

Jacobs

Stormwater Utility Feasibility Study
Credits, Rebates, Hardship Reductions and Appeals

December 2020

City & County of Honolulu Department of Facility Maintenance (subcontract with AECOM)

Stormwater Utility Feasibility Study

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Acronyms and Abbreviations

BMP	Best Management Practice
CCH	City and County of Honolulu
CSO	combined sewer overflow
DFM	Department of Facility Maintenance
EPA	United States Environmental Protection Agency
GI	green infrastructure
HCF	Hawaii Community Foundation
IA	impervious area
IPM	integrated pest management
LID	low-impact development
MFR	multifamily residential
MS4	Municipal Separate Storm Sewer System
NPDES	National Pollutant Discharge Elimination System
NR	nonresidential
ROW	right-of-way
SAG	stakeholder advisory group
SF	square feet
SFR	single-family residential
SWU	storm water utility
WQF	water quality flow
WQV	water quality volume

Executive Summary

Purpose and Overview

The purpose of this report is to document options and recommendations for credit and incentive system policies and implementation materials, which can help property owners or tenants reduce their storm water utility (SWU) fees while incentivizing implementation and maintenance of storm water Best Management Practices (BMPs).

In addition, this report provides a summary of policy options and recommendations for reduction or exemption from SWU fees because of the potential for hardship for low-income or not-for-profit organizations, including community, faith-based or service organizations designated as 501(c)3 entities under Federal tax laws.

Lastly, this report addresses considerations and options for appeals of storm water fees because of billing data errors.

The purpose of this report is to identify key policy choices that are typically addressed as part of the ordinance establishing the SWU, or as part of administrative procedures referenced in the ordinance that are developed later during SWU program implementation.

Section 6 provides specific recommendations on how to adopt and key program elements for rebates/grants, credits, exemptions, hardship conditions, and appeals.

These recommendations are intended to be flexible guidelines based on experience in other jurisdictions, subject to the City and County of Honolulu (CCH) Department of Facility Maintenance (DFM) policy choices and stakeholder input. They are intended to balance the goals of encouraging those paying the fees to implement and maintain stormwater BMPs on their own property, thereby helping DFM to meet overall objectives for stormwater management on Oahu as well as to meet the National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) permit, as well as providing a balance between equity and simplicity of administration of these programs.

It is also important to recognize that all utilities evolve as they mature over time, so it is recommended that specific policy choices not be locked in by including specific numbers and deadlines in the ordinance that creates the stormwater utility.

An overview of the recommendations are as follows. Please refer to Section 6 for specifics on these recommendations.

Summary of Recommendations

Implementation Incentives: Grants and Rebates

It is recommended that DFM create an incentives program based on a combination of rebates or grants to encourage property owners, groups of owners, or community groups to install new stormwater infrastructure or encourage nonstructural water quality activities.

To provide flexibility to upgrade and modify the program, it is not recommended that the ordinance establishing the stormwater utility explicitly reference creation of a stormwater grants and rebates program. However, if DFM decides that the ordinance creating the utility should explicitly encourage or mandate creation of a grants and rebates program, it is recommended that it give authority to establish one but should not be prescriptive in establishing the eligibility and amount of grants or rebates. The key element that should be considered in formally establishing authority for a grants and rebates program is to specify that implementation incentives should be restricted to facilities or activities that support management of stormwater quantity and quality, and not broader environmental or infrastructure goals.

Note, it is uncommon for rebate or grant programs to cover the full cost of implementation of the funded project. The availability of grants and loans should be limited to available annual budget allocations, and issued typically on a first come/first served basis. Initial program budget assumptions assumed 5 percent of annual revenues would support the combined budget needs related to grants and rebates and credits. Additional, separate funds reserved for particular projects, neighborhoods, or organizational partnerships would be separately allocated and managed.

A rebates and grants policy manual should be established that clearly outlines the types of practices that are eligible and maximum available grants or rebates. In general, grants should focus on nonstructural measures, while rebates should focus on structural measures. For property owners that cannot provide the up-front capital needed to complete design and/or construction before obtaining a rebate, DFM should consider providing technical assistance to selected property categories and/or loan programs to cover the initial capital cost.

It is recommended that the menu of structural BMP types that are eligible for grants or rebates align directly to DPP's Stormwater BMP manual for Low-impact Development (LID) Retention and LID Biofiltration practices. The CCH DFM's *Green Infrastructure for Homeowners* guide (2012) also provides a starting point for development of a menu of options.

Similarly, the types of nonstructural practices that could receive a grant should be listed in the policy manual, including activity-oriented measures such as:

- Trash clean-up and removal activities
- Implementation of Integrated Pest Management (IPM)
- Adopt-a-Stream Programs
- Hosted/provided watershed education programs

Credits

It is recommended that DFM create a credit program to encourage property owners to implement new stormwater infrastructure and to maintain existing infrastructure, while also giving each property owner an opportunity to reduce their fee. It is recommended that the ordinance establishing the utility authorize establishment of a credit program, with details of the program to be articulated in a credit manual to be developed and implemented separately by the SWU. This approach provides maximum flexibility for the stormwater credit program to evolve as permit requirements and stormwater utility customer needs evolve.

It is suggested that the credit program be developed with phased implementation with a potential timeline as outlined in Section 6. It is recognized that a longer timeframe for introduction may be unpopular with stakeholders; however, this phased implementation is typical of most stormwater utilities and allows time for establishing administrative steps to apply for credits including automation options such as online forms or apps, developing guidance documents, as well as time to train staff needed to review applications and perform inspections. Inspections are generally conducted for only a small percentage of the nonresidential and multi-family residential properties. In the event a longer lead time is required to establish the fee and DFM is able to complete background steps in advance of fees being charged, the credit program may be able to be introduced simultaneously with issuance of the first fee bills.

It is recommended that credits be available to all properties on Oahu (that is, single-family residential, nonresidential, and multifamily residential properties).

Credits would only be granted after a property owner submits an application with appropriate documentation of the practice, and with a binding commitment to maintain the facilities for the duration of the credit. It is recommended that credits remain in effect for up to 3 years for single-family residential properties and 1 year for nonresidential and multifamily residential properties, unless an inspection shows that the facility is not being

maintained as required. Credit renewals, with certification of ongoing maintenance, would be required at the end of those periods.

It is recommended that the suite of BMPs eligible for receiving credits be aligned to *Storm Water BMP Guide for New And Redevelopment* (DPP, 2017). Table 6-1 in Section 6 lists the BMP Type, the applicable property types eligible for credit for each type of BMP, and the maximum credit amount. To receive maximum credit, the BMP serving a given drainage area must provide the full water quality volume (WQV) or water quality flow (WQF) required by the BMP Guide. For single-family residential properties, CCH DFM's *Green Infrastructure for Homeowners* guide (2012) may be used for establishing credits.

The maximum credit that is recommended for any property is 60 percent of the applicable storm water utility fee. It is recommended that nonresidential and multifamily residential properties also be able to qualify for credits for approved non-structural storm water BMPs, as detailed in Section 6. However the maximum credit for any combination of BMPs would be 60 percent of the applicable storm water utility fee.

A combination of BMPs can be used for impervious area in each separate drainage area on a property, such as roof areas, driveways and parking lots.

Exemptions

The following exemptions should be reflected in the ordinance forming the stormwater utility:

- Vacant property with no measurable impervious area (IA).
- Properties with impervious area less than 300 square feet (SF).
- Public rights-of-way, including all public roads, Federal or State Highways, and local roads not part of a privately-owned parcel.

Hardship Reductions

It is recommended that the following reductions should be reflected in the ordinance forming the stormwater utility, or authority granted to the SWU to enact similar hardship reductions:

- Single-family residential properties owned by households with incomes below 150 percent of the Federal Poverty Level, or which are participating in Hawaii Low-Income Home Energy Assistance Program, should be exempted from the stormwater utility fee.
- Land-owning entities that are qualified 501(c)(3) organizations and exempted from property taxes should be eligible for a partial exemption for the amount of the storm water fee that exceeds 0.2 percent of the organization's total annual gross revenues.

Appeals

It is recommended that the ordinance forming the stormwater utility explicitly include an appeals process to correct billing errors associated with a bill. The ordinance will typically specify the frequency and duration of appeals, and limit the extent of retroactive bill correction. It is recommended that adjustments resulting from a successful appeal be only applicable to the current year's bill.

It is recommended that the ordinance limit what can be appealed to the following:

- IA calculation and tier assignment for an individual property
- Determination of exemption or hardship status
- Credit calculation, in cases where a customer has applied for a credit

It is recommended that a particular issue only be allowed to be appealed once, with one chance to provide follow-up supporting information requested by the SWU staff.

Disclaimer

The information and recommendations presented in this report are considered preliminary and is subject to change, pending final review and selection of policy choices for credits, incentives, hardship adjustments and appeals.

1. Introduction

1.1 Background

The City and County of Honolulu (CCH) Hawaii is facing regulatory requirements for pollutant load reductions under their National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) permit. In addition, CCH is facing growing budget demands for storm water infrastructure for capital improvement and operations and maintenance. Given increasing competition for limited budget resources CCH is exploring establishing a storm water utility (SWU) fee to provide dedicated funds to meet these growing needs.

CCH's Department of Facility Maintenance (DFM) has launched a SWU feasibility study of the development and implementation of SWU fees. DFM has several consultants working on various aspects of its storm water program. In addition, DFM is a partner with the Hawaii Community Foundation (HCF) on a grant-funded effort that is supporting the SWU Feasibility Study.

The lead consultants and partners are as follows:

- Birchline Planning, in partnership with Kearns & West and Focused Planning Solutions, were retained by HCF to lead the public outreach and policy development portion of the SWU feasibility study, including leading a stakeholder advisory group (SAG) series of meetings on key policy issues and options.
- AECOM is under contract to DFM to provide storm water program support, including defining program needs under CCH's NPDES MS4 permit.
- Jacobs Engineering Group Inc. (Jacobs), as a subconsultant to AECOM, has been asked to provide SWU expertise to support DFM and the HCF consultant team for the SAG process including conducting data analysis, evaluating options for SWU rate structures and fees, evaluating billing system options, and providing SWU policy guidance.
- G70, as a subconsultant to AECOM, has been asked to provide public education and outreach support.

Jacobs is supporting DFM's consultant team by providing the following:

- Technical support and presentation materials for SAG meetings that are facilitated by Birchline Planning and Kearns & West.
- Guidance to AECOM and Birchline Planning on how to summarize DFM's storm water program needs based on different levels of service and phasing options for evaluating of SWU revenue requirements and fee and customer impacts.
- Analysis of available parcel and impervious area (IA) data for preliminary rate modeling and analysis and recommendations for billing data requirements and update needs.
- Rate model development and analysis, and customer impact analysis.
- Support for development of credit and incentive system policies and implementation materials.
- Evaluation of billing system options, including feasibility and cost of piggybacking on existing billing systems for property tax bills or water/wastewater utility bills, and a stand-alone option.
- Support for development of ordinance and resolution language to establish the storm water utility, and establish the initial fee.
- Support of community outreach, such as public education and outreach

These tasks are largely underway and will be documented separately. A series of four SAG workshops have been conducted between August 2019 and March 2020, with more planned by end of 2020. The four completed

workshops have addressed a number of policy issues that will shape how a storm water utility and its related fee structure will be proposed for the CCH.

1.2 Purpose and Overview

The purpose of this report is to document options and recommendations for credit and incentive system policies and implementation materials, which can help property owners or tenants reduce their SWU fees while incentivizing implementation and maintenance of storm water Best Management Practices (BMPs).

In addition, this report provides a summary of policy options and recommendations for reduction or exemption from SWU fees because of the potential for hardship for low-income or not-for-profit organizations, including community, faith-based or service organizations designated as 501(c)3 entities under Federal tax laws.

Lastly, this report addresses considerations and options for appeals of storm water fees because of billing data errors.

