

TOWN COUNCIL



STAFF REPORT Department of Engineering

MEETING DATE:	June 14, 2016
PROJECT:	Adoption of Stormwater Rate Study Option A "Current Rate Structure"
PROJECT MANAGER:	Kim Jones, Stormwater Division Manager

RECOMMENDATION: Town Council approval to adopt Stormwater Rate Study Option A "Current Rate Structure" as the Town of Bluffton Stormwater Utility Fee basis for Tax Year 2016.

BACKGROUND: Per the August 24, 2011 Stormwater Intergovernmental Agreement (IGA) between the Town and Beaufort County to administer the Stormwater Utility, the Town must annually provide to the County the Stormwater Utility User Fee (Fee) to be collected as part of the annual property tax bill. The historical calculation all jurisdictions used to determine the Fee was the Single Family Unit (SFU). Using this calculation, the Town stormwater Fee has been \$98 per SFU since 2008.

However, in 2014 in response to increasing level of service expectations, maintenance and administration cost increases, and impending costs associated with Municipal Separate Storm Sewer System (MS4) designation, the County contracted to have a stormwater utility rate fee with several funding scenarios modeled (Rate Study). The Town and other municipalities agreed to participate in this Rate Study. Council's directive during the February 2015 Strategic Planning Session was regardless of the Rate Study findings, the Town Fee would remain the same.

The completed Rate Study produced six (6) Fee calculation alternatives for consideration by each municipality. Beaufort County formally adopted the Rate Study and a revised Fee calculation on August 24, 2015. Since that time, both the City of Beaufort and Town of Port Royal have adopted the same revised Fee calculation as the County. The Towns of Bluffton and Hilton Head Island are in receipt of their completed Rate Studies as of April 2016 (Attachment 1).

INTRODUCTION: As the Town Rate Study provides six (6) alternatives for Fee calculations, Town Council must adopt and notify the County which alternative to use. The Town's Fiscal Year 2017 Proposed Budget is based upon Option A "Current Rate Structure" which keeps the Fee the same at \$98 per SFU.

NEXT STEPS: Following Town Council's approval to adopt Stormwater Rate Study Option A "Current Rate Structure," Staff will notify the County Stormwater Utility administration for inclusion on the 2016 Tax Bills.

ATTACHMENT:

1. Beaufort County Stormwater Rate Study – Town of Bluffton

Beaufort County Stormwater Rate Study
Town of Bluffton
April 2016

Prepared by Applied Technology & Management
Assistance from Raftelis Financial Consultants
and Beaufort County Stormwater Utility



Contents

Executive Summary	4
Background	6
Jurisdictional Cooperation.....	6
Utility background	7
Current Stormwater Utility Structure.....	8
Rate Structure	8
Business Processes	9
Rates.....	9
Town of Bluffton Stormwater Program.....	10
Rate Study Approach.....	10
Goals.....	11
Modeling	11
Data update.....	11
Rate Components.....	12
Fixed Costs.....	12
Variable Costs: Impervious Surfaces Area and Gross Parcel Area.....	12
Cost Allocability.....	12
Jurisdictional Infrastructure O&M	13
Jurisdiction Capital Projects	13
Debt.....	13
County-wide Infrastructure O&M.....	13
Utility Administration.....	14
MS4 Compliance.....	14
Cooperative Efforts.....	15
Individual Efforts.....	15
Modeled Options	15
Elements of Six Rate Structure Options	15
Options.....	15
Modified Rate Structure.....	17
Fee Structure	17
Bill Class.....	17
Rate Structure Design.....	18

Impervious Area Units 18

Gross Area Blocks 18

Exempt Properties and Special Cases 18

Credit 18

Rate Study Results 18

 General Impacts of Rate Structure Changes 20

Needed Ordinance Revisions 20

Ongoing Billing Data Maintenance 20

Executive Summary

Beaufort County, in cooperation with the City of Beaufort, and the Towns of Bluffton, Hilton Head Island, and Port Royal retained Applied Technology and Management (ATM) and its sub-consultant, Raftelis Financial Consultants to perform a rate study for the five stormwater utilities operated by the respective jurisdictions. The rate study was performed for each jurisdiction, and this report represents the results for the Town of Bluffton (herein, Town) within the context of the broader study.

The County is facing a declining rate base driven by annexations, steeply mounting costs for maintaining county-wide drainage infrastructure and complying with new MS4 requirements, and in need of continued capital project construction. The municipalities also face challenges which vary by jurisdiction, and these higher and more variable costs among the five jurisdictions were the driving force behind this rate study. The Town of Bluffton has been sufficiently supporting its stormwater program with the historical level of revenue, but the program has to shift in the near future to accommodate MS4 permit requirements and address capital needs.

The rate analyses performed in support of this rate study included six options for each jurisdiction, which can be modeled in the final rate model by choosing from a slate of scenarios. The options vary the rate metrics (impervious area, fixed charges per ratepayer, gross area), vary the way that shared costs are allocated between jurisdictions (by impervious area or by account), accommodate the existing administrative charges paid by each jurisdiction to the County (currently at \$3.18 per SFU), accommodate the existing payments made by municipalities to the County for varying levels of water quality monitoring and public outreach, and accommodate a new charge by the County to each municipality for that municipality’s proportionate share of the entire County’s drainage infrastructure to be maintained by the County. The detailed description of the six options is as follows:

	<i>Overall Rate Structure</i>	<i>Debt Financing for Some Capital?</i>	<i>Method for Allocating Admin & Reg Costs</i>	<i>Method for Allocating CWI O&M Costs</i>	<i>Simplified Residential Rates</i>	<i>Alternative Cost Sharing Approach</i>
A	Current (Imp Area)	No	SFUs	Optional	Yes	Optional
B	Current (Imp Area)	Yes	SFUs	Optional	Yes	Optional
C	Impervious & Gross Area	No	Per account	Impervious & Gross Area	Yes	Optional
D	Impervious & Gross Area	No	Impervious & Gross Area	Impervious & Gross Area	Yes	Optional
E	Impervious & Gross Area	Yes	Per account	Impervious & Gross Area	Yes	Optional
F	Impervious & Gross Area	Yes	Impervious & Gross Area	Impervious & Gross Area	Yes	Optional

In these evaluations, simplified residential rates means a series of flat rate charges for impervious area similar to how the rate structure works now.

