



BEAUFORT COUNTY
STORMWATER MANAGEMENT UTILITY BOARD AGENDA
Wednesday, November 15, 2017
2:00 p.m.
Executive Conference Room, Administration Building
Beaufort County Government Robert Smalls Complex
100 Ribaut Road, Beaufort, South Carolina
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 – October 18, 2017 ([backup](#))
2. INTRODUCTIONS
3. PUBLIC COMMENT
4. REPORTS
 - A. Utility Update – Eric Larson, P.E. ([backup](#))
 - B. Monitoring Update – Eric Larson, P.E. ([backup](#))
 - C. Stormwater Implementation Committee Report – Eric Larson, P.E. ([backup](#))
 - D. Stormwater Related Projects – Eric Larson, P.E. ([backup](#))
 - E. Upcoming Professional Contracts Report – Eric Larson, P.E. ([backup](#))
 - F. Regional Coordination – Eric Larson, P.E. ([backup](#))
 - G. Municipal Reports – Eric Larson, P.E. ([backup](#))
 - H. MS4 Update – Eric Larson, P.E. ([backup](#))
 - I. Maintenance Projects Report – David Wilhelm, P.E. ([backup](#))
5. UNFINISHED BUSINESS
 - A. Regionalization Update
6. NEW BUSINESS
7. PUBLIC COMMENT
8. NEXT MEETING AGENDA
 - A. December 20, 2017 ([backup](#))
9. ADJOURNMENT



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

October 18, 2017 at 2:00 p.m. in Executive Conference Room, Administration Building, Beaufort County Government Robert Smalls Complex, 100 Ribaut Road, Beaufort, South Carolina

Draft Minutes 11/03/2017

Board Members

Present

Marc Feinberg
Allyn Schneider
Larry Meisner
James Fargher
Patrick Mitchell
William Bruggeman

Absent

Don Smith

Ex-Officio Members

Present

Andy Kinghorn
Scott Liggett
Kim Jones

Absent

Van Willis

Beaufort County Staff

Eric Larson
David Wilhelm
Melissa Allen

Visitors

Neil Desai, City of Beaufort
Alan Warren, USCB Lab
Steve Andrews, Andrews Engineering
Paul Moore, Ward Edwards
Brian McIlwee, Town of Bluffton
York Glover, County Council

1. Meeting called to order – Allyn Schneider

- A. Agenda – Addition under New Business – Road Paving and Stormwater – Approved.
- B. August 16, 2017 Minutes – Acknowledged; September 20, 2017 Minutes – Approved.

2. Introductions – Completed.

3. Public Comment(s) – None.

4. Reports – Mr. Eric Larson and Mr. David Wilhelm provided a written report which is included in the posted agenda and can be accessed at:

<http://www.bcgov.net/departments/Administrative/beaufort-county-council/boards-and-commissions/council-appointed/board-list/stormwater-management-utility-board/agendas/2017/101817.pdf>

A. Utility Update – Eric Larson

In regards to tax run (item #1), Mr. Eric Larson stated that the information has been submitted. He shared a comparison of stormwater fee revenue and explained that the negative number beside Beaufort (City) is due to auditing data. There was \$14,000 less in fees after data was remeasured and reclassified and with new construction increasing revenue about \$10,000, there was a \$4,000 difference remaining. There were nine properties that had over \$100 decrease in fees and 181 parcels that went down by less than \$100. Overall

countywide there is an increase which is due to new development. Mr. Larry Meisner asked why Hilton Head went up significantly. Mr. Larson answered it was because they had a rate increase this year. [The stormwater fee revenue comparison is attached.](#)

Item #3 (County Code of Ordinance Chapter 99) and #6 (regionalization) will be discussed during unfinished business.

B. Monitoring Update – Eric Larson

In reference to the USCB Lab report, it was a routine report. In reference to Item #2, the meeting for the Battery Creek 319 project will be scheduled in the near future.

C. Stormwater Implementation Committee (SWIC) Report – Eric Larson

SWIC met as part of a larger group, with the SoLoCo committee, which will be discussed during unfinished business.

D. Stormwater Related Projects – Eric Larson

In reference to item #1 (Okatie West), the County has got past the USACE permitting hurdle and bidding is still on schedule for December.

In reference to item #3, the County recently completed evaluation of the current stormwater workload, as they are still behind schedule since Matthew. A decision has been made to go to a 50 hour week with some of the crew members working a fifth ten (10) hour day. The County anticipates to be caught up before the end of the fiscal year. There are vacancies that have budgeted salary and benefits that aren't being spent, as well as money in contingency that will be used to fund overtime. About \$120,000 in overtime has been calculated to be paid from now to July 31st, but expect to complete the backlog before then.

E. Professional Contracts Report – Eric Larson

Mr. Larson indicated he received the draft CIP Plan from ATM on October 17th. He will be reviewing that and sending it to the municipalities to give feedback to ATM.

The kickoff meetings have taken place on all projects for the CIP FY18 grouping. The Forby/Sawmill meeting took place on October 17th. This project will be approached in two steps; preliminary engineering work and have conversations with USACE about permitting to see if the concept is feasible for permitting. If not, the project may need to be dropped.

A kickoff meeting has taken place with Clemson and the County is waiting for their proposed scope of services, to make it a larger project. This will be in conjunction with the City of Beaufort.

F. Regional Coordination – Eric Larson

In reference to Factory Creek Phase 1 of Academy Park, the developer signed the agreement today, October 18 and provided proof of ownership. A contract was also signed with the engineering firm.

In reference to Factory Creek Phase II, which is further downstream, the final plans were submitted on October 17th to staff review team (SRT). Once the local SRT permit is issued construction can begin.

The DOT permit has been issued and approved for the Wallace Road drainage project. The County has not begun construction, as they are looking at an alternative project that would be a better solution and would avoid an encroachment into the DOT right of way.

In reference to a question about the Bio-Assay lab, Mr. Larson answered that it is not in competition with the USBC (water quality) lab, they have different functions. Their focus is aquatic life and how urban environment affects it, similar to research that the Waddell Center does. Mr. Alan Warren said he can see some possible similar synergies and noted that it will involve natural science faculty, which is not the department he works within.

In reference to a question about item #5, Mr. Larson indicated there is not a current update as discussions are still taking place.

G. Municipal Reports – Eric Larson

Ms. Kim Jones shared that the Town of Bluffton has entered into a Master Service Agreement (MSA) through a 3rd party to begin doing the MS4 required post construction inspections on best management practices.

H. Municipal Separate Storm Sewer System (MS4 Update) – Eric Larson

Mr. Larson explained that the County has contracted, on a temporary basis, with ATM for one day a week to have a representative onsite to help keep MS4 going, such as facility inspections and will begin to help put together the annual report. The professional services contingency that is in the budget is being used to cover this expense. The County also has Ward Edwards and Andrews Engineering under contact to assist with SRT plan review.

In reference to item #4, the County is in the process of providing a recommendation to County Council to purchase Energov (permitting software) that would be co-funded by Community Development, Building Inspection, Business Licensing and Stormwater. Stormwater has money available in the budget for a software solution which hasn't been spent in the past, as Munis and spreadsheets have been utilized. The stormwater portion could be based on the volume of permitting to set a reasonable permit fee that would be used to cover the annual software maintenance fee. Stormwater may have to help fund the renewal with the utility operating fund if permit fees cannot support it.

Mr. Larson shared that the Pond Conference will be held tomorrow, October 19, at USCB.

I. Maintenance Projects Report – David Wilhelm

Mr. David Wilhelm reported on two major and ten minor projects, all of which were routine. He explained that \$5.00-\$7.00 a foot is the ideal cost range for clean out projects. Toomer Road cost \$5.20 a foot and McCracken Circle cost \$5.10, which were within budget and Leo Green was a little over at \$7.10 per foot, due more clearing and grubbing required before being able to clean the ditch out.

Valley drain cleanouts, where a lot of debris has accumulated such as branches and pine needles, use a skidsteer to push everything into a pile to be picked up and put into a dump truck. These projects are labor intensive and the primary reason the County is looking into a sweeper, so that work can be done more effectively and frequently.

5. Unfinished Business

A. Proposed Revision to County Code of Ordinance Chapter 99 for Transportation Exemption – Mr. Larson provided a recap from the last meeting, explaining that the proposal is to exempt public transportation facilities such as airports, railroads, and boat docks from stormwater fees and that numbers were provided by facility/jurisdiction showing the impact.

Mr. Andy Kinghorn mentioned the revenue impact will be the airports that fall within the City of Beaufort and Town of Hilton Head and he doesn't understand how a County ordinance that would affect municipalities without their agreement. Mr. Larson answered that it is a countywide ordinance on how we bill and collect stormwater utility fees; they do not have to have a separate ordinances for this because it covers them. If it went into effect it would go countywide.

Mr. Kinghorn stated he saw Mr. Scott Liggett's response that even though they don't collect fees, doesn't mean that requests won't come from those entities. Mr. Liggett said the loss of \$20k in revenue will not have a material effect on the pursuit of service. He expressed there is nothing technical rooted in this recommendation; it seems that it is rooted in cost avoidance standpoint. If there are technical correlations, he recommends they should be included in the memo. He said there are many things that serve a greater good such as libraries, hospitals, schools, and more and that sets a dangerous precedence.

Mr. Marc Feinberg asked what the nexus is. Mr. Larson responded that roads are exempt and the nexus is that they (railroads, airports and public docks) are part of the transportation network, so any public transportation facility should be exempt.

Mr. Neil Desai indicated he mirrors Mr. Liggett's position in the fact that it is exempting just to exempt and asked are we opening ourselves up to a precedent we don't really want to set.

Mr. Billy Bruggeman asked about railroads as they are privately owned and mentioned that they don't exist. Mr. Larson clarified that it would be for public railroads and indicated that was done to be to generalize the exemption in the ordinance.

Mr. Kinghorn expressed he would oppose it representing the City of Beaufort, even though he doesn't have a vote. Ms. Kim Jones representing Town of Bluffton, indicated it was discussed at senior staff level and it would save them from their own utility fee for the dock which they take care of their own facilities, but it is the precedent that it sets that is concerning.

Mr. Patrick Mitchell asked about the airport board. Mr. Larson explained they are an enterprise fund like the stormwater utility. Mr. Mitchell commented that it would save the airport money, but would cost stormwater fund money. Mr. Larson said yes it would decrease revenue and the stormwater fees that the airports pay go to the municipalities. Mr. Liggett commented that the funds would go away, but the demands on the infrastructure would stay the same.

A motion was made to not recommend the approval of the proposed revisions to the Natural Resources Committee. The Board unanimously (6:0) voted to not recommend the proposed revisions to Natural Resources Committee.

[The memo and proposed revisions regarding County Code of Ordinance Chapter 99 are attached.](#)

B. Stormwater Regionalization Update - Mr. Larson recapped that last month as the spokesman for the County Admin he proposed to the community the idea of a regional stormwater utility, to create an authority like BJWSA. Southern Low Country (SoLoCo) Regional Planning Commission (elected officials south of the Broad and Jasper County) recently reconstituted and the topic of stormwater came up; they wanted to determine what are the highest standards in Beaufort and Jasper County are in regards to stormwater. The County chaired the committee and two meetings were held (Oct 6 and Oct 17) to fulfill SoLoCo's request. It was determined that Beaufort County's standards are highest across the board with many other jurisdictions meeting them in different areas. The committee moved from the highest standards to the suggested "best" standards if stormwater was regionalized. The general consensus was that no one was opposed to meeting again and there is potential benefit to consider regional authority.

Mr. Marc Feinberg asked if the bottom row of the chart [suggested best standards] is Best Management Practices or what makes everyone happy. Mr. Larson explained that there are a few boxes that are less than what the County has now, but some of the County's standard could be tweaked a little bit, as they may have gone too far on a few things. The County does what is above and beyond in the region and in the nation. He explained the bottom row contains good practices; perhaps they should be called reasonable practices. There is some logic as to why the highest standards listed may not be the "best."

In response to Mr. Feinberg's comment about two adjacent districts with different standards sharing a watershed and stating there has to be a really good reason as to why they are different, Ms. Jones said she would say (she thinks) that's SoLoCo's argument for going through the exercise [to review standards]. She commented that if you look at what is the most restrictive of what is currently on the books, you can "Frankenstein" an ordinance, but if you are going through the exercise would you not want to open it up and take a look at it county-wide/regional wide and put together a "pretty monster" instead. She thinks a recommendation from the Board, at the least, is needed to have an avenue to take back to their elected officials to open the opportunity to investigate what a regional utility would look like.

Mr. Kinghorn said the reality is that it is a technical and political problem that needs to be dealt with and he would encourage proceeding with discussions.

In response to Mr. Bruggeman's question about the ultimate objective becoming one utility, Mr. Larson clarified that SoLoCo wanted to get to a unified stormwater standard over both counties. They wanted to compare standards and it was seen, by technical staff, as an opportunity to be more proactive and give them the best standards and discuss the best way to roll out unified standards.

Mr. Bruggeman expressed concerns about the County lowering some standards (such as the 10% effective being 10-20%), as he doesn't understand how that would benefit the County.

In response to a question from Mr. Patrick Mitchell, Mr. Larson said that the "best" standards would meet MS4 requirements as they are still better than DHEC's standards. This is written in generalities, as this is just the beginning of the conversation. Mr. Larson appreciated Mr. Bruggeman's concern that the County may have to go down in standards as a compromise, but said to look at communities that don't have anything, but if applied regionally would become an additional layer of regulation.

Mr. Bruggeman mentioned he doesn't understand how Ridgeland standards can compare to Beaufort County when Beaufort County is 50% salt water. Mr. Mitchell indicated that better standards don't always equal better results. Mr. Larson pointed out that in the chart in the best standard suggestions it is noted that standards may need to be watershed based decisions (ie: is the watershed impaired?).

Mr. Meisner shared the idea that boundaries could be based on the different watersheds or distance to a watershed. He suggests the process should move forward and have members of development and engineering community provide input as well.

Mr. Kinghorn asked if the two meetings contained the same content. Mr. Larson said some were able to attend both meetings and the second meeting started off with minutes from the first and expanded from there.

Mr. Larson, in response to a question, explained there is a level of interest to pursue this, as there are developmental pressures that they want to get ahead of it. He mentioned there are some reservations, but everyone seemed open minded to conversation.

Mr. Larson mentioned discussion took place about implementation schedules and how fast would you try to do it realizing that there are budgets, long range plans, and existing employees; there are a lot of questions that would need to be addressed. Mr. Kinghorn suggested input from BJWSA may be helpful, as they have gone through something similar creating their utility.

Mr. Liggett suggests we need a problem statement (what are we finding a solution to?) so that the SoLoCo reps can return to their Councils to understand how this could fit into their priorities (need involvement by elected official).

A consensus (ex-officio and voting members) was taken to see if regionalization is something that should be pursued; a majority showed interest in the idea of continuing discussion.

A motion was made to recommend to the jurisdictions representatives to move forward in looking at making the stormwater standards more uniform and possibly moving into a regional stormwater utility.

Discussion - Mr. Feinberg asked how the Board can tell the jurisdictions to go back and discuss this. Mr. Larson said this is the only board countywide to meet monthly to talk about how they spend their money and run their program, and this is a utility discussion. He thinks the ex-officio members would be willing to take recommendations back to their boss, based on the result of today's meeting.

Mr. Liggett said he interpreted the [consensus] vote that the Board considers that at the municipal level stormwater should be included as part of the discussion of regionalism. Mr. Liggett said hasn't heard a problem statement. Mr. Larson indicated a problem statement is that we (potentially) have five separate MS4 permits/programs within Beaufort County, with three more in Jasper County, and we are stepping on each other's toes. One larger staff could be more efficient than eight programs running separately.

Mr. Larson explained that this Board functions "County" not countywide, it doesn't have the level of detail for the municipalities as it does from the County. He suggested a short term solution to a regional approach may be to reconstitute the board and give everyone equal voting rights. He expressed the municipalities have great working relationships, but they operate differently and have different agendas. A regional authority could take on all issues at once and address them in a systematic way and provide some consistency.

Mr. Liggett explained that the way we operate is about 20 years old and that the ex-officio members are non-voting because of the intergovernmental agreements and having the ability to vote may be too powerful. It may be time to relook at that for the future, as back then it was thought that best way to ensure some level of equity was to have ex-officio to supplement the intergovernmental agreements. There was a time in the intergovernmental agreements that the County had the burden of carrying the MS4 permits for the municipalities and now there are the individual permits.

Following discussion, the Board voted and approved (4:2) to recommend proceeding forward with the discussion of uniform stormwater standards and initiate discussions for regional stormwater authority.

