

Appendix E: Citywide Program Assessment

Introduction

An assessment of the City's programs and policies was performed in accordance with Objectives 1.4, 1.5, 2.1, 2.2, and 3.3 (see main SWIP document):

The following strategy was employed for the task:

- Review existing City programs in place that contribute to implementing the SWIP and provide recommendations for adapting programs and policies to be more targeted, efficient, and effective at meeting the MS4 Permit goals.

New Development, Redevelopment, and Existing Developed Land

The list of program components above represents a complex mix of technical and administrative programs and policies that must fit together into a cohesive and effective citywide stormwater program. An important element of the program is fostering understanding by citizens and those who must follow related ordinances (e.g., developers and contractors).

It is important to note that all land uses are affected by the program:

- New development and redevelopment activities are regulated through the VSMP, and individual projects undergo plan review, permitting, and inspections.
- Existing developed land was primarily developed in the past with no stormwater controls or using controls that do not meet current standards. Existing developed land constitutes most of the land in the City, so it cannot be ignored when searching for opportunities for pollutant removal. The City is using the SWIP process to explore possible retrofits on both public and private land.

Retrofits are considered voluntary in that property owners cannot be compelled through regulations to build the retrofits, but the City must still meet the citywide TMDL reduction targets required by the MS4 Permit. Even though cooperation is voluntary, many stakeholders and landowners should be engaged to assist the City in complying with the MS4 Permit requirements and improving environmental resources within the City, not only for regulatory compliance, but for the benefits to local water quality for the City of Harrisonburg.

The Challenges: Timely and Cost-Effective Solutions

The TMDL Special Conditions in the MS4 Permit will require 100% reduction of the City's allocated pollutant loads for total phosphorus (TP), total nitrogen (TN), and total suspended solids (TSS) through three five-year permit cycles from 2013 to 2028. The overlapping challenges for the City include:

- Regulatory Uncertainty: Decision making at the local level is complicated by Chesapeake Bay Program modeling and load allocation updates and revised BMP crediting guidance by the DEQ (or the EPA). Shifting policies mean uncertainty about whether selected BMPs will be credited consistently through all three permit cycles and beyond.
- Blend of Regulatory & Incentive Programs: The program combines regulatory and incentive/voluntary approaches to meet load reduction targets and assure citizens and ratepayers that the program is being administered equitably. Regulatory programs are

generally prescribed by state VSMP regulations and the MS4 Permit. Incentive programs have more flexibility in their structure and scope.

- **Stewardship of Ratepayer Funds:** The program must provide a mix of practices that deliver a good value to the ratepayers. This will involve seeking the most cost-effective local BMPs and perhaps considering off-site options (e.g., purchase of nutrient credits) if the cost of locally implemented BMPs rises too high to be considered cost effective. This can be especially important in meeting the 100 percent reduction targets during the third permit cycle, when the more cost-effective BMP solutions have already been implemented during previous permit cycles.

Active vs. Passive Incentive Program Options

Some of the programs outlined in the tables above can be considered “passive” in that the information is put out to the public and program participation is self-selecting. For example, the stormwater utility fee credit program is publicized and promoted by the City, but homeowners must take initiative to install the BMPs on their property. Although this approach does not have the highest pollutant reductions, these incentive programs also serve to meet other MS4 goals, such as public involvement and outreach. In fact, the public engagement in local water quality may be the most valuable attribute of such programs.

[Table E-1](#) shows Harrisonburg’s Stormwater Utility Fee credit activities for 2015 and 2016. Almost all fee credits were granted for residential applications, and, of the ten available practices in the credit manual, three were most popular, presumably due to their relative simplicity and low up-front cost. Table E-1 also shows a spike in interest in fee credits when the utility is new, but participation declines over time. Subsequent years will reveal whether this trend downward holds for the Harrisonburg stormwater utility fee credit program. Projections, including the downward trending participation, estimate that fee credit practices can achieve reductions of 161.14 and 14.60 pounds of TN and TP respectively by 2023 ([Error! Reference source not found.](#) [Table C-9](#)).

Table E-1. Harrisonburg’s Stormwater Utility Credits for 2015 and 2016

	2015	2016
Disconnects	121	92
Rain Barrels	40	34
Nutrient Management Plans	126	123
Non-Residential or Industrial Permits	4 (all EMU campus: 2 voluntary + 2 VSMP)	0

While passive approaches are an important part of the local program, they are not sufficient to achieve the significant pollutant removals necessary to meet the requirements. A more active program could incorporate other initiatives.

An important feature of a more active strategy is deliberately targeting the most promising, cost-effective practices. These may be improvements on commercial or industrial sites with large areas of impervious cover. Generally, for these types of property owners, the relatively small Stormwater Utility Fee and the potential credit are not enough of an incentive to warrant significant investments in new BMPs or water quality retrofits. The goal of additional incentive mechanisms or an “active” program

would be to increase participation and subsequent benefits. An active incentive program would focus on properties that have:

- Large areas of impervious cover with little or outdated stormwater treatment.
- Good opportunities on the site for retrofits (e.g., older, poorly-functioning basins or ponds, or degraded stream reaches).
- Willing property owners.
- Property owners or operators with capabilities for long-term operation and maintenance of BMPs, if that is a requirement of the local incentive program.