The recommended rate structure option from these evaluations is, for the Town of Bluffton, Option E. Under this option, the Town can use debt financing for large capital projects, would share administrative

costs allocated on a per-account basis, and fund Town operations and maintenance costs through variable charges.

As a part of the County's revised rate structure, customers in the Town are assessed by the County a new County-wide Stormwater Infrastructure (CWI) fee. This new fee will assist the County with funding stormwater infrastructure maintenance and repairs within all areas of the County including within municipal boundaries. This new fee was developed using a proportionate share of county-wide infrastructure costs (based on the amount of county-owned and maintained infrastructure within that jurisdiction) allocated across impervious and gross area within the jurisdiction. This percentage for the Town is 7.6%. In FY 2015-2016, under the previous rate structure, this equated to an additional charge of \$18.13 per SFU. For FY 2016-2017 this will be \$20.22 per SFU.

The County was the only jurisdiction to make rate structure changes in FY 2015-2016. At the time of this report, the Town had not yet opted to change the rate structure. Still, as a part of the County's revised rate structure, customers in the Town are assessed by the County the CWI fee.

Background

The southern coast of South Carolina has long been a desirable tourist destination and sought after place to live, in no small part due to the natural beauty surrounding the areas waterways. In recent years, Beaufort County has declared its intention to be a regional leader in environmental quality initiatives in order to promote this existing advantage. An important subset of environmental quality, especially in this region, is the effective management of stormwater runoff. Because the County is right on the coast, and is crossed by large water bodies otherwise, the imperative to manage stormwater runoff has immediate implications on water quality in the region, rather than somewhere downstream. Beaufort County and its underlying jurisdictions – the City of Beaufort, the Town of Port Royal, Town of Hilton Head Island, and Town of Bluffton – take this charge seriously, and have over time developed individual and cooperative programs to manage the public safety and water quality concerns related to stormwater runoff.

As these programs have matured over time, they have become more costly, and several jurisdictions now find themselves needing to evaluate their operating costs and investments in any needed capital improvement projects. The jurisdictions are interested in revising rates and exploring other financial tools to support program initiatives, especially capital spending, and have engaged Applied Technology & Management (ATM) and subcontractor Raftelis Financial Consultants (RFC) to conduct a rate structure analysis and rate studies similar to this study that was prepared for the County. This report summarizes the results of ATM's efforts on behalf of the Town of Bluffton within the context of the County-wide rate study.

Jurisdictional Cooperation

Although historically each jurisdiction has managed stormwater concerns indirectly through individual development standards and environmental ordinances, the group has been working together for many years to manage storm drainage and ensure an improved standard of living for residents of the County. This relationship has become more explicit over time, through the development of inter-governmental agreements and memoranda of understanding, and through a closer working relationship among staff of each local government.

The most outstanding example of cooperation relates to the administration of the five separate utilities. Since 2001, when the utilities went into effect, the County has provided administrative services, including billing, billing data maintenance, and customer service, in exchange for a small portion of the fee revenues for each underlying jurisdiction.

The County has historically been a significant service provider for drainage maintenance activities to each of the underlying jurisdictions, offering a menu of drainage infrastructure cleaning, maintenance, and repair activities at hourly rates. The patchwork nature of the jurisdictional boundaries lends itself to a cooperative approach to these activities whenever possible to maximize efficiencies in equipment and staff time.

Three of the five jurisdictions participating in the regional stormwater utility, including the Town, have recently been permitted as a municipal separate storm sewer systems (MS4) and become regulated under National Pollutant Discharge Elimination System (NPDES) MS4 permits. These permits require strict management of activities that impact the quality of stormwater runoff, such as construction and

industrial activities, as well as significant goals of public education and outreach in order to bolster the general public's ability to and interest in managing stormwater runoff responsibly.

Under the new permits, the jurisdictions will be required to perform maintenance activities on existing stormwater drainage infrastructure (as is done now), monitor water quality at outfalls, inspect facilities and infrastructure, and provide education and outreach to citizens. The costs for these activities can be limited if they are performed in coordination between jurisdictions, either across the entire county or in more geographically distinct regions (such as North of the Broad River).

Utility background

Each of the five jurisdictions has a separate stormwater utility, established by separate ordinance, allowing the jurisdiction to collect revenues dedicated to stormwater management activities. As mentioned above, each jurisdiction cooperates in the administration of the utility by funding a portion of the County staff and material costs, effectively creating a regional utility.

At the inception of the regional utility in 2001, each property was charged a stormwater fee (conveyed on the annual tax bill) based on the size of the property and a runoff factor associated with that type of property. At this time, all five jurisdictions were charging the same rate, such that a similar property in any jurisdiction would pay the same annual fee. By 2005, the County had access to aerial photography that allowed for a more reliable approach to fee calculation. Rather than use tabular property characteristics to develop the fee for an individual property, the fee could be calculated based on one characteristic that was deemed an important cost driver: impervious surface area. Some elements of the previous rate structure remained intact, but for developed properties, the utility replaced their existing rate structure with one based on impervious surface area as measured from aerial photography.

At its core, this is an industry standard approach to calculating stormwater fees. However, the data available to the County in 2005 were already several years out of date and of relatively poor quality (see Figure 1 below). In recent years, the County has been able to obtain much higher quality imagery on an annual basis and has been updating its impervious area measurements, the foundational billing data, as properties change.

