

A G E N D A

JAMES CITY COUNTY BOARD OF SUPERVISORS

WORK SESSION

County Government Center Board Room

June 22, 2004

4:00 P.M.

A. CALL TO ORDER

B. ROLL CALL

C. BOARD DISCUSSIONS

1. Stormwater Management
2. Chesapeake Bay Preservation Ordinance Implementation

D. ADJOURNMENT

062204bsws.age

MEMORANDUM

DATE: June 22, 2004

TO: The Board of Supervisors

FROM: John T. P. Horne, Development Manager

SUBJECT: Stormwater Management

During the Board's retreat in January 2004, staff summarized a variety of issues related to stormwater funding options in the County. This memorandum presents that information and additional information to respond to more recent Board comments. Prior to the January retreat, this matter was discussed with the Board of Supervisors in November 2002 and January 2003, with the presentation of a report from AMEC Earth and Environmental, Inc., titled, "Phase II - Evaluation of Funding Alternatives and Program Action Plan." In that report, the consultant presented a number of recommendations concerning the scope and structure of a stormwater management program in James City County and a recommended funding strategy. At the retreat, the Board instructed the County Administrator to include funding for the necessary work to establish a stormwater utility structure in FY 05. As presented at the June 8 Board meeting, staff is recommending the attached scope of work for the Phase III study.

PROGRAM

Attached is material provided to the Board in 2003 that outlines the stormwater management program and approximate cost for that program in James City County. The attached chart identifies approximately \$1.3 to \$1.7 million per year starting in FY 05. A series of assumptions are made, however, in presenting these costs that the Board should note. The assumptions are as follows:

- In FY 05 there is start-up money for consulting costs to establish a stormwater utility - \$300,000;
- The program assumes the gradual assumption of routine and nonroutine maintenance of privately owned stormwater management facilities in the County - \$190,000 to \$470,000 per year;
- The program assumes two to three additional staff to operate the expanded program - \$50,000 - \$170,000 per year; and
- The program assumes land purchase funding above Greenspace and Purchase of Development Rights (PDR) funding - \$100,000 per year.

The attached portion of Section 3, including Table 3-1 (revised), contains the best current information on **current and proposed** stormwater spending in personnel, administrative, and capital construction for FY 2004-08.

- **Current Spending** - See "Existing Program Elements" and Table 1-1.
- **Proposed Spending** - See "New Programs Elements."

In general, Table 3-1 assumes that the "New Program Elements" would be funded by the stormwater utility. The final policy decisions by the Board on the initial program of the utility are proposed to be made during the Phase III study. This program also shows all capital funding for stormwater transferring to the utility in FY 06. **No new funding** for stormwater is included in the projected FY 06 Budget. Table 1-1 provides the details used to allocate current personnel costs to stormwater management.

TIMING

Staff's recommendation to begin the utility design process at this time is driven by two factors. The first is the long lead time to engage in an inclusive, transparent, and rigorous analysis of the parameters of a utility in James City County. The design process is expected to be approximately 12 months and will provide information for use in the FY 06 Budget process. Once a utility is started, revenue generation is not immediate, so funding of necessary stormwater management functions may need to continue from the General Fund in the early stages. **New funding for stormwater management in the FY 05 Budget is limited to the funding necessary for this process only. No new funding is projected for FY 06.** The second factor is the assumption by staff that with the funding for the utility design approved in FY 05 Budget, the Board had agreed to undertake the utility design in FY 05.

Even if an acceptable utility design is completed in FY 05, timing of actual start-up continues to be the prerogative to the Board.

FUNDING ALTERNATIVES

Attached is the section of the AMEC report dealing with funding alternatives. While the AMEC recommendation was for the establishment of a stormwater utility, this material also discusses the advantages and disadvantages of a variety of other funding sources.

Pages 4-7 and 4-8 of Section 4 discuss the ability of a stormwater utility to include **credit or offsets** for neighborhoods that perform all or part of the functions of the utility in their neighborhood. That flexibility is not available with the use of General Fund tax financing. The specific policies dealing with these credits will be set by the Board during Phase III.

ORGANIZATIONAL STRUCTURE

No firm decisions have been made about the organizational structure to run the stormwater functions in the County. Development Management has been the department responsible for this issue to date. With the establishment of the Department of General Services, with some limited drainage maintenance funding, that department may also assume a role. The Phase II report contained some recommendations of organizational structure and staff intends to revisit this issue during the Phase III time frame. The proposed program in Table 3-1 includes costs for two to three additional staff for the utility.

County and AMEC staff will be available at the Work Session.

John T. P. Horne

JTPH/gs

stormh2o.062204.mem

Attachments

MEMORANDUM

DATE: June 22, 2004

TO: The Board of Supervisors

FROM: Darryl E. Cook, Environmental Director

SUBJECT: Chesapeake Bay Preservation Ordinance Implementation

On November 25, 2003, the Board adopted amendments to the Chesapeake Bay Preservation Ordinance, Chapter 23 of the County Code, which became effective on January 1, 2004. The amended Ordinance contained some significant changes related to the Resource Protection Area (RPA) provisions and the exception process. At a Work Session just before adoption of the amendments, the Board requested that it be kept informed regarding the implementation of the amendments. This Work Session is intended to update the Board on the implementation to date and present some suggestions for improvement.

The major change to the Ordinance is related to the identification of water bodies with perennial flow. These water bodies, which flow year-round, are to be protected with a 100-foot buffer of undisturbed natural vegetation and are termed the RPA buffer. Prior to the revisions, perennial streams were identified as the solid blue-lined streams on the USGS quadrangle maps. The amended Ordinance requires that perennial flow be determined based on the basis of a site-specific field evaluation. The process involves the submission of a perennial flow evaluation as part of the development review process. This information is evaluated by the Environmental Division staff. Once perennial status is determined, RPA buffers are established as necessary and the information is mapped to update the existing County RPA map. To date, 33 stream evaluations have been submitted and reviewed for single-family building permit applications and four for subdivision projects. Additional information will be presented at the Work Session regarding the process as well as a proposal for mapping the streams on a proactive basis by the County, which would simplify and speed up the processing of applications.

The Ordinance states that persons wishing to use or develop a site must submit a perennial stream evaluation using one of the County or State approved methods. These are in-field methods that have been approved by the Chesapeake Bay Local Assistance Board. Two of the methods are termed field indicator protocols: one is the North Carolina method and the other is the Fairfax method. These methods require that a stream be evaluated on a number of factors that can indicate perennial flow and then a total score is developed based on these observations. Then the score is evaluated against a threshold number to assess whether the stream has perennial flow. The State's guidance recommends that these methods be tested and calibrated in each jurisdiction because of the variability in geologic and physiographic conditions around the State. The calibration of these methods has been the subject of a committee of professionals that perform these determinations. The recommendations of this committee regarding threshold numbers and the perennial stream identification process in general will be presented. In addition, in an attempt to ensure a more uniform application of the protocols, staff sponsored a two-day training session for staff and local professionals on June 3-4.

