



BEAUFORT COUNTY
STORMWATER MANAGEMENT UTILITY BOARD AGENDA
Wednesday, December 14th, 2022, 2:00 p.m.
County Council Chambers
Beaufort, South Carolina 843.255.2805

1. CALL TO ORDER – 2:00p.m.

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.

- A. Approval of Agenda
- B. Approval of Minutes – October 19th, 2022 ([backup](#))

2. INTRODUCTIONS

3. PUBLIC COMMENT

4. SPECIAL PRESENTATION – St. Helena Drainage Study – Woolpert, Inc

5. REPORTS

- A. Utility Update – Katie Herrera ([backup](#))
- B. Monitoring Update – Katie Herrera ([backup](#))
- C. Stormwater Implementation Committee Report – Katie Herrera([backup](#))
- D. Stormwater Related Projects – Julianna Corbin ([backup](#))
- E. Upcoming Professional Contracts Report – Julianna Corbin ([backup](#))
- F. Regional Coordination – Katie Herrera ([backup](#))
- G. Municipal Reports – Katie Herrera ([backup](#))
- H. MS4 Update – Katie Herrera([backup](#))
- I. Staff Update – Katie Herrera ([backup](#))
- J. Maintenance Projects Report – Matthew Rausch ([backup](#))
- K. Liaison Report - Ms. Alice Howard

6. UNFINISHED BUSINESS

7. NEW BUSINESS

- A. 2023 Meeting Schedule - Katie Herrera ([backup](#))
- B. Plan Review Fees - Julianna Corbin ([backup](#))
- C. SoLoCo Manual Edits - Julianna Corbin ([backup](#))

8. PUBLIC COMMENT

9. NEXT MEETING AGENDA

- A. Wednesday, February 15TH 2023 ([backup](#))

10. ADJOURNMENT





Beaufort County Stormwater Management Utility Board (SWMU Board)

Meeting Minutes

October 19th, 2022 at 2:00 p.m.

Evergreen Regional Pond

Board Members

Present

Marc Feinberg
James Clark
Dennis Ross
Bill Baugher

Absent

Ron Buchanan
Ed Warner
Patrick Mitchell
Steve Andrews

Ex-Officio Members

Present

Bill Baugher
Jacob Terry

Absent

Nate Farrow
Jeff Netzinger
Van Willis

Beaufort County Staff

Katie Herrera
Neil Desai
Julianna Corbin
Jon Spencer
Steven Carter

Tim Thorsen
Scott Youmans
Jacob Bratz
Judah Wood

Alice Howard,
Ellen Sturup Comeau,
Danielle Mickel
Susan Wing

Visitors

John Slaughter
Lori Maurer
Debbie Felton

1. Meeting called to order – Mr. Marc Feinberg at 2:00 pm

- A. Agenda – Approved
- B. Approval of Minutes – Approved.

2. Introductions – Completed.

3. Public Comment(s):

- ✓ Public comments made by Old Woodland residents regarding drainage issues in their respective neighborhoods.

4. Special Presentations – Evergreen Regional Pond presentation – Julianna Corbin.

Reports

Utility Update – Mrs. Katie Herrera

- ✓ Southern Lowcountry Regional Board (SoLoCo)
 - a) The current schedule for completion and finalization on the document and activities of Center for Watershed Protection (CWP) is as follows:
- ✓ Regionalization
 - a) Staff continues to support coordination on permitting standards.
 - A regional meeting was held on August 18th to discuss amending items within the manual to make plan review easier for staff, as well as the development community. A feedback period was provided to the development community and some response was provided by the October 4th deadline. Staff will integrate comments as necessary, and any proposed amendments to the manual shall be provided to the Utility board for comment and review.
 - b) Staff continues to support other municipalities in their efforts to move forward with adoption.
- ✓ Special presentation suggestions –
 - Suggestions for Future Meetings
 - St. Helena Drainage Study – December 2022
 - Mike Johnson – CP&P Pipe – Spring 2023
- ✓ Military installation and other State and Federal properties SWU fees – See “Delinquent Accounts” below.
- ✓ Delinquent accounts – Phase I Investigations with Gentry Locke Attorneys (looking at data, laws, ordinances, synopsis of case law) to provide recommendations and likely outcomes of either negotiations or litigation.
 - IGA amendments for the Town of Port Royal have been approved. At time of report, still awaiting copies
- ✓ Reminder: Annual Financial report from the Municipalities are due – Per the Intergovernmental Agreements for the Utility, each year on September 30th, the City and Towns are required to submit a summary of revenue and expenditures for the previous fiscal year.
 - a) Beaufort County – Received.
 - b) Town of Hilton Head Island – Received.
 - c) Town of Bluffton – Received.
 - d) Town of Port Royal – Not received.
 - e) City of Beaufort – Not Received.

The 2021 Tax Run was completed on time and has been sent to the Assessor’s Office.

Monitoring Update – Mrs. Danielle Mickel

1. Lab Update (From Lab Manager Danielle Mickel)
 - i. [See attached report.](#)
 - ii. Both the County and the Town has denied the request of USCB to have a lab manager take over Ms. Danielle Mickel’s position. No response from USCB was provided.

Stormwater Implementation Committee (SWIC) Report – Ms. Julianna Corbin

1. CWI reports for FY2022 were sent to each municipality.

Stormwater Related Projects – Ms. Julianna Corbin

1. Easements – Staff is working on easement requests and meets monthly to review status of each as well as any new easements. Edits to the Extent of Service and Level of Service documents pending Council guidance prior to finalization
2. Complaints – Staff continually works numerous drainage related complaints each month.
 - a) Shell Point Community – Website developed to convey information about the project is live at <https://shellpointdrainage.beaufortcountysc.gov/>. Scope and fee for project management and task orders continue to be finalized; IGA and coordination with SCDOT continues with meeting scheduled for November 8. Grant through the SC Office of Resiliency submitted on October 31.
3. Factory Creek Watershed Regional Detention Basin “Phase II” (Design Cost = \$63,390, Tree Mitigation Cost is pending, Construction Cost by the Developer) –Staff is preparing to take legal action.
4. Graves Property / Pepper Hall Public / private partnership – Construction continues on site
5. Whitehall property purchase – Construction continues on City property.
6. Lady’s Island Plan, Sea Level Rise, and “no-fill” ordinance – No update at this time
7. Tuxedo Park Pond Dredging- Project deferred to FY24
8. Huspah Court North- To be contracted through on-call contractor RFQ, which closes on November 4, 2022 (report provided prior to this deadline, results to be delivered in December packet).
9. Bessie’s Lane- Similar project scope to Huspah Court North. To be contracted through on-call contractor RFQ, which closes on November 4, 2022 (report provided prior to this deadline, results to be delivered in December packet).
10. Arthur Horne Park- The final Preliminary Investigatory Feasibility Report (PIFR) was signed for approval by the State Conservationist on October 11. The project is fourth in the State Agency Priority Rating. Planning Efforts with federal contractors will begin next. Other projects included in the PIFR for funding allocation were Southside Park (City of Beaufort), Shanklin Rd wetland retrofit (previously removed from CIP plan), improvements to the Beaufort County Administration Building stormwater pond, and additional allocations to the existing stormwater education campaign.

Professional Contracts – Ms. Julianna Corbin

1. CIP FY 18 Grouping Stormwater Projects – (Design - Ward Edwards \$202,000, Andrews Engineering \$560,490, Const. est. \$5,512,900)
 - a. Brewer Memorial – Punch list was issued to contractor on September 20. Erosion has undermined the emergency outfall of the pond and correction requires a larger mobilization from the contractor. Grand opening event, originally scheduled for late October, was delayed to allow for Passive Parks department and Open Land Trust to make updates, to include a path to connect the handicap parking stall to the County owned fishing pier and a permanent irrigation system.
2. Evergreen Regional Pond 319 grant project – (Design=\$89,286, Construction=\$590,000. Grant=\$229,124) – Closeout documents in Town of Bluffton’s possession, closeout pending. Materials needed for 319 Grant closeout have been provided.
3. Stormwater engineering consulting services – Woolpert
 - a) Scope #1 – General Services – Anything relating to Stormwater as a catch all scope. Allocated Funds – \$15,000.00.
 - b) Scope #2 – Southern Lowcountry Design Manual Training – This was completed prior to June of this year. Training set up for in house staff as well as developers in the County. Allocated funds - \$30,000.00.
 - c) Scope #3 – Comprehensive program audit. Reviewing all components of the MS4 program, CIP list, Utility, asset management, etch. Allocated funds - \$105,000.00. Audit has been completed. Staff are making adjustments to program in accordance with recommendations of the audit.
 - d) Scope #4 – Tax Run and Utility assistance. In the event the County needed assistance with assessing SW Fees, we have them available on call. We will also look to have them QA/QC data from previous years. Allocated funds - \$29,900.00.
 - e) Scope #5 – Battery Creek Pond –Project complete.
 - f) Scope #6 – Turtle Lane drainage study. Project Completed.
 - g) Scope #7 – NPDES SMS4 general permit assistance
 - h) Scope #8 – St. Helena Drainage Study. Final report draft received 6/30
 - i) Scope #9 – Arthur Horne Park 319 Grant Funding –Scope completed.
 - j) Scope #10 – Lady’s Island Drainage Study Phase I – Woolpert has completed the hydrologic and hydraulic model and continues to run storm scenarios

Scopes on County and Woolpert Radar:

1. Mint Farm and Rivers End Water Quality Retrofits

Regional Coordination – Mrs. Katie Herrera

1. See “Stormwater Related Projects” item #10.

Municipal Reports

- ✓ Town of Bluffton – Mr. Bill Baugher ○
- ✓ Town of Port Royal – Mr. Van Willis ○
- ✓ Town of Hilton Head – Mr. Jacob Terry ○

MS4 Report – Mrs. Katie Herrera

- ✓ Plan Review
- ✓ Stormwater Permits
- ✓ Monthly Inspection Summary ○
- ✓ Public Education – Mrs. Ellen Comeau ○
- ✓ Public Education – Mrs. Katie Herrera ○
- ✓ MS4 Statewide General permit – Katie Herrera ○

Staff Update

- ✓ The Department continues to conduct interviews for all vacant positions in Stormwater.
- ✓ Stormwater Regulatory staff are in full certification education mode with the Master Pond Management, as well as Master Rain Garden held by Clemson University.
- ✓ Katie Herrera was appointed to the Board of Directors for the Southeastern Stormwater Association, beginning in 2023.
- ✓ Johanna Zoran was named the Employee of the Quarter for Public Works between July and September 2022.

Maintenance Report

- ✓ Several major projects and minor projects.

Liaison Report – Beaufort County Council – Alice Howard

Highlights

Unfinished Business – None.

New Business

- ✓ Chairman Marc Feinberg mentioned the need to discuss the next year’s meeting schedule and the next Stormwater Utility Board Meeting.
- ✓ Next meeting Agenda – Approved.

Public Comment

Meeting Adjourned



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



November 2022

Stormwater Manager's Report for the Stormwater Utility

Board Meeting Utility Update

1. Southern Lowcountry Regional Board (SoLoCo)
 - a) The current schedule for completion and finalization on the document and activities of Center for Watershed Protection (CWP) is as follows:
2. Regionalization
 - a) Staff continues to support coordination on permitting standards.
 - A regional meeting was held on August 18th to discuss amending items within the manual to make plan review easier for staff, as well as the development community. A feedback period was provided to the development community and some response was provided by the October 4th deadline. Staff will integrate comments as necessary, and any proposed amendments to the manual shall be provided to the Utility board for comment and review.
 - b) Staff continues to support other municipalities in their efforts to move forward with adoption.
3. Special presentation suggestions –
4. Military installation and other State and Federal properties SWU fees – See “Delinquent Accounts” below.
5. Delinquent accounts – Phase I Investigations with Gentry Locke Attorneys (looking at data, laws, ordinances, synopsis of case law) to provide recommendations and likely outcomes of either negotiations or litigation.
 - IGA amendments for the Town of Port Royal have been approved. At time of report, still awaiting copies.
6. Reminder: Annual Financial report from the Municipalities are due – Per the Intergovernmental Agreements for the Utility, each year on September 30th, the City and Towns are required to submit a summary of revenue and expenditures for the previous fiscal year.
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Monitoring Update

1. Lab Update (From Lab Manager Danielle Mickel)
 - i. [See attached report.](#)
 - ii. Both the County and the Town has denied the request of USCB to have a lab manager take over Ms. Danielle Mickel's position. No response from USCB was provided.

Stormwater Implementation Committee (SWIC) Report

1. No update at this time.

Stormwater Related Projects

1. Easements – Staff is working on easement requests and meets monthly to review status of each as well as any new easements. Edits to the Extent of Service and Level of Service documents pending Council guidance prior to finalization
2. Complaints – Staff continually works numerous drainage related complaints each month.
 - a) Shell Point Community – Instructions from SCDOT to use SC unit hydrograph method will expand scope and impact model. Scope and Fee for project management approved, staff awaits task order 1 scope.
3. Factory Creek Watershed Regional Detention Basin “Phase II” (Design Cost = \$63,390, Tree Mitigation Cost is pending, Construction Cost by the Developer) –Staff is preparing to take legal action.
4. Graves Property / Pepper Hall Public / private partnership – Construction continues on site
5. Whitehall property purchase – Construction continues on City property.
6. Lady's Island Plan, Sea Level Rise, and “no-fill” ordinance – No update at this time
7. Tuxedo Park Pond Dredging- Project deferred to FY24
8. Huspah Court North and Bessie's Lane- One contractor responded to RFQ and contracting process has been initiated.
9. Arthur Horne Park- The final Preliminary Investigatory Feasibility Report (PIFR) was signed for approval by the State Conservationist on October 11. The project is fourth in the State Agency Priority Rating. Planning Efforts with federal contractors will begin next.

Professional Contracts Report

1. CIP FY 18 Grouping Stormwater Projects – (Design - Ward Edwards \$202,000, Andrews Engineering \$560,490, Const. est. \$5,512,900)
 - a) Brewer Memorial – Punch list was issued to contractor on September 20. Erosion has undermined the emergency outfall of the pond and correction requires a larger mobilization from the contractor. Grand opening event will be scheduled when updates by others are complete.

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2. Evergreen Regional Pond 319 grant project – (Design=\$89,286, Construction=\$590,000. Grant=\$229,124) – Project passed closeout with Town of Bluffton on November 22. Public meeting to fulfill grant requirement was held on November 18.

3. Stormwater engineering consulting services – Woolpert
 - a) Scope #1 – General Services – Anything relating to Stormwater as a catch all scope. Allocated Funds – \$15,000.00.
 - b) Scope #2 – Southern Lowcountry Design Manual Training – This was completed prior to June of 2021. Training set up for in house staff as well as developers in the County. Allocated funds - \$30,000.00.
 - c) Scope #3 – Comprehensive program audit. Reviewing all components of the MS4 program, CIP list, Utility, asset management, etch. Allocated funds - \$105,000.00. Audit has been completed. Staff are making adjustments to program in accordance with recommendations of the audit.
 - d) Scope #4 – Tax Run and Utility assistance. In the event the County needed assistance with assessing SW Fees, we have them available on call. We will also look to have them QA/QC data from previous years. Allocated funds - \$29,900.00.
 - e) Scope #5 – Battery Creek Pond –Project complete.
 - f) Scope #6 – Turtle Lane drainage study. Project Completed.
 - g) Scope #7 – NPDES SMS4 general permit assistance
 - h) Scope #8 – St. Helena Drainage Study. Final report draft received 6/30
 - i) Scope #9 – Arthur Horne Park 319 Grant Funding –Scope completed.
 - j) Scope #10 – Lady’s Island Drainage Study Phase I – Woolpert presented preliminary modeling data to staff on November 17

Scopes on County and Woolpert Radar:

1. Mint Farm and Rivers End Water Quality Retrofits

Regional Coordination

1. See “Stormwater Related Projects” item #10.

Municipal Reports

1. Town of Hilton Head Island (From Jeff Netzing, Stormwater Manager and Brian Eber, MS4 Coordinator)
 - i. No information was available at time of report.

2. Town of Bluffton (From Kim Jones, Watershed Management Division Director)
 - i. [See attached Report.](#)

3. City of Beaufort (From Nate Farrow, 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.

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MS4 Report

1. Plan Review – [See the attached chart](#) for Beaufort County Stormwater staff plan review workload for the past 12 months.
2. Stormwater Permits – [See the attached chart](#) for Beaufort County Stormwater permits issued for the past 12 months.
3. Monthly Inspection summary - [See the attached chart](#) for Beaufort County Stormwater staff inspection, complaint, IDDE, and violations summary for the past 12 months.
4. Public Education – [See attached report.](#)
5. Energov permitting software – Staff is coordinating with the Zoning department to take over issuance of Stormwater permits.
6. MS4 Statewide General permit – No update at this time.

Staff Update

1. Interviewing for all vacancies.

USCB Water Quality Lab Update

Beaufort County

USCB/Beaufort County Contract MOU: New contract is in place as of 6/7/22 with an expiration of 5 years on 6/6/27.

Amendment #1: Fully executed on 7/28/22 allowing Danielle Mickel to be CO-Principal Investigator and now Lead Principal Investigator of grant contract with Dr. Alan Warren's departure.

Monitoring for 2022 includes monitoring for the following categories:

Category 1: TMDL monitoring

Category 2: IDDE screening and monitoring

Category 3: Water quality monitoring (baseline, based upon 303d list)

Category 4: MOA points

Category 5: Special project monitoring

Status: Fourth quarter is complete.

CIP:

- 1. Mossy Oaks Drainage Study:** Mossy Oaks drainage area plan consists of a bi-monthly collection of four sampling sites; two outfall basins and two upstream basins. **Status:** Bi-monthly sampling has begun in June 2021. A full year's worth of data is completed.
- 2. Pepper Hall Drainage Study:** Pepper Hall property monitoring plan consists of a bi-monthly collection of six sampling sites; 3 inlets and 3 outlets to determine baseline data prior to construction. Sampling will continue during and after construction to measure the effectiveness of BMP's required on-site. **Status:** Bi-monthly sampling began in January 2021. Sample collection has ceased due to lack of access to site locations.
- 3. Port Royal Redevelopment:** The Town of Port Royal continues with WQ monitoring for the four sites in the proposed redevelopment area. The sampling schedule is quarterly wet events and is included in Beaufort County's Monitoring Plan. **Status:** Fourth quarter is complete.

Town of Bluffton

USCB/Town of Bluffton MOU: An amendment to agreement #2012-17 on July 16, 2021, to extend term to 6/30/23.

Amendment #4: Fully executed on 7/22/22 allowing Danielle Mickel to be CO-Principal Investigator and now Lead Principal Investigator of grant contract with Dr. Alan Warren's departure.

Monitoring for 2022 includes monitoring for the following categories: MS4, TMDL, Monthly, MST, CIP, MRWAP and shared locations. Also, sample collection began for Bridge Street sites for wet weather. **Status:** Flow contractor suggested collecting microbiology samples during storm events at 4 locations over the next 6 months. Monitoring for 2022 began with additional sampling sites and increased frequency of 2X a month.

Special Project: A 319-grant funded BMP to be tested by conducting a simulation and dye study at the proposed BMP location. Project simulation occurred on 10/19/2022.

USCB Water Quality Laboratory

Palmetto Bluff: FY 2022 sampling efforts are 12x/year for 6 wet/6 dry events including the additional parameters requested by Town of Bluffton. **Status:** Continued collection.

2022 Proficiency testing for the Water Pollution and Water Supply study: Annual PT testing required for all certified laboratory parameters to uphold certification. This study consists of 10 different analyses requiring the analysis of an unknown sample, which is then reported to the PT provider and the State. The passing of all analyses in the study is a requirement to keep laboratory state certification. **Status:** PT studies for all parameters have passed.

Standard Operating Procedures and Quality Assurance Manual: Annual update of these documents in its entirety are required to uphold State laboratory certification. **Status:** All SOP's and QAM updated.

SCDHEC Tri-annual audit: SCDHEC evaluation occurred on 11/30/2022 and certified status continues.

Purchases: New in-situ instrumentation purchased due to old instrumentation being obsolete and repair costs outweigh worth. New instrument is proposed to arrive 8-10 weeks after July 2022. **Status:** We are still waiting on instrument to arrive.

TOWN COUNCIL



STAFF REPORT

Projects and Watershed Resilience Department

MEETING DATE:	December 13, 2022
SUBJECT:	Projects and Watershed Resilience Department Monthly Report
PROJECT MANAGER:	Kimberly Washok-Jones, Director of Projects and Watershed Resilience

Watershed Management

1. Joint Councils Meeting for Watershed Management Initiatives

- Staff from the Town, County, and BJWSA met via Zoom 3/27/20 to confirm project scope, cost, and potential project manager. The last project cost estimate to extend, connect, and abandon septic in the Stoney Creek project area is \$4.7 million (B. Chemsak email 7/22/19) but they anticipate those numbers increasing to \$5.5 million. The proposal is one-third cost-share, so the Town's portion would be approximately \$1.83 million. Beaufort County has not formally agreed or committed any funding.
- Staff has shared preliminary project scope with Beaufort County and BJWSA to begin partnership discussion.
- Letter of support received from Beaufort County.
- Updated cost-estimate for the project from BJWSA are \$7.2 million + contingencies.
- Completed DRAFT RIA SCIPP application in support of Stoney Creek/Palmetto Bluff Sewer Extension with BJWSA and Beaufort County. Obtained letters from governmental agencies and stakeholders in support of the application.
- **Next Steps**
 - Await notification of grant application. Anticipated in January/February of 2023.
 - Coordinate with BJWSA and the County to develop a 3-party partnership to execute the project.
 - Scheduling a meeting with partners to post a solicitation for design services in January/February 2023.

2. SC Department of Health and Environmental Control May River Shellfish Harvesting Monitoring Data Year-to-Date and May River Shellfish Harvesting Status Exhibit – Attachments 1 and 1a

3. May River Watershed Action Plan Implementation Summary - Attachment 2

- Staff increased sampling frequency and implemented additional monitoring sites and parameters in the May River headwaters based upon recommendations in the 2020 May River Watershed Action Plan Update and Model Report. Staff collected

fifty-two (52) water quality samples from the Model Report study on 10/24/22 and 11/08/22.

- WEC assisted Town staff with the appropriate specifications for SonTek IQ Telemetry Stations that will enable real-time continuous flow data. Xylem needed additional specifications regarding the telemetry stations. WEC has provided those specifications and staff has received a sales acknowledgement from SonTek. Due to supply chain issues, the timeline for receipt has been delayed however these instruments will be shipped to the Town as soon as received and packaged by SonTek.
- Staff is working with the USCB-MST Laboratory to assess the utility of fecal markers in regional watersheds, including the May River watershed as recommended in the 2020 May River Watershed Action Plan Update and Model Report.
- Staff has deployed a HOBO-U20 water level logger at the Calhoun Street Dock for the purpose of collecting tidal elevation data through the remainder of 2022. The next King Tide is predicted to occur 11/23/22-11/26/22.

4. **Municipal Separate Storm Sewer System (MS4) Program Update**

- SCDHEC is currently in the process of developing a revised National Pollutant Discharge and Elimination (NPDES) Permit for Small MS4s and will re-issue to permittees, including the Town, in the future.

5. **MS4 Minimum Control Measure (MCM) - #1 Public Education and Outreach, and MS4 MCM - #2 Public Participation and Involvement**

- The May River Watershed Action Plan Advisory Committee meeting is scheduled for 12/01/22. **Attachment 3**
- Staff attended the Lowcountry Stormwater Partners (LSP) MS4 Community Partner meeting on 11/10/22.
- Staff conducted a STEM activity, “Build the May River Watershed”, with Pritchardville Elementary School 2nd, 3rd, and 4th grade students on 11/15/22.
- Staff presented to MC Riley Elementary School 3rd, 4th, and 5th grade students for Career Day on 11/18/22.

