West Chester Borough
Stream Protection Fee Program
Credit and Rebate
Policies and Procedures Manual

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Introduction

The Borough has enacted Ordinance No. 2016-__, titled the "Stream Protection Fee Ordinance" which establishes a Stream Protection Fee (SPF) which provides a dedicated funding source for ongoing expenses associated with the Borough's stormwater management system and compliance with its regulatory permit requirements. All developed parcels in the Borough will be required to pay the stream protection fee, which is based on the impervious surface area of the parcel.

Overview

The Borough has developed an incentive program ("credit program") to property owners who undertake specific stormwater management activities. The credit program has been developed per Section 10 – "Stormwater Credits" of Ordinance No. 2016-___ to allow owners to apply for rebates for implementing and credits for maintaining stormwater management practices (SMPs) on their parcel(s) that mitigate the volume, peak discharge rate or runoff pollution that leaves their parcel(s). This manual, called the "Stream Protection Fee Program Credit, Rebate Policies and Procedures Manual ("Credit Manual"), is called for in Section 10 of the SPF Ordinance. Additionally, credits may be provided to users who assist in education and outreach programs that the Borough is mandated to implement to comply with regulatory permit requirements. By implementing such measures, property owners are helping to reduce the demand on the existing stormwater management system and related Borough services, and helping to achieve permit compliance.

The primary goals of the Borough's credit program are to:

- Encourage private investment in installing and maintaining private SMPs.
- Ensure the SPF is equitable and fair by recognizing that stormwater management activities on private property can result in cost savings for the Borough which should translate into a reduced fee for the property.

Applicability

The Credit program has two components, a Residential Rebate and Credit Program, and a Non Residential Credit Program. This document provides detail on the policy and procedures for both programs. Property owners of Residential Properties (as defined herein) are permitted to apply for a rebate and/or credit listed under the Residential Rebate/Credit Program and the Non-Residential Credit Program. Property owners of Non-Residential and Multi-Family Residential Properties are permitted to apply for a credit listed under the Non-Residential Credit Program. Throughout this manual, the general term "credit program" or "SPF credit" refers to both the residential and non-residential programs. When a policy or procedure differs, the specific program will be called out for the user.

Definitions

Words used herein shall be defined in accordance with their definition in the SPF Ordinance. If a word is used in this manual is not defined in the SPF Ordinance, it shall be defined as follows:

Apartment - a building on a separate lot containing three or more dwelling units.

Credit - a recurring discount on the SPF which is applied to the property owner's bill to reduce the SPF on a recurring basis. The credit is valid for a set period of time (currently three years), after which time the property owner must reapply.

Dwelling Unit - One or more rooms in a building, designed for occupancy by one family for living purposes and having its own permanently installed cooking and sanitary facilities, with no enclosed space (other than vestibules. entrances or other hallways or porches) in common with any other dwelling unit. No dwelling unit

shall have more than 50% of its exterior below the level of the exterior grade. A dwelling unit may be contained in any of the following structures:

A. SINGLE-FAMILY DETACHED - A building designed for and occupied exclusively as a residence for only one family and having no party wall in common with an adjacent building.

B. SINGLE-FAMILY DETACHED, MOBILE HOME - A transportable single-family detached dwelling unit intended for permanent occupancy, contained in one unit or in two units designed to be joined into one integral unit capable of again being separated for repeated towing, which arrives at a site complete and ready for occupancy except for minor and incidental unpacking and assembly operations and is constructed as permitted in Article VI, with the same, or equivalent, electrical, plumbing and sanitary facilities as for a conventional single-family detached dwelling. A mobile home shall include any addition or accessory structure, such as porches, sheds, decks or additional rooms, which is attached to it. A mobile home does not include recreational vehicles or travel trailers.

C. SINGLE-FAMILY SEMIDETACHED - A building designed for and occupied exclusively as a residence for only one family and having one party wall in common with an adjacent building.

D. SINGLE-FAMILY ATTACHED - A building designed for and occupied exclusively as a residence for only one family and having two party walls in common with an adjacent building, except for end units.

E. TWO-FAMILY DETACHED - A building designed for and occupied exclusively as a residence for two families, with one family living wholly or partly over the other, and having no party wall in common with an adjacent building.

F. TWO-FAMILY SEMIDETACHED - A building designed for and occupied exclusively as a residence for two families, with one family living wholly or partly over the other, and having one party wall in common with an adjacent building.

G. TWO-FAMILY ATTACHED - A building designed for and occupied exclusively as a residence for two families, with one family living wholly or partly over the other, and having two party walls in common with adjacent buildings.

H. MULTIFAMILY - See "apartment."

Impervious Drainage Area – the impervious surfaces within the land contributing runoff to a single point (including but not limited to the point/line of interest used for hydrologic and hydraulic calculations) and that is enclosed by a natural or man-made ridge line.

Multi-Family Residential Property- a property which is improved with a building that is used as an apartment of multi family dwelling.

Non-residential property - a property which is improved with a building that is used in any manner other than as a Residential Property or a Multi-Family Residential Property as defined herein. This term shall include but not be limited to buildings used for commercial, industrial and institutional uses.

Nonstructural stormwater management practices or measures – operational and/or behavior-related practices that attempt to minimize the contact of pollutants with stormwater runoff whereas structural BMPs or measures are those that consist of a physical device or practice that is installed to capture and treat stormwater runoff.

Rebate - a one-time refund per Residential Property that is issued for installing a stormwater practice. The amount of the refund is based on the drainage area managed and the constructed stormwater management practice. One Residential Property can have multiple rebates.

Residential Property - a property which is improved with a building that is used as any form of Dwelling other than a Multi Family Dwelling or Apartment.

Stormwater Management Practice (SMP) – Activities, facilities, designs, measures, or procedures used to manage stormwater impacts from regulated activities, to provide water quality treatment, infiltration, volume reduction, and/or peak rate control, to promote groundwater recharge, and to otherwise meet the purposes of the Stream Protection Fee Program and associated ordinance. Stormwater BMPs are commonly grouped into one (1) of two (2) broad categories or measures: "structural" or "nonstructural."

Structural Stormwater Management Practices or measures - include, but are not limited to, a wide variety of practices and devices from large-scale retention ponds and constructed wetlands to small-scale underground treatment systems, infiltration facilities, filter strips, low impact design, bioretention, wet ponds, permeable paving, grassed swales, riparian or forested buffers, sand filters, detention basins, and manufactured devices. Structural stormwater BMPs are permanent appurtenances to the Site.

Objectives

The objective of the credit program is to provide a way for property owners who install SMPs which reduce stormwater flow and pollutant loading into the stormwater system to reduce their SPF. SMPs are measures or facilities that prevent or reduce the transport of pollutants and/or control stormwater runoff volume or rate. Implementing such measures reduces the impact a developed property has on the downstream storm drainage system (both natural and man-made).

Additional Resources

Property owners are encouraged to research and utilize the following free resources found online:

- Homeowner's Guide to Stormwater Management prepared by the Philadelphia Water Department in 2006
- Homeowner's Guide to Stormwater produced by the Lancaster County Conservation District in 2013
- The Alliance for the Chesapeake Bay has developed a website, Reduce Your Stormwater, which provides do-it-yourself guidance for SMPs.
- The Chesapeake Stormwater Network has developed a Homeowner Guide that provides excellent step-by-step guidance on designing, constructing and maintaining rain gardens, rain barrels, pervious pavers, and planting trees.