The exception process was amended to require that certain exceptions to the Ordinance could no longer be made administratively by staff but by a Board process following a Public Hearing. The Chesapeake Bay Board comprised of members of the Wetlands Board has to date heard two exception requests, both for subdivision projects.

Chesapeake Bay Preservation Ordinance Implementation

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Staff and members of the Stream Professionals Committee will be available to answer questions. If Board members have other specific issues they would like to discuss at the Work Session, please contact me and I will attempt to address those issues.

Darryl E. Cook

CONCUR:

John T. P. Horne

DEC/gs
chesimplem.mem

SECTION 3 PLANNED PROGRAM

This section identifies and organizes the program needs and issues of Section 2 into a recommended stormwater program, including projected program costs.

OVERVIEW OF PLANNED PROGRAM

After completing a review of the priorities and needs identified through the assistance of the Stormwater Advisory Committee and County staff interviews, AMEC identified key operational impacts that should be addressed in a comprehensive stormwater program for James City County. This section summarizes the potential initiatives that must be considered in developing the long-term program.

For this funding feasibility project, it is important to evaluate the overall costs and impacts of a county-wide stormwater management program, not just those specific to Powhatan Creek. Preparation of watershed management plans should be planned for the other 14 county watersheds and sub-watersheds, with the study for Yarmouth Creek currently being done at a cost of \$70,000. The recommended stormwater improvements for these additional 14 watersheds are expected to be similar to, though on a smaller scale than, those of Powhatan Creek. However, even at one-quarter the cost of CWP's Powhatan Creek recommendations, each additional watershed management plan could add \$75,000 per year (and increased capital expenditures) to the overall county stormwater management budget.

In addition to the recommendations in the watershed management plans being prepared by the County, the stormwater program for the County needs to consider the impact of the requirements resulting from the Environmental Protection Agency (EPA) National Pollutant Discharge Elimination System (NPDES) Phase II regulations. In December 1999, EPA published the Phase II Final Rule, which named James City County, among several Virginia jurisdictions, as needing to submit a stormwater management plan to the regulatory authority for permit coverage no later than March 10, 2003. The Virginia Department of Environmental Quality (VDEQ) has primacy over the Phase II program in Virginia and has recently developed a draft General Permit for Virginia's Phase II permit applicants. The NPDES Phase II program centers on the identification and implementation of Best Management Practices (BMPs) to address the program's six minimum control measures. These control measures include: public education and outreach programming; public involvement and participation programming; development of an illicit discharge detection and elimination program; a construction site stormwater management program; a post construction stormwater management program; and a municipal operations "good housekeeping" protocol dealing with pollution prevention at municipally owned and operated facilities. An estimate of the additional costs are incorporated into the stormwater operating and funding program.

Currently, JCC has a small staff dedicated to developing and enforcing stormwater-related ordinances. The vast majority (99%) of BMPs located in the County are privately owned. The County performs routine inspections and monitoring of BMPs and oversees a small BMP restoration program, but does not install or maintain stormwater control facilities. To implement the enhanced Stormwater Policy and watershed management plans, as recommended by the Center for Watershed Protection, the County will have to increase staff, revise ordinances, provide maintenance services, perform public outreach, construct and operate regional stormwater facilities, and raise operating and capital monies.

Table 3-1 represents a translation of the program priorities into broad program elements. These elements represent the general direction and emphasis of the new stormwater program. Cost estimates are based on information developed for other James City County reports and on past experience in other communities, as applied to James City County.

Program Enhancements

- | | | | |
|--------------------------|---|--------------------------|---|
| <input type="checkbox"/> | ENGINEERING & PLANNING | <input type="checkbox"/> | CAPITAL EXPENDITURES |
| <input type="checkbox"/> | 1. Continue Watershed Planning Studies | <input type="checkbox"/> | 9. Restore Impaired Stream Segments |
| <input type="checkbox"/> | 2. Perform Stormwater Retrofits | <input type="checkbox"/> | 10. Construct Regional SW Facilities |
| <input type="checkbox"/> | 3. Add Stormwater Management Staff | <input type="checkbox"/> | 11. Install Watershed-Related Signs |
| <input type="checkbox"/> | 4. Improved Technical Tools | <input type="checkbox"/> | 12. Purchase/Preserve Land |
| <input type="checkbox"/> | OPERATION & MAINTENANCE | <input type="checkbox"/> | FINANCE & ADMINISTRATION |
| <input type="checkbox"/> | 5. Monitor Program Compliance | <input type="checkbox"/> | 13. Develop SW Funding Structure |
| <input type="checkbox"/> | 6. Maintain Database | <input type="checkbox"/> | 14. Costs for SW Program Management |
| <input type="checkbox"/> | 7. Increase Public Outreach/Education | <input type="checkbox"/> | REGULATION & ENFORCEMENT |
| <input type="checkbox"/> | 8. BMP Maintenance Program (Routine) | <input type="checkbox"/> | 15. Implement New Planning Policies and Regulations |
| <input type="checkbox"/> | 8a. BMP Maintenance Program (Non-Routine) | <input type="checkbox"/> | 16. Comply with NPDES Phase II |

Table 3-1 (Revised)

	%	Year 2	Year 3	Year 4	Year 5
Stormwater Program Cost Estimates	FY 06	FY 05	FY 06	FY 07	FY 08
		\$ x 1000	\$ x 1000	\$ x 1000	\$ x 1000
NEW PROGRAM ELEMENTS					
ENGINEERING & PLANNING					
1. Continue Watershed Planning Studies	2.6	40	40	40	40
2. Perform Stormwater Retrofits	5.0	60	75	90	105
3. Add Stormwater Management Staff	3.3	50	50	50	50
4. Improved Technical Tools	0.3	5	5	5	5
OPERATION & MAINTENANCE					
5. Monitor Program Compliance	1.0	15	15	15	15
6. Maintain Database	0.3	5	5	5	15
7. Increase Public Outreach/Education	3.0	45	45	45	45
8. BMP Maintenance Program (Routine)	4.6	40	70	100	120
8a. BMP Maintenance Program (Non-Routine)	13.2	150	200	250	350
CAPITAL EXPENDITURES					
9. Restore Impaired Stream Segments	8.3	100	125	150	175
10. Construct Regional SW Facilities	33.0	250	500	500	500
11. Install Watershed-Related Signs	0.3	10	5	5	5
12. Purchase/Preserve Land	6.6	100	100	100	100
FNANCE & ADMINISTRATION					
13. Develop SW Funding Structure	3.3	300	50		
14. Costs for SW Program Management	7.9	50	120	120	120
REGULATION & ENFORCEMENT					
15. Implement New Planning Policies and Regulations	0.7	10	10	10	10
16. Comply with NPDES Phase II	6.6	100	100	100	100
TOTAL NEW PROGRAM	100	1330	1515	1585	1755
EXISTING PROGRAM ELEMENTS					
ADMINSTRATION & OVERHEAD					
	38	38	38	38	38
ENVIRONMENTAL DIVISION					
	500	500	500	500	500
CAPITAL PROJECTS					
	420	80	0	0	0
TOTAL EXISTING PROGRAM	958	618	538	538	538
TOTAL NEW & EXISTING PROGRAMS	958	1948	2053	2123	2293

