

TOWN OF BLUFFTON MAY RIVER WATERSHED ACTION PLAN ADVISORY COMMITTEE

**Henry "Emmett" McCracken Jr. Council Chambers, Town Hall
Thursday, February 23, 2023**

Present: Stan Rogers, Chair; Al Stokes, Carmen Manning, Jessie White, Amber Kuehen, Emmett McCracken, Emeritus

Absent: Chris Shoemaker, Larry Toomer; Vice-Chair

Staff: Beth Lewis, Bill Baugher, Christina Hurd, Dan Rybak, Nicole Wright

Guest: Dr. Andrew Tweel, Dr. Denise Sanger, Dr. Peter Kingsley-Smith, and Pam Marcum – South Carolina Department of Natural Resources

Media: None

I. CALL TO ORDER

1. Mr. Rogers, Chair, called the meeting to order at 3:04PM.

II. NOTICE REGARDING POSTING OF MEETING PER SOUTH CAROLINA FREEDOM OF INFORMATION (FOIA) REQUIREMENTS

III. ROLL CALL AND CONFIRMATION OF QUORUM

1. Members introduced themselves.

IV. ADOPTION OF AGENDA

1. Ms. Kuehn moved to adopt the Agenda. Mr. Stokes seconded the motion. Unanimous ayes.

V. APPROVAL OF MINUTES

1. Ms. White moved to adopt the January 26, 2023 meeting minutes as presented. Mr. Stokes seconded the motion. Unanimous ayes.

VI. PUBLIC COMMENTS

1. None

VII. PRESENTATIONS, CELEBRATIONS AND RECOGNITIONS

1. **Proposed Approach to Updating a Baseline Assessment of Environmental and Biological Conditions in the May River, Beaufort County, South Carolina – Andrew Tweel, Assistant Marine Scientist, SC Department of Natural Resources**

Ms. Lewis introduced Dr. Andrew Tweel, Dr. Denise Sanger, Dr. Peter Kingsley-Smith, and Pam Marcum with the South Carolina Department of Natural Resources (SCDNR) Marine Resources Research Institution, to the committee. Dr. Tweel presented information about SCDNR's proposed approach to updating the 2004 Baseline Assessment. SCDNR answered questions from the committee following Dr. Tweel's presentation. **(ATTACHMENT 1)**

VIII. OLD BUSINESS

1. May River Watershed Action Plan Project Implementation Status Report - Dan Rybak, Project Manager

Mr. Rybak, Project Manager, provided the committee with May River Watershed Action Plan Project Implementation Status Report. Mr. Rybak answered questions from the committee following Mr. Rybak's presentation. **(ATTACHMENT 2)** Ms. Manning asked Mr. Rybak if the fecal coliform concentration reductions included in his presentation were from the May River Watershed Action Plan Model Report (henceforth: Modeling Report). Ms. Manning stated that the Modeling Report that envisioned the Town's projects was based on sophisticated modeling and assumed they would reduce the fecal loading by an expected amount. Ms. Manning stated her concern over these estimated reductions was that **FIGURE 13** from the Modeling Report had the septic and sewer reversed. Ms. Manning stated that if the data used to model the whole watershed was not correct then the model outputs could not be relied upon. Ms. Manning stated she thought these numbers could not be used because they were suspect. Mr. Rybak and Ms. Manning agreed there would be fecal coliform concentration reductions with the Modeling Report projects, however Ms. Manning stated she was unsure if the reductions would be as significant as the Modeling Report provided. Mr. Rybak also provided the committee with a May River Watershed Action Plan Update and Modeling Report Overview and Status Report as part of the committee's packets. **(ATTACHMENT 3)**

IX. DISCUSSION

1. WAPAC Strategic Priority Two (2), to Update Assessment of Current Environmental Health Status of the Town's Watersheds Compared to Historical Conditions to Inform Management Opportunities e.g., the 2004 Report "A Baseline Assessment of Environmental and Biological Conditions in the May River, Beaufort County, South Carolina" Completed by SC Department of Natural Resources, USGS, and NOAA to Compare Current Environmental and Biological Conditions to the Baseline

Ms. Lewis opened the discussion by presenting the committee with a Draft Strategic Plan Priority Two Letter of Support addressed to Town Council. The committee made edits to the draft letter of support however did not have time to finalize the document. **(ATTACHMENT 4)**.

Following discussion, Mr. Rogers, Chair, stated the committee would continue to draft the Strategic Plan Priority Two (2) Letter of Support. Mr. Rogers stated committee members should email all Letter of Support edits by March 9, 2023. Mr. Rogers stated he would coalesce these edits and present an amended draft to the committee at the March 23, 2023 meeting. Mr. Rogers reminded the committee that a vote to approve the Strategic Plan Priority Two (2) Letter of Support would take place at the March meeting.

X. NEW BUSINESS

1. Introduction of Nicole Wright, Stormwater Technician - Bill Baugher, Watershed Division Manager

Mr. Baugher, Watershed Division Manager introduced the Town of Bluffton's new Stormwater Technician, Nicole Wright, to the committee.

2. Port Royal Sound Foundation State of the Sound Symposium Highlights – Al Stokes, WAPAC Committee

WAPAC member, Mr. Stokes, presented highlights from the Port Royal Sound Foundation's State of the Sound Symposium.