General Credit Program Policies

General policies for the Residential and Non-residential SPF credit program are listed below.

Eligibility

To be eligible for a SPF credit, whether residential or non-residential, a property owner must treat impervious area (IA) with a qualifying stormwater management facility that is owned and maintained by the property owner. Alternatively, the property owner must have an approved non-structural control, NPDES permit, or other eligible stormwater management feature, as listed in Table 1.

Table 1.

Eligible types of SMPs for the Residential and Non-Residential Credit Programs

Credit Category	Stormwater Management Practice (SMP)	Single-Family Residential *	Non-Residential and Multi-Family Residential **
	Pervious pavement with infiltration bed	X	X

Green Infrastructure / Runoff Volume Controls	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		X

Notes:

* Single family residential property owners are not excluded from obtaining a non-residential credit

** Non-residential and Multi-family residential are excluded from obtaining the Rain Barrel credit

Eligibility for the SPF credit is based on the following criteria:

- Single-Family Residential property owners are eligible for a rebate and/or credit under the Residential Credit Program, and they are not excluded from the Non-Residential Credit Program.
- Non-Residential (NR) and Multi-Family Residential (MFR) property owners are eligible for a credit under the Non-Residential Credit Program.
- The property owner must own and maintain a qualifying stormwater facility or approved non-structural control.
- The property owner must not be past due on their SPF payments.
- Property owners are required to submit an application and documentation of construction/installation, as well as documentation regarding operation and maintenance (O&M) of the stormwater management facility.
- Credits may be available for SMPs implemented, constructed or reconstructed after December 30, 2006, and in a manner consistent with the design criteria set forth in the Pennsylvania Stormwater

Best Management Practices Manual (PA DEP Document No. 363-0300-002), as amended/updated, this Policy and Procedures Manual, and all applicable Borough ordinances and regulations.

- SMPs must be properly maintained and in good working order to be eligible.

Maximum Allowable SPF Credit

The maximum credit that any one property can receive is 60% percent, which could be achieved through a combination of one or more types of credits. The maximum is set at 60% because of the need for the Borough to fund programmatic elements and public stormwater facilities. In other words, even if all properties managed stormwater on-site, the Borough still has obligations under its MS4 permit and needs to maintain the public drainage system to protect the health and safety of the public. The maximum can be achieved by applying for a credit associated with one or more credit types.

Maximum Allowable SPF Rebate

There is no maximum SPF rebate for residential property owners, except within each SMP type as described below. Note that the rebate is a one-time refund, per property. If the property is sold, the new owner is not eligible for an additional rebate.

Residential Credit Types

The residential rebate/credit program incentivizes residential property owners to manage their stormwater on site and reduce IA on their property. This program includes two types of incentives which can be applied to reduce the property owner's SPF:

Residential Rebate - A rebate provides a one-time refund per property for installing a stormwater practice. The rebate is applicable to the impervious drainage area managed, and one property can have multiple rebates. For example, one downspout is disconnected to a rain garden; the homeowner would choose the rain garden rebate ($100). A second downspout is disconnected to a vegetated (grass) area; the homeowner would also receive the downspout disconnect rebate ($25).

Residential Credit - A credit is a recurring discount on the stream protection fee, and is applied to the property owner's bill to reduce the SPF on a recurring basis. The credit is valid for a set period of time (currently three years), after which time the property owner must reapply. Using the example above, the homeowner could apply for the rain garden credit ($20) and the downspout disconnection credit ($5).

The amount of rebates or credits earned by each SMP is based on the type and capacity of SMP(s) installed. More intensive practices such as rain gardens typically treat a lot of stormwater, and therefore give property owners a larger credit. Less intensive practices such as rain barrels are eligible for a smaller incentive proportional to their stormwater management treatment potential. Table 2 lists the eligible practices for rebates/credits under the residential program, and includes the specific rebate and credit amounts per unit area managed. Further detail is provided below for each specific SMP.

Table 2.
Rebates & Credits for Residential Properties

Stormwater Management Practice (SMP)	One-Time Rebate Amount	Annual Credit Amount	Credit Description
Rain Barrel	$30	None	Rebate calculated based on per rain barrel and/or tree installed
Tree planting	$50	None	
Downspout (DS) Disconnection	$25	$5	

Rain Garden	$100	$20	Rebate/Credit is calculated based on per 500 square feet (SF) disconnected or per 500 SF captured
Permeable Pavement / Dry Well	$100	$20	

Calculation of Residential Credits

The Residential Credit is calculated based on the amount of impervious area treated by one or more SMPs that are owned and maintained by a property owner. For each SMP selected, the fee associated with the amount of IA treated is reduced by the credit applicable to that type of SMP. A description of each SMP type and example calculations for each follow.

Rain Barrel Rebate

Rain barrels are containers that provide temporary storage of rain water for later use for irrigation or other water needs. Rainwater typically flows into rain barrels by gutters or downspouts. The storage of rainwater reduces peak runoff volumes, reduces soil saturation, and allows for greater infiltration and evaporation of stormwater runoff. For some structures, small storm events can be fully captured with rain barrels.

Rain Barrel Rebate Requirements

- A maximum of 2 barrels per property will be eligible for rebates.
- The rain barrel must have a minimum storage volume of 45 gallons.
- The rain barrel must capture runoff from a roof area of at least 100 square feet (e.g., 10 x 10 feet).
- The barrel must provide overflow for large storms events.
- There must be a use for the stored water so that the storage capacity is replenished over time.
- When locating the rain barrel, consider site topography. Placing a rain barrel up-gradient of plantings (if applicable) facilitates its use for watering.
- All openings must be screened to prevent the growth of mosquitoes (or other vector-control must be provided).

Rain Barrel Rebate Calculation

A property owner installs two (2) rain barrels. The following example calculation shows the methodology to calculate the Rain Barrel rebate.

$$Total\ Rebate = \left(Rain\ Barrel\ Rebate\right) \times (Number\ of\ Barrels\ [up\ to\ 2])$$

$$\boldsymbol{Total\ Rebate = \$30 \times 2}$$

$$\boldsymbol{Total\ Rebate = \$60}$$

Tree Planting Rebate

Tree planting for the purposes of the SPF refers to the practice of planting deciduous or evergreen trees in areas that will grow and create a leaf canopy that intercepts rainfall and reduces stormwater runoff. Native tree species are preferred and species should be selected that will grow best given a variety of conditions, including the soil conditions and sun exposure at the planting site. Trees can be planted by the owner or a contractor. Interested applicants are encouraged, but not required, to work with the Borough Arborist and the Sustainability Advisory Committee to review the list of preferred trees and consult with species selection prior to planting. Trees purchased through the Borough's tree planting program are qualified for the Tree Planting Rebate.

Tree Planting Rebate Requirements

- Trees much have a minimum of 2-inch caliper. Caliper is the diameter of the trunk measured at six inches above the ground.
- Property owners can apply and receive rebates for a maximum of 4 trees per property.
- Trees should be planted with adequate overhead clearance (setback from overhead wires) and appropriate root zone area. If the planting site is surrounded by pavement (e.g., between the street and sidewalk), the recommended minimum tree pit size is four by four feet or three by six feet. Ideally, tree pits should be larger (e.g., 6 x 6 feet) or trees roots should have access to landscaped areas to allow more room for root growth.
- It is critical that the property owner minimizes any conflict with existing underground utility infrastructure, therefore, owners are required to utilize the ***Call Before You Dig*** Pennsylvania One-Call service for utility mark-outs. For more information, http://www.pa1call.org/pa811/Default.aspx.
- The planting location should be selected so the canopy will eventually cover some impervious area (IA). The maximum distance between the tree location and IA should be 25 feet.

