



Environmental Advisory Committee

4:00 p.m., Thursday, May 9, 2024

Council Chambers

1207 Palm Boulevard, Isle of Palms, SC 29451

Agenda

1. **Call to order** and acknowledgment that the press and the public have been duly notified of the meeting in accordance with the Freedom of Information Act

2. **Citizen's Comments**

3. **Approval of previous meeting's minutes** – April 11, 2024

4. **Presentations** – discussion with Sea Level Rise Adaptation consultants

5. **Old Business**

i. Wildlife

ii. Litter

iii. Water Quality-

a update on potential water quality testing program

b discussion of Folly Beach septic ordinance

iv. Climate Action- update on bill H.5118 regarding upcoming natural gas project

v. Update on Sea Level Rise Adaptation RFP

6. **New Business-**

i. Discussion of EAC hosting a table at the upcoming IOP Farmers Market

ii. Discussion of installing compost liner dispensers at compost drop-off locations

7. **Miscellaneous Business**

Next meeting date: 4:00 p.m., Thursday, June 13, 2024

8. **Adjournment**



ENVIRONMENTAL ADVISORY COMMITTEE

4:00pm, Thursday, April 11, 2024

1207 Palm Boulevard, Isle of Palms, SC

and broadcasted live on YouTube: <https://www.youtube.com/user/cityofisleofpalms>

MINUTES

1. Call to order

Present: Sandra Brotherton, Mary Pringle, Todd Murphy, Laura Lovins, Doug Hatler, Lucia Spiotta, Dane Buckout, Belvin Olasov

Absent: Doug Hatler, Jordan Burrell

Staff Present: Director Kerr, Zoning Administrator Simms, Council Member Miars

2. Citizen's Comments -- none

Dr. Jonathan Knoche came before the Committee to express his concern of storms leaving more and more water on the island and the lack of drainage for these waters. He asked if City Council should look into another company to deal with this concern. Council Member Miars suggested he listen to the recording of the March 29 Beach Preservation Ad Hoc Committee meeting where such matters are being discussed.

3. Approval of previous meeting's minutes

Mr. Olasov noted that Katie McKain's name was spelled incorrectly.

MOTION: Ms. Lovins made a motion to approve the minutes of the March 14, 2024 meeting as amended, and Mr. Olasov seconded the motion. The motion passed unanimously.

4. Old Business

A. Wildlife

Ms. Pringle said the native plant garden only needs to be watered twice a week now. The benches for the garden have not been ordered yet, and she has spoken to Asst. Director Asero about anchoring them into the ground. Zoning Director Simms and Ms. Lee continue to work on signage for the garden.

Ms. Pringle also reported on a stranded whale on Sullivan's Island and the first stranding of a leatherback turtle since 2021.

Ms. Lovins shared that took the new shorebird coordinator, Abby Burke, to several locations around the island.

B. Litter

Dr. Brotherton reported that litter data collected by the South Carolina Aquarium shows a 5% decrease in the amount of cigarette butt trash on the beach between 2022 and 2023. She suggested additional butt cannisters be installed at the marina when the new dock is completed.

C. Water Quality

Director Kerr said he has not heard back from Mr. Hatler regarding pricing for the water quality tests. He will push the request to City Council when he receives pricing confirmation.

MOTION: Mr. Olasov made a motion to recommend that City Council approve funding for a water quality study. Mr. Murphy seconded the motion. The motion passed unanimously.

Ms. Lovins said she has been gathering information from other municipalities about how they deal with septic systems. She reviewed highlights from the Folly Beach ordinance about septic tanks passed in 2019 and the ordinances the Isle of Palms has in relation to tying into sewer. She said it is a complex issue that needs a lot of work and study. She will continue to gather information to help the Committee develop a plan for dealing with septic systems and expanding the City sewer system. Director Kerr pointed out that expanding the sewer system is a function of the Water & Sewer Commission and regulations around it are the City's responsibility.

D. Climate Action

Mr. Olasov expressed his concern about bill H.5118 regarding an upcoming natural gas plant. He said the plans are not environmentally sound and the bill is being fast-tracked through the legislature without a lot of debate.

Discussed ensued about the best way to make the legislature aware of the environmental concerns around the project. Director Kerr suggested Mr. Olasov speak his concerns during Citizen's Comments at the April City Council meeting. Council Member Miars said she would see if she could get the matter added to the agenda.

E. Update on Sea Level Rise Adaptation RFP

Director Kerr said Seamon & Whiteside will attend the next committee meeting.

5. New Business

Review of efforts to publicize EAC initiatives on the City website

Dr. Brotherton said she has spoken with the PR Officer about the best way to add and highlight the efforts of the Committee on the City's website. She shared a possible outline to thoughtfully organize the work of the Committee. Dr. Brotherton asked Committee members to send ideas, brief descriptions, and pictures to include on the website to the PR Officer and to copy her on that email.

Dr. Brotherton shared that she will give a brief presentation of their activities at the April 23 City Council meeting. She asked Committee members to email her with ideas of what to include.

6. **Miscellaneous Business**

7. **Adjournment**

The next meeting of the Environmental Advisory Committee is scheduled for Thursday, May 9, 2024 at 4pm.

Ms. Pringle made a motion to adjourn, and Mr. Olasov seconded the motion. The meeting was adjourned at 5:26pm.

Respectfully submitted,

Nicole DeNeane
City Clerk

City of Isle of Palms, South Carolina
Request for Proposals 2023-01
Sea Level Adaptation Plan

In compliance with the City's Procurement Ordinance, the City of Isle of Palms, South Carolina is seeking proposals and probable costs for a Sea Level Rise Adaptation Plan (Plan) to steer policy and funding decisions for the foreseeable future. The Plan and project will include:

- development of localized sea level rise projections through the year 2100 based on the best available science;
- Model sea level rise scenarios in conjunction with other coastal flooding factors (utilize existing models such as NOAA Sea Level Rise Viewer, USGS Sea Level Change)
- an inventory of vulnerable public and private assets by time horizon;
- categorizing assets by their public importance, estimating the value of at-risk assets by time horizon;
- public engagement and meeting facilitation, and public hearing attendance;
- a range of potential adaptation measures with a focus on addressing critical infrastructure and other high priority assets, with a focus on practical nature-base solutions;
- estimated costs for implementation;
- a qualitative cost-benefit analysis of identified adaptation measures; and
- a list of potential funding sources.

The public engagement process will include outreach with affected property owners and other interested parties, including the Isle of Palms City Council, SCDNR, SCDHEC, USACE, SCDOT and Charleston County. This effort may include stakeholder interviews, focus groups, public workshops, and on-line questionnaires.

The request will be bid and awarded pursuant to the City's procurement ordinance. The City reserves the right to reject all proposals and to waive irregularities.

