

## TOWN COUNCIL

### STAFF REPORT

#### Projects and Watershed Resilience Department



<b>MEETING DATE:</b>	September 10, 2024
<b>SUBJECT:</b>	Projects and Watershed Resilience Department Monthly Report
<b>PROJECT MANAGER:</b>	Kimberly Washok-Jones, Director of Projects and Watershed Resilience

### **CAPITAL IMPROVEMENTS PROGRAM (CIP) UPDATE**

#### **PATHWAYS**

1. **Buck Island-Simmons ville Neighborhood Sidewalks and Lighting**
  - Construction of the Phase 6B sidewalks, drainage and lighting is **complete**.
  - **Next Steps**
    - Final As-built survey completed and closeout with SCDOT in progress.
2. **New River Linear Trail**
  - Received \$26,000 PARD grant award and \$2 million in SC appropriations.
  - Easement donation from New Riverside Community Association, Inc. approved at 3/14/23 Town Council.
  - Groundbreaking completed 5/30/24.
  - Bathroom, well, security cameras and entry gate **completed**.
  - **Next Steps**
    - Continue engineering design and permitting for Phases 1 and 2.
    - Negotiations are ongoing with Central Electric and Santee Cooper for cost sharing terms and bridge maintenance.
    - Continue coordination of boardwalk connection for Four Seasons.
    - Submit Encroachment Permit and Phase 1 Construction Contract to Town Council for approval this Fall.

#### **SEWER & STORMWATER**

1. **Buck Island-Simmons ville Sewer (Phases 5A-D)**
  - Mainlines and laterals are constructed.

- **Next Steps**
  - Mainlines and laterals As-builts to be approved by BJWSA prior to Permit to Operate issuance from SC Department of Environmental Services (SCDES) (former DHEC).
  - Install house connections and decommission septic tanks upon receiving Permit to Operate.
- 2. **Historic District Sewer Extension Phases 2 & 3 - Bridge & Colcock Streets**
  - Permit to operate issued from BJWSA and connection construction **completed**.
  - Project closed out.
- 3. **Historic District Sewer Extension Phases 4 through 6 – Lawrence, Green and Water Streets**
  - Design for Phases 4, 5, & 6 were submitted to BJWSA for review.
  - **Next Step**
    - BJWSA to submit to SCDES (former DHEC) for permit to construct.
    - Construction implementation is pending permit approvals and easement acquisitions.
- 4. **May River Watershed Action Plan Impervious Restoration Water Quality Projects**
  - Initial site investigations are complete for 8 of the 11 participating project sites.
  - Palmetto Pointe Towns, Lowcountry Community Church and Apartment One declined to participate in the Program at this time.
  - Geotechnical investigations and reports for each of the remaining 8 original have been completed. Fee-in-Lieu and Enterprise Fund establishment/administration Policy Document has been completed and under final review.
  - Initial Property Owner contacts for the selected 15 Additional Sites within municipal limits have been made and concept plan development is in process.
  - **Next Steps**
    - Preliminary Design of each of the 8 original sites in process. Fee-in-Lieu document under final review.
- 5. **Shults Road Drainage Improvements**
  - Design Agreement with Sturre Engineering Approved.
  - Geotechnical assessment completed by GHD.
  - Design scope in place and pending outcomes of geotechnical work. 30% design for drainage improvements in development for easement needs and homeowner discussion and easement needs.
  - Geotechnical scope being evaluated for possible modification to include structural evaluation components versus infiltration feasibility due as infiltration deemed not likely due to groundwater elevation and soils.
  - **Next Steps**
    - Project on hold and site/drainage issues will be assessed as part of a larger Comprehensive Drainage Assessment in FY25.

## 6. **Stoney Creek/Palmetto Bluff Sewer Partnership**

- 2022 updated cost-estimate for the project from BJWSA is \$7.2 million + contingencies. BJWSA is the Project Manager.
- BJWSA awarded the RIA SCIPP grant in support of Stoney Creek/Palmetto Bluff Sewer Extension with the Town and Beaufort County.
- Finalized IGA with Town, County, and grant splitting sewer extension costs and BJWSA funding water extension costs.
- **Next Steps**
  - Next project partner meeting scheduled for 9/12/24.
  - BJWSA continues with community outreach via their consultants and continues with design of the system. <https://bjwsa.org/251/Go2Sewer-for-a-Cleaner-Stoney-Creek>.

## **HISTORIC DISTRICT IMPROVEMENTS**

### 1. **Boundary Street Lighting**

- TC approved contract with Dominion to install street lighting on the west side of Boundary Street.
- **Next Steps**
  - Dominion to install street lighting in FY25.

### 2. **Squire Pope Carriage House Preservation**

- Building Construction substantially complete.
- Landscape improvements being completed by Hilton Head Landscape.
- Staff furniture was procured through state contact.
- **Next Steps**
  - Complete landscaping and hardscape mid-October.
  - Staff furniture install scheduled for 11/4/24.

### 3. **Bridge Street Streetscape**

- Phase 1 **complete**.
- Initial Stakeholder meeting with Montessori and Hargray **complete**.
- **Next Steps**
  - Continue Phase 2 engineering design for SCDOT permitting.
  - Continue Phase 2 stakeholder meetings.
  - Continue Phase 2 planning and design for underground power and lighting plan.

### 4. **Boundary Street Streetscape**

- Engineering Design is 70% complete and submitted to Watershed for stormwater initial review.
- Met with Dominion Energy on 5/13/24 and received a partial underground power layout on 6/14/24.
- Approved Change Order with Thomas and Hutton for additional structural design services for the Lawrence Street outfall.
- Approved Geotechnical Services with GHD for the Lawrence Street outfall.

- **Next Steps**

- Continue coordinating with Dominion Energy to obtain underground power layout and facility locations.
- Continue with engineering design and permitting.
- Prepare easement exhibits and begin appraisals in FY25.
- Construction to begin in calendar year 2025, subject to acquisition of all required easements.

## 5. **Calhoun Street Streetscape**

- Preliminary engineering design is 40% complete.
- Met with Dominion Energy on 5/13/24. Awaiting underground conversion plans from Dominion Energy.
- **Next Steps**
  - Continue negotiations with May River Road property owners for main transmission line easements. Once the main transmission line easements have been completed, then continue with engineering design through FY25.
  - Prepare easement acquisition plats for Phase 1 in FY25 and begin easement acquisition.
  - Phased construction is planned to begin in FY26 pending budget approval and acquisition of all required easements.

## 6. **Pathway Pedestrian Safety Improvements**

- **Completed** Historic District crosswalk study identifying and prioritizing future intersection/crosswalk improvements to meet ADA compliance.
- Phase 1 ADA sidewalk improvements along Goethe Road were **completed** on 1/23.
- Contract with ICE approved at 9/12/23 Town Council meeting.
- Finalized Phase 2 design plans.
- **Next Steps**
  - Follow up with property owners for Phase 2 easement acquisitions.
  - Draft Phase 2 solicitation.
  - Finalize Phase 3 analysis.

## 7. **Comprehensive Drainage Plan Improvements**

- Consultant field work to identify and assess condition of stormwater assets in Crooked Cove and Guerrard Cove **completed** 5/12/24.
- Processing of field data in process.
- **Next Steps**
  - Develop 2D Hydrologic/Hydraulic model.
  - Individual Stormwater Asset Reports for Heyward Cove identifying results and needed work by asset owner (SCDOT, County, School District, Town and Private) have been completed and under review. Asset Owner Report for SCDOT completed.

## 8. **Pritchard Street Drainage Improvements**

- Project scope increased to include streetscape elements, pedestrian connectivity, street lighting and traffic calming evaluation.

- Growth Management and Stormwater Pre-Application meeting held 10/17/23. Updated 95% design received from consultant, design review complete, and comments discussed with consultant. Permit applications have been submitted. DRC Public Project was held 3/28/2024.
- Design Review meeting and field walk with consultant to discuss/review comments on 95% design submission held 5/30/24. 100% design completed and under review. Responses to permitting agencies in process.
- **Next Steps**
  - Coordinate approval for proposed improvements with Beaufort County School District and Beaufort County on pool operation impacts.
  - Consultant addressing design and permit review comments for 100% design submittal.
  - Follow-up/complete permitting submissions and bid document formulation.
  - Identification of easement and street lighting needs.
  - Coordinate stakeholder meeting for Pritchard St. residents, anticipated in late September 2024.

## **PARK DEVELOPMENT**

### **1. Oyster Factory Park**

- Civil construction and landscape of parking area and event area are **complete**.
- Contractor completing final punch list items for the event area and providing quotes for additional services for the repairs to the existing pavilion, adding steps and access drive stabilization.
- Assessing drainage improvement alternatives for construction.
- **Next Steps**
  - Prepare plans for the restroom expansion and other FY25 improvements.

### **2. Oscar Frazier Park**

- Rotary Center hardscape improvements **complete** and under 1 year maintenance agreement.
- Obtained SCDEHC permit for Splash Pad on 1/9/24 and began construction on 7/15/24.
- **Next Steps**
  - Complete construction of splash pad in September and landscaping in October.
  - Obtain quotes for shade structure at the playground.

### **3. New Riverside Barn/Park**

- JS Construction **completed** phase 1 site construction in November 2023.
- The contract has been executed with Nix Construction for Construction Manager at Risk Services with a GMP for Phase 2 (barn, restroom, playground, and common areas).
- Restrooms are nearing completion.
- Steel structures / trellis in the restroom area are **installed**.
- Large and small pavilions are erected. The playground drainage is **complete**.
- Sidewalks and drainage at playground area are **complete**.
- Playground equipment installation has started.

- All barn framing has been completed. The building is dried in. Mechanical rough in has started.
- Well for future irrigation has been **installed**.
- Irrigation throughout the park has started.
- Dominion installed all light poles. They are energized and working.
- **Next Steps**
  - JS to continue paver turn around areas.
  - Nix Construction to continue all the above.

#### 4. **New Riverside Village**

- Lighting contract approved at 4/9/24 Town Council.
- Design plan approved by POA/Developer.
- **Installed** trellis swings, dog stations, trash cans and lighting conduit.
- Rules sign approved at 8/13/24 Town Council. Under fabrication currently.
- **Next Steps**
  - Continue design of wayfinding signage plan.
  - Dominion light pole installation scheduled for fall 2024.

#### 5. **Miscellaneous Park Improvements**

- Shade sail installation was completed at Buckwalter Place Park playground.
- **Next Steps**
  - Continue design of landscape and shade structure enhancements at various town parks in 2025.

#### 6. **Buckwalter Place Park Improvements**

- Plans presented to Town Council on 1/16/24.
- Conceptual landscaping plan **complete**.
- Sabal palm installation **complete**.
- **Next Steps**
  - Finalize hardscape plans for FY25 scope.
  - Continuing design, construction drawings of bathroom renovation.

### **TOWN FACILITIES AND MISCELLANEOUS PLANNING**

#### 1. **Town of Bluffton Affordable Housing Project – The May**

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

**2. Law Enforcement Center Facility Improvements**

- PD **completed** improvements to evidence room.
- PS to add AON system to HVAC.
- **Next Steps**
  - Begin design for FY25 construction of a possible storage of Public Service maintenance equipment, impound lot and canine facility. Further work pending results of Space Needs Analysis by Creech and Associates.