Tree Planting Rebate Calculation

A property owner plants two (2) trees. The following example calculation shows the methodology for the Tree Planting rebate.

$$\boldsymbol{Total\ Rebate} = \left(\boldsymbol{Tree\ Planting\ Rebate}\right) \times \left(\boldsymbol{Number\ of\ Trees}\ [\boldsymbol{up\ to}\ \mathbf{4}]\right)$$

$$\boldsymbol{Total\ Rebate} = \$\mathbf{50} \times \mathbf{2}$$

$$\boldsymbol{Total\ Rebate} = \$\mathbf{100}$$

Downspout Disconnection Rebate/Credit

In West Chester, roof runoff typically is collected in gutters and then flows down downspouts. Many downspouts are directly connected to the storm sewer system or flow onto an impervious surface (driveway, sidewalk, or street) before entering a storm inlet. Disconnecting downspouts is the process of separating roof downspouts from the sewer system and redirecting roof runoff onto pervious surfaces where it can be filtered and infiltrated into the ground. This reduces the amount of directly connected impervious area (IA) in a drainage area. If done correctly, downspout disconnections can reduce peak flow rates, runoff volume, and pollution.

Figure 3. Splash block

Figure 4. Downspout disconnection.

For disconnection to be safe and effective, each downspout must discharge into a suitable receiving area. Roof runoff can be redirected to a garden, yard,

planter, or a rain barrel or cistern for eventual reuse. Runoff must not flow toward building foundations or adversely impact adjacent properties.

Downspout Disconnection Rebate/Credit Requirements

- To qualify for a downspout (DS) disconnection rebate, the existing DS must be directly draining into a storm sewer, either flowing via pipe or over impervious surfaces to a storm inlet.
- After disconnection, the extension, splash block and ground should all discharge water a minimum of 3 feet away from structures, including basements, porch steps, or garages.
- It is recommended to use a splash block to absorb the energy of falling water, spread the water out, and prevent erosion.
- Do not disconnect DS to slopes over 10% (i.e., areas with a vertical drop of more than 1 foot every 10 feet horizontally) unless they are adequate stabilized.
- Limit the contributing rooftop area to a maximum of 500 square feet (e.g., 20 x 25 feet) per downspout disconnection.
- Make sure there is enough pervious area for rain to be absorbed into the ground. The pervious/landscaped area must be at least 20% of the roof area that drains to the disconnected downspout.

Downspout Disconnection Rebate/Credit Calculation

The calculation of the DS rebate/credit is based on the amount of rooftop area that is disconnected. To estimate the rooftop area draining to a downspout, the property owner should sketch a site plan of the property. Sources for an aerial site map include a view from Google maps. The locations of downspouts and the roof line should be marked as shown in the example graphic below. The area of the rooftop can be estimated by measuring the area of the roof (length x width). Calculate or estimate the area of rooftop that drains to the downspout that is selected for disconnection. If there is only one downspout, the property owner can utilize the entire roof area. If there are gutters with downspouts on both ends, assume that half of the roof area drains to each downspout.

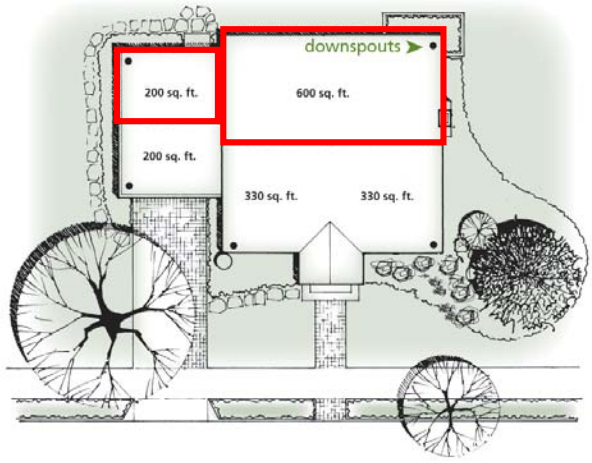

Figure 1. Example site plan noting locations of existing downspouts. Source: http://www.portlandoregon.gov/bes/article/240623

Example: A property owner installs two (2) downspout disconnections draining a total of 800 square feet of rooftop (e.g., the top 2 downspouts shown on Figure 1, as outlined in red). The following example calculation shows the methodology for the downspout disconnection rebate and credit.

$$\textbf{Total Rebate} = \left(\textbf{DS Disconnection Rebate \$ Amount} \times \frac{\textbf{Rooftop Area Disconnected}}{\textbf{500 square feet}}\right)$$

$$\textbf{Total Rebate} = \$25 \times \frac{\textbf{800 square feet}}{\textbf{500 square feet}}$$

$$\boldsymbol{Total\ Rebate} = \$\mathbf{25}\ \times \mathbf{1.6}$$

$$\boldsymbol{Total\ Rebate} = \$\mathbf{40}$$

$$\boldsymbol{Total\ Annual\ Credit} = \left(\boldsymbol{Annual\ Credit} \times \frac{\boldsymbol{Impervious\ Area\ Disconnected}}{\mathbf{500}\ \boldsymbol{square\ feet}}\right)$$

$$\boldsymbol{Total\ Annual\ Credit} = \$\mathbf{5}\ \times \frac{\mathbf{800}\ \boldsymbol{square\ feet}}{\mathbf{500}\ \boldsymbol{square\ feet}}$$

$$\boldsymbol{Total\ Annual\ Credit} = \$\mathbf{8}$$

Rain Garden Rebate/Credit

A rain garden (also known as a bioretention area) is a depressed landscaped area designed to capture and filter stormwater runoff. In addition to managing runoff volume and mitigating peak discharge rates, a rain garden can improve water quality by removing pollutants as the water percolates through the soil. Rain gardens (Figure 2) have a high degree of flexibility in terms of dimensions and size, allowing easy integration into many yards/landscapes. Rain gardens typically require relatively little maintenance once established and often replace areas that were intensively landscaped and required a significant amount of maintenance. Vegetation selection should include native vegetation that is tolerant of hydrologic variability, salts (if applicable), and environmental stress.

Figure 2. Example rain garden in residential front yard.

Rain Garden Rebate/Credit Requirements

- The minimum rain garden size is 25 square feet per 500 square feet of impervious drainage area. The maximum ratio of drainage area to rain garden area should be 25:1. In a residential setting, one rain garden should not drain more than 1 acre (43,560 square feet).
- In order to qualify for the full rebate/credit, the rain garden must have the ability to capture a 1-inch storm. The rain garden capacity should be greater than or equal to the volume of stormwater produced by 1 inch of rain running off the contributing IA (1 inch from 500 square feet produces 41.7 cubic feet [312 gallons] of water).
- The ponding depth in the rain garden should be no more than 18 inches.
- The rain garden should fully drain within 72 hours after the end of a storm event.
- The design for the rain garden should include an overflow discharge to drain out excess water during extreme storm events (e.g., an overflow drain or appropriate surface flow pathway).
- Soil conditions are variable in an urban environment such as the Borough, and as such, it is required that infiltration tests be undertaken in order to confirm that the system can empty within 72 hours. A simple percolation test can be performed according to the PA Stormwater Manual during construction.
- It is critical that the property owner minimizes any conflict with existing underground utility infrastructure, therefore, owners are required to utilize the ***Call Before You Dig*** Pennsylvania One-Call service for utility mark-outs. For more information, http://www.pa1call.org/pa811/Default.aspx.

