



City of Chattanooga
Stormwater Program Credits
and Incentives Manual

August 2016



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The CIM was produced as a collaborative effort between the City of Chattanooga and ARCADIS US. This collaboration was essential in the development of an innovative framework of credits and incentives designed to support the City's Stormwater Program and provide market based options for the local development community.

The project was directed under the office of the City Engineer and supported by staff from the Land Development Office and the City Legal Department. The City team was led by Joshua Rogers the project manager. Peter E. Yakimowich, PE led the ARCADIS team as the primary developer and author.



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1. Introduction

1.1 Overview

The City of Chattanooga's previous incentive program was developed in conjunction with the institution of an impervious area based stormwater service fee in 2009, presently designated as the "Stormwater Fee" (SF). The City's previous suite of SF credits has now been superseded by the adoption of a new framework of incentives, credits, and SF discounts. This framework is based on a system of incentives, fees, and credits for property owners and developers that expands the applicability of the program and incorporates performance standards and metrics consistent with the City's Municipal Separate Storm Sewer System (MS4) National Pollutant Discharge Elimination System (NPDES) permit.

1.2 Purpose

The Stormwater Program Credits and Incentives Manual (CIM) provides a coordinated and balanced framework of fees, incentives, and credits to support Chattanooga's Stormwater Program, as well the City's broader sustainable community objectives. This framework addresses provisions to comply with the City's MS4 Permit (TNS068063), which is an integral part of the City's stormwater management program.

The objectives of the new framework are as follows:

1. Meet the requirements of the City's MS4 Permit (TNS068063)
2. Promote and provide incentives for measures that improve water quality
3. Reduce the City's program costs of service



2. Policy and Legal Authority

2.1 Legal Authority

The introduction of new development standards has been driven by the City's 2010 MS4 Permit and creates the need for performance-based incentives. Specific language from the City's permit is as follows:

"Additionally, no later than two years following permit issuance, the permittee shall develop and include in the plan an incentive program to increase the use of green infrastructure while allowing flexibility for developers and designers to meet development standards. The Incentive Program could use methods such as a scoring system, credit system or other similar methods to encourage green technology practices such as bioretention areas, permeable paving, green roofs, vegetated walls, preservation of existing trees, and covering paved surfaces with vegetation" (3.2.5.2.1, emphasis added).

"If runoff reduction and/or pollutant removal cannot be fully accomplished on-site per 3.2.5.2.1 and 3.2.5.2.2, then the permittee may propose off-site mitigation and/or payment into a fund for public stormwater projects" (3.2.5.2).

2.2 Policy Framework

Policy decisions consistent with permit requirements have been made by the City that shape and define the available incentives. These policies, listed below, are in accordance with the City's Permit (TNS068063) and provide parameters appropriate to Chattanooga and the objectives defined in Section 1 above:

1. The Credits and Incentives Program is to be administered under the provisions of this CIM in conjunction with the City's Rainwater Management Guide (RMG).
2. Incentives will be provided for "approved applicants" as defined in City stormwater ordinance. These may be a property developer, owner, user, or designee.
3. Credits and incentives are only available for non-residential parcels. There is no minimum ERU value required for participation.
4. Credits coordinate with the Stay-on-Volume (SOV) performance standards.
5. Credits and incentives are not extended to runoff peak rate reductions.
6. The previous WQF credit system, enacted October 9, 2009, expires December 31, 2039. The new program authorized December 1, 2014 replaces and supersedes the prior BMP-based system. Property



owners under the BMP-based system may apply for credits and/or discounts if/when they meet the standards under the new program.

7. The new Credit and Incentive Program consists of the following four components:
 - a. Stormwater Fee Discounts (SFDs)
 - b. Credit Coupons
 - c. Mitigation Fees
 - d. Off-site Mitigation
8. The standards for each of the four components are tailored to the land development type and location as follows:
 - a. New Development - not within South Chickamauga Creek Watershed
 - b. New Development - within South Chickamauga Creek Watershed
 - c. Incentivized Development/Redevelopment (per TNS068063, 3.2.5.1)
 - d. Retrofits/Existing Sites¹/Voluntary SOV Sites²
9. The use and application of credits and incentives is based on a performance standard directly related to the land development/redevelopment requirement to manage the volume of stormwater runoff. The standard specifies a rainfall volume that is to be captured and managed onsite.
10. Discounts and credits are offered for exceeding a specified volume standard.
11. Fees and/or off-site mitigation are options when the specified standard is unable to be met on-site. Economic hardship, site program density (lack of space for BMPs), and other similar conditions are not

¹ Properties where SOV was installed prior to the current development standards may apply for discounts/credits under the guidelines of this CIM. When applying, these properties are to be treated the same as retrofits. Applying under this CIM will forfeit any credits under the previous credit system.

² Voluntary SOV sites, such as those disturbing less than one acre or those within the CSS, have no baseline SOV requirements.



presumed to be a basis for site infeasibility. Acceptable reasons for qualifying for a fee-in-lieu or off-site mitigation option may include the following onsite constraints:

- a. The depth from the existing ground surface or the base of the proposed infiltration BMP is less than 2 feet to seasonal high groundwater or other limiting layer (i.e., hardpan or bedrock). This would prevent infiltration or may allow pollutants to mix with the groundwater.
- b. Contaminated soils in areas subject to contact with infiltrated runoff.
- c. Presence of sinkholes or other karst features in areas subject to contact with infiltrated runoff.
- d. No other volume reduction measures (e.g., reuse, green roofs, restoration) can be implemented to meet the full SOV.