The purpose of this report is to identify key policy choices that are typically addressed as part of the ordinance establishing the SWU, or as part of administrative procedures referenced in the ordinance that are developed later during SWU program implementation.

The policy options that were reviewed are summarized in this technical report in the following sections:

- **Section 2: Incentive Programs (Credits or Rebates)** – This section focuses on whether an incentive program should be established, what property types would be eligible, and how credits would be calculated and administered.
- **Section 3: Lessons Learned from Incentive Programs in Other Jurisdictions** – This Section provides an overview of what some other stormwater utilities are doing to create incentives, with more detailed case studies provided in Appendix A and Credit Program Manual and Application Form examples in Appendix B.
- **Section 4: Exemptions and Hardship Reductions** – This section addresses whether exemptions and/or economic hardship reductions in SWU fees should be provided for certain types of properties, such as vacant land, Government-owned properties, military facilities, non-profits, and faith-based organizations.
- **Section 5: Appeals** – This section addresses how CCH could structure an appeals process and criteria for granting appeals based on incorrect bills.
- **Section 6: Recommendations** – This section provides specific recommendations on how to adopt and key elements for rebates/grants, credits, exemptions, hardship conditions, and appeals.

The main elements of incentive, hardship, and appeals programs are similar among most SWUs; however, the details of these policy choices can be quite different, reflecting local policy choices that should be explored by DFM in consultation with its partners, stakeholders, and elected officials. The policy choices and recommendations presented in this report reflect representative SWU experience and case studies from all over the United States and Canada, but is not meant to be an exhaustive summary of policy options. Examples are used to illustrate the range of experience available to the consultant team, and examples from available literature.

2. Stormwater Incentive Programs (Fee Credits or BMP Rebates)

Creating incentives for private property owners to invest in storm water management measures typically entails considering a range of policy choices reflecting local priorities and conditions. These choices include defining what types of incentives will be offered, who will be eligible, what types of measures are eligible, how the incentives are calculated, and the administrative costs of setting up an incentive program. This section is divided into two parts. The first addresses these series of policy questions and the second provides a summary of case studies from other jurisdictions.

2.1 Types of Incentives

Many storm water utilities that assess fees based on IA provide incentives to properties with onsite storm water facilities that capture and/or treat storm water runoff. Incentives encourage ratepayers to implement storm water facilities, often referred to as Best Management Practices or "BMPs," on their property or to adopt other measures to improve water quality in exchange either for a reduction in their storm water fee, or for upfront assistance with cost of installation. These incentive programs take many forms and can facilitate stakeholder buy-in and the legal defensibility of the storm water utility fee. Adoption of an incentive program can also help DFM meet the NPDES storm water permit obligations as stipulated in the NPDES permit issued by the Hawaii Department of Health for pollutant discharges from the CCH's MS4. Providing incentives to install and maintain storm water facilities provides equity during implementation of the storm water utility by rewarding properties with existing facilities and encouraging properties who do not have them to get involved in managing storm water quality on the island of Oahu. Moreover, if well-structured, a storm water incentive program will not reduce revenue. However, it is important to recognize that storm water fee rates are aligned to the CCH's overall storm water program revenue needs, which include funding for incentive programs.

There are two types of incentive programs typically considered: Implementation incentives, which are typically grants or rebates; and credits.

2.2 Implementation Incentives: Grants, Rebates, Loans and Agency-built Projects

Implementation incentives provide one-time assistance with the upfront costs of either upgrading an existing facility to provide for water quality treatment, or for installing a new facility. These implementation incentives can take several forms but generally include, grants, rebates or loans, described herein.

2.2.1 Grants

To provide property owners an incentive for upgrading a storm water facility, or constructing a new facility, grants offer assistance for the planning, design and construction costs. Grants can be provided for the full or partial cost of the project. Eligibility requirements vary and depend on the goals of the storm water agency or program.

This sort of program is uncommon, but is growing in popularity among jurisdictions with combined sewer overflow (CSO) and MS4 permit mandates. For example, a rebate may provide (as examples) up to \$1,200 for residences, or \$5,000 for nonresidential uses, to install a variety of different types of BMPs (collectively known as green infrastructure (GI)). In some cases, grants programs include technical assistance for certain types of facilities to develop alternatives and designs that can then be implemented by pre-qualified construction contractor. The maximum grant amounts vary by jurisdiction. A sampling of these programs is included in case studies provided in Appendix A.

Pros: Provides a property owner "free" money to improve its onsite storm water management; supports implementation of small-scale pilot projects on multiple sites and in different settings throughout a community; engages a broad set of property owners who may not otherwise participate.

Cons: Grant program administration can be complex and labor intensive for the granting agency. Some granting agencies may require that the owner provide an easement or other interest in the involved land for implementation of the project, to ensure the facility is appropriately managed and can be maintained by the granting agency. Additional CCH staff resources will be needed to verify the functionality of these projects over time.

2.2.2 Rebates

Rebates provide a repayment to property owners after approved storm water controls are implemented. Rebates are currently provided as part of the RainScapes program in Montgomery County, Maryland. Approval of each project is required, and the property owner must submit proof of the cost of the project.

Pros: Provides a property owner "free" money to improve onsite storm water management.

Cons: Landowners may still find the program unappealing because they have to pay for the project upfront before receiving the refund. The option may be even less attractive if the amount refunded only partially covers project costs.

2.2.3 Loans

Depending on the storm water agency, loans can help supplement other program elements by providing property owners access to low cost capital for BMP implementation. For example, an incentive program can be structured to allow a property owner to first apply for a grant, and if grant funding is not available for all applications, loans can be offered at terms that the property owner can accept.

Pros: Provides a low cost financing option for projects, and replenishes agency funds as loans are repaid.

Cons: May not be favored by property owners because of unwillingness to take on debt. Legal requirements for interests in property or collateral can be cumbersome, along with accounting and reporting of repayments.

2.2.4 Agency-Built Projects

In some cases, a storm water agency may undertake projects on private property, whether as part of its CIP or where a project can serve as an important pilot or example of a storm water management technique. The agency would finance the entire cost of the project without any contribution from the landowner, other than access to and use of the land.

Pros: Provides a property owner a "free" project to improve onsite storm water management. The property owner does not need to manage implementation of the project and needs not expend any cash. The project would be executed to the agency's specifications; therefore, there is no risk of non-acceptance by the agency.

Cons: Private property projects require legal agreements and assurances that the owner will not modify the involved land area, and either will perform maintenance or allow the agency to perform maintenance for the life of the project. Additional County staff resources will be needed to verify the functionality of the project.

2.3 Credits

The purpose of credits is to help property owners reduce their periodic storm water fee, thus providing an incentive for implementing storm water management facilities. Historically, credits have been offered only to commercial properties, but recent trends show that an increasing number of SWUs offer credits to single-family properties implementing certain types of GI systems.

Providing credits improves the legal defensibility of establishing a storm water fee by giving customers an option by which they may reduce their SWU fees, similar to their ability to reduce their water bill by reducing water consumption.

The credit amount that a property can receive varies among storm water utilities. Most utilities provide only a partial credit option, allowing owners to reduce their total bills up to a specified percent of the total, while others allow a full credit option under which owners pay no fee. The rationale for not providing a 100-percent credit, even if all storm water is managed onsite, is that property owners should contribute to services provided by DFM and other CCH agencies that support storm water management services beyond their property lines, such as City-wide permit compliance, road drainage maintenance, and GI improvements on public lands. Also, CCH must have storm water management facilities available to deal with extraordinary storms that create runoff from properties that usually do not create runoff.

The criteria for determining the credit level typically is based on the type of facility or BMP, and the percent of a site's IA treated to a specified local standard. Eligible treatment facilities or BMPs are most often limited those in locally-adopted storm water manuals or standards. Some programs also credit property owners whose facilities treat runoff from other properties, or runoff from public rights-of-way; programs using this option often allow 100% credits to those properties treating all of the IA on their own property plus runoff from an equivalent or greater amount of off-site IA. Example credit programs are described in Appendix A.

The following are incentive program considerations. These considerations should be addressed during implementation with input from stakeholders:

- Who is eligible for incentives?
- What type of measures are eligible?
 - Traditional measures: ponds, underground storage, oil-water separators, sand filters, vegetated swales
 - Low-impact development (LID)/GI: bioretention, cisterns, rain barrels, rain gardens, green roofs
 - Non-structural or programmatic measures (NPDES storm water permits, nutrient management programs)
- Should the credit program be phased in, and offered only once the storm water utility is fully operating?
- What is the maximum credit? Should 100% credits be available?
- How are credits calculated?

Revenue lost by providing an incentive program must be made up with fees paid by other customers. However, the experience across the United States indicates that revenue losses from incentive programs rarely exceed 5 percent, even for the most generous and mature storm water utilities.

2.3.1 Eligible Stormwater Management Controls

Determining which storm water management controls will be considered for receiving a credit ultimately comes down to the City's policy choices. In some states, enabling legislation for storm water utilities links the practices that are eligible for credits to state storm water design guidance. For CCH, eligible traditional BMPs or GI storm water management practices could be limited to those specified in the *Storm Water BMP Guide for New and Redevelopment* (DPP 2017). However, the legislation authorizing use of storm water fees in Hawaii does not have guidance on the issuance of credits (see Section 46-1.5, Hawaii Revised Statutes, Subsection (5)(E)).

A key aspect of BMP eligibility is whether the BMPs are recognized as providing water quality versus quantity treatment benefits, as defined in a state or local design manual, and whether the BMPs are in good working order. In some cases, private properties will establish maintenance agreements with storm water agencies. The following criteria and conditions should be considered in determining if properties are eligible to receive a credit or incentive:

- Properties should receive a credit or rebate only when the storm water utility bill has been paid and all City accounts are current.
- Property owners must currently own and properly maintain an approved storm water control.

Table 2-1 provides a fairly typical mix of categories of BMPs and maximum credit amounts in those categories. Within each of those categories are multiple different types of BMPs. Figure 2-1 provides a typical menu of the types of storm water management practices that might be eligible for credits for both single-family residential (SFR) and nonresidential (NR) or multifamily residential (MFR) properties. Note that many storm water management facilities, such as constructed wetlands or 'treatment trains' with multiple components, may provide volume, water quality and peak runoff rate control.

Section 6 provides a recommended credit program that relates eligible BMPs from the DPP BMP manual to credit amounts, and the Hawaii Water Quality Rules.

Table 2-1. Typical Stormwater Best Management Categories and Maximum Credit Amounts.

Categories of Stormwater Best Management Practices	Example	Typical Measurement Metric for Determining Credits	Typical Maximum Credit Amount*
Green Infrastructure/Volume Controls	Rain garden Bioretention Permeable pavement systems	% of property's IA treated to applicable standard	60%
Peak Runoff Rate Control	Dry detention ponds		30%
Water Quality Treatment	Wet ponds Underground infiltration systems		30%
Non-Structural Measures (e.g. trash cleanup, integrated pest management)	Complete trash removal Implement Integrated Pest Management (IPM) Host/provide watershed education programs	Varies by practice; as examples, number of citizens involved, area of IPM implementation, pounds of trash removed	15%
Industrial NPDES Stormwater Permit (in compliance)	Facilities in full compliance with an Industrial NPDES permit	Typically a set percentage of the total storm water utility bill for any property in full compliance	15%

* Note: Maximum credit amount is only achieved for structural BMPs if 100% of impervious area is treated to the standard required in the stormwater manual. Partial credit is given if a smaller treatment volume is provided. For example, the Storm Water BMP Guide for New and Redevelopment (DPP, 2017) requires a water quality volume (WQV) to be retained onsite equivalent to 1 inch of runoff from impervious surfaces for LID Retention and 1.5 inches for LID Biofiltration. If a BMP, or combination of BMPs, retain 80% of the required WQV, then the credit would be 80% of the maximum credit amount, or 80% x 60% = 48%.

