



BEAUFORT COUNTY
STORMWATER MANAGEMENT UTILITY BOARD
AGENDA

Wednesday, August 26, 2015

2:00 p.m.

Beaufort Industrial Village, Building 3 Conference Room 104
Industrial Village Road, Beaufort
843.255.2805

In accordance with South Carolina Code of Laws, 1976, as amended, Section 30-4-80(d), all local media was duly notified of the time, date, place and agenda of this meeting.

1. CALL TO ORDER – 2:00 p.m.
 - A. Approval of Agenda
 - B. Approval of Minutes – July 15, 2015 ([backup](#))
2. INTRODUCTIONS
3. PUBLIC COMMENT
4. REPORTS
 - A. Utility Update – Eric Larson, P.E. ([backup](#))
 - B. MS4 Update - Eric Larson, P.E. ([backup](#))
 - C. Monitoring Update – Eric Larson, P.E. ([backup](#))
 - D. Stormwater Implementation Committee Report – Eric Larson, P.E. ([backup](#))
 - E. Stormwater Related Projects – Eric Larson, P.E. ([backup](#))
 - F. Upcoming Professional Contracts Report – Eric Larson, P.E. ([backup](#))
 - G. Regional Coordination – Eric Larson, P.E. ([backup](#))
 - H. Financial Report ([backup](#))
 - I. Maintenance Projects Report – Eddie Bellamy ([backup](#))
5. UNFINISHED BUSINESS
 - A. Update on the Rate Study- Eric Larson
6. NEW BUSINESS
 - A. Public Education Briefing - Beaufort Soil and Water Conservation District ([backup](#))
 - B. Solid Waste and Recycling Board Letter for Stormwater Management Utility Board ([backup](#))
 - C. Oaktie West Pond Acceptance of Section 319 Grant ([backup](#)) and Recommendation to Beaufort County's Natural Resources Committee ([backup](#))
7. PUBLIC COMMENT



8. EXECUTIVE SESSION

A. "Discussion of negotiations incident to proposed contractual arrangements and proposed sale or purchase of property, the receipt of legal advice where the legal advice relates to a pending, threatened, or potential claim or other matters covered by the attorney-client privilege, settlement of legal claims, or the position of the public agency in other adversary situations involving the assertion against the agency of a claim."

9. NEXT MEETING AGENDA

A. September 30, 2015 ([backup](#))

10. ADJOURNMENT



Beaufort County Stormwater Management Utility Board (SWMU Board)
Meeting Minutes

July 15, 2015 at 1:30 p.m. in Beaufort Industrial Village Building #3 Conference Room
Draft August 6, 2015

Board Members

Present

Allyn Schneider
Don Smith
Marc Feinberg
Larry Meisner

Absent

William Bruggeman
James Fargher
Patrick Mitchell

Ex-Officio Members

Present

Andy Kinghorn
Jeremy Ritchie
Van Willis

Absent

Scott Liggett

Beaufort County Staff

Eric Larson
Eddie Bellamy
Carolyn Wallace
Danny Polk
Kevin Pitts
Patricia Wilson
Seth Stanbery
Ezekiel Miller
Tom Keaveny
Allison Coppage
Alan Eisenman

Visitors

Jennifer Fitts, Raftelis Financial Consultants, Inc.
Keith Readling, Raftelis Financial Consultants, Inc.
Anthony Maglione, Applied Technology Mgt.
Robert Wilkinson, Shell Point Neighborhood Ass.
Denise Parsick, Bft. Conservation District
Bryan McIlwee, Town of Hilton Head Island
Kristina Wetzel, Citizen of Port Royal
Kathy Todd, City of Beaufort
Alice Howard, County Council
Reed Armstrong, Coastal Conservation League
Paul Moore, Ward Edwards
Yvette Williams, Citizen Sheldon District
Tom Zinn, Buckwalter Commercial
Suzanne Larson, L.I.T.
Lamar Taylor, City of Beaufort

1. Meeting called to order – Don Smith

- A. Agenda –Approved
- B. May 20, 2015 Minutes - Approved.

2. Introductions – Completed.

3. Public Comment(s) – None.

4. Unfinished Business – ([Rate Study Backup](#)) ([Power Point Presentation Backup](#))

- A. **Rate Study Final Report** – Keith Readling, Raftelis Financial and Eric Larson, P.E.
Mr. Keith Readling represented Applied Management Technology and Raftelis Financial Consultants presented the final rate study results on modeling the six options presented at the previous Stormwater Management Utility Board Meeting. The rate study recommendation to the county and the municipalities is option E. For the unincorporated Beaufort County, this option includes two debt

issuances of \$5M in 2017 and \$5M in 2019 (a suggested benefit being that it allows future residence to contribute toward funding). Fees to fund the county wide infrastructure operation and maintenance will be generated from 80% of Impervious Area (IA) and 20% of Gross Area (GA). Parcels within the municipalities will also receive a separate Countywide Infrastructure Maintenance. The cost varies based on the amount of county-maintained infrastructure within the individual municipalities. The Gross Area has a declining block structure. There is a \$10.00 fee for the first two acres. The next two to ten acres have a \$5.00 fee. The next ninety acres have a \$4.00 fee and the next one hundred or more acres have a \$3.00 fee. The \$3.18 Single Family Unit (SFU) charge for the stormwater management will apply to the municipalities for this upcoming fiscal year due to the prior agreements and transition to per account basis in the future. Option E also has a fixed charge of \$12.00 to cover increased administrative costs for implementing new stormwater regulations. For the county, the \$3.18/ SFU charge will be deducted from the \$12.00 fixed cost. An example of a typical home on an acre lot would be: \$12.00 fixed charge plus \$65.00 for Impervious Area (IA) charge and \$10.00 for Gross Area (GA) charge equaling \$87.00. This is an increase from the average \$50.00 fee, but the increase is less compared to the other options necessary to support revenue requirements.

Ms. Alice Howard and Mr. Andy Kinghorn questioned credits for tidal acreage or improvements such as raingardens. Mr. Eric Larson explained that the Gross Area would still be charged, but if documentation supported credit requirements then the credit would be deducted. Mr. Larson also stated that changes to the credit policy are being proposed to improve the credit process. Mr. Larson clarified for Mr. Larry Meisner that county-wide infrastructure consists of roads, pipes, ditches, outfalls, etc. Mr. Jeremy Ritchie commented about the higher rate fee for the Town of Bluffton due to the significant amount of infrastructure compared to the lower number of billable units. Mr. Reading said that annexation by municipalities is easily modified in the rate structure model when questioned by Ms. Howard. When Mr. Reading was questioned by Ms. Kathy Todd about presenting the rate study results to the municipalities once all their data was included in the model, he said the scope included one more interaction with the towns and the city to make sure the capital and the model are correct, but not to make presentations to the elected officials. (NOTE: after the meeting Mr. Reading said a presentation to the municipalities would be included.)

Mr. Larry Meisner made a motion to accept the rate study with the recommended option E and the rates as identified in the rate study. The motion was seconded by Mr. Allyn Schneider.

5. New Business –

A. Stormwater Management Utility Budget – Eric Larson, P.E. ([please see attachment](#))

Mr. Eric Larson explained changes to the Stormwater Management Utility budget once the new rate structure and rate increase is adopted by County Council. Changes from the previous Fiscal Year 2016 budget reflect Zero in the Reserve Utilization of Stormwater Utility Revenues. The previous amount was \$1.9 million borrowed from the reserve. Increased revenues from the SWU Fees offset the need for using reserve funds. The cost share for the Management Plan update needs to be reallocated to cost share not CWI fees. The rate study model will be corrected to reflect that change and the municipalities are aware of this discrepancy. The budget reflects rolled over project expenditures that were forecasted as zero but delays in the projects meant that they needed to be included in this budget and the rate study model reflects differently due to this rollover.

Mr. Larson replied to a question from Mr. Don Smith about the Management Plan expenditure by stating that the plan has to be updated to correspond both to the MS4 requirements and to realign the capital expenditures with the watershed needs in the county. Four firms will give oral presentations in August for the contract to update the Management Plan and the Stormwater Implementation Committee will make the selection.

B. Revised Ordinance Presentation– Eric Larson, P.E. ([please see attachment](#))

Mr. Eric Larson said Mr. Tom Keaveny and Ms. Allison Coppage (Beaufort County Attorneys) are updating the ordinance to match the rate study language for option E, refining definitions and updating other administrative items. Mr. Andy Kinghorn questioned how changes in the CWI fee would affect the ordinance. Mr. Larson stated that the ordinance will reference the rate study tables and indices to provide for changes in the CWI. After five years, the ordinance will have to be updated as well as the rate study. If significant changes occur, both the rate study and the ordinance will have to be evaluated on an annual basis. Mr. Meisner suggested using general language instead of specific language and dates to extend the life period of the ordinance. Ms. Allison Coppage stated that due to *Equal dignity* the language needed to be more specific and comparable to the rate study even if it required a revision in the near future. Discrepancies between the rate study and the ordinance were discussed and Mr. Larson said corrections would be completed before the ordinance went to County Council.

Mr. Schneider amended the motion previously brought to the floor by Mr. Meisner. The board voted and unanimously passed the following motions:

1. Motion to accept the rate study with the recommended option E and the rates as identified in the rate study.
2. Motion to recommend the revised Stormwater Management Utility Budget for Fiscal Year 2016.
3. Motion to acknowledge the draft ordinance and agree with the changes in the ordinance to be brought before County Council.

6. Public Comment(s) –

A. Ms. Yvette Williams from the Sheldon District disagrees with the rate increase. Ms. Williams feels that residence in her district do not have a major impact on stormwater issues and she does not feel she is receiving stormwater services.

B. Mr. Tom Zinn (a developer with the Town of Bluffton) commented that construction work in the right-of-way should consider future implications and recovery costs outside of the right-of-way. An example is Highway 170 and Buckwalter Parkway where the plans called for 5 pipes which were downgraded to 1 pipe for compatibility purposes. Mr. Zinn feels stormwater recovery costs should be included in the construction costs to avoid future drainage issues in outlying areas.

7. Next Meeting Agenda – Approved ([Please see attachment](#))

9. Meeting Adjourned.

Beaufort County Stormwater Rate Study
(Including the Towns of Hilton Head Island, Bluffton, and
Port Royal, the City of Beaufort, and the Unincorporated
Beaufort County)
DRAFT Report
July 10, 2015

Prepared by Applied Technology & Management

Assistance from Raftelis Financial Consultants



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Executive Summary

Beaufort County, in cooperation with the City of Beaufort, and the Towns of Bluffton, Hilton Head Island, and Port Royal retained Applied Technologies 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 County is facing a declining rate base driven by annexations, steeply mounting costs for maintaining countywide 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 from regulatory compliance under MS4 permits, to unmet capital project needs, to needs specifically within the Town of Hilton Head Island to increase operation and maintenance funding for aging infrastructure recently taken over by the Town.

The rate analyses performed in support of this rate study included six options for each jurisdiction. 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:

| Modeled Rate Structure Option | Overall Rate Structure | Debt Financing for Some Capital | Partial Tax Funding | Method for Allocating Administrative Costs | Method for Allocating County-wide Infrastructure Maintenance Costs | Method for Re-allocating Costs from One Jurisdiction to another | Minimum Charge | Simplified Residential Rates |
|-------------------------------|---------------------------------------------|---------------------------------|-----------------------------------|--------------------------------------------|--------------------------------------------------------------------|-----------------------------------------------------------------|----------------|------------------------------|
| A | Impervious Area | No | Optional at Jurisdiction's Choice | Impervious Area SFU's | None | Optional at Jurisdiction's Choice | No | Yes |
| B | Impervious Area | Yes | Optional at Jurisdiction's Choice | Impervious Area SFU's | None | Optional at Jurisdiction's Choice | No | Yes |
| C | Impervious and Gross Area at 80/20 or 90/10 | No | Optional at Jurisdiction's Choice | Per Account | Impervious and Gross Area | Optional at Jurisdiction's Choice | Yes | Yes |
| D | Impervious and Gross Area at 80/20 or 90/10 | No | Optional at Jurisdiction's Choice | Impervious and Gross Area | Impervious and Gross Area | Optional at Jurisdiction's Choice | Yes | Yes |
| E | Impervious and Gross Area at 80/20 or 90/10 | Yes | Optional at Jurisdiction's Choice | Per Account | Impervious and Gross Area | Optional at Jurisdiction's Choice | Yes | Yes |
| F | Impervious and Gross Area at 80/20 or 90/10 | Yes | Optional at Jurisdiction's Choice | Impervious and Gross Area | Impervious and Gross Area | Optional at Jurisdiction's Choice | Yes | Yes |

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

The recommended rate structure option from these evaluations is Option E. In this option jurisdictions can use debt financing for large capital projects, would share administrative costs allocated on a per-account basis, and would all pay for their proportionate share of countywide infrastructure costs

allocated across impervious and gross area. This option results in the most affordable rates for the County over the coming five years, and is likely to do so for the municipalities as well.

However, rate modeling done to date has been less detailed for the municipalities than it has for the County. This is because the County seeks to make rate structure changes immediately while the municipalities expect to not make immediate changes. Also, the budget and capital planning data available for the municipalities has varied in level of detail and in some cases no capital project planning data was available. Additional efforts between the consultants and the municipalities will complete this process and in this draft report any rates offered as examples for the municipalities should be taken as illustrative and not in any way as recommendations.

For the County, the existing rates are \$50 per SFU per year. Continuing with the current rate structure and without proportionate share funding from the municipalities for countywide infrastructure operation and maintenance, these rates would need to escalate over the coming five years to \$120 per SFU per year by FY 2019-2020. This is a 140% increase.

Under the recommended option E, the rate structure will change to one with a fixed charge per account, plus a variable charge for impervious area and another variable charge for gross lot area. For a “tier 2” (average house) residence in the County on a lot smaller than 2 acres, the existing charge is \$50 per SFU per year. Under option E this charge would escalate to \$87 per year by FY 2019-2020. This is a 74% increase. While still large, it is much more reasonable than the “stay the course” option.

The County is responsible for funding 76.4% of all countywide infrastructure (CWI) operation and maintenance under the CWI allocation used. This is \$44.34 of the total \$87.00 annual charge for an average house on a lot smaller than 2 acres. The four municipalities are responsible for the remaining CWI funding, with the allocation based on the amount of infrastructure to be maintained that falls within each jurisdiction. For this fiscal year their CWI funding on an SFU basis is:

| | |
|----------------------------|-----------------|
| City of Beaufort | \$9.31 per SFU |
| Town of Port Royal | \$5.82 per SFU |
| Town of Bluffton | \$30.49 per SFU |
| Town of Hilton Head Island | \$8.86 per SFU |

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 with just enough revenue to cover operating costs, without much to invest in 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 study. This report summarizes the results of that effort.

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 interlocal 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 has recently submitted a notice of intent to be permitted as a municipal separate storm sewer system (MS4) and regulated under a National Pollutant Discharge Elimination System (NPDES) MS4 permit. Permits are anticipated in September 2015. These permits will 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 or South 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 less than 2,520 square feet of impervious area is tier 1. Tier 3 is residential property with more than 7,266 square feet 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 ($\leq 2,521$ 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 ($\geq 7,266$ 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. Beaufort County altered the rate only once, while the Town of Hilton Head Island has had much more variation in its rate over time. See Table 1 for a detailed account of each jurisdiction's rate 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 | \$ 105.00 | \$ 105.00 | \$ 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 |

Stormwater Programs

Beaufort County

Beaufort County's stormwater program serves as the backbone for the programs in the other jurisdictions. The County has historically been financially responsible for maintenance and repair on countywide infrastructure on and off County road rights of way, even within the municipal boundaries of underlying jurisdictions.

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 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.

The County is in a unique position in that its unincorporated area or its stormwater revenue base, is shrinking due to annexation, while its costs are still increasing. A notable portion of these costs are associated with managing water quality and drainage in rapidly growing regions just outside the underlying jurisdictional boundaries. Historically, some of these areas have been annexed into the adjacent Town or City yet the County continues to provide stormwater services.

There are a number of capital projects that have been identified by the County for completion in the next several years. While these are currently in unincorporated areas, they are either near to or surrounded by the municipalities such that the benefit is conferred well beyond the unincorporated region.

For these reasons and the new requirements soon to be imposed by the MS4 permit, the County has rapidly increasing costs paired with a declining revenue base. In recognition of this, the County was facing an enormous rate increase. Rather than simply adjust the rates in the unincorporated region, the County initiated a dialog with the City and Towns to discuss the growing countywide infrastructure operation and maintenance needs. The jurisdictions began exploring a more collaborative and equitable approach to sharing the costs (and receiving the benefits) of these services.

City of Beaufort

The City of Beaufort is the oldest, most densely built out of the jurisdictions. While the incorporated area is small, there is an extensive amount of old, buried infrastructure throughout the City, much of

which is estimated at over 100 years old. The City has been conducting an inventory of its drainage infrastructure and has identified approximately \$3 million in capital need, but the true need, not yet fully quantified, is likely much higher. The City may be interested in issuing debt to fund a capital program, but is likely to do so with general obligation bonds (for which the City itself is responsible) rather than revenue bonds (for which the utility is solely responsible).

An MS4 permit for the City is imminent, and it anticipates that the illicit discharge detection and elimination requirement of the permit will be costly as the aged infrastructure and unknown construction are likely to have a higher proportion of illicit connections.

The City is working, along with the other jurisdictions, on developing level and extent of service documentation to further define the parameters of its program going forward.

Town of Port Royal

The Town of Port Royal, just north of the Broad River, features widely varied development patterns, from the old town center to an expansive naval base, historic residential neighborhoods and recent development. Still, there is limited Town-maintained stormwater infrastructure. The primary piece of stormwater infrastructure is a regional BMP designed and constructed several years ago, which now requires regular maintenance. The BMP manages much of the stormwater runoff from the Town as well as from areas beyond its boundary.

At the outset of this project, the Town identified little pressing capital need, but increasing operating costs and a dwindling fund balance.

Town of Hilton Head Island

The Town of Hilton Head Island is contained on the County's largest, southern-most island. The Town is unique in its numerous planned unit developments, nearly all of which include individual and separate stormwater drainage systems. Upon development, the individual systems, associated BMPs, and their maintenance are the responsibility of the homeowners association or developer. Over time, however, the Town has taken over BMPs in the 10 largest residential developments. Many other, smaller, developments are interested in having the Town take over maintenance of their infrastructure and BMPs as well, so the Town is working toward a revised definition of its own level and extent of service that may accommodate these citizen requests.

Being the most secluded of the jurisdictions, Hilton Head Island has a particular difficulty receiving infrastructure maintenance services from the County. County staff and equipment are positioned at the other end of the county, making trips to the island inefficient and ineffectual. The Town is open to other arrangements that could result in quicker and less costly service provision.

The Town's pattern of BMP takeover is causing its basic cost picture to change over time. With a new permit for its MS4, the Town will face steeply rising costs as it complies with stringent monitoring, maintenance, and reporting requirements. These, paired with the difficulties associated with receiving services from the County, have been the impetus for a desire to develop a more comprehensive program, potentially one with dedicated equipment and staff.

Town of Bluffton

The Town of Bluffton has a stable stormwater management program funded by a moderate fee. The Town has a small set of equipment and staff available for maintenance work but relies on the County to provide drainage maintenance services outside the jurisdictional boundary. In Bluffton's case, the Town's municipal area has numerous unincorporated pockets, a circumstance which muddies the distinction between the County's responsibility and the Town's. This circumstance also makes it highly inefficient to work on individual sections of a continuous drainage system. Both parties would likely benefit from a thoughtful, well-executed drainage maintenance arrangement.

The Town is also anticipating MS4 permitting in September of this year. The permit will require additional monitoring, maintenance, and reporting efforts, and may require the Town to invest in additional equipment, hire additional staff, or make other arrangements to collaborate with the other newly permitted jurisdictions.

The Town is anticipating a small debt issuance in the coming years to fund identified capital projects.

Rate Study Approach

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 numerous 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 will be 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 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 may 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. 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 many of the jurisdictions, capital needs greatly 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.

Revenue bonding 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, and there is no risk to the greater entity.

Countywide 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 to date. 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 Countywide 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 similar to those for jurisdictional infrastructure. 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.

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 | 76.4% |
| City of Beaufort | 3.4% |
| Town of Port Royal | 1.0% |
| Town of Bluffton | 11.1% |
| Town of Hilton Head Island | 8.1% |

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 County, the Town of Hilton Head, and the Town of Bluffton will be subject to MS4 permit requirements beginning in late 2015. Some program elements are fulfilled by each individual jurisdiction while others are provided cooperatively. Any existing interlocal agreements and Memoranda of Understanding (MOU) may need to be revised if an alternate structure is chosen.

Individual Efforts

Other MS4 permit compliance activities will 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.

Cooperative Efforts

Monitoring

The County currently provides monitoring efforts in some jurisdictions (specifically North of the Broad). 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.

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 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

Alternative Cost Sharing Approach

As an alternative to the modeled countywide infrastructure charge, each underlying jurisdiction can work individually with the County to establish a level of service and cost for providing that service within the jurisdiction. Each jurisdiction is entitled to convey that fee to its customers in any reasonable manner, but must remit the appropriate amount to the County to receive the agreed upon services.

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 taxed 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. Agricultural properties in the County are excluded from any fee changes by State law, and as such represent their own category of properties for which the current fee is carried forward. 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 4906 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 gross 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.

Rate Study Results

ATM developed a spreadsheet-based rate model tool to model the way the individual jurisdiction and Countywide costs impact rates in each jurisdiction. 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.

Beaufort County

For the unincorporated County, Option E (see appendix A) results in rates for a fixed charge, an impervious area charge, and a gross area charge. This option would raise the annual charge for an average single family home on a 1 acre lot from the current \$50 per year to \$87 per year and the rate could be held stable for at least five years. All other options for the County result in less favorable rates. The fee charged to an average house on a one acre parcel in Beaufort County under the current rates and the six options modeled as part of this rate study are as follows:

| | Fiscal Year | | | | |
|-----------------|-------------|-----------|-----------|-----------|-----------|
| | 2015-2016 | 2016-2017 | 2017-2018 | 2018-2019 | 2019-2020 |
| Option A | \$100 | \$100 | \$100 | \$110 | \$120 |
| Option B | \$95 | \$95 | \$95 | \$95 | \$95 |
| Option C | \$87 | \$99 | \$99 | \$99 | \$101 |
| Option D | \$90 | \$100 | \$100 | \$100 | \$107 |
| Option E | \$87 | \$87 | \$87 | \$87 | \$87 |
| Option F | \$90 | \$90 | \$90 | \$90 | \$92 |

Therefore, ATM recommends rate structure option E for the County, under which 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 two bond sales of \$5,000,000 occur in FY 2017 and FY2019. Because the underlying jurisdictions are unlikely to adopt a rate structure change in the coming fiscal year, the existing \$3.18 per (paid) SFU administrative charge that has already been negotiated is retained.

The County is responsible for funding 76.4% of all countywide infrastructure (CWI) operation and maintenance under the CWI allocation used. This is \$44.34 of the total \$87.00 annual charge for an average house on a lot smaller than 2 acres. The four municipalities are responsible for the remaining CWI funding, with the allocation based on the amount of infrastructure to be maintained that falls within each jurisdiction, as described previously. For the 2015-16 fiscal year their CWI funding on an SFU basis is:

| | |
|----------------------------|-----------------|
| City of Beaufort | \$9.31 per SFU |
| Town of Port Royal | \$5.82 per SFU |
| Town of Bluffton | \$30.49 per SFU |
| Town of Hilton Head Island | \$8.86 per SFU |

City, Towns

Because the City and Towns are not expected to change their rate structures this year, the financial planning for the municipalities was not constrained to the same timeline, and efforts to refine the rate model are ongoing. Draft rates for each of the municipalities have been produced for at least some of the six rate structure options but they should be viewed as examples rather than recommendations, and will likely be revised in the coming months. Because the timing of major costs, particularly capital expenses, can be so critical to rates, opportunities for each jurisdiction to work with the model are necessary and have not happened. Similarly, some jurisdictions have not provided any planned capital projects or costs and so the model is not yet capable of modeling debt options. Options where a reasonable model run cannot yet be created were not modeled.

Following a consensus on program and financial planning, final recommended rates can be developed with each municipality. Example model runs and the rates they use are provided in Appendix B (City of Beaufort), Appendix C (Town of Port Royal), Appendix D (Town of Bluffton), and Appendix E (Town of Hilton Head Island). As mentioned previously, these are illustrative only.

In general, the ATM team recommends rate structure options C or E for the jurisdictions, depending on the evolving capital needs of the programs. The team understands that this change is unlikely to happen in the coming year, so the recommendation extends to the following year if the current rate structure is

retained for this year. In future years, the County may need to charge a higher administrative fee to jurisdictions that do not adopt the rate structure of the group, as additional administrative effort will be spent managing a rate structure and supporting customer service needs in ways different than and in some cases separate from the regional utility.

The model provided as part of this rate study will assist the jurisdictions in fine-tuning program and capital expenses in the future to develop the most suitable set of rates over time.

General Impacts of Rate Structure Changes

The recommended rate structure (Option E if capital intensive, Option C if not) incorporates a fixed charge per account (parcel), plus two variable charges: one for impervious area on the parcel and one for gross parcel area. It also continues the practice of using simplified residential rates for residential properties of varying types from single family detached through condominium units. Because the current billing practices for large undeveloped tracts include an impervious area estimation process while the new rates structures do not charge an impervious area fee if there is no impervious area present, the impervious charges may be divergent between the rate structures. However, the introduction of a gross area charge in the new rate structure modeled largely mimics the fee outcomes.

Using three rate metrics (fixed, impervious area, gross area) allows the fee to have components that relate to cost causation most directly and is generally preferred in utility ratemaking. For example, some administrative costs for billing and collections efforts relate much more to the existence of a bill than to the size of the bill. Paying these costs from an impervious area rate shifts costs to large ratepayers while paying these costs from a fixed charge, as recommended, allocates the costs more equally across all ratepayers.

Needed Ordinance Revisions

County

If a new rate structure is adopted, significant revisions to the County's stormwater utility fee ordinance will be needed. While the revisions are outside the ATM team's scope of work, the team has identified the following categories to focus on:

1. The definitions for residential dwelling classifications and nonresidential properties will need to be revised according to the new rate structure, which does not strictly classify properties according to their land use code in the County tax data.
2. In the definitions and general funding policy section, the rate structure and fee calculation description will need to be updated (refer to Rate Structure Design section above).
3. The stormwater service fee rates for other jurisdictions should be removed and replaced with language that says the County will convey the fees for all jurisdictions until each has transitioned to the revised rate structure. The ordinance should state that the same rate structure will apply for all jurisdictions and should describe how the County will maintain stormwater billing data and conduct other administrative tasks. Once a jurisdiction has transitioned to the new rate structure, the jurisdiction should revise its own ordinance on stormwater service fee rates and execution of utility authority.
4. References to findings from the 2005 rate study should be eliminated or updated to reflect the current findings.

5. References to the stormwater utility's responsibilities and how it is managed will need to be revised to take into account the multijurisdictional nature of the utility and any changes to the way funding (especially for countywide drainage infrastructure) occurs. The revisions can be based on current interlocal governmental agreements with the City and Towns.

Other jurisdictions

Following the County ordinance revision and adoption of the revised rate structure, each underlying jurisdiction should revise its ordinance accordingly and mirror the County's language on the rate structure.

Interlocal Agreements

After each jurisdiction transitions to the revised rate structure, the references to interlocal agreements on administrative fees in the County ordinance can be replaced with details on the actual fee component.

Ongoing Billing Data Maintenance

Data maintenance processes for stormwater utility fee billing are crucial to enabling accurate and timely reporting and customer service. Parcel data from the five jurisdictions 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 in response to development, demolition, and recognition of incorrect 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.

The ATM team will provide technical guidance on data maintenance in a separate memorandum that will go into detail on digitization and GIS processes, triggers for new or changed development, and other processes for keeping stormwater billing data current.

Appendix A – Beaufort County Recommended Rates (Options A-F)

**Beaufort County
Summary Sheet**

Sheet Name: BC-A
Option: A

| | FY 2015-2016 Current RS | FY 2016-2017 Current RS | FY 2017-2018 Current RS | FY 2018-2019 Current RS | FY 2019-2020 Current RS |
|----------------------------------------------------------------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| Rate Base | | | | | |
| 1.00% Accounts | 65,314 | 65,967 | 66,627 | 67,293 | 67,966 |
| -0.50% Billable IA Units | 54,388 | 54,116 | 53,845 | 53,576 | 53,308 |
| -1.00% Billable Equivalent GA Units | 104,545 | 103,500 | 102,465 | 101,440 | 100,426 |
| Costs | | | | | |
| Administration (50250012) | \$ 360,495 | \$ 363,725 | \$ 368,737 | \$ 373,179 | \$ 379,546 |
| County Portion: Administration | \$ 169,198 | \$ 170,714 | \$ 173,066 | \$ 175,151 | \$ 178,139 |
| Regulatory Compliance (50250013) | \$ 620,242 | \$ 687,847 | \$ 635,754 | \$ 669,218 | \$ 695,872 |
| County Portion: Regulatory Compliance | \$ 555,853 | \$ 623,693 | \$ 574,254 | \$ 610,371 | \$ 637,025 |
| County-Wide Infrastructure O&M (50250011) | \$ 3,492,833 | \$ 3,407,621 | \$ 3,428,602 | \$ 3,520,449 | \$ 3,552,600 |
| Capital Purchases & Projects | \$ 1,335,790 | \$ 2,079,320 | \$ 1,662,460 | \$ 1,585,000 | \$ 3,194,460 |
| Total County Costs (excl. debt service) | \$ 5,809,361 | \$ 6,538,513 | \$ 6,095,553 | \$ 6,147,846 | \$ 7,822,478 |
| Total County Costs excl. Shared Services Payable by Others (excl. debt service) | \$ 5,553,674 | \$ 6,281,348 | \$ 5,838,382 | \$ 5,890,971 | \$ 7,562,224 |
| Debt Service | | | | | |
| Annual Debt Service | \$ - | \$ - | \$ - | \$ - | \$ - |
| Coverage Goal | 1.30 | 1.30 | 1.30 | 1.30 | 1.30 |
| Actual Coverage | | | | | |
| Current RS Fee Alternative | | | | | |
| Impervious Area Units | 60,927 | 60,622 | 60,319 | 60,017 | 59,717 |
| Fee | \$ 100.00 | \$ 100.00 | \$ 100.00 | \$ 110.00 | \$ 120.00 |
| Countywide Infrastructure Charge | \$ 43.79 | \$ 42.93 | \$ 43.42 | \$ 44.80 | \$ 45.44 |
| Override Countywide Infrastructure Charge | \$ - | \$ - | \$ - | \$ - | \$ - |
| Anticipated Unincorporated County Fee Billings | \$ 6,092,675 | \$ 6,062,211 | \$ 6,031,900 | \$ 6,601,915 | \$ 7,166,079 |
| Collection Factor | 94% | 94% | 94% | 94% | 94% |
| Revenues | | | | | |
| Anticipated Unincorp County Fee Revenue | \$ 5,727,114 | \$ 5,698,479 | \$ 5,669,986 | \$ 6,205,800 | \$ 6,736,114 |
| Anticipated Revenue from other Jurisdictions | \$ - | \$ - | \$ - | \$ - | \$ - |
| Administrative Fee | \$ 191,297 | \$ 193,011 | \$ 195,671 | \$ 198,028 | \$ 201,407 |
| Regulatory Compliance | \$ 64,390 | \$ 64,154 | \$ 61,500 | \$ 58,847 | \$ 58,847 |
| Bond Issuance Proceeds | \$ - | \$ - | \$ - | \$ - | \$ - |
| Fund Balance | | | | | |
| FY Beginning Fund Balance | \$ - | \$ 429,127 | \$ 103,423 | \$ 192,199 | \$ 763,903 |
| Total Costs | \$ 5,553,674 | \$ 6,281,348 | \$ 5,838,382 | \$ 5,890,971 | \$ 7,562,224 |
| Total Revenues | \$ 5,982,801 | \$ 5,955,643 | \$ 5,927,158 | \$ 6,462,675 | \$ 6,996,368 |
| Surplus (Deficit) | \$ 429,127 | \$ (325,705) | \$ 88,776 | \$ 571,704 | \$ (565,857) |
| FY End Fund Balance | \$ 429,127 | \$ 103,423 | \$ 192,199 | \$ 763,903 | \$ 198,047 |

**Beaufort County
Summary Sheet**

Sheet Name: **BC-B**
Option: **B**

| | FY 2015-2016 Current RS | FY 2016-2017 Current RS | FY 2017-2018 Current RS | FY 2018-2019 Current RS | FY 2019-2020 Current RS |
|---------------------------------------------------------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| Rate Base | | | | | |
| 1.00% Accounts | 65,314 | 65,967 | 66,627 | 67,293 | 67,966 |
| -0.50% Billable IA Units | 54,388 | 54,116 | 53,845 | 53,576 | 53,308 |
| -1.00% Billable Equivalent GA Units | 104,545 | 103,500 | 102,465 | 101,440 | 100,426 |
| Costs | | | | | |
| Administration (50250012) | \$ 360,495 | \$ 363,725 | \$ 368,737 | \$ 373,179 | \$ 379,546 |
| County Portion: Administration | \$ 169,198 | \$ 170,714 | \$ 173,066 | \$ 175,151 | \$ 178,139 |
| Regulatory Compliance (50250013) | \$ 620,242 | \$ 687,847 | \$ 635,754 | \$ 669,218 | \$ 695,872 |
| County Portion: Regulatory Compliance | \$ 555,853 | \$ 623,693 | \$ 574,254 | \$ 610,371 | \$ 637,025 |
| County-Wide Infrastructure O&M (50250011) | \$ 3,492,833 | \$ 3,407,621 | \$ 3,428,602 | \$ 3,520,449 | \$ 3,552,600 |
| Capital Purchases & Projects | \$ 1,335,790 | \$ 2,079,320 | \$ 1,662,460 | \$ 1,585,000 | \$ 3,194,460 |
| Total County Costs (excl. debt service) | \$ 5,809,361 | \$ 6,538,513 | \$ 6,095,553 | \$ 6,147,846 | \$ 7,822,478 |
| Total County Costs excl. Shared Services Payable by Others (excl. debt service) | \$ 5,553,674 | \$ 6,281,348 | \$ 5,838,382 | \$ 5,890,971 | \$ 7,562,224 |
| Debt Service | | | | | |
| Annual Debt Service | \$ - | \$ 146,185 | \$ 292,371 | \$ 438,556 | \$ 584,741 |
| Coverage Goal | 1.30 | 1.30 | 1.30 | 1.30 | 1.30 |
| Actual Coverage | | 13.79 | 6.91 | 4.30 | 3.09 |
| Current RS Fee Alternative | | | | | |
| Impervious Area Units | 60,927 | 60,622 | 60,319 | 60,017 | 59,717 |
| Fee | \$ 95.00 | \$ 95.00 | \$ 95.00 | \$ 95.00 | \$ 95.00 |
| Countywide Infrastructure Charge | \$ 43.79 | \$ 42.93 | \$ 43.42 | \$ 44.80 | \$ 45.44 |
| Override Countywide Infrastructure Charge | \$ - | \$ - | \$ - | \$ - | \$ - |
| Anticipated Unincorporated County Fee Billings | \$ 5,788,041 | \$ 5,759,101 | \$ 5,730,305 | \$ 5,701,654 | \$ 5,673,146 |
| Collection Factor | 94% | 94% | 94% | 94% | 94% |
| Revenues | | | | | |
| Anticipated Unincorp County Fee Revenue | \$ 5,440,759 | \$ 5,413,555 | \$ 5,386,487 | \$ 5,359,555 | \$ 5,332,757 |
| Anticipated Revenue from other Jurisdictions | \$ - | \$ - | \$ - | \$ - | \$ - |
| Administrative Fee | \$ 191,297 | \$ 193,011 | \$ 195,671 | \$ 198,028 | \$ 201,407 |
| Regulatory Compliance | \$ 64,390 | \$ 64,154 | \$ 61,500 | \$ 58,847 | \$ 58,847 |
| Bond Issuance Proceeds | \$ - | \$ 5,000,000 | \$ - | \$ 5,000,000 | \$ - |
| Fund Balance | | | | | |
| FY Beginning Fund Balance | \$ - | \$ 142,772 | \$ 4,385,958 | \$ 3,898,864 | \$ 8,185,767 |
| Total Costs | \$ 5,553,674 | \$ 6,427,533 | \$ 6,130,752 | \$ 6,329,527 | \$ 8,146,966 |
| Total Revenues | \$ 5,696,446 | \$ 10,670,719 | \$ 5,643,658 | \$ 10,616,430 | \$ 5,593,011 |
| Surplus (Deficit) | \$ 142,772 | \$ 4,243,186 | \$ (487,094) | \$ 4,286,903 | \$ (2,553,955) |
| FY End Fund Balance | \$ 142,772 | \$ 4,385,958 | \$ 3,898,864 | \$ 8,185,767 | \$ 5,631,812 |

Beaufort County and Municipalities Stormwater Rate Study DRAFT Report

July 10, 2015

Beaufort County
Summary Sheet

Sheet Name: BC-C
Option: C

| | FY 2015-2016 Revised RS | FY 2016-2017 Revised RS | FY 2017-2018 Revised RS | FY 2018-2019 Revised RS | FY 2019-2020 Revised RS |
|---------------------------------------------------------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| Rate Base | | | | | |
| 1.00% Accounts | 65,314 | 65,967 | 66,627 | 67,293 | 67,966 |
| -0.50% Billable IA Units | 54,388 | 54,116 | 53,845 | 53,576 | 53,308 |
| -1.00% Billable Equivalent GA Units | 104,545 | 103,500 | 102,465 | 101,440 | 100,426 |
| Costs | | | | | |
| Administration (50250012) | \$ 360,495 | \$ 363,725 | \$ 368,737 | \$ 373,179 | \$ 379,546 |
| County Portion: Administration | \$ 187,106 | \$ 188,782 | \$ 191,384 | \$ 193,689 | \$ 196,994 |
| Regulatory Compliance (50250013) | \$ 620,242 | \$ 687,847 | \$ 635,754 | \$ 669,218 | \$ 695,872 |
| County Portion: Regulatory Compliance | \$ 572,294 | \$ 639,616 | \$ 589,928 | \$ 625,797 | \$ 652,451 |
| County-Wide Infrastructure O&M (50250011) | \$ 3,492,833 | \$ 3,407,621 | \$ 3,428,602 | \$ 3,520,449 | \$ 3,552,600 |
| County Portion: County-Wide Infrastructure | \$ 2,667,868 | \$ 2,602,782 | \$ 2,618,807 | \$ 2,688,961 | \$ 2,713,518 |
| Capital Purchases & Projects | \$ 1,335,790 | \$ 2,079,320 | \$ 1,662,460 | \$ 1,585,000 | \$ 3,194,460 |
| | \$ - | \$ - | \$ - | \$ - | \$ - |
| Total County Costs (excl. debt service) | \$ 5,809,361 | \$ 6,538,513 | \$ 6,095,553 | \$ 6,147,846 | \$ 7,822,478 |
| Total County Costs excl. Shared Services Payable by Others (excl. debt service) | \$ 4,763,057 | \$ 5,510,500 | \$ 5,062,579 | \$ 5,093,447 | \$ 6,757,423 |
| 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 | \$ 11.63 | \$ 13.19 | \$ 12.41 | \$ 12.92 | \$ 13.30 |
| Fixed Cost per Account, admin portion: | \$ 2.86 | \$ 3.49 | \$ 3.55 | \$ 3.62 | \$ 3.70 |
| Fixed Cost per Account, regulatory compliance portion: | \$ 8.76 | \$ 9.70 | \$ 8.85 | \$ 9.30 | \$ 9.60 |
| Fixed Cost per Account, CWI portion: | \$ - | \$ - | \$ - | \$ - | \$ - |
| Fixed Cost Collection Rate | 91% | 92% | 94% | 94% | 94% |
| Fixed Cost per Account, Override | \$ 12.00 | \$ 14.00 | \$ 14.00 | \$ 14.00 | \$ 14.00 |
| Variable Costs, IA Proportion | 80% | 80% | 80% | 80% | 80% |
| Variable Costs, GA Proportion | 20% | 20% | 20% | 20% | 20% |
| Variable Costs, IA Unit Fee Calc | \$ 58.90 | \$ 69.22 | \$ 63.61 | \$ 63.82 | \$ 88.67 |
| Variable Costs, IA Unit Fee, administrative portion: | \$ - | \$ - | \$ - | \$ - | \$ - |
| Variable Costs, IA Unit Fee, reg compliance portion: | \$ - | \$ - | \$ - | \$ - | \$ - |
| Variable Costs, IA Unit Fee, CWI portion: | \$ 39.24 | \$ 38.48 | \$ 38.91 | \$ 40.15 | \$ 40.72 |
| Variable Costs, IA Unit Fee, Other County costs portion: | \$ 19.65 | \$ 30.74 | \$ 24.70 | \$ 23.67 | \$ 47.94 |
| IA Collection Rate | 91% | 92% | 94% | 94% | 94% |
| Variable Costs, IA Unit Fee Override | \$ 65.00 | \$ 75.00 | \$ 75.00 | \$ 75.00 | \$ 75.00 |
| Variable Costs, GA Unit Fee Calc | \$ 7.66 | \$ 9.05 | \$ 8.36 | \$ 8.43 | \$ 11.77 |
| Variable Costs, GA Unit Fee, administrative portion: | \$ - | \$ - | \$ - | \$ - | \$ - |
| Variable Costs, GA Unit Fee, reg compliance portion: | \$ - | \$ - | \$ - | \$ - | \$ - |
| Variable Costs, GA Unit Fee, CWI portion: | \$ 5.10 | \$ 5.03 | \$ 5.11 | \$ 5.30 | \$ 5.40 |
| Variable Costs, GA Unit Fee, Other County costs portion: | \$ 2.56 | \$ 4.02 | \$ 3.24 | \$ 3.13 | \$ 6.36 |
| GA Collection Rate | 91% | 92% | 94% | 94% | 94% |
| Variable Costs, GA Unit Fee Override | \$ 10.00 | \$ 10.00 | \$ 10.00 | \$ 10.00 | \$ 12.00 |
| Anticipated Unincorp County Fee Billings | \$ 5,364,442 | \$ 6,017,238 | \$ 5,995,803 | \$ 5,974,702 | \$ 6,154,736 |
| Revenues | | | | | |
| Anticipated Unincorp County Fee Revenue | \$ 4,881,642 | \$ 5,535,859 | \$ 5,636,055 | \$ 5,616,220 | \$ 5,785,452 |
| Anticipated Revenue from other Jurisdictions | \$ - | \$ - | \$ - | \$ - | \$ - |
| Administrative Fee | \$ 173,390 | \$ 174,943 | \$ 177,354 | \$ 179,490 | \$ 182,552 |
| Regulatory Compliance | \$ 47,948 | \$ 48,230 | \$ 45,825 | \$ 43,421 | \$ 43,421 |
| Countywide Infrastructure Maintenance | \$ 824,966 | \$ 804,840 | \$ 809,795 | \$ 831,488 | \$ 839,082 |
| Bond Issuance Proceeds | \$ - | \$ - | \$ - | \$ - | \$ - |
| Fund Balance | | | | | |
| FY Beginning Fund Balance | \$ - | \$ 118,585 | \$ 143,944 | \$ 717,420 | \$ 1,240,193 |
| Total Costs | \$ 5,809,361 | \$ 6,538,513 | \$ 6,095,553 | \$ 6,147,846 | \$ 7,822,478 |
| Total Revenues | \$ 5,927,945 | \$ 6,563,872 | \$ 6,669,029 | \$ 6,670,619 | \$ 6,850,507 |
| Surplus (Deficit) | \$ 118,585 | \$ 25,359 | \$ 573,476 | \$ 522,773 | \$ (971,971) |
| FY End Fund Balance | \$ 118,585 | \$ 143,944 | \$ 717,420 | \$ 1,240,193 | \$ 268,222 |

**Beaufort County
Summary Sheet**

Sheet Name: **BC-D**
Option: **D**

| | FY 2015-2016 Revised RS | FY 2016-2017 Revised RS | FY 2017-2018 Revised RS | FY 2018-2019 Revised RS | FY 2019-2020 Revised RS |
|---------------------------------------------------------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| Rate Base | | | | | |
| 1.00% Accounts | 65,314 | 65,967 | 66,627 | 67,293 | 67,966 |
| -0.50% Billable IA Units | 54,388 | 54,116 | 53,845 | 53,576 | 53,308 |
| -1.00% Billable Equivalent GA Units | 104,545 | 103,500 | 102,465 | 101,440 | 100,426 |
| Costs | | | | | |
| Administration (50250012) | \$ 360,495 | \$ 363,725 | \$ 368,737 | \$ 373,179 | \$ 379,546 |
| County Portion: Administration | \$ 169,198 | \$ 170,714 | \$ 173,066 | \$ 175,151 | \$ 178,139 |
| Regulatory Compliance (50250013) | \$ 620,242 | \$ 687,847 | \$ 635,754 | \$ 669,218 | \$ 695,872 |
| County Portion: Regulatory Compliance | \$ 555,853 | \$ 623,693 | \$ 574,254 | \$ 610,371 | \$ 637,025 |
| County-Wide Infrastructure O&M (50250011) | \$ 3,492,833 | \$ 3,407,621 | \$ 3,428,602 | \$ 3,520,449 | \$ 3,552,600 |
| County Portion: County-Wide Infrastructure | \$ 2,667,868 | \$ 2,602,782 | \$ 2,618,807 | \$ 2,688,961 | \$ 2,713,518 |
| Capital Purchases & Projects | \$ 1,335,790 | \$ 2,079,320 | \$ 1,662,460 | \$ 1,585,000 | \$ 3,194,460 |
| | \$ - | \$ - | \$ - | \$ - | \$ - |
| Total County Costs (excl. debt service) | \$ 5,809,361 | \$ 6,538,513 | \$ 6,095,553 | \$ 6,147,846 | \$ 7,822,478 |
| Total County Costs excl. Shared Services Payable by Others (excl. debt service) | \$ 4,728,708 | \$ 5,476,509 | \$ 5,028,587 | \$ 5,059,483 | \$ 6,723,142 |
| 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 | \$ - | \$ - | \$ - | \$ - | \$ - |
| Fixed Cost per Account, admin portion: | \$ - | \$ - | \$ - | \$ - | \$ - |
| Fixed Cost per Account, regulatory compliance portion: | \$ - | \$ - | \$ - | \$ - | \$ - |
| Fixed Cost per Account, CWI portion: | \$ - | \$ - | \$ - | \$ - | \$ - |
| Fixed Cost Collection Rate | 91% | 92% | 94% | 94% | 94% |
| Fixed Cost per Account, Override | \$ - | \$ - | \$ - | \$ - | \$ - |
| Variable Costs, IA Proportion | 80% | 80% | 80% | 80% | 80% |
| Variable Costs, GA Proportion | 20% | 20% | 20% | 20% | 20% |
| Variable Costs, IA Unit Fee Calc | \$ 69.56 | \$ 80.96 | \$ 74.72 | \$ 75.55 | \$ 100.90 |
| Variable Costs, IA Unit Fee, administrative portion: | \$ 2.49 | \$ 2.52 | \$ 2.57 | \$ 2.62 | \$ 2.67 |
| Variable Costs, IA Unit Fee, reg compliance portion: | \$ 8.18 | \$ 9.22 | \$ 8.53 | \$ 9.11 | \$ 9.56 |
| Variable Costs, IA Unit Fee, CWI portion: | \$ 39.24 | \$ 38.48 | \$ 38.91 | \$ 40.15 | \$ 40.72 |
| Variable Costs, IA Unit Fee, Other County costs portion: | \$ 19.65 | \$ 30.74 | \$ 24.70 | \$ 23.67 | \$ 47.94 |
| IA Collection Rate | 91% | 92% | 94% | 94% | 94% |
| Variable Costs, IA Unit Fee Override | \$ 80.00 | \$ 90.00 | \$ 90.00 | \$ 90.00 | \$ 95.00 |
| Variable Costs, GA Unit Fee Calc | \$ 9.05 | \$ 10.59 | \$ 9.82 | \$ 9.98 | \$ 13.39 |
| Variable Costs, GA Unit Fee, administrative portion: | \$ 0.32 | \$ 0.33 | \$ 0.34 | \$ 0.35 | \$ 0.35 |
| Variable Costs, GA Unit Fee, reg compliance portion: | \$ 1.06 | \$ 1.21 | \$ 1.12 | \$ 1.20 | \$ 1.27 |
| Variable Costs, GA Unit Fee, CWI portion: | \$ 5.10 | \$ 5.03 | \$ 5.11 | \$ 5.30 | \$ 5.40 |
| Variable Costs, GA Unit Fee, Other County costs portion: | \$ 2.56 | \$ 4.02 | \$ 3.24 | \$ 3.13 | \$ 6.36 |
| GA Collection Rate | 91% | 92% | 94% | 94% | 94% |
| Variable Costs, GA Unit Fee Override | \$ 10.00 | \$ 10.00 | \$ 10.00 | \$ 10.00 | \$ 12.00 |
| Anticipated Unincorp County Fee Billings | \$ 5,396,494 | \$ 5,905,440 | \$ 5,870,700 | \$ 5,836,240 | \$ 6,269,372 |
| Revenues | | | | | |
| Anticipated Unincorp County Fee Revenue | \$ 4,910,810 | \$ 5,433,005 | \$ 5,518,458 | \$ 5,486,066 | \$ 5,893,210 |
| Anticipated Revenue from other Jurisdictions | \$ - | \$ - | \$ - | \$ - | \$ - |
| Administrative Fee | \$ 191,297 | \$ 193,011 | \$ 195,671 | \$ 198,028 | \$ 201,407 |
| Regulatory Compliance | \$ 64,390 | \$ 64,154 | \$ 61,500 | \$ 58,847 | \$ 58,847 |
| Countywide Infrastructure Maintenance | \$ 824,966 | \$ 804,840 | \$ 809,795 | \$ 831,488 | \$ 839,082 |
| Bond Issuance Proceeds | \$ - | \$ - | \$ - | \$ - | \$ - |
| Fund Balance | | | | | |
| FY Beginning Fund Balance | \$ - | \$ 182,102 | \$ 138,598 | \$ 628,469 | \$ 1,055,052 |
| Total Costs | \$ 5,809,361 | \$ 6,538,513 | \$ 6,095,553 | \$ 6,147,846 | \$ 7,822,478 |
| Total Revenues | \$ 5,991,462 | \$ 6,495,009 | \$ 6,585,424 | \$ 6,574,429 | \$ 6,992,545 |
| Surplus (Deficit) | \$ 182,102 | \$ (43,504) | \$ 489,871 | \$ 426,583 | \$ (829,933) |
| FY End Fund Balance | \$ 182,102 | \$ 138,598 | \$ 628,469 | \$ 1,055,052 | \$ 225,119 |

Beaufort County and Municipalities Stormwater Rate Study DRAFT Report

July 10, 2015

**Beaufort County
Summary Sheet**

Sheet Name: **BC-E**
Option: **E**

| | FY 2015-2016 Revised RS | FY 2016-2017 Revised RS | FY 2017-2018 Revised RS | FY 2018-2019 Revised RS | FY 2019-2020 Revised RS |
|---------------------------------------------------------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| Rate Base | | | | | |
| 1.00% Accounts | 65,314 | 65,967 | 66,627 | 67,293 | 67,966 |
| -0.50% Billable IA Units | 54,388 | 54,116 | 53,845 | 53,576 | 53,308 |
| -1.00% Billable Equivalent GA Units | 104,545 | 103,500 | 102,465 | 101,440 | 100,426 |
| Costs | | | | | |
| Administration (50250012) | \$ 360,495 | \$ 363,725 | \$ 368,737 | \$ 373,179 | \$ 379,546 |
| County Portion: Administration | \$ 187,106 | \$ 188,782 | \$ 191,384 | \$ 193,689 | \$ 196,994 |
| Regulatory Compliance (50250013) | \$ 620,242 | \$ 687,847 | \$ 635,754 | \$ 669,218 | \$ 695,872 |
| County Portion: Regulatory Compliance | \$ 572,294 | \$ 639,616 | \$ 589,928 | \$ 625,797 | \$ 652,451 |
| County-Wide Infrastructure O&M (50250011) | \$ 3,492,833 | \$ 3,407,621 | \$ 3,428,602 | \$ 3,520,449 | \$ 3,552,600 |
| County Portion: County-Wide Infrastructure | \$ 2,667,868 | \$ 2,602,782 | \$ 2,618,807 | \$ 2,688,961 | \$ 2,713,518 |
| Capital Purchases & Projects | \$ 1,335,790 | \$ 2,079,320 | \$ 1,662,460 | \$ 1,585,000 | \$ 3,194,460 |
| | \$ - | \$ - | \$ - | \$ - | \$ - |
| Total County Costs (excl. debt service) | \$ 5,809,361 | \$ 6,538,513 | \$ 6,095,553 | \$ 6,147,846 | \$ 7,822,478 |
| Total County Costs excl. Shared Services Payable by Others (excl. debt service) | \$ 4,763,057 | \$ 5,510,500 | \$ 5,062,579 | \$ 5,093,447 | \$ 6,757,423 |
| Debt Service | | | | | |
| Annual Debt Service | \$ - | \$ 146,185 | \$ 292,371 | \$ 438,556 | \$ 584,741 |
| Coverage Goal | 1.30 | 1.30 | 1.30 | 1.30 | 1.30 |
| Actual Coverage | | 10.16 | 5.49 | 3.37 | 2.40 |
| Revised RS Stormwater Fee | | | | | |
| Fixed Cost per Account, Calc | \$ 11.63 | \$ 13.19 | \$ 12.41 | \$ 12.92 | \$ 13.30 |
| Fixed Cost per Account, admin portion: | \$ 2.86 | \$ 3.49 | \$ 3.55 | \$ 3.62 | \$ 3.70 |
| Fixed Cost per Account, regulatory compliance portion: | \$ 8.76 | \$ 9.70 | \$ 8.85 | \$ 9.30 | \$ 9.60 |
| Fixed Cost per Account, CWI portion: | \$ - | \$ - | \$ - | \$ - | \$ - |
| Fixed Cost Collection Rate | 91% | 92% | 94% | 94% | 94% |
| Fixed Cost per Account, Override | \$ 12.00 | \$ 12.00 | \$ 12.00 | \$ 12.00 | \$ 12.00 |
| Variable Costs, IA Proportion | 80% | 80% | 80% | 80% | 80% |
| Variable Costs, GA Proportion | 20% | 20% | 20% | 20% | 20% |
| Variable Costs, IA Unit Fee Calc | \$ 58.90 | \$ 71.38 | \$ 67.96 | \$ 70.37 | \$ 97.44 |
| Variable Costs, IA Unit Fee, administrative portion: | \$ - | \$ - | \$ - | \$ - | \$ - |
| Variable Costs, IA Unit Fee, reg compliance portion: | \$ - | \$ - | \$ - | \$ - | \$ - |
| Variable Costs, IA Unit Fee, CWI portion: | \$ 39.24 | \$ 38.48 | \$ 38.91 | \$ 40.15 | \$ 40.72 |
| Variable Costs, IA Unit Fee, Other County costs portion: | \$ 19.65 | \$ 32.90 | \$ 29.04 | \$ 30.22 | \$ 56.71 |
| IA Collection Rate | 91% | 92% | 94% | 94% | 94% |
| Variable Costs, IA Unit Fee Override | \$ 65.00 | \$ 65.00 | \$ 65.00 | \$ 65.00 | \$ 65.00 |
| Variable Costs, GA Unit Fee Calc | \$ 7.66 | \$ 9.34 | \$ 8.93 | \$ 9.30 | \$ 12.94 |
| Variable Costs, GA Unit Fee, administrative portion: | \$ - | \$ - | \$ - | \$ - | \$ - |
| Variable Costs, GA Unit Fee, reg compliance portion: | \$ - | \$ - | \$ - | \$ - | \$ - |
| Variable Costs, GA Unit Fee, CWI portion: | \$ 5.10 | \$ 5.03 | \$ 5.11 | \$ 5.30 | \$ 5.40 |
| Variable Costs, GA Unit Fee, Other County costs portion: | \$ 2.56 | \$ 4.30 | \$ 3.82 | \$ 3.99 | \$ 7.53 |
| GA Collection Rate | 91% | 92% | 94% | 94% | 94% |
| Variable Costs, GA Unit Fee Override | \$ 10.00 | \$ 10.00 | \$ 10.00 | \$ 10.00 | \$ 10.00 |
| Anticipated Unincorp County Fee Billings | \$ 5,364,442 | \$ 5,344,144 | \$ 5,324,099 | \$ 5,304,356 | \$ 5,284,872 |
| Revenues | | | | | |
| Anticipated Unincorp County Fee Revenue | \$ 4,881,642 | \$ 4,916,612 | \$ 5,004,653 | \$ 4,986,095 | \$ 4,967,780 |
| Anticipated Revenue from other Jurisdictions | \$ - | \$ - | \$ - | \$ - | \$ - |
| Administrative Fee | \$ 173,390 | \$ 174,943 | \$ 177,354 | \$ 179,490 | \$ 182,552 |
| Regulatory Compliance | \$ 47,948 | \$ 48,230 | \$ 45,825 | \$ 43,421 | \$ 43,421 |
| Countywide Infrastructure Maintenance | \$ 824,966 | \$ 804,840 | \$ 809,795 | \$ 831,488 | \$ 839,082 |
| Bond Issuance Proceeds | \$ - | \$ 5,000,000 | \$ - | \$ 5,000,000 | \$ - |
| Fund Balance | | | | | |
| FY Beginning Fund Balance | \$ - | \$ 118,585 | \$ 4,378,512 | \$ 4,028,216 | \$ 8,482,308 |
| Total Costs | \$ 5,809,361 | \$ 6,684,698 | \$ 6,387,923 | \$ 6,586,402 | \$ 8,407,219 |
| Total Revenues | \$ 5,927,945 | \$ 10,944,625 | \$ 6,037,627 | \$ 11,040,494 | \$ 6,032,835 |
| Surplus (Deficit) | \$ 118,585 | \$ 4,259,927 | \$ (350,296) | \$ 4,454,092 | \$ (2,374,385) |
| FY End Fund Balance | \$ 118,585 | \$ 4,378,512 | \$ 4,028,216 | \$ 8,482,308 | \$ 6,107,923 |