**3. Sarah Riley Hooks Cottage**

- Meadors Architectural Design is underway and to be complete this Summer.
- **Completed** Final Site Plan and distributed to engineers for final design.
- Executed design contracts with Meadors Inc., JK Tiller and Shearlock Engineering for design services of the cottage restoration and site development.
- Presented plans for a pre-application meeting on 8/16/2024.
- **Next Steps**
  - Update survey and prepare an exempt plat for lot recombination.
  - Begin restoration construction of cottage in FY25.
  - Begin site and landscape development construction in FY26.

**4. Ghost Roads**

- Surveying and easement exhibits are **complete**.
- Bridge Street Quit Claim Deeds are **complete**. Pritchard and Colcock Streets Quit Claim Deeds are 99% **complete**.
- Staff is currently working with Lawrence, Lawton, Green, Pope, Allen, and Water Street property owners to obtain Quit Claim Deeds.
- **Next Steps**
  - Continue acquisition of remaining Quit Claim Deeds for Historic District Ghost Roads or have legal initiate quiet title proceedings.

**5. Document Management**

- RFP contract was awarded in March 2022.
- Electronic Document Management system is live.
- Documents for 6 departments have been transitioned to DMS.
- **Next Steps:**
  - Historical documents for the remaining departments will transition through FY26.

**6. Network Infrastructure**

- Replaced core switches at Town Hall and the Law Enforcement Center.
- Replaced two VMWare hosts for a more stable server environment.
- Migration of Munis and Energov systems to a hosted environment completed.
- Implemented Executime to replace Intime.
- **Next Steps:**
  - Replacing two more VMWare hosts.

## **WATERSHED MANAGEMENT UPDATE**

### **1. Administrative Update**

- The new Stormwater Inspector, Konnor Harrell, started 8/22/24.
- Staff held an HOA/POA meeting on 8/19/24 on community stormwater management.
- Staff responded to a FOIA requesting stormwater management information for Hampton Hall.
- Staff modified the Wetlands Ordinance Expression of Interest (EOI) for wetland and resiliency protections. The original proposal and project costs provided by a Town's Master Service Agreement (MSA) firm has been modified and staff is reviewing all documents.

### **2. SC Department of Environmental Services 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***

- Water Environmental Consultants (WEC) collected final GIS elevation data on the two (2) docks utilized for the 4-week tidal elevation study and installing a water elevation instrument on the Palmetto Bluff bridge on 07/24/24. Staff coordinated with a local dock owner, the May River Plantation POA, and Palmetto Bluff to ensure necessary permissions were granted.
- Dr. Tye Pettay, University of South Carolina Beaufort (USCB) Water Quality Laboratory, is conducting a statistical review of the Town's water quality monitoring data to better understand the Town's water quality results and improve day-to-day management decisions.
- Staff drafted a Comprehensive Water Quality Monitoring Program Plan. This document is currently under internal review prior to finalization.

### **4. Resiliency**

- The Town and the College of Charleston executed a Memorandum of Agreement (MOA) to conduct the Resiliency Analysis. This analysis will include modeling storms and sea level rise throughout Town watersheds, a review of the Town's UDO, Municode, SC Code of Ordinances, and Stormwater Design Manual, and stakeholder engagement through surveys and events.
  - The second engagement event was held at Pritchardville Elementary on 8/20/24 in conjunction with SC Sea Grant Consortium. The next engagement event will be held 10/19/24 at Historic Bluffton Arts and Seafood Festival.
  - Town staff provided the College of Charleston with Resiliency Analysis GIS data on 07/23/24. This data included shapefiles for future land use, watershed information, and stormwater infrastructure.
- The public flooding survey is available online at <https://arcg.is/10a5Sn>.
  - Following Tropical Storm Debby, staff worked with SC Sea Grant Consortium and College of Charleston to create a Damage Reporting Tool embedded in the



Flooding Survey. The Communications Office has shared all information with the public.

- Staff attended the Regional Resilience Accelerator Listening Session on 8/16/24 and will participate in 9/12/24 Beaufort County Resilience Accelerator Workshop.
- Staff collected all water quality instrument data collected during Tropical Storm Debby. Data is being processed.

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

- Staff are currently editing the Stormwater Management Plan with an anticipated date of 10/01/24 for submittal to SC Department of Environmental Services (SCDES).
- Public comments on proposed edits to the Town of Bluffton Southern Lowcountry Stormwater Design Manual are being received through 9/13/24.

**6. 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 (WAPAC) meeting was held 8/22/24. Dr. Tye Pettay presented on the Town of Bluffton's and USCB's MST genetic marker development efforts. - **Attachment 3**

**7. 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**
  - SC Department of Environmental Services (SCDES) collects MST samples for the Town concurrently with their routine shellfish harvesting water quality sampling at stations 19-19, 19-19A, 19-19B, 19-19C, and 19-24. SCDES collected samples on 8/21/24. Results are pending as of 8/26/24.
- Illicit Discharge Investigations – **Attachment 4e**

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

**9. MS4 MCM – #5 Stormwater Plan Review and Related Activity – Attachment 6**

**10. MS4 MCM – #6 Good Housekeeping (Staff Training/Education)**

- Nicole Wright completed two (2) Personal Computer Storm Water Management Model (PCSWMM) trainings.

**11. 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.

**12. Citizen Drainage, Maintenance, and Inspections Concerns Map – Attachment 7**

**13. Citizen Request for Watershed Management Services & Activities – Attachment 8**

**Attachments**

1. SCDES Shellfish Harvesting Monitoring Data Year-to-Date
  - a. SCDES May River Shellfish Harvesting Status Exhibit
2. Quarterly Update – May River Watershed Action Plan Implementation Summary\*
3. MS4 Minimum Control Measures #1 and #2 – WAPAC Agenda 08/22/24
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 – All Sources
  - d. Microbial Source Tracking Map – Human 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. CIP Master Project Schedules

\* Attachment noted above includes the latest updates in red.

	19-19				19-19A				19-19B				19-19C				19-24				19-16			
	2021	2022	2023	2024	2021	2022	2023	2024	2021	2022	2023	2024	2021	2022	2023	2024	2021	2022	2023	2024	2021	2022	2023	2024
	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	79.0	33.0	33.0		49.0	49.0	33.0		4.5	17.0	7.8		17.0	49.0	13.0		6.8	6.8	7.8		7.8	13.0	17.0	
November	33.0	33.0	13.0		33.0	13.0	2.0		7.8	7.8	4.5		4.0	4.5	4.5		4.5	6.1	2.0		2.0	13.0	4.5	
October	49.0	23.0	33.0		26.0	46.0	23.0		13.0	13.0	17.0		23.0	23.0	33.0		23.0	11.0	2.0		17.0	14.0	6.8	
September	33.0	540.0	23.0		11.0	350.0	13.0		17.0	350.0	13.0		13.0	170.0	7.8		2.0	79.0	17.0		11.0	33.0	13.0	
August	49.0	23.0	23.0		49.0	23.0	49.0		23.0	11.0	6.8		49.0	13.0	13.0		14.0	17.0	23.0		14.0	11.0	2.0	
July	350.0	920.0	350.0	31.0	64.0	49.0	920.0	31.0	79.0	95.0	70.0	32.0	33.0	130.0	49.0	32.0	33.0	23.0	33.0	33.0	13.0	46.0	17.0	32.0
June	49.0	13.0	14.0	7.8	79.0	4.5	7.8	7.8	13.0	11.0	23.0	6.8	17.0	2.0	13.0	4.5	22.0	1.8	33.0	2.0	2.0	9.3	13.0	2.0
May	2.0	4.5	23.0	27.0	49.0	4.5	33.0	22.0	23.0	4.0	17.0	23.0	23.0	1.8	13.0	17.0	23.0	1.8	33.0	7.8	7.8	2.0	21.0	4.0
April	33.0	4.5	170.0	49.0	23.0	4.5	130.0	17.0	22.0	1.8	110.0	17.0	17.0	2.0	70.0	4.0	7.8	1.8	NS	11.0	2.0	1.8	7.8	23.0
March	33.0	33.0	23.0	49.0	11.0	23.0	49.0	31.0	17.0	2.0	17.0	11.0	13.0	4.5	17.0	4.5	2.0	2.0	17.0	22.0	2.0	2.0	17.0	4.5
February	79.0	23.0	540.0	49.0	70.0	31.0	350.0	49.0	79.0	17.0	240.0	11.0	23.0	22.0	240.0	22.0	7.8	2.0	33.0	7.8	6.8	11.0	33.0	11.0
January	17.0	49.0	33.0	49.0	17.0	22.0	33.0	23.0	13.0	33.0	13.0	4.5	23.0	7.8	33.0	4.5	17.0	7.8	7.8	7.8	7.8	7.8	4.5	2.0
** Truncated GeoMetric Mean	36.0	40.0	38.0	37.0	26.0	28.0	30.0	28.0	18.0	18.0	17.0	16.0	15.0	14.0	16.0	14.0	10.0	9.0	9.0	9.0	8.0	9.0	8.0	9.0
** Truncated 90th Percentile	139.0	192.0	211.0	191.0	69.0	91.0	152.0	150.0	58.0	72.0	77.0	75.0	39.0	54.0	71.0	74.0	35.0	41.0	44.0	40.0	33.0	32.0	26.0	30.0

NS = No Sample

SCDES Regulatory Requirements:

Geometric Mean ≤ 14

90th Percentile ≤ 43

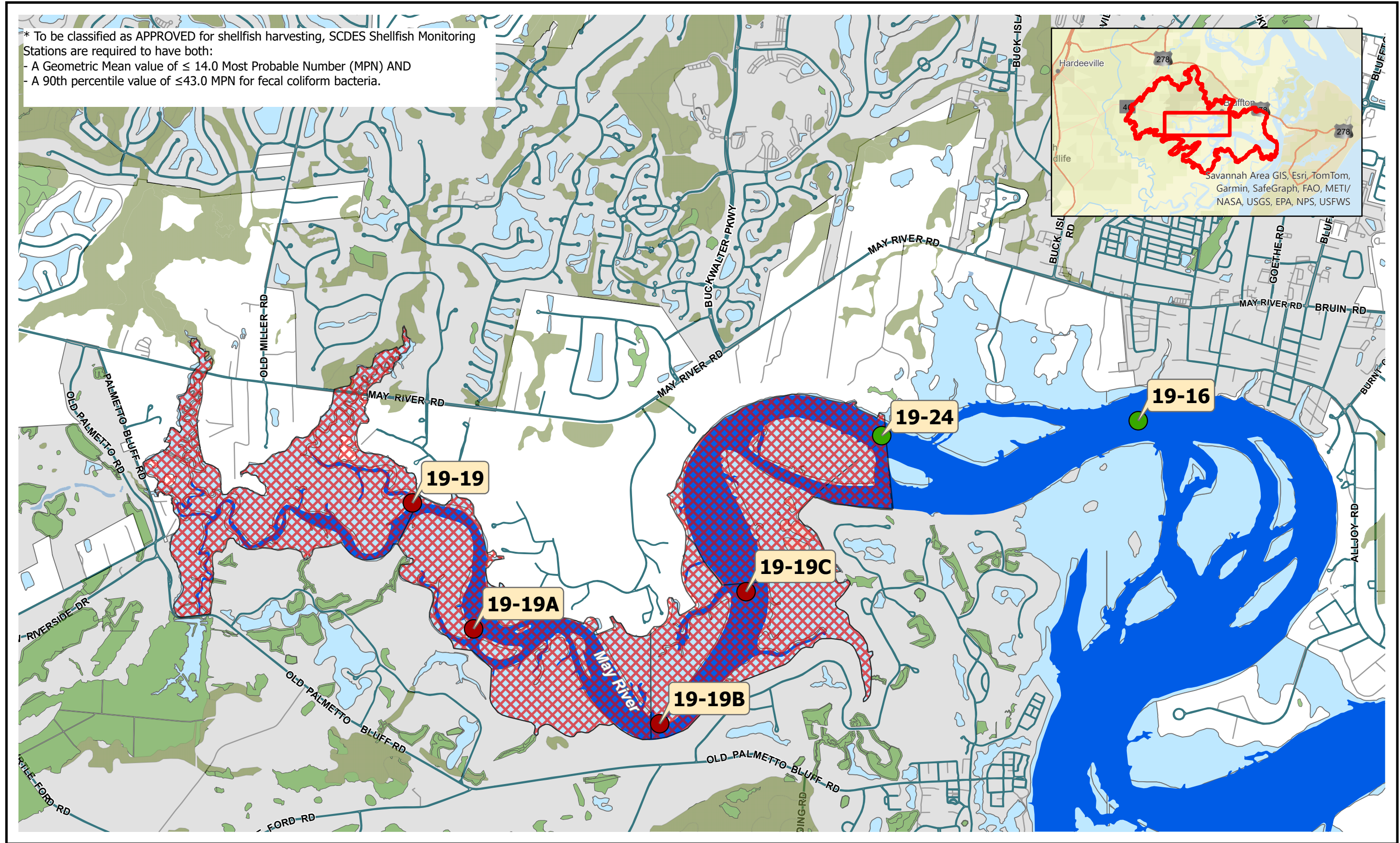
\*\* Town staff calculations utilizing SCDES statistics

Note:

December 2024 ends the data collection period for 2025 shellfish harvesting season.

2024 fecal coliform data is part of the 2025 classification data collection period.

Savannah Area GIS, Esri, TomTom, Garmin, SafeGraph, FAO, METI/ NASA, USGS, EPA, NPS, USFWS

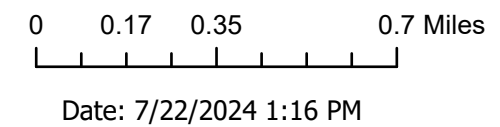


-  Town Bluffton Jurisdiction    
  Water  
 Beaufort County Jurisdiction    
  Wetlands  
 Restricted 2024/2025 Shellfish Season    
  Open Shellfish Monitoring Station  
 Streets    
  Closed Shellfish Monitoring Station

# Town of Bluffton

Beaufort County, SC

## SCDES SHELLFISH HARVESTING STATUS





WAPAC Meeting Presentation  
May River Watershed Action Plan Update & Modeling Report  
Overview and Status  
Created: August 25, 2022  
Updated: May 23, 2024

## Overview

- May River Watershed Action Plan Update & Modeling Report **completed** November 2020.
- Town Council Adoption of May River Watershed Action Plan Update 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 2011 Action Plan 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 models and the model outputs. This highly technical information is necessary for future Water Quality (WQ) Model calibration and use for consistency.
  - **5.0 Recommendations** includes strategies to improve the Town's monitoring efforts to calibrate the WQ Model further (§5.1), strategies and BMPs for bacteria reduction (§5.2), an evaluation of 2011 Action Plan BMP projects (§5.3), and methodology used to develop 2020 Action Plan 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.

## **MRWAP 2020 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 watershed and 11 in Rose Dhu Creek. Based on WQ Model outputs, these projects alone may potentially reduce FC loading by  $3.46 \times 10^{13}$  FC per year.
- The estimated septic to sewer conversion costs of these projects is \$5.5 million.

### **Work Performed and Current Status as of August 25, 2022 Meeting**

Discussions with the Town, Beaufort County and BJWSA have been held about future Septic to Sewer Program projects identified above. Stoney Creek Septic to Sewer Project has been identified as the next priority project to pursue under the Septic to Sewer Program.

- 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.

### **Update for WAPAC February 23, 2023 Meeting:**

The Town, Beaufort County and BJWSA continue to work on details to draft a proposed Inter-Governmental Agreement (IGA) to be presented to each respective approving authority for review, finalization, and approval. It is anticipated that this process is months away from final approval/adoption of the respective parties.

### **Update for WAPAC July 27, 2023 Meeting:**

**Stoney Creek/Palmetto Bluff Sewer:** Three-party agreement is being finalized by BJWSA legal team now. BJWSA's RFP for water and sewer design services was supposed to close 6/30/23. Due to RIA protocol, they must review and approve an RFP prior to posting, thus the RFP was canceled. BJWSA anticipates receiving RIA approval and reposting the RFP on 7/17/23. BJWSA received RIA approval and reposted the RFP on 7/17/23 with a closing of 8/1/23.

### **Update for WAPAC January 25, 2024 Meeting:**

**Stoney Creek/Palmetto Bluff Sewer:** All parties agreed to the IGA in October. The IGA will be presented to TC at the November TC meeting for review and approval. Beaufort County will present the IGA at their December meeting.

### **Update for WAPAC May 23, 2024 Meeting:**

**Stoney Creek/Palmetto Bluff Sewer:** BJWSA is the project manager. Foresight Communications, a marketing/communications group, first community engagement for the project is 5/13/24. A new BJWSA project manager has

been assigned, Beth Lowther. Kim, Mark and Felicia met with Charlie Stone, BJWSA Gov't liaison, and Ashley Goodrich, BJWSA planner, on 5/6/24 to discuss how they might use 319 funding to support future sewer connections. Next partner meeting is 6/13/24 at 9:30am.

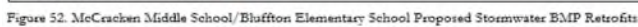
## **MRWAP Update Eleven Impervious Restoration (stormwater retrofit) Project Recommendations/Evaluations:**

- 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 Rose Dhu Creek (6 projects) and Stoney Creek (5 projects):

- 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
  - $2.99 \times 10^{14}$  FC reduction for the Full SWRv (entire sub-basin drainage area catchment).
  - $2.53 \times 10^{14}$  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:



**Update for WAPAC July 27, 2023 Meeting:**

- Drafted a detailed scope of work for Engineering Consultant Firm review and cost proposal (Expression of Interest) regarding performance of the work elements presented herein and related to MRWAP Update recommendations for implementation.
- The Expression of Interest was submitted to 3 consultant firms under existing Master Service Agreements with the Town for review and a request for response.
- All 3 Firms responded and their respective responses were evaluated, scored and discussed internally.
- A recommendation for Award was made and the Consulting Firm of Goodwyn, Mills and Cawood selected.
  - Phase I of this work performed under existing FY 22 funding from Watershed Management Division.
  - Phase II of this work be presented for Town Council review and approval in the August 2022 Town Council Meeting and FY23 funding.



**Update for WAPAC February 23, 2023 Meeting:**

Phase II work was approved by Town Council and work has been initiated and reported herein. **This Task Completed**

**Task 1 : MRWAP Update 11 site locations**

**Update for WAPAC July 27, 2023 Meeting:**

**Update for WAPAC January 25, 2024 Meeting:**

Eleven (11) proposed project sites Rose Dhu Creek (6 projects) and Stoney Creek (5 projects):  
**Yellow** and **Blue** highlight indicates **geotechnical evaluations complete**.

- **Bluffton Early Learning Center (BELC)**. Participating in preliminary design development phase.
- **Boys and Girls Club of Bluffton (BGC)**. Participating in preliminary design development phase.
- **Benton House (BH)**. Participating in preliminary design development phase.
- **Bluffton High School (BHS)**. Participating in preliminary design development phase.
- **Buckwalter Recreation Center (BRC)**. Participating in preliminary design development phase.
- ~~Lowcountry Community Church (LCC)~~. ~~Declined to Participate.~~
- **McCracken Middle School/Bluffton Elementary School (MMSBES)**. Participating in preliminary design development phase.
- **May River High School**. Participating in preliminary design development phase.
- ~~One Hampton Lake Apartments (OHLA)~~. ~~Declined to Participate.~~
- **Pritchardville Elementary School (PES)**. Participating in preliminary design development phase.
- ~~Palmetto Pointe Townes (PPT)~~. ~~Declined to Participate.~~
- Evaluate 11 sites and proposed BMPs. **Complete.**
- Update concept plans for 11 sites based on site evaluations, recommendations and discussions. **Complete.**
- Perform geotechnical evaluations at each site at locations related to BMP locations of updated concept plans. **Completed for the 5 school sites.** Geotechnical evaluations for the remaining **3** participating partner sites are being schedule based on recent property owner participation status being known/confirmed.  
Coordinating geotechnical work approval with property owners and schedule for Benton House (BH), Buckwalter Recreation Center (BRC) and Boys and Girls Club of Bluffton (BGC). Geotechnical field work for Benton House (BH), Buckwalter Recreation Center (BRC) and Boys and Girls Club of Bluffton (BGC) completed and data being analyzed and geotechnical report in development.  
**All geotechnical work and reports completed.**
- Refine updated concepts and use for presentations to Property Owner to discuss Impervious Restoration Program goals, objectives and gain support for Program and their participation.

Based on geotechnical investigation results, updated Concept plans for the 5 school sites have been refined. A meeting will be scheduled with School District to discuss the **updated** concept plans to get their feedback prior to beginning Preliminary Design task. Based on geotechnical investigation results, updated Concept plans for Benton House (BH), Buckwalter Recreation Center (BRC) and Boys and Girls Club of Bluffton (BGC) sites will be refined. A meeting will be scheduled with School District to discuss the updated concept plans to get their feedback prior to beginning Preliminary Design task.

**Field review meetings held March 28 and April 15, 2024 at each of the 9 participating sites. Meeting outcome was to review proposed BMPs and location to assess and rank BMP feasibility and cost/benefit. Based on discussions and field review Preliminary Design has been initiated.**

- 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/WQ treatment in cost effective approach. **Estimated impervious area treated and SWRv capture based on refined Concept plans developed for the 5 school sites.**
  - 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 Restoration Program details (maintenance responsibilities, easements, incentives, etc.) developed as part of the 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. A meeting was held with School District on September 28, 2023 to discuss initial Preliminary Design development. Comments were noted and to be incorporated for final preliminary design plan development.