3. Revised Federal Definition of Urbanized Area (UA) – Beth Lewis, Water Quality Program Administrator

Mr. Baugher discussed the Revised Federal Definition of Urbanized Area (UA). Mr. Baugher stated that the revised UA definition will not impact the Town of Bluffton's Municipal Separate Storm Sewer (MS4) permit. (ATTACHMENT 5)

4. Town Requirements for Meeting Minutes - Beth Lewis, Water Quality Program Administrator

Ms. Lewis, Water Quality Program Administrator, provided the committee with a brief overview of Freedom of Information Act (FOIA) requirements for meeting minutes and outline the Town staff's timeline for WAPAC meeting minutes. (ATTACHMENT 6)

5. Burnt Church Road Project, Coordination Between Beaufort County and Town of Bluffton – Beth Lewis, Water Quality Program Administrator

Ms. Lewis stated Ms. Kim Washok-Jones spoke to Beaufort County's Transportation Manager via email on the Beaufort County Burnt Church Project. The County Transportation Manager informed Ms. Washok-Jones that Burnt Church Road was a South Carolina-owned roadway and therefore the County would be required to adhere to South Carolina Department of Transportation (SCDOT) stormwater standards. Beaufort County stated they would take recommendations and incorporate as many possible low impact development (LID) best management practices into the project as possible.

XI. ADJOURNMENT

1. Unanimous decision to adjourn at 5:31P.M. Next meeting: March 23, 2023 @ 3:00 PM in the Town of Bluffton Council Chambers.

Attachments:

1. South Carolina Department of Natural Resources May River 2023 Overview of Proposed SCDNR Effort to Update 2004 Baseline Assessment
2. May River Watershed Action Plan Project Implementation Status Update
3. May River Watershed Action Plan Update and Modeling Report Overview and Status Report (committee handout)
4. Draft May River Watershed Action Plan Advisory Committee (WAPAC) Strategic Plan Priority Two (2) Letter of Support to Town Council
5. Revised Federal Definition of Urbanized Area (UA) Map
6. Review of Meeting Minutes

May River Project

Attachment 1
SCDNR Overview of Proposed SCDNR Effort
to Update 2004 Baseline Assessment

Assessing change after 20 years



Andrew Tweel, Denise Sanger, Peter Kingsley-Smith

Marine Resources Research Institute

Ed Wirth and Marie DeLorenzo

NOAA Hollings Marine Lab



Original study 2002-2004

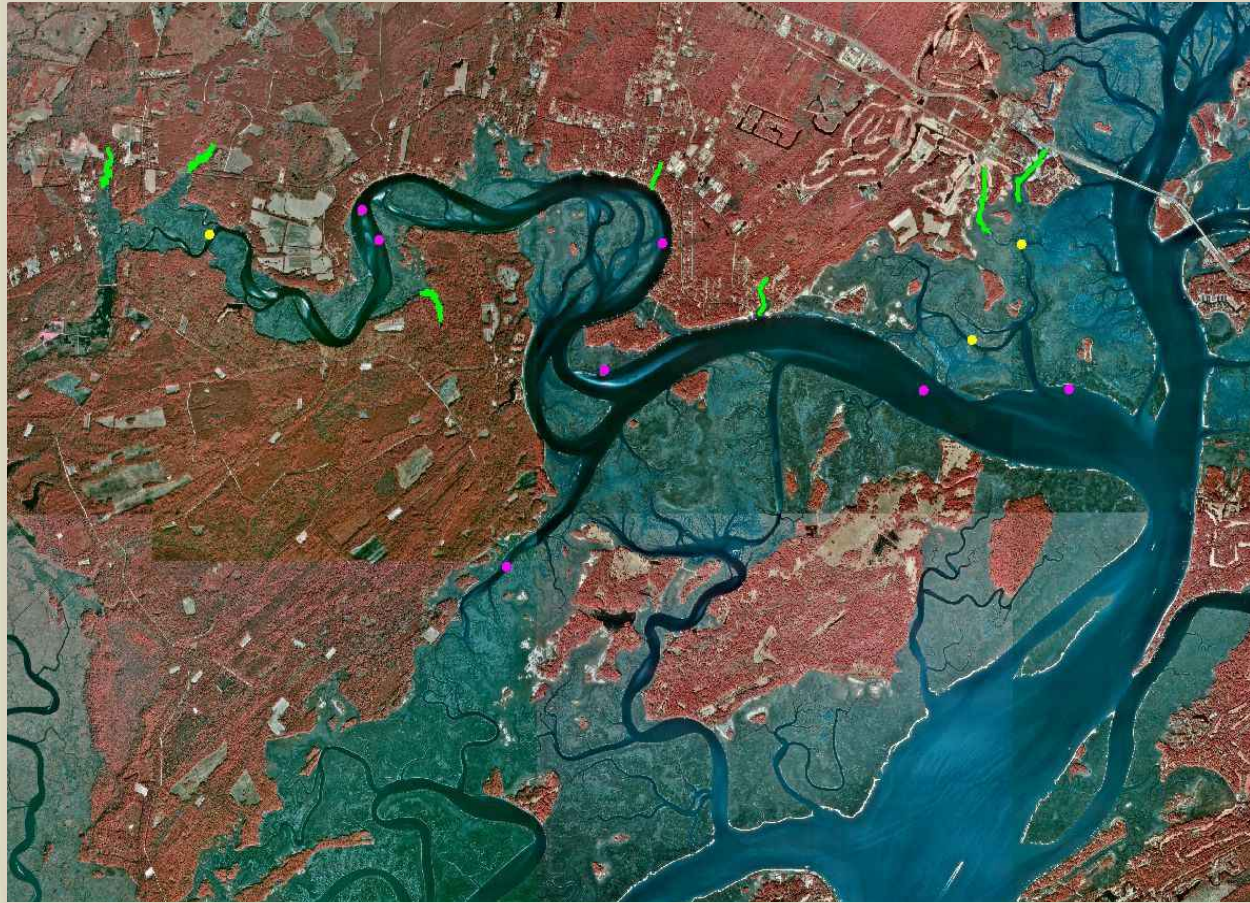
- With substantial planned developments, SCDNR and collaborators were contracted to conduct a comprehensive baseline assessment of the May River drainage system
- Why the May River?
 - Economically and ecologically important area
 - Outstanding Resource Waters (ORW) designation by SCDHEC
 - Significant shellfish resources