6. **MS4 MCM – #3 Illicit Discharge Detection and Elimination**

- Stormwater Infrastructure Inventory Map - **Attachment 4a**
- *E. coli* Concentrations Trend Map - **Attachment 4b**
- Monthly, Microbial Source Tracking (MST) Maps - **Attachments 4c and 4d**
 - Town staff coordinates with the SC Department of Health and Environmental Control (SCDHEC) to pull MST samples concurrently with the state’s routine shellfish harvesting water quality sampling at stations 19-19, 19-19A, 19-19B, 19-19C, and 19-24. SCDHEC will be conducting sampling 11/30/22. Staff will notify Town Council and Senior Staff of pertinent water quality sampling results via email.
- Illicit Discharge Investigations – **Attachment 4e**

7. **MS4 MCM – #4 Construction Site Stormwater Runoff Control – Attachment 5**

8. **MS4 MCM – #5 Stormwater Plan Review and Related Activity – Attachment 6**
9. **MS4 MCM – #6 Good Housekeeping (Staff Training/Education)**
 - Staff attended Adaptation Planning for Coastal Communities on 11/14/22-11/15/22.
 - Staff conducted two (2) Good Housekeeping inspections of Town owned and/or operated facilities.
 - Joe Sease and Sam Crotty obtained their Post-Construction BMP Inspector Certification.
 - Joe Sease obtained his drone pilot’s license.
10. **MS4 MCM – #6 Good Housekeeping (Ditch, Drainage and Roadside Maintenance)**
 - Public Services performed weekly street sweeping on Calhoun Street, Highway 46, Bruin Road, May River Road, Pin Oak Street, and curbs and medians on Simmonsville and Buck Island Roads.
 - Performed ditch inspections
 - Arrow ditch (2,569 LF)
 - Red Cedar ditch (966 LF)
 - Buck Island roadside ditch (15,926 LF)
 - Simmonsville roadside ditch (13,792 LF)
 - Ongoing roadside mowing, litter clean-up and maintenance of Masters’ Way, McCracken Circle, Hampton Parkway, Buck Island and Simmonsville Roads, Goethe Road, Shults Road, Jason and Able Streets, Whispering Pine Road, May River Road and Eagles Field.
11. **Citizen Drainage, Maintenance, and Inspections Concerns Map – Attachment 7**
12. **Citizen Request for Watershed Management Services & Activities – Attachment 8**

CAPITAL IMPROVEMENTS PROGRAM (CIP) AND SPECIAL PROJECTS UPDATE

- Strategic Plan FY23-24 CIP Project Updates - **Attachment 9**
- CIP Project Schedules - **Attachment 10**

PATHWAYS

1. **Goethe-Shults Sidewalks Phase 2**
 - Construction of sidewalks and as-built drawings are complete.
 - **Next Steps**
 - Finalize as-built drawings and DOT closeout. Complete additional services to clean up ditches and outfall along Shults Road.
2. **Buck Island-Simmonsville Neighborhood Sidewalks and Lighting**
 - Phase 5 street lighting easement acquisition process is underway. Obtained Just Compensation approval at November Town Council meeting to begin condemnation.
 - Phase 6A along Simmonsville Road from Grayco northward to Sugaree Drive is

complete and waiting on DOT closeout.

- Phase 6B along Simmonsville Road from Sugaree Drive northward to the existing New Mustang Road: Engineering design for this final sidewalk phase has been permitted. Bid solicitation closed 10/18/22 with no bids received. Per procurement protocol, obtaining direct quotes from Gordian and additional contractors.
- **Next Steps**
 - Prepare and obtain streetlight easements and install lighting for Phase 5.
 - Begin condemnation process for remaining Phase 5 street lighting easements.
 - Obtain SCDOT Permit Closeout for Phase 6A sidewalks.
 - Complete Phase 6B contractor procurement.
 - Construction of the remaining Simmonsville Road sidewalks and lighting to be completed in FY 2023.

3. **New River Linear Trail**

- Conceptual Master Plan is complete.
- Executed PO with Barrier Island Engineering for Phase 1 Engineering Design.
- Prepared draft PARD application for a restroom facility at the New River Trail Park. Submitted request to Bill Herbkersman to solicit support from the Beaufort County Delegation.
- **Next Steps**
 - Continue engineering design for Phase 1 pathway (New River to Hwy 46).
 - Research grant opportunities to fund planning and construction of future trail improvements.
 - Submit plans to Santee Cooper for cursory review and cost share for bridge replacements.
 - Begin discussions with Heritage at New Riverside for easement required for encroachments near the Hwy 46 overpass.

SEWER & STORMWATER

1. **Buck Island-Simmonsville Sewer (Phases 5A-D)**

- Construction has been halted on Phases 5A-D by BJWSA due to the contractor under-performing their job duties. Engineer has started closeout phase for what has been installed to date.
- The engineer has provided BJWSA construction documentation to complete the project.
- **Next Steps**
 - Anticipate posting solicitation for approval by Council 1/10/2023
 - Start house connections after the main line is approved by SCDHEC.

2. **Historic District Sewer Extension Phase 2 - Bridge Street**

- Received SCDHEC permit to construct for original scope.
- No contractors responded to the first construction solicitation. Working on a redesign option to avoid extremely long bore.
- Received Quit Claim Deeds from all the property owners along the ghost road.

- Obtained road ownership from SCDOT.
 - **Next Steps**
 - Readvertise project for bid in conjunction with Historic District Sewer Extension Phase 3.
- 3. Historic District Sewer Extension Phases 3 through 6 – Colcock, Lawrence, Green and Water Streets**
- Received initial design for Phases 4, 5, & 6 and reviewed with the engineer.
 - Submitted Phase 3 for permitting to be bid with Phase 2.
 - **Next Step**
 - Review Phases 4, 5, & 6 design changes to drawings.
 - Obtain Quit Claim Deeds from all the property owners along the ghost roads.
- 4. May River Watershed Action Plan Impervious Restoration Water Quality Projects**
- Initial Work under FY 2022 Watershed funding initiated with Goodwyn, Mills & Cawood. Full scope of work underway with Town Council approval of Task Authorization request at the 9/13/22 Town Council Meeting.
 - Met with School Board to discuss Impervious Restoration Program and potential work elements for 6 identified School sites.
 - Initial site investigations have been completed at Bluffton Early Learning Center, Bluffton High School, McCracken Middle School/Bluffton Elementary School, May River High School and Pritchardville Elementary School.
 - Initial site investigations are pending due to ongoing Property Owner coordination and approval to access the Property for investigations at Boys and Girls Club of Bluffton, Benton House, Buckwalter Recreation Center, Lowcountry Community Church, One Hampton Lake Apartments and Palmetto Pointe Townes.
 - Policy document for Impervious Restoration Program and Developer Participation Projects under formulation.
 - **Next Steps**
 - Continue property coordination for site access and site assessments/evaluations.
 - Proceed with geotechnical evaluations at the sites for which property owner approvals have been granted sites assessed, perform additional geotechnical testing and begin preliminary site design.
 - Review Policy Document of similar intent nationwide and Initial Policy Document DRAFT has been completed, reviewed and comments provided.
- 5. Buck Island Drainage Improvements**
- A contract was executed on 11/18/22.
 - **Next Steps**
 - Construction is anticipated to begin in December between Christmas and New Year's.

HISTORIC DISTRICT IMPROVEMENTS

1. Boundary Street Lighting

- Phase 2 photometric plans, encroachment permits and lighting agreements are complete

and approved.

- SCDOT and Dominion indicated poles must be installed on private property due to conflicts with sewer force main and communication utilities within the right of way. Easements must now be obtained to install Phase 2 lighting.
- **Next Steps**
 - Coordinate conduit light installation in conjunction with streetscape design.
 - Obtain easements as needed for Phase 2 street lighting.

2. **Squire Pope Carriage House Preservation**

- Initial \$215,000.00 ATAX funding was approved in March 2022. A second \$457,026.00 ATAX funding request was recommended for approval by the ATAX committee on 11/15/22.
- Stabilization has been completed.
- Solicitation 2023-19 posted 8/11/22.
- Council approved additional budget needed at October Council meeting.
- Staff selected Huss Inc. a rehabilitation contractor out of Charleston.
- Contract with Huss Inc. has been executed.
- **Next Steps**
 - Schedule a kickoff meeting with Huss Inc. and begin construction on 1/9/23.
 - Schedule a groundbreaking in January 2023.

2. **Bridge Street Streetscape**

- Signed contract for construction of Phase 1 site development on 6/20/22.
- Issued Notice to Proceed for Phase II construction to start 12/5/22.
- Completed utility relocations as needed.
- **Next Steps**
 - Submit media release bullet points to PIO for start of construction.
 - Distribute door hangers of construction start to affected property owners.
 - Submit contractor and regulatory Notices to Proceed.
 - Start construction 12/5/22.

3. **Boundary Street Streetscape**

- Surveying is complete and engineering design is underway.
- Engineering Design is 45% complete.
- **Next Steps**
 - Continue with Engineering Design and Permitting.
 - Obtain easement exhibits and begin appraisals.

4. **Calhoun Street Streetscape**

- Surveying is complete and engineering design underway. Met with Engineers to obtain new project schedule to expedite progress
- Preliminary evaluation and recommendations for existing storm outfall pipes are complete.
- Engineers to provide alternative street sections for Staff review and comment

- **Next Steps**
 - Continue engineering design into FY 2023.
 - Easement acquisition for Phase 1 is planned to begin in January 2023.
 - Phased construction is planned to begin in FY 2024-2025 pending budget approval.
- 5. **Pathway Pedestrian Safety Improvements**
 - Completed Historic District crosswalk study identifying and prioritizing future intersection/crosswalk improvements to meet ADA compliance.
 - Executed contract for engineering design services for the first phase of intersection/crosswalk ADA improvements.
 - Easement donation approved by Town Council 11/8/22.
 - **Next Steps**
 - Bid review in process, Notice of Intent to Award provided to contractor.
- 6. **Historic District Comprehensive Drainage Plan Improvements**
 - Scope of work, fee and Task Authorization issued to J Bragg Consulting to begin work in Heyward Cove watershed.
 - Kick-off meeting held 7/15/22.
 - Information gathered related to GIS, Cartograph, development plans etc. complete. Phase 1 asset inventory and condition assessment completed.
 - Review of Phase 1 updated asset inventory and condition assessment information is underway.
 - **Next Steps**
 - Finalize review of Phase 1 asset inventory and condition assessment information.
 - Begin work on 2D H/H model development.
- 7. **Pritchard Street Drainage Improvements**
 - Cranston Engineering completed 70% design submission.
 - Final paperwork submissions submitted to DHEC for 319 Grant funding. 319 Grant Award pending.
 - Barrier Island Engineering performing completed 3rd party evaluation of drainage claims and complaints associated with 40 Pritchard Street. Meeting held with Mr. Berlin and all stakeholders to discuss findings and next steps. The Town will be developing a concept plan of potential on-site drainage improvements that can be performed by the homeowner to reduce the risk of flooding for his property.
 - Emergency procurement for construction of interim solution approved and construction completed. Atlantic Asphalt to resolve deficiencies in project work and in process.
 - **Next Steps**
 - Coordinate approval for proposed improvements with Beaufort County School District.
 - Cure deficient work and issue substantial completion for initial drainage work.

PARK DEVELOPMENT

1. Oyster Factory Park

- Completed engineering design and bid parking lot project.
- Executed contract with JS Construction.
- Obtained approval of parking area improvements from Beaufort County.
- Executed Task Authorization with Witmer Jones Keefer for design of the event area.
- **Next Steps**
 - Update engineering drawings per Beaufort County review and approval
 - Begin construction of parking area in January 2023.
 - Design of Phase 3 signage for Garvin/Garvey house underway. Signage and exhibits to be complete in December 2022.
 - Begin design of Oyster Factory Park cookout area in FY 2023.

2. Oscar Frazier Park

- FY 2022 Improvements and maintenance complete.
- Began design of FY 2023 improvements including hardscape near the Rotary Center, tennis or pickleball courts and splash pad.
- Submitted conceptual plans at Quarterly Workshop and obtained Town Council input.
- Sent sport court alternatives to Bluffton Park HOA for review and determination of preferred option.
- **Next Steps**
 - Complete conceptual designs of hardscape plans and bid in the Spring 2023.
 - Complete design of splash pad in FY 2023.

3. New Riverside Barn/Park

- A \$500,000.00 grant was approved for partial funding of the initial phase of the project.
- Engineering design of phase 1 site plans are complete.
- Construction documents for the restroom building are complete.
- Executed contract for architectural design services for the Barn additions.
- Executed phase 1 Site Development contract with JS Construction.
- Executed contract with Wood & Partners for playground design services.
- **Next Steps**
 - Continue architectural design of barn addition.
 - Begin design of playground area in FY 2023.
 - Begin construction of Phase 1 Infrastructure in January.

4. May River Road Pocket Park

- Received 100% Construction Documents on 4/6/22.
- Received Public Project approval.
- Bid received 4/28/22.
- Construction started in June.
- Site furnishings installed.

- Ribbon cutting performed 11/8/22
- **Next Steps**
 - Project has been completed.

5. **Miscellaneous Park Improvements**

- Begin design and cost estimating of playground improvements at DuBois Park.
- **Next Steps**
 - Presented proposed DuBois Park playground improvements at the October Workshop and continue with the design of FY 2023 improvements.

TOWN FACILITIES AND MISCELLANEOUS PLANNING

1. **Rotary Community Center Facility Improvements**

- Completed floor replacement in August 2022.
- **Next Steps**
 - Request funding for insulation replacement and interior trim work in FY 2024

2. **Town of Bluffton Housing Projects**

- **Next Steps**
 - Provide financial assistance to joint venture partner for planning, design and permitting of Affordable/Workforce Housing at 1095 May River Road.

3. **Law Enforcement Center Facility Improvements**

- Initial scope of work of the parking/service yard, and covered sheds are complete.
- Design for the challenge course and reflection plaza are complete.
- Reflection Plaza construction is underway.
- **Next Steps**
 - Complete Reflection Plaza.
 - Set pre-construction meeting with The Greenery for the challenge course.

4. **Sarah Riley Hooks Cottage**

- Requested proposal from JK Tiller for master planning services
- Prepared questionnaire for stakeholder input and distributed at the Art and Seafood Festival. Post questionnaire on the TOB web site to obtain additional stakeholder input.
- Executed contract with Meadors Inc. to evaluate preservation and stabilization potential.
- **Next Steps**
 - Begin Master Plan and continue obtaining public input for potential uses for the cottage building and park.
 - Obtain recommendations from Meadors for Stabilization and Preservation. Obtain quotes from contractors for stabilization.

5. **Ghost Roads**

- Surveying and easement exhibits are complete.
- Bridge Street Quit Claim Deeds are complete. Pritchard and Colcock Streets Quit Claim Deeds are 95% complete. Staff is currently working with Lawrence, Lawton, Green Pope,

Allen and Water Street property owners to obtain Quit Claim Deeds.

- Staff continues to meet with property owners to raise awareness of the acquisition efforts and communicate next steps.
- Obtained RFQ solicitation responses and selected Easement Acquisition Consultants to assist with Ghost Roads.
- **Next Steps**
 - Obtain remaining Quit Claim Deeds from legal and continue meeting with property owners.
 - Execute MSAs with Easement Acquisition Consultants to begin work.

6. Public Services Facility Improvements

- Installation of new plumbing and electric for the washer and dryer has been completed.
- Fencing, flooring, canopies and HVAC replacement has been completed.

7. Document Management

- RFP contract was awarded in March 2022.
- Electronic Document Management system is live.
- **Next Steps:**
 - Historical documents will be moved into the system in July and continue through FY 2024.

8. Network Infrastructure

- Replaced core switches at Town Hall and the Law Enforcement Center.
- Replaced two VMWare hosts for a more stable server environment.
- **Next Steps:**
 - Replace phone system to a more modern system.
 - Replacing two more VMWare hosts.
 - Migrate Munis and Energov systems to a hosted environment.

Attachments

1. SCDHEC Shellfish Harvesting Monitoring Data Year-to-Date
 - a. SCDHEC May River Shellfish Harvesting Status Exhibit
2. May River Watershed Action Plan Implementation Summary*
3. MS4 Minimum Control Measures #1 and #2 – WAPAC Public Notice
4. MS4 Minimum Control Measure #3 – Illicit Discharge Detection and Elimination
 - a. Stormwater Infrastructure Inventory Map
 - b. *E. coli* Concentrations Trend Map
 - c. Microbial Source Tracking Trend Map – Human Source
 - d. Microbial Source Tracking Map – All Sources
 - e. Illicit Discharge Investigations
5. MS4 Minimum Control Measure #4 – Construction Site Stormwater Runoff Control
6. MS4 Minimum Control Measure #5 – Stormwater Plan Review and Related Activity
7. Citizen Drainage, Maintenance and Inspections Concerns Map
8. Citizen Request for Watershed Management Services and Activities Map
9. Strategic Plan FY23-24 CIP Project Updates

	19-19				19-19A				19-19B				19-19C				19-24				19-16			
	2019	2020	2021	2022	2019	2020	2021	2022	2019	2020	2021	2022	2019	2020	2021	2022	2019	2020	2021	2022	2019	2020	2021	2022
	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	170.0	17.0	79.0		33.0	22.0	49.0		140.0	17.0	4.5		33.0	4.5	17.0		13.0	4.0	6.8		110.0	11.0	7.8	
November	17.0	70.0	33.0		6.8	31.0	33.0		7.8	17.0	7.8		11.0	13.0	4.0		4.5	13.0	4.5		2.0	4.5	2.0	
October	7.8	49.0	49.0	23.0	4.5	79.0	26.0	46.0	2.0	31.0	13.0	13.0	4.5	21.0	23.0	23.0	1.8	33.0	23.0	11.0	2.0	79.0	17.0	14.0
September	79.0	110.0	33.0	540.0	33.0	49.0	11.0	350.0	6.8	49.0	17.0	350.0	17.0	33.0	13.0	170.0	4.5	33.0	2.0	79.0	1.8	33.0	11.0	33.0
August	70.0	49.0	49.0	23.0	49.0	49.0	49.0	23.0	33.0	23.0	23.0	11.0	22.0	23.0	49.0	13.0	7.8	17.0	14.0	17.0	17.0	22.0	14.0	11.0
July	4.5	33.0	350.0	920.0	13.0	13.0	64.0	49.0	7.8	23.0	79.0	95.0	17.0	7.8	33.0	130.0	22.0	7.8	33.0	23.0	13.0	17.0	13.0	46.0
June	33.0	NS	49.0	13.0	49.0	NS	79.0	4.5	49.0	NS	13.0	11.0	46.0	NS	17.0	2.0	13.0	NS	22.0	1.8	4.5	NS	2.0	9.3
May	7.8	70.0	2.0	4.5	9.2	49.0	49.0	4.5	7.8	23.0	23.0	4.0	2.0	22.0	23.0	1.8	6.8	6.8	23.0	1.8	4.5	4.5	7.8	2.0
April	23.0	33.0	33.0	4.5	13.0	33.0	23.0	4.5	7.8	13.0	22.0	1.8	6.8	6.8	17.0	2.0	23.0	13.0	7.8	1.8	6.8	13.0	2.0	1.8
March	23.0	170.0	33.0	33.0	23.0	49.0	11.0	23.0	6.8	130.0	17.0	2.0	13.0	49.0	13.0	4.5	7.8	70.0	2.0	2.0	4.5	33.0	2.0	2.0
February	64.0	17.0	79.0	23.0	33.0	7.8	70.0	31.0	23.0	21.0	79.0	17.0	31.0	4.5	23.0	22.0	6.8	4.5	7.8	2.0	13.0	6.8	6.8	11.0
January	23.0	95.0	17.0	49.0	23.0	33.0	17.0	22.0	13.0	33.0	13.0	33.0	33.0	17.0	23.0	7.8	7.8	17.0	17.0	7.8	23.0	17.0	7.8	7.8
** Truncated GeoMetric Mean	35.0	34.0	36.0	41.0	23.0	21.0	26.0	28.0	16.0	16.0	18.0	19.0	14.0	12.0	15.0	14.0	10.0	10.0	10.0	10.0	7.0	9.0	8.0	9.0
** Truncated 90th Percentile	168.0	106.0	139.0	203.0	89.0	59.0	69.0	94.0	63.0	50.0	58.0	76.0	52.0	37.0	39.0	53.0	38.0	31.0	35.0	44.0	32.0	35.0	33.0	33.0

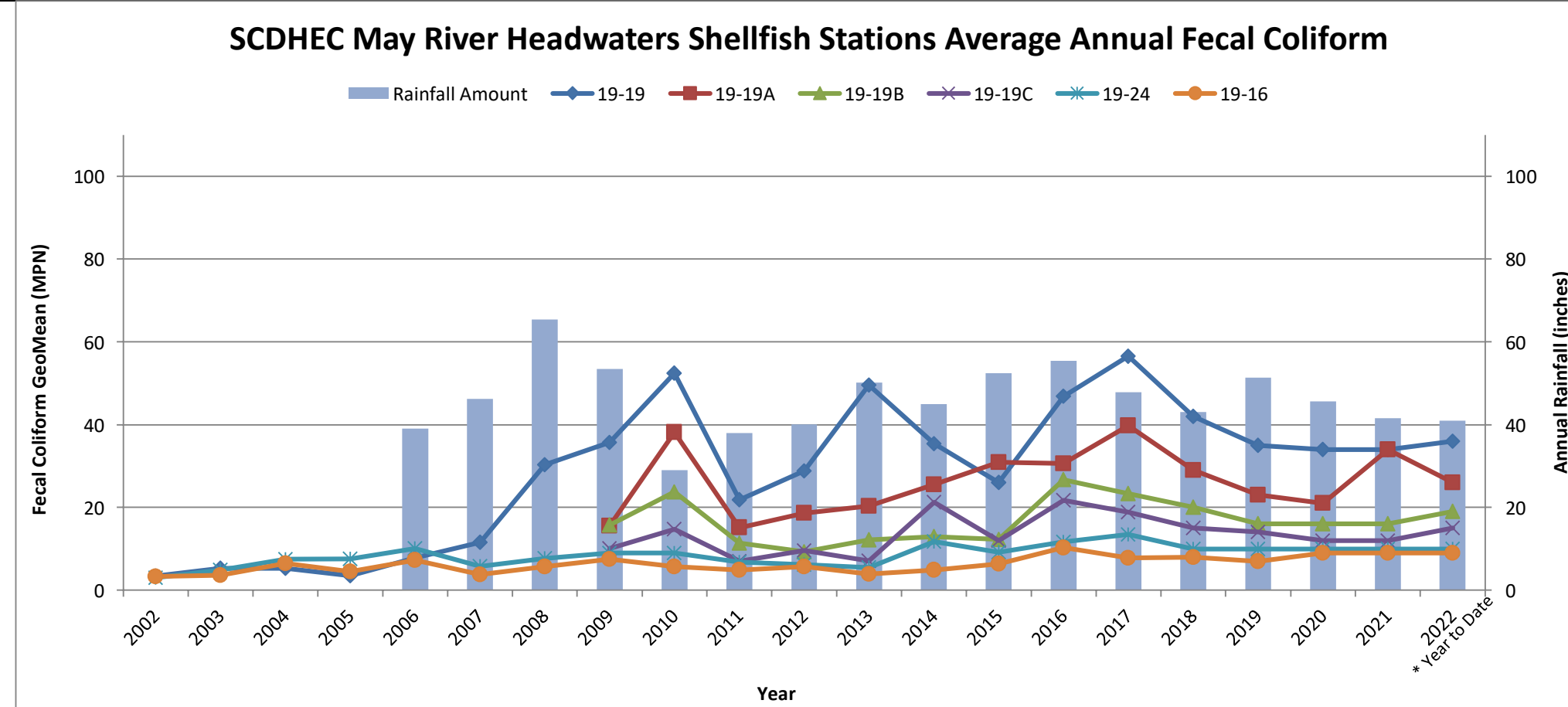
NS = No Sample

SCDHEC Regulatory Requirements:

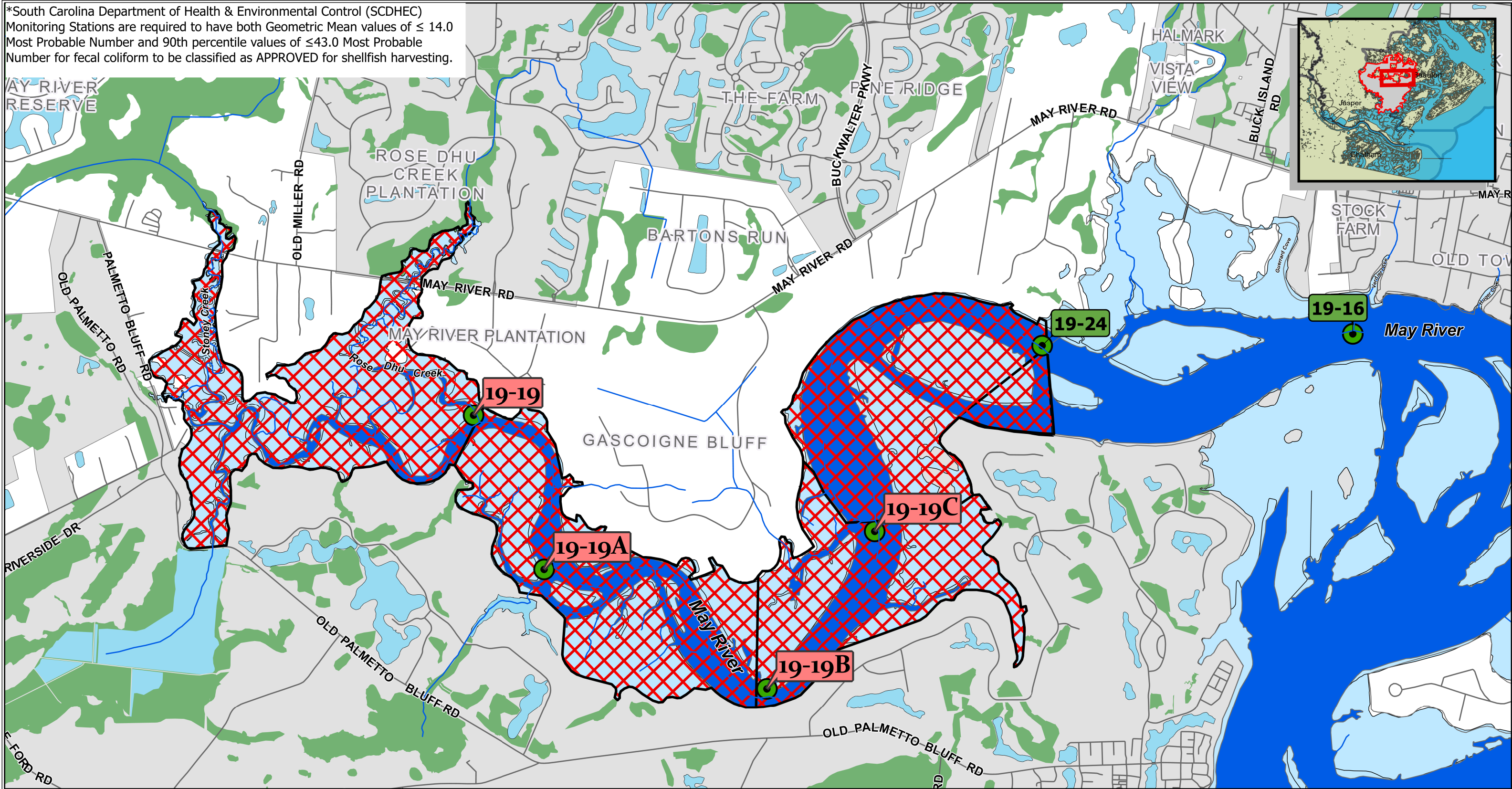
Geometric Mean ≤ 14

90th Percentile ≤ 43

** Town staff calculations utilizing SCDHEC statistics



*South Carolina Department of Health & Environmental Control (SCDHEC) Monitoring Stations are required to have both Geometric Mean values of ≤ 14.0 Most Probable Number and 90th percentile values of ≤ 43.0 Most Probable Number for fecal coliform to be classified as APPROVED for shellfish harvesting.



