

NewGen Strategies & Solutions

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FINAL REPORT

STORMWATER RATE STUDY

JULY 2024



Prepared for:
Brushy Creek MUD
16318 Great Oaks Drive
Round Rock, TX 78681

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July 19, 2024

Mr. Shean Dalton
General Manager
Brushy Creek MUD
16318 Great Oaks Drive
Round Rock, TX 78681

Subject: Stormwater Utility Fee Study Report

Dear Mr. Dalton:

Brushy Creek Municipal Utility District (BCMUD) engaged NewGen Strategies and Solutions, LLC (NewGen) to conduct a Stormwater Utility Fee Study. The scope was to prepare a financial plan specific to BCMUD's cost of service associated with the provision of Stormwater services (Stormwater or Drainage), as well as to develop projected rates for the potential drainage funding specific to Fiscal Year (FY) 2025 through FY 2029. NewGen presented our analysis to the BCMUD Board and received initial Board feedback on May 23, 2024. This summary report describes the analysis performed by the Project Team and makes recommendations with respect to prospective rates for a dedicated drainage funding source.

It is worth noting that the Texas Local Government Code Chapter 552 statutory provisions relating to drainage applies to municipalities. They do not apply specifically to districts. The District has used the same methodology for purposes of the study on the basis that if the Legislature specifies the methodology is for municipalities, it is justifiable by a district to use a similar cost of service methodology.

Stormwater as a Utility

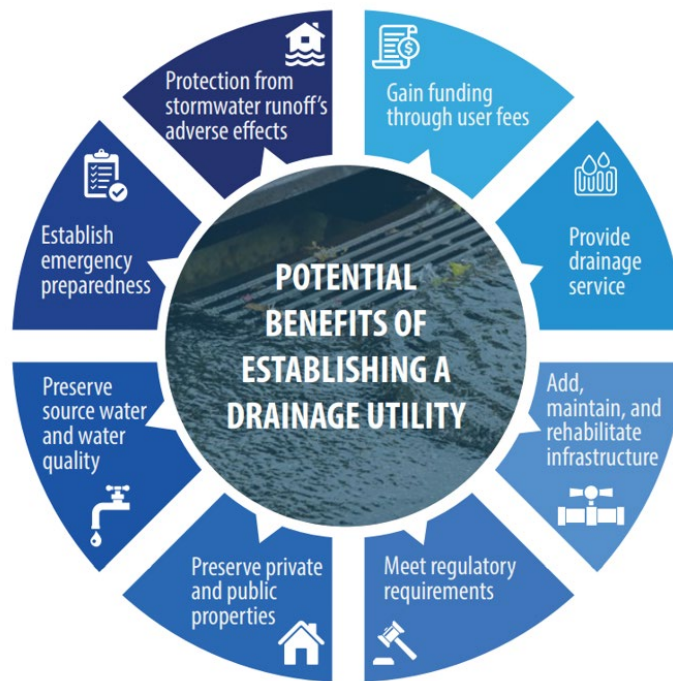
Communities across the state are recognizing looming issues, such as drainage needs and deteriorating assets. As the field continues to grow nationally, many entities around Texas are beginning to recognize the importance of dedicating a utility fund specifically for the management of stormwater runoff. Establishing a Drainage or Stormwater Utility is a viable strategy for utilities districts to respond to the challenge of generating reliable revenue to support stormwater management activities. A Stormwater Utility allows a community to establish a user fee based on the demands property owners place on the drainage system and subsequently, provides a dedicated revenue stream for stormwater programs.

There are several benefits of a dedicated drainage utility fee to a utility district. These are visualized in Figure 1 on the next page, but the most commonly cited are described below:

- **Revenue** – A dedicated fee generates a stable source of revenue.
- **Structure** – A distinct utility creates an organized entity to solve the problems regarding stormwater management, including aging infrastructure, operations and maintenance (O&M), and development.
- **Environment** – Increased focus on stormwater issues such as erosion, flooding, preservation of source water, and water quality can encourage environmental initiatives.
- **Regulation** – A dedicated Stormwater Utility can focus on meeting the requirements of Texas Pollutant Discharge Elimination System (TPDES) permits and other regulatory mandates.

Most importantly, a stormwater utility provides the means to collect the revenue required to construct and maintain large stormwater capital improvements needed to help protect BCMUD businesses and residents from the effects of flooding. Utilities are very capital intensive, with most costs purposely outside of the public eye. Conveyance to or from customers and environmental compliance are central to each utility.