Rain Garden Rebate/Credit Calculation

A property owner installs a rain garden draining a total of 800 square feet of IA, capable of capturing 1 inch of runoff from their contributing IA. The following example calculation shows the methodology for the rain garden rebate and credit.

$$\textbf{Total Rebate} = \left(\textbf{Rain Garden Rebate Amount}, \$ \times \frac{\textbf{Impervious Area Captured, square feet}}{\textbf{500 square feet}}\right)$$

$$\textbf{Total Rebate} = \$100 \times \frac{\textbf{800 square feet}}{\textbf{500 square feet}}$$

$$\textbf{Total Rebate} = \$100 \times 1.6$$

$$\textbf{Total Rebate} = \$160$$

$$\textbf{Total Annual Credit} = \left(\textbf{Annual Credit}, \$ \times \frac{\textbf{Impervious Area Captured, square feet}}{\textbf{500 square feet}}\right)$$

$$\textbf{Total Annual Credit} = \$20 \times \frac{\textbf{800 square feet}}{\textbf{500 square feet}}$$

$$\textbf{Total Annual Credit} = \$20 \times 1.6$$

$$\textbf{Total Annual Credit} = \$32$$

Permeable Pavement (Drywell) Rebate/Credit

It is recommended that residential owners who may consider this rebate/credit discuss with the Director of Public Works, as engineering review is strongly encouraged. Due to the likely land disturbance of these types of practices, an owner may need to consult with the Building and Housing Department, in order to confirm that no permit is required.

In general, permeable pavements (also called porous or pervious pavements) are designed to allow infiltration of stormwater through the surface, into an underground storage bed or reservoir lined with a geotextile fabric, and finally into the underlying soil. Types of permeable pavements may include paving blocks, grid pavers, pervious concrete, or porous asphalt. Unless installed as part of manufactured system specifically designed for stormwater storage and infiltration, gravel as a surface is not considered permeable and is not eligible for a credit. Porous pavement can be well suited for driveways, patios, parking lots, walking paths, sidewalks, playgrounds, basketball courts, and other similar uses.

The storage bed should be placed on uncompacted base to facilitate stormwater infiltration. The subsurface storage bed may consist of uniformly graded, clean and washed course aggregate (stone or large gravel) with a void space of approximately 40%, or manufactured structural storage units. It is recommended that a qualified engineer and/or installer with knowledge of hydrology and hydraulics be consulted for applications using permeable hardscapes for driveways to ensure desired results and to ensure proper support for vehicles.

Dry wells are underground structures or gravel pits that collect rainwater and let it absorb into the soil. They may be a good option for properties with limited space.

Permeable Pavement and Drywell Rebate/Credit Requirements

- Permeable pavement systems must have the storage capacity to capture a 1-inch storm event for a full rebate/credit. A good rule of thumb is to consider that 4 inches of clean, uniformly-sized gravel with 40% void space can store 1.6 inches of water.

- The bottom of the storage bed and/or dry well should be located at a minimum of 2 feet above the water table or bedrock.
- Soil conditions are variable in an urban environment such as the Borough, and as such, it is required that infiltration tests be undertaken in order to confirm that the system can empty within 72 hours. A simple percolation test can be performed according to the PA Stormwater Manual during construction.
- This type of BMP should be constructed on fairly level or low sloping surface. It is not feasible on steep slopes.
- Do not infiltrate on compacted soil.
- Provide level or gently sloping storage bed bottoms to maximize storage and infiltration.
- Provide positive stormwater overflow from the system for extreme storm events.
- The system permeable pavement surface should have a permeability of greater than 20 inches per hour.
- Secondary inflow mechanism recommended.
- Prevent sediment-laden runoff (i.e., from un-stabilized pervious areas) and consider other sources of debris (leaves, seeds, flowers, pollen, etc.) that may clog the permeable pavement. Avoid locating permeable pavements where they are likely to receive excessive sediment and/or debris.
- It is critical that the property owner minimizes any conflict with existing underground utility infrastructure, therefore, owners are required to utilize the *Call Before You Dig* Pennsylvania One-Call service for utility mark-outs. For more information, http://www.pa1call.org/pa811/Default.aspx.

Permeable Pavement and Drywell Rebate/Credit Calculation

A property owner installs a permeable pavement driveway that is 12.5 feet by 40 feet (500 square feet). The following example calculation shows the methodology for the permeable pavement rebate and credit.

$$\boldsymbol{Total\ Rebate} = \left(\boldsymbol{Permeable\ Pavement\ Rebate\ Amount}, \$ \times \frac{\boldsymbol{Impervious\ Area\ Replaced, square\ feet}}{\boldsymbol{500\ square\ feet}}\right)$$

$$\boldsymbol{Total\ Rebate} = \$\mathbf{100} \times \frac{\boldsymbol{500\ square\ feet}}{\boldsymbol{500\ square\ feet}}$$

$$\boldsymbol{Total\ Rebate} = \$\mathbf{100} \times \mathbf{1}$$

$$\boldsymbol{Total\ Rebate} = \$\mathbf{100}$$

$$\boldsymbol{Total\ Annual\ Credit} = \left(\boldsymbol{Annual\ Credit}, \$ \times \frac{\boldsymbol{Impervious\ Area\ Replaced, square\ feet}}{\boldsymbol{500\ square\ feet}}\right)$$

$$\boldsymbol{Total\ Annual\ Credit} = \$\mathbf{20} \times \frac{\boldsymbol{500\ square\ feet}}{\boldsymbol{500\ square\ feet}}$$

$$\boldsymbol{Total\ Annual\ Credit} = \$\mathbf{20}$$

Non-Residential Credit Types

The Non-Residential Credit Program incentivizes owners of any non-residential property (commercial, institutional, industrial, etc.) and multi-family residential property to manage their stormwater on site and reduce IA on their property. This program includes credits which can be applied to the property owner's bill to reduce the SPF on a recurring basis. The credit is valid for a set period of time (currently three years), after which time the property owner must reapply. The maximum credit is 60% of the SPF if the facility is maintained by the property owner and provides both quantity and/or quality controls. The maximum can be achieved by applying for a credit associated with one or more SMP types.

A non-residential property owner may apply for an eligible SMP type that is listed in Table 3. The amount of financial credit(s) earned for any given property is based on the type of SMP installed. Intensive practices such as green infrastructure are a primary strategy in the Borough's stormwater program due in large part to the multiple benefits they provide above and beyond management of stormwater volume. Therefore green infrastructure is eligible for a larger credit than less intensive practices such as the non-structural controls category. Table 3 lists the eligible practices for credits under the non-residential program, and includes the specific credit amounts. Requirements for each type of SMP category and example calculations are provided in the following sections.

