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ISLE OF WIGHT COUNTY, VIRGINIA

NON RESIDENTIAL AND MULTI-FAMILY STORMWATER MANAGEMENT FEE CREDIT MANUAL



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STORMWATER MANAGEMENT FEE CREDIT MANUAL

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ATTACHMENTS:

A – CREDIT APPLICATION FORM

B – BMP MAINTENANCE AGREEMENT

C – ANNUAL STORMWATER REPORT/CREDIT RENEWAL FORM

D – BMP INSPECTION REPORTS

I. INTRODUCTION:

To maintain compliance with federal and state stormwater management mandates, Isle of Wight County will bear an increase in the extent of administrative duties, record keeping, plan reviews, and inspections. The County will also be required to construct additional stormwater management facilities to achieve the required pollutant reductions for the Chesapeake Bay as well as local impaired waterways.

All of these changes stem from revisions to the stormwater management regulations, mandates from the Environmental Protection Agency (EPA) and the Virginia Department of Environmental Quality (DEQ), as well as the transfer of the Virginia Stormwater Management Program (VSMP) administration from the Commonwealth to localities.

In May 2013, the Isle of Wight County Board of Supervisors approved the implementation of a Stormwater Management (SWM) Fee by adopting the Stormwater Management Fee Ordinance. The SWM Fee became effective on July 1, 2013.

This Manual describes how the SWM Fee is calculated and how Non-Residential and Multi-Family properties can apply for a credit to their fee by making improvements to existing stormwater controls or implementing new Best Management Practices (BMPs) to improve how stormwater on their property is managed.

WHAT IS A STORMWATER MANAGEMENT FEE?

The SWM Fee covers the additional costs associated with administering the County's Stormwater Program and funding the construction of new stormwater management facilities. The County has adopted an annual SWM fee of \$72 per year for one Equivalent Residential Unit (ERU). The ERU and associated rate may be periodically updated.

The ERU was derived using the average impervious surface area for a residential lot in Isle of Wight County, which is established as 3,200 square feet (sf). Impervious surfaces are generally defined as any surface material that impedes stormwater from infiltrating into the soil. When a forested or grassy area is paved or replaced with an impervious material, the result is less infiltration of runoff. A larger amount of surface runoff enters the stormwater system causing an increase in flow to the drainage system. Non-residential property owners are therefore charged a stormwater management fee directly proportional to the amount of impervious surface on a property.

All developed residential properties (including single family homes, townhomes and condominiums) are charged for 1 ERU (\$72/year), regardless of the size of their home. Non-residential and multi-family properties are charged 1 ERU for every 3,200 square

feet of impervious area on their property. The SWM fee is added as a separate line item on Real Estate tax bills.

Example #1:

Commercial Property A has several buildings and a parking lot on their property totaling 1.5 acres of impervious area (65,340 square feet). Their SWM fee is calculated as follows:

$$\begin{aligned} \text{Fee} &= \# \text{ ERUs} * \$72/\text{ERU} \\ \# \text{ ERUs} &= (65,340/3,200) = 20.42 \text{ ERUs (rounded down to 20 ERUs)} \\ \text{Fee} &= 20 * \$72 = \underline{\$1,440 \text{ per year}} \end{aligned}$$

WHAT IS A STORMWATER CREDIT?

Non-residential and Multi-family property owners that install, or have installed, stormwater Best Management Practices (BMPs) to reduce the stormwater volume and/or peak discharge rate or pollutant loading flowing from their property to the storm system or surrounding bodies of water, can qualify to receive a reduction in their stormwater management fee.

A BMP is an activity, measure or facility that prevents or reduces the transport of pollutants, controls stormwater volume or rate, and/or limits impacts to the receiving storm drainage system. These measures can include on-site practices such as bio-retention, vegetated swales, and ponds that manage stormwater at its source. The County encourages the use of low-impact design strategies in the planning of development projects.

Stormwater credits will be based on the reduction of total phosphorus (TP) load in the stormwater flowing from a property, as well as on a reduction in the volume and/or peak flow rate from a property. Credits may be obtained through the installation, continuing use, and proper operation and maintenance of selected BMPs that are not owned or maintained by the County.

WHAT TYPES OF CREDITS ARE AVAILABLE AND WHO QUALIFIES?