**Based on field review Preliminary Design has been initiated.**

**Task 2 :** Identify 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 SCDOT RoW).

**Update for WAPAC February 23, 2023 Meeting:**

Desktop analysis and field work performed to develop a list of 45 sites that potentially meet the criteria above. This list of potential sites is under review/evaluation.

**Update for WAPAC July 27, 2023 Meeting:**

Finalized the list of 15 additional sites (and 5 alternates) to be considered/evaluated within the municipal limits of Bluffton for Impervious Restoration feasibility and concept plan development. Site evaluations will be performed as property owner approvals for access to property to perform site assessment is obtained.

**Update for WAPAC May 23, 2024 Meeting:**

Data search for these sites is ongoing in terms of existing plan information, current property owner and contacts.

**Yellow Highlight** indicate field investigations, drainage pattern evaluations and hand auger soil samples completed.

**Green Highlight** indicate contact made and coordination in process.

Initial concept plans are being developed for these sites for review. Other site evaluations will be performed as property owner approvals for access to property to perform site assessment is obtained.

- **Dominion Energy Engineering Office**
- **Rose Dhu Equestrian Center**
- **St. Gregory Catholic Church/School**
- **River Ridge Academy**
- **MC Riley Early Childhood Center**
- **MC Riley Elementary School**
- **MC Riley Sports Complex**
- **Bluffton Middle School**
- **Red Cedar Elementary School**
- ~~Seagrass Station Road Site~~ determined to be not feasible, low cost/benefit.
- **Bluffton Pkwy West (170 to Buckwalter)**
- **Buckwalter Pkwy (Hampton Hall to May River Road)**
- **Persimmon St/Sheridan Park Cir/Pennington Dr**
- **Vaden Nissan Hilton Head**
- ~~NHC Healthcare/Bluffton (Healthcare, Rehab, Assisted Living)~~ Declined to participate

## **Town of Bluffton Impervious Restoration/BMP Retrofit Policy Documents.**

**Task 3 :** Section 5.4.4. Stormwater BMP Retrofit Projects of the 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 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.

- Policy Document Formulation has been initiated and includes research of similar Programs Nationwide.

**Update for WAPAC February 23, 2023 Meeting:**

2 *DRAFT* Policy Documents have been submitted for review and comment. Comments are being evaluated and addressed by consultant and an update *DRAFT* Policy Document is expected by April 2023.

**Update for WAPAC July 27, 2023 Meeting:**

- Updated Draft Policy Document was completed and submitted in June for review and comments are being finalized.
- Upon Policy Document Final Draft development, the Policy Document will be presented to WAPAC with a request for recommendation to Town Council for adoption.

**Update for WAPAC January 25, 2024 Meeting:**

- Internal review, discussion and comments of Updated Draft Policy Document was completed and submitted to Consultant September 10, 2023. Initial discussion of comments and path forward held November 3, 2023 with Consultant. Additional discussions with Consultant to be held.

**Update for WAPAC May 23, 2024 Meeting:**

- **Based on review of content of the updated *DRAFT* Policy Document, The Town directed the document be organized into the following categories:**
  - **Enterprise Fund & Fee-in-Lieu Program – work on this section has been initiated.**
  - **ToB CIP Project Impervious Restoration Program & incentives**
  - **ToB SWrv Credit Trading Program (under evaluation)**

## **Other, Related MRWAP Update Recommendations**

- Adopt proposed regional Southern Lowcountry Post Construction Stormwater Ordinance and Design Manual - **complete** September 2021.
- The Town should incorporate volume reduction BMPs (those that encourage infiltration) within existing and future CIP projects to the maximum extent practical, especially for project locations with well-drained soils (HSG A or B) – **in progress**, see below.
  - **Work Performed and Current Status as of August 25, 2022 Meeting**
    - 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 DHEC to cost-share cost of construction of proposed BMPs.

**Update for WAPAC February 23, 2023 Meeting**

Construction was initiated by JS Construction in early December 2022. Construction considered 65% complete.

**Update for WAPAC July 27, 2023 Meeting:**

- Project work is Substantially Complete.
- Partial reimbursement from DHEC for construction cost supported by 319 Grant requested and received.

**Update for WAPAC January 25, 2024 Meeting**

- Project and Grant work is complete and closed out.
- Total Grant funding for this project \$228,165.15
- Water Quality Monitoring Results

**Water Quality Monitoring Summary:** Based on monitoring and rainfall data for the period of July 1-October 11, 2023, the only rainfall event that produced a stormwater outfall/discharge was an intense rain event on September 10, 2023 which produced 3.82" of rain in a 4 hour period. The next most intense storm happened on July 10, 2023 which produced 1.46" of rain in 1 hour and no stormwater outfall/discharge occurred. Based on this data, we estimate the BMP treatment train constructed with this project could accommodate a 10 year storm event (6.9" of rain in 24 hours) with little or zero runoff. Zero runoff equals zero pollutants, and zero freshwater being discharged to Huger Cove and the May River.

**From 319 Grant Project Final Report:** Pre-construction water quality monitoring was performed on October 19, 2022, which can be found in **Appendix C**. So, **prior to project construction** a simulated rain event was performed to provide an indication of the amount of rainfall prior to direct a discharge occurring into Heyward Cove and then water samples were collected and tested by USCB to determine pollutants present and their concentrations. The rainfall simulation was performed because there was no way to get a water sample once stormwater entered the BMP and was treated by BMP via infiltration into ground.

**Table 1** below is the Pre Construction Water Quality Monitoring Table of Pollutants:

Date	Time of Sample	TKN (mg/L)	Nitrate/Nitrite (mg/L)	Total Nitrogen (TN)	Total Phosphorus (TP)	TSS (mg/L)
10/19/2022	9:41	0.85	0.290	1.10	0.68	220.00

Three underground storage/infiltration and four pervious paver parking areas with underground storage were installed. After the completion of the BMPs, water quality monitoring was conducted to determine the reduction in pollutants with the newly installed BMPs. The installation of the Auto samplers were located at the two stormwater pipe outfalls into Heyward Cove, FES-1 and FES-2. Post-construction water

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quality monitoring occurred on September 11, 2023, which can be found in **Appendix C**. Based off the post-construction pollutant values, all values analyzed were reduced greatly, including TSS.

**Table 2** below is the Post Construction Water Quality Monitoring Table of Reduced Pollutants:

Date	Time of Sample	TKN (mg/L)	Nitrate/Nitrite (mg/L)	Total Nitrogen (TN)	Total Phosphorus (TP)	TSS (mg/L)
9/11/2023	16:46	0.64	0.14	0.78	0.19	8.4

Rainfall monitoring took place between July 1, 2023, and October 11, 2023, at the Watershed Building Office, 1261 May River Road. There were eight rainstorm events that had over an inch of water in 24 hours. In particular, there was one rainstorm on September 10<sup>th</sup>, 2023, where there was 3.82 inches of rain over the extent of four hours. This was the only recorded rain event, during the monitoring period, which produced a discharge of stormwater runoff into outfall FES-2 at Heyward Cove.

**Table 3** below are the eight storm events over an inch.

Rainstorms over and inch	
Rainstorm Event	Rainfall (in)
July 5 <sup>th</sup>	1.46 inches over 1 hour
July 10 <sup>th</sup>	1.17 inches over 7 hours
July 28 <sup>th</sup>	1.28 inches over the whole day
August 28 <sup>th</sup>	1.23 inches over 1 hour
August 30 <sup>th</sup>	1.23 inches over the whole day
September 1 <sup>st</sup>	1.1 inches over 3 hours
September 10 <sup>th</sup>	3.82 inches over 4 hours
September 17 <sup>th</sup>	1.09 inches over 6.5 hours

**Table 4** shows the monthly rain mounts in inches, with October only accounting for the first eleven days of the month and then monitoring stopped.

Monthly Rain Amounts	
Month	Rainfall (in)
July	7.35
August	5.3
September	7.56
October*	0.0
TOTAL	20.21

\*only accounted for October 1 – October 11, 2023

There are many benefits that come from the constructed/installed stormwater best management practices, that include: 1) reducing the concentrations of pollutants that are associated with stormwater runoff, 2) the amount and frequency of direct stormwater/freshwater discharges into Heyward Cove has greatly reduced. and 3) temporarily detain large portions of the runoff volume and then release it a slower rate to decrease the amount of flooding on the roads. With the BMPs that were used for Bridge Street Streetscape, the BMP benefits include the decrease in TSS and other pollutants, but also retrofitting the existing area that had no prior stormwater management in the surrounding area.

**Update for WAPAC May 23, 2024 Meeting**

**No stormwater outfall condition has been observed since the September 10, 2023 rain event.**

- 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.
  - Submitted Section 319 Grant proposal to DHEC to cost-share cost of construction of proposed BMPs. Pre-proposal was accepted, and Full Proposal was requested by DHEC. Under Review.
  - **Update for WAPAC February 23, 2023 Meeting**
    - 70% design plan submitted, reviewed and comments presented to consultant.
    - 319 Grant was awarded by DHEC to the Town.
  - **Update for WAPAC July 27, 2023 Meeting:**
    - Project Scope of Work and budget increase approved for FY24 to include streetscape elements of lighting, sidewalk, traffic calming and ADA compliance.
    - Updated survey received.
    - Updated 70% design drawings received in July and under review.
  - **Update for WAPAC January 25, 2024 Meeting**
    - Updated 70% Streetscape Design submittal made and review comments provided to Consultant for 90% Design development and permit acquisitions.
    - Pre-Application meeting for Project held with Growth Management and Stormwater Management.
  - **Update for WAPAC May 23, 2024 Meeting**
    - **95% Design Submittal received February 29, 2024.**
    - **Public Project DRC meeting held April 3, 2024. Internal review comments completed and Design update in process.**
- 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.
  - **Update for WAPAC February 23, 2023 Meeting** Staff has collected additional fecal samples needed for dog, bird, and deer. The USCB-MST Laboratory is conducting the



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assessment on additional fecal samples and Dr. Pettay will provide a final report to the Town once all fecal markers in regional watersheds have been analyzed.