TABLE 3.
Credits for Non-Residential Property Credit Types

Type of Stormwater Management Practice	Credit (%)	Possible Example Practices
Green Infrastructure / Runoff Volume Controls	60%	Rain gardens, bioretention, infiltration trenches, permeable pavements, green roofs
Peak Runoff Rate (Flood) Controls	30%	Constructed wetland, dry extended detention pond, wet/retention pond, underground detention system
Water Quality Treatment	30%	Constructed wetland, constructed filters, vegetated swale/filter strip, proprietary treatment devices
Non-Structural Controls	15%	Tree canopy, downspout disconnection, approved environmental education/outreach program
National Pollutant Discharge Elimination System (NPDES) Stormwater Permit	15%	Facilities with an active and fully-compliant NPDES stormwater permit

Calculation of Non-Residential Credits

The Non-Residential Credit is calculated based on the amount of IA treated by stormwater management facilities (also called the *impervious drainage area*) that are owned and maintained by a property owner. For each type of credit summarized in Table 3, the fee associated with the amount of IA treated by a stormwater management facility is reduced by the percent credit for the type of credit. The following equation illustrates the credit calculation:

$$SPF\ Credit\ = \left(\frac{Treated\ IA}{1{,}000}\right) \times Credit\%\ by\ Type \times SPF$$

Where:

- Treated IA: amount of impervious area treated by a eligible stormwater facility, ft^2
- Credit% by Type: the percent credit allowed for by type of facility (see Table 3)
- SPF Stream Protection Fee for current levy year, expressed as $ per 1,000 ft^2

Requirements and examples of the credit calculation for each SMP type is detailed below.

Stormwater Feature Drainage Area Percentage

In order to determine the amount IA treated by a stormwater facility, the drainage area specific to the facility must be determined. Note that if the facility drains IA either on or off the property, the total impervious treated for the purposes of credit calculations typically cannot exceed the amount of IA on the property. This information is generally included in the original design documents (drawings and/or stormwater report) for a facility. If the owner cannot find this information, they may attempt to estimate it through an online mapping package such as the (free) Google Earth program, or hire a registered professional engineer or registered land surveyor.

Green Infrastructure / Runoff Volume Control Credit

Runoff volume control practices reduce the volume of stormwater runoff entering the public drainage system. Green infrastructure practices can reduce volume and also restore the natural hydrologic cycle, in addition to providing a number of community related benefits. Green infrastructure employs the following processes to mimic predevelopment conditions:

- Infiltration (allowing water to slowly soak into the soil)
- Evaporation/transpiration using native vegetation
- Rainwater capture and re-use (storing runoff to water plants, flush toilets, etc.)

Green Infrastructure Credit Requirements

Any green infrastructure or volume control practice must capture 1 inch of runoff for full credit. The 1 inch of captured runoff is translated into a volume of water by multiplying it by the captured drainage area. Table 4 provides brief guidance on various green infrastructure technologies, including consideration of design, construction, operation and maintenance. In all cases, retention and detention facilities should be designed to completely drain water over a period of time not more than 72 hours.

TABLE 4.
Green infrastructure types with brief overview of design and construction requirements, as well as operational and maintenance needs.

Green Infrastructure Type	Design / Construction Guidance	Operation and Maintenance
Cisterns/Rain Barrels	Provide overflow for large storms events Discharge water before next storm event Consider site topography, placing structure up-gradient of plantings (if applicable) in order to eliminate pumping needs	Discharge before next storm event Clean annually and check for loose valves, etc. Winterize the system: may require flow bypass valves during the winter
Bioretention/Rain Gardens	Ponding depths 6 to 18 inches for drawdown within 72 hours Native vegetation that is tolerant of hydrologic variability, salts etc. Water Table/ Bedrock Separation: 2-foot minimum, 4-foot recommended Soils: HSG A and B preferred; C & D may require an underdrain Maximum loading ratio: 20:1; not more than 1 acre to one rain garden	May require watering during establishment Spot weeding, pruning, erosion repair, trash removal, mulch reapplication required 2-3x/growing season Maintenance tasks and costs are generally similar to traditional landscaping

TABLE 4.
Green infrastructure types with brief overview of design and construction requirements, as well as operational and maintenance needs.

Green Infrastructure Type	Design / Construction Guidance	Operation and Maintenance
Green Roofs	2-6 inches of non-soil engineered media; assemblies that are 4 inches and deeper may include more than one type of engineered media. The roof structure must be evaluated for compatibility with the maximum predicted dead and live loads. Waterproofing must be resistant to biological and root attack. Typically installed on flat or gently-sloping rooftops	Once vegetation is established, spot weeding, replanting, and fertilization as required Maintenance cost is similar to traditional landscaping, $0.30-$1.00 per square foot
Permeable Pavements	Level storage bed bottoms, uncompacted permeable subgrade soils Provide positive storm water overflow from bed Surface permeability >20”/hour Pretreatment for sediment-laden runoff	Clean inlets/outlets Vacuum twice per year (typically), usually with a street cleaning unit Maintain adjacent landscaping/planting beds to prevent wash-on Periodic replacement of paver blocks During winter, no sand/grit/abrasives and only clean salt or other deicers
Tree Trenches	Flexible in size and configuration Native, appropriate tree species selection and spacing Quick drawdown Linear infiltration/storage trench New inlets, curb cuts, or other means to introduce runoff into the trench	Water, mulch, treat diseased trees, and remove litter as needed Annual inspection for erosion, sediment buildup, vegetative conditions Biannual inspection of cleanouts, inlets, outlets, etc.
Subsurface Infiltration Practices	Adequate depth to water table or bedrock Level or terraced infiltration surfaces preferred Proximity to buildings, drinking water supplies, karst features, and other sensitive areas Soil types (permeability, limiting layer, etc.) Provide pretreatment and positive overflow in most cases	All pretreatment devices, catch basins, and inlets should be inspected and cleaned at least twice per year If vegetated, the overlying vegetation of subsurface infiltration feature should be maintained in good condition and any bare spots re-vegetated as soon as possible. Vehicular access on vegetated subsurface infiltration areas should be prohibited.

Further information on green infrastructure is available in Chapter 6 of the Pennsylvania Stormwater Best Management Practices Manual or Chapter 4 of the City of Philadelphia Water Department Stormwater Management Guidance Manual.

Green Infrastructure Credit Calculation

The following example calculation shows the methodology for the green infrastructure credit. A property has one green infrastructure facility that treats 5,500 sf of IA. Assuming the SPF is $6.70 per 1,000 sf per month, the SPF Credit for that facility would be as follows:

$$SPF\ Credit\ = \left(\frac{5{,}500}{1{,}000}\right) \times 60\% \times \$6.70 = \$22.11$$

Peak Runoff Rate (Flood) Control Credit

Peak runoff rate control protects against immediate downstream erosion and flooding by detaining runoff to reduce the peak flow. Most designs achieve peak rate control through the use of detention structures. Peak rate control can also be integrated into volume control practices to become "at source" measures for reducing the rate and volume of runoff released during rainfall events.

Peak Runoff Rate Credit Requirements

Peak rate control practices should aim to maintain the peak rate of runoff from pre-development conditions for the 1-year through 100-year design storm events. Constructed wetlands, dry extended detention ponds, and wet/retention ponds are excellent examples of peak rate control practices. Constructed Wetlands are shallow marsh systems planted with emergent vegetation that are designed to treat stormwater runoff to improve water quality. A dry extended detention basin is an earthen structure constructed either by impoundment of a natural depression or excavation of existing soils, that provides temporary storage of runoff and functions hydraulically to attenuate stormwater runoff peaks. Wet Ponds/Retention Basins are stormwater basins that include a substantial permanent pool for water quality treatment and additional capacity above the permanent pool for temporary runoff storage.

Table 5 has guidance on design, construction, operation and maintenance for these peak rate control practices. In all cases, retention and detention facilities should be designed to completely drain water over a period of time not more than 72 hours.