12. Sites within the City's Combined Sewer System (CSS) are not required to comply with current runoff reduction standards¹ and therefore, are not authorized to earn credit coupons. However, as parcels within the CSS are still charged a Stormwater Fee, WQFDs are made available to those sites fulfilling the requirements under section 5 of this CIM.

¹ The City's CSS is managed under a separate NPDES permit held by Moccasin Bend Waste Water Treatment Plant.



3. Use of the Manual

3.1 Organization

The CIM is a policy-level document. It serves as the City's administrative tool to manage the Credit and Incentive Program consistent with the technical standards defined in the RMG. Section 4 details the application, review, and approval process. Sections 5 through 8 define the administrative process and tools for the approved applicant to determine the applicability of the four components of the Credit and Incentive Program to their site.

The CIM provides guidance and a process by which application can be made to participate in the program. A summary chart, application form, and maintenance agreement is provided in Appendices A, B, and C, respectively.

References used in preparation of the CIM are provided in Appendix D.

3.2 Use in Conjunction with the Rainwater Management Guide

The RMG is the technical-level document that provides the standards for BMPs. The performance of these BMPs serves as the basis for how credits and incentives are determined. The RMG defines the performance standards applicable to property development. The RMG also provides a "Low-Impact Development (LID) Tool" to determine the SOV achieved for a particular land development site. The SOV provides the basis for determining the specific and applicable credit or incentive measure. A credit and incentive calculator is provided along with the RMG's LID Tool.



4. Application, Review, and Approval Process

The Credit and Incentive Program is jointly administered by the Stormwater Program (SP) and the Land Development Office (LDO). Applicants are required to make known their intent to participate in the Credit and Incentive Program before the issuance of the Land Disturbing Permit (LDP); the request for using credit coupons and earning stormwater fee discounts is incumbent on the applicant. For sites only applying for SFDs or those sites choosing to switch from the BMP-base system expiring in 2039, application can be made at any time to the Stormwater Manager. Credits and discounts will not be retroactive. An application may be rejected or returned for incomplete or incorrect information or for a deficient technical analysis.

The following steps describe the *common* application, review, and approval process:

1. Concept plan is submitted and applicant confers with LDO regarding the appropriate credit and incentive option(s).
2. Applicant makes known their intended level of participation in the program at the preliminary plan submission.
 - a. When performing off-site mitigation, preliminary and final plans for both the primary site and mitigation site require concurrent submission.
3. Final plans are submitted.
4. If plan is approved, then the LDP may be issued.
 - a. If mitigation fees¹ are required, then 50% must be paid at issuance of the LDP.
 - b. If performing off-site mitigation, then the developer is required to post a surety bond in the amount of the total equivalent mitigation fee at issuance of the LDP.
5. Applicant completes project requirements and submits As-Builts.
 - a. If performing off-site mitigation, then the mitigation site must be completed within 3 years of the issue date of the primary site's LDP.

¹ The total equivalent mitigation fee is equal to \$45.00 per cubic foot of calculated and designed SOV that will not be achieved on the primary development site.



6. LDO reviews and approves As-Built. With the achieved SOV confirmed, one or more of the following may then take place.
 - a. Remaining balance of mitigation fee is paid;
 - b. The surety bond is released or called for payment;
 - c. Credit coupons are surrendered (for a deficit);
 - d. Credit coupons are issued (for a surplus).
7. LDO closes the permit.
8. Application for a Stormwater Fee Discount (SFD) is submitted to the Stormwater Manager.
 - a. Stormwater Manager, or designee, reviews the SFD application. If approved, SFDs will be processed for the next available billing cycle.



5. Stormwater Fee Discounts

The purpose of Stormwater Fee Discounts (SFDs) is twofold:

1. Satisfy a legal requirement associated with service fees to provide a means for rate payers (property owners) to control (reduce) their fee.¹
2. Provide an incentive for property owners to maintain² the improvements or practices that qualify for SFDs.

5.1 Standards and Rules

- (a) SFDs are warranted when the site's required Stay-on-Volume (SOV) is exceeded as provided in this section and the summary table in Appendix A.
 - 1) SOV exceedance must be properly documented by engineering standards specified in the Rainwater Management Guide (RMG) and verified by the City plans reviewer. Discounts will be eligible for issuance after both the certified "As Built" and SFD application (see Appendix B) are approved.
- (b) Upon application by any approved applicant adequately supported by documentation, the applicant shall be entitled to a Stormwater Fee Discount (SFD).
 - 1) SFDs are only offered to non-residential property owners.
 - 2) SFDs for new development and redevelopment directly correspond to each 1% exceedance of the applicable Stay-on-Volume (SOV). For every 1% exceedance, the property owner receives a 1% credit. Conventional arithmetic rounding is applied.
 - 3) SFDs for retrofits and voluntary SOV sites correspond to each 0.01-inch of installed Stay-on-Volume (SOV). For every 0.01-inch exceedance a 1% discount is earned. For example, an installed SOV of 0.25" would result in a WQFD of 25%. Conventional arithmetic rounding is applied.

¹ Chattanooga Stormwater Fees are based on the impervious area within the subject property parcel. As such, reductions in impervious area can reduce the total Stormwater Fee.

² The maintenance of BMPs is key and fundamental to maintaining their benefits. Green Infrastructure practices on private property are the responsibility of the owner.



