



## Water Resources Protection Program Advisory Committee Report November 15, 2012

### SUMMARY REPORT

In January 2009, the Charlottesville City Council considered a proposal to implement a stormwater user fee to fund key aspects of the City's Water Resources Protection Program (WRPP) including public stormwater system maintenance, regulatory compliance, and capital improvement activities. Council concluded at the time that, due to particularly challenging economic conditions, the fee proposal would be tabled and revisited in 2-3 years when conditions would hopefully have improved.

In July 2012, City Council directed staff to revisit the issue of implementing a stormwater user fee. As part of that process, City staff re-established the Water Resources Protection Program Advisory Committee (WRPP-AC) that had provided feedback on the original proposal in 2008. The new committee included 13 members (three of whom had served on the previous committee) who represented a cross-section of City stakeholders including neighborhoods, local businesses, public schools, tax-exempt properties, and environmental interests. The new WRPP-AC began meeting in September 2012 with the charge to make recommendations on the appropriate level of water resource protection services to be provided by the City and on policy issues associated with a user fee based on impervious surface cover as allowed under §15.2-2114 of the Code of Virginia. The following is a listing of participating Advisory Committee members:

Lehman Bates  
John Conover  
Kristin Carter  
Maria Chapel  
Connie Dunn

Michael DeGidio  
Jim Henderson  
Rick Jones  
Joe Kopp

Leslie Middleton  
Chuck Rotgin  
Robbi Savage  
J.P. Williamson

### Key Findings and Recommendations of the Advisory Committee

#### A. Drivers

The WRPP-AC agreed that there are three primary drivers for developing a more comprehensive water resources protection program. These drivers have become more clearly defined over the past several years with recent focus on water quality compliance being driven by the Chesapeake Bay Total Maximum Daily Load (TMDL) requirements in 2011 which require local governments, such as Charlottesville, to develop and implement programs to reduce nitrogen, phosphorus, and sediment from reaching the Chesapeake Bay via local water bodies.

The three key drivers are:

- **Regulation** - Discharges from Municipal Separate Storm Sewer Systems (MS4s) are regulated under the Virginia Stormwater Management Act and the Federal Clean Water Act as point source discharges. Charlottesville's MS4 permit mandates that the City reduce pollution discharged from the stormwater system and ensures proper operation and maintenance of the stormwater infrastructure. New Virginia Stormwater



Management Regulations (to be implemented in July 2014) and the need to develop and implement TMDL compliance plans as a requirement of the City's next MS4 permit (expected in July 2013) are anticipated to significantly increase the need for investment in local stormwater system retrofits and inspection and maintenance activities.

- **Infrastructure** - A significant portion of the City's stormwater infrastructure is reaching the end of its useful life. The City has begun to invest in repairs and replacement of the pipes most in need of rehabilitation – failing corrugated metal pipe (CMP) and vitrified clay pipe (VCP). Capital investment by the City over the past four years has resulted in upgrades to about 12.6% of the pipe of immediate concern. However, due to the age and anticipated issues with these materials, the City's priority is to line or replace all 13+ miles of CMP and VCP over the next 10 years at an estimated cost of \$10M. In addition, there is a historic backlog of unfunded flooding and drainage improvement projects.
- **Stewardship** - City residents have expressed a desire to be responsible stewards of the environment, which is articulated in the water resources goals of the City's Comprehensive Plan and included in City Council's 2025 Vision Statement. Part of being a good steward also involves investing local revenues wisely to meet both the need to provide a properly functioning stormwater system that manages water quantity, while developing standards and implementing projects that protect and improve water quality. To effectively and efficiently address water quality protection and water quantity controls, a city-wide master plan needs to be developed to identify the best solutions that support the City's long-term stewardship goals.

## B. Program Mission and Objectives

The WRPP-AC reviewed the program mission statement and objectives that were originally developed in 2008 and agreed that the mission and objectives for the committee and the program are still applicable.

### **Mission Statement:**

The goal of the Water Resources Protection Program is to bring the community together to help protect and improve the city's valuable natural and man-made resources by protecting public health and safety, minimizing the impacts of stormwater runoff, and creating sustainable aquatic habitats.