[Draft minutes from the October 6th and October 17th meetings and the standards chart are attached to the minutes.](#)

C. Road Paving and Stormwater - Mr. Larson made the board aware of a memo that is going to the Public Facilities meeting on Monday (October 23, 2017) to address comments and concerns about Contract 50, which is a capital project where the County is paving certain dirt roads. The memo address why Contract 50 may or may not be in compliance with the standard, as

Community Development Code and the Stormwater Ordinance define development a certain way. It discusses whether or not a road being paved from dirt to paved should be considered development and should it comply with those two documents. Three staff members came together to redefine development to state that dirt road paving is a maintenance operation and not a development operation.

The meeting was delayed a week so Mr. Larson wanted to bring it to the Board as a courtesy. He indicated that if there were any concerns to reach out to Stu Rodman, a Council member representing your area, or him.

In response to a question, Mr. Larson clarified that it is only for existing County owned dirt roads that are selected to be upgraded to paved road and has no bearing on private dirt roads.

[The Contract 50 Road Paving, Development and Stormwater memo is attached.](#)

6. New Business

A. 2018 SWMU Board Meeting Schedule – Mr. Larson noted that the meeting schedule is set to closely align with Natural Resources Committee, moving to the second Wednesday of the month, taking place before the Natural Resource Meetings.

A motion was made to approve the proposed 2018 meeting schedule. The Board unanimously (6:0) voted to approve the proposed agenda.

[The 2018 SWMU Board Meeting Schedule is attached.](#)

7. Public Comment(s) –

Mr. Meisner shared that a friend of his brought up a stormwater concern and he recommended to his friend to contact Mr. Larson. He indicated that his friend was very appreciative and pleased with the response.

8. Executive Session

A motion was made to go into executive session. The Board unanimously (6:0) approved to go into Executive Session.

9. Matters Arising Out of Executive Session

A motion was made to recommend that the County proceed with litigation on Project H. The Board unanimously (6:0) voted to approve the recommendation to proceed.

10. Next Meeting Agenda – Approved.

Addition to Old Business – Regionalization Update

11. Meeting Adjourned

	TY2014	TY2015		TY2016		TY2017		Difference TY16 vs TY17
	SW Fees	SW Fees	CWI Fees	SW Fees	CWI Fees	SW Fees	CWI Fees	
Beaufort	\$1,334,920.30	\$1,373,098.05	\$67,350.90	\$1,281,341.76	\$76,793.49	\$1,277,267.85	\$76,669.41	-\$4,073.91
Bluffton	\$1,178,742.00	\$1,297,095.30	\$239,966.71	\$1,332,496.75	\$274,929.43	\$1,427,855.80	\$294,604.53	\$95,359.05
County	\$2,992,592.25	\$4,932,514.99	\$0.00	\$4,752,159.23		\$4,842,993.02		\$90,833.80
HHI	\$3,601,584.83	\$3,605,852.97	\$183,106.64	\$3,577,967.57	\$202,433.29	\$4,845,352.20	\$196,269.93	\$1,267,384.63
Port Royal	\$316,400.61	\$327,172.58	\$25,390.04	\$323,893.31	\$29,930.15	\$395,283.19	\$30,170.48	\$71,389.88
Total	\$9,424,239.99	\$11,535,733.89	\$515,814.29	\$11,267,858.62	\$584,086.36	\$12,788,752.06	\$597,714.36	\$1,520,893.44



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M E M O R A N D U M

TO: Beaufort County Council
Beaufort County Stormwater Utility Board
Gary Kubic, County Administrator

FROM: Eric W. Larson, PE, AICP, CPSWQ, CFM

DATE: September 21, 2017

SUBJECT: A proposed revision to Code of Ordinance Chapter 99 related to Stormwater service fee exemptions for transportation infrastructure, specifically County owned facilities

Traditionally, the County's Stormwater ordinance has had exemptions to the requirement to pay Stormwater utility fees, or service fees, for public roads. It also exempted private roads within defined rights-of-ways, condominium boat slips, and railroad tracks. (See Section 99-109). However, it should be noted that there are other public transportation infrastructure that function similarly to roads in that the population as a whole benefits from the construction and maintenance of said facilities. In particular, municipal airport facilities and public boat ramps and docks provide a transportation function interconnected with the vehicular roadway system, moving people and goods for business and leisure.

It should be noted that in the case of the County operated airports, each facility has a comprehensive stormwater management plan and are permitted with the South Carolina Department of Health and Environmental Control as an industrial facility. As such, each facility expends significant funds annually for compliance and does not rely on the respective municipal jurisdictions for Stormwater related services. In addition, the stormwater system at the Hilton Head Island Airport is undergoing a ~\$5,000,000 improvement project that is being funded by the Federal Aviation Administration, the South Carolina Aeronautics Commission, and the Airport itself. This system receives stormwater from an offsite light industrial/commercial area on the island, treats the stormwater, and releases it at the opposite end of the airport. The airport maintains this system expending its own funds.

Our County Stormwater Ordinance only exempts roadways and railroad tracks. The attached proposed amendment expands the exemptions allowed by ordinance to include airports, boat ramps and docks, all railroad related properties, and the associated facilities that support and maintain them.

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 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.
- (2) Salt Water Marsh. 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 those portions of the property that are classified as salt water marsh and as detailed in the stormwater management utility service fee credit manual.
- (3) Submerged properties. All properties may receive a credit against the stormwater service fee applicable to the property based on those portions of the property that are classified as submerged and as detailed in the stormwater management utility service fee credit manual.
- (4) Those properties that apply for consideration of an adjustment shall satisfy the requirements established by the Beaufort County 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, railroad stations, maintenance buildings, or other developed land used for railroad purposes 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.
- (6) Properties determined by the Assessor having 100% of the gross area of the property submerged, salt water marsh, or freshwater wetland will not receive an administrative charge, if applicable in the utility rate structure, AFTER the applicable credit defined in paragraph (a) above has been applied to the account.
- (7) Municipal airport runways, terminals, maintenance buildings, or other developed land used for airport purposes shall be exempt from stormwater service fees.
- (8) Public boat ramps, docks, parking areas, buildings, or other developed land used for public marina purposes shall be exempt from stormwater service fees.

DRAFT MINUTES

Southern Lowcountry Regional Planning Commission (SoLoCo)
Stormwater technical subcommittee

Meetings - October 6, 2017 and October 17, 2017 - 10am - 12pm

Attendees (Oct. 6): Eric Larson (BC), Kim Jones (ToB), Neil Desai (CoB), Bill Baugher (ToB)

Attendees (Oct. 17): Eric Larson (BC), Bryan McIlwee (ToB), Jeff Buckalew (ToHHI), Jeff Netzinger (ToHHI), Lisa Wagner (JC), Neil Parsons (CoH), Rhett Lott (CoH), Tony Maglione (ToPR)

1. Introductions - Eric Larson explained the purpose of the SoLoCo and the directive from the committee to compare stormwater standards to determine the "highest" regulatory standards within the region. Larson went further to suggest that the analysis should go beyond the "highest" standard, but should include a discussion of what standards SHOULD be applied if done regionally and what implementation of a regional standard via a regional regulatory authority.

2. SoLoCo directive

- a. Matrix of standards

Each jurisdiction went over their standards on the matrix and explained the intent of their standards. Redevelopment seems to be the greatest area of differences. BC requires sites to design to the natural state, not existing conditions. Bluffton looks at redevelopment to maintain runoff condition but not necessarily get back to a natural, undisturbed condition. Typically, land development codes help with reductions due to landscaping, etc. ToHHI & ToPR are similar and require post development conditions to match the existing conditions of the site prior to redevelopment. CoB, JC, and ToR have thresholds in which redevelopment can occur to lesser design standards than development.

- i. "Highest" standards

1. Peak Controls - Beaufort County and Hardeeville. 100 year, 24 hour duration is required. It is noted most communities do not regulate above the 25 year event with the 100 year storm as a check for emergency spillways on ponds and "retention" situations.
 2. Water quality controls - Beaufort County. BC requires Nitrogen, Phosphorus, and bacteria levels after construction to match pre-development (natural rates). It is noted that depending on certain development and land use cases, the natural condition has higher pollutant levels can post construction runoff. Jasper County and Ridgeland use a percent reduction of the developed runoff loading. Again, pending on the natural condition, this standard may be higher because the % reduction might be less than existing conditions.
 3. Runoff Volume controls - Beaufort County requires a 1.95" retention requirement. However, BC does not mandate that any of the volume be infiltrated. Bluffton requires a 1" infiltration of the volume increased created by development. Given that most standards have an intent to mimic natural hydrology of the site, requiring some volume to be infiltrated is deemed desirable, even if the amount is less.

4. Area of disturbance threshold - Beaufort County, City of Beaufort, Hardeeville, and Town of Port Royal require stormwater management on all sites. Hardeeville leaves it general, on purpose, to allow for case by case considerations. It was noted that Beaufort County requires Step 2 On-Lot volume control for SFR and therefore may be higher than the other standards. Other have exceptions to allow limited, smaller projects can occur without the need for stormwater management plans.
 5. Effective Impervious cover control - Only Beaufort County has this standard. The group held some discussion on this theory. BC determined this to be an effective way to reduce volume, peak, and pollutant loading. There was general consensus that this is A way to manage runoff, but not the ONLY way.
 6. Redevelopment standards - Beaufort County code does not have a lessened standard for redevelopment, therefore hold all development to the same standard, making it the highest standard. It was noted that BC is not facing redevelopment pressures within its boundaries so having a separate standard is not an issue. However, other jurisdictions are facing these pressures. There was general consensus that some type of redevelopment standard was needed to set some limits on the “lessening” of standards in redevelopment projects.
- ii. "Best" standards - Following the “highest” discussion, the group discussed what the best standards to be adopted regionally need to be. Considerable research and discussion would be needed to establish regional standards. The points below were brainstorming ideas that would need to be considered.
1. Consider a overlay district in sensitive watersheds. Require higher standards to address impairments, pollutants, and/or flooding within a watershed or subwatershed.
 2. Watershed based planning. Similar to overlays, these could be implemented across political boundaries unlike zoning overlays (unless of course zoning became regional as well.) (Would need to decide on standard - HUC 10, HUC 12, or other). Standards could be tailored based on the impairment; inland watersheds would likely need different standards than coastal watersheds. This same idea could be used for quantity controls also; it may not be necessary to detain or retain all volumes for watersheds such as the Savannah River.
 3. Is 10% impervious control necessary? Is it meeting the intent? Is 10% enough or does it need to be higher? Is it too high? Our other standards achieve the same goals and may or may not be considered “higher” or “best” standards to be applied. Consider a range of percentages that would be considered; the Center for Watershed Protection research had recommended a range of values, not absolutes. Beaufort County’s change in 2016 to require this standard IN ADDITION TO the Peak, Water Quality, and Volume Control standards may have become too restrictive. It was suggested that BC consider going back to the earlier, optional "goal" requirement.
 4. Retention standard may need infiltration to meet intent of restoring watershed to more natural state. (See discussion above)

5. Redevelopment standards may be to differ based on problems within the watershed. (See discussion above). Beaufort County's pre-development standard of being natural, undeveloped state may be too restrictive in areas where site constraints may make these standards not feasible. Standardizing redevelopment standards is probably the biggest way to minimize the "jurisdiction shopping" issues.
- iii. "Regional" standards - See "best" standards comments.
 1. Obstacles to overcome:
 - a. Adopting a regional standard will likely result in Beaufort County jurisdictions needing to lower their standards, while Jasper County communities will need to raise their standards. Will BC be willing to lessen standards? There will be increased costs for development in JC.
 - b. Different levels of service - Urban areas need more services than rural. Will other jurisdictions want to take one private systems like ToHHI has? Will rural areas be willing to pay for higher LOS elsewhere?
 - c. Some programs are not MS4 yet and regional standards can be seen as voluntary over-regulation in those communities. There was lengthy discussion about DHEC's authority and when, not if, the MS4 designation will come to the other jurisdictions not currently permitted.

3. Regionalization

Beaufort County administration proposes that there is a better way to manage stormwater other than 8 separate stormwater departments trying to implement a regional set of stormwater. They have asked everyone to consider a formation of a regional stormwater authority, organized similar to how BJWSA was established for drinking water and sanitary sewer. To facilitate this discussion, each jurisdiction discussed their current staffing and capabilities.

- a. Benchmarking existing departments (Manpower, Equipment)
 - i. Beaufort County - major assets in manpower and equipment. Also large administrative staff for utility (funding) management. Full MS4 regulatory program staff.
 - ii. Town of Hilton Head Island - professional staff only. No O&M - do contract services.
 - iii. Town of Bluffton - Administrative and regulatory staff. Public works staff is small and does SW and roads with limited service.
 - iv. City of Beaufort - Has crew and equipment for O&M and management staff for CIP. Not as large as Beaufort County
 - v. Town of Port Royal - Public Works department with minimal staff and equipment and limited service. Outsourced professional services and O&M.
 - vi. Jasper County - Public Works department performs O&M. Small department with multiple functions besides stormwater. Contract larger projects. Professional services are via use of consultant.
 - vii. City of Hardeeville - Public Works crew small and limited services. One professional staff member. Consultant services used for plan review and as needed.

- viii. Town of Ridgeland - No Public Works department. All stormwater O&M provided by SCDOT. Professional services outsourced to consultant.
- b. What does a Regional Agency look like?
 - i. Perception - In Beaufort County, municipal bodies feel like there is a loss of control to the County under current relationships. SWUB, SWIC, IGA, etc. need to be redone to become regional; can't continue as-is. General consensus that a new stand-alone agency "wipes the slate clean" and gives everyone a fresh start to redefine stormwater management.
 - 1. Economic impacts - How will this benefit each community?
 - 2. Environmental benefits - How will this improve water quality and prevent flooding?
 - 3. Why? - "What's in it for me?", "I don't have a problem yet?"
 - 4. How do you convince the public on a regional concept when existing level of service is consider acceptable. There may be a concern that LOS will change for the worse.
 - ii. A exploratory committee of staff is needed to research how a quasi-government agency would be structured. Outside specialists, such as consultants or managers of similar type agencies throughout the southeast, could be brought in to advise us. Items to be discussed would include:
 - 1. Funding - Utility fees may need to be different based on a level of service in different areas, such as watersheds. Collection options need to be discussed. What happens when a major event, such as a hurricane, affects rates due to damages needed to be repaired.
 - 2. Business / Administration - Transition of existing staff and resources. Appointing Board members and hiring management staff.
 - 3. Operations - Could combining efforts provide more manpower for repairs, complaint driven responses? If so, this could be a plus.
 - 4. Capital
 - a. Comment - Combining efforts will provide higher funding levels for regionally significant projects. It will allow for doing bigger projects with the larger funding source.
 - 5. Research / Monitoring - Higher potential for meaningful research when focused regionally.
 - 6. Public Engagement
 - a. Comment - Need for personal touch. Some jurisdiction(s) may be more focused on a higher level of customer service than other might feel necessary. More will likely be a desire to have a level of service that does not go down if regionalized.
 - b. Community buy-in to a regional authority will only be successful with a public education effort. We need to explain the current different levels of service within each jurisdiction and how that may change or improve under a regionally authority.
- c. Next Steps for Regionalization? - Get administration and elected leadership to support this concept and allow staff to form an exploratory committee.

Comparison of Stormwater Management Design Standards in Beaufort and Jasper Counties

Note: Determination of "highest standard" found in Bold Outlined Boxes. Qualifying comments made in committee meeting minutes.