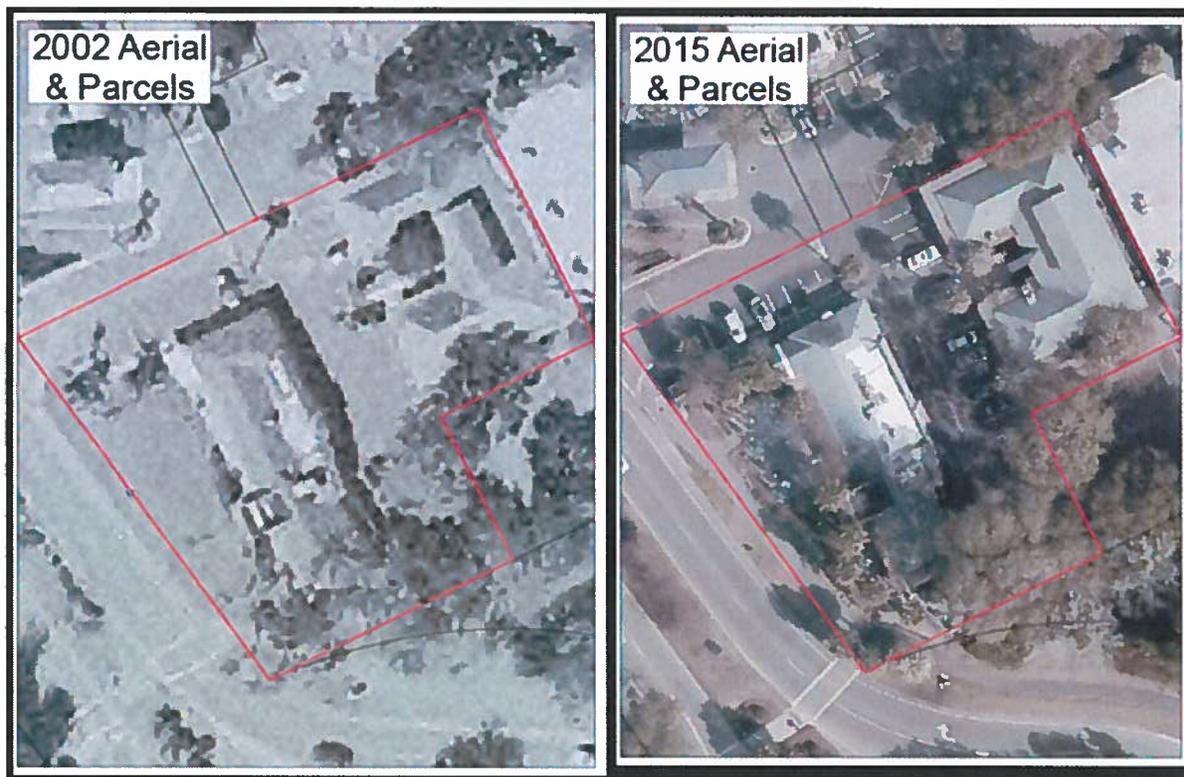


Figure 1. Comparison of 2002 and 2015 Aerial Photography

Current Stormwater Utility Structure

Rate Structure

As defined by the ordinances passed in 2005, the jurisdictions share a rate structure, though each is allowed to charge rates necessary to generate the revenue needed within each individual jurisdiction. The current rate structure has three distinct parts: residential properties, nonresidential properties, and vacant lands. Because the stormwater fee is conveyed on the tax bill and the data should be related, every property falls into one of these three categories depending on its classification in the tax system. Generally, the basis for the rate is the amount of runoff a property generates, whether that be the result of impervious area or some other driver.

At the time of the last rate base and rate structure analysis, the median impervious surface area on single family residential properties was 4,906 square feet. This became the base unit (single family unit or SFU) for measuring impervious area on other types of properties as well. For property types within the tax system that have **residential** classifications, each equates to a distinct SFU equivalency factor in three “tiers.” Residential property with 2,521 square feet or less of impervious area is tier 1. Tier 3 is residential property with 7,266 square feet or more of impervious area, and all residential property between these two impervious measures is tier 2. The tier equivalent SFU factor is multiplied by the per SFU rate for encompassing jurisdiction results in the rate. This concept is called simplified residential rates and is recommended in the newly modeled rate structures described in this study. The residential property types and SFU equivalencies are as follows:

Property Type	Equivalent SFUs
<i>Tier 1 Single Family Unit (≤2,521 square feet)</i>	0.50
<i>Tier 2 Single Family Unit (2,522 to 7,265 square feet)</i>	1.00
<i>Tier 3 Single Family Unit (≥7,266 square feet)</i>	1.50
<i>Mobile Home</i>	0.36
<i>Apartment</i>	0.39
<i>Townhouse</i>	0.60
<i>Condominium</i>	0.27

Where a single property includes multiple residential units, the equivalent SFU is per unit, such that an apartment complex property with 100 units would be charged for 0.39 (SFUs per unit) times 100 (number of units) times the rate to calculate the final fee.

Nonresidential properties represent the simplest of area of the current rate structure. For every property not classified as residential or vacant in the tax system, the stormwater fee is calculated based on the amount of impervious surface area on that property. This amount, divided by the 4,906 square foot SFU and multiplied by the per SFU rate, results in the final fee. There is no rounding or other manipulation of data.

Finally, **vacant** lands are presumed to have no impervious area, and are therefore not charged on that basis. They do still have an impact on the stormwater system, however, and should be responsible for a portion of the costs. At present, the rate structure allows for 'runoff factors' to be applied to vacant lands, with different factors used depending on a matrix of classification including whether a property is classified as agriculture, forestry, disturbed, or undisturbed.

Business Processes

In addition to the documented rate structure, there exist a number of business processes that have been developed over time to facilitate utility administration. Most of these processes are in line with the current ordinance but some have evolved to address data collection and maintenance difficulties that emerged from the existing rate structure. These include:

- the treatment of golf courses and parks as vacant land when in fact they may have a good deal of impervious area
- treatment of multi-use parcels (such as house and forested area on the same lot) as separate parcels with summed fees
- granting stormwater best management practices credit by overriding a property's fee to 1 SFU

During the course of these studies, the ATM team worked to identify any divergent business processes and compute updated metrics for the affected properties.

