May River Watershed Action Plan Update & Modeling Report (MRWAP) Implementation Summary

1. MRWAP Background

- *May River Watershed Action Plan Update & Modeling Report* (MRWAP) was completed November 2020.
- Town Council adopted the MRWAP as a supporting document to the Comprehensive Plan in February 2021.
- The Action Plan Update & Modeling Report included the development of watershed-water quality models (WQ Model) for the four (4) May River Headwaters subwatersheds (Stoney Creek, Rose Dhu Creek, Duck Pond, and Palmetto Bluff) where the shellfish impairments are located.
- The purpose of the modeling effort was to better understand fecal coliform (FC) fate and transport in the Headwaters subwatersheds to develop strategies ultimately intended to open all shellfish stations to harvesting. To capture the variety of storm events and environmental conditions, the Project Team developed a continuous simulation of both water quantity and quality.
- The MRWAP included new water quality improvement projects resulting from the WQ Model. Additionally, the potential fecal bacteria reduction benefits of septic to sewer conversion in the four (4) Headwaters subwatersheds were modeled.

2. Septic to Sewer Project Recommendations/Evaluations

Background:

- The MRWAP evaluated four (4) septic to sewer conversion projects 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 3.46x1013 FC per year.
- The estimated septic to sewer conversion costs of these projects is $5.5 million.

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Update: Stoney Creek/Palmetto Bluff Sewer Partnership

- BJWSA is the Project Manager as the awardee of the RIA-SCIIP grant.
- **Next Steps:**
    - BJWSA continues water/sewer construction and connections in Stoney Creek area. Expected completion date by 6/30/26, per RIA-SCIIP grant timeline. Updates can be found at: https://bjwsa.org/251/Go2Sewer-for-a-Cleaner-Stoney-Creek

3. MRWAP Impervious Restoration Water Quality Projects

Task 1: MRWAP Eleven (11) Proposed Projects Background

- 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.
- Based on WQ Model outputs, these projects alone may potentially reduce FC loading by
    - 2.99×1014 FC reduction for the Full SWRv (entire sub-basin drainage area catchment).
    - 2.53×1014 FC reduction for the Reduced SWRv projects (impervious area drainage area of sub-basin catchment).
- The estimated 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.

Task 1: MRWAP Eleven (11) Proposed Projects Update

- Eleven (11) proposed project sites Rose Dhu Creek (6 projects) and Stoney Creek (5 projects):
    - All geotechnical work, evaluations, site assessments, planning, engineering, and preliminary designs for the 8 original sites is **complete**.
        - 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).~~ **Declined to Participate.**
        - McCracken Middle School/Bluffton Elementary School (MMSBES).
        - May River High School.
        - ~~One Hampton Lake Apartments (OHLA).~~ **Declined to Participate.**

    - Pritchardville Elementary School (PES).
    - ~~Palmetto Pointe Townes (PPT).~~ **Declined to Participate.**
- Next Steps:
    - Finalize Impervious Restoration Program (IRP) Policy Document.
    - Continue to collaborate with Director of Procurement for an agreement with BCSD and Private Owners to construct impervious restoration projects at school sites.
    - 1 CIP IRP Project proposed in FY 27 Town Budget for implementation of Design and Construction.

Task 2: Identify Fifteen (15) New Project Sites Background

- 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).

Task 2: Identify Fifteen (15) New Project Sites Update

    - 15 project sites concept plan development completed.
- **Next Steps:**
    - Finalize Impervious Restoration Program (IRP) Policy Document.
    - Continue to collaborate with the Director of Procurement for an agreement with the Beaufort County School District (BCSD) and private owners construct impervious restoration projects at school sites.

Task 3: MRWAP Impervious Restoration Policy Documents Background

- MRWAP 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.

Task 3: MRWAP Impervious Restoration Policy Documents Update

- Impervious Restoration Program Policy Document Draft submitted and under review. Fee-in-Lieu Program Policy Document - Adopted into the FY26 Master Fee Schedule at the July 2025 Town Council Meeting.
- As Adopted:
    - As part of the SoLoCo Stormwater Design Manual, developers may submit for MEP when the proposed development site has constraints or limitations to which prevent SoLoCo Stormwater Design Manual requirements from being met, specifically stormwater retention volume (SWRv) requirements. SWRv is the volume of stormwater runoff that a stormwater management system can store and treat to improve water quality. The MEP submittal must provide documentable evidence of the process the applicant has performed that demonstrates the restrictions to the use and implementation of the Best Management Practices (BMPs) to meet the SWRv requirements.
    - When a development project cannot accommodate the required SWRv due to on-site constraints identified in the approved MEP analysis, the developer is required to pay a Fee-In-Lieu (FIL) to the Town of Bluffton for the shortfall according to the FIL fee schedule has been adopted as part of the Master Fee Schedule. Funds collected through FIL payments will then be used by the Town to fund other qualified uses that protect water quality within the same watershed as the original project including:
        - The construction and maintenance of impervious restoration program water quality BMPs;
        - Purchase of land for increased conservation areas, application of Better Site Design to the approved Master Plan, buffers, undisturbed open space, and natural resource of significance areas, and
        - Purchase of development rights.
    - FIL payment is based on and equal to a unit of SWRv in cubic feet or designating a conservation area/easement area that protects a qualified natural resource that would otherwise require the same SWRv treatment if developed. The monetary value for a unit of SWRv is based on the current and typical costs for land as well as associated costs for design, construction, construction management, Town program management, post-construction inspection, and ongoing maintenance of water quality BMPs. The SWRv FIL rate is found in the Town's Master Fee Schedule, under Section VII "Stormwater Management Fees,", allowing for annual

