

CITY OF KILLEEN  
STORMWATER CREDIT PROGRAM MANUAL



Department of Public Works

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## I. BACKGROUND

The City of Killeen's Public Works Department is responsible for managing the City's stormwater management plan and industrial storm water permits as well as maintaining the City's drainage infrastructure system. The Department protects lives, property and the environment from flooding, erosion and water pollution. The City's Drainage Utility Fee funds shall be used for the purpose of the creation, operation, planning, engineering, inspection, construction, repair, maintenance, improvement, reconstruction administration and other reasonable and customary charges associated with the operation of drainage services of the city. It provides the operating budgets for the following programs: monitoring water quality in our watercourses, clean up of pollution spills, monitor and close flooded roadways, maintain our drainage infrastructure, removal of trash and debris from our watercourses, and implementing engineering and construction projects to ease the effects of wet weather, flooding, erosion and water pollution.

The Drainage Utility Fee (DUF) was first adopted in 2001. In July 2019, the City Council adopted an Ordinance which updated the methodology utilized to calculate the DUF. The new methodology provides a reasonably equitable rate distribution between residential and non-residential customers based on an Equivalent Residential Unit (ERU). ERU means a unit of measurement of impervious surface area determined within the residential parcel. The current ERU for the City of Killeen is 3,027 square feet. This square footage is the average measured amount of impervious cover within single family residential parcels in Killeen based on 2015 aerial photography. Following the City Code, the ERU will be rounded up to the nearest whole number for the purpose of DUF calculation.

## II. APPLICABILITY

The July 2019 Ordinance did not alter the DUF for single family residential or duplex customers. The drainage charge for those customers will remain at \$6.00 per month. The new rate methodology for non-residential customers was adopted in that same ordinance and will take effect on February 1, 2020. The DUF is calculated using the following formula:

Equivalent residential unit (ERU) × drainage charge = Monthly bill.

Non-residential customers are defined as commercial use properties and multi-family properties with 3 or more units. An example of the new non-residential monthly rate is provided below.

Example: A commercial use property contains 43,560 square feet of measured impervious cover.

$$(43,560 \text{ square feet}) / (3,027 \text{ square feet per ERU}) = 14.39 = 15 \text{ ERU (Rounded up)}$$
$$15 \text{ ERU} * (\$6.00 \text{ per ERU}) = \$ 90.00 = \text{Monthly DUF to be paid}$$

### III. OPTIONAL STORMWATER CREDITS

There are two ways for non-residential customers to reduce their monthly DUF. The first is to remove any existing impervious cover from the parcel and re-vegetate the disturbed area. The second is to apply for, be approved for, and comply with one or more of the eight stormwater credits identified in Section 32- 14 and 32-15 of the Killeen Code of Ordinances. Stormwater credits are based on stormwater best management practices (BMPs) that exceed the applicable requirements in Chapter 26 and Chapter 32 Article IV of the Killeen Code of Ordinances, or an approved development agreement with the City. A stormwater BMP that is part of any agreement between a developer and the City of Killeen, such as a city-owner agreement, a Planned Unit Development (PUD), or a variance, is also considered legally required, and is therefore not eligible for a stormwater credit for the same BMP.

Non-residential customers may apply for, and the City may grant stormwater credit(s) for voluntary use of stormwater BMPs. These stormwater credits may reduce the parcel's monthly DUF up to 40%. The approved BMPs with their respective maximum percent of stormwater credit include the following:

1. Community Cleanup Program (Onsite or Downstream)

Stormwater credit of 5% may be given when a section of a watercourse (onsite or downstream within the same watershed as the developed property) is cleaned up bi-annually. If a watercourse traverses through a property, applicant will be required to implement the Cleanup program onsite for the entire segment of watercourse within that property. For properties adjacent to natural watercourse, property owner shall chose the adjacent area of the waterway. For properties with no adjacent watercourse, property owner can choose watercourse in the downstream within the same watershed. The extent of chosen segment of waterway must be equal or

greater than the maximum length of one side of the property boundary line. The cleanup shall include at a minimum collection of trash and debris on the banks of the watercourse and in the creek buffer zone. The submitted program shall identify the limits of the cleanup and address site safety. Site safety includes items such as traffic control, personal protective wear (i.e. closed toed shoes, reflective vests, gloves, etc.), parking, hazard identification (i.e. uneven surfaces, wildlife, etc.) and when to contact the police department (i.e. finding weapons or drugs). The applicant's program contact shall notify the City at 254-501-7629 or [drainage@killeentexas.gov](mailto:drainage@killeentexas.gov) for inspection during the Cleanup program and also to inform when the collected trash and debris is ready to be picked up.