Rates

With the same rate structure in place since 2005, each jurisdiction has experienced increased revenue requirements and subsequently higher rates over time. Table 1 is a summary of each jurisdiction's rate history per SFU over time.

Table 1. Stormwater Fee Rates over Time

	2005-2006	2007	2008	2009	2010	2011	2012-2014
Beaufort County	\$ 44.43	\$ 44.43	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00
City of Beaufort	\$ 44.43	\$ 44.43	\$ 44.43	\$ 44.43	\$ 65.00	\$ 65.00	\$ 105.00
Town of Port Royal	\$ 44.43	\$ 44.43	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00
Town of Bluffton	\$ 49.00	\$ 49.00	\$ 98.00	\$ 98.00	\$ 98.00	\$ 98.00	\$ 98.00
Town of Hilton Head Island	\$ 44.43	\$ 50.76	\$ 50.76	\$ 83.23	\$ 108.70	\$ 108.70	\$ 108.70

Town of Bluffton Stormwater Program

The Town has fostered a well-developed stormwater program for years, incorporating progressive elements such as master planning, watershed planning, and BMP inspections and maintenance. The Town has recently been issued an MS4 permit, and in turn, the program has begun expanding to include more comprehensive construction and post-construction BMP inspections, water quality monitoring, and other permit-required minimum control measures in advance of the deadline for measure implementation. In support of these initiatives, personnel and operational costs continue to grow at a steady pace, along with engineering and professional services.

The County has been financially responsible for maintenance and repair on county-wide infrastructure on and off County road rights of way, even within the municipal boundaries of the Town. More recently, the County has become unable to adequately provide stormwater services throughout the entirety of the unincorporated county with the available funds. That is, maintenance activities in parts of the county, especially those pockets within other jurisdictions, have been neglected in favor of addressing needs that could be met more economically. The Town of Bluffton has been greatly affected by this problem simply because of its distance from County headquarters. The City and Towns have not been receiving the stormwater management services they have come to expect from the County, those the County also endeavors to provide, because of funding shortfalls. This shortfall is to be addressed through the County-wide Infrastructure fee, described below, and the County expects to better be able to provide those services going forward.

There are a number of capital projects that have been identified by the Town for completion in the next several years, including master planning and watershed planning efforts, stormwater retrofits and a wetlands restoration.

Rate Study Approach

Due to the Town’s growing stormwater program and the new requirements imposed by the MS4 permit, the Town has increasing costs over the coming years. The County, also faced with steeply increasing costs, initiated a rate study to achieve the most equitable cost recovery structure within the unincorporated County and the four municipalities. The rate study, detailed in this section, resulted in an optimal rate structure for all participating jurisdictions. For the sake of administrative simplicity and continuity, a single rate structure was recommended for all jurisdictions.

The ATM team was contracted to assist Beaufort County Stormwater (County) with a detailed stormwater utility rate study. For the unincorporated County and each of the four municipalities, the team conducted a full accounting of planned stormwater program costs over the next five years, which are expected to increase driven by the combination of existing operations and maintenance activities, a significant capital project backlog, and emerging NPDES compliance needs. The rate study was performed concurrent with the budgeting process for the fiscal year that began July 1, 2015, and resulted in the development and consideration of a number of rate structure options, described below.

Goals

The primary goal of the rate study was to model financially sufficient scenarios to support the jurisdictions' current and future stormwater programs. This included the following supporting objectives:

1. Determine the current and future (from MS4 compliance, jurisdictional growth, etc.) revenue requirements of each program;
2. Determine the most fair and reasonable way to recover revenues while balancing data maintenance efforts;
3. Facilitate future program visioning; and
4. Account for potential future collaboration and shared costs.

Through meetings, extensive model development and refinement, and collaborative review of the results, the team and the project remained accountable to these goals throughout the process.

Modeling

The primary deliverable from the rate study is a model that was developed to compare and contrast different financial scenarios for each of the jurisdictions. The model balances revenue requirements with funding from the stormwater fee and other possible sources. On the revenue requirements side, for each jurisdiction the ATM team considered existing revenue requirements, future MS4 permit related expenses, and capital needs. Revenue was modeled as the resulting revenue from several different rate structures as well as supplemental resources from bond issuances or other sources. With that basic structure in place, the model was refined to allow for allocation of costs across jurisdictions and rate components (see below for more information) in order to optimize rate equity.

The finalized model has been made available to each jurisdiction for ongoing use as a financial planning tool.

Data update

Much of the impervious area data originally developed for the 2005 rate study was created using low-quality 2002 aerial imagery. With the possible shift in rates and rate structure, it was critical to have improved source data. As a part of the rate study, the ATM team conducted a targeted review update (where needed) of approximately 5,000 parcel polygons within the GIS and across all of the jurisdictions in order to update the rate base.

At the conclusion of the effort, RFC reviewed and updated the impervious features as necessary on a total of 5,937 parcel polygons, deriving the features using the newest available imagery from 2013.

Rate Components

Fixed Costs

Many costs associated with the administration of the utility have little to do with specific characteristics of the land. Rather, they represent a public service to which each property owner (account holder) has equal access. Billing and collections, data management and updating, programming, and customer support fall within this category. These costs, then, are distributed evenly to each account holder by being allocable to a fixed charge per parcel.

Variable Costs: Impervious Surfaces Area and Gross Parcel Area

Impervious area is the area of land covered by a hard surface through which rainwater cannot pass, such as building footprints and parking lots. The amount of impervious area on a parcel is most directly related to the quantity of stormwater to be handled by the system. For bare soil and vegetated ground cover, some water will infiltrate into the ground—even during heavy rain—rather than run across the surface. For impervious surfaces, on the other hand, water cannot infiltrate into the ground. For that reason, impervious surface causes the peak discharge volume of runoff from a parcel of land to be higher than it would otherwise. Regardless of how the land is managed, runoff tends to gather nutrients and other potential pollutants. Because virtually none of this runoff (and the pollutants it carries) soaks into the ground, runoff from impervious area carries a greater volume of harmful materials toward receiving waterbodies than pervious area.