review and updates as needed based on the Consumer Price Index (CPI) or based on updated information regarding the cost of water quality BMP construction and maintenance, changes in the construction industry, availability of supplies, etc. If the developer and/or private property owner take responsibility for maintaining the BMP or provide land, then the associated cost for a unit of SWRv could be lessened accordingly.

Item/Description	Fee
Fee-In-Lieu (FIL) For projects with an approved Maximum Extent Practicable (MEP) submittal, the FIL amount is calculated based on an applicant's shortfall, in cubic feet (CF), of the required Stormwater Retention Volume (SWRv).	$151.92/CF of SWRv

- ToB CIP Project Impervious Restoration Program & Incentives – Final Draft under review.

4. Other, Related MRWAP Recommendations

Background:

- The Town should incorporate volume reduction BMPs (those that encourage infiltration) within existing and future CIP projects to the maximum extent practical (MEP), especially for project locations with well-drained soils (HSG A or B).

Other, Related MRWAP Recommendations Update:

- Town is in progress of incorporating volume reduction BMPs within existing and future CIP projects to the MEP. Specific projects currently in progress include:
  - Bridge Street Streetscape Project
    - Water quality monitoring has been completed.
  - Pritchard Street Streetscape and Drainage Improvement Project
    - 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.
    - Awarded Section 319 Grant from SCDES to cost-share cost of construction of proposed water quality BMPs.
    - Construction and administration are on-going.

5. MRWAP Water Quality Program Recommendations Update

Background:

- Section 5.0 of the MRWAP included recommendations for the Town of Bluffton to improve upon their existing monitoring program (concentration and source typing) and flow.

MRWAP Water Quality Program Recommendations Update:

- 5.1.1 In-House Microbial Source Tracking:
    - Staff have collaborated with Dr. Tye Pettay and the USCB Microbial Source Tracking (MST) Laboratory to develop new markers for tracking fecal contamination in the May River Watershed. The primary goal is to identify the sources of bacteria and establish effective mitigation plans. The human genetic marker remains the main focus of the Town's MST sampling program, as it poses the greatest risk to human health.
    - With the introduction of the new MST markers, Town staff have initiated a targeted MST sampling program, starting with the Crooked Cove subwatershed. The Town has now expanded this program into the Heyward, Huger, and Verdier Cove subwatersheds. The MST Program examines multiple potential sources of contamination, including human, dog, deer, horse, and bird waste. Staff are collecting samples during five (5) wet weather events and five (5) dry weather events to characterize each subwatershed.
    - All five (5) dry weather events have been completed for these subwatersheds, leaving only the wet weather events to be collected. Staff continue to focus on interpreting the MST results and developing new educational initiatives before transitioning the MST targeted sampling program to additional subwatersheds.
- 5.1.2 Future (New) Bacteria Monitoring Locations & 5.1.3 Future (New) Water Flow Monitoring Locations
    - Town staff have finalized all bacteria and flow monitoring data collection efforts recommended in sections 5.1.2 and 5.13 of the May River Watershed Action Plan Model Report. These efforts aim to improve/calibrate the Town's stormwater model with a comprehensive dataset.
    - **Previous MRWAP Update:**
        - Town staff working with the Director of Compliance and Contracts to finalize procurement services related to improving/calibrating the Town's stormwater model with all Water Quality Program data.
    - **Current 5.1.2 &5.1.3 Update**
        - The contract for work associated with the calibration of the Town's May River Watershed Action Plan model has been executed. Work was awarded to McCormick Taylor, Inc.

- A 1D 2024 PCSWMM Water Quality Model for the May River headwaters (Rose Dhu Creek, Stoney Creek, Palmetto Bluff, and Duck Pond) has been created and delivered to the Town. In-person PCSWMM training was held with the consultant team in March 2026.

- **Next Steps:**
  - Compare PCSWMM model outputs with the Town's 2018 and 2002 XPSWMM Water Quality Models.
  - Analyze proposed May River water quality improvement projects as designed to validate anticipated improvements.
  - This initiative is part of the WAPAC FY27-FY28 Strategic Plan. The Town's consultant team is expected to present to the committee in the summer or fall of this calendar year.