Self-reporting for each Community Cleanup Program is required to document completion (i.e. video/dated photos, amount of debris collected), frequency and other pertinent details (i.e. attendee list, sign-in sheet, event log with signature of responsible party).

## 2. Parking Lot Sweeping Program

A Stormwater credit of 5% will be given per month when the entire parking lot is swept weekly. Monthly and annual self-reporting is required to document the sweeping activity (i.e. video/dated photos, amount of debris collected) and sweeping frequency and other pertinent details (e.g., log, confirming documentation from outside sweeping company if outsourced).

## 3. Rainwater Harvesting

Stormwater credit of 10% may be given for construction and usage of rainwater harvesting system at the parcel. The rainwater collection and harvesting system must be designed to capture runoff from the entire or maximum feasible portion of roof of the building (s). The captured runoff is held for at least 12 hours after rainfall has ceased, then either gravity-drained to a vegetated area sized large enough to infiltrate all the water, or used to irrigate the vegetated area or landscape within the property. The drawdown for the captured runoff shall not exceed 5 days.

A backflow preventer must be installed on the rain harvesting container in accordance with the City of Killeen standards and Code of Ordinances and

the Texas Health and Safety Code § 341.042. Standards for Harvested Rainwater. Annual self-reporting is required to document the maintenance of rainwater harvesting equipment (i.e. video/dated photos) and maintenance frequency and associated details.

#### 4. Riparian Preservation

Stormwater credit of 10% will be given for parcels adjacent to watercourses or Creek Buffer Zones that preserve the riparian buffer in accordance with the City's Drainage Design Manual Criteria - Appendix C - Section 1.2.1 Preserve Special Flood Hazard Areas. The applicant shall submit a legal document that when recorded shall identifies the boundaries of the Riparian Preservation and be assignable to heirs and assigns (i.e. designation as a riparian tract, drainage easement, conservation easement, etc.).

Riparian Preservation stormwater credit can not be utilized for the same physical area as a Creek Buffer Zone. Additionally, the Riparian Preservation credit can not be utilized if the Riparian Preservation BMP is utilized to satisfy the Post Construction stormwater BMP requirements.

Annual self-reporting shall include documentation of bi-annual inspections and maintenance of the native vegetation (i.e. dated photos, log etc).

#### 5. Bioretention/Rain Garden

Stormwater credit of 10% may be given for impervious areas that utilize Bioretention or a Rain Garden as source control. If there is Bioretention or a Rain Garden on the parcel that was constructed as part of the Post Construction requirements in Chapter 32 Article IV of the Killeen Code of Ordinances, then only the percent of oversizing will be utilized to determine the amount of stormwater credit authorized. Engineering documentation is required to show that these facilities are designed and constructed in accordance with City's Drainage Design Manual (DDM) Appendix C Section 1.3.6 and the Infrastructure Design and Development Standards Manual (IDDSM). Annual self-reporting, including maintenance and inspection documentation, is required.

#### 6. Multi-Stage Detention

Stormwater credit of 20% may be given for impervious areas that are treated with Multi-Stage Detention. If there is Multi-Stage Detention on the parcel that was constructed as part of the Post Construction requirements in Chapter 32 Article IV of the Killeen Code of Ordinances, then only the oversizing portion will be utilized to determine the amount of stormwater credit authorized. If the system is designed and constructed at least 50% larger than the post construction stormwater BMP requirements, applicant can request for 20% credit. Applicant will be eligible to receive 10% credit if the system is designed and constructed at least 25% (but less than 50%) larger than the post construction stormwater BMP requirements. Engineering documentation is required to show that these facilities are designed and constructed in accordance with the DDM Appendix C Section 1.4.1 and the IDDSM. Annual self-reporting, including maintenance and inspection documentation, is required.