Figure 1: Benefits of a Stormwater Utility



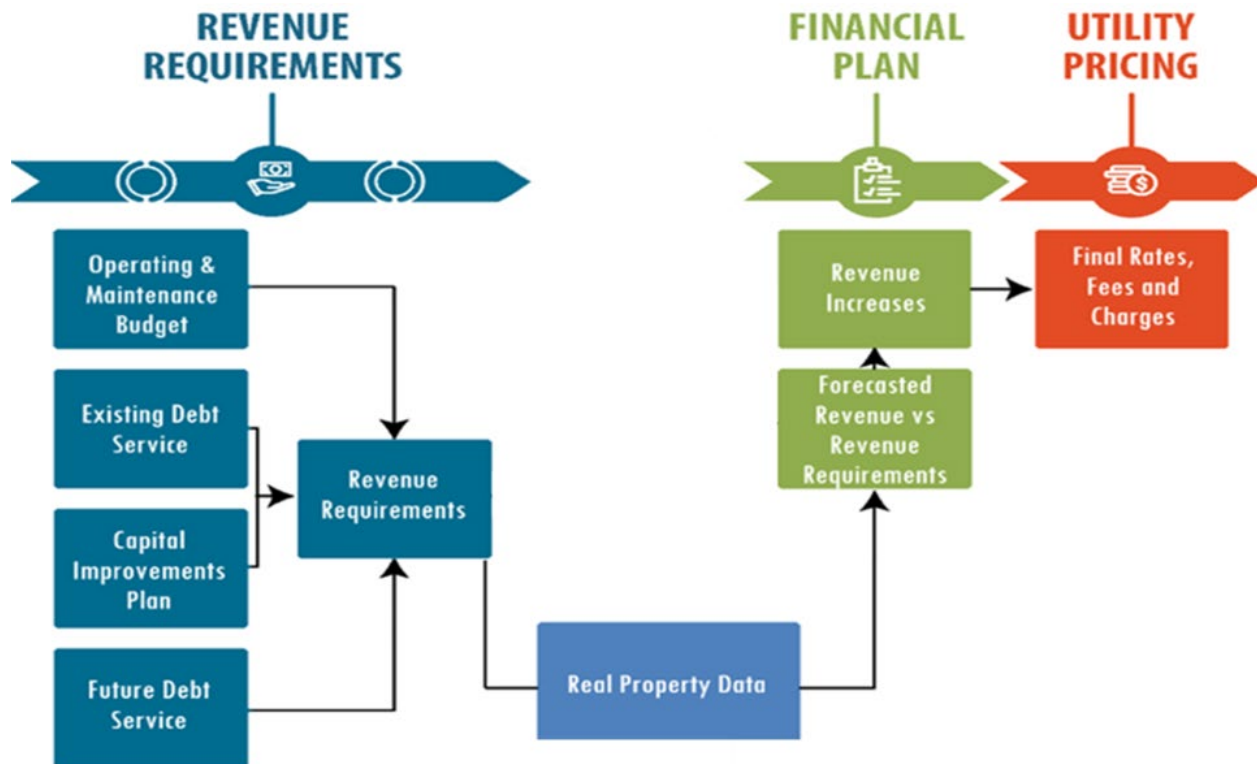
There are several funding mechanisms that may be used to generate revenue for the operation of a stormwater utility. Examples are ad valorem taxes, rates based on lot size, and fees based on impervious area. Each funding mechanism has benefits and disadvantages. When deciding the funding mechanism of a stormwater utility, a balance must be made between the administrative simplicity, understandability of the fee details, and the equity in allocation of costs to various customer groups.

In all cases, assumptions and allocations must be made due to the impracticality of measuring the actual runoff contribution of each customer parcel within a stormwater system. In general, impervious area is considered the most equitable rate-setting mechanism for a stormwater utility because it most accurately reflects the stormwater contribution of each customer's parcel to the system. From a 2021 market survey conducted by NewGen, we observed that over 80% of cities billed commercial customers based on impervious area. Of those using impervious area, over 60% set commercial fees using an Equivalent Residency Unit (ERU) basis. This ERU represents the median residential impervious area for the community.

Stormwater fees set according to impervious area best recover related costs of service and mitigate relying on property taxes or other District revenues based on the demands property owners place on the drainage system.

Figure 2 below outlines the general steps taken in our Study to understand the District’s needs, evaluate revenue potential and propose stormwater fee options.

Figure 2: Rate Setting Process

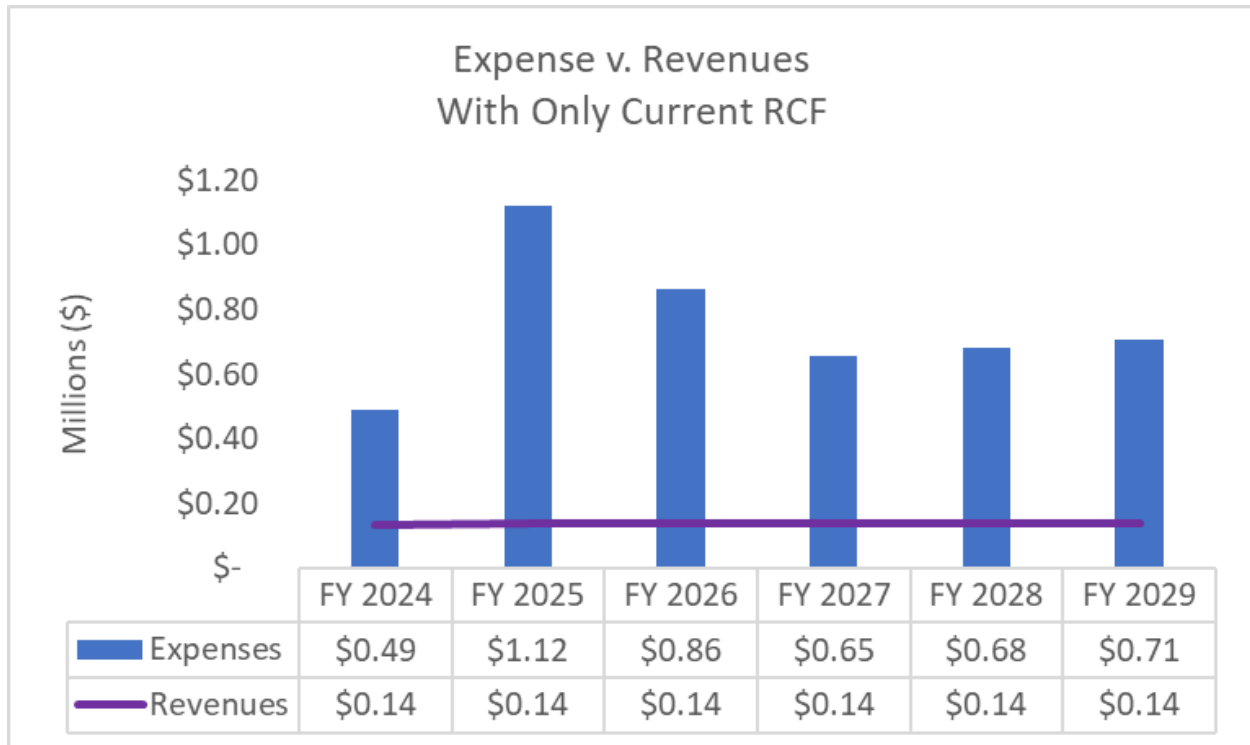


BCMUD Background

BCMUD already funds a number of stormwater activities, which are partially funded by the District’s Regulatory Compliance Fee (RCF). The RCF rate is \$2 per Living Unit Equivalent (LUE), measured by meter size. This means that District customers pay for drainage proportionate water service size, wherein those with larger meter sizes pay more than the typical, smaller meter sizes. While this method is an industry standard in scaling water cost recovery, it does not serve as the best measure of stormwater potential of a property.