Credit Category	Stormwater Management Practice (SMP)	Residential *	Non-Residential and Multi-Family Residential **
Green Infrastructure / Runoff Volume Controls	Pervious pavement with infiltration bed	X	X
	Infiltration basin		X
	Rain garden/bioretention	X	X
	Subsurface infiltration bed		X
	Green Roof		X
	Infiltration trench/ Tree Infiltration Trench		X
	Runoff Capture & Reuse – Cistern or Rain Barrel	X	X
	Dry Well/ Seepage Pit	X	X
Peak Runoff Rate (Flood) Controls	Constructed wetland		X
	Wet pond/ retention basin		X
	Dry extended detention basin		X
	Special Detention areas (parking lots/roof)		X
Water Quality Treatment	Constructed wetland		X
	Constructed Filter		X
	Proprietary Water Quality Filters & Hydrodynamic Devices		X
	Vegetated Swale		X
	Vegetated Filter Strip		X
Non-Structural Controls	Tree Canopy Cover	X	X
	Downspout Disconnection	X	X
	Approved Adopt-a-Stream volunteer program		X
	Approved environmental education/outreach program		X
National Pollutant Discharge Elimination System (NPDES) Stormwater Permit	Facilities with an active, fully-compliant NPDES Permit from PADEP (this is not the same as a NPDES Construction Permit)		X
<i>Notes:</i>			
* Single family residential property owners are eligible for SMPs listed in the non-residential categories.			
** Non-residential and multi-family residential are excluded from obtaining the Rain Barrel rebate, but can obtain a cistern credit			

Figure 2-1. Typical Mix of Stormwater Best Management Practices Potentially Eligible for Credits from Stormwater Fees. (Source: West Chester Borough PA).

Based on the review of other credit programs, it is reasonable to say that most allow credits for both conventional (for example, detention ponds) and LID controls (such as rain gardens and roof gardens), such as the credits available in Portland, Oregon. Other credit programs are limited to conventional controls, which would be implemented mostly on nonresidential parcels.

The maximum credit amounts available for each category of BMPs varies widely across the United States, typically in a range from 25 percent to 75 percent per category, with most around 50 percent. Portland, Oregon, offers a maximum credit of 35 percent. Montgomery County, Maryland recently updated their storm water fee credit program to allow for a maximum credit of 60 percent for application of conventional BMPs for onsite runoff. If using the higher degree of treatment from application of green infrastructure practices for onsite runoff, Montgomery County allows for a maximum credit for nonresidential or multifamily residential sites of up to 80 percent. If applicants also use GI treatment methods to treat both onsite IA and offsite IA, then up to 100 percent credit can be granted to nonresidential and multifamily residential properties. Figure 2-2 shows BMPs typically eligible for credits under the Montgomery County, Maryland storm water fee.

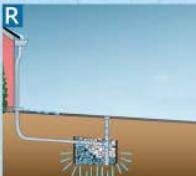
Stormwater Management in Montgomery County, Maryland			
	Rain Gardens Rain gardens are bowl-shaped landscaped areas designed to temporarily fill with water when it rains. They contain native plants that are adapted to both wet and dry conditions.		Green Roofs Green roofs are rooftops covered with special soil and plants that capture rainfall and reduce runoff. They are a great way to reduce pollution and lower energy costs.
	Swales Swales are channels with vegetation on the sides and bottoms. They capture stormwater runoff to settle out pollutants and provide time for water to absorb into the ground.		
	Conservation Landscaping Conservation landscaping uses native plants adapted to local rainfall and soils, instead of traditional lawns. Native plants provide habitat for pollinators as well as beautify your property.		Dry Wells Dry wells are underground gravel pits that collect rainwater from roof gutters and let it absorb into the soil. They are a good option for properties with limited space.
			Infiltration Trenches Infiltration trenches are filled with rocks and gravel. The trench captures stormwater runoff in the spaces between the rocks to filter out pollutants and temporarily store the water.
	Porous Pavement Porous pavement (or permeable pavement) is designed to allow water to flow through spaces and drain into the underlying soil. Porous pavement can be used on driveways, parking lots, walkways and patios.		Wet Ponds Wet ponds are designed to hold stormwater runoff and provide time for pollutants to settle out. Wet ponds continuously have water.
			Sand Filters Sand filters treat stormwater runoff by passing it through sand to remove pollutants. To the untrained eye, a sand filter may look like a volleyball court or sandbox.
	Rain Barrels Rain barrels are containers that collect and store rainwater for later use. Rainwater typically flows into rain barrels from gutters or downspouts off of roofs.		Dry Ponds Dry ponds only hold stormwater runoff temporarily, thereby allowing the water to be absorbed into the ground or released slowly. Some dry ponds also have sand filters at the bottom.
			Underground Storage Underground storage structures capture and treat runoff in large pipes or vaults. If you have questions about underground storage, contact the Department of Environmental Protection.

Figure 2-2. Montgomery County, Maryland Best Management Practices Eligible for Credit.

2.3.2 Eligible Properties

Most of the older SWU credit programs in place generally target nonresidential and multifamily residential parcels, such as the program in Philadelphia that is run by the Philadelphia Water Department. This is because these parcels are larger, have more IA, and are required by ordinance to install and maintain storm water controls.

With growing interest in encouraging green infrastructure, there has been an increased interest in providing storm water credits to single-family residential properties. For example, this is the approach that Portland, Oregon; Seattle, Washington; and Montgomery County, Maryland have taken.

The inclusion of SFR residential credits is also the approach recommended for CCH. However, to ease the burden during startup of the utility, a phased implementation to include credits for SFR properties in later rollout of the SWU is encouraged, so that as much as possible the application process for SFR can be based on automated online application tools.

2.3.3 In general, it is suggested that the credit program be developed with phased implementation. Calculating Credits

Credits are provided for a given property where eligible storm water BMPs/management facilities are implemented. The following principles generally apply in most SWUs:

- Multiple storm water facilities or measures (BMPs) can be credited, up to a maximum percent of the total storm water fee for the property.

- The total credit available is limited to a certain maximum percentage of the total storm water fee.
- Credits are calculated based on amount of IA treated.
- E.g. homes with a rain garden that captures runoff from 50 percent of the roof area, or shopping malls with BMPs that capture runoff from 25% of its parking lots

Total Credits are generally calculated using the following either of the following two formulas. **Method 1 (to be used only if each BMP treats the full 1" water quality volume required)**

$$\text{Total Credit} = (\text{Maximum \% credit for each BMP}) \times (\% \text{ of site's IA treated}) \times (\text{Storm Water Fee})$$

To calculate credit towards a storm water fee, the following parameters are used:

- Total IA of property
- Storm water fee
- Type(s) of onsite BMPs
- IA treated by each BMP

The following formula is used to determine the credit:

$$\text{Stormwater Credit} = \sum_{i=1+n} \frac{\text{IA treated}_i}{\text{Total IA}} \times \text{Max Facility Credit}_i \times \text{Annual Charge}$$

Where:

i = storm water BMP

n = the number of storm water BMPs treating IA for a property

IA treated = the amount of IA (square feet [SF]) treated by each storm water BMP

Max Facility Credit = the maximum percent for each type of BMP

Annual Fee = the storm water fee for the property

Method 2 (to be used only if each BMP treats less than the full 1" water quality volume required)

$$\text{Stormwater Credit} = \sum_{i=1+n} \frac{\text{BMP volume treated}_i}{\text{WQV for BMP IA}} \times \text{Max Facility Credit}_i \times \text{Annual Charge}$$

Where:

i = storm water BMP

n = the number of storm water BMPs treating IA for a property

BMP volume treated = retention volume provided by each storm water BMP

WQV = water quality volume for 1 inch runoff from IA draining to each type of BMP

Annual Fee = the storm water fee for the property

Note, these two methods for calculating credits are identical, if each BMP treats the full WQV for the impervious area that drains to it. For example, if a rain garden receives runoff from a 500-SF roof, but the rain garden is sized because of space constraints to retain only 0.6 inches from those 500 SF, i.e. only 60% of the 1" WQV requirement, then it would get only 60% for that portion of the property's total impervious area.

Example Credit Calculation for a Commercial Property:

Assumptions:	Total Impervious Area (SF)	10,000 SF		
	Annual Fee (\$60/1,000 SF)	\$600		
	Maximum credit for BMPs/ storm water facilities	60%		
				
Stormwater BMPs	IA Treated	Percent of Property IA Treated	Maximum Facility Credit	Weighted Stormwater Credit
Green Roof (TC-07) (5,000 SF)	5,000 SF	50%	60%	30%
Bioretention Basin (TC-05) (1,000 SF)	1,000 SF	10%	60%	6%
Harvest & Reuse (TC-12)	1,000 SF	10%	60%	6%
Total Percent Credit				42%
Annual Fee After Credit	\$600 x (100%-42%) = \$348			

2.3.4 Administrative Costs

Administrative costs include tracking software, staff time to review and process applications, conduct site visits, public education and outreach (specific to incentive and credit programs), and data management (that is, record-keeping and reporting). For some credit and grant programs where funds are provided to build BMPs on private property, legal services often are required.

2.3.4.1 Application Review

A common feature to credit programs is an application. The application allows the storm water agency to collect specific information about the storm water controls used by the property owner requesting a storm water fee credit, grant, or other benefit, and records the IA being treated by the storm water controls. This information is useful for recording certain performance measures for the MS4 permit and TMDLs, such as the percentage of IA in different parts of the CCH being treated by storm water controls.

The costs for the application review include data entry for the credit and incentive program database, sending confirmation letters, and entering project completion data. Sometimes an application or periodic verification is required annually or at some other frequency (e.g. every 3 or 5 years) in order to continue to receive a credit.

2.3.4.2 Site Visits

Site visits provide storm water agencies the opportunity to identify if a property is eligible for a storm water credit and incentive. In addition, site visits allow the storm water agency to help the property owner identify problem issues and confirm that the storm water control is being properly maintained. Some agencies will conduct site visits for larger or complex controls, which typically includes nonresidential and multifamily residential parcels.

2.3.4.3 Public Education and Outreach

The success of a credit and incentive program will depend in large part on the public education and outreach conducted by the agency. The cost for the public education and outreach could be absorbed by other programs but it is possible that a targeted effort will be needed to promote the incentive program and to explain how it works.

2.3.4.4 Tracking Credit and Incentive Participation

Tracking the credits and incentives can be a critical part of the program and can be part of the application review process. Based on the method of tracking, information can be used to develop summary reports for review of program performance and progress to the MS4 permit requirements and overall storm water program goals.

3. Lessons Learned from Incentive Programs in Other Jurisdictions

3.1 Overview

This section provides a review of incentive programs that have been implemented by other storm water management agencies. The purpose of this review is to identify successful programs used by other jurisdictions to encourage the installation of storm water management facilities on parcels that do not already have such facilities. In addition, this review identifies programs that can help the City and County of Honolulu achieve the requirements of its MS4 and combined sewer system permits.

It is not uncommon for a storm water agency to provide credit towards a storm water utility fee to parcels that have storm water management controls. Based on a national survey conducted by National Association of Flood and Stormwater Management Agencies (1996), nearly 30 percent of storm water agencies provide some type of credit (Figure 3-1).