- 4) Some properties may not always capture the site's full drainage area, so the SFD will be calculated for the representative/treated portion of the site.
 - i) For example, if only 30% of the site is flowing to a Best Management Practice (BMP) that is providing an SOV exceedance equivalent to a 65% discount, then the total SFD for the site would be $30\% \times 65\%$ (i.e., 20%).
 - 5) The minimum SFD is 10%.
 - 6) The maximum SFD is determined by the applicable development category under which the SOV was installed. Voluntary SOV sites will be categorized accordingly. SFDs will not be given for the percentage of SOV exceeding a 2.1-inch rainfall event; a 2.1-inch rainfall event is the specified stormwater volume identified in the RMG and therefore has diminishing water quality benefits above this level.
 - i) 40% for new development
 - ii) 60% for redevelopment
 - iii) 70% for retrofit
 - 7) SFDs are only given when all site BMPs are maintained and in compliance with City standards.
- (c) Multi-parceled developments designed with *regional* BMPs¹ may receive a SFD discount for SOV exceedance collectively generated across the entire site (i.e., the contributing drainage area used to calculate the required SOV). The volume of exceedance corresponds to a percent discount that will be applied to each parcel within the contributing drainage area.
- 1) If any portion of a parcel's impervious surface discharges off site untreated, then that portion of the parcel will not be given the discount.
 - i) For example, a 10 parcel development is built with 7 BMPs that collectively exceed the development's SOV by 22%. Nine of the ten parcels have 100% of their impervious area draining to one or more of the 7 BMPs, so each of these parcels receives a 22% WQFD. The

¹ A regional BMP is one that is designed to capture and treat runoff from multiple parcels within a common development. The BMP may or may not be contained within the confines of a single parcel.



tenth parcel has only 75% of its impervious area draining through a BMP, so its SFD would be $22\% \times 75\%$ (i.e., 17%); the parcel's 25% of untreated runoff does not receive a SFD.

- (d) Properties that receive an approved discount from an application submitted prior to November 30, 2015 shall be recognized as "existing" and may continue to be eligible to receive discounts under the prior system of provisions. These discounts may continue until December 31, 2039 provided no unapproved changes are made to the practices or BMPs that are the basis for the SFD, all applicable forms are submitted on time, and the practices/BMPs maintain compliance with City standards.
 - 1) Sites receiving a SFD for the installation of a Low Impact Development (LID) retrofit under the prior system of provisions are exempt from the December 31, 2039 sunset date and may continue to receive a SFD under the prior system of provisions provided they continue to meet all maintenance and submittal requirements.
 - 2) If properties participating in the prior system of provisions choose to apply under the provisions of this manual, then they will be treated like retrofit sites in regard to the SOV baseline, maximum discounts, and potential credit coupons.
 - i) Application for SFDs under the provisions of this manual can be made at any time.
 - ii) SFDs granted under the provisions of this manual supersede any previously held credits.
- (di) Proper maintenance of BMPs is required to annually receive the discounts provided in this section. Maintenance shall be performed according to the City's RMG. The owner must annually submit documentation to the City showing that the BMPs have been properly maintained and serviced. Failure to provide this documentation will result in the forfeiture of SFDs.
- (dii) Any property owner applying or reapplying for discounts must have a recorded Inspection and Maintenance Agreement for Private Stormwater Management Facilities (Agreement) designating the party or parties responsible for maintenance and granting the City the right to inspect and if needed, repair said facilities. With the Agreement, an Inspection and Maintenance Plan (IM Plan) specific to the site must be recorded with the Register of Deeds.
 - 1) If site BMPs are removed/replaced, then the Agreement must be amended with an updated IM Plan.
 - 2) BMPs are subject to inspection and verification of proper maintenance by the Stormwater Manager or his/her designee.



- 3) In cases where the responsible party or parties do not perform required maintenance after being given appropriate notice in writing, the Agreement shall grant authority to the City to perform such maintenance as may be required and bill the responsible party in an amount equal to at least double the City's cost of maintenance and enforcement. In addition, the property owner shall forfeit any WQFDs.
- (g) If a SFD has been forfeited, then the property owner may choose to reapply after one year under the guidelines of the most current credit manual.
- (h) Applications for a SFD shall be submitted to the Stormwater Manager.
- 1) Each application shall be accompanied by proper documentation to demonstrate the accuracy of the claim. To the extent that the Manager is satisfied that the discounts applied for are warranted by the circumstances, he or she shall reduce the bill as provided herein. If the fees shall have been previously paid for the year the application is submitted, a refund or credit on future billing shall be authorized to the extent warranted by the discount.
 - i) Applications must be approved by the Manager before March 1 to be applied to the previous year's fee.
 - 2) The Manager shall act upon any application for a discount in fees within ninety (90) days of the receipt thereof. In the event that he or she shall not have acted upon the same within this time, the application shall be deemed to have been denied.
 - 3) The applicant may appeal the denial by the Manager of any claimed SFD to the Stormwater Regulations Board by filing a written notice of appeal in care of the Administrator of Public Works within thirty (30) days following notification of the action of the Manager or from the end of the 90 day action period. No particular form for a notice of appeal shall be required, but the Manager shall develop and maintain a form for such purposes. Any written notice setting forth with reasonable particularity the grounds for the appeal shall be acceptable. A copy of the notice of appeal shall be filed with the Manager. Unless the Stormwater Regulations Board requests more information, the appeal shall be decided based upon the plans and data submitted by the applicant and information generated from the Manager's review. The Stormwater Regulations Board shall consider the appeal at a regularly scheduled meeting where both the applicant and the Manager shall be allowed to make a written and oral argument before the Board in support of their respective positions.