Proposals should be submitted to the following:

Douglas Kerr, Deputy City Administrator
1207 Palm Boulevard, Post Office Box 508
Isle of Palms, South Carolina 29451

Deadline for Questions: The deadline for questions is **5:00 p.m. Eastern Time, April 7th, 2023**. Proposers should send questions regarding this Request for Proposals to Douglas Kerr, Director of Building and Planning, in writing or email to dkerr@iop.net. Questions received before this deadline will be answered via addendum posted on the City's website at <http://www.iop.net/requests-for-bids-proposals>. Questions received after this deadline will not be answered. If an addendum is issued, Proposers must acknowledge receipt of the addendum with their proposal.

Deadline for Submissions: The deadline for submission is **2:00 p.m. Eastern Time, April 21st, 2023**. Submissions must be received at 1207 Palm Boulevard, Isle of Palms, South Carolina 29451 in a sealed envelope, where they will be opened and acknowledged. Sealed envelopes must be clearly marked "**RFP 2023-01; Sea Level Adaptation Plan**" and include one (1) hard copy and one (1) electronic copy saved to a USB flash drive. The City accepts no responsibility for electronic submissions, and it will be the responsibility of the Proposers to verify receipt by the City.

Proposals may be delivered by hand or by mail, but no proposal shall be considered which is not actually received by the City at the place, date and time appointed by the City and the City shall not be responsible for any failure, misdirection, delay or error resulting from the selection by any Proposer of any means of delivery of bids.

All proposals submitted shall include a current e-mail address. Once selection is complete, Notice of Award shall be posted on the City's website. Notice of Award and notices of non-award, shall be sent to all Proposers via e-mail.

Proprietary and/or Confidential Information: All submitted proposals will be public documents under the South Carolina Freedom of Information Act (FOIA), except as to information that may be treated as confidential as an exception to disclosure under the FOIA. If you cannot agree to this standard, please do not submit your proposal. All information that is to be treated as confidential and/or proprietary must be CLEARLY identified, and each page containing confidential and/or proprietary information, in whole or in part, must be stamped and/or denoted as CONFIDENTIAL, in bold, in a font of at least 12-point type, in the upper right-hand corner of the page. All information not so denoted and identified will be subject to disclosure by the City.

Proposers acknowledge and agree that the City will not be liable for any costs, expenses, losses, damages (including damages for loss of anticipated profit) or liabilities incurred by the Proposer or any member of the Proposer's organization as a result of, or arising out of, submitting a proposal, negotiating changes to such proposal, or due to the City's acceptance or non-acceptance of the proposal or the rejection of any and all proposals. Proposers are responsible for submission of accurate, adequate and clear descriptions of the information requested. Neither issuance of the RFP, preparation and submission of a response, nor the subsequent receipt and evaluation of any response by the City of Isle of Palms will commit the City to award a contract to any Proposer even if all the requirements in the RFP have been met.

Proposers must have or be able to procure an Isle of Palms Business License.

Background

The Isle of Palms is a low-laying barrier island in Charleston County with an average grade elevation of only eight or nine feet above Mean Sea Level. The community is served by a drainage system that evolved over time and was primarily installed in the 1960's by the Beach Company or the South Carolina Department of Transportation (SCDOT) as roads and neighborhoods were developed on the island. The system functions marginally well but is expected to need changes to meet future needs and the City has engaged an engineering firm to develop a separate drainage masterplan that is expected to be complete in mid-2023.

Charleston County handles all aspects of the NPDES program for the City and has provided the City with an inventory of the existing stormwater infrastructure, which is attached as an exhibit to this request.

The City believes that because of its low elevation and aged infrastructure, the community is very vulnerable to the long-range effects of sea level rise. The City's Comprehensive Plan update draft includes a goal and strategy of developing a sea level rise adaptation strategy.

Objectives

The City is seeking proposals for consultant services to prepare a Sea Level Adaptation Plan that aligns with regional and statewide planning efforts, as well as the City's Comprehensive Plan and the Drainage Masterplan that is underway. The chosen consultant will be expected to produce a Plan that will include clear strategies to enable the City to identify, assess and plan for potential impacts of sea level rise within the Isle of Palms. The ideal proposal will emphasize protection and enhancement of existing assets while incorporating strategies to combat sea level rise.

Scope of Work

Task 1. Information gathering

1. Hold a series of internal meetings and interviews with the City staff, the Planning Commission, the Environmental Advisory Committee, utility providers, and other project staff to establish expectations, finalize timelines and to better understand what has already been done and what critical assets are viewed as vulnerable to sea level rise.
2. Develop a comprehensive and diverse contact list of potential participants for personal and small group interviews that includes public officials, representatives from special districts and regional agencies, local community groups, service organizations, businesses, neighborhood groups, developers, local colleges, and other interest groups.
3. Compile Sea Level Rise Data including Sea Level Rise Data with Groundwater Impacts and Flooding From Rainfall and Waves. The City has been collecting groundwater level data through its work on a drainage masterplan that will be made available.
4. The City staff will assist in coordinating a series of public outreach workshops. These workshops will introduce the project to the public, define project parameters, inform the community of project opportunities and constraints and solicit opinions from the community to shape the Plan. The Consultant is expected to incorporate feedback from these workshops into the plan development.

Deliverable 1. Background report with current sea level rise and groundwater data, and findings from stakeholder interviews.

Task 2. Draft Plan Development

1. Develop preliminary goals and vision for the Plan to address underlying vulnerabilities based on information gathered from Task 1.
2. Develop a draft illustrative Adaptation Map that geographically shows areas of vulnerabilities.
3. Develop draft adaptation strategies for the identified key issues.
4. Develop draft cost estimates of identified potential projects.
5. Develop a list of potential funding sources to fund potential projects.
6. Present draft findings to key interested and affected parties identified in Task 1 and seek their input.

Deliverable 2. Draft plan and presentations.

Task 3. Final Plan Development, Presentation and Adoption

1. Refine the draft plan and deliverables based on stakeholder feedback.
2. Present the final plan to smaller interested and affected parties groups.
3. Present the final plan to City Council with a goal of having Council adopt the plan.

Deliverable 3. Final Plan including inventory of existing conditions, projections, vulnerabilities, visions, goals, strategies, potential projects, maps, cost estimates, potential funding sources, and any other documentation necessary to meet the stated goals of this request.