Beaufort County and Municipalities Stormwater Rate Study DRAFT Report

July 10, 2015

Beaufort County
Summary Sheet

Sheet Name: BC-F
Option: F

| | FY 2015-2016 Revised RS | FY 2016-2017 Revised RS | FY 2017-2018 Revised RS | FY 2018-2019 Revised RS | FY 2019-2020 Revised RS |
|---------------------------------------------------------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| Rate Base | | | | | |
| 1.00% Accounts | 65,314 | 65,967 | 66,627 | 67,293 | 67,966 |
| -0.50% Billable IA Units | 54,388 | 54,116 | 53,845 | 53,576 | 53,308 |
| -1.00% Billable Equivalent GA Units | 104,545 | 103,500 | 102,465 | 101,440 | 100,426 |
| Costs | | | | | |
| Administration (50250012) | \$ 360,495 | \$ 363,725 | \$ 368,737 | \$ 373,179 | \$ 379,546 |
| County Portion: Administration | \$ 169,198 | \$ 170,714 | \$ 173,066 | \$ 175,151 | \$ 178,139 |
| Regulatory Compliance (50250013) | \$ 620,242 | \$ 687,847 | \$ 635,754 | \$ 669,218 | \$ 695,872 |
| County Portion: Regulatory Compliance | \$ 555,853 | \$ 623,693 | \$ 574,254 | \$ 610,371 | \$ 637,025 |
| County-Wide Infrastructure O&M (50250011) | \$ 3,492,833 | \$ 3,407,621 | \$ 3,428,602 | \$ 3,520,449 | \$ 3,552,600 |
| County Portion: County-Wide Infrastructure | \$ 2,667,868 | \$ 2,602,782 | \$ 2,618,807 | \$ 2,688,961 | \$ 2,713,518 |
| Capital Purchases & Projects | \$ 1,335,790 | \$ 2,079,320 | \$ 1,662,460 | \$ 1,585,000 | \$ 3,194,460 |
| | \$ - | \$ - | \$ - | \$ - | \$ - |
| Total County Costs (excl. debt service) | \$ 5,809,361 | \$ 6,538,513 | \$ 6,095,553 | \$ 6,147,846 | \$ 7,822,478 |
| Total County Costs excl. Shared Services Payable by Others (excl. debt service) | \$ 4,728,708 | \$ 5,476,509 | \$ 5,028,587 | \$ 5,059,483 | \$ 6,723,142 |
| Debt Service | | | | | |
| Annual Debt Service | \$ - | \$ 146,185 | \$ 292,371 | \$ 438,556 | \$ 584,741 |
| Coverage Goal | 1.30 | 1.30 | 1.30 | 1.30 | 1.30 |
| Actual Coverage | | 10.52 | 5.63 | 3.44 | 2.76 |
| Revised RS Stormwater Fee | | | | | |
| Fixed Cost per Account, Calc | \$ - | \$ - | \$ - | \$ - | \$ - |
| Fixed Cost per Account, admin portion: | \$ - | \$ - | \$ - | \$ - | \$ - |
| Fixed Cost per Account, regulatory compliance portion: | \$ - | \$ - | \$ - | \$ - | \$ - |
| Fixed Cost per Account, CWI portion: | \$ - | \$ - | \$ - | \$ - | \$ - |
| Fixed Cost Collection Rate | 91% | 92% | 94% | 94% | 94% |
| Fixed Cost per Account, Override | \$ - | \$ - | \$ - | \$ - | \$ - |
| Variable Costs, IA Proportion | 80% | 80% | 80% | 80% | 80% |
| Variable Costs, GA Proportion | 20% | 20% | 20% | 20% | 20% |
| Variable Costs, IA Unit Fee Calc | \$ 69.56 | \$ 83.13 | \$ 79.06 | \$ 82.10 | \$ 109.68 |
| Variable Costs, IA Unit Fee, administrative portion: | \$ 2.49 | \$ 2.52 | \$ 2.57 | \$ 2.62 | \$ 2.67 |
| Variable Costs, IA Unit Fee, reg compliance portion: | \$ 8.18 | \$ 9.22 | \$ 8.53 | \$ 9.11 | \$ 9.56 |
| Variable Costs, IA Unit Fee, CWI portion: | \$ 39.24 | \$ 38.48 | \$ 38.91 | \$ 40.15 | \$ 40.72 |
| Variable Costs, IA Unit Fee, Other County costs portion: | \$ 19.65 | \$ 32.90 | \$ 29.04 | \$ 30.22 | \$ 56.71 |
| IA Collection Rate | 91% | 92% | 94% | 94% | 94% |
| Variable Costs, IA Unit Fee Override | \$ 80.00 | \$ 80.00 | \$ 80.00 | \$ 80.00 | \$ 80.00 |
| Variable Costs, GA Unit Fee Calc | \$ 9.05 | \$ 10.87 | \$ 10.39 | \$ 10.84 | \$ 14.56 |
| Variable Costs, GA Unit Fee, administrative portion: | \$ 0.32 | \$ 0.33 | \$ 0.34 | \$ 0.35 | \$ 0.35 |
| Variable Costs, GA Unit Fee, reg compliance portion: | \$ 1.06 | \$ 1.21 | \$ 1.12 | \$ 1.20 | \$ 1.27 |
| Variable Costs, GA Unit Fee, CWI portion: | \$ 5.10 | \$ 5.03 | \$ 5.11 | \$ 5.30 | \$ 5.40 |
| Variable Costs, GA Unit Fee, Other County costs portion: | \$ 2.56 | \$ 4.30 | \$ 3.82 | \$ 3.99 | \$ 7.53 |
| GA Collection Rate | 91% | 92% | 94% | 94% | 94% |
| Variable Costs, GA Unit Fee Override | \$ 10.00 | \$ 10.00 | \$ 10.00 | \$ 10.00 | \$ 12.00 |
| Anticipated Unincorp County Fee Billings | \$ 5,396,494 | \$ 5,364,280 | \$ 5,332,250 | \$ 5,300,480 | \$ 5,469,752 |
| Revenues | | | | | |
| Anticipated Unincorp County Fee Revenue | \$ 4,910,810 | \$ 4,935,138 | \$ 5,012,315 | \$ 4,982,451 | \$ 5,141,567 |
| Anticipated Revenue from other Jurisdictions | \$ - | \$ - | \$ - | \$ - | \$ - |
| Administrative Fee | \$ 191,297 | \$ 193,011 | \$ 195,671 | \$ 198,028 | \$ 201,407 |
| Regulatory Compliance | \$ 64,390 | \$ 64,154 | \$ 61,500 | \$ 58,847 | \$ 58,847 |
| Countywide Infrastructure Maintenance | \$ 824,966 | \$ 804,840 | \$ 809,795 | \$ 831,488 | \$ 839,082 |
| Bond Issuance Proceeds | \$ - | \$ 5,000,000 | \$ - | \$ 5,000,000 | \$ - |
| Fund Balance | | | | | |
| FY Beginning Fund Balance | \$ - | \$ 182,102 | \$ 4,494,545 | \$ 4,185,903 | \$ 8,670,316 |
| Total Costs | \$ 5,809,361 | \$ 6,684,698 | \$ 6,387,923 | \$ 6,586,402 | \$ 8,407,219 |
| Total Revenues | \$ 5,991,462 | \$ 10,997,142 | \$ 6,079,281 | \$ 11,070,814 | \$ 6,240,902 |
| Surplus (Deficit) | \$ 182,102 | \$ 4,312,444 | \$ (308,642) | \$ 4,484,413 | \$ (2,166,317) |
| FY End Fund Balance | \$ 182,102 | \$ 4,494,545 | \$ 4,185,903 | \$ 8,670,316 | \$ 6,503,999 |

Appendix B – City of Beaufort Example Rates (Options A-F)

City of Beaufort Summary Sheet

Option A

| | FY 2015-2016 Current RS | FY 2016-2017 Current RS | FY 2017-2018 Current RS | FY 2018-2019 Current RS | FY 2019-2020 Current RS |
|----------------------------------------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| Rate Base | | | | | |
| 0.75% Accounts | 6,431 | 6,479 | 6,528 | 6,577 | 6,626 |
| 1.25% Billable IA Units | 12,726 | 12,885 | 13,046 | 13,209 | 13,374 |
| 1.25% Billable Equivalent GA Units | 9,747 | 9,869 | 9,992 | 10,117 | 10,243 |
| Costs | | | | | |
| Stormwater O&M | \$ 376,438 | \$ 385,849 | \$ 395,495 | \$ 405,382 | \$ 415,517 |
| Shared County Services | | | | | |
| City Portion: Administration | \$ 26,220 | \$ 31,857 | \$ 32,255 | \$ 32,658 | \$ 33,067 |
| City Portion: Monitoring & Outreach | \$ 25,882 | \$ 25,235 | \$ 24,686 | \$ 24,137 | \$ 24,137 |
| City Portion: County-Wide Infrastructure O&M (CWI) | \$ 118,124 | \$ 115,242 | \$ 115,952 | \$ 119,058 | \$ 120,145 |
| Capital Purchases & Projects | \$ 3,631 | \$ 3,722 | \$ 3,815 | \$ 3,910 | \$ 4,008 |
| Total City Costs (excl. debt service) | \$ 380,069 | \$ 389,570 | \$ 399,309 | \$ 409,292 | \$ 419,525 |
| Total City Costs payable to County for Shared Services | \$ 170,226 | \$ 172,335 | \$ 172,893 | \$ 175,853 | \$ 177,349 |
| Debt Service | | | | | |
| Annual Debt Service | \$ - | \$ - | \$ - | \$ - | \$ - |
| Coverage Goal | 1.30 | 1.30 | 1.30 | 1.30 | 1.30 |
| Actual Coverage | | | | | |
| Current RS Fee Alternative | | | | | |
| Impervious Area Units | 12,685 | 12,844 | 13,004 | 13,167 | 13,331 |
| Fee | \$ 50.00 | \$ 55.00 | \$ 60.00 | \$ 60.00 | \$ 60.00 |
| Countywide Infrastructure Charge | \$ 9.31 | \$ 8.97 | \$ 8.92 | \$ 9.04 | \$ 9.01 |
| Override Countywide Infrastructure Charge | \$ 9.31 | \$ 8.97 | \$ 8.92 | \$ 9.04 | \$ 9.01 |
| Anticipated City Fee Billings | \$ 752,345 | \$ 821,600 | \$ 896,241 | \$ 909,024 | \$ 919,987 |
| Collection Factor | 65% | 65% | 65% | 65% | 65% |
| Administrative Fee per Paid Unit | \$ 3.18 | \$ 3.82 | \$ 3.82 | \$ 3.82 | \$ 3.82 |
| Revenues | | | | | |
| Anticipated City Fee Revenue | \$ 489,024 | \$ 534,040 | \$ 582,556 | \$ 590,865 | \$ 597,991 |
| Anticipated funds remitted to County for Utility Admin | \$ (26,220) | \$ (31,857) | \$ (32,255) | \$ (32,658) | \$ (33,067) |
| Anticipated funds remitted to County for Monitoring & Outreach | \$ (25,882) | \$ (25,235) | \$ (24,686) | \$ (24,137) | \$ (24,137) |
| Anticipated funds remitted to County for CWI | \$ (118,124) | \$ (115,242) | \$ (115,952) | \$ (119,058) | \$ (120,145) |
| Anticipated Remaining City Fee Revenue | \$ 318,799 | \$ 361,706 | \$ 409,663 | \$ 415,012 | \$ 420,642 |
| Bond Issuance Proceeds | \$ - | \$ - | \$ - | \$ - | \$ - |
| Fund Balance | | | | | |
| FY Beginning Fund Balance | \$ 450,749 | \$ 389,479 | \$ 361,614 | \$ 371,968 | \$ 377,688 |
| Total Costs | \$ 380,069 | \$ 389,570 | \$ 399,309 | \$ 409,292 | \$ 419,525 |
| Total Revenues | \$ 318,799 | \$ 361,706 | \$ 409,663 | \$ 415,012 | \$ 420,642 |
| Surplus (Deficit) | \$ (61,270) | \$ (27,865) | \$ 10,354 | \$ 5,720 | \$ 1,118 |
| FY End Fund Balance | \$ 389,479 | \$ 361,614 | \$ 371,968 | \$ 377,688 | \$ 378,805 |

City of Beaufort - Option B

No model run - City Capital Projects not identified

Beaufort County and Municipalities Stormwater Rate Study DRAFT Report
 City of Beaufort
 Summary Sheet

July 10, 2015

Option C

| | FY 2015-2016 Revised 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 | 6,431 | 6,479 | 6,528 | 6,577 | 6,626 |
| 1.25% Billable IA Units | 12,726 | 12,885 | 13,046 | 13,209 | 13,374 |
| 1.25% Billable Equivalent GA Units | 9,747 | 9,869 | 9,992 | 10,117 | 10,243 |
| Costs | | | | | |
| Stormwater O&M | \$ 376,438 | \$ 385,849 | \$ 395,495 | \$ 405,382 | \$ 415,517 |
| Shared County Services | | | | | |
| City Portion: Administration | \$ 18,423 | \$ 18,588 | \$ 18,844 | \$ 19,071 | \$ 19,397 |
| City Portion: Monitoring & Outreach | \$ 12,510 | \$ 12,187 | \$ 11,931 | \$ 11,676 | \$ 11,676 |
| City Portion: County-Wide Infrastructure O&M (CWI) | \$ 118,124 | \$ 115,242 | \$ 115,952 | \$ 119,058 | \$ 120,145 |
| Capital Purchases & Projects | \$ 3,631 | \$ 3,722 | \$ 3,815 | \$ 3,910 | \$ 4,008 |
| Total City Costs (excl. debt service) | \$ 380,069 | \$ 389,570 | \$ 399,309 | \$ 409,292 | \$ 419,525 |
| Total City Costs payable to County for Shared Services | \$ 149,057 | \$ 146,017 | \$ 146,727 | \$ 149,805 | \$ 151,218 |
| 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 | \$ 4.81 | \$ 4.75 | \$ 4.72 | \$ 4.68 | \$ 4.69 |
| Fixed Cost per Account, administrative portion: | \$ 2.86 | \$ 2.87 | \$ 2.89 | \$ 2.90 | \$ 2.93 |
| Fixed Cost per Account, monitoring & outreach portion: | \$ 1.95 | \$ 1.88 | \$ 1.83 | \$ 1.78 | \$ 1.76 |
| Fixed Cost per Account, CWI portion: | \$ - | \$ - | \$ - | \$ - | \$ - |
| Fixed Cost Collection Rate | 90% | 90% | 90% | 90% | 90% |
| Fixed Cost per Account, Override | \$ 5.00 | \$ 5.00 | \$ 5.00 | \$ 5.00 | \$ 5.00 |
| Variable Costs, IA Proportion | 80% | 80% | 80% | 80% | 80% |
| Variable Costs, GA Proportion | 20% | 20% | 20% | 20% | 20% |
| Variable Costs, IA Unit Fee Calc | \$ 31.32 | \$ 31.35 | \$ 31.60 | \$ 32.00 | \$ 32.29 |
| Variable Costs, IA Unit Fee, administrative portion: | \$ - | \$ - | \$ - | \$ - | \$ - |
| Variable Costs, IA Unit Fee, monitoring & outreach portion: | \$ - | \$ - | \$ - | \$ - | \$ - |
| Variable Costs, IA Unit Fee, CWI portion: | \$ 7.43 | \$ 7.16 | \$ 7.11 | \$ 7.21 | \$ 7.19 |
| Variable Costs, IA Unit Fee, City costs portion: | \$ 23.89 | \$ 24.19 | \$ 24.49 | \$ 24.79 | \$ 25.09 |
| IA Collection Rate | 62% | 63% | 64% | 65% | 65% |
| Variable Costs, IA Unit Fee Override | \$ 50.00 | \$ 55.00 | \$ 55.00 | \$ 60.00 | \$ 60.00 |
| Variable Costs, GA Unit Fee Calc | \$ 10.23 | \$ 10.24 | \$ 10.32 | \$ 10.45 | \$ 10.54 |
| Variable Costs, GA Unit Fee, administrative portion: | \$ - | \$ - | \$ - | \$ - | \$ - |
| Variable Costs, GA Unit Fee, monitoring & outreach portion: | \$ - | \$ - | \$ - | \$ - | \$ - |
| Variable Costs, GA Unit Fee, CWI portion: | \$ 2.42 | \$ 2.34 | \$ 2.32 | \$ 2.35 | \$ 2.35 |
| Variable Costs, GA Unit Fee, City costs portion: | \$ 7.80 | \$ 7.89 | \$ 7.99 | \$ 8.09 | \$ 8.19 |
| GA Collection Rate | 62% | 63% | 64% | 65% | 65% |
| Variable Costs, GA Unit Fee Override | \$ 12.00 | \$ 12.00 | \$ 12.00 | \$ 12.00 | \$ 12.00 |
| Anticipated City Fee Billings | \$ 785,435 | \$ 859,498 | \$ 870,074 | \$ 946,829 | \$ 958,486 |
| Per Account Fees Paid to City | \$ 0.19 | \$ 0.25 | \$ 0.28 | \$ 0.32 | \$ 0.31 |
| Per Impervious Area Unit Fees Paid to City | \$ 42.57 | \$ 47.84 | \$ 47.89 | \$ 52.79 | \$ 52.81 |
| Per Gross Area Unit Fees Paid to City | \$ 9.58 | \$ 9.66 | \$ 9.68 | \$ 9.65 | \$ 9.65 |
| Per Account Fees Paid to County | \$ 4.81 | \$ 4.75 | \$ 4.72 | \$ 4.68 | \$ 4.69 |
| Per Impervious Area Unit Fees Paid to County | \$ 7.43 | \$ 7.16 | \$ 7.11 | \$ 7.21 | \$ 7.19 |
| Per Gross Area Unit Fees Paid to County | \$ 2.42 | \$ 2.34 | \$ 2.32 | \$ 2.35 | \$ 2.35 |
| Revenues | | | | | |
| Anticipated City Fee Revenue | \$ 495,973 | \$ 550,230 | \$ 565,334 | \$ 623,660 | \$ 631,298 |
| Anticipated funds remitted to County for Utility Admin | \$ (18,423) | \$ (18,588) | \$ (18,844) | \$ (19,071) | \$ (19,397) |
| Anticipated funds remitted to County for Monitoring & Outreach | \$ (12,510) | \$ (12,187) | \$ (11,931) | \$ (11,676) | \$ (11,676) |
| Anticipated funds remitted to County for CWI | \$ (118,124) | \$ (115,242) | \$ (115,952) | \$ (119,058) | \$ (120,145) |
| Anticipated Remaining City Fee Revenue | \$ 346,916 | \$ 404,213 | \$ 418,607 | \$ 473,855 | \$ 480,081 |
| Bond Issuance Proceeds | \$ - | \$ - | \$ - | \$ - | \$ - |
| Fund Balance | | | | | |
| FY Beginning Fund Balance | \$ 450,749 | \$ 417,597 | \$ 432,240 | \$ 451,537 | \$ 516,100 |
| Total Costs | \$ 380,069 | \$ 389,570 | \$ 399,309 | \$ 409,292 | \$ 419,525 |
| Total Revenues | \$ 346,916 | \$ 404,213 | \$ 418,607 | \$ 473,855 | \$ 480,081 |
| Surplus (Deficit) | \$ (33,152) | \$ 14,643 | \$ 19,297 | \$ 64,563 | \$ 60,556 |
| FY End Fund Balance | \$ 417,597 | \$ 432,240 | \$ 451,537 | \$ 516,100 | \$ 576,656 |

Beaufort County and Municipalities Stormwater Rate Study DRAFT Report

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City of Beaufort
Summary Sheet

Option D

| | FY 2015-2016 Revised 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 | 6,431 | 6,479 | 6,528 | 6,577 | 6,626 |
| 1.25% Billable IA Units | 12,726 | 12,885 | 13,046 | 13,209 | 13,374 |
| 1.25% Billable Equivalent GA Units | 9,747 | 9,869 | 9,992 | 10,117 | 10,243 |
| Costs | | | | | |
| Stormwater O&M | \$ 376,438 | \$ 385,849 | \$ 395,495 | \$ 405,382 | \$ 415,517 |
| Shared County Services | | | | | |
| City Portion: Administration | \$ 39,591 | \$ 39,946 | \$ 40,496 | \$ 40,984 | \$ 41,683 |
| City Portion: Monitoring & Outreach | \$ 25,882 | \$ 25,235 | \$ 24,686 | \$ 24,137 | \$ 24,137 |
| City Portion: County-Wide Infrastructure O&M (CWI) | \$ 118,124 | \$ 115,242 | \$ 115,952 | \$ 119,058 | \$ 120,145 |
| Capital Purchases & Projects | \$ 3,631 | \$ 3,722 | \$ 3,815 | \$ 3,910 | \$ 4,008 |
| Total City Costs (excl. debt service) | \$ 380,069 | \$ 389,570 | \$ 399,309 | \$ 409,292 | \$ 419,525 |
| Total City Costs payable to County for Shared Services | \$ 183,597 | \$ 180,423 | \$ 181,134 | \$ 184,179 | \$ 185,965 |
| 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 | \$ - | \$ - | \$ - | \$ - | \$ - |
| Fixed Cost per Account, administrative portion: | \$ - | \$ - | \$ - | \$ - | \$ - |
| Fixed Cost per Account, monitoring & outreach portion: | \$ - | \$ - | \$ - | \$ - | \$ - |
| Fixed Cost per Account, CWI portion: | \$ - | \$ - | \$ - | \$ - | \$ - |
| Fixed Cost Collection Rate | 90% | 90% | 90% | 90% | 90% |
| Fixed Cost per Account, Override | \$ - | \$ - | \$ - | \$ - | \$ - |
| Variable Costs, IA Proportion | 80% | 80% | 80% | 80% | 80% |
| Variable Costs, GA Proportion | 20% | 20% | 20% | 20% | 20% |
| Variable Costs, IA Unit Fee Calc | \$ 35.44 | \$ 35.39 | \$ 35.60 | \$ 35.95 | \$ 36.22 |
| Variable Costs, IA Unit Fee, administrative portion: | \$ 2.49 | \$ 2.48 | \$ 2.48 | \$ 2.48 | \$ 2.49 |
| Variable Costs, IA Unit Fee, monitoring & outreach portion: | \$ 1.63 | \$ 1.57 | \$ 1.51 | \$ 1.46 | \$ 1.44 |
| Variable Costs, IA Unit Fee, CWI portion: | \$ 7.43 | \$ 7.16 | \$ 7.11 | \$ 7.21 | \$ 7.19 |
| Variable Costs, IA Unit Fee, City costs portion: | \$ 23.89 | \$ 24.19 | \$ 24.49 | \$ 24.79 | \$ 25.09 |
| IA Collection Rate | 62% | 63% | 64% | 65% | 65% |
| Variable Costs, IA Unit Fee Override | \$ 55.00 | \$ 55.00 | \$ 55.00 | \$ 60.00 | \$ 60.00 |
| Variable Costs, GA Unit Fee Calc | \$ 11.57 | \$ 11.56 | \$ 11.62 | \$ 11.74 | \$ 11.83 |
| Variable Costs, GA Unit Fee, administrative portion: | \$ 0.81 | \$ 0.81 | \$ 0.81 | \$ 0.81 | \$ 0.81 |
| Variable Costs, GA Unit Fee, monitoring & outreach portion: | \$ 0.53 | \$ 0.51 | \$ 0.49 | \$ 0.48 | \$ 0.47 |
| Variable Costs, GA Unit Fee, CWI portion: | \$ 2.42 | \$ 2.34 | \$ 2.32 | \$ 2.35 | \$ 2.35 |
| Variable Costs, GA Unit Fee, City costs portion: | \$ 7.80 | \$ 7.89 | \$ 7.99 | \$ 8.09 | \$ 8.19 |
| GA Collection Rate | 62% | 63% | 64% | 65% | 65% |
| Variable Costs, GA Unit Fee Override | \$ 12.00 | \$ 12.00 | \$ 12.00 | \$ 12.00 | \$ 12.00 |
| Anticipated City Fee Billings | \$ 816,912 | \$ 827,103 | \$ 837,434 | \$ 913,944 | \$ 925,356 |
| Per Account Fees Paid to City | \$ - | \$ - | \$ - | \$ - | \$ - |
| Per Impervious Area Unit Fees Paid to City | \$ 43.46 | \$ 43.80 | \$ 43.89 | \$ 48.85 | \$ 48.88 |
| Per Gross Area Unit Fees Paid to City | \$ 8.23 | \$ 8.34 | \$ 8.37 | \$ 8.36 | \$ 8.37 |
| Per Account Fees Paid to County | \$ - | \$ - | \$ - | \$ - | \$ - |
| Per Impervious Area Unit Fees Paid to County | \$ 11.54 | \$ 11.20 | \$ 11.11 | \$ 11.15 | \$ 11.12 |
| Per Gross Area Unit Fees Paid to County | \$ 3.77 | \$ 3.66 | \$ 3.63 | \$ 3.64 | \$ 3.63 |
| Revenues | | | | | |
| Anticipated City Fee Revenue | \$ 506,485 | \$ 521,075 | \$ 535,958 | \$ 594,064 | \$ 601,481 |
| Anticipated funds remitted to County for Utility Admin | \$ (39,591) | \$ (39,946) | \$ (40,496) | \$ (40,984) | \$ (41,683) |
| Anticipated funds remitted to County for Monitoring & Outreach | \$ (25,882) | \$ (25,235) | \$ (24,686) | \$ (24,137) | \$ (24,137) |
| Anticipated funds remitted to County for CWI | \$ (118,124) | \$ (115,242) | \$ (115,952) | \$ (119,058) | \$ (120,145) |
| Anticipated Remaining City Fee Revenue | \$ 322,889 | \$ 340,652 | \$ 354,824 | \$ 409,885 | \$ 415,516 |
| Bond Issuance Proceeds | \$ - | \$ - | \$ - | \$ - | \$ - |
| Fund Balance | | | | | |
| FY Beginning Fund Balance | \$ 450,749 | \$ 393,569 | \$ 344,650 | \$ 300,165 | \$ 300,757 |
| Total Costs | \$ 380,069 | \$ 389,570 | \$ 399,309 | \$ 409,292 | \$ 419,525 |
| Total Revenues | \$ 322,889 | \$ 340,652 | \$ 354,824 | \$ 409,885 | \$ 415,516 |
| Surplus (Deficit) | \$ (57,180) | \$ (48,918) | \$ (44,486) | \$ 592 | \$ (4,009) |
| FY End Fund Balance | \$ 393,569 | \$ 344,650 | \$ 300,165 | \$ 300,757 | \$ 296,748 |

City of Beaufort - Option E

No model run due to no CIP data yet

City of Beaufort - Option F

No model run due to no CIP data yet

DRAFT

Appendix C – Town of Port Royal Example Rates (Options A-F)

Town of Port Royal Summary Sheet

Option A

| | FY 2015-2016 Current RS | FY 2016-2017 Current RS | FY 2017-2018 Current RS | FY 2018-2019 Current RS | FY 2019-2020 Current RS |
|----------------------------------------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| Rate Base | | | | | |
| 0.75% Accounts | 3,850 | 3,879 | 3,908 | 3,937 | 3,967 |
| 1.25% Billable IA Units | 6,330 | 6,409 | 6,489 | 6,570 | 6,652 |
| 1.25% Billable Equivalent GA Units | 6,328 | 6,408 | 6,488 | 6,569 | 6,651 |
| Costs | | | | | |
| Stormwater O&M | \$ 225,497 | \$ 368,870 | \$ 400,727 | \$ 408,742 | \$ 416,917 |
| Shared County Services | | | | | |
| Town Portion: Administration | \$ 10,554 | \$ 12,824 | \$ 12,984 | \$ 13,146 | \$ 13,311 |
| Town Portion: Monitoring & Outreach | \$ 12,873 | \$ 12,552 | \$ 12,279 | \$ 12,006 | \$ 12,006 |
| Town Portion: County-Wide Infrastructure O&M | \$ 37,169 | \$ 36,263 | \$ 36,486 | \$ 37,463 | \$ 37,805 |
| Capital Purchases & Projects | \$ 100,000 | \$ 24,000 | \$ - | \$ - | \$ - |
| Total Town Costs (excl. debt service) | \$ 325,497 | \$ 392,870 | \$ 400,727 | \$ 408,742 | \$ 416,917 |
| Total Town Costs payable to County for Shared Services | \$ 60,597 | \$ 61,638 | \$ 61,749 | \$ 62,615 | \$ 63,122 |
| Debt Service | | | | | |
| Annual Debt Service | \$ - | \$ - | \$ - | \$ - | \$ - |
| Coverage Goal | 1.30 | 1.30 | 1.30 | 1.30 | 1.30 |
| Actual Coverage | | | | | |
| Current RS Fee Alternative | | | | | |
| Impervious Area Units | 6,383 | 6,462 | 6,543 | 6,625 | 6,708 |
| Fee | \$ 90.00 | \$ 120.00 | \$ 120.00 | \$ 130.00 | \$ 130.00 |
| Countywide Infrastructure Charge | \$ 5.82 | \$ 5.61 | \$ 5.58 | \$ 5.65 | \$ 5.64 |
| Override Countywide Infrastructure Charge | \$ 5.82 | \$ 5.61 | \$ 5.58 | \$ 5.65 | \$ 5.64 |
| Anticipated Town Fee Billings | \$ 611,590 | \$ 811,752 | \$ 821,703 | \$ 898,689 | \$ 909,855 |
| Collection Factor | 52% | 52% | 52% | 52% | 52% |
| Administrative Fee per Paid Unit | \$ 3.18 | \$ 3.82 | \$ 3.82 | \$ 3.82 | \$ 3.82 |
| Revenues | | | | | |
| Anticipated Town Fee Revenue | \$ 318,027 | \$ 422,111 | \$ 427,286 | \$ 467,318 | \$ 473,125 |
| Anticipated funds remitted to County for Utility Admin | \$ (10,554) | \$ (12,824) | \$ (12,984) | \$ (13,146) | \$ (13,311) |
| Anticipated funds remitted to County for Regulatory Compliance | \$ (12,873) | \$ (12,552) | \$ (12,279) | \$ (12,006) | \$ (12,006) |
| Anticipated funds remitted to County for CWI | \$ (37,169) | \$ (36,263) | \$ (36,486) | \$ (37,463) | \$ (37,805) |
| Anticipated Remaining Town Fee Revenue | \$ 257,430 | \$ 360,473 | \$ 365,537 | \$ 404,703 | \$ 410,003 |
| Bond Issuance Proceeds | \$ - | \$ - | \$ - | \$ - | \$ - |
| Fund Balance | | | | | |
| FY Beginning Fund Balance | \$ 171,713 | \$ 103,646 | \$ 71,249 | \$ 36,058 | \$ 32,019 |
| Total Costs | \$ 325,497 | \$ 392,870 | \$ 400,727 | \$ 408,742 | \$ 416,917 |
| Total Revenues | \$ 257,430 | \$ 360,473 | \$ 365,537 | \$ 404,703 | \$ 410,003 |
| Surplus (Deficit) | \$ (68,067) | \$ (32,397) | \$ (35,190) | \$ (4,039) | \$ (6,914) |
| FY End Fund Balance | \$ 103,646 | \$ 71,249 | \$ 36,058 | \$ 32,019 | \$ 25,106 |

Town of Port Royal - Option B

Capital needs not likely to suggest traditional debt option

Beaufort County and Municipalities Stormwater Rate Study DRAFT Report

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Town of Port Royal
Summary Sheet

Option C

| | FY 2015-2016 Revised 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 | 3,850 | 3,879 | 3,908 | 3,937 | 3,967 |
| 1.25% Billable IA Units | 6,330 | 6,409 | 6,489 | 6,570 | 6,652 |
| 1.25% Billable Equivalent GA Units | 6,328 | 6,408 | 6,488 | 6,569 | 6,651 |
| Costs | | | | | |
| Stormwater O&M | \$ 225,497 | \$ 368,870 | \$ 400,727 | \$ 408,742 | \$ 416,917 |
| Shared County Services | | | | | |
| Town Portion: Administration | \$ 11,029 | \$ 11,128 | \$ 11,281 | \$ 11,417 | \$ 11,612 |
| Town Portion: Monitoring & Outreach | \$ 7,489 | \$ 7,296 | \$ 7,143 | \$ 6,990 | \$ 6,990 |
| Town Portion: County-Wide Infrastructure O&M | \$ 37,169 | \$ 36,263 | \$ 36,486 | \$ 37,463 | \$ 37,805 |
| Capital Purchases & Projects | \$ 100,000 | \$ 24,000 | \$ - | \$ - | \$ - |
| Total Town Costs (excl. debt service) | \$ 325,497 | \$ 392,870 | \$ 400,727 | \$ 408,742 | \$ 416,917 |
| Total Town Costs payable to County for Shared Services | \$ 55,688 | \$ 54,686 | \$ 54,910 | \$ 55,870 | \$ 56,407 |
| 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 | \$ 4.81 | \$ 4.75 | \$ 4.72 | \$ 4.68 | \$ 4.69 |
| Fixed Cost per Account, administrative portion: | \$ 2.86 | \$ 2.87 | \$ 2.89 | \$ 2.90 | \$ 2.93 |
| Fixed Cost per Account, monitoring & outreach portion: | \$ 1.95 | \$ 1.88 | \$ 1.83 | \$ 1.78 | \$ 1.76 |
| Fixed Cost per Account, CWI portion: | \$ - | \$ - | \$ - | \$ - | \$ - |
| Fixed Cost Collection Rate | 90% | 90% | 90% | 90% | 90% |
| Fixed Cost per Account, Override | \$ 5.00 | \$ 5.00 | \$ 5.00 | \$ 5.00 | \$ 5.00 |
| Variable Costs, IA Proportion | 80% | 80% | 80% | 80% | 80% |
| Variable Costs, GA Proportion | 20% | 20% | 20% | 20% | 20% |
| Variable Costs, IA Unit Fee Calc | \$ 45.84 | \$ 53.57 | \$ 53.91 | \$ 54.34 | \$ 54.69 |
| Variable Costs, IA Unit Fee, administrative portion: | \$ - | \$ - | \$ - | \$ - | \$ - |
| Variable Costs, IA Unit Fee, monitoring & outreach portion: | \$ - | \$ - | \$ - | \$ - | \$ - |
| Variable Costs, IA Unit Fee, CWI portion: | \$ 4.70 | \$ 4.53 | \$ 4.50 | \$ 4.56 | \$ 4.55 |
| Variable Costs, IA Unit Fee, Town costs portion: | \$ 41.14 | \$ 49.04 | \$ 49.40 | \$ 49.77 | \$ 50.14 |
| IA Collection Rate | 50% | 50% | 50% | 51% | 52% |
| Variable Costs, IA Unit Fee Override | \$ 90.00 | \$ 100.00 | \$ 110.00 | \$ 120.00 | \$ 130.00 |
| Variable Costs, GA Unit Fee Calc | \$ 11.47 | \$ 13.40 | \$ 13.48 | \$ 13.59 | \$ 13.68 |
| Variable Costs, GA Unit Fee, administrative portion: | \$ - | \$ - | \$ - | \$ - | \$ - |
| Variable Costs, GA Unit Fee, monitoring & outreach portion: | \$ - | \$ - | \$ - | \$ - | \$ - |
| Variable Costs, GA Unit Fee, CWI portion: | \$ 1.17 | \$ 1.13 | \$ 1.12 | \$ 1.14 | \$ 1.14 |
| Variable Costs, GA Unit Fee, Town costs portion: | \$ 10.29 | \$ 12.26 | \$ 12.35 | \$ 12.44 | \$ 12.54 |
| GA Collection Rate | 50% | 50% | 50% | 51% | 52% |
| Variable Costs, GA Unit Fee Override | \$ 12.00 | \$ 14.00 | \$ 14.00 | \$ 14.00 | \$ 14.00 |
| Anticipated Town Fee Billings | \$ 664,891 | \$ 750,007 | \$ 824,162 | \$ 900,051 | \$ 977,709 |
| Per Account Fees Paid to Town | \$ 0.19 | \$ 0.25 | \$ 0.28 | \$ 0.32 | \$ 0.31 |
| Per Impervious Area Unit Fees Paid to Town | \$ 85.30 | \$ 95.47 | \$ 105.50 | \$ 115.44 | \$ 125.45 |
| Per Gross Area Unit Fees Paid to Town | \$ 10.83 | \$ 12.87 | \$ 12.88 | \$ 12.86 | \$ 12.86 |
| Per Account Fees Paid to County | \$ 4.81 | \$ 4.75 | \$ 4.72 | \$ 4.68 | \$ 4.69 |
| Per Impervious Area Unit Fees Paid to County | \$ 4.70 | \$ 4.53 | \$ 4.50 | \$ 4.56 | \$ 4.55 |
| Per Gross Area Unit Fees Paid to County | \$ 1.17 | \$ 1.13 | \$ 1.12 | \$ 1.14 | \$ 1.14 |
| Revenues | | | | | |
| Anticipated Town Fee Revenue | \$ 340,145 | \$ 382,762 | \$ 419,897 | \$ 466,703 | \$ 515,946 |
| Anticipated funds remitted to County for Utility Admin | \$ (11,029) | \$ (11,128) | \$ (11,281) | \$ (11,417) | \$ (11,612) |
| Anticipated funds remitted to County for Monitoring & Outreach | \$ (7,489) | \$ (7,296) | \$ (7,143) | \$ (6,990) | \$ (6,990) |
| Anticipated funds remitted to County for CWI | \$ (37,169) | \$ (36,263) | \$ (36,486) | \$ (37,463) | \$ (37,805) |
| Anticipated Remaining Town Fee Revenue | \$ 284,458 | \$ 328,075 | \$ 364,987 | \$ 410,833 | \$ 459,539 |
| Bond Issuance Proceeds | \$ - | \$ - | \$ - | \$ - | \$ - |
| Fund Balance | | | | | |
| FY Beginning Fund Balance | \$ 171,713 | \$ 130,674 | \$ 65,879 | \$ 30,138 | \$ 32,229 |
| Total Costs | \$ 325,497 | \$ 392,870 | \$ 400,727 | \$ 408,742 | \$ 416,917 |
| Total Revenues | \$ 284,458 | \$ 328,075 | \$ 364,987 | \$ 410,833 | \$ 459,539 |
| Surplus (Deficit) | \$ (41,039) | \$ (64,795) | \$ (35,740) | \$ 2,091 | \$ 42,622 |
| FY End Fund Balance | \$ 130,674 | \$ 65,879 | \$ 30,138 | \$ 32,229 | \$ 74,851 |

Beaufort County and Municipalities Stormwater Rate Study DRAFT Report

July 10, 2015

Town of Port Royal

Option D

Summary Sheet

| | FY 2015-2016 Revised 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 | 3,850 | 3,879 | 3,908 | 3,937 | 3,967 |
| 1.25% Billable IA Units | 6,330 | 6,409 | 6,489 | 6,570 | 6,652 |
| 1.25% Billable Equivalent GA Units | 6,328 | 6,408 | 6,488 | 6,569 | 6,651 |
| Costs | | | | | |
| Stormwater O&M | \$ 225,497 | \$ 368,870 | \$ 400,727 | \$ 408,742 | \$ 416,917 |
| Shared County Services | | | | | |
| Town Portion: Administration | \$ 19,692 | \$ 19,869 | \$ 20,142 | \$ 20,385 | \$ 20,733 |
| Town Portion: Monitoring & Outreach | \$ 12,873 | \$ 12,552 | \$ 12,279 | \$ 12,006 | \$ 12,006 |
| Town Portion: County-Wide Infrastructure O&M | \$ 37,169 | \$ 36,263 | \$ 36,486 | \$ 37,463 | \$ 37,805 |
| Capital Purchases & Projects | \$ 100,000 | \$ 24,000 | \$ - | \$ - | \$ - |
| Total Town Costs (excl. debt service) | \$ 325,497 | \$ 392,870 | \$ 400,727 | \$ 408,742 | \$ 416,917 |
| Total Town Costs payable to County for Shared Services | \$ 69,735 | \$ 68,683 | \$ 68,907 | \$ 69,854 | \$ 70,544 |
| 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 | \$ - | \$ - | \$ - | \$ - | \$ - |
| Fixed Cost per Account, administrative portion: | \$ - | \$ - | \$ - | \$ - | \$ - |
| Fixed Cost per Account, monitoring & outreach portion: | \$ - | \$ - | \$ - | \$ - | \$ - |
| Fixed Cost per Account, CWI portion: | \$ - | \$ - | \$ - | \$ - | \$ - |
| Fixed Cost Collection Rate | 90% | 90% | 90% | 90% | 90% |
| Fixed Cost per Account, Override | \$ - | \$ - | \$ - | \$ - | \$ - |
| Variable Costs, IA Proportion | 80% | 80% | 80% | 80% | 80% |
| Variable Costs, GA Proportion | 20% | 20% | 20% | 20% | 20% |
| Variable Costs, IA Unit Fee Calc | \$ 49.96 | \$ 57.62 | \$ 57.90 | \$ 58.28 | \$ 58.63 |
| Variable Costs, IA Unit Fee, administrative portion: | \$ 2.49 | \$ 2.48 | \$ 2.48 | \$ 2.48 | \$ 2.49 |
| Variable Costs, IA Unit Fee, monitoring & outreach portion: | \$ 1.63 | \$ 1.57 | \$ 1.51 | \$ 1.46 | \$ 1.44 |
| Variable Costs, IA Unit Fee, CWI portion: | \$ 4.70 | \$ 4.53 | \$ 4.50 | \$ 4.56 | \$ 4.55 |
| Variable Costs, IA Unit Fee, Town costs portion: | \$ 41.14 | \$ 49.04 | \$ 49.40 | \$ 49.77 | \$ 50.14 |
| IA Collection Rate | 50% | 50% | 50% | 51% | 52% |
| Variable Costs, IA Unit Fee Override | \$ 80.00 | \$ 110.00 | \$ 130.00 | \$ 130.00 | \$ 140.00 |
| Variable Costs, GA Unit Fee Calc | \$ 12.50 | \$ 14.41 | \$ 14.48 | \$ 14.58 | \$ 14.66 |
| Variable Costs, GA Unit Fee, administrative portion: | \$ 0.62 | \$ 0.62 | \$ 0.62 | \$ 0.62 | \$ 0.62 |
| Variable Costs, GA Unit Fee, monitoring & outreach portion: | \$ 0.41 | \$ 0.39 | \$ 0.38 | \$ 0.37 | \$ 0.36 |
| Variable Costs, GA Unit Fee, CWI portion: | \$ 1.17 | \$ 1.13 | \$ 1.12 | \$ 1.14 | \$ 1.14 |
| Variable Costs, GA Unit Fee, Town costs portion: | \$ 10.29 | \$ 12.26 | \$ 12.35 | \$ 12.44 | \$ 12.54 |
| GA Collection Rate | 50% | 50% | 50% | 51% | 52% |
| Variable Costs, GA Unit Fee Override | \$ 14.00 | \$ 16.00 | \$ 16.00 | \$ 16.00 | \$ 16.00 |
| Anticipated Town Fee Billings | \$ 594,998 | \$ 807,518 | \$ 947,378 | \$ 959,204 | \$ 1,037,696 |
| Per Account Fees Paid to Town | \$ - | \$ - | \$ - | \$ - | \$ - |
| Per Impervious Area Unit Fees Paid to Town | \$ 71.19 | \$ 101.43 | \$ 121.50 | \$ 121.49 | \$ 131.52 |
| Per Gross Area Unit Fees Paid to Town | \$ 11.80 | \$ 13.86 | \$ 13.88 | \$ 13.87 | \$ 13.88 |
| Per Account Fees Paid to County | \$ - | \$ - | \$ - | \$ - | \$ - |
| Per Impervious Area Unit Fees Paid to County | \$ 8.81 | \$ 8.57 | \$ 8.50 | \$ 8.51 | \$ 8.48 |
| Per Gross Area Unit Fees Paid to County | \$ 2.20 | \$ 2.14 | \$ 2.12 | \$ 2.13 | \$ 2.12 |
| Revenues | | | | | |
| Anticipated Town Fee Revenue | \$ 297,499 | \$ 403,759 | \$ 473,689 | \$ 489,194 | \$ 539,602 |
| Anticipated funds remitted to County for Utility Admin | \$ (19,692) | \$ (19,869) | \$ (20,142) | \$ (20,385) | \$ (20,733) |
| Anticipated funds remitted to County for Regulatory Compliance | \$ (12,873) | \$ (12,552) | \$ (12,279) | \$ (12,006) | \$ (12,006) |
| Anticipated funds remitted to County for CWI | \$ (37,169) | \$ (36,263) | \$ (36,486) | \$ (37,463) | \$ (37,805) |
| Anticipated Remaining Town Fee Revenue | \$ 227,764 | \$ 335,076 | \$ 404,782 | \$ 419,340 | \$ 469,058 |
| Bond Issuance Proceeds | \$ - | \$ - | \$ - | \$ - | \$ - |
| Fund Balance | | | | | |
| FY Beginning Fund Balance | \$ 171,713 | \$ 73,980 | \$ 16,185 | \$ 20,240 | \$ 30,838 |
| Total Costs | \$ 325,497 | \$ 392,870 | \$ 400,727 | \$ 408,742 | \$ 416,917 |
| Total Revenues | \$ 227,764 | \$ 335,076 | \$ 404,782 | \$ 419,340 | \$ 469,058 |
| Surplus (Deficit) | \$ (97,733) | \$ (57,794) | \$ 4,055 | \$ 10,598 | \$ 52,141 |
| FY End Fund Balance | \$ 73,980 | \$ 16,185 | \$ 20,240 | \$ 30,838 | \$ 82,979 |

Town of Port Royal - Option E

No model run - need to have CIP planning discussion

Town of Port Royal - Option F

No model run - need to have CIP planning discussion

DRAFT

Appendix D – Town of Bluffton Example Rates (Options A-F)

Town of Bluffton Summary Sheet

Option A

| | FY 2015-2016 Current RS | FY 2016-2017 Current RS | FY 2017-2018 Current RS | FY 2018-2019 Current RS | FY 2019-2020 Current RS |
|---------------------------------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| Rate Base | | | | | |
| 0.75% Accounts | 11,265 | 11,349 | 11,434 | 11,520 | 11,606 |
| 1.25% Billable IA Units | 10,317 | 10,446 | 10,577 | 10,709 | 10,843 |
| 1.25% Billable Equivalent GA Units | 20,471 | 20,727 | 20,986 | 21,248 | 21,514 |
| Costs | | | | | |
| Stormwater O&M | \$ 1,292,640 | \$ 1,329,919 | \$ 1,423,541 | \$ 1,468,747 | \$ 1,526,476 |
| Shared County Services | | | | | |
| Town Portion: Administration & Regulatory Compliance | \$ 39,925 | \$ 48,509 | \$ 49,116 | \$ 49,729 | \$ 50,351 |
| Town Portion: Monitoring & Outreach | \$ 6,232 | \$ 6,410 | \$ 5,965 | \$ 5,520 | \$ 5,520 |
| Town Portion: County-Wide Infrastructure O&M | \$ 386,627 | \$ 377,195 | \$ 379,517 | \$ 389,684 | \$ 393,243 |
| Capital Purchases & Projects | \$ 358,925 | \$ 722,245 | \$ 565,000 | \$ 480,000 | \$ 150,000 |
| Total Town Costs (excl. debt service) | \$ 1,651,565 | \$ 2,052,165 | \$ 1,988,541 | \$ 1,948,747 | \$ 1,676,476 |
| Total Town Costs payable to County for Shared Services | \$ 432,784 | \$ 432,114 | \$ 434,597 | \$ 444,933 | \$ 449,113 |
| Debt Service | | | | | |
| Annual Debt Service | \$ - | \$ - | \$ - | \$ - | \$ - |
| Coverage Goal | 1.30 | 1.30 | 1.30 | 1.30 | 1.30 |
| Actual Coverage | | | | | |
| Current RS Fee Alternative | | | | | |
| Impervious Area Units | 12,682 | 12,840 | 13,001 | 13,163 | 13,328 |
| Fee | \$ 140.00 | \$ 170.00 | \$ 170.00 | \$ 170.00 | \$ 170.00 |
| Countywide Infrastructure Charge | \$ 30.49 | \$ 29.38 | \$ 29.19 | \$ 29.60 | \$ 29.50 |
| Override Countywide Infrastructure Charge | \$ 30.49 | \$ 29.38 | \$ 29.19 | \$ 29.60 | \$ 29.50 |
| Anticipated Town Fee Billings | \$ 2,162,141 | \$ 2,560,128 | \$ 2,589,659 | \$ 2,627,427 | \$ 2,658,937 |
| Collection Factor | 99% | 99% | 99% | 99% | 99% |
| Administrative Fee per Paid Unit | \$ 3.18 | \$ 3.82 | \$ 3.82 | \$ 3.82 | \$ 3.82 |
| Revenues | | | | | |
| Anticipated Town Fee Revenue | \$ 2,140,519 | \$ 2,534,527 | \$ 2,563,763 | \$ 2,601,153 | \$ 2,632,348 |
| Anticipated funds remitted to County for Utility Admin | \$ (39,925) | \$ (48,509) | \$ (49,116) | \$ (49,729) | \$ (50,351) |
| Anticipated funds remitted to County for Regulatory Com | \$ (6,232) | \$ (6,410) | \$ (5,965) | \$ (5,520) | \$ (5,520) |
| Anticipated funds remitted to County for CWI | \$ (386,627) | \$ (377,195) | \$ (379,517) | \$ (389,684) | \$ (393,243) |
| Anticipated Remaining Town Fee Revenue | \$ 1,707,735 | \$ 2,102,413 | \$ 2,129,165 | \$ 2,156,220 | \$ 2,183,234 |
| Bond Issuance Proceeds | \$ - | \$ - | \$ - | \$ - | \$ - |
| Fund Balance | | | | | |
| FY Beginning Fund Balance | \$ - | \$ 56,170 | \$ 106,419 | \$ 247,043 | \$ 454,516 |
| Total Costs | \$ 1,651,565 | \$ 2,052,165 | \$ 1,988,541 | \$ 1,948,747 | \$ 1,676,476 |
| Total Revenues | \$ 1,707,735 | \$ 2,102,413 | \$ 2,129,165 | \$ 2,156,220 | \$ 2,183,234 |
| Surplus (Deficit) | \$ 56,170 | \$ 50,248 | \$ 140,624 | \$ 207,473 | \$ 506,758 |
| FY End Fund Balance | \$ 56,170 | \$ 106,419 | \$ 247,043 | \$ 454,516 | \$ 961,274 |

Town of Bluffton - Option B

No model run - debt options not fully fleshed out

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Town of Bluffton
Summary Sheet

Option C

| | FY 2015-2016 Revised 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 | 11,265 | 11,349 | 11,434 | 11,520 | 11,606 |
| 1.25% Billable IA Units | 10,317 | 10,446 | 10,577 | 10,709 | 10,843 |
| 1.25% Billable Equivalent GA Units | 20,471 | 20,727 | 20,986 | 21,248 | 21,514 |
| Costs | | | | | |
| Stormwater O&M | \$ 1,292,640 | \$ 1,329,919 | \$ 1,423,541 | \$ 1,468,747 | \$ 1,526,476 |
| Shared County Services | | | | | |
| Town Portion: Administration & Regulatory Compliance | \$ 32,271 | \$ 32,560 | \$ 33,009 | \$ 33,406 | \$ 33,976 |
| Town Portion: Monitoring & Outreach | \$ 6,266 | \$ 6,445 | \$ 5,998 | \$ 5,550 | \$ 5,550 |
| Town Portion: County-Wide Infrastructure O&M | \$ 386,627 | \$ 377,195 | \$ 379,517 | \$ 389,684 | \$ 393,243 |
| Capital Purchases & Projects | \$ 358,925 | \$ 722,245 | \$ 565,000 | \$ 480,000 | \$ 150,000 |
| Total Town Costs (excl. debt service) | \$ 1,651,565 | \$ 2,052,165 | \$ 1,988,541 | \$ 1,948,747 | \$ 1,676,476 |
| Total Town Costs payable to County for Shared Services | \$ 425,164 | \$ 416,200 | \$ 418,523 | \$ 428,640 | \$ 432,769 |
| 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 | \$ 3.43 | \$ 3.44 | \$ 3.42 | \$ 3.39 | \$ 3.41 |
| Fixed Cost per Account, administrative portion: | \$ 2.86 | \$ 2.87 | \$ 2.89 | \$ 2.90 | \$ 2.93 |
| Fixed Cost per Account, monitoring & outreach portion: | \$ 0.56 | \$ 0.57 | \$ 0.52 | \$ 0.48 | \$ 0.48 |
| Fixed Cost per Account, CWI portion: | \$ - | \$ - | \$ - | \$ - | \$ - |
| Fixed Cost Collection Rate | 96% | 97% | 98% | 99% | 99% |
| Fixed Cost per Account, Override | \$ 4.00 | \$ 4.00 | \$ 4.00 | \$ 4.00 | \$ 4.00 |
| Variable Costs, IA Proportion | 80% | 80% | 80% | 80% | 80% |
| Variable Costs, GA Proportion | 20% | 20% | 20% | 20% | 20% |
| Variable Costs, IA Unit Fee Calc | \$ 158.05 | \$ 186.06 | \$ 179.11 | \$ 174.69 | \$ 152.71 |
| Variable Costs, IA Unit Fee, administrative portion: | \$ - | \$ - | \$ - | \$ - | \$ - |
| Variable Costs, IA Unit Fee, monitoring & outreach portion: | \$ - | \$ - | \$ - | \$ - | \$ - |
| Variable Costs, IA Unit Fee, CWI portion: | \$ 29.98 | \$ 28.89 | \$ 28.71 | \$ 29.11 | \$ 29.01 |
| Variable Costs, IA Unit Fee, Town costs portion: | \$ 128.07 | \$ 157.16 | \$ 150.40 | \$ 145.58 | \$ 123.69 |
| IA Collection Rate | 96% | 97% | 98% | 99% | 99% |
| Variable Costs, IA Unit Fee Override | \$ 180.00 | \$ 180.00 | \$ 180.00 | \$ 180.00 | \$ 180.00 |
| Variable Costs, GA Unit Fee Calc | \$ 19.92 | \$ 23.45 | \$ 22.57 | \$ 22.02 | \$ 19.25 |
| Variable Costs, GA Unit Fee, administrative portion: | \$ - | \$ - | \$ - | \$ - | \$ - |
| Variable Costs, GA Unit Fee, monitoring & outreach portion: | \$ - | \$ - | \$ - | \$ - | \$ - |
| Variable Costs, GA Unit Fee, CWI portion: | \$ 3.78 | \$ 3.64 | \$ 3.62 | \$ 3.67 | \$ 3.66 |
| Variable Costs, GA Unit Fee, Town costs portion: | \$ 16.14 | \$ 19.80 | \$ 18.95 | \$ 18.34 | \$ 15.58 |
| GA Collection Rate | 96% | 97% | 98% | 99% | 99% |
| Variable Costs, GA Unit Fee Override | \$ 25.00 | \$ 25.00 | \$ 25.00 | \$ 25.00 | \$ 25.00 |
| Anticipated Town Fee Billings | \$ 2,413,844 | \$ 2,443,851 | \$ 2,474,246 | \$ 2,504,900 | \$ 2,536,014 |
| Per Account Fees Paid to Town | \$ 0.57 | \$ 0.56 | \$ 0.58 | \$ 0.61 | \$ 0.59 |
| Per Impervious Area Unit Fees Paid to Town | \$ 150.02 | \$ 151.11 | \$ 151.29 | \$ 150.89 | \$ 150.99 |
| Per Gross Area Unit Fees Paid to Town | \$ 21.22 | \$ 21.36 | \$ 21.38 | \$ 21.33 | \$ 21.34 |
| Per Account Fees Paid to County | \$ 3.43 | \$ 3.44 | \$ 3.42 | \$ 3.39 | \$ 3.41 |
| Per Impervious Area Unit Fees Paid to County | \$ 29.98 | \$ 28.89 | \$ 28.71 | \$ 29.11 | \$ 29.01 |
| Per Gross Area Unit Fees Paid to County | \$ 3.78 | \$ 3.64 | \$ 3.62 | \$ 3.67 | \$ 3.66 |
| Revenues | | | | | |
| Anticipated Town Fee Revenue | \$ 2,317,290 | \$ 2,370,535 | \$ 2,424,761 | \$ 2,479,851 | \$ 2,510,654 |
| Anticipated funds remitted to County for Utility Admin | \$ (32,271) | \$ (32,560) | \$ (33,009) | \$ (33,406) | \$ (33,976) |
| Anticipated funds remitted to County for Monitoring & Outreach | \$ (6,266) | \$ (6,445) | \$ (5,998) | \$ (5,550) | \$ (5,550) |
| Anticipated funds remitted to County for CWI | \$ (386,627) | \$ (377,195) | \$ (379,517) | \$ (389,684) | \$ (393,243) |
| Anticipated Remaining Town Fee Revenue | \$ 1,892,126 | \$ 1,954,335 | \$ 2,006,238 | \$ 2,051,211 | \$ 2,077,885 |
| Bond Issuance Proceeds | \$ - | \$ - | \$ - | \$ - | \$ - |
| Fund Balance | | | | | |
| FY Beginning Fund Balance | \$ - | \$ 240,561 | \$ 142,732 | \$ 160,428 | \$ 262,892 |
| Total Costs | \$ 1,651,565 | \$ 2,052,165 | \$ 1,988,541 | \$ 1,948,747 | \$ 1,676,476 |
| Total Revenues | \$ 1,892,126 | \$ 1,954,335 | \$ 2,006,238 | \$ 2,051,211 | \$ 2,077,885 |
| Surplus (Deficit) | \$ 240,561 | \$ (97,829) | \$ 17,696 | \$ 102,464 | \$ 401,408 |
| FY End Fund Balance | \$ 240,561 | \$ 142,732 | \$ 160,428 | \$ 262,892 | \$ 664,300 |

Beaufort County and Municipalities Stormwater Rate Study DRAFT Report

July 10, 2015

Town of Bluffton
Summary Sheet

Option D

| | FY 2015-2016 Revised 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 | 11,265 | 11,349 | 11,434 | 11,520 | 11,606 |
| 1.25% Billable IA Units | 10,317 | 10,446 | 10,577 | 10,709 | 10,843 |
| 1.25% Billable Equivalent GA Units | 20,471 | 20,727 | 20,986 | 21,248 | 21,514 |
| Costs | | | | | |
| Stormwater O&M | \$ 1,292,640 | \$ 1,329,919 | \$ 1,423,541 | \$ 1,468,747 | \$ 1,526,476 |
| Shared County Services | | | | | |
| Town Portion: Administration & Regulatory Compliance | \$ 32,095 | \$ 32,382 | \$ 32,828 | \$ 33,224 | \$ 33,791 |
| Town Portion: Monitoring & Outreach | \$ 6,232 | \$ 6,410 | \$ 5,965 | \$ 5,520 | \$ 5,520 |
| Town Portion: County-Wide Infrastructure O&M | \$ 386,627 | \$ 377,195 | \$ 379,517 | \$ 389,684 | \$ 393,243 |
| Capital Purchases & Projects | \$ 358,925 | \$ 722,245 | \$ 565,000 | \$ 480,000 | \$ 150,000 |
| Total Town Costs (excl. debt service) | \$ 1,651,565 | \$ 2,052,165 | \$ 1,988,541 | \$ 1,948,747 | \$ 1,676,476 |
| Total Town Costs payable to County for Shared Services | \$ 424,954 | \$ 415,987 | \$ 418,310 | \$ 428,427 | \$ 432,553 |
| 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 | \$ - | \$ - | \$ - | \$ - | \$ - |
| Fixed Cost per Account, administrative portion: | \$ - | \$ - | \$ - | \$ - | \$ - |
| Fixed Cost per Account, monitoring & outreach portion: | \$ - | \$ - | \$ - | \$ - | \$ - |
| Fixed Cost per Account, CWI portion: | \$ - | \$ - | \$ - | \$ - | \$ - |
| Fixed Cost Collection Rate | 96% | 97% | 98% | 99% | 99% |
| Fixed Cost per Account, Override | \$ - | \$ - | \$ - | \$ - | \$ - |
| Variable Costs, IA Proportion | 80% | 80% | 80% | 80% | 80% |
| Variable Costs, GA Proportion | 20% | 20% | 20% | 20% | 20% |
| Variable Costs, IA Unit Fee Calc | \$ 161.03 | \$ 189.03 | \$ 182.05 | \$ 177.59 | \$ 155.61 |
| Variable Costs, IA Unit Fee, administrative portion: | \$ 2.49 | \$ 2.48 | \$ 2.48 | \$ 2.48 | \$ 2.49 |
| Variable Costs, IA Unit Fee, monitoring & outreach portion: | \$ 0.48 | \$ 0.49 | \$ 0.45 | \$ 0.41 | \$ 0.41 |
| Variable Costs, IA Unit Fee, CWI portion: | \$ 29.98 | \$ 28.89 | \$ 28.71 | \$ 29.11 | \$ 29.01 |
| Variable Costs, IA Unit Fee, Town costs portion: | \$ 128.07 | \$ 157.16 | \$ 150.40 | \$ 145.58 | \$ 123.69 |
| IA Collection Rate | 96% | 97% | 98% | 99% | 99% |
| Variable Costs, IA Unit Fee Override | \$ 180.00 | \$ 180.00 | \$ 180.00 | \$ 180.00 | \$ 180.00 |
| Variable Costs, GA Unit Fee Calc | \$ 20.29 | \$ 23.82 | \$ 22.94 | \$ 22.38 | \$ 19.61 |
| Variable Costs, GA Unit Fee, administrative portion: | \$ 0.31 | \$ 0.31 | \$ 0.31 | \$ 0.31 | \$ 0.31 |
| Variable Costs, GA Unit Fee, monitoring & outreach portion: | \$ 0.06 | \$ 0.06 | \$ 0.06 | \$ 0.05 | \$ 0.05 |
| Variable Costs, GA Unit Fee, CWI portion: | \$ 3.78 | \$ 3.64 | \$ 3.62 | \$ 3.67 | \$ 3.66 |
| Variable Costs, GA Unit Fee, Town costs portion: | \$ 16.14 | \$ 19.80 | \$ 18.95 | \$ 18.34 | \$ 15.58 |
| GA Collection Rate | 96% | 97% | 98% | 99% | 99% |
| Variable Costs, GA Unit Fee Override | \$ 25.00 | \$ 25.00 | \$ 25.00 | \$ 25.00 | \$ 25.00 |
| Anticipated Town Fee Billings | \$ 2,368,784 | \$ 2,398,455 | \$ 2,428,510 | \$ 2,458,820 | \$ 2,489,590 |
| Per Account Fees Paid to Town | \$ - | \$ - | \$ - | \$ - | \$ - |
| Per Impervious Area Unit Fees Paid to Town | \$ 147.05 | \$ 148.14 | \$ 148.36 | \$ 147.99 | \$ 148.09 |
| Per Gross Area Unit Fees Paid to Town | \$ 20.85 | \$ 20.99 | \$ 21.01 | \$ 20.97 | \$ 20.98 |
| Per Account Fees Paid to County | \$ - | \$ - | \$ - | \$ - | \$ - |
| Per Impervious Area Unit Fees Paid to County | \$ 32.95 | \$ 31.86 | \$ 31.64 | \$ 32.01 | \$ 31.91 |
| Per Gross Area Unit Fees Paid to County | \$ 4.15 | \$ 4.01 | \$ 3.99 | \$ 4.03 | \$ 4.02 |
| Revenues | | | | | |
| Anticipated Town Fee Revenue | \$ 2,274,032 | \$ 2,326,501 | \$ 2,379,940 | \$ 2,434,232 | \$ 2,464,694 |
| Anticipated funds remitted to County for Utility Administration | \$ (32,095) | \$ (32,382) | \$ (32,828) | \$ (33,224) | \$ (33,791) |
| Anticipated funds remitted to County for Monitoring & Outreach | \$ (6,232) | \$ (6,410) | \$ (5,965) | \$ (5,520) | \$ (5,520) |
| Anticipated funds remitted to County for CWI | \$ (386,627) | \$ (377,195) | \$ (379,517) | \$ (389,684) | \$ (393,243) |
| Anticipated Remaining Town Fee Revenue | \$ 1,849,079 | \$ 1,910,514 | \$ 1,961,629 | \$ 2,005,804 | \$ 2,032,141 |
| Bond Issuance Proceeds | \$ - | \$ - | \$ - | \$ - | \$ - |
| Fund Balance | | | | | |
| FY Beginning Fund Balance | \$ - | \$ 197,514 | \$ 55,863 | \$ 28,952 | \$ 86,009 |
| Total Costs | \$ 1,651,565 | \$ 2,052,165 | \$ 1,988,541 | \$ 1,948,747 | \$ 1,676,476 |
| Total Revenues | \$ 1,849,079 | \$ 1,910,514 | \$ 1,961,629 | \$ 2,005,804 | \$ 2,032,141 |
| Surplus (Deficit) | \$ 197,514 | \$ (141,650) | \$ (26,912) | \$ 57,057 | \$ 355,665 |
| FY End Fund Balance | \$ 197,514 | \$ 55,863 | \$ 28,952 | \$ 86,009 | \$ 441,674 |

