

INTRODUCTION



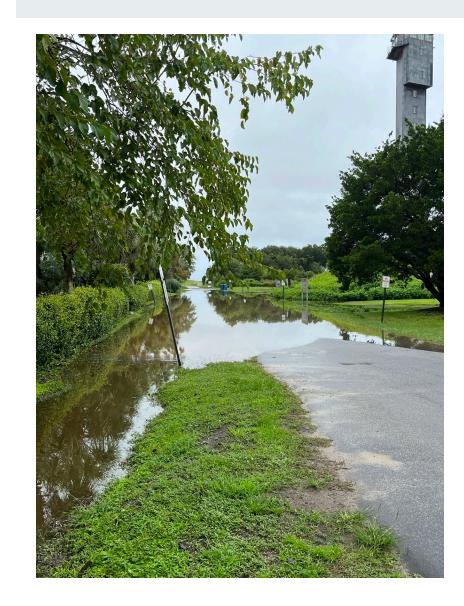
Aaron Akin, PhD Water Resources Lead

Stormwater Master Plan – Final Updates

- Additional Drainage on Northeastern Side of Osceola Ave added to Project Recommendations
- Updated Cost Estimates to Include 5- and 10-Year Cost Escalation Estimates
- Project Prioritization and Ranking Analysis
- Short-Term Solutions for High Priority Projects
- Stormwater Department Recommendations
- Updated Reference to Upcoming Resilience Plan in Final Report

All Updates Posted to Town's Website

Updates to the Following: Final Report, Appendix C –
Proposed Improvements, Appendix E – Cost Estimates, &
Appendix F – Project Prioritization and Ranking Analysis



OSCEOLA AVE

Background 2020 aerial imagery collected by Kucera International. Imagery is managed by Adam DeMars, South Carolina State GIS Coordinator and . Drainage infrastructure locations are approximate. Final placement of proposed infrastructure will occur during design. Inlet placement was not considered in this study Proposed improvements along the marsh-front (northeastern) side of Osceola Avenue (between approximately Station 10 and Station 12) and their associated impacts are not included in Appendix 4. If additional collection systems are deemed necessary to provide drainage infrastructure for the project area then the system's inverts will need to be adjusted to provide standard cover for stormwater nines . 24" tide gate to be installed at the end of pipe on Sea Breeze Ln with approximately 425 LF of ditch excavation required at the outfall. . Pump station to discharge directly to tidal marsh at end of Station 10. No force main required. Pump station currently proposed as a triplex pump station consisting of two high flow rate pumps and one jockey pump for smaller storm events. . Road centerline is proposed to be elevated to 6 ft NAVD88. Proper grading within right-of-way will be required to ensure runoff is routed to proposed 18" RCP Regrade Regrade 24" RCP 18" RCP Proposed Pump Station **SW** SEAMONWHITESIDE Osceola Avenue - Existing Stormwater Infrastructure Town of Sullivan's Island, SC Proposed Improvements (Other Project Areas) Proposed Improvements Raise Road

- Upgraded/expanded collection system
- Increased pipe sizes
- Installation of new inlets
- Installation of stormwater pump station
- Tidal protection along Osceola Ave
 - Raise roadway elevation to 6 ft NAVD88
- ~\$10.8 million implementation cost

Total Estimated Project Implementation Cost Includes Construction and Professional Services Costs:

- Materials
- General Construction Costs
- Incidentals
- Water/Sewer Conflicts
- Permitting
- Engineering & Design Services
- Construction Administration
- General Contingencies
- Estimates for 5- and 10-Year Cost Escalation
 - Assumed 6%/year based on CPI, PPI, and NHCCI data
- Total Cost of All Projects is ~\$69 million
 - Highest Priority Projects (top 3 ranked) total ~\$20 million



Prioritization/Ranking Based on Flood Mitigation Metrics

- Flood Extent Reduction (Acres)
- Reduction in Buildings Impacted by Flooding
- Cost per Acre of Flood Reduction
- Cost per Reduction in Buildings Impacted
- Rainfall and Tidal Flooding Scenarios
- Projects Ranked Relative to Each Other and Assigned a Score for Each Metric (1-18 points)
 - For example, rank #1 would receive 18 points for a given metric. Rank #18 would receive 1 point.
- Weights Applied to Each Metric Score
- Total Score Determined Final Priority