	Peak Control	Water Quality Control	Runoff Volume Control	Area of Disturbance Threshold	Impervious Cover Control	Redevelopment
Beaufort County	2,10, 25, 50 & 100 yr Storm pre=post	Nit., Phos., Bacteria (Pre-development loading)	1.95" retention	All projects, regardless of size (including single-family) "All proposed development and redevelopment shall comply with stormwater volume and pollution control requirements"	10% effective area	Redevelopment treated the same as new development. Redeveloped sites that do not have existing detention/retention facilities or volume control must retrofit entire site to meet current performance standards.
ToHHI	25 yr Storm	No std. ¹	1" retention ²	0.5 acres	No Std.* (Planning/Zoning regulations limit max impervious surface)	Redevelopment treated the same as new development. Pre-development = existing conditions for redevelopment.
ToB ⁸	2, 10, 25 yr Storm	Phos. Only (under 20 acres) ¹⁰ . Sites over 20 acres must model pre and post development & identify pollutants of concern based on land use. (POC is subjective based on land use)	1" infiltration ³ ; pre-development volume = post-development volume for 95th percentile storm (1.95" 24 hr. storm) and DHEC Standard	All projects (excluding individual single-family lots ¹³ and individual commercial lots ¹⁴), regardless of size, and DHEC Threshold	No Std., (Disconnect impervious to max extent practicable)	Redevelopment treated the same as new development. Pre-development = existing conditions for redevelopment.
CoB	25 yr Storm (staff checks for DHEC standards if DHEC submittal required)	Nit., Phos., Bacteria ⁴	1.95" retention ⁵	All projects, regardless of size (including single-family ¹⁵) "All proposed development and redevelopment shall comply with stormwater volume and pollution control requirements"	No Std.	Lesser standards if less than a 20% increase in impervious cover. (Staff encourage water quality to the MEP. POC and MEP criteria is subjective based on site conditions and land use.)
Jasper	2, 10, 25 yr Storm 100year accommodated with no harm	80% TSS, 30% TN, 60%Bacteria load reduction	85th percentile event	Same as DHEC. Residential is exempt unless part of a major subdivision.	No Std.	Redevelopment greater than 5,000 sq. ft. is considered Development and the entire site must be updated.
Hardeeville ¹¹	2,25,50 & 100 yr Storm pre=post	detention over 72 hours. Can be waived under certain conditions. Allows City to implement higher standards if certain things require it.	No Std.	All Projects. "...any construction or development affecting the quantity and/or quality of stormwater runoff shall be in accordance with a Stormwater Management Plan approved by the city"	No Std.	No specific rules
Ridgeland ¹²	2, 10, 25 yr Storm 100year accommodated with no harm	80% TSS, 30% TN, 60%Bacteria load reduction	85th percentile event	Same as DHEC. Residential is exempt unless part of a major subdivision.	No Std.	Redevelopment greater than 5,000 sq. ft. is considered Development and the entire site must be updated.
ToPR ¹⁷	25 yr Storm	Nit., Phos., Bacteria	1.95" retention ⁹	All projects, regardless of size (including single-family ^{15, 16}) "All proposed development and redevelopment shall comply with stormwater volume and pollution control requirements"	No Std.	Redevelopment must address runoff volume increases to match pre-development volumes only. The Town developed a map identifying sites that will be considered redevelopment.
DHEC ^{6,7}	2- and 10-year, 24-hour storm	No std.	½ inch of runoff from the entire site. First ½" from the entire site or the first 1" from the built upon area, whichever is greater. Projects within 1000' of shellfish beds retain the first 1.5"	1 acre, if not within 1/2 mile of coastal water body All projects, regardless of size, within ½ mile of a receiving water body in the coastal zone	No Std.	No specific rules on redevelopment. In general considers "pre-development" to mean pre-1992 (when state regs were adopted)
Suggested "best" standards (Should use watershed based decisions to define specifics) (Fee in-lieu of program could allow meeting standards with a regional project if site constraints prevent meeting standards on-site.)	25 year storm is sufficient. State standards may be higher so wouldn't be needed to be required locally. Design should check the 100 yr. storm to prevent BMP damage or downstream impacts	Nit., Phos., Bacteria, freshwater. Make criteria watershed based.	Infiltration should be a component when suitable soils are present. Percentile storm event to be determined based on watershed needs. Could have two standards for the entire site or just impervious areas.	All projects should have stormwater management with reasonable exceptions, such as: Agricultural, Silviculture, disturbances below a minimum disturbance (5,000 sq. ft.), single family residence construction, or similar conditions to be determined after further research.	10% effective area standard could be used as an alternate approach rather than peak control, volume control, and pollutant loading calculations. Rather than having an absolute value, perhaps an acceptable range should be used (ie. 10%-20%)	Pre-development = existing conditions for redevelopment. Watershed base standards may require higher level of stormwater management

¹ Reference to the County's BMP manual suggests the water quality standard is the same if a BMP is used on a project.

² Retention volume dissipated by infiltration, evaporation, or other methods. Required for impervious areas only, not entire site.

³ 1" infiltration required for Class A and B soils only.

⁴ Pollutant removal is exempt in residential zones and historic areas

⁵ Redevelopment must address runoff volume increases from new impervious surfaces only

⁶ For the purpose of redevelopment, DHEC has typically considered 'pre-development' to be the state of the site prior to 1992 (when state regs kicked in). DHEC requirements apply to all redevelopment where initial development occurred after 1992.

⁷ NPDES MS4 permit imposes requirement MS4s to improve pre-development hydrology on redeveloped sites.

⁸ Bluffton mandates all projects must have minimum of 3 BMPs: 1 wet detention, 1 vegetative, and 1 filter/infiltration

⁹ Redevelopment must address runoff volume increases to match pre-development volumes only

¹⁰ Assumes all other pollutants met with phos. Control

¹¹ All standards are written to allow for case by case considerations of which standards are applicable to the site.

¹² Ridgeland Adopted Jasper County Standards.

¹³ Individual single-family lot disturbing equal to or less than 0.5 acres within 1/2 mile of Coastal Receiving Waters (CRW) or disturbing less than 1 acre not within 1/2 of CRW


¹⁴ ALL parking provided offsite

¹⁵ Staff reviews SFR site plans for grading to assure drainage problems associated with runoff aren't created and negatively impact adjacent properties.

¹⁶ Single Family Residential permits must submit pre- and post- topographic info. to review conveyance only.

¹⁷ Standards based on 2006 version of the Beaufort County BMP manual, with exceptions.

MEMORANDUM

TO: Beaufort County Council
Public Facilities Committee Chairman Stu Rodman
Joshua Gruber, Interim County Administrator 

FROM: Robert McFee, Division Director of Construction, Engineering and Facilities
Eric Larson, Division Director for Environmental Engineering & Land Management
Anthony Criscitiello, Community Development Director

SUBJ: **Contract #50 Road Paving, Development, and Stormwater**

DATE: October 5, 2017

There has been some debate regarding the dirt road paving program and its compliance with adopted Beaufort county ordinances, specifically related to the Community Development Code road assemblies and Stormwater Management requirements.

Community Development Code

It should be noted that from a local historical perspective, this program has never sought to secure development permits, but has complied with the appropriate NPDES provisions.

In reviewing Section 1.3.10 of the Community Development Code (CDC), it clearly states that the code applies to “.. the *development* of all land within unincorporated Beaufort County”. Further, section 1.3.20 confirms the code “shall apply to *development* by the County or its agencies and departments”.

Article 10, section 10.1.40 of the CDC defines what constitutes *development*:

“Development. This term includes the following:

- *All construction, modification, or use of any lot, parcel, building or structure.*
- *All disturbances of land surfaces of 10,000 square feet or greater, including removal of vegetation, excavation, filling, and grading.*
- *Any subdivision of a parcel or tract of land into two or more lots, parcels, or pieces for the purpose, whether immediate or future, of sale or transfer of title.”*

Using this definition, the second bullet point would apply to the paving of dirt roads and place this activity under the jurisdiction of the CDC.

However, another way to interpret development that falls under the jurisdiction of the CDC is to look at the definition of a major land development in section 7.2.60. This section defines a major land development Plan as:

- (1) “Non-residential development of more than 5,000 square feet of gross floor area;
- (2) The addition of 5,000 square feet or 30 percent or more of the original building of a non-residential development which results in a building larger than 5,000 square feet; or
- (3) Apartment or multi-family development of six dwelling units or more.”

Using this interpretation, the paving of dirt roads would not fall under the jurisdiction of the CDC.

As to the applicability of the Thoroughfare Standards in Article 2: Multi-lot and Single lot Community Scale Development, section 2.1.10—Purpose and Intent, states that “This Article then provides standards for laying out blocks, lots, open space set-asides, and thoroughfares within each community type. This ensures that new communities are both contextual and appropriately integrated with their surroundings”. This purpose and intent statement can be interpreted that the standards within Article 2 only apply to the creation of new lots, streets, and blocks.

However, Section 2.9.20 of the CDC that deals with the applicability of the County’s thoroughfare standards states that the “thoroughfare standards are applicable for the transformation of existing thoroughfares and the creation of new thoroughfares in any areas within the conventional and transect zones.” The phrase, "transformation of existing thoroughfares" can be interpreted to apply to the paving of dirt roads.

Given the historic precedent of not requiring the paving of dirt roads to follow local development standards and conflicting language in the Community Development Code, it can be interpreted that the CDC is not designed or intended to act as a rule for the narrow practice of the county dirt road paving program.

Stormwater Management

With respect to the NPDES/Stormwater Ordinance and MS4 aspects of the road paving program, the requirements for regulated small MS4s, the requirements for small construction activity (primarily activity disturbing between 1 and 5 acres of land) are not detailed in the Phase II regulation. Rather, the requirements are left to the discretion of the NPDES permitting authority when it develops the small construction activity permit. (see <https://www3.epa.gov/npdes/pubs/comguide.pdf>).

Beaufort County Code of Ordinances Chapter 99-106 defines developed land as “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”. Further in Chapter 99-203 it states that development is “All project construction, modification, or use of any lot, parcel, building, or structure on land and on water.” The Beaufort County Manual for Stormwater Best Management and Design Practices (the BMP Manual) provides guidance in Section 2.1.1.1 stating “All development that creates runoff and/or discharge may adversely impact water quality in county streams, lakes and tidal waterbodies. Therefore, all proposed development and redevelopment shall be required to submit a Drainage Plan to show compliance with the peak attenuation, water quality, volume and construction pollution control requirements in this manual...”. It is also noteworthy that the Stormwater ordinance and BMP Manual do not distinguish between development and re-development, applying that re-development is simply yet another alteration of the property and therefore also categorized as development.

In the design process, commonly accepted engineering practices would assign a runoff coefficient to all surfaces. Paved surfaces such as asphalt or concrete would be given a higher runoff value than an exposed dirt surface, even if the surface was a compacted dirt road. The issue is that in theory, paving does increase runoff. It is hard to deny that paving a road is an improved alteration of the land, hence the basis for categorizing dirt road paving as “development”.

However, it must be noted that public and private roadways are exempt from the collection of stormwater fees. This exemption is based on the premise that most infrastructure belonging to the Beaufort County MS4 consists of roadside ditches and pipes within the roadway and that charging the community for the runoff created by the road is simply a pass through charge resulting in higher rates and therefore unnecessary.

In the case of using a rural cross section in dirt road paving, it should be understood that the paving of a dirt road has benefits to water quality by establishing grass shoulders and ditches, reducing the sediment load and improving our ability to properly maintain the drainage system.

In actual practice for the dirt road paving program, when filing the NPDES permit, our practice has been to classify the *entire grading area* as 'disturbed limits'. This hyper-conservative approach has been adopted by engineers to avoid the discussion with regulatory staff over what, exactly, the disturbed area really is. However, it is not at all unreasonable to assert a dirt road which is regularly graded is **already in a disturbed state and remains so as long as it is dirt**. Paving the roadway and establishing vegetated shoulders and ditches therefore stabilizes the disturbed area reducing sediment / pollutant loading and reduction in runoff rate and volume.

If this obvious condition is recognized, the adjustment in disturbed area is insignificant and it more properly reflects the *de minimus* impact of the improvement. In addition, these roadway improvements do not alter the hydrology of the property in meaningful way even if the difference in runoff coefficients would indicate otherwise. In fact, it is suggested that paving the road improves the hydrologic performance of the rights-of-ways.

Conclusion

Based on the interpretation of existing codes related to community development and stormwater management, this information supports the recommendation that the dirt road paving program be exempt from the provisions of the CDC and Stormwater ordinance.

Draft 2018 Combined Schedule

Stormwater Management Utility Board Schedule	Time	Location	NRC Schedule
December 20, 2017	3rd Wed 2:00PM	Executive Conference Room 170 100 Ribaut Road, Beaufort, SC	Monday, December 18, 2017
January 10, 2018	2nd Wed	Executive Conference Room 170 100 Ribaut Road, Beaufort, SC	Tuesday, January 16, 2018
February 14, 2018	2nd Wed 2:00PM	Executive Conference Room 170 100 Ribaut Road, Beaufort, SC	Monday, February 19, 2018
March 14, 2018	2nd Wed 2:00PM	Executive Conference Room 170 100 Ribaut Road, Beaufort, SC	Monday, March 19, 2018
April 11, 2018	2nd Wed 2:00PM	Executive Conference Room 170 100 Ribaut Road, Beaufort, SC	Monday, April 16, 2018
May 9, 2018	2nd Wed 2:00PM	Executive Conference Room 170 100 Ribaut Road, Beaufort, SC	Monday, May 21, 2018
June 13, 2018	2nd Wed 2:00PM	Executive Conference Room 170 100 Ribaut Road, Beaufort, SC	Monday, June 18, 2018
July 11, 2018	2nd Wed	Executive Conference Room 170 100 Ribaut Road, Beaufort, SC	Summer Break
August 8, 2018	2nd Wed 2:00PM	Executive Conference Room 170 100 Ribaut Road, Beaufort, SC	Monday, August 20, 2018
September 12, 2018	2nd Wed 2:00PM	Executive Conference Room 170 100 Ribaut Road, Beaufort, SC	Monday, September 17, 2018
October 10, 2018	2nd Wed 2:00PM	Executive Conference Room 170 100 Ribaut Road, Beaufort, SC	Monday, October 15, 2018
November 14, 2018	2nd Wed 2:00PM	Executive Conference Room 170 100 Ribaut Road, Beaufort, SC	Monday, November 19, 2018
December 12, 2018	2nd Wed 2:00PM	Executive Conference Room 170 100 Ribaut Road, Beaufort, SC	Monday, December 17, 2018



**BEAUFORT COUNTY
STORMWATER UTILITY
120 Shanklin Road
Beaufort, South Carolina 29906
Voice (843) 255-2805 Facsimile (843) 255-9436**

November 15, 2017

Stormwater Manager's Report for the Stormwater Utility Board Meeting

Utility Update

1. Southern Regional Planning Committee (SoLoCo) – The technical subcommittee for Stormwater will present the finding of the committee report at the December 5th, 11:00 am meeting at the Town of Bluffton Rotary Pavilion Bldg.
2. Entreladership training – On October 27, the entire management and technical staff of the Environmental Engineering and Land Management Division attended leadership training. The management skills from that webinar will be very useful as we grow our division.
3. Eric was interviewed by staff from the South Carolina Sea Grant Consortium to learn about our Stormwater program, standards, and utility structure. This is part of ongoing research in the State of the Knowledge of Stormwater ponds.
4. Stormwater staff met with the Tax Assessor's office and GIS staff to discuss data management related to the tax run and SWU billing process.
5. Regionalization – This topic will be discussed at the November 20th, 2pm (ECR) meeting of the Natural Resources Committee. It will also be part of the SoLoCo presentation on December 5th.

Monitoring Update

1. Lab Update (From Dr. Alan Warren and Lab Manager Danielle Mickel) – The lab staff report nothing new for the month of October. They continue to work on State certifications.
2. Battery Creek Watershed Pond retrofit / EPA 319 grant project – Staff with the lab, City, and County met on November 7th to discuss potential repairs needed to the system. The results of 6 months of sampling were discussed. Unfortunately, the system is not provided measureable reduction in bacteria. It is felt the operational problems with the pond may be to blame. In addition to the repairs, staff will conduct a water level study to determine if tidal influence is occurring in the pond. Sampling is suspended until repairs are complete.

Stormwater Implementation Committee (SWIC) Report

1. The SWIC committee has not met in the last month.

Stormwater Related Projects

1. Okatie West / SC 170 Widening Retrofit (Design and Construction = \$915,000 Budget) – Town of Bluffton permitting is ongoing. Bidding is still on schedule for December. Staff will be conducting an annual site visit with DHEC in December.
2. Easements – Staff is working on numerous easement requests and meets monthly to review status.
3. Stormwater workload / work order prioritization system – We are still working with a consultant to get a scope of work and cost to develop a system. A select number of SW infrastructure crew is working five, 10 hour days in an attempt to reduce the backlog.
4. SC 170 widening – The County is contracting with an engineering firm to study the function of a recently constructed roadside ditch and concerns from the adjacent property owners that it is not functioning as intended by the design.
5. Staff met with Councilmen York Glover to discuss multiple Stormwater issues in his district.

Professional Contracts Report

1. Stormwater Management Plan (Master Plan) Update – (\$475,000 Budget; \$239,542 County portion) – ATM is still working on a full draft CIP plan for SWIC review. The project is still on schedule for a December 2017 completion.
2. CIP FY 18 Grouping Stormwater Projects – (Design - Ward Edwards \$202,000, Andrews Engineering \$560,490, Const. est. \$5,512,900) - Property owners are still being contacted to gain access for surveying. All projects are in early design phase.