As illustrated in Figure 3 below, no change to the current RCF fee relies on other revenues to make up a growing shortfall each year. NewGen understands that other revenues currently covering costs are constrained and are not expected to cover future cost increases.

Figure 3: Current Rate (\$2/LUE) Performance



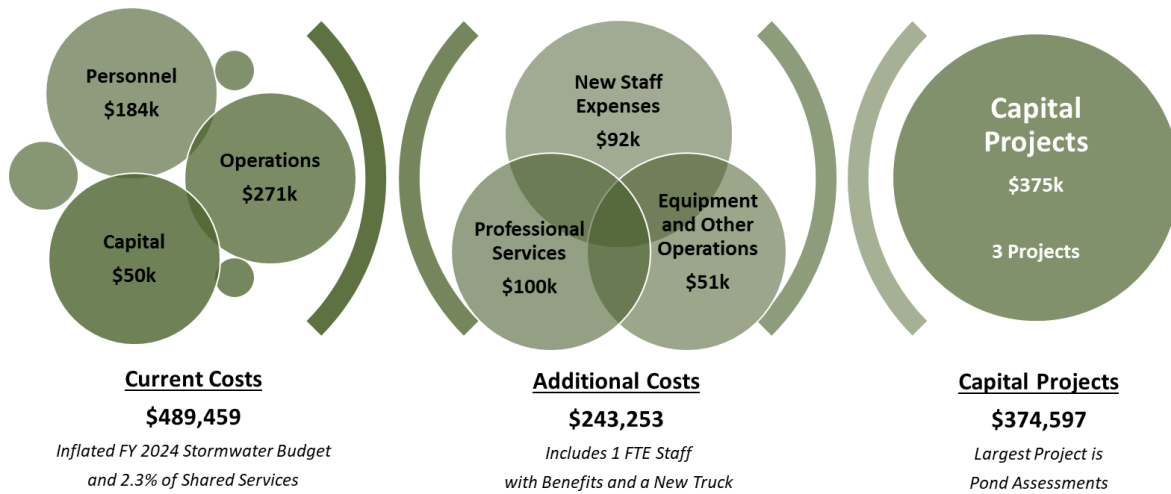
BCMUD staff assessed the needs of stormwater systems for both operational and near-term capital service level improvements. Further, Board staff received direction on Board priorities for stormwater programs during April 15 and May 9 Board Meetings. Given the need for additional programs and already-constrained revenues, the District investigated the most equitable means to raise sufficient funding. NewGen reviewed the potential for billing stormwater based on impervious area. This included understanding the expected costs, assessing all property’s impervious cover, and assembling a financial plan with rate options. Each step is summarized below.

Revenue Requirements

To develop the FY 2025 Revenue Requirement, NewGen held discussions with BCMUD’s General Manager and other District leadership to determine the planned services and associated costs initially for this utility. While NewGen guided or supported many of these discussions, District staff worked through multiple iterations of estimated costs, received Board feedback on their plans, and ultimately provided all the inputs for NewGen to include in the Stormwater Utility’s revenue requirements.

The expenditures for FY 2025, and into the future, are based on BCMUD’s projected Capital Improvement Plan (CIP) and projected Operations and Maintenance (O&M) costs. It is important to note that the District anticipates completing a major drainage assessment in 2026, which will likely recommend considerable capital projects to improve system performance and condition. Identified programs currently in place, as well as enhancements, are summarized in Figure 4 below.

Figure 4: Projected 2025 Activities and Costs



To help explain where the FY 2025 cost projections were derived, this section highlights the existing adopted FY 2024 budget. The District has budgeted for a Stormwater department, which has a FY 2024 budget of approximately \$368,000. In addition, it was determined from a separate cost allocation review that Stormwater should support about \$121,000, or 2.3%, of the District’s Shared Services, excluding some solid waste and street lighting expenses. This brings FY 2024 expenses to a little over \$489,000. This is contrasted to the current Regulatory Compliance Fee budgeted revenues of almost \$163,000. Revenues are short of identified expenses by roughly \$326,000. This difference must be made up from other revenues today, which are primarily generated through property taxes.

Inflation factors were applied to expected expenses in the development of the forecasted financial plan.

A listing of the most commonly applied inflation assumptions is below.

- **General** – A general inflation factor of 3.19% was applied to all line-items not discussed specifically below, per the 20 Year Average Municipal Cost Index (MCI) developed by American City and County.
- **Personnel** – An inflation factor of 3.00% was applied to all salaries and benefits costs, based on conversations with BCMUD staff.
- **Construction Cost Index (CCI)** – 20 Year Average Engineering News Record CCI of 3.51%.

After adding inflation to the current FY 2024 budgeted expenses of \$489,000, the projected FY 2025 budget increases by \$15,267, or 3.12%. Forecasts made during this Study are estimates based on the latest available data and may change materially. As BCMUD makes decisions on the path forward, NewGen recommends updating the forecast with the latest available data.

Several new program items, including personnel and equipment, were identified. These items add an estimated \$243,000 to the FY 2025 budget. Much of this cost is related to one-time purchases, but a full listing is shown in Table 1.

