May River Action Plan 2020 Update

Status Report and Update

Presentation to May River Watershed Action Plan Committee
May 23, 2024
Department of Projects & Watershed Resilience
Dan Rybak, Project Manager

Septic to Sewer Projects

- 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 3.46×10^{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, 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.

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.

Impervious Restoration Program Projects

Within the MRWAP 2020 Update, 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.

Proposed project sites Rose Dhu Creek (6 projects) and Stoney Creek (5 projects):

- 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. Participating in preliminary design development phase.
- 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.**

Impervious Restoration Program Projects

Task 1 : MRWAP Update 11 site locations

- 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. **Complete.**
- 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 information and Property Owner feedback further refine concept plans to Preliminary Design. **Field review meetings held March 28 and April 15 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.**
- Preliminary Design development plans will be presented to the Property Owner for review and discussion.

Impervious Restoration Program Projects

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

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**

Impervious Restoration Program Projects

Task 3 : 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.

Update:

Based on review of content of DRAFT Policy Document, The Town Feels the document needs to 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)**

CIP Impervious Restoration Program Projects

- **Bridge Street Streetscape Project** – Construction Complete.
- Post-construction water quality monitoring Continues.
- 319 Water Quality Grant Total Funding = **$228,165.15**

CIP Impervious Restoration Program Projects

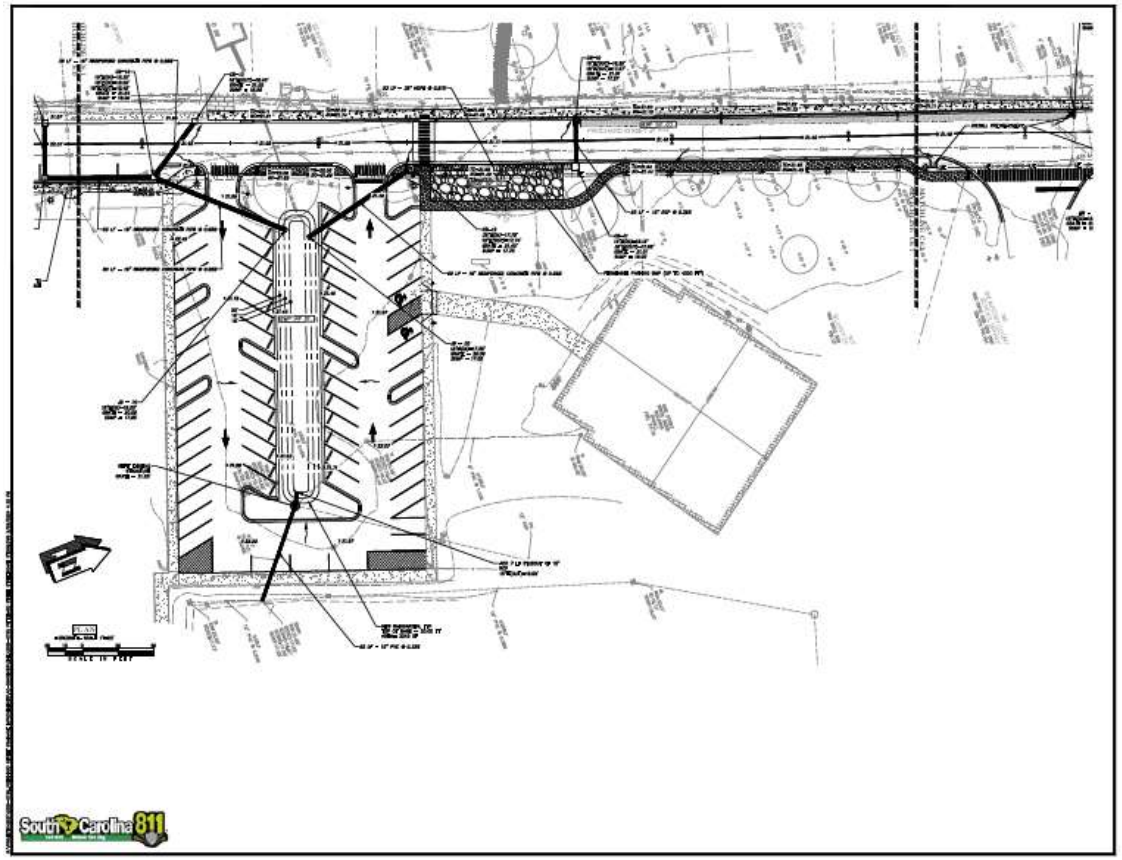
- Bridge St Water Quality Monitoring Update

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

RAINSTORMS OVER AND INCH	
Rainstorm Event	Rainfall (in)
July 5th	1.46 inches over 1 hour
July 10th	1.17 inches over 7 hours
July 28th	1.28 inches over the whole day
August 28th	1.23 inches over 1 hour
August 30th	1.23 inches over the whole day
September 1st	1.1 inches over 3 hours
September 10th	3.82 inches over 4 hours
September 17th	1.09 inches over 6.5 hours

Impervious Restoration Program Projects

- **Pritchard Street Drainage Improvement and Streetscape Project**
- 95% Design Submittal received February 29, 2024.
- Public Project DRC meeting held April 3, 2024. Internal review comments completed and Design update in process.
- 319 Water Quality Grant Total Funding = **$124,577.00**



Impervious Restoration Program Projects

In-House Microbial Source Tracking

- 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.

Future (new) Bacteria Monitoring Locations

- 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.
- Staff are working diligently to collect samples following wet weather conditions which have been Water Environmental Consultants (WEC) further defined wet weather as samples collected within 24-hours of ≥0.50 inches of rainfall. The USCB Water Quality Laboratory has been assisting the Town with ensuring samples can be analyzed on short notice.

Impervious Restoration Program Projects

Future (new) Water Flow Monitoring Locations

- Staff continue to operate and maintain three (3) SonTek IQ-Plus 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. These systems have been in place, collecting continuous flow data every 15-minutes, for one (1) full year to account for seasonality.
  - The Stoney Creek subwatershed SonTek IQ-Plus has operated almost continuously for two (2) 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 data collection 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. WEC will provide final reports detailing these three (3) subwatersheds all 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.

Impervious Restoration Program Projects

Future (new) Water Flow Monitoring Locations

- 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).
- 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.

QUESTIONS & DISCUSSION