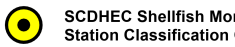
SCDHEC Shellfish Monitoring Stations



Restricted 2022/2023 Shellfish Season



Open SCDHEC Shellfish Monitoring Stations



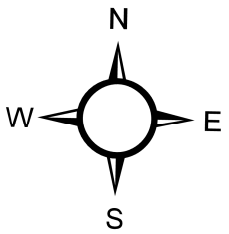
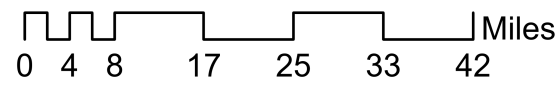
SCDHEC Shellfish Monitoring Station Classification Change

- Streets
- Drainage
- Town Jurisdiction
- County Jurisdiction
- Water
- Wetlands

Town of Bluffton

Beaufort County, SC

SCDHEC SHELLFISH HARVESTING STATUS



WAPAC Meeting Presentation
2020 May River Watershed Action Plan Update & Modeling Report
Overview and Status

Overview

- May River Watershed Action Plan Update (MRWAP) & Modeling Report **completed** November 2020.
- Bluffton Town Council Adoption of May River Watershed Action Plan Update & Modeling Report as a Supporting Document to the Comprehensive Plan **completed** February 2021.
- May River Watershed Action Plan Update & Modeling Report Summary:
 - **Executive Summary** provides an overview of the project background, findings and interpretation, current state of knowledge concerning fecal coliform fate and transport, and an overview of proposed recommendations for the Town.
 - **1.0 Introduction** includes more detailed project background including the purpose of the document and the Project Team’s tasks to 1) develop water quality models to compare current conditions (2018) to pre-shellfish impairment conditions (2002) to develop pollutant load reduction estimates, and 2) evaluate the 2011 May River Watershed Action Plan (henceforth 2011 Action Plan) Best Management Practices (BMPs) for appropriateness under current conditions and provide up to eleven (11) alternative projects and preliminary cost estimates.
 - **2.0 Model Setup; 3.0 Model Calibration, and 4.0 Water Quality Model Results** details the methodology used by the Project Team to establish and calibrate the model and the model outputs. This highly technical information is necessary for future Water Quality Model (henceforth WQ Model) calibration and use for consistency.
 - **5.0 Recommendations** includes strategies to improve the Town’s
 - Water quality monitoring efforts in order to calibrate the WQ Model further (§5.1),
 - Develop strategies and BMPs for fecal coliform bacteria reduction (§5.2),
 - Conduct an evaluation of 2011 Action Plan BMP projects (§5.3),
 - Methodology used to develop 2020 MRWAP Update recommended projects (four septic to sewer conversion projects and eleven stormwater BMP retrofit projects) with cost-estimates and ranking/prioritization (§5.4).
 - **6.0 Conclusions** offers a summary of the WQ Model results in context of current state of knowledge.
 - **7.0 References** documents the prior research findings used to inform recommendations.
 - **Appendices** reference supporting materials:
 - Montie et al. (2019) “Technical Report: Historical Analysis of Water quality, Climate Change Endpoints, and Monitoring in Natural Resources in the May River,”
 - Technical Memo from Dr. Rachel Noble,
 - Watershed Treatment Model Spreadsheets, and
 - Detailed Project Cost Estimate Spreadsheets.

2020 MRWAP Update Septic to Sewer Project Recommendations/Evaluations:

- Four (4) septic to sewer conversion projects were evaluated in the Rose Dhu Creek and Stoney Creek subwatersheds:
 - Cahill
 - Gascoigne
 - Stoney Creek
 - Pritchardville
 - These projects overlap with 42 subcatchments in the Stoney Creek subwatershed and 11 in Rose Dhu Creek subwatershed. Based on WQ Model outputs, these projects alone may potentially reduce the fecal coliform (FC) loading by 3.46×10^{13} FC per year.
- The estimated septic to sewer conversion costs of these projects is \$5.5 million.

Work Performed and Current Status

Discussions with the Town of Bluffton, Beaufort County and Beaufort Jasper Water Sewer Authority (BJWSA) have been held about future Septic to Sewer Program projects identified above. The Stoney Creek subwatershed Septic to Sewer Project has been identified as the next priority project to pursue under the Septic to Sewer Program.

1. The Town and Beaufort County are finalizing Funding and Cost share elements relative to the project and a letter to BJWSA will be developed and sent to BJWSA regarding project funding, capital outlay and schedule for implementation.

2020 MRWAP Update Eleven Impervious Restoration (stormwater retrofit) Project Recommendations/Evaluations and Other Work:

- Eleven (11) project sites (incorporating various individual BMPs) were selected in consultation with the Town (prioritizing subcatchments with FC bacteria hotspot and/or large impervious areas). These sites were evaluated in terms of the potential benefits gained by retrofitting to meet the 95th percentile storm retention, to the maximum extent possible, under the proposed Impervious Area Restoration/Stormwater Retrofit Program.

Eleven (11) proposed project sites were identified in the Rose Dhu Creek (6 projects) and Stoney Creek (5 projects) subwatersheds:

- Bluffton Early Learning Center (BELC)
- Boys and Girls Club of Bluffton (BGC)
- Benton House (BH)
- Bluffton High School (BHS)
- Buckwalter Recreation Center (BRC)
- Lowcountry Community Church (LCC)
- McCracken Middle School/Bluffton Elementary School (MMSBES)
- May River High School
- One Hampton Lake Apartments (OHLA)

- Pritchardville Elementary School (PES)
- Palmetto Pointe Townes (PPT)
- Based on WQ Model outputs, these projects alone may potentially reduce FC loading by
 - 2.99×10^{14} FC reduction for the Full Stormwater Retention Volume (SWRv) (entire sub-basin drainage area catchment).
 - 2.53×10^{14} FC reduction for the Reduced SWRv projects (impervious area drainage area of sub-basin catchment).
- The estimated of Full SWRv projects costs is \$32.7 million and the estimated cost of Reduced SWRv projects is \$22.6 million.
- Currently the Towns' Impervious Restoration Program is targeting Reduced SWRv for future projects.

Example of Impervious Restoration Project evaluation from May River Watershed Action Plan Update & Modeling Report:

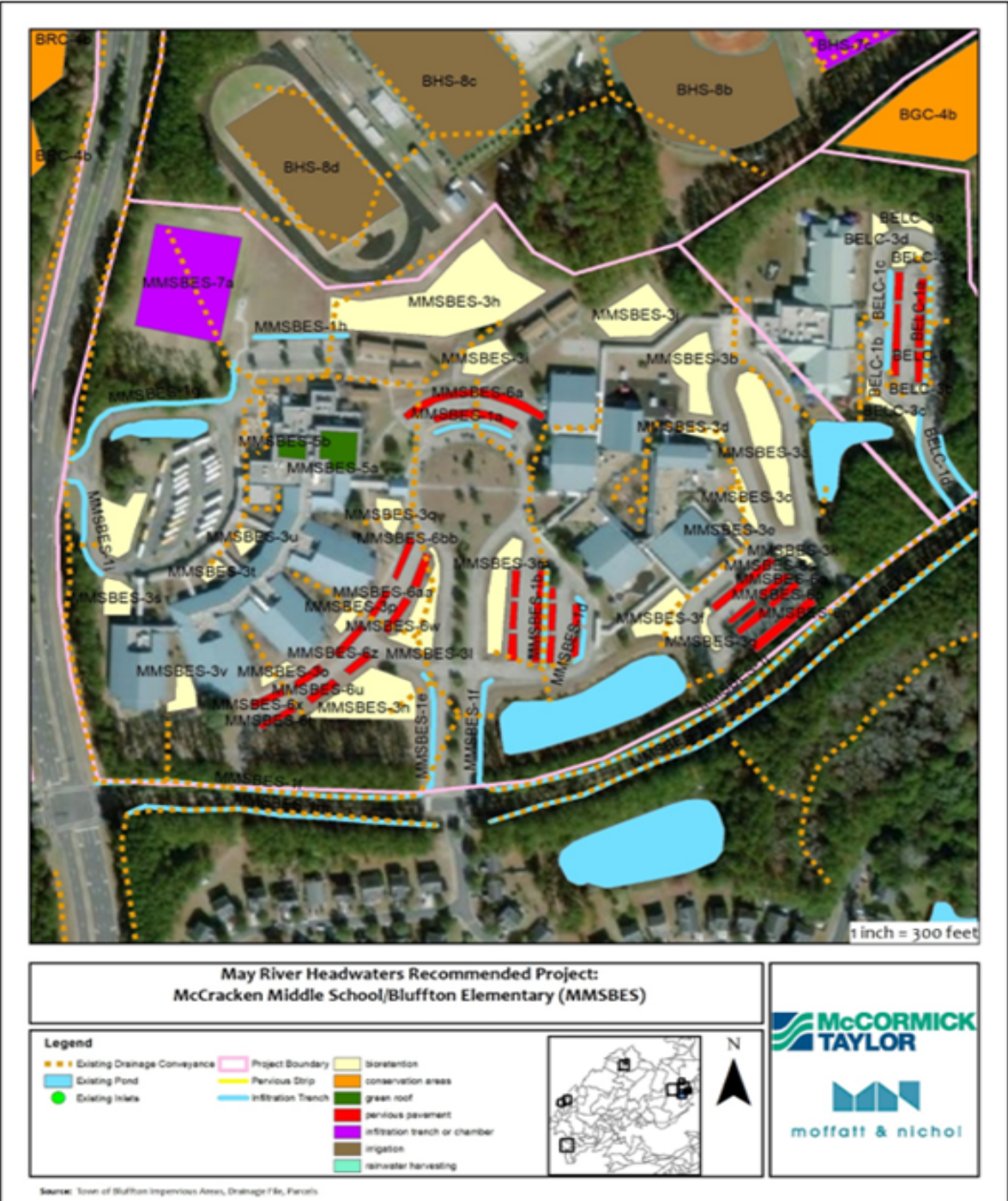


Figure 52. McCracken Middle School/Bluffton Elementary School Proposed Stormwater BMP Retrofits

Work to be Performed

- Drafted a detailed scope of work for Engineering Consultant Firm review and cost proposal (Expression of Interest) regarding performance of the following work elements related to 2020 MRWAP Update recommendations for implementation:

Task 1: 2020 MRWAP Update eleven (11) site locations

- Evaluate eleven (11) sites and proposed BMPs.
- Update concept plans for the eleven (11) sites based on site evaluations, recommendations, and discussions.
- Perform geotechnical evaluations (augers and borings to evaluate existing soil type, infiltration rates and groundwater table elevation) at each site at locations related to BMP locations and develop updated concept plans for each site.
- Refine updated concept plans and use for presentations to Property Owner to discuss Impervious Restoration Program goals, objectives and gain support for Program and their participation.
 - Develop list of “incentives” to secure Property Owner participation (see Policy Document Formulation below).
- Based on geotechnical information and Property Owner feedback further refine concept plans to Preliminary Design:
 - Determine BMP types and location to maximize SWRv/Water Quality (WQ) treatment in cost effective approach.
 - Determine estimated pollutant load reductions.
 - Develop site specific BMP details.
 - Develop preliminary BMP maintenance schedule and cost for each site.
- Preliminary Design development plans will be presented to the Property Owner for review and discussion. Other Impervious Restoration Program details (maintenance responsibilities, easements, incentives, etc.) developed as part of the Impervious Restoration Program (see Policy Document Formulation below) will also be discussed in hopes of establishing a commitment from the Property Owner to participate in the Program. Once a “commitment” is secured from the Property Owner, the project site will be moved to Final design, permitting, and ultimately construction.

Task 2: Identify fifteen (15) new project sites for Town of Bluffton Impervious Restoration/BMP Retrofit Projects.

- The Town wishes to identify an additional 15 project sites located within the municipal limits of Bluffton for the Impervious Restoration/BMP Retrofit Program. However, the criteria for site selection will be considered to be more “low hanging fruit” based on the following:
 - Within Town of Bluffton Municipal limits.
 - Soils – sandy soils with high infiltration rates offer the biggest bang for the buck for water quality treatment/improvement.

- Utilizing soil survey and other information target sites where infiltration can be maximized on-site.
- Public or governmental agency land/property owner, not South Carolina Department of Transportation (SCDOT) Right of Way (RoW).

Town of Bluffton Impervious Restoration/BMP Retrofit Policy Documents.

Task 3: Section 5.4.4. Stormwater BMP Retrofit Projects of the 2020 May River Watershed Action Plan Update and Model Report identifies potential Impervious Restoration/BMP Retrofit projects located on Public and Private Land. As mentioned earlier, one of the primary site selection criteria, at time of report development, was to identify sites with large impervious areas so that pollutant load reductions could be estimated and the benefits of such projects on stormwater quality quantified/estimated, if implemented into construction. Generally, Public Funds are not expended to improve private property nor is the Town of Bluffton funding generally expended on Public Land owned by another government entity. In order for such projects identified in Section 5.4.4. to move forward in the interest of improved water quality and for the overall benefit and welfare of the constituents of the Town of Bluffton, Policy Documents need to be formulated that establishes the parameters of such a Program to be initiated and implemented.

Work Completed and Current Status

- The Expression of Interest was submitted to three (3) consultant firms under existing Master Service Agreements (MSAs) with the Town for review and a request for response.
- All three (3) Firms responded, and their respective responses were evaluated, scored and discussed.
- A recommendation for Award was made and the Consulting Firm of Goodwyn, Mills and Cawood selected.
 1. Phase I of this work is in process under existing FY22 funding from Watershed Management Division.
 2. Phase II of this work will be presented for Town Council review and approval in the August Town Council Meeting and FY23 funding.
- Phase I work completed by Consultant and Town:
 1. Review of recommendations of the 2020 MRWAP Update.
 2. On-site evaluations at each proposed site.
 3. Meetings with Beaufort County School District.
 - Six (6) of the eleven (11) sites are located on Beaufort County School District (henceforth School District) property. The School District is deemed an important project partner and as such several meetings have been held to discuss the Impervious Restoration Program and need for project BMPs to improve water quality. The School District has granted permission for the Town of Bluffton to perform initial site investigations, provided the Town with site specific plans, future

development plans for each site, and expressed a willingness to participate in the Program.

- Drafted a Letter to Non-School Property Owners describing the Impervious Restoration Program and requesting meetings to discuss and gain support.
4. Policy Document Formulation has been initiated and includes research of similar Impervious Restoration Programs Nationwide.

Other, Related 2020 MRWAP Update Recommendations

- Adopt proposed regional Southern Lowcountry Post-Construction Stormwater Ordinance and Design Manual - **completed** September 2021.
- The Town should incorporate volume reduction BMPs (those that encourage infiltration) within existing and future Capital Improvement Projects (CIP) to the maximum extent practical (MEP), especially for project locations with well-drained soils (HSG A or B) – **in progress**, see below.
 - **Work Performed and Current Status**
 - Bridge Street Streetscape Project
 - Project design/permitting is complete, and Construction Contract has been awarded.
 - Incorporated Infiltration BMPs within the project to capture and treat 1.95” of rainfall over impervious surfaces within the project area, prior to discharge into the May River.
 - Received Section 319 Grant from the South Carolina Department of Health and Environmental Control (SCDHEC) to cost-share on construction of proposed BMPs.
 - Pritchard Street Drainage Improvement Project
 - Project in Design Phase and considered 30% complete.
 - Incorporated Infiltration BMPs within the project to capture and treat 1.95” of rainfall over impervious surfaces within the project area, prior to discharge into Heyward Cove and ultimately the May River.
 - Submitted Section 319 Grant proposal to SCDHEC to cost-share cost of construction of proposed BMPs. Pre-proposal was accepted, and Full Proposal was requested by SCDHEC. Under Review.
- In-House Microbial Source Tracking – **in progress**, see below
 - The Town entered a Memorandum of Understanding (MOU) with the University of South Carolina Beaufort (USCB) in July 2021 to establish and fund a regional Microbial Source Tracking (MST) laboratory capable of accepting environmental water quality samples.
 - Analytical services are provided by the USCB-MST laboratory for all environmental samples collected by the Town.
 - Staff is working with the USCB-MST Laboratory to assess the utility of fecal markers in regional watersheds, including the May River watershed as recommended in the 2020 May River Watershed Action Plan Update and Model Report.
- Future (new) Bacteria Monitoring Locations - **in progress**, see below

- Staff increased sampling frequency and implemented additional monitoring sites and parameters in the May River headwaters based upon recommendations in the 2020 MRWAP Update.
- Staff is collecting intermittent flow data in conjunction with grab samples at monitoring sites in the May River Headwaters as recommended in the 2020 MRWAP Update.
- Staff working with consultant to identify recommended strategies to gain required intermittent flow data.
- Future (new) Water Flow Monitoring Locations.
 - **Work Performed and Current Status**
 - The 2020 MRWAP Update included recommendations for the Town to perform certain rainfall and flow data measurements in May River Headwater Watersheds in order to “calibrate” and make more accurate Model predictions. These recommendations were evaluated and a game plan to address recommendations to calibrate model developed.
 - The Town of Bluffton established Sontek IQ Plus continuous flow measuring instruments in Stoney Creek, Rose Dhu Creek, and Heyward Cove subwatersheds. In addition, the Town collected intermittent flow data at the time of water quality grab sampling and established a weather station in the May River Watershed. The Town hired a consultant to review all the Town’s continuous, intermittent, and precipitation data and to determine:
 - Useful data had been obtained to gain the required information to calibrate model.
 - The data obtained from Stoney Creek and Heyward Cove was deemed sufficient for Model calibration and Final report for this work has been completed.
 - Duck Pond was deemed inconsequential, not needed due to drainage area size and proximity/outfall to tidal waters.
 - If data review resulted in insufficient data, develop a monitoring program that would produce the data needed.
 - Rose Dhu Creek continuous flow data review resulted in data that was insufficient to calibrate Model.
 - Final report identifying recommended strategies to gain required data is in process.
 - In process of purchasing telemetry stations to equip continuous flow monitoring stations with real-time data access for the Rose Dhu and Palmetto Bluff subwatersheds.



May River Watershed Action Plan Advisory Committee Meeting

Thursday, December 01, 2022 at 9:00 AM

Theodore D. Washington, Municipal Building Henry "Emmett" McCracken, Jr Council Chambers

20 Bridge Street, Bluffton SC

AGENDA

- I. **CALL TO ORDER**
- II. **ROLL CALL AND CONFIRMATION OF QUORUM**
- III. **ADOPTION OF THE AGENDA**
- IV. **ADOPTION OF MINUTES**
- V. **PUBLIC COMMENTS**
- VI. **OLD BUSINESS**
- VII. **NEW BUSINESS**
 1. Strategic Priority four (4), to Develop a Town Policy and Program with Clear Structure, Identified and Formalized Organizational Collaborations, and Goals for Green Space or Preservation Area Acquisition, and/or Retirement of Development Rights Memo to Town Council – Bill Baugher, Watershed Division Manager
 2. Adoption of 2023 Meeting Dates and Times – Beth Lewis, Water Quality Program Administrator
- VIII. **DISCUSSION**
- IX. **ADJOURNMENT**

NEXT MEETING DATE: Proposed 9:00AM, January 26, 2023

"FOIA Compliance – Public notification of this meeting has been published and posted in compliance with the Freedom of Information Act and the Town of Bluffton policies."

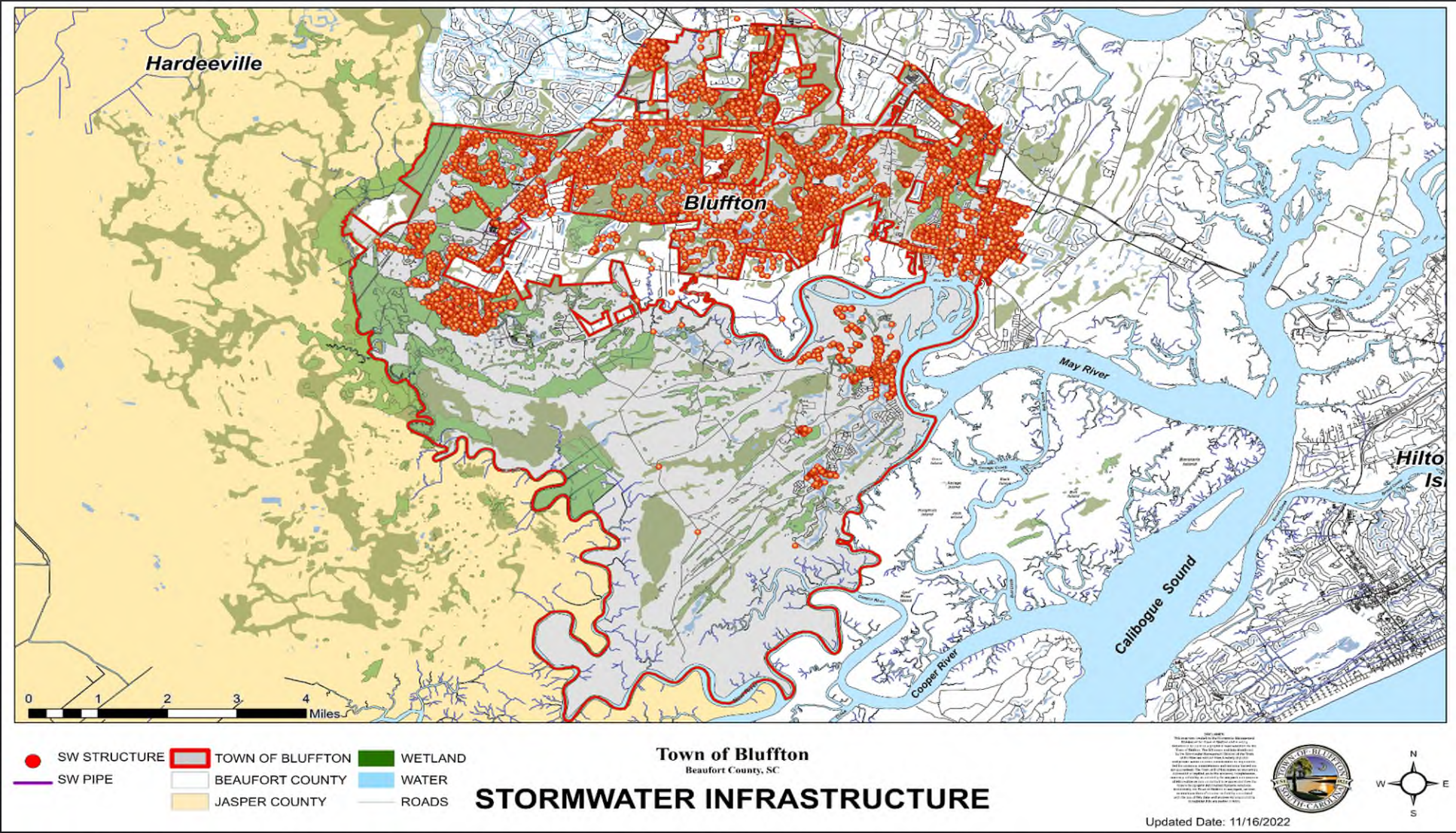
In accordance with the requirements of Title II of the Americans with Disabilities Act of 1990 ("ADA"), the Town of Bluffton will not discriminate against qualified individuals with disabilities on the basis of disability in its services, programs, or activities. The Town of Bluffton Council Chambers are ADA compatible. Any person requiring further accommodation should contact the Town of Bluffton ADA

Town of Bluffton, SC **May River Watershed Action Plan Advisory Committee Meeting Agenda**
December 01, 2022

Coordinator at 843.706.4500 or adacoordinator@townofbluffton.com as soon as possible but no later than 48 hours before the scheduled event.