Regional Coordination

1. Factory Creek Watershed Regional Detention Basin “Phase I” & Academy Park Subdivision (Design Cost. \$49,873, Tree Mitigation Cost is pending, Construction Cost by the Developer) – The developer has signed the agreement with the County. The County has contracted with Andrews Engineering for design.
2. Factory Creek Watershed Regional Detention Basin “Phase II” (Design Cost = \$63,390, Tree Mitigation Cost is pending, Construction Cost by the Developer) – Final plans are going through Administrative SRT review.
3. Battery Creek Watershed Pond retrofit / EPA 319 grant project – City and County staff will be addressing repair needs to the stormsewer structures on site.
4. Wallace Road drainage – (Design Cost = \$5,700; Construction cost = pending) The County will be withdrawing the SCDOT encroachment permit request. We have designed an alternative plan involving ditching behind the property to the north and directing water to an existing storm drain along Sam’s Point Road. We have obtained all but one easement and that one is expected to be given soon. All work will be done in-house using the Stormwater crew.
5. Municipal “County” Infrastructure – No change.
6. SoLoCo – Topic: Sanitary Sewer – At the October 24th meeting, the topic was to discuss sanitary sewer extension plans for BJWSA and other municipalities, such as Town of

Bluffton, plans to encourage or mandate sanitary sewer connections and elimination of septic tanks. County staff spoke on our current IDDE efforts related to septic tank failures.

7. Mossy Oaks Task Force – A stakeholder meeting was held on October 25th. Funding requests for preliminary design was made. The group meets again in December.
8. Stormwater coordination with SCDOT – On October 31, County staff met with representatives from the Charleston District office. Among the topics was a discussion about shared maintenance responsibilities for ditches and pipes deemed “outfalls” that are off of State ROW but have DOT contribution. The talks were encouraging.

Municipal Reports

1. Town of Hilton Head Island (From Jeff Netzing, Stormwater Manager and Brian Eber, MS4 Coordinator)
 - i. No information was available at the time of this report.
2. Town of Bluffton (From Kim Jones, Watershed Management Division Director)
 - i. [See attached report.](#)
3. City of Beaufort (From Neil Desai, Asst. Public Works Director)
 - i. No information was available at the time of this report.
4. Town of Port Royal (From Van Willis, Town Manager and Tony Maglione, consultant)
 - i. No information was available at the time of this report.

MS4 Report

1. Plan Review – There were 10 projects reviewed in October by Beaufort County Stormwater staff. Due to absence of the MS4 coordinator, the County has contracted with two local engineering firms to perform plan review. Each contract is a hourly fee not to exceed \$10,000.

Project Name	Review Type	Date	Comments
Cherokee Farms Phase 1 Commercial	Final	10/11/17	Approved w/conditions
Coleman Mine	Final/Admin.	10/12/17	Pending
Okatie Center PUD Parcel S-12C	Conceptual	11/1/17	Discussion Only
Distant Island Lot 28 Bulkhead	River buffer waiver	11/1/17	Approved w/conditions
Taylor Quality Landscape Supply – New Facility	Final	10/26/17	Approved w/conditions
Lost Island Lot 5	River buffer waiver	11/1/17	Approved w/conditions
TCL New River Connector Road	Final	11/15/17	Pending
St. Gregory the Great Utility amendment	Final	10/31/17	Approved w/conditions

BJWSA Solar Array St. Helena WWTP	Final	11/2/17	Pending
Freeport Marina & Cooper River Landing Village	Pre-app	11/6/17	Discussion Only

2. Stormwater Permits – There were 6 permits issued in October:

3. Monthly Inspection summary for October
 - a) Number of active permits = 60
 - b) Number of inspections performed = 73
 - c) Number of drainage related complaints investigated = 2
 - d) Number of IDDE issues received and investigated = 1
 - e) Number of Violations (verbal, written, fines, or stop work orders) = 3
 - f) Number of Development Permit certificates of completion = 3

4. Consulting for MS4 Coordinator – Due to the absence in this position, the County has contracted with ATM to provide service one (1) day per week to support the ongoing MS4 program needs. The contract is currently for 12 weeks and costs \$19,825.

5. Public Education – Lowcountry Stormwater Partners (LSP), via Carolina Clear, continues to work on several initiatives towards public education and outreach.
 - a) Billboards – can be seen throughout the Lowcountry.
 - b) SESWA presentation on Cooperation Education & Involvement Programming was well received. Most evaluations from attendees were Good to Excellent.
 - c) The 2017 Beaufort Area Stormwater Management Pond Conference / Workshop was a success. We had 111 registered.
 - i. As a result of the conference, a Rose Hill resident asked for Clemson assistance with their ponds and Ellen met with the neighborhood on site.
 - d) Pet waste event at Oldfield Mews – Canceled due to lack of interest.
 - e) Nov. 9th – Ellen spoke to the Hilton Head Christian Academy 11th/12th Grade Environmental Science classes.
 - f) Workshops in progress
 - i. Beyond the silt fence
 - ii. SC LID workshop
 - iii. Museum Lecture Tour – TBD – Potential sites are Coastal Discovery Museum, Green Drinks, and PRSF.
 - iv. Master Rain Gardeners – Content under development.
 - g) Upcoming Events:
 - i. LSP Consortium meeting – Nov. 28th 1:30-4pm at BJWSA Community Room.
 - ii. Dec. 5th – Master Naturalist BMP training – 9-12pm @ Crystal Lake.
 - iii. Cultivating a Carolina Yard Workshop – To be hosted by Oldfield Mews (as a replacement to the pet event) – Date TBD.

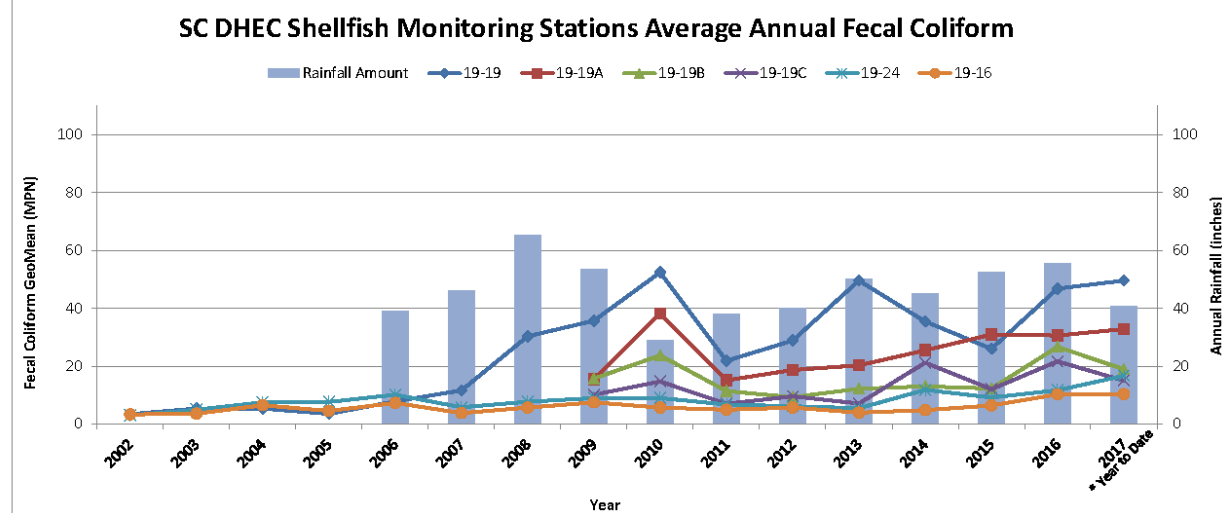
ACTIVITY - POLICY	STATUS
<p>May River Watershed Action Plan Update (Grant award of \$55,000 in 2017)</p>	<p>To be completed with direction and input from staff, the public, Water Quality Technical Advisory Committee, May River Watershed Advisory Committee, and Town Council. Notified verbally on 4/7/17 that due to anticipated Federal Budget cuts to the EPA, SCDHEC rescinded the grant. Action Plan Update is currently planned for completion in FY19.</p>
<p>Sewer Connection & Extension Policy</p>	<p>WAPAC adopted Sewer Connection Policy framework 9/22/16. Staff presented information for consideration and recommendation to Town Council during 6/22/17 meeting. Town Council provided feedback at 7/18/17 Workshop to develop a Sewer Connection Policy. Council adopted the Sewer Connection & Extension Policy at 9/26/17 meeting.</p>
ACTIVITY - PROJECTS	STATUS
<p>Sanitary Sewer Extension</p>	<p>Buck Island/Simmonsville Road (BIS) Phases I, II, III and IV are completed. Toy Fields is completed. Current project updates are included in Engineering Consent Agenda under "Sewer & Water."</p>
<p>May River 319 Grant Phase 1 - New Riverside Pond (Grant award of \$483,500 in 2009)</p>	<p>Completed in 2013. Weekly water quality testing on-going. A statistically significant reduction in fecal coliform bacteria concentration exists pre-pond versus post-pond. However, bacteria levels re-load to previous levels prior to discharging into the May River. This leads to management decisions with BMP placement as well as BMPs in-series to maintain bacteria reductions.</p>
<p>May River 319 Grant Phase 2 - Pine Ridge (Grant award of \$290,000 in 2011)</p>	<p>Completed. In post-construction monitoring phase to assess project efficacy.</p>
<p>May River 319 Grant Phase 3 - Workplan Amendment Request under review (Grant award of \$231,350 in 2016)</p>	<p>Staff is finalizing a workplan amendment request to SCDHEC & EPA for this grant award. Current project updates are included in Engineering Consent Agenda.</p>
<p>Stoney Creek Wetlands Restoration: Preliminary Design Phase</p>	<p>Wetlands restoration project with the goal to reduce stormwater volume reaching the May River. Current project updates are included in Engineering Consent Agenda.</p>
<p>May River Watershed Water Quality Model</p>	<p>Preliminary 2002 Palmetto Bluff Duck Pond Drainage area watershed model complete. Completed New Riverside BMP model for comparison to field observations. Rose Dhu Creek sub-watershed "Existing Conditions" portion of the Headwaters Water Quality Model is underway. Currently proposed for completion in FY19-20 following the Action Plan Update.</p>
ACTIVITY - FINANCIAL	STATUS
<p>Additional Funding Opportunities</p>	<p>No updates.</p>

ACTIVITY - PROGRAMS	STATUS
Public Outreach/Participation/Involvement (MS4 Minimum Control Measure #1 & 2)	Outreach and involvement efforts continue through county-wide partnership with Carolina Clear as Lowcountry Stormwater Partners - Neighbors for Clean Water and through local cleanups and civic engagements and the May River Watershed Action Plan Advisory Committee. Current updates are included in Engineering Consent Agenda and Attachment 9.
Water Quality Monitoring Program (MS4 Minimum Control Measure #3)	<ol style="list-style-type: none"> 1. SCDHEC Shellfish monitoring results 2. Fecal coliform bacteria "hot spot" concentrations 3. Microbial Source Tracking of human sources of bacteria 4. Illicit Discharge investigation and monitoring 5. BMP efficacy monitoring 6. MS4 monitoring Current updates are included in Engineering Consent Agenda Attachments 2, 3b, 3c, and 3d.
Infrastructure Mapping/GIS (MS4 Minimum Control Measure #3)	Data points continue to be collected with new development to meet MS4 requirements & populate water quality model. Current updates are included in Engineering Consent Agenda Attachment 3a.
Sediment & Erosion Control Program (MS4 Minimum Control Measure #4)	Sediment and erosion control inspections with escalating enforcement response. Current updates are included in Engineering Consent Agenda Attachment 4.
Development Plan Review Program (MS4 Minimum Control Measure #5)	SCDHEC delegated plan review-related activities. Current updates are included in Engineering Consent Agenda Attachment 5.
Ditch Inspection/Maintenance Program (MS4 Minimum Control Measure #6)	Continued coordination with SCDOT, Beaufort County and Town Public Works to inspect and maintain ditches within the Town's jurisdiction. Town is initiating an easement acquisition program. Current updates are included in Engineering Consent Agenda Attachment 6 and under "Public Works."
Septic System Maintenance Program	FY18 funding is \$10,000. On-going assistance offered to Town residents regardless of financial status through Neighborhood Assistance Program. Current updates are included in Engineering Consent Agenda Attachment 7.
Sewer Connection Program	In FY18 Council allocated \$200,000 for a Sewer Connection Program as well as \$10,000 for assistance to connect income-qualified individuals to existing sanitary sewer as part of the Neighborhood Assistance Program. WAPAC recommended possible revisions to the existing sewer connection ordinance and policy for Town Council consideration at the Town Council Workshop 7/18/17. Council adopted the Sewer Connection & Extension Policy at 9/26/17 meeting. Policy implementation and program development will be prioritized as part of Strategic Planning in 2018.

SCDHEC Shellfish Harvesting Monitoring Data

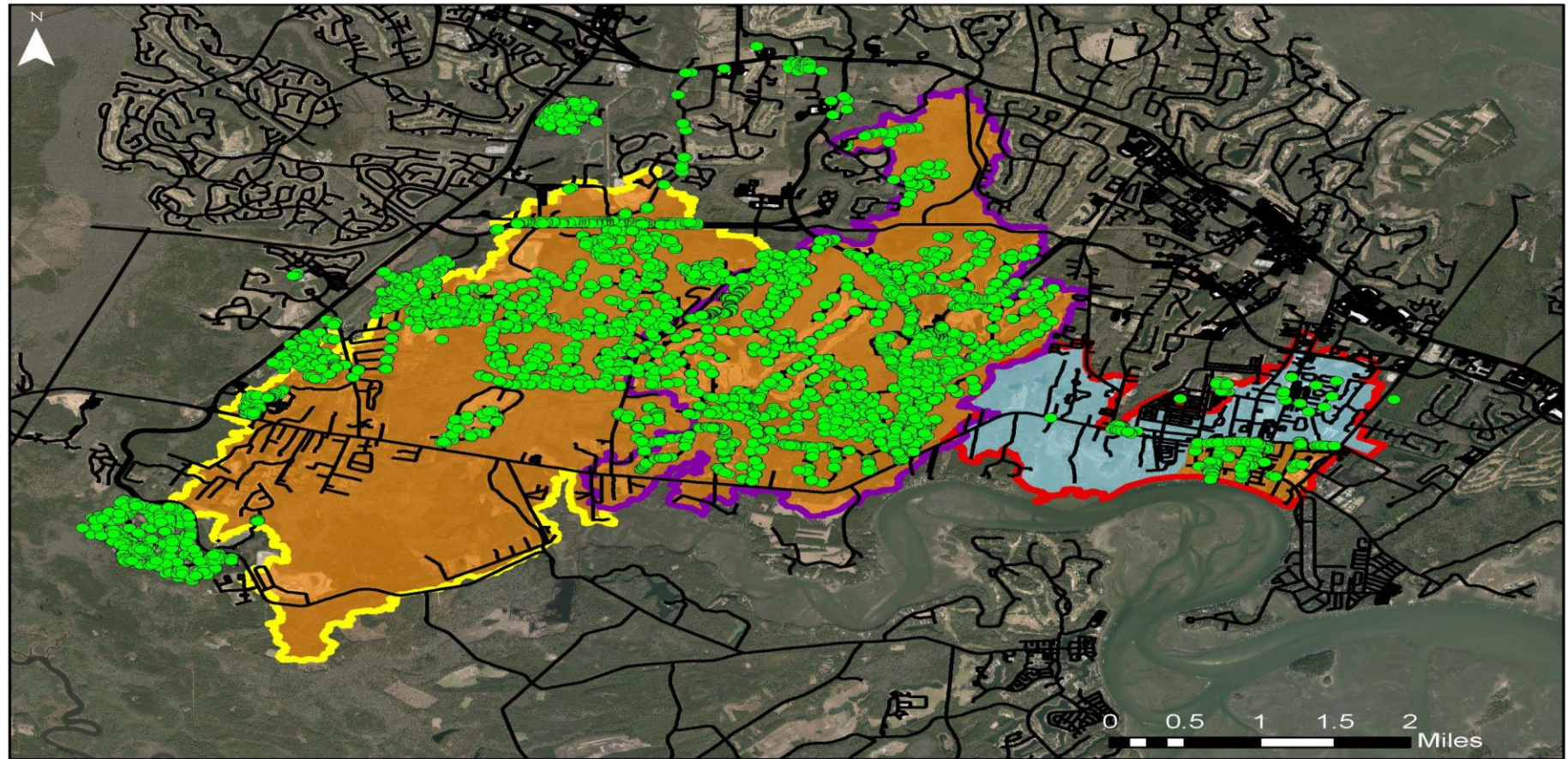
	19-19				19-19A				19-19B				19-19C				19-24				19-16			
	2014	2015	2016	2017	2014	2015	2016	2017	2014	2015	2016	2017	2014	2015	2016	2017	2014	2015	2016	2017	2014	2015	2016	2017
	Fecal Coliform (MPN)	Fecal Coliform (MPN)	Fecal Coliform (MPN)	Fecal Coliform (MPN)	Fecal Coliform (MPN)	Fecal Coliform (MPN)	Fecal Coliform (MPN)	Fecal Coliform (MPN)	Fecal Coliform (MPN)	Fecal Coliform (MPN)	Fecal Coliform (MPN)	Fecal Coliform (MPN)	Fecal Coliform (MPN)	Fecal Coliform (MPN)	Fecal Coliform (MPN)	Fecal Coliform (MPN)	Fecal Coliform (MPN)	Fecal Coliform (MPN)	Fecal Coliform (MPN)	Fecal Coliform (MPN)	Fecal Coliform (MPN)	Fecal Coliform (MPN)	Fecal Coliform (MPN)	Fecal Coliform (MPN)
December	11.0	110.0	79.0		7.8	33.0	23.0		11.0	27.0	49.0		23.0	7.8	33.0		33.0	6.8	7.8		13.0	4.5	23.0	
November	49.0	NS	33.0		33.0	NS	13.0		17.0	NS	7.8		33.0	NS	14.0		31.0	NS	13.0		6.8	NS	33.0	
October	17.0	23.0	NS		7.8	49.0	NS		4.5	4.5	NS		6.8	23.0	NS		4.5	7.8	NS		2.0	4.5	NS	
September	27.0	46.0	23.0		17.0	17.0	110.0		2.0	9.3	23.0		4.5	17.0	13.0		4.5	23.0	4.5		2.0	4.5	7.8	
August	49.0	6.8	NS	79.0	49.0	17.0	NS	70.0	33.0	13.0	NS	21.0	70.0	13.0	NS	33.0	46.0	24.0	NS	33.0	17.0	4.0	NS	33.0
July	17.0	17.0	79.0	350.0	7.8	7.8	17.0	110.0	1.8	6.8	22.0	130.0	1.8	11.0	17.0	49.0	2.0	2.0	49.0	49.0	1.8	4.5	13.0	22.0
June	NS	33.0	79.0	23.0	NS	46.0	130.0	49.0	NS	11.0	70.0	13.0	NS	14.0	110.0	17.0	NS	4.5	33.0	7.8	NS	11.0	23.0	4.5
May	33.0	NS	70.0	17.0	33.0	NS	23.0	23.0	9.2	NS	49.0	7.8	49.0	6.8	49.0	2.0	7.8	6.8	14.0	23.0	2.0	23.0	17.0	4.5
April	130.0	1.8	23.0	7.8	79.0	33.0	23.0	23.0	170.0	17.0	13.0	4.5	240.0	17.0	13.0	7.8	23.0	13.0	7.8	13.0	13.0	17.0	1.8	4.5
March	23.0	170.0	33.0	350.0	33.0	130.0	33.0	11.0	11.0	49.0	33.0	33.0	13.0	17.0	17.0	13.0	6.8	13.0	11.0	13.0	4.5	6.8	7.8	33.0
February	110.0	13.0	23.0	13.0	33.0	14.0	17.0	7.8	79.0	1.8	13.0	13.0	79.0	1.8	11.0	9.3	33.0	7.8	6.8	4.5	13.0	2.0	1.8	1.8
January	49.0	79.0	110.0	95.0	79.0	79.0	33.0	79.0	13.0	49.0	49.0	31.0	11.0	33.0	17.0	49.0	7.8	17.0	7.8	27.0	2.0	7.8	17.0	33.0
Additional Samples																								
Average Annual GeoMean	35.4	26.0	46.8	49.6	25.5	30.9	30.6	32.8	13.0	12.3	26.7	18.9	21.2	12.0	21.7	15.0	11.8	9.2	11.7	16.7	4.8	6.4	10.3	10.3
** Truncated GeoMetric Mean	31.0	37.0	37.0	41.0	17.0	21.0	30.0	33.0	10.0	11.0	16.0	19.0	7.0	11.0	16.0	15.0	6.0	7.0	9.0	10.0	4.0	4.0	6.0	8.0
** Truncated 90th Percentile	207.0	205.0	105.0	156.0	82.0	95.0	89.0	99.0	40.0	51.0	69.0	64.0	29.0	55.0	65.0	46.0	21.0	30.0	29.0	29.0	13.0	13.0	21.0	28.0