Town of Bluffton - Option E

No model run as yet - need to look at timing of planned CIP and consider temporal shift

Town of Bluffton - Option F

No model run as yet - need to look at timing of planned CIP and consider temporal shift

DRAFT

Appendix E – Town of Hilton Head Island Example Rates (Options A-F)

Town of Hilton Head Island Summary Sheet

Option A

| | FY 2015-2016 Current RS | FY 2016-2017 Current RS | FY 2017-2018 Current RS | FY 2018-2019 Current RS | FY 2019-2020 Current RS |
|----------------------------------------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| Rate Base | | | | | |
| 0.75% Accounts | 38,980 | 39,272 | 39,567 | 39,864 | 40,163 |
| 1.25% Billable IA Units | 32,119 | 32,520 | 32,927 | 33,339 | 33,756 |
| 1.25% Billable Equivalent GA Units | 24,614 | 24,921 | 25,233 | 25,548 | 25,867 |
| Costs | | | | | |
| Stormwater O&M | \$ 3,525,628 | \$ 3,613,769 | \$ 3,704,113 | \$ 3,796,716 | \$ 3,891,634 |
| Shared County Services | | | | | |
| Town Portion: Administration | \$ 100,540 | \$ 122,157 | \$ 123,684 | \$ 125,230 | \$ 126,795 |
| Town Portion: Monitoring & Outreach | \$ 19,402 | \$ 19,956 | \$ 18,571 | \$ 17,185 | \$ 17,185 |
| Town Portion: County-Wide Infrastructure O&M | \$ 283,045 | \$ 276,140 | \$ 277,840 | \$ 285,283 | \$ 287,889 |
| Capital Purchases & Projects | \$ - | \$ - | \$ - | \$ - | \$ - |
| Total Town Costs (excl. debt service) | \$ 3,525,628 | \$ 3,613,769 | \$ 3,704,113 | \$ 3,796,716 | \$ 3,891,634 |
| Total Town Costs payable to County for Shared Services | \$ 402,988 | \$ 418,253 | \$ 420,094 | \$ 427,697 | \$ 431,868 |
| Debt Service | | | | | |
| Annual Debt Service (Existing & Potential New) | \$ 1,175,675 | \$ 1,205,067 | \$ 1,235,194 | \$ 1,266,073 | \$ 1,297,725 |
| Current RS Fee Alternative | | | | | |
| Impervious Area Units | 31,936 | 32,335 | 32,739 | 33,148 | 33,563 |
| Fee | \$ 160.00 | \$ 160.00 | \$ 160.00 | \$ 160.00 | \$ 160.00 |
| Countywide Infrastructure Charge | \$ 8.86 | \$ 8.54 | \$ 8.49 | \$ 8.61 | \$ 8.58 |
| Override Countywide Infrastructure Charge | \$ 8.86 | \$ 8.54 | \$ 8.49 | \$ 8.61 | \$ 8.58 |
| Anticipated Town Fee Billings | \$ 5,392,684 | \$ 5,449,745 | \$ 5,516,230 | \$ 5,589,161 | \$ 5,658,018 |
| Collection Factor | 99% | 99% | 99% | 99% | 99% |
| Administrative Fee per Paid Unit | \$ 3.18 | \$ 3.82 | \$ 3.82 | \$ 3.82 | \$ 3.82 |
| Revenues | | | | | |
| Anticipated Town Fee Revenue | \$ 5,338,757 | \$ 5,395,248 | \$ 5,461,068 | \$ 5,533,269 | \$ 5,601,438 |
| Anticipated funds remitted to County for Utility Admin | \$ (100,540) | \$ (122,157) | \$ (123,684) | \$ (125,230) | \$ (126,795) |
| Anticipated funds remitted to County for Regulatory Compliance | \$ (19,402) | \$ (19,956) | \$ (18,571) | \$ (17,185) | \$ (17,185) |
| Anticipated funds remitted to County for CWI | \$ (283,045) | \$ (276,140) | \$ (277,840) | \$ (285,283) | \$ (287,889) |
| Anticipated Remaining Town Fee Revenue | \$ 4,935,769 | \$ 4,976,995 | \$ 5,040,974 | \$ 5,105,572 | \$ 5,169,570 |
| Bond Issuance Proceeds | \$ - | \$ - | \$ - | \$ - | \$ - |
| Fund Balance | | | | | |
| FY Beginning Fund Balance | \$ - | \$ 234,467 | \$ 392,626 | \$ 494,293 | \$ 537,076 |
| Total Costs | \$ 4,701,303 | \$ 4,818,835 | \$ 4,939,306 | \$ 5,062,789 | \$ 5,189,359 |
| Total Revenues | \$ 4,935,769 | \$ 4,976,995 | \$ 5,040,974 | \$ 5,105,572 | \$ 5,169,570 |
| Surplus (Deficit) | \$ 234,467 | \$ 158,159 | \$ 101,667 | \$ 42,783 | \$ (19,789) |
| FY End Fund Balance | \$ 234,467 | \$ 392,626 | \$ 494,293 | \$ 537,076 | \$ 517,287 |

Town of Hilton Head Island - Option B
No model run - no new CIP identified

**Town of Hilton Head Island
Summary Sheet**

Option C

| | FY 2015-2016 Revised 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 | 38,980 | 39,272 | 39,567 | 39,864 | 40,163 |
| 1.25% Billable IA Units | 32,119 | 32,520 | 32,927 | 33,339 | 33,756 |
| 1.25% Billable Equivalent GA Units | 24,614 | 24,921 | 25,233 | 25,548 | 25,867 |
| Costs | | | | | |
| Stormwater O&M | \$ 3,525,628 | \$ 3,613,769 | \$ 3,704,113 | \$ 3,796,716 | \$ 3,891,634 |
| Shared County Services | | | | | |
| Town Portion: Administration | \$ 111,666 | \$ 112,667 | \$ 114,220 | \$ 115,595 | \$ 117,568 |
| Town Portion: Monitoring & Outreach | \$ 21,683 | \$ 22,303 | \$ 20,754 | \$ 19,205 | \$ 19,205 |
| Town Portion: County-Wide Infrastructure O&M | \$ 283,045 | \$ 276,140 | \$ 277,840 | \$ 285,283 | \$ 287,889 |
| Capital Purchases & Projects | \$ - | \$ - | \$ - | \$ - | \$ - |
| Total Town Costs (excl. debt service) | \$ 3,525,628 | \$ 3,613,769 | \$ 3,704,113 | \$ 3,796,716 | \$ 3,891,634 |
| Total Town Costs payable to County for Shared Services | \$ 416,395 | \$ 411,109 | \$ 412,813 | \$ 420,084 | \$ 424,661 |
| Debt Service | | | | | |
| Annual Debt Service (Existing) | \$ 1,175,675 | \$ 1,205,067 | \$ 1,235,194 | \$ 1,266,073 | \$ 1,297,725 |
| Revised RS Stormwater Fee | | | | | |
| Fixed Cost per Account, Calc | \$ 3.43 | \$ 3.44 | \$ 3.42 | \$ 3.39 | \$ 3.41 |
| Fixed Cost per Account, administrative portion: | \$ 2.86 | \$ 2.87 | \$ 2.89 | \$ 2.90 | \$ 2.93 |
| Fixed Cost per Account, monitoring & outreach portion: | \$ 0.56 | \$ 0.57 | \$ 0.52 | \$ 0.48 | \$ 0.48 |
| Fixed Cost per Account, CWI portion: | \$ - | \$ - | \$ - | \$ - | \$ - |
| Fixed Cost Collection Rate | 96% | 97% | 98% | 99% | 99% |
| Fixed Cost per Account, Override | \$ 4.00 | \$ 4.00 | \$ 4.00 | \$ 4.00 | \$ 4.00 |
| Variable Costs, IA Proportion | 80% | 80% | 80% | 80% | 80% |
| Variable Costs, GA Proportion | 20% | 20% | 20% | 20% | 20% |
| Variable Costs, IA Unit Fee Calc | \$ 124.15 | \$ 125.34 | \$ 126.76 | \$ 128.34 | \$ 129.81 |
| Variable Costs, IA Unit Fee, administrative portion: | \$ - | \$ - | \$ - | \$ - | \$ - |
| Variable Costs, IA Unit Fee, monitoring & outreach portion: | \$ - | \$ - | \$ - | \$ - | \$ - |
| Variable Costs, IA Unit Fee, CWI portion: | \$ 7.05 | \$ 6.79 | \$ 6.75 | \$ 6.85 | \$ 6.82 |
| Variable Costs, IA Unit Fee, Town costs portion: | \$ 117.10 | \$ 118.54 | \$ 120.01 | \$ 121.49 | \$ 122.99 |
| IA Collection Rate | 96% | 97% | 98% | 99% | 99% |
| Variable Costs, IA Unit Fee Override | \$ 130.00 | \$ 130.00 | \$ 130.00 | \$ 130.00 | \$ 130.00 |
| Variable Costs, GA Unit Fee Calc | \$ 40.51 | \$ 40.89 | \$ 41.36 | \$ 41.87 | \$ 42.35 |
| Variable Costs, GA Unit Fee, administrative portion: | \$ - | \$ - | \$ - | \$ - | \$ - |
| Variable Costs, GA Unit Fee, monitoring & outreach portion: | \$ - | \$ - | \$ - | \$ - | \$ - |
| Variable Costs, GA Unit Fee, CWI portion: | \$ 2.30 | \$ 2.22 | \$ 2.20 | \$ 2.23 | \$ 2.23 |
| Variable Costs, GA Unit Fee, Town costs portion: | \$ 38.20 | \$ 38.67 | \$ 39.15 | \$ 39.63 | \$ 40.12 |
| GA Collection Rate | 96% | 97% | 98% | 99% | 99% |
| Variable Costs, GA Unit Fee Override | \$ 45.00 | \$ 45.00 | \$ 45.00 | \$ 45.00 | \$ 45.00 |
| Anticipated Town Fee Billings | \$ 5,438,966 | \$ 5,506,133 | \$ 5,574,263 | \$ 5,643,186 | \$ 5,712,947 |
| Per Account Fees Paid to Town | \$ 0.57 | \$ 0.56 | \$ 0.58 | \$ 0.61 | \$ 0.59 |
| Per Impervious Area Unit Fees Paid to Town | \$ 122.95 | \$ 123.21 | \$ 123.25 | \$ 123.15 | \$ 123.18 |
| Per Gross Area Unit Fees Paid to Town | \$ 42.70 | \$ 42.78 | \$ 42.80 | \$ 42.77 | \$ 42.77 |
| Per Account Fees Paid to County | \$ 3.43 | \$ 3.44 | \$ 3.42 | \$ 3.39 | \$ 3.41 |
| Per Impervious Area Unit Fees Paid to County | \$ 7.05 | \$ 6.79 | \$ 6.75 | \$ 6.85 | \$ 6.82 |
| Per Gross Area Unit Fees Paid to County | \$ 2.30 | \$ 2.22 | \$ 2.20 | \$ 2.23 | \$ 2.23 |
| Revenues | | | | | |
| Anticipated Town Fee Revenue | \$ 5,221,407 | \$ 5,340,949 | \$ 5,462,778 | \$ 5,586,754 | \$ 5,655,818 |
| Anticipated funds remitted to County for Utility Admin | \$ (111,666) | \$ (112,667) | \$ (114,220) | \$ (115,595) | \$ (117,568) |
| Anticipated funds remitted to County for Monitoring & Outreach | \$ (21,683) | \$ (22,303) | \$ (20,754) | \$ (19,205) | \$ (19,205) |
| Anticipated funds remitted to County for CWI | \$ (283,045) | \$ (276,140) | \$ (277,840) | \$ (285,283) | \$ (287,889) |
| Anticipated Remaining Town Fee Revenue | \$ 4,805,012 | \$ 4,929,840 | \$ 5,049,964 | \$ 5,166,671 | \$ 5,231,156 |
| Bond Issuance Proceeds | \$ - | \$ - | \$ - | \$ - | \$ - |
| Fund Balance | | | | | |
| FY Beginning Fund Balance | \$ - | \$ 103,709 | \$ 214,713 | \$ 325,371 | \$ 429,253 |
| Total Costs | \$ 4,701,303 | \$ 4,818,835 | \$ 4,939,306 | \$ 5,062,789 | \$ 5,189,359 |
| Total Revenues | \$ 4,805,012 | \$ 4,929,840 | \$ 5,049,964 | \$ 5,166,671 | \$ 5,231,156 |
| Surplus (Deficit) | \$ 103,709 | \$ 111,004 | \$ 110,658 | \$ 103,882 | \$ 41,798 |
| FY End Fund Balance | \$ 103,709 | \$ 214,713 | \$ 325,371 | \$ 429,253 | \$ 471,051 |

Beaufort County and Municipalities Stormwater Rate Study DRAFT Report

July 10, 2015

Town of Hilton Head Island
Summary Sheet

Option D

| | FY 2015-2016 Revised 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 | 38,980 | 39,272 | 39,567 | 39,864 | 40,163 |
| 1.25% Billable IA Units | 32,119 | 32,520 | 32,927 | 33,339 | 33,756 |
| 1.25% Billable Equivalent GA Units | 24,614 | 24,921 | 25,233 | 25,548 | 25,867 |
| Costs | | | | | |
| Stormwater O&M | \$ 3,525,628 | \$ 3,613,769 | \$ 3,704,113 | \$ 3,796,716 | \$ 3,891,634 |
| Shared County Services | | | | | |
| Town Portion: Administration | \$ 99,919 | \$ 100,815 | \$ 102,204 | \$ 103,435 | \$ 105,200 |
| Town Portion: Monitoring & Outreach | \$ 19,402 | \$ 19,956 | \$ 18,571 | \$ 17,185 | \$ 17,185 |
| Town Portion: County-Wide Infrastructure O&M | \$ 283,045 | \$ 276,140 | \$ 277,840 | \$ 285,283 | \$ 287,889 |
| Capital Purchases & Projects | \$ - | \$ - | \$ - | \$ - | \$ - |
| Total Town Costs (excl. debt service) | \$ 3,525,628 | \$ 3,613,769 | \$ 3,704,113 | \$ 3,796,716 | \$ 3,891,634 |
| Total Town Costs payable to County for Shared Services | \$ 402,367 | \$ 396,911 | \$ 398,615 | \$ 405,903 | \$ 410,273 |
| Debt Service | | | | | |
| Annual Debt Service (Existing) | \$ 1,175,675 | \$ 1,205,067 | \$ 1,235,194 | \$ 1,266,073 | \$ 1,297,725 |
| Revised RS Stormwater Fee | | | | | |
| Fixed Cost per Account, Calc | \$ - | \$ - | \$ - | \$ - | \$ - |
| Fixed Cost per Account, administrative portion: | \$ - | \$ - | \$ - | \$ - | \$ - |
| Fixed Cost per Account, monitoring & outreach portion: | \$ - | \$ - | \$ - | \$ - | \$ - |
| Fixed Cost per Account, CWI portion: | \$ - | \$ - | \$ - | \$ - | \$ - |
| Fixed Cost Collection Rate | 96% | 97% | 98% | 99% | 99% |
| Fixed Cost per Account, Override | \$ - | \$ - | \$ - | \$ - | \$ - |
| Variable Costs, IA Proportion | 80% | 80% | 80% | 80% | 80% |
| Variable Costs, GA Proportion | 20% | 20% | 20% | 20% | 20% |
| Variable Costs, IA Unit Fee Calc | \$ 127.13 | \$ 128.31 | \$ 129.70 | \$ 131.23 | \$ 132.71 |
| Variable Costs, IA Unit Fee, administrative portion: | \$ 2.49 | \$ 2.48 | \$ 2.48 | \$ 2.48 | \$ 2.49 |
| Variable Costs, IA Unit Fee, monitoring & outreach portion: | \$ 0.48 | \$ 0.49 | \$ 0.45 | \$ 0.41 | \$ 0.41 |
| Variable Costs, IA Unit Fee, CWI portion: | \$ 7.05 | \$ 6.79 | \$ 6.75 | \$ 6.85 | \$ 6.82 |
| Variable Costs, IA Unit Fee, Town costs portion: | \$ 117.10 | \$ 118.54 | \$ 120.01 | \$ 121.49 | \$ 122.99 |
| IA Collection Rate | 96% | 97% | 98% | 99% | 99% |
| Variable Costs, IA Unit Fee Override | \$ 135.00 | \$ 135.00 | \$ 135.00 | \$ 135.00 | \$ 135.00 |
| Variable Costs, GA Unit Fee Calc | \$ 41.48 | \$ 41.86 | \$ 42.31 | \$ 42.82 | \$ 43.30 |
| Variable Costs, GA Unit Fee, administrative portion: | \$ 0.81 | \$ 0.81 | \$ 0.81 | \$ 0.81 | \$ 0.81 |
| Variable Costs, GA Unit Fee, monitoring & outreach portion: | \$ 0.16 | \$ 0.16 | \$ 0.15 | \$ 0.13 | \$ 0.13 |
| Variable Costs, GA Unit Fee, CWI portion: | \$ 2.30 | \$ 2.22 | \$ 2.20 | \$ 2.23 | \$ 2.23 |
| Variable Costs, GA Unit Fee, Town costs portion: | \$ 38.20 | \$ 38.67 | \$ 39.15 | \$ 39.63 | \$ 40.12 |
| GA Collection Rate | 96% | 97% | 98% | 99% | 99% |
| Variable Costs, GA Unit Fee Override | \$ 45.00 | \$ 45.00 | \$ 45.00 | \$ 45.00 | \$ 45.00 |
| Anticipated Town Fee Billings | \$ 5,443,639 | \$ 5,511,645 | \$ 5,580,630 | \$ 5,650,425 | \$ 5,721,075 |
| Per Account Fees Paid to Town | \$ - | \$ - | \$ - | \$ - | \$ - |
| Per Impervious Area Unit Fees Paid to Town | \$ 124.98 | \$ 125.24 | \$ 125.32 | \$ 125.26 | \$ 125.28 |
| Per Gross Area Unit Fees Paid to Town | \$ 41.73 | \$ 41.81 | \$ 41.84 | \$ 41.82 | \$ 41.83 |
| Per Account Fees Paid to County | \$ - | \$ - | \$ - | \$ - | \$ - |
| Per Impervious Area Unit Fees Paid to County | \$ 10.02 | \$ 9.76 | \$ 9.68 | \$ 9.74 | \$ 9.72 |
| Per Gross Area Unit Fees Paid to County | \$ 3.27 | \$ 3.19 | \$ 3.16 | \$ 3.18 | \$ 3.17 |
| Revenues | | | | | |
| Anticipated Town Fee Revenue | \$ 5,225,894 | \$ 5,346,296 | \$ 5,469,017 | \$ 5,593,921 | \$ 5,663,864 |
| Anticipated funds remitted to County for Utility Admin | \$ (99,919) | \$ (100,815) | \$ (102,204) | \$ (103,435) | \$ (105,200) |
| Anticipated funds remitted to County for Monitoring & Outreach | \$ (19,402) | \$ (19,956) | \$ (18,571) | \$ (17,185) | \$ (17,185) |
| Anticipated funds remitted to County for CWI | \$ (283,045) | \$ (276,140) | \$ (277,840) | \$ (285,283) | \$ (287,889) |
| Anticipated Remaining Town Fee Revenue | \$ 4,823,527 | \$ 4,949,385 | \$ 5,070,403 | \$ 5,188,018 | \$ 5,253,591 |
| Bond Issuance Proceeds | \$ - | \$ - | \$ - | \$ - | \$ - |
| Fund Balance | | | | | |
| FY Beginning Fund Balance | \$ - | \$ 122,224 | \$ 252,773 | \$ 383,869 | \$ 509,098 |
| Total Costs | \$ 4,701,303 | \$ 4,818,835 | \$ 4,939,306 | \$ 5,062,789 | \$ 5,189,359 |
| Total Revenues | \$ 4,823,527 | \$ 4,949,385 | \$ 5,070,403 | \$ 5,188,018 | \$ 5,253,591 |
| Surplus (Deficit) | \$ 122,224 | \$ 130,549 | \$ 131,096 | \$ 125,229 | \$ 64,232 |
| FY End Fund Balance | \$ 122,224 | \$ 252,773 | \$ 383,869 | \$ 509,098 | \$ 573,331 |

Town of Hilton Head Island - Option E

No model run - no CIP identified

Town of Hilton Head Island - Option F

No model run - no CIP identified

DRAFT

STORMWATER UTILITY RATE STUDY

Presentation of Draft Findings

STORMWATER UTILITY RATE STUDY

- Original contract – Unincorporated County
- Additional contract – City and three towns
- Additional effort to update impervious features on about 5,000 parcel polygons across all jurisdictions

STORMWATER UTILITY RATE STUDY

- February – April: program planning and cost evaluation
- May – June: Data update for impervious features
- June – July: Draft rate structures and rates

* Program planning efforts focused more on unincorporated County.

STORMWATER UTILITY RATE STUDY

- Major Issues for County:
 - Countywide infrastructure O&M costs increasing and currently no funding from municipalities
 - County rate base decreasing
 - MS4 compliance costs increasing
 - Capital needs expanding
 - Rates held constant since 2008 while costs rose and inflation continued

STORMWATER UTILITY RATE STUDY

- Major Issues for City and Towns:
 - Failing infrastructure and lack of data about the infrastructure (Beaufort)
 - MS4 compliance costs increasing (Bluffton, HHI)
 - O&M needs expanding for older infrastructure that the Town has agreed to maintain (HHI)
 - Increasing O&M needs and shrinking fund balance (PR)

STORMWATER UTILITY RATE STUDY

SIX OPTIONS FOR RATE STRUCTURE

| Modeled Rate Structure Option | Overall Rate Structure | Debt Financing for Some Capital | Partial Tax Funding | Method for Allocating Administrative Costs | Method for Allocating County-wide Infrastructure Maintenance Costs | Method for Re-allocating Costs from One Jurisdiction to another | Minimum Charge | Simplified Residential Rates |
|-------------------------------|---------------------------------------------|---------------------------------|-----------------------------------|--------------------------------------------|--------------------------------------------------------------------|-----------------------------------------------------------------|----------------|------------------------------|
| A | Impervious Area | No | Optional at Jurisdiction's Choice | Impervious Area SFU's | None | Optional at Jurisdiction's Choice | No | Yes |
| B | Impervious Area | Yes | Optional at Jurisdiction's Choice | Impervious Area SFU's | None | Optional at Jurisdiction's Choice | No | Yes |
| C | Impervious and Gross Area at 80/20 or 90/10 | No | Optional at Jurisdiction's Choice | Per Account | Impervious and Gross Area | Optional at Jurisdiction's Choice | Yes | Yes |
| D | Impervious and Gross Area at 80/20 or 90/10 | No | Optional at Jurisdiction's Choice | Impervious and Gross Area | Impervious and Gross Area | Optional at Jurisdiction's Choice | Yes | Yes |
| E | Impervious and Gross Area at 80/20 or 90/10 | Yes | Optional at Jurisdiction's Choice | Per Account | Impervious and Gross Area | Optional at Jurisdiction's Choice | Yes | Yes |
| F | Impervious and Gross Area at 80/20 or 90/10 | Yes | Optional at Jurisdiction's Choice | Impervious and Gross Area | Impervious and Gross Area | Optional at Jurisdiction's Choice | Yes | Yes |

STORMWATER UTILITY RATE STUDY

SIX OPTIONS FOR RATE STRUCTURE

| Modeled Rate Structure Option | Overall Rate Structure | Debt Financing for Some Capital | Partial Tax Funding | Method for Allocating Administrative Costs | Method for Allocating County-wide Infrastructure Maintenance Costs | Method for Re-allocating Costs from One Jurisdiction to another | Minimum Charge | Simplified Residential Rates |
|-------------------------------|---------------------------------------------|---------------------------------|-----------------------------------|--------------------------------------------|--------------------------------------------------------------------|-----------------------------------------------------------------|----------------|------------------------------|
| A | Impervious Area | No | Optional at Jurisdiction's Choice | Impervious Area SFU's | None | Optional at Jurisdiction's Choice | No | Yes |
| B | Impervious Area | Yes | Optional at Jurisdiction's Choice | Impervious Area SFU's | None | Optional at Jurisdiction's Choice | No | Yes |
| C | Impervious and Gross Area at 80/20 or 90/10 | No | Optional at Jurisdiction's Choice | Per Account | Impervious and Gross Area | Optional at Jurisdiction's Choice | Yes | Yes |
| D | Impervious and Gross Area at 80/20 or 90/10 | No | Optional at Jurisdiction's Choice | Impervious and Gross Area | Impervious and Gross Area | Optional at Jurisdiction's Choice | Yes | Yes |
| E | Impervious and Gross Area at 80/20 or 90/10 | Yes | Optional at Jurisdiction's Choice | Per Account | Impervious and Gross Area | Optional at Jurisdiction's Choice | Yes | Yes |
| F | Impervious and Gross Area at 80/20 or 90/10 | Yes | Optional at Jurisdiction's Choice | Impervious and Gross Area | Impervious and Gross Area | Optional at Jurisdiction's Choice | Yes | Yes |

STORMWATER UTILITY RATE STUDY

- Administration costs - \$3.18 per SFU this year, transitioning to per account in out years
- Borrow funds to finance capital projects (\$5M in 2017, \$5M in 2019)
- 80/20 Impervious and Gross area revenues for variable portion
- Countywide Infrastructure allocable to Impervious and Gross area

STORMWATER UTILITY RATE STUDY

Advantages of this rate structure:

- Consistent with already established administration costs of \$3.18 per SFU this year, and flexible for changing the methodology later
- Borrowing funds to finance capital projects (\$5M in 2017, \$5M in 2019) blunts rate increase and allows future residents to help pay for the programs and infrastructure they will use
- Allocates some costs to gross land area
- Establishes an allocation method for countywide infrastructure O&M

STORMWATER UTILITY RATE STUDY

- Countywide Infrastructure costs - about \$3.5M
- Allocation of CWI costs based on infrastructure distribution throughout County:

| | |
|----------------------------|-------|
| Unincorporated County | 76.4% |
| City of Beaufort | 3.4% |
| Town of Port Royal | 1.0% |
| Town of Bluffton | 11.1% |
| Town of Hilton Head Island | 8.1% |

STORMWATER UTILITY RATE STUDY

- Countywide Infrastructure costs - about \$3.5M
- Allocation of CWI costs based on infrastructure distribution throughout County (see percentages).
Current per SFU rates required to generate CWI monies are as follows:

| | |
|----------------------------|-----------------|
| Unincorporated County | \$44.34 per SFU |
| City of Beaufort | \$9.31 per SFU |
| Town of Port Royal | \$5.82 per SFU |
| Town of Bluffton | \$30.49 per SFU |
| Town of Hilton Head Island | \$8.86 per SFU |

STORMWATER UTILITY RATE STUDY

- OPTION E -- Unincorporated County rates recommended (draft) in study:
 - Fixed charge per year: \$12.00 per parcel/account
 - Impervious charge: \$65.00 per Unit
 - Gross area charge: \$10.00 per Unit, declining blocks

STORMWATER UTILITY RATE STUDY

How Option E Compares -- Unincorporated County rates recommended (draft) in study:

Typical home on 1 acre lot

- Current charge: \$50 per year
- Option E charge: \$87 per year
- Option A charge: \$100 per year (\$120 per year by 2019)

STORMWATER UTILITY RATE STUDY

Declining block rates for gross area charges in the recommended unincorporated County rate structure:

- First 2 acres: \$10.00 per year
- Next 8 acres: \$5.00 per acre per year
- Next 90 acres: \$4.00 per acre per year
- All acres > 100: \$3.00 per acre per year

**Beaufort County Stormwater Utility
Revised Budget for FY2016**

Unaudited Projected Revenue

| | FY2015 Requested Board Budget | FY2016 Requested Board Budget |
|------------------------------------|----------------------------------------|----------------------------------------|
| Revenue | | |
| Admin SWU Fees | 313,460 | 357,244 |
| <i>Unincorp/CWI SWU Fees</i> | 2,766,881 | 5,522,753 |
| Total Revenue from SWU Fees | 3,080,341 | 5,879,997 |
| Reimbursable Projects | 2,500 | 2,500 |
| Interest | 2,955 | 2,771 |
| Cost-Share for Joint Efforts | 41,689 | 36,942 |
| Reserve Utilization | | |
| Capital Improvement Fund | 767,500 | 434,079 |
| Stormwater Utility | 351,091 | 0 |
| Projected Revenue Total | 4,246,076 | 6,356,289 |

\$3.18/SFU

-3.5% from FY15 to FY16

\$2,500-SCDOT or BCSD

Notes:
*Reimbursement ck for \$38,566 from Carolina Clear to be applied to PE/PO contract.
**Cost-Share total in the model is \$47,948

Town of Port Royal (ToPR)

\$7,590 - WQ Monitoring \$60K NoBR
\$630 - PE/O cost-share \$60K C/W
\$13,961 - SMP Update cost share \$475K C/W

City of Beaufort (CoB)

\$18,685 - WQ Monitoring \$60K NoBR
\$1,545 - PE/O cost-share \$60K C/W
\$34,251 - SMP Update cost share \$475K C/W

Town of Hilton Head Island (ToHHI)

\$6,282 - PE/O cost-share \$60K C/W
\$139,243 - SMP Update cost share \$475K C/W

Town of Bluffton (ToB)

\$2,210 - PE/O cost-share \$60K C/W
\$48,954 - SMP Update cost share \$475K C/W

Lowest in FY15 (Nov 14) **Most Recent (Mar 15)**
Unres Net Assets-\$678K Unres Net Assets-\$1.4M
Cash Balance-(\$178K) Cash Balance-\$2.76M

Efforts (Expenditures)

| | | |
|-------------------------------------|-----------|----------------|
| Administration | 313,460 | 360,495 |
| Utility Activities | | |
| UA/Control Reg | 216,956 | - |
| UA/WQ Monitoring | 120,000 | - |
| UA/Annual Maintenance | 2,736,160 | 2,908,833 |
| UA/Public Information/Outreach | 50,000 | - |
| UA/Drainage Enhancement | 7,000 | 39,000 |
| UA/Additional Studies | 35,000 | 545,000 |
| <i>Utility Activities Subtotal</i> | 3,165,116 | 3,492,833 |
| Regulation | | |
| UA/Control Reg | | 445,242 |
| UA/WQ Monitoring | | 105,000 |
| UA/Public Information/Outreach | | 70,000 |
| <i>Regulation Subtotal</i> | - | 620,242 |
| Reserve Utilization | | |
| Capital Improvement Fund | | |
| Admin Parking Lot Retrofit | 327,169 | - |
| Hwy 278 Retrofit | 207,722 | 183,215 |
| Okatie West/SC 170 Retrofit | 100,000 | 315,000 |
| Battery Creek Upper Retrofit | 132,609 | 117,604 |
| Buckingham Plantation | - | 400,000 |
| Brewer Memorial Demo Pond | - | 9,500 |
| <i>Reserve Utilization Subtotal</i> | 767,500 | 1,025,319 |
| Utility Operating Fund | | |
| <i>Surplus (Deficit)</i> | - | 857,399 |
| Efforts Total | 4,246,076 | 6,356,289 |

Personnel

Director of EE (SW Mngr) - .8 FTE
GIS&MS4 Data Mngr - 1.0 FTE
SW Bus Mngr - 1.0 FTE
Fiscal Tech - .1 FTE
SW Admin Tech - .5 FTE

Personnel

New Infrastructure Inspection Tech - 1.0 FTE
\$30K - O&M's Professional Services
\$21K - Survey
\$5K - Engineering Services
\$2K - Easement Appraisal Services
\$2K - Wetland Delineation/Restoration
\$0 - Inventory Secondary SW System (Staff)

\$39K - PSMS Enhancements

\$25K - Sawmill (Forby)
\$14K - Contingency

\$545K - Additional Studies

\$475K - Update to the SMMP
\$30K - Credits/Incentives Analysis
\$30K - Rate Study Phase II
\$10K - Contingency

Personnel

Superintendent - 1.0 FTE
Inspector - 1.0 FTE
Fiscal Tech - .1 FTE
Admin Tech - .5 FTE
New MS4 Coord - 1.0 FTE

\$70K - SW Control Regulations' Professional Services

\$25K - IDDE (Ord/Plan)
\$25K - Construction (Ord/Manual)
\$20K - Post Construction WQ (Ord. review/manual review)

\$105K - WQ Monitoring

\$100K - USCB WQ Lab
\$5K - Gel Engineering
(Purchase of monitoring equip reflected in Capital Assets)

\$70K - Public Edu/Info

\$60K - MCM 1&2 Contract
\$10K - Website Development

carolynw:

Construction delayed

carolynw:

Construction delayed

\$573,290 - UA

\$314,460 - Replace (2) dump trucks
\$54K - Replace (2) 4x4 pickup trucks (intermediate)
\$32K - Add (1) pickup truck (Infr Inspection Tech)
\$5,830 - Radio (Infr Inspection Tech)
\$85K - Trailer Mounted Camera
\$32K Vac Truck Overhaul
\$50K - Land Acquisition (Condemnation)
\$38K - Regulatory Section
\$31K - Add (1) pickup truck (MS4 Coord)
\$7K - WagTech Kit

SWM - \$5,826

UA - \$231,980

Reg - \$10,675

Change in Capital Assets On Balance Sheet

| | FY2015 | FY2016 |
|--------------------------|-----------|-----------|
| Capital Assets Additions | 165,561 | 611,290 |
| Depreciation | (182,523) | (248,481) |
| | (16,962) | 362,809 |

**AN ORDINANCE TO AMEND THE STORMWATER MANAGEMENT UTILITY ORDINANCE AS ADOPTED
AUGUST 22, 2005 TO PROVIDE FOR AMENDMENT OF THE RATE STRUCTURE, ADJUST UTILITY RATES,
AND TO MODIFY CERTAIN TERMS TO ACCURATELY REFLECT ADMINISTRATION STRUCTURE**

WHEREAS, Act 283 of 1975, The Home Rule Act, vested Beaufort County Council with the independent authority to control all acts and powers of local governmental authority that are not expressly prohibited by South Carolina law; and

WHEREAS, Chapter 99, Article II, "Stormwater Management Utility" was adopted on August 27, 2001 and was modified by ordinance on August 22, 2005; and

WHEREAS, Stormwater Management Utility was established for the purpose of managing, acquiring, constructing, protecting, operating, maintaining, enhancing, controlling, and regulating the use of stormwater drainage systems in the county;

WHEREAS, to meet the increasing demands on the Stormwater Management Utility in the areas of federally mandated municipal Separate Stormsewer Systems (MS4) permitting, capital project needs, and cost of service of operations and maintenance, as well as an evolving understanding of the impacts of the urban environment on water quality, the Stormwater Management Utility finds it necessary to amend the structure in which rates are determined and adjust the rates charged to the citizens of Beaufort County to meet said demands in a fair and equitable manner; and

WHEREAS, the administrative structure of the Stormwater Management Utility needs to be amended to reflect the organization of the current administration; and

WHEREAS, Beaufort County Council believes to best provide for the health, safety, and welfare of its citizens it is appropriate to amend Chapter 99, Article II of the Beaufort County Code and to provide for additional terms to said Article; and

WHEREAS, text that is underscored shall be added text and text ~~lined through~~ shall be deleted text; and

NOW, THEREFORE, BE IT ORDAINED BY BEAUFORT COUNTY COUNCIL, that Chapter 99, Article II of the Beaufort County Code is hereby amended and replaced with the following:

Chapter 99 - STORMWATER MANAGEMENT UTILITY

ARTICLE I. - IN GENERAL

Secs. 99-1—99-100. - Reserved.

ARTICLE II. - STORMWATER MANAGEMENT UTILITY

Sec. 99-101. - Findings of fact.

The County Council of Beaufort County, South Carolina, makes the following findings of fact:

- (a) The professional engineering and financial analyses conducted on behalf of and submitted to the county properly assesses and defines the stormwater management problems, needs, goals, program priorities, costs of service, need for interlocal cooperation, and funding opportunities of the county.
- (b) Given the problems, needs, goals, program priorities, costs of service, needs for interlocal cooperation, and funding opportunities identified in the professional engineering and financial analyses submitted to the county, it is appropriate to authorize the establishment of a separate enterprise accounting unit which shall be dedicated specifically to the management, construction, maintenance, protection, control, regulation, use, and enhancement of stormwater systems and programs in Beaufort County in concert with other water resource management programs.
- (c) Stormwater management is applicable and needed throughout the unincorporated portions of Beaufort County, but interlocal cooperation between the county and the incorporated cities and towns within the county is also essential to the efficient provision of stormwater programs, services, systems, and facilities. Intense urban development in some portions of the county has radically altered the natural hydrology of the area and the hydraulics of stormwater systems, with many natural elements having been replaced or augmented by man-made facilities. Other areas of the county remain very rural in character, with natural stormwater systems predominating except along roads where ditches and culverts have been installed. As a result, the specific program, service, system, and facility demands differ from area to area in the county. While the county manages, operates, and improves stormwater programs, services, systems and facilities in the rural as well as urban areas, the need for improved stormwater management is greatest in the urban areas and nearby, including areas within incorporated cities and towns. Therefore, a stormwater utility service area subject to stormwater service fees should encompass, in so far as possible through interlocal agreements, the entirety of Beaufort County and the stormwater management utility service fee rate structure should reflect the amount of impervious area on individual properties and the runoff impact from water quantity and water quality.
- (d) The stormwater needs in Beaufort County include but are not limited to protecting the public health, safety, and welfare. Provision of stormwater management programs, services, systems, and facilities therefore renders and/or results in both service and benefit to individual properties, property owners, citizens, and residents of the county and to properties, property owners, citizens, and residents of the county concurrently in a variety of ways as identified in the professional engineering and financial analyses.
- (e) The service and benefit rendered or resulting from the provision of stormwater management programs, services, systems, and facilities may differ over time depending on many factors and considerations, including but not limited to location, demands and impacts imposed on the stormwater programs, systems, and facilities, and risk exposure. It is not practical to allocate the cost of the county's stormwater management programs, services, systems, and facilities in direct and precise relationship to the services or benefits rendered to or received by individual properties or persons over a brief span of time, but it is both practical and equitable to allocate the cost of stormwater management among properties and persons in proportion to the long-term demands they impose on the county's stormwater programs, services, systems, and facilities which render or result in services and benefits.
- (f) Beaufort County presently owns and operates stormwater management systems and facilities that have been developed, installed, and acquired through various mechanisms over many years. The future usefulness and value of the existing stormwater systems and facilities owned and operated by Beaufort County, and of future additions and improvements thereto, rests on the ability of the county to effectively manage, construct, protect, operate, maintain, control, regulate, use, and enhance the stormwater systems and facilities in the county, in concert with the management of other water resources in the county and in cooperation with the incorporated cities and towns. In order to do so, the county must have adequate and stable funding for its stormwater management program operating and capital investment needs.

- (g) The county council finds, concludes, and determines that a stormwater management utility provides the most practical and appropriate means of properly delivering stormwater management services and benefits throughout the county, and the most equitable means to fund stormwater services in the county through stormwater service fees and other mechanisms as described in the professional engineering and financial analyses prepared for the county.
- (h) The county council finds, concludes, and determines that a schedule of stormwater utility service fees be levied upon and collected from the owners of all lots, parcels of real estate, and buildings that discharge stormwater or subsurface waters, directly or indirectly, to the county stormwater management system and that the proceeds of such charges so derived be used for the stormwater management system.
- (i) The county council finds that adjustments and credits against stormwater utility service fees are an appropriate means to grant properties providing stormwater management program services that would otherwise be provided by the county and will afford Beaufort County cost savings. These reductions will be developed by the ~~Beaufort County engineer~~ Stormwater Manager and will be reviewed on an annual basis to allow for any modifications to practices required by Beaufort County.

~~The county council finds that both the total gross area and impervious area on each property are the most important factors influencing the cost of stormwater management in Beaufort County and, the runoff impact from water quantity and water quality. In determining the basis for a stormwater management utility fee, the county council finds that it is appropriate to remove the amount of land area on each property that is designated as river or marsh as these areas are vital portions of the county's stormwater management program.~~

Sec. 99-102. - Establishment of a stormwater management utility and a utility enterprise fund.

There is hereby established within the ~~Public Works Department~~ Environmental Engineering Division of Beaufort County a stormwater management utility for the purpose of conducting the county's stormwater management program. The county administrator shall establish and maintain a stormwater management utility enterprise fund in the county budget and accounting system, which shall be and remain separate from other funds. All revenues of the utility shall be placed into the stormwater management utility enterprise fund and all expenses of the utility shall be paid from the fund, except that other revenues, receipts, and resources not accounted for in the stormwater management utility enterprise fund may be applied to stormwater management programs, services, systems, and facilities as deemed appropriate by the Beaufort County Council. The county administrator may designate within the stormwater management utility enterprise fund such sub-units as necessary for the purpose of accounting for the geographical generation of revenues and allocation of expenditures pursuant to interlocal governmental agreements with the cities and towns of Beaufort County.

Sec. 99-103. - Purpose and responsibility of the utility.

The Beaufort County Stormwater Management Utility is established for the purpose of managing, acquiring, constructing, protecting, operating, maintaining, enhancing, controlling, and regulating the use of stormwater drainage systems in the county. The utility shall, on behalf of the county and the citizens of the county: administer the stormwater management program; perform studies and analyses as required; collect service fees; system development fees, in-lieu of construction fees and other funding as allowed by law, and obtain and administer grants and loans as authorized by the county council; prepare capital improvement plans and designs; perform routine maintenance and remedial repair of the stormwater systems; acquire, construct, and improve stormwater systems; acquire necessary lands, easements, rights-of-way, rights-of-entry and use, and other means of access to properties to perform its duties; regulate the on-site control, conveyance, and discharge of stormwater from properties; obtain federal and state permits required to carry out its purpose; enter into operating agreements with other agencies; allocate funds pursuant to interlocal governmental agreements; educate and inform the public about stormwater management; and perform, without limitation except by law, any stormwater management

functions and activities necessary to ensure the public safety, protect private and public properties and habitat, and enhance the natural environment and waters of the county.

Sec. 99-104. - Limitation of scope of responsibility.

The purpose and responsibility of the stormwater management utility shall be limited by the following legal and practical considerations.

- (a) Beaufort County owns or has legal access for purposes of operation, maintenance, and improvement only to those stormwater systems and facilities which:
 - (1) Are located within public streets, other rights-of-way, and easements;
 - (2) Are subject to easements, rights-of-entry, rights-of-access, rights-of-use, or other permanent provisions for adequate access for operation, maintenance, monitoring, and/or improvement of systems and facilities; or
 - (3) Are located on public lands to which the county has adequate access for operation, maintenance, and/or improvement of systems and facilities.
- (b) Operation, maintenance, and/or improvement of stormwater systems and facilities which are located on private property or public property not owned by Beaufort County and for which there has been no public dedication of such systems and facilities for operation, maintenance, monitoring, and/or improvement of the systems and facilities shall be and remain the legal responsibility of the property owner, except as that responsibility may be otherwise affected by the laws of the State of South Carolina and the United States of America.
- (c) It is the express intent of this article to protect the public health, safety, and welfare of all properties and persons in general, but not to create any special duty or relationship with any individual person or to any specific property within or outside the boundaries of the county. Beaufort County expressly reserves the right to assert all available immunities and defenses in any action seeking to impose monetary damages upon the county, its officers, employees and agents arising out of any alleged failure or breach of duty or relationship as may now exist or hereafter be created.
- (d) To the extent any permit, plan approval, inspection or similar act is required by the county as a condition precedent to any activity or change upon property not owned by the county, pursuant to this or any other regulatory ordinance, regulation, or rule of the county or under federal or state law, the issuance of such permit, plan approval, or inspection shall not be deemed to constitute a warranty, express or implied, nor shall it afford the basis for any action, including any action based on failure to permit or negligent issuance of a permit, seeking the imposition of money damages against the county, its officers, employees, or agents.

Sec. 99-105. - Boundaries and jurisdiction.

The boundaries and jurisdiction of the stormwater management utility shall encompass all those portions of unincorporated Beaufort County, as they may exist from time to time and such additional areas lying inside the corporate limits of those cities and towns in Beaufort County as shall be subject to interlocal agreements for stormwater management as approved by county council and participating municipal councils.

Sec. 99-106. - Definitions.

Unless the context specifically indicates otherwise, the meaning of words and terms used in this article shall be as set forth in S.C. Code § 48-14-20, and 26 S.C. Code Regulation 72-301, mutatis mutandis.

Abatement. Any action deemed necessary by the county or its officers or agents to remedy, correct, control, or eliminate a condition within, associated with, or impacting a stormwater drainage system or the water quality of receiving waters shall be deemed an abatement action.

Adjustments. Adjustments shall mean a change in the amount of a stormwater service fee predicated upon the determination reached by the Beaufort County engineer Stormwater Manager and referenced to the Adjustments and Credit Manual.

Bill Class. Every taxed property falls into one of several bill classes. The bill class determines the fee calculation of that property.

Countywide Infrastructure Operation and Maintenance and Capital Projects. The County maintains some typically larger infrastructure within each of the four municipalities in addition to within the unincorporated area. The rate structure will allocate the costs for the County to maintain just the countywide drainage infrastructure across the entire rate base in all jurisdictions based on infrastructure linear feet per jurisdiction.

Customers of the stormwater management utility. Customers of the stormwater management utility shall be broadly defined to include all persons, properties, and entities served by and/or benefiting, directly and indirectly, from the utility's acquisition, management, construction, improvement, operation, maintenance, extension, and enhancement of the stormwater management programs, services, systems, and facilities in the county, and by its control and regulation of public and private stormwater systems, facilities, and activities related thereto.

Developed land. Developed land shall mean property altered from its natural state by construction or installation of improvements such as buildings, structures, or other impervious surfaces, or by other alteration of the property that results in a meaningful change in the hydrology of the property during and following rainfall events.

Exemption. Exemption shall mean not applying to or removing the application of the stormwater management utility service fee from a property. No permanent exemption shall be granted based on taxable or non-taxable status or economic status of the property owner.

Fixed costs. Costs associated with the public service provided equally to each property owner. These costs include, but are not limited to the following: billing and collections, data management and updating, programming, and customer support.

Gross Area. Gross area is the acreage of a parcel as identified by the Beaufort County Assessor records.

Hydrologic response. The hydrologic response of a property is the manner whereby stormwater collects, remains, infiltrates, and is conveyed from a property. It is dependent on several factors including but not limited to the size and overall intensity of development of each property, its impervious area, shape, topographic, vegetative, and geologic conditions, antecedent moisture conditions, and groundwater conditions and the nature of precipitation events. Extremely large undeveloped properties naturally attenuate but do not eliminate entirely the discharge of stormwater during and following rainfall events.

Jurisdictional Infrastructure Operations, Maintenance and Capital Projects. Each of the five jurisdictions maintains its own stormwater drainage infrastructure and funds those costs from utility revenue. Revenue from this fee component will be returned to the service provider, the individual jurisdiction.

Impervious surfaces. Impervious surfaces shall be a consideration in the determination of the development intensity factor. Impervious surfaces are those areas that prevent or impede the infiltration of stormwater into the soil as it entered in natural conditions prior to development. Common impervious surfaces include, but are not limited to, rooftops, sidewalks, walkways, patio areas, driveways, parking lots, storage areas, compacted gravel and soil surfaces, awnings and other fabric or plastic coverings, and other surfaces that prevent or impede the natural infiltration of stormwater runoff that existed prior to development.

Minimum Charge. A charge that reflects the minimum amount of demand a property will place on the service provider.

MS4 Permit. Each jurisdiction within Beaufort County will be subject to the federally mandated MS4 permit requirements. Compliance requirements include, but are not limited to monitoring, plan review, inspections, outreach and public education,

Nonresidential properties. Properties developed for uses other than permanent residential dwelling units and designated by the assigned land use code in the Beaufort County tax data system.

Other developed lands. Other developed lands shall mean, but not be limited to, mobile home parks, commercial and office buildings, public buildings and structures, industrial and manufacturing buildings, storage buildings and storage areas covered with impervious surfaces, parking lots, parks, recreation properties, public and private schools and universities, research facilities and stations, hospitals and convalescent centers, airports, agricultural uses covered by impervious surfaces, water and wastewater treatment plants, and lands in other uses which alter the hydrology of the property from that which would exist in a natural state. Properties that are used for other than single family residential use shall be deemed other developed lands for the purpose of calculating stormwater service fees.

Residential dwelling classifications. The following categories will identify the appropriate dwelling unit classifications to be utilized in applying the stormwater utility fee structure to the designations contained in the Beaufort County tax data system:

Single-family

Apartments

Townhouses

Condominiums

Mobile Home

~~Mobile home parks~~

~~Mobile home lots~~

~~River areas. River areas shall be those areas of Beaufort County that have been delineated as rivers on the most current digital mapping on file in the Beaufort County Engineering Department. Where applicable, these areas shall be deducted from a property's total land area in determining its stormwater service fee.~~

Stormwater management programs, services, systems and facilities. Stormwater management programs, services, systems and facilities are those administrative, engineering, operational, regulatory, and capital improvement activities and functions performed in the course of managing the stormwater systems of the county, plus all other activities and functions necessary to support the provision of such programs and services. Stormwater management systems and facilities are those natural and man-made channels, swales, ditches, swamps, rivers, streams, creeks, branches, reservoirs, ponds, drainage ways, inlets, catch basins, pipes, head walls, storm sewers, lakes, and other physical works, properties, and improvements which transfer, control, convey or otherwise influence the movement of stormwater runoff and its discharge to and impact upon receiving waters.

Stormwater service fees. Stormwater service fees shall mean the service fee imposed pursuant to this article for the purpose of funding costs related to stormwater programs, services, systems, and facilities. These fees will be calculated based upon the ~~residential category for a parcel and/or the nonresidential parcel's impervious area, and/or the vacant/undeveloped land category.~~ impervious and gross area at an 80/20 allocation; storm water service fee categories; any State agricultural exemptions or caps; an account administrative fee, countywide jurisdiction operation maintenance and capital project fees; and jurisdictional operation, maintenance and capital project fee.

~~Stormwater service fee; s~~Single-family unit (SFU). The single-family unit shall be defined as the impervious area measurements obtained from a statistically representative sample of all detached single-family structures within Beaufort County. The representative value will be 4,906 square feet.

Stormwater service fee categories. The appropriate categories for determining SFUs will be as follows:

| | SFU (SFUs equal) | Calculation |
|------------------------------------------------------------------------------|---------------------|-----------------------------------------------|
| Tier 1 Single-family Unit (<=2,521 square feet) | | Dwelling units x 0.5 |
| Tier 2 Single-family Unit (2,522 to 7,265 square feet) | | Dwelling units x 1 |
| Tier 3 Single-family Unit (>=7,266 square feet) | | Dwelling units x 1.5 |
| Mobil Home | | Dwelling units x 0.36 |
| Apartments | | Dwelling units x 0.39 |
| Townhouses | | Dwelling units x 0.60 |
| Condominiums | | Dwelling units x 0.27 |
| Mobile home parks | | Dwelling units x 0.36 |
| Mobile home lots | | Dwelling units x 0.59 |
| Nonresidential Commercial | | Impervious area ÷ 4,906 sq. ft. |
| Residential/nonresidential vacant | | Parcel area × SFU corrected factor |

~~Vacant/undeveloped land. All parcels containing no impervious area and not being defined as exempt will have the corrected SFUs calculated for the following property classification system (PCS) codes:~~

- ~~PCS-29~~
- ~~PCS-33~~
- ~~PCS-91~~
- ~~PCS-92~~

~~PCS-99~~

~~PCS-81~~

~~PCS-82~~

~~PCS-83~~

~~PCS-84~~

~~PCS-89~~

~~PCS-74~~

~~PCS-76~~

~~Appropriate residential PCS category~~

~~Variable Costs. An impervious and gross area rate structure that allocates some cost to each of the two variables based on the amount of impervious surface and gross area.~~

Sec. 99-107. - Requirements for on-site stormwater systems: enforcement, methods and inspections.

- (a) All property owners and developers of real property to be developed within the unincorporated portions of Beaufort County shall provide, manage, maintain, and operate on-site stormwater systems and facilities sufficient to collect, convey, detain, control, and discharge stormwater in a safe manner consistent with all county development regulations and the laws of the State of South Carolina and the United States of America, except in cases when the property is located within an incorporated city or town subject to an interlocal governmental agreement with the county for stormwater management and the city or town has regulations that are more stringent than the county, in which case the city's or town's development regulations shall apply. Any failure to meet this obligation shall constitute a nuisance and be subject to an abatement action filed by the county in a court of competent jurisdiction. In the event a public nuisance is found by the court to exist, which the owner fails to properly abate within such reasonable time as allowed by the court, the county may enter upon the property and cause such work as is reasonably necessary to be performed, with the actual cost thereof charged to the owner in the same manner as a stormwater service fee as provided for in this article.
- (b) In the event that the county shall file an action pursuant to subsection 99-107(a), from the date of filing such action the county shall have all rights of judgment and collection through a court of competent jurisdiction as may be perfected by action.
- (c) The county shall have the right, pursuant to the authority of this article, for its designated officers and employees to enter upon private property and public property owned by other than the county, upon reasonable notice to the owner thereof, to inspect the property and conduct surveys and engineering tests thereon in order to assure compliance with any order or judgment entered pursuant to this section.

Sec. 99-108. - General funding policy.

- (a) It shall be the policy of Beaufort County that funding for the stormwater management utility program, services, systems, and facilities shall be equitably derived through methods which have a demonstrable relationship to the varied demands and impacts imposed on the stormwater program, services, systems, and facilities by individual properties or persons and/or the level of service rendered by or resulting from the provision of stormwater programs, systems and facilities. Stormwater service fee rates shall be structured so as to be fair and reasonable, and the resultant service fees shall bear a substantial relationship to the cost of providing services and facilities throughout the county. Similarly situated properties shall be charged similar rentals, rates, fees, or

licenses. Service fee rates shall be structured to be consistent in their application and shall be coordinated with the use of any other funding methods employed for stormwater management within the county, whether wholly or partially within the unincorporated portions of the county or within the cities and towns. Plan review and inspection fees, special fees for services, fees in-lieu of regulatory requirements, impact fees, system development fees, special assessments, general obligation and revenue bonding, and other funding methods and mechanisms available to the county may be used in concert with stormwater service fees and shall be coordinated with such fees in their application to ensure a fair and reasonable service fee rate structure and overall allocation of the cost of services and facilities.

- (b) The cost of stormwater management programs, systems, and facilities subject to stormwater service fees may include operating, capital investment, and non-operating expenses, prudent operational and emergency reserve expenses, and stormwater quality as well as stormwater quantity management programs, needs, and requirements.
- (c) To the extent practicable, adjustments to the stormwater service fees will be calculated by the Beaufort County ~~engineer~~ Stormwater Manager in accordance with the standards and procedures adopted by the ~~engineer's~~ Stormwater Manger's office.
- (d) The stormwater service fee rate may be determined and modified from time to time by the Beaufort County Council so that the total revenue generated by said fees and any other sources of revenues or other resources allocated to stormwater management by the county council to the stormwater management utility shall be sufficient to meet the cost of stormwater management services, systems, and facilities, including, but not limited to, the payment of principle and interest on debt obligations, operating expense, capital outlays, nonoperating expense, provisions for prudent reserves, and other costs as deemed appropriate by the county council.

Beaufort County service fee rate will be based on impervious and gross area at an 80/20 allocation; storm water service fee categories; any State agricultural exemptions or caps; an account administrative fee, countywide jurisdiction operation maintenance and capital project fees; and jurisdictional operation, maintenance and capital project fee. The rates are set by the Beaufort County Stormwater Rate Study adopted July 2015.

Each municipal jurisdiction may have a different fee predicated upon the individual municipal jurisdiction's revenue needs. The following stormwater service fee rates shall apply: be adopted by the municipal jurisdictions and may be amended from time to time by the individual governing body.

| <u>Jurisdiction</u> | <u>Annual Stormwater Service Fee (\$/SFU/year)</u> |
|---------------------------------------|----------------------------------------------------|
| <u>City of Beaufort</u> | <u>\$65.00</u> |
| <u>Town of Bluffton</u> | <u>-98.00</u> |
| <u>Town of Hilton Head Island</u> | <u>108.70</u> |
| <u>Town of Port Royal</u> | <u>-50.00</u> |
| <u>Unincorporated Beaufort County</u> | <u>-50.00</u> |

Sec. 99-109. - Exemptions and credits applicable to stormwater service fees.

Except as provided in this section, no public or private property shall be exempt from stormwater utility service fees. No exemption, credit, offset, or other reduction in stormwater service fees shall be granted based on the age, tax, or economic status, race, or religion of the customer, or other condition unrelated to the stormwater management utility's cost of providing stormwater programs, services, systems, and facilities. A stormwater management utility service fee credit manual shall be prepared by the ~~county engineer~~ Stormwater Manager specifying the design and performance standards of on-site stormwater services, systems, facilities, and activities that qualify for application of a service fee credit, and how such credits shall be calculated.

(a) Credits. The following types of credits against stormwater service fees shall be available:

- (1) Freshwater wetlands. All properties except those classified as detached single-family dwelling units may receive a credit against the stormwater service fee applicable to the property based on granting and dedicating a perpetual conservation easement on those portions of the property that are classified as freshwater wetlands and as detailed in the stormwater management utility service fee credit manual. The conservation easement shall remove that portion of the subject property from any future development. ~~Once this credit has been granted to a particular property, that portion of the property will be treated similar to the river and marsh areas and shall be deducted from the property's total land area in computing its stormwater service fee. This credit shall remain in effect as long as the conditions of the conservation easement are met.~~
- (2) Those properties that apply for consideration of an adjustment shall satisfy the requirements established by the Beaufort County ~~engineer~~ Stormwater Manager and approved reduced stormwater service fee.