Original study 2002-2004

- SCDNR, USGS, NOAA
- Water quality monitoring
 - Continuous stream gages (3), quarterly water quality (16) and fecal sampling (6)
- Sediment quality
 - Contaminants, toxicity, composition (summer, 16 sites)
- Biological resources
 - Benthic community (16), fish/crustacean (16), shellfish (11), phytoplankton (16, quarterly)

What has changed in and around the May River?

- The watershed around the May River has undergone significant development
 - May River headwaters impervious cover: 6% in 2002 to 15% in 2018
 - Increased use of waterways— boat traffic, fish and shellfish harvesting
- Changes in climate and sea level
 - Different types and timing of precipitation events
 - Warmer winters
 - Sea level rise



1994



2021

Proposed study overview

- Revisit original study sites where possible
- Collect corresponding data
 - Match parameters where appropriate
 - Match seasonal timing as much as possible
- Broad ecosystem approach
 - Habitat quality assessment
 - Tidal creeks (big and small)
 - Open water
 - Oyster health and productivity assessment

Proposed tidal creek and open water assessments

- Revisit original study sites
 - Broad spatial coverage
 - Upper and lower reaches
 - Diversity of habitat types
 - Shallow headwaters
 - Large tributaries
 - Main branch, deep sites
 - Diversity of development changes



Proposed tidal creek and open water assessments

- At each site:
 - Basic water quality
 - Temperature, oxygen
 - Nutrients (TP, TN, nitra./nitri.)
 - Fecal coliform
 - Sediment quality
 - Chemical contaminants
 - Toxicity assessment
 - Grain size
 - Biological quality
 - Benthic community
 - Nekton community (large tidal and open water sites only)



Comparison of original vs proposed habitat quality assessment

	2002-2004 study	Proposed 2023 study	Existing monitoring
Sites	Headwater TC, large TC, OW. Full length coverage.	Headwater TC, large TC, OW. Full length coverage.	
Stream gages	3 sites	No gages	
Water quality	Quarterly (16)	Summer only	
Fecal sampling	Quarterly conc. (6) and summer typing (16)	Summer only, conc.	Existing monthly sampling
Sediment quality	Summer (16)	Summer (16)	
Benthic community	Summer (16)	Summer (16)	
Fish/crustacean	Summer (16)	Summer (10)	Eric Montie, USCB in HTC
Phytoplankton	Quarterly (16)		

Proposed oyster assessments

- Revisit 6 of 11 original sites
 - Cover entire reach
 - Above and below restricted harvest areas
 - 5 of 6 correspond to habitat quality assessment sites
 - Diversity of:
 - salinity regimes
 - development changes
 - residence times/flushing

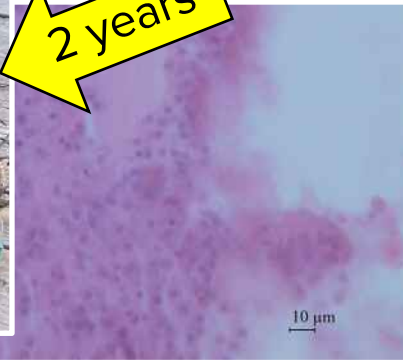


Proposed oyster assessments

- At each site:
 - Demographics
 - Abundance, size/height, mortality
 - Disease
 - Dermo and MSX
 - Prevalence and intensity
 - Recruitment
 - Live, dead, size, count
 - Other fauna identified/counted



2 years



Comparison of original vs proposed oyster resource assessment

	2002-2004 study	Proposed 2023 study
Oyster demographics: <ul style="list-style-type: none"> • abundance • size (shell height) • % mortality 	11 sites in upper (3), mid (5) and lower (3) zones 5 replicates per site	6 sites in upper (2), mid (2) and lower (2) zones 3 replicates per site
Health / tissue contamination	20 per site, subcellular analyses	Not proposed
Oyster disease	25 oysters per site 11 sites Dermo and MSX Prevalence & intensity	24 oysters (8 x 3) per site 11 sites Dermo and MSX Prevalence & intensity
Oyster recruitment	3 recruitment trays at each of 11 sites Live, dead, measured and counted Key fauna identified and counted	3 recruitment trays at each of 11 sites Live, dead, measured and counted Key fauna identified and counted

Proposed timeline

- **Spring 2023:** Deployment of oyster recruitment trays (not Town funded)
- **Early July 2023:** Official project start?
- **July-August 2023:** Field sampling (TCP, SCECAP, Oyster disease and demography)
- **Fall/winter 2023:** Laboratory analyses incl. QAQC
- **Winter/spring 2023/2024:** -Data analysis incl. comparison to original datasets
-Collection of oyster trays
- **Spring/summer 2024:** Writing
- **Fall 2024:** Report complete
- **December 2024:** Project end

Questions?

Andrew Tweel
Environmental Research Section
tweela@dnr.sc.gov





May River Action Plan 2020 Update

Status Report and Update

**Presentation to May River Watershed Action Plan
Committee**

February 23, 2023

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.