Qualifications

The Proposer shall prepare a statement of qualifications which identifies:

- The size, stability, and capacity of Proposer's organization, including, at a minimum, an identification of Proposer's: (1) total number of years in operation, (2) total current number of employees, (3) number of office locations (including the location of each office), and (4) number of employees in the office location which is intended to provide services.
- The Proposer's experience performing services for projects of a similar size, scope, and complexity as the services required by this RFP, including an identification of: (1) the number of years Proposer has been performing similar services; and (2) the most recent projects for which the Proposer has performed similar services. The list of recent projects shall include the name, contact person, address, and phone number of each party for whom the service was provided, as well as a description of the service performed, the dollar amount of the contract, and the date of performance.
- A list of the Proposer's principals, employees, agents, and sub-consultants which the Proposer intends to assign to this Project. This list shall include a summary of the qualifications (including education, training, licenses, and experience) of each individual; the approximate number of hours each will devote to the Project; and the type of work to be performed by each individual. The City will retain under its agreement with the successful Proposer the right of approval of all persons performing under the agreement.

Proposal Format:

The proposal format requirements were developed to aid Proposers in their proposal development. These directions apply to all proposals submitted. The purpose of the proposal is to demonstrate the technical capabilities, professional proposals, past project experiences, and knowledge within this industry. Proposer's proposal must address all the points outlined herein as required, in the following order:

- A. Transmittal Letter: A transmittal letter must be submitted with a Proposer's proposal which shall include:
1. The RFP subject, RFP number, and Scope(s) of Work in which Proposer is submitting.
 2. Name of the firm responding, including mailing address, e-mail address, telephone number, and name of contact person.

3. The name of the person or persons authorized to make representations on behalf of the Proposer, binding the firm to a contract.
4. Prepare an executive summary stating the Proposer's understanding of the project, familiarity of the outfall sites, design approach and opinion why the Proposer's firm should be chosen. Include any general information the Proposer wishes the City to consider about the proposal.

B. Proposer's Work History and References:

Provide a brief description of any relevant large-scale drainage system redesign projects, or similar drainage projects of comparable size and complexity for which the Proposer provided services within the past five (5) years. Limit information to no more than five (5) projects. All such descriptions should include:

1. Project location
2. Redesign of existing system and/or design of new system
3. Description of original project budget versus actual cost.
4. Name and contact information for a reference with knowledge of the Proposer's work on the specified project.

C. Project Team:

1. The proposal should clearly outline the background and experience of the Project Team. The Project Team will include any of the Proposer's staff who will be assigned to the project. If possible, include a one-page summary CV of each member. Understand that once the City issues a contract, no change in personnel assigned to the project will be permitted without prior written approval from the designated City representative.
2. Provide the following information for each proposed team member where applicable:
 - i. Name
 - ii. Job title for this project
 - iii. Professional Discipline
 - iv. South Carolina license number
 - v. Specific duties assigned on this project
 - vi. Recent experience with related drainage projects

D. Sub-Consultants/Contractors:

Provide the Proposer(s) and if possible, the names and proposals of all subconsultants that will be part of the Proposer's Team and identify the specific work the sub-consultant will perform. Once the City issues a contract, no change in sub-consultants assigned to the project will be permitted without prior written approval from the City.

E. Price Quote for Each Scope of Work:

Prior to entering into an agreement, but after the proposals are evaluated, the chosen Proposer will be requested to provide a price for each itemized project in the Scope of Work section of this request.

Proposal Evaluation Criteria:

The City will evaluate proposals based on the factors outlined within this RFP and the City's procurement ordinance, which shall be applied to all eligible, responsive proposals in selecting the successful Proposer. The City reserves the right to disqualify any proposal from a Proposer it deems as non-responsive and/or non-responsible. The City reserves the right to make such investigations of the proposals of the Proposer as it deems appropriate.

Award of any contract may be made without discussion with Proposers after proposals are received. The City reserves the right to cease contract negotiations if it is determined that the Proposer cannot perform the services specified in their response.

Recommendation of award for contract will be made based not only on price, which is an important factor, but also on quality of proposal, qualifications, experience, technical expertise, references and ability to execute the work. After careful evaluation, and a series of interviews, the Planning Commission will make a recommendation to City Council for award of a contract.



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**CITY OF ISLE OF PALMS
RFP 2023-01
SEA LEVEL ADAPTATION PLAN**

APRIL 21, 2023

seamonwhiteside.com
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SEAMONWHITESIDE MISSION

To *elevate the site design experience* through full commitment to our people, our clients, our plans, and communities, and to be the most exceptional site design firm in every community we serve.

Commitment to our People: We focus on care, respect, integrity, collaboration, mentorship, training, resources, events, and fun. This is our culture.

Commitment to our Clients: We work as a team by understanding the vision, providing realistic schedules, designing creative solutions, engineering functional plans, producing quality work, and embracing high level of collaboration and care throughout the process.

Commitment to our Communities: We are proud of the places we design and the communities we help build and enjoy. Seeing our designs come to life is a rewarding experience in itself. We also give back to our communities through service positions, charitable gifts, sponsorships, and numerous organized volunteer efforts each year.

Commitment to our Plans: We focus on the quality of our design and deliverables by creating a solid set of plans for our clients. We strive to approach each job with a high level of care, utilizing quality control processes, strong coordination practices, and cutting edge design tools to deliver a set of plans we are proud to stand behind.

Commitment to Sustainability: SW+ is a leader in environmentally conscious, low-impact engineering and site design and is committed to keeping up with the evolving technologies of sustainability. We approach each design with a balance of natural systems, long term economic values, and working diversity to create holistic environments for people and communities.





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Kenny Seamon & Stuart Whiteside

PRINCIPALS

David “Russ” Seamon, President
Joe Bryant, Executive Vice President
Gary Collins, Vice President
Jason Munday, Vice President
William O’Neal, Vice President

EMPLOYEES

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DESCRIPTION

SeamonWhiteside (SW+) is a full-service land design firm providing master planning, landscape architecture, civil engineering, urban design, and permit coordination services to public and private clients throughout the Southeast. SW+ provides comprehensive services tailored to the needs of each project for the purposes of facilitating the planning, design and construction.

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SUMMERVILLE OFFICE

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SPARTANBURG OFFICE

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Tel: (864) 272-1272

CHARLOTTE OFFICE

230 E Peterson Drive, Suite B
Charlotte, NC 28217
Tel: (980) 312-5450





April 21, 2023

Douglas Kerr, Deputy City Administrator
1207 Palm Boulevard
Post Office Box 508
Isle of Palms, SC 29451

RFP 2023-01; Sea Level Adaptation Plan

Scope of Work: Seamon, Whiteside & Associates, Inc. is responding to all of the scope of work items detailed in the RFP

Firm Responding: Seamon, Whiteside & Associates, Inc. (SeamonWhiteside)

Number of Employees: 170 Company-wide; 81 in the Mount Pleasant office

Mailing Address: 501 Wando Park Boulevard, Suite 200, Mount Pleasant, SC 29464

Email: rphillips@seamonwhiteside.com

Phone Number: (843) 884-1667 ext. 212

Name of Contact Person: Ryne C. Phillips, PE

Person Authorized to Make Representation on Behalf of the Proposer: Jason Munday, PE, Managing Principal

Dear Mr. Kerr and Selection Committee:

Isle of Palms is a focal point for the Charleston area, is home to thousands of residents, and serves as a vacationing playground for millions around the globe. Life on the Isle of Palms depends on a pristine landscape and flowing coastal waterways. However, sea level rise may cause those recreational waterways to become the city's greatest threat if ignored over the next 50 to 75 years. Based on the premonition of future flooding from sea level rise, the city has made an instrumental decision to begin planning for the future. Accordingly, **SeamonWhiteside** has assembled a team of individuals to support the Isle of Palms goals of developing a sea level adaption plan which will support long term coastal community resiliency for Isle of Palms' residents and visitors for years to come.