5.2 Table of Discount Provisions

Stormwater Fee Discounts			
Development Category	SOV Baseline ¹	WQFD	Maximum WQFD
New Development (except South Chickamauga Creek Watershed)	1.0 inch SOV	1% for each 1% SOV exceedance	40%
New Development (South Chickamauga Creek Watershed)	1.12 to 1.6 inch SOV	1% for each 1% SOV exceedance	40%
Redevelopment (all watersheds)	0.5 to 0.9 inch SOV	1% for each 1% SOV exceedance	60%
Retrofit/Existing (all watersheds)	0.0 inch SOV	1% for each 0.01" SOV exceedance	70%

¹ Baseline SOV can be reduced by up to 30% for New Development within the South Chickamauga Creek watershed and 50% for Redevelopment by meeting the applicable incentive criteria per TNS068063, 3.2.5.2.1.



6. Credit coupons

Credit coupons serve several objectives:

1. They encourage development in areas that better accommodate GI practices.
2. They provide a market-based approach that facilitates trading of credits.
3. They facilitate and encourage redevelopment and retrofit.
4. They provide a counterbalance to off-site mitigation and mitigation fees.

6.1 Standards and Rules

- (a) Upon application by an approved applicant adequately supported by documentation, the applicant shall be entitled to a credit coupon as provided in this section and the summary table provided in Appendix A.
 - 1) Credit coupons can be earned on new development, redevelopment, retrofit, and off-site mitigation projects.
 - i) Coupons are earned on new developments at a 1.5:1 ratio (installed:earned).
 - ii) All other development types earn coupons at a 1:1 ratio.
 - 2) Credit coupons are earned in units of cubic feet of SOV exceeded for the applicable SOV standard.
 - 3) The amount of SOV achieved must be properly documented by engineering standards specified in the Rainwater Management Guide (RMG) and verified by the City reviewer.
 - 4) Earned credit coupons are issued after the certified "As Built" is approved.
 - i) Field tested/verified post-construction infiltration rates that are greater than both the anticipated and designed for volumes will not earn additional coupons. Coupons are issued for designed volumes.
 - ii) Field tested/verified post-construction infiltration rates that are less than both the anticipated and designed for volumes will require the remaining unmet volume (if less than the baseline SOV) to be addressed through the repair of the practice, use of offsite mitigation and/or payment of a mitigation fee.



- (1) If coupons have already been issued, then repair of the practice is the only option.
 - 5) Credit coupons are issued to the approved applicant as identified by the Authorized Agent Affidavit.
 - i) The City keeps a record of who has earned and/or redeemed credit coupons, but the sell, trade, or transfer of coupons is not tracked by the City Of Chattanooga.
 - 6) Credit coupons are issued as a single coupon for the entire amount of SOV exceeded.
 - i) Earned credits are expressed in whole integer units of cubic feet. Conventional arithmetic rounding is applied.
 - ii) Coupons are not issued for SOV exceedance less than 10 cubic feet.
 - iii) A coupon may be split into desired denominations at the issuance of the coupon if the applicant requests. Reasonableness of the request shall be determined by the City.
 - 7) The maximum credit that can be earned is the difference between the applicable SOV standard and the volume resulting from a 2.1-inch rainfall event. A 2.1-inch rainfall event is the specified Stormwater volume identified in the RMG.
- (b) Subject to certain stipulations, a credit coupon may be sold, transferred, or applied in the partial or full amount of the coupon.
- 1) When a coupon holder desires to use or sell only a portion of the coupon, the City may split the credit coupon as requested.
 - i) The original coupon must be submitted to the City prior to splitting of any coupon.
 - 2) Credit coupons are not redeemable by the City.
 - 3) Credit coupons have no monetary face value.
 - 4) Credit coupons do not have an expiration date.
- (c) The application of earned credit coupons is subject to the following rules and stipulations:



- 1) Without demonstrating hardship¹, the application of credit coupons is limited to the percentages of the applicable standard as identified in the following implementation period guidelines.
 - i) 100% for year 1 (2015)
 - ii) 50% for year 2 (2016)
 - iii) 0% for year 3 (2017) except in the S. Chickamauga Creek watershed where 0.6" of a new development's standard can always be met with credit coupons.
- 2) The use of credit coupons is restricted to the primary development site. The application and use of credit coupons is not allowed to meet SOV requirements for off-site mitigation project properties.
- 3) Credit coupons cannot be applied to a retrofit project.
- 4) Credit coupons can be applied to new development and redevelopment projects only to achieve compliance with the applicable SOV standard. The redemption of coupons to earn a WQFD is not permitted.
- 5) The request for use of credit coupons is incumbent on the applicant. Approval will be contingent upon completion, receipt, and approval of the final plans and certified "As-Built".
- 6) Credit coupons earned on new development sites must be used within the same watershed in which they were earned, but coupons earned on any other type of development site may be used within any watershed within the City of Chattanooga.
 - i) The universal use of credit coupons is subject to periodic review and adjustment. The overuse of credits within one watershed could potentially have a negative impact on Stormwater and would therefore need to be regulated to ensure water quality goals are being met throughout the entire City.
- 7) The owner or transferee is responsible for surrendering the applied credit coupon(s) with the final "As-Built" certification. The City retires the used coupon(s) and issues a new coupon for any residual SOV not applied.
- 8) The City may itself earn and use credit coupons within the following guidelines:
 - i) The City can earn and use credit coupons on City owned property or right-of-way.

¹ Hardship is defined as a City accepted limitation to the application of the SOV as described in TNS068063 and the RMG.