#### 7. Retention Ponds

Stormwater credit of 40% may be given for impervious areas that are treated with Retention Ponds. If there is a Retention Pond(s) on the parcel that was constructed as part of the Post Construction requirements in Chapter 32 Article IV of the Killeen Code of Ordinances, then only the oversizing portion will be utilized to determine the amount of stormwater credit authorized. If the system is designed and constructed at least 50% larger than the post construction stormwater BMP requirements, applicant can request for 20% credit. Applicant will be eligible to receive 10% credit if the system is designed and constructed at least 25% (but less than 50%) larger than the post construction stormwater BMP requirements. Engineering documentation is required to show that these facilities are designed and constructed in accordance with the DDM Appendix C Section 1.4.7 and the IDDSM. Annual self-reporting, including maintenance and inspection documentation, is required.

#### 8. Green Roofs (40%)

Stormwater credit may be given for impervious areas that are treated with Green Roofs. If there is a Green Roof on the parcel that was constructed as part of the Post Construction requirements in Chapter 32 Article IV of the

Killeen Code of Ordinances, then only the percent of oversizing will be utilized to determine the amount of stormwater credit authorized. Engineering documentation is required to show that these facilities are designed and constructed in accordance with the appropriate standards as acceptable to the City's Engineering department. Annual self-reporting, including maintenance and inspection documentation, is required.

#### IV. APPLICATION PROCESS

Non-Residential customers may fill out and submit a request for stormwater credits utilizing the DUF Adjustment Fee form found on the City's website and contained herein as Appendix A. Applications are submitted for consideration at the Public Works Department's office. The Director of Public Works, or designee, is responsible for review of the application, and approving or disapproving the application.

Customers shall include a completed application form, and any supporting plans, drawings, or calculations with the initial submission. Stormwater Credit BMPs 1 and 2 must have all items needed to conduct the activities on hand or have a executed and documented contract in place in order to receive the approved stormwater credit on the monthly bill. Stormwater Credit BMPs 3 through 8 must be fully constructed, inspected, and operational in order to receive the approved credit on the monthly bill. Depending on the specific day of approval, the discount may not appear until the following month's utility bill statement. Such stormwater credit will be valid for a period of time, as set forth in [section 32-14](#), below, subject to continuing compliance of the stormwater credit options on the property in question with the stormwater credit program.

#### V. EXPIRATION OF CREDITS AND CREDIT RENEWALS

Stormwater Credit BMPs 1 and 2 expire annually. For the continuation of the foregoing stormwater credits, a renewal application must be filed annually prior to the expiration of the then-current stormwater credit year approved by the Director of Public Works. Annual self-reports and maintenance records together with any other documentation identified by the stormwater credit program will be required to be submitted with the renewal application annually prior to expiration to

document program compliance for the preceding year. If the complete renewal application is not received by the city by the expiration date, the stormwater credit will automatically expire and the full amount of the drainage fees collected for the property will be charged.

Stormwater Credit BMPs 3 through 8 shall be valid from the date of approval and for so long as the BMPs are inspected, properly maintained, and remain compliant with the applicable program requirements

If it is determined that the customer is not maintaining a Stormwater Credit BMP or if the application/renewal Stormwater Credit BMP or if the application/renewal contains a misrepresentation of facts, the credit may be discontinued. A notice of noncompliance may be issued which includes a list of required repairs. The customer will have 30 days from delivery of notice to correct the deficiency and contact the Public Works Department at 254-501-7629 or [Drainage@killeentexas.gov](mailto:Drainage@killeentexas.gov) for re- inspection. Failure to do so will result in loss of the discount. After loss of the discount, the customer may submit a new application for review and consideration by the City.

#### VI. REQUIRED MAINTENANCE & INSPECTION

The customer is required to maintain the authorized stormwater credit BMP as designed in order to continue to receive the stormwater credit. Customers shall submit their annual self-inspection reports and maintenance related documents electronically to [Drainage@killeentexas.gov](mailto:Drainage@killeentexas.gov) or in hard copy format to the Public Works Department. The City of Killeen reserves the rights to conduct an inspection of any Stormwater Credit BMP that have been approved and verify that they are functional or in compliance with the approved application.