Table 1: New Program O&M Costs

Description	One-Time or Recurring	Amount (\$)	First Year
Pond Assessments	One-Time	\$ 100,000	2025
Larger Jetter Trailer	One-Time	100,000	2026
New FTE Maintenance Team	Recurring	90,000	2025
New FTE Stormwater Certification	One-Time	1,000	2025
New FTE Training/Equipment/Uniforms	Recurring	1,865	2025
New Truck	One-Time	40,000	2025
New Truck Maintenance and Fuel	Recurring	2,888	2025
Proactive Insp./Maint. (Inlets /Outlets/Channels)	Recurring	6,000	2025
General Materials and Supplies	Recurring	1,500	2025

The District staff and Board also reviewed capital project needs and provided the list in Table 2, below, to be included in the forecasted cost of service. As mentioned previously, the District’s current CIP for Stormwater focuses mainly on near-term projects and other project needs are expected to be identified by a District-wide drainage assessment. The total impact of CIP in FY 2025 is projected at \$375,000.

Table 2: Capital Improvements Plan for Stormwater

Description	One-Time or Recurring	Amount (\$)	First Year
FY25 Pond/Wet Pond Assessments/Well Study	One-Time	\$ 190,000	2025
Shirley McDonald Unstable Rock Riprap	One-Time	95,481	2026
Drainage Study/Improvements (Powder Horn Drive)	One-Time	89,116	2025
Bubbler/Aerators (9 Need Electrical Connection)	One-Time	114,577	2026
Stormwater Fee Update	One-Time	19,000	2026

Based on the additions from new O&M and CIP, it is estimated that Stormwater cost in FY 2025 will total over \$1.1M. With the total cost more than doubling from FY 2024 to FY 2025, revenue needed to support this service will need to increase. With the cost increases expected, it is especially important that the District consider the best billing methodology for the District.

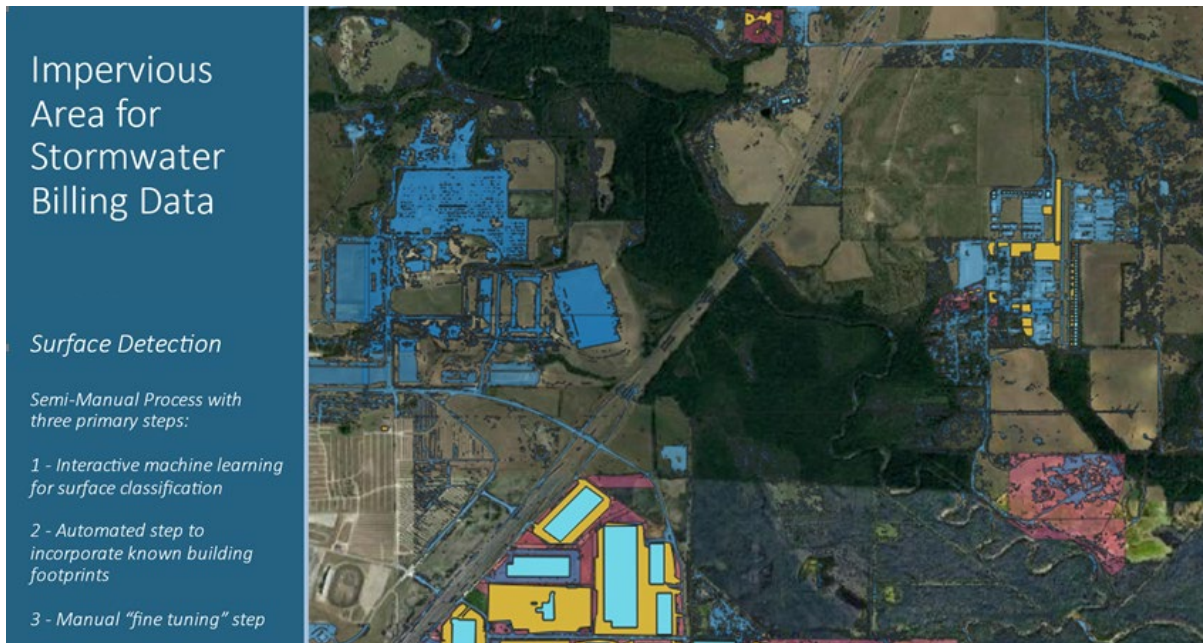
Impervious Area Analysis

To better balance the relative rates from properties, the most equitable means to bill for Stormwater is based on impervious area. NewGen prepared a new data set for calculating how much impervious cover exists on each lot within the District. Low-cost, high-resolution Hexagon aerial imagery was acquired, and this imagery was used to calculate impervious cover to serve as a direct measurement of the relative volume of stormwater created from each parcel.

NewGen used in-house data scientists and its own artificial intelligence techniques to develop the data set for BCMUD. This includes impervious area detection with a semi-manual process, interactive machine

learning to classify surfaces and manual fine tuning focused on non-residential properties that are expected to be billed individually on calculated areas. NewGen applied multiple quality assurance tests against the data and results to confirm our confidence in the data sets. The example below shows part of the process visually within our GIS platform.

Figure 5: Example Image with Our General Process



The deliverables from this effort include:

- Open-source data in Geographic Information System (GIS) files with land cover analysis information.
 - BCMUD Impervious Surfaces file to distinguish between impervious and pervious surface classes. GIS file with two attribute features: 1. Impervious and 2. Pervious.
 - BCMUD Parcel file includes parcel and attribute information such per parcel acres and impervious cover square feet.
- Shapefiles, which BCMUD can use to show parcel owners how their utility fee is calculated or to review any appeals if applicable.

The Project Team relied on this GIS analysis to calculate the median square footage of impervious area per ERU, which was determined to be 4,000 square feet. To determine the ERU, NewGen sampled every residential parcel in BCMUD listed by the County Appraisal District as Single Family (State Code A1). A sample of this impervious area detection on residential area imagery is shown in the figure below.