- ii) The City may choose to establish enterprise zones¹ with their earned credit coupons.
- (d) When using credit coupons, peak rate controls and stormwater treatment must still be met on site.
- (e) Restorative Practice BMPs, as outlined in the RMG, may earn Credit Coupons when the installed SOV exceeds the applicable SOV standard. If credits are earned for a restorative practice, then any future development that may destroy or severely limit the effectiveness of said practice will be responsible for mitigating the lost SOV in addition to meeting their own applicable SOV standard.
- (f) All credits shall be subject to changes in federal or state law and regulation, or changes to the City's National Pollutant Discharge Elimination System (NPDES) Permit that may increase/decrease restrictions on stormwater discharges.

¹ Enterprise zones are those areas which the City desires to attract business. The City may choose to apply its earned credit coupons to these areas by lessening the SOV standard within these zones.



6.2 Table of Credit Provisions

Stormwater Credit Coupons – Earned and Applied			
Development Category	SOV Baseline ¹	Maximum Earned	Maximum Applied (w/o hardship)
New Development (except South Chickamauga Creek Watershed)	1.0 inch SOV	1.1 inches	2015 = 1.0" 2016 = 0.5" 2017+ = 0.0"
New Development (South Chickamauga Creek Watershed)	1.12 to 1.6 inch SOV	0.5 inch	2015 = 1.6" 2016 = 0.8" 2017+ = 0.6"
Redevelopment (all watersheds)	0.5 to 0.9 inch SOV	1.6 inches	2015 = 0.9" 2016 = 0.45" 2017+ = 0.0"
Retrofit/Existing (all watersheds)	0.0 inch SOV	2.1 inches	n/a

¹ Baseline SOV can be reduced by up to 30% for New Development within the South Chickamauga Creek watershed and 50% for Redevelopment by meeting the applicable incentive criteria per TNS068063, 3.2.5.2.1.



7. Mitigation Fees

Properties that fail to achieve the required SOV may be subject to a mitigation fee. Economic hardship, site program density (i.e., lack of space for BMPs), and other similar conditions are not presumed to be a sole basis for site infeasibility. An applicant must prove they have “multiple criteria that would rule out an adequate combination of infiltration, evapotranspiration and reuse” (TNS068063, 3.2.5.2). Acceptable reasons for qualifying for a mitigation fee payment may include:

1. The depth from the existing ground surface or the base of the proposed infiltration BMP is less than 2 feet to seasonal high groundwater or other limiting layer (e.g., hardpan or bedrock). This would prevent infiltration and may allow pollutants to mix with the groundwater.
2. Contaminated soils in areas subject to contact with infiltrated runoff.
3. Presence of sinkholes or other karst features in areas subject to contact with infiltrated runoff.
4. No other volume reduction measures (i.e., reuse, green roofs, restoration) can be implemented to meet the full SOV.

This fee is to be collected and used by the City to fund public stormwater and/or watershed improvement projects¹. Mitigation fees apply only to volume control measures; peak rate control standards are not subject to mitigation fees.

Mitigation fees serve several objectives:

1. They provide funding for City-directed stormwater improvement projects.
2. They encourage development in areas that better accommodate GI practices.
3. They provide a market-based incentive that facilitates the generation and trading of credits to offset mitigation fees.
4. They provide an alternative to off-site mitigation.

¹ Public Stormwater Projects are deemed by the City of Chattanooga as those that have a public benefit for water resource protection or enhancement, stormwater treatment, and/or ecological restoration, and that may have other community benefits.



7.1 Standards and Rules

- (a) Approved applicants may elect to pay a mitigation fee into a City-managed fund to be used by the City for the purpose of planning, designing, constructing, and maintaining public stormwater projects. Use of a mitigation fee is subject to the stipulations provided in this section and the summary table provided in Appendix A.
- (b) A mitigation fee may be assessed on new developments and redevelopments for the required or prescribed SOV not achieved onsite.
 - 1) The amount of SOV achieved must be properly documented by engineering standards specified in the RMG and verified by the City reviewer.
 - i) The achieved performance can be a combination of onsite BMPs plus the application of credit coupons.
 - ii) Applicants can choose a combination of off-site mitigation and mitigation fees to meet the SOV not achieved onsite.
 - 2) City approval must be obtained for payment of a mitigation fee, in lieu of managing the SOV onsite. The City may deny the payment of the mitigation fee to any applicant/owner if stormwater management may be more fully implemented on a site.
 - 3) Mitigation fees are assessed at a rate of \$45.00 per cubic foot. This rate is “1.5 times the estimated cost of on-site runoff reduction controls” as required by the City’s permit (section 3.2.5.2.4). This rate is subject to periodic review and adjustment based on a number of factors including, but not limited to, the following:
 - (1) The City’s actual cost of public stormwater projects
 - (2) Producer Price Index (PPI) construction cost indices
 - (3) Reference costs for green infrastructure from other programs
 - (4) Balance and parity with private local market credit coupon pricing
 - 4) Mitigation fees less approved credit coupons are assessed after acceptance of the final plans with fifty (50) percent due at that time. The balance is reconciled and payable with receipt of the certified “As Built” plan.



- (c) Mitigation fees are not applicable to retrofit properties. Retrofit of properties to increase SOV is voluntary and encouraged.

7.2 Table of Fee Applicability

Stormwater Mitigation Fees – Applicability			
Development Category	SOV Baseline ¹	Mitigation Fee Applicable ²	Maximum Applied Credit Coupon (w/o hardship)
New Development (except South Chickamauga Creek Watershed)	1.0 inch	SOV Baseline less SOV achieved	2015 = 1.0" 2016 = 0.5" 2017+ = 0.0"
New Development (South Chickamauga Creek Watershed)	1.12 to 1.6 inches	SOV Baseline less SOV achieved	2015 = 1.6" 2016 = 0.8" 2017+ = 0.6"
Redevelopment (all watersheds)	0.5 to 0.9 inch	SOV Baseline less SOV achieved	2015 = 0.9" 2016 = 0.45" 2017+ = 0.0"
Retrofit/Existing (all watersheds)	n/a	n/a	n/a

¹ Baseline SOV can be reduced by up to 30% for New Development within the South Chickamauga Creek watershed and 50% for Redevelopment by meeting the applicable incentive criteria per TNS068063, 3.2.5.2.1.