LINE ITEM DESCRIPTION: PLANNED PROGRAM LAYOUT TABLE

Item #	Description of Cost Center
1	Watershed Planning of the major watersheds is on going and will continue with a minimum of one study area to be completed each year.
2	The watershed planning studies are identifying necessary stormwater retrofits in each area. In Year 1 it is expected that in-house design will take place, allowing retrofit work to begin in Year 2. This program element is expected to grow by 25% a year, as additional retrofit needs are identified in watersheds other than Powhatan Creek.
3	To support the increases in engineering requirements with an expanded program, additional resources will be provided to the Environmental Division by the addition of one stormwater engineer in Year 2.
4	To keep up with changes in technology (GIS, mapping, and updated design standards) the proposed level of funding recognizes a need to provide minor updates annually.
5	This item includes costs identified in the Powhatan Creek study for contracts with the College of William & Mary for monitoring activities.
6	Database maintenance includes annual inventory and software updates and an additional \$10,000 expenditure in Year 5 for updating impervious cover computations.
7	Public Education and outreach is a key focus of the expanded Stormwater Program. A Public Education program will be developed and implemented to ensure that the community has a broad understanding of the needs being addressed by the Stormwater Program. The costs include funding a public education coordinator (0.5 FTE) in Year 2 and expenses.
8	Additional resources will likely be required as the County further defines their long-term maintenance policies and level of service strategies. This line item addresses annual Best Management Practice (BMP) inspections and routine maintenance of county-owned BMPs. The costs include one additional inspector in Year 2, as well as routine maintenance costs.
8a	Additional resources will likely be required as the County further defines their long-term maintenance policies and level of service strategies. This line item addresses non-routine maintenance of county-owned and privately-owned BMPs.
9	This item includes the costs identified in the Powhatan Creek study for stream restoration projects. Planning for this work will be done in Year 1 with construction activities to begin in Year 2. This program element is expected to grow by 25% a year, as additional impaired stream segments are identified in watersheds other than Powhatan Creek.
10	This item includes costs for construction of regional stormwater control facilities identified in watershed management plans.
11	This item includes costs identified in the Powhatan Creek study for producing and erecting watershed-related signs.
12	Purchasing or otherwise preserving environmentally sensitive lands is a high priority for the County. No specific properties have been identified at this time. These efforts will be coordinated with the Greenspace program.

Item #	Description of Cost Center
13	Development of a dedicated funding mechanism is a priority for meeting the goals of an expanded stormwater program. The cost reflected is based on the implementation of a stormwater utility. If another funding mechanism is chosen as the primary resource, this cost may be increased, reduced, or even eliminated.
14	This line item addresses other administrative costs (billing, accounting, etc.) which will be incurred by the stormwater program. These costs will be influenced by the funding mechanism chosen by the County to support the expanded program. This estimate is based on the implementation of a stormwater utility and includes a new stormwater coordinator, two new billing clerks, plus administrative costs.
15	This item includes costs identified in the Powhatan Creek study for implementing new stormwater policies and any regulatory changes approved by the Board.
16	These funds address potential costs associated with NPDES Phase II compliance. Year 1 includes the permit application costs and the following years represent compliance and reporting costs.
Note 1	The costs for the Environmental Division under Existing Program Elements include personnel costs (\$458,635), operating costs (\$18,695) and capital costs (\$23,000) for all stormwater management aspects of the division (i.e. erosion and sediment control, plan review, inspections, etc.)
Note 2	The costs included in this table do not include costs for new space and equipment that may be required for the addition of new employees.

TABLE 1-1. CURRENT BUDGET FOR STORMWATER PROGRAM

Program Element	Costs	Staffing
Administration and Overhead		
<i>Personnel</i>		
Development Manager (5%)	4,480	0.05
County Engineer (30%)	17,391	0.3
Administrative (15%)	3,800	0.15
Fringe (33%)	8,471	
<i>Current Operating Costs</i> 15% of budget	2,200	
<i>Capital Expenditures</i> 15% of budget	1,500	
Environmental Division		
<i>Personnel</i>		
Director, Environmental Division (80%)	53,391	0.8
Engineering Assistant (50%)	16,249	0.5
Civil Engineer (90%)	43,999	0.9
Engineering Inspector Supervisor (90%)	41,086	0.9
Engineering Inspectors (85%) (4 people)	111,066	3.4
Environmental Assistant (50%) ¹	15,297	0.5
Environmental Specialist (75%) ²	33,750	0.75
Watershed Planner (90%)	30,000	0.9
Fringe (33%)	113,797	
<i>Current Operating Costs</i> 7% of budget	18,695	
<i>Capital Expenditures</i> 1 car/yr, furniture	23,000	
Capital Projects		
Water Quality Improvements ³	420,000	
Total	958,172	

¹ Position currently funded by Mosquito Control.

² Position currently funded by Development Management.

³ Includes Drainage Improvement Program.

SECTION 4 FUNDING FEASIBILITY

This section evaluates the options available to James City County to fund the proposed stormwater program.

INTRODUCTION

The stormwater funding options available to the county can be described as "primary" approaches that have the capacity to support the entire program and "secondary" methods that are applicable to special needs or situations but are not capable of funding the full program. The primary funding methods might be used as sole sources of funding for the program, or could be used in combination with one another. The secondary funding methods could be used to augment one or more of the primary funding methods, but are not capable of supporting the entire program.

Primary Funding Methods

- General Fund
- Stormwater Service Fees
- General Obligation and Revenue Bonding (capital construction only)

Secondary Funding Methods

- Special Service Fees
- System Development Charges
- Special Assessments
- Pro-Rata Shares
- In-lieu-of-construction Fees
- Federal and State Grants/Loans

Local governments across the United States have used all the funding mechanisms examined in this report in some manner. Legislative and/or charter authority and the mission and priorities in each community have guided the selection of a preferred approach. There is no single funding mechanism that is best in every setting. Some are better suited to operations and maintenance, while others are used strictly for capital improvements. Adequate, consistent funding of a stormwater management program is more important to the long-term success of the effort than the source of revenue that is used. The most successful local stormwater management programs are those that have established a dedicated source of funding to support the bulk of the program, especially if that method can be shielded from the shifting priorities of local politics.

BACKGROUND INFORMATION

Standards and limitations exist which influence the viability of various types of funding for certain purposes. It is extremely important to understand the differences between various types of funding that might be used for the stormwater program. Stormwater funding mechanisms used by local governments in the United States include taxes (e.g., on property, retail sales, real property sales, income, and business gross or net profits taxes), ad valorem and non-ad valorem special assessments, exactions, and service fees (sometimes also termed user fees or service charges). Each has a different underlying philosophy that guides the structure of the funding mechanism and the use of the revenues.