(b) Exemptions. The following exemptions from the stormwater service fees shall be allowed:

- (1) Improved public road rights-of-way that have been conveyed to and accepted for maintenance by the state department of transportation and are available for use in common for vehicular transportation by the general public.
- (2) Improved public road rights-of-way that have been conveyed to and accepted for maintenance by Beaufort County and are available for use in common for vehicular transportation by the general public.
- (3) Improved private roadways that are shown as a separate parcel of land on the most current Beaufort County tax maps and are used by more than one property owner to access their property.
- (4) Railroad tracks shall be exempt from stormwater service fees. However, railroad stations, maintenance buildings, or other developed land used for railroad purposes shall not be exempt from stormwater service fees.
- (5) Condominium boat slips shall be exempt from stormwater service fees.

Sec. 99-110. - Stormwater service fee billing, delinquencies and collections.

(a) Method of billing. A stormwater service fee bill may be attached as a separate line item to the county's property tax billing or may be sent through the United States mail or by alternative means, notifying the customer of the amount of the bill, the date the fee is due (January 15), and the date when past due (March 17 - see Title 12, Section 45-180 of the South Carolina State Code). The stormwater service fee bill may be billed and collected along with other fees, including but not limited to the Beaufort County property tax billing, other Beaufort County utility bills, or assessments as deemed most effective and efficient by the Beaufort County Council. Failure to receive a bill is not justification for non-payment. Regardless of the party to whom the bill is initially directed, the owner

of each parcel of land shall be ultimately obligated to pay such fees and any associated fines or penalties, including, but not limited to, interest on delinquent service fees. If a customer is under-billed or if no bill is sent for a particular property, Beaufort County may retroactively bill for a period of up to one-year, but shall not assess penalties for any delinquency during that previous unbilled period.

- (b) Declaration of delinquency. A stormwater service fee shall be declared delinquent if not paid within 60 days of the date of billing or upon the date (March 17) of delinquency of the annual property tax billing if the stormwater service fee is placed upon the annual property tax billing or enclosed with or attached to the annual property tax billing.

Sec. 99-111. - Appeals.

Any customer who believes the provisions of this article have been applied in error may appeal in the following manner and sequence.

- (a) An appeal of a stormwater service fee must be filed in writing with the Beaufort County ~~public works director~~ Stormwater Manager or his/her designee within 30 days of the fee being mailed or delivered to the property owner and stating the reasons for the appeal. In the case of stormwater service fee appeals, the appeal shall include a survey prepared by a registered land surveyor or professional engineer containing information on the impervious surface area and any other feature or conditions that influence the development of the property and its hydrologic response to rainfall events.
- (b) Using information provided by the appellant, the county ~~public works director~~ Stormwater Manager (or his or her designee) shall conduct a technical review of the conditions on the property and respond to the appeal in writing within 30 days. In response to an appeal, the county public works director may adjust the stormwater service fee applicable to the property in conformance with the general purposes and intent of this article.
- (c) A decision of the county ~~public works director~~ Stormwater Manager that is adverse to an appellant may be further appealed to the county administrator or his designee within 30 days of the adverse decision. The appellant, stating the grounds for further appeal, shall deliver notice of the appeal to the county administrator or his designee. The county administrator or his designee shall issue a written decision on the appeal within 30 days. All decisions by the county administrator or his designee shall be served on the customer personally or by registered or certified mail, sent to the billing address of the customer. All decisions of the county administrator or his designee shall be final.
- (d) The appeal process contained in this section shall be a condition precedent to an aggrieved customer seeking judicial relief. Any decisions of the county administrator or his designee may be reviewed upon application for writ of certiorari before a court of competent jurisdiction, filed within 30 days of the date of the service of the decision.

Sec. 99-112. - No suspension of due date.

No provision of this article allowing for an administrative appeal shall be deemed to suspend the due date of the service fee with payment in full. Any adjustment in the service fee for the person pursuing an appeal shall be made by refund of the amount due.

Sec. 99-113. - Enforcement and penalties.

Any person who violates any provision of this article may be subject to a civil penalty of not more than \$1,000.00, or such additional maximum amount as may become authorized by state law, provided the owner or other person deemed to be in violation has been notified of a violation. Notice shall be deemed achieved when sent by regular United States mail to the last known address reflected on the county tax records, or such other address as has been provided by the person to the county. Each day of a continuing violation may be deemed a separate violation. If payment is not received or equitable settlement reached within 30 days after demand for payment is made, a civil action may be filed on behalf

of the county in the circuit court to recover the full amount of the penalty. This provision on penalties shall be in addition to and not in lieu of other provisions on penalties, civil or criminal, remedies and enforcement that may otherwise apply.

Sec. 99-114. - Investment and reinvestment of funds and borrowing.

Funds generated for the stormwater management utility from service fees, fees, rentals, rates, bond issues, other borrowing, grants, loans, and other sources shall be utilized only for those purposes for which the utility has been established as specified in this article, including but not limited to: regulation; planning; acquisition of interests in land, including easements; design and construction of facilities; maintenance of the stormwater system; billing and administration; water quantity and water quality management, including monitoring, surveillance, private maintenance inspection, construction inspection; public information and education, and other activities which are reasonably required. such funds shall be invested and reinvested pursuant to the same procedures and practices established by Title 12, Section 45-70 of the South Carolina State Code for investment and reinvestment of funds. County council may use any form of borrowing authorized by the laws of the State of South Carolina to fund capital acquisitions or expenditures for the stormwater management utility. County council, in its discretion and pursuant to standard budgetary procedures, may supplement such funds with amounts from the general fund.

Sec. 99-115. - ~~Initial study priorities for~~ Responsibilities of the stormwater management utility.

~~During the first three-year period of t~~ The county stormwater management utility, ~~the utility~~ shall perform adequate studies throughout the area served by the utility to determine the following:

- (1) Baseline study of water quality in the receiving waters;
- (2) Identification of pollutants carried by stormwater runoff into the receiving waters;
- (3) Recommended mitigation efforts to address pollutants carried by stormwater runoff into the receiving waters;
- (4) Inventory of the existing drainage system;
- (5) Recommended maintenance practices and standards of the existing drainage system;
- (6) Identification of capital improvements to the system to include construction or installation of appropriate BMPs.
- (7) A five-year spending plan.
- (8) Ensure compliance with the federally mandated MS4 permit requirements
- (9) Efficient utility administration including but not limited to billing, collection, defining rate structures, data management and customer support.

~~The proposed five-year spending plan shall be appropriately revised to reflect this priority and timetable for completion.~~

Sec. 99-116. - Stormwater utility management board.

- (1) Purpose. In compliance with and under authority of Beaufort County Ordinance 2001/23, the Beaufort County Council hereby establishes the stormwater management utility board (hereinafter referred to as the "SWU board") to advise the council as follows:
 - (a) To determine appropriate levels of public stormwater management services for residential, commercial, industrial and governmental entities within Beaufort County;
 - (b) To recommend appropriate funding levels for provision of services in the aforementioned sectors;

- (c) To advise the staff of the stormwater management utility on master planning efforts and cost of service/rate studies; and
- (d) To support and promote sound stormwater management practices that mitigates non-point source pollution and enhances area drainage within Beaufort County.

Municipal councils are encouraged to organize similar boards to advise them on stormwater management programs and priorities within their boundaries.

In keeping with discussions held during the formation of the stormwater utility, it is anticipated that the municipalities will appoint staff professionals as their representative on the advisory board.

(2) Stormwater districts. Stormwater districts are hereby established as follows:

District 1 - City of Beaufort

District 2 - Town of Port Royal

District 3 - Town of Hilton Head Island

District 4 - Town of Bluffton

District 5 - Unincorporated Sheldon Township

District 6 - Unincorporated Port Royal Island

District 7 - Unincorporated Lady's Island

District 8 - Unincorporated St. Helena Island Islands East

District 9 - Unincorporated Bluffton Township and Daufuskie Island

(3) Membership.

- (a) The SWU board is formed in accordance with Beaufort County Ordinance 92-28 and shall consist of a total of seven voting representatives from each of the following districts as noted below:

| No. of Reps. | Stormwater District | Area |
|--------------|---------------------|-------------------------------------------------------|
| 1 | 5 | Unincorporated Sheldon Township |
| 1 | 6 | Unincorporated Port Royal Island |
| 1 | 7 | Unincorporated Lady's Island |
| 1 | 8 | Unincorporated St. Helena Island Islands East |
| 2 | 9 | Unincorporated Bluffton Township and Daufuskie Island |
| 1 | — | "At large" |

All members of the SWU board will be appointed by county council and shall be residents of those districts or "at large" members from unincorporated Beaufort County.

- (b) The SWU board shall also consist of one nonvoting (ex officio) representative from the following districts:

| Stormwater District | Municipality |
|---------------------|----------------------------|
| 1 | City of Beaufort |
| 2 | Town of Port Royal |
| 3 | Town of Hilton Head Island |
| 4 | Town of Bluffton |

All ex officio members from municipalities shall be appointed by their respective municipal councils for four-year terms.

- (c) All citizen members shall be appointed for a term of four years. The terms shall be staggered with one or two members appointed each year.
- (d) While no other eligibility criteria is established, it is recommended that members possess experience in one or more of the following areas: Stormwater management (drainage and water quality) issues, strategic planning, budget and finance issues or established professional qualifications in engineering, construction, civil engineering, architectural experience, commercial contractor or similar professions.

(4) Officers.

- (a) Officers. Selection of officers and their duties as follows:

1. Chairperson and vice-chair. At an annual organizational meeting, the members of the SWU board shall elect a chairperson and vice-chairperson from among its members. The chair's and vice-chair's terms shall be for one year with eligibility for reelection. The chair shall be in charge of all procedures before the SWU board, may administer oaths, may compel the attendance of witnesses, and shall take such action as shall be necessary to preserve order and the integrity of all proceedings before the SWU board. In the absence of the chair, the vice-chair shall act as chairperson.
2. Secretary. The county professional staff member shall appoint a secretary for the SWU board. The secretary shall keep minutes of all proceedings. The minutes shall contain a summary of all proceedings before the SWU board, which include the vote of all members upon every question, and its recommendations, resolutions, findings and determinations, and shall be attested to by the secretary. The minutes shall be approved by a majority of the SWU board members voting. In addition, the secretary shall maintain a public record of SWU board meetings, hearings, proceedings, and correspondence.
3. Staff. The ~~public works director~~ Stormwater Manager shall be the SWU board's professional staff.

- (b) Quorum and voting. Four SWU board members shall constitute a quorum of the SWU board necessary to take action and transact business. All actions shall require a simple majority of the number of SWU board members present.
 - (c) Removal from office. The county council, by a simple majority vote, shall terminate the appointment of any member of the SWU board and appoint a new member for the following reasons:
 - 1. Absent from more than one-third of the SWU board meetings per annum, whether excused or unexcused;
 - 2. Is no longer a resident of the county;
 - 3. Is convicted of a felony; or
 - 4. Violated conflict of interest rules according to the county-adopted template ordinance.Moreover, a member shall be removed automatically for failing to attend any three consecutive regular meetings.
 - (d) Vacancy. Whenever a vacancy occurs on the SWU board, the county council shall appoint a new member within 60 days of the vacancy, subject to the provisions of this section. A new member shall serve out the former member's term.
 - (e) Compensation. The SWU board members shall serve without compensation, but may be reimbursed for such travel, mileage and/or per diem expenses as may be authorized by the SWU board-approved budget.
- (5) Responsibilities and duties.
- (a) Review and recommend to the county council for approval, a comprehensive Beaufort County Stormwater Management Master Plan and appropriate utility rate study which is in accordance with the South Carolina Stormwater Management and Sediment Reduction Act; and
 - (b) Review and comment to the county administrator on the annual stormwater management utility enterprise fund budget; and
 - (c) Cooperate with the South Carolina Department of Health and Environmental Control (DHEC), Office of Coastal Resource Management (OCRM), the Oversight Committee of the Special Area Management Plan (SAMP), the Beaufort County Clean Water Task Force as well as other public and private agencies having programs directed toward stormwater management programs; and
 - (d) Review and make recommendations concerning development of a multiyear stormwater management capital improvement project (CIP) plan; and
 - (e) Review and advise on proposed stormwater management plans and procurement procedures; and
 - (f) Provide review and recommendations on studies conducted and/or funded by the utility; and
 - (g) Review and advise on actions and programs to comply with regulatory requirements, including permits issued under the State of South Carolina National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges from Regulated Small Municipal Separate Storm Sewer Systems (MS4).
- (6) Meetings. Meetings of the SWU board shall be held as established by the SWU board on a monthly basis and a calendar will be prepared giving the date, time and location of such meetings. Additionally, meetings may be called by the chairperson or at the request of four SWU board members. The location of all SWU board meetings shall be held in a public building in a place accessible to the public. The following shall apply to the conduct of all meetings:

- (a) Meeting records. The SWU board shall keep a record of meetings, resolutions, findings, and determinations. The SWU board may provide for transcription of such hearings and proceedings, or portions of hearings and proceedings, as may be deemed necessary.
- (b) Open to public. All meetings and public hearings of the SWU board shall be open to the public.
- (c) Recommendations or decisions. All recommendations shall be by show of hands of all members present. A tie vote or failure to take action shall constitute a denial recommendation. All recommendations shall be accompanied by a written summary of the action and recommendations.
- (d) Notice and agenda. The SWU board must give written public notice of regular meetings at the beginning of each calendar year. The SWU board must post regular meeting agendas at the meeting place 24 hours before any meeting. Notices and agenda for call, special or rescheduled meetings must be posted at least 24 hours before such meetings. The SWU board must notify any persons, organizations and news media that request such notification of meetings.

[\(Ord. No. 2005/33, § 17, 8-22-2005; Ord. No. 2009/21, §§ I—VI, 5-26-2009\)](#)

DRAFT



BEAUFORT COUNTY
STORMWATER MANAGEMENT UTILITY BOARD
AGENDA

Wednesday, August 26, 2015

2:00 p.m.

Beaufort Industrial Village, Building 3 Conference Room 104
Industrial Village Road, Beaufort
843.255.2805

In accordance with South Carolina Code of Laws, 1976, as amended, Section 30-4-80(d), all local media was duly notified of the time, date, place and agenda of this meeting.

1. CALL TO ORDER – 2:00 p.m.
 - A. Approval of Agenda
 - B. Approval of Minutes – July 15, 2015 ([backup](#))
2. INTRODUCTIONS
3. PUBLIC COMMENT
4. REPORTS
 - A. Utility Update – Eric Larson, P.E. ([backup](#))
 - B. MS4 Update - Eric Larson, P.E. ([backup](#))
 - C. Monitoring Update – Eric Larson, P.E. ([backup](#))
 - D. Stormwater Implementation Committee Report – Eric Larson, P.E. ([backup](#))
 - E. Stormwater Related Projects – Eric Larson, P.E. ([backup](#))
 - F. Upcoming Professional Contracts Report – Eric Larson, P.E. ([backup](#))
 - G. Regional Coordination – Eric Larson, P.E. ([backup](#))
 - H. Financial Report ([backup](#))
 - I. Maintenance Projects Report – Eddie Bellamy ([backup](#))
5. UNFINISHED BUSINESS
 - A. Update on the Rate Study- Eric Larson
6. NEW BUSINESS
 - A. Public Education Briefing - Beaufort Soil and Water Conservation District ([backup](#))
 - B. Solid Waste and Recycling Board Letter for Stormwater Management Utility Board ([backup](#))
 - C. Oaktie West Pond Acceptance of Section 319 Grant ([backup](#)) and Recommendation to Beaufort County’s Natural Resources Committee ([backup](#))
7. PUBLIC COMMENT



8. EXECUTIVE SESSION

A. "Discussion of negotiations incident to proposed contractual arrangements and proposed sale or purchase of property, the receipt of legal advice where the legal advice relates to a pending, threatened, or potential claim or other matters covered by the attorney-client privilege, settlement of legal claims, or the position of the public agency in other adversary situations involving the assertion against the agency of a claim."

9. NEXT MEETING AGENDA

A. September 30, 2015 ([backup](#))

10. ADJOURNMENT





BEAUFORT COUNTY STORMWATER UTILITY
120 Shanklin Road
Beaufort, South Carolina 29906
Voice (843) 255-2801 Facsimile (843) 255-9478



August 26, 2015

Stormwater Manager's Report for the Stormwater Utility Board Meeting

Utility Update

1. Mr. Eric Larson has reviewed 8 projects for County Staff Review Team.
2. Staff is processing a stormwater fee credit application for the HHI Airport. Review is pending subject to resubmittal of the application based on staff review comments.
3. Mr. Larson continues to participate in a South Carolina Coastal Stormwater Pond Collaborative Committee to study pond management in the region. Mr. Larson met with the SeaGrant staff member (Melody Hunt) last week to discuss research progress and program goals.



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August 26, 2015

Stormwater Manager's Report for the Stormwater Utility Board Meeting

MS4 Update

1. MS4 Permit Application – DHEC staff was delayed in getting a public notice started by August 1. They are now saying the effective date of the permit will be October 1, 2015.
2. MS4 program development – Any work on program development is on hold pending comments from DHEC on the NOI. However, the staff did recently meet with MIS to work towards setting up the needed computer data management software and templates for plan review and inspections.
3. MS4 Staffing – The County is currently advertising for a new position, MS4 Coordinator. Interviewing is scheduled for the week of August 31.
4. Beaufort County Pond Conference – Planning is ongoing. Registration should open soon after Labor Day. The date is set for October 22, 2015 at USCB Gateway campus in Bluffton.
5. Education and Outreach – Beaufort Soil and Water Conservation District will be presenting an annual report of activity at today's meeting.



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August 26, 2015

Stormwater Manager's Report for the Stormwater Utility Board Meeting

Monitoring Update

1. US 278 pond project – Our staff has been collecting grab samples for “first-flush” storm events at the pond sites. The goal is to establish some base line water quality data prior to the ponds “going on-line”.
2. USCB and County MOU for the Lab Services – Dr. Warren, Mr. Larson, and their staff have met to discuss future needs from the lab as a result of changing monitoring needs related to CIP and MS4. An additional meeting to discuss possible changes to the MOU has been delayed due to workload. In the meantime, parties are working together to prioritize efforts to stay within current funding limits. The goal is to meet in September.



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August 26, 2015

Stormwater Manager's Report for the Stormwater Utility Board Meeting

Stormwater Implementation Committee (SWIC) Report ([See Attachments](#))

1. The SWIC met on July 15th prior to the last Utility Board Meeting. Topics of discussion included the Rate Study and the Management Plan Update. The SWIC also met on August 12th to interview consulting firms for the Management Plan Update. Minutes are attached.

SWIC Meeting Minutes

July 15, 2015, 9:30am at BIV#3, Beaufort, SC

| | |
|------------|---------------------------------------------------------------------------------------------------------------------|
| Attendees: | Eric Larson, Bryan McIlwee, Jeremy Ritchie, Lamar Taylor, Van Willis, Tony Maglione, Keith Readling, Jennifer Fitts |
|------------|---------------------------------------------------------------------------------------------------------------------|

1. Approval of April 8th, 2015 and May 13th, 2015 meeting minutes - Approved by common consent.
2. Public Education
 - a. Report by BSWCD – ([See attached report](#)). No comments were made.
3. Rate Study
 - a. Model presentation - ATM team presented the final draft of the County portion of the rate study and the Excel spreadsheet model tool. Discussion lasted approximately 2 hours and was focused on how the model works.
 - b. Report adoption schedule - Larson noted that the County approval process will be starting in the afternoon with the Stormwater Utility Board. The County plans to have approval of the rate study on July 27th. ATM noted that additional meetings need to be held with the Towns and City to finalize the report and model for their areas. Larson noted that each Town and City needs to take action on the study by the end of December. The rate structure alone, and possibly the utility relationships between jurisdictions, will change the language of the IGAs. 180 days, or 6 months, is needed to notify each party of changes to the IGA. That would need to be done as part of the FY 17 budget process and effective July 1, 2015. The County will send a letter to each jurisdiction to advise them of the new rate structure and CWI charges, if and when adopted.
4. Management Plan Update
 - a. Scope of Services / RFQ - 4 proposals submitted. Committee will be meeting August 12 to have oral presentation from all four teams.
5. Other Business - None.
6. Next Meeting - August 12, 2015 10am at BIV 3.
7. Adjourned at 11:45am.

Stormwater Education Report - Beaufort Conservation District

July 15, 2015

1. Storm Drain Marker Project

- May 30, Troop 1712 & volunteers marked 135 drain in Downtown City of Beaufort
- June 26, the NMMA (National Marine Manufacturers Association) met with Marinas participating in the Clean Marina program through DNR to pass out drain markers and discuss keeping pollutants out of the storm drains at the marinas.

Boy Scouts and volunteers were busy installing storm drain markers on Bay Street in downtown City of Beaufort, May 30, 2015. 135 markers were installed.

2. Pond Conference

- Working on program agenda with Blaik Keppler, ACE Basin NERR, for the Oct 22 Neighbors for Clean Water Pond Conference at USCB.
- USCB rental of \$1300 was paid to secure the event.

3. Rain Barrel Decorating Contest & Port Royal & Bluffton Earth Day Presentations:

- BSWCD has followed up with winners with free program for classes on our budget and is following up on installation of barrels with teachers.

4. Festivals & Education Outreach

- Purchased NCW banner, polo shirts for presenters, name tags, and updated pet waste flyers
- An Enviroscape Model was purchased.

5. Rain Gardens

- BSWCD Staff attended a Rain Garden workshop.
- Will work with BC Stormwater to plan a workshop in the Beaufort County Area targeting professionals for business applications.

6. Water Quality Poster & Essay Contest: Clean Water Starts with You & Me.

- Working with Monica Spell, BC Communications, on poster and essay contest that would be sent out to schools in August. SC legislative delegation (or some of them) will be furnishing prizes. Art and essays will be awarded & displayed at the Bluffton Art and Seafood festival.

7. Assisted Bluffton with outreach presentation materials.

SWIC Meeting Minutes

DRAFT MINUTES

August 12, 2015, 9:30am at BIV#3, Beaufort, SC

| | |
|------------|-----------------------------------------------------------------------|
| Attendees: | Eric Larson, Bryan McIllwee, Jeremy Ritchie, Lamar Taylor, Van Willis |
|------------|-----------------------------------------------------------------------|

1. Approval of July 15, 2015 meeting minutes - Approved by common consent.
2. Management Plan
 - a. The SWIC interviewed four firms.
 - b. The group deliberated and selected a firm to begin scope negotiations.
3. Other Business - None.
4. Next Meeting -September 9, 2015 1:30 pm at BJWSA Community Room.
5. Adjourned at approx. 3:30 pm.



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August 26, 2015

Stormwater Manager's Report for the Stormwater Utility Board Meeting

Stormwater Related Projects

1. US 278 Retrofit Ponds (\$356,000 =Budget) – Construction is underway. Clearing the Buckwalter Spoil Site is complete. The Live Oak timber salvage is complete. Clearing of additional pond sites is underway.
2. Turtle Lane Paving on Lady's Island (Stormwater Add-On) (\$8,940 Budget) – Plans are complete and currently submitted for needed construction permits.
3. Okatie West / SC 170 Widening Retrofit Land Purchase (Land Acquisition = \$160,415 Budget, Design and Construction = \$915,000 Budget) – Closing of the property is still pending, however, Rural and Critical Lands Board staff reports that an agreement has been reached with the Town of Bluffton and the Bank to proceed with closing. The CWA Section 319 grant has been awarded to the County in the amount of \$792,000. The Board will need to make a recommendation to the County Council to accept the award.
4. Huspah Court South Ditch Easement / Mike Zara - Staff has proposed a scope of work to repair the ditch and establish the needed easements. The County is awaiting the property owner's agreement or counteroffer.
5. Bluffton Gateway Final Development Plan Review – Mr. Larson has reviewed the final site plan and associated drainage plan for compliance with our standards. Mr. Larson has also provided comments back to the applicant for corrections prior to approval.
6. Island Shops Final Development Plan Review – This review is associated with the County's informal agreement with the City of Beaufort for plan review. Mr. Larson reviewed the final site plan and associated drainage plan for compliance with the City standards. He provided comments back to the applicant for corrections prior to approval.
7. There is one project to be discussed in Executive Session.



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August 26, 2015

Stormwater Manager's Report for the Stormwater Utility Board Meeting

Professional Contracts Report

1. Utility Rate Study – The revised ordinance is expected to receive third and final reading at the County Council Meeting August 24, 2015. Results of the County Council action were not available at the time of this report. The proposed rate study was amended with a minor change to the Countywide Infrastructure fee (CWI) as a result of discussions with the staff from the Towns and City. The CWI fee went down for the Towns/City, however, the County was able to maintain the proposed rate for the County Rate Payers.
2. Stormwater Management Plan (Master Plan) Update – The Stormwater Implementation Committee interviewed four firms on August 12, 2015. The recommendation was to select Applied Technology and Management, Inc. (ATM). The SWIC members will be meeting with ATM to establish a scope of work, cost of service, and contract; and should be ready to present a recommendation to hire ATM at the September meeting.



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August 26, 2015

Stormwater Manager's Report for the Stormwater Utility Board Meeting

Regional Coordination

1. Battery Creek Pond Funded by an EPA 319 Grant (\$132,609 Budget – County Portion) – On going. USACE permit is still pending. USACE has placed the permit on public notice which ended last week. The wetland determination is still pending. The DHEC-OCRM permit is approved. The City has requested a grant extension since it is unlikely the project can finish on schedule due to the permit delays. Staff believes work can start in some of the upland areas of the project site once the wetland verification field work is complete since the DHEC permit is approved. (Lamar Taylor may also report)
2. May River Watershed Action Plan – Jeremy Ritchie reports:
Stoney Creek Project - The property owner has granted permission to install flow monitoring equipment on site to continue data collection that will be used as a part of the design process. Staff is executing a work authorization to get them installed.
Pine Ridge Retrofit Project – Stormwater Runoff and Irrigation Study has been completed. 75% drawings are complete for the water reuse system. Design and plans are being finalized to go out for permitting.
3. Salinity Study (\$25,000 Budget – County Portion) - Work is wrapping up. The advisory committee is meeting on September 10th to go over the final report. SC-DNR has asked to present the findings at the September 30, 2015 Board meeting and the October Natural Resources Committee Meeting.
4. Buckingham Plantation Drive Innovation District Conceptual Design Study (\$25,000 Budget – SWU Portion) – Project is on hold pending funding to match the SWU portion.
5. SC 170 Widening – Mr. Larson continues to work with the other County staff on the project, County Council Members, and Mr. Tom Zinn (an adjacent property owner) to come to resolution on multiple issues raised by Mr. Zinn. Stormwater crews modified a sediment pond outlet last week based on a recommendation by the roadway designers, Thomas and Hutton. Mr. Larson also met with Mr. Zinn and others last week to discuss the status of the remaining issues. Another site meeting is scheduled with Mr. Zinn and the Town of Bluffton staff in September.
6. City of Beaufort Stormwater Assistance MOU – No further progress to report.
7. Solid Waste Board request for support – See memo (Attached to New Business) from the Beaufort County Solid Waste Board concerning implementation of their plan for curbside pick-up of solid waste and recycling.



COUNTY COUNCIL OF BEAUFORT COUNTY
FINANCE DEPARTMENT
Post Office Drawer 1228
Beaufort, South Carolina 29901-1228

Alicia Holland, CPA
Chief Financial Officer
843.255.2296
aholland@bcgov.net

August 19, 2015

Chanel Lewis
Controller
843.255.2303
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June 2015 Stormwater Financials Narrative and Analysis

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Since June is the 12th month of the fiscal year, one might expect expenses to be at 100% of budget based on consistent and recurring expenses. Stormwater is currently below this budget level at 90%.

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The main source of revenues is from Stormwater Utility fees in property tax bills and this is about \$20,000 lower than in June 2014. It should be noted that the fiscal year 2015 revenues will increase with the 60 day accrual, which are Stormwater fees received in July and August and will be recorded in fiscal year 2015.

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With the recent addition of the Capital Improvement Fund, some Stormwater Utility Funds have been transferred for larger retrofit projects that might take several years to fund and finish. Therefore, the Stormwater cash balance is now comprised of two cash balances. The Stormwater cash balance has decreased by about \$37,000 compared to last year, along with a decrease in fund balance by about \$413,000.

Frances Collins
Accounts Payable
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It should be disclosed there are several year-end accruals and reconciliations relating to fixed assets, accrued compensated absences, other postemployment benefit obligations, and 60 day revenue accrual that will be posted in fiscal year 2015. Therefore, these amounts will differ from the County's audited fiscal year 2015 financials.

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Respectively submitted,

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"Professionally we serve; Personally we care!"

UNAUDITED AND PRELIMINARY
BEAUFORT COUNTY, SOUTH CAROLINA
STATEMENT OF NET ASSETS
Stormwater Utility and Capital Improvement Funds
June 30, 2015 & June 30, 2014

| | Stormwater Utility Fund June 30, 2015 | Capital Improvements Fund June 30, 2015 | Stormwater Utility Fund June 30, 2014 | Capital Improvements Fund June 30, 2014 |
|----------------------------------------------------|---------------------------------------------|-----------------------------------------------|---------------------------------------------|-----------------------------------------------|
| ASSETS | | | | |
| Current Assets | | | | |
| Cash and Investments with Trustee | \$ 2,148,693 | \$ 435,142 | \$ 1,811,272 | \$ 809,813 |
| Receivables, Net | 12,067 | - | 160,919 | - |
| Inventories | 73,741 | - | 113,850 | - |
| Prepayments | 22,259 | - | 20,673 | - |
| Total Current Assets | 2,256,760 | 435,142 | 2,106,714 | 809,813 |
| Capital Assets | 3,140,834 | - | 2,855,317 | - |
| Accumulated Depreciation | (2,231,362) | - | (2,048,830) | - |
| | 909,472 | - | 806,487 | - |
| Total Assets | \$ 3,166,232 | \$ 435,142 | \$ 2,913,201 | \$ 809,813 |
| LIABILITIES | | | | |
| Liabilities | | | | |
| Account Payable | 204,602 | 41,356 | 50,180 | 1,420 |
| Accrued Payroll | 42,506 | - | 50,993 | - |
| Accrued Compensated Absences | 7,823 | - | 6,247 | - |
| Total Current Liabilities | 254,931 | 41,356 | 107,420 | 1,420 |
| Long Term Liabilities | | | | |
| Accrued Compensated Absences | 65,978 | - | 67,554 | - |
| Net Other Postemployment Benefits Obligation | 991,348 | - | 884,992 | - |
| Total Long Term Liabilities | 1,057,326 | - | 952,546 | - |
| Total Liabilities | 1,312,257 | 41,356 | 1,059,966 | 1,420 |
| NET ASSETS | | | | |
| Invested in Capital Assets, Net of Related Debt | 909,472 | - | 806,487 | - |
| Reserved for Encumbrances | 22,903 | 38,365 | 3,015 | - |
| Reserved for Capital Improvements | - | 355,421 | - | 808,393 |
| Unrestricted | 921,600 | - | 1,043,733 | - |
| Total Net Assets | \$ 1,853,975 | \$ 393,786 | \$ 1,853,235 | \$ 808,393 |

Unaudited and Preliminary
 BEAUFORT COUNTY, SOUTH CAROLINA
 STATEMENT OF REVENUES, EXPENSES AND CHANGES IN NET ASSETS
 Stormwater Utility Fund
 For the Period Ended June 30, 2015

| | Budget FY 2015 | Actual | Budget to Actual | Percent of Budget |
|-------------------------------------------|---------------------|---------------------|---------------------|-------------------------|
| Operating Revenues | | | | |
| Stormwater Utility Fees | \$ 3,132,205 | \$ 3,031,313 | (100,892) | 97% |
| Stormwater Utility Project Billings | 44,189 | 107,508 | 63,319 | 243% |
| Total Operating Revenues | <u>3,176,394</u> | <u>3,138,821</u> | <u>(37,573)</u> | <u>99%</u> |
| Operating Expenses | | | | |
| Personnel | 2,264,384 | 2,017,348 | (247,036) | 89% |
| Purchased Services | 683,654 | 642,215 | (41,439) | 94% |
| Supplies | 360,309 | 283,621 | (76,688) | 79% |
| Depreciation | 182,523 | 182,532 | 9 | 100% |
| Total Operating Expenses | <u>3,490,870</u> | <u>3,125,716</u> | <u>(365,154)</u> | <u>90%</u> |
| Operating Income (Loss) | (314,476) | 13,105 | 327,581 | -4% |
| Non-Operating Revenues (Expenses) | | | | |
| Interest Earned | 2,955 | - | (2,955) | 0% |
| Total Non-Operating Revenues (Expenses) | <u>2,955</u> | <u>-</u> | <u>(2,955)</u> | <u>0%</u> |
| Transfers Out To Capital Improvement Fund | - | 12,365 | 12,365 | 100% |
| Change in Net Assets | (311,521) | 740 | 312,261 | 0% |
| Net Assets, Beginning | <u>1,853,235</u> | <u>1,853,235</u> | | |
| Net Assets, Ending | <u>\$ 1,541,714</u> | <u>\$ 1,853,975</u> | 312,261 | 120% |

Unaudited and Preliminary
BEAUFORT COUNTY, SOUTH CAROLINA
STATEMENT OF REVENUES, EXPENSES AND CHANGES IN NET ASSETS
Stormwater Capital Improvements Fund
For the Period Ended June 30, 2015

| | Budget FY 2015 | Actual | Budget to Actual | Percent of Budget |
|--------------------------------------------------|-------------------|-------------------|---------------------|-------------------------|
| Transfers In from Stormwater Utility Fund | | | | |
| Administration Complex Parking Lot Retrofit | \$ - | \$ - | - | 0% |
| Okatie East Retrofit | - | - | - | 0% |
| Highway 278 Retrofit | - | - | - | 0% |
| Okatie West Retrofit | - | - | - | 0% |
| Buckingham Plantation Retrofit | - | 12,365 | 12,365 | 100% |
| Upper Battery Creek Retrofit | - | - | - | 0% |
| Total Transfers In | <u>-</u> | <u>12,365</u> | <u>12,365</u> | <u>0%</u> |
| Capital Improvement Expenses | | | | |
| Administration Complex Parking Lot Retrofit | - | 302,250 | 302,250 | 100% |
| Okatie East Retrofit | - | 5,723 | 5,723 | 100% |
| Highway 278 Retrofit | - | 64,052 | 64,052 | 100% |
| Okatie West Retrofit | - | 37,715 | 37,715 | 100% |
| Buckingham Plantation Retrofit | - | 9,865 | 9,865 | 100% |
| Upper Battery Creek Retrofit | - | 7,367 | 7,367 | 100% |
| Total Operating Expenses | <u>-</u> | <u>426,972</u> | <u>426,972</u> | <u>100%</u> |
| Change in Net Assets by Project | | | | |
| Administration Complex Parking Lot Retrofit | | (302,250) | (302,250) | |
| Okatie East Retrofit | | (5,723) | (5,723) | |
| Highway 278 Retrofit | | (64,052) | (64,052) | |
| Okatie West Retrofit | | (37,715) | (37,715) | |
| Buckingham Plantation Retrofit | | 2,500 | 2,500 | |
| Upper Battery Creek Retrofit | | (7,367) | (7,367) | |
| Total Change in Net Assets by Project | | <u>(414,607)</u> | <u>(414,607)</u> | |
| Net Assets, Beginning | | | | |
| Administration Complex Parking Lot Retrofit | | 327,169 | | |
| Okatie East Retrofit | | 40,892 | | |
| Highway 278 Retrofit | | 207,722 | | |
| Okatie West Retrofit | | 100,000 | | |
| Buckingham Plantation Retrofit | | - | | |
| Upper Battery Creek Retrofit | | 132,610 | | |
| Total Net Assets, Beginning | | <u>808,393</u> | | |
| Net Assets, Ending | | | | |
| Administration Complex Parking Lot Retrofit | | 24,919 | | |
| Okatie East Retrofit | | 35,169 | | |
| Highway 278 Retrofit | | 143,670 | | |
| Okatie West Retrofit | | 62,285 | | |
| Buckingham Plantation Retrofit | | 2,500 | | |
| Upper Battery Creek Retrofit | | 125,243 | | |
| Total Net Assets, Ending | <u>\$ -</u> | <u>\$ 393,786</u> | | |

Unaudited and Preliminary
BEAUFORT COUNTY, SOUTH CAROLINA
STATEMENT OF REVENUES, EXPENSES AND CHANGES IN NET ASSETS
Stormwater Utility Fund
For the Period Ended June 30, 2014

| | Budget FY 2014 | Actual | Budget to Actual | Percent of Budget |
|-------------------------------------------|---------------------|---------------------|---------------------|-------------------------|
| Operating Revenues | | | | |
| Stormwater Utility Fees | \$ 3,475,000 | \$ 3,050,440 | (424,560) | 88% |
| Stormwater Utility Project Billings | 60,023 | 141,463 | 81,440 | 236% |
| Total Operating Revenues | <u>3,535,023</u> | <u>3,191,903</u> | <u>(343,120)</u> | <u>90%</u> |
| Operating Expenses | | | | |
| Personnel | 2,170,981 | 1,974,981 | (196,000) | 91% |
| Purchased Services | 943,083 | 586,081 | (357,002) | 62% |
| Supplies | 390,597 | 313,227 | (77,370) | 80% |
| Depreciation | 242,119 | 211,656 | (30,463) | 87% |
| Total Operating Expenses | <u>3,746,780</u> | <u>3,085,945</u> | <u>(660,835)</u> | <u>82%</u> |
| Operating Income (Loss) | (211,757) | 105,958 | 317,715 | -50% |
| Non-Operating Revenues (Expenses) | | | | |
| Gain (Loss) on Sale of Capital Assets | - | (38,450) | (38,450) | -100% |
| Interest Earned | 6,922 | 2,771 | (4,151) | 40% |
| Total Non-Operating Revenues (Expenses) | <u>6,922</u> | <u>(35,679)</u> | <u>(42,601)</u> | <u>0%</u> |
| Transfers Out To Capital Improvement Fund | - | 859,705 | 859,705 | 100% |
| Change in Net Assets | (204,835) | (789,426) | (584,591) | 385% |
| Net Assets, Beginning | <u>2,642,661</u> | <u>2,642,661</u> | | |
| Net Assets, Ending | <u>\$ 2,437,826</u> | <u>\$ 1,853,235</u> | (584,591) | 76% |

Unaudited and Preliminary
BEAUFORT COUNTY, SOUTH CAROLINA
STATEMENT OF REVENUES, EXPENSES AND CHANGES IN NET ASSETS
Stormwater Capital Improvements Fund
For the Period Ended June 30, 2014

| | Budget FY 2014 | Actual | Budget to Actual | Percent of Budget |
|--------------------------------------------------|-------------------|-------------------|---------------------|-------------------------|
| Transfers In from Stormwater Utility Fund | | | | |
| Administration Complex Parking Lot Retrofit | \$ - | \$ 329,650 | 329,650 | 100% |
| Okatie East Retrofit | - | 60,237 | 60,237 | 100% |
| Highway 278 Retrofit | - | 222,600 | 222,600 | 100% |
| Okatie West Retrofit | - | 100,000 | 100,000 | 100% |
| Buckingham Plantation Retrofit | - | - | - | 0% |
| Upper Battery Creek Retrofit | - | 147,218 | 147,218 | 100% |
| Total Transfers In | - | 859,705 | 859,705 | 0% |
| Capital Improvement Expenses | | | | |
| Administration Complex Parking Lot Retrofit | - | 2,481 | 2,481 | 100% |
| Okatie East Retrofit | - | 19,345 | 19,345 | 100% |
| Highway 278 Retrofit | - | 14,878 | 14,878 | 100% |
| Okatie West Retrofit | - | - | - | 0% |
| Buckingham Plantation Retrofit | - | - | - | 0% |
| Upper Battery Creek Retrofit | - | 14,608 | 14,608 | 100% |
| Total Operating Expenses | - | 51,312 | 51,312 | 100% |
| Change in Net Assets by Project | | | | |
| Administration Complex Parking Lot Retrofit | | 327,169 | 327,169 | |
| Okatie East Retrofit | | 40,892 | 40,892 | |
| Highway 278 Retrofit | | 207,722 | 207,722 | |
| Okatie West Retrofit | | 100,000 | 100,000 | |
| Buckingham Plantation Retrofit | | - | - | |
| Upper Battery Creek Retrofit | | 132,610 | 132,610 | |
| Total Change in Net Assets by Project | | 808,393 | 808,393 | |
| Net Assets, Beginning | | | | |
| Administration Complex Parking Lot Retrofit | | - | | |
| Okatie East Retrofit | | - | | |
| Highway 278 Retrofit | | - | | |
| Okatie West Retrofit | | - | | |
| Buckingham Plantation Retrofit | | - | | |
| Upper Battery Creek Retrofit | | - | | |
| Total Net Assets, Beginning | | - | | |
| Net Assets, Ending | | | | |
| Administration Complex Parking Lot Retrofit | | 327,169 | | |
| Okatie East Retrofit | | 40,892 | | |
| Highway 278 Retrofit | | 207,722 | | |
| Okatie West Retrofit | | 100,000 | | |
| Buckingham Plantation Retrofit | | - | | |
| Upper Battery Creek Retrofit | | 132,610 | | |
| Total Net Assets, Ending | \$ - | \$ 808,393 | | |



MEMORANDUM

Date: August 26, 2015

To: Stormwater Management Utility Board

From: Eddie Bellamy, Public Works Director

Re: **Maintenance Project Report for August 2015**

1. This report will cover five major and 23 minor or routine projects. The Project Summary Reports are attached.

2. Major Projects:

- A. **Mary Elizabeth Drive**, completed in April on Lady's Island, District 7; we improved 185 feet of drainage system. The job involved grubbing and clearing 165 feet of channel between two houses, replacing a crossline pipe to the correct elevation, and installing an inlet drain basin, 185 feet of channel pipe, and rip-rap and sod for erosion control. Total cost of the project was **\$31,118**.
- B. **Rivers End Subdivision – Ashepoo and Capers Creek Drives**, completed in May in the Okatie area of District 9; we installed 340 feet of roadside pipe, repaired three driveways that we cut to install the pipe, constructed two spillways and an open diverter trough, and installed sod and rip-rap for erosion control. At the end of the project we jetted 580 feet of roadside pipe. Total cost of the project was **\$41,576**.
- C. **Wimbee Creek Road**, completed in May in the Dale area of District 5; we cleaned out 626 feet of roadside ditch, replaced seven driveway pipes, and jetted a crossline pipe and a driveway pipe. Total Cost of the project was **\$19,370**.
- D. **Burton Wells Road Channel #1**, completed in June in the Burton area of District 6, we reconstructed 1,600 feet of workshelf, installed three bleeder pipes, and cleaned out 1,325 feet of channel. Total Cost of the project was **\$18,953**.
- E. **Middlefield Circle**, completed in June in the Dale area of District 5, we cleaned out 7,867 feet of roadside ditch and jetted one crossline pipe, 12 driveway pipes, and eight feet of roadside pipe. Total cost of the project was **\$27,206**.

3. Minor or Routine Projects:

- A. **Port Royal Island Tree Removal**, completed in February in District 6; we removed nine fallen trees from various workshelves.
- B. **Burton Wells Road Washout Repair**, completed in February in District 6; we repaired three washouts in the roadside ditches.

- C. **St Helena Island Bush Hogging**, completed in March in District 8; we bush hogged 84,174 feet of channel and associated workshelves. Total cost was **\$57,571** or **\$.68 per foot**.
- D. **Donaldson Drive**, completed in March in District 6, we jetted out 66 feet of roadside pipe.
- E. **Charleston Drive, Phase II**, completed in April in District 6; we repaired a washout.
- F. **Eastern Road Channel**, completed in April in District 6; we repaired a washout.
- G. **Vacuum Truck Work - Scott Hill Road**, completed in April in District 8; we jetted 414 feet of roadside ditch and one crossline pipe.
- H. **Sheldon Tree Removal**, completed in April in District 5; we removed four fallen trees from three different workshelves.
- I. **St. Helena Tree Removal**, completed in April in District 8; we removed a fallen tree from a workshelf.
- J. **St. Helena Valley Drains**, completed in May in District 8; we cleaned out 1,164 feet of valley drains.
- K. **Nathan Pope Road**, completed in May in District 8; we cleaned out 220 feet of roadside ditch and 1,580 feet of channel.
- L. **Broadland Circle**, completed in May in District 9; we cleaned out a clogged catch basin.
- M. **East Chelsea Court**, completed in May in District 9, we cleaned out a catch basin and jetted out 16 feet of channel pipe.
- N. **Toomer Road Channel**, completed in May in District 8, we installed an access pipe and rip rap for erosion control.
- O. **Joe Allen Drive**, completed in June in District 6, we cleaned out 700 feet of roadside ditch, installed one driveway pipe, constructed a flume to direct run off, and repaired a washout.
- P. **Ogden Court**, completed in June in District 7, we extended a driveway pipe and installed sod for erosion control.
- Q. **Port Royal Island Vacuum Truck**, completed in June in District 6, we cleaned out five catch basins and jetted one access pipe and three crossline pipes in five different locations.
- R. **Lady's Island Vacuum Truck**, completed in June in District 7, we cleaned out four catch basins and jetted out five crossline pipes, 34 driveway pipes, and 32 feet of roadside pipe in six locations.
- S. **Sheldon Vacuum Truck**, completed in June in District 5, we jetted out one access pipe, eight crossline pipes, 32 driveway pipes, and 40 feet of roadside pipe in 11 locations.
- T. **Bluffton Vacuum Truck**, completed in June in District 9, we jetted out one access pipe, eight crossline pipes, 21 driveway pipes, and 40 feet of roadside pipe in four locations.
- U. **River Oaks Road Channel**, completed in June in District 5, we repaired a washout.
- V. **J.B. Lane Channel**, completed in June in District 8, we repaired the workshelf.
- W. **Polite Drive**, completed in June in District 6, we repaired three washouts in the roadside ditch.



Beaufort County Public Works Stormwater Infrastructure Project Summary

Project Summary: Mary Elizabeth Drive

Activity: Drainage Improvement

Narrative Description of Project:

Completion: Apr-15

Project improved 185 L.F. of drainage system. Grubbed and cleared 165 L.F. of channel. Replaced (1) crossline pipe. Installed (1) inlet drain basin, 185 L.F. of channel pipe, sod and rip rap for erosion control.

| 2015-012 / Mary Elizabeth Drive | Labor Hours | Labor Cost | Equipment Cost | Material Cost | Contractor Cost | Indirect Labor | Total Cost |
|--------------------------------------------------|--------------|--------------------|-------------------|-------------------|-------------------|-------------------|--------------------|
| ADS / Administrative Support | 6.0 | \$135.00 | \$7.08 | \$14.91 | \$0.00 | \$84.66 | \$241.65 |
| ARR / Add rock | 22.0 | \$494.88 | \$42.44 | \$23.43 | \$0.00 | \$313.86 | \$874.61 |
| AUDIT / Audit Project | 1.0 | \$22.79 | \$0.00 | \$0.00 | \$0.00 | \$13.23 | \$36.02 |
| CBINS / Catch basin - installed | 40.0 | \$879.60 | \$92.00 | \$30.48 | \$0.00 | \$555.60 | \$1,557.68 |
| CGRB / Channel - grubbed | 40.0 | \$891.40 | \$101.92 | \$25.56 | \$0.00 | \$565.80 | \$1,584.68 |
| CPI / Channel Pipe - Installation | 144.0 | \$3,142.60 | \$726.13 | \$2,118.24 | \$0.00 | \$2,039.56 | \$8,026.53 |
| HAUL / Hauling | 99.0 | \$2,178.44 | \$870.89 | \$1,167.04 | \$0.00 | \$1,556.15 | \$5,772.52 |
| ONJV / Onsite Job Visit | 60.0 | \$1,883.66 | \$215.28 | \$82.99 | \$0.00 | \$1,200.66 | \$3,382.59 |
| PI / Project Inspection | 1.0 | \$44.27 | \$0.00 | \$3.86 | \$0.00 | \$33.96 | \$82.09 |
| PROFS / Professional Services | 0.0 | \$0.00 | \$0.00 | \$0.00 | \$1,960.22 | \$0.00 | \$1,960.22 |
| PRRECON / Project Reconnaissance | 2.0 | \$59.68 | \$7.08 | \$1.93 | \$0.00 | \$36.46 | \$105.15 |
| SC / Sediment Control | 50.0 | \$1,084.20 | \$213.92 | \$67.37 | \$0.00 | \$710.00 | \$2,075.49 |
| SG / Shoot Grade | 15.0 | \$312.75 | \$17.70 | \$10.65 | \$0.00 | \$214.65 | \$555.75 |
| SI / Sod - Installation | 70.0 | \$1,490.80 | \$119.42 | \$1,102.81 | \$0.00 | \$980.60 | \$3,693.63 |
| SODW / Sod - Watered | 15.0 | \$301.00 | \$55.02 | \$34.91 | \$0.00 | \$193.35 | \$584.28 |
| STAGING / Staging Materials | 15.0 | \$331.60 | \$17.70 | \$14.91 | \$0.00 | \$220.80 | \$585.01 |
| 2015-012 / Mary Elizabeth Drive Sub Total | 580.0 | \$13,252.67 | \$2,486.58 | \$4,699.10 | \$1,960.22 | \$8,719.34 | \$31,117.91 |
| Grand Total | 580.0 | \$13,252.67 | \$2,486.58 | \$4,699.10 | \$1,960.22 | \$8,719.34 | \$31,117.91 |

Before



During



After





Project: Mary Elizabeth Drive
 Activity: Drainage Improvement
 Project #: 2015-012
 Township: Lady's Island
 Completed: April 2015

| Legend | |
|---------------|----------------|
| Drainage Type | |
| | Access Pipe |
| | Bleeder Pipe |
| | Channel Pipe |
| | Channel |
| | Stream |
| | Crossline Pipe |
| | Driveway Pipe |
| | Lateral |
| | Lateral Pipe |
| | River |
| | Road Pipe |
| | Roadside |
| | Roadside Pipe |



1 inch = 67 feet



Beaufort County Public Works Stormwater Infrastructure Project Summary

Project Summary: Rivers End Subdivision - Ashepool Drive and Capers Creek Drive

Activity: Drainage Improvement

Narrative Description of Project:

Project improved 580 L.F. of drainage system. Installed 340 L.F. of roadside pipe, sod and rip rap for erosion control. Repaired (3) driveways. Constructed (2) Spillways and open concrete diverter trough for runoff. Jetted 580 L.F. of roadside pipe.

Completion: May-15

| 2015-014 / Rivers End Subdivision | Labor Hours | Labor Cost | Equipment Cost | Material Cost | Contractor Cost | Indirect Labor | Total Cost |
|----------------------------------------------------|--------------|--------------------|-------------------|-------------------|-------------------|-------------------|--------------------|
| AUDIT / Audit Project | 1.0 | \$22.79 | \$0.00 | \$0.00 | \$0.00 | \$13.23 | \$36.02 |
| HAUL / Hauling | 101.0 | \$2,161.13 | \$804.26 | \$2,888.50 | \$0.00 | \$1,456.42 | \$7,310.31 |
| ONJV / Onsite Job Visit | 76.0 | \$2,293.43 | \$308.22 | \$587.22 | \$0.00 | \$1,469.97 | \$4,658.84 |
| PI / Project Inspection | 2.0 | \$88.54 | \$8.04 | \$3.86 | \$0.00 | \$67.92 | \$168.36 |
| PL / Project Layout | 2.0 | \$88.54 | \$0.00 | \$0.00 | \$0.00 | \$67.92 | \$156.46 |
| PP / Project Preparation | 50.0 | \$1,154.70 | \$70.80 | \$30.73 | \$0.00 | \$750.90 | \$2,007.13 |
| PROFS / Professional Services | 0.0 | \$0.00 | \$0.00 | \$0.00 | \$8,150.00 | \$0.00 | \$8,150.00 |
| PRRECON / Project Reconnaissance | 3.0 | \$92.86 | \$7.08 | \$5.79 | \$0.00 | \$60.93 | \$166.66 |
| RPWO / Repaired Washout | 35.0 | \$808.29 | \$91.96 | \$21.30 | \$0.00 | \$525.63 | \$1,447.18 |
| RRI / Rip Rap - Installed | 30.0 | \$685.50 | \$35.80 | \$14.91 | \$0.00 | \$447.55 | \$1,183.76 |
| RSPI / Roadside Pipe - Installed | 174.0 | \$3,960.89 | \$742.02 | \$3,488.50 | \$0.00 | \$2,609.77 | \$10,801.18 |
| RSPJ / Roadside Pipe - Jetted | 10.0 | \$223.40 | \$43.40 | \$35.24 | \$0.00 | \$149.55 | \$451.59 |
| SI / Sod - Installation | 102.0 | \$2,315.98 | \$263.16 | \$115.49 | \$0.00 | \$1,509.48 | \$4,204.11 |
| STAGING / Staging Materials | 19.0 | \$419.54 | \$66.55 | \$26.41 | \$0.00 | \$271.31 | \$783.81 |
| UTLOC / Utility locates | 1.5 | \$30.69 | \$0.00 | \$0.00 | \$0.00 | \$19.85 | \$50.54 |
| 2015-014 / Rivers End Subdivision Sub Total | 606.5 | \$14,346.28 | \$2,441.29 | \$7,217.95 | \$8,150.00 | \$9,420.42 | \$41,575.95 |
| Grand Total | 606.5 | \$14,346.28 | \$2,441.29 | \$7,217.95 | \$8,150.00 | \$9,420.42 | \$41,575.95 |

Before



During



After



Project: Rivers End:
Ashepool Drive
Map 1

Activity: Routine/
Preventive
Maintenance















Project #:
2015-014

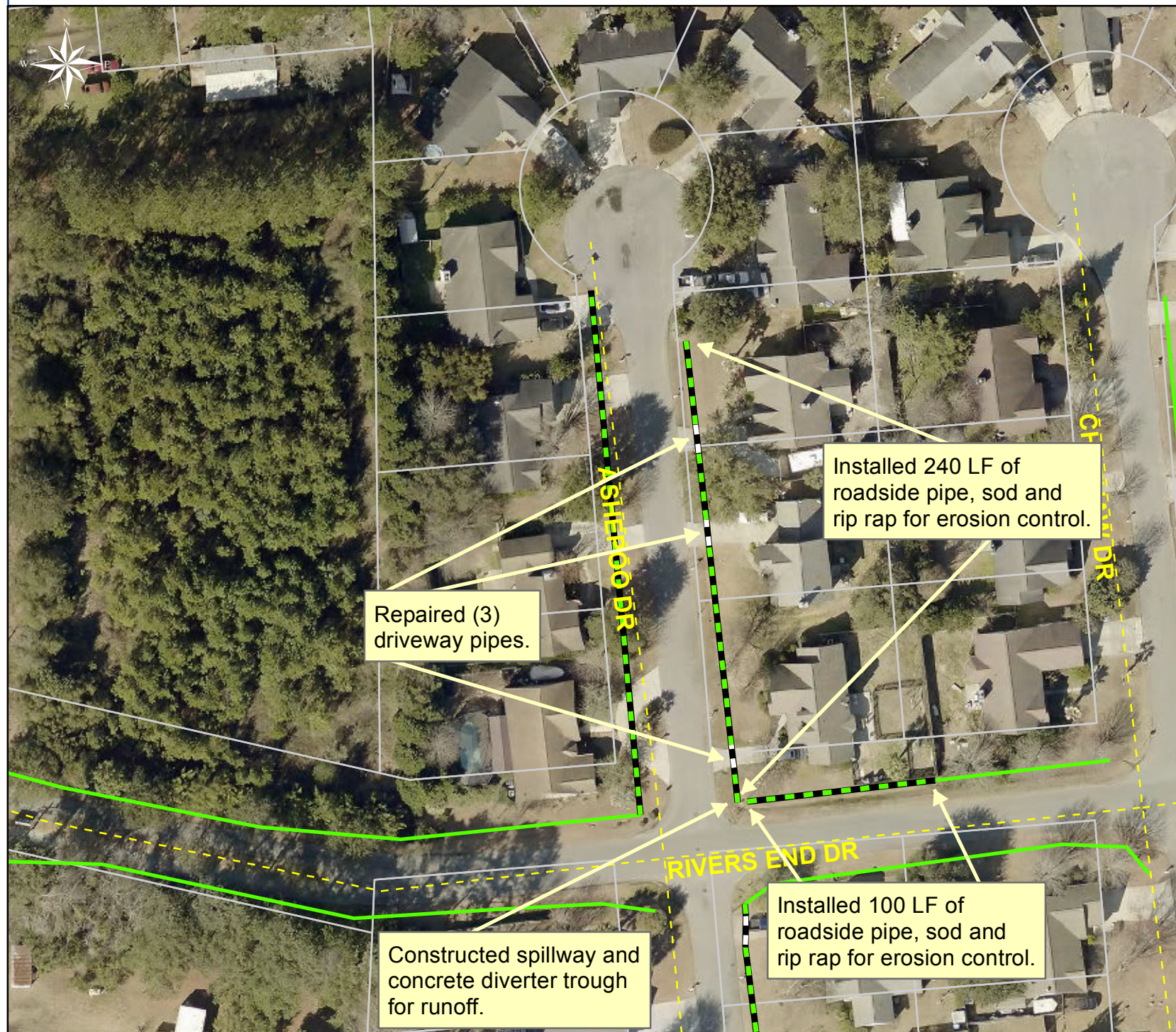
Township:
Bluffton

Completed:
May 2015

Legend

TYPE

-  River
-  Creek/Stream
-  River/Creek/Marsh BANK
-  Channel (fka Outfall)
-  Channel Pipe
-  Lateral
-  Lateral Pipe
-  Roadside
-  Roadside Pipe
-  Road Pipe
-  Crossline Pipe
-  Driveway Pipe
-  Access Pipe
-  Bleeder Pipe



1 inch = 70 feet

Project: Rivers End:
Ashepool Drive
Map 2

Activity: Vacuum
Truck















Project #:
2015-014

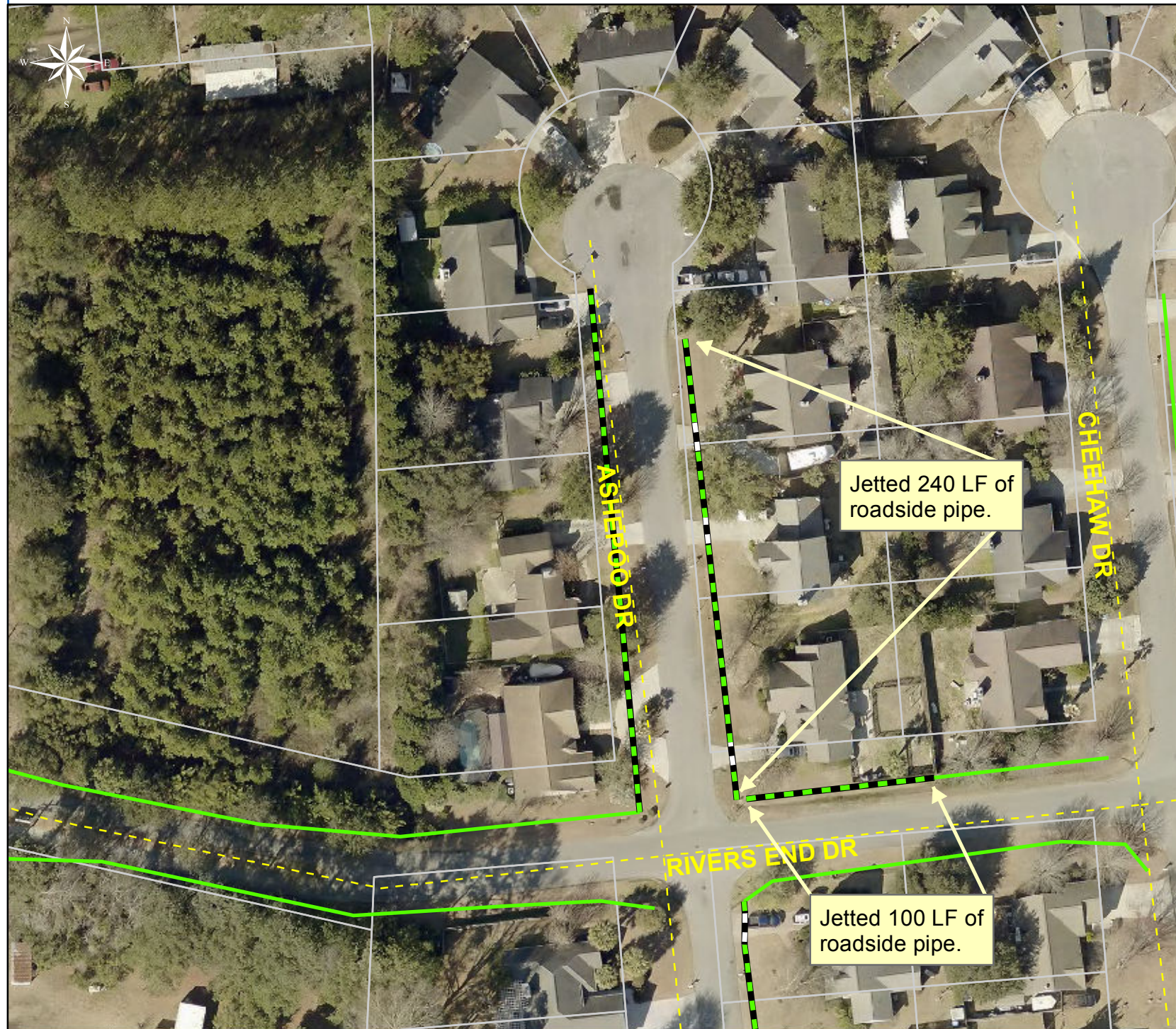
Township:
Bluffton

Completed:
May 2015

Legend

TYPE

-  River
-  Creek/Stream
-  River/Creek/Marsh BANK
-  Channel (fka Outfall)
-  Channel Pipe
-  Lateral
-  Lateral Pipe
-  Roadside
-  Roadside Pipe
-  Road Pipe
-  Crossline Pipe
-  Driveway Pipe
-  Access Pipe
-  Bleeder Pipe



1 inch = 70 feet

**Project: Rivers End:
Capers Creek Drive
Map 3**

**Activity: Vacuum
Truck**

**Project #:
2015-014**

**Township:
Bluffton**

**Completed:
May 2015**



Legend

| TYPE | |
|------|------------------------|
| | River |
| | Creek/Stream |
| | River/Creek/Marsh BANK |
| | Channel (fka Outfall) |
| | Channel Pipe |
| | Lateral |
| | Lateral Pipe |
| | Roadside |
| | Roadside Pipe |
| | Road Pipe |
| | Crossline Pipe |
| | Driveway Pipe |
| | Access Pipe |
| | Bleeder Pipe |



1 inch = 70 feet

Project: Rivers End:
Capers Creek Drive
Map 4

Activity: Routine/
Preventive
Maintenance















Project #:
2015-014

Township:
Bluffton

Completed:
May 2015

Legend

TYPE

-  River
-  Creek/Stream
-  River/Creek/Marsh BANK
-  Channel (fka Outfall)
-  Channel Pipe
-  Lateral
-  Lateral Pipe
-  Roadside
-  Roadside Pipe
-  Road Pipe
-  Crossline Pipe
-  Driveway Pipe
-  Access Pipe
-  Bleeder Pipe



Constructed spillway and
concrete diverter trough
for runoff.