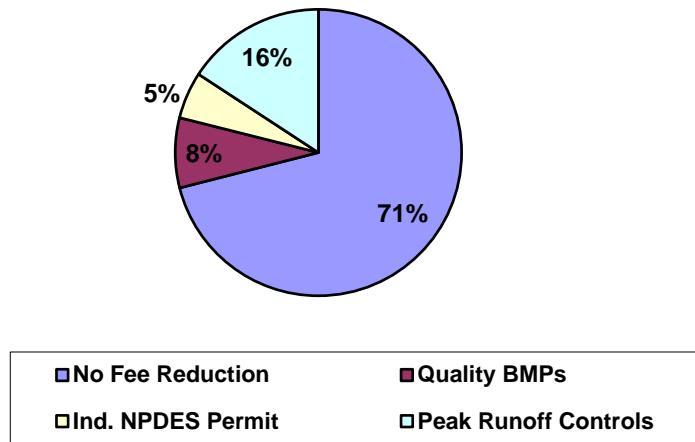


Figure 3-1. Breakdown of Stormwater Credits Nationwide

Among storm water agencies that provide credits to properties, nonresidential parcels are usually the eligible properties. Residential parcels generally do not have storm water controls that meet the criteria for being eligible to receive credits. However, some LID controls (that is, rain barrels and rain gardens) have been successfully implemented by residential parcels and have recently become part of the eligibility criteria of some storm water agencies for residential storm water credits. For example, DC Water and Sewer Authority revised its storm water runoff fee (effective May 2009) and is considering offering credits for the implementation of rain barrels (Grant 2009). However, runoff management performance using rain barrels is uncertain, and dependent upon property owners routinely emptying the barrels between rain events to assure that storage is available for subsequent events.

Given the popularity of LID controls related to residential parcels, more storm water agencies are starting to provide credits to residential properties. In a recent United States Environmental Protection Agency (EPA) publication (2009), the report summarizes storm water incentives used by storm water agencies nationwide (see Figure 3-2).

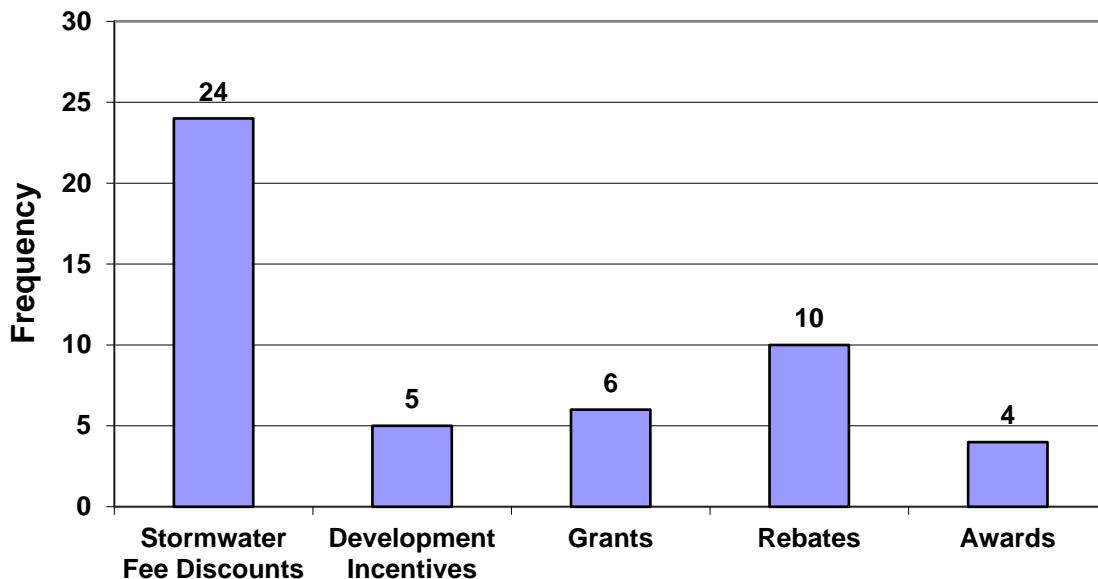


Figure 3-2. Summary of Incentives Used by Stormwater Agencies

(Survey based on 32 agencies. Some agencies implement more than one option; therefore, the sum does not add to 32).

Of the 24 agencies providing storm water fee discount, 7 agencies provide discounts to residential properties. Section 2.3 discusses the credit program for Portland, Oregon, which includes a credit for residential properties.

Of the six surveyed agencies providing grants, grant beneficiaries include commercial owners, schools, volunteer groups, and developers. Grants are provided for programs such as sustainable landscaping, green roofs, and storm water retrofits for pilot projects. See Section 2.3 for further discussion on the grant program for Portland, Oregon.

While the primary focus of this report is the credit and incentive programs offered by storm water utilities, there are a number of cases in which municipalities without storm water utilities offer residential properties a tax credit or reduction of their fees. For example, in Anne Arundel County, Maryland, property owners can receive a property tax credit equal to 10 percent of the cost of water quality improvements for 5 years, if they install rain barrels, rain gardens, or other storm water controls. The deduction is capped at \$10,000 over the 5 years. This deduction includes residential properties, which can receive a credit of up to 50 percent of the cost of the improvement (10 percent credit per year).

3.2 Detailed Case Studies

For purposes of this review, *incentive program* is defined as any cost subsidy that reduces the net cost to property owners for installing a storm water management facility that manages storm water runoff.

The following storm water management agencies and their incentive program(s) are as follows:

- Portland, Oregon (Clean River Rewards, downspout disconnect, eco-roofs)
- Seattle, Washington (rain barrels)
- Prince William County, Virginia (onsite structural BMPs, integrated pest management (IPM), education programs)

- Southeast Metro Stormwater Authority (SEMSWA), Centennial, Colorado

For each of these storm water management agencies, an overview of the storm water utility is provided in Appendix A, the credit and incentive program is described, and notable application requirements are defined. Appendix B provides example credit application forms and/or web portals for Montgomery County, Maryland and Seattle, Washington. Many other examples are available online. Application forms are still typically printed and mailed in, but increasingly the entire form can be filled out online, with supporting information uploaded so the entire process is digital. Montgomery County's system allows the credit amount for single-family residential properties to be determined automatically so that staff simply have to review the form and accept it with minimal effort.

Table 3-1 provides a summary of sample credit programs.

Table 3-1. Example Credit Programs

Municipality	Single-Family Residential	Non-residential and Multi-family Residential	Types of Credits	Maximum Credit Allowed
Chesapeake, Virginia	No	Yes	Application of onsite BMPs that provide water quality or water quantity benefits..	Water quality (20%) Water quantity (20%) Maximum of 40%
Prince William County, Virginia	No	Yes	Control storm water on-site; non-structural program participation	50% for structural control 30% for non-structural controls compiled as follows: 30% for nutrient management plan 30% for public education program 10% for attending workshop 10% site cleanup
Virginia Beach, Virginia	No	Yes	Manage storm water quality onsite	30% for management to predeveloped condition 20% for management to Chesapeake Bay standards
Montgomery County, Maryland	Yes	Yes	For all structural stormwater quantity and quality BMPs in State Stormwater Manual.	60% for non-LID measures 80% credit for LID measures, including: swales, roof leader disconnection to pervious areas, non-roof area disconnection to pervious areas, dry well, micro-infiltration, green roofs, conservation landscaping, micro-bioretention and rain gardens, permeable pavements, rainwater harvesting - rain barrels and cisterns, and sheet flow to conservation area . 100% if treating all onsite with LID and offsite with LID

Table 3-1. Example Credit Programs

Municipality	Single-Family Residential	Non-residential and Multi-family Residential	Types of Credits	Maximum Credit Allowed
Portland, Oregon	Yes	Yes	LID (ecoroof, rain barrel, rain garden) Tree Canopy Downspout disconnect Stormwater Quality Stormwater Quantity Stormwater Planters	35% of total storm water fees Credit for tree canopy based on number of trees greater than 15 feet.
Philadelphia, Pennsylvania	No	Yes, must have >500 SF IA	IA GA NPDES Credit Application and renewal fee apply	Except monthly minimum fee. Up to 100% of storm water fee for IA and GA credit 7% for NPDES Credit
Northeast Ohio Regional Sewer District, Cleveland, OH	Yes	Yes	Stormwater Quality Credit (25%) Stormwater Quantity Credit (50%) Education Credit (25%)	Up to 75% Up to 100% for public/private schools

GA = Gross Area

4. Stormwater Fee Exemptions and Hardship Reductions

4.1 Exemptions

Exemptions are full waivers of storm water fees issued to a given class of properties. The revenue lost to exemptions must be made up by fees charged to all other rate payers. Most SWUs do not exempt or waive storm water fees for tax-exempt proprieties. The rationale is that the storm water fee is a fee for service (i.e., storm water management). This is similar to other utility services, such as water and wastewater management or solid waste (trash) collection and disposal.

Only when state enabling legislation requires specific properties to be exempted or waived do SWUs typically provide exemptions. Unless authorized to exempt certain types of properties, SWUs could face legal challenges if they chose to treat classes of properties differently because of the correlation between service requirements and how much each property contributes to the need for that service depending on their property type, reducing the equity of the fee.

While most SWUs charge tax-exempt properties, they can provide partial credits for onsite storm water management, as well as nonstructural practices such as public education and outreach services pertaining to storm water management, as discussed in Section 3.

Exemptions are often provided for areas providing common public benefit such as highways, streets, and public right-of-way (ROW). Exemptions are sometimes provided for an entire class of properties, such as military, nonprofits (charitable organizations or faith-based organizations), agriculture, or government; however, this is uncommon unless mandated by state law. It is more common to structure rate tiers or caps on incentives specific to these property classes.

The Hawaii storm water fee enabling legislation makes no mention of exemptions; therefore, it is recommended that CCH not provide exemptions except for the following types of properties and situations:

- Vacant property with no measurable IA. For practical reasons, it is recommended that this include parcels with IA less than 300 SF, for which the revenue would be so small as to not justify the administrative cost of issuing bills.
- Public ROWs, including all public roads, Federal or State Highways, and local roads not part of a privately-owned parcel. Management of the IA of these public ROW areas are a shared benefit for all those who pay the storm water fee. Funds for the program go in part to managing storm water runoff from these public roads. Private roads can reduce their fee by adopting storm water management measures for their private road drainage systems.

Criteria used in establishing exemptions should be finalized during implementation and will need to be clearly stated in a storm water ordinance.

4.2 Low Income Hardship Exemptions or Reductions

Hardship exemptions or fee reductions are often provided for storm water utility fees for customers in specific economic or social circumstances, typically including those households falling below certain income thresholds. Land-owning non-profit organizations designated as 501(c)(3) organizations, including faith organizations, community groups, or other charitable organizations, also may receive hardship exemptions or (more commonly) fee reductions. Typically, households falling below a specified income threshold will receive a full exemption from the fee, while non-profits would receive a fee reduction. It is important to note that these exemptions or reductions would be granted to property owning households responsible for payment of a storm water fee, rather than to renters or lessors.

Application for the hardship reduction is typically an annual process since income can change on a frequent basis. Other agencies in Hawaii that serve low-income households can be contacted to determine if there is a standing program or qualification that would provide an appropriate basis for issuing fee exemptions or reductions to low income households.

The income thresholds for providing the hardship reduction is a local policy choice. Some options are described herein.

4.2.1 Residential Income Thresholds for Hardship Exemptions

An exhaustive survey has not been conducted for determining income thresholds below which residential storm water fee exemptions are granted. Many utilities do not have explicit policies for reductions in fees based on income. A few examples of those that do have hardship programs follow:

- 1) **Montgomery County, Maryland:** Exemptions are granted to households at or below 170 percent of the Federal poverty level published by Department of Health and Human Services. To qualify for an exemption, household income must not exceed 170 percent of the Federal poverty level, or a household must be approved for benefits under the Maryland Energy Assistance Program for the current billing year.
- 2) **Portland, Oregon:** The City has a combined water, wastewater, and storm water bill, with the storm water fee being tied to IA, and water and sewer tied to water consumption. If a household's income is below one of two different tiers of 30 percent or 60 percent of the City's published monthly fixed income, then the residential household may qualify for assistance. Assistance can be in several forms, including a bill discount, a \$500 emergency assistance grant, or assistance with water saving devices to reduce water consumption.
- 3) **Seattle, Washington:** If a household's income is below 70 percent of state median income, the household can qualify for assistance in the form of a 60 percent discount on electric bills and 50 percent discount on a Seattle Public Utilities bill.
- 4) **Fernandina Beach, Florida:** This City provides exemptions for households below 100 percent of the Federal poverty level for a two-person household, where members are unemployed and over the age of 60.