Credits are available for developed, non-residential properties in the County, including commercial and multi-family residential properties. Multi-family residential properties include apartment buildings and manufactured home parks.

Existing developments in both the Chesapeake Bay and the Blackwater River watersheds have customarily been designed to provide water **quantity** control measures that achieve peak flow attenuation. Due to certain distinctions in the previous design criteria, developments in the Chesapeake Bay watershed may also have been required to provide a water **quality** control treatment component related to the removal

of Total Phosphorous (TP) to achieve pollutant removal requirements. Therefore, the SWM Fee credit policy defines two types of credit that are available for existing BMPs - **Water Quantity Credits** and **Water Quality Credits**. Table 1 below shows the credits available to customers who have entered into a BMP Maintenance Agreement, and subsequently apply for, implement, and maintain an approved BMP.

Table 1 - AVAILABLE STORMWATER MANAGEMENT FEE CREDITS

CREDIT TYPE	CREDIT DESCRIPTION			BLACKWATER RIVER WATERSHED	CHESAPEAKE BAY WATERSHED
WATER QUANTITY CREDIT	BMP meets peak flow attenuation at the time of development			20%	10%
	BMP exceeds peak flow attenuation at the time of development			20%	10%
TOTAL WATER QUANTITY CREDITS ALLOWED				40%	20%
WATER QUALITY CREDIT	Existing BMP or BMP conversion/modification meeting Chesapeake Bay watershed water quality removal requirements at the time of design approval			20%	20%
	Existing BMP conversion or modification meeting Technical Criteria IIB water quality removal requirements effective County-wide in July 1, 2014			20%	NA
	Existing BMP conversion or modification meeting Technical Criteria IIB water quality removal requirements effective County-wide in July 1, 2014	TP Ratio*	1.0	NA	20%
			1.25		30%
			1.5		40%
	New BMP approved for installation after July 1, 2014	TP Ratio*	1.0	20%	
			1.25	30%	
1.5			40%		
TOTAL WATER QUALITY CREDITS ALLOWED				40%	40%
MAXIMUM TOTAL CREDITS ALLOWED				40%	40%

* TP Ratio = TP Treated / TP Removed

II. STORMWATER QUANTITY CREDIT

A Stormwater Quantity credit is available to applicants who have installed an approved BMP that reduces stormwater peak flow and volume. These practices reduce the demand or burden on the streams and rivers within the County.

Water Quantity credits are available to customers that currently have quantity-only stormwater BMPs (i.e. dry detention basins) on their property that were designed and constructed to meet the regulations at the time of development. The development projects on these properties were not required to provide water quality treatment at the time the properties were developed.

A Stormwater **Quantity** credit of up to 40% is available to applicants in the **Blackwater River watershed** who have a previously installed, County-approved BMP that reduces stormwater peak flow rate.

Customers in the **Chesapeake Bay watershed** may also claim credits of up to 20% for water quantity control BMPs.

All credits for existing quantity-only BMPs are also subject to the submittal of a Maintenance Agreement and routine inspections and maintenance.

The credit will apply for a period of one (1) year. The Owner will be required to submit an annual renewal application and proof of self-inspection and maintenance pursuant to the Stormwater Management Maintenance Agreement to continue receiving the credit.

III. STORMWATER QUALITY CREDIT

A Stormwater Quality credit of up to 40% is available to applicants County-wide who have installed a County-approved best management practice (BMP) that provides water quality treatment to stormwater runoff flowing through the BMP. The credit is based on the amount of TP that is treated by the BMP. The applicant can increase the credit received by exceeding the required TP load reduction that is required by current VSMP regulations. The target phosphorus load is 0.41 lbs per acre per year. Table 2 describes how the Stormwater Quality credit is calculated.