1 inch = 70 feet



Beaufort County Public Works Stormwater Infrastructure Project Summary

Project Summary: Wimbee Creek Road

Activity: Routine/Preventive Maintenance

Narrative Description of Project:

Project improved 626 L.F. of drainage system. Cleaned out 626 L.F. of roadside ditch. Replaced (7) driveway pipes. Jetted (1) crossline pipe and (1) driveway pipe

Completion: May-15

| 2015-018 / Wimbee Creek Road | Labor Hours | Labor Cost | Equipment Cost | Material Cost | Contractor Cost | Indirect Labor | Total Cost |
|-----------------------------------------------|--------------|-------------------|-------------------|-------------------|-----------------|-------------------|--------------------|
| ARR / Add rock | 5.0 | \$108.15 | \$76.51 | \$26.64 | \$0.00 | \$82.35 | \$293.65 |
| AUDIT / Audit Project | 0.5 | \$11.40 | \$0.00 | \$0.00 | \$0.00 | \$6.62 | \$18.01 |
| CLPJT / Crossline Pipe - Jetted | 4.0 | \$89.36 | \$17.36 | \$15.32 | \$0.00 | \$59.82 | \$181.86 |
| DPRPL / Driveway Pipe - Replaced | 139.5 | \$3,211.47 | \$671.90 | \$2,017.60 | \$0.00 | \$2,079.29 | \$7,980.25 |
| HAUL / Hauling | 90.5 | \$1,964.59 | \$645.57 | \$1,512.80 | \$0.00 | \$1,309.65 | \$5,432.60 |
| ONJV / Onsite Job Visit | 38.0 | \$1,191.64 | \$134.84 | \$60.48 | \$0.00 | \$755.66 | \$2,142.62 |
| PL / Project Layout | 9.0 | \$398.43 | \$28.96 | \$17.28 | \$0.00 | \$305.64 | \$750.31 |
| PP / Project Preparation | 9.0 | \$212.31 | \$10.62 | \$4.44 | \$0.00 | \$135.54 | \$362.91 |
| PRRECON / Project Reconnaissance | 15.0 | \$346.41 | \$10.62 | \$4.44 | \$0.00 | \$225.27 | \$586.74 |
| RSDCL / Roadside Ditch - Cleanout | 18.0 | \$424.62 | \$82.06 | \$17.76 | \$0.00 | \$271.08 | \$795.52 |
| STAGING / Staging Materials | 20.0 | \$461.88 | \$49.52 | \$13.32 | \$0.00 | \$300.36 | \$825.08 |
| 2015-018 / Wimbee Creek Road Sub Total | 348.5 | \$8,420.25 | \$1,727.96 | \$3,690.08 | \$0.00 | \$5,531.27 | \$19,369.56 |
| Grand Total | 348.5 | \$8,420.25 | \$1,727.96 | \$3,690.08 | \$0.00 | \$5,531.27 | \$19,369.56 |

Before



During



After



Project: Wimbee Creek Road Map 1

**Activity: Routine/
Preventive
Maintenance**















**Project #:
2015-018**

**Township:
Sheldon**

**Completed:
May 2015**

Legend

TYPE

-  River
-  Creek/Stream
-  River/Creek/Marsh BANK
-  Channel (fka Outfall)
-  Channel Pipe
-  Lateral
-  Lateral Pipe
-  Roadside
-  Roadside Pipe
-  Road Pipe
-  Crossline Pipe
-  Driveway Pipe
-  Access Pipe
-  Bleeder Pipe



1 inch = 160 feet

Prepared By: BC Stormwater Management Utility

Date Print: 6/4/15

File: C:/sethdata/projects/projectmaps/Wimbee Creek Rd 2015-018 Map1

Project: Wimbee Creek Road Map 2

Activity: Vacuum Truck

Project #: 2015-018

Township: Sheldon

Completed: May 2015

Legend

TYPE

- River
- Creek/Stream
- River/Creek/Marsh BANK
- Channel (fka Outfall)
- Channel Pipe
- Lateral
- Lateral Pipe
- Roadside
- Roadside Pipe
- Road Pipe
- Crossline Pipe
- Driveway Pipe
- Access Pipe
- Bleeder Pipe

Jetted (1) crossline pipe and (1) driveway pipe.



1 inch = 160 feet



Beaufort County Public Works Stormwater Infrastructure Project Summary

Project Summary: Burton Wells Road Channel #1

Activity: Routine/Preventive Maintenance

Narrative Description of Project:

Project improved 2,925 L.F. of drainage system. Reconstructed 1,600 L.F. of workshelf. Cleaned out 1,325 L.F. of channel. Installed (3) bleeder pipes.

Completion: Jun-15

| 2015-609 / Burton Wells Channel #1 | Labor Hours | Labor Cost | Equipment Cost | Material Cost | Contractor Cost | Indirect Labor | Total Cost |
|-----------------------------------------------------|--------------|-------------------|-------------------|-------------------|-----------------|-------------------|--------------------|
| AUDIT / Audit Project | 0.5 | \$11.40 | \$0.00 | \$0.00 | \$0.00 | \$6.62 | \$18.01 |
| BPINST / Bleeder pipe - Installed | 30.0 | \$672.40 | \$85.29 | \$229.52 | \$0.00 | \$451.40 | \$1,438.61 |
| CCO / Channel - cleaned out | 61.0 | \$1,284.38 | \$264.29 | \$108.48 | \$0.00 | \$862.82 | \$2,519.97 |
| HAUL / Hauling | 82.0 | \$1,773.66 | \$655.18 | \$646.48 | \$0.00 | \$1,194.74 | \$4,270.06 |
| ONJV / Onsite Job Visit | 41.0 | \$1,326.18 | \$145.30 | \$88.53 | \$0.00 | \$949.82 | \$2,509.83 |
| WSREC / Workshelf - Reconstructed | 190.0 | \$4,121.90 | \$713.04 | \$634.83 | \$0.00 | \$2,726.70 | \$8,196.47 |
| 2015-609 / Burton Wells Channel #1 Sub Total | 404.5 | \$9,189.92 | \$1,863.10 | \$1,707.85 | \$0.00 | \$6,192.09 | \$18,952.96 |
| | | | | | | | |
| Grand Total | 404.5 | \$9,189.92 | \$1,863.10 | \$1,707.85 | \$0.00 | \$6,192.09 | \$18,952.96 |

Before



During



After



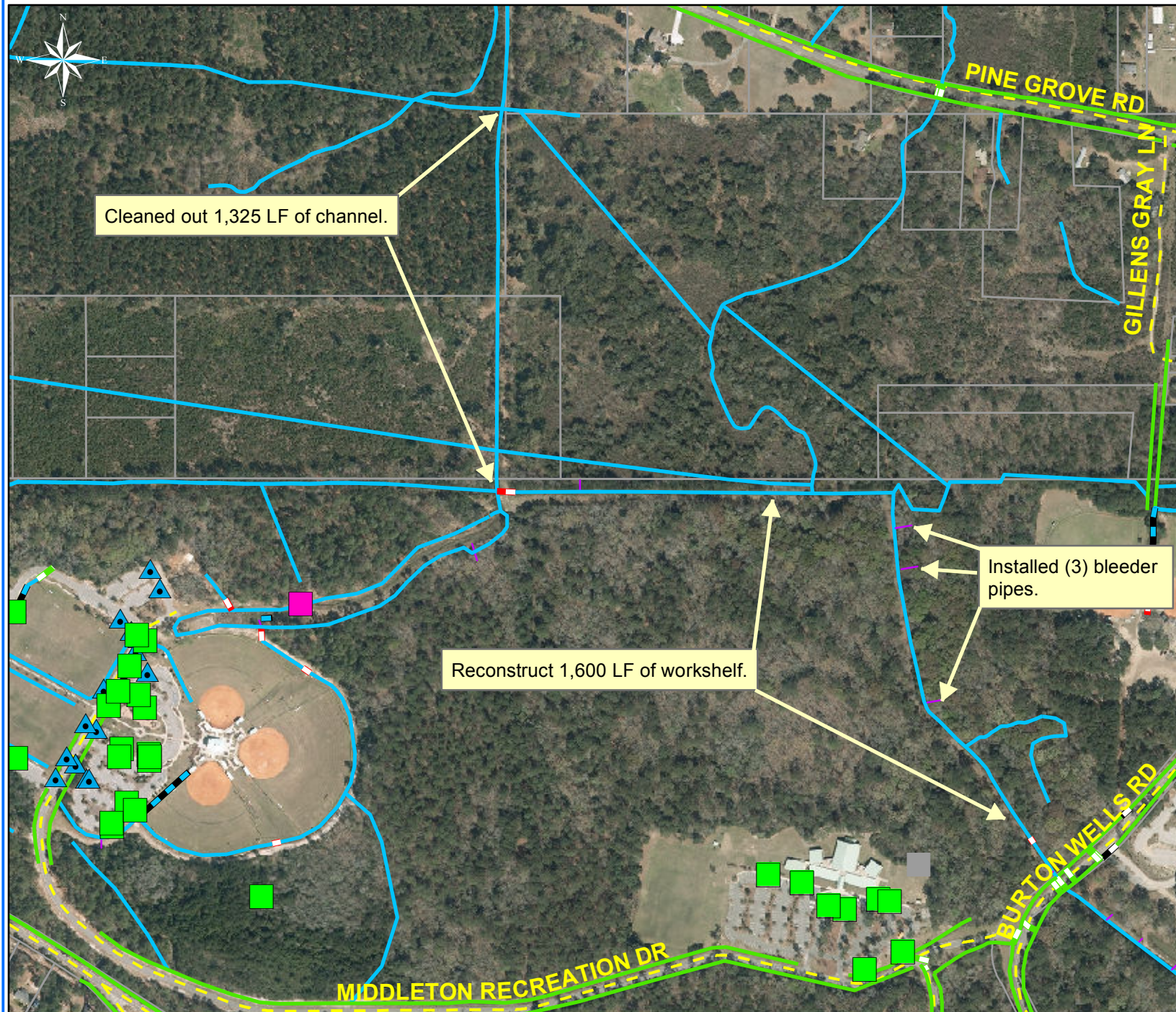
Project: Burton Wells Road Channel #1

Activity: Routine/ Preventive Maintenance

Project #: 2015-609














Township: Port Royal Island

Completed: June 2015



Legend

Drainage Type

-  Access Pipe
-  Bleeder Pipe
-  Channel Pipe
-  Channel
-  Stream
-  Crossline Pipe
-  Driveway Pipe
-  Lateral
-  Lateral Pipe
-  River
-  Road Pipe
-  Roadside
-  Roadside Pipe



1 inch = 500 feet

Prepared By: BC Stormwater Management Utility

Date Print: 08/05/2015

File: C:\project summaries map\Burton Wells Road Channel #1_2015-609



Beaufort County Public Works Stormwater Infrastructure Project Summary

Project Summary: Middlefield Circle

Activity: Routine/Preventive Maintenance

Narrative Description of Project:

Project improved 7,875 L.F. of drainage system. Cleaned out 7,867 L.F. of roadside ditch. Jetted (1) crossline pipe, (1) access pipe, (12) driveway pipes and 8 L.F. of roadside pipe.

Completion: Jun-15

| 2015-615 / Middlefield Circle | Labor Hours | Labor Cost | Equipment Cost | Material Cost | Contractor Cost | Indirect Labor | Total Cost |
|------------------------------------------------|--------------------|--------------------|-----------------------|----------------------|------------------------|-----------------------|--------------------|
| AUDIT / Audit Project | 1.0 | \$22.79 | \$0.00 | \$0.00 | \$0.00 | \$13.23 | \$36.02 |
| CLPJT / Crossline Pipe - Jetted | 16.0 | \$357.44 | \$69.44 | \$54.86 | \$0.00 | \$239.28 | \$721.02 |
| COVD / Cleaned Out Valley Drains | 18.0 | \$369.72 | \$39.52 | \$13.60 | \$0.00 | \$239.40 | \$662.24 |
| HAUL / Hauling | 138.0 | \$3,008.44 | \$1,109.52 | \$555.27 | \$0.00 | \$2,010.46 | \$6,683.69 |
| ONJV / Onsite Job Visit | 44.0 | \$1,484.46 | \$160.18 | \$93.07 | \$0.00 | \$1,049.72 | \$2,787.43 |
| PL / Project Layout | 25.0 | \$542.05 | \$108.52 | \$33.04 | \$0.00 | \$369.30 | \$1,052.91 |
| RSDCL / Roadside Ditch - Cleanout | 349.5 | \$7,462.04 | \$1,606.07 | \$373.53 | \$0.00 | \$5,076.86 | \$14,518.49 |
| UTLOC / Utility locates | 19.0 | \$413.17 | \$31.86 | \$14.73 | \$0.00 | \$284.43 | \$744.19 |
| 2015-615 / Middlefield Circle Sub Total | 610.5 | \$13,660.11 | \$3,125.11 | \$1,138.10 | \$0.00 | \$9,282.67 | \$27,205.99 |
| | | | | | | | |
| Grand Total | 610.5 | \$13,660.11 | \$3,125.11 | \$1,138.10 | \$0.00 | \$9,282.67 | \$27,205.99 |

Before



During



After



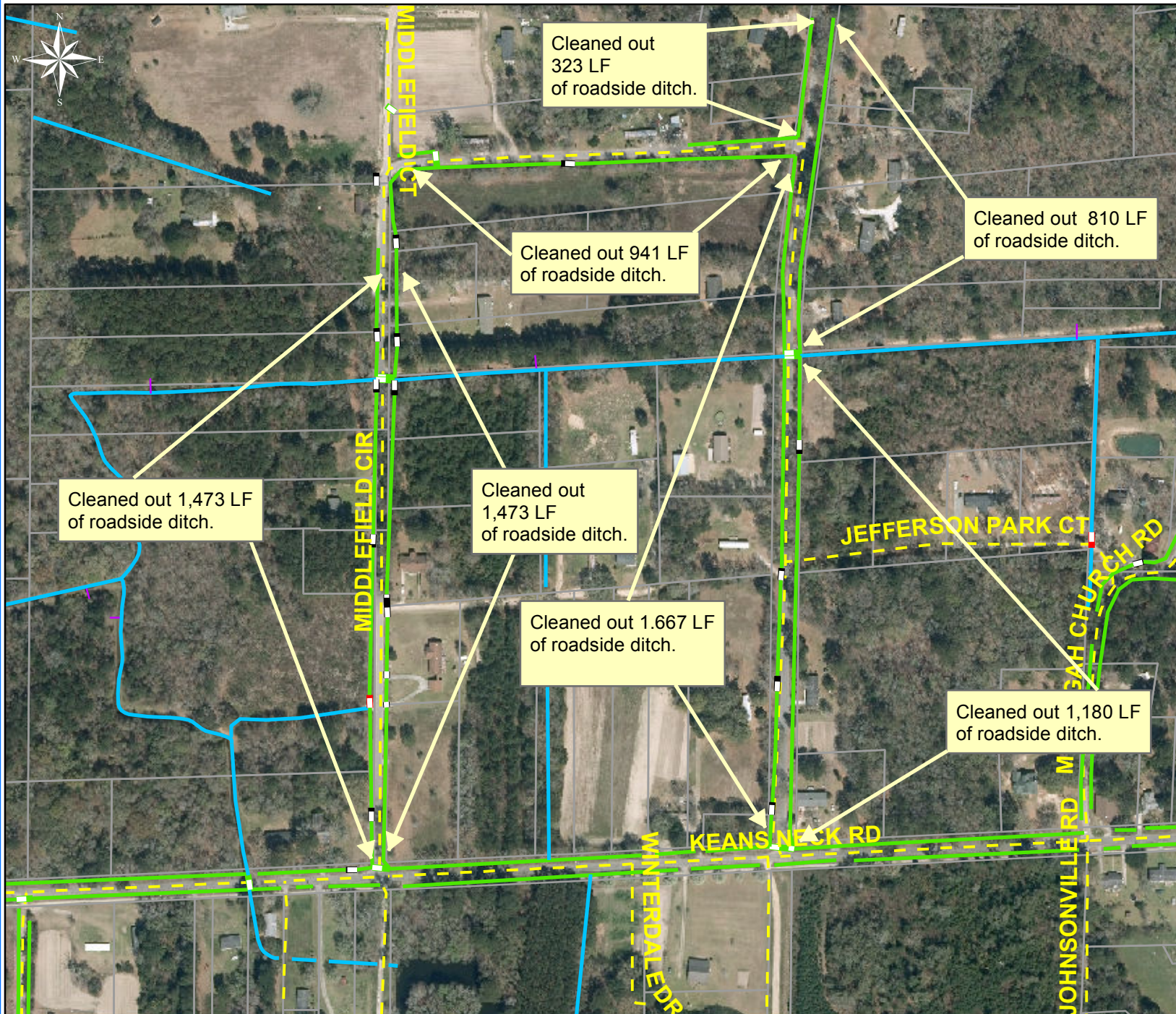
Project: Middlefield Circle

Activity: Routine/
Preventive
Maintenance

Project #:
2015-615














Township:
Sheldon

Completed:
June 2015



Legend

Drainage Type

-  Access Pipe
-  Bleeder Pipe
-  Channel Pipe
-  Channel
-  Stream
-  Crossline Pipe
-  Driveway Pipe
-  Lateral
-  Lateral Pipe
-  River
-  Road Pipe
-  Roadside
-  Roadside Pipe

0 80 160 320 480 640
Feet

1 inch = 330 feet

Prepared By: BC Stormwater Management Utility

Date Print: 08/11/2015

File: C:\project summaries map\Middlefield Circle_2015-615



Project: Middlefield Circle
 Activity: Vacuum Truck
 Project #: 2015-615
 Township: Sheldon
 Completed: June 2015

| Legend | |
|---------------|----------------|
| Drainage Type | |
| | Access Pipe |
| | Bleeder Pipe |
| | Channel Pipe |
| | Channel |
| | Stream |
| | Crossline Pipe |
| | Driveway Pipe |
| | Lateral |
| | Lateral Pipe |
| | River |
| | Road Pipe |
| | Roadside |
| | Roadside Pipe |



1 inch = 330 feet



Beaufort County Public Works Stormwater Infrastructure Project Summary

Project Summary: Port Royal Island Tree Removal - County Shed Road, Clydesdale Circle, St Pauls Church Road, Huron Drive, Pine Grove Road and Zehm Lane

Activity: Routine/Preventive Maintenance

Narrative Description of Project:

Removed fallen trees from workshelf.

Completion: Feb-15

| 2015-516 / Port Royal Island Tree Removal | Labor Hours | Labor Cost | Equipment Cost | Material Cost | Contractor Cost | Indirect Labor | Total Cost |
|------------------------------------------------------------|--------------|-------------------|-------------------|-----------------|-----------------|-------------------|-------------------|
| AUDIT / Audit Project | 1.0 | \$22.79 | \$0.00 | \$0.00 | \$0.00 | \$13.23 | \$36.02 |
| DEBREM / Debris Removal - Jobsite | 40.0 | \$879.60 | \$155.48 | \$35.25 | \$0.00 | \$555.60 | \$1,625.93 |
| HAUL / Hauling | 35.5 | \$783.53 | \$315.65 | \$361.43 | \$0.00 | \$562.37 | \$2,022.98 |
| ONJV / Onsite Job Visit | 15.0 | \$464.30 | \$54.30 | \$16.02 | \$0.00 | \$304.65 | \$839.27 |
| RMTRD / Remove trees - Ditch | 20.0 | \$445.70 | \$57.86 | \$15.72 | \$0.00 | \$282.90 | \$802.18 |
| RMTRW / Remove trees - Workshelf | 66.0 | \$1,588.20 | \$454.88 | \$98.26 | \$0.00 | \$1,072.00 | \$3,213.35 |
| 2015-516 / Port Royal Island Tree Removal Sub Total | 177.5 | \$4,184.12 | \$1,038.17 | \$526.68 | \$0.00 | \$2,790.75 | \$8,539.72 |
| Grand Total | 177.5 | \$4,184.12 | \$1,038.17 | \$526.68 | \$0.00 | \$2,790.75 | \$8,539.72 |

Before



During



After





Project: PRI Tree Removal- County Shed Road Channel #1

Activity: Routine/ Preventive Maintenance

Project #: 2015-516

Township: Port Royal Island

Completed: December 2014

| Legend | |
|----------------------|----------------|
| Drainage Type | |
| | Access Pipe |
| | Bleeder Pipe |
| | Channel Pipe |
| | Channel |
| | Stream |
| | Crossline Pipe |
| | Driveway Pipe |
| | Lateral |
| | Lateral Pipe |
| | River |
| | Road Pipe |
| | Roadside |
| | Roadside Pipe |



1 inch = 100 feet

Prepared By: BC Stormwater Management Utility
Date Print:07/27/2015

File:C:\project summaries map\PRI- Tree Removal- County Shed Road Channel #1 2015-516



Project: PRI Tree Removal- St. Pauls Church Road Channel #1

Activity: Routine/ Preventive Maintenance

Project #: 2015-516

Township: Port Royal Island

Completed: December 2014

| Legend | |
|---------------|----------------|
| Drainage Type | |
| | Access Pipe |
| | Bleeder Pipe |
| | Channel Pipe |
| | Channel |
| | Stream |
| | Crossline Pipe |
| | Driveway Pipe |
| | Lateral |
| | Lateral Pipe |
| | River |
| | Road Pipe |
| | Roadside |
| | Roadside Pipe |



1 inch = 130 feet

Prepared By: BC Stormwater Management Utility
Date Print: 07/27/2015

File: C:\project summaries map\PRI Tree Removal- St. Pauls Church Road Channel #1 2015-516



Project: PRI Tree Removal- Clydesdale Circle

Activity: Routine/ Preventive Maintenance

Project #: 2015-516

Township: Port Royal Island

Completed: December 2014

| Legend | |
|----------------------|----------------|
| Drainage Type | |
| | Access Pipe |
| | Bleeder Pipe |
| | Channel Pipe |
| | Channel |
| | Stream |
| | Crossline Pipe |
| | Driveway Pipe |
| | Lateral |
| | Lateral Pipe |
| | River |
| | Road Pipe |
| | Roadside |
| | Roadside Pipe |



1 inch = 100 feet



Project: PRI Tree Removal- County Shed Road Channel #2

Activity: Routine/ Preventive Maintenance














Project #: 2015-516

Township: Port Royal Island

Completed: December 2014

Legend

Drainage Type

-  Access Pipe
-  Bleeder Pipe
-  Channel Pipe
-  Channel
-  Stream
-  Crossline Pipe
-  Driveway Pipe
-  Lateral
-  Lateral Pipe
-  River
-  Road Pipe
-  Roadside
-  Roadside Pipe



1 inch = 100 feet

Prepared By: BC Stormwater Management Utility

Date Print: 07/27/2015

File: C:\project summaries map\PRI Tree Removal-County Shed Road Channel #2 2015-516



Project: PRI Tree Removal- Mink Point BLVD- Huron Drive

Activity: Routine/ Preventive Maintenance

Project #: 2015-516

Township: Port Royal Island

Completed: December 2014

| Legend | |
|----------------------|----------------|
| Drainage Type | |
| | Access Pipe |
| | Bleeder Pipe |
| | Channel Pipe |
| | Channel |
| | Stream |
| | Crossline Pipe |
| | Driveway Pipe |
| | Lateral |
| | Lateral Pipe |
| | River |
| | Road Pipe |
| | Roadside |
| | Roadside Pipe |



1 inch = 160 feet

Prepared By: BC Stormwater Management Utility

Date Print: 07/27/2015

File: C:\project summaries map\PRI Tree Removal-Mink Point BLVD- Huron Drive 2015-516



Project: PRI Tree Removal- Pine Grove Road

Activity: Routine/ Preventive Maintenance

Project #: 2015-516

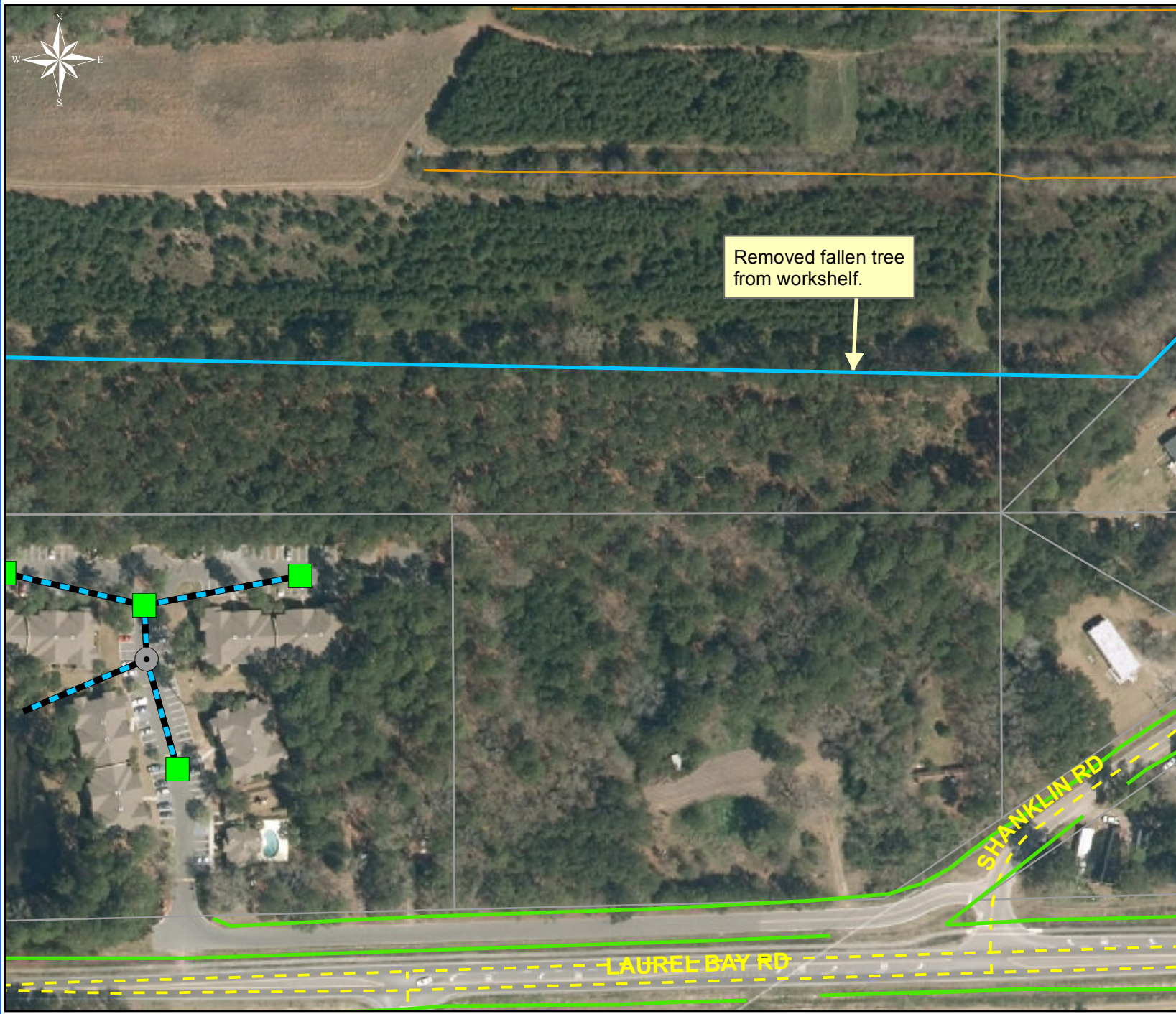
Township: Port Royal Island

Completed: December 2014

| Legend | |
|----------------------|----------------|
| Drainage Type | |
| | Access Pipe |
| | Bleeder Pipe |
| | Channel Pipe |
| | Channel |
| | Stream |
| | Crossline Pipe |
| | Driveway Pipe |
| | Lateral |
| | Lateral Pipe |
| | River |
| | Road Pipe |
| | Roadside |
| | Roadside Pipe |



1 inch = 86 feet



Project: PRI Tree Removal- Zehm Lane Channel #1

Activity: Routine/ Preventive Maintenance

Project #: 2015-516

Township: Port Royal Island

Completed: December 2014

| Legend | |
|---------------|----------------|
| Drainage Type | |
| | Access Pipe |
| | Bleeder Pipe |
| | Channel Pipe |
| | Channel |
| | Stream |
| | Crossline Pipe |
| | Driveway Pipe |
| | Lateral |
| | Lateral Pipe |
| | River |
| | Road Pipe |
| | Roadside |
| | Roadside Pipe |



1 inch = 170 feet



Project: PRI Vacuum Truck-Broad River BLVD

Activity: Vacuum Truck

Project #: 2015-306A

Township: Port Royal Island

Completed: June 2015

| Legend | |
|---------------|----------------|
| Drainage Type | |
| | Access Pipe |
| | Bleeder Pipe |
| | Channel Pipe |
| | Channel |
| | Stream |
| | Crossline Pipe |
| | Driveway Pipe |
| | Lateral |
| | Lateral Pipe |
| | River |
| | Road Pipe |
| | Roadside |
| | Roadside Pipe |



1 inch = 330 feet



Project: PRI Vacuum Truck-Broad River BLVD

Activity: Vacuum Truck

Project #: 2015-306A

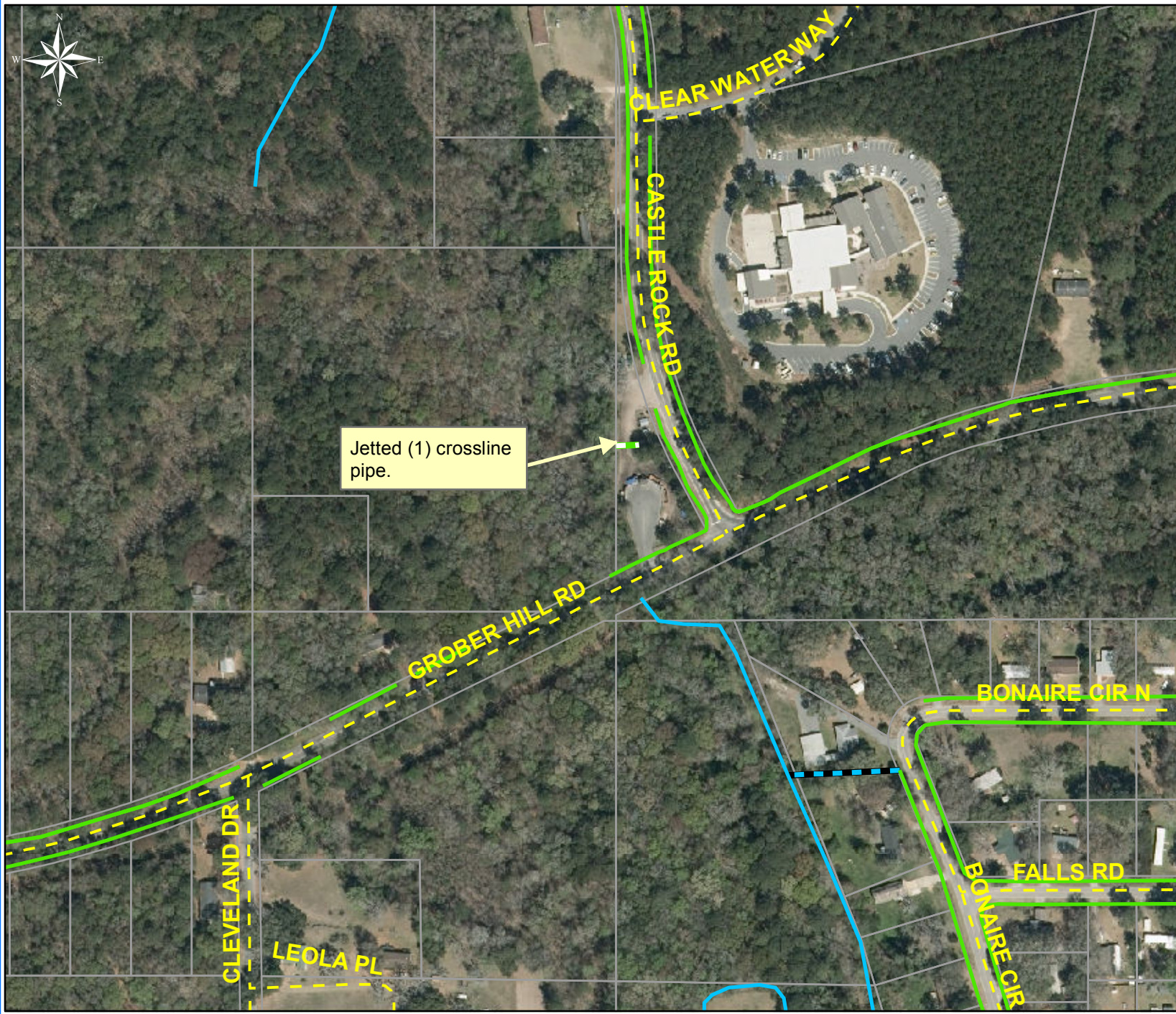
Township: Port Royal Island

Completed: June 2015

| Legend | |
|---------------|----------------|
| Drainage Type | |
| | Access Pipe |
| | Bleeder Pipe |
| | Channel Pipe |
| | Channel |
| | Stream |
| | Crossline Pipe |
| | Driveway Pipe |
| | Lateral |
| | Lateral Pipe |
| | River |
| | Road Pipe |
| | Roadside |
| | Roadside Pipe |



1 inch = 330 feet



Project: PRI Vacuum Truck-Castle Rock

Activity: Vacuum Truck

Project #: 2015-306A

Township: Port Royal Island

Completed: June 2015

| Legend | |
|---------------|----------------|
| Drainage Type | |
| | Access Pipe |
| | Bleeder Pipe |
| | Channel Pipe |
| | Channel |
| | Stream |
| | Crossline Pipe |
| | Driveway Pipe |
| | Lateral |
| | Lateral Pipe |
| | River |
| | Road Pipe |
| | Roadside |
| | Roadside Pipe |



1 inch = 250 feet



Project: PRI
Vacuum Truck-
Franklin Drive

Activity: Vacuum
Truck














Project #:
2015-306A

Township:
Port Royal Island

Completed:
June 2015

Legend

Drainage Type

-  Access Pipe
-  Bleeder Pipe
-  Channel Pipe
-  Channel
-  Stream
-  Crossline Pipe
-  Driveway Pipe
-  Lateral
-  Lateral Pipe
-  River
-  Road Pipe
-  Roadside
-  Roadside Pipe

0 20 40 80 120 160
Feet

1 inch = 83 feet

Prepared By: BC Stormwater Management Utility

Date Print:08/18/2015

File:C:\project summaries map\PRI Vacuum Truck- Franklin Drive 2015-306A



Project: PRI
Vacuum Truck-
Pinewood Circle

Activity: Vacuum
Truck














Project #:
2015-306A

Township:
Port Royal Island

Completed:
June 2015

Legend

Drainage Type

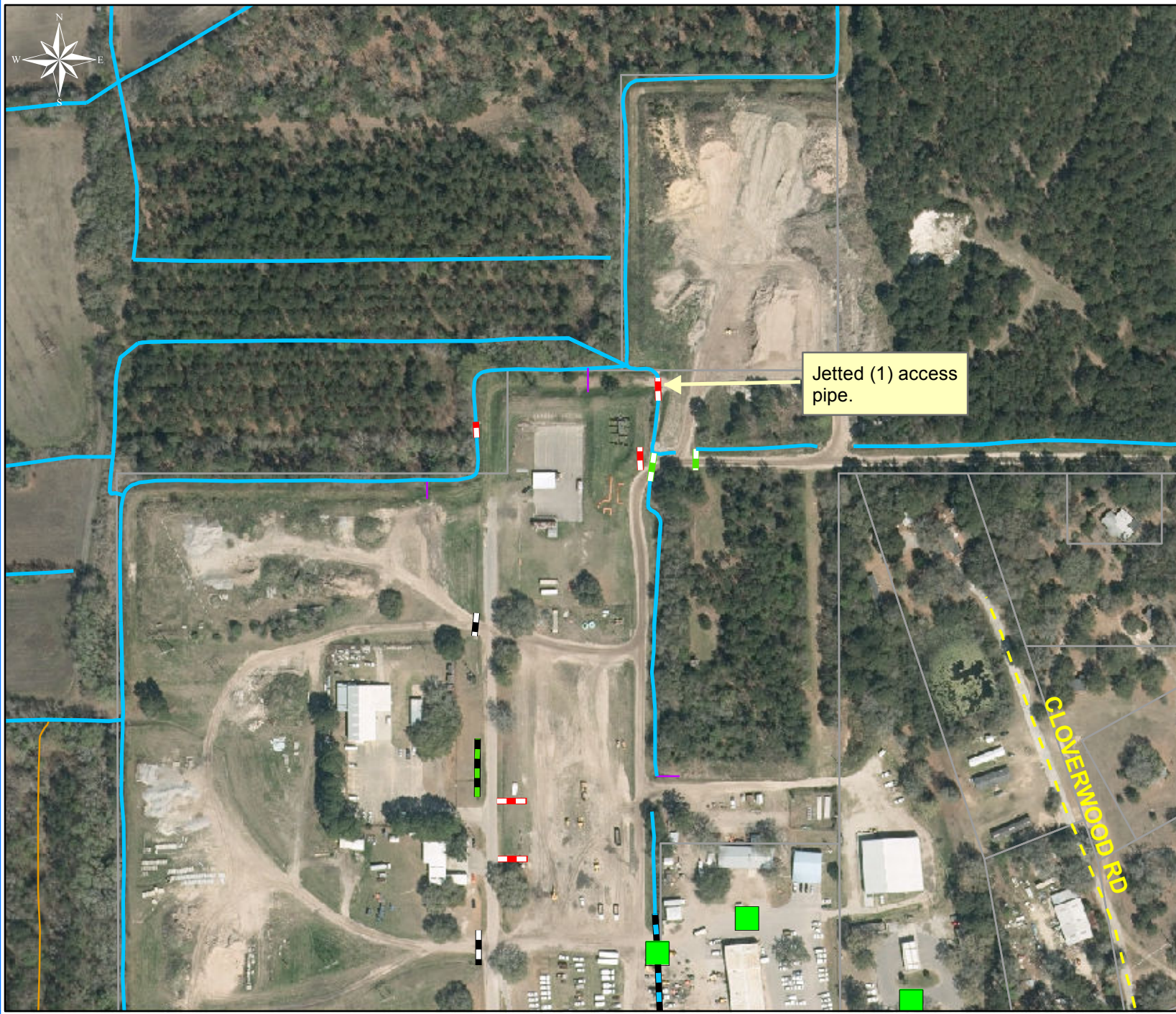
-  Access Pipe
-  Bleeder Pipe
-  Channel Pipe
-  Channel
-  Stream
-  Crossline Pipe
-  Driveway Pipe
-  Lateral
-  Lateral Pipe
-  River
-  Road Pipe
-  Roadside
-  Roadside Pipe

0 25 50 100 150 200
Feet

1 inch = 100 feet

Prepared By: BC Stormwater Management Utility
Date Print:08/18/2015

File:C:\project summaries map\PRI Vacuum Truck-Pinewood Circle_2015-306A



Project: PRI Vacuum Truck-Public Works Complex

Activity: Vacuum Truck














Project #: 2015-306A

Township: Port Royal Island

Completed: June 2015

Legend

Drainage Type

-  Access Pipe
-  Bleeder Pipe
-  Channel Pipe
-  Channel
-  Stream
-  Crossline Pipe
-  Driveway Pipe
-  Lateral
-  Lateral Pipe
-  River
-  Road Pipe
-  Roadside
-  Roadside Pipe



1 inch = 250 feet



Beaufort County
Public Works
Stormwater Infrastructure
Project Summary

Project Summary: Port Royal Island Washout Repair - Burton Wells Road

Activity: Routine/Preventive Maintenance

Narrative Description of Project:

Repaired washout.

Completion: Feb-15

| 2015-518A / Port Royal Island Washout Repair | Labor Hours | Labor Cost | Equipment Cost | Material Cost | Contractor Cost | Indirect Labor | Total Cost |
|-----------------------------------------------------|------------------------|-----------------------|---------------------------|--------------------------|----------------------------|---------------------------|-------------------|
| AUDIT / Audit Project | 0.5 | \$11.40 | \$0.00 | \$0.00 | \$0.00 | \$6.62 | \$18.01 |
| HAUL / Hauling | 2.0 | \$43.26 | \$21.40 | \$11.26 | \$0.00 | \$28.84 | \$104.76 |
| PRRECON / Project Reconnaissance | 2.0 | \$59.68 | \$7.24 | \$1.78 | \$0.00 | \$36.46 | \$105.16 |
| RPWO / Repaired Washout | 20.0 | \$421.88 | \$98.99 | \$78.54 | \$0.00 | \$283.59 | \$883.00 |
| 2015-518A / Port Royal Island Washout Repair | 24.5 | \$536.22 | \$127.63 | \$91.58 | \$0.00 | \$355.51 | \$1,110.93 |
| Sub Total | | | | | | | |
| | | | | | | | |
| Grand Total | 24.5 | \$536.22 | \$127.63 | \$91.58 | \$0.00 | \$355.51 | \$1,110.93 |

(No Pictures Available)



Project: Port Royal Island Washout Repairs- Burton Wells Road

Activity: Routine/ Preventive Maintenance

Project #: 2015-518A

Township: Port Royal Island

Completed: February 2015

| Legend | |
|---------------|----------------|
| Drainage Type | |
| | Access Pipe |
| | Bleeder Pipe |
| | Channel Pipe |
| | Channel |
| | Stream |
| | Crossline Pipe |
| | Driveway Pipe |
| | Lateral |
| | Lateral Pipe |
| | River |
| | Road Pipe |
| | Roadside |
| | Roadside Pipe |



1 inch = 330 feet

Prepared By: BC Stormwater Management Utility

Date Print: 07/21/2015

File: C:\project summaries map\Port Royal Island Washout Repairs- Burton Wells Road_ 2015-518A



Beaufort County Public Works Stormwater Infrastructure Project Summary

Project Summary: St. Helena Island Bush Hog

Activity: Routine/Preventive Maintenance

Narrative Description of Project:

Completion: Mar-15

Second rotation from January 2015 to March 2015. Project improved 84,174 L.F. of drainage system.

Bush hogged 84,174 L.F. of channel. This project consisted the following areas: Faith Memorial Church (1,484 L.F.), Bridgewood Road (741 L.F.), Capers Island Circle (1,061 L.F.), Orange Grove Road (2,957 L.F.), Wallace (3,297 L.F.), Sycamore Hill Road (1,782 L.F.), David Green Road (946 L.F.), Scott Hill Road (7,319 L.F.), James D. Washington Road (407 L.F.), Candy Johnson Drive (639 L.F.), Adam Street (220 L.F.), Toomer Road (3,610 L.F.), Jack Johnson Drive (1,430 L.F.), Peaches Hill Circle (4,386 L.F.), No Man Land Road (861 L.F.), Tombee Road (1,954 L.F.), Archer Fields Lane (1,277 L.F.), Kelis Lane (8,183 L.F.), Ephraim Road (2,413 L.F.), White Sands Circle (3,742 L.F.), Seaside Road (414 L.F.), Nathan Pope Road (4,343 L.F.), Shiney Road (2,229 L.F.), Luther Warren Drive (711 L.F.), John Fripp Circle (813 L.F.), Hickory Hill Road (1,643 L.F.), Halifax Drive (3,373 L.F.), Bible Camp Road (2,101 L.F.), Ball Park Road (1,498 L.F.), Eddings Point Road (404 L.F.), Ernest Drive (1,781 L.F.), Queens Road (525 L.F.), Major Road (2,106 L.F.), Polowana Road (1,471 L.F.), Warsaw Island Road (5,318 L.F.), JB Lane (871 L.F.), James Grant Road (642 L.F.) Mattis Drive (1,460 L.F.), Simmons Road (2,284 L.F.) and Folly Road (1,478 L.F.)

| 2015-300A / St. Helena Island Bush Hog | Labor Hours | Labor Cost | Equipment Cost | Material Cost | Contractor Cost | Indirect Labor | Total Cost |
|-----------------------------------------------|--------------------|--------------------|-----------------------|----------------------|------------------------|-----------------------|--------------------|
| AUDIT / Audit Project | 2.5 | \$56.98 | \$0.00 | \$0.00 | \$0.00 | \$33.08 | \$90.05 |
| CBH / Channel- bushhogged | 1,098.5 | \$23,675.72 | \$9,661.74 | \$2,087.07 | \$0.00 | \$15,964.35 | \$51,388.87 |
| HAUL / Hauling | 15.0 | \$335.03 | \$114.54 | \$120.54 | \$0.00 | \$225.03 | \$795.14 |
| ONJV / Onsite Job Visit | 43.0 | \$1,471.10 | \$155.34 | \$148.61 | \$0.00 | \$1,090.17 | \$2,865.22 |
| PRRECON / Project Reconnaissance | 62.0 | \$1,310.66 | \$177.88 | \$80.32 | \$0.00 | \$862.44 | \$2,431.29 |
| 2015-300A / St. Helena Island Bush Hog | 1,221.0 | \$26,849.48 | \$10,109.50 | \$2,436.54 | \$0.00 | \$18,175.06 | \$57,570.57 |
| Sub Total | | | | | | | |
| Grand Total | 1,221.0 | \$26,849.48 | \$10,109.50 | \$2,436.54 | \$0.00 | \$18,175.06 | \$57,570.57 |

Before



During



After





Beaufort County
Public Works
Stormwater Infrastructure
Project Summary

Project Summary: Donaldson Drive

Activity: Routine/Preventive Maintenance

Narrative Description of Project:

Project improved 66 L.F. of drainage system. Jetted 66 L.F. of roadside pipe.

Completion: Mar-15

| 2015-606 / Donaldson Drive | Labor Hours | Labor Cost | Equipment Cost | Material Cost | Contractor Cost | Indirect Labor | Total Cost |
|---------------------------------------------|--------------------|-------------------|-----------------------|----------------------|------------------------|-----------------------|-------------------|
| AUDIT / Audit Project | 0.5 | \$11.40 | \$0.00 | \$0.00 | \$0.00 | \$6.62 | \$18.01 |
| DPJT / Driveway Pipe - Jetted | 4.0 | \$89.36 | \$41.84 | \$11.81 | \$0.00 | \$59.82 | \$202.83 |
| 2015-606 / Donaldson Drive Sub Total | 4.5 | \$100.76 | \$41.84 | \$11.81 | \$0.00 | \$66.44 | \$220.84 |
| | | | | | | | |
| Grand Total | 4.5 | \$100.76 | \$41.84 | \$11.81 | \$0.00 | \$66.44 | \$220.84 |

Before



During



After





Project: Donaldson Drive

Activity: Vacuum Truck

Project #: 2015-606

Township: Port Royal Island

Completed: March 2015

| Legend | |
|---------------|----------------|
| Drainage Type | |
| | Access Pipe |
| | Bleeder Pipe |
| | Channel Pipe |
| | Channel |
| | Stream |
| | Crossline Pipe |
| | Driveway Pipe |
| | Lateral |
| | Lateral Pipe |
| | River |
| | Road Pipe |
| | Roadside |
| | Roadside Pipe |



1 inch = 120 feet



Beaufort County Public Works Stormwater Infrastructure Project Summary

Project Summary: Charleston Drive Phase II

Activity: Routine/Preventive Maintenance

Narrative Description of Project:

Repaired Washout.

Completion: Apr-15

| 2015-004A / Charleston Drive Phase II | Labor Hours | Labor Cost | Equipment Cost | Material Cost | Contractor Cost | Indirect Labor | Total Cost |
|--------------------------------------------------------|-------------|-----------------|----------------|----------------|-----------------|-----------------|-------------------|
| AUDIT / Audit Project | 0.5 | \$11.40 | \$0.00 | \$0.00 | \$0.00 | \$6.62 | \$18.01 |
| HAUL / Hauling | 4.0 | \$86.52 | \$31.96 | \$19.13 | \$0.00 | \$57.68 | \$195.29 |
| ONJV / Onsite Job Visit | 5.0 | \$152.54 | \$17.70 | \$15.44 | \$0.00 | \$97.39 | \$283.07 |
| PP / Project Preparation | 6.0 | \$133.31 | \$10.62 | \$5.79 | \$0.00 | \$89.10 | \$238.82 |
| PRRECON / Project Reconnaissance | 2.0 | \$59.68 | \$7.08 | \$5.79 | \$0.00 | \$36.46 | \$109.01 |
| RPWO / Repaired Washout | 16.0 | \$346.12 | \$30.79 | \$11.99 | \$0.00 | \$228.72 | \$617.62 |
| 2015-004A / Charleston Drive Phase II Sub Total | 33.5 | \$789.56 | \$98.15 | \$58.14 | \$0.00 | \$515.97 | \$1,461.82 |
| | | | | | | | |
| Grand Total | 33.5 | \$789.56 | \$98.15 | \$58.14 | \$0.00 | \$515.97 | \$1,461.82 |

Before



During



After



Project: Charleston Drive Phase II

Activity: Routine/
Preventive
Maintenance

Project #:
2015-004A














Township:
Port Royal Island

Completed:
April 2015



Legend

Drainage Type

-  Access Pipe
-  Bleeder Pipe
-  Channel Pipe
-  Channel
-  Stream
-  Crossline Pipe
-  Driveway Pipe
-  Lateral
-  Lateral Pipe
-  River
-  Road Pipe
-  Roadside
-  Roadside Pipe



1 inch = 130 feet

Prepared By: BC Stormwater Management Utility

Date Print: 04/23/2015

File: C:\project summaries map\Charleston DrivePhase II_2015-004A



Beaufort County
Public Works
Stormwater Infrastructure
Project Summary

Project Summary: Eastern Road Channel - Rework

Activity: Routine/Preventive Maintenance

Narrative Description of Project:

Repaired washout.

Completion: Apr-15

| 2015-011R / Eastern Road Channel - Rework | Labor Hours | Labor Cost | Equipment Cost | Material Cost | Contractor Cost | Indirect Labor | Total Cost |
|------------------------------------------------------------|--------------------|-------------------|-----------------------|----------------------|------------------------|-----------------------|-------------------|
| AUDIT / Audit Project | 0.5 | \$11.40 | \$0.00 | \$0.00 | \$0.00 | \$6.62 | \$18.01 |
| HAUL / Hauling | 6.0 | \$129.78 | \$47.94 | \$819.61 | \$0.00 | \$86.52 | \$1,083.85 |
| ONJV / Onsite Job Visit | 2.0 | \$59.68 | \$7.08 | \$1.93 | \$0.00 | \$36.46 | \$105.15 |
| RPWO / Repaired Washout | 12.0 | \$331.77 | \$48.73 | \$16.14 | \$0.00 | \$234.36 | \$631.00 |
| 2015-011R / Eastern Road Channel - Rework Sub Total | 20.5 | \$532.63 | \$103.75 | \$837.68 | \$0.00 | \$363.96 | \$1,838.01 |
| | | | | | | | |
| Grand Total | 20.5 | \$532.63 | \$103.75 | \$837.68 | \$0.00 | \$363.96 | \$1,838.01 |

Before



During



After



Project: Eastern Road Channel - Rework

Activity: Routine/ Preventive Maintenance




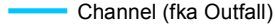
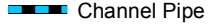

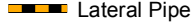

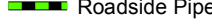



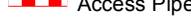

Project #: 2015-011R

Township: Port Royal Island

Completed: April 2015

Legend

TYPE

-  River
-  Creek/Stream
-  River/Creek/Marsh BANK
-  Channel (fka Outfall)
-  Channel Pipe
-  Lateral
-  Lateral Pipe
-  Roadside
-  Roadside Pipe
-  Road Pipe
-  Crossline Pipe
-  Driveway Pipe
-  Access Pipe
-  Bleeder Pipe





Beaufort County
Public Works
Stormwater Infrastructure
Project Summary

Project Summary: St. Helena Island Vacuum Truck - Scott Hill Road

Activity: Routine/Preventive Maintenance

Narrative Description of Project:

Project improved 414 L.F. of drainage system. Jetted (1) crossline pipe and 414 L.F. of roadside pipe.

Completion: Apr-15

| 2015-309A / St. Helena Island Vacuum Truck | Labor Hours | Labor Cost | Equipment Cost | Material Cost | Contractor Cost | Indirect Labor | Total Cost |
|-------------------------------------------------------------|--------------------|-------------------|-----------------------|----------------------|------------------------|-----------------------|-------------------|
| AUDIT / Audit Project | 0.5 | \$11.40 | \$0.00 | \$0.00 | \$0.00 | \$6.62 | \$18.01 |
| CLPJT / Crossline Pipe - Jetted | 10.0 | \$222.20 | \$43.40 | \$34.17 | \$0.00 | \$148.50 | \$448.27 |
| 2015-309A / St. Helena Island Vacuum Truck Sub Total | 10.5 | \$233.60 | \$43.40 | \$34.17 | \$0.00 | \$155.11 | \$466.28 |
| | | | | | | | |
| Grand Total | 10.5 | \$233.60 | \$43.40 | \$34.17 | \$0.00 | \$155.11 | \$466.28 |

Before



During



After





Project: Scott Hill Road

Activity: Vacuum Truck














Project #: 2015-309A

Township: St. Helena Island

Completed: April 2015

Legend

Drainage Type

-  Access Pipe
-  Bleeder Pipe
-  Channel Pipe
-  Channel
-  Stream
-  Crossline Pipe
-  Driveway Pipe
-  Lateral
-  Lateral Pipe
-  River
-  Road Pipe
-  Roadside
-  Roadside Pipe

0 65 130 260 390 520
 Feet

1 inch = 280 feet

Prepared By: BC Stormwater Management Utility
 Date Print: 04/23/2015
 File: C:\project summaries map\Scott Hill Road_2015-309A



Beaufort County
Public Works
Stormwater Infrastructure
Project Summary

Project Summary: Sheldon Tree Removal - George Williams Lane, William Campbell Road and Kings Field Road

Activity: Routine/Preventive Maintenance

Narrative Description of Project:

Removed fallen trees from workshelf.

Completion: Apr-15

| 2014-510A / Sheldon Tree Removal | Labor Hours | Labor Cost | Equipment Cost | Material Cost | Contractor Cost | Indirect Labor | Total Cost |
|---------------------------------------------------|--------------------|-------------------|-----------------------|----------------------|------------------------|-----------------------|-------------------|
| AUDIT / Audit Project | 0.5 | \$11.40 | \$0.00 | \$0.00 | \$0.00 | \$6.62 | \$18.01 |
| HAUL / Hauling | 19.0 | \$410.97 | \$122.70 | \$294.19 | \$0.00 | \$273.98 | \$1,101.84 |
| ONJV / Onsite Job Visit | 5.0 | \$155.88 | \$7.08 | \$5.79 | \$0.00 | \$103.63 | \$272.38 |
| RMTRW / Remove trees - Workshelf | 50.0 | \$1,153.24 | \$89.64 | \$37.39 | \$0.00 | \$752.70 | \$2,032.97 |
| 2014-510A / Sheldon Tree Removal Sub Total | 74.5 | \$1,731.49 | \$219.42 | \$337.37 | \$0.00 | \$1,136.92 | \$3,425.20 |
| | | | | | | | |
| Grand Total | 74.5 | \$1,731.49 | \$219.42 | \$337.37 | \$0.00 | \$1,136.92 | \$3,425.20 |

Before



After





Project: Sheldon
Tree Removal-
Kings Field
Road

Activity: Routine/
Preventive
Maintenance














Project #:
2014-510A

Township:
Sheldon

Completed:
April 2015

Legend

Drainage Type

-  Access Pipe
-  Bleeder Pipe
-  Channel Pipe
-  Channel
-  Stream
-  Crossline Pipe
-  Driveway Pipe
-  Lateral
-  Lateral Pipe
-  River
-  Road Pipe
-  Roadside
-  Roadside Pipe

0 12.525 50 75 100
Feet

1 inch = 59 feet

Prepared By: BC Stormwater Management Utility
Date Print: 04/23/2015
File: C:\project summaries map\Kings Field Road_2014-510A



Project: Sheldon Tree Removal-William Campbell Road & George Williams Road

Activity: Routine/ Preventive Maintenance

Project #: 2014-510A

Township: Sheldon

Completed: April 2015

| Legend | |
|---------------|----------------|
| Drainage Type | |
| | Access Pipe |
| | Bleeder Pipe |
| | Channel Pipe |
| | Channel |
| | Stream |
| | Crossline Pipe |
| | Driveway Pipe |
| | Lateral |
| | Lateral Pipe |
| | River |
| | Road Pipe |
| | Roadside |
| | Roadside Pipe |



1 inch = 340 feet

Prepared By: BC Stormwater Management Utility
 Date Print: 04/23/2015
 File: C:\project summaries map\Sheldon Tree Removal_2014-510A



Beaufort County
Public Works
Stormwater Infrastructure
Project Summary

Project Summary: St. Helena Island Tree Removal - James D. Washington Road

Activity: Routine/Preventive Maintenance

Narrative Description of Project:
 Removed fallen tree from workshelf.

Completion: Apr-15

| 2015-607 / St. Helena Island Tree Removal | Labor Hours | Labor Cost | Equipment Cost | Material Cost | Contractor Cost | Indirect Labor | Total Cost |
|------------------------------------------------------------|--------------------|-------------------|-----------------------|----------------------|------------------------|-----------------------|-------------------|
| AUDIT / Audit Project | 0.5 | \$11.40 | \$0.00 | \$0.00 | \$0.00 | \$6.62 | \$18.01 |
| ONJV / Onsite Job Visit | 3.0 | \$99.54 | \$10.86 | \$9.65 | \$0.00 | \$73.41 | \$193.46 |
| RMTRW / Remove trees - Workshelf | 20.0 | \$432.65 | \$17.70 | \$10.42 | \$0.00 | \$285.90 | \$746.67 |
| 2015-607 / St. Helena Island Tree Removal Sub Total | 23.5 | \$543.59 | \$28.56 | \$20.07 | \$0.00 | \$365.92 | \$958.14 |
| | | | | | | | |
| Grand Total | 23.5 | \$543.59 | \$28.56 | \$20.07 | \$0.00 | \$365.92 | \$958.14 |

During



After





Project: SHI Tree Removal-James D Washington Road

Activity: Routine/ Preventive Maintenance

Project #: 2015-607A

Township: St.Helena Island

Completed: April 2015

| Legend | |
|----------------------|----------------|
| Drainage Type | |
| | Access Pipe |
| | Bleeder Pipe |
| | Channel Pipe |
| | Channel |
| | Stream |
| | Crossline Pipe |
| | Driveway Pipe |
| | Lateral |
| | Lateral Pipe |
| | River |
| | Road Pipe |
| | Roadside |
| | Roadside Pipe |



1 inch = 170 feet



Beaufort County
Public Works
Stormwater Infrastructure
Project Summary

Project Summary: St. Helena Island Valley Drain - White Sands Circle

Activity: Routine/Preventive Maintenance

Narrative Description of Project:

Project improved 1,164 L.F. of drainage system. Cleaned out 1,164 L.F. of valley drains.

