows across roadways, parking lots, and driveways, it picks up pollutants such as sediment, oil, nutrients, bacteria, and trash that are lying on the surface. Sources of these pollutants can be as varied as the pollutants themselves, ranging from pet waste left by a local resident to a diesel fuel spill on a local industrial site to cigarette butts tossed on the ground by

passing smokers. Additionally, emerging contaminants that do not yet fall under TMDLs, such as chlorides and PCBs, could be covered in this category if local conditions warrant such coverage.

There are two primary ways to handle potential runoff pollutants. The first is to prevent the potential pollutant from becoming a water quality issue. Educational messaging for this approach may range from reminding restaurants how to properly handle their used cooking oil to information on excess salt usage during the winter to reminding residents to obtain a soil test before applying fertilizer on their lawns. The second way to handle potential runoff pollutants is to try to capture them after they are out in the environment. While this approach is not ideal, it is a necessary component of a comprehensive outreach program. In addition to reducing runoff as previously discussed, certain BMPs can also help trap or absorb these pollutants in the environment and prevent them from reaching local waterways. In addition, the illicit discharge and elimination (IDDE) programs run by the various MS4 permit holders will help to identify and eliminate possible illicit discharges resulting from human activity in the watershed. IDDE outreach and education efforts provided by RSEP have and will continue to warn against storm drain dumping and encourage use of the RSEP Water Pollution Hot Line to report suspected illegal discharges.

2.3 TMDL Impairments – Bacteria, Sediment, Nitrogen, Phosphorus

The Chesapeake Bay TMDL requires pollution reductions in sources of phosphorus, nitrogen, and sediment loads across the Bay watershed and sets pollution limits need to achieve desired water quality standards. These TMDL impairments have significant impacts in the local area. Sediment source reductions are also required locally by the Rivanna River Benthic TMDL. TMDLs for many local streams also touch on sediment as a pollutant source, with bacteria as an added pollutant of concern in many of these local streams.

TMDL impairments are logical topics for MS4 outreach and education programs, as most of the streams with TMDLs in the local areas are urban streams and MS4s are concentrated in the urban areas. Of the stream miles assessed within the targeted urban areas, almost 30% have an impaired benthic macro-invertebrate community, as a result of too much sediment in our waterways[1]. The *Final Report of the Benthic TMDL Development for the Rivanna River Watershed* submitted to VA DEQ (2008) identifies an existing sediment load from land-based and in-stream erosion from the MS4 point source. Over a quarter (26%) of streams assessed within the targeted urban areas are considered impaired by excessive amounts of bacteria[2]. Bacteria impairments in these streams can be caused by a variety of sources in urban stormwater including pet waste, leaking sewer pipes, wildlife excrement, and agricultural uses. As for nitrogen and phosphorus, the MS4 general permit requires permittees to utilize turf and landscape management plans to minimize nutrient usages, while also prohibiting the usage of deicers containing urea, nitrogen, or phosphorus. Similar messaging is also relevant to local residents and business owners.

[1] *Final 2012 305(b)/303(d) Water Quality Assessment Integrated Report*, VA DEQ, 2014
[2] *Final 2012 305(b)/303(d) Water Quality Assessment Integrated Report*, VA DEQ, 2014

The goal of outreach and education campaigns focusing on TMDL impairments will include a variety of approaches, strategies, and target audiences. Licensed dog owners in the City and County could be targeted to pick up pet waste to reduce bacteria. Strategies utilized to address reductions in runoff volume could be used to target sediment. While homeowners, gardeners, and landscape maintenance professionals could be targeted to address fertilizer usage.

3.0 Public Education and Outreach Opportunities

The public education and outreach opportunities that RSEP plans to provide during the 2023-2028 permit cycle are included in Table 1. These strategies will be used to communicate the high priority water quality issues to the target audiences. At minimum, two strategies will be used per year to communicate to the target audience regarding the high priority stormwater issues.