**TABLE 2: STORMWATER QUALITY CREDITS ALLOWED
BASED ON RATIO OF LBS OF TP REMOVED/LBS OF TP REQUIRED**

Ratio of TP Treated/TP Required	Total Credit Allowed
1.0	20%
1.25	30%
1.5	40%

CALCULATING TOTAL PHOSPHORUS REQUIRED TO BE REMOVED

The total amount of phosphorus (in lbs/year) that must be removed from stormwater flowing from a site can be calculated using the Virginia Runoff Reduction Method (VRRM). This methodology calculates the TP load reduction required as well as the corresponding design treatment volume. It is required that applicants utilize the VRRM Spreadsheets for New Development and Redevelopment that are posted on the VDEQ website:

<http://www.deq.virginia.gov/Programs/Water/LawsRegulationsGuidance/Guidance/StormwaterManagementGuidance.aspx>

CALCULATING TOTAL PHOSPHORUS TREATED

Once the required TP load reduction is calculated, the applicant can utilize the VRRM spreadsheets as well as the most recent version of the Virginia Stormwater Management Handbook to determine which BMPs are appropriate for their site conditions and achieve the TP removal efficiency required.

Example #2 walks through how the Stormwater Quality credit is calculated as well as the potential savings for a 6-acre commercial property with 4 acres of impervious area.

Example #2:

Commercial Property B is 6-acres in size and is planning to expand one of their warehouses and provide additional employee parking. The total impervious area after expansion will be 4.0 acres. They currently have a dry detention basin to treat the stormwater flow from the current site, as that is all that was required at the time of the previous development. This BMP does not provide any water quality treatment.

Per the VRRM Spreadsheets, the expanded site is required to remove 8.1 lbs of TP per year from the site in order to achieve the maximum required loading rate of 0.41 lbs/acre/year.

The property owner decides to retrofit the dry detention basin to provide additional water quality treatment and adds a vegetated swale, which together are designed to provide a total of 10.5 lbs of TP removal per year from the site.

The Stormwater Quality credit is calculated as follows:

$$\text{Ratio of Treated/Required} = 10.5 \text{ lbs}/8.1 \text{ lbs} = 1.30$$

Refer to Table 2: Ratio of 1.25 is eligible for a 30% credit

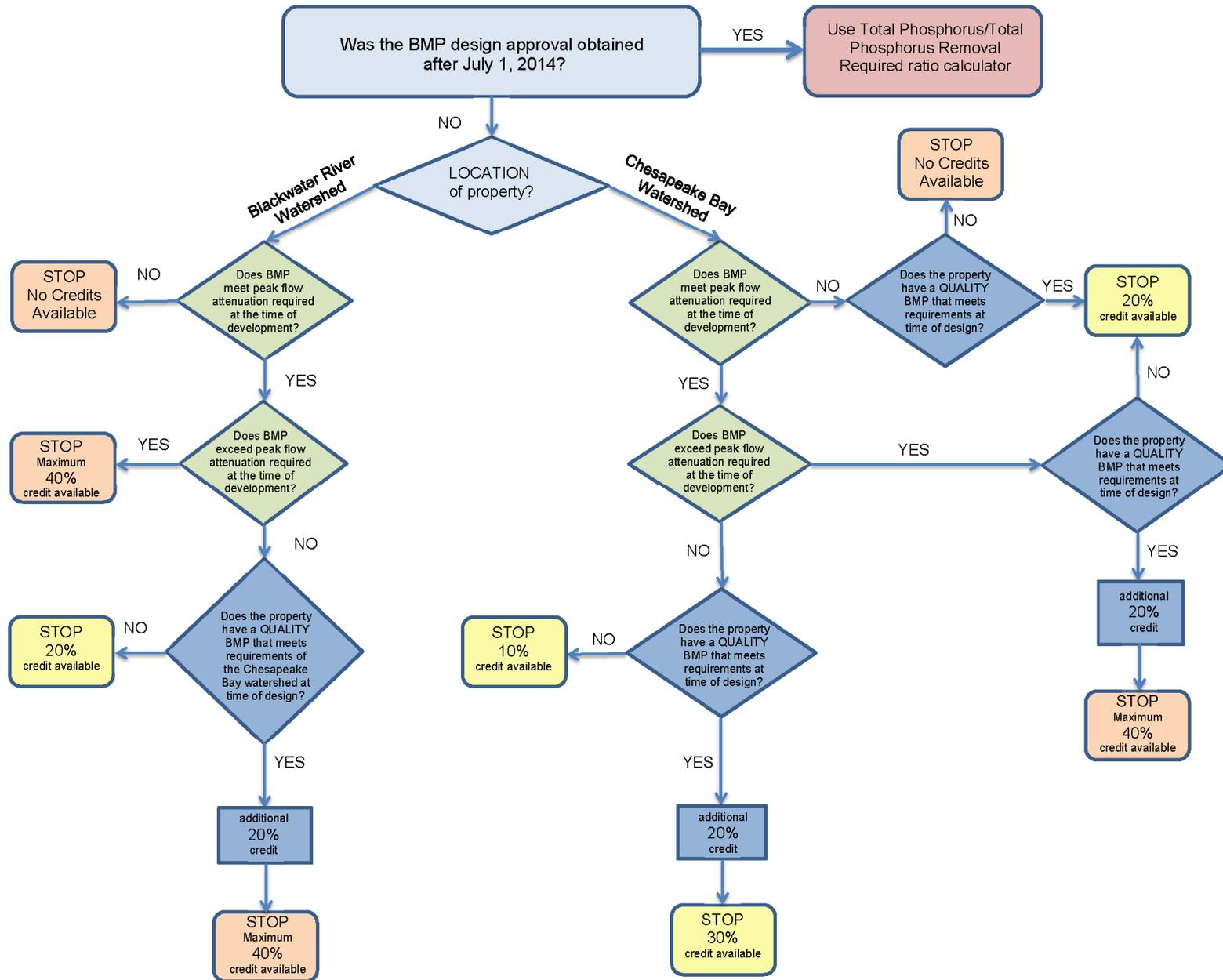
This property has a total impervious area (after the expansion) of 4.0 acres, which results in an annual Stormwater Management Fee of \$3,816. The 30% credit would save this customer a total of \$1,145 a year.