- **Update for WAPAC July 27, 2023 Meeting:** Additional genetic fecal markers continue to be analyzed by Dr. Pettay and the MST Laboratory.
- **Update for WAPAC January 25, 2024 Meeting:** Dr. Pettay is now the Lead Principal Investigator (PI) for both the MST and Water Quality Laboratories. Dr. Pettay, Town staff, and County staff met to discuss regional water quality monitoring needs. The MST Laboratory is still processing scat samples, and a final report is forthcoming.
- **Update for WAPAC May 23, 2024 Meeting: The MST Laboratory has finalized processing scat samples. Dr. Pettay will be providing a final report/update to the Town.**
- 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 May River Watershed Action Plan Update and Model Report.
  - **Update for WAPAC February 23, 2023 Meeting:** Staff is collecting intermittent flow data at SonTek IQ sites in conjunction with grab FIB samples.
  - **Update for WAPAC July 27, 2023 Meeting:** Staff is working with the consultant to identify recommended strategies for intermittent flow data collection and a review of the Town's FIB grab sample schedule.
  - **Update for WAPAC January 25, Meeting:** Staff continues to collect MRWAP bacteria grab samples twice per month at fourteen (14) monitoring locations in the May River headwaters study area. Intermittent flow measurements are collected at six (6) of these monitoring locations at the time of grab sampling.
  - **Update for WAPAC May 23, Meeting: Staff continues to collect MRWAP bacteria grab samples twice per month at fourteen (14) monitoring locations in the May River headwaters study area. Intermittent flow measurements are collected at five (5) of these monitoring locations at the time of grab sampling. The goal has been to collect grab samples following wet weather conditions to the maximum extent practicable. WEC has further defined wet weather as samples collected within 24-hours of  $\geq 0.50$  inches of rainfall. All Town grab samples are analyzed by the USCB Water Quality Laboratory.**
- Future (new) Water Flow Monitoring Locations.
  - **Work Performed and Current Status as of August 25, 2022 Meeting**
    - The 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.
      - Utilizing existing flow and rainfall data collected over past years with rain gauges, IQ Plus and Sontek measuring instruments in Stoney Creek, Rose Dhu Creek, Palmetto Bluff, Duck Pond and Heyward Cove, the Town hired a consultant to review the data and determine:



- Useful data 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 is in process.
  - Duck Pond was deemed inconsequential, not needed due to drainage area size and proximity/outfall to tidal waters.

**Update for WAPAC February 23, 2023 Meeting**

- Consultant Final Report delivered, and Model Calibration Data for Stoney Creek and Heyward Cove identified.
- If data review resulted in insufficient data, develop a monitoring program that would produce the data needed.
  - Rose Dhu Creek and Palmetto Bluff flow data review resulted in data that was insufficient to calibrate Model.
  - Final report identifying recommended strategies to gain required data is in process.
  - Potential purchase of telemetry stations to equip continuous flow monitoring stations with real-time data access.

**Update for WAPAC February 23, 2023 Meeting**

- Final Report delivered. Based on recommendations of data and process needed, staff has procured needed telemetry station equipment and has hired a consultant to assist in getting the intermittent and continuous flow data and producing a Final Report. The fieldwork installation of equipment is scheduled. Once installed and operational, data collection will last 6 months.

**Update for WAPAC July 27, 2023 Meeting**

- The Town of Bluffton procured and installed two (2) SonTek Turnkey Systems that enable real-time continuous flow data review to a cloud-based service. These systems are deployed in the Rose Dhu Creek and Palmetto Bluff subwatersheds.
- A SonTek IQ remains deployed in the Stoney Creek subwatershed. The consultant's first data review determined there was sufficient flow data for model calibration in the Stoney Creek subwatershed. However, staff determined it would continue to collect continuous flow data at this location so that continuous flow, intermittent flow,

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bacteria samples, and rainfall data were collected for three (3) of the four (4) Modeling Report subwatersheds simultaneously.

- Consultant is reviewing data and identifying power, beam, or possible maintenance issues weekly.
- Intermittent flow measurements, utilizing the FlowTracker2, will be conducted at the time of grab sampling at the three (3) SonTek IQ flow stations beginning 7/31/23.

**Update for WAPAC January 25, 2024 Meeting:**

- Staff continue to operate and maintain three (3) SonTek IQ continuous flow monitoring stations in the May River headwaters. Staff expect these systems to be in place for approximately one (1) full year to account for seasonality.
- The Duck Pond subwatershed has no channelized flow entering or exiting the system. The Town's consultant suggested that the Town monitor water elevation in the Duck Pond for approximately 6 months to ensure water elevations are accurately depicted by future modeling. Staff has requested permission to site a water elevation logger in the Duck Pond, near or attached to the Palmetto Bluff bridge.
- Clarification from the consultant determined that due to limited staff time, intermittent flow measurements would be most valuable at six (6) of the Town's water quality monitoring locations upstream of the SonTek IQ flow stations.
- Staff is working diligently to collect samples following wet weather conditions which have been defined as  $\geq 0.50$  inches of rainfall within 24 hours of sampling. The USCB Water Quality Laboratory has been assisting the Town with ensuring samples can be analyzed on short notice.

**Update for WAPAC May 23, 2024 Meeting:**

- **Dr. Pettay continues as the Lead Principal Investigator (PI) for both the USCB-MST and Water Quality Laboratories. The MST Laboratory has finalized processing scat samples, and a final report is forthcoming.**

- **Staff continue to operate and maintain three (3) SonTek IQ continuous flow monitoring stations in the May River headwaters.**
  - In FY23, the Town and its consultant determined it did not have sufficient data for the Rose Dhu Creek and Palmetto Bluff subwatersheds for model calibration. In April 2023, the Rose Dhu Creek and Palmetto Bluff SonTek-IQ Plus instruments, were installed and/or upgraded with Turnkey/Cloud-based Systems.
  - The Stoney Creek subwatershed SonTek IQ-Plus has operated almost continuously for two (2) full years. In FY23, the Town understood it had enough quality continuous and intermittent flow data for this subwatershed, so the SonTek-IQ Plus instrument was not upgraded with Turnkey/Cloud-based Systems. However, staff continued with continuous flow data collection (downloading data manually) efforts in conjunction with the Rose Dhu Creek and Palmetto Bluff subwatersheds.
  - Water Environmental Consultants (WEC) has been conducting a weekly review of all continuous and intermittent flow data collected since The Town's Turnkey/Cloud-based Systems were implemented in April 2023. In April 2024, the one (1) full year of data collection ended. This data collection period allowed the Town to account for seasonality. WEC will provide final reports detailing these three (3) subwatersheds continuous and intermittent flow data for stormwater model calibration. These reports are expected to be received in FY25 for the Rose Dhu Creek, Stoney Creek, and Palmetto Bluff subwatersheds.
- The Duck Pond subwatershed has no channelized flow entering or exiting the system. The Town's consultant suggested that the Town monitor water elevation in the Duck Pond for approximately 6 months to ensure water elevations are accurately

depicted by future modeling. Staff has requested and received permission to site a water elevation logger in the Duck Pond, near or attached to the Palmetto Bluff bridge. This work is anticipated to commence July 2024 (Start of FY25).

- Staff are working diligently to collect samples following wet weather conditions which have been WEC further defined wet weather as samples collected within 24-hours of  $\geq 0.50$  inches of rainfall. The USCB Water Quality Laboratory has been assisting the Town with ensuring samples can be analyzed on short notice.
- The Town has been operating two (2) weather stations to collect local rainfall data in the May River Watershed. One weather station is located at the Town's Watershed Management Division Office and the other is located at the Town's Police Department Building. This data has been shared with WEC for inclusion in final reports.
- The Town collects tidal elevation data utilizing a HOBO-U20 at the Calhoun Street Dock in Bluffton. WEC deployed two (2) headwater tidal elevation instruments on docks near the Rose Dhu Creek and Stoney Creek subwatershed model boundaries. This study was conducted for a period of 4-weeks to establish the relationship between the tidal amplitude and timing in the headwaters of the May River and the long-term tide gauge operated by the Town at the Calhoun Street dock. The outcomes of this study will be included in WEC's final reports.



## **May River Watershed Action Plan Advisory Committee Meeting**

**Thursday, August 22, 2024 at 3:00 PM**

**Theodore D. Washington Municipal Building, Henry "Emmett" McCracken Jr. Council Chambers,  
20 Bridge Street, Bluffton, SC**

### **AGENDA**

**I. CALL TO ORDER**

**II. ROLL CALL**

**III. ADOPTION OF MINUTES**

**IV. PRESENTATIONS, CELEBRATIONS, AND RECOGNITIONS**

1. Presentation on USCB Microbial Source Tracking (MST) Program - Dr. Tye Pettay, Assistant Professor, Department of Natural Sciences, USCB
2. May River Watershed Action Plan Water Quality Program Update - Beth Lewis, Water Quality Program Manager

**V. PUBLIC COMMENT**

**IX. ADJOURNMENT**

**NEXT MEETING DATE: September 26<sup>th</sup>, 2024**

*“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. Auditory accommodations are available. Any person requiring further accommodation should contact the Town of Bluffton ADA Coordinator at 843.706.4500 or [adacoordinator@townofbluffton.com](mailto:adacoordinator@townofbluffton.com) as soon as possible but no later than 48 hours before the scheduled event.*

*Executive Session – The public body may vote to go into executive session for any item identified for action on the agenda.*

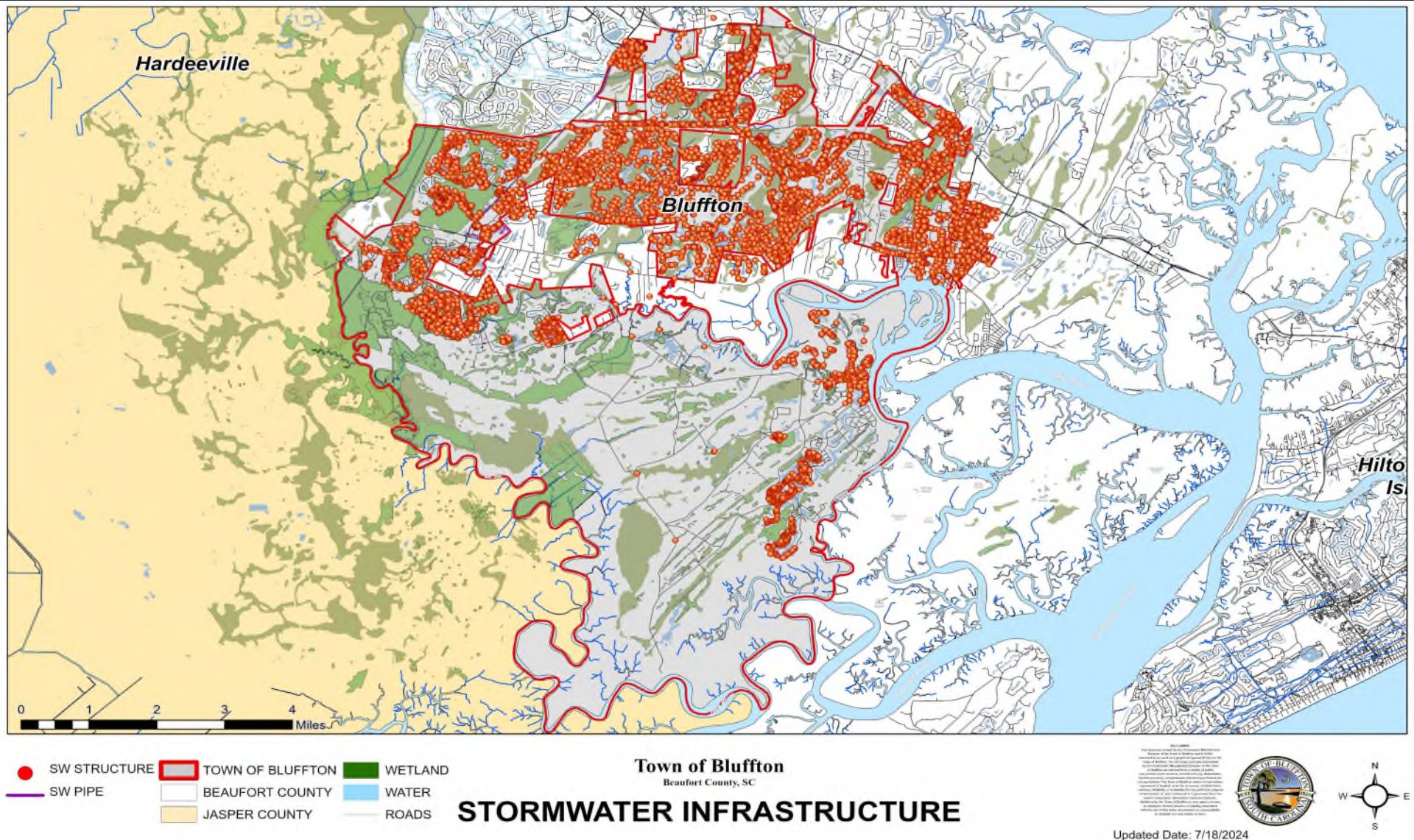
*\*Please note that each member of the public may speak at one public comment session and a form must be filled out and given to the Town Clerk. To submit a public comment online, please click here:*