### **Key Objectives:**

- The program should meet all state and federal mandates and include public participation as a fundamental component.
- The program should be realistic and achievable and establish clear lines of accountability and decision making.
- Services provided by the City should be clearly defined, be based on an assessment of actual need, and be provided as efficiently as possible.
- Program funding should be fair and equitable and the rate methodology should be set to avoid unintended consequences on local residents and businesses.
- The City should seek to move from just managing stormwater system components to a comprehensive water resources protection program.



### C. Program Priorities

Based on information gathered over the past several years related to the effort to rehabilitate failing infrastructure and related to a clearer definition of new regulatory compliance requirements based on the new draft MS4 permit, the program priorities in 2012 have shifted a bit from 2008. In 2008, investing in long-term drainage improvement projects was a top priority. This activity, while still important, has been replaced in the hierarchy of priorities with the need to enhance existing system integrity and sustainability by more aggressively funding system repairs and rehabilitation while developing a master plan that will identify the best methods for integrating water quality protections with major system improvements.

The four top priorities are now:

- Asset Management - Current estimates of the value of the existing stormwater infrastructure are over \$300M and managing the continued operation of this asset is critical. In order to protect the community's investment, the WRPP would provide enhanced stormwater system management which includes targeted inspection, cleaning, flushing, and rehabilitation aimed at maximizing capacity and integrity and minimizing the need for major capital investment.
- Provide resources to meet increased regulatory requirements of the new Virginia Stormwater Management Regulations and MS4 permit - These include, but are not limited to, additional monitoring, tracking, and reporting of a range of program components including post-construction stormwater management facility inspections and associated enforcement activities, TMDL compliance planning and implementation that achieves defined pollution reduction goals, and local oversight of construction stormwater management permits.
- Development of a City-wide Master Plan – The City needs a comprehensive plan for integrating water quality improvement goals with drainage system improvement projects and to establish a strategic plan for mandated pollution reduction requirements. The Master Plan will include engagement of stakeholders across the city and the region to help to both educate the public on the City's stormwater management requirements and to identify potential public/private or regional partnership opportunities for meeting compliance goals.
- Investment in long-term drainage improvements – After the impacts of the system rehabilitation work can be more fully analyzed and opportunities for stormwater retrofits to meet TMDL requirements are identified, the long-term capital needs can be better prioritized and resource needs can be more fully defined.

### D. Recommended Program Enhancements

Following discussions around various levels of service for each of the key elements of the WRPP, the committee supported the following investment in new services to address current and projected future stormwater needs. The new program increases overall investment in water resources management from approximately \$1.5M in FY13 to an average of almost \$3M annually over the course of the next five years. This investment would include the funding for 3.5 new staff positions or contracted support services to implement this proposed program. The table below summarizes proposed new program components and funding levels for the first five



years of the program (from FY14 through FY 18). It is proposed that the costs for new and enhanced program elements should be supported by a stormwater user fee and that stormwater funding for existing operations (less capital costs for system rehabilitation) continue at current levels (\$945,450). (Note: the dollars on this table have not yet been adjusted for inflation.)