² The total SOV achieved is the sum of the onsite SOV plus any applied credit coupons. Application of credit coupons is subject to the stipulated maximums.



8. Off-site Mitigation

Properties that fail to achieve their required SOV for hardship reasons stated under section 7 of this CIM may choose to perform off-site mitigation instead of paying a mitigation fee.

8.1 Standards and Rules

- (a) Approved applicants may perform off-site mitigation subject to the stipulations provided in this section and the summary table provided in Appendix A.
- (b) The off-site mitigation location must satisfy and offset at least 150 percent of the SOV not achieved on the primary site.
 - 1) The achieved performance of the *primary site* can be a combination of onsite BMPs plus the application of credit coupons.
 - 2) Use of credit coupons to meet the prescribed SOV of the *mitigation site* is not allowed.
 - 3) Off-site mitigation projects that exceed the prescribed SOV standard may be eligible for WQFDs and credit coupons.
- (c) The intent to pursue the off-site mitigation option must be made at the concept plan review and confirmed at the preliminary plan submission.
- (d) Preliminary and final plans for both sites, the primary and the mitigation site, are required concurrently.
- (e) Off-site mitigation is permitted only within the same City-defined watershed.
- (f) Off-site mitigation is restricted to redevelopment or retrofit projects.
- (g) A surety bond must be posted along with final plans in the amount of the total equivalent mitigation fee for the SOV that will not be achieved for the primary development site.
- (h) The surety bond will be released or called for payment at the completion of approved As-Built plans and verification that all off-site mitigation requirements have been met.
- (i) Off-site mitigation must be completed within three years of project approval.



- (j) The selection and acquisition of the property to be used for off-site mitigation are the responsibility of the approved applicant. The City, at its discretion, may offer an available City-owned or managed site for off-site mitigation subject to mutually agreeable terms and conditions.

9. General Terms and Conditions

1. The CIM is a policy-level document. The City's adopted RMG provides the standards and specific technical criteria for the BMPs applicable to the credit or fee provisions.
2. The City reserves and retains the right to reject and return any application for incomplete/incorrect information or technical analysis. Rejected or incomplete applications will require re-submittal as a new application for reconsideration.
3. The City reserves and retains the right to revise and amend technical criteria applicable to any credit consistent with the state of the art of stormwater management or as may be revised through amendments to the RMG.
4. The City will apply uniform and objective technical criteria and tests to determine the validity of any credit. Such tests and criteria will generally conform to the RMG except when site-specific conditions may require alternative analyses or special considerations.
5. All work associated with any credits or incentives shall conform to the related stormwater management ordinance current at the time of application.
6. The burden of providing accurate and correct data, technical analysis, documentation, and certification is with the property owner or developer as may be applicable. The City reserves and retains the prerogative and right to request additional data, analysis, or documentation when such data, analysis, or documentation may assist in the City's review of the application.
7. The responsibility for requesting and maintaining a Stormwater Fee Discount rests with the recipients.
8. Recipients of any Stormwater Fee Discount have a continuing obligation to maintain discount validity through BMP maintenance and submission of all required documentation. Failure to maintain systems, facilities, or practices and/or failure to submit required documentation may result in revocation, cancelation, and nullification of the fee discount.



**Stormwater Program
Credits and Incentives
Manual**
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Appendix A
Credits & Incentives Summary Chart



Stormwater Program Credits and Incentives Manual

City of Chattanooga

Development Category	SOV Baseline ^a	Stormwater Fee Discounts		Credit Coupons		Mitigation Fees	Off-Site Mitigation
		Discount	Max Discount	Max Earned ^c	Max Applied ^e	Max Fee	Required Volume
New Development (except South Chickamauga Creek)	1.0"	1% for each 1% SOV exceedance	40%	1.1" ^d	1.0", 0.5", 0.0"	Baseline SOV less SOV achieved ^f	Baseline SOV less SOV achieved
New Development (South Chickamauga Creek)	1.12-1.6"	1% for each 1% SOV exceedance	40%	0.5" ^d	1.6", 0.8", 0.6"	Baseline SOV less SOV achieved	Baseline SOV less SOV achieved
Redevelopment (all watersheds)	0.5-0.9"	1% for each 1% SOV exceedance	60%	1.2-1.6"	0.9"-0.5", 0.45"-0.25", 0.0"	Baseline SOV less SOV achieved	Baseline SOV less SOV achieved
Retrofit/Existing (all watersheds) ^b	0.0"	1% for each 0.01" SOV exceedance	70%	2.1"	NA	NA	NA

^a Baseline SOV can be reduced by up to 30% for New Development within the South Chickamauga Creek watershed and 50% for

Redevelopment by meeting the applicable incentive criteria per TNS068063, 3.2.5.2.1.

^b Properties with a stormwater fee discount under the credit system in place as of October 9, 2009, may apply for discounts/credits under this manual. When applying, these properties are to be treated the same as any new retrofit in regards to the baseline SOV requirements. Applying under the new Credits & Incentives Manual will forfeit any further credits under the previous credit system.