*<https://www.townofbluffton.sc.gov/FormCenter/Town-15/Public-Comment-60>*

*Public comment is limited to 3 minutes per speaker.*



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



## Stormwater Infrastructure Inventory Collection Status

Collection Totals

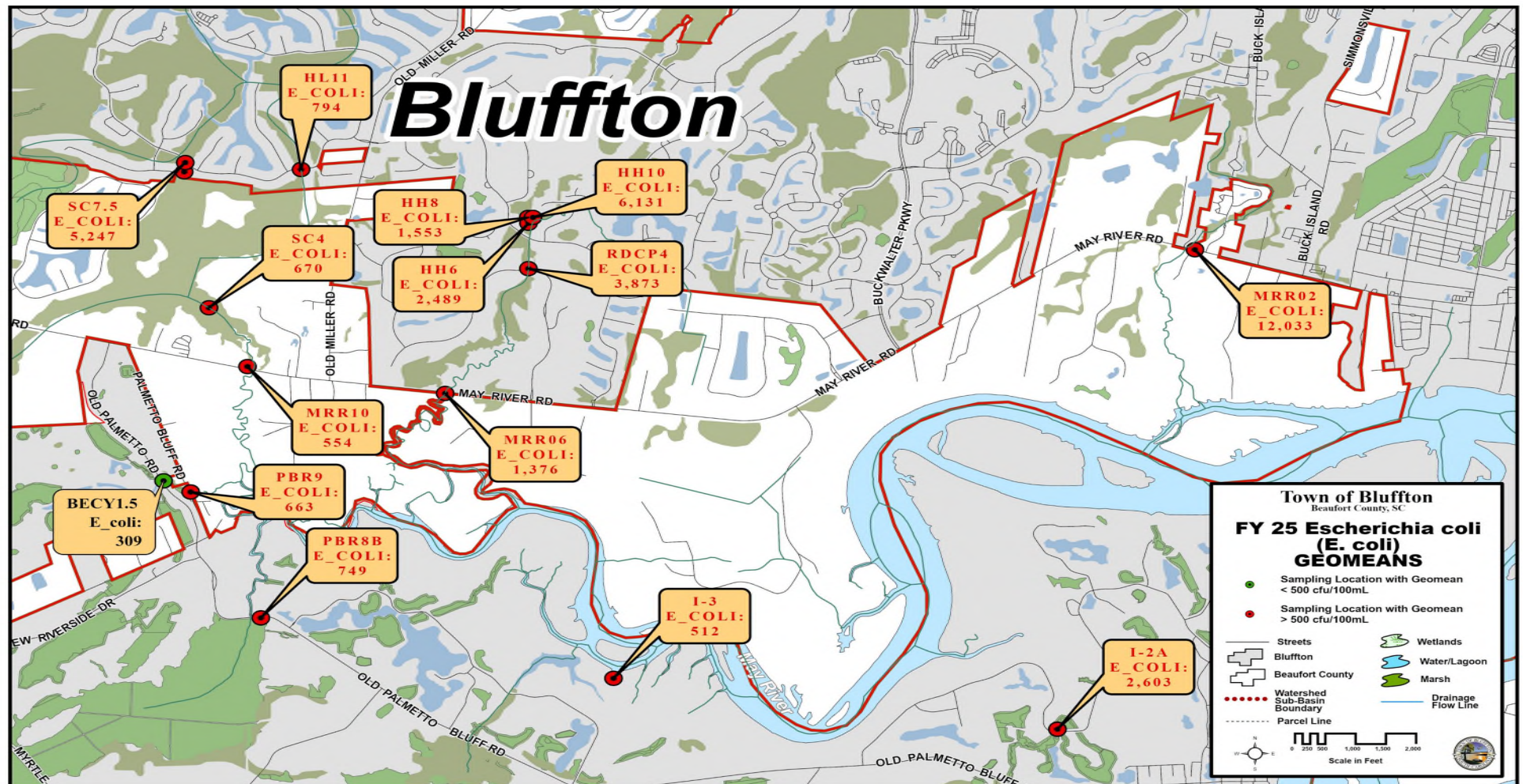
17,447

FY 2025 YTD

213



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

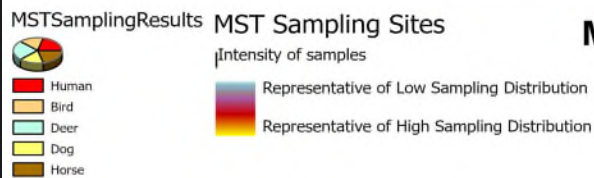


E coliform geomeans updated as of: 7/18/2024

	USCB Water Quality Samples	Microbial Source Tracking Samples	MS4 Quarterly Samples Collected
FY 2025 YTD Totals	63	14	27
FY 2024 Totals	620	62	209
FY 2023 Totals	584	108	108

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





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

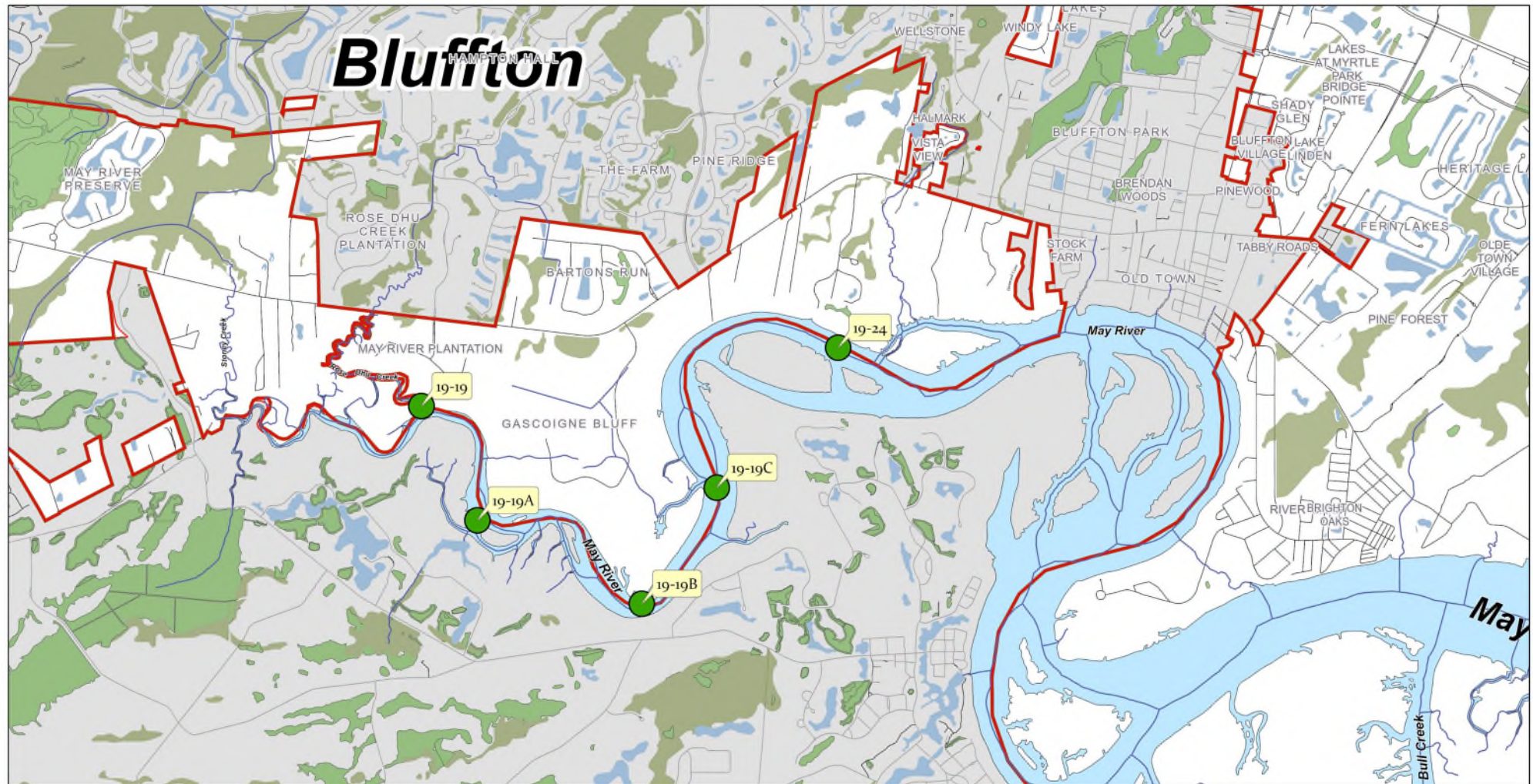
 Town Jurisdiction  
 Beaufort County  
 Drainage Flow Lines



Updated Date: 7/18/2024



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

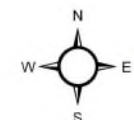


- MST Sampling Location Without Human Genetic Marker Detection
- MST Sampling Location With Human Genetic Marker Detection
- Flowline
- Street
- Town Jurisdiction
- County Jurisdiction