The intent of a local government in selecting a funding mechanism for a given purpose, and the process it employs to establish it, must comply with the standards for the specific funding concept. A stormwater "utility" is funded wholly or primarily through service or user "fees" or "charges" that are related to the cost of providing the services and facilities. A service fee is imposed on persons or properties for the purpose of recovering the cost of service. A stormwater service charge rate methodology is adopted to set the appropriate fees and charges. This requires that a cost of service study and rate analysis be performed.

In Virginia, stormwater service fees must be based on some measure of a property's contribution to stormwater runoff. The enabling legislation for stormwater utilities in Virginia (Code of Virginia §15.2-2114) specifically states that:

1. A utility can be established, by ordinance, to cover the following costs:
 - a. Acquisition of real and personal property to construct, operate and maintain stormwater control facilities
 - b. Cost of administering programs.
 - c. Engineering and design, debt retirement, construction costs for new facilities and enlargement or improvement of existing facilities.
 - d. Facility maintenance.
 - e. Monitoring of stormwater control devices.
 - f. Pollution control and abatement, consistent with state and federal regulations.
 - g. Planning, design, land acquisition, construction, operation and maintenance activities.
2. Charges shall be based on contributions to stormwater runoff.
3. Charges may be assessed to property owners or to occupants, including condominium unit owners or tenants (if tenant is the one who is being billed for water and sewer).

4. Utility **shall waive charges** in the following cases:
 - a. From federal, state and local government agencies, when the agency owns and provides for maintenance of storm drainage and stormwater control facilities or is a unit of the locality administering the program.
 - b. From roads and public street rights-of-way that are owned and maintained by state and local agencies.
 - c. From any person who owns and provides for complete private maintenance of storm drainage and stormwater facilities, provided such person has obtained the proper permits from the Department of Environmental Quality.
5. Utility **may waive charges** in the following case:
 - From cemeteries.
6. Locality may issue general obligation bonds or revenue bonds to finance the cost of infrastructure and equipment for a stormwater control program.
7. In case of failure to pay fees, the agency can charge interest on past due amounts and can recover by action of law or suit in equity and shall constitute a lien against the property, ranking on parity with liens for unpaid taxes.

The general standard applied to utility service fees is that a rate methodology must be fair and reasonable, and resultant charges must bear a substantial relationship to the cost of providing the services and facilities. However, local government has a great deal of latitude in attaining these objectives in the context of local circumstances as they see them. When utility rates have been subjected to legal challenges, the courts have tended to apply "judicial deference" to the decisions of locally elected officials. Under judicial deference, the courts will not intervene unless a plaintiff can demonstrate that the decision was arrived at arbitrarily and capriciously or that the result of the decision discriminates illegally.

In contrast to utility funding, general governmental functions of local governments are usually funded primarily through various "taxes" that simply generate revenue. For example, an ad-valorem property tax is often imposed upon real (and sometimes personal) property based on its value. Its purpose is simply to provide revenues to defray the expenses of general government, as distinguished from the expense of a specific function or service. It is not necessary for a tax to have a demonstrable association with any particular purpose or function of the local government.

An exaction is most commonly associated with franchise rights and development-related activities or impacts. Over many years the term has come to mean and include practically any tax that is not an ad-valorem tax. In contrast to a tax on property, an exaction (or excise tax) is not based on the assessed value of the property, but is instead associated with or conditioned upon the performance of an act, the engaging in an occupation, or the enjoyment of a privilege. For example, franchise fees on

telephone utilities are commonly based on the rationale that telephone wires are run along public rights-of-way.

The essential characteristic of a special assessment is that it must confer some direct and special benefit to the property being assessed. A special assessment is based on the premise that the property assessed is enhanced in value at least to the amount of the assessment. Like service fees, special assessments are intended for a specific purpose rather than simply as a revenue generating mechanism. A common requirement of assessments is that there must be a rational linkage (nexus) between the use of the revenue derived from the assessment and the benefit to the party to whom it is applied. Assessments may be based on property value (ad valorem) or other factors (non-ad valorem) such as frontage along a street or sidewalk improvement.

LEGAL ISSUES

Courts in several states have defined and characterized funding mechanisms in order to distinguish among them. In determining whether a funding mechanism is properly structured and applied within the constraints and/or authority in a given situation, the courts have carefully considered the nature of the funding mechanism at issue as well as the function involved. In some instances, they have also looked to the intent of the local government in adopting the funding mechanism to determine its type. A funding mechanism intended strictly to raise revenue without specified purpose or application is normally viewed as a tax. In the case of utilities, the courts have held that service fees must be related to the purpose of the utility program (e.g., water supply, wastewater treatment, stormwater management, or solid waste disposal) rather than the governmental function in general. They also have to be dedicated to that purpose.

Historically, utility programs were considered to be proprietary public functions comparable in many ways to a private business activity. There is now a general recognition that most utility programs concurrently serve a general governmental function of protecting public health, safety, and welfare. As such, they are regulatory programs as well as proprietary functions. In the case of stormwater management, the Federal Clean Water Act (Public Law 92-500), and subsequent amendments, requires that many cities and counties apply for, obtain, and comply with stormwater discharge permits intended to limit the discharge of pollutants to receiving waters. This parallels the impact of the Clean Water Act on local wastewater treatment programs, the Federal Safe Drinking Water Act on water supply programs, and the Federal Resource Conservation and Recovery Act on solid waste management. In the past all of these functions have been largely a proprietary function of local governments, i.e., one in which cities and counties would be involved as a service provider in a manner comparable to a private business. Now the activities that local governments must perform in each case are dictated to a large degree by the regulatory role that the federal and associated state legislation mandate.

It follows that the funding of most public enterprise utilities is therefore related to a regulatory function and not associated purely with a proprietary activity. Service fees are adopted in response to the programs, with the intent of equitably allocating and recovering the cost of services and facilities, including those of a regulatory nature. This clearly contrasts with taxes, which are considered by the courts to primarily be a revenue generating mechanism supportive of governmental functions and unrelated to specific applications or purposes. Such distinctions make it very important to tie a stormwater utility rate methodology very closely to the purposes of the program that is being funded and to the cost of providing its services and facilities.

In addition, courts in several states have broadened the responsibilities of local governments to encompass greater involvement in solving the problems that may result from their ministerial actions. For many years, local governments approved subdivision and commercial development proposals without incurring any specific responsibility or liability for service deficiencies that might result or impacts on nearby properties. In recent years, the courts have begun to make local governments responsible for considering the potential for problems through environmental impact assessments, and for mitigating the impacts that occur. For example, local governments in several states have been required to improve downstream drainage systems subjected to increased stormwater runoff and resultant flooding and erosion due to subdivision and commercial development approvals they issued. There are parallels in which local governments have been required to provide adequate water supply, wastewater treatment, and solid waste management to meet the needs of developments they have approved.