^c A 2.1-inch rainfall event is the specified stormwater volume identified in the RMG and is therefore the ceiling for earning coupons.

^d Installed:Earned ratio is 1.5:1 for new development and 1:1 for every other type of development

^e Implementation period for use of coupons w/o demonstrating hardship: 100% in 2015, 50% in 2016, and 0% in 2017+ (exception made for South Chickamauga Creek where 0.6" can always be applied w/o demonstrating hardship)

^f SOV achieved is the sum of the onsite installed SOV plus applied credit coupons



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Appendix B

WQFD Application Form



Stormwater Fee Discount Application Form

(No Application Fee)

City Officials Use Only

Date Received:

Date Reviewed:

Approved: YES NO

Property Owner: _____

*Must match owner name on Tax Bill

Approved Applicant (if different than owner): _____

Property Address: _____

City: _____ State: _____ Zip: _____

Mailing Address (if different than above): _____

City: _____ State: _____ Zip: _____

Phone: () _____ Fax: () _____

Email: _____

Parcel ID (from Tax Bill): _____

Installed/planned impervious area (square feet): _____

Installed/planned # of Equivalent Residential Units (1 ERU = 3200 ft² of impervious area): _____

Annual Stormwater Fee w/o a discount (1 ERU is billed at \$115.20): _____

What is the property development type?

- A ☐ New development (not in S. Chickamauga Creek Watershed) – 40% max SFD
- B ☐ New development (S. Chickamauga Creek Watershed) – 40% max SFD
- C ☐ Redevelopment (per TNS068063, 3.2.5.1) – 60% max SFD
- D ☐ Retrofit or Existing BMPs (“existing” means installed prior to 12/1/2014) – 70% max SFD

Required Stay-on-Volume: _____ Inches / _____ CF

Actual/Achieved Stay-on-Volume: _____ Inches /

_____ CF Stay-on-Volume Exceedance: _____ Inches /

_____ CF Stormwater Fee Discount:

- **Retrofit/Existing Sites** (1% for every 0.01” SOV exceedance; 10% minimum): _____ %
- **Non-Retrofit Sites** (1% for every 1% of CF SOV exceedance; 10% minimum): _____ %

New Discounted Stormwater Fee [Annual Fee – (% SFD x Annual Fee)]: \$ _____

The following documents are needed to process the credit application:

- **Letter** seeking fee adjustment addressed to the City of Chattanooga Water Quality Manager
- **As-Built** stormwater drawings (must meet City As-Built requirements)
- **Hydrology report** submitted with the approved final plans (must be a City-approved method)
- Completed **BMP Inspection & Maintenance Plan**
- **Inspection & Maintenance Agreement Form (IMA)** to be submitted *signed, notarized, and unbound*. If an IMA is already filed for this parcel, provide a copy of the recorded agreement.
 - Please include the *Parcel number* on the *Exhibit "A"* line.
 - After the City signs and notarizes the form the applicant will have 30 days to have it recorded at the Deeds office.
 - The **Inspection & Maintenance Plan** must be filed with the IMA.

Additional information can be found on the Stormwater Fee homepage.

www.chattanooga.gov/services/stormwater-wastewater

To continue receiving a discount, the BMP Inspection & Maintenance Form (Form I/M) must be submitted annually by June 30th for the previous calendar year.

Approved Applicant Certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the site, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

Name (print)

Date

Signature

Please return the completed form and any supporting documentation to the City of Chattanooga Stormwater Program via e-mail, mail, or fax.

E-mail Address: Stormwater@chattanooga.gov (subject: SW Fee Appeal)

Mailing Address: City of Chattanooga
Attn: WQ Manager
1250 Market Street, Suite 2100
Chattanooga, TN 37402

Fax: (423) 643-5862



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Appendix C
Inspection and Maintenance Agreement



City of Chattanooga
MAYOR TIM KELLY

PREPARED BY:

CITY OF CHATTANOOGA,
ENGINEERING DIVISION
1250 MARKET STREET, SUITE 2100

CHATTANOOGA, TN 37402

**INSPECTION AND MAINTENANCE AGREEMENT OF PRIVATE STORMWATER
MANAGEMENT FACILITIES**

THIS AGREEMENT, made this ____ day of _____, 20____, by and between _____, hereinafter referred to as the "Owner" of the property described on Exhibit "A" _____ (the "Property"), and City of Chattanooga, Tennessee, hereinafter referred to as the "City",

WITNESSETH:

The Owner, with full authority to execute deeds, mortgages, other covenants, all rights, titles, and interests in the Property, does hereby covenant with the City and agrees as follows:

1. The Owner acknowledges the existence of storm water management facility or facilities (hereinafter referred to as the Facility) for the Property.
2. The Owner covenants and agrees to provide for an adequate long term maintenance of storm water control measures to ensure that the Facility is and remains in proper working condition in accordance with approved design and maintenance standards, rules and regulations, and applicable laws for the life of any storm water management facility/best management practice that exists on the Property. This Agreement requires maintenance of best management practices by the Owner, but it does not require updating to new standards unless there is a change in the amount of impervious area initiated by the Owner or unless required by state or federal law.
3. The Owner should reference activities outlined in the City's *Stormwater Best Management Practices Maintenance Manual* (hereinafter referred to as the "Manual") incorporated herein by reference, along with necessary landscaping (grass cutting, etc.) and trash removal as part of regular maintenance of the Facility. The Manual provides recommendations for frequency of inspections and maintenance and/or repair activities of the Facility. The Owner shall develop and execute a Long Term Maintenance Plan (hereinafter referred to as the "Plan")

that is specific for the referenced site. The Plan shall include frequency of inspections, schedule of inspection and maintenance activities performed and record keeping of related documentation.