**Table 1: Proposed New Water Resources Protection Program Services**

	Proposed New Program Costs				
<b>Water Resources Protection Program Recommendations - Program Elements identified in addition to existing services provided</b>	<b>FY14</b>	<b>FY15</b>	<b>FY16</b>	<b>FY17</b>	<b>FY18</b>
<b>Operations and Maintenance</b>					
Infrastructure Cleaning/Inspection/ Repair/Replacement - CMP & VC Pipes - contracted	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000
Operations including labor	\$35,950	\$71,900	\$71,900	\$71,900	\$71,900
<b>O&amp;M Subtotal - Enhanced Services</b>	<b>\$1,035,950</b>	<b>\$1,071,900</b>	<b>\$1,071,900</b>	<b>\$1,071,900</b>	<b>\$1,071,900</b>
<b>Regulations &amp; Enforcement</b>					
Erosion & Sediment Control Inspections/Enforcement	\$8,988	\$17,975	\$17,975	\$17,975	\$17,975
Pre and Post BMP Inspections/Enforcement	\$17,975	\$35,950	\$35,950	\$35,950	\$35,950
Floodplain management, Outfall inspections, and VSMP Construction Permit delegation/tracking & reporting	\$8,987	\$17,975	\$17,975	\$17,975	\$17,975
<b>Regulation &amp; Enforcement Subtotal - Enhanced Services</b>	<b>\$35,950</b>	<b>\$71,900</b>	<b>\$71,900</b>	<b>\$71,900</b>	<b>\$71,900</b>
<b>Watershed Planning &amp; Protection</b>					
Drainage Basin/Watershed Master Plan	\$225,000	\$225,000	\$0	\$0	\$0
Stormwater Retrofit Projects - design and construction	\$0	\$0	\$0	\$160,000	\$980,000
<b>Watershed Planning &amp; Protection Subtotal - Enhanced Services</b>	<b>\$225,000</b>	<b>\$225,000</b>	<b>\$0</b>	<b>\$160,000</b>	<b>\$980,000</b>
<b>Capital Improvements - Stormwater Infrastructure</b>					
Major Capital Improvement Fund/design and construction	\$0	\$0	\$120,000	\$720,000	\$720,000
Small Drainage Improvement Fund	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000
<b>Capital Fund Subtotal - Enhanced Services</b>	<b>\$50,000</b>	<b>\$50,000</b>	<b>\$170,000</b>	<b>\$770,000</b>	<b>\$770,000</b>
<b>WRPP Management/Administration</b>					
Billing/Customer Service Coordinator	\$17,975	\$35,950	\$35,950	\$35,950	\$35,950
Customer service temps + Billing update	\$50,000				
Update GIS data/Master Account File	\$0	\$0	\$15,000	\$0	\$0
Fund WRPP Incentive Fund	\$32,000	\$32,000	\$32,000	\$32,000	\$32,000
Credits Program - Preliminary estimate	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000
Senior Engineer/Program Administrator	\$110,000	\$110,000	\$110,000	\$110,000	\$110,000
Indirect costs for new employees	\$14,000	\$14,000	\$14,000	\$14,000	\$14,000
<b>Management/Administration Subtotal - Enhanced Services</b>	<b>\$273,975</b>	<b>\$241,950</b>	<b>\$256,950</b>	<b>\$241,950</b>	<b>\$241,950</b>
<b>Total Proposed New Stormwater Costs</b>	<b>\$1,620,875</b>	<b>\$1,660,750</b>	<b>\$1,570,750</b>	<b>\$2,315,750</b>	<b>\$3,135,750</b>

**E. Rate Structure and Rate Recommendations**

After discussing rate structure options, the committee supports the approach of using impervious area on a parcel as the appropriate measure of impact to and demand on the stormwater system. Since the City has high quality impervious data on all parcels, regardless of land use classification, the committee recommends that a billing unit of 1,000 square feet of impervious surfaces would be an equitable approach to assessing fees. It is also recommended that to make billing more equitable, billing units be rounded to the next half billing unit so that properties, for example, with 1,400 square feet of impervious area would pay for 1.5 billing units and properties with 1,800 square feet would pay for 2 billing units. Property owners will be the recipients of the bills. The committee reviewed and discussed a projected rate scenario in which all program costs



(existing and proposed) were covered by the utility fee versus the scenario in which new (proposed) costs only were covered. In addition, the impact of various levels of bonding was reviewed. In the end, the committee voiced support for a rate scenario that covers only new program costs and that maximizes the sale of bonds in order to take advantage of historically low interest rates and to allow for an acceleration of both the retrofit program and other needed capital improvements at a time of a relatively competitive construction bidding environment.

Based on the program of services as summarized above and on the following financial assumptions, a rate model was run to estimate the rate per billing unit needed to generate sufficient revenue to support the proposed program.

- A fund balance of 60 days of operating expenses would be required
- The number of billing units would not change over the five year planning period
- Operating expenses would increase by 2.5% annually
- Bond Sales cost \$100,000 per \$15M sold
- Interest payments were estimated at 3.5% per year
- Bonds would be general obligation bonds with a pay-back of 20 years
- Interest income was set at 0.34%
- Delinquencies were estimated at 3% of revenue with 75% recovered within 1 year

The results from the model runs for funding the proposed new program costs only are summarized below. The range of rates assumes a billing unit of 1,000 square feet of impervious area and that the City will continue to fund current costs for existing services at their current \$945,450 levels (adjusted for inflation) through existing revenue streams through FY 2018 (the immediate 5-year planning period). The rates shown are for the estimated *monthly* cost per billing unit.