ANALYSIS OF FUNDING OPTIONS

General Fund

The stormwater management program in James City County has been funded primarily from General Fund allocations for many years. Based on review of the county's 2001-2002 budget, total current spending on stormwater management operations and capital investment has been estimated to be about \$920,000 annually. The County appears to have sufficient revenue to support an increase in stormwater management funding, either through a reallocation of current resources or tax increases, by restructuring its General Fund revenues. However, it is uncertain whether the public has a willingness to pay additional taxes to increase funding for stormwater management. It is questionable whether it would be an equitable distribution of the costs even if support exists. Reductions in other services funded from the General Fund to avoid a need for tax increases also might or might not be publicly acceptable. General Fund revenues are derived primarily from real and personal property and sales taxes. Other business taxes also accrue to the General Fund.

The demands on the stormwater system that result in needs for operational programs and capital investment in systems and other assets have no relationship to property values or business sales activity levels. They are a function of the peak rate and total

amount of stormwater runoff that must be carried safely through the community. However, the revenue sources that support the General Fund are based on a "taxation" philosophy. The purpose of taxes is simply to raise revenue. As was stated earlier, it is not necessary that there be any association or relationship between the source of revenue and the purpose to which it is applied.

The greatest inequity in using General Fund appropriations for stormwater management is that many properties that place demands on the stormwater system are often exempt from property taxes. As a result, they do not participate in funding stormwater management through the General Fund. Even some private properties, e.g. parking lots and storage warehouses that have large expanses of impervious coverage, do not pay property taxes commensurate with the demands they impose on the stormwater system. Conversely, some properties that have little impact on stormwater runoff but pay high property taxes are paying more for stormwater management through the General Fund than they would through funding methods based on the actual demands they place on the stormwater program and system.

General Fund appropriations for any specific purpose are also highly uncertain from year to year, as revenues are not legally dedicated to any specific purpose. Allocations shift with perceived priorities. Stormwater management needs are likely to receive better treatment in the budget in a year following severe storms and drainage problems than in a year following a drought. This makes it difficult to plan and consistently carry out a long-term program plan that depends on reliable funding year after year.

Property tax funding offers the following advantages:

- the property tax is easy to collect with a current system;
- property taxes can be collected county-wide;
- property taxes can be used for any legal purpose;
- the tax record is parcel based; and
- property tax rates in James City County have remained steady for several years due to increased revenues from development. If this trend continues there may be sufficient tax money available to fund the proposed stormwater program enhancements.

Disadvantages of property tax funding for the stormwater management program include:

- the perceived inequity of funding stormwater management through a value-based taxing method which has little relationship to the demands placed on the stormwater systems;
- the fact that tax-exempt properties do not share in the expense of a stormwater management program funded through property taxes; and
- the stability of the funding for stormwater management would potentially be less than under dedicated funding sources because reallocation tax revenues for

purposes other than stormwater or reduce property tax rates will occur as priorities change.

Stormwater Service Fees

The County is authorized to conduct stormwater management, but specific methods of funding stormwater management are not mandated. A stormwater service fee appears to be within the County's administrative-based authority through a simple ordinance process. Thus, the County can distribute the cost of stormwater management across the community through service fees, as deemed appropriate by the Board of Supervisors.

Several ways of implementing a service fee funding mechanism are available, most notably the stormwater utility approach. Some communities have integrated their stormwater service fee with other water resource management fees, such as water or wastewater service fees. In most of those cases, independent cost centers and rate methodologies are employed for stormwater and other functions to segregate the funding of various functions.

The county has broad latitude to structure the institutional arrangement underlying a stormwater service fee. Organizational placement and billing processes are the prerogative of the Board. Establishment of a separate organizational structure can occur but is not necessary to accomplish the County's goals.

In most other communities, stormwater utility service fee rates have been based on property conditions that affect the peak rate of runoff, total volume discharged, and pollutant loadings on receiving waters. The most common stormwater service fee rate structures are based on the amount of impervious area on a lot (roofs, paved areas, etc.). Impervious coverage increases the proportion of rainfall that runs off the land. Impervious area service fee rate methodologies are used in more than two hundred other cities and counties. Stormwater rates have also been based on the gross area of properties and a factor that reflects the intensity of development. A few cities and counties have incorporated both gross area and impervious area or the percentage of imperviousness into their rate calculation.

Simplified residential rates are common. Many stormwater service fee methodologies apply a flat-rate charge to all single-family residential properties. Service fee charges to non-residential properties are normally higher than residential charges, reflecting the greater runoff they typically generate. An "equivalent unit" approach is often used to equate service fees on non-residential properties to the rate applied to residences. Monthly residential rates typically range between \$2.50 and \$4.50 for a single family home.

One of the characteristics of a service fee that sets it apart from other funding methods is the ability to enact credits and offsets to the fees. The authority to adopt credits and

offsets is generally encompassed by the basic ratemaking powers provided to locally elected officials. That authority includes the latitude to establish a variety of stormwater utility service fees and appurtenant rate modifiers, such as credits and offsets, to achieve what they believe is an equitable allocation of costs. The courts have generally given great deference to locally elected officials in deciding what is appropriate for their communities.

Credits are frequently included as part of a stormwater service fee rate methodology. Credits against stormwater service charges are designed to account for the mitigative effect of on-site controls and activities. They are usually predicated on a property owner's continuing compliance with approved design and operating standards established by the stormwater management agency. Credits can provide an incentive by reducing the service fees for properties where stormwater impacts are mitigated in some manner. Credits may also be given for activities or functions performed by other entities like local drainage districts or individual property owners that reduce the demands borne by the locality. Credits usually continue as long as the applicable standards are met or the activities are provided. The courts also view credits as evidence that a stormwater service fee is a properly designed service fee and not a tax in disguise.

In comparison, offsets are one-time, dollar-for-dollar allowances for extraordinary expenses that produce a public benefit. For example, if a developer has installed a stormwater detention system that provides storage capacity in excess of that normally required (and thereby reduces the cost of upstream regional detention or downstream public stormwater conveyance systems), a one-time offset against a service fee might be granted for the additional incremental capital expense of providing excess capacity. Another, perhaps simpler, way to accomplish the same objective is for the local government to simply buy excess detention capacity from developers by the cubic foot. Once on-site detention is required and a given amount of detention must be built for a site, the incremental cost of each additional cubic foot of capacity is relatively low.

Offsets should be a matter of consistent policy and not special case treatment. They are not normally conditional or based on continuing compliance with operating standards, as are credits. However, offsets are rarely provided for in stormwater service fee rate methodologies.

The revenue generated by a stormwater service fee is a function of the design of the rate structure and the make up of the community. Based on the experiences of comparable communities, a typical rate structure might be expected to generate between \$20 and \$40 per gross acre annually for each \$1 per month billed to residential properties. Thus, an annual revenue requirement of \$100 per acre would likely require a monthly residential service charge between \$2.50 and \$5.00. More detailed analysis is necessary to determine how much revenue would be generated per acre in James City County under a specific rate methodology.