PROJECT RECOMMENDATIONS

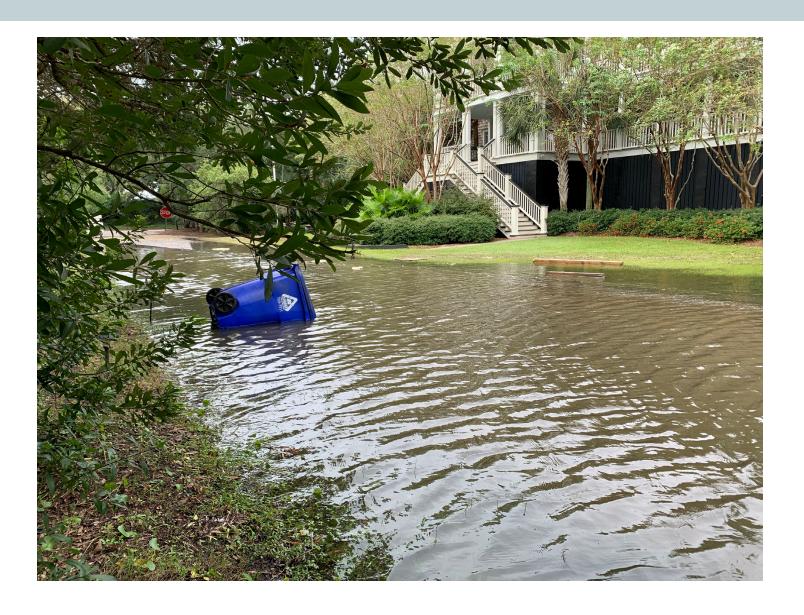
- 1. Osceola Avenue
- 2. Station 26.5
- 3. Station 30 Extension
- 4. Station 26.5 Extension 13. Station 14
- 5. Station 28.5 Extension 14. Station 24 Extension
- 6. Station 20.5
- 7. Station 20.5 Extension 16. Station 31 Extension
- 8. Station 18
- 9. Station 22.5

- **10.** Station **17**
- **11.** Station **19**
- **12. Station 24**

- **15. Station 23**
- 17. Station 16 Extension
- 18. Station 22.5 Extension



PROJECT RECOMMENDATIONS



Osceola Avenue

- Rehabilitation/Dredging of Outfalls
- Installation of Check Valves
- Raise Road (likely require external funding)

Station 26.5

 Investigation/Rehabilitation of Potential Pipe Connecting Bayonne to Atlantic

Station 30 Extension

 Implementation of SCIIP Drainage Improvements

Personnel/Management

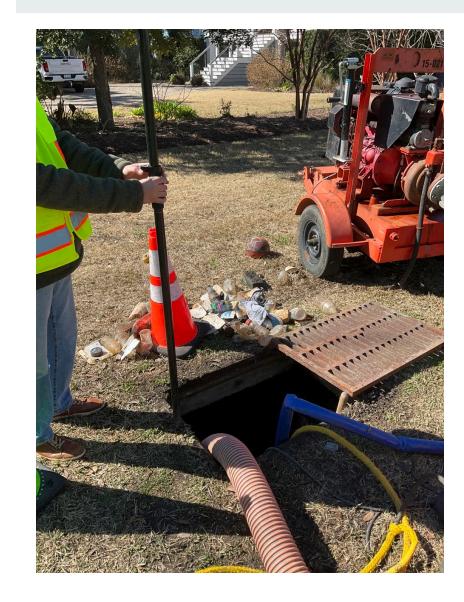
- 1-2 staff members or temporary employees to complete maintenance
- Committee or town department to guide maintenance program
- Town employee to manage/oversee maintenance program and report to town department/committee

Equipment to Purchase

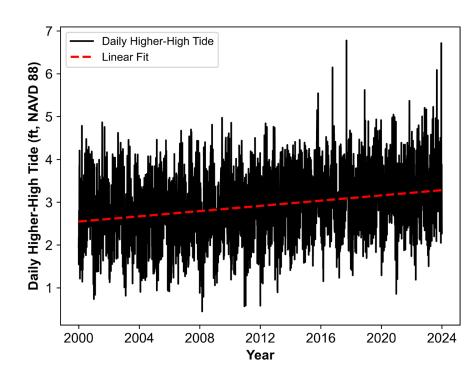
 Vacuum Trailer, Backhoe, Utility Truck, Dump Trailer, General Purpose Utility Trailer Portable Dewatering Pump, Inflatable Plugs, Composite Mud Matting, GPS Unit and Tablet

Equipment to Rent (as needed)

Mini Excavator, Skid Steer, Tamps



- Updated language of "Resilience Strategies for Private Property Owners" (Section 7)
- Reference forthcoming Resilience and Sea Level Rise Adaptation Plan
- Resilience Plan will include recommendations to improve resiliency from the community level to the individual lot
 - Nature-based solutions for flood mitigation
 - Green and Grey Solutions for Protection of Tidal Marshes and Adjacent Properties
 - Revisions to codes, standards, and existing ordinances
 - Recommendations from the Stormwater Master Plan
- Upcoming Planning Commission Presentation
 & Open House April 9th



QUESTIONS REGARDING THE PROJECTS?

Contact Ryne Phillips or Aaron Akin rphillips@seamonwhiteside.com aakin@seamonwhiteside.com