One unique aspect of the stormwater utilities in these jurisdictions is the wide variety of land use represented within each jurisdiction. Gross area is included as a component of the stormwater fee to capture the costs not solely related to impervious area runoff. As opposed to impervious area, gross land area contributes proportionately more to the nutrients and pollutants that stormwater runoff may pick up and less to the sheer volume of runoff to be managed. As discussed, pervious land can absorb some of the water that falls on it, so it does not contribute as much to runoff. However, pervious land still contributes pesticides, fertilizers, leaves, and other undesirable materials to the runoff that does occur. As such, stormwater costs related to water quality and quantity (most O&M costs) are allocable in some portion to gross land area.

In the costs described below, allocability to impervious area and gross area represents a relationship between a particular cost and the demand for that cost caused by a higher volume of stormwater (including higher levels of pollution) to be managed. An impervious and gross area rate structure allocates some cost to each of the two variables, in this case either allocating 80% or 90% of the variable costs to impervious area, and the remaining costs to gross area. The gross area units would include a declining block, such that large properties have more units of gross area than small properties, but the increase in units of gross area as overall parcel size increase are blunted by the declining block.

Cost Allocability

The proposed rate structures take into account a number of costs that vary by:

- Who provides the service,
- Who receives the service, and
- What drives the cost of the service (the existence of an account, impervious area or gross area)

This section describes the different elements of the jurisdictions' and utility's program costs and how they may be accommodated in the rate structures. The resulting modeled rates for each jurisdiction take into account the distribution of costs across all jurisdictions based on the chosen allocation scheme, and the particular rate base of that jurisdiction.

Jurisdictional Infrastructure O&M

Each of the five jurisdictions maintains its own stormwater drainage infrastructure and funds those costs from utility revenue. These costs are driven by impervious area and gross area in the jurisdiction, which contribute to stormwater runoff and nutrient loading. As such, the impervious and/or gross area component of the fee will include these costs. Revenue from this fee component would be returned to the service provider, the individual jurisdiction.

Jurisdiction Capital Projects

Each of the five jurisdictions has an independent capital plan, and can determine whether bond funding or pay as you go funding (or paying with available unencumbered funds) is appropriate or necessary. Capital financing has been "pay-as-you-go" for most jurisdictions. An alternative is for jurisdictions to borrow money to build capital projects and pay this back over time. This option is described in the definitions as debt.

The cost drivers for capital projects are similar to those for regular O&M, and are allocable to impervious and gross area within a jurisdiction. Debt service (in the case of bond funding) or cash contributions to capital projects are included in the impervious and/or gross area components of a fee. Revenue from this fee component would be returned to the service provider, the individual jurisdiction.

Debt

For some of the jurisdictions, including for the Town, capital needs outpace the funds available through fee revenue. Issuing debt in the form of revenue bonds is a viable alternative to fund these projects, and in some cases may be the most appropriate option. Debt financing is appropriate for large physical assets with long expected lives, generally constructed improvements. Most notable, debt service creates a mechanism for future ratepayers to help fund the infrastructure from which they still benefit. The exceptional environmental quality found in this region is one of the primary reasons people choose to live and work here, and at its most basic, every investment made in capital projects supports that fundamental tenet. Through debt funding of capital projects, ratepayers of the future can pay back into the program that promotes this high quality of life.

Issuance of revenue bonds will not affect a jurisdiction's existing covenants or caps. With revenue bonds, the jurisdiction's stormwater utility will be solely responsible for servicing that debt through utility revenues, and there is no risk to the greater entity.

County-wide Infrastructure O&M

The County maintains some larger drainage infrastructure within each of the four municipalities in addition to drainage infrastructure within the unincorporated area. County-wide infrastructure (defined as pipes and open ditches both in and out of rights of way that are owned or maintained by the County) maintenance costs have not been allocated to any ratepayers outside the unincorporated County prior to FY 15-16. That is, revenue from fees charged to property owners in the unincorporated County have been funding infrastructure maintenance, repair, and replacement activities throughout all five

jurisdictions. Currently, these activities have been limited in the incorporated areas because funding levels, supported by the unincorporated ratepayers only, are insufficient. The modified rate structure will share the County’s costs for County-wide infrastructure maintenance across all the unincorporated and incorporated areas of the County based on linear feet of pipes and open ditches in each jurisdiction.

The cost drivers for operation and maintenance of county infrastructure are very similar to those for the various jurisdictional stormwater infrastructure systems. These costs may be recovered through an impervious and/or gross area fee component, the revenue from which supports County efforts. Revenue from this fee component would be returned to the service provider, the County.

The County’s total budgeted County-wide infrastructure operation and maintenance cost is approximately \$3.5 million in FY 2015-2016. A detailed analysis of the proportions of this County-wide infrastructure was prepared in 2015 by the County, and was used as the basis for the cost allocations to unincorporated areas of the County and to the municipalities. This inventory was conducted in GIS data layers and was made available to all jurisdictions by the County as part of this study. The analysis shows the proportions to be:

Unincorporated County	83.6%
City of Beaufort	2.2%
Town of Port Royal	0.8%
Town of Bluffton	7.6%
Town of Hilton Head Island	5.8%

Based on this proportional breakdown, the County began to convey a separate charge (as a new line on the bill, not to be added to or combined with the City/Towns fees), that bills this amount per SFU or IA/GA unit, as the rate structure would require. Final fee amounts are discussed in the Modified Rate Structure section, below.

Utility Administration

The County administers the cooperative utility for each of the five jurisdictions. Currently administrative fees are allocated across the impervious area rate base such that properties with a large number of SFUs of impervious area pay more in administrative fees than those with fewer SFUs.

Costs for this effort may be allocable to either the number of parcels or accounts for which data must be maintained, customer service must be provided, etc. These costs may instead be recovered via a fixed charge component charged to all utility customers. Alternatively, costs could be allocable to the impervious and/or gross area fee component if they are more closely related to the effort of maintaining the geospatial data or researching and addressing detailed questions from large, complex customers. Revenue from this fee component would be returned to the service provider, the County.