It is important to note that the Honolulu Board of Water Supply investigated residential hardship options for water supply bills and decided to adopt a minimum "life support" fee that is assumed to be applicable to households with low or fixed incomes, whose water consumption is minimal. The Hawaii Electric Company has a program that automatically enrolls customers in their low-income assistance program if they are already part of the Federal Low-Income Home Energy Assistance Program (LIHEAP). This is an option that could be evaluated for a storm water fee residential hardship exemption program for the City and County of Honolulu.

4.2.2 Montgomery County, Maryland Hardship Reduction for Nonprofits

While an exhaustive survey of hardship reductions for nonprofits has not been conducted, the authors are aware of only one jurisdiction out of two dozen has a formal policy of providing hardship reductions for non-profits: Montgomery County, Maryland. As noted previously, financial relief to non-profit and tax exempt properties is far more often addressed with targeted credit or rebate assistance programs as described in Section 3.

Montgomery County applies hardship criteria, which are available to both residential households and separately to 501(c)(3) nonprofits. The latter approach is also applied to small faith organizations.

It is important to note that these are not full exemptions from storm water fees, but rather a reduction or a minimum fee; a hardship reduction is where a property owner has a reduced fee because of financial limitations. In Montgomery County, a property owner may petition the Director of the Department of Environmental Protection for an adjustment by submitting a written request. "Entities that are 501(c)(3) and exempted from

property taxes are eligible for a partial exemption for the amount of the [storm water fee] that exceeds 0.2% of the property's total revenues. "Any request submitted by a non-profit organization must be accompanied by the organization's most recent Federal tax return or other verification of total revenues derived from the property for which the exemption is sought, as required by the Director of Finance.

5. Appeals Process

Storm water utilities almost universally provide a mechanism for rate payers to appeal their bills and allow them the ability to correct erroneous information. However, what can be appealed, when, the retroactivity of determinations, and the process for submitting and reviewing appeals needs to be clearly defined to make the storm water fee defensible and manageable. The choices made regarding the appeals process are usually articulated in the ordinance establishing the fee structure.

What can be appealed typically is limited to the following:

- IA calculation and tier assignment for an individual property
- Determination of exemption status (for example, if the enabling ordinance exempts certain types of properties; see Section 4 for more information).
- Credit calculation, in cases where a customer has applied for a credit

The burden of proof is typically on the property owner, and adjustments are typically only applicable to the current year's bill. Appeals forms are specified by the SWU. The deadline for applying for an appeal is usually specified by ordinance and related to the billing cycle.

The authorized person or entity in charge of reviewing appeals is specified in the SWU enabling ordinance. In some instances that includes provision for review by an independent board, but that is rarely the case as the criteria for approving or denying an appeal can almost always be addressed by SWU staff based on review of available mapping data or storm water facility data.

6. Recommendations

This section includes recommendations for how to start up and administer program elements, as well as recommended structure for those program elements that relate to credits, rebates/grants, exemptions, hardship reductions and appeals.

6.1 Implementation Incentives: Grants, Rebates

6.1.1 Startup and Administration

It is recommended that DFM create an incentives program to encourage property owners to install new stormwater infrastructure or encourage non-structural water quality activities. Creation of a grants/rebates program is within the overall mandate of a stormwater jurisdiction to comply with NPDES MS4 permit requirements. Therefore, it is not necessary nor is it recommended that the ordinance establishing the stormwater utility explicitly reference creation of a stormwater grants and rebates program, though that might be desirable for political reasons. Most stormwater utilities do not reference grants and rebates program in their ordinance.

If DFM decides that the ordinance creating the utility should explicitly encourage or mandate creation of a grants/rebates program, it is recommended that it give authority to establish one and should not be prescriptive in establishing the eligibility and amount of grants or rebates. It's important to maintain flexibility to allow the program to evolve over time, either by allowing for additional stormwater BMPs to be adopted, or slowly increasing the amount of the rebates to encourage more participation as the program ramps up. The key element that should be considered in formally establishing authority for a grants/rebates program is specify that implementation incentives should be restricted to facilities or activities that support management of stormwater quantity and quality.

The availability of grants and loans should be limited to available annual budget allocations, and issued typically on a first come/first served basis. Initial program budget assumptions assumed 5% of annual revenues would support the combined budget needs related to grants/rebates and credits. Additional, separate funds reserved for particular projects, neighborhoods, or organizational partnerships would be separately allocated and managed.

6.1.2 Grant/Rebate Amounts and Eligibility

A rebates/grants policy manual should be established that clearly outlines the types of practices that are eligible and maximum available grants or rebates, similar in structure to that shown in Table A-3 for Montgomery County MD.¹ It is important to note that it's uncommon for rebate or grant programs to cover the full cost of implementation of the funded project.

In general, grants should focus on non-structural measures while rebates should focus on structural measures. For property owners that cannot provide the up-front capital needed to do design and/or construction prior to obtaining a rebate, DFM should consider providing technical assistance to selected property categories and/or loan programs to cover the initial capital cost.

¹ The rebate/grant amounts shown for Montgomery County MD are very generous, having recently been increased 5 fold from a maximum of \$500 for residential properties and \$1,200 for nonresidential and multifamily properties.

It is recommended that menu of structural BMP types that are eligible for grants or rebates align directly to DPP's Stormwater BMP manual for LID Retention and LID Biofiltration practices. CCH DFM's *Green Infrastructure for Homeowners* guide (2012) also provides a starting point for development of a menu of options.

Similarly, the types of non-structural practices that could receive a grant should be listed in the policy manual, including activity-oriented measures such as:

- Trash clean-up and removal activities
- Implementation of Integrated Pest Management (IPM)
- Adopt-a-Stream Programs
- Hosted/provided watershed education programs

The frequency of such measures and areas of coverage, or participation rate should be specified to establish eligibility for grants.

6.2 Credits

6.2.1 Startup and Administration

It is recommended that DFM create a credit program to encourage property owners to implement new stormwater infrastructure and to maintain existing infrastructure, while also giving each property owner an opportunity to reduce their fee. It is recommended that the ordinance establishing the utility authorize establishment of a credit program, with details of the program to be articulated in a credit manual to be developed and implemented separately by the SWU. This approach provides maximum flexibility for the stormwater credit program to evolve as permit requirements and stormwater utility customer needs evolve.

It is recommended that credits be available to all properties on Oahu (that is, single-family residential, nonresidential, and multifamily residential properties). Credits would only be granted after a property owner submits an application with appropriate documentation of the practice, and with a binding commitment to maintain the facilities for the duration of the credit.

It is recommended that credits remain in effect for up to 3 years for single-family residential properties and 1 year for nonresidential and multifamily residential properties, unless an inspection shows that the facility is not being maintained as required. A new application/or reapplication is required to start the effective period of the credit.

It is suggested that the credit program be developed with phased implementation; though it is recognized that this longer timeframe for introduction may be unpopular with stakeholders. This is typical of most stormwater utilities and allows time for establishing administrative steps to apply for credits including automation options such as online forms or apps, developing guidance documents, as well as time to train staff needed to review applications and perform inspections. Inspections are generally conducted for only a small percentage of the nonresidential and multifamily residential properties. In the event a longer lead time is required to establish the fee and DFM is able to complete background steps in advance of fees being charged, the credit program may be able to be introduced simultaneously with issuance of the first fee bills.

More specifically, it is recommended that:

- In the first 12 months after a SWU is adopted, credit manuals and application forms should be developed,
- As soon as fees are billed, applications for credits for nonresidential and multifamily residential properties should be accepted and implemented;
- In the second year, applications for credits for single-family residential properties can be accepted and implemented.

6.2.2 BMP Types Eligible for Credits and Maximum Credit Amounts.

It is recommended that the suite of BMPs eligible for receiving credits be aligned to *Storm Water BMP Guide For New And Redevelopment* (DPP, 2017). Table 6-1 lists the BMP Type, the applicable property types eligible for credit for each type of BMP, and the maximum credit amount. To receive maximum credit, the BMP serving a given drainage area must provide the full water quality volume (WQV) or water quality flow (WQF) required by the BMP Guide. For single-family residential properties, CCH DFM's *Green Infrastructure for Homeowners* guide (2012) may be used for establishing credits.

As indicated in Table 6-1, the maximum credit that is recommended for any property is 60 percent of the applicable storm water utility fee. It is recommended that nonresidential and multifamily residential properties also be able to qualify for credits for approved nonstructural storm water BMPs. However, the maximum credit for any combination of BMPs would be 60 percent of the applicable storm water utility fee.

In addition to structural BMP credits, it is recommended that nonresidential and multifamily residential properties can also qualify for credits for approved non-structural storm water BMPs, as listed in Table 6-2.

A combination of BMPs can be used for impervious area in each separate drainage area on a property, such as roof areas, driveways and parking lots. If less than the full WQV is provided by a given BMP, then the maximum credit provided for the impervious area served by that BMP is proportional to the full WQV required. In addition, a combination of structural and non-structural BMPs can be used to maximize credits, up to the maximum for a property of 60 percent.

Table 6-1. Recommended Maximum Credit Amounts for Eligible Structural Stormwater Best Management Practice (BMP) Categories and Applicable Property Types

BMP Type	BMP Category	Applicable Property Types		Maximum Credit if Full WQV / WQF is Provided
		Single Family Residential	Multi-Family Residential / Non-Residential	
Infiltration Basin (TC-01)	Retention		X	60%
Infiltration Trench (TC-02)	Retention		X	60%
Subsurface Infiltration (TC-03)	Retention		X	60%
Dry Well (TC-04)	Retention	X	X	60%
Bioretention Basin (TC-05)	Retention	X	X	60%
Permeable Pavement (TC-06)	Retention	X	X	60%
Green Roof (TC-07)	Biofiltration		X	30%
Vegetated Biofilter (TC-08)	Biofiltration		X	30%
Enhanced Swale (TC-09)	Biofiltration		X	30%
Vegetated Swale (TC-10)	Biofiltration		X	30%
Vegetated Buffer Strip (TC-11)	Biofiltration		X	30%
Harvest & Reuse (TC-12)	Retention	X	X	30%

Table 6-1. Recommended Maximum Credit Amounts for Eligible Structural Stormwater Best Management Practice (BMP) Categories and Applicable Property Types

BMP Type	BMP Category	Applicable Property Types			Maximum Credit if Full WQV / WQF is Provided
		Single Family Residential	Multi-Family Residential / Non-Residential		
Detention Basin (TC-13)	Other		X		30%
Manufactured Treatment Device (TC-14)	Other		X		30%
Sand Filter (TC-15)	Other		X		30%

Table 6-2. Recommended Maximum Credit Amounts for Eligible Approved Non-Structural Stormwater Best Management Practice (BMP) Categories and Applicable Property Types

Categories of Stormwater Best Management Practices	Example	Typical Measurement Metric for Determining Credits	Recommended Maximum Credit Amount*
Non-Structural Measures (must be pre-approved)	Complete trash removal Implement Integrated Pest Management (IPM) Adopt-a-Stream Host/provide watershed education programs	Varies by practice; as examples, number of citizens involved, area of IPM implementation, pounds of trash removed	15%
Industrial NPDES Stormwater Permit (in compliance)	Facilities in full compliance with an Industrial NPDES permit	Typically a set percentage of the total storm water utility bill for any property in full compliance	15%

* Note: Maximum credit amount is only achieved for structural BMPs if 100% of impervious area is treated to the standard required in the stormwater manual. Partial credit is given if a smaller treatment volume is provided. For example, the Storm Water BMP Guide for New and Redevelopment (DPP, 2017) requires a water quality volume (WQV) to be retained onsite equivalent to 1 inch of runoff from impervious surfaces for LID Retention and 1.5 inches for LID Biofiltration. If a BMP, or combination of BMPs, retain 80% of the required WQV, then the credit would be 80% of the maximum credit amount, or 80% x 60% = 48%.