A stormwater service fee can be coordinated or even blended with other funding methods. Revenue from service fees and other types of fees examined in this paper (and even allocations of General Fund resources) can be blended to tailor the distribution of costs as the Board of Supervisors sees fit. Equity of funding can be enhanced through the service fee rate design process. For example, stormwater service fees may be applied to non-taxable (public) as well as privately owned properties. Taxable (private) properties would thus be relieved of a portion of the cost of stormwater management. Adjustments can be made in a rate methodology to account for special circumstances. Credits can be given against stormwater service fees to encourage and reward responsible stormwater management, such as on-site detention of runoff, and to compensate for activities performed by the property owners that are beneficial to the County's stormwater management program.

The stability of revenue from a stormwater service fee ensures that long-range scheduling of capital improvements and operations can be done with reasonable assurance that funding will be available. Dedicated funding that cannot be diverted to other uses also encourages stewardship of the resources.

Another potential advantage a stormwater service fee offers a community is the ability to free up General Fund resources. Shifting financial responsibility for stormwater management to a stormwater utility and instituting a stormwater service fee to fund all or a portion of the stormwater management costs may, based on financing decisions made by the utility, make more General Fund resources available for other needs.

The biggest potential disadvantages of a stormwater service fee are its high visibility and the cost of development and implementation. Regardless of technical distinctions between "taxes", "exaction", "assessments", and "service charges", any form of government funding will be viewed by a majority of citizens and property owners as a "tax" and will thus be potentially unpopular.

Advantages of a stormwater utility user fee include:

- it offers the County extraordinary flexibility to design a rate methodology to attain an equitable distribution of the costs across the community;
- adoption of a stormwater utility as an enterprise fund or special revenue fund accounting unit and use of a service fee as its primary funding source creates a dedicated account and source of funding that cannot be diverted to other uses;
- a dedicated service fee could relieve the need for future increases in property taxes or development fees to support stormwater management;
- service fee design practices can selectively allocate costs through the service charge, so that (for example) different parts of the County could pay different amounts based on differing levels of service they are provided; and
- secondary funding methods could be incorporated easily.

Disadvantages of the stormwater utility fee option include:

- there will be some cost incurred to set up and operate a stormwater user fee methodology, though the exact amount is not known at this time;
- The level of demand for stormwater services would likely increase more with this method because of the perception that the property owner is paying for a "new" service implied by the new bill (or a new line item on another bill);
- although in legal terms the fee would be a service charge like water and wastewater fees, it may be perceived as a new "tax" by residents and property owners and thus be as unpopular as a property tax increase.

General Obligation and Revenue Bonding

Virginia statutes (Code of Virginia §15.2-2114) authorize the use of general obligation bonds or revenue bonds by local governments to finance capital improvements to infrastructure and equipment for stormwater control programs. Bonds are not a revenue source, but simply a method of borrowing. They are most commonly used to pay for major capital improvements and acquisition of other costly capital assets such as land and major equipment. Capital improvements can also be funded through annual budget appropriations, but annual revenues are often not sufficient to pay for major capital investments.

The chief advantage of bonding is that it allows construction of major improvements to be expedited in advance of what can be funded from annual budget resources by spreading the cost over time. In the case of stormwater management, expediting a capital project by several years through bonding may result in significant public and private savings if flooding, other damaging impacts, and inflation of land acquisition and construction costs are avoided. The major disadvantage of bonding is that it is essentially a loan that incurs an interest expense, which increases the cost of capital projects, land acquisition, etc.

Two types of bonding are available to cities and counties, revenue bonding and general obligation bonding. General obligation bonding incurs a debt that has first standing with regard to public assets and is backed by the "full faith and credit" of the issuing agency. General Obligation bonds usually require a public referendum or other type of local review or approval. All revenues, including various taxes, may be used to service a general obligation debt. Revenue bonding is supported and ensured solely by revenues such as service fees. Creation of a separate source of revenue that is earmarked specifically for stormwater management (e.g., a stormwater service fee) would allow the County to sell revenue bonds to pay for capital improvements if market acceptance was attained. However, revenue bonding would not be backed by the County's full faith and credit, and would likely incur a slightly higher interest rate in the bond market.

Generally speaking, bonds are not intended for use as a funding mechanism for day-to-day operations. However, some costs can be viewed either as a capital or operating expense. The lack of a clear distinction between remedial repairs and new construction, for example, results in bonding sometimes being used for major repairs that might also be considered an operating expense. Given the stormwater priorities facing the county, the most appropriate use of revenue bonding would be for capital construction and acquisition of land and easements. The deteriorating condition of many local streams and structures suggests bonding also might be justified for stopgap remedial work.

Special Service Fees

The County has been performing special services associated with stormwater management for many years. For example, development projects have been reviewed to ensure that stormwater system controls are appropriate. Although there is no specific statutory authority for special service fees for stormwater management plan review and inspections, they could reasonably be included under the scope of a stormwater service fee rate methodology since they are clearly fees for special services.

The rationale for including such fees in a rate methodology is based on the "origin of demand for service" concept, in which costs are apportioned only among those whose needs require the service. Not all "service" provided by a stormwater management program is uniformly provided throughout a community. Some services, such as plan review and inspection, are provided only to a specific clientele. Instead of distributing the cost of such services among all service fee ratepayers, special service fees can be adopted which apply only to the parties who are served.

Fees of this type are often incidental to the performance of specific regulatory activities by the local jurisdiction; functions that are intended to protect the public health, safety, and welfare. Some of the regulatory activities may be mandated by federal and/or state requirements or as conditions of NPDES stormwater discharge or other permits. In other cases they are simply intended as a cost recovery mechanism that assigns the expense to a specific individual or group that is served. For example, special fees might be used to pay for periodic inspections of on-site stormwater systems. Experience has demonstrated that on-site stormwater detention systems tend to deteriorate rapidly after about five years. Maintenance is sometimes deferred, or alterations may be intentionally or unintentionally made to the facilities, compromising their functionality. Annual or biannual inspections may be necessary to ensure that on-site systems are properly cared for and not altered from their approved design. The cost of such inspections can be assigned to the specific property owners through special inspection fees, thus relieving the general service fee ratepayers of that cost of service.

In the County, separate fees for stormwater system plan review and inspection would provide only a small additional amount of revenue, but would enhance the equity of the

cost distribution by removing the costs from service charge ratepayers and isolating them to those who require these services. Adoption of special fees to recover the costs of such functions would require that other fees associated with the same reviews or inspections also are evaluated to ensure that developers are not being charged twice for the same services. This could require adjustments in other fee schedules, and accounting changes to ensure that the special fees for stormwater plan review, inspections, etc. are allocated to a stormwater enterprise or special revenue fund.

System Development Charges

System development charges are also known as capital recovery charges, capital facilities fees, utility expansion charges, and by other titles. They are frequently incorporated into stormwater and other service fee rate structures.