Project Understanding, Familiarity, and Design Approach

Flooding due to intense rainfall and King Tides have been a nuisance for Isle of Palms' residents, business owners, and visitors. In an effort to mitigate these flood risks, the city has been working on drainage master plans for specific areas on the island: Phase 1, 2, 3, and 4. These drainage master plans, developed on a phase-by-phase approach, have been completed to identify and conceptually design improvements aimed towards eliminating and preventing flood conditions due to intense rainfall (e.g., 6th/7th Avenue) and elevated tides (e.g., Waterway Boulevard). As funding is available, the city has started implementing several key drainage improvements that have been identified (e.g., Phase 3 outfall improvements).

Previously recommended improvements may address minor coastal flooding. Such recommendations include earthen berms and check valves. However, such recommendations may only provide flood relief during today's King Tides or minor storm surges. With the threat of significant sea level rise on the horizon, it is imperative the city have a holistic, city-wide, plan that provides a comprehensive outlook on what the potential impacts from sea level rise may be (e.g., structure and/or road flooding) and how the city can position itself to combat those potential impacts. As a result, the city has opted to complete a sea level adaptation plan to support the city's goal of providing a long-term coastal community resiliency.

The final deliverable of the scope of work identified by the city and outlined herein will indeed be a sea level adaptation plan. At its core, the plan will outline potential risk of sea level rise from accredited existing sources, provide strategies for adapting to sea level rise both environmentally ethically and cost effectively, outline potential projects that will mitigate against sea level rise, and identify potential funding sources the city can leverage to implement adaption strategies and improvement projects.

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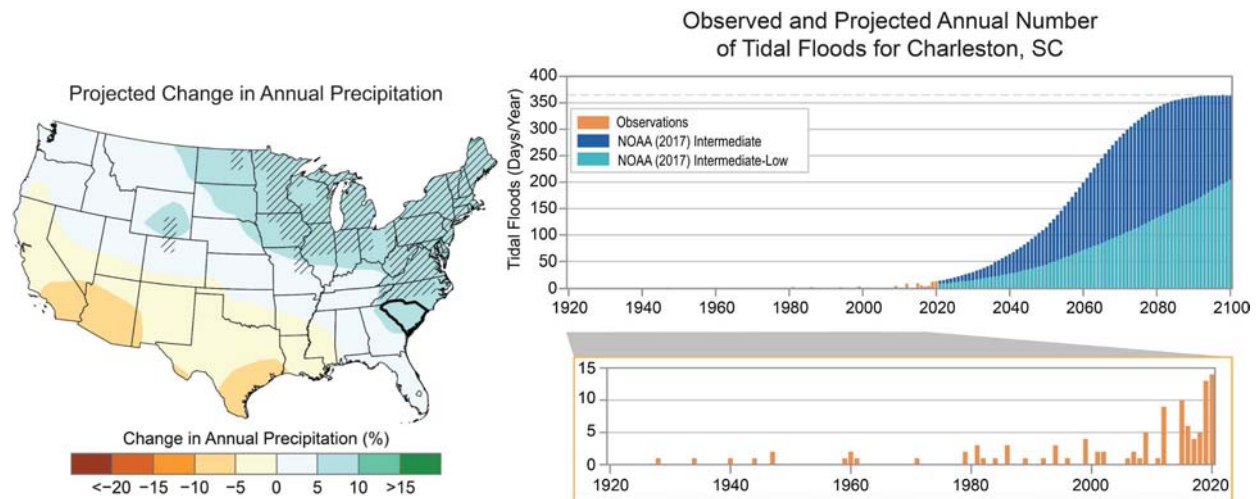
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Task 1 – Information Gathering

Sea Level Rise, Flooding, and Infrastructure Data Compilation

Numerous sources are available that outline potential sea level rise. Our team will gather, evaluate, and present those data to city staff to form a recommendation of a target sea level rise prediction over time (e.g., 2030 through 2100). In addition to sea level rise data, our team will compile existing rainfall driven flood vulnerabilities from previously developed drainage master plans, future rainfall projections, and infrastructure assets (e.g., buildings, roads, sewer pump stations, etc.). Additional information to be collected and considered in the project include but may not be limited to historical groundwater records, FEMA flood claims, soils data, land cover data, and historical tidal data from recent hurricane events.



South Carolina climate summary for (a) projected changes in total precipitation and (b) number of observed tidal flood days in Charleston, SC (orange) with NOAA projections (blue). Source: Runkle, J., K.E. Kunkel, L.E. Stevens, R. Frankson, B.C. Stewart, W. Sweet, and S. Rayne, 2022: South Carolina State Climate Summary 2022. NOAA Technical Report NESDIS 150-SC. NOAA/NESDIS, Silver Spring, MD, 5 pp.

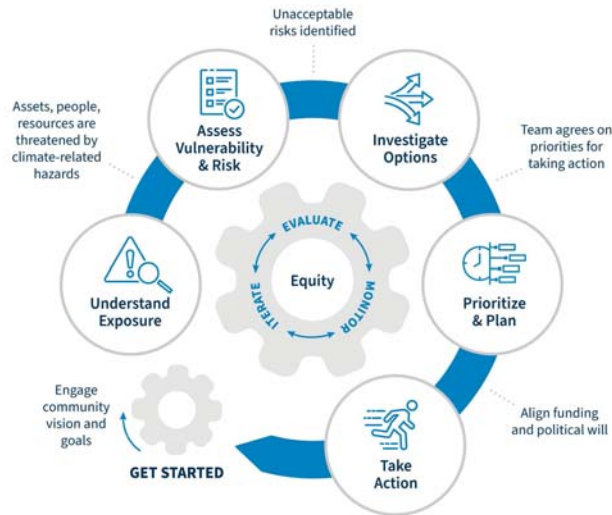
During the information gathering phase, our team will meet with city staff, utility providers, and other critical stakeholders (e.g., SCDOT, SCDHEC, IOP Water and Sewer Commission) to better understand the current state of on-going and future infrastructure projects, as well as define what assets/infrastructure are considered critical. This information will be paramount in determining priorities of proposed projects, adaptation plan goals, and recommendations for adaptation measures.