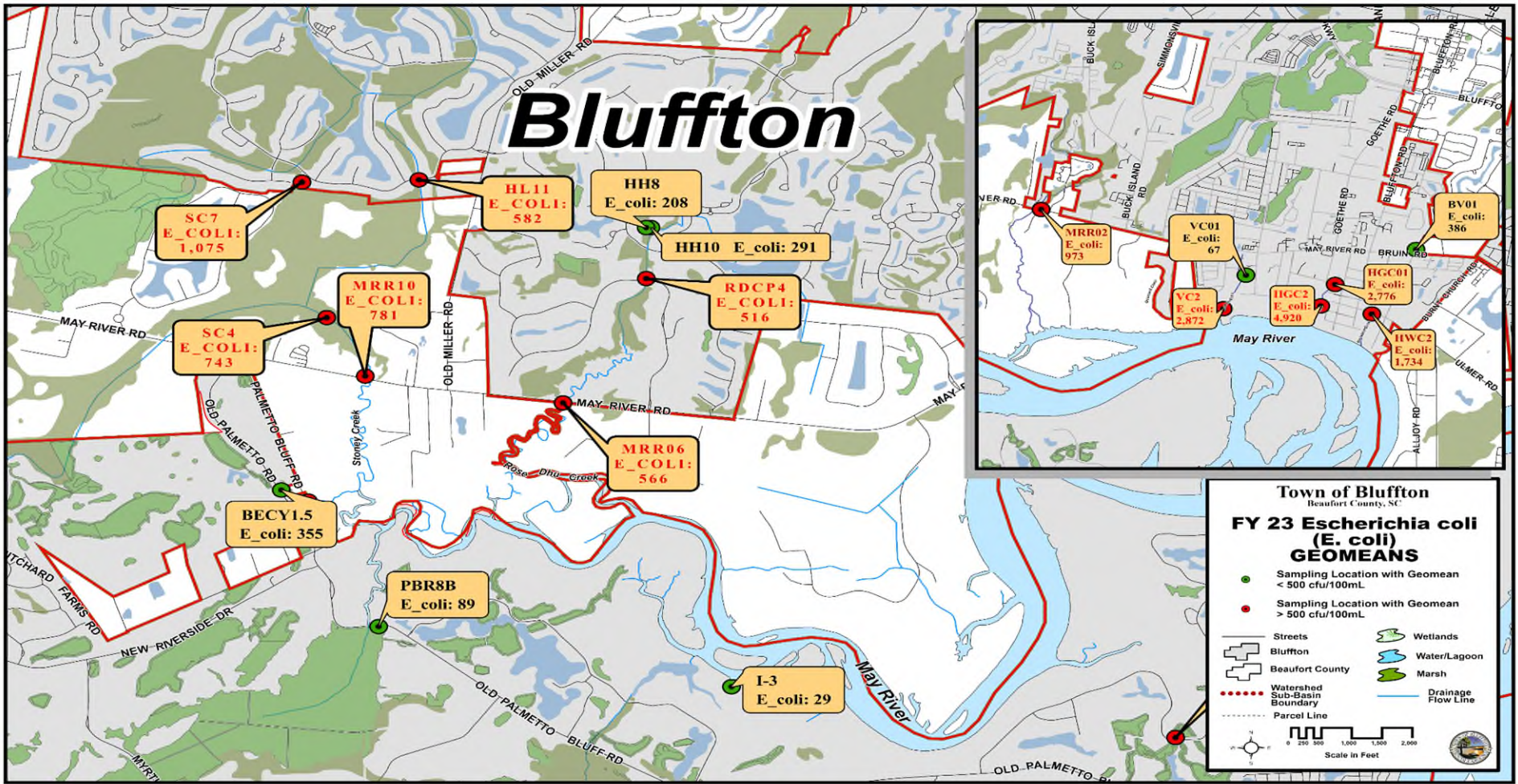
**Please note that each member of the public may speak at one public comment session and a form must be filled out and given to the Town Clerk. Public comment must not exceed three (3) minutes.*

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



Stormwater Infrastructure Inventory Collection Status	
FY 2023 YTD Collection Totals	16,445
FY 2022 YTD Collection Totals	2705
FY 2021 Collection Totals	2,222

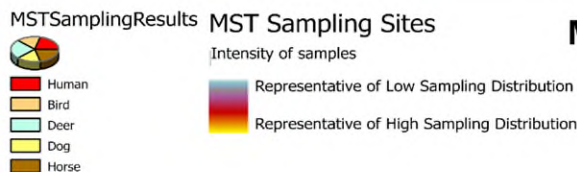
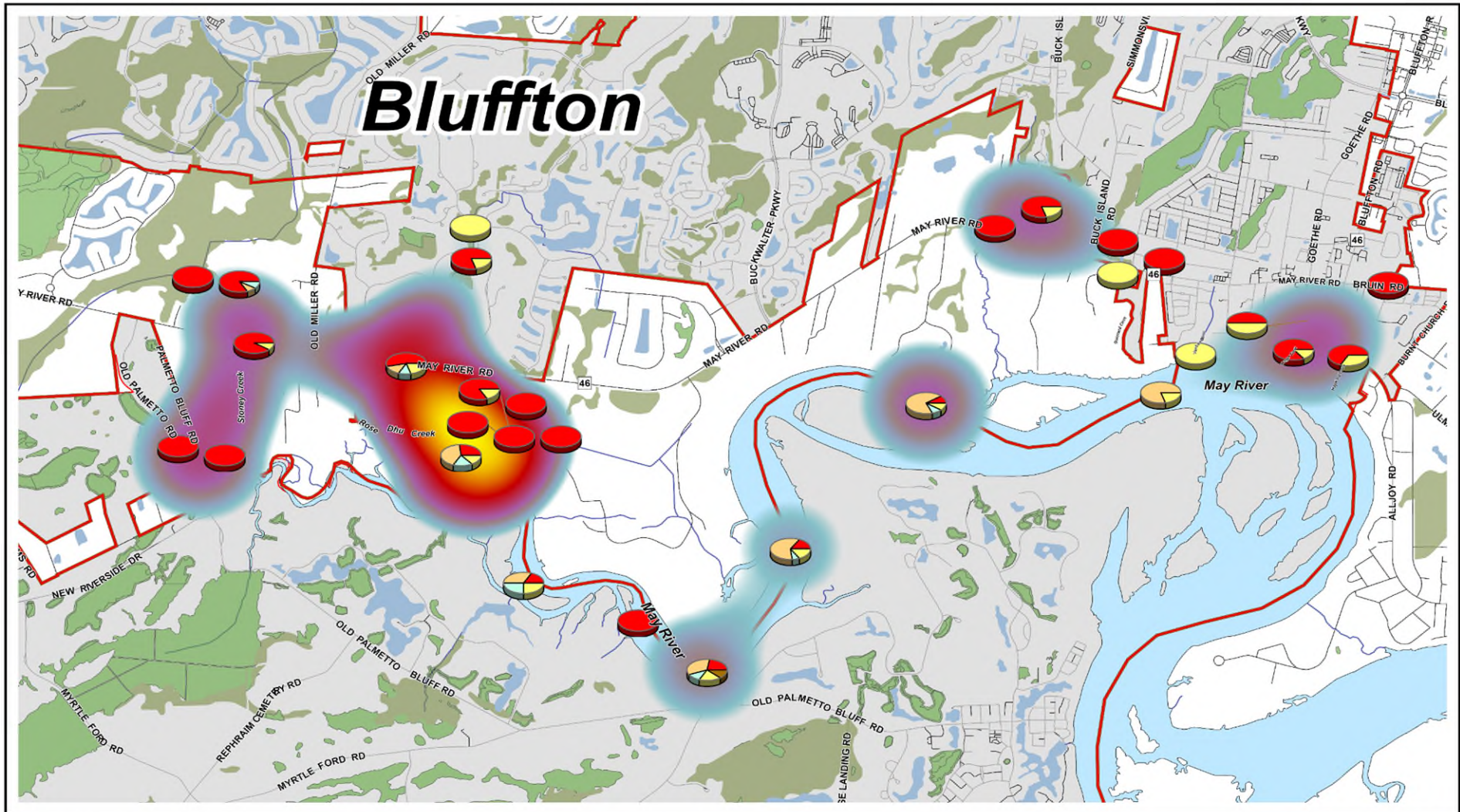
MS4 Minimum Control Measure #3 – IDDE: *E. coli* Concentrations Trend Map



	USCB Water Quality Samples	Microbial Source Tracking Samples	MS4 Quarterly Samples Collected
FY 2023 YTD Totals	252	49	36
FY 2022 Totals	447	78	119
FY 2021 Totals	380	115	179

Totals include only samples submitted for laboratory analysis, and not *in situ* parameters.

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



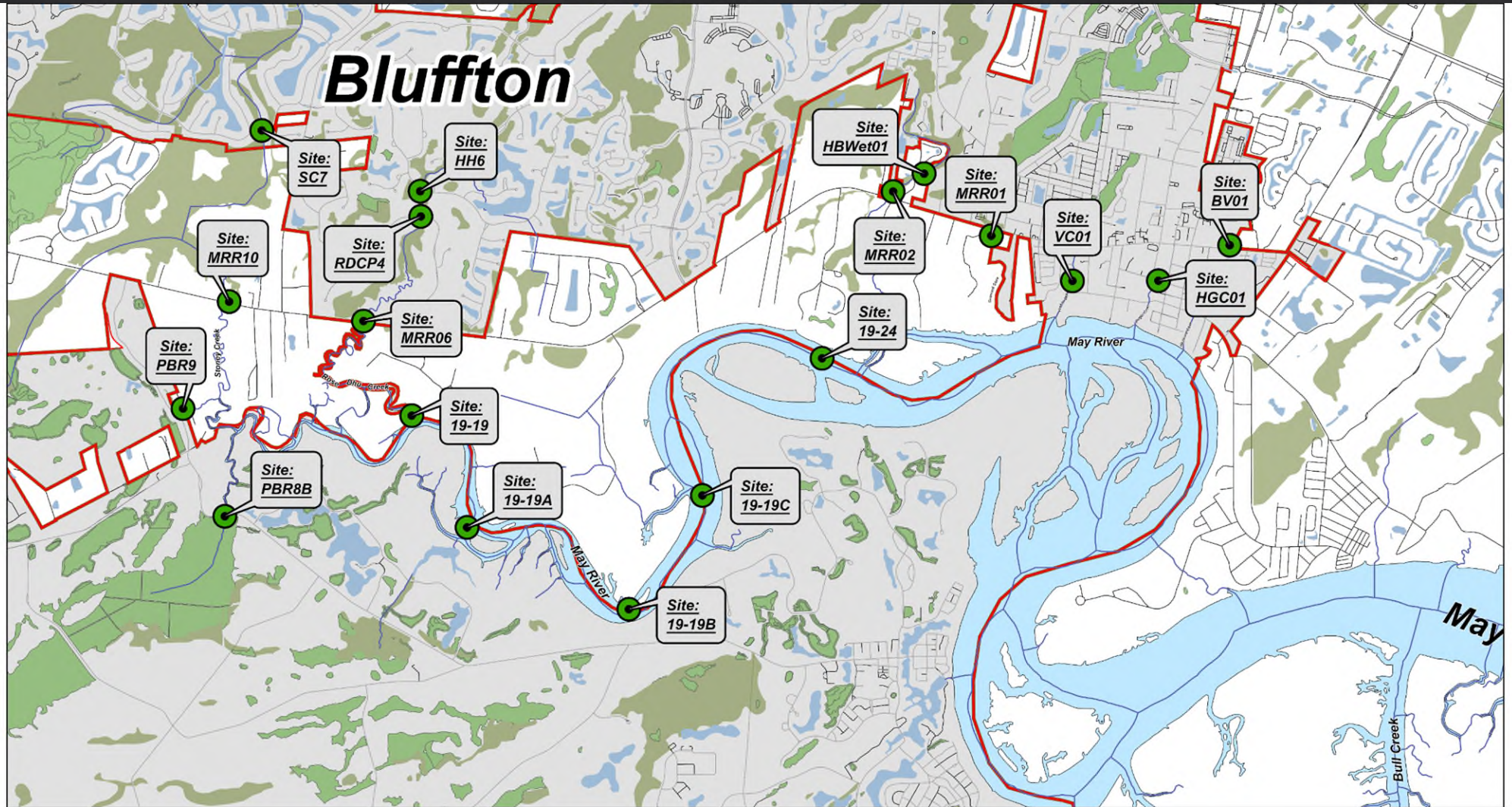
MICROBIAL SOURCE TRACKING (MST) LOCATIONS

Samples at Sites With Positive Detection
and the Intensity of Positive Hits

Town of Bluffton
Beaufort County, SC



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

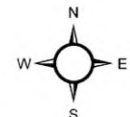


- MST Sampling Location Without Detection
- MST Sampling Location With Detection
- Flowline
- Street
- Town Jurisdiction
- County Jurisdiction

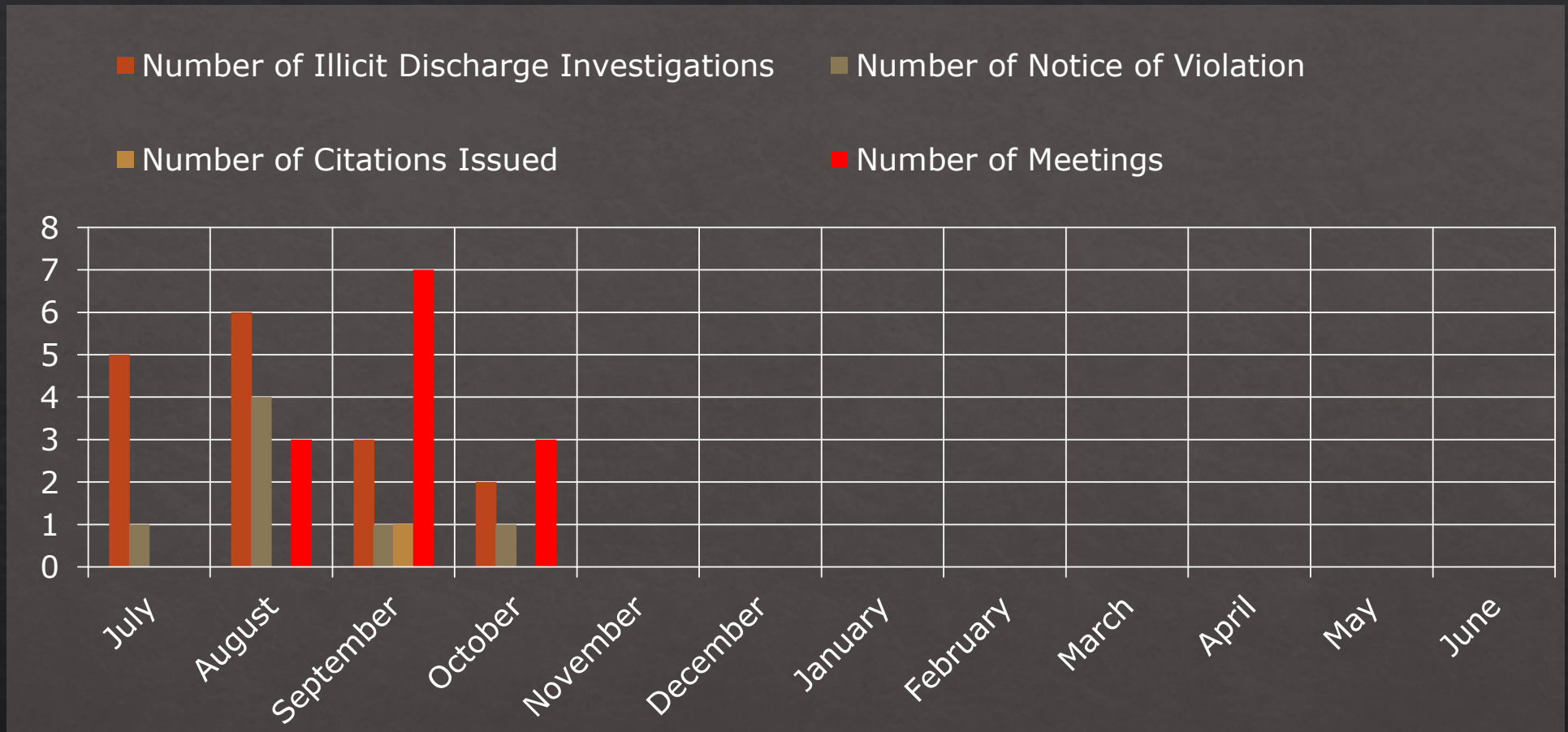
MICROBIAL SOURCE TRACKING LOCATIONS

Sampling Results October 2022

Town of Bluffton
Beaufort County, SC

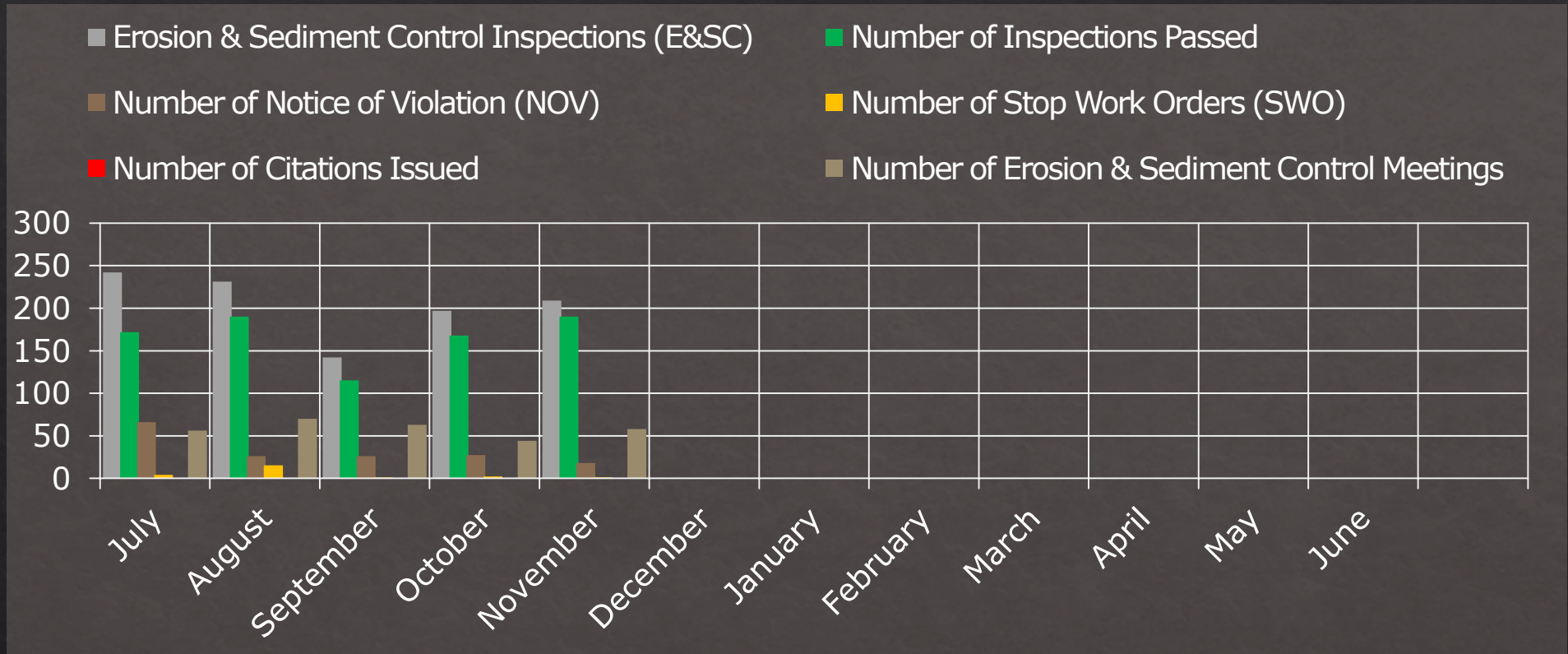


MS4 Minimum Control Measure #3 – IDDE: Illicit Discharge Investigations



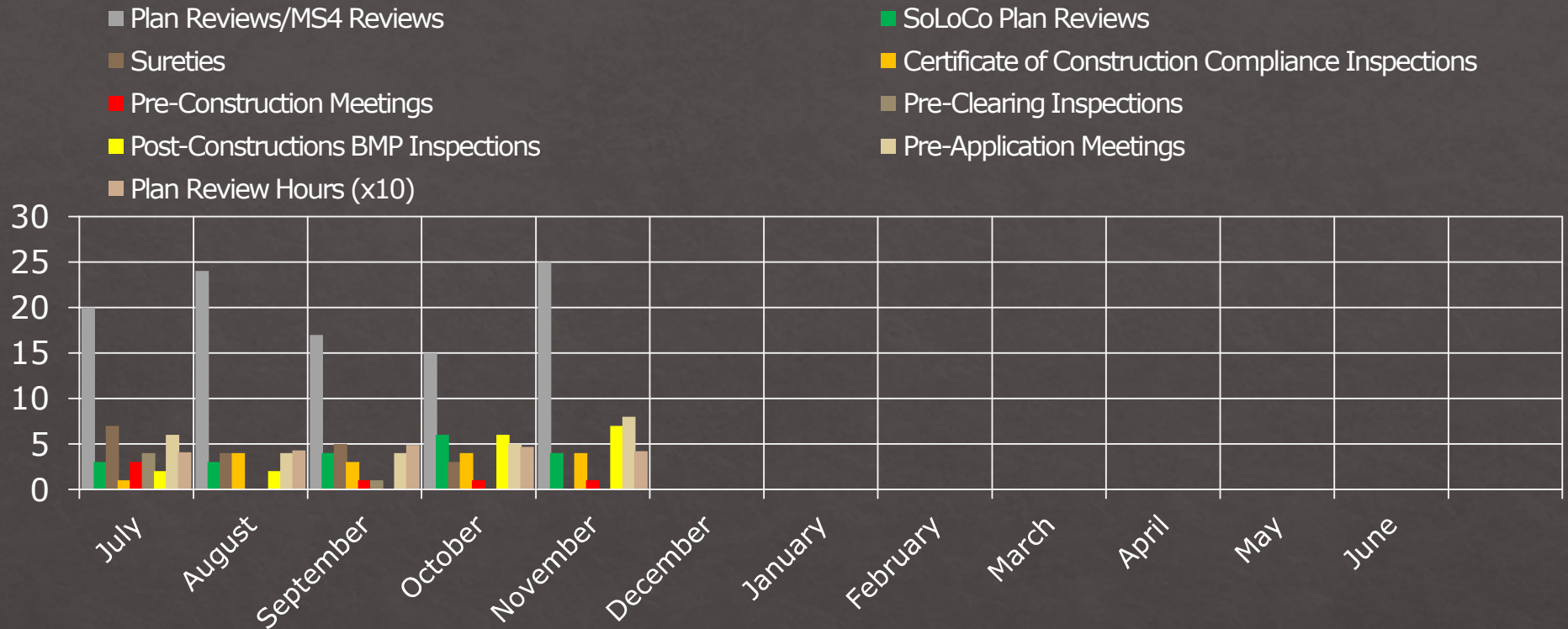
	Number of Illicit Discharge Investigations	Number of Notices of Violation Issued	Number of Citations Issued	Number of Meetings
FY 2023 YTD Totals	16	7	1	13
FY 2022 Totals	30	5	3	17
FY 2021 Totals	36	11	1	29

MS4 Minimum Control Measure #4 - Construction Site Stormwater Runoff Control



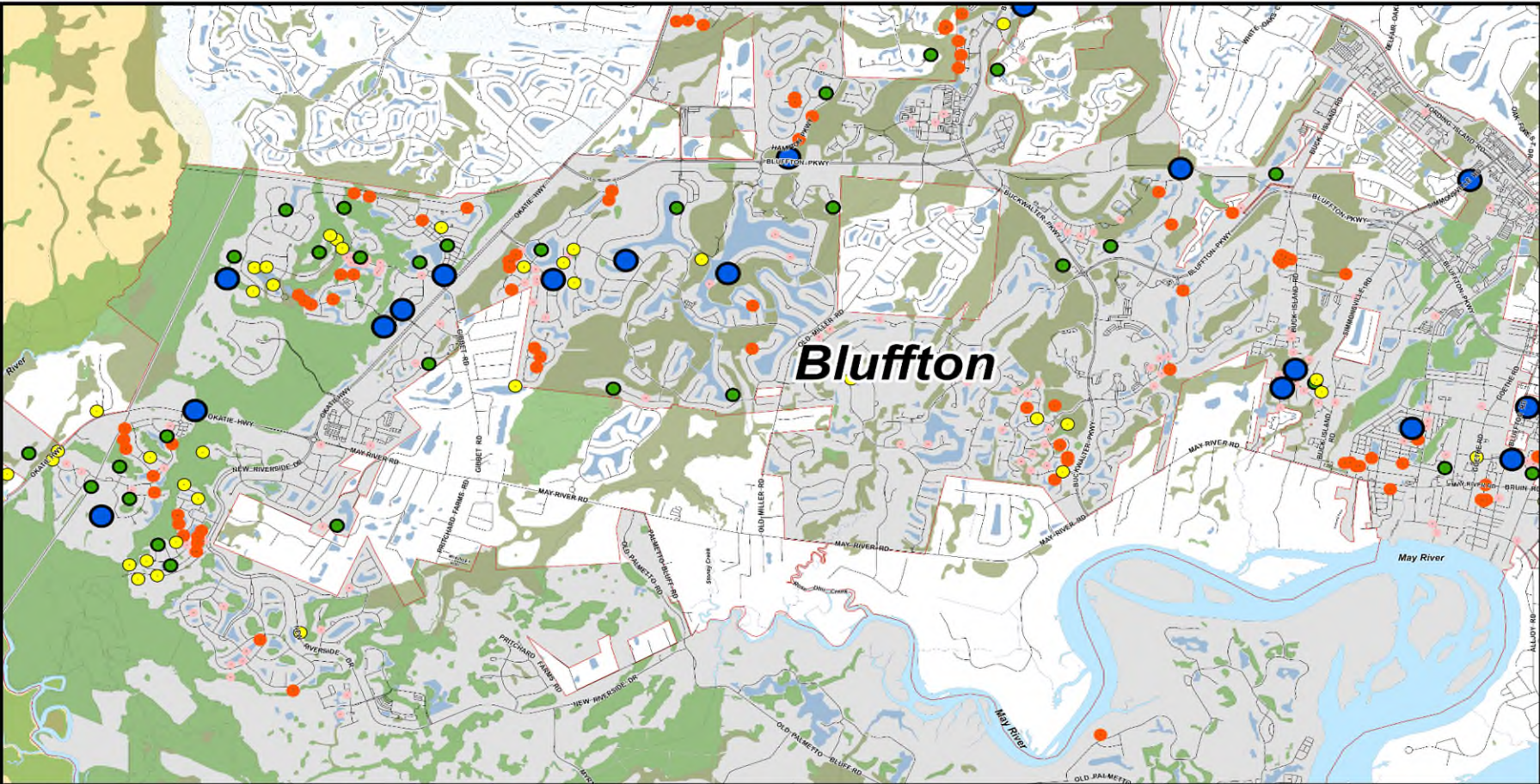
	Number of Sediment & Erosion Control Inspections	Number of Inspections Passed	Number of NOV's Issued	Number of SWO Issued	Number of Citations Issued	Number of E&SC Meetings
FY 23 YTD Totals	1021	835	163	23	0	291
FY 2022 Totals	3127	2701	392	49	0	673
FY 2021 Totals	1,805	1,527	267	32	4	413

MS4 Minimum Control Measure #5 Stormwater Plan Review & Related Activity



	Plan Reviews MS4 Reviews	SoLoCo Plan Reviews	Sureties	CCC Inspections	Pre-Construction Meetings	Pre-Clearing Inspections	Post Construction BMP Inspections	Pre-Application Meetings	Total Plan Review Hours
FY 2023 YTD	101	20	19	16	6	5	17	27	222 Hrs.
FY 2022 Totals	231	13	42	26	30	23	44	26	454 Hrs.
FY 2021 Totals	186	0	61	55	24	24	22	41	789 Hrs.