Completion: May-15

| 2015-502A / St. Helena Island Valley Drains | Labor Hours | Labor Cost | Equipment Cost | Material Cost | Contractor Cost | Indirect Labor | Total Cost |
|----------------------------------------------------|--------------------|-------------------|-----------------------|----------------------|------------------------|-----------------------|-------------------|
| AUDIT / Audit Project | 0.5 | \$11.40 | \$0.00 | \$0.00 | \$0.00 | \$6.62 | \$18.01 |
| COVD / Cleaned Out Valley Drains | 30.0 | \$651.60 | \$56.60 | \$31.08 | \$0.00 | \$431.40 | \$1,170.68 |
| HAUL / Hauling | 10.0 | \$216.30 | \$79.90 | \$19.98 | \$0.00 | \$144.20 | \$460.38 |
| ONJV / Onsite Job Visit | 2.0 | \$66.36 | \$7.08 | \$8.64 | \$0.00 | \$48.94 | \$131.02 |
| 2015-502A / St. Helena Island Valley Drains | 42.5 | \$945.66 | \$143.58 | \$59.70 | \$0.00 | \$631.16 | \$1,780.09 |
| Sub Total | | | | | | | |
| | | | | | | | |
| Grand Total | 42.5 | \$945.66 | \$143.58 | \$59.70 | \$0.00 | \$631.16 | \$1,780.09 |

Before



During



After





Project: St. Helena Island Valley Drains

Activity: Routine/ Preventive Maintenance

Project #: 2015-502A

Township: St. Helena Island

Completed: May 2015

| Legend | |
|---------------|----------------|
| Drainage Type | |
| | Access Pipe |
| | Bleeder Pipe |
| | Channel Pipe |
| | Channel |
| | Stream |
| | Crossline Pipe |
| | Driveway Pipe |
| | Lateral |
| | Lateral Pipe |
| | River |
| | Road Pipe |
| | Roadside |
| | Roadside Pipe |



1 inch = 170 feet



Beaufort County
Public Works
Stormwater Infrastructure
Project Summary

Project Summary: Nathan Pope Road Channel #1

Activity: Routine/Preventive Maintenance

Narrative Description of Project:

Project improved 1,800 L.F. of drainage system. Cleaned out 220 L.F. of roadside ditch and 1,580 L.F. of channel.

Completion: May-15

| 2015-594 / Nathan Pope Road Ch #1 | Labor Hours | Labor Cost | Equipment Cost | Material Cost | Contractor Cost | Indirect Labor | Total Cost |
|------------------------------------------|--------------------|-------------------|-----------------------|----------------------|------------------------|-----------------------|-------------------|
| AUDIT / Audit Project | 0.5 | \$11.40 | \$0.00 | \$0.00 | \$0.00 | \$6.62 | \$18.01 |
| CCO / Channel - cleaned out | 59.0 | \$1,299.82 | \$314.08 | \$63.90 | \$0.00 | \$864.48 | \$2,542.28 |
| HAUL / Hauling | 54.5 | \$1,201.16 | \$499.25 | \$241.59 | \$0.00 | \$805.37 | \$2,747.36 |
| ONJV / Onsite Job Visit | 14.0 | \$462.25 | \$49.64 | \$34.74 | \$0.00 | \$327.11 | \$873.74 |
| RSDCL / Roadside Ditch - Cleanout | 21.0 | \$456.12 | \$116.01 | \$21.12 | \$0.00 | \$301.98 | \$895.23 |
| 2015-594 / Nathan Pope Road Ch #1 | 149.0 | \$3,430.75 | \$978.98 | \$361.35 | \$0.00 | \$2,305.55 | \$7,076.62 |
| Sub Total | | | | | | | |
| | | | | | | | |
| Grand Total | 149.0 | \$3,430.75 | \$978.98 | \$361.35 | \$0.00 | \$2,305.55 | \$7,076.62 |

Before



During



After



Project: Nathan Pope Road Channel #1

Activity: Routine/ Preventive Maintenance















Project #: 2015-594

Township: St. Helena Island

Completed: May 2015

Legend

TYPE

-  River
-  Creek/Stream
-  River/Creek/Marsh BANK
-  Channel (fka Outfall)
-  Channel Pipe
-  Lateral
-  Lateral Pipe
-  Roadside
-  Roadside Pipe
-  Road Pipe
-  Crossline Pipe
-  Driveway Pipe
-  Access Pipe
-  Bleeder Pipe



1 inch = 208 feet



Beaufort County
Public Works
Stormwater Infrastructure
Project Summary

Project Summary: Broadland Circle

Activity: Routine/Preventive Maintenance

Narrative Description of Project:

Completion: May-15

Cleaned out (1) catch basin.

| 2015-601 / Broadland Circle | Labor Hours | Labor Cost | Equipment Cost | Material Cost | Contractor Cost | Indirect Labor | Total Cost |
|----------------------------------------------|--------------------|-------------------|-----------------------|----------------------|------------------------|-----------------------|-------------------|
| AUDIT / Audit Project | 0.5 | \$11.40 | \$0.00 | \$0.00 | \$0.00 | \$6.62 | \$18.01 |
| CBCO / Catch basin - clean out | 6.0 | \$134.04 | \$26.04 | \$22.20 | \$0.00 | \$89.73 | \$272.01 |
| PRRECON / Project Reconnaissance | 10.0 | \$315.10 | \$17.70 | \$19.30 | \$0.00 | \$213.50 | \$565.60 |
| 2015-601 / Broadland Circle Sub Total | 16.5 | \$460.54 | \$43.74 | \$41.50 | \$0.00 | \$309.84 | \$855.62 |
| | | | | | | | |
| Grand Total | 16.5 | \$460.54 | \$43.74 | \$41.50 | \$0.00 | \$309.84 | \$855.62 |

(Pictures Not Available)



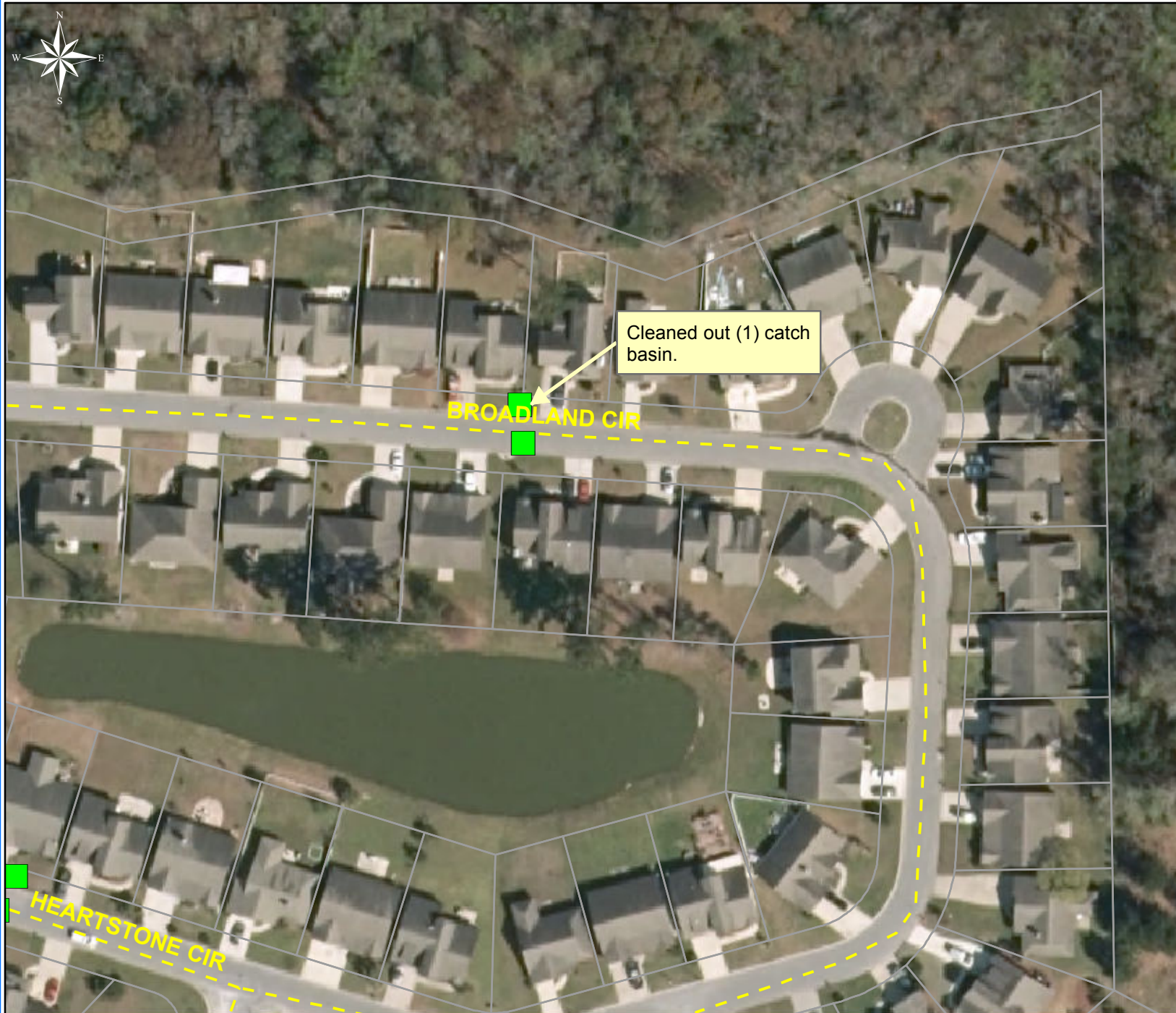
Project: Broadland Circle

Activity: Vacuum Truck

Project #: 2015-601














Township: Bluffton

Completed: May 2015



Legend

Drainage Type

-  Access Pipe
-  Bleeder Pipe
-  Channel Pipe
-  Channel
-  Stream
-  Crossline Pipe
-  Driveway Pipe
-  Lateral
-  Lateral Pipe
-  River
-  Road Pipe
-  Roadside
-  Roadside Pipe



1 inch = 89 feet

Prepared By: BC Stormwater Management Utility
Date Print: 08/13/2015
File: C:\project summaries map\Broadland Circle_2015-601



Beaufort County Public Works Stormwater Infrastructure Project Summary

Project Summary: East Chelsea Court

Activity: Routine/Preventive Maintenance

Narrative Description of Project:

Project improved 16 L.F. of drainage system. Removed blockage from flowline. Cleaned out (1) catch basin. Jetted 16 L.F. of channel pipe.

Completion: May-15

| 2015-618 / East Chelsea Court | Labor Hours | Labor Cost | Equipment Cost | Material Cost | Contractor Cost | indirect Labor | Total Cost |
|------------------------------------------------|-------------|-----------------|-----------------|----------------|-----------------|-----------------|-------------------|
| AUDIT / Audit Project | 0.5 | \$11.40 | \$0.00 | \$0.00 | \$0.00 | \$6.62 | \$18.01 |
| CBCO / Catch basin - clean out | 12.0 | \$259.56 | \$52.08 | \$28.80 | \$0.00 | \$172.08 | \$512.52 |
| HAUL / Hauling | 4.0 | \$86.52 | \$31.96 | \$29.82 | \$0.00 | \$57.68 | \$205.98 |
| ONJV / Onsite Job Visit | 7.0 | \$232.26 | \$24.78 | \$17.37 | \$0.00 | \$171.29 | \$445.70 |
| RB / Remove blockage from flowline | 16.0 | \$346.12 | \$30.79 | \$15.84 | \$0.00 | \$228.72 | \$621.47 |
| 2015-618 / East Chelsea Court Sub Total | 39.5 | \$935.86 | \$139.61 | \$91.83 | \$0.00 | \$636.38 | \$1,803.68 |
| | | | | | | | |
| Grand Total | 39.5 | \$935.86 | \$139.61 | \$91.83 | \$0.00 | \$636.38 | \$1,803.68 |

Before



During



After



**Project: East
Chelsea Court
Map 1**

**Activity: Routine/
Preventive
Maintenance**















**Project #:
2015-618**

**Township:
Bluffton**

**Completed:
May 2015**

Legend

TYPE

-  River
-  Creek/Stream
-  River/Creek/Marsh BANK
-  Channel (fka Outfall)
-  Channel Pipe
-  Lateral
-  Lateral Pipe
-  Roadside
-  Roadside Pipe
-  Road Pipe
-  Crossline Pipe
-  Driveway Pipe
-  Access Pipe
-  Bleeder Pipe



Removed blockage
from flowline.



1 inch = 67 feet

**Project: East
Chelsea Court
Map 2**

**Activity: Vacuum
Truck**

**Project #:
2015-618**















**Township:
Bluffton**

**Completed:
May 2015**



Legend

TYPE

-  River
-  Creek/Stream
-  River/Creek/Marsh BANK
-  Channel (fka Outfall)
-  Channel Pipe
-  Lateral
-  Lateral Pipe
-  Roadside
-  Roadside Pipe
-  Road Pipe
-  Crossline Pipe
-  Driveway Pipe
-  Access Pipe
-  Bleeder Pipe



1 inch = 67 feet



Beaufort County
Public Works
Stormwater Infrastructure
Project Summary

Project Summary: Toomer Road

Activity: Routine/Preventive Maintenance

Narrative Description of Project:

Installed (1) access pipe and rip rap for erosion control.

Completion: May-15

| 2015-622 / Toomer Road | Labor Hours | Labor Cost | Equipment Cost | Material Cost | Contractor Cost | Indirect Labor | Total Cost |
|-----------------------------------------|--------------------|-----------------------|-----------------------|-----------------------|------------------------|-----------------------|-----------------------|
| APINS / Access pipe - installed | 31.0 | \$723.20 | \$222.48 | \$1,194.89 | \$0.00 | \$490.53 | \$2,631.10 |
| AUDIT / Audit Project | 0.5 | \$11.40 | \$0.00 | \$0.00 | \$0.00 | \$6.62 | \$18.01 |
| HAUL / Hauling | 44.0 | \$951.72 | \$311.61 | \$1,062.85 | \$0.00 | \$634.48 | \$2,960.66 |
| ONJV / Onsite Job Visit | 4.0 | \$119.36 | \$14.16 | \$12.96 | \$0.00 | \$72.92 | \$219.40 |
| RRI / Rip Rap - Installed | 19.0 | \$435.81 | \$68.08 | \$72.52 | \$0.00 | \$285.09 | \$861.50 |
| STAGING / Staging Materials | 15.0 | \$353.85 | \$17.70 | \$7.77 | \$0.00 | \$225.90 | \$605.22 |
| 2015-622 / Toomer Road Sub Total | 113.5 | \$2,595.34 | \$634.03 | \$2,350.98 | \$0.00 | \$1,715.53 | \$7,295.88 |
| Grand Total | 113.5 | \$2,595.34 | \$634.03 | \$2,350.98 | \$0.00 | \$1,715.53 | \$7,295.88 |

Before



During



After





Project: Toomer Road

Activity: Routine/ Preventive Maintenance














Project #: 2015-622

Township: St. Helena Island

Completed: May 2015

Legend

Drainage Type

-  Access Pipe
-  Bleeder Pipe
-  Channel Pipe
-  Channel
-  Stream
-  Crossline Pipe
-  Driveway Pipe
-  Lateral
-  Lateral Pipe
-  River
-  Road Pipe
-  Roadside
-  Roadside Pipe



1 inch = 260 feet

Prepared By: BC Stormwater Management Utility

Date Print: 08/04/2015

File: C:\project summaries map\Toomer Road _2015-622



Beaufort County Public Works Stormwater Infrastructure Project Summary

Project Summary: Joe Allen Drive

Activity: Routine/Preventive Maintenance

Narrative Description of Project:

Project improved 700 L.F. of drainage system. Cleaned out 700 L.F. of roadside ditch. Installed (1) driveway pipe. Constructed flume for runoff. Repaired washout.

Completion: Jun-15

| 2015-013 / Joe Allen Drive | Labor Hours | Labor Cost | Equipment Cost | Material Cost | Contractor Cost | Indirect Labor | Total Cost |
|---------------------------------------------|--------------------|-------------------|-----------------------|----------------------|------------------------|-----------------------|--------------------|
| AUDIT / Audit Project | 0.5 | \$11.40 | \$0.00 | \$0.00 | \$0.00 | \$6.62 | \$18.01 |
| DPINS / Driveway Pipe - Installed | 50.0 | \$1,154.70 | \$193.60 | \$356.46 | \$0.00 | \$750.90 | \$2,455.66 |
| DWASPH / Driveway - Asphalt | 44.0 | \$982.04 | \$56.64 | \$23.73 | \$0.00 | \$644.64 | \$1,707.05 |
| HAUL / Hauling | 33.0 | \$713.79 | \$263.67 | \$1,252.71 | \$0.00 | \$475.86 | \$2,706.03 |
| ONJV / Onsite Job Visit | 27.0 | \$850.17 | \$95.66 | \$64.70 | \$0.00 | \$564.10 | \$1,574.62 |
| PL / Project Layout | 1.0 | \$44.27 | \$3.62 | \$2.27 | \$0.00 | \$33.96 | \$84.12 |
| RPWO / Repaired Washout | 20.0 | \$438.50 | \$34.33 | \$10.65 | \$0.00 | \$291.85 | \$775.33 |
| RSDCL / Roadside Ditch - Cleanout | 50.0 | \$1,131.20 | \$157.04 | \$21.70 | \$0.00 | \$781.20 | \$2,091.14 |
| UTLOC / Utility locates | 1.0 | \$20.46 | \$0.00 | \$0.00 | \$0.00 | \$13.23 | \$33.69 |
| 2015-013 / Joe Allen Drive Sub Total | 226.5 | \$5,346.53 | \$804.56 | \$1,732.20 | \$0.00 | \$3,562.35 | \$11,445.65 |
| | | | | | | | |
| Grand Total | 226.5 | \$5,346.53 | \$804.56 | \$1,732.20 | \$0.00 | \$3,562.35 | \$11,445.65 |

Before



During



After





Beaufort County Public Works Stormwater Infrastructure Project Summary

Project Summary: Ogden Court

Activity: Routine/Preventive Maintenance

Narrative Description of Project:

Extended (1) driveway pipe. Installed sod for erosion control.

Completion: Jun-15

| 2015-021 / Ogden Court | Labor Hours | Labor Cost | Equipment Cost | Material Cost | Contractor Cost | Indirect Labor | Total Cost |
|-----------------------------------------|-------------|-------------------|-----------------|-----------------|-----------------|-----------------|-------------------|
| AUDIT / Audit Project | 0.5 | \$11.40 | \$0.00 | \$0.00 | \$0.00 | \$6.62 | \$18.01 |
| DPEX / Driveway Pipe - Extended | 20.0 | \$432.65 | \$34.33 | \$105.68 | \$0.00 | \$285.90 | \$858.57 |
| HAUL / Hauling | 5.0 | \$108.15 | \$39.95 | \$60.33 | \$0.00 | \$72.10 | \$280.53 |
| ONJV / Onsite Job Visit | 10.0 | \$331.80 | \$35.40 | \$22.70 | \$0.00 | \$244.70 | \$634.60 |
| SI / Sod - Installation | 20.0 | \$432.65 | \$17.70 | \$12.15 | \$0.00 | \$285.90 | \$748.40 |
| 2015-021 / Ogden Court Sub Total | 55.5 | \$1,316.65 | \$127.38 | \$200.86 | \$0.00 | \$895.21 | \$2,540.11 |
| | | | | | | | |
| Grand Total | 55.5 | \$1,316.65 | \$127.38 | \$200.86 | \$0.00 | \$895.21 | \$2,540.11 |

Before



During



After



Project: Ogden Court

**Activity: Routine/
Preventive
Maintenance**

Project #: 2015-021

**Township: Lady's
Island**

**Completed:
June 2015**



| Legend | |
|--------|----------------|
| TYPE | |
| | Access Pipe |
| | Bleeder Pipe |
| | Channel Pipe |
| | Channel |
| | Creek/Stream |
| | Crossline Pipe |
| | Driveway Pipe |
| | Lateral |
| | Lateral Pipe |
| | River |
| | Road Pipe |
| | Roadside |
| | Roadside Pipe |



1 inch = 108 feet



Beaufort County
Public Works
Stormwater Infrastructure
Project Summary

Project Summary: Port Royal Island Vacuum Truck - Public Works Complex, Pinewood Circle, Franklin Drive, Broad River Boulevard and Castle Rock Road

Activity: Routine/Preventive Maintenance

Narrative Description of Project:

Cleaned out (5) catch basin. Jetted (1) access pipe and (3) crossline pipes.

Completion: Jun-15

| 2015-306A / Port Royal Island Vacuum Truck | Labor Hours | Labor Cost | Equipment Cost | Material Cost | Contractor Cost | Indirect Labor | Total Cost |
|-------------------------------------------------------------|--------------------|-------------------|-----------------------|----------------------|------------------------|-----------------------|-------------------|
| AUDIT / Audit Project | 0.5 | \$11.40 | \$0.00 | \$0.00 | \$0.00 | \$6.62 | \$18.01 |
| CBCO / Catch basin - clean out | 10.0 | \$223.40 | \$43.40 | \$35.34 | \$0.00 | \$149.55 | \$451.69 |
| CLPJT / Crossline Pipe - Jetted | 24.0 | \$536.14 | \$220.18 | \$89.40 | \$0.00 | \$358.92 | \$1,204.64 |
| CPJ / Channel Pipe - Jetted | 4.0 | \$89.36 | \$17.36 | \$3.03 | \$0.00 | \$59.82 | \$169.57 |
| 2015-306A / Port Royal Island Vacuum Truck Sub Total | 38.5 | \$860.30 | \$280.94 | \$127.77 | \$0.00 | \$574.91 | \$1,843.91 |
| | | | | | | | |
| Grand Total | 38.5 | \$860.30 | \$280.94 | \$127.77 | \$0.00 | \$574.91 | \$1,843.91 |

Before



During



After





Project: PRI Vacuum Truck-Broad River BLVD

Activity: Vacuum Truck

Project #: 2015-306A

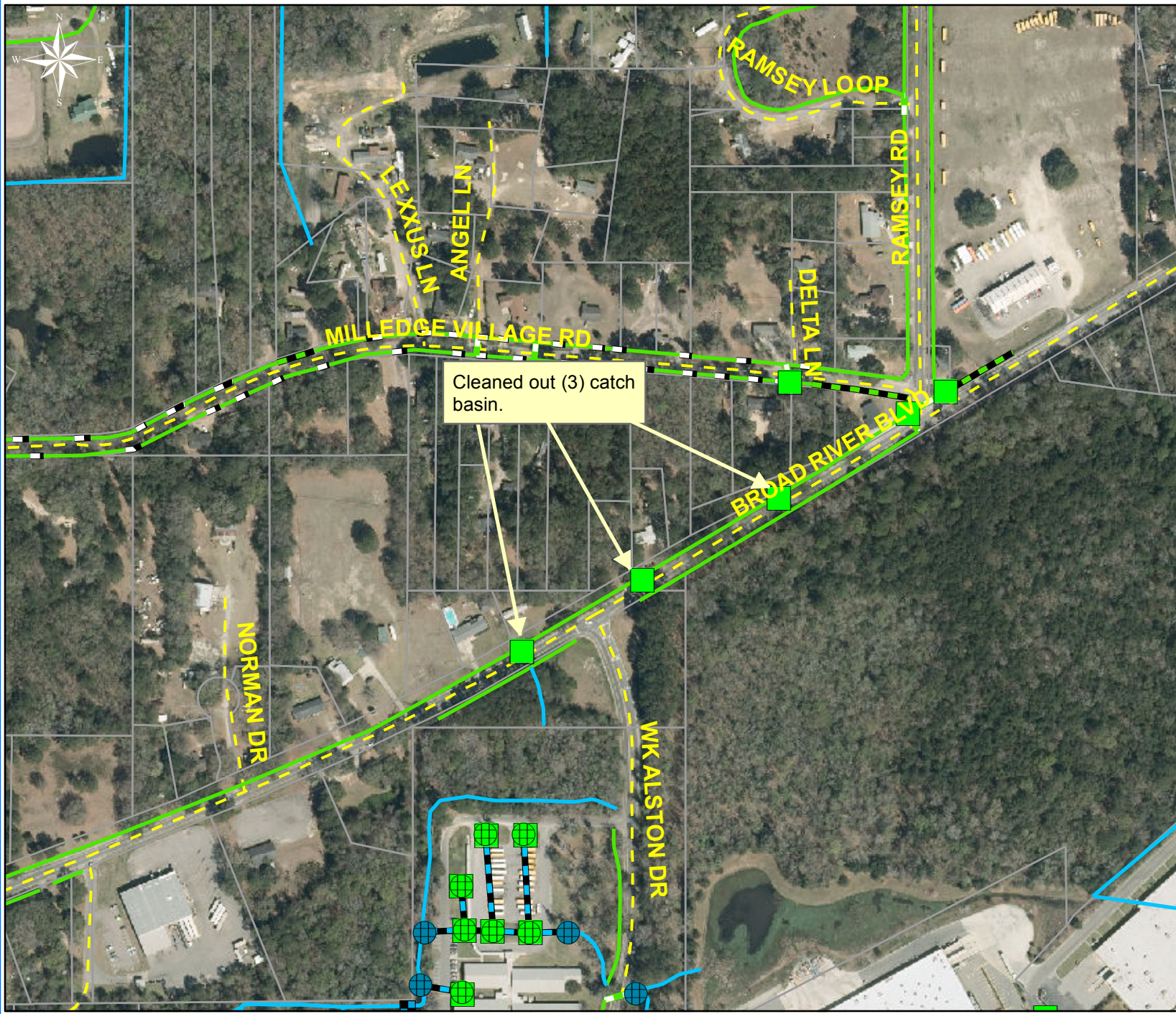
Township: Port Royal Island

Completed: June 2015

| Legend | |
|---------------|----------------|
| Drainage Type | |
| | Access Pipe |
| | Bleeder Pipe |
| | Channel Pipe |
| | Channel |
| | Stream |
| | Crossline Pipe |
| | Driveway Pipe |
| | Lateral |
| | Lateral Pipe |
| | River |
| | Road Pipe |
| | Roadside |
| | Roadside Pipe |



1 inch = 330 feet



Project: PRI Vacuum Truck-Broad River BLVD

Activity: Vacuum Truck

Project #: 2015-306A

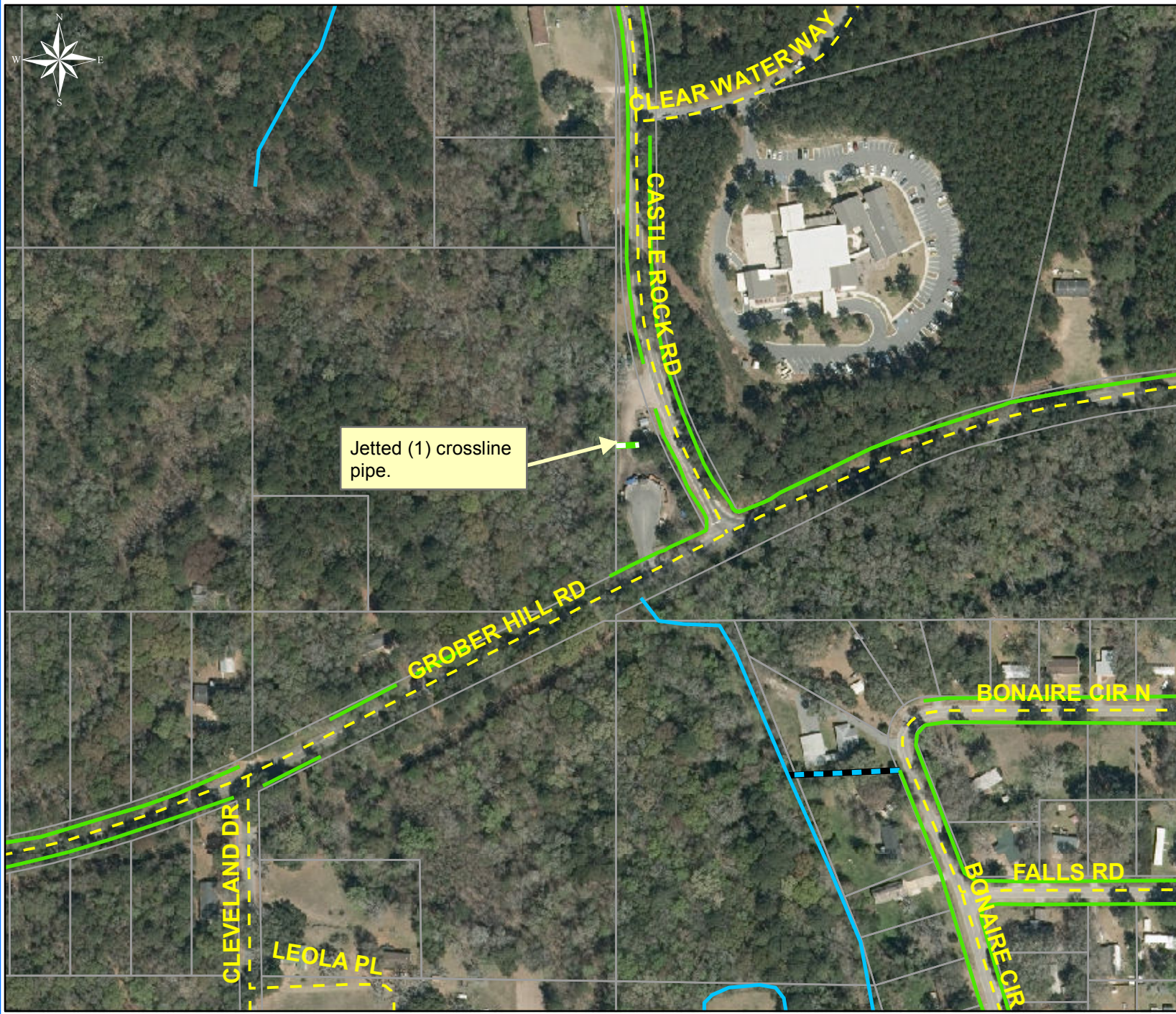
Township: Port Royal Island

Completed: June 2015

| Legend | |
|---------------|----------------|
| Drainage Type | |
| | Access Pipe |
| | Bleeder Pipe |
| | Channel Pipe |
| | Channel |
| | Stream |
| | Crossline Pipe |
| | Driveway Pipe |
| | Lateral |
| | Lateral Pipe |
| | River |
| | Road Pipe |
| | Roadside |
| | Roadside Pipe |



1 inch = 330 feet



Project: PRI Vacuum Truck-Castle Rock

Activity: Vacuum Truck

Project #: 2015-306A

Township: Port Royal Island

Completed: June 2015

| Legend | |
|---------------|----------------|
| Drainage Type | |
| | Access Pipe |
| | Bleeder Pipe |
| | Channel Pipe |
| | Channel |
| | Stream |
| | Crossline Pipe |
| | Driveway Pipe |
| | Lateral |
| | Lateral Pipe |
| | River |
| | Road Pipe |
| | Roadside |
| | Roadside Pipe |



1 inch = 250 feet



Project: PRI
Vacuum Truck-
Franklin Drive

Activity: Vacuum
Truck

Project #:
2015-306A

Township:
Port Royal Island

Completed:
June 2015

Legend

Drainage Type

- Access Pipe
- Bleeder Pipe
- Channel Pipe
- Channel
- Stream
- Crossline Pipe
- Driveway Pipe
- Lateral
- Lateral Pipe
- River
- Road Pipe
- Roadside
- Roadside Pipe

0 20 40 80 120 160
Feet

1 inch = 83 feet

Prepared By: BC Stormwater Management Utility

Date Print:08/18/2015

File:C:\project summaries map\PRI Vacuum Truck- Franklin Drive 2015-306A



Project: PRI
Vacuum Truck-
Pinewood Circle

Activity: Vacuum
Truck














Project #:
2015-306A

Township:
Port Royal Island

Completed:
June 2015

Legend

Drainage Type

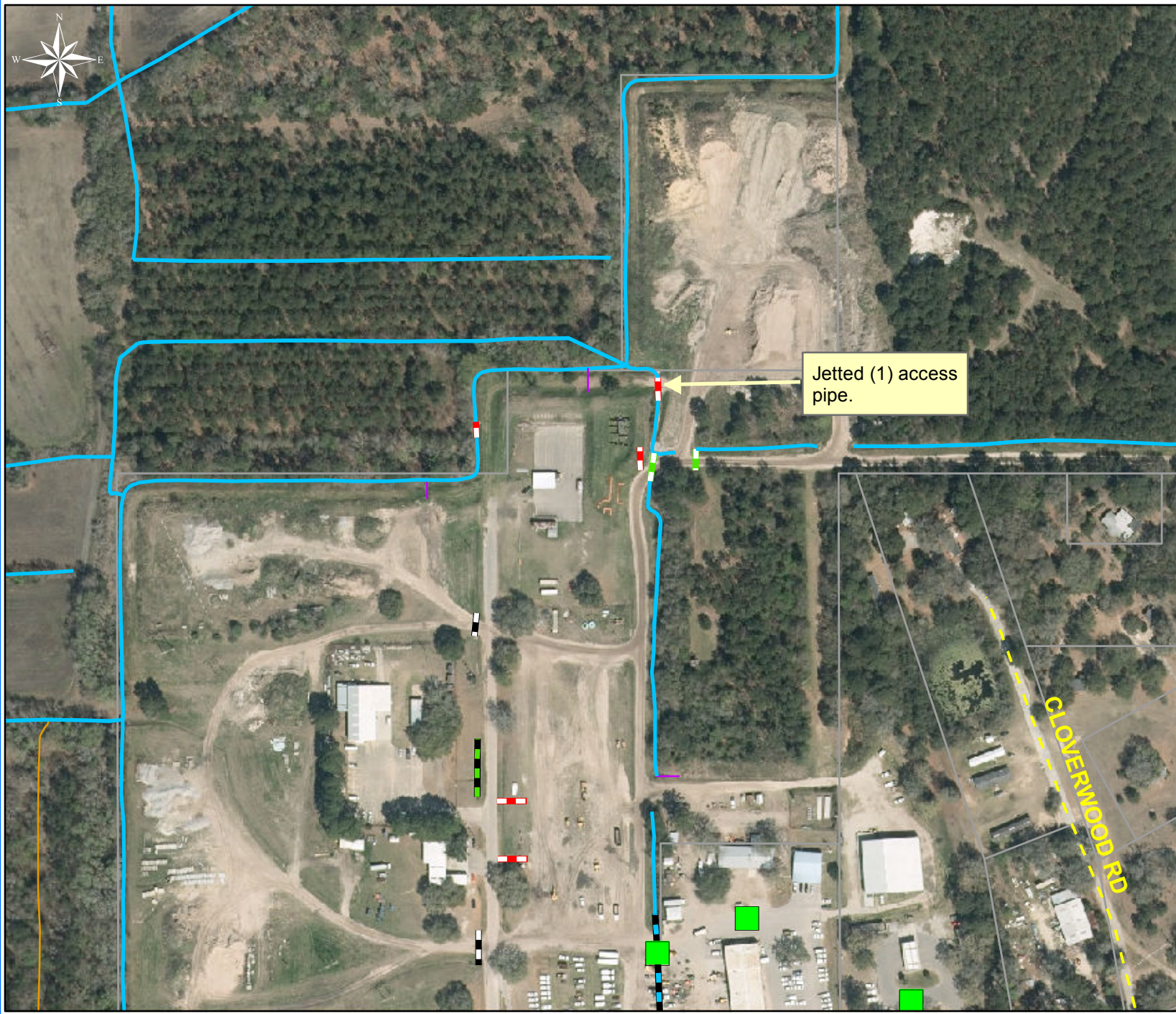
-  Access Pipe
-  Bleeder Pipe
-  Channel Pipe
-  Channel
-  Stream
-  Crossline Pipe
-  Driveway Pipe
-  Lateral
-  Lateral Pipe
-  River
-  Road Pipe
-  Roadside
-  Roadside Pipe

0 25 50 100 150 200
Feet

1 inch = 100 feet

Prepared By: BC Stormwater Management Utility
Date Print:08/18/2015

File:C:\project summaries map\PRI Vacuum Truck-Pinewood Circle_2015-306A



Project: PRI Vacuum Truck-Public Works Complex

Activity: Vacuum Truck

Project #: 2015-306A

Township: Port Royal Island

Completed: June 2015

| Legend | |
|----------------------|----------------|
| Drainage Type | |
| | Access Pipe |
| | Bleeder Pipe |
| | Channel Pipe |
| | Channel |
| | Stream |
| | Crossline Pipe |
| | Driveway Pipe |
| | Lateral |
| | Lateral Pipe |
| | River |
| | Road Pipe |
| | Roadside |
| | Roadside Pipe |



1 inch = 250 feet



Beaufort County
Public Works
Stormwater Infrastructure
Project Summary

Project Summary: Lady's Island Vacuum Truck - Trotters Loop, Sherman Lane, Johnson Landing Road, Ethel Grant, Judge Island Drive and Shorts Landing Road

Activity: Routine/Preventive Maintenance

Narrative Description of Project:

Project improved 32 L.F. of drainage system. Cleaned out (4) catch basins. Jetted (5) crossline pipes, (34) driveway pipes and 32 L.F. of roadside pipe.

Completion: Jun-15

| 2015-307A / Ladys Island Vacuum Truck | Labor Hours | Labor Cost | Equipment Cost | Material Cost | Contractor Cost | Indirect Labor | Total Cost |
|--------------------------------------------------------|--------------------|-------------------|-----------------------|----------------------|------------------------|-----------------------|-------------------|
| AUDIT / Audit Project | 0.5 | \$11.40 | \$0.00 | \$0.00 | \$0.00 | \$6.62 | \$18.01 |
| CBCO / Catch basin - clean out | 14.0 | \$312.76 | \$60.76 | \$46.08 | \$0.00 | \$209.37 | \$628.97 |
| CLPJT / Crossline Pipe - Jetted | 20.0 | \$446.80 | \$209.20 | \$50.51 | \$0.00 | \$299.10 | \$1,005.61 |
| DPJT / Driveway Pipe - Jetted | 60.0 | \$1,340.40 | \$382.80 | \$147.12 | \$0.00 | \$897.30 | \$2,767.62 |
| SD / Soft Digging | 4.0 | \$89.36 | \$17.36 | \$15.76 | \$0.00 | \$59.82 | \$182.30 |
| 2015-307A / Ladys Island Vacuum Truck Sub Total | 98.5 | \$2,200.72 | \$670.12 | \$259.47 | \$0.00 | \$1,472.21 | \$4,602.51 |
| | | | | | | | |
| Grand Total | 98.5 | \$2,200.72 | \$670.12 | \$259.47 | \$0.00 | \$1,472.21 | \$4,602.51 |

Before



During



After





Project: Ethel Grant Lane
Map #6

Activity: Vacuum Truck

Project #: 2015-307A

Township: Lady's Island

Completed: June 2015

| Legend | |
|---------------|----------------|
| Drainage Type | |
| | Access Pipe |
| | Bleeder Pipe |
| | Channel Pipe |
| | Channel |
| | Stream |
| | Crossline Pipe |
| | Driveway Pipe |
| | Lateral |
| | Lateral Pipe |
| | River |
| | Road Pipe |
| | Roadside |
| | Roadside Pipe |



1 inch = 42 feet



Project: Johnson Landing Road

Activity: Vacuum Truck














Project #: 2015-307A

Township: Lady's Island

Completed: June 2015

Legend

Drainage Type

-  Access Pipe
-  Bleeder Pipe
-  Channel Pipe
-  Channel
-  Stream
-  Crossline Pipe
-  Driveway Pipe
-  Lateral
-  Lateral Pipe
-  River
-  Road Pipe
-  Roadside
-  Roadside Pipe

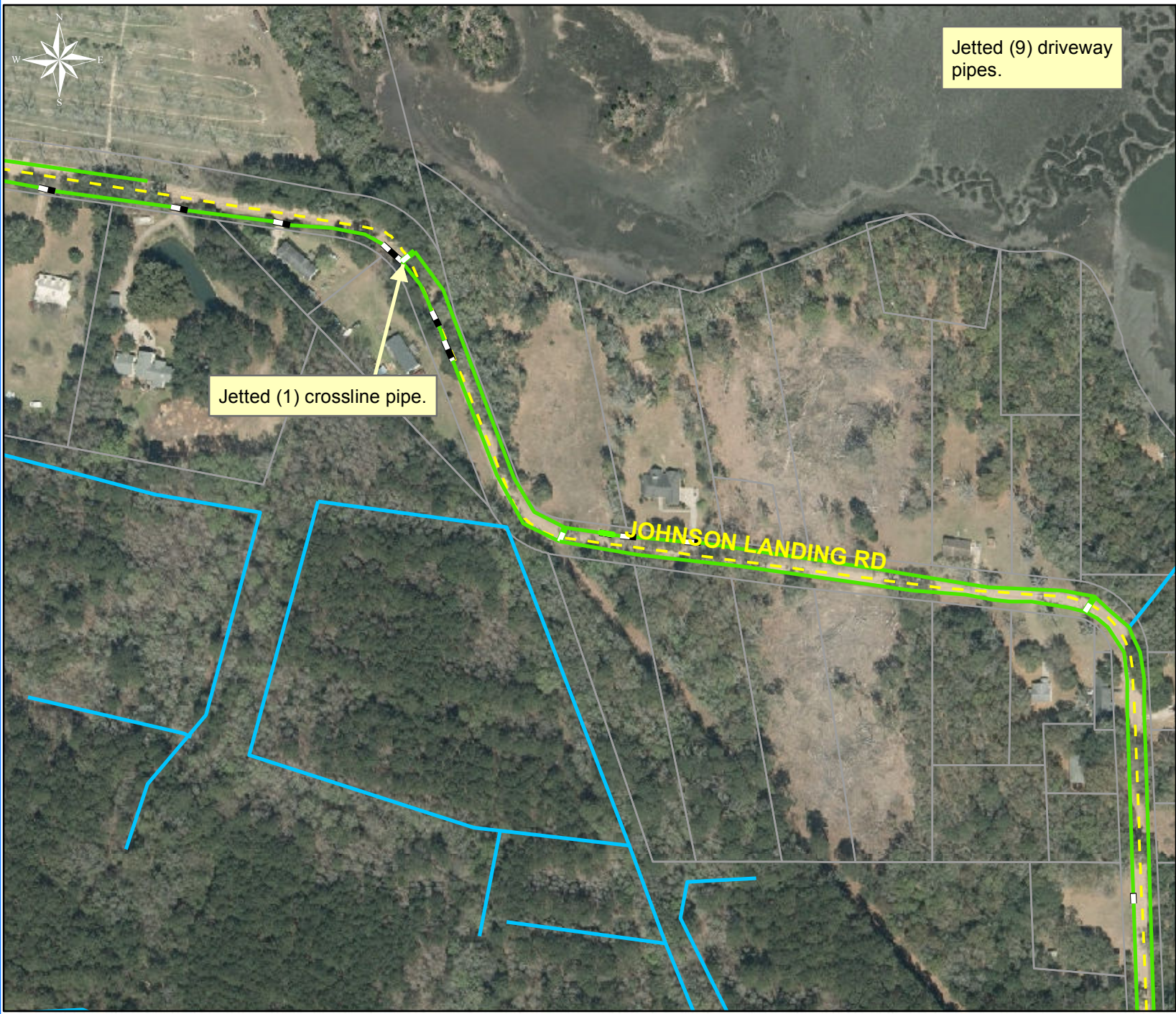
0 30 60 120 180 240 Feet

1 inch = 130 feet

Prepared By: BC Stormwater Management Utility

Date Print: 07/21/2015

File: C:\project summaries map\Johnson Landing Road_2015-307A



Project: Johnson Landing Road

Activity: Vacuum Truck

Project #: 2015-307A

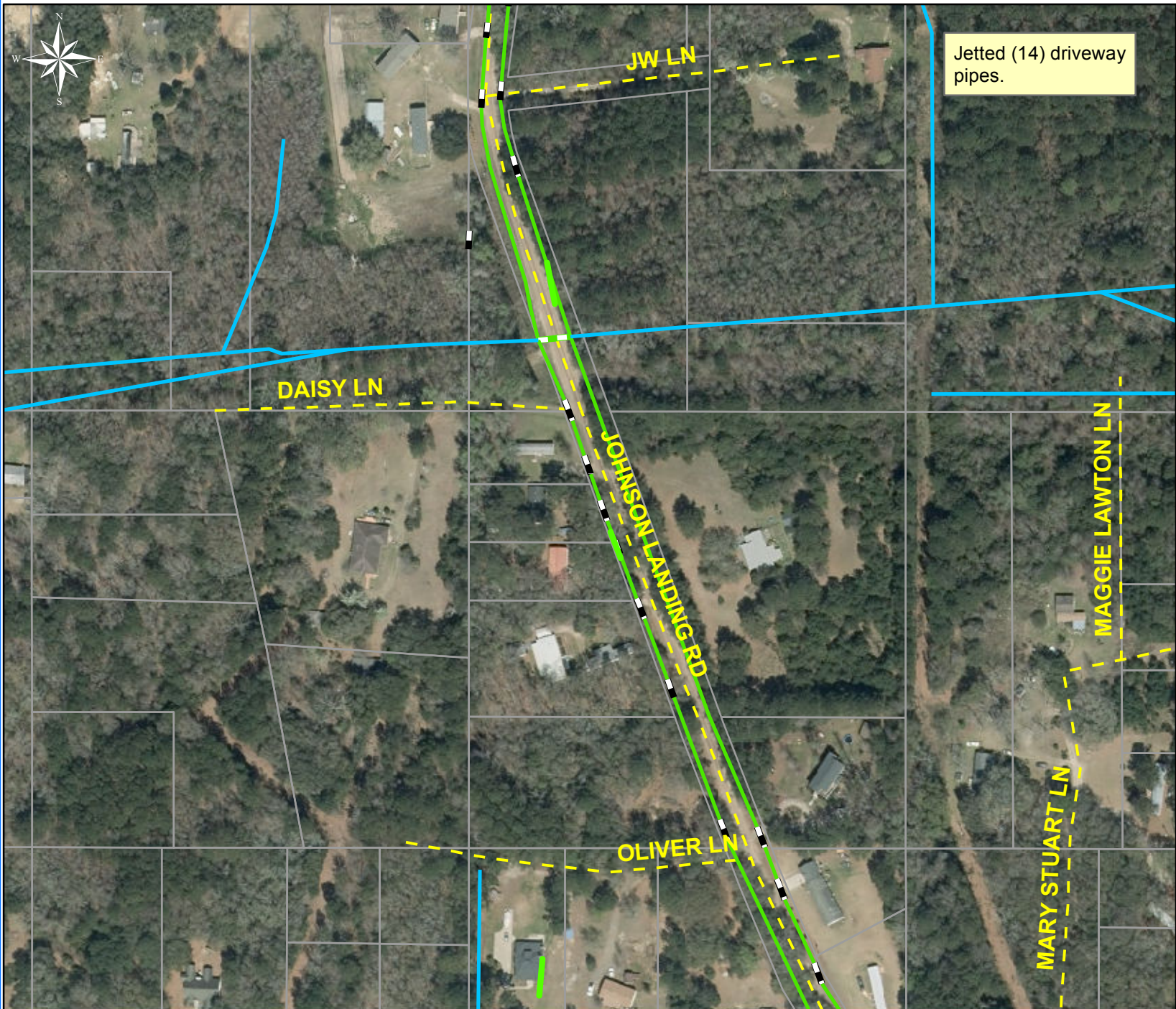
Township: Lady's Island

Completed: June 2015

| Legend | |
|---------------|----------------|
| Drainage Type | |
| | Access Pipe |
| | Bleeder Pipe |
| | Channel Pipe |
| | Channel |
| | Stream |
| | Crossline Pipe |
| | Driveway Pipe |
| | Lateral |
| | Lateral Pipe |
| | River |
| | Road Pipe |
| | Roadside |
| | Roadside Pipe |



1 inch = 250 feet



Project: Johnson Landing Road

Activity: Vacuum Truck

Project #: 2015-307A

Township: Lady's Island

Completed: June 2015

| Legend | |
|---------------|----------------|
| Drainage Type | |
| | Access Pipe |
| | Bleeder Pipe |
| | Channel Pipe |
| | Channel |
| | Stream |
| | Crossline Pipe |
| | Driveway Pipe |
| | Lateral |
| | Lateral Pipe |
| | River |
| | Road Pipe |
| | Roadside |
| | Roadside Pipe |



1 inch = 210 feet

Prepared By: BC Stormwater Management Utility
 Date Print: 07/21/2015
 File: C:\project summaries map\Johnson Landing Road_2015-307A



Project: Judge Island Drive

Activity: Vacuum Truck














Project #: 2015-307A

Township: Lady's Island

Completed: June 2015

Legend

Drainage Type

-  Access Pipe
-  Bleeder Pipe
-  Channel Pipe
-  Channel
-  Stream
-  Crossline Pipe
-  Driveway Pipe
-  Lateral
-  Lateral Pipe
-  River
-  Road Pipe
-  Roadside
-  Roadside Pipe

Jetted (1) crossline pipe and (1) driveway pipes.

Jetted (1) crossline pipe and (2) driveway pipes.

0 35 70 140 210 280 Feet

1 inch = 150 feet

Prepared By: BC Stormwater Management Utility
 Date Print: 07/21/2015
 File: C:\project summaries map\Judge Island Drive_2015-307A



Project: Sherman Drive

Activity: Vacuum Truck

Project #: 2015-307A

Township: Lady's Island

Completed: June 2015

| Legend | |
|---------------|----------------|
| Drainage Type | |
| | Access Pipe |
| | Bleeder Pipe |
| | Channel Pipe |
| | Channel |
| | Stream |
| | Crossline Pipe |
| | Driveway Pipe |
| | Lateral |
| | Lateral Pipe |
| | River |
| | Road Pipe |
| | Roadside |
| | Roadside Pipe |

Jetted (1) crossline pipe.



1 inch = 210 feet

Prepared By: BC Stormwater Management Utility
 Date Print: 07/20/2015
 File:C:\project summaries map/Sherman Drive_2015-307A

Project: Shorts Landing Road and Wiggins Road

Activity: Vacuum Truck

Project #: 2015-307A

Township: Lady's Island

Completed: June 2015



Legend

Drainage Type

- Access Pipe
- Bleeder Pipe
- Channel Pipe
- Channel
- Stream
- Crossline Pipe
- Driveway Pipe
- Lateral
- Lateral Pipe
- River
- Road Pipe
- Roadside
- Roadside Pipe

0 20 40 80 120 160 Feet

1 inch = 83 feet

Prepared By: BC Stormwater Management Utility

Date Print: 07/21/2015

File: C:\project summaries map\Shorts Landing Road and Wiggins Road_2015-307A



Project: Trotters Loop

Activity: Vacuum Truck

Project #: 2015-307A

Township: Lady's Island

Completed: June 2015

| Legend | |
|---------------|----------------|
| Drainage Type | |
| | Access Pipe |
| | Bleeder Pipe |
| | Channel Pipe |
| | Channel |
| | Stream |
| | Crossline Pipe |
| | Driveway Pipe |
| | Lateral |
| | Lateral Pipe |
| | River |
| | Road Pipe |
| | Roadside |
| | Roadside Pipe |



1 inch = 210 feet



Beaufort County
Public Works
Stormwater Infrastructure
Project Summary

Project Summary: Sheldon Vacuum Truck - Witsell Road, Kline Circle, Huspah Creek Drive, Paige Point Bluff,
 George Williams Lane, Indian Point Road, Jesse Chisholm Road, Bailey Circle,
 Kelly Road, H.E. Wilson Lane and Middlefield Circle

Activity: Routine/Preventive Maintenance

Narrative Description of Project:

Project improved 40 L.F. of drainage system. Jetted (1) access pipe, (8) crossline pipes, (32) driveway pipes and 40 L.F. of roadside pipe.