Public Engagement

Public feedback and engagement are often untapped and valuable resources when investigating and addressing concerns regarding sea level rise and coastal flooding. Information such as photographic evidence and eyewitness testimony are critical in understanding concerns and developing solutions to address flooding. Accordingly, our team will employ several public engagement strategies to promote and encourage public involvement during plan development. In addition to more traditional strategies such as public meetings (stakeholder meetings and workshops), our team will develop and deploy a web-based public information tool to efficiently capture public feedback such as photos of coastal flooding, locations of flooding, and opinions of adaption measures. Information collected from stakeholder meetings, workshops, and web reporting will be used and incorporated into the final plan deliverable.

Task 2 – Draft Plan Development Vulnerability Assessment

A vulnerability assessment will be completed based on data gathered during Task 1. The vulnerability assessment will identify both private and public infrastructure (e.g., buildings, road, and property) that could be at risk of flooding sometime in the future. Vulnerability will be assessed over time to better develop goals for addressing future flood conditions and what adaptation measures should be considered.



Resilience and adaptation planning iterative process as outlined by NOAA (source: Anna Eshelman, NOAA)



Preliminary flood vulnerability due to intermediate sea level rise projections (3.89 feet) for year 2100.



Preliminary structure vulnerability due to intermediate sea level rise projections (3.89 feet) for year 2100.

Plan Goals

Actionable and attainable goals will be developed after obtaining feedback from city officials and stakeholder groups. Such goals will be developed to address potential vulnerabilities. An example of an easily attainable goal to prevent from minor sea level rise may be development and implementation of a check valve program – install check valves on existing drainage systems that connect tidal waters to low lying upland areas (e.g., Carolina and Palm Boulevard outfall). Regardless of what goals are drafted, it will be beneficial to separate goals into short-term and long-term goals. Short-term goals might be immediate and easily implementable projects or strategies to prevent minor flooding with relatively low initial costs (e.g., 25th Avenue outfall improvements completed by SCDOT). Alternatively, long-term goals would be projects that have high initial capital costs and may take years to successfully implement (e.g., perimeter protection in the form of earthen berms along the Intracoastal Waterway).

Recommendations

Recommendations to mitigate and/or adapt to potential future flood conditions will be developed based on developed plan goals. Recommendations may take the form of infrastructure improvement projects such as installation of check valves and construction of earthen berms. Such recommendations may be a combination of newly developed projects based on future flood risk or from previous drainage master plans (e.g., Phase 3 and Phase 4). Such recommendations will include a cost an order of magnitude cost estimate.

In addition to physical infrastructure recommendations, regulatory adaptation strategies may be identified that could reduce future flood risk. An example of such a strategy may be to review and revise development regulations that focus on preservation of low-lying coastal areas but might also allow homeowners flexibility in protecting their flood vulnerable assets.

Task 3 – Final Plan Development, Presentation, and Adoption

A final plan, mapping, cost estimates and other supporting data will be developed based on feedback obtained during the public engagement process and presentations to city officials. This plan will be instrumental in guiding the city's capital infrastructure program as well as overseeing community development and safety. Not only will the plan be developed to provide specific measures and projects to implement but it will also provide funding strategies to support successful and timely completion of those measures and projects.

Why SW+

Sea level rise and future flooding has been a debated topic. Projections are unknown which in turn make the future unknown. However, those unknowns and underlying uncertainties do not mean the city has to tackle a plan for the unknown by itself. Our team is uniquely located miles away and has been in the engineering and land planning coastal consulting industry for nearly 40 years. Our team prides itself on working closely with clients to develop sound plans for sustainable futures. Our blended team of landscape architects, engineers, and scientists will bring a well-rounded perspective to support the city in its goals to attaining a resilient future. If the city has a vision, our team will turn that vision into a reality.

Sincerely,

SEAMON, WHITESIDE & ASSOCIATES, INC.



Jason Munday, PE, VP, Managing Principal
843-884-1667 jmunday@seamonwhiteside.com
JM/ee



Storm surge flooding during Hurricane Joaquin (2015) (source: Mic Smith, AP).



TOWN OF LYMAN STORMWATER STUDY

The Town of Lyman decided to complete a comprehensive drainage study of one of the town’s major watersheds after receiving numerous complaints of flooding. The intent of the study was to evaluate reported flooding at specific properties and complete a holistic assessment of the entire watershed to ensure all residents within the watershed are provided with long-term flood resiliency. The end result of the study will provide the town with recommendations for improvements, including conceptual design, implementation cost estimates, and funding recommendations.

Services provided to the Town of Lyman included data gathering, field investigations, survey, combined 1D/2D hydrologic and hydraulic modeling, stormwater system improvement investigations and alternatives analysis, conceptual design, and cost estimating.

Reference:

Town of Lyman
R. Noel Price Blackwell, ABL, Town Administrator
864-485-0240
nblackwell@lymansc.gov



Location

LYMAN, SC

Project Type

STORMWATER STUDY

Completion Date

ACTIVE





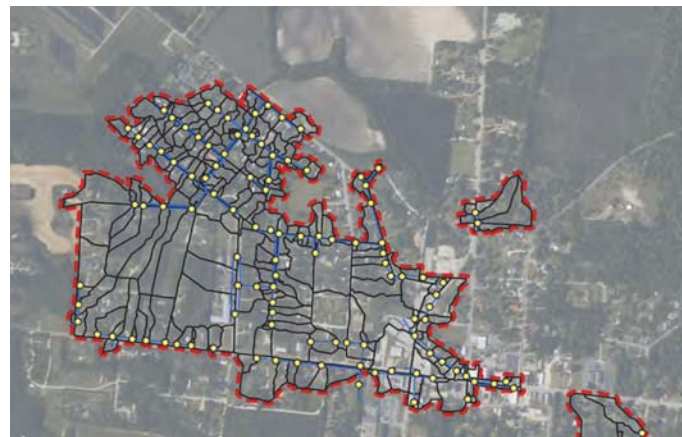
TOWN OF SUMMERTON HYDROLOGIC AND HYDRAULIC STUDY

Facilitated by the South Carolina Office of Resilience (SCOR), SeamonWhiteside (SW+) is currently performing a town-wide Hydrologic & Hydraulic Study to assess existing drainage conditions and identify improvements throughout the town, conduct an assessment of the existing drainage systems, develop, assess, and prioritize projects, and establish an implementation strategy for projects to improve the drainage system and mitigate against future flooding throughout the Town of Summerton.

SW+ is providing the following services to the Town of Summerton: project administration and meetings, data gathering, field survey, analysis, existing conditions report, alternative analysis, project recommendations, and a final report.