These capitalization charges differ from impact fees. They are usually designed to recover a fair share of the previous public investment in excess infrastructure capacity from a developer who makes use of the additional system capacity. In most cases, the excess capacity has been provided in anticipation of development projects subject to the capitalization charge. This is usually a more economical and prudent long-term system development policy than attempting to increase service capacity to meet the demands of growth on a case-by-case basis. In contrast, impact fees are intended to maintain adequate service levels in the face of new development.

There are several ways of structuring and calculating capitalization charges, including the growth-related cost allocation method, the system buy-in approach, the marginal incremental cost approach, and the value of service methodology. They differ from in-lieu-of-construction fees and impact fees primarily in terms of: 1) fundamental purpose of the charges; 2) their relationship to the point in time when improvements are made versus when the charges are collected; and 3) their relationship to specific facilities which are funded through service charges. In most cases, system development charges are related solely to capital costs, as opposed to operating expenses, although some justification may exist in certain circumstances for incorporating long-term operating expense associated with system capacity into a capitalization charge.

System development charges basically provide a mechanism whereby developers participate in paying for excess capacity that was previously built into a public system in anticipation of their needs. In effect, a system development charge allows a deferral of participation in the capital cost of a facility until a property is developed and makes use of the provisional capacity. The use of such fees for stormwater management capital costs is clearly appropriate since most drainage systems in developing communities are consciously designed to provide excess capacity to accommodate future development in an economical manner.

The need for a stormwater capitalization charge is related to the basic service fee rate methodology employed. Most stormwater service fees are based on impervious area.

The obvious result is that only developed properties are charged a service fee. Undeveloped properties do not have impervious area and therefore are not charged. However, capital facilities being funded by the service fee will normally be designed with future conditions in mind, including the impact of growth. This results in excess capacity being built into the system and paid for solely by currently developed properties under an impervious area methodology. A capitalization charge is adopted as a recapture mechanism to ensure a fair and reasonable allocation of the capital costs among all properties using the facilities over time. The calculation of a capitalization charge may also include a system depreciation factor so that a development built near the end of the useful life of a system pays only for the portion of the life cycle when it is using the capacity provided.

Some communities have adopted service fee rate methodologies which bill undeveloped as well as developed properties. This is most common when extensive major capital improvements to the systems are being funded and built and it is desirable to spread the cost as widely as possible.

Special Assessments

For decades capital improvements to stormwater drainage systems in many United States communities were commonly funded through special assessments upon benefited properties. This approach evolved from historic English ditch law concepts originally conceived to pay for drainage of farmlands. The ditch law assessment concept was transferred to the United States from England along with many other local government funding practices. The assessment concept was predicated on allocating drainage costs to the farmers in proportion to the direct and special benefits they individually derived in the form of increased crop yields and grazing use. This led to assessment methodologies that were associated with the value of the enhanced use of the land rather than the demands placed on the drainage systems. In time the ditch law concept was translated into "special assessment district" funding, and was eventually applied to many other capital improvements needs.

Special assessments are typically used solely for capital projects. In many cases bonds are issued to pay the cost initially, with special assessments being used to pay all or a portion of the debt service on the bonds. Assessments are often levied over a ten to fifteen year period, with the annual payments due and payable along with ad valorem property taxes. Special assessments can also be utilized by enterprise fund accounts to localize the costs of certain capital investments.

Special assessment funding has some inherent shortcomings when applied to stormwater drainage systems in an urban setting. These have become increasingly evident in recent years as many cities and counties struggled to correct drainage system deficiencies. The chief drawback of the traditional special assessment methodology is that the distribution of costs must be proportionate with the direct and special benefit accruing to each property being assessed. The benefit must be

definable, measurable in some economic manner, and available to the property being assessed within a practical timeframe. General benefits accruing to all properties as a result of a stormwater improvement cannot be used to justify a special assessment, for example better access and mobility along roads that are not frequently flooded.

The emerging "watershed" orientation to water resource management accentuates the limitations associated with special assessments. Increasing local government role in stormwater quality management has further eroded the usefulness of special assessment funding. Demonstrating the direct and special benefit of stormwater quality management to individual properties is extremely difficult. The pressure to identify new funding methods has increased, as assessments have become less and less suitable for stormwater management programs and projects in recent years, contributing to the emergence of stormwater service fee funding.

As a result special assessments for drainage are most workable in a very localized application, for example improving a ditch or channel that directly serves a few properties or a relatively small area. Special assessments are less suitable for capital projects that serve a wide area, and are wholly unsuited to facilities providing a general service (or benefit) to the community at large. Because of what must be done to effectively manage stormwater quantity and quality in James City County is not directly and specifically beneficial to individual properties, assessments are not workable as the prime source of funding for the stormwater management program priorities identified during this project.

The desire to localize some capital costs can be satisfied in other ways. For example, a special service fee can be adopted under a utility instead of a special assessment to isolate certain costs to a limited number of properties or persons served by a specific capital improvement or program activity. A special service fee is much more flexible than an assessment, can be applied to large areas as well as small, and does not have to meet the more rigorous tests applicable to direct and special benefit allocations. Instead, a special service fee adopted under the umbrella of general ratemaking practices must adhere to the standards generally applied to service fees. The rate methodology for a special service fee must be fair and reasonable, and the resulting fees to individual persons or properties must bear a substantial relationship to the cost of the facilities or services, but it need not consider direct and special benefit.

Pro Rata Shares or Impact Fees

Impact fees have been associated with a variety of public infrastructure components across the United States. They are often popular with existing residents who wish to see developers pay the entire cost of new capital facilities. Naturally, they are just as often highly unpopular with developers.

Impact fees are typically limited to situations in which the impact of new development on existing infrastructure systems is: 1) measurable and certain; 2) of definable

geographic or systemic extent; and 3) quantifiable in terms of the incremental capital investment that will be required to maintain (not attain) an adequate service level. Impact fee revenues must also be earmarked for specific projects or uses, must be expended relatively quickly, and, if not spent for the stated purpose, must be returned to the developer.

Even though a good deal of development is taking place in the County, most of it cannot be reliably shown to demand additional service capacity exceeding that which would be provided by an adequate stormwater system if one was in place. The County simply does not have the engineering analyses and master plans to support such a position Countywide. An impact fee would therefore generate minimal revenue and place burdensome administrative demands on the County to manage and track the use of the funds.

By nature, impact fees are most appropriate in areas that are undergoing significant development. Under the Code of Virginia (§ 15.2-2243), an equivalent funding mechanism is defined as pro rata shares. The Virginia enabling legislation specifically includes drainage work for the protection of water quality as one of the permissible uses.

In-lieu-of-construction Fees

In-lieu-of-construction fees could conceivably be adopted under home rule authority as one element of a comprehensive stormwater service fee rate methodology. In-lieu-of-construction fees are typically a substitute for requiring on-site solutions even though an on-site system would work. For example, the impact of a shopping center on stormwater runoff could be solved by requiring an on-site detention system or by building an off-site regional facility that is paid for in part through in-lieu-of-construction fees.