Citizen Drainage, Maintenance and Inspections Concerns Map



LEGEND:

- FY23 CONCERNS
- FY21 CONCERNS
- FY22 CONCERNS
- FY20 CONCERNS
- PRE-FY19 CONCERNS
- BLUFFTON
BEAUFORT COUNTY
JASPER COUNTY
- STREETS

DRAINAGE/INFRASTRUCTURE CONCERN

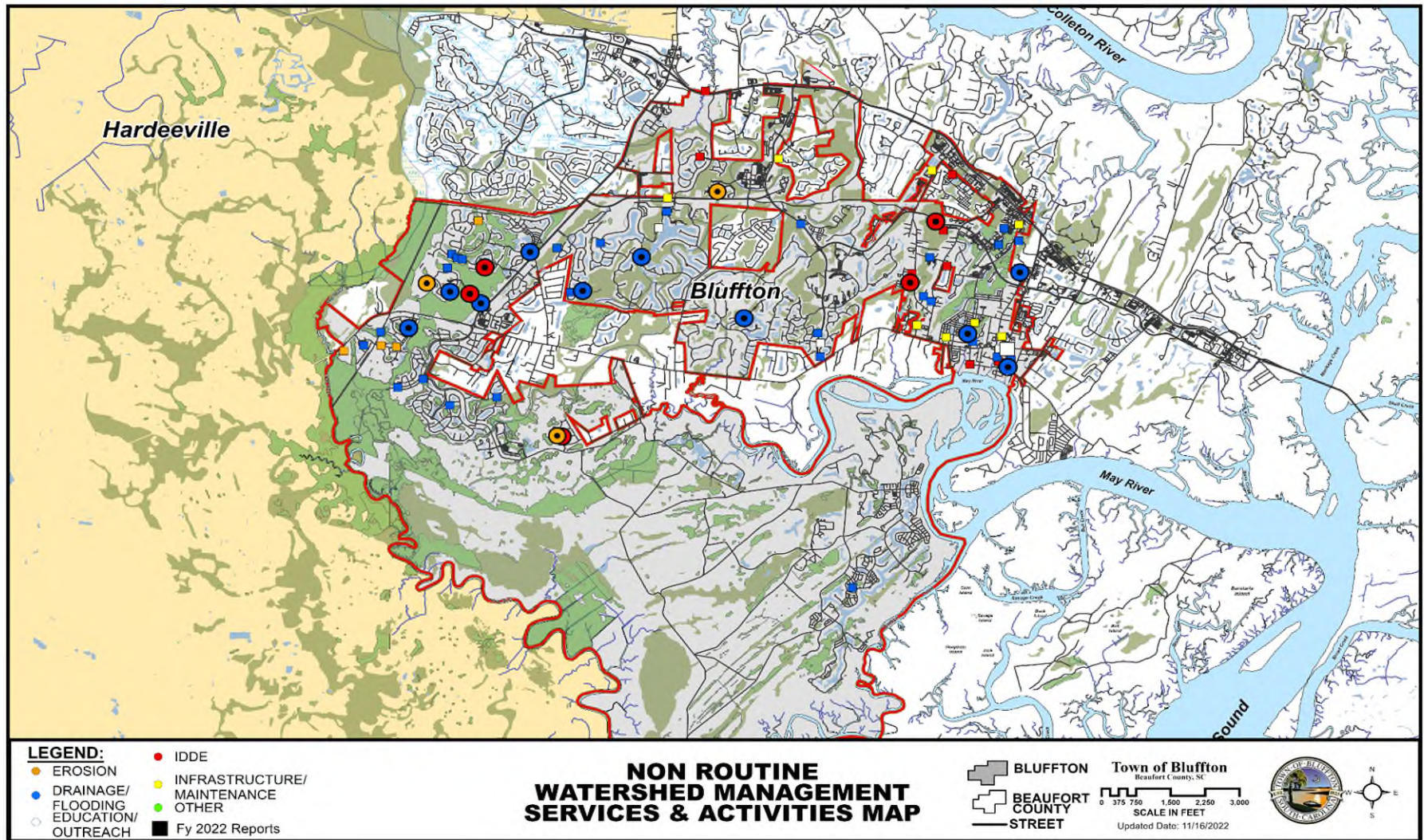
Town of Bluffton
Beaufort County, SC

SCALE IN FEET

Updated as of: 11/16/2022

	Number of Drainage Concerns Investigated	Number of Meetings
FY 2023 YTD Totals	39	33
FY 2022 Totals	38	34
FY 2021 Totals	45	39

Citizen Request for Watershed Mngt. Services & Activities Map

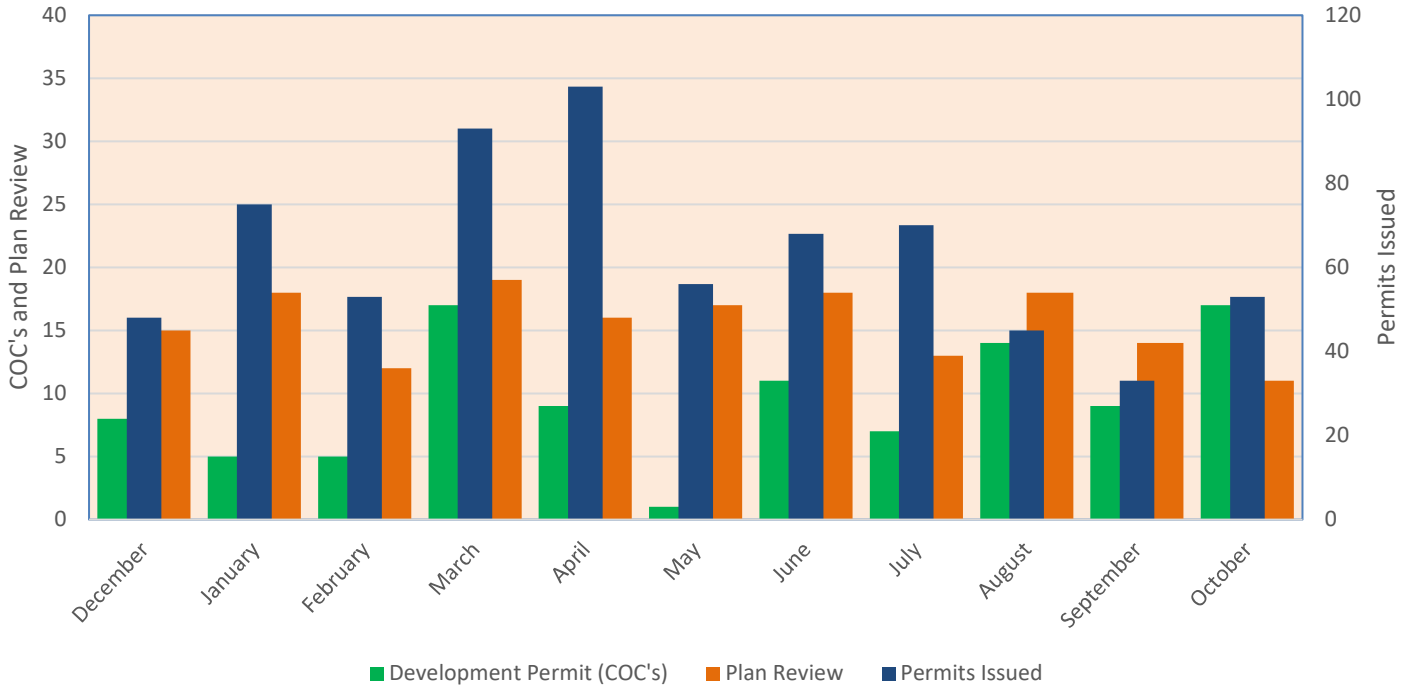


	Number of Citizen Requests Investigated	Number of Meetings
FY 2023 YTD Totals	1	3
FY 2022 Totals	33	21
FY 2021 Totals	46	36

CIP Project Updates

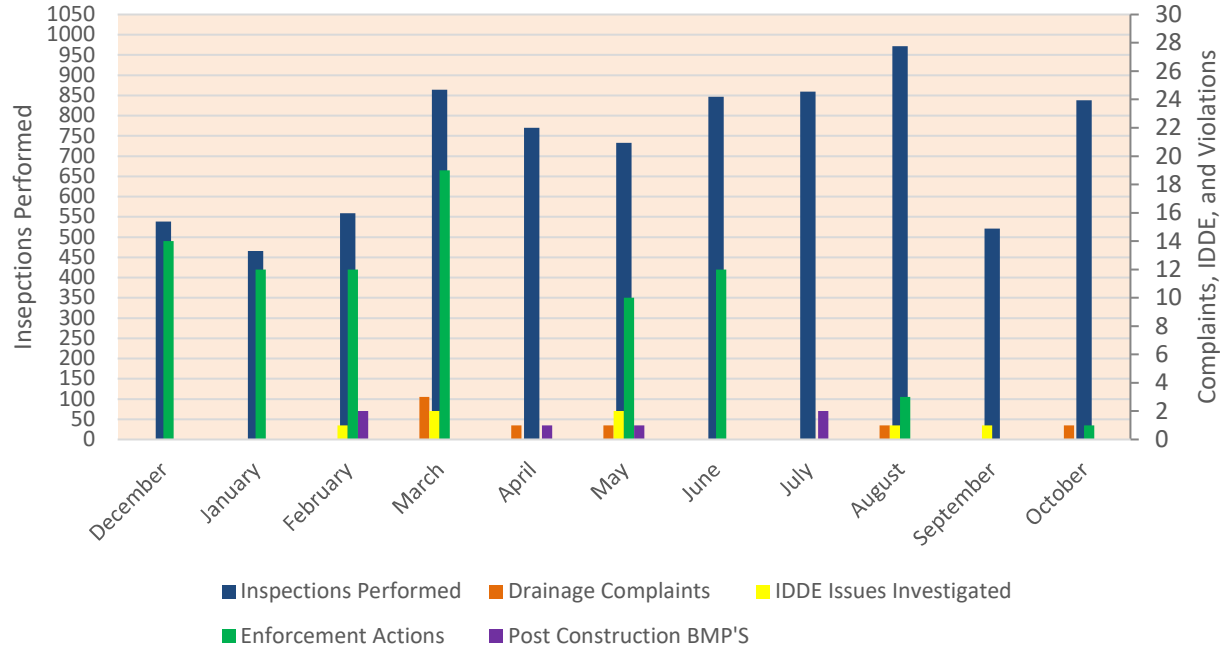
#	PROJECT NAME	FY 2023 Amended	Estimated Contract Award	Contractor	Contract Amount	Const. Start Ground-breaking	Ribbon Cutting	Key Project Highlights
Stormwater and Sewer								
00044	Buck Island - Simmonsville Sewer Phase 5	902,205	1/20/2023	Unknown - Bid in Nov 2022	-	2/22/2023	no	Eng. design complete. Waiting on SCDHEC Permit. Bid in late November. Contract award in January.
00061	Sewer Connections Policy	526,752	-	-	-	-	no	As needed basis
00071	Historic District Sewer Extension Phase 2	372,325	1/20/2023	Unknown - Bid in Nov 2022	-	2/22/2023	no	Eng. design complete. Waiting on SCDHEC Permit. Bid in late November. Contract award in January.
00072	Historic District Sewer Extension Phase 3	193,731	1/20/2023	Unknown - Bid in Nov 2022	-	2/22/2023	no	Eng. design complete. Waiting on SCDHEC Permit. Bid in late November. Contract award in January.
00073	Historic District Sewer Extension Phase 4	137,375	-	Design Ph. - Cranston Engineers	-	-	no	Engineering design in progress - Need to acquire Lawrence Street right of way.
00074	Historic District Sewer Extension Phase 5	154,121	-	Design Ph. - Cranston Engineers	-	-	no	Engineering design in progress - Need to acquire Green Street right of way.
00075	Historic District Sewer Extension Phase 6	292,097	-	Design Ph. - Cranston Engineers	-	-	no	Engineering design in progress - Need to acquire Pope, Allen and Water right of way.
00082	Bridge Street Streetscape	1,964,844	6/21/2022	JS Construction Services	1,139,448	12/5/2023	yes	Pre-construction started. Waiting on receipt of inlet structures to start Stormwater install (12/5/22).
00099	Comprehensive Drainage Plan Improvements	320,993	-	-	-	-	no	Heyward Cove stormwater asset inventory and condition assessment complete. 2D hydrologic/ hydraulic model underway. Model will include "resiliency" components for sea level rise and higher intensity storms.
00100	Buck Island Road Drainage Improvements	229,800	11/23/2022	JS Construction Services	116,992	12/12/2023	no	Execute construction contract in November. Construction start +/- 12/12/2023. Coord. road closure during school holiday period.
00102	Stoney Crest Campground/Old Palmetto Bluff Rd	351,658	-	-	-	-	no	Hold - Waiting on grant award status. Expected grant determination on 1/28/2023.
00015	May River Action Plan Impervious Restoration/Water Quality Project	214,600	-	-	-	-	no	Site evaluations approved by and proceeding on 9 of 11 properties. Palmetto Pointe Townes HOA has declined to participate. Lowcountry Community Church has yet to respond.
00106	Pritchard Street Drainage Improvements	236,200	5/1/2023	Unknown - Bid in April 2023	-	-	no	Engineering design is 70% complete. Grant award of \$124,577 approved and grant agreement received 11/16/22. Permitting information/submission from consultant pending.
Roads								
00042	Calhoun Street Streetscape	463,681	-	Design Ph. - Thomas & Hutton	216,500	-	yes	Surveying and geotechnical complete. Complete preliminary design 1/23/23. Complete final design 5/30/23.
00050	Pathway Pedestrian Safety Improvements, Phase 1	581,708	1/20/2023	Unknown - Bid in November	-	2/22/2023	no	AME Rain Garden complete. Design of Ph 1 curb ramp improvements is complete and out to bid.
00054	BIS Neighborhood Sidewalks & Lighting	572,677	2/18/2023	Unknown - Rebid Ph 6B in Dec.	-	3/13/2023	no	Ph 6A construction complete. Ph 6B - Engineering design complete. Ph 5 light easements underway.
00068	Wharf Street Lighting	60,310	-	Easement Acquisition Phase	-	-	no	Easement Acquisition for street lighting to be complete in FY 23. Street lighting install in FY 24.
00093	Ghost Roads	33,178	-	ROW Acquisition Phase	-	-	no	Acquisition of ghost roads ongoing. Executing MSAs with consultants for Easement Acquisition Services.
00094	Boundary Street Streetscape	196,261	-	Design Ph. - Thomas & Hutton	67,200	n/a	yes	Engineering design in progress. Easement acquisition and construction in FY 24-25.
Facilities								
00067	Squire Pope Carriage House	1,918,422	10/18/2022	Huss, Inc.	1,737,867	1/9/2023	yes	Construction contract executed. Anticipated start date is 1/9/2023.
00077	Law Enforcement Center Facility Improvements	315,771	12/12/2022	Greenery & Atlantic Asphalt	108,302	1/4/2023	yes	Clearing to start in December, hardscape and landscape to start in January.
00081	Garvin-Garvey House Interpretive Signage	32,390	4/6/2022	HW Exhibits	53,983	4/6/2022	no	Exhibit design complete. Fabrication underway.
00089	Ulmer Auditorium Improvements	118,217	-	-	-	-	no	Hold
00101	Sarah Riley Hooks Cottage	45,680	-	Planning Phase - JK Tiller Assoc	-	n/a	yes	Surveying, stakeholder input & master planning by JK Tiller in FY23. Stabilization/assessment with Meadors Inc. ASAP.
Land								
00020	Land Acquisition	4,702,875	-	-	-	-	no	Due diligence as needed
Housing								
00087	Affordable Housing Project	1,708,672	-	-	-	-	yes	Hold - Assistance as needed with Joint Partner
Economic Development								
00098	Buckwalter Place Multi-County Commerce Park	3,487,279	-	-	-	-	no	Hold - Assistance as needed pending property sale or tenant
Parks								
00059	Oyster Factory Park	933,172	12/8/2022	JS Construction Services, Inc.	550,352	1/8/2023	yes	Anticipated construction start for parking area is January. Design of cookout area is underway.
00066	Oscar Frazier Park	250,518	4/11/2023	Unknown - Bid in March 2023	-	5/10/2023	yes	Design Phase for Rotary hardscape, sport court & splash pad in FY23. Construction start of hardscape in last
00080	May River Pocket Park	122,265	5/6/2022	SE Hunting and Land Consultants	68,217	-	yes	Park is complete. 6-month maintenance contract underway.
00085	New Riverside Park / Barn Site	4,493,656	12/12/2022	JS Construction Services, Inc.	3,132,500	1/30/2023	yes	Engineering design & restroom design complete. Ph 1 site development approved by TC in October. Construction start 1/30/2023, pending material availability. Barn & playground design in progress.
00086	Park Improvements	184,588	-	-	-	n/a	yes	Site planning and play equipment selections at DuBois Park in progress. Construction subject to TC approval of equipment.
00092	New River Linear Trail	124,170	-	-	-	-	yes	Master Plan complete. Engineering design of Ph 1 in progress. Construction subject to grant funding and other budget approvals.
Information Technology Infrastructure								
00091	Community Safety Cameras Phase 6	58,446	-	Carolina Low Voltage	68,500	n/a	no	In progress Oyster Factory Park & Garvin-Garvey this year.
00104	Document Management - Phase 2	56,049	2/18/2022	Communications Square	101,200	n/a	no	Installation complete, moving documents in progress.
00103	Network Improvements	248,461	10/21/2022	8x8	-	n/a	no	RFP completed, vendor sent award email 10/21/22.

MS4 Minimum Control Measure #5 Stormwater Plan Review



TYPE	December	January	February	March	April	May	June	July	August	September	October	November	Last 12 Months
Development Permit (COC's)	8	5	5	17	9	1	11	7	14	9	17	9	112
Plan Review	15	18	12	19	16	17	18	13	18	14	11	17	188
Permits Issued	48	75	53	93	103	56	68	70	45	33	53	41	738

MS4 Minimum Control Measure #4 Erosion Sediment Control Inspections



TYPE	December	January	February	March	April	May	June	July	August	September	October	November	Last 12 Months
Inspections Performed	538	466	559	864	770	733	847	859	972	521	838	661	8628
Drainage Complaints	0	0	0	3	1	1	0	0	1	0	1	2	9
IDDE Issues Investigated	0	0	1	2	0	2	0	0	1	1		1	8
Enforcement Actions	14	12	12	19		10	12	0	3	0	1	0	83
Post Construction BMP'S	0	0	2	0	1	1	0	2	0	0	0	2	8

Lowcountry Stormwater Partners Report for the Beaufort County Stormwater Utility Board

November 2022

1	Project (Year 2022)	Project Type	POC	Direct/Indirect	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	KEY	
2	Small Grants Program	Programs	Bacteria, Freshwater	Direct											Drafting			Not Started
3	Pet Waste Station Map	Programs	Bacteria	Indirect														In Progress
4	Septic Workshop	Programs	Bacteria	Direct														Completed
5	Healthy Pond Series: Wildlife (Feb)	Programs	Nutrients	Direct														
6	Healthy Pond Series: CCY (May)	Programs	Nutrients	Direct														
7	Healthy Pond Series: Shorelines (Sept)	Programs	Nutrients	Direct														
8	Healthy Pond Series: Aeration (Dec)	Programs	Nutrients	Direct														
9	Being a Neighbor for Clean Water (Fall)	Programs	General Stormwater, Bacteria, Nutrients, Freshwater	Direct														
10	Soil Sample Drive (Fall)	Programs	Nutrients	Direct														
11	Buffer Workshop	Programs	Nutrients	Direct														
12	LID Lunch-and-Learn	Programs	Freshwater	Direct														
13	Flooding 411 Ask and Expert: Insurance (March)	Programs	Freshwater	Direct														
14	Flooding 411 Ask and Expert: Meet your Floodplain Manager (Sept)	Programs	Freshwater	Direct											cancelled			
15	Flooding 411 Ask and Expert: Dams (Dec)	Programs	Freshwater	Direct											cancelled			
16	Flooding 411 (June)	Programs	Freshwater	Direct														
17	Adopt-A-Stream (Spring)	Programs	General Stormwater, Bacteria, Nutrients, Freshwater	Direct														
18	Adopt-A-Stream (Fall)	Programs	General Stormwater, Bacteria, Nutrients, Freshwater	Direct														
19	4-H2O (July)	Programs	General Stormwater, Bacteria, Nutrients, Freshwater	Direct														
20	Kids in Kayaks	Programs	General Stormwater, Bacteria, Nutrients, Freshwater	Direct														
21	BMP Park Field Day	Programs	General Stormwater, Bacteria, Nutrients, Freshwater	Direct														
22	LSP consortium meeting (Feb)	Programs	Consortium Management	Direct														
23	LSP consortium meeting (May)	Programs	Consortium Management	Direct														
24	LSP consortium meeting (Sept)	Programs	Consortium Management	Direct														
25	LSP consortium meeting (Dec)	Programs	Consortium Management	Direct														
26	MS4 meetings (Jan)	Programs	Consortium Management	Direct														
27	MS4 meetings (June)	Programs	Consortium Management	Direct														
28	MS4 meetings (Nov)	Programs	Consortium Management	Direct														
29	Water Festival	Programs	General Stormwater, Bacteria, Nutrients, Freshwater	Indirect														
30	May River Sweep	Programs	General Stormwater, Bacteria, Nutrients, Freshwater	Indirect														
31	Keep Broad Creek Clean Festival	Programs	General Stormwater, Bacteria, Nutrients, Freshwater	Indirect														
32	Beach/River Sweep	Programs	General Stormwater, Bacteria, Nutrients, Freshwater	Indirect														
33	Soft Shell Crab Festival	Programs	General Stormwater, Bacteria, Nutrients, Freshwater	Indirect														
34	Shrimp Fest	Programs	General Stormwater, Bacteria, Nutrients, Freshwater	Indirect														
35	LID Map Updates	Programs	Freshwater	Indirect														
36	Construction Site Social Media Campaign	Programs	Freshwater	Indirect														
37	Septic Factsheet	Publication	Bacteria	Indirect														
38	Bilingual Septic Rack Cards	Publication	Bacteria	Indirect											Sent for peer review			
39	Septic "Welcome to the Neighborhood" Packets	Publication	Bacteria	Indirect											Sent for peer review			
40	Boater Informational Packet	Publication	Bacteria	Indirect														



MEMORANDUM

Date: December 5, 2022

To: Stormwater Management Utility Board

From: Matthew Rausch, Stormwater Infrastructure Superintendent

Re: **Maintenance Project Report**

This report will cover four major project and eight minor or routine projects. The Project Summary Reports are attached.