NS = No Sample
 AS = Additional Samples
 ** Town staff calculations utilizing DHEC statistics



MS4 Minimum Control Measure #3 – IDDE (Illicit Discharge Detection & Elimination): Stormwater Infrastructure Inventory

Stormwater Inventory Collection



Collection Status

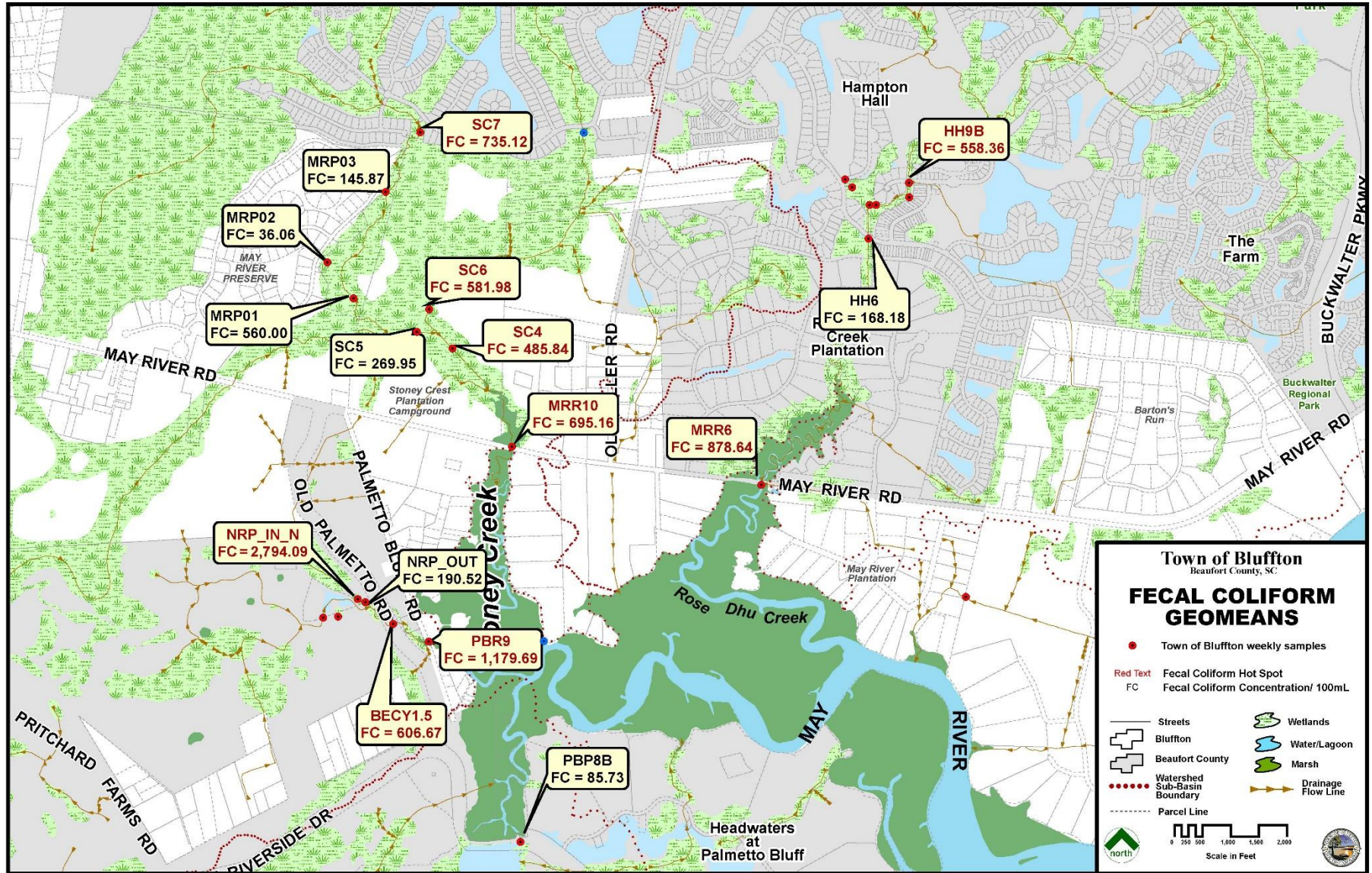
- Completed
- In Progress
- Inventoried SW Utilities
- Mid River/Old Town
- Rose Dhu Watershed
- Stoney Creek Watershed

DISCLAIMER:
This map was created for the Town of Bluffton, Engineering Division and is intended to be used as a graphical representation for the Town of Bluffton. The data and data included by the Town of Bluffton's Engineering Division are derived from a variety of public and private sector sources considered to be dependable, but the accuracy, completeness and currency thereof are not guaranteed. The Town of Bluffton makes no warranty, expressed or implied, as to the accuracy, completeness, currency, reliability, or suitability for any particular purpose of information or data contained in or generated from the Town of Bluffton's Engineering Division. Additionally, the Town of Bluffton or any agents, officers or employees thereof assume no liability associated with the use of this data, and assume no responsibility to maintain it in any manner or form.

Stormwater Infrastructure Inventory Collection Status

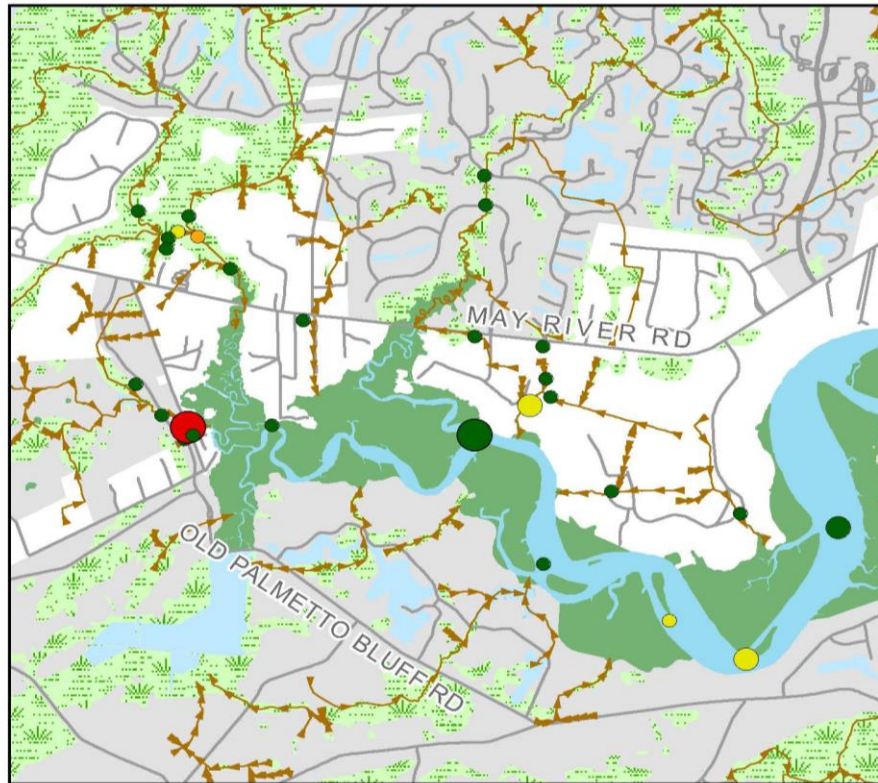
FY 2018 YTD Collection Totals	2,203
FY 2017 Collection Totals	3,874

MS4 Minimum Control Measure #3 – IDDE: Fecal Coliform Concentrations Trend Map



fecal coliform geomeans work file 10/17/17

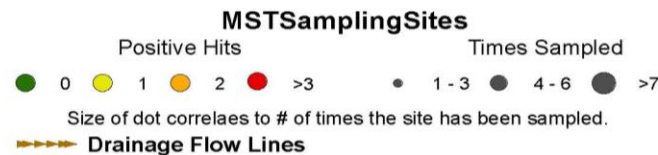
MS4 Minimum Control Measure #3 – IDDE: Microbial Source Tracking (MST) Trend Map



Microbial Source Tracking Trend Map
Headwaters May River



Microbial Source Tracking Trend Map
Old Town May River



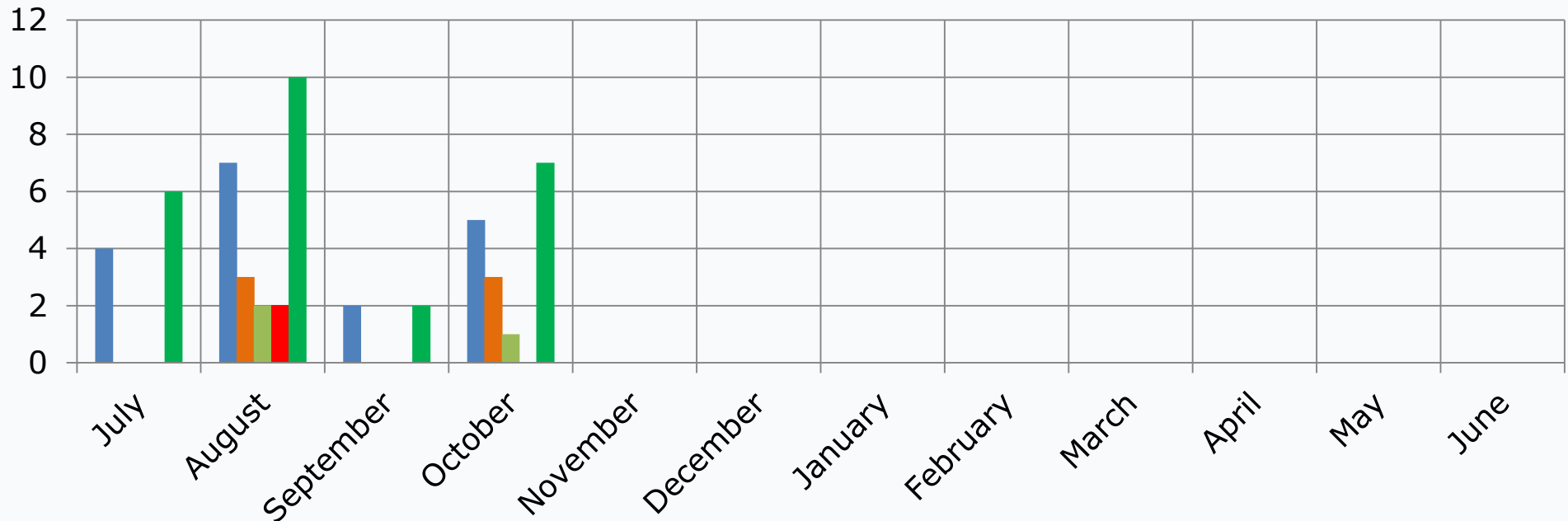
Updated: 10/24/2017

DISCLAIMER
This map was created by the Town of Bluffton, South Carolina, and is provided as a service to the public. It is not intended to be used for any other purpose. The Town of Bluffton is not responsible for any errors or omissions in this map. The Town of Bluffton is not responsible for any damages or liabilities arising from the use of this map. The Town of Bluffton is not responsible for any damages or liabilities arising from the use of this map.