Completion: Jun-15

| 2015-308A / Sheldon Vacuum Truck | Labor Hours | Labor Cost | Equipment Cost | Material Cost | Contractor Cost | Indirect Labor | Total Cost |
|---------------------------------------------------|--------------------|-------------------|-----------------------|----------------------|------------------------|-----------------------|-------------------|
| AUDIT / Audit Project | 1.0 | \$22.79 | \$0.00 | \$0.00 | \$0.00 | \$13.23 | \$36.02 |
| CLPINP / Crossline Pipe - Inspected | 2.0 | \$44.44 | \$8.68 | \$22.60 | \$0.00 | \$29.70 | \$105.42 |
| CLPJT / Crossline Pipe - Jetted | 52.0 | \$1,161.68 | \$458.24 | \$135.78 | \$0.00 | \$777.66 | \$2,533.36 |
| CPJ / Channel Pipe - Jetted | 10.0 | \$223.40 | \$104.60 | \$15.62 | \$0.00 | \$149.55 | \$493.17 |
| DPJT / Driveway Pipe - Jetted | 69.0 | \$1,546.38 | \$312.48 | \$197.06 | \$0.00 | \$1,036.44 | \$3,092.36 |
| RD / Rainy Day | 4.0 | \$89.36 | \$17.36 | \$0.00 | \$0.00 | \$59.82 | \$166.54 |
| STBY / Stand By | 10.0 | \$223.40 | \$66.55 | \$9.04 | \$0.00 | \$149.55 | \$448.54 |
| 2015-308A / Sheldon Vacuum Truck Sub Total | 148.0 | \$3,311.45 | \$967.91 | \$380.10 | \$0.00 | \$2,215.95 | \$6,875.41 |
| | | | | | | | |
| Grand Total | 148.0 | \$3,311.45 | \$967.91 | \$380.10 | \$0.00 | \$2,215.95 | \$6,875.41 |

Before



During



After





Project: Sheldon Vacuum Truck-Bailey Circle

Activity: Vacuum Truck

Project #: 2015-308A

Township: Sheldon

Completed: June 2015

Legend

Drainage Type

- Access Pipe
- Bleeder Pipe
- Channel Pipe
- Channel
- Stream
- Crossline Pipe
- Driveway Pipe
- Lateral
- Lateral Pipe
- River
- Road Pipe
- Roadside
- Roadside Pipe

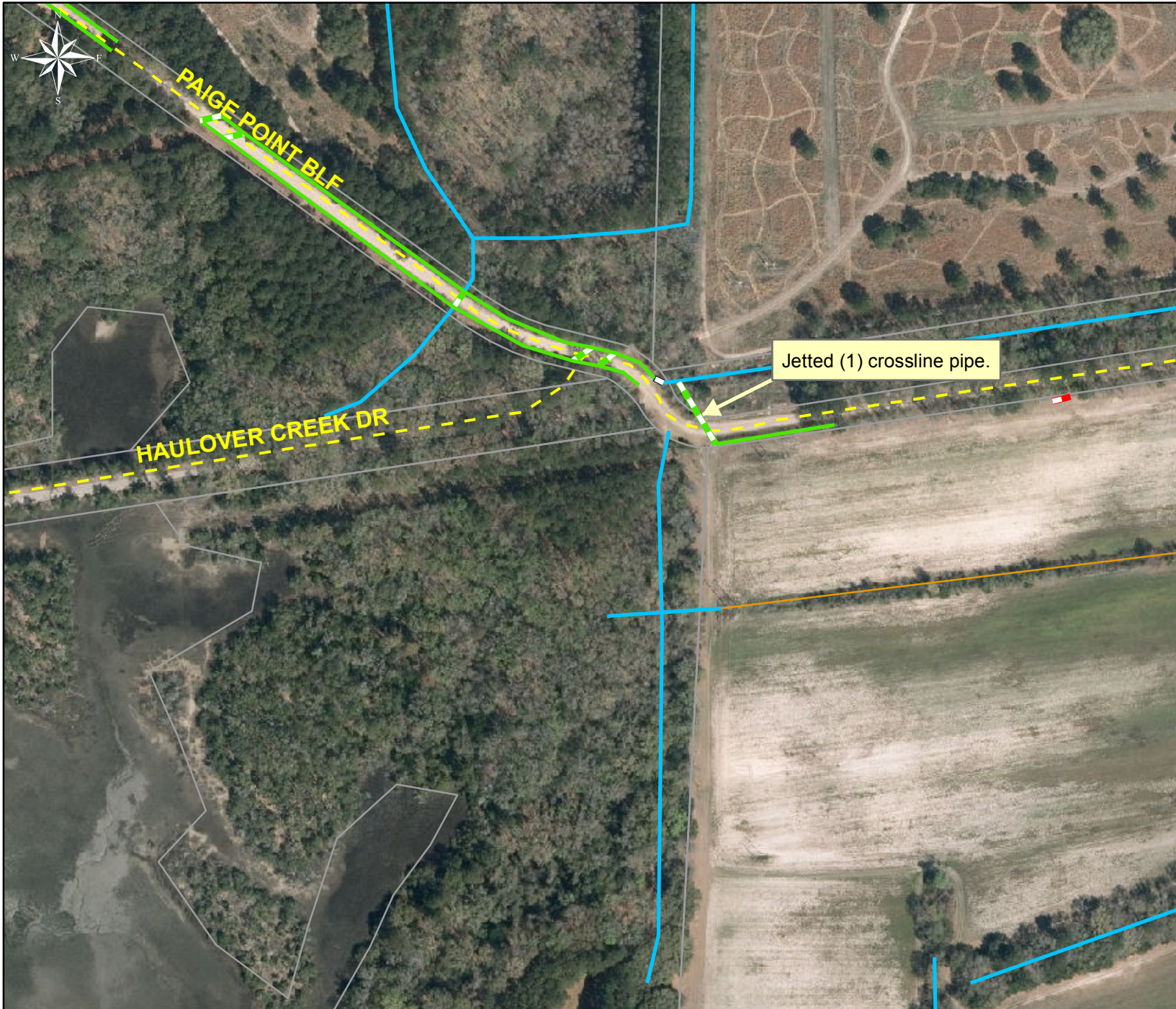
0 50 100 200 300 400 Feet

1 inch = 210 feet

Prepared By: BC Stormwater Management Utility

Date Print: 08/04/2015

File: C:\project summaries map\Sheldon Vacuum Truck-Bailey Circle_2015-308A



Project: Sheldon Vacuum Truck-Paige Point Bluff

Activity: Vacuum Truck

Project #: 2015-308A

Township: Sheldon

Completed: June 2015

| Legend | |
|---------------|----------------|
| Drainage Type | |
| | Access Pipe |
| | Bleeder Pipe |
| | Channel Pipe |
| | Channel |
| | Stream |
| | Crossline Pipe |
| | Driveway Pipe |
| | Lateral |
| | Lateral Pipe |
| | River |
| | Road Pipe |
| | Roadside |
| | Roadside Pipe |



1 inch = 250 feet



Project: Sheldon Vacuum Truck-Witsell Road

Activity: Vacuum Truck














Project #: 2015-308A

Township: Sheldon

Completed: June 2015

Legend

Drainage Type

-  Access Pipe
-  Bleeder Pipe
-  Channel Pipe
-  Channel
-  Stream
-  Crossline Pipe
-  Driveway Pipe
-  Lateral
-  Lateral Pipe
-  River
-  Road Pipe
-  Roadside
-  Roadside Pipe



1 inch = 100 feet

Prepared By: BC Stormwater Management Utility

Date Print:08/04/2015

File:C:\project summaries map\Sheldon Vacuum Truck-Witsell Road_2015-308A

Project: Sheldon
Vacuum Truck-
Witsell Road

Activity: Vacuum
Truck

Project #:
2015-308A














Township:
Sheldon

Completed:
June 2015



Legend

Drainage Type

-  Access Pipe
-  Bleeder Pipe
-  Channel Pipe
-  Channel
-  Stream
-  Crossline Pipe
-  Driveway Pipe
-  Lateral
-  Lateral Pipe
-  River
-  Road Pipe
-  Roadside
-  Roadside Pipe



1 inch = 170 feet

Prepared By: BC Stormwater Management Utility

Date Print:08/04/2015

File:C:\project summaries map/Sheldon Vacuum Truck-Witsell Road_2015-308A

Project: Sheldon
Vacuum Truck-
George Williams
Lane

Activity: Vacuum
Truck














Project #:
2015-308A

Township:
Sheldon

Completed:
June 2015

Legend

Drainage Type

-  Access Pipe
-  Bleeder Pipe
-  Channel Pipe
-  Channel
-  Stream
-  Crossline Pipe
-  Driveway Pipe
-  Lateral
-  Lateral Pipe
-  River
-  Road Pipe
-  Roadside
-  Roadside Pipe



1 inch = 210 feet

Prepared By: BC Stormwater Management Utility

Date Print: 08/04/2015

File: C:\project summaries map\Sheldon Vacuum Truck- George Williams Lane_2015-308A



Project: Sheldon Vacuum Truck-HE Wilson Lane

Activity: Vacuum Truck














Project #: 2015-308A

Township: Sheldon

Completed: June 2015

Legend

Drainage Type

-  Access Pipe
-  Bleeder Pipe
-  Channel Pipe
-  Channel
-  Stream
-  Crossline Pipe
-  Driveway Pipe
-  Lateral
-  Lateral Pipe
-  River
-  Road Pipe
-  Roadside
-  Roadside Pipe

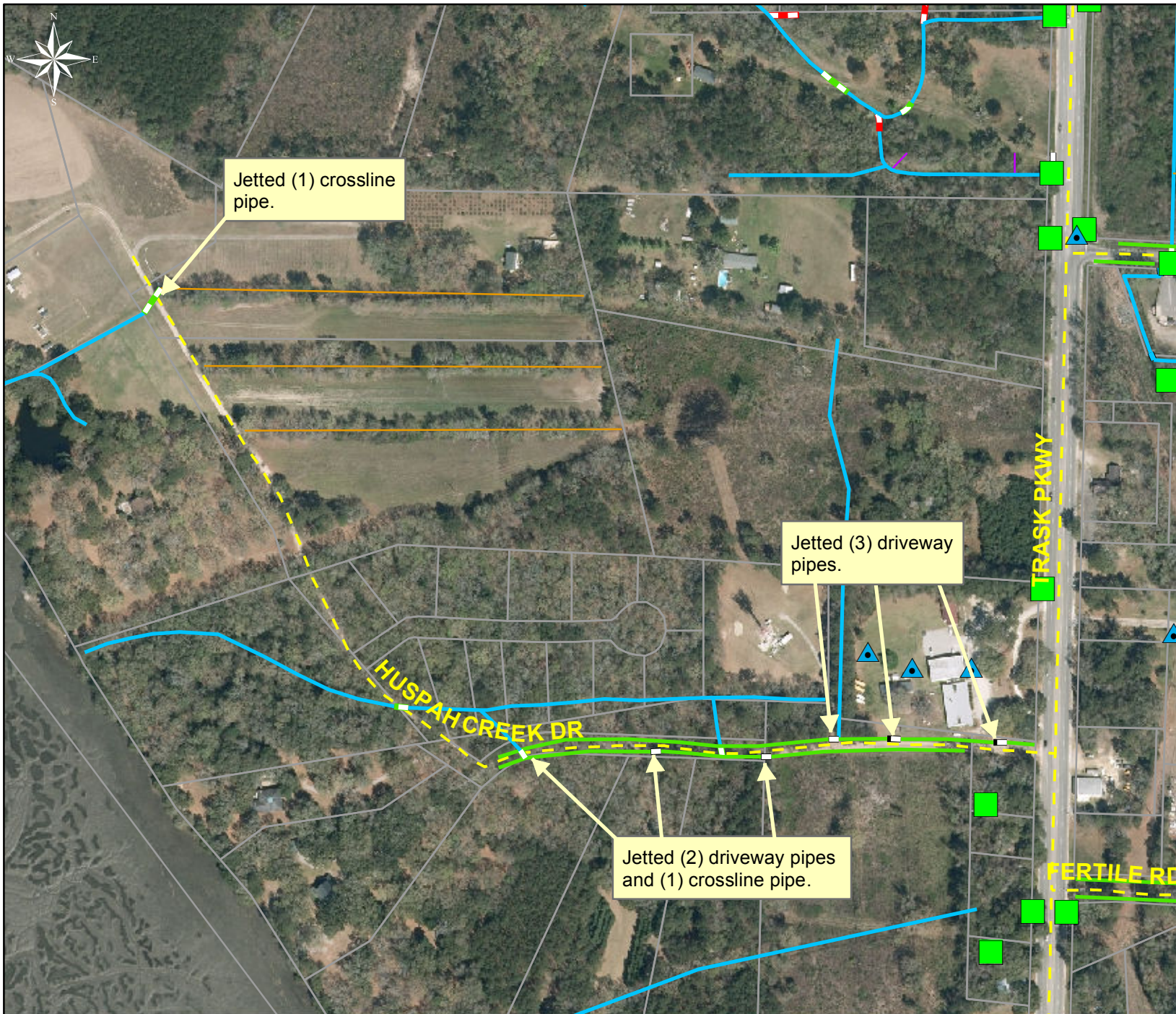
0 20 40 80 120 160 Feet

1 inch = 83 feet

Prepared By: BC Stormwater Management Utility

Date Print: 08/05/2015

File: C:\project summaries map\Sheldon Vacuum Truck-HE Wilson Lane_2015-308A



Project: Sheldon Vacuum Truck-Huspah Creek Drive Channel #1

Activity: Vacuum Truck

Project #: 2015-308A

Township: Sheldon

Completed: June 2015

| Legend | |
|---------------|----------------|
| Drainage Type | |
| | Access Pipe |
| | Bleeder Pipe |
| | Channel Pipe |
| | Channel |
| | Stream |
| | Crossline Pipe |
| | Driveway Pipe |
| | Lateral |
| | Lateral Pipe |
| | River |
| | Road Pipe |
| | Roadside |
| | Roadside Pipe |



1 inch = 330 feet

Prepared By: BC Stormwater Management Utility

Date Print: 08/05/2015

File: C:\project summaries map\Sheldon Vacuum Truck-Huspah Creek Drive Channel #1_2015-308A

Project: Sheldon
Vacuum Truck-
Indian Point Road

Activity: Vacuum
Truck

Project #:
2015-308A














Township:
Sheldon

Completed:
June 2015



Legend

Drainage Type

-  Access Pipe
-  Bleeder Pipe
-  Channel Pipe
-  Channel
-  Stream
-  Crossline Pipe
-  Driveway Pipe
-  Lateral
-  Lateral Pipe
-  River
-  Road Pipe
-  Roadside
-  Roadside Pipe

0 40 80 160 240 320
Feet

1 inch = 170 feet

Prepared By: BC Stormwater Management Utility

Date Print:08/04/2015

File:C:\project summaries map\Sheldon Vacuum Truck- Indian Point Road 2015-308A



Project: Sheldon Vacuum Truck-Jesse Chisholm Road

Activity: Vacuum Truck

Project #: 2015-308A

Township: Sheldon

Completed: June 2015

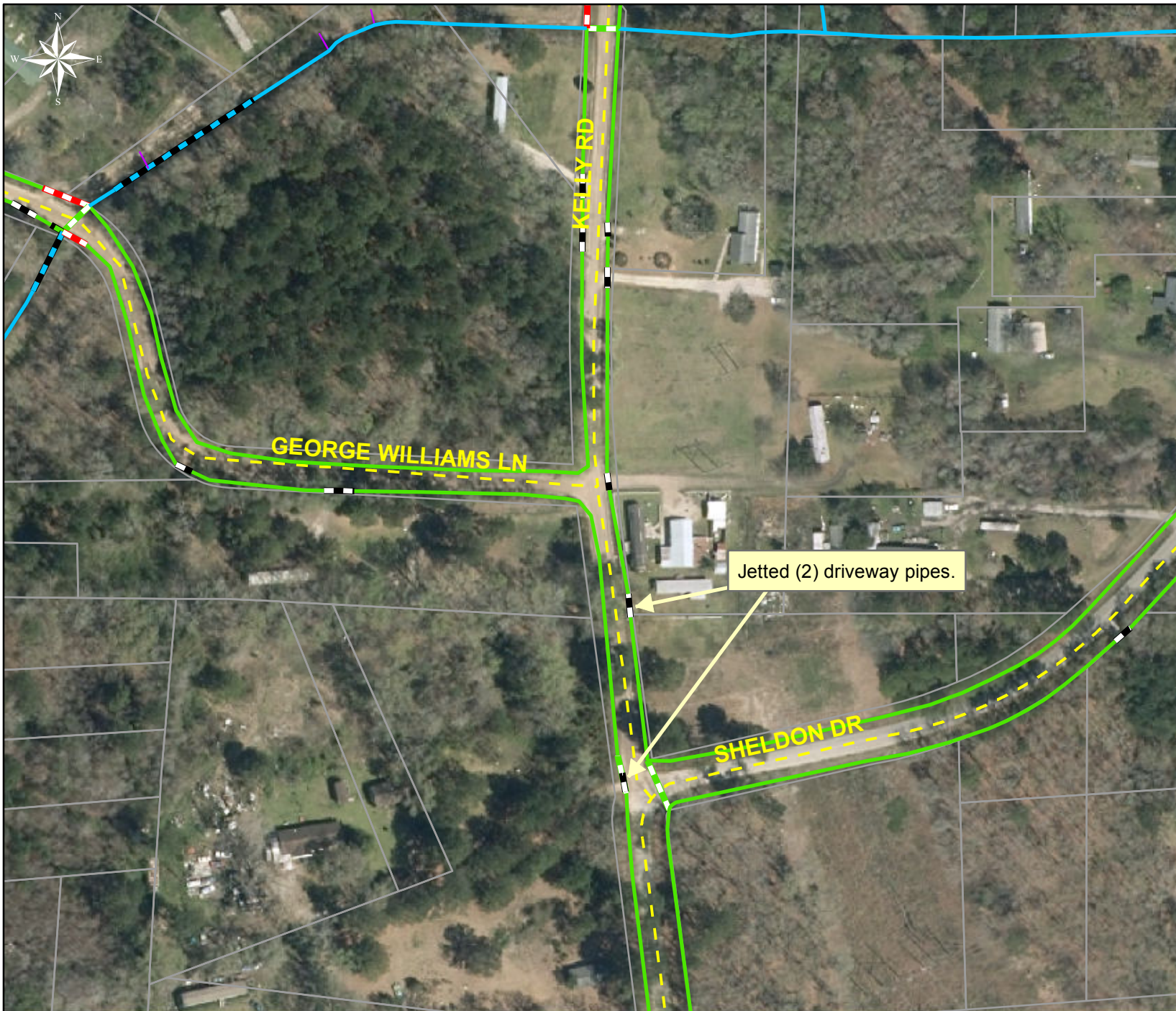
| Legend | |
|---------------|----------------|
| Drainage Type | |
| | Access Pipe |
| | Bleeder Pipe |
| | Channel Pipe |
| | Channel |
| | Stream |
| | Crossline Pipe |
| | Driveway Pipe |
| | Lateral |
| | Lateral Pipe |
| | River |
| | Road Pipe |
| | Roadside |
| | Roadside Pipe |



1 inch = 170 feet

Prepared By: BC Stormwater Management Utility
Date Print:08/04/2015

File:C:\project summaries map\Sheldon Vacuum Truck- Jesse Chisholm Road_2015-308A



Project: Sheldon Vacuum Truck-Kelly Road

Activity: Vacuum Truck














Project #: 2015-308A

Township: Sheldon

Completed: June 2015

Legend

Drainage Type

-  Access Pipe
-  Bleeder Pipe
-  Channel Pipe
-  Channel
-  Stream
-  Crossline Pipe
-  Driveway Pipe
-  Lateral
-  Lateral Pipe
-  River
-  Road Pipe
-  Roadside
-  Roadside Pipe

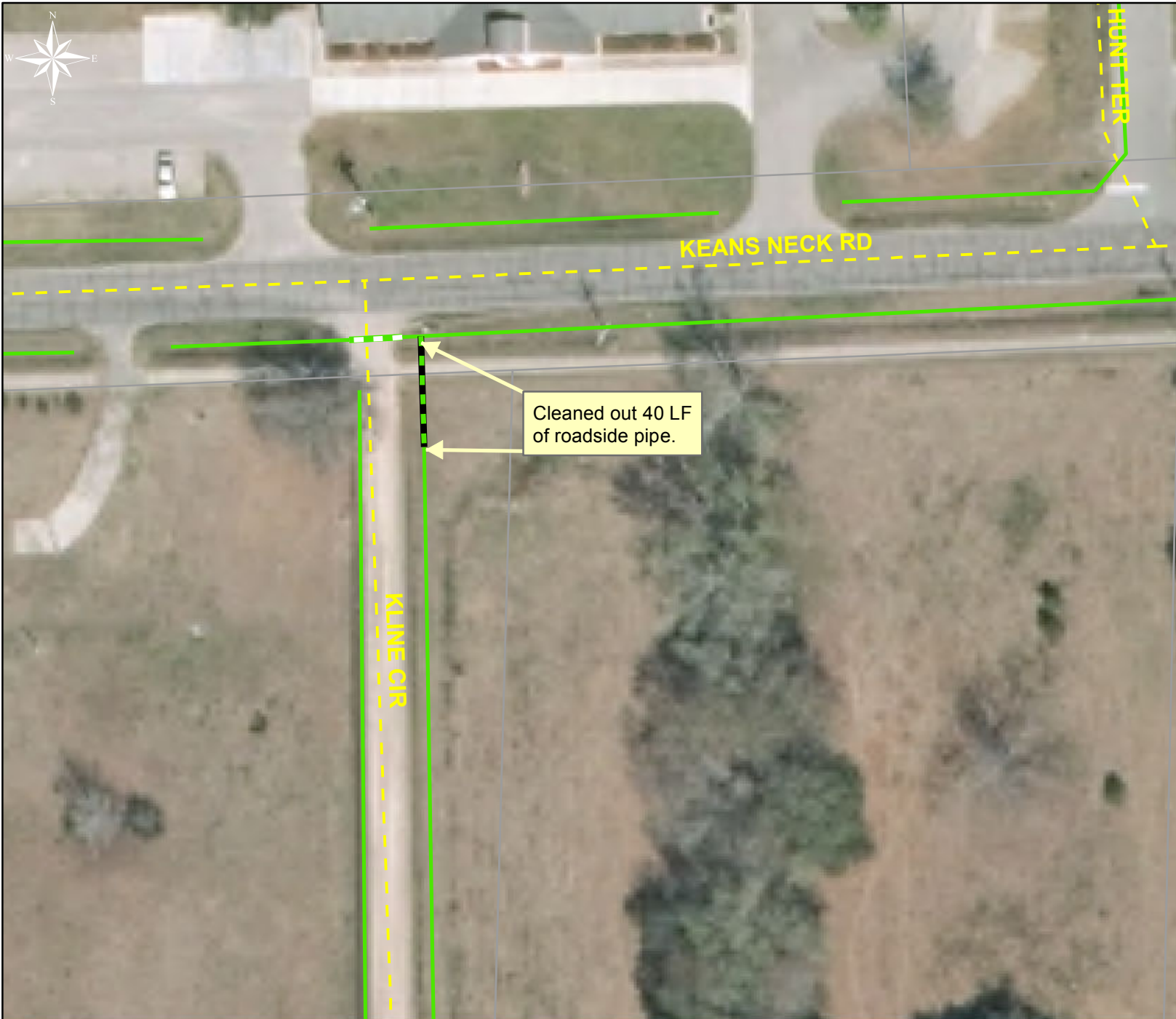


1 inch = 170 feet

Prepared By: BC Stormwater Management Utility

Date Print: 08/04/2015

File: C:\project summaries map\Sheldon Vacuum Truck- Kelly Road_2015-308A



Project: Sheldon Vacuum Truck-Kline Circle

Activity: Vacuum Truck

Project #: 2015-308A

Township: Sheldon

Completed: June 2015

| Legend | |
|---------------|----------------|
| Drainage Type | |
| | Access Pipe |
| | Bleeder Pipe |
| | Channel Pipe |
| | Channel |
| | Stream |
| | Crossline Pipe |
| | Driveway Pipe |
| | Lateral |
| | Lateral Pipe |
| | River |
| | Road Pipe |
| | Roadside |
| | Roadside Pipe |



1 inch = 50 feet



Project: Sheldon Vacuum Truck-Middlefield Circle

Activity: Vacuum Truck

Project #: 2015-308A

Township: Sheldon

Completed: June 2015

| Legend | |
|---------------|----------------|
| Drainage Type | |
| | Access Pipe |
| | Bleeder Pipe |
| | Channel Pipe |
| | Channel |
| | Stream |
| | Crossline Pipe |
| | Driveway Pipe |
| | Lateral |
| | Lateral Pipe |
| | River |
| | Road Pipe |
| | Roadside |
| | Roadside Pipe |



1 inch = 100 feet



Beaufort County
Public Works
Stormwater Infrastructure
Project Summary

Project Summary: Bluffton Vacuum Truck - Palmetto Beach Lane, Pritchard Farms Court, Bolden Drive, May River Road and Okatie Bluff Road

Activity: Routine/Preventive Maintenance

Narrative Description of Project:

Project improved 40 L.F. of drainage system. Jetted (1) access pipe, (8) crossline pipes, (21) Driveway pipes and 40 L.F. of roadside pipe.

Completion: June-15

| 2015-310A / Bluffton Vacuum Truck | Labor Hours | Labor Cost | Equipment Cost | Material Cost | Contractor Cost | Indirect Labor | Total Cost |
|----------------------------------------------------|--------------------|-------------------|-----------------------|----------------------|------------------------|-----------------------|-------------------|
| AUDIT / Audit Project | 0.5 | \$11.40 | \$0.00 | \$0.00 | \$0.00 | \$6.62 | \$18.01 |
| CLPJT / Crossline Pipe - Jetted | 4.0 | \$89.36 | \$17.36 | \$29.70 | \$0.00 | \$59.82 | \$196.24 |
| DPJT / Driveway Pipe - Jetted | 56.0 | \$1,247.45 | \$243.04 | \$230.80 | \$0.00 | \$834.33 | \$2,555.62 |
| PRRECON / Project Reconnaissance | 4.0 | \$89.36 | \$17.36 | \$22.20 | \$0.00 | \$59.82 | \$188.74 |
| 2015-310A / Bluffton Vacuum Truck Sub Total | 64.5 | \$1,437.56 | \$277.76 | \$282.70 | \$0.00 | \$960.58 | \$2,958.61 |
| | | | | | | | |
| Grand Total | 64.5 | \$1,437.56 | \$277.76 | \$282.70 | \$0.00 | \$960.58 | \$2,958.61 |

Before



During



After





Project: Okatie Bluff Road

Activity: Vacuum Truck

Project #: 2015-310A

Township: Bluffton














Completed: June 2015

Jetted (1) crossline pipe and (1) driveway pipe.

Jetted (1) crossline pipe, (1) access pipe and (1) driveway pipe.

Legend

Drainage Type

-  Access Pipe
-  Bleeder Pipe
-  Channel Pipe
-  Channel
-  Stream
-  Crossline Pipe
-  Driveway Pipe
-  Lateral
-  Lateral Pipe
-  River
-  Road Pipe
-  Roadside
-  Roadside Pipe

0 60 120 240 360 480 Feet

1 inch = 250 feet

Prepared By: BC Stormwater Management Utility

Date Print: 07/21/2015

File: C:\project summaries map\Okatie Bluff Road_2015-310A



Project: Palmetto Beach Lane

Activity: Vacuum Truck

Project #: 2015-310A

Township: Bluffton

Completed: June 2015

| Legend | |
|---------------|----------------|
| Drainage Type | |
| | Access Pipe |
| | Bleeder Pipe |
| | Channel Pipe |
| | Channel |
| | Stream |
| | Crossline Pipe |
| | Driveway Pipe |
| | Lateral |
| | Lateral Pipe |
| | River |
| | Road Pipe |
| | Roadside |
| | Roadside Pipe |



1 inch = 83 feet

Project: Pritchard Farms Court

Activity: Vacuum Truck

Project #: 2015-310A

Township: Bluffton

Completed: June 2015



| Legend | |
|---------------|----------------|
| Drainage Type | |
| | Access Pipe |
| | Bleeder Pipe |
| | Channel Pipe |
| | Channel |
| | Stream |
| | Crossline Pipe |
| | Driveway Pipe |
| | Lateral |
| | Lateral Pipe |
| | River |
| | Road Pipe |
| | Roadside |
| | Roadside Pipe |



1 inch = 170 feet



Project: Bolden Drive and May River Road

Activity: Vacuum Truck

Project #: 2015-310A

Township: Bluffton

Completed: June 2015

| Legend | |
|---------------|----------------|
| Drainage Type | |
| | Access Pipe |
| | Bleeder Pipe |
| | Channel Pipe |
| | Channel |
| | Stream |
| | Crossline Pipe |
| | Driveway Pipe |
| | Lateral |
| | Lateral Pipe |
| | River |
| | Road Pipe |
| | Roadside |
| | Roadside Pipe |



1 inch = 67 feet



Beaufort County
Public Works
Stormwater Infrastructure
Project Summary

Project Summary: Sheldon Washout Repairs - River Oaks Road

Activity: Routine/Preventive Maintenance

Narrative Description of Project:

Repaired washout.

Completion: Jun-15

| 2015-503A / Sheldon Washout Repairs | Labor Hours | Labor Cost | Equipment Cost | Material Cost | Contractor Cost | Indirect Labor | Total Cost |
|------------------------------------------------------|--------------------|-------------------|-----------------------|----------------------|------------------------|-----------------------|-------------------|
| AUDIT / Audit Project | 0.5 | \$11.40 | \$0.00 | \$0.00 | \$0.00 | \$6.62 | \$18.01 |
| HAUL / Hauling | 5.0 | \$108.15 | \$39.95 | \$72.27 | \$0.00 | \$72.10 | \$292.47 |
| ONJV / Onsite Job Visit | 2.0 | \$66.36 | \$7.08 | \$8.64 | \$0.00 | \$48.94 | \$131.02 |
| RPWO / Repaired Washout | 20.0 | \$438.50 | \$34.33 | \$11.81 | \$0.00 | \$291.85 | \$776.49 |
| 2015-503A / Sheldon Washout Repairs Sub Total | 27.5 | \$624.41 | \$81.36 | \$92.72 | \$0.00 | \$419.50 | \$1,217.99 |
| | | | | | | | |
| Grand Total | 27.5 | \$624.41 | \$81.36 | \$92.72 | \$0.00 | \$419.50 | \$1,217.99 |

Before



After





Project: Sheldon Washout Repairs-Rivers Oaks Road

Activity: Routine/Preventive Maintenance

Project #: 2015-503A

Township: Sheldon

Completed: June 2015

| Legend | |
|---------------|----------------|
| Drainage Type | |
| | Access Pipe |
| | Bleeder Pipe |
| | Channel Pipe |
| | Channel |
| | Stream |
| | Crossline Pipe |
| | Driveway Pipe |
| | Lateral |
| | Lateral Pipe |
| | River |
| | Road Pipe |
| | Roadside |
| | Roadside Pipe |



1 inch = 290 feet



Beaufort County
Public Works
Stormwater Infrastructure
Project Summary

Project Summary: JB Lane

Activity: Routine/Preventive Maintenance

Narrative Description of Project:

Repaired workshelf.

Completion: Jun-15

| 2015-623 / JB Lane | Labor Hours | Labor Cost | Equipment Cost | Material Cost | Contractor Cost | Indirect Labor | Total Cost |
|-------------------------------------|--------------------|-------------------|-----------------------|----------------------|------------------------|-----------------------|-------------------|
| AUDIT / Audit Project | 0.5 | \$11.40 | \$0.00 | \$0.00 | \$0.00 | \$6.62 | \$18.01 |
| HAUL / Hauling | 5.0 | \$108.15 | \$39.95 | \$623.28 | \$0.00 | \$72.10 | \$843.48 |
| RPWO / Repaired Washout | 9.0 | \$206.01 | \$31.82 | \$18.08 | \$0.00 | \$145.26 | \$401.17 |
| 2015-623 / JB Lane Sub Total | 14.5 | \$325.56 | \$71.77 | \$641.36 | \$0.00 | \$223.98 | \$1,262.66 |
| | | | | | | | |
| Grand Total | 14.5 | \$325.56 | \$71.77 | \$641.36 | \$0.00 | \$223.98 | \$1,262.66 |

Before



During



After





Project: JB Lane

Activity: Routine/
Preventive
Maintenance














Project #:
2015-623

Township:
St.Helena Island

Completed:
June 2015

Legend

Drainage Type

-  Access Pipe
-  Bleeder Pipe
-  Channel Pipe
-  Channel
-  Stream
-  Crossline Pipe
-  Driveway Pipe
-  Lateral
-  Lateral Pipe
-  River
-  Road Pipe
-  Roadside
-  Roadside Pipe



1 inch = 83 feet



Beaufort County
Public Works
Stormwater Infrastructure
Project Summary

Project Summary: Polite Drive

Activity: Routine/Preventive Maintenance

Narrative Description of Project:

Repaired washouts. Installed strawmat for erosion control.

Completion: Jun-15

| 2016-515 / Polite Drive | Labor Hours | Labor Cost | Equipment Cost | Material Cost | Contractor Cost | Indirect Labor | Total Cost |
|------------------------------------------|--------------------|-------------------|-----------------------|----------------------|------------------------|-----------------------|-------------------|
| AUDIT / Audit Project | 0.5 | \$11.40 | \$0.00 | \$0.00 | \$0.00 | \$6.62 | \$18.01 |
| ERCON / Erosion control | 15.0 | \$328.74 | \$21.24 | \$33.90 | \$0.00 | \$218.52 | \$602.40 |
| HAUL / Hauling | 6.0 | \$136.83 | \$47.94 | \$190.68 | \$0.00 | \$92.67 | \$468.12 |
| ONJV / Onsite Job Visit | 2.0 | \$66.36 | \$7.08 | \$11.35 | \$0.00 | \$48.94 | \$133.73 |
| RPWO / Repaired Washout | 9.0 | \$198.96 | \$56.24 | \$131.27 | \$0.00 | \$132.48 | \$518.95 |
| 2016-515 / Polite Drive Sub Total | 32.5 | \$742.29 | \$132.50 | \$367.20 | \$0.00 | \$499.23 | \$1,741.21 |
| | | | | | | | |
| Grand Total | 32.5 | \$742.29 | \$132.50 | \$367.20 | \$0.00 | \$499.23 | \$1,741.21 |

Before



During



After





Project: Polite Drive

Activity: Routine/ Preventive Maintenance

Project #: 2016-515

Township: Port Royal Island

Completed: June 2015

| Legend | |
|---------------|----------------|
| Drainage Type | |
| | Access Pipe |
| | Bleeder Pipe |
| | Channel Pipe |
| | Channel |
| | Stream |
| | Crossline Pipe |
| | Driveway Pipe |
| | Lateral |
| | Lateral Pipe |
| | River |
| | Road Pipe |
| | Roadside |
| | Roadside Pipe |



1 inch = 180 feet

Prepared By: BC Stormwater Management Utility
 Date Print: 08/13/2015
 File: C:\project summaries map\Polite Drive_2016-515

Beaufort Soil & Water Conservation District



Presents

Stormwater Education Outreach Report
November 2014 – June 2015

Neighbors for Clean Water



Your county-wide
Stormwater Education Initiative



<http://www.neighborsforcleanwater.org/>

Our MS4 Permit Objectives

- 1. Public Education & Outreach on Stormwater Impacts**
- 2. Public Involvement & Participation**

Education Outreach Outline

- Festivals
 - General Stormwater education
 - Rain Barrel Decorating by schools
 - Pet Waste Outreach
 - Enviroscape
- 7th Grade Enviroscape Presentations
- Branding Neighbors for Clean Water Logos
 - Storm Drain Marking
 - Stormwater Kiosks

- Professional Outreach & Training Opportunities
 - Webinar
 - Workshop
 - Pond Conference
- Community Outreach
 - Poster/Essay Contest
- Looking ahead
 - More opportunities for all above
 - Planning 2016 festivals
 - Developing new NPS outreach flyers
 - Pursue implementation of Survey
 - Collecting data for permit reporting

Earth Day Port Royal 2015

Enviroscape,
Pet waste dispensers,
Surveys,
Rain Barrel Display
& Competition



Earth Day Bluffton 2015

Enviroscape

Pet waste dispensers

Rain Barrel Display

& Competition

Lots of rain barrels for a rainy festival!





Pet Waste & Water Quality

PROTECT THE WATER
YOU AND YOUR PET BOTH LOVE...



**PLEASE CLEAN UP
AFTER YOUR PET!**

Did you know that your dog's waste contains 2 ½ times the amount of bacteria as yours? If you wouldn't want your own waste entering lakes and rivers, then you don't want your pet's waste to either! Picking up after your pet protects water quality, your health, and the health of your pet.

[LEARN MORE....](#)

“Dog Bone”
Pet Waste
Dispenser

Updated
Pet Waste Flyer
Branding
Neighbors for
Clean Water &
logos from
Beaufort County
and all four
municipalities.



Beaufort Conservation District

Do the right thing!
Don't be part
of a line up!

Help take care of
our rivers, estuaries
and oceans.

Scoop the Poop!

When Nature Calls, Don't Get Caught



- In Charleston, cats and dogs produce about 10,000 pounds of waste each day.
- Pet waste can wash into storm drains and go directly into waterways without being treated.
- Pet waste can also wash directly into marshes and waterways.



Help keep pet waste from polluting our water:

- Scoop the poop. Take a plastic bag with you on your walk.
- Wrap pet waste in a plastic bag and put it into the trash.
- Flush pet waste down the toilet (if you are on a public sewer). Do NOT flush kitty litter.
- Bury pet waste in your yard. Bury it 6 inches deep, away from waterways and gardens.
- Don't put pet waste in the compost pile.



www.dhec.gov
Protecting and promoting the health of the public
and the environment.

Help keep our pets from polluting. Scoop the poop.

Vehicle Maintenance



- Oil stains on the driveway are a sure sign that you need to be more careful.
- Use pans, carpet scraps, and matting to catch drips.
- Collect all oil for recycling - it's the law!
- NEVER dump used oil, antifreeze or gasoline down a storm drain.
- Wash your car or boat in the grass or at a commercial car wash.
- Use common sense.

Pet Waste

Chemical Safety



- ALWAYS follow the label directions to ensure proper:
 - selection
 - storage
 - mixing
 - application
 - cleanup
 - disposal

Flood Protection

- Reduce downbeam flooding.
- Slow stormwater velocity.
- Allow more water to percolate to the water table.



03/28/2015 09:58

Festival Display:

Close up on Pet Waste Outreach

Kid Fest 2015



Enviroscape presentations
&
Filling out surveys, right.



The Enviroscape Model



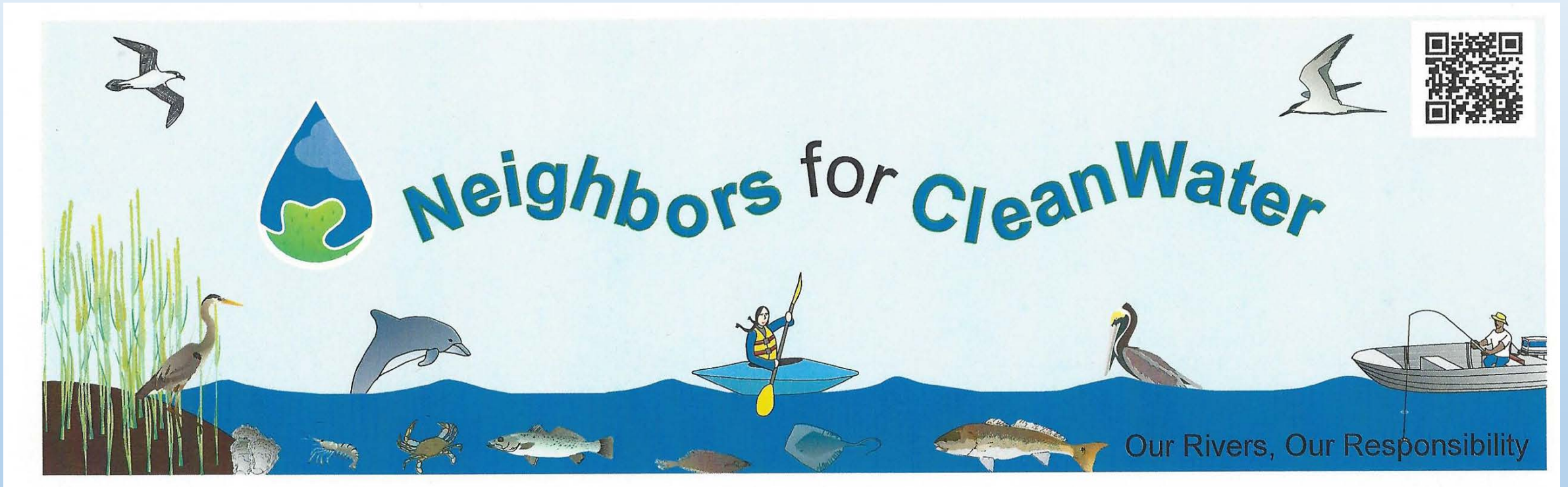
This interactive hands on model is appropriate for all ages
AND Everybody Understands It!

Statistics

- 750 people visited our display at the 3 spring festivals
- The Enviroscape was presented to 38 classes reaching 753 students, teachers, and staff
- 32 Rain Barrels were purchased from Bluffton High Environmental Club
- Dispersed approximately 150 Pet Waste Dispensers & flyers.



Branding NCW Logo



Purchased 2500 storm drains, 500 for each of the 5 entities.



Storm Drain Marking Project

135 storm drains were marked in City of Beaufort raising citizen awareness that all drains lead to our waterways. Mayor Keyserling came out to help, too!



Visit NCW to see the project video made by the County Channel.



Assisted with Relocation of Stormwater Kiosks




Spring 2015 Festival Display: Advertising NCW, Storm drain Marking, and other BMPs.



- Professional Outreach & Training Opportunities
 - Webinar
 - Workshop
 - Pond Conference – October 22, 2015


- Community Outreach
 - Poster/Essay Contest

NeighborsforCleanWater



Poster & Essay Contest

"Clean Water Starts With You & Me!"

Please  grade category & type of entry

3-5 6-7 Poster Essay

STUDENT

First _____ Last _____

Grade _____ Age _____

Home Address _____

Clean Water starts With You & Me!

- Looking ahead
 - Planning 2016 festivals
 - Developing new NPS outreach flyers
 - Pursue implementation of Survey
 - Collecting data for permit reporting
 - Reach all 7th grade classes in Beaufort County
 - Supply NCW Website with information for all stormwater questions

Stormwater Survey for Residents of Beaufort County

Please circle below:

Age: Under 18 18-35 36-64 65+ prefer not to Answer

Gender: Male Female Prefer not to Answer

Race: Asian African Am/Black Hispanic Caucasian Other _____ prefer not to Answer

Annual Income: under \$15,000 \$15,000- 34,999 \$35,000- \$49,999
 \$50,000 – 74,999 \$75,000- 99,999 \$100,000 & above prefer not to Answer

Employment Status: Unemployed Employed Retired prefer not to Answer

What best describes your living situation:
 Home owner/renter with yard Apartment with yard
 Home owner/renter without yard Apartment without yard Other _____

Neighborhood or community: Mossy Oaks Your home Zip Code: 29902

Please check the following answers using your own experience:

7. What is the proper way to dispose of dog waste?
 Leave on the ground where it falls Pick up waste and put in trash
 Leave in Flower beds as fertilizer Wait for rain to wash away

8. What is the proper way to dispose of car oil & other auto fluids changed at home?
 Dump in ditch Dump in nearest storm drain
 Take to County Center Take to accepting auto garage

9. What is the proper way to dispose of paints and old or used household chemicals?
 Dump in ditch Dump in nearest storm drain
 Take to County Center Take to County Event

10. If you have a yard, how do you dispose of yard waste?
 Picked up by my Municipality Take to County Center
 Dump or burn in yard or ditch Compost leaves and grass clippings

11. What should we do with unwanted or outdated medications?
 Dump down the drain Place in with regular trash
 Take to the County Collection Give to someone else to use

12. How should we apply fertilizers and pesticides to our yards?
 Use as much as affordable Follow directions on bag
 Less is better Apply right before an expected rain event

Thank you for your time!
 Please visit Neighbors for Clean Water: <http://www.neighborsforcleanwater.org/>

FY15 Expenditures Nov 2014 – June 2015

| | |
|-------------------------------------------------|-----------|
| Drain Markers, Adhesive, & volunteer kits: | 5,498 |
| Rain Barrels: | 1,998 |
| Festivals, pet waste, banners, etc. | 1,907 |
| NCW Shirts | 224 |
| Pond Conference | 1,300 |
| 7 th Grade Enviroscape Presentations | 1,463 |
| 2 nd Enviroscape | 961 |
| BSWCD Staff Implementation Hours | 3,333 |
| | |
| Total FY15 Expenses | \$ 16,684 |

Over 60 hours of Volunteer time was spent on the Storm Drain Marking Project and Kid Fest. (That does not include time by the Boy Scouts!)



<http://www.neighborsforcleanwater.org/>



BEAUFORT COUNTY PUBLIC WORKS
120 Shanklin Road
Beaufort, South Carolina 29906
Voice (843) 255-2800 Facsimile (843) 255-9435



TO: Councilman Gerald Dawson, Chairman, Public Facilities Committee
FROM:  Beaufort County Solid Waste & Recycling Board, Dan Duryea, Chairperson
SUBJ: County-Wide Curbside Waste & Recycling Services for Beaufort County SC
DATE: July 23, 2015

BACKGROUND:

1. Beaufort County's population continues to grow at one of the fastest rates in the state of South Carolina and the region. The increase has been reported to be 46% since 2000. The Beaufort County Comprehensive Plan and the Solid Waste Management Plan each outline a strategy to handle the increasing volume of waste from a growing population. The strategy specifies a reduction and consolidation of County Convenience Centers, coupled with the introduction of curbside waste collection to increase efficiency. The current system of waste collection at County Convenience Centers will not be able to keep pace with the needs of our citizens. Additional operational issues impacting the continuation of Convenience Center operations are as follows:
 - a. Stormwater requirements under the new MS4 permit may render many of the old Convenience Center sites either impossible or too expensive to bring into compliance. Closing those centers will accelerate the traffic issues at the larger more modern centers.
 - b. The use of compactors at our facilities enables us to keep pace with volume by packing more waste into a container. The electric utilities advise that a major hurricane could knock out power for 30-45 days. The centers have no backup power for compactors and we could not keep up with volume without them. Our aging compactors are wearing out and replacement cost will be significant.
 - c. Citizens are getting hurt handling their waste and it is only a matter of time before the high level of traffic results in a serious incident. Our County's population of senior citizens and the disabled are jeopardized by trying to transport/dispose of their waste.
 - d. This system of collection contributes to traffic and litter problems.
 - e. Staff is challenged weekly to collect the growing volume of paint, other household hazardous items, tires and batteries from 11 locations.
 - f. Landfills are closed on the weekend and filled containers must be held over the weekend until Monday morning when they reopen.
 - g. This system contributes to a throw away mentality, disposal of many reusable items, low recycling rates and pilfering.



2. The current County policy of paying for disposal of all residential waste is subject to abuse. Landfills rely on an honor system as waste haulers verify the origin of the waste when it is brought into the landfill. There is no verifiable method for making the determination that the waste actually originated from a residence within Beaufort County. There are no limits on how much citizens may bring and this has resulted abuse with citizens bringing as much as 13 tons of waste to the landfill. This system provides promotes the perception that waste disposal is free and provides no incentive for anyone to increase waste diversion by promoting reuse or recycling.

RECOMMENDATION:

The Solid Waste and Recycling Board recommends that County Council direct staff to initiate actions to phase out Convenience Center use in Beaufort County and complete the transition to a sustainable curbside system for waste collection and recycling by 2020.

The Board also recommends that the County suspend the practice of paying for waste disposal other than waste collected from County Convenience Centers, effective July 1, 2016.

cc: Gary Kubic, County Administrator *GKubic*
Joshua Gruber, Deputy County Administrator/Special Counsel *JG*
Monica Spells, Asst. Co. Administrator, Civic Engagement *Spells*
Eric Larson, Division Director, Environmental Engineering *EWZ*
Eddie Bellamy, Director, Public Works *MCB*
James S. Minor, Jr. Solid Waste Manager *JSM*

1. PROJECT INFORMATION:

Project Title: Okatie West Water Quality Retrofit
 Length (months): 36

Watershed Name(s): Salkehatchie
 12 Digit HUC(s): 030502080606
 County(ies): Beaufort
 Water Quality Parameter(s): Fecal Coliform Bacteria
 SCDHEC Monitoring Site(s): 18-08, 18-16, 18-17, 18-07

This watershed: (check one)

Has a draft or approved TMDL Is impaired (no TMDL)

2. FUNDING REQUEST:

Federal Request: \$792,000.00
 Non-Federal Match: \$528,000.00
 Total Amount: \$1,320,000.00

Additional Federal Funding, if applicable: \$
 Source: _____

3. LEAD ORGANIZATION INFORMATION:

Lead Organization: Beaufort County
 Federal ID Number: 57-6000311

Project Manager: Eric Larson
 Mailing address: 120 Shanklin Road Beaufort, SC 29906
 Telephone: 843-255-2805
 Fax: 843-255-9436
 Email: elarson@bcgov.net

Alternate Contact: Paul Moore – Ward Edwards Inc.
 Telephone: 843-384-5266
 Email: pmoore@wardedwards.com

Financial Officer: Alan Eisenman
 Telephone: 843-255-2295
 Email: aeisenman@bcgov.net

Official project paperwork (e.g. contract) Eric Larson
 should be sent to the attention of: _____

4. COOPERATING ORGANIZATIONS:

Beaufort County will be the only organization contributing financially to the project. The County's Stormwater Utility has lead the efforts to restore the Okatie River watershed but has support from the other local municipalities through the County's Stormwater Implementation Committee (SWIC) and Stormwater Utility Board. The County will fund the non-federal match through the capital improvements funds collected and reserved by the County's Stormwater Utility Fee. The County will lead the design, permitting, procurement, construction, public outreach, and education components. The Town of Bluffton, the Rural & Critical Land Preservation Program, and the Beaufort County Soil & Water Conservation District are public agencies that have provided a letter of support for the project. Private organizations that are supporting the project include the Sun City Hilton Head Community Association, the Oldfield Property Owners Association, and the Island West Property Owners Association.

5. GENERAL PROJECT OVERVIEW (ABSTRACT):

Beaufort County has recognized the growing water quality problems within the Okatie River watershed since the early 1990s when shellfish harvesting restrictions within the waters first began. The County has led preservation and restoration efforts through a series of studies, task forces, management plans, development code revisions, and retrofit projects. The County has a number of ongoing and planned projects and strategies that are summarized in the latest *Okatie River Watershed Management Plan* dated April 2015.

Beaufort County's Stormwater Master Plan (SWMP) developed in 2006 identified the Okatie Headwaters as a priority basin within the County. The headwaters basin located upstream of SCDHEC monitoring station 18-08, is split into two sub-basins, Okatie East and Okatie West, and the County's 2009 Water Quality Retrofit Study proposed water quality BMP projects in both sub-basins. The sub-basins were studied to locate the best sites for the regional BMPs based on criteria such a land availability, limiting impacts to natural resources, feasibility, construction cost, soils, and topography. A low-cost wetland enhancement project proposed for the Okatie East basin was implemented in 2013, and the County now plans to implement a pond construction project proposed for the Okatie West sub-basin. The regional retrofit plan calls for the flow from the 1,170 acre upstream area to be diverted to a pond that will be constructed in a low upland area located on property the County recently purchased. The proposed pond will be constructed near the main outfall channel for the sub-basin, such that flows from the smaller more frequent rainfall events can be diverted to the pond for treatment. An outfall structure will be constructed in the pond to provide attenuation of the upstream runoff, and release the stored stormwater at rate less than current conditions. Based on conceptual modeling results, the proposed Okatie West Pond is predicted to reduce the peak flow to the tributary by as much 20% for the 95th percentile storm. The pond should also reduce the volume of freshwater reaching the salt water river.

In addition to the runoff reduction, it is expected that the Okatie West retrofit pond will provide effective removal of bacteria from the runoff. Water quality modeling prepared as part of the 2006 SWMP showed that implementation of a BMP within the headwaters sub-basin would reduce the bacteria load at station 18-08. A water quality model of the Okatie River 3 water quality sub-basin updated as part of the Okatie WMP shows that the Okatie West BMP will reduce the bacteria load from the BMP service area by 16%. This equates to a 7% reduction in bacteria load in the Okatie River 3 water quality sub-basin (containing monitoring Station 18-08). Combining the Okatie West load reduction with the recently implemented Okatie East Regional Retrofit results in a predicted load reduction near station 18-08 of 15.86% (1.75E+14 #/yr). Beaufort County's Stormwater Utility will implement and fund the project from its capital improvements fund collected as part of the county-wide stormwater utility fee.

A previous Watershed Based Plan and 319 Grant from the 2008 cycle was recently completed in 2014. That program was comprised of many small regional and non-regional strategies that were implemented with mixed results. The project did not result in correction of the bacteria contamination problem and reopening of the shellfish beds. The new *Okatie River Watershed Management Plan* completed in April 2015 will build on the previous successes and learn from the failures in order to implement larger strategies intended to address the contaminant sources. The ultimate goal is of the overall watershed based plan is to improve water quality such that the shellfish beds within the watershed are reopened for harvesting.

6. PROJECT DESCRIPTION:

A. General Background

Located in the South Carolina lowcountry, the Okatie River watershed (HUC 030502080606) is approximately 16,321 acres in size and spans Beaufort County and Jasper County. The majority of the watershed (12,325 acres) is in Beaufort County while the remaining portion (3,995 acres) is in Jasper County. Within Beaufort County, the majority is in unincorporated Beaufort County and the rest is in the Town of Bluffton. The Okatie River is a euhaline river, with no freshwater inputs other than stormwater runoff, and the River drains to the Colleton River, which in turn drains to Port Royal Sound and the Atlantic Ocean. The River is classified as an Outstanding Resource Water (ORW) and as shellfish harvesting waters, although the upper reaches of the river are restricted for shellfish harvesting due to fecal coliform bacteria contamination. The restrictions first began in 1995, and Beaufort County has been working ever since to protect and restore the River to pre-restriction conditions. SCDHEC initiated a fecal coliform TMDL for the watershed in 2010 which mandates reductions in bacteria loads as high as 51% in the Headwaters portion of the watershed. Portions of the watershed are about to become part of a MS4 area, as Beaufort County has submitted a draft MS4 permit and expects approval is imminent. Exhibit 1 shows the watershed boundaries, the shellfish classifications, the SCDEHC monitoring stations, the watershed sub-basins, and the MS4 boundary.

The original Okatie River Watershed Management Plan was prepared and enacted in 2002. The plan was amended in 2008 as part of a 319 Grant administered by the Lowcountry Council of Governments (LOCOG). The 319 grant funded a number of small regional and non-regional projects such as a septic tank inspection program, a pet waste education program, and an irrigation reuse program. The project was completed in 2014 and a summary report was published by LOCOG. The project's goal was to address the bacteria contamination problem in the River and reopen the shellfish beds to harvesting; however, the results fell short of that goal. The new *Okatie River Watershed Management Plan* completed in April 2015 will build on the previous successes and learn from the failures in order to implement larger strategies intended to address the contaminant sources. The ultimate goal of the overall watershed based plan is to improve water quality such that the shellfish beds within the watershed are reopened for harvesting.

Non-point source pollution from growth and development are generally to blame for bacteria contamination throughout the County, and the Okatie River watershed has faced among the highest development pressure within the County over the past 25 years. Beaufort County responded to the shellfish bed closures in the Okatie and other rivers by implementing a number of strategies. Among the strategies were improvements to the County's stormwater standards for new development, implementation of a Stormwater Utility in cooperation with the local municipalities, and the completion of a baseline study for the Okatie River. To address the County's stormwater standards for new development, Beaufort County's first version of the *Manual for Stormwater Best Management Practices* was implemented in 1998. SCDHEC aided in the recommendation for a baseline water quality by completing a combined baseline study of the Okatie River and Broad Creek in 2000. Most importantly, the County's Stormwater Utility was created in 2001. The Stormwater Utility included the participation of all the local municipalities and all subsequent water quality studies and initiatives in the County were implemented by or supported by the Stormwater Utility. The first Okatie River Watershed Management Plan was completed in 2002 and contained a number of specific strategies, some of which have been implemented. Additional studies such as the *Beaufort County Stormwater Master Plan*, completed in 2006, recommended regional retrofit projects intended to offset the increasing bacterial contamination from stormwater runoff. A new Okatie River Watershed Management Plan was recently completed in April 2015 and was updated to include the most recent information and studies related to the River, including the Okatie River TMDL. Section 1.0 of the WMP describes in greater detail, the history of the studies and reports for the River. Section 2.0 describes the watershed's existing land-use, future land-use, political boundaries, and the baseline water quality.

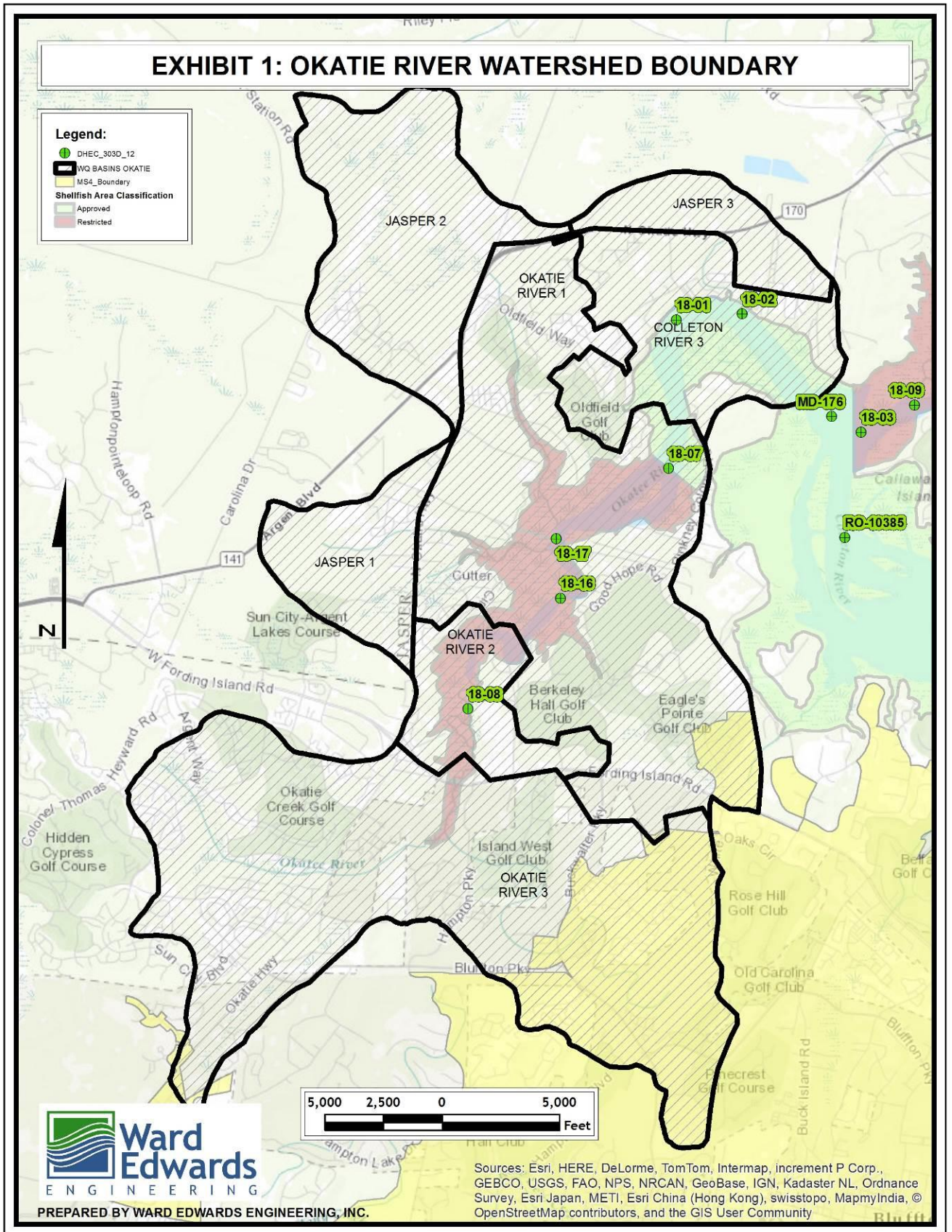
Water Quality within the watershed is generally good, with the exception of the previously mentioned fecal coliform bacteria impairment. Bacteria levels generally meet recreational contact standards at all stations except the headwaters station (18-08); however, the three upstream most stations (18-08, 18-16, & 18-17) generally exceed the shellfish harvesting standards that apply to the River. The "restricted" portions of the river have fluctuated over the years, but are generally located between stations 18-08 and 18-07; with 18-07 being the downstream station at which the classification transitions to "approved". The bacteria concentrations are believed to be improvable based on water quality modeling prepared as part of the County's 2006 *Stormwater Master Plan*, and modeling prepared as part of the 2015 *Watershed Management Plan*. The modeling demonstrates that implementation of regional retrofit BMPs combined with non-regional management strategies such as reducing septic tank usage will reduce the predicted future bacteria loadings in assumed future land-use conditions. Sections 2.4 and 5.5 contain information about the

predictive water quality modeling prepared for the watershed. Addendum 1 of the Watershed Management Plan contains the updated model for the Okatie River 3 water quality sub-basin. The model demonstrates that the proposed pond BMP will provide significant bacteria pollutant removal from the runoff treated by the BMP and make a difference in the bacteria load reaching monitoring station 18-08. Based on field research conducted by Beaufort County, appropriately sized wet detention ponds provide bacteria removal of at least 80%. The proposed Okatie West pond will be undersized for the area it will serve, but should provide at least a 16% (7.78E+13 #/yr) removal for runoff entering the pond, and results in a 7% reduction in overall load reaching Station 18-08.

Beaufort County has many other management strategies that are being implemented along with the Okatie West project, including:

- The Okatie East Wetland Enhancement – This project was recently constructed and is undergoing refinement. It is expected to provide an 8.82% (9.74E+13 #/yr) reduction in bacteria load reaching station 18-08.
- Highway 278 non-regional retrofits – This project involves construction of four smaller ponds along the recently widened highway directly adjacent to the Okatie River headwaters. They are expected to provide bacteria treatment and runoff volume control for runoff leaving the road.
- Highway 170 widening retrofits – This project is similar to the Highway 278 project in its goals, but is located directly upstream of the Okatie West project. The construction of these ponds will enhance the function of the Okatie West pond by pre-treating runoff that will drain through the Okatie West pond. Pond 6A is located within the same parcel of land as Okatie West and could provide additional detention should the Okatie West wetland delineation reduce the upland area available for the proposed pond.
- Land preservation – Beaufort County has been and continues to preserve land within impaired watersheds such as the Okatie River watershed. The Beaufort County Rural and Critical Land program purchases property or preservation easements to prevent development in areas that could further degrade water quality. The program has preserved 500 acres in the Okatie River watershed and 21,000 acres County-wide. The County is actively pursuing property preservation in the Okatie River including some large parcels directly adjacent to the Okatie River headwaters.
- Educational Programs – Beaufort County’s stormwater educational program is handled by the Beaufort Soil & Water Conservation District (BCSWD). The County has partnered with the Town of Bluffton and BCSWD as part of the \$60,000 annual program to host a pond maintenance conference in the County. The conference will teach designers, land developers, and homeowner associations proper design and maintenance strategies that will keep ponds in good working conditions that maximize water quality treatment.
- Illicit discharge ordinance. The County is in the process of developing and implementing an illicit discharge ordinance throughout that County.
- The County is partnering with the Town of Bluffton, the Town of Hilton Head Island, the City of Beaufort, and the Town of Port Royal to fund a \$475,000 update to the County-wide Stormwater Master Plan. SWMP update will include new water quality modeling of critical basins such as the Okatie River and is expected to reveal the most effective management strategies for improving water quality.

The management strategies and projects listed above are all part of the latest Okatie River WMP and were chosen to improve water quality in the watershed. They are being funded by Beaufort County and other local partners. 319 Grant funding for the Okatie West retrofit project will allow quicker implementation of the regional retrofit and will better leverage the County Stormwater fee to implement similar strategies.



B. Specific Objectives and Goals of the Project:

The objective of the project is to construct a water quality retrofit pond that will treat runoff from the 1,170 acre Okatie West tributary of the Headwaters sub-basin, located upstream of SCDHEC monitoring station 18-08. This tributary represents roughly half of the headwaters sub-basin in which the TMDL requires a 51% reduction in bacteria loads. It is not expected that this single project will result in reclamation of the headwaters as an approved shellfish harvesting area, but instead would be a step toward this ultimate goal. The proposed pond is expected to reduce the FC load from the 1200 acre service area by 16% (7.78E+13 #/yr) and result in a 7% reduction in load reaching monitoring station 18.08. The Okatie West project is but a single project among many projects and strategies outlined in the watershed based plan and will continue the County's ongoing efforts to restore the Okatie River. Section 4.0 of the WMP identifies the overall watershed objectives and goals. The objectives and goals specific to this project include:

- Treat stormwater runoff from existing developments that currently have no stormwater BMPs or BMPs that don't meet current standards.
- Reduce the peak runoff rate and runoff volume discharged from the Okatie West tributary. A reduction in the runoff volume to the receiving waters directly results in a reduction to the contaminant loads reaching the River.
- Reduce the amount of bacteria reaching SCDHEC Station 18-08

C. Detailed Project Description:

The primary management strategy that will be implemented as part of this project is the Okatie West Regional Retrofit BMP. The term 'Okatie West' describes the western tributary of the headwaters portion of the Okatie River watershed. The term was first used in the 2002 *Okatie River Watershed Management Plan*, which identified the tributary and targeted it for a regional retrofit project. The Okatie West branch is located in the Okatie 3 water quality sub-basin as delineated in the 2006 *Beaufort County Stormwater Master Plan* (SWMP). The SWMP recommended a retrofit project in the eastern tributary, but not one in the western tributary. The subsequent 2009 *Regional Retrofit Study* added a retrofit site back into the Okatie West branch; specifically recommending a wet detention pond BMP designed to capture runoff from the main outfall canal. The BMP proposed in that 2009 study is the project recommended for this grant.

The service area for the proposed Okatie West BMP would be roughly 1,200 acres and would contain a mixture of land-uses including single family residential (Sun City – Del Webb), small commercial, medical, institutional, and Highway 170. Much of the residential and commercial uses within the basin were developed with relatively current water quality standards, but preceded the most recent volume control standards. The existing highway was constructed and later widened prior to all current water quality standards and volume control standards. For these reasons, it is believed that a regional stormwater pond would benefit water quality within the western branch. Exhibit 2 shows the Okatie West and Okatie East branches within the Okatie River 3 water quality sub-basin.

The site for the proposed BMP consists of two parcels under previously common ownership, totaling 111 acres. The County purchased the property in 2015 as part of the Rural and Critical Land program for two purposes. The first purpose is to limit development of the property due to its location in the sensitive headwaters of the Okatie River watershed. The second purpose was to allow for the construction of the Okatie West regional BMP and two smaller non-regional BMPs detailed in the watershed management plan. The acquired property borders Hwy 170 to the west and partially developed parcels to the north, east, and south. A large jurisdictional wetland containing the main flow path for the western tributary separates the two parcels. A wetland delineation from 2009 showed a 4.8 acres upland area located near the main conveyance channel, surrounded on three sides by wetlands. The existing elevations in the uplands are roughly equal to the elevations in the wetlands. The low elevations of the uplands and its proximity to the conveyance channel make the area well suited to accepting re-routed runoff from the channel and treating it in a stormwater pond BMP. The project will require a new wetland determination and could result in a change in the amount of upland area available for the proposed pond. However, the County has a contingency plan should the usable upland area shrink. There are other upland areas on the property purchased by the County that can be used for a pond, but will require more earthwork and higher construction costs. Site 6A from the Hwy 170 retrofit project is one of the alternate sites for a pond should the wetland delineation change.