# APPENDIX A

## APPLICATION AND RENEWAL FORMS

## **DRAINAGE UTILITY FEE ADJUSTMENT AND STORMWATER BMP CREDIT Application Form**

Use this form to apply for adjusting Drainage Utility Fee (DUF) or to claim Stormwater Best Management Practice (BMP) Credit or to renew an existing credit. You will also need to submit the pertinent worksheet(s), photo(s) of your stormwater control measure, and any other documentation to demonstrate compliance with the requirements mentioned in the City Code and Stormwater Credit Manual.

For removal of impervious cover, only one time application is required for adjustment of DUF.

For renewals, you do not need to re-submit the worksheet(s) unless there are changes to the location, size, program or type of the Stormwater Credit Best Management Practice (BMP).

Please check your current bill and impervious cover on the City's Drainage Fee map located at <https://gisweb-18.ci.killeen.tx.us/DrainageFee/>. Upon receipt of your application, the City will review your impervious cover and correct any errors. A correction may result in an increase or decrease to your drainage utility fee (DUF). Any approved credit will apply to the corrected bill based on corrected impervious cover.

Mail or Deliver your completed application package to: City of Killeen  
Attn: DUF - Stormwater BMP Credit  
3201 – A, South WS Young Dr.  
Killeen, TX 76542

Fill out this form online at: <http://www.killeentexas.gov/duf>

For the continuation of the foregoing stormwater credits, a renewal application must be filed annually prior to the expiration of the then-current stormwater credit year approved by the director of public works. Annual self-reports and maintenance records together with any other documentation identified by the stormwater credit program will be required to be submitted with the renewal application annually prior to expiration to document program compliance for the preceding year. If the complete renewal application is not received by the city by the expiration date, the stormwater credit will automatically expire and the full amount of the drainage fees collected for the property will be charged.

Timely filing of the complete renewal application with the city will stay the expiration of the stormwater credit for the property in question until such time as the director of public works reviews and approves, or disapproves, the renewal application.

Applicant Information

Customer ID – Location ID: \_\_\_\_\_ Meter Number: \_\_\_\_\_  
 Business / Property Name: \_\_\_\_\_ Applicant's Name: \_\_\_\_\_  
 Telephone: \_\_\_\_\_ Email: \_\_\_\_\_

Site Information

**Address where the Stormwater Credit BMP(s) is / are physically located:**

Street: \_\_\_\_\_ Killeen, TX, Zip: \_\_\_\_\_

**Address where the drainage charge is billed, if different.**

(Example: Landlord pays the drainage charge, but property has an authorized stormwater credit bmp.)

Street: \_\_\_\_\_ City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Utility Account Name: \_\_\_\_\_ Utility Account No. (if known): \_\_\_\_\_

Adjustment of DUF after removal of existing Impervious Cover

Existing Total Impervious Cover: \_\_\_\_\_ square feet  
 Removed Impervious Cover: \_\_\_\_\_ square feet  
 New Total Impervious Cover: \_\_\_\_\_ square feet

List of Approved Stormwater Credit BMP

Please select the type of stormwater BMP credit for which you are applying. You must submit a worksheet and photo(s) for each type of stormwater control measure listed.

- |                                    |                                  |
|------------------------------------|----------------------------------|
| _____ Community Waterway Clean-UP  | _____ Bioretention / Rain Garden |
| _____ Parking Lot Sweeping Program | _____ Multi-Stage Detention      |
| _____ Rainwater Harvesting         | _____ Retention Pond             |
| _____ Riparian Preservation        | _____ Green Roofs                |

### Application Type

Is this application for a new credit or a renewal?

**NEW**     **RENEWAL**

If renewal, have there been any changes to the original stormwater credit BMP(s) that were approved for a discount? If yes, please provide information in the box below.

**YES**     **NO**     **N/A**

If renewal, has the person responsible for the stormwater control measure changed? For example, there is a new tenant or owner. If yes, please provide information in the box below.

**YES**     **NO**     **N/A**

If renewal, has the physical location of the stormwater control measure changed? For example, a watercourse clean-up has been moved to a new location within the watershed. If yes, please provide information in the box below.

**YES**     **NO**     **N/A**

Please provide additional information here -

Optional: Do you give permission for the City of Killeen to use any photo(s) you submit for promoting the Stormwater Credit Program or other initiatives?