Figure 6: Sample Residential Impervious Surface Detection



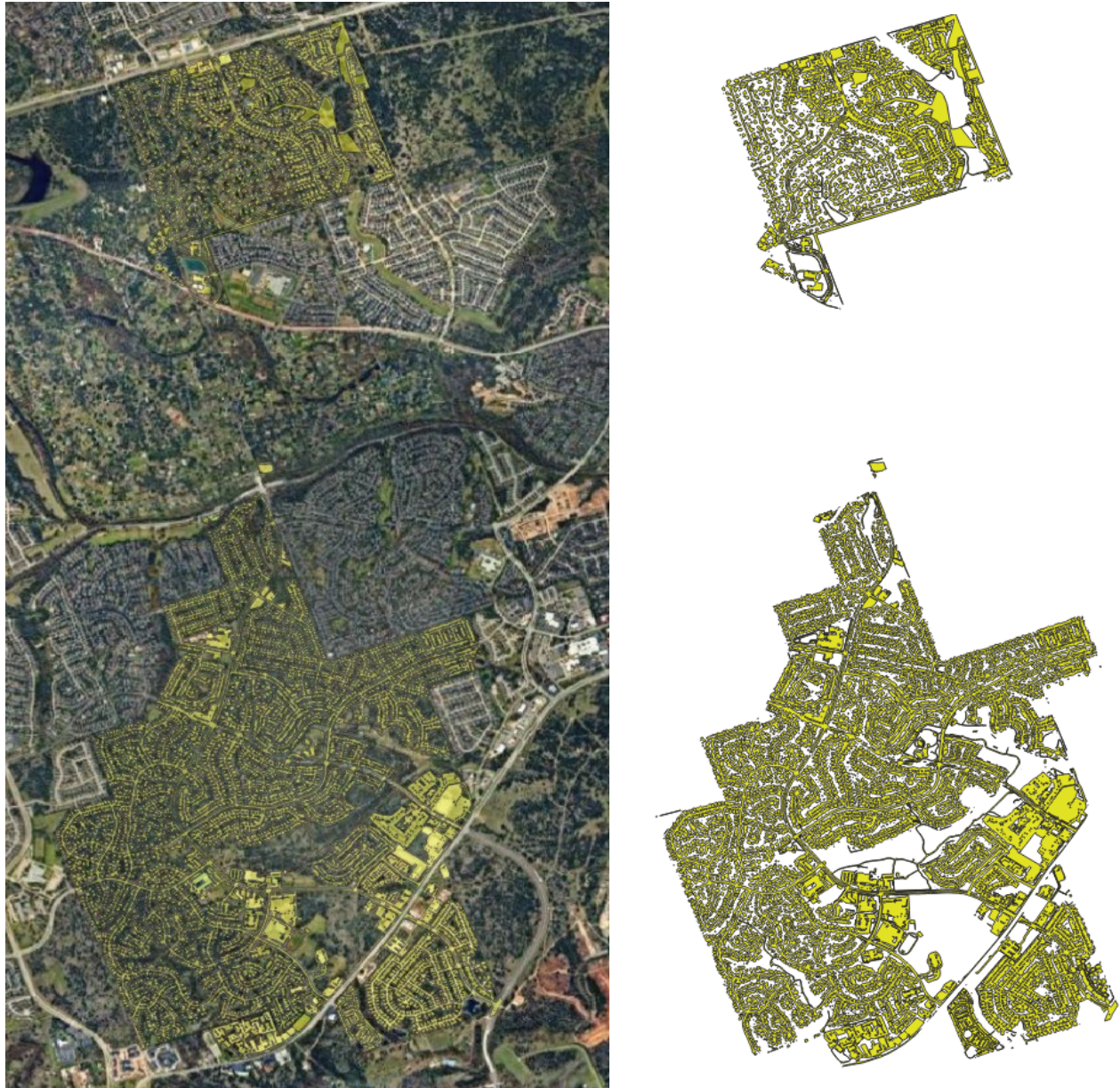
From the same impervious surface analysis, NewGen determined that Non-Residential Parcels in BCMUD contain just over 6.1M square feet of impervious area. Figure 7 below illustrates a non-residential parcel after NewGen cleaned up the initial, artificial intelligence impervious detection process.

Figure 7: Example Image of Non-Residential Area Detection



Once the whole service area has been processed through NewGen’s machine learning process, our team manually reviews and refines all non-residential parcels, which combine into a single impervious layer shape file in GIS. Figure 8 shows the full service area and impervious areas both highlighted in yellow shown over aerial imagery of BCMUD’s service area and extracted to show only the impervious areas.

Figure 8: Mapping – Impervious Area Detection



Stormwater Utility Fee Basis and Billing Units

The Project Team developed rate scenarios for stormwater based on total expected ERUs after impervious cover was determined for every parcel in BCMUD. It is common and assumed for the District that every residential property would pay the same monthly rate equal to one (1) ERU. To set the total paid by non-residential parcels equitably, we determined each parcel’s relative number of ERUs and also assumed that non-residential accounts would pay at least one (1) ERU regardless of the impervious area. Dividing the non-residential total of 6.1M square feet by the ERU value of 4,000 sq ft results in 1,532 non-residential ERUs. This calculated value, plus the residential count of 5,760, makes the total observed ERUs approximately 7,292.

Since neither the Project Team nor BCMUD have finalized the process of matching Utility Billing accounts to parcel data, it is assumed some of the impervious values calculated may not ultimately be assigned to an account or billed. In addition, this service is normally billed on water bills, some of which are occasionally inactive and unbilled. To account for these uncertainties, NewGen made a 10% reduction in the total billing units. These adjustments reduce the monthly billable ERUs to 6,563.

Table 3 below reflects the expected billable ERUs less the adjustments mentioned to derive annual revenues for several, optional fee levels.