Major Projects:

- **Whitfield Lane – St Helena Island (8):** This project improved 1,743 linear feet of drainage system. The scope of work included grubbing and clearing 522 linear feet of workshelf and cleaning out 1,221 linear feet of channel ditch. Installed (1) driveway pipe, (2) access pipes and rip rap for erosion control. The total cost was **\$54,750.21**.
- **Peaches Hill Circle and Scott Hill Road – St Helena Island (8):** This project improved 6,110 linear feet of drainage system. The scope of work included cleaning out 2,922 linear feet of channel and 3,188 linear feet of roadside ditch. The total cost was **\$27,509.17**.
- **Old Ben Road and Toomer Road – St Helena Island (8):** This project improved 5,827 linear feet of drainage system. The scope of work included cleaning out 100 linear feet of channel and 5,727 linear feet of roadside ditch. Replaced (1) access pipe and installed rip rap for erosion control. The total cost was **\$36,573.27**.
- **Hickory Hill Road – St Helena Island (8):** This project improved 4,324 linear feet of drainage system. The scope of work included cleaning out 4,324 linear feet of roadside ditch. The total cost was **\$16,519.05**.
- **Gardner Drive & Warsaw Island Road – St Helena Island (8):** This project improved 16,662 linear feet of drainage system. The scope of work included cleaning out 15,323 linear feet of roadside ditch and 1,339 of channel ditch. Jetted (55) driveway pipes, (4) crossline pipes and (3) access pipes. The total cost was **\$56,024.75**.

Minor or Routine Projects:

- **William Jenkins Road – St. Helena Island (8):** This project improved 1,728 linear feet of drainage system. The scope of work included cleaning out 1,728 linear feet of roadside ditch. The total cost was **\$6,003.03**.
- **Faculty Drive – Lady’s Island (7):** This project improved 1,648 linear feet of

drainage system. The scope of work included cleaning out 1,648 linear feet of roadside ditch. The total cost was **\$8,375.56**.

- **Okatie Retrofit – Bluffton (4):** The scope of work included removing debris around the box grate and railroad ties from workshelf. The total cost was **\$3,706.35**.
- **Horse Island Drive – St. Helena Island (8)** This project improved 70 linear feet of drainage system. The scope of work included reconstructing and cleaning out 70 linear feet of roadside ditch and repairing (2) washouts. Installed rip rap for erosion control. The total cost was **\$12,133.49**.
- **Bessies Lane – Port Royal Island (6,9):** This project improved 747 linear feet of drainage system. The scope of work included cleaning out 747 linear feet of roadside ditch. The total cost was **\$4,590.38**.
- **Dash Road – Sheldon (5):** This project improved 4,471 linear feet of drainage system. The scope of work included cleaning out 2,872 linear feet of channel and 466 linear feet of roadside ditch and repairing (1) sinkhole. Bush hogged 1,133 linear feet of roadside ditch. The total cost was **\$14,939.42**.
- **St. Helena Island Bush Hog – St. Helena Island (8):** This project improved 49,155 linear feet of drainage system. The scope of work included bush hogging 41,564 linear feet of channel and 7,591 linear feet of roadside ditch. The total cost was **\$38,874.08**.
- **Lady’s Island Bush Hog – Lady’s Island (7):** This project improved 23,290 linear feet of drainage system. The scope of work included bush hogging 21,410 linear feet of channel and 1,880 linear feet of roadside ditch. The total cost was **\$18,079.38**.



Beaufort County Public Works
Stormwater Infrastructure
Project Summary

Project Summary: Whitfield Lane

Activity: Routine/Preventive Maintenance

Duration: 04/26/2022 - 05/19/2022

Narrative Description of Project:

Project improved 1,743 L.F. of drainage system. Grubbed and cleared 522 L.F. of workshelf. Cleaned out 1,221 L.F. of channel ditch. Installed (1) driveway pipe and (2) access pipes. Installed rip rap and hydroseeded for erosion control.

2022-556 / Whitfield Lane	Labor Hours	Labor Cost	Equipment Cost	Material Cost	Contractor Cost	Indirect Cost	Total Cost
APINS / Access pipe - installed	40.00	\$1,196.99	\$368.30	\$781.86	\$0.00	\$738.88	\$3,086.03
AUDIT / Audit Project	3.00	\$98.22	\$0.00	\$0.00	\$0.00	\$60.63	\$158.85
CCO / Channel - cleaned out	96.00	\$2,994.65	\$990.37	\$677.41	\$0.00	\$1,848.56	\$6,510.99
DEBREM / Debris Removal - Jobsite	64.00	\$1,997.01	\$860.04	\$406.19	\$0.00	\$1,232.72	\$4,495.96
DPINS / Driveway Pipe - Installed	32.00	\$1,041.47	\$223.20	\$413.50	\$0.00	\$642.88	\$2,321.05
HAUL / Hauling	236.00	\$7,887.61	\$4,193.20	\$7,330.15	\$0.00	\$4,868.80	\$24,279.76
HEQ / Haul equipment	9.00	\$310.85	\$171.54	\$115.14	\$0.00	\$191.88	\$789.41
HYDR / Hydroseeding	16.00	\$546.80	\$110.42	\$1,348.89	\$0.00	\$337.52	\$2,343.63
PA / Project Assit	8.00	\$270.02	\$17.40	\$32.83	\$0.00	\$166.68	\$486.93
RRI / Rip Rap - Installed	24.00	\$758.08	\$242.65	\$14.00	\$0.00	\$467.92	\$1,482.65
SG / Shoot Grade	18.00	\$568.52	\$60.74	\$60.33	\$0.00	\$350.94	\$1,040.53
WLINS / Water Line- Installation	4.00	\$173.52	\$17.40	\$54.97	\$0.00	\$107.12	\$353.01
WSDR / Workshelf - Dressed	24.00	\$720.56	\$256.70	\$180.53	\$0.00	\$444.80	\$1,602.59
WGRB / Workshelf - Grubbed	48.00	\$1,516.06	\$539.39	\$194.43	\$0.00	\$935.84	\$3,185.72
WSL / Workshelf - Level	40.00	\$1,239.03	\$357.93	\$251.34	\$0.00	\$764.80	\$2,613.09
Grand Total	662.00	\$21,319.38	\$8,409.28	\$11,861.58	\$0.00	\$13,159.97	\$54,750.21

Before



During



After



Project: Whitfield Lane
Map #1

Activity: Routine/
Preventive
Maintenance

Project #:
2022-556














Township/SW Dist:
St Helena Island/8

Completed:
May 2022



Legend

Drainage Type

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

0 40 80 160 240 320
Feet

1 inch = 250 feet

Prepared By: BC Stormwater Management Utility

Date Print: 11/16/22

File: C:\project summaries map\Whitfield Lane Map 1_2022-556

Project: Whitfield Lane
Map #2

Activity: Routine/
Preventive
Maintenance

Project #:
2022-556














Township/SW Dist:
St Helena Island/8

Completed:
May 2022



Legend

Drainage Type

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

0 40 80 160 240 320
Feet

1 inch = 250 feet

Prepared By: BC Stormwater Management Utility

Date Print: 11/16/22

File: C:\project summaries map\Whitfield Lane Map 2_2022-556



Beaufort County Public Works
Stormwater Infrastructure
Project Summary

Project Summary: Peaches Hill Circle and Scott Hill Road

Activity: Routine/Preventive Maintenance

Duration: 06/07/2022 - 06/28/2022

Narrative Description of Project:

Project improved 6,110 L.F. of drainage system. Cleaned out 3,188 L.F. of roadside ditch and 2,922 channel ditch.

2022-566 / Peaches Hill Circle and Scott Hill Drive	Labor Hours	Labor Cost	Equipment Cost	Material Cost	Contractor Cost	Indirect Cost	Total Cost
AUDIT / Audit Project	2.00	\$65.48	\$0.00	\$0.00	\$0.00	\$40.42	\$105.90
CCO / Channel - cleaned out	184.00	\$5,404.36	\$871.27	\$540.24	\$0.00	\$3,336.00	\$10,151.87
HAUL / Hauling	128.00	\$3,562.00	\$2,287.20	\$943.91	\$0.00	\$2,198.48	\$8,991.59
HEQ / Haul equipment	16.00	\$530.40	\$304.96	\$117.30	\$0.00	\$327.36	\$1,280.02
ONJV / Onsite Job Visit	4.00	\$166.88	\$17.40	\$20.60	\$0.00	\$0.00	\$204.88
RSDCL / Roadside Ditch - Cleanout	120.00	\$3,559.36	\$656.01	\$362.50	\$0.00	\$2,197.04	\$6,774.91
Grand Total	454.00	\$13,288.48	\$4,136.84	\$1,984.55	\$0.00	\$8,099.30	\$27,509.17

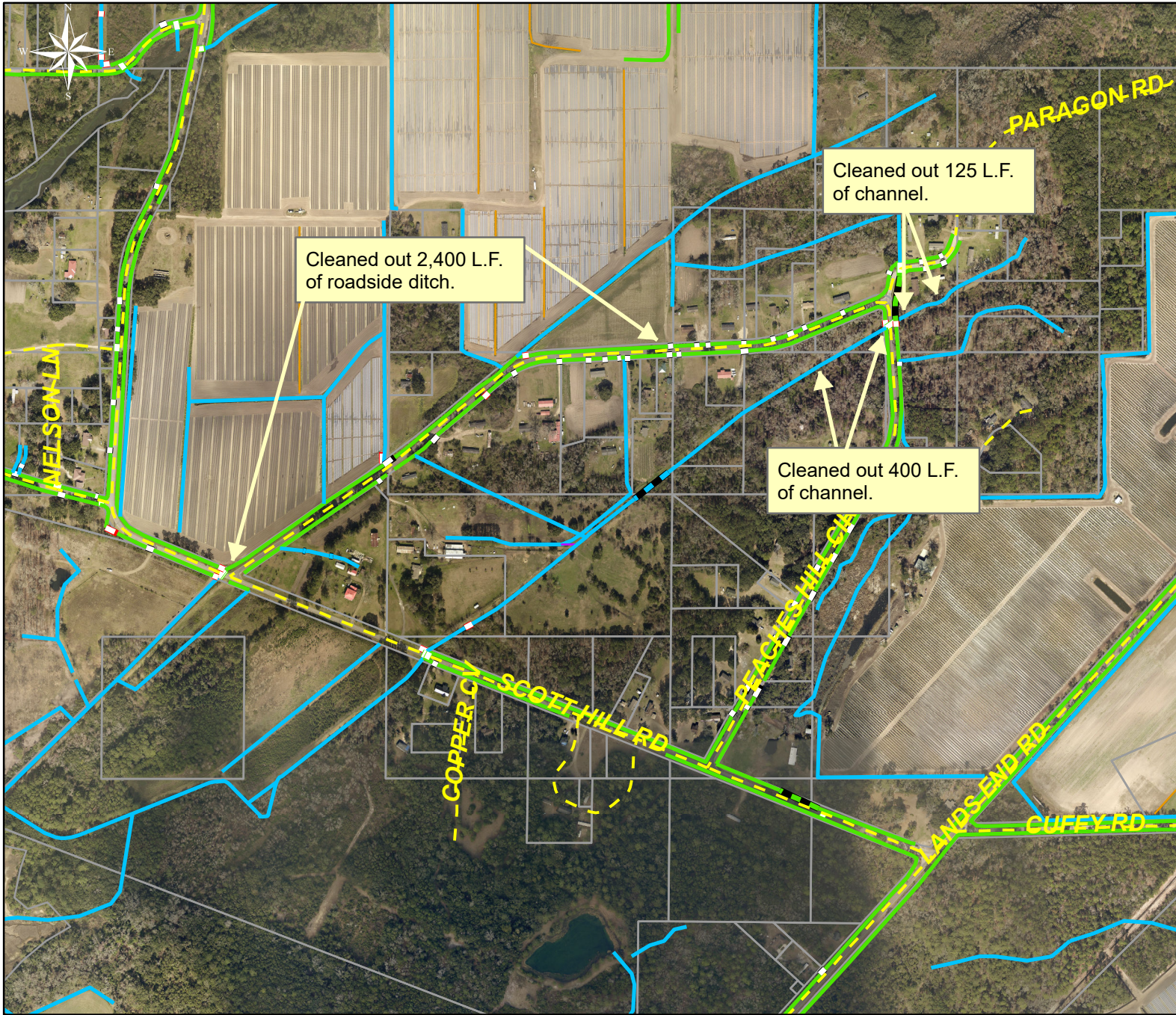
Before

During

After

(No Picture Available)





Project: Peaches Hill
 Circle & Scott Hill
 Road
 Map #1

Activity: Routine/
 Preventive
 Maintenance

Project #:
 2022-566

Township/SW Dist:
 St Helena Island/8

Completed:
 June 2022

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

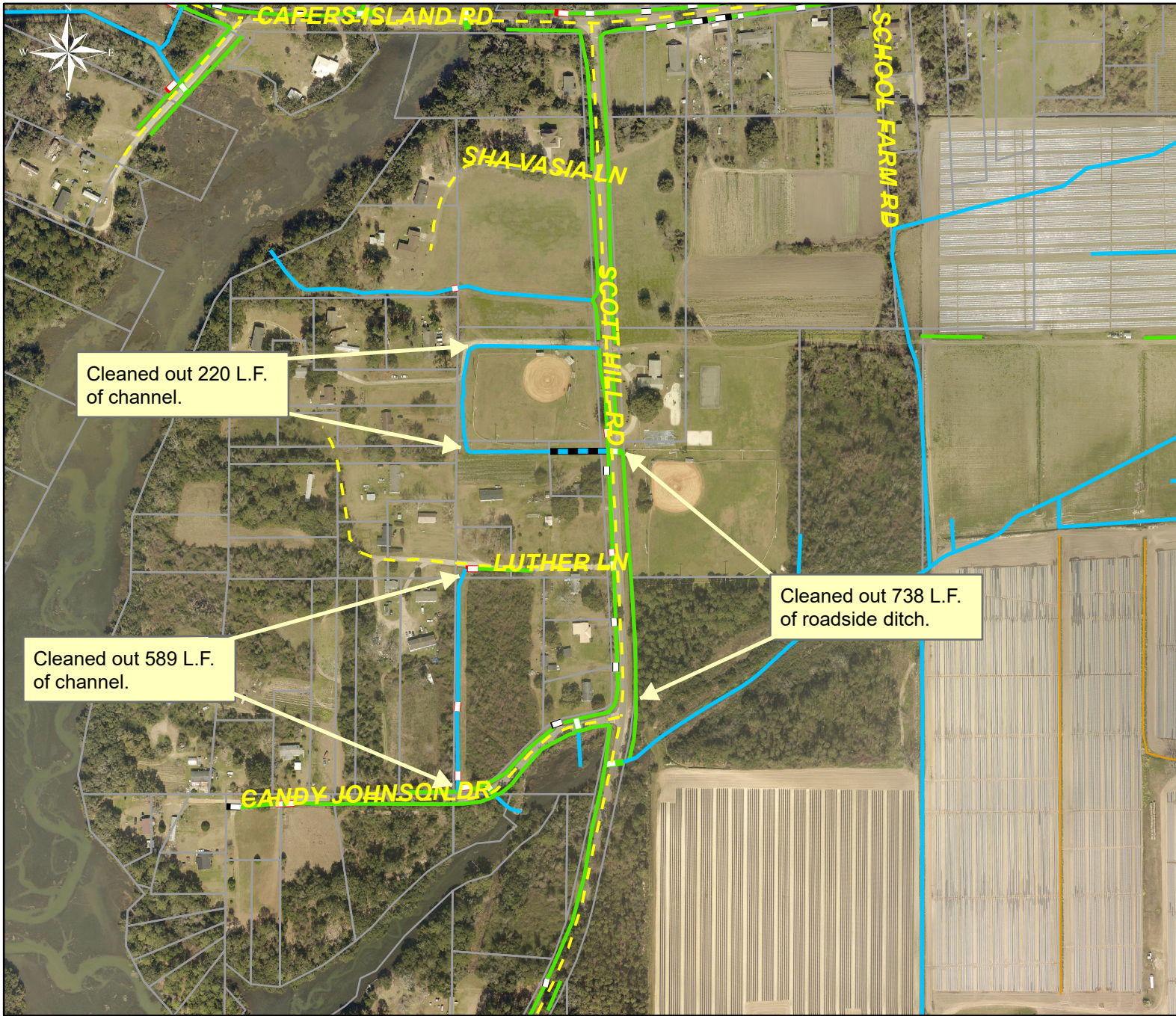


1 inch = 670 feet

Prepared By: BC Stormwater Management Utility

Date Print: 11/22/22

File: C:\project summaries map\Peaches Hill And Scott Hill Channel Map 1_2-22-566



Project: Peaches Hill
 Circle & Scott Hill
 Road
 Map #2

Activity: Routine/
 Preventive
 Maintenance

Project #:
 2022-566

Township/SW Dist:
 St Helena Island/8

Completed:
 June 2022

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

Prepared By: BC Stormwater Management Utility

Date Print: 11/22/22

File: C:\project summaries map\Peaches Hill And Scott Hill Channel Map 2_2-22-566



Project: Peaches Hill
 Circle & Scott Hill
 Road
 Map #3

Activity: Routine/
 Preventive
 Maintenance

Project #:
 2022-566

Township/SW Dist:
 St Helena Island/8

Completed:
 June 2022

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 70140 280 420 560
 Feet

1 inch = 420 feet

Prepared By: BC Stormwater Management Utility

Date Print: 11/22/22

File: C:\project summaries map\Peaches Hill And Scott Hill Channel Map 3_2-22-566



Beaufort County Public Works
Stormwater Infrastructure
Project Summary

Project Summary: Old Ben Road and Toomer Road

Activity: Routine/Preventive Maintenance

Duration: 05/31/2022 - 07/21/2022

Narrative Description of Project:

Project improved 5,827 L.F. of drainage system. Cleaned out 5,727 L.F. of roadside ditch and 100 L.F. of channel ditch. Replaced (1) access pipe and installed rip rap for erosion control.

2022-563 / Old Ben Road and Toomer Road	Labor Hours	Labor Cost	Equipment Cost	Material Cost	Contractor Cost	Indirect Cost	Total Cost
APRPL / Access pipe - replaced	24.00	\$693.36	\$67.24	\$392.50	\$0.00	\$428.00	\$1,581.10
AUDIT / Audit Project	2.00	\$65.48	\$0.00	\$0.00	\$0.00	\$40.42	\$105.90
HAUL / Hauling	136.00	\$3,936.16	\$2,592.16	\$1,315.02	\$0.00	\$2,429.44	\$10,272.78
HEQ / Haul equipment	20.00	\$583.32	\$228.72	\$150.90	\$0.00	\$360.04	\$1,322.98
HMT / Haul Material	8.00	\$276.32	\$152.48	\$264.81	\$0.00	\$170.56	\$864.17
ONJV / Onsite Job Visit	105.50	\$4,313.56	\$449.13	\$414.21	\$0.00	\$122.01	\$5,298.90
RSDCL / Roadside Ditch - Cleanout	320.00	\$9,218.72	\$981.96	\$1,166.04	\$0.00	\$5,690.56	\$17,057.28
UTLOC / Utility locates	1.00	\$43.38	\$0.00	\$0.00	\$0.00	\$26.78	\$70.16
Grand Total	616.50	\$19,130.30	\$4,471.69	\$3,703.48	\$0.00	\$9,267.81	\$36,573.27

Before

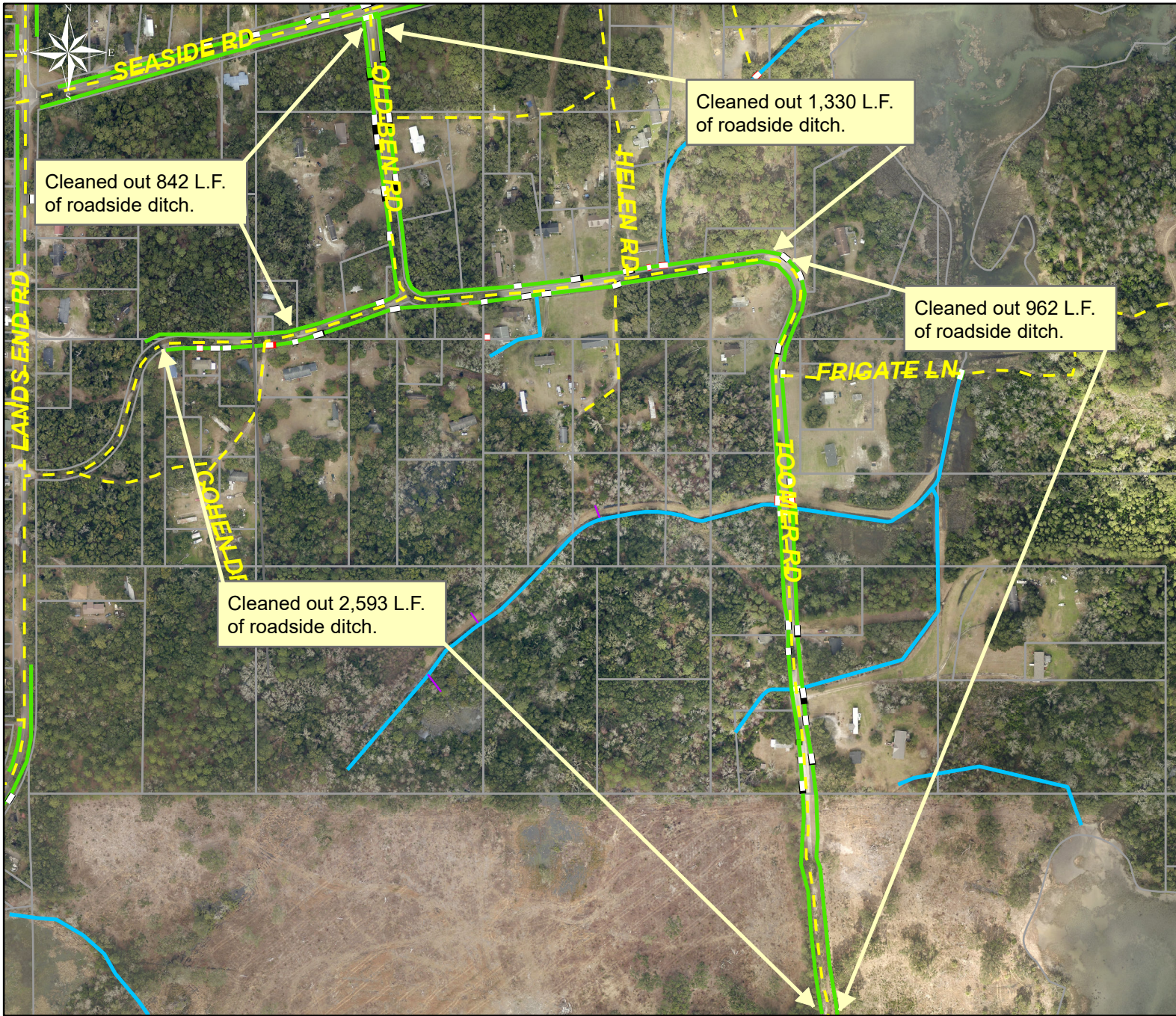


During



After





Project: Old Ben/
Toomer Road
Map #1

Activity: Routine/
Preventive
Maintenance

Project #:
2022-563

Township/SW Dist:
St Helena Island/8

Completed:
July 2022

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 70 140 280 420 560
Feet

1 inch = 420 feet

Prepared By: BC Stormwater Management Utility

Date Print: 11/30/22

File: C:\project summaries map\Old Ben\ Toomer Road_2022-563



Project: Old Ben/
Toomer Road
Map #2

Activity: Routine/
Preventive
Maintenance

Project #:
2022-563

Township/SW Dist:
St Helena Island/8

Completed:
July 2022

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

Prepared By: BC Stormwater Management Utility
Date Print: 12/06/22
File: C:\project summaries map\Old Ben\ tOOMER rOAD mAP 2_2022-563



Beaufort County Public Works
Stormwater Infrastructure
Project Summary

Project Summary: Hickory Hill Road

Activity: Routine/Preventive Maintenance

Duration: 05/17/2022 - 06/03/2022

Narrative Description of Project:

Project improved 4,324 L.F. of drainage system. Cleaned out 4,324 L.F. of roadside ditch.