## MICROBIAL SOURCE TRACKING LOCATIONS

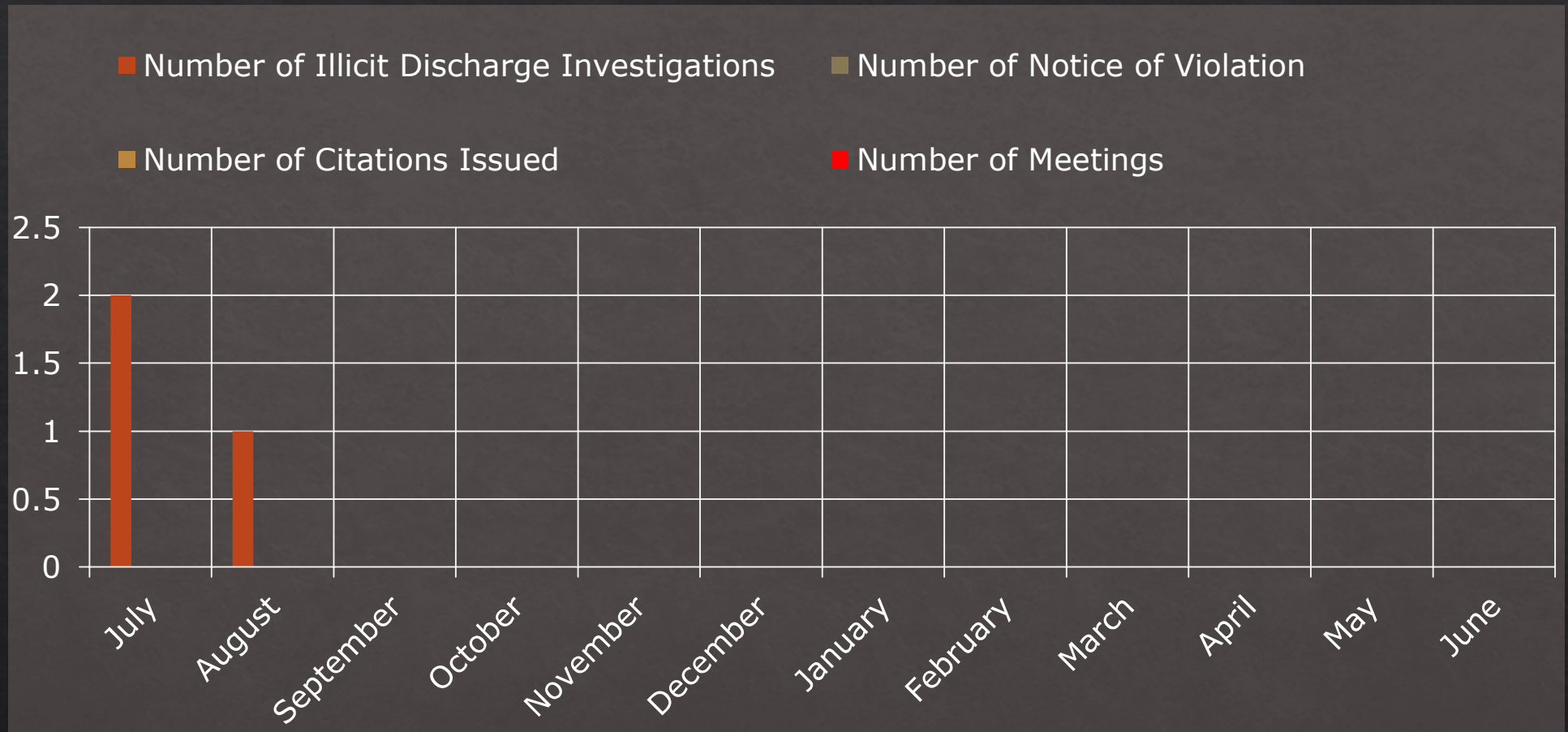
Sampling Results July 8, 2024 SCDES Sampling

Town of Bluffton  
Beaufort County, SC



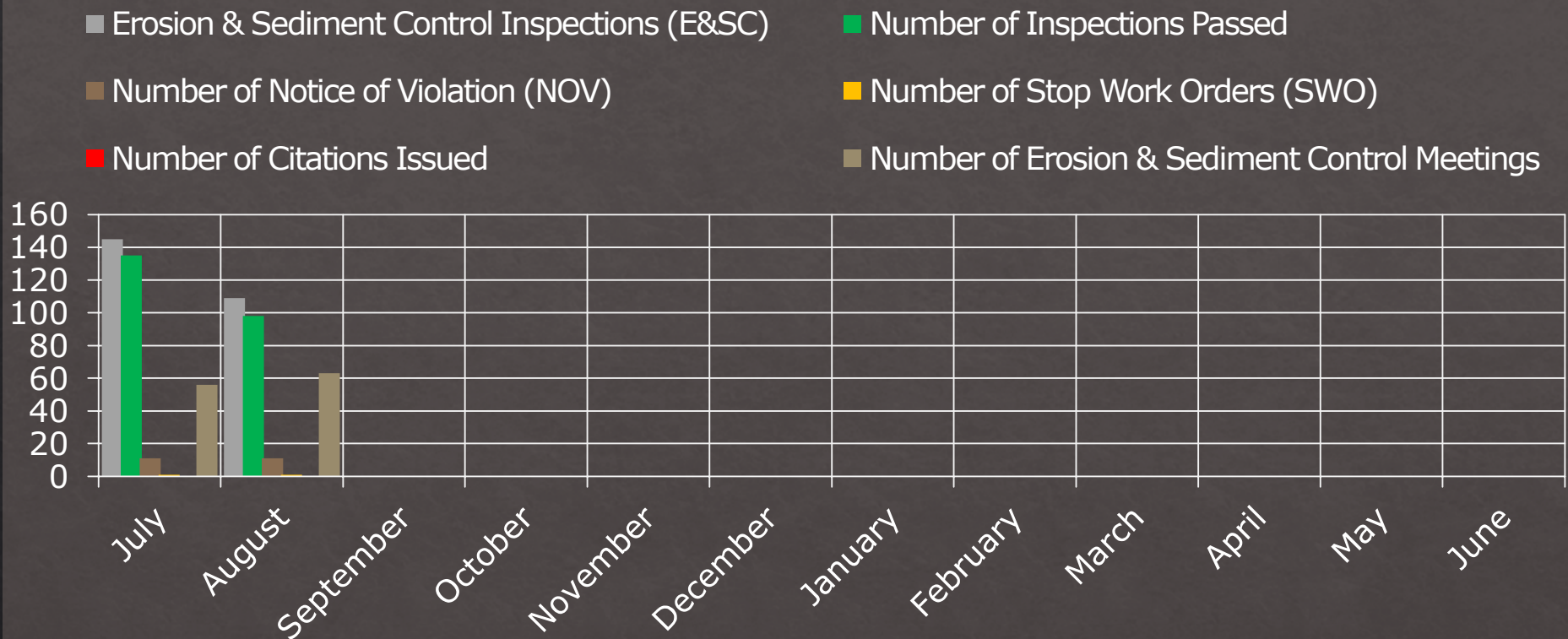


## MS4 Minimum Control Measure #3 – IDDE: Illicit Discharge Investigations



	Number of Illicit Discharge Investigations	Number of Notices of Violation Issued	Number of Citations Issued	Number of Meetings
FY 2025 YTD Totals	3	0	0	0
FY 2024 Totals	33	15	15	35
FY 2023 Totals	27	8	1	20

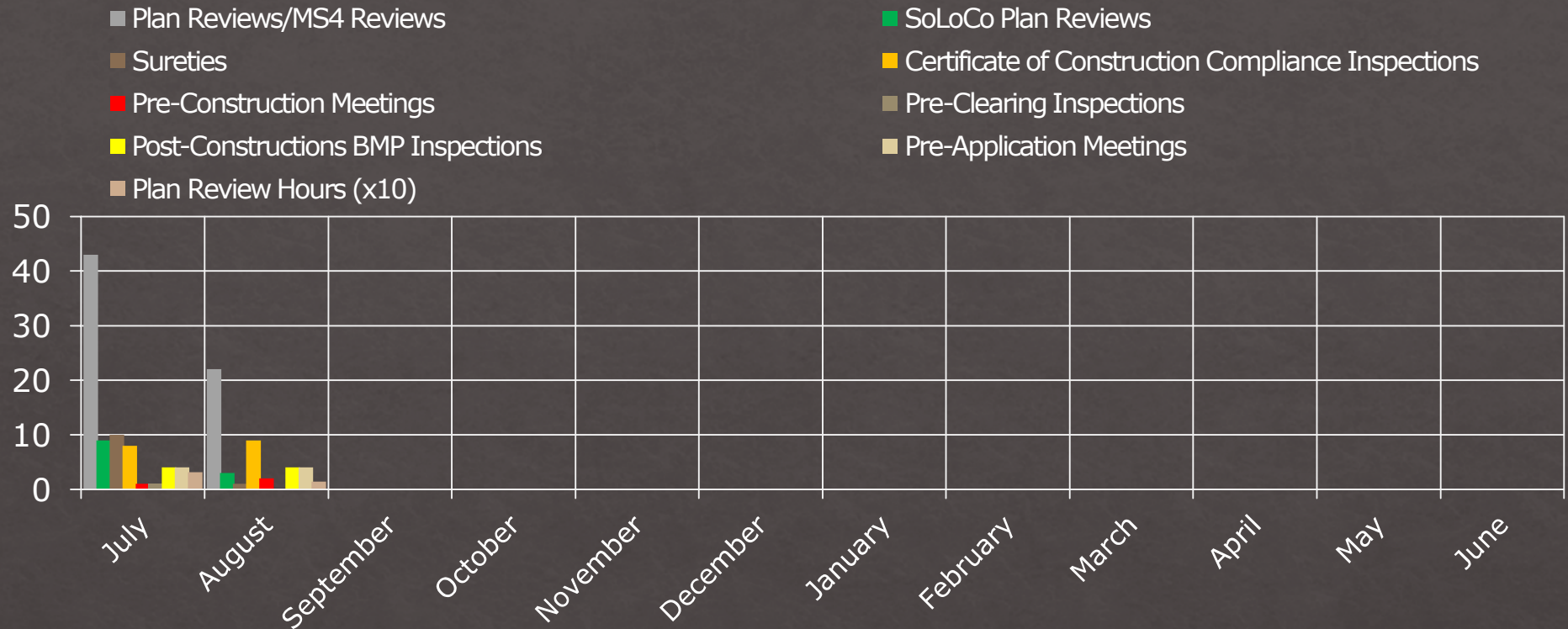
## MS4 Minimum Control Measure #4 - Construction Site Stormwater Runoff Control



	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 2025 YTD Totals	254	233	22	2	0	119
FY 2024 Totals	1,875	1,767	103	10	0	526
FY 2023 Totals	2,321	2,030	266	26	0	577