MS4 Minimum Control Measure #3 – IDDE: Illicit Discharge Investigations

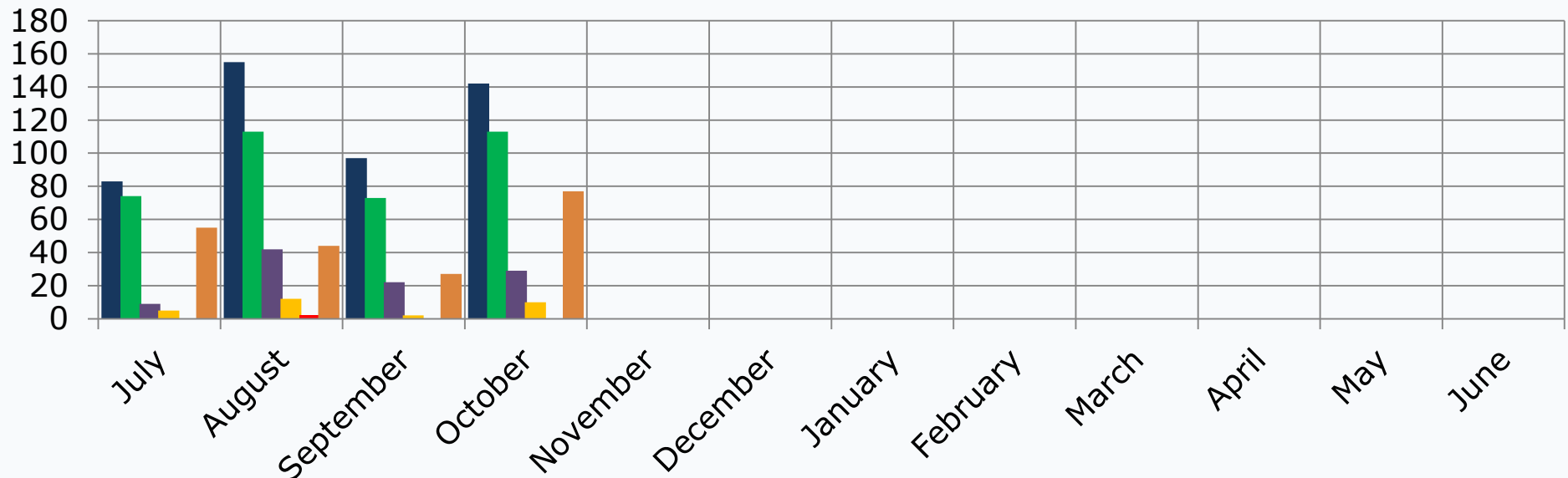
- Number of Illicit Discharge Investigations
- Notice To Comply
- Meetings
- Notice of Violation
- Notice of Violation Resulting in Fines



	Number of Illicit Discharge Investigations	Number of Notices To Comply Issued	Number of Notices of Violation Issued	Number of NOV Enforcement Actions	Number of Meetings
FY 2018 YTD Totals	18	6	3	2	25
FY 2017 Totals	50	19	8	13	67

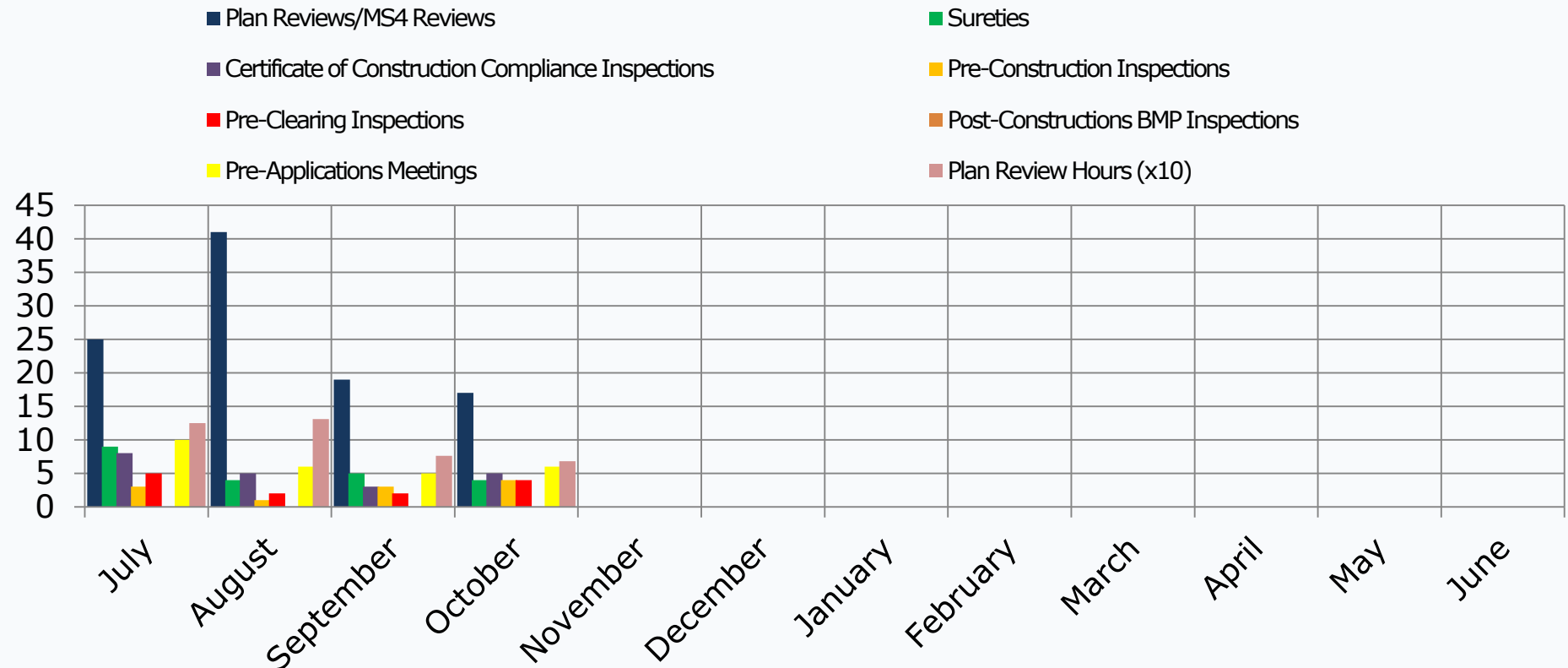
MS4 Minimum Control Measure #4 - Erosion and Sediment Control Inspections

- Erosion & Sediment Control Inspections (E&SC)
- Number of Inspections Passed
- Number of Notice To Comply (NTC)
- Number of Notice of Violation (NOV)
- Number of Fines for Notice of Violation
- Number of Erosion & Sediment Control Meetings



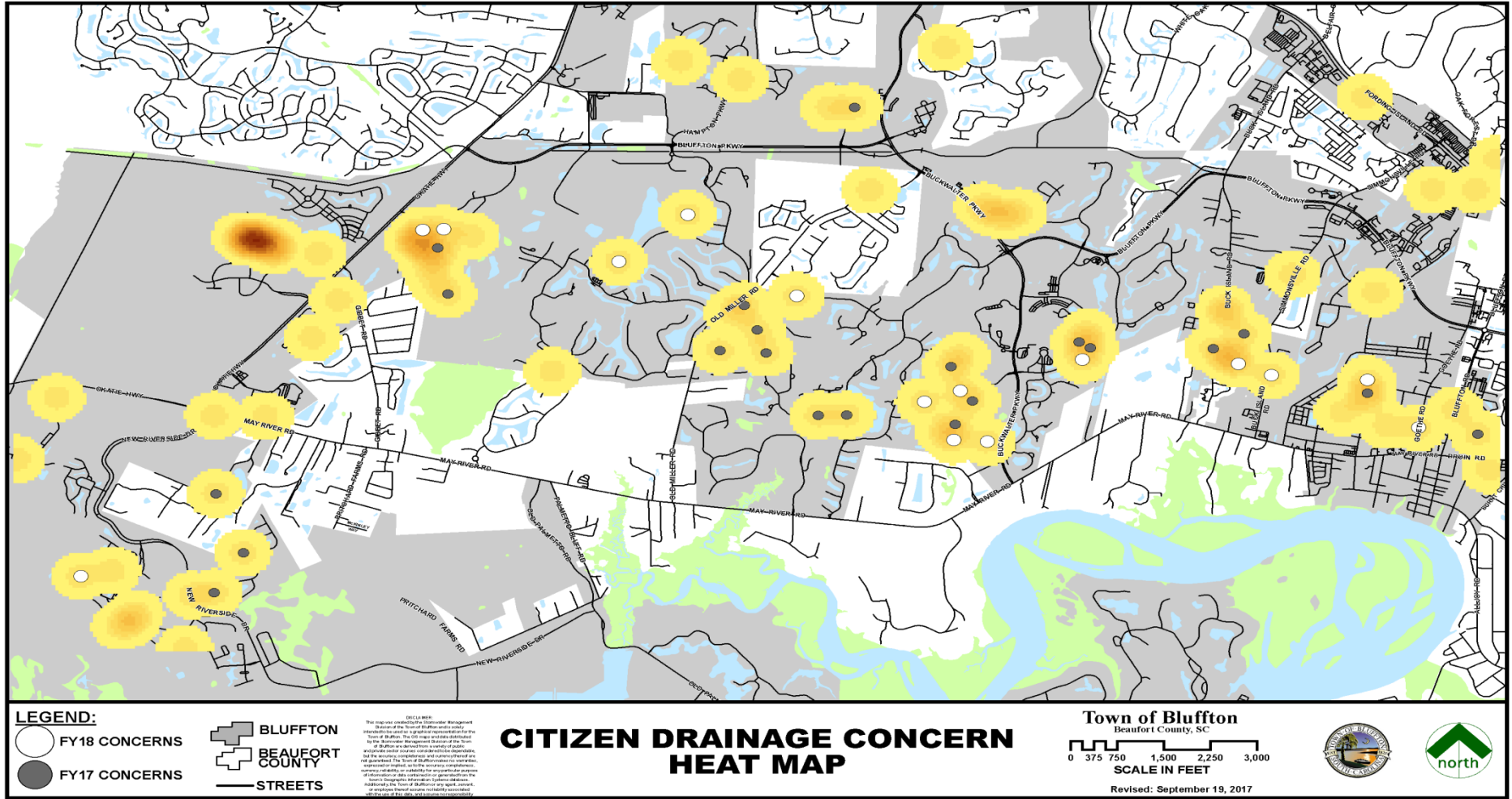
	Number of Sediment & Erosion Control Inspections	Number of Inspections Passed	Number of NTC Issued	Number of NOVs Issued	Number of NOV Enforcement Actions	Number of E&SC Meetings
FY 2018 YTD Totals	477	373	102	29	2	203
FY 2017 Totals	1,219	862	233	58	10	237

MS4 Minimum Control Measure #5 Stormwater Plan Review



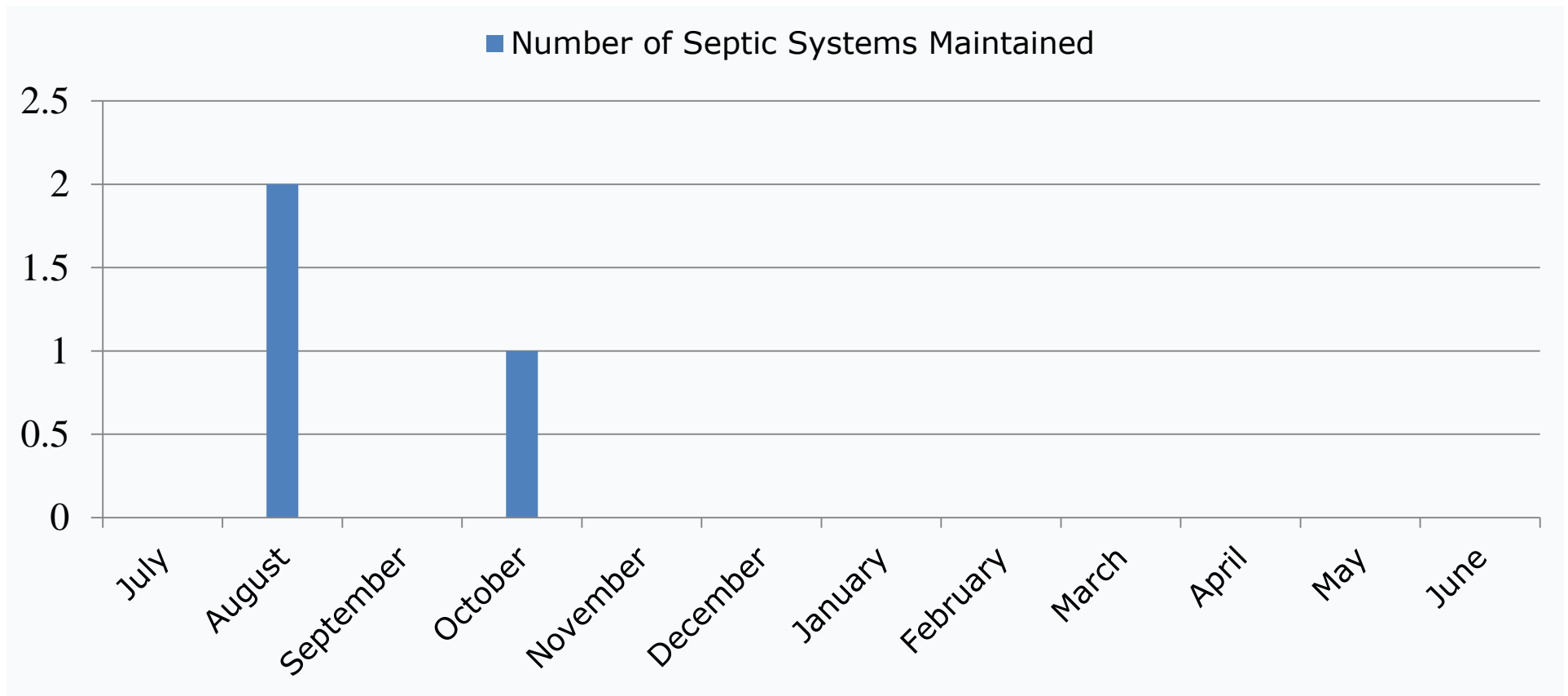
	Plan Reviews MS4 Reviews	Sureties	Certificate of Construction Compliance Inspections	Pre-Construction Meetings	Pre-Clearing Inspections	Post Construction BMP Inspections	Pre-Application Meetings	Total Plan Review Hours
FY 2018 YTD Totals	102	22	21	11	13	0	27	510 Hrs.
FY 2017 Totals	253	62	96	47	45	7	23	1,265 Hrs.

Citizen Drainage Concern Heat Map (Drainage, Maintenance and Inspections)



	Number of Drainage Concerns Investigated	Number of Meetings
FY 2018 YTD Totals	22	29
FY 2017 Totals	72	80

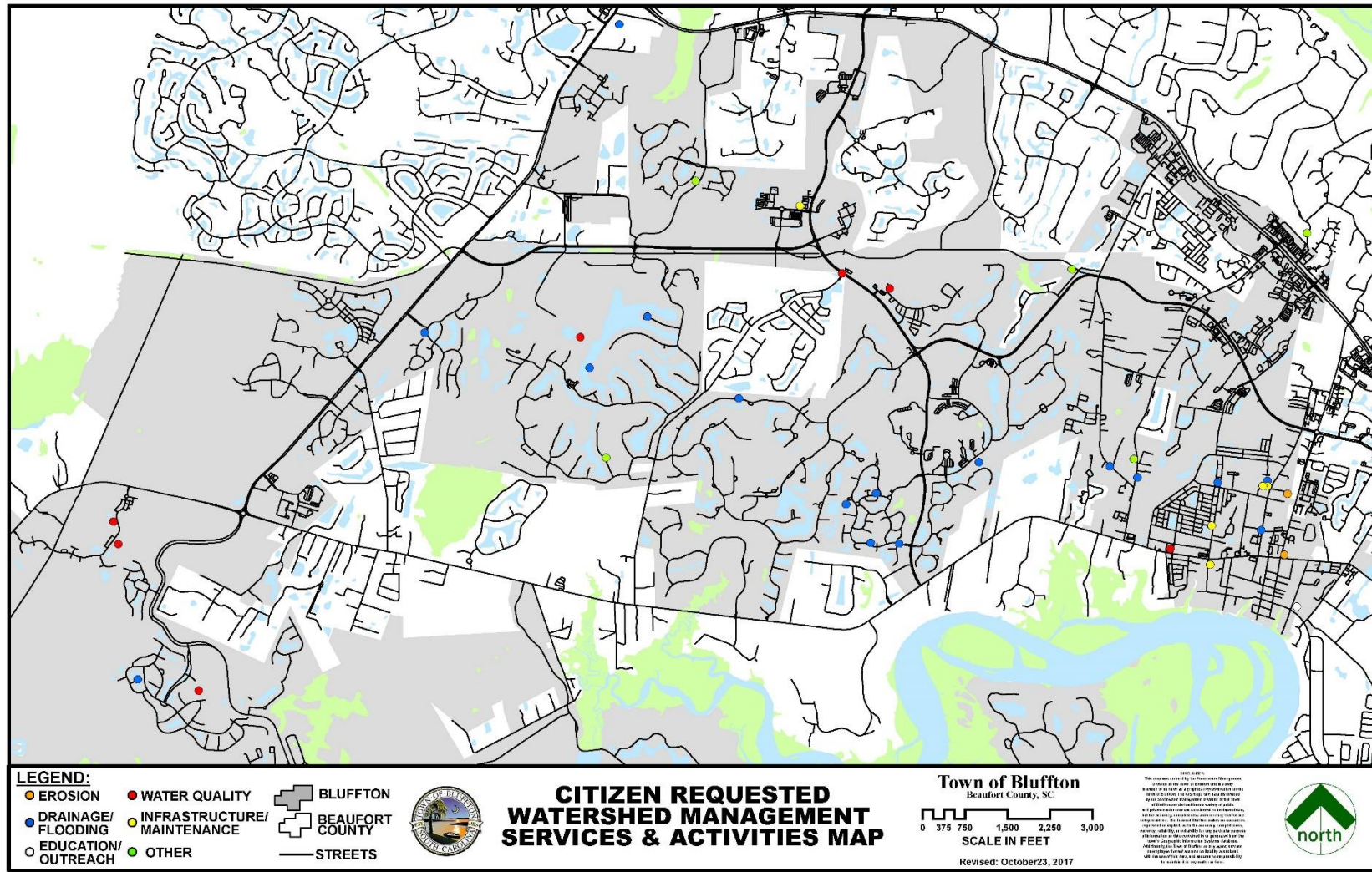
Septic System Maintenance Assistance



	Number of Septic Systems Maintained
FY 2018 YTD Totals	3
FY 2017 Totals	18

Requests for Septic System maintenance are down due to completed connections along Jason St., Buck Island Road and Simmonsville Road as part of the Phase #3/4 BIS Sewer project.