4. The Owner shall submit to the City an Annual Report (hereinafter referred to as the "Report") by June 30th of each year. The Report will include the Plan that documents inspection schedule, times of inspection, maintenance activities performed or remedial actions taken to repair, modify or reconstruct the system.

5. All parcels served by the Facility are shown in Plat Book _____, Page _____ and the Owner is responsible for all costs associated with maintaining the Facility.

6. The Owner hereby grants, bargains and conveys to the City, its duly authorized agents, contractors, employees and assigns an easement over the Property for access from public rights-of-way, abutting private roadways, and/or private driveways, to the Facility for the purpose of inspecting, operating, installing, constructing, reconstructing, maintaining, repairing or replacing the Facility to the extent that Owner fails to do so and as necessary to ensure the proper working condition of the Facility (in accordance with the Manual).

7. In the event the Owner fails to inspect, report, or properly maintain or initiate repairs with the Facility within thirty (30) days after written notice by the City of such deficiencies, the City may enter upon the Property without any additional notice to Owner and take whatever steps it deems necessary to maintain or repair the Facility and bill the owner for such maintenance cost plus any enforcement action costs set forth in the Chattanooga City Code. It is expressly understood and agreed that the City is under no obligation to maintain or repair the Facility, and in no event shall this Agreement be considered to impose any such obligation on the City.

8. In the event of an emergency or a violation of the City's NPDES MS4 Permit involving the Facility; the City, its officers, agents, and employees may enter immediately upon the Property and take whatever reasonable steps it deems necessary to meet the emergency or violation. The City shall notify the Owner of such emergency or violation and entry as soon as possible but in no event later than twenty-four (24) hours after such entry.

9. If the City performs work or expends any funds reasonably necessary for the maintenance or repair of the Facility, including labor, equipment, supplies and materials, the Owner agrees to reimburse the City for such maintenance or repair costs plus any enforcement action costs according to the Chattanooga City Code. Owner's failure to pay within thirty (30) days from the date of the invoice shall result in City pursuing all legal remedies available.

10. The Owner shall have the right to appeal the City's assessment of any costs associated with enforcement action to the Stormwater Regulations Board in accordance with the provisions set forth in Chattanooga City Code Sec. 31-365.

11. The Owner shall indemnify and save harmless City, its officers, agents, and employees from any and all claims for damages to persons or property arising from the inspection, construction, maintenance, and use of the Facility unless due solely to the negligence or willful misconduct of City.

12. The responsibilities of the Owner under this Agreement shall constitute a covenant running with the land and shall be binding upon all present and subsequent owners, their administrators, executors, assigns, heirs, and any other successors in interest as long as they own an interest in the Property or any portion thereof served by the Facility.

13. Nothing herein shall be construed to prohibit a transfer of the Property by Owner to subsequent owners and assigns. Nothing in this agreement prevents the Owner from modifying the Facility according to Chattanooga City Code.

14. The Owner shall record this Agreement in the office of the Register of Deeds for Hamilton County, Tennessee within thirty (30) days following approval by the City of the Plan or storm water credit applied for by Owner. When the Plan is part of a new Facility, the Owner shall record this Agreement in the Office of the Register of Deeds for Hamilton County, Tennessee, prior to completion of construction. A copy of the recorded plat and a recorded copy of this Agreement shall be filed with the City Stormwater Program Office prior to the sale, transfer, or conveyance of any lots.

OWNER:

By: _____
Its _____

PRINT NAME

STREET ADDRESS

CITY, STATE, ZIP CODE

CITY

By: _____
Its _____

STATE OF _____
COUNTY OF _____

Before me, a Notary Public, personally appeared _____, with whom I am personally acquainted, and who, upon oath, acknowledged that he/she is the _____ of _____, the within-named bargainer, and that he/she as such _____, being authorized so to do, executed the foregoing instrument for the purpose therein contained by signing the name of the corporation as _____.

WITNESS, my Hand and Seal at _____, _____ County, _____, this _____ day of _____, 20____.

NOTARY PUBLIC

My commission expires: _____

STATE OF TENNESSEE
COUNTY OF HAMILTON

Before me, a Notary Public, personally appeared _____, with whom I am personally acquainted, and who, upon oath, acknowledged that he/she is the _____ of the City of Chattanooga, the within-named bargainer, a municipal corporation, and that he/she as such _____, being authorized so to do, executed the foregoing instrument for the purpose therein contained by signing the name of the corporation as _____.

WITNESS, my Hand and Seal at Chattanooga, Hamilton County, Tennessee, this _____ day of _____, 20____.

NOTARY PUBLIC

My commission expires: _____

*The site's inspection and maintenance
plan must be filed with this agreement.*



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Appendix D

References



References

ARCADIS. 2012. Approach and Economic Analysis of LID/GI for Sample Development Sites. December 14.

Center for Neighborhood Technology. 2010. The Green Values Stormwater Toolbox.

City of Chattanooga. 2012. Rainwater Management Guide. December.

City of Chattanooga. 2013. Stormwater Program, Credit and Incentive Policy. June.

Maakestad, S.C. 2013. Green Stormwater Infrastructure Design: Lesson Learned in Philadelphia, Hatch Mott MacDonald. April 26.

Van Wye, Brian. 2012. "Making Retrofits Pay," *Water Environment Magazine*, WE&T. August.

West Virginia Department of Environmental Protection by Center for Watershed Protection, Inc. 2012. Guidance for Developing an Off-Site Stormwater Compliance Program in West Virginia. December.