MS4 Compliance

The Town is newly subject to MS4 permit requirements. Even before this designation, the Town participated with the County in programs that comprised MS4 elements, such as water quality monitoring and education. For those jurisdictions subject to permit requirements, some program elements are fulfilled by each individual jurisdiction while others are provided cooperatively. Any

existing inter-governmental agreements and Memoranda of Understanding (MOU) may need to be revised if an alternate structure is chosen.

Cooperative Efforts

Monitoring

The County currently provides monitoring services within the boundaries of some municipalities, not including the Town. This relationship could be expanded to other jurisdictions if desired. These costs would be driven by the number of accounts and would be included in the fixed charge component of the fee, only in the jurisdictions where the County provides this monitoring service. Revenue from this fee component would be returned to the service provider, the County.

Public Education/Outreach

Currently, the jurisdictions participate in a cooperative public education and outreach scheme. Rather than implement separate agreements between each jurisdiction, this cost can be considered a per account cost and included in the fixed charge component of the fee, applicable to everyone in the County. Revenue from this fee component would be returned to the service provider, the County.

Individual Efforts

Other MS4 permit compliance activities may be done separately by each jurisdiction, and provided only to that jurisdiction. These costs are allocable to the impervious and/or gross area fee component and revenue from this fee component would be returned to the service provider, the individual jurisdiction.

Modeled Options

Elements of Six Rate Structure Options

Simplified residential rate: Charge one of a series of flat rates, based on SFUs, to different classes of residential properties. This is how residential rates work in the current rate structure.

Continued application of the agricultural use policy: Properties legally under certain agricultural uses have limits placed on their stormwater fees by state law. The rate structure options will continue to follow this approach.

Updated source data: RFC reviewed and updated as necessary 5,937 parcel polygons throughout the five jurisdictions with the newest available imagery from 2013. The results of this update were used to model both the modified rate structure options and the current rate structure options, which make use of the newly measured impervious features.

Minimum charge: A minimum charge is a rate structure feature whereby once the amount a property owes in annual stormwater fees is computed it is compared to the minimum charge and if less, the minimum charge is applied to the property. The minimum charge is set to reflect the minimum amount of demand a property can actually place on the jurisdiction providing service. The minimum charge is represented as a fixed fee component and is charged to every property.

Options

- A. Current rate structure with updated source data; current approach for administrative fees based on impervious area units; compliance with current rate ordinance; pay-as-you-go capital financing

- B. Current rate structure with updated source data; current approach for administrative fees based on impervious area units; compliance with current rate ordinance; debt financing for some capital projects
- C. Modified rate structure based on impervious and gross area; continued use of simplified residential rates; continued application of agricultural use policy; County-wide administrative costs allocated to per-account basis; County-wide infrastructure maintenance costs allocated to impervious and gross area based on infrastructure miles per jurisdiction or other intra-jurisdictional allocation model; pay-as-you-go capital financing
- D. Modified rate structure based on impervious and gross area; continued use of simplified residential rates; continued application of agricultural use policy; County-wide administrative costs allocated to impervious and gross area; County-wide infrastructure maintenance costs allocated to impervious and gross area based on infrastructure miles per jurisdiction or other intra-jurisdictional allocation model; pay-as-you-go capital financing
- E. Modified rate structure based on impervious and gross area at 80/20 or 90/10 allocation; continued use of simplified residential rates; continued application of agricultural use policy; County-wide administrative costs allocated to per account basis; County-wide infrastructure maintenance costs allocated to impervious and gross area based on infrastructure miles per jurisdiction or other intra-jurisdictional allocation model; debt for some capital financing
- F. Modified rate structure based on impervious and gross area at 80/20 or 90/10 allocation; continued use of simplified residential rates; continued application of agricultural use policy; County-wide administrative costs allocated to impervious and gross area; County-wide infrastructure maintenance costs allocated to impervious and gross area based on infrastructure miles per jurisdiction or other intra-jurisdictional allocation model; debt for some capital financing

Table 2. Modeled Rate Structure Options

	<i>Overall Rate Structure</i>	<i>Debt Financing for Some Capital?</i>	<i>Method for Allocating Admin & Reg Costs</i>	<i>Method for Allocating CWI O&M Costs</i>	<i>Simplified Residential Rates</i>	<i>Alternative Cost Sharing Approach</i>
A	Current (Imp Area)	No	SFUs	Optional	Yes	Optional
B	Current (Imp Area)	Yes	SFUs	Optional	Yes	Optional
C	Impervious & Gross Area	No	Per account	Impervious & Gross Area	Yes	Optional
D	Impervious & Gross Area	No	Impervious & Gross Area	Impervious & Gross Area	Yes	Optional
E	Impervious & Gross Area	Yes	Per account	Impervious & Gross Area	Yes	Optional
F	Impervious & Gross Area	Yes	Impervious & Gross Area	Impervious & Gross Area	Yes	Optional

Modified Rate Structure

ATM modeled four of the six options based on a modified rate structure design that relies more heavily on measured impervious area data but retains the basic backbone of the existing rate structure.

Fee Structure

The recommended fee includes three components: a fixed component to convey costs allocable by account, and two variable components: one based on gross area and one based on impervious area, to convey the costs that vary by property characteristic. With the exception of those explicitly exempt, every real property (which in some cases does not include land on the ground) has a stormwater fee calculated for it.

Bill Class

Every property falls into one of several bill classes, which determine fee calculation for that property. Residential properties are treated in a similar manner as they are currently, with SFU equivalents to represent the impervious area on each type of residential property. Gross area and fixed fee components are added to this portion of the residential fee. Vacant property is not charged for any impervious area, measured or assumed. It is, however, charged for the gross land area of the parcel and the fixed component of the fee, as described below. Exempt parcels are not charged any portion of the fee. Finally, all other properties are considered non-residential, non-vacant properties (herein called “commercial”), which are charged a per unit rate for impervious area, along with a fixed fee and gross area charge.