Citizen Request for Stormwater Services Heat Map



	Number of Citizen Requests Investigated	Number of Meetings
FY 2018 YTD Totals	15	23
FY 2017 Totals	53	82



MEMORANDUM

Date: November 15, 2017

To: Stormwater Management Utility Board

From: David Wilhelm, P. E., Public Works Director

Re: **Maintenance Project Report**

This report will cover two major projects and six minor projects. The Project Summary Reports are attached.

Major Projects – Storm Drainage System Improvements:

- **Gamecock Way – Port Royal (SWUD 6):** This project improved 530 feet of drainage system. The scope of work included shinn cutting, grubbing and reconstructing 530 feet of channel, constructing 530 feet of workshelf, bush hogging 380 feet of channel, installing 1 access pipe, jet cleaning 2 crossline pipes. The total cost was **\$36,733.16**
- **Vineyard Point Road - St Helena Island (SWUD 8):** This project improved 5,277 feet drainage system. The scope of work included cleaning out 5,277 feet of roadside ditch, jet cleaning 2 crossline pipes and 27 driveway pipes. The total cost was **\$18,186.40**.

Minor or Routine Projects:

- **Shed Road – St Helena Island (SWUD 8):** This project improved 1,733 feet of drainage system. The project scope included cleaning out 1,733 feet of roadside ditch, jet out 2 driveway pipes and 2 crossline pipes. The total cost was **\$3,847.84**.
- **Warsaw Island Road – St Helena Island (SWUD 8):** The project scope included installing 1 driveway pipe. The total cost was **\$3,810.33**.
- **Scott Hill Road Ch 1 – St Helena Island (SWUD 8):** This project improved 1,675 feet of drainage system. The scope of work included cleaning out 1,675 feet of roadside ditch. The total cost was **\$2,805.40**.
- **Harbor River Circle – St Helena Island (SWUD 8):** This project improved 320 feet of drainage system. The project included removing vegetation from flowline, cleaning out 320 feet of roadside ditch and repairing 1 crossline pipe. The total cost was **\$2,653.40**.
- **Blacksmith Circle – Port Royal Island (SWUD 6):** The project scope included repairing a catch basin. The total cost was **\$2,345.34**.
- **Lady's Island Tree Removal – Lady's Island (SWUD 7):** The scope of work included removing fallen trees from workshelf. The total cost was **\$613.26**.



Beaufort County
Public Works
Stormwater Infrastructure
Project Summary

Project Summary: Gamecock Way

Activity: Drainage Improvement

Narrative Description of Project:

Duration: 3/1/17 - 6/14/17

Project improved 530 L.F. of drainage system. Shinn cut, grubbed and reconstructed 530 L.F. of channel. Constructed 530 L.F. of workshelf. Bush hogged 380 L.F. of channel. Installed (1) access pipe. Jetted (2) crossline pipes. Handseeded for erosion control.

2017-006 / Gamecock Way	Labor Hours	Labor Cost	Equipment Cost	Material Cost	Contractor Cost	Indirect Labor	Total Cost
APINS / Access pipe - installed	25.0	\$548.53	\$208.75	\$585.09	\$0.00	\$343.91	\$1,686.28
AUDIT / Audit Project	1.5	\$35.24	\$0.00	\$0.00	\$0.00	\$19.85	\$55.08
BKFILL / Back Fill	70.0	\$1,587.80	\$651.28	\$84.51	\$0.00	\$828.00	\$3,151.59
CBH / Channel- bushhogged	30.0	\$656.30	\$121.89	\$74.03	\$0.00	\$419.10	\$1,271.32
CLPJT / Crossline Pipe - Jetted	10.0	\$222.80	\$43.40	\$18.36	\$0.00	\$143.40	\$427.96
CREC / Channel - reconstructed	95.0	\$2,093.60	\$817.22	\$92.31	\$0.00	\$1,171.02	\$4,174.15
CSHN / Channel - Shinn cut	8.0	\$163.68	\$189.40	\$90.50	\$0.00	\$97.68	\$541.26
DEBREM / Debris Removal - Jobsite	73.0	\$1,586.38	\$499.87	\$43.44	\$0.00	\$989.79	\$3,119.48
HAUL / Hauling	194.5	\$4,217.20	\$1,996.49	\$1,498.64	\$0.00	\$2,197.73	\$9,910.05
LM / Loading Materials	77.0	\$1,706.71	\$971.96	\$137.56	\$0.00	\$1,070.49	\$3,886.72
ONJV / Onsite Job Visit	10.0	\$273.80	\$36.00	\$6.92	\$0.00	\$187.20	\$503.92
PI / Project Inspection	10.0	\$236.95	\$18.00	\$9.05	\$0.00	\$153.60	\$417.60
PL / Project Layout	20.0	\$433.45	\$36.00	\$25.17	\$0.00	\$270.60	\$765.22
PROFS / Professional Services	0.0	\$0.00	\$0.00	\$0.00	\$1,025.00	\$0.00	\$1,025.00
WSDR / Workshelf - Dressed	9.0	\$182.34	\$10.62	\$69.34	\$0.00	\$76.32	\$338.62
WSGRB / Workshelf - Grubbed	25.0	\$520.60	\$211.00	\$54.30	\$0.00	\$316.30	\$1,102.20
WSL / Workshelf - Level	52.0	\$1,112.42	\$605.44	\$89.62	\$0.00	\$630.78	\$2,438.26
WSSHN / Workshelf - Shinn cut	41.0	\$921.11	\$334.83	\$101.36	\$0.00	\$561.15	\$1,918.45
2017-006 / Gamecock Way	751.0	\$16,498.90	\$6,752.15	\$2,980.20	\$1,025.00	\$9,476.91	\$36,733.16
Sub Total							
Grand Total	751.0	\$16,498.90	\$6,752.15	\$2,980.20	\$1,025.00	\$9,476.91	\$36,733.16

Before



During



After





Project: Gamecock Way
Map #1

Activity: Drainage Improvement














Project #: 2017-006

Township/SW Dist: Port Royal Island/6

Completed: June 2017

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: 11/01/17
File: C:\project summaries map\Gamecock Way Map#1_2017-006



Project: Gamecock Way Map #2

Activity: Drainage Improvement

Project #: 2017-006

Township/SW Dist: Port Royal Island/6

Completed: June 2017

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: 11/01/17
 File: C:\project summaries map\Gamecock Way Map#2_2017-006



Beaufort County
Public Works
Stormwater Infrastructure
Project Summary

Project Summary: Vineyard Point Road

Activity: Routine/Preventive Maintenance

Narrative Description of Project:

Duration: 6/5/17 - 6/28/17

Project improved 5,277 L.F. of drainage system. Cleaned out 5,277 L.F. of roadside ditch. Jetted (2) crossline pipes and (27) driveway pipes.

2017-554 / Vineyard Point Road	Labor Hours	Labor Cost	Equipment Cost	Material Cost	Contractor Cost	Indirect Labor	Total Cost
AUDIT / Audit Project	0.5	\$11.75	\$0.00	\$0.00	\$0.00	\$6.62	\$18.36
DPJT / Driveway Pipe - Jetted	56.0	\$1,247.68	\$243.04	\$175.41	\$0.00	\$803.04	\$2,469.17
HAUL / Hauling	80.0	\$1,557.35	\$753.60	\$338.83	\$0.00	\$72.10	\$2,721.88
RSDCL / Roadside Ditch - Cleanout	319.0	\$7,102.84	\$1,145.76	\$246.77	\$0.00	\$4,481.62	\$12,976.99
2017-554 / Vineyard Point Road Sub Total	455.5	\$9,919.62	\$2,142.40	\$761.01	\$0.00	\$5,363.37	\$18,186.40
Grand Total	455.5	\$9,919.62	\$2,142.40	\$761.01	\$0.00	\$5,363.37	\$18,186.40

Before



During



After



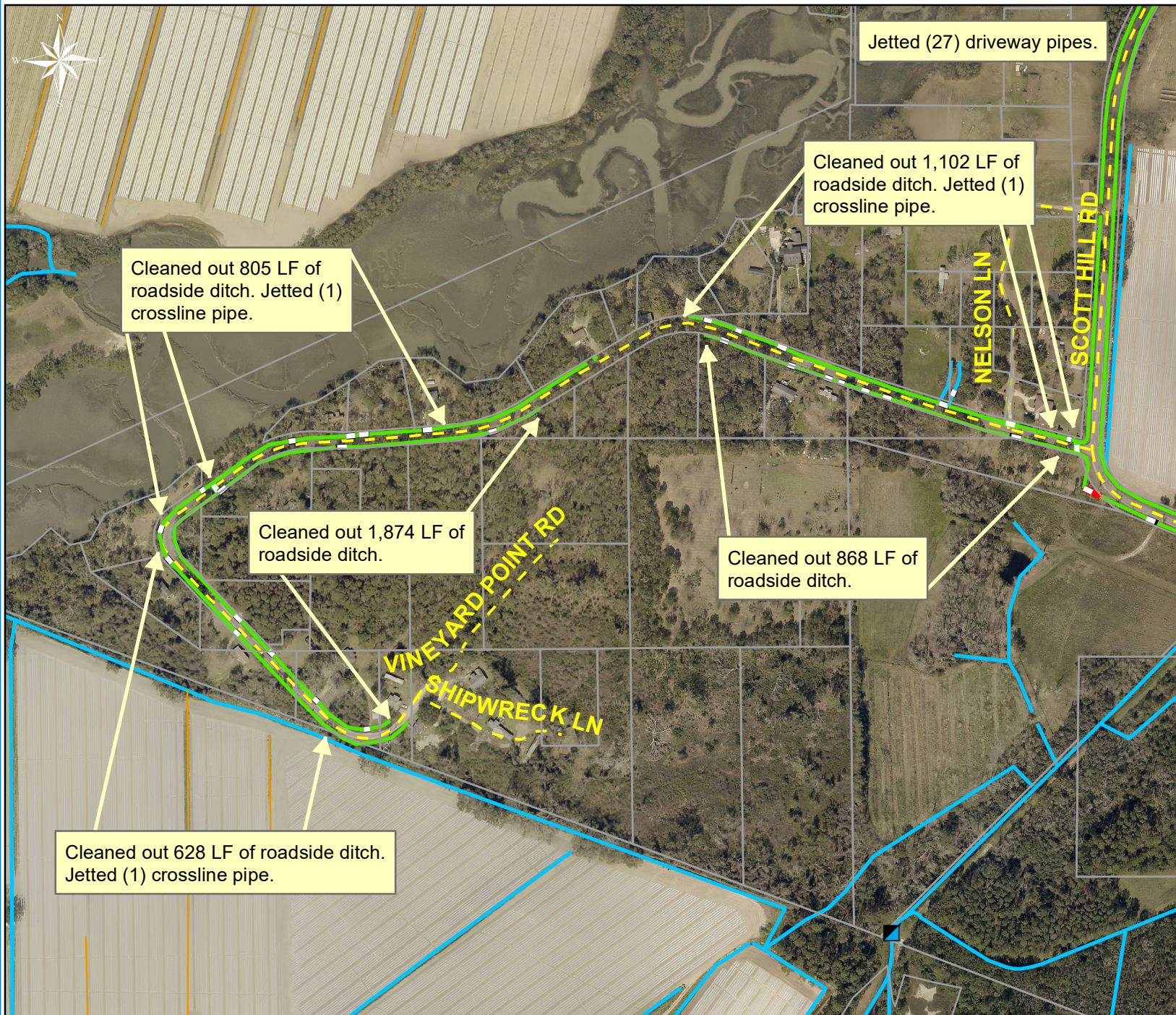
Project: Vineyard Point Road

Activity: Routine/
Preventive
Maintenance

Project #:
2017-554

Township/SW Dist:
St. Helena Island/8

Completed:
June 2017



Cleaned out 805 LF of roadside ditch. Jetted (1) crossline pipe.

Cleaned out 1,102 LF of roadside ditch. Jetted (1) crossline pipe.

Cleaned out 1,874 LF of roadside ditch.

Cleaned out 868 LF of roadside ditch.

Cleaned out 628 LF of roadside ditch. Jetted (1) crossline pipe.

Jetted (27) driveway pipes.

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 = 420 feet



Beaufort County
Public Works
Stormwater Infrastructure
Project Summary

Project Summary: Shed Road

Activity: Routine/Preventive Maintenance

Narrative Description of Project:

Duration: 6/15/17 - 6/29/17

Project improved 1,733 L.F. of drainage system. Cleaned out 1,733 L.F. of roadside ditch. Jetted (2) driveway pipes and (2) crossline pipes.

2017-560 / Shed Road	Labor Hours	Labor Cost	Equipment Cost	Material Cost	Contractor Cost	Indirect Labor	Total Cost
AUDIT / Audit Project	0.5	\$11.75	\$0.00	\$0.00	\$0.00	\$6.62	\$18.36
DPJT / Driveway Pipe - Jetted	14.0	\$311.92	\$60.76	\$28.10	\$0.00	\$200.76	\$601.54
HAUL / Hauling	20.0	\$415.50	\$188.40	\$89.05	\$0.00	\$144.20	\$837.15
RSDCL / Roadside Ditch - Cleanout	60.0	\$1,336.80	\$270.16	\$47.06	\$0.00	\$717.80	\$2,371.82
UTLOC / Utility locates	0.5	\$12.35	\$0.00	\$0.00	\$0.00	\$6.62	\$18.97
2017-560 / Shed Road	95.0	\$2,088.32	\$519.32	\$164.21	\$0.00	\$1,075.99	\$3,847.84
Sub Total							
Grand Total	95.0	\$2,088.32	\$519.32	\$164.21	\$0.00	\$1,075.99	\$3,847.84

Before



During



After



Project: Shed Road

Activity: Routine/
Preventive
Maintenance

Project #:
2017-560

Township/SW Dist:
St. Helena Island/8

Completed:
June 2017



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: Warsaw Island Road

Activity: Routine/Preventive Maintenance

Narrative Description of Project:

Installed (1) driveway pipe.

Duration: 6/22/17 - 6/26/17

2017-562 / Warsaw Island Road	Labor Hours	Labor Cost	Equipment Cost	Material Cost	Contractor Cost	Indirect Labor	Total Cost
AUDIT / Audit Project	0.5	\$11.75	\$0.00	\$0.00	\$0.00	\$6.62	\$18.36
DPINS / Driveway Pipe - Installed	25.0	\$572.70	\$64.63	\$325.50	\$0.00	\$338.80	\$1,301.63
DWASPH / Driveway - Asphalt	20.0	\$466.10	\$43.58	\$40.11	\$0.00	\$271.60	\$821.39
HAUL / Hauling	18.0	\$400.86	\$169.56	\$838.98	\$0.00	\$259.56	\$1,668.96
2017-562 / Warsaw Island Road Sub Total	63.5	\$1,451.41	\$277.77	\$1,204.58	\$0.00	\$876.57	\$3,810.33
Grand Total	63.5	\$1,451.41	\$277.77	\$1,204.58	\$0.00	\$876.57	\$3,810.33

Before



During



After





Project: Warsaw
Island Road

Activity: Routine/
Preventive
Maintenance

Project #:
2017-562

Township/SW Dist:
St. Helena Island/8

Completed:
June 2017



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: 11/02/17
File: C:\project summaries map\Warsaw Island Road_2017-562



Beaufort County
Public Works
Stormwater Infrastructure
Project Summary

Project Summary: Scott Hill Road Channel #1

Activity: Routine/Preventive Maintenance

Narrative Description of Project:

Duration: 6/26/17 - 6/27/17

Project improved 1,675 L.F. of drainage system. Cleaned out 1,675 L.F. of roadside ditch.