2021-549 / Horse Island Drive

	Labor Hours	Labor Cost	Equipment Cost	Material Cost	Contractor Cost	Indirect Cost	Total Cost
AUDIT / Audit Project	1.00	\$32.74	\$0.00	\$0.00	\$0.00	\$20.21	\$52.95
HAUL / Hauling	96.00	\$2,451.68	\$1,067.36	\$487.86	\$0.00	\$1,513.36	\$5,520.26
RSDCL / Roadside Ditch - Cleanout	144.00	\$4,385.12	\$921.77	\$557.47	\$0.00	\$2,599.44	\$8,463.80
SG / Shoot Grade	48.00	\$1,255.44	\$104.40	\$125.36	\$0.00	\$774.96	\$2,260.16
UTLOC / Utility locates	5.00	\$142.18	\$0.00	\$0.00	\$0.00	\$79.70	\$221.88
Grand Total	294.00	\$8,267.16	\$2,093.53	\$1,170.69	\$0.00	\$4,987.67	\$16,519.05

Before

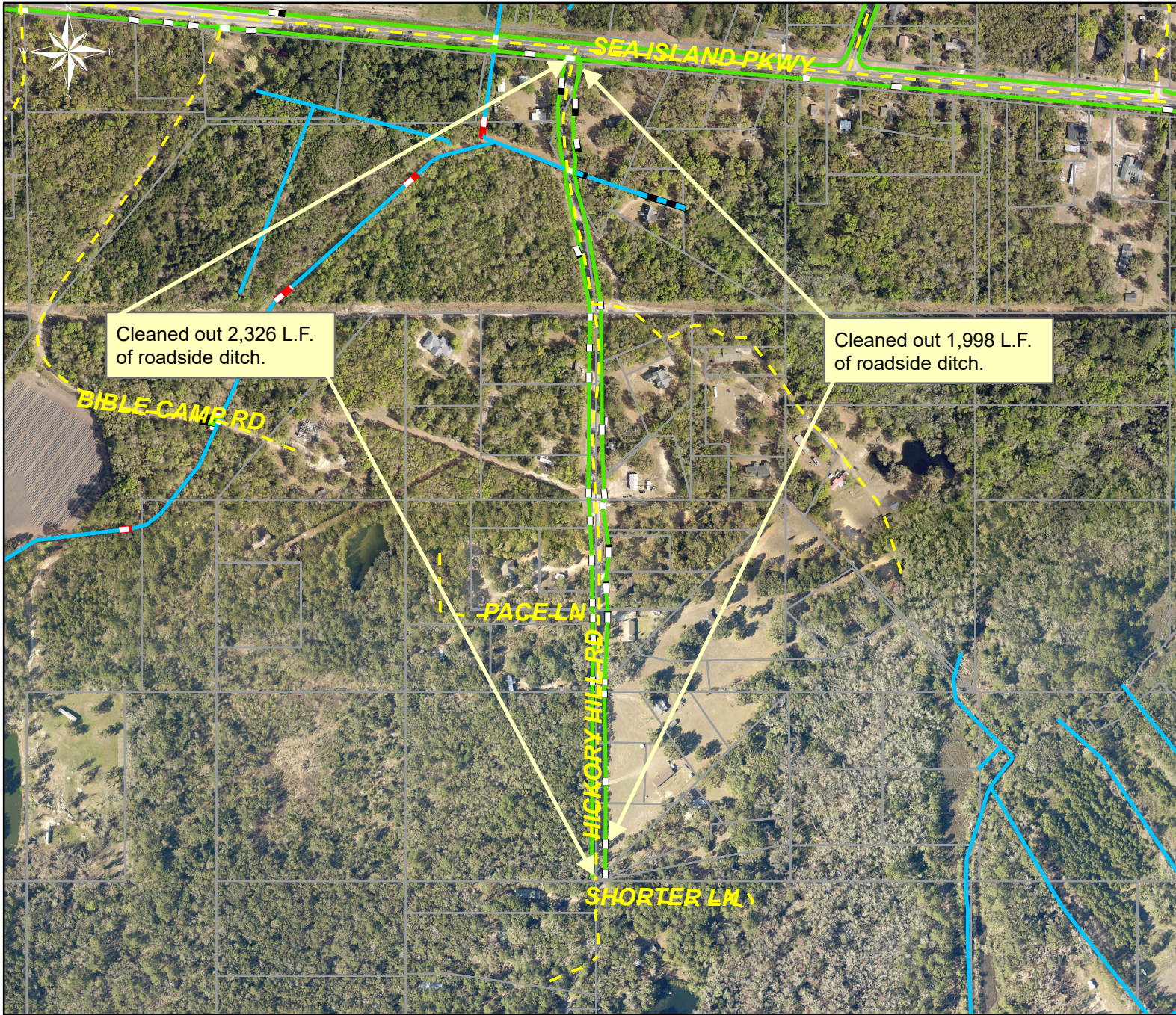


During



After





Project: Hickory Hill Road

Activity: Routine/ Preventive Maintenance














Project #: 2021-549

Township/SW Dist: St Helena Island/8

Completed: June 2022

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 87.5 175 350 525 700 Feet

1 inch = 500 feet

Prepared By: BC Stormwater Management Utility

Date Print: 11/30/22

File: C:\project summaries map\Hickory Hill Road_2021-549



Beaufort County Public Works
Stormwater Infrastructure
Project Summary

Project Summary: Gardner Drive & Warsaw Island Road

Activity: Routine/Preventive Maintenance

Duration: 02/23/2022 - 07/15/2022

Narrative Description of Project:

Project improved 16,662 L.F. of drainage system. Cleaned out 15,323 L.F. of roadside ditch and 1,339 of channel ditch. Jetted (55) driveway pipes, (4) crossline pipes and (3) access pipes.

2022-557 / Gardner Drive & Warsaw Island Road	Labor Hours	Labor Cost	Equipment Cost	Material Cost	Contractor Cost	Indirect Cost	Total Cost
AUDIT / Audit Project	6.00	\$196.44	\$0.00	\$0.00	\$0.00	\$121.26	\$317.70
CCO / Channel - cleaned out	60.00	\$1,620.52	\$232.90	\$214.50	\$0.00	\$1,082.64	\$3,150.56
DPJT / Driveway Pipe - Jetted	102.00	\$3,287.95	\$1,954.32	\$604.39	\$0.00	\$2,062.32	\$7,908.98
HAUL / Hauling	249.00	\$6,827.07	\$4,517.22	\$1,938.17	\$0.00	\$3,014.32	\$16,296.78
RSDCL / Roadside Ditch - Cleanout	586.50	\$15,219.35	\$3,122.19	\$1,856.16	\$0.00	\$8,047.78	\$28,245.48
UTLOC / Utility locates	1.50	\$65.07	\$0.00	\$0.00	\$0.00	\$40.17	\$105.24
Grand Total	1,005.00	\$27,216.40	\$9,826.63	\$4,613.22	\$0.00	\$14,368.49	\$56,024.75

Before

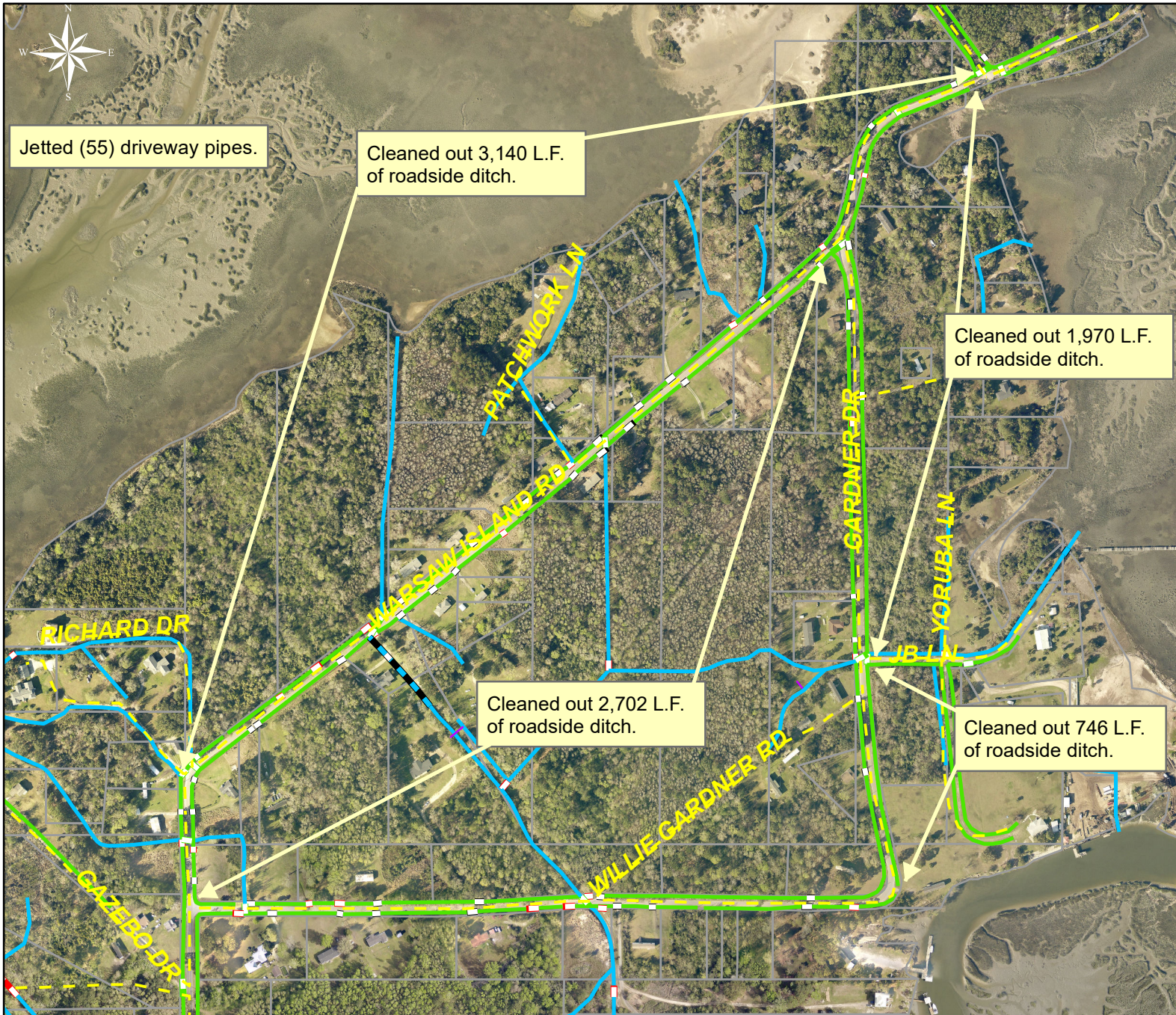


During



After





Project: Gardner Drive & Warsaw Island Road Map #1

Activity: Routine/ Preventive Maintenance














Project #: 2022-547

Township/SW Dist: St Helena Island/8

Completed: July 2022

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 87.5175 350 525 700 Feet

1 inch = 500 feet

Prepared By: BC Stormwater Management Utility

Date Print: 12/06/22

File: C:\project summaries map\Gardner Drive Map 1_2022-547



Project: Gardner Drive & Warsaw Island Road
Map #2

Activity: Routine/
Preventive
Maintenance

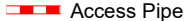






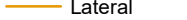





Project #:
2022-547

Township/SW Dist:
St Helena Island/8

Completed:
July 2022

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

Prepared By: BC Stormwater Management Utility

Date Print: 12/06/22

File: C:\project summaries map\Gardner Drive Map 2_2022-547



Project: Gardner Drive & Warsaw Island Road Map #3

Activity: Routine/ Preventive Maintenance














Project #: 2022-547

Township/SW Dist: St Helena Island/8

Completed: July 2022

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 55 110 220 330 440 Feet

1 inch = 330 feet

Prepared By: BC Stormwater Management Utility

Date Print: 12/06/22

File: C:\project summaries map\Gardner Drive Map 3_2022-547



Project: Gardner Drive & Warsaw Island Road Map #4

Activity: Routine/ Preventive Maintenance

Project #: 2022-547

Township/SW Dist: St Helena Island/8

Completed: July 2022

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

Jetted (1) crossline pipe.

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

0 55 110 220 330 440 Feet

1 inch = 330 feet

Prepared By: BC Stormwater Management Utility

Date Print: 12/07/22

File: C:\project summaries map\Gardner Drive Map 4_2022-547



Project: Gardner Drive & Warsaw Island Road Map #5

Activity: Routine/ Preventive Maintenance

Project #: 2022-547

Township/SW Dist: St Helena Island/8

Completed: July 2022

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

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

0 55 110 220 330 440 Feet

1 inch = 330 feet

Prepared By: BC Stormwater Management Utility

Date Print: 12/07/22

File: C:\project summaries map\Gardner Drive Map 5_2022-547



Beaufort County Public Works
Stormwater Infrastructure
Project Summary

Project Summary: William Jenkins Road

Activity: Routine/Preventive Maintenance

Duration: 04/28/2022 - 05/11/2022

Narrative Description of Project:

Project improved 1,728 L.F. of drainage system. Cleaned out 1,728 L.F. of roadside ditch.

2022-555 / William Jenkins Road

	Labor Hours	Labor Cost	Equipment Cost	Material Cost	Contractor Cost	Indirect Cost	Total Cost
AUDIT / Audit Project	1.00	\$32.74	\$0.00	\$0.00	\$0.00	\$20.21	\$52.95
HAUL / Hauling	32.00	\$853.93	\$457.44	\$277.47	\$0.00	\$527.12	\$2,115.96
RSDCL / Roadside Ditch - Cleanout	48.00	\$1,523.90	\$219.36	\$340.62	\$0.00	\$940.68	\$3,024.56
SG / Shoot Grade	16.00	\$418.48	\$34.80	\$23.45	\$0.00	\$258.32	\$735.05
UTLOC / Utility locates	1.00	\$43.38	\$4.35	\$0.00	\$0.00	\$26.78	\$74.51
Grand Total	98.00	\$2,872.43	\$715.95	\$641.54	\$0.00	\$1,773.11	\$6,003.03

Before



During



After



Project: William Jenkins Road

Activity: Routine/ Preventive Maintenance

Project #: 2022-555

Township/SW Dist: St Helena Island/8

Completed: May 2022



Legend

Drainage Type

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



1 inch = 330 feet

Prepared By: BC Stormwater Management Utility
Date Print: 11/16/22
File: C:\project summaries map\William Jenkins RD_2022-555



Beaufort County Public Works
Stormwater Infrastructure
Project Summary

Project Summary: Faculty Drive

Activity: Routine/Preventive Maintenance

Duration: 04/26/2022 - 05/23/2022

Narrative Description of Project:

Project improved 1,648 L.F. of drainage system. Cleaned out 1,648 L.F. of roadside ditch.

2022-557 / Faculty Drive

	Labor Hours	Labor Cost	Equipment Cost	Material Cost	Contractor Cost	Indirect Cost	Total Cost
AUDIT / Audit Project	1.00	\$32.74	\$0.00	\$0.00	\$0.00	\$20.21	\$52.95
HAUL / Hauling	32.00	\$827.01	\$609.92	\$243.88	\$0.00	\$510.48	\$2,191.29
RSDCL / Roadside Ditch - Cleanout	112.00	\$3,243.64	\$550.20	\$300.16	\$0.00	\$2,002.24	\$6,096.24
UTLOC / Utility locates	0.50	\$21.69	\$0.00	\$0.00	\$0.00	\$13.39	\$35.08
Grand Total	145.50	\$4,125.08	\$1,160.12	\$544.04	\$0.00	\$2,546.32	\$8,375.56

(No Pictures Available)



Project: Faculty Drive

Activity: Routine/ Preventive Maintenance

Project #: 2022-557

Township/SW Dist: Lady's Island/7

Completed: May 2022

Legend

Drainage Type

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

0 40 80 160 240 320 Feet

1 inch = 250 feet

Prepared By: BC Stormwater Management Utility

Date Print: 11/16/22

File: C:\project summaries map\Faculty Drive_2022-557



Beaufort County Public Works
Stormwater Infrastructure
Project Summary

Project Summary: Okatie Retrofit

Activity: Routine/Preventive Maintenance

Duration: 05/24/2022

Narrative Description of Project:

Removed debris from around the box grate and removed railroad ties from workshelf.

2022-562 / Okatie Retrofit

	Labor Hours	Labor Cost	Equipment Cost	Material Cost	Contractor Cost	Indirect Labor	Total Cost
AUDIT / Audit Project	0.50	\$16.37	\$0.00	\$0.00	\$0.00	\$10.11	\$26.48
DEBREM / Debris Removal - Jobsite	24.00	\$758.08	\$206.31	\$71.89	\$0.00	\$467.92	\$1,504.20
HAUL / Hauling	16.00	\$559.76	\$304.96	\$281.65	\$0.00	\$345.52	\$1,491.89
HEQ / Haul equipment	8.00	\$276.32	\$152.48	\$84.42	\$0.00	\$170.56	\$683.78
Grand Total	48.50	\$1,610.53	\$663.75	\$437.96	\$0.00	\$994.11	\$3,706.35

Before



During



After





Project: Okatie
Retrofit

Activity: Routine/
Preventive
Maintenance














Project #:
2022-562

Township/SW Dist:
Bluffton/4

Completed:
May 2022

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

Prepared By: BC Stormwater Management Utility

Date Print: 11/22/22

File: C:\project summaries map\Retrofit Okatie_2-22-562



Beaufort County Public Works
Stormwater Infrastructure
Project Summary

Project Summary: Horse Island Drive

Activity: Routine/Preventive Maintenance

Duration: 04/13/2022 - 09/19/2022

Narrative Description of Project:

Project improved 70 L.F. of drainage system. Reconstructed and cleaned out 70 L.F. of roadside ditch and repaired (2) washouts. Installed rip rap for erosion control.

2022-554 / Horse Island Drive

	Labor Hours	Labor Cost	Equipment Cost	Material Cost	Contractor Cost	Indirect Cost	Total Cost
AUDIT / Audit Project	1.50	\$49.11	\$0.00	\$0.00	\$0.00	\$30.32	\$79.43
CREC / Channel - reconstructed	48.00	\$1,516.16	\$382.48	\$345.96	\$0.00	\$935.84	\$3,180.44
FLAPGATI / Flap Gate - Inspection	2.00	\$83.44	\$8.70	\$12.36	\$0.00	\$0.00	\$104.50
HAND / HANDSEDED	12.00	\$379.04	\$95.62	\$215.53	\$0.00	\$233.96	\$924.15
HAUL / Hauling	52.00	\$1,796.60	\$991.12	\$2,473.30	\$0.00	\$1,108.96	\$6,369.98
RPWO / Repaired Washout	6.00	\$189.51	\$39.11	\$5.76	\$0.00	\$116.98	\$351.36
RRI / Rip Rap - Installed	24.00	\$635.44	\$34.80	\$41.40	\$0.00	\$412.00	\$1,123.64
Grand Total	145.50	\$4,649.30	\$1,551.83	\$3,094.31	\$0.00	\$2,838.06	\$12,133.49

Before



During



After





Project: Horse Island Drive
Map #1

Activity: Routine/
Preventive
Maintenance

Project #:
2022-554

Township/SW Dist:
St Helena Island/8

Completed:
September 2022

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

0 25 50 100 150 200
Feet

1 inch = 170 feet

Prepared By: BC Stormwater Management Utility
Date Print: 11/18/22
File: C:\project summaries map\Horse Island Drive_2022-554



Project: Horse Island Drive
Map #2

Activity: Routine/
Preventive
Maintenance














Project #:
2022-554

Township/SW Dist:
St Helena Island/8

Completed:
September 2022

Legend

Drainage Type

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

0 25 50 100 150 200
Feet

1 inch = 170 feet

Prepared By: BC Stormwater Management Utility

Date Print: 11/18/22

File: C:\project summaries map\Horse Island Drive Map 2_2022-554



Beaufort County Public Works
Stormwater Infrastructure
Project Summary

Project Summary: Bessies Lane

Activity: Routine/Preventive Maintenance

Duration: 01/13/2022 - 06/24/2022

Narrative Description of Project:

Project improved 747 L.F. of drainage system. Cleaned out 747 L.F. of roadside ditch.

2022-532 / Bessies Lane

	Labor Hours	Labor Cost	Equipment Cost	Material Cost	Contractor Cost	Indirect Cost	Total Cost
AUDIT / Audit Project	1.00	\$32.74	\$0.00	\$0.00	\$0.00	\$20.21	\$52.95
HAUL / Hauling	25.00	\$776.88	\$476.50	\$106.19	\$0.00	\$430.36	\$1,789.93
ONJV / Onsite Job Visit	2.00	\$83.44	\$8.70	\$12.36	\$0.00	\$0.00	\$104.50
RSDCL / Roadside Ditch - Cleanout	60.00	\$1,366.24	\$360.69	\$152.11	\$0.00	\$763.96	\$2,643.00
Grand Total	88.00	\$2,259.30	\$845.89	\$270.66	\$0.00	\$1,214.53	\$4,590.38

Before



During

(No Picture Available)

After





Project: Bessies Lane

Activity: Routine/
Preventive
Maintenance

Project #:
2022-532

Township/SW Dist:
Port Royal Island/6,9

Completed:
June 2022

Legend

Drainage Type

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



1 inch = 130 feet

Prepared By: BC Stormwater Management Utility

Date Print: 11/21/22

File: C:\project summaries map\Bessie Lane_2022-532



Beaufort County Public Works
Stormwater Infrastructure
Project Summary

Project Summary: Dash Road

Activity: Routine/Preventive Maintenance

Duration: 07/13/2021 - 06/30/2022

Narrative Description of Project:

Project improved 4,471 L.F. of drainage system. Cleaned out 2,872 L.F. of channel and 466 L.F. of roadside ditch and repaired (1) sinkhole. Bush hogged 1,133 L.F. of roadside ditch.

2022-500 / Dash Road

	Labor Hours	Labor Cost	Equipment Cost	Material Cost	Contractor Cost	Indirect Cost	Total Cost
AUDIT / Audit Project	1.00	\$32.74	\$0.00	\$0.00	\$0.00	\$20.21	\$52.95
CCO / Channel - cleaned out	64.00	\$1,625.15	\$447.90	\$194.99	\$0.00	\$762.96	\$3,031.00
HAUL / Hauling	84.00	\$2,551.68	\$1,630.38	\$1,148.49	\$0.00	\$1,477.01	\$6,807.56
RDBH / Roadside ditch - bushhogged	24.00	\$790.40	\$134.56	\$88.56	\$0.00	\$512.48	\$1,526.00
RSDCL / Roadside Ditch - Cleanout	16.00	\$526.56	\$120.68	\$46.76	\$0.00	\$325.04	\$1,019.04
SD / Soft Digging	10.00	\$326.59	\$191.60	\$49.56	\$0.00	\$201.60	\$769.35
STAGING / Staging Materials/Equipment	12.00	\$395.22	\$60.07	\$61.26	\$0.00	\$243.96	\$760.51
UTLOC / Utility locates	1.00	\$24.70	\$0.00	\$0.00	\$0.00	\$13.23	\$37.93
WSREP / Workshelf - Repair	24.00	\$533.02	\$110.04	\$78.91	\$0.00	\$213.12	\$935.09
Grand Total	236.00	\$6,806.06	\$2,695.23	\$1,668.53	\$0.00	\$3,769.61	\$14,939.42

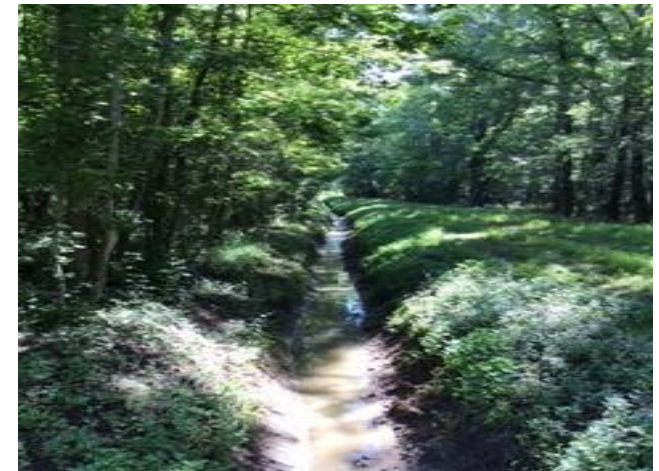
Before



During

(No Picture Available)

After



Project: Dash Road
Map #1

Activity: Routine/
Preventive
Maintenance

Project #:
2022-500

Township/SW Dist:
Sheldon/5

Completed:
June 2022



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



1 inch = 250 feet

Prepared By: BC Stormwater Management Utility
Date Print: 11/22/22
File: C:\project summaries map\Dash Road_2022-500

Project: Dash Road
Map #2

Activity: Routine/
Preventive
Maintenance

Project #:
2022-500

Township/SW Dist:
Sheldon/5

Completed:
June 2022



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: 11/22/22

File: C:\project summaries map\Dash Road Map 2_2022-500



Beaufort County Public Works
Stormwater Infrastructure
Project Summary

Project Summary: St. Helena Island Bush Hog

Activity: Routine/Preventive Maintenance

Duration: 10/08/2021 - 06/27/2022

Narrative Description of Project:

Second Rotation: 10/08/2021 - 06/27/2022. Project improved 49,155 L.F. of drainage system. Bush hogged 41,564 L.F. of channel and 7,591 L.F. of roadside ditch. This project consisted of the following areas: Shed Road (721 L.F.), St Helena Island Library (4,061 L.F.), Faith Memorial Church (1,481 L.F.), Orange Grove Road (2,801 L.F.), Thompson Estate Circle (1,536 L.F.), James D Washington Road (396 L.F.), Jack Johnson Drive (1,420 L.F.), Bridgewood Road (1,550 L.F.), Storyteller Road (715 L.F.), Sycamore Street (1,484 L.F.), David Green Road (1,244 L.F.), Scott Ball Field (3,710 L.F.), Candy Johnson Drive (900 L.F.), Peaches Hill Circle (18,886 L.F.), Wiggfall Road (450 L.F.), Adam Church (336 L.F.), No Man Land Road (1,130 L.F.), Toomer Road (5,774 L.F.).