Rate Structure Design

Impervious Area Units

The existing impervious area unit of 4,906 has been retained for maximum equity between residential and commercial bill classes in impervious area charge. Residential properties are charged for impervious area based on the factors existing in the current rates structure. Commercial properties are charged per 4,906 square feet unit, or part thereof, of impervious area. Under the modified rate structure design, 80% of variable costs are funded through impervious area charges.

Gross Area Blocks

A gross area fee component is included for all properties that have a real parcel and parcel area found in GIS. The gross area charge is calculated in equivalent units as follows:

- Every property is charged \$X for the first 2 acres of gross area. This means that every property getting a gross area fee is charged at least \$X.
- For every acre above 2 acres, and up to 10 acres, the property is charged $.5 * \$X$ per acre.
- For every acre above 10 acres, and up to 100 acres, the property is charged $.4 * \$X$ per acre.
- For every acre above 100 acres, the property is charged $.3 * \$X$ per acre.

This declining block structure maintains the important rate base of large properties. Under the modified rate structure design, 20% of variable costs are funded through gross area charges.

Exempt Properties and Special Cases

The modified rate structure design mirrors the current rate structure in exempt properties. Roads, railroads, private roads, and boat slip properties are exempt from stormwater fees. As described above, vacant (undeveloped) parcels are not exempt from the entire fee, but are not charged for the impervious area fee component.

Credit

For properties receiving credit for BMPs, that credit can be carried forward in this modified rate structure with accommodation for the previous rate structure, by utilizing a new set of credits policies and a manual developed by the County and made available to the Town.

Rate Study Results

ATM developed a spreadsheet-based rate model tool to model the way the individual jurisdiction and County-wide costs impact rates. The comprehensive model can be manipulated to calculate rates for each of the six options described above, as well as allow for manual override of the calculated rates to predict the revenue generation and sufficiency of a particular rate structure and rate choice.

ATM and Utility staff recommend rate structure Option E for the unincorporated County and therefore also recommend Options E or C for each underlying jurisdiction. Both Options C and E result in rates for a fixed charge, an impervious area charge, and a gross area charge. Option E includes the flexibility to issue debt and fund payments through the variable components of the charge. For the Town, ATM recommends Option E, which allows for but does not require debt issuances; potentially empowering the Town to more smoothly and equitably fund large capital projects. The recommended rates are as follows:

	FY 2016-2017	FY 2017-2018	FY 2018-2019	FY 2019-2020
Fixed Cost per Account	\$8.00	\$8.00	\$8.00	\$8.00
Cost per IA Unit	\$60.00	\$60.00	\$60.00	\$60.00
Cost per GA Unit	\$30.00	\$30.00	\$30.00	\$30.00

The proposed rate will allow the fund balance at the end of the planning period to reflect the balance at the beginning of the period, with some room for funding additional capital projects. Appendix A shows the modeled cash flow over the planning period.

Under Option E, administrative and regulatory compliance charges are allocated on a per account basis, infrastructure O&M costs are allocated based on the impervious and gross area, and no debt is issued within the planning period.

The Town is responsible for funding 7.6% of all county-wide infrastructure (CWI) operation and maintenance, with the allocation based on the amount of infrastructure to be maintained by the County that falls within each jurisdictional boundary, as described previously. Under the current rate structure, this is a \$18.13 annual charge for an average house on a lot smaller than 2 acres. For the upcoming fiscal years, the CWI funding within each jurisdiction’s boundaries on an SFU or IA/GA basis (depending on the rate structures chosen) are:

Table 3. County-wide Infrastructure Cost Breakdown by Jurisdiction

8/18/2015 CWI changes due to revised GIS dataset

	FY 2015-2016	FY 2016-2017	FY 2017-2018	FY 2018-2019	FY 2019-2020
CWI Cost Share on SFU Basis					
Unincorporated County	\$ 45.30	\$ 46.97	\$ 47.50	\$ 49.01	\$ 49.71
City of Beaufort	\$ 5.15	\$ 5.74	\$ 5.70	\$ 5.78	\$ 5.76
Town of Port Royal	\$ 3.88	\$ 4.33	\$ 4.30	\$ 4.36	\$ 4.35
Town of Bluffton	\$ 18.13	\$ 20.22	\$ 20.09	\$ 20.38	\$ 20.31
Town of Hilton Head Island	\$ 5.52	\$ 6.15	\$ 6.11	\$ 6.20	\$ 6.18
CWI Cost Share on IA/GA Unit Basis					
Unincorporated County					
per IA Unit	\$ 40.60	\$ 42.09	\$ 42.57	\$ 43.93	\$ 44.55
per GA Unit	\$ 5.28	\$ 5.50	\$ 5.59	\$ 5.80	\$ 5.91
City of Beaufort					
per IA Unit	\$ 4.10	\$ 4.58	\$ 4.55	\$ 4.61	\$ 4.60
per GA Unit	\$ 1.34	\$ 1.49	\$ 1.48	\$ 1.51	\$ 1.50
Town of Port Royal					
per IA Unit	\$ 3.13	\$ 3.49	\$ 3.47	\$ 3.52	\$ 3.51
per GA Unit	\$ 0.78	\$ 0.87	\$ 0.87	\$ 0.88	\$ 0.88
Town of Bluffton					
per IA Unit	\$ 17.83	\$ 19.89	\$ 19.76	\$ 20.04	\$ 19.97
per GA Unit	\$ 2.25	\$ 2.51	\$ 2.49	\$ 2.52	\$ 2.52
Town of Hilton Head Island					
per IA Unit	\$ 4.39	\$ 4.89	\$ 4.86	\$ 4.93	\$ 4.91
per GA Unit	\$ 1.43	\$ 1.60	\$ 1.59	\$ 1.61	\$ 1.60

In the first planning year, FY 2015-2016, several shared costs (those for the regional stormwater master plan, public education and outreach, and water quality monitoring) are funded via inter-governmental agreements with the responsible parties. In this year only, these are represented as separate revenues and the costs are not allocated to the jurisdictions based on SFU or IA/GA unit calculation.