6.3 Exemptions

The following exemptions should be reflected in the ordinance forming the stormwater utility:

- Vacant property with no measurable IA.
- Properties with impervious area less than 300 SF.
- Public rights-of-way, including all public roads, Federal or State Highways, and local roads not part of a privately-owned parcel.

6.4 Hardship Reductions

It is recommended that the following reductions should be reflected in the ordinance forming the stormwater utility, or authority granted to the SWU to enact similar hardship reductions:

- Single-family residential properties owned by households with income below 150% of the Federal Poverty Level, or that are participating in LIHEAP should be exempted from the stormwater utility fee.
- Land-owning entities that are qualified 501(c)(3) organizations and exempted from property taxes should be eligible for a partial exemption for the amount of the storm water fee that exceeds 0.2% of the organization's total annual gross revenues.

6.5 Appeals

It is recommended that the ordinance forming the stormwater utility explicitly include an appeals process to correct billing errors associated with a bill. The ordinance will typically specify the frequency and duration of appeals, and limits the extent of how retroactive bill correction should be. It is recommended that adjustments resulting from a successful appeal be only applicable to the current year's bill.

It is recommended that the ordinance limit what can be appealed to the following:

- IA calculation and tier assignment for an individual property
- Determination of exemption or hardship status
- Credit calculation, in cases where a customer has applied for a credit

It is recommended that a particular issue only be allowed to be appealed once, with one chance to provide follow-up supporting information requested by the SWU staff.

7. References

City and County of Honolulu, Department of Facility Maintenance (DFM). 2012. *Green Infrastructure for Homeowners*. January. https://www.honolulu.gov/rep/site/dfm/green_infrastructure_homeowners.noENV.pdf

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National Association of Flood and Stormwater Management Agencies. 1996. *Survey of Local Stormwater Utilities*.

Grant, Trisha. 2009 "Rain barrels to prevent runoff, conserve water and reduce DCWASA storm water fee." Accessed on July 21. <http://www.examiner.com/x-16393-DC-Environmental-News-Examiner>.

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Appendix A

Detailed Stormwater Utility Case Studies

Appendix A. Detailed Stormwater Utility Case Studies

A.1 Portland, Oregon

Overview

The City of Portland established a storm water utility fee in 1977, to help pay for the costs of managing storm water runoff. Portland's storm water management program has matured into a system consisting of the following:

- 1,700 miles of pipes
- 420 miles of ditches and culverts
- 14,200 sumps
- 365 ponds

The storm water utility fee is currently \$29.66 per month per equivalent residential unit (ERU), where an ERU is equal to 2,394 square feet (SF) of impervious area (IA). So the monthly fee for single-family residential (SFR) properties is \$29.66. Nonresidential (NR) properties pay based on the total IA, or \$13.02 per 1,000 SF of IA per month. The storm water utility fee is separated into an onsite (35 percent) and offsite component (65 percent), which means that the maximum allowable credit is 35 percent of the basic storm water rate for implementing onsite storm water management facilities.

Since Portland began its stormwater fee in 1977, the single-family residential (SFR) rate has increased annually above the original fee, from \$0.70 in fiscal year 1978 to the current rate of \$29.66 per month. BES' gross revenue requirement for fiscal year 2019-2020 is \$573.8 million. A further breakdown of this budget is as follows:

- Capital improvement plan related expenditures for construction of new sanitary sewer and stormwater drainage facilities—\$177.6 million per 31.0 percent of gross revenue requirement;
- Operations and maintenance expenditures (direct labor, materials and services, utility license fees, and city general fund overhead allocations and transfers to the Sewer System Rate Stabilization Fund)—\$201.6 million per 35.13 percent of the gross revenue requirement;
- Debt service payments to bondholders—\$184.3million per 32.1 percent of gross revenue requirement; and
- Cash financed capital improvement plan—\$30.0 million per 4.2 percent of gross revenue requirement.

There is an estimated 637 million SF of IA. Further, there approximately 180,000-rate payers, of which two-thirds are residential.

Portland first offered discounts in 1992, but revised its discount program in 2006, to address difficult experiences with the initial program. The current discount program is offered to rate payers to help offset the increasing costs for storm water management; Portland offers property owners various discount and incentives programs. The following section discusses these programs.

Stormwater Credits and Incentives

Clean River Rewards

In October 2006, the Portland City Council adopted the Clean River Rewards Program, a stormwater discount program for residential and commercial stormwater fee ratepayers who privately manage stormwater on their property. Council adopted the revenue-neutral program (neither increases nor decreases tax revenues when compared to existing law) to address the rising costs of stormwater management while advancing BES's policy goals to:

Increase the equity, fairness, and controllability of stormwater management charges;

- Advance City environmental policies and commitments set forth in the Clean River Plan, city response to the Endangered Species Act, sustainable development policies, Stormwater Management Manual (and stormwater NPDES municipal permit; and
- Protect and enhance the long-term financial stability of the stormwater utility by promoting private stormwater management and reducing the operating and maintenance demands of public facilities (*Clean River Rewards Program Administrative Rules*: <https://www.portlandonline.com/shared/cfm/image.cfm?id=144689>, City of Portland Environmental Services, 2012).

The following are general program requirements to receive and maintain the stormwater discount:

The ratepayer must register to receive a discount;

- For residential properties, the discount is based on managing stormwater runoff from roof areas only;
- For commercial properties, the discount is based on managing stormwater runoff from both roof and paved areas;
- Stormwater management cannot threaten or damage property or harm the environment; and
- To maintain the discount, the utility account must remain active, stormwater facilities must be properly maintained and operated, and the city must be granted access to the property for limited inspections of stormwater facilities.

The program offers up to a 35 percent discount (on-site component of the stormwater charge found on the utility bill) on the total stormwater charge on active, current, and eligible utility accounts.

The Clean River Rewards Program uses two discount calculation methods, one for each ratepayer class. The discount for single-family residences is based on the extent to which acceptable on-site private stormwater management systems dispose of roof water. All other account classes may qualify for a discount based on the extent to which stormwater quality (pollution prevention), speed (flowrate), and volume (disposal) are managed from impervious areas on-site. Equal weight is given to each effectiveness component.

Tables 3 and 4 show the variety of stormwater facilities or best management practices (BMPs) that qualify for a partial or full stormwater discount. Performance of each facility is based on the amount of developed area served (Table 3) or the size of the facility in relation to the developed area served (Table 4).

Table 1 Portland, Oregon, Stormwater Discount for Facilities Based on Developed Area Served

Stormwater Facility	Percent Discount Award
Direct release to a river or slough	100%
Permitted release to city sanitary sewer system	100%
Ecoroof	100%
Contained planter	100%

Stormwater Facility	Percent Discount Award
Pervious pavement	100%
Pond and wetland	67%
Detention tank or vault	33%
Manufactured pollution reduction facility	33%
Oil-water separator	33%
Drywell	67%
Approved source controls	33%
Approved rainwater reuse system	67%

Table 2 Portland, Oregon, Stormwater Discount for Facilities Based on Size and Developed Area Served

Stormwater Facility	Sizing standard, percent of area served
Downspout disconnection to infiltrating area	10%
Vegetated swale or infiltration basin	9%
Grassy swale	12%
Vegetated filter	20%
Infiltration or flow-through planter	6%
Sand filter	7%
Eastside soakage trench	6%
Westside soakage trench	11%

Table 5 presents the BMPs that qualify for stormwater credits in the single-family residential sector.

Table 3 Portland, Oregon, Stormwater Credit Calculations for Single-Family Residential

Management Technique	Value
Releasing stormwater off of your property	0%
Downspouts drain to drywells and French Drains	100%
Downspouts drain to swales, gardens and infiltrating areas	100%
Downspouts drain to cistern and rain barrels * Rainwater reuse must be on property and safe.	100%*
Downspouts drain to pond, holding facility or planter	67%
Other stormwater management techniques	Calculated based on review
An ecoroof is installed to manage stormwater runoff	100%
Less than 1,000 square feet of total impervious area	25%
Four or more trees on private property	8%

Eligible ratepayers are required to complete and submit an application to start the stormwater discount. The program allows SFR customers to register online through the program's Web site in addition to having the option of submitting a registration by email, facsimile, or mail. All other customers may only submit a registration by email, facsimile, or mail.

At the end of fiscal year 2012, the Clean River Rewards Program maintained 35,604 active discount registrations, totaling 1,153 ha (2,850 ac) of impervious area managed and approximately 3,282 ML (867 mil. gal) of

stormwater runoff managed on-site. The total number of discount registrations to date has been constant year over year and is primarily single-family residential property owners.

Discount Program Administration

In planning for the City-wide discount program, Portland anticipated that 112,000 ratepayers would apply and qualify for storm water discounts. It was assumed that for the first year, program costs would include \$10 million for discounted user fees; therefore, there was an initial storm water fee increase of 18 percent to cover the initial participation in the discount program. In doing so, the City did not have to plan each year to adjust the storm water fee based on assumed participation in the discount program.

In the first year of the revised City-wide discount program, there were 16 full-time equivalent (FTE) staff positions providing administrative support, including the following:

- 2 FTE for administrative assistance and data entry
- 4 FTE for technical assistance and site visits
- 8 FTE for customer service and temporary staff to answer phones

Currently, there is an estimated 1.5 FTEs to help property owners get started with their application, conduct site visits, and help with the project application. Some of the customer service staff has been absorbed by another department.

When a residential property owner applies for the storm water discount, the credit is automatically applied. There is no requirement for an initial site visit or inspection. Instead, by signing the application, the property owner agrees to allow the City to conduct a random site visit and inspection to make sure the controls that the property owner has requested credit for are in place and functioning. If not, the property owner is subject to fines and penalties. Of the residential application received, there are approximately 400 site visits per year for random spot checks. Based on the experience over the past several years, the problems cited are "errors of confusion" and not serious or intentional issues.

Downspout Disconnect

The downspout disconnect program has been in place for 15 years and applies only to property owners within the combined sewer overflow (CSO) area (note property owners outside the CSO area can receive a storm water discount through the Clean River Rewards program).

Since this program has been in effect for 15 years, the number of applications received on average is approximately 2,000 per year. There are several options available to property owners to have their downspout disconnected, such as working on it themselves, coordinating the work with a volunteer program, or having a licensed contractor perform the work. If the property owner completes the work, they can receive up to \$53 per downspout. If the volunteer program completes the work, they receive \$53 per downspout. For complex downspout disconnect, a licensed contractor can receive up to \$90 per downspout.

Annual statistics are not recorded regarding the dollar amount of credits provided for the downspout disconnect program. However, the amount has ranged from \$600,000 currently, to a high of \$1.5 million in Fiscal Year 2002. The storm water fee is the funding source for the downspout disconnect program.

The work must be completed before paying (crediting) property owners for a downspout disconnect. In addition, several site visits are completed before payment is made. So the administrative costs for this program are approximately 5 to 10 FTEs, with summer and seasonal staff to supplement.

EcoRoof Incentive Program

Portland's EcoRoof Incentive Program is part of the "Grey to Green" initiative, which is an incentive program that promotes sustainable storm water management. Grants are provided to property owners and developers that install an ecoroof and meet the grant requirements.

As part of this program, there have been two grant cycles in which a committee reviews applications and makes awards. In 2008, grants were awarded to 22 properties, including 10 residential, 5 MFR, and 7 commercial properties. Of these 22 awards, 14 were for redevelopment projects and 8 were for retrofits. For the upcoming 2009 grant cycle, it is estimated that approximately 30 applications will be received for review.

The grant program provides up to \$5/SF for a project. Based on awarded grants, the costs of projects have ranged from \$450 to \$150,000. Since the program is new and not all projects have been completed, total dollar amount of credits provided is not available. The funding source for these grants is from the storm water management fees.