TABLE 5.
Peak rate control practices with design and construction requirements, as well as operational and maintenance needs.

Peak Runoff Rate practice	Design / Construction Guidance	Operation and Maintenance
Constructed Wetland	Adequate drainage area (usually 5 to 10 acres minimum) or proof of sustained base flow	Periodic sediment removal from the forebay and vegetation maintenance
	May require investigation of water supply to ensure a sustained baseflow to maintain the wetland	Inspect and maintain inlet and outlet structures as needed
	Maintenance of permanent water surface	
	Multiple vegetative growth zones through varying depths	
	Robust and diverse vegetation	
	Relatively impermeable soils or engineered liner	
	Provide for a way to collect and remove sediment	
	Adjustable permanent pool and dewatering mechanism	

TABLE 5.
Peak rate control practices with design and construction requirements, as well as operational and maintenance needs.

Peak Runoff Rate practice	Design / Construction Guidance	Operation and Maintenance
Dry Extended Detention Pond	Hydraulic capacity controls effectiveness Ideal in combination with other BMPS Highly structural design features (rip-rap for erosion control, etc.) can be more costly than naturalized basins.	Regular maintenance is necessary including periodic sediment removal and vegetation maintenance
Wet/Retention Pond	Adequate drainage area (usually 5 to 10 acres minimum) or proof of sustained baseflow Natural high groundwater table Maintenance of permanent water surface Should have at least 2 to 1 length to width ratio Robust and diverse vegetation surrounding wet pond Relatively impermeable soils Forebay for sediment collection and removal Dewatering mechanism	Outlet control devices should draw from open water areas 5 to 7 feet deep to prevent clogging and allow the WP to be drained for maintenance A pond drain should also be included which allows the permanent pool to be completely drained for maintenance within 24 hours Permanent access must be provided to the forebay, outlet, and embankment areas. It should be at least 9 feet wide, have a maximum slope of 15%, and be stabilized for vehicles.

Further information on peak rate control practices is available in Chapter 6.5 the Pennsylvania Stormwater Best Management Practices Manual.

Peak Runoff Rate Credit Calculation

A property with 15,000 square feet (sf) of total IA had retention pond that treats 8,000 sf of IA. The SPF is $6.70 per 1,000 sf per month, the SPF Credit would be as follows:

$$SPF\ Credit\ = \left(\frac{8{,}000}{1{,}000}\right) \times 30\% \times \$6.70 = \$16.08$$

The SPF before the credit is $100.50 per month and the net SPF including the credit is $84.42

Water Quality Treatment Credit

During precipitation events, stormwater is carried over impervious surfaces like roads and rooftops, picking up pollutants including gasoline residue, motor oil, heavy metals, fertilizers, pesticides and more. Practices that provide water quality treatment serve to reduce pollutant loads in runoff.

Water Quality Treatment Credit Requirements

Water quality functions include reducing suspended solids (TSS), phosphorus (TP), nitrogen (TN) and temperature of runoff. Water quality treatment practices must provide treatment for 1 inch of runoff for full credit. The 1 inch of captured runoff is translated into a volume of water by multiplying it by the captured drainage area and to a flow rate by performing routing calculations.

Water Quality Treatment Credit Calculation

A property with 12,000 square feet (sf) of total IA had vegetated swale that treats 10,000 sf of IA. The SPF is $6.70 per 1,000 sf per month, the SPF Credit would be as follows:

$$SPF\ Credit\ = \left(\frac{10{,}000}{1{,}000}\right) \times 30\% \times \$6.70 = \$20.10$$

The SPF before the credit is $80.40 per month and the net SPF including the credit is $60.30.

Non-Structural Control Credit

Non-structural SMPs can be applied over an entire site and are not necessarily fixed and designed at one location. Non-structural SMPs can be designed to mitigate any number of stormwater impacts: peak rates, total runoff volumes, infiltration and recharge volumes, non-point source water quality loadings and temperature increases. Many of these practices have the ability to prevent stormwater generation and not just mitigate stormwater-related impacts once these problems have been generated. Prevention can be achieved by developing land in ways other than through use of standard or conventional development practices.

Non-Structural Control Credit Requirements

Examples of non-structural controls include tree canopy, downspout disconnection, or an environmental education/outreach program. Design and operation/maintenance requirements vary greatly based on the type of practice and will be evaluated on an individual program/practice basis by the Borough. Several major "areas" of preventive Non-Structural BMPs have been identified in this manual:

Downspout Disconnection and Tree Planting

Specific non-structural control practices eligible for credit include Downspout Disconnection and Tree Planting. Applicants should refer to the guidance found under the Residential Credit program to determine these requirements.

Environmental Education/Outreach

A third non-structural control practice eligible for credit includes the Environmental Education/Outreach program category. Education credits are available to all public and private schools or school systems (K-12) and any church or non-profit facility. In order to receive the education credit, the applicant must implement an educational program that educates and informs the students on the importance of preserving and restoring the source and integrity of water resources (stormwater, ground water and/or surface waters). The educational program may include educational posters, take-home materials, classroom lessons, field trips, etc. Programs may be developed by the PA DEP, the Pennsylvania Department of Conservation and Natural Resources (DCNR), the United States Environmental Protection Agency (EPA), the United States Geological Survey (USGS), or a school official. Programs developed by other organizations may be considered eligible for credit. Some resources and example materials can be found at:

- EPA NPDES Stormwater Outreach Materials and Reference Documents http://cfpub.epa.gov/npdes/stormwatermonth.cfm#materials
- EPA Teacher Resources and Lesson Plans http://www.epa.gov/students/teachers.html
- EPA Water Science and Technology for Students and Educators http://water.epa.gov/learn/resources/
- USGS Education Resources http://education.usgs.gov/

Non-Structural Control Credit Calculation Example #1

A property with 18,000 square feet (sf) of total IA disconnects downspouts that drain 12,000 sf of IA. The SPF is $6.70 per 1,000 sf per month, the SPF Credit would be as follows:

$$SPF\ Credit\ = \left(\frac{12{,}000}{1{,}000}\right) \times 15\% \times \$6.70 = \$12.06$$

The SPF before the credit is $120.60 per month and the net SPF including the credit is $108.54 per month.

Non-Structural Control Credit Calculation Example #2

A property with 18,000 square feet (sf) of total IA undertakes an educational campaign to provide stormwater outreach to the congregants. The SPF is $6.70 per 1,000 sf per month, the SPF Credit would be as follows:

$$SPF\ Credit\ = \left(\frac{18{,}000}{1{,}000}\right) \times 15\% \times \$6.70 = \$18.09$$

The SPF before the credit is $120.60 per month and the net SPF including the credit is $102.51 per month.

National Pollutant Discharge Elimination System (NPDES) Stormwater Permit Credit

The NPDES Stormwater Permit credit applies to any entity who has an existing current NPDES permit approved by PADEP. The credit applies a 15% reduction to the SPF bill.

NPDES Stormwater Permit Credit Requirements

This credit applies to any property that has an active, fully-compliant NPDES Permit from PA DEP.

NPDES Stormwater Permit Credit Calculation

A property with an active, fully compliant NPDES Permit from PADEP has 10,000 square feet (sf) of total IA. The SPF is $6.70 per 1,000 sf per month, the SPF Credit would be as follows:

$$SPF\ Credit\ = 15\% \times \$6.70 \times \frac{10{,}000}{1{,}000} = \$10.05$$

The SPF before the credit is $67.00 per month and the net SPF including the credit is $56.95 per month.