The need for in-lieu-of-construction fees for stormwater management stems from problems local governments have incurred as a result of requiring on-site detention systems on numerous residential subdivisions and commercial properties. Detention systems store stormwater runoff during the peak of a storm event and slowly release it afterward. In some applications they have also been shown to reduce the discharge of pollutants by allowing some settling of suspended solids to take place. However, on-site detention requirements result in small and relatively inefficient systems on private properties. Such systems tend to deteriorate rather quickly and can be easily modified or even eliminated by property owners. A proliferation of small detention facilities quickly creates an inspection and enforcement problem. Fewer large systems serving many properties would be more reliable and efficient, but on-site detention involves a private developer paying for the facility whereas the general public usually pays for regional systems.

An in-lieu-of-construction fee may offer a practical option that would be preferable to both developers and the County if widespread regional detention systems become an element of the long-term stormwater management plan. Developers would simply pay a fee in-lieu of building an on-site system if off-site impacts on properties immediately downstream could be avoided.

The major advantage of in-lieu-of-construction fees is that the County (and thus its taxpayers and/or service fee ratepayers) would not solely bear the capital expense for regional detention and other systems to mitigate the runoff impact created by private development projects. Developers would be required to financially participate in solutions to the impact of their projects, and the long-term regulatory problems of numerous on-site detention systems would be avoided.

The most important disadvantage of in-lieu-of-construction fees is that they rarely generate sufficient revenue to fund construction of regional detention facilities or to enlarge conveyance systems. This dictates that other revenues be used to supplement the fees to build regional facilities, in a timely manner, so the taxpayers or ratepayers are burdened with the up-front cost. It is also necessary that well-refined capital improvement plans be available from which the cost of the necessary regional improvements can be determined as the basis for setting in-lieu-of-construction fees.

Given the status of watershed master planning in the County, immediate implementation of an in-lieu-of-construction fee is not practical. Further consideration of an in-lieu-of-construction fee should be deferred until a capital improvement strategy has been adopted for a majority of the county, with completion of special planning studies that identify opportunities for substituting regional facilities for on-site detention requirements and detail their anticipated cost.

Federal and State Funding

The County has the necessary authority to make use of Federal and State government grants and loans that might be available to help support its stormwater management program. The only action needed is for the County Administrator to apply for and accept various grants and loans. However, there are few federal and state funding mechanisms for local stormwater management programs. Federal involvement in stormwater management (other than regulatory programs) is typically limited to advisory assistance, cooperative programs like those provided by the United States Geological Survey and the Federal Emergency Management Agency's emergency response assistance following devastating floods. As investment in watershed planning and capital improvements increases, and as stormwater quality management pursuant to the NPDES permit advances, state and federal agencies may be more practical sources of support for special purposes and projects, such as the Chesapeake Bay watershed improvements underway in Virginia.

CONCLUSIONS

This feasibility assessment indicates that a stormwater service fee offers more flexible, stable, and equitable long-term stormwater management funding for the county than any other option. Clearly, a service fee has several significant advantages over other funding options. It is highly flexible, offers the prospect of stable funding over time, allows restrictive dedication of the revenues to stormwater management only, and enables elected officials to craft an equitable distribution of costs through a service fee rate design. A service fee rate structure can allocate costs based on the demands placed on the systems and programs instead of property value or other factors unrelated to stormwater service needs. Service fee revenues can be blended with revenues from other sources to enhance both the equity and adequacy of funding.

Regardless of the institutional mechanism employed to implement a service fee, it is the only approach that appears to be capable of generating sufficient revenue to meet the program priorities consistently over many years. However, whether a service fee is feasible involves other considerations. A stormwater service fee will be feasible in James City County only if it: 1) results in a technically equitable allocation of costs that is understandable to the general public; 2) ensures that the revenue is dedicated solely and specifically to stormwater management; and, 3) is packaged and presented to the community in a way that makes sense.

Flexibility is particularly important in the County's situation. The stormwater management needs will change dramatically over the next few years, and the ability for funding to change with needs is critically important. The County made need to take over maintenance of new facilities, and water quality mandates will come into play in 2003 under an NPDES permit. A service fee rate methodology can be periodically adjusted in concert with major transitions in programs and priorities. Other funding methods can be blended with a service fee, either as part of a rate structure or independently. Other funding methods differ in their suitability for capital, operating, regulatory, and other types of costs, whereas stormwater service fees can be used for virtually any operating, non-operating, or capital expense. The revenue stream created by a service fee may also allow revenue bonding for major capital investments, enabling the county to expedite major improvements to the stormwater program without encumbering its general obligation bonding capacity.

The General Fund, with revenue generated by a variety of taxes and other mechanisms, clearly has sufficient total revenue capacity. However, it must also support numerous other services that do not lend themselves to utility funding, for example school funding and public safety services. Service fee funding, based on financing decisions, could relieve the demands stormwater management places on the General Fund.

Under a dedicated, enterprise fund, a service fee also allows earmarking of revenues strictly for stormwater management, thus improving accountability. Money not spent in

one fiscal year carries over into the following year and cannot be diverted to other uses. This encourages stewardship of the financial resources.

The major disadvantages of a service fee are that it costs money to implement and that new fees have the potential to be politically unpopular. The cost of fully implementing a service fee is expected to be in the \$200,000 to \$400,000 range (beyond completion of the current feasibility analysis). Political acceptance is more difficult to forecast. Public reaction to stormwater service fees elsewhere has ranged from very positive to very negative. A program and funding strategy that offers a realistic prospect of protecting valuable resources will have to be communicated convincingly to gain public support.

If the County chooses to establish a stormwater service fee it will have to address both institutional and funding issues. One or more ordinances will have to be drafted and adopted. The experiences of other cities and counties suggest that an intensive public information effort should be conducted to explain the stormwater service fee concept to the community.

A dedicated stormwater fund could be in place as early as December 2003, as an independent enterprise fund. The schedule would depend on many decisions yet to be made, including service fee rate design. By fiscal year 2005, a stormwater service fee could assume some stormwater management costs. It could also reduce General Fund appropriations for stormwater management, depending on how the Board of Supervisors might choose to meld service fee and other revenues to pay for stormwater management. In the interim, an interfund loan could be made to the stormwater enterprise fund, with repayment from future service fee revenues. Repayment would depend upon revenues, expenses, and repayment schedule.

RECOMMENDATION

It is recommended that the County initiate the implementation of a stormwater utility by adopting an ordinance to establish the enterprise fund. This should be done as soon as possible to provide the County with the greatest flexibility in funding the cost of service, program development and rate analysis needed to establish the rate structure and fees. The funding for this work can be borrowed from the General Fund and repaid through the collection of service fees. In addition, it establishes the utility as a viable entity that can borrow monies and own assets.

Funding Recommendation

- **Blended Revenues - Primary Funding is SW user fee**
 - + Dedicated funding source to address objectives
 - + Provide credits to support private investment in the system
 - + Equitable distribution of costs
 - + Flexibility to address both urban and rural services
 - + Incorporate secondary funding
 - + Relieve burden on general fund
 - + Average residential rate: \$2.50 to \$4.00 a month
-