4.0 Public Involvement and Participation Opportunities

This Outreach and Education Plan will be posted on the RSEP website, the City of Charlottesville's website, Albemarle County's website, and UVA's website and will remain available for the duration of the 2023-2028 MS4 Permit Cycle. At any time during the permit cycle, the public can visit any of these websites to report potential illicit discharges, improper disposal or spills to the MS4, complaints regarding land disturbing activities, or other potential stormwater pollution concerns. In addition, the public can also utilize these websites to provide input on any of the RSEP partners MS4 program plans, including this Outreach and Education Plan.

The public involvement and participation opportunities that RSEP plans to provide during the 2023-2028 permit cycle are included in Table 1. No fewer than four activities per year from a minimum of two or more of the activity categories will be conducted to provide an opportunity for public involvement to improve water quality and support local restoration and clean-up projects.

5.0 Adjusting Target Audiences and Messaging

As necessary, RSEP will adjust target audiences and messages to address any observed weaknesses or shortcomings in the public education and outreach programEducational materials may be developed, modified, or improved to address changing needs. In addition, the messaging or activities described in Table 1 may be altered to appeal to different target audiences or to address different high priority issues than the ones listed. Other methods beyond those currently described in Table 1 are likely to be employed as well.

Table 1. Planned Public Education and Outreach and Public Involvement and Participation Opportunities

Time Frame - Frequency	Strategy or Activity Description	High Priority Water Quality Issue Addressed			Target Audience / Metric to Determine if Activity is Beneficial to Water Quality	MCM 1	MCM 2
		Runoff Volume	Runoff Pollutants	TMDL Pollutants			
Spring - *once during permit cycle*	Written Materials - *Utility Bill Inserts*	✔	✔	✔	Homeowners and residents – number of inserts delivered	✔	
Spring - *once during permit cycle*	Written Materials – *Electronic Utility Bill Inserts*	✔	✔	✔	Homeowners and residents – number of electronic recipients	✔	
Fall - o*nce during permit cycle –*	Written Materials - *Charlottesville Area Transit Bus Ad*		✔	✔	Homeowners and residents – number of bus riders during ad period	✔	
Winter *Once during permit cycle*	Media Materials - *Charlottesville Public Access Station PSAs*	✔	✔	✔	Homeowners and residents – there is no metric to determine viewership or number of times the ad is shown, however it is still a worthwhile effort that may catch viewers not reached via other methods	✔	
Fall or Spring - *2-3x during permit cycle*	Media Materials - *Cville Weekly Ads*		✔	✔	Homeowners and residents – estimated distribution	✔	
Winter and Summer - *Annually*	Media Materials - *Social Media Promotion*	✔	✔	✔	Homeowners and residents – estimated number of followers	✔	
Ongoing	Media Materials – *GIS StoryMap*	✔	✔	✔	Homeowners and residents – no tracking available, but information is linked from RSEP	✔	

					website and is available to the public		
Spring - *Annually*	Alternative Materials - *Magnets*		✔	✔	Homeowners and residents – number of magnets distributed	✔	
Spring - *Annually*	Alternative Materials - *Stickers*		✔	✔	Homeowners and residents – number of stickers distributed	✔	
Spring - *Annually*	Public Education Activities – *booth at community event*	✔	✔	✔	Homeowners and residents - Number of event attendees	✔	✔
Spring - *Annually*	Public Education Activities – *SOL activities with 4th grade students*	✔	✔	✔	Local students – number of student participants	✔	✔
2-3 Events in Spring or Fall *Annually*	Public Education Activities - *Tabling at Riverfest, Ecofairs, Kidvention, or other events*	✔	✔	✔	Homeowners and residents - Number of event attendees	✔	✔
Spring or Fall *Annually*	Restoration – *Stream Clean Up Day*		✔	✔	Homeowners and residents - Number of participants or number of bags of trash collected		✔
Spring *Once per permit cycle*	Pollution Prevention - *Participant Workshop*	✔	✔	✔	Homeowners and residents - Number of workshop attendees		✔