**YES**     **NO**

### Disclaimer and Signature

- I understand that the City will review and correct any pre-existing errors to the amount of impervious cover recorded on my property before processing the discount and that this may increase my drainage charge.
- I certify that the information provided is accurate to the best of my knowledge and that I have the authority to make such a request for this property.
- I certify that the stormwater credit BMP volume for which I am requesting a discount is voluntarily built and exceeds the applicable requirements of City Code, state law, development agreement, or variance.
- I agree to provide the City of Killeen with corrected information should there be any changes made to the information provided herein.

- I agree to provide the City of Killeen with reasonable access to the property in order to conduct inspections.
- I understand that I am responsible for ongoing maintenance of the stormwater credit BMP(s), and that failure to do so may result in discontinuation of the credit.
- I understand that credits 1 and 2, if approved, will expire 12 months after approved. I understand I must reapply showing evidence of proper maintenance to obtain another 12 months of credit.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Name (printed): \_\_\_\_\_

**Notes:**

Any property owner or city service customer aggrieved by a decision of the director of public works regarding (1) a determination as to whether a certain parcel of property is exempt from the drainage fee or (2) the application of the stormwater credit program to a certain parcel of property may appeal the determination of the director of public works to the city manager, or designee. The property owner or city service customer shall file an appeal in writing with the director of public works within ten (10) days from the date of the decision being appealed.

The written appeal filed by the property owner or city service customer shall identify the facts supporting (1) any claim that the property in question is exempt from the levy of a drainage charge or (2) any claim that the property in question is entitled to more stormwater credits than approved by the director of public works.

The burden of proof shall be on the appellant to demonstrate that the property is exempt from the drainage fee or the amount of the stormwater credit was not calculated according to the applicable schedule of stormwater credits or the guidelines established for determining stormwater credits.

## APPENDIX B

# Design and Construction Standards

**DESIGN AND CONSTRUCTION GUIDELINES****Rainwater Harvesting**

Follow guidance in the City of Austin's Environmental Criteria Manual, [1.6.2](#), [1.6.3](#), [1.6.7.D](#) and [Appendix R-11](#)

**Riparian Preservation**

Follow guidance in the City of Killeen's Drainage Design Manual Appendix C Section 1.2.1 Preserve Special Flood Hazard Areas (Riparian Buffer).

**Bioretention / Rain Garden**

Follow guidance in the City of Killeen's Drainage Design Manual Appendix C Section 1.3.6 Bioretention (Rain Garden).

**Multi-Stage Detention**

Follow guidance in the City of Killeen's Drainage Design Manual Appendix C Section 1.4.1 Dry Extended Detention Basin.

**Retention Pond**

Follow guidance in the City of Killeen's Drainage Design Manual Appendix C Section 1.4.7 Wet Pond.

**Green Roofs**

Follow guidance in the City of Austin's Environmental Criteria Manual, [1.6.2.F](#), [1.6.3](#), and [Appendix W](#).

## APPENDIX C

# Stormwater Control Measure Maintenance Guidelines

## MAINTENANCE GUIDELINES

### Rainwater Harvesting

Proper monitoring and maintenance is important for any system to work appropriately and efficiently. Each configuration will perform differently. After the system has been established, inspection and maintenance might be needed several times a year and/or after heavy rainfall events. A pretreatment filter system (i.e., leaf guards, strainers, roof washers, etc.) is required prior to the cistern.

#### After every rainfall:

1. Empty tank within five days so it is ready to catch the next rain.
2. Check for erosion in areas where irrigation system drains to. Move hoses as needed by plants and to minimize erosion.

#### Every three months:

1. Inspect the tank(s) to confirm it is working as expected.
2. Make sure screens are in place over inlet and outlet pipes to prevent mosquito access.
3. Clean gutters, leaf guards, filter system, pipes and hoses to remove leaves and debris.
4. If the tank(s) links to a sprinkler system, test and inspect the sprinkler system to confirm it is working as intended, and replace any damaged sprinkler heads.

### Riparian Preservation

Follow guidance in the City of Killeen's Drainage Design Manual Appendix C Section 1.2.1 Preserve Special Flood Hazard Areas (Riparian Buffer).

### Bioretention / Rain Garden

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### Green Roofs

Follow guidance in the City of Austin's Environmental Criteria Manual, [1.6.2.F](#), [1.6.3](#), and [Appendix W](#).