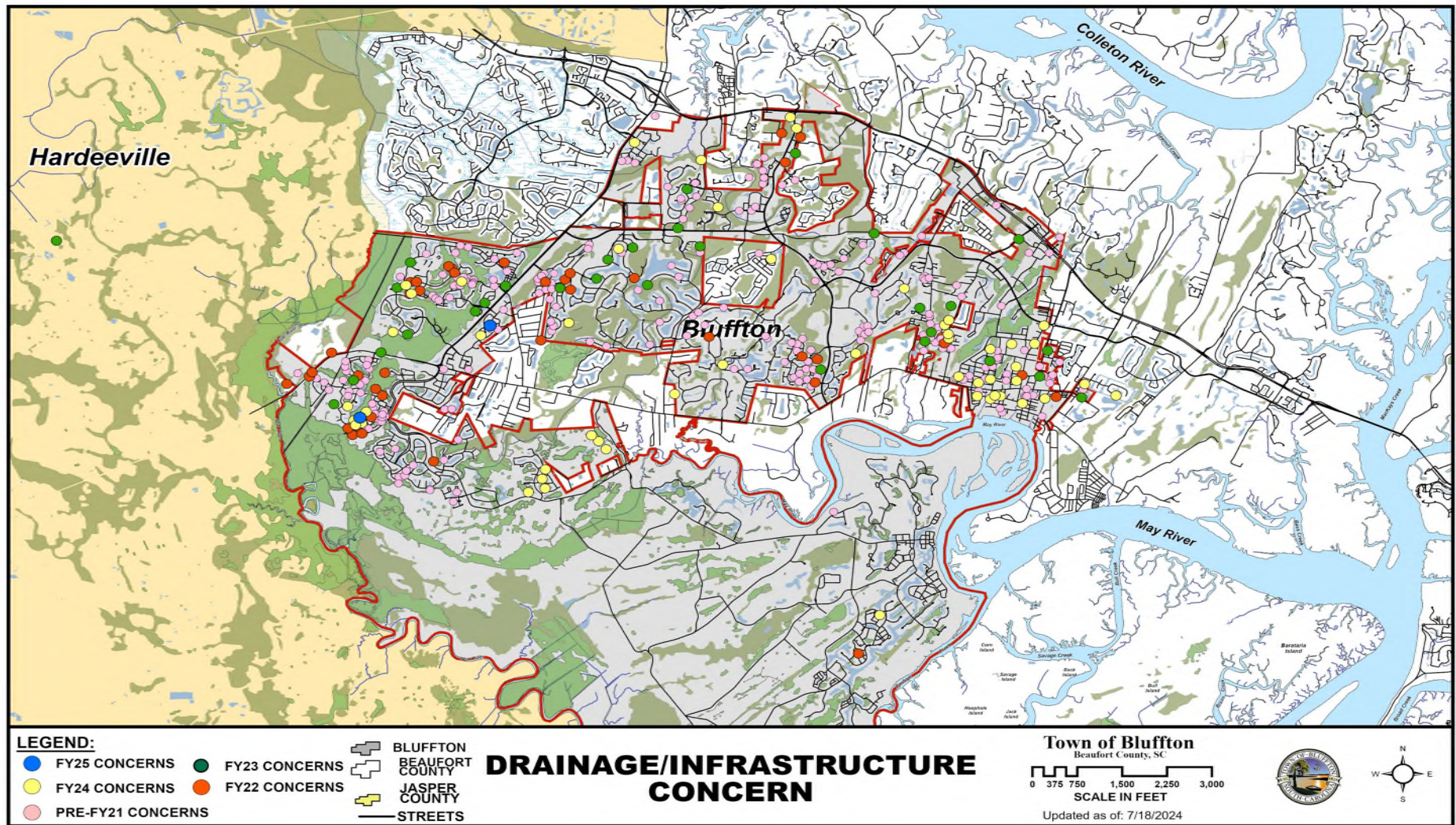
## MS4 Minimum Control Measure #5 Stormwater Plan Review & Related Activity



	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 2025 YTD	65	912	11	17	3	1	8	8	45.50 Hrs.
FY 2024 Totals	330	63	27	69	37	28	48	47	283 Hrs.
FY 2023 Totals	297	67	42	40	15	13	45	50	386 Hrs.



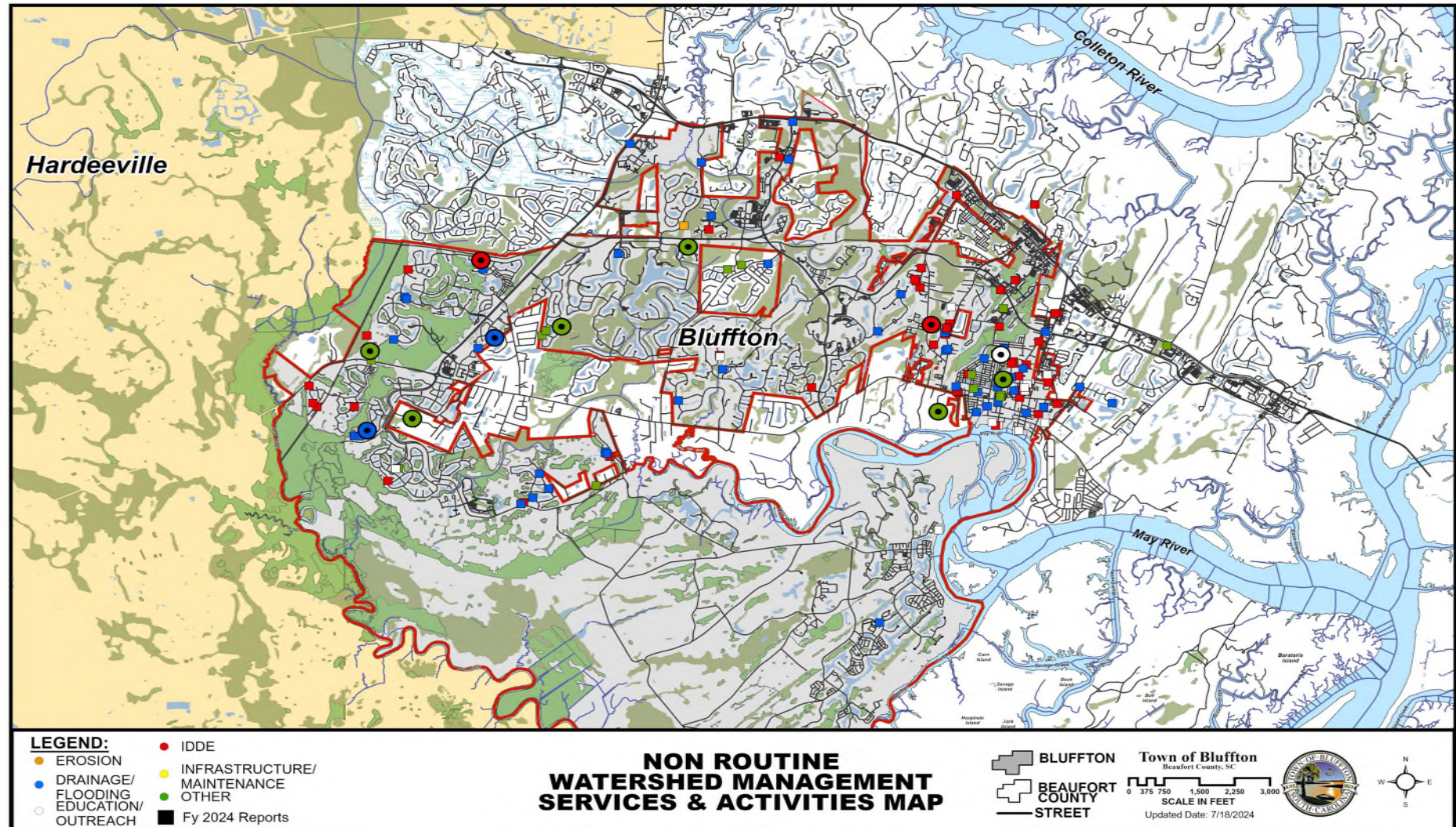
# Citizen Drainage, Maintenance and Inspections Concerns Map



	Number of Drainage Concerns Investigated	Number of Meetings
FY 2025 YTD Totals	4	0
FY 2024 Totals	47	13
FY 2023 Totals	61	52

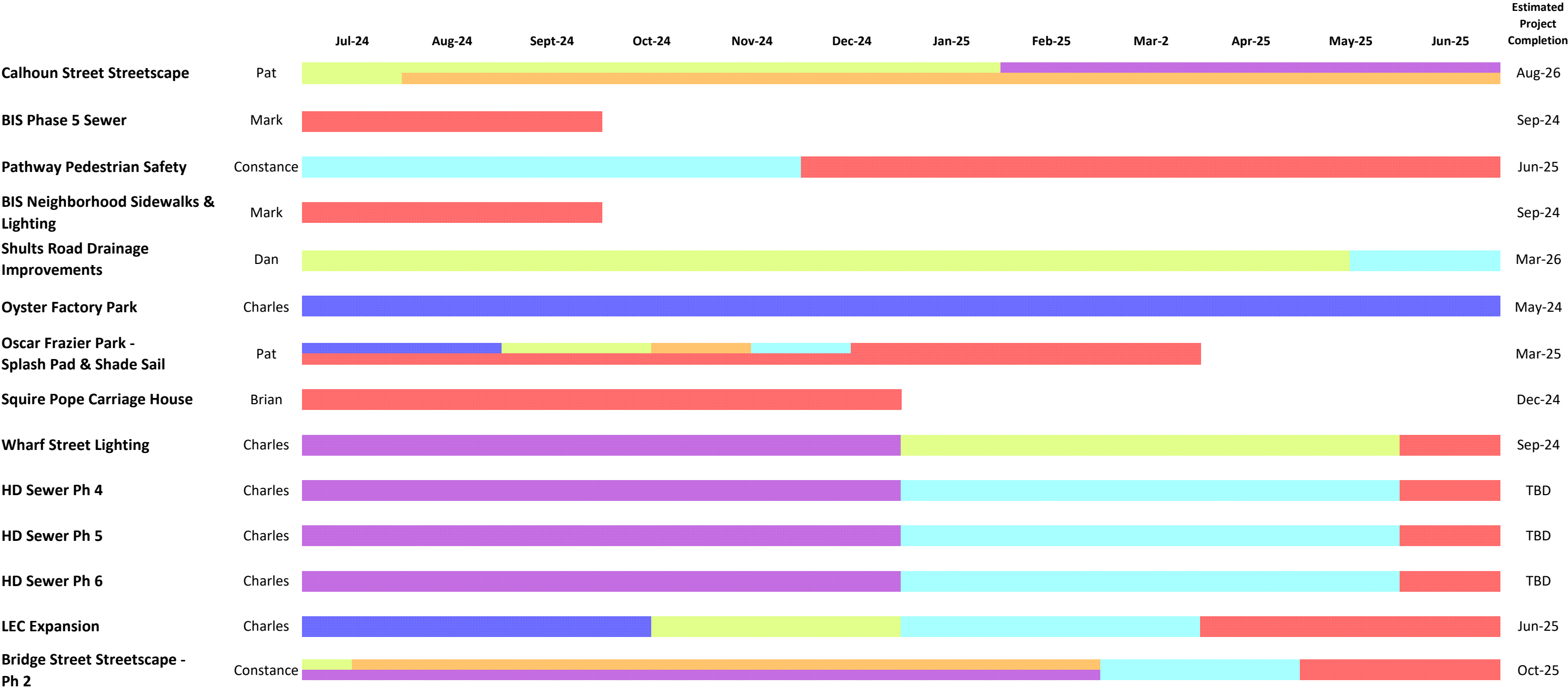


# Citizen Request for Watershed Mngt. Services & Activities Map



	Number of Citizen Requests Investigated	Number of Meetings
FY 2025 YTD Totals	16	4
FY 2024 Totals	137	40
FY 2023 Totals	46	23

FY25 CIP Master Project Schedule



\*SUBJECT TO CHANGE\*



FY25 CIP Master Project Schedule



Planning & Conceptual Design      Final Design & Construction Documents      Permitting      Easement & Land Acquisition      Bidding & Contracts      Construction

\*SUBJECT TO CHANGE\*