**Table 2: Proposed New Water Resources Protection Program Services**

New Program Costs	FY 14	FY 15	FY16	FY17	FY18
All Cash	\$2.30-\$2.60	\$2.30-\$2.60	\$2.30-\$2.60	\$3.10-\$3.45	\$4.20-\$4.60
Cash & Bonds	\$2.05-\$2.30	\$2.05-\$2.30	\$2.05-\$2.30	\$2.40-\$2.70	\$2.40-\$2.70

Using the midpoint of the rate ranges from Table 2, the following table presents the impacts to a property with 2 billable units. This example represents the majority of single family homeowners in Charlottesville.

**Table 3: Potential Estimated Annual Costs for Properties with Two Billing Units**

New Program Costs	FY 14	FY 15	FY16	FY17	FY18
All Cash	\$59	\$59	\$59	\$78	\$105
Cash & Bonds	\$53	\$53	\$53	\$61	\$61



## F. Credits

The committee recognizes that privately-owned and operated, on-site stormwater management facilities can reduce the burden on the public stormwater management system. The Code of Virginia requires that a stormwater utility program funded by fees allows for credits against the user fee to those facilities that can demonstrate that they achieve a permanent reduction in stormwater flow and/or pollutant loading.

To determine the amount of credit that would be available per property, the following criteria were developed:

- The designed effectiveness of the stormwater management facility.
- The credit amount is based on the amount of impervious area located on the property draining to the stormwater management facility, and not the total amount of impervious surface cover on the site.
- Up to a 20% credit is allowed if the facility, or facilities, provide peak stormwater rate and velocity control.
- Up to a 40% credit is allowed if the facility, or facilities, provides stormwater runoff volume reduction and water quality control.
- The maximum credit would be 40% of the annual stormwater fee per property.
- Additional credits could be earned based on voluntary installation and maintenance of stormwater management facilities.

The committee agreed that the credit program should start with a basic approach, as summarized above, and be reviewed on a regular basis and adjusted to promote activities that lessen the impacts on the City from stormwater run-off. The committee also supported the idea of having an incentive program to promote individual or smaller-scale activities such as rain garden plantings, rain water harvesting, or tree planting that may not meet the design or documentation requirements of the credit program, but support stormwater compliance goals.

## G. Program Oversight

The committee recommends that, should the utility be adopted, a citizens' oversight committee be established to continue to provide feedback to the City Council on the stormwater program activities and rates with a specific role of re-evaluating the program priorities and costs as the results of the initial investments become more fully realized and as WRPP components, such as TMDL compliance, sunset.

## H. Regional Coordination

The committee discussed the challenges, and potential additional costs, of the City taking on comprehensive stormwater management without support from other neighboring and regional agencies that are facing similar challenges. Though the City's jurisdiction limits their authority to force others into contributing to stormwater solutions, the committee voiced their support for the City taking a leadership role in establishing a City/County/University partnership focused on jointly addressing drainage and compliance issues from a regional perspective.



## I. Conclusion

At the final meeting of the Committee on October 24, 2012 and after subsequent reviews of the draft Advisory Committee report, basic consensus was reached on the following key items:

- ✓ The Committee agrees there is a compelling case for funding of enhanced stormwater services to address system rehabilitation, integrated planning, and regulatory compliance.
- ✓ The Committee supports the program of services and level of service as outlined in *Table 1: Proposed New Water Resources Protection Program Services*.
- ✓ The Committee concludes that funding of an enhanced water resources protection program, through a stormwater utility, as proposed for Charlottesville, is a fair and equitable approach.
- ✓ The Committee agrees that a credit policy based on on-going stormwater management should be adopted as part of the program.
- ✓ The Committee supports establishing a user fee that funds only the proposed new program costs and that maximizes use of bonds to take advantage of current low borrowing rates and construction costs.
- ✓ The Committee encourages the City to take a leadership role regarding regional collaboration on stormwater management.

## Additional Supporting Documentation

The following information was reviewed and discussed with the Committee to assist in policy development:

- 2008 Water Resources Protection Program Advisory Committee Report
- Charlottesville Summary of Stormwater Services
- Stormwater Regulations Overview: Potential Impact of New and Revised Regulations
- Code of Virginia § 15.2-2114 Regulation of Stormwater
- Summary of Dedicated Funding Mechanisms in Virginia
- Relevant excerpt from the draft MS4 permit: Special Conditions for the Chesapeake Bay
- Credit Background Paper
- Stormwater Utility Fee Credits: Draft Policy
- Summary of Preliminary Rate Model Results

## Meeting Notes

All meeting notes are available via the city website:  
<http://www.charlottesville.org/Index.aspx?page=2308>.