Reference:

South Carolina Office of Resilience (SCOR)
Phleisha Lewis
803-609-9100
phleisha.lewis@scor.sc.gov



Location

SUMMERTON, SC

Project Type

HYDROLOGIC & HYDRAULIC STUDY

Completion Date

ACTIVE





ASHLEY RIVER PARK

SW+ provided recreation planning, landscape architecture, and civil engineering services related to site program and master plan refinement for the 87-acre Ashley River Park property. Park elements include bike and pedestrian trails, covered shelter, restrooms, a pavilion, access roads, parking, a dog run, playgrounds, and interactive water feature, fishing pier, and kayak launch.

As the Prime firm, SeamonWhiteside provided extensive subconsultant coordination throughout the design development, permit coordination, and construction document preparation phases.

Reference:

Rebecca Dantzler, Capital Projects Manager
Dorchester County
201 Johnston Street
St. George, SC 29477
(843) 563-0142
rdantzler@dorchestercountysc.gov



Location

DORCHESTER COUNTY, SC

Project Type

PARKS & RECREATION

Project Size

87 ACRES

Completion Date(s)

MASTER PLAN: 2018
CONSTRUCTION DOCUMENTS: 2020
CONSTRUCTION: 2022





MORRISON YARD

Morrison Yard is a mixed-use office, retail, and residential development unique in downtown Charleston. The project consists of three buildings. Two of the buildings front Morrison Drive, a 386-unit, 10-story apartment building with space for retail and office use and a 12-story, 148,000 SF office tower that also offers retail, restaurant, and event space. The third facility is a parking garage located behind the office tower that will serve residents, employees, and the public.

Located on land previously owned by the SC State Ports Authority, the new mixed-use development embraces a contemporary architectural design aesthetic reflecting the area's shipping history. SW+ provided master planning, comprehensive civil engineering and landscape architecture services, permit coordination, and construction administration for both the apartment building and the office tower.

Reference:

Mike Schwarz, Partner
Woodfield Development, LLC
1306 Myrtle Avenue
Charlotte, NC 28203
(843) 290-3914
MSchwarz@woodfieldinvestments.com



Location

CHARLESTON, SC

Project Cost

\$128 MILLION (APARTMENTS)
\$71 MILLION (OFFICE TOWER)

Completion Date

2022 (APARTMENTS)
2023 (OFFICE TOWER)



ADDITIONAL WATER RESOURCES PROJECT EXPERIENCE

<p>Wilmington Corporate LOMR Wilmington, NC</p> <p>SW+ is providing project administration, a flood study, and FEMA LOMR submittal for proposed development within FEMA Special Flood Hazard Area (SFHA).</p>	<p>Mayberry Mixed Use Greenville, SC</p> <p>Stormwater analysis, floodplain permit coordination, DRB approval, schematic design / design development, civil site and landscape construction documents, site work permit coordination, and construction phase services.</p>
<p>Unity Park Floodplain Compensatory Storage Capacity Assessment Greenville, SC</p> <p>Water Resources Assessment Services to the City of Greenville to determine compensatory floodplain storage as part of the Unity Park Master Plan</p>	<p>Heathmoor Tract CLOMR Roebuck, SC</p> <p>Conceptual master planning, floodplain analysis, and Conditional Letter of Map Revision (CLOMR) related services.</p>
<p>Salisbury Tract – North Parcel Summerville, SC</p> <p>Flood study to establish the regulatory floodway and update base flood elevations, master planning, civil engineering, landscape architecture, permit coordination services and construction administration.</p>	<p>County Square Redevelopment Greenville, SC</p> <p>Near the Reedy River, County Square has had problems with flooding in the past. SW+ is providing comprehensive civil engineering services, grading, drainage, and stormwater management planning and design, landscape architecture, permit coordination services and construction administration.</p>
<p>Knightsville Tract Summerville, SC</p> <p>Flood study to establish the regulatory floodway and update base flood elevations, master planning, civil engineering, landscape architecture, permit coordination services and construction administration.</p>	<p>Garlington Industrial CLOMR Greenville, SC</p> <p>Design and construction of a 136,000 square foot industrial building with one permanent dry master storm water management pond, and approximately 2200 LF of storm line, and a flood study of Rocky Creek and its tributaries to conclude that the development would not increase the base flood elevation.</p>
<p>Magnolia Trail Townhomes Greenville, SC</p> <p>Master planning, civil engineering, landscape architecture design services site planning, stormwater analysis, schematic design / design development, civil site and landscape construction documents, site work permit coordination, and construction phase services.</p>	<p>Shot Pouch Greenway LOMR Sumter, SC</p> <p>Construction phase services, observe grading and path construction activities in the floodplain and regulatory floodway as it relates to compliance with the approved FEMA Conditional Letter of Map Revision.</p>



REFERENCES

Andy Benke, Administrator

Town of Sullivan's Island
Post Office Box 427
Sullivan's Island, SC 29482
(843) 883-5726
abenke@sullivansisland-sc.com

Eric Demoura, Town Administrator

Mount Pleasant, SC 29464
(843) 884-8517
edemoura@tompsc.com

Russ Cornette, Town Engineer

Summerville, SC 29483
(843) 871-6000
RCornette@SummervilleSC.gov

Rebecca Dantzler, Capital Projects Manager

Dorchester County
201 Johnston Street
St. George, SC 29477
(843) 563-0142
rdantzler@dorchestercountysc.gov

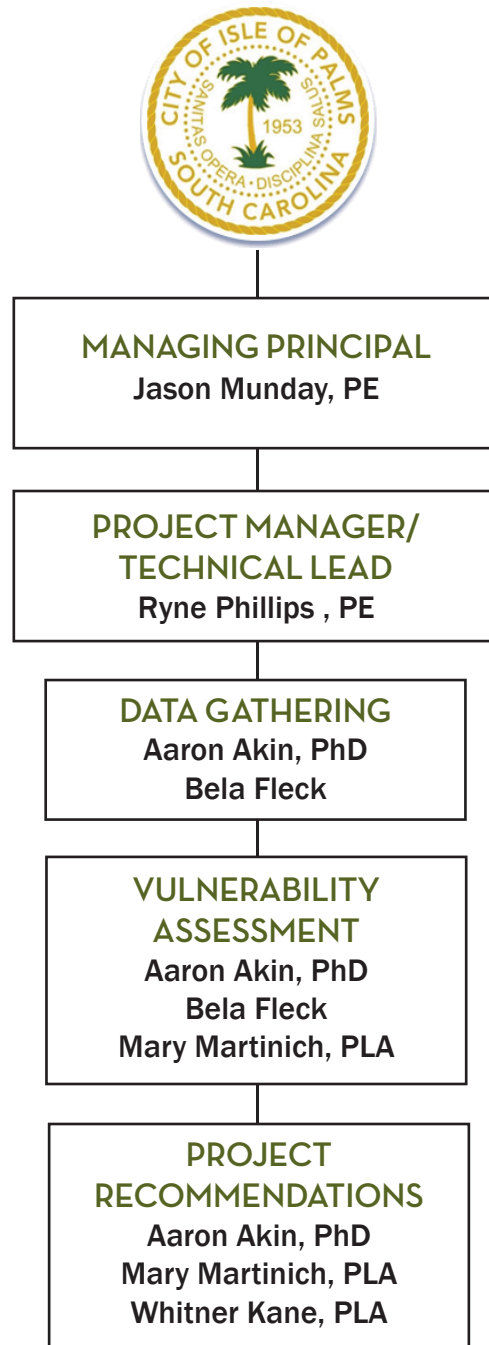


Check valve and earthen berm installation at 25th Avenue by SCDOT in October 2022.