1. 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.

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):

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

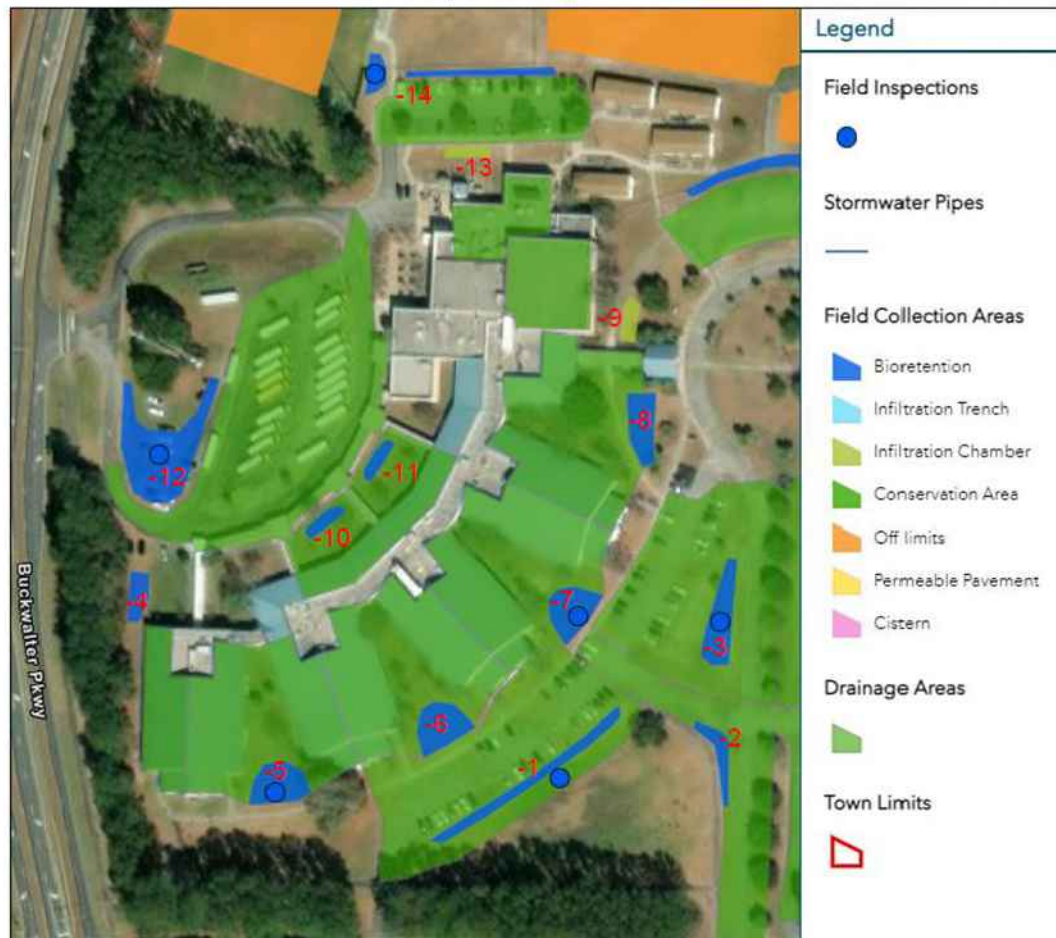
- Evaluate 11 sites and proposed BMPs. **Complete**
- Update concept plans for 11 sites based on site evaluations, recommendations and discussions. **Complete for school sites. These plans were used to determine locations for Geotech boring locations.**
- Perform geotechnical evaluations at each site at locations related to BMP locations of updated concept plans. **Complete at School site locations. Others being scheduled.**
- 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

Impervious Restoration Program Projects



Updated Project Site Concept Plan Example:

H.E. McCracken Middle School (HEMMS)



* GI/LID Practice Areas are shown to approximate scale based on drainage areas (light green shading).