Table 3: Stormwater Utility ERUs and Revenue Potential	
2025	
Residential Billable ERUs	5,760
Non-Residential Billable ERUs	1,532
Total Calculated ERUs	7,292
Less 10% Adjustment	(729)
Total Expected ERUs	6,563
\$ 9 / ERU Annual Revenue	\$ 708,788
\$ 12 / ERU Annual Revenue	\$ 945,050
\$ 15 / ERU Annual Revenue	\$ 1,181,313

The largest changes for customers are expected to impact non-residential accounts that have been paying RCFs based on meter size that are well under the revised impervious area ERU basis. To ease “rate shock” to non-residential customers, BCMUD could employ a multiple year phase-in approach.

It is worth noting here that BCMUD has made no determination on exemptions and the totals here may differ slightly due to exemptions and other unforeseen adjustments for account matching or implementation. Should BCMUD choose to exempt any eligible property owners, the revenue potential for the utility may decrease equal to the ERUs exempted.

The top 20 properties evaluated by NewGen, along with their resulting impervious areas and calculated ERUs are shown in Table 4.

Table 4: Top 20 Largest Impervious Area Parcels

Property Owner	Impervious Area (Square Feet)	ERUs
Landing At Round Rock Acquisition LLC	1,121,098	280
Round Rock ISD	788,922	197
CWS Brushy Creek LP	525,635	131
H E Butt Inc	476,888	119
Round Rock ISD	275,386	69
Round Rock ISD	225,830	56
Beck Commons Investments LLC	190,246	48
Great American Storage Partners LLC	158,026	40
TXMS Real Estate Investments Inc	135,353	34
Church of Jesus Christ of Latter-Day Saints	132,580	33
St Philips United Methodist	112,101	28
MGP, XXII LLC	87,656	22
Hatch House Management Company LLC	85,054	21
First Star Bank SSB	74,011	19
TDE Investments LLC	70,097	18
Great Oaks Physicians Holding Company LP	68,688	17
Cuchara Investment Group Ltd	56,740	14
Brushy Creek Store Inc	52,585	13
Round Rock Presbyterian Church Inc	48,379	12
Bank Of America NA	47,365	12

Inadequacy of Current RCF Revenues and Comparison of Methods

As demonstrated in the prior section, the current RCF at \$2 per Living Unit Equivalent does not fund all current stormwater activities and could not support the FY 2025 costs without substantial increases. While the charge methodology is consistently applied, this current fee does not meet BCMUD’s needs for a Stormwater Utility for two reasons.

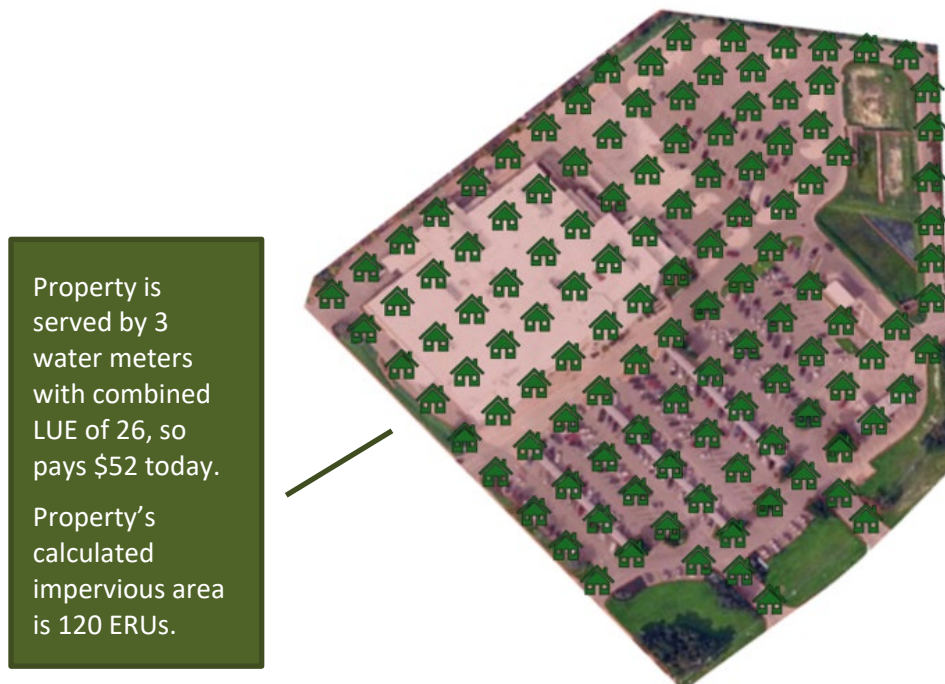
First, the \$2 per LUE fee simply does not generate enough revenue to support the desired service levels for stormwater operations and capital demands. Second, the fee does not equitably recover from customers in proportion to the potential runoff of each property. To illustrate this second point, Table 5 compares BCMUD’s effective rates today with impervious areas of the median residential property to the non-residential property with one of the largest impervious areas.

Table 5: Cost per Square Foot

Position Description	Impervious Area	Rate per Sq. ft	Rate per ERU
Median Residential Area (ERU)	4,000 Sq. ft	\$ 0.000500	\$ 2.00
Large Non-Residential Property	480,700 Sq. ft	\$ 0.000108	\$ 0.43

The impervious area for this non-residential property is 120 times larger than the impervious area of the median home in the District. Considered under an impervious area basis, the average resident is paying \$2 per ERU, while this non-residential account is paying only \$52 total, or \$0.43 per ERU, today. This example and relative impervious area of this property are shown in Figure 9 below. Increasing the RCF would perpetuate this imbalance.