The tables in the SWIP provide some potential program models for a more active crediting system. Models include a utility-administered grant program, partnerships with nonprofit organizations, and other types of Public/Private Partnerships or Community-Based Public/Private Partnerships (U.S. EPA Region 3, 2015). The latter type of program is currently being implemented by various larger, Phase I MS4s in Maryland, and are also being considered by some Virginia communities. The stated advantages of a P3 or CBP3 are that they can overcome the sometimes-sluggish rate of delivery of BMPs when administered solely by public agencies, expand BMP financing options, and share the risk of BMP implementation between the public and private sectors.

Other features of a P3 and CBP3 include:

- Involves one or more private partners
- Executed through a formal mechanism, such as a contract
- Stipulates a length of time for performance of the tasks
- Depending on the program, the P3 can cover: (1) finding the best BMP sites, (2) designing, permitting, and building the BMPs, and (3) conducting operation and maintenance for a specified period.

P3 and CBP3 are sophisticated programs that require active partners and administrative oversight by the local program. Also, market conditions within the Harrisonburg region may or may not support a fully-functional P3 or CBP3, and may necessitate scaled-down models. The models developed in Maryland came about in response to aggressive regulatory challenges and were initiated in communities with large staffs. The model should be adapted to a smaller setting, and thus would offer a different market potential for the private partner. The City of Charlottesville is currently looking to adapt a CBP3 model to a Phase II Virginia MS4, so there will likely be lessons to draw from that experience for others considering such a program.

Trading or Pollutant Credit Sharing

The tables in the SWIP summarize options that would be considered “off-site,” in that pollutant credits are obtained through purchase or contract from another entity outside the City. Many MS4s would prefer to use local funds to construct local projects, and the City’s Stormwater Advisory Committee has stated explicitly its preference to use stormwater utility funds within City limits. However, there are several factors that may prompt consideration of off-site credits, at least as a second-tier option. Among them are the more stringent pollutant reductions associated with future permit cycles and the higher cost of local BMPs after the “easier” and less expensive practices are implemented first. Harrisonburg has several options for purchasing off-site credits:

- Purchase “perpetual” credits through the Virginia Nutrient Credit Exchange. These credits are generated by permanent pollutant reductions achieved on agricultural or urban lands within the same watershed. An example would be a farm that converts pasture to a permanent riparian buffer. It is important to note that these credits can only be used to comply with the Chesapeake Bay TMDL, and NOT for the local Blacks Run/Cooks Creek TMDL.
- Purchase “annual or term” credits through the Virginia Nutrient Credit Exchange, also within the same watershed. An example would be pollutant reductions above and beyond permitted limits generated by a wastewater treatment plant. This type of credit must be purchased every year that the MS4 Permittee wishes to obtain the credits. As such, there is some risk that the credits may not be available in some years, so the strategy can also be viewed as a “stop-gap” or temporary measure to allow time for local BMPs to be designed and constructed. Again, the credits can only be used for the Chesapeake Bay TMDL reductions.
- Like the bullet above, the MS4 Permittee may also execute a contract with another permitted entity, such as the Harrisonburg-Rockingham Regional Sewer Authority (HRRSA), to obtain annual credits without using the Virginia Nutrient Credit Exchange.

The purchase of off-site credits, which type, and in which permit cycle are strategic decisions based on the feasibility, cost, and schedule of meeting pollutant reduction targets with local BMPs. As highlighted above, the strategy can include permanent and/or annual credits.

The tables in the SWIP also note a form of credit sharing that is not off-site, and that is the coordination of pollutant reductions between City-managed VSMP projects (new development or redevelopment projects that must comply with stormwater regulations) and the MS4 Permittee. For instance, the MS4 may generate pollutant reductions through BMP implementation, some of which can be shared with a VSMP project where on-site stormwater controls are infeasible or very expensive. This is a good strategy to consider; the main risk is that the same load reductions cannot be claimed by both a VSMP project and the MS4 permittee. It should also be noted that City VSMP projects are also eligible, with some restrictions, to purchase permanent credits from the Virginia Nutrient Credit Exchange, and this would not “rob” any pollutant reductions from the MS4 program.

MS4 Program Recommendations

Harrisonburg’s MS4 Permit has many options to consider in expanding and refining City programs and policies for stormwater. The key is to select the most appropriate and achievable options based on the staffing, resources, and community preferences. Based on consultation with City staff, the following recommendations should be considered further. Some of these are procedural steps that involve working with the community to better gauge the best path forward.

- Convene focus groups to get a sense of the willingness of various stakeholders to participate in potential incentive programs. Target groups may include commercial, industrial, institutional, residential, and multi-family property owners. These focus groups would provide feedback on the current incentive programs and utility fee/credits, as well as input on if and how to scale expanded strategies.
- Work with the Central Shenandoah Planning District Commission (CSPDC) to host a P3 or CBP3 Workshop to include other local MS4 Permit holders.

- Develop a stormwater utility grant program for targeted private BMP implementation. Develop a scoring system to identify the most promising retrofits, and a marketing strategy to engage property owners (starting with the focus groups noted above). Consult with the City Attorney and other officials on any considerations for giving grants to private property owners (e.g., long-term maintenance responsibilities).
- Explore the possibilities of other future P3 or CBP3 options by putting out an RFI or RFQ to gauge private interest and capabilities.
- Explore strategically-purchased pollutant credits in the following priority order: 1) annual or term point source credits as a strategy to allow more time for local BMP implementation, and 2) permanent or perpetual nonpoint source credits to close any unavoidable gaps in the second and third permit cycles. Consider timely purchase of credits before demand from other MS4s drives up the cost.