All new BMPs in both the Blackwater River and the Chesapeake Bay watersheds must be designed and constructed in accordance with the Virginia Stormwater Management Handbook (the “Blue Book”), which can be found on the VDEQ Stormwater Management Publications website (click [HERE](#)) or the Virginia Stormwater BMP Clearinghouse (<http://vwrrc.vt.edu/swc/>).

BMP retrofits, with prior approval from the Isle of Wight County Stormwater Division, may be designed in accordance with the technical criteria used at the time of plan approval. Existing BMPs without formal documentation, or those originally designed for water quantity control only, may be eligible for attaining a credit as well. An engineering analysis based on the design criteria applied in the Chesapeake Bay watershed at the time of construction would have to be completed and coordinated with the Isle of Wight County Stormwater Division.

HOW DO I KNOW IF I QUALIFY FOR ANY CREDITS? If you have a BMP on your property to control stormwater, you may qualify for a credit. The flow chart on the next page (Figure 1) can help you determine how much of a credit you may qualify for.

FIGURE 1: CALCULATING STORMWATER MANAGEMENT FEE CREDITS



IV. CREDIT APPLICATION AND DOCUMENTATION REQUIREMENTS

INSTALLATION STANDARDS

- All new BMPs must be designed and constructed in accordance with the Virginia Stormwater Management Handbook (the “Blue Book”), which can be found on the VDEQ Stormwater Management Publications website (click [HERE](#)) or the Virginia Stormwater BMP Clearinghouse (<http://vwrrc.vt.edu/swc/>).
- All BMPs must have all required County and State permits and approvals

APPLICATION & DOCUMENTATION REQUIREMENTS

- Stormwater Credit Application Form (Attachment A)
- BMP Maintenance Agreement (Attachment B)
- Annual Stormwater Report Form (Attachment C)
- BMP Inspection Reports (Attachment D)

MAINTENANCE REQUIREMENTS

- An executed BMP Maintenance Agreement (Attachment B) is required to be filed with the County for all BMPs to receive credit.
- The property owner has the legal responsibility to maintain the BMP.
- All maintenance must be completed within the recommended guidelines of the Virginia Stormwater Management Handbook.
- The County reserves the right to routinely inspect the BMP to ensure that regular maintenance is being performed as required.

RESTRICTIONS ON CREDITS

- The BMP must meet all applicable building, planning and zoning requirements.
- The Stormwater Quality and Quantity credits apply only to the applicant. Credits do not transfer if ownership transfers. A new application must be submitted and a new BMP Maintenance Agreement (or evidence of transfer of the existing Agreement to a new responsible Owner) to continue receiving the credit.