The administrative costs include at least 1 to 4 FTEs. This is for the site visits and education services.

Application Requirements

For the storm water discount program, there are separate applications for residential and nonresidential properties. For the residential properties, only basic information is required regarding how storm water is controlled. For nonresidential properties, the application requires information regarding IA for the building footprint and other paved areas. There is no date-specific deadline, except the application must be renewed in 2017.

A.2 Seattle, Washington

Overview

Seattle established a storm water utility fee (that is, drainage fee) in 1995, and has provided a funding source for the storm water management program, which focuses on the following:

- Protect water quality
- Reduce the discharge of pollutants to the "maximum extent practicable"
- Satisfy appropriate requirements of the Clean Water Act
- Meet state requirements to use all known, available, and reasonable methods to prevent and control pollution to waters of the state

In 2008, Seattle implemented a new rate structure for its storm water utility fee to improve equity and fairness. The new rate structure provides additional tiers reflective of parcel IA or impact on the drainage system (Table A- 1)

Table A-1. Seattle, Washington Tiered Stormwater Fee Schedule

Property Category	2009
Residential Parcels (Annual rate per parcel)	
Under 3,000 SF	\$102.90
3,000–4,999 SF	\$149.56
5,000–6,999 SF	\$202.17
7,000–9,999 SF	\$256.38

All Other Parcels (Annual rate per 1,000 SF)	
Undeveloped (0–15% Impervious)	
Regular	\$16.85
Low Impact	\$10.19
Light (16–35% Impervious)	
Regular	\$25.20
Low Impact	\$18.98
Medium (36–65% Impervious)	
Regular	\$36.61
Low Impact	\$29.70
Heavy (66–85% Impervious)	\$47.34
Very Heavy (86–100% Impervious)	\$56.23

Starting in 2009, Seattle offers storm water credits to properties that have functioning and well maintained storm water management systems. These credits are being offered to "... recognize that storm water flowing through privately-owned flow control or treatment systems has less impact than storm water that directly enters the City's storm water system, creeks, lakes, or Puget Sound."

Stormwater Credits and Incentives

To qualify for a facility credit, a property must have a storm water management facility that is designed to meet City Stormwater, Drainage, and Erosion Code requirements. For development and re-development projects with larger areas of impervious surfaces, the City code requires storm water management facilities. For IAs of at least 2,000 SF, water quantity controls are required. For IAs of at least 5,000 SF, water quality controls are required.

The storm water credit is calculated based on a scaled weighted average of the percent reductions by performance target (referred to as Facility Credit) and rate-tier multiplier (based on lookup table for the percent site IA managed). The following steps describe how to determine a storm water credit for a property:

- Step 1—Facility Credit: This is based on the scaled weighted average of the percent reductions by performance target. For example, for an oil-water separator the Facility Credit is 24 percent.
- Step 2—Adjusted Facility Credit: This is the Facility Credit determined in Step 1 multiplied by the percent IA managed.
- Step 3—Determine the multiplier from the Rate Tier Multiplier lookup table.
- Step 4—Determine the Final Parcel Credit by multiplying the value from Step 3 and Step 2.

Since the storm water credit program started in 2008, Seattle has received only 217 applications. The applications submitted to the City have been mostly for parks and schools. The types of storm water controls include mostly detention and flood control systems. The amount credit provided ranges from 6 to 8 percent of the property's bill.

The City does not actively advertise their credit program because of funding constraints for public outreach. Currently there is only 1 FTE for processing application, conducting inspections and verification.

Application Requirements

To receive a credit, an application must be submitted to Seattle Public Utilities (SPU) by November 1. Once the application is received, a notification letter will be sent to the applicant. An onsite inspection will be completed to verify the facility is maintained and functioning. See Appendix B for example blank application for SPU.

A.3 Prince William County, Virginia

Overview

Prince William County established a storm water utility fee in 1994, and helps fund activities related to storm water management, including:

- Protecting streams and wetlands
- Reducing nonpoint source pollution loads
- Monitoring water quality
- Protecting properties and the public from flooding

The storm water utility fee is currently \$39.36 per ERU per year, where an ERU is equal to 2,059 SF of IA. So the annual fee for detached single-family homes is \$39.36, whereas townhomes and condominiums pay 75 percent of 1 ERU, or an annual fee of \$29.52. NR properties pay based on the total IA, or \$19.12 per 1,000 SF of IA. The breakdown of properties is approximately 46 percent residential and 44 percent NR. Owners of agricultural croplands and undeveloped properties are not charged a fee. Agricultural properties are currently required to develop water quality plans and resource conservation plans in order to comply with the Chesapeake Bay Preservation Act and the Farm Bill.

There are approximately 640 County-owned and 500 privately owned storm water facilities. Most facilities are detention ponds and the remaining are underground facilities. The facilities owned by the County are inspected at least once per year, sometimes twice. Only a limited number (40 to 50) of the private facilities are inspected. The maintenance is provided for County-owned facilities and private facilities constructed after 1994 with a maintenance agreement. Inspections and maintenance is performed by County staff.

Stormwater Credits and Incentives

Nonresidential properties that have storm water management in place can receive an adjustment or credit towards their storm water management fee. Credits are provided for both onsite structural and nonstructural Best Management Practices (BMPs).

Onsite Structural Best Management Practices

Developed nonresidential parcels can receive partial credit for onsite storm water management provided that the owner satisfies all criteria for necessary to receive a fee adjustment. Fee adjustments are based on conditions related to onsite storm water management for 2-, 10-, 25-, and 100-year, 24-hour flood. In addition, a property owner can receive a credit for BMPs that meet the County's standards for water quality. The maximum fee adjustment that an owner can receive is 50 percent. Table A-2 summarizes fee adjustment schedule for onsite structural BMPs.

The number of nonresidential properties that participate or receive a storm water credit is limited to 3 or 4 applications per year. This translates into approximately \$10,000 credits per year. The administrative costs are minimal and limited to the time for the annual inspection.

Table A-2. Prince William County, Virginia Credits for Onsite Structural Best Management Practices

Fee Adjustment Category	Percent Fee Reduction
Onsite storm water management is provided for the property to standards which protect against	
Two-year 24-hour flood	10
Ten-year 24-hour flood	10
25-year 24-hour flood	10
100-year 24-hour flood	10
Water quality protection BMPs according to county standards	10
Maximum Allowable Adjustment	50

Nonstructural Best Management Practices

For NR properties that are not eligible for a fee adjustment related to onsite storm water management or water quality BMPs, they can still receive partial credit in several ways, as described on the County's website:

In conjunction with the Department of Public Works, Cooperative Extension's Environment and Natural Resources Stormwater Management program educates businesses and non-profit organizations about appropriate best management practices for storm water run-off. By enrolling annually in the program, participants can earn up to a 30 percent rebate on their previous year's storm water management bill.

To receive a partial credit for their storm water fee, participants **must** attend a mandatory workshop on storm water education, which are held quarterly at locations throughout the county. Attendance at this workshop will qualify businesses and nonprofit organizations to receive a 10 percent rebate on annual storm water fees. Additional rebates are available for doing one or all of the following:

- Ten percent for providing proof of implementation of a Great 'Scapes Nutrient Management Plan from Virginia Cooperative Extension and conduct parking lot or common area clean-up once a year.
- Ten percent for conducting a site clean-up in cooperation with agencies such as Prince William Soil and Water Conservation District (Adopt a Stream), Clean Community Council (Adopt-a-Spot), or other preapproved site clean-ups in the community.

The County has experienced minimal participation in these nonstructural programs. On average, only 10 NR properties participate; which is approximately \$5,000 to \$6,000 per year in credits.

Application Requirements

An application must be submitted annually to receive a credit.

A.4 Montgomery County, Maryland

Overview

As part of the RainScapes Rewards program, single-family properties can receive a one-time rebate up to \$1,200 for the cost of installing a rain garden, cisterns, green roof, landscaping with native plants and shade trees, and permeable pavement. Multifamily and commercial properties can receive a one-time rebate up to \$5,000.

Projects required as part of permit approvals are not eligible for this program. The RainScapes program is voluntary and the Montgomery DEP must review and approve the project.

As part of the RainScapes program, the property must be located in Montgomery County (except Rockville, Takoma Park, and Gaithersburg). A preliminary site visit is required in order to determine eligibility for the rebate. The property owner must sign the RainScapes Rewards Property Owner Agreement and is responsible for obtaining necessary permits.

Stormwater Credits and Incentives

Table A-3 provides a summary of the maximum rebate amount by control that is offered as part of the RainScapes Rewards program.

Table A-3. Montgomery County, Maryland Volunteer RainScapes Rewards

RainScapes Practice	Residential ^a	Commercial, Multifamily, Institutional ^b
Maximum Rebate Amount	\$7,500	\$20,000
Rain Garden	\$10/SF	\$10/SF
Replacement of turf with Conservation Landscaping	\$5/SF if less than 3 inches temporary ponding, \$6/SF if 3 inches of temporary ponding. Project must replace turf, invasives or erosion. Project needs to intercept runoff. 250 SF minimum	\$5/SF if less than 3 inch temporary ponding, \$6/SF if 3 inch of temporary ponding. Project must replace turf, invasives or erosion. Project needs to intercept runoff. 350 SF minimum
Permeable Pavers	\$14/SF	\$14/SF
Pavement Removal	\$3 - \$7/SF depending on what replaces the pavement	\$3 - \$7/SF depending on what replaces the pavement
Green Roofs	\$9/SF, 100 SF minimum	\$9/SF, 200 SF minimum
Rain Barrels	200 gallon minimum for single-family home, 100 gallon minimum for townhome, 50 gallon minimum per barrel, \$250 maximum rebate per property	200 gallon minimum for commercial property \$250 maximum per property
Cisterns	\$ 500 (\$1/gallon stored)	\$ 2,000 (\$1/gallon stored)

Table A-3. Montgomery County, Maryland Volunteer RainScapes Rewards

RainScapes Practice	Residential ^a	Commercial, Multifamily, Institutional ^b
Dry wells	\$ 300 based on \$50% of actual cost	\$ 300 based on \$50% of actual cost

^a Cap based on \$0.50/SF IA treated or \$2,500/rain garden; note: whichever is greater— \$2,500 or \$0.50/ SF area treated will be rebated.

^b Maximum rebate amounts.

For FY 2008 and 2009, when the program was initiated, the County received 112 total applications, with 51 projects that have received final approval. The maximum rebate provided was \$15,114. The budget for the RainScapes program is \$75,000 per year and is funded by the Water Quality Protection Charge. On average the cost for the RainScapes program is approximately \$60,000 to \$80,000 per acre of drainage area, and does not include staff time or rain barrels.

For these 51 projects, the property types include 49 residential, one church, and one commercial property. The breakdown by control includes the following:

- 35 rain barrel projects
- conservation landscaping
- four rain gardens
- four urban tree canopy
- one green roof
- one permeable pavers

Another feature of the program is the "Make and Take" Rain Barrel Workshops. The participation level is about 200 per year. The cost is approximately \$50 per barrel and does not include staff time.

Application Requirements

To be eligible for the RainScapes Rewards program, the following must apply:

- Property must be located in Montgomery County but outside of the municipal limits of the City of Rockville, City of Takoma Park, or City of Gaithersburg.
- Projects are not associated with permit approval requirements for new building construction, additions, or renovations.
- All application requirements have been completed.

A.5 Southeast Metro Stormwater Authority, Centennial, Colorado

Southeast Metro Stormwater Authority (SEMSWA) did not initially offer credits to property owners when the storm water fees were first adopted in 2006. The reasoning is that the storm water controls that properties installed are required as part of their permit. Only if the property owner goes above and beyond the permit required will SEMSWA consider providing a credit. There are a few exceptions, which relate to very large parcels (for example, an airport) that provide mowing for some facilities owned by SEMSWA.