OUTSOURCING STATEMENT & ORGANIZATION CHART

Our talented team of civil engineering and landscape architecture professionals will be led by **Point-of-Contact and Project Manager/Technical Lead Ryne Phillips, PE, Water Resources Team Leader in our SW+ Mount Pleasant office.** Resumes for **key staff members** only are included on the following pages.





RYNE PHILLIPS, PE
Water Resources Team Leader

Ryne Phillips, Water Resources Team Leader in SW+'s Mount Pleasant office, started his career with SeamonWhiteside in 2023. He has worked on a variety of projects including water resources, municipal, and publicly funded projects. Typical responsibilities include infrastructure design, regulatory approvals presentation and support, stormwater management plans, and subcontractor administration.

Ryne specializes in water resources engineering ranging from site specific watershed characterization to river basin scale analyses and pipeline transients. His practical and applied problem-solving skills are complemented with advanced numerical and computational knowledge of natural and man-made waterways, as well as distribution networks and turbomachinery. A key believer of adaptability and suitability, He interacts with clients, regulatory agencies, and changing environments to tailor solutions to specific project needs. Ryne's experience includes ecosystem restoration, flood hazard mapping and analysis, bridge and culvert hydraulics and scour analysis, flood frequency analysis, open/closed stormwater conveyance system design and analysis, water distribution network analysis and design, sewer system network analysis and design, pump station assessments and design, hydraulic transient studies, process engineering, GIS program and model development, and irrigation design and assessment.

*COMPLETED WITH PREVIOUS EMPLOYER

EDUCATION

**PhD Candidate, Civil & Environmental Engineering
(Stochastic Hydrology)**

UNIVERSITY OF SOUTH CAROLINA | COLUMBIA, SC

**Master of Science, Civil Engineering
(Water Resources Concentration)**

CLEMSON UNIVERSITY | CLEMSON, SC

**Bachelor of Science,
Agricultural Mechanization & Business**

CLEMSON UNIVERSITY | CLEMSON, SC

REGISTRATIONS AND AFFILIATIONS

Professional Engineer

SOUTH CAROLINA | #35434

GEORGIA | #048360

Southeast Stormwater Association (SESWA)

American Geophysical Union

Institute of Mathematical Statistics

International Association of Hydrological Sciences

American Public Works Association (APWA)

SIGNATURE PROJECTS

***The Point & Downtown
Stormwater Drainage Study**

BEAUFORT, SOUTH CAROLINA

***Island of Palms Ph 4 Island Wide Drainage Plan**

ISLE OF PALMS, SOUTH CAROLINA

***Lighthouse Pointe Drainage Study**

JAMES ISLAND, SOUTH CAROLINA

***Camp Rd & Riverland Dr Drainage Improvements**

CHARLESTON COUNTY, SOUTH CAROLINA

***Ehrhardt Street Drainage Improvements**

CHARLESTON, SOUTH CAROLINA

***US-17 Spring St & Fishburne St
Drainage Improvements**

CHARLESTON, SOUTH CAROLINA

***Barberry Woods Drainage Study**

CHARLESTON, SOUTH CAROLINA

***Johns Island Flood Risk Assessment**

CHARLESTON, SOUTH CAROLINA

***Calhoun West Drainage Improvement Project
& Sea Level Rise Mitigation Project**

CHARLESTON, SOUTH CAROLINA

***Fretwell Street Drainage Study**

NORTH CHARLESTON, SOUTH CAROLINA

***Arc & Billow Streets Drainage Improvements**

EDISTO ISLAND, SOUTH CARO





AARON AKIN, PHD

Water Resources Project Coordinator

Aaron joined the Mount Pleasant office of SeamonWhiteside in 2023. As a Water Resources Project Coordinator in the Civil Engineering department, he supports senior staff by working on a variety of project types including water resources, municipal, and publicly funded projects. He provides water resources engineering design services for roadways, utilities infrastructure, stormwater, and site improvements.

Aaron specializes in helping communities make better, more informed decisions regarding watershed management and flood mitigation. By coupling emerging technologies with innovative engineering, he is able to develop solutions for a number of resiliency problems. Aaron's experience includes flood mitigation studies, stormwater master planning, stormwater network analysis, flood hazard mapping and analysis, instrumentation, real-time monitoring and control systems, GIS program and model development, and combined 1D/2D hydrologic and hydraulic model development and optimization.

EDUCATION

PhD, Water Resources Engineering
UNIVERSITY OF TENNESSEE | KNOXVILLE, TN

**Master of Science,
Biological & Agricultural Engineering**
KANSAS STATE UNIVERSITY | MANHATTAN, KS

**Bachelor of Science,
Biological Systems Engineering**
KANSAS STATE UNIVERSITY | MANHATTAN, KS

REGISTRATIONS AND AFFILIATIONS

Southeast Stormwater Association (SESWA)

South Carolina Beach Advocates

American Public Works Association (APWA)

American Ecological Engineering Society (AEES)

American Society of Civil Engineers (ASCE)

SIGNATURE PROJECTS

**Town of Summerton
Hydrologic and Hydraulic Study**
SUMMERTON, SOUTH CAROLINA

***Island of Palms
Phase 4 Island Wide Drainage Plan**
ISLE OF PALMS, SOUTH CAROLINA

***City of Conway Stormwater Master Plan**
CONWAY, SOUTH CAROLINA

***The Point & Downtown
Stormwater Drainage Study**
BEAUFORT, SOUTH CAROLINA

***SCDOT Bridge Scour Assessment Program**
STATEWIDE, SOUTH CAROLINA

*COMPLETED WITH PREVIOUS EMPLOYER





LIGIA 'BELA' FLECK
Civil Designer I

Bela joined the Greenville office of SeamonWhiteside in 2022. As a Civil Designer I, Bela supports senior staff by working on a variety of project types including industrial, municipal, mixed use, and residential. She provides civil engineering design services for roadways, utilities infrastructure, stormwater, and site improvements from conceptual design through construction documents.