RENEWAL REQUIREMENTS

- To continue receiving the SWM Fee credit the applicant must submit an Annual Stormwater Report (Attachment C) including a BMP Self-Inspection Report (Attachment D) documenting maintenance performed,

V. INSTRUCTIONS ON COMPLETING A CREDIT APPLICATION (ATTACHMENT A)

Section A:

- Fill out the Applicant Name, Parcel ID Number, and watershed in which the property lies.
- Check the box/boxes for the credits that you are applying for, and complete the required information in the right-hand column. Gather the required information and check off that all required information has been included with the application.

Section B – Water Quality Credit Calculations:

- If your BMP was designed and/or constructed before July 1, 2014 and it met the Water Quality requirements for the Chesapeake Bay watershed at the time of design, **OR** if your BMP was designed and/or constructed before July 1, 2014 and it has been converted or modified to meet the Water Quality requirements for the Chesapeake Bay watershed at the time of design, **COMPLETE #1**. Include all required information in order to receive the 20% credit.
- For projects designed and constructed after July 1, 2014 (following the runoff reduction method), **COMPLETE #2**. It is required that the Virginia Runoff Reduction Method Spreadsheets be used to calculate the required total phosphorus load reduction per year.
 - Enter the TP Load reduction required (lbs/yr)
 - Enter the TP Load reduction achieved with BMPs (lbs/yr)
 - Calculate the ratio of TP treated to TP required:
 - Ratio 1.0 – 1.24: Credit 20%
 - Ratio 1.25 – 1.49: Credit 30%
 - Ratio 1.5 or greater: Credit 40%
- **Enter the total Water Quality Credit % in Section D**

Section C – Water Quantity Credit Calculations:

- **Complete Section C1** if your property lies within the **Blackwater River watershed** and if your site has water quantity-only BMPs (ex. Dry detention basins).
- **Complete Section C2** if your property lies within the **Chesapeake Bay watershed** and if your site has water quantity-only BMPs (ex. Dry detention basins).
- If your BMP meets the 10-year storm peak flow requirement, **COMPLETE #1**. Include all required information in order to receive the credit. Maximum credit for water quantity BMPs meeting 10-year peak flow requirement within the **Blackwater River watershed** is 20%, and within the **Chesapeake Bay watershed** is 10%.

- If your BMP also meets the 25-year storm peak flow requirement, **COMPLETE #2**. Include all required information in order to receive the credit. Maximum additional credit for water quantity BMPs meeting 25-year peak flow requirement within the **Blackwater River watershed** is 20%, and within the **Chesapeake Bay watershed** is 10%.
- Enter the total calculated credit in Section D.

Section D – Credit Adjustment Calculation Summary:

- Check all the credits that you are applying for and the calculated or allowed credit. Total the credits. Note – the maximum credit allowed is 40%.
- Calculate the Credit Adjustment as follows:
 - Stormwater Management Fee * Allowable Credit (%) = Amount to deduct from billed Stormwater Management Fee

Section E – Certification:

- Initial, sign and date the certification statement

Mail the completed application and all supporting documentation to:

GENERAL SERVICES DEPARTMENT
STORMWATER DIVISION
P.O. BOX 80
ISLE OF WIGHT, VA 23397

VI. RESOURCES

Virginia Stormwater BMP Clearinghouse

Design standards and calculations

<http://www.vwrrc.vt.edu/swc/>

Virginia Stormwater Management Handbook

Design standards and calculations

<http://www.deq.virginia.gov/Programs/Water/StormwaterManagement/Publications.aspx>

Virginia Runoff Reduction Method (VRRM) Spreadsheets for New Development and Redevelopment

Phosphorus load reduction calculation spreadsheets and guidance

<http://www.deq.virginia.gov/Programs/Water/LawsRegulationsGuidance/Guidance/StormwaterManagementGuidance.aspx>

The Center for Watershed Protection

Fact sheets, design guidance, and reference materials

<http://www.cwp.org/>

Low Impact Development Center

Fact sheets, design guidance, and reference materials

<http://www.lowimpactdevelopment.org/>

Chesapeake Bay Foundation

Rain garden, rain barrel, and native planting information.

<http://www.cbf.org/>

U.S. Green Building Council

Fact sheets, design guidance, and reference materials

<http://www.usgbc.org/>

Environmentally Sensitive Landscaping

Fact sheets, design guidance, and reference materials

www.epa.gov/GreenScapes