Credit Program Procedures

The following procedures are common to both the Residential Credit Program and the Non-Residential Credit Program.

Application Forms

Residential and non-residential application forms are available in Appendix A as well as on the Borough's website.

Application Deadline

All credit applications (for both the Residential and Non-Residential Program) will be accepted year round on a rolling basis. If granted, the credit will be applied retroactively based on the application date.

Application Fee

Payment of a Credit Application Fee is required for Borough review of the credit application. The fee is listed in the Borough's current fee schedule, which is available on the Borough's website. SPF credit application fees are non-refundable regardless of the outcome of the credit application. Application fees may be paid by check or money order made out to the Borough of West Chester Stormwater Program.

Maintenance Documentation Requirements

In order to receive the residential or non-residential SPF credit, a property owner must be able to demonstrate the stormwater facility is being properly maintained. A property owner can demonstrate maintenance of a stormwater facility by including with the SPF Credit Application available maintenance records showing the maintenance activities and date, or the most recent invoice from a qualified maintenance vendor. If the applicant does not maintain the facility as required, the Department of Public Works will notify the property owner in writing that they have 30 days to take corrective action otherwise the credit will be discontinued.

Maintenance Agreement

A signed maintenance agreement between the Borough and the property owner is required in order to achieve the credit. Under the maintenance agreement, the owner must allow the Borough access to the site to view and inspect the SMP according to the Borough's inspection cycle. A maintenance agreement is provided in Appendix B.

Documentation Requirements

The property owner must provide the following documentation:

- Completed and signed application form.
- Photograph(s) of SMP
- A sketch (plot plan, map, aerial image or similar illustration) showing parcel lot lines, built features including all IA, and location of the existing/proposed SMPs.
    - The property owner should utilize the Borough's online mapping program which allows for a search their property address. The website also allows for the user to print on a page size sheet suitable for inclusion in the application.
- Documentation of purchase and/or installation of the SMP including receipts, invoices, packing slips, or other records.
- Calculations or other documentation of impervious drainage area and SMP capacity estimates
- Maintenance logs noting the past inspection and maintenance records (or receipts from vendors hired to perform maintenance), or for newly constructed SMPs, a description of the proposed seasonal maintenance activities that the property owner will undertake.

Borough Stormwater Program staff may request additional documentation in order to aid in review of the credit application.

Submission of Credit Application

Submit the completed credit application, the checklist, all supporting documentation and the non-refundable application fee to:

Borough of West Chester

Attention: Stream Protection Fee Program – Credit

401 E Gay Street

West Chester, PA 19382

Determination

Borough staff will review the credit application and approve or deny the same within 45 days. The applicant will be notified by letter and/or email of the decision.

Appeal of Determination

Appeal of the credit determination can be made in accordance with Section 11 – "Appeals" of the Borough's Stream Protection Ordinance. In general, a credit application will be denied due to technical inadequacies. Should those inadequacies be addressed, the property owner may resubmit their application to the Borough.

Issuance of Credits

Credits will be applied to all bills issued after approval. If the owner has paid in-full their annual stream protection fee prior to the issuance of a credit, the credit will be applied to subsequent bills.

Credit Renewal

Residential and Non-residential SPF credits will be valid for three years, after which they will require renewal. This renewal policy does not apply to the SPF Rebate which is a one-time refund per property. In order to continue to receive the SPF credit, property owners are required to reapply before the credit period expires within 3 years. Should the owner fail to submit a renewal application, the credit(s) will expire. When reapplying, the property owner must update their demonstration of stormwater facility maintenance by including sufficient documentation in the application package.

Site Inspections

Upon receipt of a credit application, the Borough or its designated appointee, may inspect the parcel to verify all information and supporting documentation. Efforts will be made to notify the property owner in advance. If the Borough site inspection determines that the SMP is not being maintained appropriately, the credit could be denied. The Borough may choose withhold credit until the property owner demonstrates that the SMP is being appropriately maintained.

Termination of Credits

Approved credits may be terminated at any time if the SMPs are found to be not functional, improperly maintained, or if the owner fails to restore the SMPs per Borough notification.

Change in Property Ownership

If a property is sold and there is a change in ownership, the credit (residential or non-residential) will remain in place until the three year credit term is completed. The new property owner will be required to resubmit the credit application in accordance with the Credit Renewal policy described in this Manual. As the residential rebate is a one-time refund amount provided per property per eligible SMP, a new owner is not eligible for a rebate once a property changes hands.

Appendix A – Application Forms

BOROUGH OF WEST CHESTER
CHESTER COUNTY PENNSYLVANIA

Instructions for Residential SPF Rebate and Credit Application

Property owners can apply for stormwater credits for up to 60% of the Stream Protection Fee (SPF). If approved, credits amounts will be applied to the SPF bill for the following year. This application is for Residential property-owners.

General Note:

Cells with green shading are input cells.
Cells with blue shading are calculated.

Step 1: Enter property information, including last name, and account number.

Step 2: Enter the billed Impervious Area amount as found on your bill or the on-line mapping application.

Step 3: Enter Stormwater Management Practice (SMP) information, including drainage area size and quantity information.

Step 4: Review results as the total rebate(s), total credit(s), and final SPF are calculated automatically.

Step 5: Read maintenance guidelines for each SMP and sign maintenance agreement (located at this link).

Step 6: Include required documentation of the SMP including,

- ☐ Photograph(s)
- ☐ Sketch
- ☐ Documentation of purchase and/or installation of the SMP
- ☐ Calculations or other documentation of impervious drainage area and SMP capacity estimates
- ☐ Maintenance logs/records, or description of seasonal maintenance activities to be performed

Step 7: Submit completed application Online or email to stormwater@west-chester.com
For hardcopy submittal:

Borough of West Chester
Attention: Stream Protection Fee Program – Credit Application Attached
401 E Gay Street
West Chester, PA 19382

Submittal of the credit application does not automatically guarantee approval. To the extent possible, West Chester will work with applicants to correct and update any incomplete applications. Technical questions can be directed to stormwater@west-chester.com.

BOROUGH OF WEST CHESTER
CHESTER COUNTY PENNSYLVANIA

STREAM PROTECTION FEE
RESIDENTIAL REBATE AND CREDIT APPLICATION

Property Account No: _____

Owner Name: _____

Premise Address: _____

Owner/Agent Address: _____

Phone Number: _____

Email Address: _____

Stream Protection Fee (SPF)

Tier #:	Tier 5: 2,500 - 3000 SF IA	Select from the pull down menu
Impervious Area:		Tier 6 properties, enter the IA listed on your bill in Square Feet
Annual Fee (before credit):	$221.16	Automatically calculated for Tiers 1-5
	$0.00	Tier 6 properties, your annual fee is automatically calculated based on the IA you enter above
Total Rebate(s):	$620.00	Do not enter data, this is automatically calculated
Total Annual Credit(s):	$72.00	Do not enter data, this is automatically calculated
Maximum Credit:	$132.70	If calculated credit is greater than maximum credit (Table 1), maximum credit is used.
Annual Fee (after credit):	$149.16	

Certifications

By signing this form, you certify that (1) you have read and understand the SPF Residential Rebate and Credit Program Requirements; (2) the information provided on this form is complete and factual; (3) the stormwater management system(s) on your property have been maintained and will be kept in proper working order; and (4) you grant the Borough permission to conduct site inspections of the stormwater facilities listed on this form in accordance with the signed Maintenance Agreement.