More recently, SEMSWA has offered credits to property owners who maintain regional BMPs not otherwise maintained by SEMSWA. Credits of up to 50 percent of annual fees can be obtained.

Appendix B
Example Credit Application Forms or Online Tools

A.6 Credit Manuals and Web Sites

Most jurisdictions have stormwater credit manuals and/or online web sites that spell out the details of credit programs including eligible BMPs, maximum credit amounts, and how credits are calculated. Figure B-1 shows a sampling of some of those manuals.

Water Quality Protection Charge Credit Procedures Manual

Prepared for
Montgomery County Department of Environmental Protection

November 30, 2018

Stormwater Utility Fee Credit Manual

Single Family Residential Properties

Clean River Rewards
contain the rain

The City of Portland created a separate stormwater utility fee in 1977 to help pay for the increasing cost of managing stormwater runoff. City Council approved the Clean River Rewards stormwater utility discount program in 2006 to reward ratepayers who manage stormwater on their property.

Registration Types

The discount program is divided into two categories for registration purposes:

1. Residential includes single-family and duplex properties.
2. Commercial includes commercial, multi-family residential (3 units or greater), industrial, and institutional properties.

If you are unsure which of these categories you are in, check your utility bill and look at your billing type.

Program Requirements

- You must register to receive a discount.

Stormwater Facility Credit Program

Package Content

Application Instructions
Submittal Requirements
Application Form
Application and Supporting Documentation Examples
Additional Documents – Estimate your own credit (upon request)

Seattle Public Utilities
2010
Stormwater Facility Credit Program

ADOPT-A-TREE
MANUAL FOR NARRAGANSETT BAY AREA

Norfolk, Virginia

KEEP IT CLEAN, HARRISONBURG
STORM POLLUTANT REDUCTION

City of Harrisonburg, Virginia
Public Works Department
401 East Main Street, P.O. Box 2000
540-432-5529

Figure B-1. Sample Storm Water Credit Manuals and Web Sites.

A.7 Credit Applications

Most jurisdictions also require a credit application to be submitted to the SWU to be receive a credit. The SWU typically requires specific information relating to installed BMPs for the SWU to establish the credit amount. Specific design information of the installed stormwater BMPs are typically needed to compute the volume of water captured by the practices and compare that to the amounts required by local stormwater design standards and therefore determine the prorated amount of the credit.

All properties typically must submit evidence that the practices are installed properly and have not been removed or altered. This is usually accomplished by submitting photographic evidence of their existence on the property. In addition, credit applications will typically include a legally binding statement that the facilities are in good working order and will be maintained in working order for the duration of the credit, and allowing access to SWU staff to perform inspections.

Sample applications are included below.

A.8 Montgomery County MD

<https://www2.montgomerycountymd.gov/DEPWQPC/SearchProperty.aspx>

Residential and Agricultural Properties: Reduce Your Charge

The Water Quality Protection Charge (WQPC) is part of every Montgomery County property tax bill. There are many ways to lower your Charge!

[Apply for a Stormwater Credit](#) [Apply for a Hardship Reduction](#) [Appeals & Adjoining Properties Reduction](#)

[Apply for a Credit](#) [Hardship Reductions](#) [Appeal Your Charge](#)

Water Quality Protection Charge

- [About the Charge](#)
- [Rates & Calculations](#)

Reduce Your Charge

Contact DEP | County Home

DEPARTMENT OF ENVIRONMENTAL PROTECTION MONTGOMERY COUNTY • MARYLAND

DEP Home Sustainability Trash & Recycling Water Contact DEP

Montgomery County Department of Environmental Protection

Water Quality Protection Charge Forms	
<input type="checkbox"/> Request for adjustment (Appeals)	
<input checked="" type="checkbox"/> Credit Application - Nonresidential and Multifamily	<input type="checkbox"/> Credit Application - Single Family Residential
<input type="checkbox"/> Hardship Exemption - 501(c)(3)	<input type="checkbox"/> Hardship Exemption - Single Family Residential

Type in the property tax account ID (8-digit number found on the property tax bill) or the property address to launch the Credit Application.

Applications must be received by September 30th of the year the tax bill is mailed to be evaluated for credit eligibility.

Search by Account ID	(e.g. 00000011, 00000022)
-- or --	
Search by Street Address	(e.g. 18970 WOODFIELD)
<input type="button" value="Search"/>	<input type="button" value="Clear"/>

Homeowner Inspection Questions: Storm Water Treatment Facilities

Rainbarrel

Add

If your facilities are not listed as a tab in the side bar, select it from the drop-down menu above a red arrow.

Welcome
Owner Contact Information
01269106--Map
1 Rainbarrel *

Owner Contact Inform

*Please fill out all mandatory fields.

Name *

SANTUCCI MATTHEW

Email*

Address*

11112 DODSON LN

City*

SILVER SPRING

State*

Maryland ▼

Select Facility

Select Facility

Green Roof

Dry Well

Porous Pavement

Cistern

Rainbarrel

Raingarden

Micro-Infiltration Trench

Disconnection of Non-Rooftop Runoff

Bioswale

Disconnection of Rooftop Runoff

Sheetflow to Conservation Area

Micro-Bioretention

Conservation Landscapings

Landscape Infiltration

Stormchambers

Dry swale

Stormwater Management System Information, Please fill out the corresponding size and/or number for each facility listed on your Inspection Form.

Facility Type	Facility Size	Facility Size Units	Quantity	Quantity Units
Bio swales ?	feet	linear feet		
Roof Leader Disconnection to Pervious Area ?	sf	square feet of pervious area	1-4	No. of Roof Leaders Disconnected (4 MAXIMUM)
Non-Roof Areas Disconnected to Pervious Area ?	sf	square feet of pervious area	0-2	No. of Non-Roof Areas Disconnected (2 MAXIMUM)
Dry well / Storm Chamber ?	yyyy	Year Facility was Built(yyyy)		No. of Dry Wells
Green Roofs ?	sf	square feet		
Conservation Landscaping ?	sf	square feet		
Micro-Bioretention / Landscape Infiltration ?	sf	square feet		
Rain Garden with 1 feet of Planting Soil ?	sf	square feet		
Rain Garden with 2 feet of Planting Soil ?	sf	square feet		
Rain Garden with 3 feet of Planting Soil ?	sf	square feet		
Micro - Infiltration ?	sf	square feet		
Pervious Pavement ?	sf	square feet		
Rain Barrel - 55-Gallon ?	55	gallons		No. of Barrels @ 55-Gallon
Rain Barrel - 75-Gallon ?	75	gallons		No. of Barrels @ 75-Gallon
Rain Barrel - 100-Gallon ?	100	gallons		No. of Barrels @ 100-Gallon
Rain Barrel - Other (Specify Size) ?		gallons - Other		No. of Barrels @ Other (Specify Size)
Cistern ?		gallons		No. of Cisterns
Sheet Flow to Conservation Area ?	sf	square feet of conservation area		

A.9 Seattle Public Utilities

<http://www.seattle.gov/utilities/businesses-and-key-accounts/drainage-and-sewer/stormwater-facility-credit/how-to-apply>

The screenshot shows the Seattle.gov website with a blue header bar. The header includes the Seattle.gov logo, the Mayor's name, and the General Manager/CEO. Below the header, there are navigation links for Services, Environment & Conservation, Construction & Development, Businesses & Key Accounts, Solid Waste, Water, Drainage & Sewer, Landscapes, Green Business, and Construction. The 'Drainage & Sewer' link is highlighted with a blue underline. In the top left corner of the main content area, there is a sidebar with a blue header 'DRAINAGE & SEWER' containing links for Fats Oils & Grease, Pollution Control, and Stormwater Facility Credit. The main content area has a black header 'How to Apply' with white text. Below it, a paragraph explains the application process and lists three links: Application Instructions (pdf), Application Example (pdf), and Stormwater Facility Credit Application Form (pdf). Further down, it provides the mailing address for applications to Seattle Public Utilities.

To apply for a stormwater facility credit, please complete an application:

- [Application Instructions \(pdf\)](#)
- [Application Example \(pdf\)](#)
- [Stormwater Facility Credit Application Form \(pdf\)](#)

Send all applications to:

Seattle Public Utilities
Stormwater Facility Credit Program
Attn: Tasha Bassett
Seattle Municipal Tower
700 5th Avenue
PO Box 34018
Seattle, WA 98124-4018

Application due dates

Completed applications must be **received** by November 1 of a given year to be considered for credit in the subsequent year (i.e., applications must be received by November 1, 2010 for a credit to be applied to the 2011 drainage bill).

SPU will notify applicants of the application status by letter, telephone or email. Please be advised that your stormwater facilities must be properly maintained and functioning to be eligible for the credit program. See **Section 21.33.040** of the Seattle Municipal Code and maintenance inspections for further information.

Credit criteria

SPU determines the eligibility of each application based on a number of factors such as the type of stormwater system, the appropriate drainage

Stormwater Facility Credit Application

Application Form

Section 1: Administrative and Contract Information

Please refer to Section 1 of the Application Instructions for assistance in completing this section. If your application includes facilities located on or serving multiple parcels, complete contact information for EACH parcel. You may photocopy this page, to provide additional information.

Parcel Number (Required Field) _____	
Owner Information (Required Field)	
Owner Name _____	Company Name _____
Street _____	Contact Name _____
City _____	Street _____
State _____	City _____
Zip Code _____	State _____
Email _____	Zip Code _____
Phone _____	Phone _____
Site Information (Required Field)	
Site Name (If Applicable) _____	Mailing Information (if different from owner or property management)
Business Name (If Applicable) _____	Address _____
Site Address _____	Street _____
Site Contact Name _____	City _____
Phone _____	State _____
Fax _____	Zip Code _____
Email _____	
Correspondence Information (Required field)	
Please check the box where you would like correspondence to be sent. If no box is checked, all correspondence will be sent to the owner.	
<input type="checkbox"/> Owner Address <input type="checkbox"/> Property Management <input type="checkbox"/> Mailing Address <input type="checkbox"/> Site Address	How did you hear about the program <input type="checkbox"/> Website <input type="checkbox"/> Department of Planning & Development <input type="checkbox"/> SPU Source Control Inspection <input type="checkbox"/> Other _____

Stormwater Facility Credit Application

Application Form (continued)

Section 2: Stormwater Facility Information



Page 2 of 5

Please refer to Section 2 of the Application Instructions for assistance in completing this section.

Facility Number	Facility Type (Select facility type from 2 section)	Year Installed	System Location	Code Required? (y or n)	Additional parcels served by facility (Parcel numbers or NA)

Stormwater Facility Credit Application

Application Form (continued)

Section 5: Owner Certification (REQUIRED)

By signing this application, I certify that I am the owner or authorized representative of the owner and that this application and any additional materials provided accurately describe the stormwater management facilities present on this property. A verification of owner authority will be provided upon request. In addition, I grant permission to SPU staff to enter the property to verify impervious surface characteristics and to inspect the stormwater facilities to ensure their proper maintenance. In addition, I certify that any facilities included on this application have been inspected within 6 months of this certification date and that said facilities are properly maintained and functioning.

Signature

Print Name

Title

Date

Is coordination of entry required such as locked gate or dog on premises? Please describe _____

Would you like the inspector to call you to coordinate? Yes / No Time/Date? _____

At what phone number _____

Section 6: Application Submittal Information

Completed applications must be received by November 1 of a given year to be considered for credit in the subsequent year. (Applications must be received by November 1, 2008 for example, a credit to be applied to the 2009 drainage bill.)

Seattle Public Utilities
Stormwater Facility Credit Program
Attn: Tasha Bassett
700 Fifth Ave., Suite 4900
PO Box 34018

Seattle, WA 98124-4018 OR Fax to (206) 470-6744

For questions, please visit our website at
www.seattle.gov/util/sfc, or contact Tasha Bassett at (206)
615-0550; tasha.bassett@seattle.gov.