Bela has a particular interest in water resources and assists the SW+ Water Resources Engineering team with flood studies, hydraulic and hydrologic studies, and stormwater management projects.

EDUCATION

Bachelor of Science, Civil Engineering

BOB JONES UNIVERSITY | GREENVILLE, SC

Graduate Certificate, Communication Studies

BOB JONES UNIVERSITY | GREENVILLE, SC

SIGNATURE PROJECTS

Town of Summerton

Hydrologic & Hydraulic Study

SUMMERTON, SOUTH CAROLINA

Wilmington Corporate LOMR

WILMINGTON, NORTH CAROLINA

Shot Pouch Greenway LOMR

SUMTER, SOUTH CAROLINA

Taylors Mill Redevelopment LOMR & CLOMR

GREENVILLE, SOUTH CAROLINA

Knightsville Tract Flood Study

SUMMERVILLE, SOUTH CAROLINA

Salisbury Tract – North Parcel Flood Study

SUMMERVILLE, SOUTH CAROLINA

Town of Lyman Stormwater Engineering Services

LYMAN, SOUTH CAROLINA

Mayberry Mixed Use Stormwater Analysis

GREENVILLE, SOUTH CAROLINA

Chesnee Hwy SF Residential 99 AC Tract

SPARTANBURG COUNTY, SOUTH CAROLINA

E Park Avenue Townhomes

GREENVILLE, SOUTH CAROLINA

Six Oaks Single Family Residential

Phase 1 - Tupper Tract

SUMMERVILLE, SOUTH CAROLINA

Greenville Parkway Site Apartments

GREENVILLE COUNTY, SOUTH CAROLINA





MARY MARTINICH, PLA
Team Leader

Mary joined SeamonWhiteside in 2019 as a Landscape Architect and Project Manager to the team. She is passionate about promoting urban environments that are environmentally, socially, and economically sustainable. She has designed a variety of private and public projects including parks, streetscapes, plazas, mixed-use, multi-family, hospitality and commercial projects.

Mary's role as a Team Leader includes guiding team design efforts, ensuring quality and a high standard of work for all projects, mentoring the rising landscape architects in the department and working collaboratively with clients and consultants.

With a passion for low-impact design, she is a guest lecturer for the Clemson Extension Master Rain Gardener program in the Lowcountry and teaches Sustainable Landscaping for the Native Plant Society. Additionally, Mary is a Board Member and Secretary of the East Cooper Land Trust, the Lowcountry Regional Chair for the South Carolina Chapter of the American Society of Landscape Architects, and a Board Member of Charleston Moves. She has also participated in the Charleston Metro Chamber of Commerce 'Leadership Charleston' training and is an alumna of the Class of 2019.

EDUCATION

Master of Landscape Architecture

LOUISIANA STATE UNIVERSITY | BATON ROUGE, LA

Bachelor of Business Administration, Marketing

TEXAS STATE UNIVERSITY | SAN MARCOS, TX

REGISTRATIONS AND AFFILIATIONS

Professional Landscape Architect

SOUTH CAROLINA | #1450

TEXAS | #2928

American Society of Landscape Architects

LOWCOUNTRY REGIONAL CHAIR | 2007 - PRESENT

East Cooper Land Trust

SECRETARY & BOARD MEMBER | 2015 - PRESENT

Charleston Moves

BOARD MEMBER | 2020 - PRESENT

SIGNATURE PROJECTS

475 East Bay Street

(Liberty Place Charleston)

CHARLESTON, SC

Camp Hall Commerce Park Master Plan

BERKELEY COUNTY, SOUTH CAROLINA

Bolt Planned Development

WADMALAW, CHARLESTON COUNTY, SOUTH CAROLINA

Clements Ferry Gathering Place

CHARLESTON, SOUTH CAROLINA

Seabrook Island Club Pool Renovation

SEABROOK ISLAND, SOUTH CAROLINA

Nexton Mixed Use District

Retail | Restaurant

SUMMERVILLE, SOUTH CAROLINA

Nexton Northeast Village

SUMMERVILLE, SOUTH CAROLINA

Brighton Park Open Space Design

SUMMERVILLE, SOUTH CAROLINA

Mount Pleasant Way Multi-Use Path

MOUNT PLEASANT, SOUTH CAROLINA

Six Mile Cultural Heritage Trail

MOUNT PLEASANT, SOUTH CAROLINA





WHITNER KANE, PLA
Team Leader

Whitner first began working with SeamonWhiteside in 2004 as a landscape architect concentrating on municipal improvements, residential development, and higher education projects. She then spent several years in Europe, returning to SW+ in 2017 as a Senior Landscape Architect.

A Landscape Architecture Team Leader since 2022, Whitner guides the project management process to facilitate project consistency, productivity and accountability. She actively mentors the designers on her team, to ensure SeamonWhitesides' core vision and values are being upheld.

Whitner's experience includes all phases of site design from master planning through construction documents and construction administration. She is very knowledgeable about the public process including working with municipalities, governmental agencies, and special districts to master plan community projects, design recreation and park facilities, gather citizen approval, and provide the direction needed to complete the project.

EDUCATION

Master of Landscape Architecture

AUBURN UNIVERSITY | AUBURN, AL

Bachelor of Environmental Design

AUBURN UNIVERSITY | AUBURN, AL

REGISTRATIONS AND AFFILIATIONS

Professional Landscape Architect

SOUTH CAROLINA | #988

ALABAMA | #795

American Society of Landscape Architects

MEMBER 2004 - PRESENT

Junior League of Charleston

MEMBER 2007 - PRESENT

SIGNATURE PROJECTS

Charleston Place Hotel

CHARLESTON, SOUTH CAROLINA

Ashley Hall Sports Complex

JAMES ISLAND, SOUTH CAROLINA

***Lucy Beckham High School
Baseball Field Renovation***

MOUNT PLEASANT, SOUTH CAROLINA

Credit One Stadium

DANIEL ISLAND, SOUTH CAROLINA

***89 Warren Street Renovation
Ashley Hall School***

CHARLESTON, SOUTH CAROLINA

Carolina Park Sports Complex

MOUNT PLEASANT, SOUTH CAROLINA

***Saint Mary of the Annunciation Church
Courtyard Renovation***

CHARLESTON, SOUTH CAROLINA

Nexton Design Committee Consulting

SUMMERVILLE, SOUTH CAROLINA

Newberry College Dormitories

NEWBERRY, SOUTH CAROLINA

***Pardue Hall Gateway & Courtyard
Ashley Hall School***

CHARLESTON, SOUTH CAROLINA