Signature : _____ **Print Name:** _____

Date: _____

BOROUGH OF WEST CHESTER
CHESTER COUNTY PENNSYLVANIA

RESIDENTIAL REBATE / CREDIT CALCULATION SHEET

Cells with green shading are input cells.
Cells with blue shading are calculated.

Rain Barrel Rebate

Credit limit: Maximum of 2 barrels per property

Number of eligible barrels installed: 2 (2 Max)

Rain Barrel Rebate: $30

Total Rebate = (Rebate, $) x (Number of Barrels)

Total Rebate: $60

Tree Planting Rebate

Credit limit: Maximum of 4 trees per property

Number of eligible trees planted: 4 (4 Max)

Tree Planting Rebate: $50

Total Rebate = (Rebate, $) x (Number of Trees)

Total Rebate: $200

Downspout Disconnection

Provide sketch of roof area being disconnected, downspout locations, and the vegetated area that will receive the stormwater runoff

Number of downspouts disconnected: 2
Total Rooftop area disconnected: 800 square feet

Downspout Disconnection Rebate: $25 per 500 SF disconnected
Downspout Disconnection Annual Credit: $5 per 500 SF disconnected

Total Rebate = (Rebate, $) x (Rooftop Area Disconnected / 500 SF)

Total Rebate: $40

Total Annual Credit = (Credit, $) x (Impervious Area Disconnected / 500 SF)

Total Annual Credit: $8

Rain Garden Rebate/Credit

On a separate sheet, provide sketch of the rain garden location and the impervious area being managed by each rain garden.

Contributing impervious area to rain garden(s): 800 square feet

Rain Garden Rebate:	$100	per 500 SF disconnected
Rain Garden Annual Credit:	$20	per 500 SF disconnected

Total Rebate = (Rebate, $) x (Impervious Area Captured / 500 SF)

Total Rebate: $160

Total Annual Credit = (Credit, $) x (Impervious Area Captured / 500 SF)

Total Annual Credit: $32

Permeable Pavement / Dry Well

Provide sketch of the permeable pavement area and the impervious area being replaced by the permeable pavement.

Captured impervious area: 800 square feet

Permeable Pavement Rebate:	$100
Permeable Pavement Annual Credit:	$20

Total Rebate = (Rebate, $) x (Impervious Area Replaced / 500 SF)

Total Rebate: $160

Total Annual Credit = (Credit, $) x (Impervious Area Captured / 500 SF)

Total Annual Credit: $32

BOROUGH OF WEST CHESTER
CHESTER COUNTY PENNSYLVANIA

Instructions for Non-Residential SPF Credit Application

Property owners can apply for stormwater credits for up to 60% of the Stream Protection Fee (SPF). If approved, credits amounts will be applied to the SPF bill for the following year. This application is for non-residential property owners including industrial, commercial, retail, institutional or multi-residential.

General Note:

Cells with green shading are input cells.
Cells with blue shading are calculated.

Step 1: Enter property information, including last name, and account number.

Step 2: Enter the billed Impervious Area amount as found on your bill or the on-line mapping application.

Step 3: Enter Stormwater Management Practice (SMP) information, including drainage area size and quantity information.

Step 4: Review results as the total credit(s) and final SPF are calculated automatically.

Step 5: Read maintenance guidelines for each SMP and sign maintenance agreement (located at this link).

Step 6: Include required documentation of the SMP including,

- ☐ Photograph(s)
- ☐ Sketch
- ☐ Documentation of purchase and/or installation of the SMP
- ☐ Calculations or other documentation of impervious drainage area and SMP capacity estimates
- ☐ Maintenance logs/records, or description of seasonal maintenance activities to be performed

Step 7: Submit completed application Online or email to stormwater@west-chester.com
For hardcopy submittal:

Borough of West Chester
Attention: Stream Protection Fee Program – Credit Application Attached
401 E Gay Street
West Chester, PA 19382

Submittal of the credit application does not automatically guarantee approval. To the extent possible, West Chester will work with applicants to correct and update any incomplete applications. Technical questions can be directed to stormwater@west-chester.com.

BOROUGH OF WEST CHESTER
CHESTER COUNTY PENNSYLVANIA

STREAM PROTECTION FEE
NON-RESIDENTIAL CREDIT APPLICATION

Property Account No: _____
Owner Name: _____
Premise Address: _____
Owner/Agent Address: _____
Phone Number: _____
Email Address: _____

Stream Protection Fee (SPF)

Tier #:	Tier 6: >/= 3,000 SF IA	Select from the pull down menu
Impervious Area:	5,000	Tier 6 properties, enter the IA listed on your bill in Square Feet
Annual Fee (before credit):	Tier 6 Fee calculated below	Automatically calculated for Tiers 1-5
	$402.00	Tier 6 properties, your annual fee is automatically calculated based on the IA you enter above

Stormwater Practice:
(Choose one or more)

- ☐ Green Infrastructure / Runoff Volume Control
- ☐ Peak Runoff Rate (Flood) Control
- ☐ Water Quality Treatment
- ☐ Non-Structural Control
- ☐ NPDES Stormwater Permit

Total Annual Credit(s):	$241.20	Do not enter data, this is automatically calculated
Maximum Credit:	$241.20	If calculated credit is greater than maximum credit (Table 1), maximum credit is used.
Annual Fee (after credit):	$160.80	Do not enter data, this is automatically calculated

Certifications

By signing this form, you certify that (1) you have read and understand the SPF Non-Residential Credit Program Requirements; (2) the information provided on this form is complete and factual; (3) the stormwater management system(s) on your property have been maintained and are in proper working order; and (4) you grant the Borough permission to conduct site inspections of the stormwater facilities listed on this form.

Signature : _____ **Print Name:** _____

Date: _____

BOROUGH OF WEST CHESTER
CHESTER COUNTY PENNSYLVANIA

NON-RESIDENTIAL CREDIT CALCULATION SHEET

Directions: enter IA in the green cells and provide supporting documentation as attachments to this application

Cells with green shading are input cells.
Cells with blue shading are calculated.

SPF Rate:	$6.70	
Total Impervious area (IA) (sf):	5,000	Based on Tier, taken from Application sheet
Total Impervious area (IA) (sf):	5,000	As totaled from information provided below.

Calculation to determine SPF Credit: $SPF\ Credit = \left(\frac{Treated\ IA}{1{,}000}\right) \times Credit\%\ by\ Type \times SPF$

Green Infrastructure Credit Calculation

SPF Credit: 60%

Treated Impervious area (IA) (sf):	5,000
Total Monthly Credit:	$20.10
Total Annual Credit:	$241.20

Peak Runoff (Rate) Credit Calculation

SPF Credit: 30%

Treated Impervious area (IA) (sf):	0
Total Monthly Credit:	$0.00
Total Annual Credit:	$0.00

Water Quality Treatment Credit Calculation

SPF Credit: 30%

Treated Impervious area (IA) (sf):	0
Total Monthly Credit:	$0.00
Total Annual Credit:	$0.00

Non-Structural Control Credit Calculation

SPF Credit: 15%

Treated Impervious area (IA) (sf):	0
Total Monthly Credit:	$0.00
Total Annual Credit:	$0.00

NPDES Stormwater Permit Credit Calculation

SPF Credit: 15%

Treated Impervious area (IA) (sf):	0
Total Monthly Credit:	$0.00
Total Annual Credit:	$0.00

Appendix B – Maintenance Agreement