Impervious Restoration Program Projects



- Geotechnical Results Summary – School Sites

Test Number	Soil Type	Infiltration Test Depth		Ksat in/hr	Water Table Depth (WTD)		Difference from WTD to Infil Test in	Geotech Notes, post-report email	Preliminary Auger Test (GMC) for comparison			
		in	ft		ft	in			Site ID	Soil Texture	% Sand	WTD
BELC-1	SAND with silt	42	3.5	0.04	6	72	30		2	Loamy Sand	88%	> 4'
BELC-2	SAND with silt	52	4.3	0.20	6	72	20		4	Loamy Sand	84%	> 4'
BELC-4	SAND with silt	50	4.2	0.06	6	72	22	*50" per email from Nick Johnson	3	Sand	90%	46"
BELC-5	SAND with silt	36	3.0	0.01	6	72	36		1	Sand	92%	38"
BELC-6	SAND with silt	51	4.3	5.77	6.5	78	27		NEW			
BES-1	SAND with silt	32	2.7	0.52	4	48	16		1	Sand	96%	43"
BES-4	SAND with silt	59	4.9	0.06	7	84	25		2	Sand	92%	> 4'
BES-6	SAND with silt	39	3.3	1.76	5	60	21	Offset <5' to the SE (utility conflict)	3	Sand	94%	> 4'
BES-10	SAND with silt	14	1.2	0.05	6	72	58		4	Sand	94%	42"
BES-12	SAND with silt	35	2.9	2.16	5	60	25		5	Sand	92%	36"
BHS-1	SAND with silt	53	4.4	7.21	6	72	19		NEW			
BHS-5	SAND with silt	42	3.5	2.08	6.5	78	36		2	Sand	94%	> 4'
BHS-7	SAND with silt	55	4.6	5.21	6	72	17	Offset <5' to the S/SW (utility conflict)	NEW			
BHS-9	SAND with silt	60	5.0	2.11	6	72	12		3	Sand	94%	> 4'
BHS-11b	SAND with silt	41	3.4	0.11	5.7	68	27		5	Sand	92%	44"
HEMMS-1	SAND	23	1.9	0.42	4.3	52	29		1	Sand	96%	24"
HEMMS-3	SAND with silt	33	2.8	0.35	4.5	54	21		5	Sand	89%	> 4'
HEMMS-5	SAND with silt	51	4.3	5.97	6	72	21		2	Sand	94%	> 4'
HEMMS-12	SAND with silt	49	4.1	3.67	6	72	23		3	Sand	96%	> 4'
HEMMS-14b	SAND with silt	42	3.5	10.65	5.1	61	19		4	Sand	93%	> 4'
MRHS-8	Clayey SAND	84	7.0	0.06	8	96	12		NEW			
MRHS-12	SAND with silt	79	6.6	0.35	7.7	92	13		3	Sandy Clay Loam	59%	
MRHS-27	Clayey SAND	84	7.0	0.11	8	96	12		6	Sandy Clay Loam	65%	
MRHS-34	SAND with silt	89	7.4	0.43	8.5	102	13		NEW			
MRHS-35	SAND with silt	72	6.0	1.76	8	96	24		4	Sandy Clay Loam	73%	
PES-6	SAND with silt	48	4.0	2.08	5	60	12		2	Loamy Sand	86%	> 4'
PES-11	SAND with silt	73	6.1	0.84	7.1	85	12		4	Loamy Sand	88%	> 4'
PES-13	SAND with silt	72	6.0	1.58	7	84	12		3	Loamy Sand	88%	> 4'
PES-16	SAND with silt	85	7.1	0.12	8.1	97	12		NEW			
PES-17alt	SAND with silt	72	6.0	0.31	7	84	12		NEW			

Impervious Restoration Program Projects



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:

Desk top 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

Impervious Restoration Program Projects



Top 20 Potential		Rob's Initial Thoughts				Parcel Approx Impervious D.I.		Major Soil Type				Additional		Other Notes	
Positives	Concerns	Objec ID	Site Name	Address	Owner	acres	SF	acres	Abbrev Soil Series	Soil Series	HSG/WTD	Soils			
Yes	Good soils, large impervious footprint	Would this be a responsive partner?	67	Domination Energy Engr Office	81 May River Rd	SC E&G Co	13.53	251,064	5.8	Sk	Seabrook fine sand	A	24-36	None	
No	Good soils	Outside Town limits, small impervious area	68	Bluffton Fire Station Admin Annex	178 May River Rd	Pitchardville Volunteer Fire Dept	0.74	15,900	0.4	Sk	Seabrook fine sand	A	24-36"	Not in Town Limits; large nursery in adjacent parcel	
Maybe/Yes	Good soils	Small impervious area	69	Bluffton Fire Station #31	31 Red Barn Dr	Bluffton Township Fire District	2.91	29,268	0.7	Sk	Seabrook fine sand	A	24-36	Sk	
Maybe/No	Good soils	Unknown partner	70	Rose Dhu Equestrian Center	18 Rose Dhu Creek Plantation	Rose Dhu Equestrian Center LLC	13.99	97,237	2.2	Cs	Coosav loamy fine sand	A	24-36	Wn	
No	Large impervious footprint	Poor Soils, unknown partner	71	Hilton Head Christian Academy	11 Masters Way	Hilton Head Christian Academy	25.47	328,621	7.5	De	Deloss fine sandy loam	B/D 0"	Sv, Bd	Mostly even split between three soils, least with Bd	
Maybe/Yes	Good soils, moderate impervious footprint	On outside edge of Town Limits	72	Bluffton Fire Station #35	357 Fording Island Rd	Bluffton Township Fire District	3.76	76,072	1.7	Cs	Coosav loamy fine sand	A	24-36	Wn	Not in Town Limits
No	Large impervious footprint	Poor Soils, unknown partner	73	St. Gregory Catholic Church/School	31 St Gregory Dr	The Bishop of Charleston	60.31	495,725	11.4	Wa	Wahee fine sandy loam	C/D 6-18"	Wn		
No	Large impervious footprint	Poor Soils, unknown partner	74	Cross Schools	435 Buckwalter Pkwy	Cross Outreach Ministries Inc.	9.38	279,890	6.4	Yo	Yonges loamy fine sand	A/D 0-12"		Own an adjacent 60 acres in 2 parcels	
Yes	Great soils, large impervious, good partner		75	River Ridge Academy	3050 River Ridge Rd	Beaufort County School District	41.06	511,804	11.7	Wd	Wando fine sand	A	>80"	Sk	
Maybe/Yes	Good soils	On outside edge of Town Limits	76	Bluffton Fire Station #38	260 Raider Dr	Bluffton Township Fire District	3.32	49,130	1.1	Sk	Seabrook fine sand	A	24-36	Po	Not in Town Limits
Maybe/Yes	Great soils, large impervious footprint	On outside edge of Town Limits	77	Bluffton Fire Station #30	193 Burnt Church Rd	Bluffton Township Fire District	9.19	177,331	4.1	Wd	Wando fine sand	A	>80"		Not in Town Limits
Yes	Great soils, large impervious footprint, good partner		78	M.C. Riley Early Childhood Center	172 Burnt Church Rd	Beaufort County School District	15.21	162,436	3.7	Wd	Wando fine sand	A	>80"	Lo	
Yes	Great soils, large impervious footprint, good partner		79	M.C. Riley Elementary School	200 Burnt Church Rd	Beaufort County School District		241,474	5.5	Wd	Wando fine sand	A	>80"	Sk, Lo	Fairly even split of Wd & Lo
Yes	Good soils, looks to be separate from School	Does Town or School own site? Should it merge with 3 or 5?	80	Bluffton Pool (& parking lot)	55 Pitchard St	Beaufort County School District	17.25	48,109	1.1	Sk	Seabrook fine sand	A	24-36	Lo	Within MC Riley Elem Parcel
Maybe/Yes	Great soils, Town facility	Already has LID, maybe limited opportunities	79/80	Town Hall	20 Bridge Street	Beaufort County School District		79,525	1.8	Wd	Wando fine sand	A	>80"	Sk	Within MC Riley Elem Parcel, some perm pave?
Yes	Great soils, Town & County Owned		81	Bluffton Oyster Factory Park	63 Wharf St	Town & County	6.20	87,515	2.0	Wd	Wando fine sand	A	>80"	Lo	3 parcels at Bridge/Wharf Streets
Maybe/Yes	Good soils, County-owned	small impervious footprint, future plans?	82	M.C. Riley Sports Complex	185 Goethe Rd	Beaufort County	13.8	41,336	0.9	Sk	Seabrook fine sand	A	24-36	Lo, W, Rd	Main areas are Sk & Lo
Maybe	Town-owned, moderate impervious footprint	Poor soils	83	Oscar Frazier Park	7 Recreation Ct	Town of Bluffton	32.66	144,042	3.3	Ro	Rosedhu fine sand	A/D 0-6"	Lo		Town Public Works (Lo section only)
No	Large impervious footprint	Poor Soils	84	Bluffton Middle School	30 New Mustang Dr	Beaufort County School District	48.62	352,872	8.1	De	Deloss fine sandy loam	B/D 0"	Sv		Shows up as multiple parcels
Maybe/No	High potential pollutant load	Same soils as McCracken Circle (questionable); Private	85	Brightview Landscape	184 Simmonsville Rd	Southeastern Property Development LL	3.48	107,242	2.5	Sv	Seewee fine sand	A/D 12-24"			High nutrient load? Compacted gravel/soil
No	State-ownership	Poor Soils, new partner (State)	86	SC Dept of Motor Vehicles	15 Sheridan Park Circle	SC Department of Public Safety	3.25	38,757	0.9	Ro	Rosedhu fine sand	A/D 0-6"	Sv		
Maybe	Good soils, large impervious footprint	Unknown partner	87	Bluffton Medical Campus	75 Baylor Dr	Everest Bluffton Mob LLC	13.15	242,452	5.6	Sk	Seabrook fine sand	A	24-36	Sv, Wd	
Maybe	Town-owned	Poor soils	88	Bluffton Branch Library	120 Palmetto Way	Town of Bluffton	2.98	77,285	1.8	Lo	Leon fine sand	A/D 0-6"	Ro		Fairly even split of Lo & Ro
Maybe/Yes	Town-owned, great soils	small impervious footprint	89	Farmers Market of Bluffton	68 Boundary St	Town of Bluffton	1.47	24,629	0.6	Wd	Wando fine sand	A	>80"		Stone parking
Maybe	Town-owned	Poor soils	90	Bluffton Police Dept	101 Progressive St	Town of Bluffton	3.31	74,631	1.7	Wn	Willman loamy fine sand	B/D 0-12"			Plus explore other Town property at Buckwalter Place Bk
Maybe/Yes	Large impervious, good partner	Same soils as McCracken Circle (questionable)	91	Red Cedar Elem School	10 Box Elder St	Beaufort County School District	20	264,212	6.1	Sv	Seewee fine sand	A/D 12-24"			
Maybe	Town-owned, good soils	Unsure of future plans of this undeveloped parcel	92	Seagrass Station Road	Seagrass Station Rd/Pearce Pkwy	Town of Bluffton	1.63	0	0.0	Cs	Coosav loamy fine sand	A	24-36"		Undeveloped Town-owned parcel, route impervious here
Maybe	County-owned, high potential pollutant load	Poor soils	93	Beaufort County Solid Waste/Recycling	104 Simmonsville Rd	Beaufort County	7.18	113,866	2.6	Ro	Rosedhu fine sand	A/D 0-6"	Sv, De		Sv soils in open grassed area adjacent to road
Maybe	County-owned, great soils	Unsure of future plans of this undeveloped parcel	94	NE of Hwy 170 & Davis Rd		Beaufort County	87.5	0	0.0	Wd	Wando fine sand	A	>80"	Mu, Sk, Pa, Sa	Mu and Sk also have HSG A; undeveloped county-owned
Maybe	Town-owned, good soils	Unsure of future plans of this undeveloped parcel	95	North of Pebble Beach Cove		Town of Bluffton	22.8	0	0.0	Sk	Seabrook fine sand	A	24-36	Wn	Undeveloped Town-owned parcel, route impervious here
Maybe	Town-owned	limited good soils, may be tough to retrofit (new look)	96	Buckwalter Place Shopping Center	Buckwalter Place/Innovation Dr	Town of Bluffton	Multiple			Wn	Willman loamy fine sand	B/D 0-12"	Cs, Ca		Multiple Town parcels, explore further, especially Cs soils
Maybe	Town-owned, good soils	Unsure of future plans of this undeveloped parcel	97	Corner of Hwy 170 & New Riverside Drive		Town of Bluffton	37.3	0	0.0	Mu	Murd fine sand	A	18-36	Sk, Wd, De, Wn	Undeveloped Town-owned parcel, route impervious here
Maybe	Town-owned, large impervious	limited good soils	Road	Hampton Parkway	Town Road	Town of Bluffton	ROW			Multiple	Mostly poor soils				Po, Sk, Wn, Ed, Cs, Sa, Ee, Ne, Bd (approx. 1/4 has good)
Yes	County-owned, favorable soils, large impervious		Road	Bluffton Parkway West (170 to Buckwalter)	County Road	Beaufort County	ROW			Multiple	Half of length is favorable				Rd, Lo, Sk, Wd, Po, Wn, Ca, To, Cs (approx half of leng
No	County-owned, large impervious	Mostly poor soils	Road	Bluffton Parkway East (Buckwalter to 46)	County Road	Beaufort County	ROW			Multiple	Mostly poor soils				Very limited good soils (Sv, Rd); mostly (De, Bd, Ro, Yo, L
Yes	County-owned, favorable soils, large impervious		Road	Buckwalter Parkway	County Road	Beaufort County	ROW			Multiple	Southern half more ideal				Better soils are south of Bluffton Pkwy (Rd, Sk, Cs), north
Yes	County-owned, favorable soils, large impervious		Roads	Persimmon St/Sheridan Park Cir/Pennington	County Road	Beaufort County	ROW			Rd	Ridgeland fine sand	B	18-30	Sv, Ro	Mostly Rd, appears to be narrow ROW