2022-300A / St Helena Bush Hog

	Labor Hours	Labor Cost	Equipment Cost	Material Cost	Contractor Cost	Indirect Labor	Total Cost
AUDIT / Audit Project	2.00	\$65.48	\$0.00	\$0.00	\$0.00	\$40.42	\$105.90
BUSH / Bush Hogged	16.00	\$439.27	\$34.80	\$23.38	\$0.00	\$338.72	\$836.17
CBH / Channel- bushhogged	520.00	\$16,667.86	\$4,900.89	\$2,257.51	\$0.00	\$10,371.76	\$34,198.02
RDBH / Roadside ditch - bushhogged	46.00	\$1,534.33	\$320.28	\$206.09	\$0.00	\$839.86	\$2,900.56
STAGING / Staging Materials/Equipment	16.00	\$439.27	\$34.80	\$20.64	\$0.00	\$338.72	\$833.43
Grand Total	600.00	\$19,146.21	\$5,290.77	\$2,507.62	\$0.00	\$11,929.48	\$38,874.08

Before

During

After

(No Pictures Available)

(No Pictures Available)





Beaufort County Public Works
Stormwater Infrastructure
 Project Summary

Project Summary: Lady's Island Bush Hog

Activity: Routine/Preventive Maintenance

Duration: 10/20/2021 - 11/30/2021

Narrative Description of Project:

First Rotation: 10/20/2021 - 11/30/2021. Project improved 23,290 L.F. of drainage system. Bush hogged 21,410 L.F. of channel and 1,880 L.F. of roadside ditch. This project consisted of the following areas: Distant Island Drive (785 L.F.), Eustis Landing Road (2,765 L.F.), Airport Circle (3,222 L.F.), Faculty Drive (1,619 L.F.), Alumni Road (2,199 L.F.), Short Landing Road (1,659 L.F.), Holly Hall Road (495 L.F.), Thomas Sumter Street (2,864 L.F.), Frances Marion Circle (500 L.F.), Wade Hampton Drive (1,139 L.F.), Jasper Lane (739 L.F.), John Calhoun Street (3,478 L.F.), and Sams Point Road (330 L.F.).

2022-302 / Lady's Island Bush Hog

	Labor Hours	Labor Cost	Equipment Cost	Material Cost	Contractor Cost	Indirect Labor	Total Cost
AUDIT / Audit Project	1.50	\$49.11	\$0.00	\$0.00	\$0.00	\$30.32	\$79.43
CBH / Channel- bushhogged	276.00	\$7,950.67	\$2,800.80	\$893.73	\$0.00	\$5,041.44	\$16,686.64
HAUL / Hauling	8.00	\$257.80	\$155.96	\$48.45	\$0.00	\$163.20	\$625.41
RDBH / Roadside ditch - bushhogged	8.00	\$263.12	\$187.30	\$66.93	\$0.00	\$170.56	\$687.91
Grand Total	293.50	\$8,520.70	\$3,144.06	\$1,009.11	\$0.00	\$5,405.52	\$18,079.38

Before



During



After



Draft SWUB Schedule 2023

Date	Time	Location
Wednesday, February 15 th	2:00 PM	County Council Chambers 100 Ribaut Rd
Wednesday, April 19th	2:00 PM	County Council Chambers 100 Ribaut Rd
Wednesday, May 17th	2:00 PM	County Council Chambers 100 Ribaut Rd
Wednesday, July 19th	2:00 PM	County Council Chambers 100 Ribaut Rd
Wednesday, September 20th	2:00 PM	County Council Chambers 100 Ribaut Rd
Wednesday, November 15th	2:00 PM	County Council Chambers 100 Ribaut Rd
Wednesday, December 13th	2:00 PM	County Council Chambers 100 Ribaut Rd



Current Stormwater Permit and Review Fees



- Single Family - \$25
- Commercial - \$75



Comparison: Town of Bluffton



- Residential Subdivision or Commercial - \$250/acre disturbed plan review fee
- \$150/disturbed acre Resubmittal fee
- \$350 Waiver Request
- Residential Subdivision or Commercial Inspection Fees - \$150/inspection for 0.0-0.999 acres; \$250/inspection for 1.0-5.0 acres; \$350/inspection for 5.01-10.0 acres; \$450/inspection for 10.01+ acres
- Single Family Residential not part of a subdivision – Exempt
- Single Family Residential Inspection Fees - \$25/inspection; \$100/inspection resulting from a notice of violation; \$200 to remove a stop work order.



Comparison: Charleston County



- Residential Lot - \$100
- Commercial - \$100 if disturbing 0.5 acres or less, \$200 if disturbing 0.51-1.0 acres, \$500 + \$200/additional acre for greater than 1.0 acres
- Master Drainage Plan Review - \$500
- Major Modification - \$500 + \$200/additional acre of increased disturbed area
- Variance Request \$250
- Affordable and workforce housing – 50% of above fee schedule



Comparison: Town of Summerville



- Residential Lot – no fee if under 1 acre, \$200/acre disturbed if greater than 1 acre. \$40 2nd review flat fee, \$20 flat fee for 3rd and 4th review
- Single Family Subdivision, 0.5 acre or greater - \$200/disturbed acre. \$500 2nd review flat fee, \$250 flat fee for 3rd and 4th review
- Multi Family Residential, 0.5 acre or greater - \$400/disturbed acre. \$500 2nd review flat fee, \$250 flat fee for 3rd and 4th review
- Non-Residential, 0.5 acre or greater - \$400/disturbed acre. \$500 2nd review flat fee, \$250 flat fee for 3rd and 4th review
- Major Modification, any project - \$300
- Application for variance review, any project - \$600 + \$600 per fact finding meeting



Proposed Permit Review Fees



- Residential lot - \$100
- Residential Subdivision or Commercial - \$250/acre disturbed plan review fee, \$150/acre disturbed resubmittal fee (when greater than 5 comments needed addressing)
- Master Drainage Plan Review - \$500
- Waiver Request - \$250



Southern Lowcountry Design Manual Technical Subcommittee

Manual Edits – Third Draft – October 25, 2022

Clarify as-builts must be submitted prior to final inspection under Chapter 2.3.2.

In 2.3.2 Final Inspection:

Final Inspection. The applicant is required to contact the Town of Bluffton and the professional engineer responsible for certifying the as-built SWMP to schedule a final inspection one week prior to the completion of a BMP construction to schedule a final inspection of the BMP. The professional engineer responsible for certifying the as-built SWMP shall provide an inspection report and punch-list items to be performed by applicant to The Town of Bluffton. Upon owner/applicant request and Town of Bluffton receipt of Final Inspection report and punch list from the professional engineer responsible for certifying the as-built SWMP the Town of Bluffton will conduct a final inspection to review project work, punch list and determine if any additional punch list items are required to be performed. ~~As-builts, all requisite paperwork, and close out materials must be submitted to and approved by the Town of Bluffton for final approval. Final approval of the BMP will not be issued until As-builts are submitted and approved by the Town of Bluffton and all requisite paperwork and close out materials have been submitted to and approved by the Town of Bluffton.~~

Revise to change Final Construction to Notice of Termination for inspection reports.

2.3.3 ~~Final Construction~~ Notice of Termination (NOT) Inspection Reports (*change to NOT vs. Final to not confuse with final BMP inspections*)

Upon notification of the applicant, the Town of Bluffton will conduct an ~~final~~ NOT inspection to determine if the complete work is constructed in accordance with approved plans and the intent of this Manual and the Unified Development Ordinance. Within 21 days of ~~the final inspection construction site completion~~, the applicant must submit an as-built package, as required by the Design Manual and/or As-built submittal checklist, as may be provided by the Town of Bluffton. The As-Built submittal must be certified by a registered professional engineer licensed in the State of South Carolina. For a project consisting entirely of work in the PROW, the submission of a Record Drawing certified by an officer of the project contracting company is acceptable if it details the as-built construction of the BMPs, related stormwater infrastructure, and land covers.

A registered professional engineer licensed in South Carolina is required to certify as-built SWMPs and state that “all activities including clearing, grading, site stabilization, the preservation or creation of pervious land cover, the construction of drainage conveyance systems, the construction of BMPs, and all other stormwater-related components of the project were accomplished in strict accordance with the approved SWMP and specifications. Furthermore, to the best of my knowledge and belief this As-Built truly represents existing field conditions including but not limited to sizes, diameters, dimensions, horizontal location, line and

grade, and elevation”. As stated in Section 2.2.2 Resubmission of Stormwater Management Plans, all plan changes are subject to the Town of Bluffton approval. The as-built certification must be on the original SWMP.

Upon completion, these plans will be submitted to the Town of Bluffton for processing. The estimated time for processing will be two weeks (10 working days), after which the plans will be returned to the engineer. The Town of Bluffton will provide the applicant with written notification of the ~~final~~ NOT inspection results.

2.4.33-4 Post-Construction BMP Inspection for Preventative Maintenance

Add statement on certification section of checklist that makes submitters acknowledge that incomplete submittals may be returned without a full review

- Certification Statement will now read “The engineering features of all stormwater best management practices (BMPs), stormwater infrastructure, and land covers (collectively the “Facility”) have been designed/examined by me and found to be in conformity with the standard of care applicable to the treatment and disposal of stormwater pollutants. The Facility has been designed in accordance with the specification required under Chapter 99 of the Beaufort County Ordinance. **Further, I acknowledge that incomplete submittals may be returned without a full review and that new material supplied in response to comments may result in new comments.**”

Add Compliance Calculator Sheets/water quality requirements as an item for final review on Appendix D Design Checklist

- Updated Appendix D attached

10% rule

- Add language as a stand-alone paragraph at the end of Section 3.8 Extreme Flood Requirement:
10% Rule –
Flooding problem areas exist in many locations in the Southern Lowcountry to the point that stormwater controls have become overwhelmed where controls were never adequately designed or installed to control runoff. The ability to maintain a system is also suspected to contribute to some of the frequent flooding. In an effort to relieve existing flooding problems, <insert jurisdiction> requires this additional design criteria during the site permitting process. Acceptable means of determining the hydrology of the study area may include StreamStats (if the drainage area meets the minimum acceptable area required by StreamStats), NRCS (TR-55, TR-20), or any approved hydrology methodology used while in stormwater or drainage design. Drainage areas (utilizing County obtained LIDAR) can be delineated using automated tools found in software packages, GIS,

or by hand. Automated delineated drainage areas must still be reviewed by the plan reviewer for accuracy.

Typically, County obtained LIDAR may be utilized for development of channel contours to be used in the hydraulic model. Using this information, a simplistic HEC-RAS model (or suitable alternative including PCSWMM, XPSWMM, ICPR) can be established to determine the hydraulic performance of the channel. In the event the channel is not reflected in the LIDAR data, near survey grade GPS units can be utilized to collect the general channel alignment, with hand measurements taken periodically to determine channel dimensions. Culverts and bridges dimensions and elevations within the study limits may be obtained using near survey grade GPS locating and measuring the depth from the roadway surface. These measurements can then be converted to an elevation based off the LIDAR elevation of the roadway. Generally speaking, a PLS sealed survey is not needed for this application. If the area includes a FEMA regulated floodway, the FEMA effective model may be utilized where appropriate. However, depending on the magnitude of the impact and the specific conditions of the analysis, additional information and data may be necessary such as collecting PLS field run topography, establishing building elevations and culvert sizes, or investigating specific drainage concerns or complaints may be required. Land use can be determined through recent aerial imagery obtained from the County or by using National Land Cover Database, Zoning Maps, or other data sets if approved by the County.

Additional resources for this exercise may include Coastal Stormwater Supplement to the Georgia Stormwater Management Manual, Spreadsheet for the South Carolina Synthetic Unit Hydrograph Method. Attenuation patterns of other stormwater ponds in the contributing drainage area of the watershed should not be assumed without valid documentation.

Infiltration rates- The black is existing text from the manual and the red represents edits.

4.2.3 - Site Conditions & Physical Feasibility While some BMPs can be applied almost anywhere, others require specific conditions to be most effective. Physical feasibility refers to the physical site conditions necessary to effectively design and install a BMP. Table 4.2 includes the feasibility factors listed below.

- Contributing Drainage Area (CDA): Volume of water received by a practice can affect BMP performance. This column indicates the contributing drainage areas that typically apply for each BMP.
- Slope: This column describes the influence that site slope can have on the performance of the BMP. It indicates the maximum slope on which the BMP should be installed.
- Minimum Head: This column provides an estimate of the minimum amount of elevation difference needed within the BMP, from the inflow to the outflow, to allow for gravity operation.
- Minimum Depth to Seasonal High Water Table: This column indicates the minimum distance that should be provided between the bottom of the stormwater management practice and the top of the water table.
- Soils: This column describes the influence that the underlying soils (i.e., hydrologic soil groups) can have on the performance of the stormwater management practice.

Infiltration rates modeled in hydrologic and hydraulic computations must be verified by a licensed professional (geotechnical engineer or soil scientist). Maximum infiltration rate modeled in these calculations should be less than or equal to 7 inches per hour for any of the BMPs listed in this chapter.

In 4.3.1 - Soils and Underdrains Soil conditions do not typically constrain the use of bioretention, although they do determine whether an underdrain is needed. Underdrains ~~may be~~ **are** required if the measured permeability of the underlying soils is ~~less than~~ **between** 0.3 inches per hour **and 1 inch per hour**. When designing a bioretention practice, designers must verify soil permeability by using the on-site soil investigation methods provided in Appendix B for Geotechnical Information Requirements for Underground BMPs. Impermeable soils will require an underdrain **and may not be suitable for bioretention**. ~~For fill soil locations,~~ Geotechnical investigations are required to **support modeled infiltration rates and** determine if it is necessary to use an impermeable liner and/or underdrain. **Modeled permeability must be supported by a geotechnical report.**

4.3.4 - Ponding Depth The recommended surface ponding depth is 6 to 12 inches. Minimum surface ponding depth is 3 inches (averaged over the surface area of the BMP). Ponding depths can be increased to a maximum of 18 inches. However, when higher ponding depths are utilized, the design must consider carefully issues such as safety, fencing requirements, aesthetics, the viability and survival of plants, and erosion and scour of side slopes. This is especially true where bioretention areas are built next to sidewalks or other areas where pedestrians or bicyclists travel. Shallower ponding depths (typically 6 to 12 inches) are recommended for streetscape bioretention (B-2), engineered tree boxes (B-3), and stormwater planters (B-4).

The discharge rate of the bioretention area when evaluating the 10- and 25- year, 24-hour storm events should not exceed that of the contributing drainage area with predevelopment slope and CN of 39. Note that utilizing bioretention for peak attenuation for storm events with return periods of greater than 25 years is beyond the scope of this BMP and that bioretention areas should be in sequence with other BMPs as not to be surcharged by flows that disrupt the integrity of the landscaping.

Irrigation Ponds - All mention of irrigation ponds receiving Stormwater Retention Volume (SWRV) credits have been removed and replaced opportunity for cost-savings.

original text in black, **edits in red**

1. Site Conditions & Physical Feasibility

While some BMPs can be applied almost anywhere, others require specific conditions to be most effective. Physical feasibility refers to the physical site conditions necessary to effectively design and install a BMP. Table 4.2 includes the feasibility factors listed below.

- Contributing Drainage Area (CDA): Volume of water received by a practice can affect BMP performance. This column indicates the contributing drainage areas that typically apply for each BMP.

- Slope: This column describes the influence that site slope can have on the performance of the BMP. It indicates the maximum slope on which the BMP should be installed.
- Minimum Head: This column provides an estimate of the minimum amount of elevation difference needed within the BMP, from the inflow to the outflow, to allow for gravity operation.
- Minimum Depth to Seasonal High Water Table: This column indicates the minimum distance that should be provided between the bottom of the stormwater management practice and the top of the water table.
- Soils: This column describes the influence that the underlying soils (i.e., hydrologic soil groups) can have on the performance of the stormwater management practice.

~~Irrigation from ponds is not included as a specific best management practice in this Manual but is included as Rainwater Harvesting (§4.5). Requirements and guidance for irrigation use of retained stormwater have been included in Hydrologic and Hydraulic Analysis (ARC requirements in §3.7.2); Ponds (§4.10); and Rainwater Harvesting Treatment and Management Requirements (Appendix J). The Rainwater Harvesting Calculator in Appendix K will be used to determine the SWRv credit for ponds used for irrigation, and then these ponds are entered in the Compliance Calculator in Appendix H as rainwater harvesting. Instructions for these entries in the Compliance Calculator are included in Appendix G Compliance Calculator Instructions.~~

In 4.7 under Definition:

~~Rainwater stored in a settling pond may only be used for landscape irrigation. Pond design criteria in Section 4.10 and landscaping criteria of Section 4.7.5 shall be followed.~~

In 4.7.4 under Rainwater Harvesting Storage Volume Calculator:

The design specification provided in this section follows the Rainwater Harvesting Storage Volume Calculator Appendix J1. The spreadsheet uses daily rainfall data from January 1, 2007 to December 31, 2019 to model performance parameters of the cistern under varying CDAs, demands on the system and cistern size.

~~The size of ponds used for irrigation, their irrigation area and characteristics of soil and land use can be entered in the calculator to determine stormwater volume retained.~~ The runoff that reaches the cistern each day is added to the water level that existed in the cistern the previous day, with all of the total demands subtracted on a daily basis. If any overflow is realized, the volume is quantified and recorded. If the cistern runs dry (reaches the cut-off volume level), then the volume in the cistern is fixed at the low level. A summary of the water balance for the system is provided below.

In 4.7.4 under Storage Volume Results:

The Rainwater Harvesting Storage Volume Calculator determines the average daily volume of water in the cistern for a range of cistern sizes. From this value, the available storage volume for the 85th and 95th percentile storm can be calculated; it is simply the difference between the cistern size and the average daily volume. The available storage volume for the selected cistern size should be used as an input to the General Retention Compliance Calculator. ~~If a pond is used for irrigation, stormwater volume is entered in the General Retention Compliance Calculator in the rainwater harvesting Ponds row rather than the stormwater pond row to~~

produce runoff reduction and pollutant removal credit with the other BMPs for the stormwater plan.

1. Ponds

Ponds				
Definition: Stormwater storage practices that consist of a combination of a permanent pool, micropool, or shallow marsh that promote a good environment for gravitational settling, biological uptake, and microbial activity.				
Site Applicability		BMP Performance Summary		
Land Uses	Required Footprint	WQ Improvement: Moderate to High		
<ul style="list-style-type: none"> Urban Suburban Rural 	Medium	TSS ¹	Total N ¹	Bacteria ¹
		80%	30%	60%
		Runoff Reductions		
Construction Costs	Maintenance Burden	Volume		
Moderate	Moderate	Low		
Maintenance Frequency:		SWRv		
Routine	Non-Routine	0%		
At least annually	Every 5–7 years			
Advantages/Benefits		Disadvantages/Limitation		
<ul style="list-style-type: none"> Moderate to high pollutant removal Can be designed as a multi-functional BMP Cost effective Good for sites with high water table and/or poorly drained soils Wildlife habitat potential High community acceptance when integrated into a development 		<ul style="list-style-type: none"> Requires large amount of flat land (1-3% of CDA) Must be properly designed, installed, and maintained to avoid nuisance problems Routine sediment cleanout may be needed Potential for thermal impacts downstream 		
Components		Design considerations		
<ul style="list-style-type: none"> Conveyance Forebay Ponding area with available storage Micropool Spillway system(s) Liners, as needed 		<ul style="list-style-type: none"> CDA of at least 10 acres and slopes <15% Use CN adjustment factor ARC III for CDA that are irrigated with harvested rainwater Minimum length to width ratio = 3:1 Maximum depth of permanent pool = 8' 3:1 side slopes or flatter around pond perimeter 		

Maintenance Activities	
<ul style="list-style-type: none"> Remove debris from inlet and outlet structures Maintain side slopes/remove invasive vegetation 	<ul style="list-style-type: none"> Monitor sediment accumulation and remove periodically

Credited pollutant load removal

4.12.3 Pond Pretreatment Criteria

Sediment forebays are considered to be an integral design feature to maintain the longevity of all ponds. A forebay must be located at each major inlet to trap sediment and preserve the capacity of the main treatment cell. The following criteria apply to forebay design:

- A major inlet is defined as an individual storm drain inlet pipe or open channel serving at least 10% of the pond’s CDA.
- The forebay consists of a separate cell, formed by an acceptable barrier (e.g., an earthen berm, concrete weir, gabion baskets, etc.).
- The forebay should be between 4 and 6 feet deep and must be equipped with a variable width aquatic bench for safety purposes. The aquatic bench should be 4 to 6 feet wide at a depth of 1 to 2 feet below the water surface. Small forebays may require alternate geometry to achieve the goals of pretreatment and safety within a small area.
- The forebay shall be sized to contain 0.1 inches of runoff from the contributing drainage impervious area. The relative size of individual forebays should be proportional to the percentage of the total inflow to the pond.
- The bottom of the forebay may be hardened (e.g., with concrete, asphalt, or grouted riprap) to make sediment removal easier.
- The forebay must be equipped with a metered rod in the center of the pool (as measured lengthwise along the low-flow water travel path) for long-term monitoring of sediment accumulation.
- Exit velocities from the forebay shall be non-erosive or an armored overflow shall be provided. Non-erosive velocities are 4 feet per second for the 2-year event, and 6 feet per second for the 25-year event.
- Direct maintenance access for appropriate equipment shall be provided to each forebay.
- Designers of ponds that are used for irrigation should be mindful of pretreatment provisions that help prevent irrigation system pluggages and operational issues.

MEP Submittals

original text in black, **edits in red**

In Section 3.9 - Maximum Extent Practicable

This evaluation is intended to be evaluated, considered, and presented during the concept review stage of the Stormwater Management Plan for the proposed development.

1. Present a SWMP for the proposed development that meets stormwater retention volume (SWRv), and peak flow requirements for channel and extreme flood protection for the proposed development and identify the reasons that this plan cannot be implemented.
2. Demonstrate why SWRv cannot be achieved by a reduction of impervious and disturbed area and/or increase in green space area on site.
3. Demonstrate how Better Site Design (BSD) has been implemented to the maximum extent practicable or document site restrictions that prevent BSD application.
 1. What efforts have been made to reduce impervious cover in the project limits of disturbance?
 2. ~~Are~~ What natural assets, such as forests, wetlands, and areas of environmental or archaeological significance, are protected or conserved within the Development? Provide the accumulated acreage of land cover within the development that is protected.
 3. Is stream restoration considered?
 4. Are structural and non-structural BMPs used in this project? Provide a list, subject to change, of structural and non-structural BMPs used, the Contributing Drainage Area, the BMP surface area, and the storage volume provided by the individual BMP.
4. List site restrictions that prevent or otherwise limit effective use of stormwater BMPs.
5. Provide SWRv and Pollutant Load reductions for alternatives analyzed as compared to pollutant load reductions for full SWRv.
6. What site limitations prevent retention of the SWRv or meeting the required peak discharge limits?
7. Is there off-site opportunity and capacity in the same drainage catchment to meet the volume/peak flow and/or SWRv requirements for the site's contributing drainage area(s)?
8. Does the publicly maintained stormwater drainage system have sufficient capacity for the development site's extreme flood peak flow?
9. Develop a cost versus aggregated stormwater retention volume achieved curve for the site's contributing drainage area (e.g. cost vs. % SWRv met). ~~A minimum of five cost points with various BMP iterations/%SWRv met are necessary for the curve. One of the cost points shall be for 100% of the SWRv.~~ Provide a minimum of five various BMP iterations with their associated costs and %SWRv met by each BMP iteration. One of the cost points shall be for 100% of the SWRv. If it's available, off-site capacity cost may be included in your evaluation. Identify the inflection point of the cost curve to select the optimal solution where increased cost does not result in increased effectiveness. What is the projected cost to meet the SWRv with filtering BMPs with underdrains and green roofs? What alternatives have been considered to reduce impervious and disturbed area and/or increase green space area on site.
10. The optimum aggregated retention value and BMP selection and size analysis must be submitted as a part of the stormwater management plan for the project.
11. Offsite stormwater volume retention credit or fee-in-lieu documents will be required for project completion.

The MEP submittal must provide documentable evidence of the process the applicant has performed that demonstrates the restrictions to the use and implementation of BMPs to meet the requirements of this Manual in whole or in part.



BEAUFORT COUNTY
STORMWATER MANAGEMENT UTILITY BOARD AGENDA
Wednesday, February 15th 2023, 2:00 p.m.
County Council Chambers, 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 – 2:00p.m.
 - A. Approval of Agenda
 - B. Approval of Minutes – December 14th, 2022 ([backup](#))
2. INTRODUCTIONS
3. PUBLIC COMMENT
4. REPORTS
 - A. Utility Update – Katie Herrera ([backup](#))
 - B. Monitoring Update – Katie Herrera ([backup](#))
 - C. Stormwater Implementation Committee Report – Katie Herrera([backup](#))
 - D. Stormwater Related Projects – Julianna Corbin ([backup](#))
 - E. Upcoming Professional Contracts Report – Julianna Corbin ([backup](#))
 - F. Regional Coordination – Katie Herrera ([backup](#))
 - G. Municipal Reports – Katie Herrera ([backup](#))
 - H. MS4 Update – Katie Herrera([backup](#))
 - I. Staff Update – Katie Herrera ([backup](#))
 - J. Maintenance Projects Report – Matthew Rausch ([backup](#))
 - K. Liaison Report - Ms. Alice Howard
5. UNFINISHED BUSINESS
6. NEW BUSINESS
7. PUBLIC COMMENT
8. NEXT MEETING AGENDA
 - A. Wednesday, April 19th, 2023 ([backup](#))
9. ADJOURNMENT