General Impacts of Rate Structure Changes

Under the proposed rate structure, the fee for a single family residential property 2 acres or less of land would receive the same \$98 fee that it does currently. Other types of properties would see varied changes in their fees dependent upon the characteristics of each property. Customers will also see changes in response to the CWI charge (an extra line item on the tax bill, not related to the Town), and any fee adjustments in response to impervious area source data updates.

Needed Ordinance Revisions

Until a time when the rate structure is revised, no ordinance revisions are necessary.

Ongoing Billing Data Maintenance

Data maintenance processes for stormwater utility fee billing are crucial to enabling accurate and timely reporting and customer service. Property data from the Town of Bluffton, including information on development, should be integrated and kept as current as possible for use in determining properties that are billable for the stormwater fee. A GIS layer representing impervious surfaces should be updated regularly as part of utility administration in response to development, demolition, and recognition of incorrect data. In addition to tax parcel data, other County data sources such as building permit applications and changes in improvement values can also be utilized as triggers to begin or update stormwater billing. Under rate structure E the County is able to provide this data maintenance seamlessly and most economically to the Town.

Appendix A. Town of Bluffton Summary Sheet

	FY 2015-2016 Current RS	FY 2016-2017 Revised RS	FY 2017-2018 Revised RS	FY 2018-2019 Revised RS	FY 2019-2020 Revised RS
Rate Base					
0.75% Accounts	10,897	10,979	11,061	11,144	11,228
1.25% Billable IA Units	16,426	16,631	16,839	17,049	17,262
1.25% Billable Equivalent GA Units	20,372	20,626	20,884	21,145	21,409
Costs					
Stormwater O&M	\$ 776,945	\$ 799,503	\$ 867,856	\$ 895,141	\$ 924,193
Shared County Services					
Town Portion: Administration & Regulatory Compliance	\$ 41,669	\$ 32,705	\$ 33,156	\$ 33,555	\$ 34,128
Town Portion: Monitoring & Outreach	\$ 6,024	\$ 6,474	\$ 6,024	\$ 5,575	\$ 5,575
Capital Purchases & Projects	\$ 2,398,925	\$ 722,245	\$ 565,000	\$ 480,000	\$ 150,000
Total Town Costs (excl. debt service)	\$ 3,175,870	\$ 1,521,749	\$ 1,432,856	\$ 1,375,141	\$ 1,074,193
Total Town Costs payable to County for Shared Services	\$ 41,669	\$ 39,179	\$ 39,180	\$ 39,130	\$ 39,703
Debt Service					
Annual Debt Service	\$ -	\$ -	\$ -	\$ -	\$ -
Coverage Goal	1.30	1.30	1.30	1.30	1.30
Actual Coverage					
Revised RS Stormwater Fee					
Fixed Cost per Account, Calc	\$ 3.57	\$ 3.55	\$ 3.52	\$ 3.54	\$ 3.54
Fixed Cost Collection Rate	97%	98%	99%	99%	99%
Fixed Cost per Account, Override	\$ 8.00	\$ 8.00	\$ 8.00	\$ 8.00	\$ 8.00
Variable Costs, IA Proportion	80%	80%	80%	80%	80%
Variable Costs, GA Proportion	20%	20%	20%	20%	20%
Variable Costs, IA Unit Fee Calc	\$ 73.21	\$ 68.08	\$ 64.53	\$ 64.53	\$ 49.79
IA Collection Rate	97%	98%	99%	99%	99%
Variable Costs, IA Unit Fee Override	\$ 60.00	\$ 60.00	\$ 60.00	\$ 60.00	\$ 60.00
Variable Costs, GA Unit Fee Calc	\$ 14.76	\$ 13.73	\$ 13.01	\$ 13.01	\$ 10.04
GA Collection Rate	97%	98%	99%	99%	99%
Variable Costs, GA Unit Fee Override	\$ 30.00	\$ 30.00	\$ 30.00	\$ 30.00	\$ 30.00
Anticipated Town Fee Billings	\$ 1,704,472	\$ 1,725,348	\$ 1,746,442	\$ 1,746,442	\$ 1,767,814
Current RS Fee Alternative					
Impervious Area Units	13,236				
Fee	\$ 98.00				
Anticipated Town Fee Billings	\$ 1,297,095				
Collection Factor	99%				
Administrative Fee per Paid Unit	\$ 3.18				
Revenues					
Anticipated Town Fee Revenue	\$ 1,284,124	\$ 1,653,338	\$ 1,690,841	\$ 1,728,978	\$ 1,750,136
Anticipated funds remitted to County for Utility Admin	\$ (41,669)	\$ (32,705)	\$ (33,156)	\$ (33,555)	\$ (34,128)
Anticipated funds remitted to County for Monitoring & Outrea	\$ -	\$ (6,474)	\$ (6,024)	\$ (5,575)	\$ (5,575)
Anticipated Remaining Town Fee Revenue	\$ 1,242,456	\$ 1,614,159	\$ 1,651,661	\$ 1,689,847	\$ 1,710,433
Additional Revenue Sources	\$ 540,175	\$ 75	\$ 25	\$ -	\$ -
Bond Issuance Proceeds	\$ -	\$ -	\$ -	\$ -	\$ -
Fund Balance					
FY Beginning Fund Balance	\$ 1,871,197	\$ 477,958	\$ 570,442	\$ 789,272	\$ 1,103,978
Total Costs	\$ 3,175,870	\$ 1,521,749	\$ 1,432,856	\$ 1,375,141	\$ 1,074,193
Total Revenues	\$ 1,782,631	\$ 1,614,234	\$ 1,651,686	\$ 1,689,847	\$ 1,710,433
Surplus (Deficit)	\$ (1,393,239)	\$ 92,485	\$ 218,830	\$ 314,706	\$ 636,240
FY End Fund Balance	\$ 477,958	\$ 570,442	\$ 789,272	\$ 1,103,978	\$ 1,740,218