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:

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.

Impervious Restoration Program Projects



- Bridge Street Streetscape Project – BMP Construction



Impervious Restoration Program Projects





QUESTIONS & DISCUSSION

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

August 25, 2022

Updated February 23, 2023

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 3.46×10^{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.

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

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.

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
 - 2.99×10^{14} FC reduction for the Full SWRv (entire sub-basin drainage area catchment).
 - 2.53×10^{14} FC reduction for the Reduced SWRv projects (impervious area drainage area of sub-basin catchment).
- The estimated of Full SWRv projects costs is \$32.7 million and the estimated cost of Reduced SWRv projects is \$22.6 million.
- Currently the Towns' Impervious Restoration Program is targeting Reduced SWRv for future projects.

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



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

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

Update for WAPAC February 23, 2023 Meeting:

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

Task 1 : MRWAP Update 11 site locations

Eleven (11) proposed project sites Rose Dhu Creek (6 projects) and Stoney Creek (5 projects):

Yellow 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). Participating in preliminary design development phase.**
- **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 4 participating partner sites are being schedule based on recent property owner participation status being known/confirmed.
- 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.
 - Developpe 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.
 - 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.

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.

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.

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

- 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.
 1. Phase I of this work is in process under existing FY 22 funding from Watershed Management Division.
 2. Phase II of this work will be presented for Town Council review and approval in the August Town Council Meeting and FY23 funding.

Update for WAPAC February 23, 2023 Meeting:

Phase II work was approved by Town Council and work has been initiated and reported herein.

- Phase I work completed by Consultant and Town:
 1. Review of recommendations of the MRWAP Update.
 2. On-site evaluations at each proposed site.
 3. Meetings with Beaufort County School District.
 - 6 of the 11 sites are located on School property. The School District is deemed an important project partner and as such several meeting have been held to help to discuss the program and need for project BMPs to improve water quality. The School District has granted permission for us to perform initial site investigations, provided site specific plan information, future development plans on each site and expressed a willingness to participate in the Program.
 - Drafted a Letter to Non-School Property Owners describing the Impervious Restoration Program goals and objectives and requesting a meeting to discuss and gain support.
 4. 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.

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.
 - 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.
- 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 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.
- 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 February 23, 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.

- 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 field work installation of equipment is being scheduled. Once installed and operational, data collection will last 6 months.**

TOWN COUNCIL

May River Watershed Action Plan Advisory Committee (WAPAC) Memorandum



MEETING DATE:	March 23, 2023
SUBJECT:	Letter of Support to Update the 2004 Baseline Assessment of Environmental and Biological Conditions in the May River [Town's Fiscal Year 2024 (FY24) Budget]
FROM:	Stan Rogers, Chair, May River Watershed Action Plan Advisory Committee (WAPAC)

REQUEST:

The WAPAC recommends that Town Council include in the FY24 budget an update to the 2004 report "A Baseline Assessment of Environmental and Biological Conditions in the May River, Beaufort County, South Carolina" completed by the South Carolina Department of Natural Resources (SCDNR), the U.S. Geological Survey, South Carolina District (USGS), and the National Oceanic and Atmospheric Administration (NOAA).

BACKGROUND:

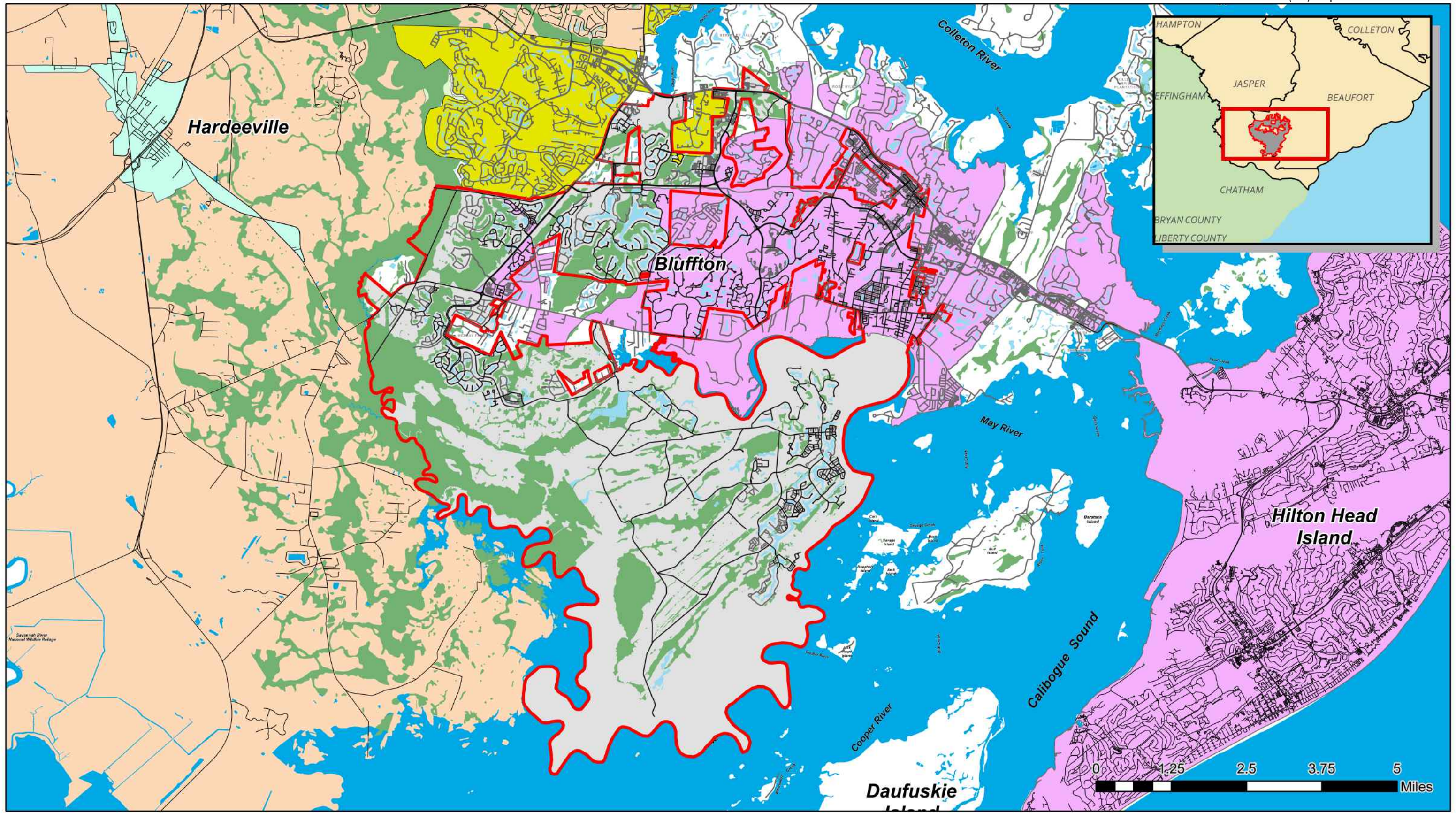
The Town of Bluffton commissioned the Marine Resources Research Institute of the SCDNR, the USGS, and NOAA's Center for Coastal Environmental Health and Biomolecular Research (NOAA-CCEHBR) to undertake a multidisciplinary study of the May River. The study was conducted to assess the water, sediment, and biological quality of the entire riverine system in 2002-03 and provide a comprehensive database of these conditions prior to any major development activities in the watershed.

It has been almost 20 years since this study was conducted. The May River is designated an Outstanding Resource Waters (ORW), however in 2009 shellfish harvesting was restricted. It is imperative that the Town update this study in FY24 and on a more frequent basis going forward.

This is also a recommendation from Blue Print Bluffton Section X.

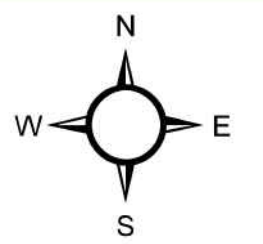
At the February 10, 2022, WAPAC meeting, WAPAC unanimously voted to recommend a list of Strategic Plan priorities. WAPAC Strategic Plan Priority Two (2), is to update the assessments of current environmental health status of the Town's May River watershed compared to historical conditions which will help inform management opportunities, e.g. the 2004 report "A Baseline Assessment of Environmental and Biological Conditions in the May River, Beaufort County, South Carolina" to compare current environmental and biological conditions to the baseline.

DRAFT



- | | | | | | |
|--|------------------|--|--------------------------|--|---------|
| | TOWN OF BLUFFTON | | TOB UA | | WETLAND |
| | BEAUFORT COUNTY | | Hardeeville, SC | | WATER |
| | JASPER COUNTY | | Bluffton_Hilton-Head, SC | | ROADS |
| | | | Bluffton- Sun City, SC | | |

Town of Bluffton
 Beaufort County, SC
TOB MS4 Jurisdiction



FOIA Section 30-4-90 Minutes of Meetings of Public Bodies

a) All public bodies shall keep written minutes of all of their public meetings. Such minutes shall include but need not be limited to:

(1) The date, time and place of the meeting.

(2) The members of the public body recorded as either present or absent.

(3) The substance of all matters proposed, discussed or decided and, at the request of any member, a record, by an individual member, of any votes taken.

(4) Any other information that any member of the public body requests be included or reflected in the minutes.

(b) The minutes shall be public records and shall be available within a reasonable time after the meeting except where such disclosures would be inconsistent with Section 30-4-70 of this chapter.

WAPAC Timeline