2017-563 / Scott Hill Rd Channel #1	Labor Hours	Labor Cost	Equipment Cost	Material Cost	Contractor Cost	Indirect Labor	Total Cost
AUDIT / Audit Project	0.5	\$11.75	\$0.00	\$0.00	\$0.00	\$6.62	\$18.36
HAUL / Hauling	30.0	\$578.40	\$282.60	\$107.15	\$0.00	\$0.00	\$968.15
RSDCL / Roadside Ditch - Cleanout	40.0	\$915.40	\$270.16	\$59.73	\$0.00	\$573.60	\$1,818.89
2017-563 / Scott Hill Rd Channel #1 Sub Total	70.5	\$1,505.55	\$552.76	\$166.88	\$0.00	\$580.22	\$2,805.40
Grand Total	70.5	\$1,505.55	\$552.76	\$166.88	\$0.00	\$580.22	\$2,805.40

Before

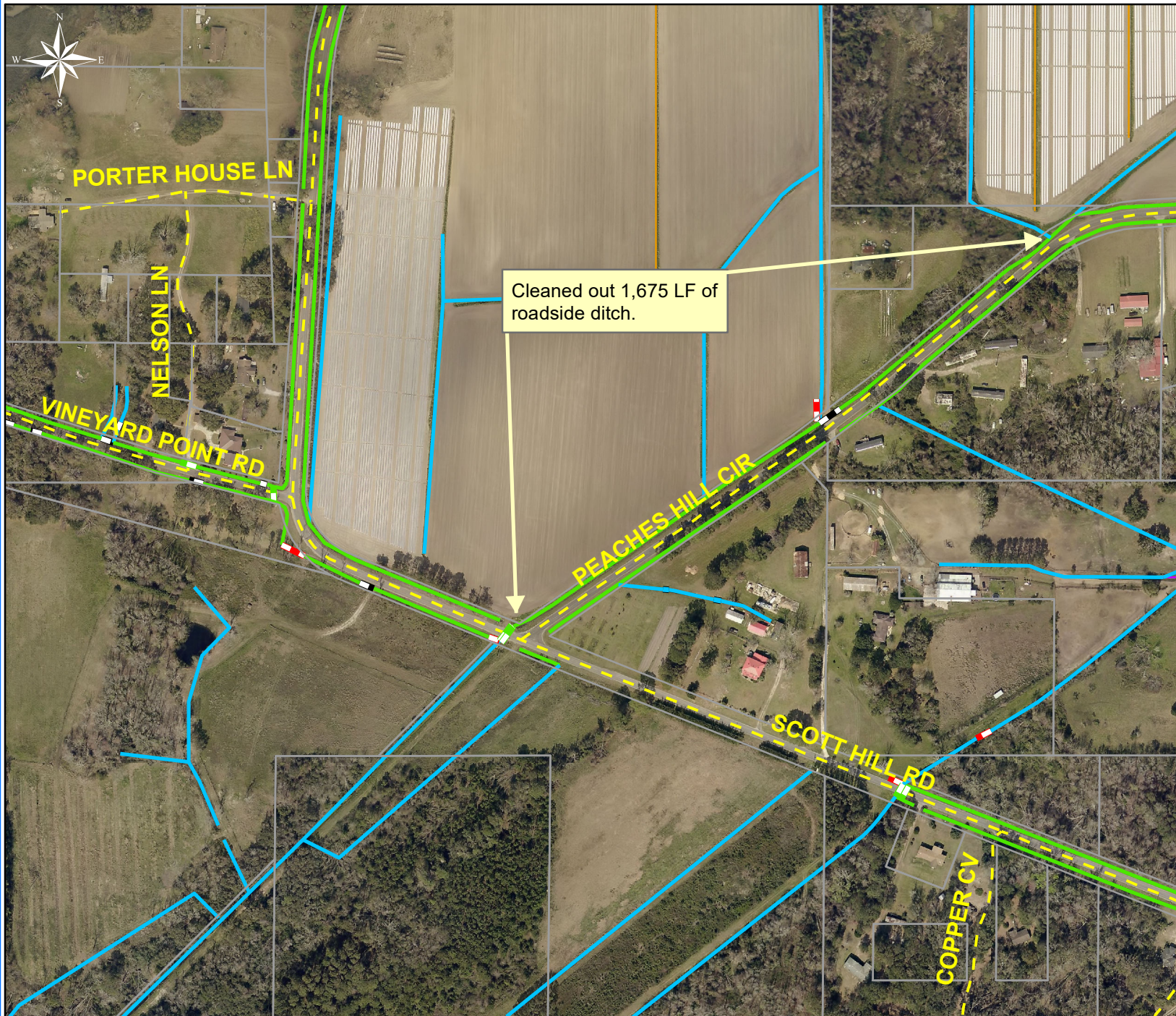


During



After





Project: Scott Hill Road Channel #1

Activity: Routine/ Preventive Maintenance

Project #: 2017-563

Township/SW Dist: St. Helena Island/8

Completed: June 2017

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: 11/02/17

File: C:\project summaries map\Scott Hill Road Channel #1_2017-563



Project: Harbor River Circle

Activity: Routine/ Preventive Maintenance

Project #: 2017-555

Township/SW Dist: St. Helena Island/8

Completed: June 2017

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: Irongate Subdivision - Blacksmith Circle

Activity: Routine/Preventive Maintenance

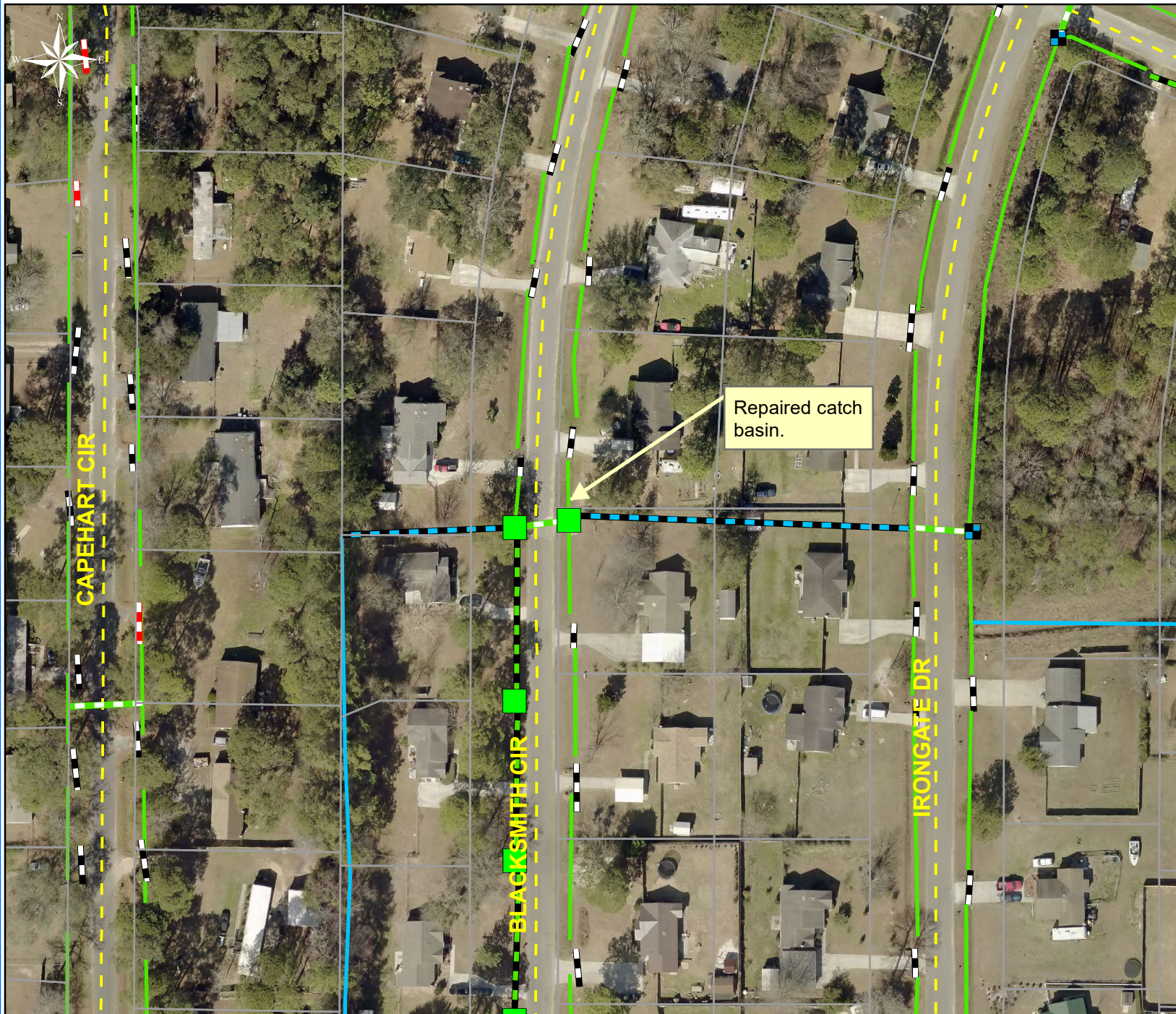
Narrative Description of Project:

Repaired catch basin.

Duration: 5/2/17 - 6/27/17

2017-547 / Irongate Subdivision	Labor Hours	Labor Cost	Equipment Cost	Material Cost	Contractor Cost	Indirect Labor	Total Cost
AUDIT / Audit Project	0.5	\$11.75	\$0.00	\$0.00	\$0.00	\$6.62	\$18.36
CBREP / Catch basin - repaired	40.0	\$903.00	\$129.26	\$235.65	\$0.00	\$541.10	\$1,809.01
HAUL / Hauling	10.0	\$222.70	\$94.20	\$18.94	\$0.00	\$144.20	\$480.04
UTLOC / Utility locates	1.0	\$24.70	\$0.00	\$0.00	\$0.00	\$13.23	\$37.93
2017-547 / Irongate Subdivision Sub Total	51.5	\$1,162.15	\$223.46	\$254.59	\$0.00	\$705.15	\$2,345.34
Grand Total	51.5	\$1,162.15	\$223.46	\$254.59	\$0.00	\$705.15	\$2,345.34

(Pictures Not Available)



Project: Irongate Subdivision-Blacksmith Circle

Activity: Routine/Preventive Maintenance

Project #: 2017-547

Township/SW Dist: Port Royal Island/6

Completed: June 2017

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: 11/01/17

File: C:\project summaries map\Irongate S/D- Blacksmith Circle_2017-547



Beaufort County
Public Works
Stormwater Infrastructure
Project Summary

Project Summary: Ladys Island Tree Removal - S. Point Trail

Activity: Routine/Preventive Maintenance

Narrative Description of Project:

Removed fallen trees from workshelf.

Duration: 1/4/17

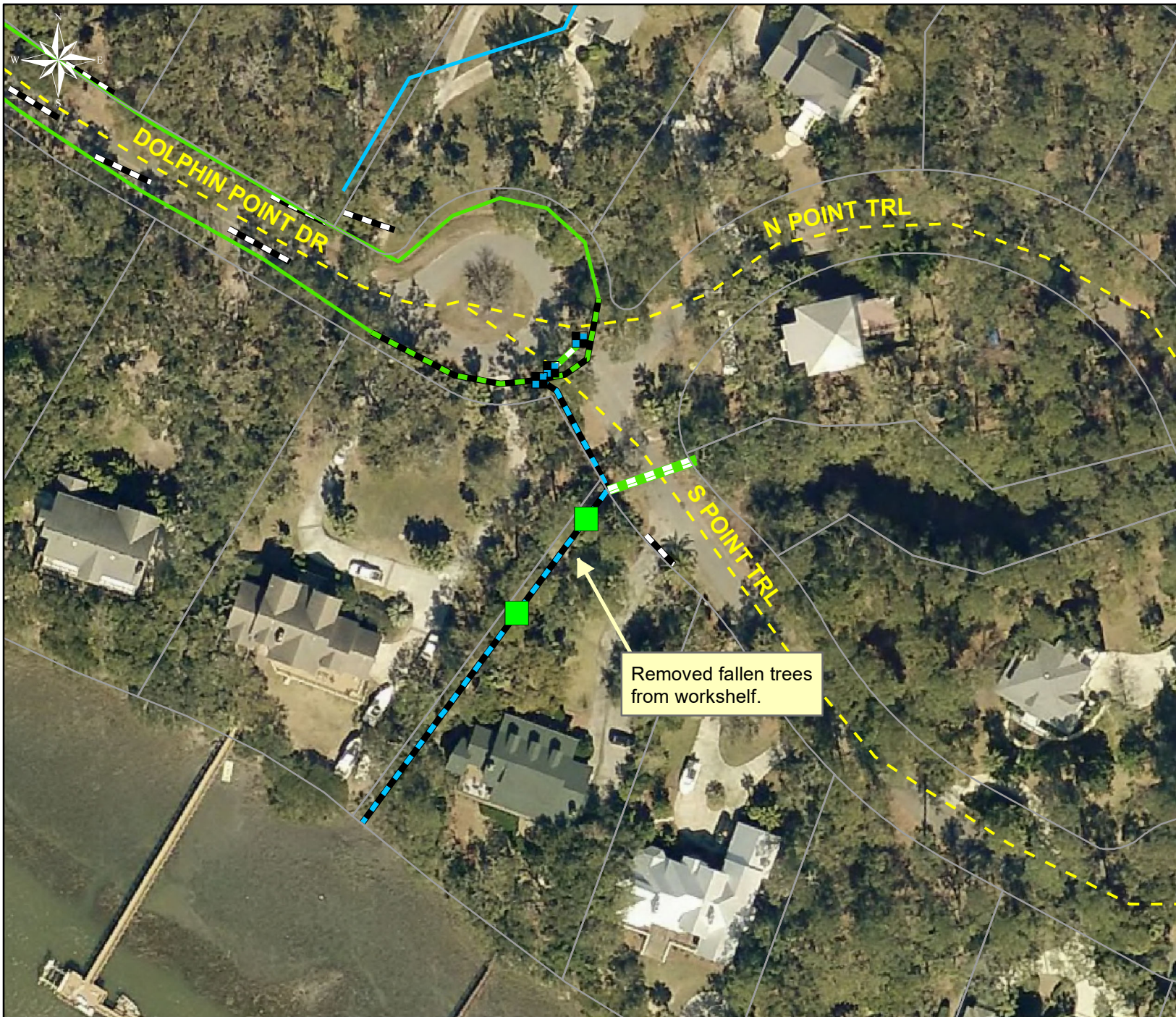
2017-317 / Ladys Island Tree Removal	Labor Hours	Labor Cost	Equipment Cost	Material Cost	Contractor Cost	Indirect Labor	Total Cost
AUDIT / Audit Project	0.5	\$11.75	\$0.00	\$0.00	\$0.00	\$6.62	\$18.36
HAUL / Hauling	3.0	\$66.81	\$28.26	\$66.80	\$0.00	\$43.26	\$205.13
RMTRW / Remove trees - Workshelf	9.0	\$218.67	\$39.43	\$5.46	\$0.00	\$126.21	\$389.77
2017-317 / Ladys Island Tree Removal Sub Total	12.5	\$297.23	\$67.69	\$72.26	\$0.00	\$176.09	\$613.26
Grand Total	12.5	\$297.23	\$67.69	\$72.26	\$0.00	\$176.09	\$613.26

Before



After





Project: Ladys Island Tree Removal - S. Point Trail

Activity: Routine/ Preventive Maintenance

Project #: 2017-317

Township/SW Dist: Ladys Island/7

Completed: January 2017

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

Prepared By: BC Stormwater Management Utility

Date Print: 11/01/17

File: C:\project summaries map\Ladys Island Tree Removal-S.Point Trail_2017-317



BEAUFORT COUNTY
STORMWATER MANAGEMENT UTILITY BOARD AGENDA
Wednesday, December 20, 2017
2:00 p.m.
Executive Conference Room, Administration Building
Beaufort County Government Robert Smalls Complex
100 Ribaut Road, Beaufort, South Carolina
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 – November 15, 2017 ([backup](#))
2. INTRODUCTIONS
3. PUBLIC COMMENT
4. REPORTS
 - A. Utility Update – Eric Larson, P.E. ([backup](#))
 - B. Monitoring Update – Eric Larson, P.E. ([backup](#))
 - C. Stormwater Implementation Committee Report – Eric Larson, P.E. ([backup](#))
 - D. Stormwater Related Projects – Eric Larson, P.E. ([backup](#))
 - E. Upcoming Professional Contracts Report – Eric Larson, P.E. ([backup](#))
 - F. Regional Coordination – Eric Larson, P.E. ([backup](#))
 - G. Municipal Reports – Eric Larson, P.E. ([backup](#))
 - H. MS4 Update – Eric Larson, P.E. ([backup](#))
 - I. Maintenance Projects Report – David Wilhelm, P.E. ([backup](#))
5. UNFINISHED BUSINESS
6. NEW BUSINESS
7. PUBLIC COMMENT
8. NEXT MEETING AGENDA
 - A. January 10, 2018 ([backup](#))
9. ADJOURNMENT