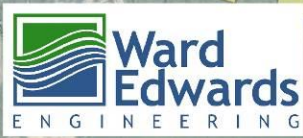
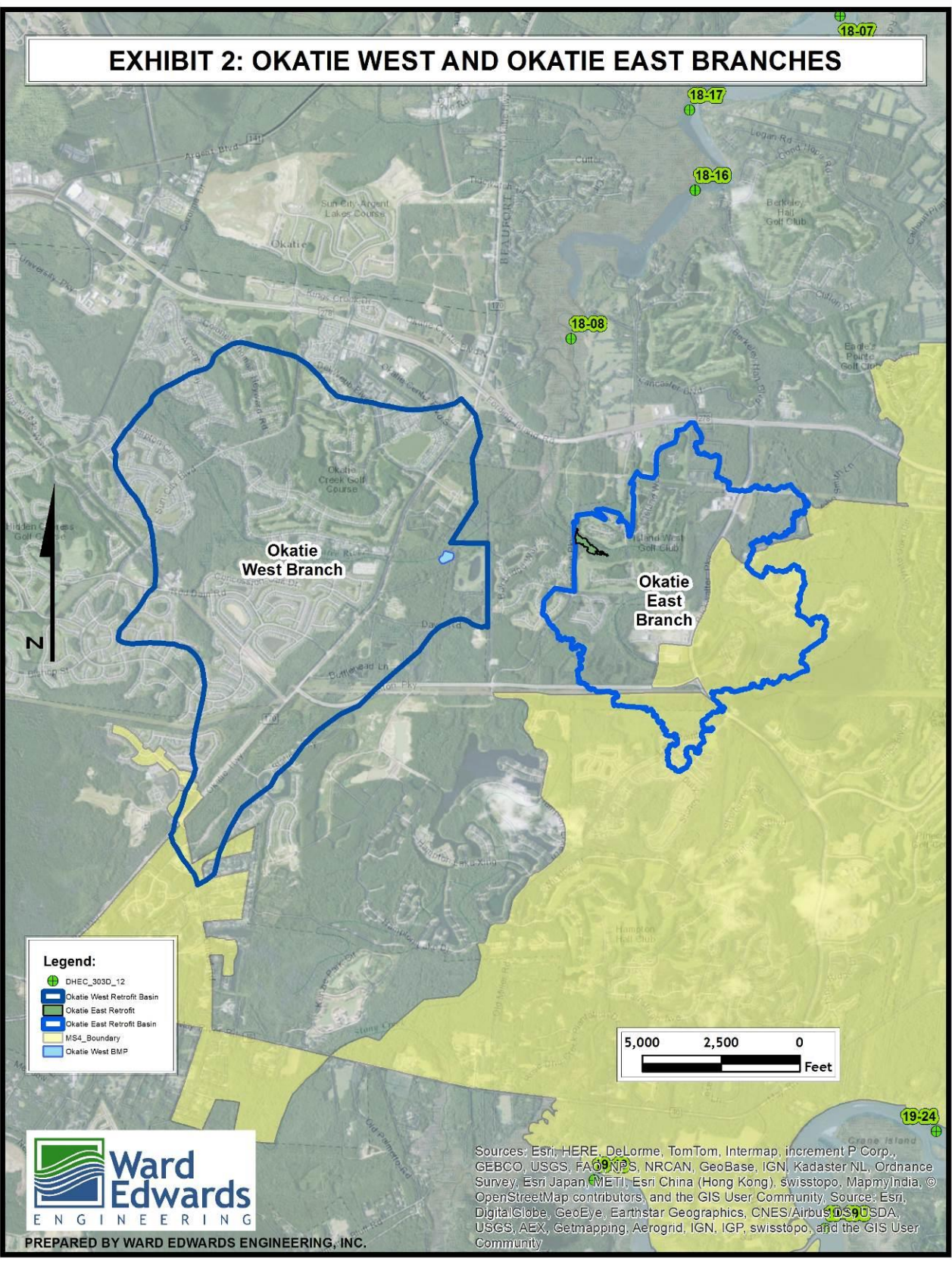
Ponds have been found to be effective in treating stormwater for bacteria removal in Beaufort County. Modeling done as part of the Watershed Management Plan update indicates that the proposed pond will remove 16% of the bacteria load from the 1200 acres watershed. Ponds typically provide an 80% removal efficiency, but the model adjusted the

removal by a factor taking into account the proposed pond size. If additional pond area becomes available as part of the new wetland delineation or if the 6A alternative is used, then removal efficiencies could increase.

Ponds can also be designed to reduce flashy discharges of runoff volume. Increases in stormwater volume from development are believed to be contributing to higher bacteria counts in the saltwater rivers. Higher bacteria measurements have been observed with lower salinities in estuarine water bodies and it is believed to be related to higher fecal coliform mortality rates in higher salinities. Previous stormwater regulations required the analysis of pre-post peak discharge rates, but not pre-post volume control. The likely result of these standards is that land development over the past twenty years is producing large slugs of freshwater discharges in high volumes inconsistent with natural pre-development hydrology and hydraulics. For these reasons, Beaufort County has been including runoff volume reducing strategies in all BMP designs targeting bacteria treatment, and that is the case for the Okatie West Retrofit Project.

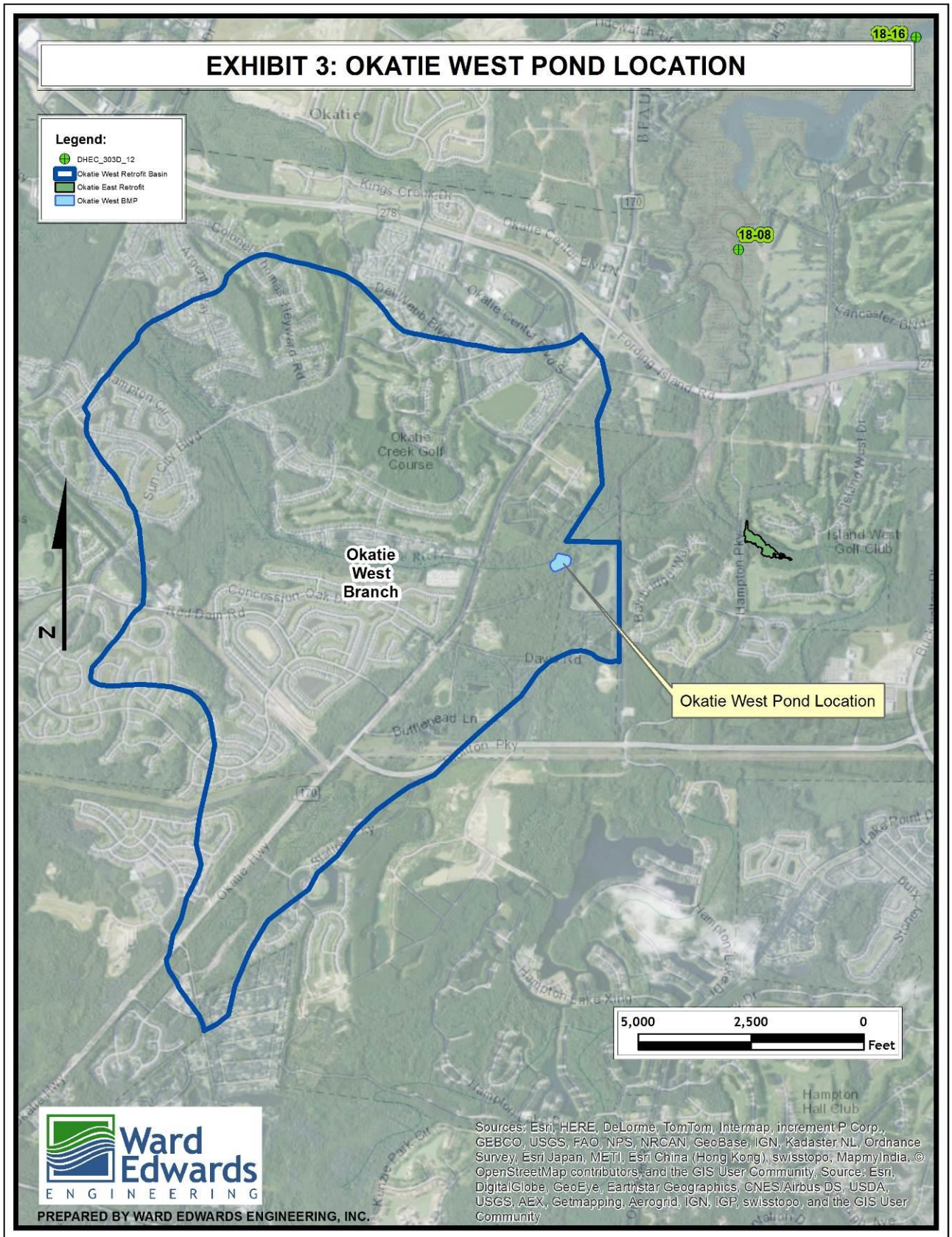
Being fairly close to the downstream sub-basin discharge point would allow the pond to serve the majority of the 1,200 acre sub-basin, which would help supplement the existing upstream stormwater treatment BMPs. Exhibit 3 shows the proposed pond location within the sub-basin.

EXHIBIT 2: OKATIE WEST AND OKATIE EAST BRANCHES



PREPARED BY WARD EDWARDS ENGINEERING, INC.

Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community. Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



The proposed BMP concept involves constructing a new 2.4 acre pond within the upland area that is in close proximity to the nearby outfall canal. The outfall canal would be redirected to drain to the pond for treatment of the runoff prior

to discharge back to the downstream canal. The pond will be constructed with an outlet control structure that would provide the detention component; controlling the small, more frequent storms, and bypassing the larger, less frequent storms. The proposed project will require topographic surveying, wetland delineation, wetland impact permitting, engineering design, and regulatory permitting prior to construction. The project concept was presented in 2010 to the U.S. Army Corp of Engineers Inter-Agency Review Team for a pre-application review. The agencies represented at the meeting, including USACE, SCDHEC-EQC, SCDHEC-OCRM, USFWS, SCDNR, and SHPO were in favor of the project and didn't anticipate any permitting issues, provided the detention pond is constructed in upland areas. The wetland impact permits required to direct flow to and from the pond could be permitted (possibly under Nationwide Permits), as long as the detention occurs outside waters of the State as is intended. The conceptual design proposes to limit the pond to the upland area based on the existing wetland delineation that is to be renewed during the project permitting. Exhibit 4 shows the proposed pond size and configuration.

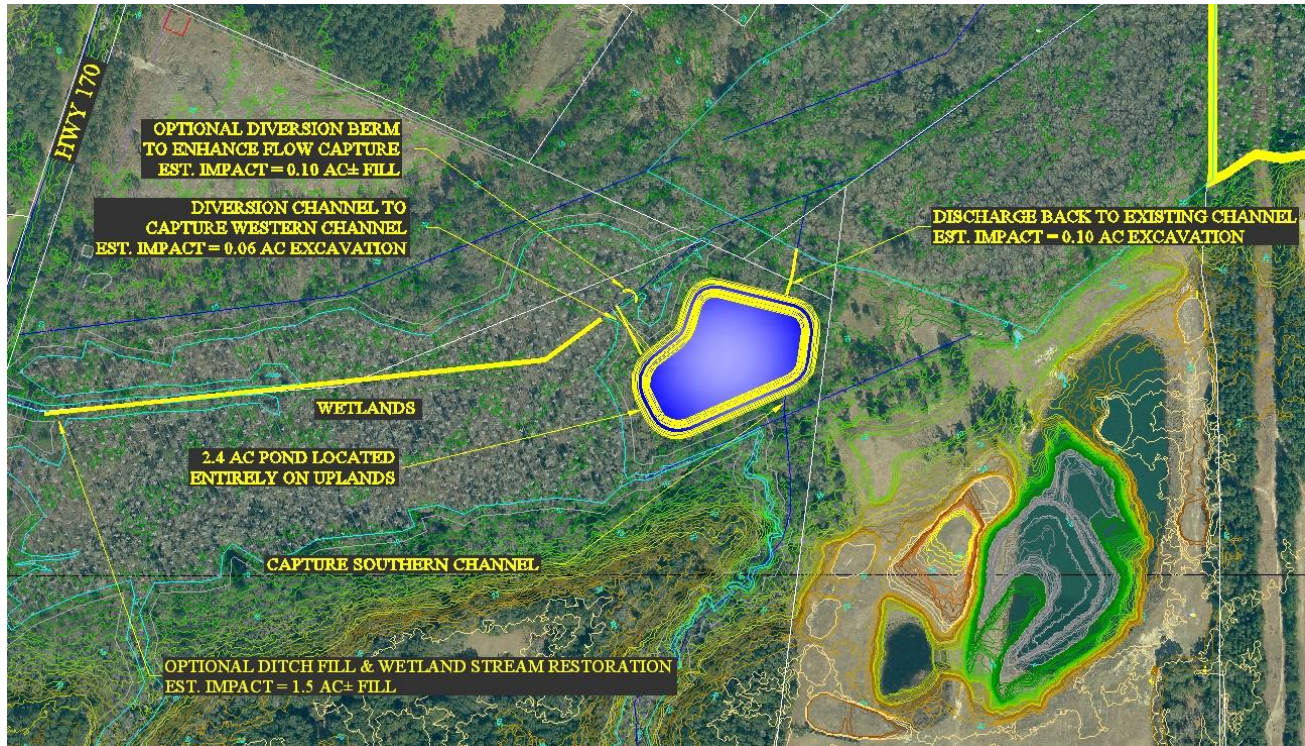


Exhibit 4 – Proposed Okatie West Pond Concept

Beaufort County recently acquired the property that would contain the proposed pond, with the express intent of implementing this project. Obtaining the property was perhaps the biggest challenge to overcome in the implementation, but there are a number of other design and permitting steps needed to construct the project. These tasks were identified in the Regional Retrofit Study and will have to be addressed during the design and permitting of the BMP. The 2009 wetland delineation for the property has expired, so a new delineation verification will be necessary. It is possible that the size and shape of the upland area in which the pond is planned may change, but the operation of the pond would not be affected by a change in the configuration. Redirecting flow to the pond will require wetland impacts but these impacts could be permitted as nationwide permits, which will simplify the permit process and timeline.

Detailed information on the proposed BMP sizing calculations and predictive modeling analyses are presented in the Regional Retrofit Study and in the 2015 *Watershed Management Plan*. Results of the conceptual modeling analyses estimate a 20% reduction in peak flow rate and a 6% reduction in runoff volume at the Okatie River outfall. Updated water quality modeling from the WMP indicates that the pond will reduce bacteria loads from the BMP service area by 16%

Beaufort County is seeking funds to help with the construction of the proposed BMP. The County will directly fund the following items related to the design, permitting, and construction of the project:

- Tree and topographic survey of the site, including the existing canal, the proposed pond site, and the area that will provide access to the site from Hwy 170
- Renewal of the expired wetland verification
- Engineering design of the proposed pond and channel re-routing
- Wetland impact permitting to re-route flow to the pond and to discharge treated stormwater back to the canal.
- State and local level regulatory permitting

The above services will be contracted by the County through their standard procurement procedures or through their current on-call stormwater engineering consultant. Construction services will also be contracted by the County through their standard procurement rules. The County will provide the non-federal match through the Stormwater Utility Capital Reserve Fund. The Stormwater Utility will also be responsible for the long-term maintenance of the BMP and the post-construction monitoring. Beaufort County will own, operate, and maintain the proposed BMP through its Public Works Department.

D. Information/Education Component:

The information and public outreach component of this project will focus on the joint efforts of the County Stormwater Utility and the County's Rural & Critical Land Program. The Rural & Critical Land Program (RCL) has been in place since the year 2000 and involves property tax increases dedicated to funding the purchase of properties or preservation easements in environmentally sensitive areas. Overall, the program has preserved more than 22,000 acres county-wide and 500 acres of land within the Okatie River watershed. Additional land preservation is an important anti-degradation component of the Okatie River Watershed Management Program, but retrofit projects are needed to address existing water quality problems. However, the past RCL program focused simply on preservation and prevented the County from using the acquired property for stormwater treatment projects. The continuation of the program approved by voters in 2014 was amended to allow stormwater projects, and the Okatie West will be one of the first retrofit projects to be implemented by the County on land acquired by the RCL program. The Okatie West project could serve as an example project to educate the community on both the RCL program and the Stormwater Utility, uniting the outreach programs for each.

Signage is typically placed at all land preserved by the RCL, and will be done at the site of the Okatie West as well; however, the signage in this case will include information related to the Stormwater Utility's work in restoring the Okatie River. The target audience for the education program will be the residents and homeowners within the watershed. For example, the Sun City development just across the highway from the project site has many retired homeowners, most of who are recently moved to the County from other parts of the country. They may be unaware of the impairments in the river; one of the many natural resources that drew them to the area. The County plans to do a workshop prior to construction to inform the general public (focusing on the nearby residents of Sun City) of the water quality impairments, the needed improvements, and how they can help contribute. The workshop will be capped by a tour of the proposed BMP site. This workshop offers the chance to inform residents of other important practices they can personally participate in such as pet waste disposal, irrigation reuse, or septic system maintenance. Educating the nearby homeowners in this manner will help with some of the watershed management plan strategies such as the community wide irrigation reuse and pet waste programs.

A secondary outreach strategy will be the education of developers and engineers on proper maintenance of ponds. Proper pond and stormwater BMP maintenance is a growing concern in Beaufort County as the BMPs constructed 15 to 20 years ago are reaching the point where they need significant maintenance in order to continue functioning as intended. This pond will be maintained by the Beaufort County Stormwater Utility and may be an opportunity for the County to demonstrate maintenance practices to commercial and institutional landowners on proper maintenance. The proposed outreach will come in the form of a workshop near the completion of the project construction, including a field visit to the site for physical demonstration of proper pond design and construction related bank stabilization, vegetation removal and pipe cleaning. The proposed BMP will also serve as a good demonstration of an effective bacteria treatment BMP, so the County intends to continue offering site tours after completion of the Grant project.

E. Anticipated Environmental Results:

Since runoff volume control is a planned component of the BMP, the proposed BMP was modeled to determine the effects it will have on the runoff hydrology. The model prepared as part of the 2009 Regional Retrofit Study, estimates

that the BMP will result in a 20% reduction in peak flow rate and a 6% reduction in the runoff volume reaching the Okatie River. Increases in stormwater volume from development are believed to be contributing to higher bacteria counts in the saltwater rivers. Higher bacteria measurements have been observed with lower salinities in estuarine water bodies and it is believed to be related to higher fecal coliform mortality rates in higher salinities. Although data analysis has not indicated a net long-term decrease in salinity of County waters, the slugs of freshwater may be causing extreme variations of salinity, resulting in the more frequent instances of bacteria counts exceeding the state standards. The effect is more pronounced in the upstream, headwaters portion of rivers such as the Okatie River. For these reasons, reductions in runoff volume and reductions in the peak rate the volumes are reaching the river, are expected to have positive results in the bacteria counts in the Okatie River. This project combined with the other volume reducing strategies proposed in the Watershed Management Plan are expected to produce long term improvements in the water quality beyond simple anti-degradation goals.

The *Beaufort County Stormwater Manual for Stormwater Best Management Practices* estimates that wet detention ponds provide an average bacteria removal rate of 80% based on historical research of ponds in similar environments. Field research by Beaufort County of actual installed and functioning ponds within the Okatie River Watershed has demonstrated removal efficiencies as high as 99% (*Eagles Point PUD Water Quality Monitoring & Testing Report*). The only stormwater quality modeling done for the Okatie River was performed as part of the 2006 *Stormwater Master Plan*. The assumed future conditions such as land use, septic coverage, and proposed BMPs used in that modeling are far out of date and inaccurate to the current and proposed conditions. The 2006 model was based on a BMP located in a different part of the sub-basin with a much smaller service area. The Okatie West BMP was proposed as part of the 2009 *Regional Retrofit Study*, which found a better location for the proposed Okatie headwaters BMP, with a much larger service area. Bacteria reduction amount haven't been modeled based on the new BMP size and located, but they are expected to be much better given the larger service area. ***Beaufort County will be updating the SWMP in the following year, but for the purpose of the Okatie West Project, they expect that the pond will provide as much as a 90% removal efficiency for the 1,200 sub-basin served by the BMP.*** In the meantime, the Addendum to the Watershed Management Plan included a simple water quality model of the BMP service area that demonstrates an estimated load reduction of 7.78E+13 #/yr, which equates to a 16% reduction in load from the BMP service area and a 7% load reduction at Station 18-08. Combined with the other structural BMPs the County is currently implementing, the model is predicting a 16% reduction in bacteria load at Station 18-08.

Monitoring data at SCDHEC shellfish station 18-08 should indicate some positive results from the project implementation. The Okatie West BMP will not likely provide enough bacteria load reduction to completely recover shellfish harvesting in the River by itself, but the County has many other projects and strategies planned that will help achieve the desired results.

F. Technical And Financial Assistance Needed:

The only technical support needed beyond the Beaufort County Stormwater Utility will be the survey, engineering, and natural resources expertise needed to implement the project. The County plans to acquire the technical support through contracting with private engineering, surveying, and natural resources consultants. Permits that may be needed include a SCDHEC-NPDES permit, a wetland impact permit, a SCDOT encroachment permit, and a Town of Bluffton planning permit. No additional financial assistance is needed to implement the Okatie West Project, because the Beaufort County Stormwater Utility has been saving money for this and other projects by means of a Capital Improvements Fund.

G. Completion of Watershed-Based Plan Implementation:

Initial plan implementation was completed via a 319 Grant with LOCOG along with matching activities funded by Beaufort County. Beyond this, the County is already in the process of implementing components of the *Okatie River Watershed Management Plan*. The Okatie West project is a flagship component to the County's watershed plan that if fully funded with our grant request, will facilitate a quicker implementation and will allow the County to leverage the Stormwater Utility funding towards the other WMP strategies. The following projects and strategies are already being implemented and are described in greater detail in the WMP:

- Okatie East Wetland Restoration – This is a regional retrofit in the eastern branch of the Okatie River headwaters designed to reduce the runoff volume reaching the river. The project was constructed and is currently being monitored and refined to optimize the stormwater detention and treatment.
- Highway 278 Widening Retrofits – Beaufort County is currently constructing 4 small ponds at existing outfalls from the Hwy 278 widening that was recently completed. The ponds are intended to treat runoff from the impervious areas added during the highway widening.
- Highway 170 Widening Retrofits – Similar to the Hwy 278 project, this project involves constructing small detention BMPs to treat runoff from a public road that is currently being widened. The County is pursuing the property needed to construct the BMPs and plans to design, permit, and construct the BMPs as the property is acquired.
- Land Preservation: Through its Rural and Critical Land Program, Beaufort County is actively pursuing property within the Okatie River to preserve. Most notably is an 84 acre parcel directly adjacent to the River that is the site of horse pastures noted in the Okatie River TMDL. The County Council has been debating the merits of the purchase and will be holding subsequent votes within the month of May.
- Education & Outreach: The Beaufort County Stormwater Utility has an active public education and outreach program that focuses on a variety of water quality topics applicable to homeowners, developers, and professional services.
- Illicit Discharge Ordinance: The County is in the process of developing an illicit discharge ordinance and inspection/enforcement plan.

The above strategies and projects are the highest priority strategies, but others mentioned in the Watershed Management Plan are also being pursued; as the County's Stormwater Utility is actively preparing short-term and long-term plans. Beaufort County Stormwater Utility has been implementing projects through their Capital Improvements Fund, but will need additional funding sources to leverage the shrinking fund. It is anticipated that other projects in the watershed based plan can be funded through future 319 grants and by State Revolving Fund loans. The County is current performing a rate study to plan for future funding sources, and is considering debt service options such as SRF and revenue bonds as part of the rate study.

H. Measurable Milestones:

| # | Month | Milestone |
|----|----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Quarterly | Submit progress reports, invoices, MBE/WBE forms and BMP information per schedule outlined in grant agreement. |
| 2 | 30 days after project completion | Submit final invoice and final technical closeout report to DHEC. Submit Final Budget Report within 45 days of project close. |
| 3 | Month 1 | Public education workshop and site visit for nearby residents |
| 4 | Months 1-4 | Project survey & initiate wetland verification update |
| 5 | Months 4-6 | Preliminary Engineering |
| 6 | Months 6-27 | Complete final design and update wetland verification |
| 7 | Months 27-33 | Project regulatory permitting |
| 8 | At the start of construction | Erect signage at along Highway 170 informing the general public of the water quality BMPs purpose, benefit, and contribution of the Rural & Critical Lands program |
| 9 | Months 33-36 | Construction procurement |
| 10 | Months 36-45 | Construction |
| 11 | Months 45-48 | Post Construction public education workshop and site visit for local developers & engineers |
| 11 | 30 days after project completion | Submit final invoice and final technical closeout report to SCDHEC. Submit Final Budget Report within 45 days of project close |

I. Measures Of Project Success:

1. Installation and proper function of the regional BMP as proposed in the conceptual design
2. Gradual decrease and stabilization in fecal coliform bacteria at SCDHEC station 18-08
3. Participation and feedback from workshops and site visits

7. PROPOSED BUDGET

A. Overall Project Budget

| | Federal | Non-Federal | Total |
|-------------------------------------------------|----------------------|----------------------|-----------------------|
| Personnel - Salary | | | \$0.00 |
| Personnel - Fringe | | | \$0.00 |
| Travel | | | \$0.00 |
| Equipment | | | \$0.00 |
| Supplies | | | \$0.00 |
| Contractual | | \$110,000.00 | \$110,000.00 |
| Construction | \$792,000.00 | \$418,000.00 | \$1,210,000.00 |
| Other | | | \$0.00 |
| Indirect (Requires additional documentation) | | | \$0.00 |
| TOTAL | \$ 792,000.00 | \$ 528,000.00 | \$1,320,000.00 |

B. Budget Narrative:

Personnel - Salary: None: All services will be contracted
 Personnel – Fringe: None: All services will be contracted
 Travel: None: All services will be contracted
 Equipment: None: Contracted professionals will provide their own equipment
 Supplies: None: Contracted professionals will provide their own supplies
 Contractual: Beaufort County will contract the surveying, natural resources consulting, geotechnical testing, and engineering design services. The contractual costs were estimated from the conceptual Budget presented in the 2015 *Okatie River Watershed Management Plan*, which updated the conceptual costs from the 2009 *Regional Retrofit Study*.
 Construction: Construction services will be procured by the County through their established procurement rules. The construction costs were estimated from the conceptual Budget presented in the 2015 *Okatie River Watershed Management Plan*, which updated the conceptual costs from the 2009 *Regional Retrofit Study*. The amounts for individual construction items are presented below in the “Okatie West BMP Retrofit Cost Estimate” table.
 Other: None
 Indirect : None

The following cost estimate was originally prepared as part of the 2009 *Regional Retrofit Study*, and later revised as part of the 2015 *Okatie River Watershed Management Plan*. The actual construction costs will be highly dependent on the offsite use and/or disposal of the soil excavated from the proposed pond. **Beaufort County hopes to be awarded the full amount of the Federal Request but is prepared to fund the difference from the Stormwater Utility Capital Improvement Reserve Fund and possibly from debt services. However a full Federal Match would help better leverage the County’s Capital Reserve Fund for the other projects planned within the Watershed; projects necessary to achieve the goal of fully restoring the Okatie River shellfish harvesting.**

| Okatie West BMP Retrofit Cost Estimate from the Okatie River Watershed Management Plan | | | | | |
|-----------------------------------------------------------------------------------------------|-------|-----------|----------|--------------------|----------------------------------------------|
| | Units | Unit Cost | Quantity | Cost | |
| Mobilization | EA | \$10,000 | 1 | \$10,000 | |
| Site Prep/Restoration Erosion & Sediment Control | EA | \$7,500 | 1 | \$7,500 | |
| Clearing | AC | \$5,500 | 8 | \$44,000 | |
| Gravel Access Road | SY | \$25 | 4,400 | \$110,000 | |
| Excavation & Offsite Disposal | CY | \$20 | 43,000 | \$860,000 | |
| 30" RCP | LF | \$50 | 150 | \$7,500 | |
| Outlet Control Structure | EA | \$10,000 | 1 | \$10,000 | |
| Rip Rap Overflow Weir & Outlet Protection | SY | \$150 | 250 | \$37,500 | |
| Grassing & Stabilization | SY | \$0.50 | 27,000 | \$13,500 | |
| Pre-Contingency Sub-total | | | | \$1,100,000 | |
| Contingency (10%) | | | | \$110,000 | |
| Construction Sub-total | | | | \$1,210,000 | Construction - \$1,210,000 |
| Engineering/Legal/Admin (10%) | | | | \$110,000 | Engineering (Contractual) - \$110,000 |
| Total | | | | \$1,320,000 | Total - \$1,320,000 |

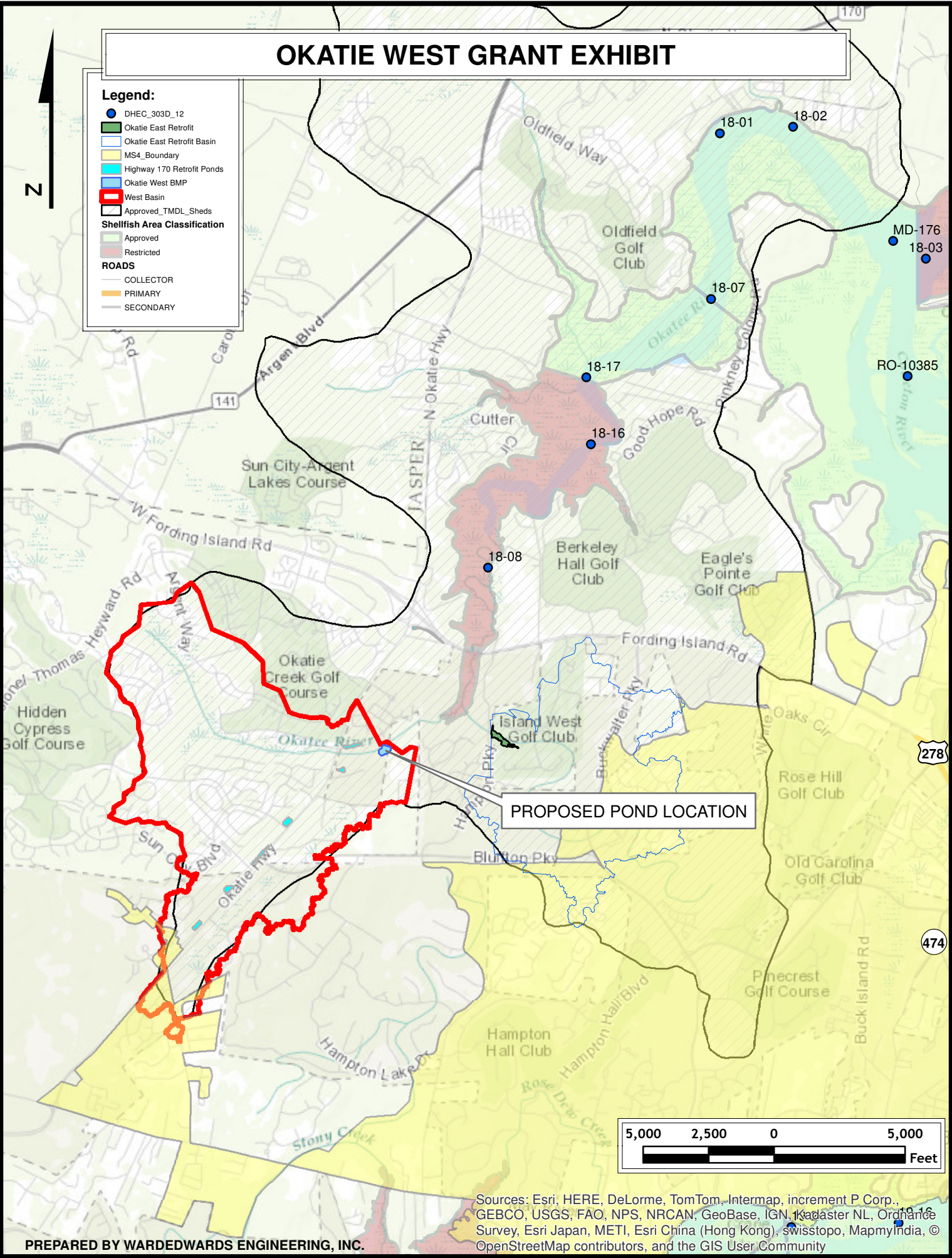
| Okatie West Water Quality Retrofit | | | | | | | | | | |
|--------------------------------------------|----------------------------------------------------------------------------------------------------------|------------------------------------|------------------------|---------------|-------------------------------------|--------------------------------------------------------------------------------------------------------|----------------------------------------|-------------------------|---------------------|--------------|
| Federal Budget (to be billed to 319 Grant) | | | | | Non-Federal Budget (Match to grant) | | | | | |
| 1 | Federal: Personnel - Salary Costs (Lead Organization Personnel ONLY) | | | | 10 | Non-Fed: Personnel - Salary, In-Kind Hours (Lead Organization ONLY) | | | | |
| | Employee | # of Hours or Years | Hourly Rate or Salary | Total Cost | | In-Kind Employee | # of Hours | Hourly Rate | Total Cost | |
| | | 0.00 | \$0.00 | \$0.00 | | | 0.00 | \$0.00 | \$0.00 | |
| | | | Section 1 TOTAL | \$0.00 | | | | Section 10 TOTAL | \$0.00 | |
| 2 | Federal: Personnel - Fringe Benefits Costs (Lead Organization Personnel ONLY) | | | | 11 | Non-Fed: Personnel - Fringe Benefits Costs (Lead Organization ONLY) | | | | |
| | | Percentage of TOTAL Federal Salary | 0.00% | | | | Percentage of TOTAL Non-Federal Salary | 0.00% | | |
| | | | Section 2 TOTAL | \$0.00 | | | | Section 11 TOTAL | \$0.00 | |
| 3 | Federal: Travel (Lead Organization Personnel ONLY) | | | | 12 | Non-Fed: Travel (Lead Organization ONLY) | | | | |
| | Employee | # of miles | Per Mile | Total Cost | | Employee | # of miles | Per Mile | Total Cost | |
| | | 0.00 | \$0.575 | \$0.00 | | | 0.00 | \$0.575 | \$0.00 | |
| | | Mileage | Sub Total | \$0.00 | | | Mileage | Sub Total | \$0.00 | |
| ** | | Overnight Travel Cost | \$0.00 | \$0.00 | ** | | Overnight Travel Cost | \$0.00 | \$0.00 | |
| | | | Section 3 TOTAL | \$0.00 | | | | Section 12 TOTAL | \$0.00 | |
| 4 | Federal: Equipment (If applicable. Equipment is defined as single items with cost over \$2,500) | | | | 13 | Non-Fed: Equipment (If applicable. Equipment is defined as single items with cost over \$2,500) | | | | |
| | Description | Single Cost | Number Needed | Total Cost | | Description | Single Cost | Number Needed | Total Cost | |
| | | \$0.00 | 0 | \$0.00 | | | \$0.00 | 0 | \$0.00 | |
| | | | Section 4 TOTAL | \$0.00 | | | | Section 13 TOTAL | \$0.00 | |
| 5 | Federal: Supplies (i.e., office supplies, laptop, printing costs, postage) | | | | 14 | Non-Fed: Supplies (i.e., office supplies, laptop, printing costs, postage) | | | | |
| | Description | Cost | | | | Description | Cost | | Total Cost | |
| | | \$0.00 | | \$0.00 | | | \$0.00 | | \$0.00 | |
| | | | Section 5 TOTAL | \$0.00 | | | | Section 14 TOTAL | \$0.00 | |
| 6 | Federal: Contractual / Services - Section A (Sub-Contractor services, not associated with salary) | | | | 15 | Non-Fed: Contractual / Services - Section A (Not associated with volunteered time) | | | | |
| A | Description | Cost | | Total Cost | A | Description | Cost | | Total Cost | |
| | | \$0.00 | | \$0.00 | | Surveying & Engineering | \$110,000.00 | | \$110,000.00 | |
| | | \$0.00 | | \$0.00 | | | \$0.00 | | \$0.00 | |
| | | | Section A | Sub Total | \$0.00 | | | Section A | Sub Total | \$110,000.00 |
| B | Federal: Contractual / Services - Section B - Salary Costs (Sub-Contractors) | | | | B | Non-Fed: Contractual / Services - Section B - Salary Costs (In-Kind from Volunteers, etc.) | | | | |
| | Employee | Total # of Hours | Hourly Rate | Total Cost | | In-Kind Employee | Total # of Hours | Hourly Rate | Total Cost | |
| | | 0.00 | \$0.00 | \$0.00 | | | 0.00 | \$0.00 | \$0.00 | |
| | | | Section B | Sub Total | \$0.00 | | | Section B | Sub Total | \$0.00 |
| C | Federal: Contractual / Services - Section C - Travel (Sub-Contractors) | | | | C | Non-Fed: Contractual / Services - Section C - Travel (In-Kind from Volunteers, etc.) | | | | |
| | Employee | Mileage | Per Mile | Total Cost | | In-Kind Employee | Mileage | Per Mile | Total Cost | |
| | | 0.00 | 0.575 | \$0.00 | | | 0.00 | 0.575 | \$0.00 | |
| | | | Section C | Sub Total | \$0.00 | | | Section C | Sub Total | \$0.00 |
| | | | Section 6 TOTAL | \$0.00 | | | | Section 15 TOTAL | \$110,000.00 | |

| 7 Federal: Construction (i.e. BMPs) | | | | 16 Non-Fed: Construction (i.e. BMPs) | | | |
|-------------------------------------|------------------------|-----------------------|-----------------------------------------------------|----------------------------------------|------------------------|---------------------|--------------------------|
| Description | Single Cost | Number Needed | Total Cost | Description | Single Cost | Number Needed | Total Cost |
| BMP Construction | \$792,000.00 | 1 | \$792,000.00 | BMP Construction | \$418,000.00 | 1 | \$418,000.00 |
| | \$0.00 | 0 | \$0.00 | | \$0.00 | 0 | \$0.00 |
| Section 7 TOTAL | | | \$792,000.00 | Section 16 TOTAL | | | \$418,000.00 |
| 8 Federal: Other | | | | 17 Non-Fed: Other | | | |
| Description | Cost | | | Description | Cost | | |
| | \$0.00 | Section 8 TOTAL | | \$0.00 | Section 17 TOTAL | | \$0.00 |
| 9 Federal: Indirect | | | | 18 Non-Fed: Indirect | | | |
| Include Attachment 4 | | | | Include Attachment 4 | | | |
| Percentage of TOTAL Federal Salary | | 0.00% | | Percentage of TOTAL Non-Federal Salary | | 0.00% | |
| Section 9 TOTAL | | | \$0.00 | Section 18 TOTAL | | | \$0.00 |
| FEDERAL Budget Summary | | | | NON-FEDERAL Budget Summary | | | |
| 19 | Category | Section Totals | Percentage | | Category | Section Totals | Percentage |
| Federal: | | | | Non-Federal / Match | | | |
| 1 | Personnel - Salary | \$0.00 | | 10 | Personnel - Salary | \$0.00 | |
| 2 | Personnel - Fringe | \$0.00 | | 11 | Personnel - Fringe | \$0.00 | |
| 3 | Travel | \$0.00 | | 12 | Travel | \$0.00 | |
| 4 | Equipment | \$0.00 | | 13 | Equipment | \$0.00 | |
| 5 | Supplies | \$0.00 | | 14 | Supplies | \$0.00 | |
| 6 | Contractual / Services | \$0.00 | | 15 | Contractual / Services | \$110,000.00 | |
| 7 | Construction | \$792,000.00 | | 16 | Construction | \$418,000.00 | |
| 8 | Other | \$0.00 | | 17 | Other | \$0.00 | |
| 9 | Indirect | \$0.00 | | 18 | Indirect | \$0.00 | |
| Federal TOTAL | | \$792,000.00 | 60.00% | Non-Federal TOTAL | | \$528,000.00 | 40.00% |
| | | | Federal TOTAL | | | | Non-Federal TOTAL |
| 19 | Grand TOTAL | \$1,320,000.00 | FEDERAL & NON-FEDERAL Budget Grand Total | | | | |

OKATIE WEST GRANT EXHIBIT

Legend:

- DHEC_303D_12
 - Okatie East Retrofit
 - Okatie East Retrofit Basin
 - MS4_Boundary
 - Highway 170 Retrofit Ponds
 - Okatie West BMP
 - West Basin
 - Approved_TMDL_Sheds
- Shellfish Area Classification**
- Approved
 - Restricted
- ROADS**
- COLLECTOR
 - PRIMARY
 - SECONDARY



PREPARED BY WARDEDWARDS ENGINEERING, INC.

Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Addendum 1 – Okatie River Watershed Management Plan

June 2015

Addendum Purpose

The most recent Beaufort County Stormwater Master Plan and associated water quality modeling was completed in 2006 and is due to be updated. The County is currently procuring engineering assistance to update the SWMP, but it will be a year or more before those services are completed. The water quality models associated with the current SWMP are out of date given the land-use changes over the past ten years, the changes in the County's stormwater regulations, the recent water quality BMPs installed, and the water quality BMPs proposed within the Okatie River watershed. However, analysis of the proposed regional BMPs required some sort of water quality model to evaluate and predict the effectiveness of the BMPs. This Addendum was prepared to model the water quality removal efficiencies of the two regional retrofit projects within the headwaters portion of the watershed (Okatie River 3).

Water Quality Model Methodology & Assumptions

The original 2006 SWMP water quality model was prepared using a spreadsheet model developed by the CDM Smith called the Watershed Management Model (WMM). The spreadsheet model considered the land-use based non-point source pollution loading factors (Event Mean Concentrations), stormwater runoff rates, base flow runoff rates, septic tank impacts, and point source loads. The spreadsheet model results for each water quality sub-basin were calculated separately and then applied to a one dimensional hydrodynamic tidal flushing model called the Water Quality Analysis Simulation Program (WASP) to evaluate the longer term fate of the pollutants during tidal flushing and to identify more sensitive watersheds.

For the purpose of this model update, a spreadsheet model similar to the WMM was developed using the original model input and assumptions. However, the new model used updated land-uses from current aerial photography, along with considerations for the currently proposed regional BMPs. Only the Okatie River 3 sub-basin was analyzed because this was the area of specific concern related to the proposed BMPs. The model results provide average annual pollutant runoff load estimates from each land-use type for both base flow conditions and rainfall runoff conditions, based on EMCs and yearly average baseflow and runoff. Point source loads were not used in the model because there are no waste water treatment plants within the watershed. The resulting annual loads area added together to get a total sub-basin pollutant load and then the BMP removal effectiveness was applied to the load to determine the amount of pollutant load reductions. The load reductions were also factored based on the percentage of the sub-basin served by the proposed BMPs and by a sizing factor related to the proposed BMP size compared to the optimum BMP size.

Table 2-5 from the SWMP lists the Average Annual Runoff in inches/year for each land-use type:

**TABLE 2-5
LAND USE CATEGORIES AND ASSOCIATED RUNOFF COEFFICIENTS
FOR ANNUAL LOAD CALCULATIONS**

Urban Systems

| Land Use | % Impervious | Impervious Runoff Coefficient | Pervious Runoff Coefficient | Average Annual Runoff (inches/year) |
|-----------------------------|--------------|-------------------------------|-----------------------------|-------------------------------------|
| Low-Density Residential | 10% | 0.90 | 0.10 | 8.7 |
| Medium-Density Residential | 25% | 0.90 | 0.10 | 14.5 |
| High-Density Residential | 50% | 0.90 | 0.10 | 24.2 |
| Institutional | 38% | 0.90 | 0.10 | 19.6 |
| Industrial / Transportation | 72% | 0.90 | 0.10 | 32.7 |
| Commercial / Business | 85% | 0.90 | 0.10 | 37.8 |
| Golf Courses | 1% | 0.90 | 0.10 | 5.2 |
| Impervious | 100% | 0.90 | 0.10 | 43.6 |
| Open Space* | 1% | 0.90 | 0.10 | 5.2 |

*e.g., parks, cemeteries

Agricultural Systems

| Land Use | % Impervious | Impervious Runoff Coefficient | Pervious Runoff Coefficient | Average Annual Runoff (inches/year) |
|--------------|--------------|-------------------------------|-----------------------------|-------------------------------------|
| Row Crop | 1% | 0.90 | 0.10 | 5.2 |
| Silviculture | 1% | 0.90 | 0.10 | 5.2 |

Natural Systems

| Land Use | % Impervious | Impervious Runoff Coefficient | Pervious Runoff Coefficient | Average Annual Runoff (inches/year) |
|----------------------|--------------|-------------------------------|-----------------------------|-------------------------------------|
| Open Water | 100% | 1.00 | 0.10 | 48.4 |
| Forested Wetland | 100% | 0.25 | 0.10 | 12.1 |
| Non-Forested Wetland | 100% | 1.00 | 0.10 | 48.4 |
| Sandy Area | 100% | 1.00 | 0.10 | 48.4 |
| Forestland | 1% | 0.90 | 0.10 | 5.2 |
| Grassland | 1% | 0.90 | 0.10 | 5.2 |

Table 2-6 lists the Runoff Event Mean Concentrations (EMCs) for each land-use

**TABLE 2-6
RUNOFF EVENT MEAN CONCENTRATIONS (EMCs) FOR ANNUAL LOAD CALCULATIONS**

Urban Systems

| Land Use | BOD (mg/l) | TSS (mg/l) | Total-P (mg/l) | Total-N (mg/l) | Lead (mg/l) | Zinc (mg/l) | Fecal Coliform (#/100 ml) |
|-----------------------------|------------|------------|----------------|----------------|-------------|-------------|---------------------------|
| Low-Density Residential | 11 | 117 | 0.40 | 1.9 | 0.020 | 0.078 | 32,200 |
| Medium-Density Residential | 11 | 117 | 0.40 | 1.9 | 0.020 | 0.078 | 32,200 |
| High-Density Residential | 10 | 116 | 0.29 | 1.9 | 0.016 | 0.119 | 21,750 |
| Institutional | 10 | 117 | 0.23 | 1.9 | 0.016 | 0.119 | 32,200 |
| Industrial / Transportation | 10 | 116 | 0.23 | 1.9 | 0.016 | 0.119 | 11,100 |
| Commercial / Business | 10 | 116 | 0.23 | 1.9 | 0.016 | 0.119 | 11,300 |
| Golf Courses | 2 | 26 | 1.30 | 2.6 | 0.009 | 0.041 | 6,400 |
| Impervious | 10 | 116 | 0.23 | 1.9 | 0.016 | 0.119 | 11,300 |
| Open Space* | 2 | 26 | 0.10 | 1.3 | 0.001 | 0.006 | 6,400 |

*e.g., parks, cemeteries

Agricultural Systems

| Land Use | BOD (mg/l) | TSS (mg/l) | Total-P (mg/l) | Total-N (mg/l) | Lead (mg/l) | Zinc (mg/l) | Fecal Coliform (#/100 ml) |
|--------------|------------|------------|----------------|----------------|-------------|-------------|---------------------------|
| Row Crop | 4 | 55 | 1.30 | 2.6 | 0.009 | 0.041 | 6,400 |
| Silviculture | 4 | 55 | 0.14 | 2.1 | 0.009 | 0.041 | 6,400 |

Natural Systems

| Land Use | BOD (mg/l) | TSS (mg/l) | Total-P (mg/l) | Total-N (mg/l) | Lead (mg/l) | Zinc (mg/l) | Fecal Coliform (#/100 ml) |
|----------------------|------------|------------|----------------|----------------|-------------|-------------|---------------------------|
| Open Water | 3 | 6 | 0.16 | 1.3 | 0.006 | 0.146 | 6,400 |
| Forested Wetland | 2 | 26 | 0.10 | 1.3 | 0.001 | 0.006 | 6,400 |
| Non-Forested Wetland | 3 | 6 | 0.16 | 1.3 | 0.006 | 0.146 | 6,400 |
| Sandy Area | 3 | 6 | 0.16 | 1.3 | 0.006 | 0.146 | 6,400 |
| Forestland | 2 | 26 | 0.10 | 1.3 | 0.001 | 0.006 | 6,400 |
| Grassland | 2 | 26 | 0.10 | 1.3 | 0.001 | 0.006 | 6,400 |

Source: CDM, 2003

Table 2-7 lists the Baseflow EMCs applied to all land-uses

**TABLE 2-7
BASEFLOW EVENT MEAN CONCENTRATIONS (EMCs) FOR ANNUAL LOAD CALCULATIONS**

| BOD (mg/l) | TSS (mg/l) | Total-P (mg/l) | Total-N (mg/l) | Lead (mg/l) | Zinc (mg/l) | Fecal Coliform (#/100 ml) |
|------------|------------|----------------|----------------|-------------|-------------|---------------------------|
| 3 | 18 | 0.16 | 1.0 | 0.001 | 0.001 | 200 |

Source: T&H sampling - Eagle's Pointe and Buckwater

Table 2-11 lists the BMPs and associated pollutant removal efficiencies

**TABLE 2-11
BMPs AND ASSOCIATED REMOVAL EFFICIENCIES FOR ANNUAL LOAD CALCULATIONS**

| BMP Type | BOD | TSS | Total-P | Total-N | Lead | Zinc | Fecal Coliform |
|---------------------------------------|-----|-----|---------|---------|------|------|----------------|
| Wet Detention Basin | 40% | 80% | 60% | 40% | 80% | 70% | 80% |
| Extended Dry Detention Basin | 30% | 80% | 30% | 15% | 80% | 50% | 35% |
| Modified Extended Dry Detention Basin | 35% | 80% | 45% | 25% | 80% | 60% | 50% |
| Infiltration | 75% | 90% | 55% | 45% | 75% | 75% | 90% |
| Grass Swale with Check Dams | 20% | 70% | 25% | 20% | 60% | 40% | 30% |
| Biofiltration Swale | 10% | 30% | 15% | 10% | 30% | 25% | 10% |
| Bioretention | 50% | 80% | 55% | 30% | 80% | 60% | 70% |
| Innovative Technology | | | | | | | |
| - Swirl Concentrator | 30% | 80% | 30% | 15% | 80% | 50% | 10% |
| - Settling/Filtration | 30% | 80% | 30% | 15% | 80% | 50% | 35% |
| - Settling/Wetland | 40% | 80% | 60% | 40% | 80% | 70% | 70% |

Source: CDM, 2003.

Updated Water Quality Model for Okatie River 3 Water Quality Sub-basin

The updated spreadsheet model used the above mentioned methodology and input data to calculate the total bacteria pollutant load generated in the sub-basin. The model then calculated the service area and BMP sizing weighted removal efficiencies for the two regional retrofits within the sub-basin; the recently constructed Okatie East Wetland Enhancement and the proposed Okatie West Regional Pond. The spreadsheet model is shown below.

Okatie River 3 Water Quality Sub-WQ Calculations Summary

| | | |
|----------------------|----------|----------------|
| Annual Baseflow Rate | 7 | inches/yr/acre |
| Annual Baseflow | 3368.75 | ac/ft |
| Annual Runoff | 4943.42 | ac/ft |
| Calculated FC Load | 1.10E+15 | #/yr |

| BMP | BMP % Removal Efficiency | BMP Size Factor | BMP Service Area Load Removal | % Service Area Load Reduction | % of Okatie 3 Sub-Basin Served | Predicted Load Removal | % Load Reduction |
|---------------------------|--------------------------|-----------------|-------------------------------|-------------------------------|--------------------------------|------------------------|------------------|
| Okatie East | 70% | 30% | 9.74E+13 | 21.00% | 42% | 9.74E+13 | 8.82% |
| Okatie West | 80% | 20% | 7.78E+13 | 16.00% | 44% | 7.78E+13 | 7.04% |
| Total Load Removed | | | | | | 1.75E+14 | |

| | | |
|-----------------------|----------|------|
| Calculated FC Load | 1.10E+15 | #/yr |
| Total Load Removed | 1.75E+14 | #/yr |
| Predicted Future Load | 9.29E+14 | #/yr |
| Total % Reduction | 15.86% | |

Okatie River 3 Water Quality Sub-WQ Calculations

| Land Use Type | Average Annual Runoff (inches/year) | Watershed Land Use Area (Ac) | Annual Base Flow (ac-ft) | Annual Base Flow (m3) | Annual Runoff (Ac-ft) | Annual Runoff (m3) | Fecal Coliform Base Flow Concentration (#/100 ml) | Annual Base Load (#/yr) | Fecal Coliform Runoff Concentration (#/100 ml) | Annual Storm Load (#/yr) | Total Annual Load (#/yr) |
|----------------------------|-------------------------------------|------------------------------|--------------------------|-----------------------|-----------------------|--------------------|---------------------------------------------------|-------------------------|------------------------------------------------|--------------------------|--------------------------|
| Low-Density Residential | 8.7 | 59.00 | 34.42 | 4.25E+10 | 42.78 | 5.28E+10 | 200 | 8.49E+10 | 32200 | 1.70E+13 | 1.71E+13 |
| Medium-Density Residential | 14.5 | 1575.00 | 918.75 | 1.13E+12 | 1903.43 | 2.35E+12 | 200 | 2.27E+12 | 32200 | 7.56E+14 | 7.58E+14 |
| High-Density Residential | 24.2 | 38.00 | 22.17 | 2.73E+10 | 76.63 | 9.45E+10 | 200 | 5.47E+10 | 21750 | 2.06E+13 | 2.06E+13 |
| Institutional | 19.6 | 98.00 | 57.17 | 7.05E+10 | 160.07 | 1.97E+11 | 200 | 1.41E+11 | 32200 | 6.36E+13 | 6.37E+13 |
| Industrial/Transportation | 32.7 | 0.00 | 0.00 | 0.00E+00 | 0.00 | 0.00E+00 | 200 | 0.00E+00 | 11100 | 0.00E+00 | 0.00E+00 |
| Commercial/Business | 37.8 | 112.00 | 65.33 | 8.06E+10 | 352.80 | 4.33E+11 | 200 | 1.61E+11 | 11300 | 4.92E+13 | 4.93E+13 |
| Golf Courses | 5.2 | 334.00 | 194.83 | 2.40E+11 | 144.73 | 1.79E+11 | 200 | 4.81E+11 | 6400 | 1.14E+13 | 1.19E+13 |
| Impervious | 43.6 | | 0.00 | 0.00E+00 | 0.00 | 0.00E+00 | 200 | 0.00E+00 | 11300 | 0.00E+00 | 0.00E+00 |
| Open Space | 5.6 | 2370.00 | 1382.50 | 1.71E+12 | 1106.00 | 1.36E+12 | 200 | 3.41E+12 | 6400 | 8.73E+13 | 9.07E+13 |
| Row Crop | 5.2 | | 0.00 | 0.00E+00 | 0.00 | 0.00E+00 | 200 | 0.00E+00 | 6400 | 0.00E+00 | 0.00E+00 |
| Silviculture | 5.2 | 74.00 | 43.17 | 5.32E+10 | 32.07 | 3.96E+10 | 200 | 1.06E+11 | 6400 | 2.53E+12 | 2.64E+12 |
| Open Water | 48.4 | 56.00 | 32.67 | 4.03E+10 | 225.87 | 2.79E+11 | 200 | 8.06E+10 | 6400 | 1.78E+13 | 1.79E+13 |
| Forested Wetland | 12.1 | 766.00 | 446.83 | 5.51E+11 | 772.38 | 9.53E+11 | 200 | 1.10E+12 | 6400 | 6.10E+13 | 6.21E+13 |
| Non-Forested Wetland | 48.4 | | 0.00 | 0.00E+00 | 0.00 | 0.00E+00 | 200 | 0.00E+00 | 6400 | 0.00E+00 | 0.00E+00 |
| Sandy Area | 48.4 | | 0.00 | 0.00E+00 | 0.00 | 0.00E+00 | 200 | 0.00E+00 | 6400 | 0.00E+00 | 0.00E+00 |
| Forestland | 5.2 | | 0.00 | 0.00E+00 | 0.00 | 0.00E+00 | 200 | 0.00E+00 | 6400 | 0.00E+00 | 0.00E+00 |
| Grassland | 5.2 | 293.00 | 170.92 | 2.11E+11 | 126.97 | 1.57E+11 | 200 | 4.22E+11 | 6400 | 1.00E+13 | 1.04E+13 |
| Total | | 5775.00 | 3368.75 | 4.16E+12 | 4943.42 | 6.098E+12 | | 8.31E+12 | | 1.10E+15 | 1.10E+15 |

Model Results

The model results indicate that the proposed Okatie West BMP will remove $7.78E+13$ #/year of bacteria from the BMP service area, which equates to a 16% reduction. The Okatie East BMP will remove $9.74E+13$ #/year from its service area, which equates to a 21% reduction. Considering these load reductions within the entire Okatie River 3 water quality sub-basin, that equates to a respective 7% and 8.8% reduction at SCDHEC monitoring station 18-08, for a total load reduction of $1.75E+14$ #/year (15.8% reduction). This is a significant reduction given the size of the water quality sub-basin. Although this is not enough to recover the river for shellfish monitoring, it will make a difference in the quality, especially given the other regional and non-regional BMP strategies planned for the watershed.



BEAUFORT COUNTY STORMWATER UTILITY
120 Shanklin Road
Beaufort, South Carolina 29906
Voice (843) 255-2801 Facsimile (843) 255-9478



INTEROFFICE MEMORANDUM

TO: Councilman Brian Flewelling, Chairman, Natural Resources Committee

FROM: Eric W. Larson, Stormwater Manager *Eric W. Larson*

SUBJECT: Okatie West Water Quality Retrofit project
EPA CWA Section 319 grant award acceptance

DATE: September 8, 2015

BACKGROUND:

The 2002 Okatie River Watershed Management Plan identified a regional retrofit project in the west tributary of the Okatie River headwaters, which was further detailed in the 2009 Regional Retrofit Study, the 2014 SC170 Highway Widening Retrofit Study, and the 2015 Okatie River Watershed Management Plan update. In late 2014, the Stormwater Utility partnered with the Rural and Critical Lands Board to make an offer to purchase the New Leaf, LLC tract along SC 170 and the potential site for this regional project. Closing is anticipated soon. In April 2015, the Stormwater Utility submitted the "Okatie West" project for grant funding by the USEPA Clean Water Act Section 319 grant program. On August 11, 2015, the County was notified that the project was granted funds for design and construction of the site. The grant program is a 60% funding with 40% match. The proposed match is Stormwater CIP funds.

FUNDING:

Primary Funding – 50260014–51160; Stormwater CIP funds - \$528,000
Grant Funding - \$792,000

ESTIMATED PROJECT COST:

\$1,320,000

FOR ACTION:

Natural Resources Committee meeting September 8, 2015.

RECOMMENDATION:

The Stormwater Department recommends that the Natural Resources Committee approve and recommend to County Council to accept the EPA CWA Section 319 grant award in the amount of \$792,000 and grant the County Administrator the authority to sign all necessary grant award contracts with the South Carolina Department of Health and Environmental Control (DHEC).

CC: Gary Kubic, County Administrator
Josh Gruber, Deputy Administrator
Alicia Holland, Chief Financial Officer

Att: Grant project workplan



BEAUFORT COUNTY
STORMWATER MANAGEMENT UTILITY BOARD
AGENDA

Wednesday, September 30, 2015
2:00 p.m.

Beaufort Industrial Village, Building 3 Conference Room 104
Industrial Village Road, Beaufort
843.255.2805

In accordance with South Carolina Code of Laws, 1976, as amended, Section 30-4-80(d), all local media was duly notified of the time, date, place and agenda of this meeting.

1. CALL TO ORDER – 2:00 p.m.
 - A. Approval of Agenda
 - B. Approval of Minutes – August 26, 2015 ([backup](#))
2. INTRODUCTIONS
3. PUBLIC COMMENT
4. REPORTS
 - A. Utility Update – Eric Larson, P.E. ([backup](#))
 - B. MS4 Update - Eric Larson, P.E. ([backup](#))
 - C. Monitoring Update – Eric Larson, P.E. ([backup](#))
 - D. Stormwater Implementation Committee Report – Eric Larson, P.E. ([backup](#))
 - E. Stormwater Related Projects – Eric Larson, P.E. ([backup](#))
 - F. Upcoming Professional Contracts Report – Eric Larson, P.E. ([backup](#))
 - G. Regional Coordination – Eric Larson, P.E. ([backup](#))
 - H. Financial Report ([backup](#))
 - I. Maintenance Projects Report – Eddie Bellamy ([backup](#))
5. UNFINISHED BUSINESS
 - A. Update on the Rate Structure Implementation- Eric Larson ([backup](#))
6. NEW BUSINESS
 - A. Presentation of the D.N.R. Salinity Study ([backup](#))
 - B. Presentation of the BJWSA May River Watershed Sewer Master Plan by The Town of Bluffton- Jeremy Ritchie ([backup](#))
7. PUBLIC COMMENT
8. NEXT MEETING AGENDA
 - A. October 21, 2015 ([backup](#))
9. ADJOURNMENT