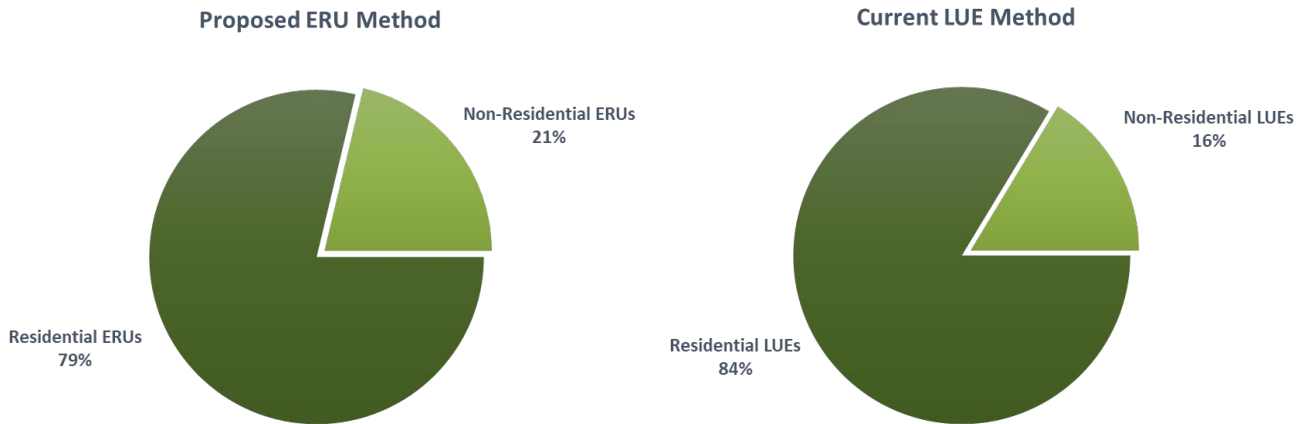
Figure 9: Non-Residential Example



While this example is for one of the largest non-residential parcels and shows a significant variance, some non-residential properties have ERU and LUE values that are much closer. A few even have ERU values that are less than their current LUE values. That said, a comparison conducted by BCMUD staff evaluating the current LUE method and the ERU method developed by NewGen shows that the non-residential customers are currently being billed, in the aggregate, for LUE units totaling only 58% of the total calculated ERU area for the same customer class. Though BCMUD is heavily residential, this adjustment to non-residential shifts the burden more to the non-residential class.

This is demonstrated in Figure 10 below showing that non-residential makes up 16% of billing using the LUE method and 21% of billing using the ERU method.

Figure 10: Class Comparison of LUE and ERU Billing Units



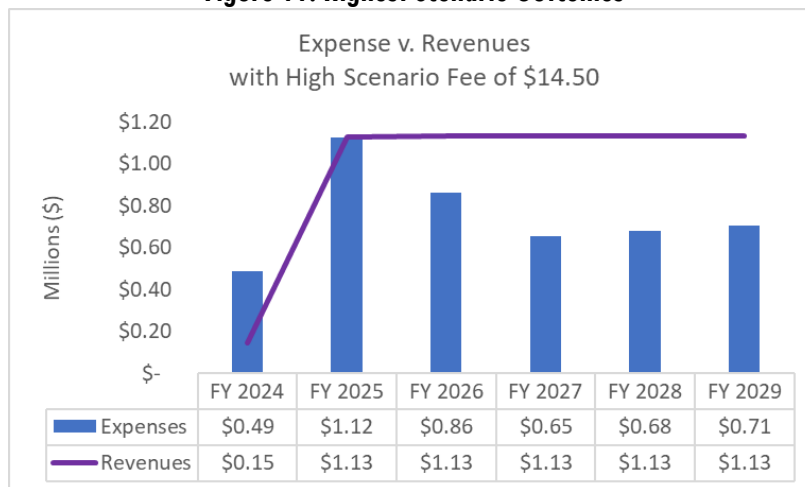
Fee Scenarios

With Staff input, NewGen evaluated and provided three (3) alternative fee options.

Highest Scenario Outcomes

Only the highest fee option at \$14.50 covered all the costs projected in FY 2025. Additionally, this option creates additional revenue that is expected to be required after District engineering assessments are complete and important projects are identified. In determining this rate, NewGen set revenues to cover the highest year projected, which includes a number of one-time capital items. This creates a surplus using only current cost assumption in future years, which could be used to fund capital projects expected but not yet defined from the District’s 2026 Assessments.

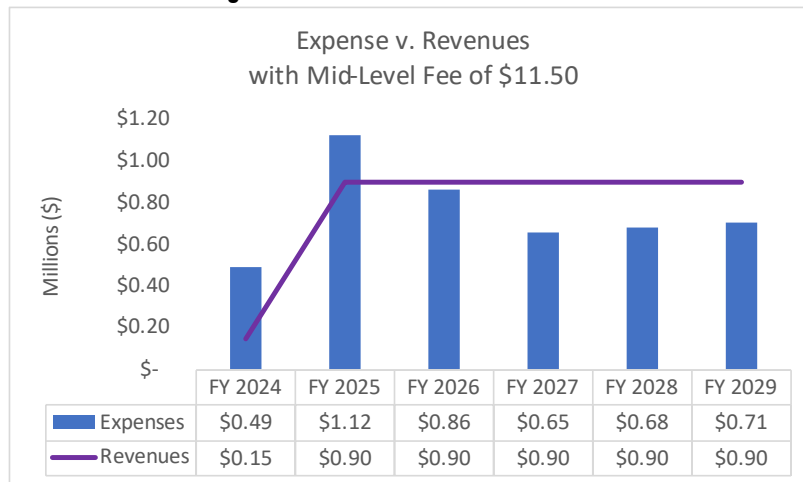
Figure 11: Highest Scenario Outcomes



Middle Scenario Outcomes

The middle option, at \$11.50, continues the current shortfall from FY 2024 into FY 2025, but could fully cover known costs over the next five (5) years with surpluses in FY 2028 and FY 2029. This would not provide for funding of future expected projects until FY 2030. This scenario still relies on other revenues to make up FY 2025 shortfall. Expected surpluses in years 2 and 3 show total stormwater revenues covering total costs for the initial 3-year period. Net surpluses in years 4 and 5 could be used to partially fund capital projects expected from 2026 Assessments.

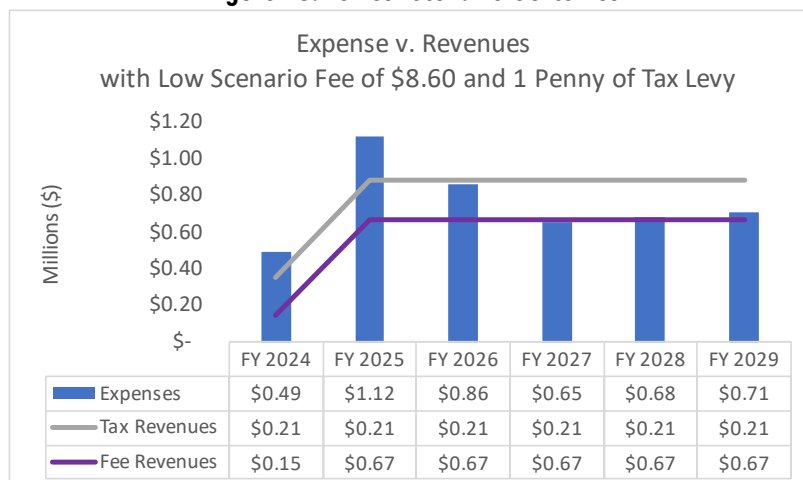
Figure 12: Middle Scenario Outcomes



Lowest Scenario Outcomes

The lowest option with a stormwater fee of \$8.60 would rely on one (1) penny of the property tax rate to be dedicated for stormwater. This lowest scenario would have the same general results as the middle option where FY 2025 expenses exceed expected revenues, would rely on net surpluses in later years and would not help fund new projects until FY 2030. Expected surpluses in years 2 and 3 show total stormwater revenues covering total costs for the initial 3-year period. Net surpluses in years 4 and 5 could be used to partially fund capital projects expected from 2026 Assessments.

Figure 13: Lowest Scenario Outcomes



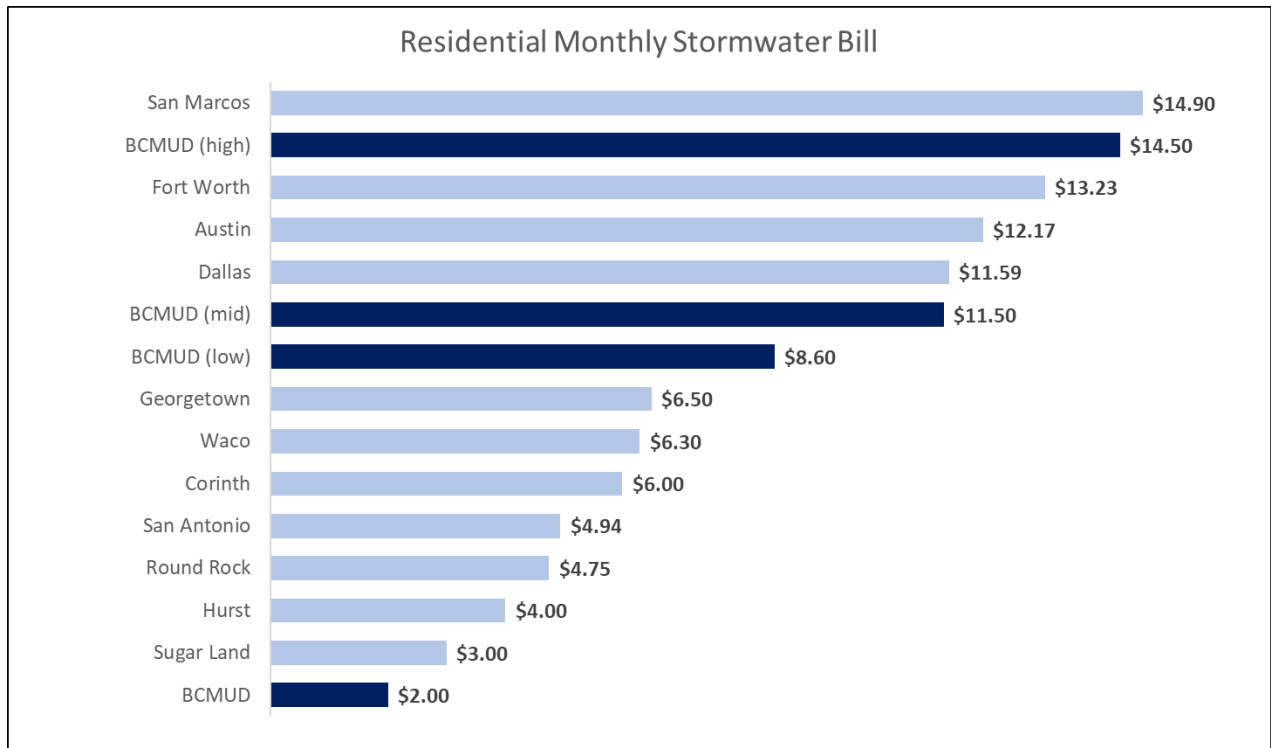
Stormwater Fund Study Rate Recommendation

Based on Board feedback and to ease the transition for non-residential customers, NewGen recommends that in FY 2025, BCMUD adopt the ERU billing method developed by NewGen but leave the rate per ERU at \$2, which is the same as the current \$2 per LUE. Given the results of operational revenue requirements and capital needs, BCMUD will require additional funding for stormwater activities in the near term. Until the rate per ERU is increased, BCMUD will need to continue its reliance on other District revenue sources.

NewGen recommends for FY 2026 that BCMUD consider the level of service desired and ultimately take steps to adopt a fee of no less than \$8.60 based on the newly calculated ERU (impervious area) based on this Study's findings.

Lastly, Figure 14 compares BCMUD's typical residential fee amount of \$2 to other communities, as well as the three other BCMUD fee options presented.

Figure 14: Residential Monthly Stormwater Drainage Fee



NewGen greatly appreciates the opportunity to support BCMUD with this effort, the input of BCMUD staff, and future consideration of our recommendations by the BCMUD Board.