APPENDIX F

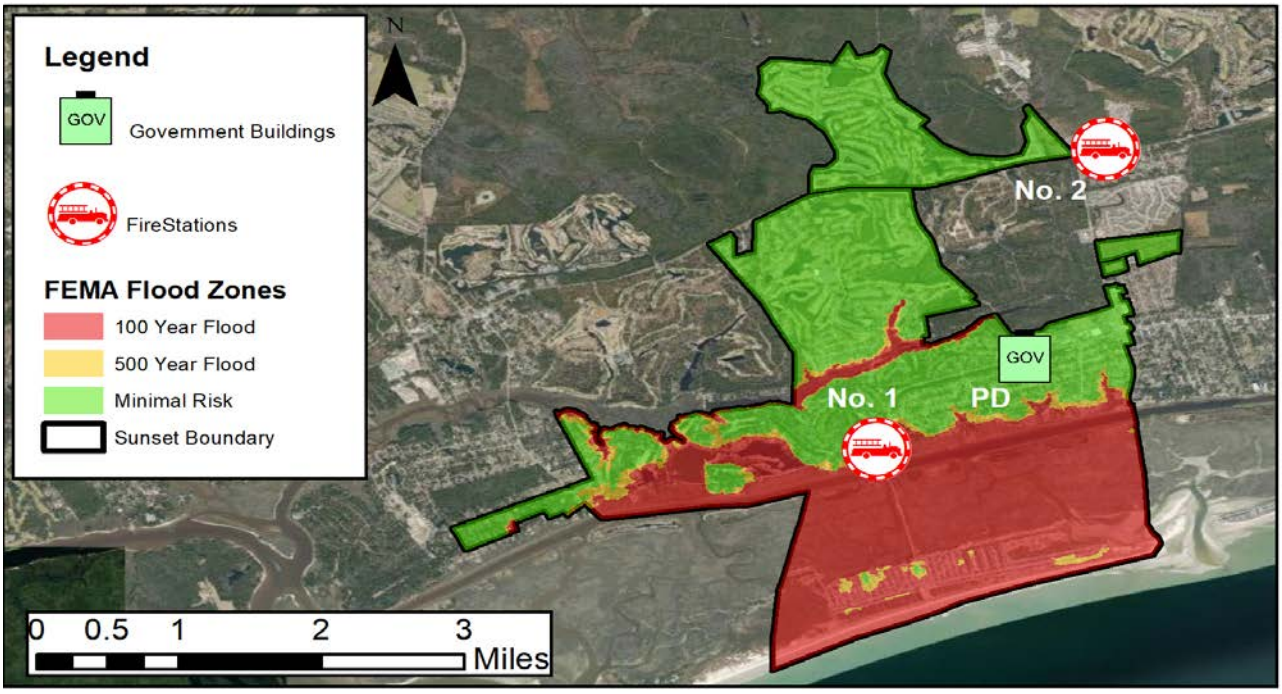
PROJECT PORTFOLIO

Project Identifier	Project Name
a	Community Outreach and Education Program for Promotion of Green Infrastructure
b	Relocation of Emergency Operations Center (EOC) facilities (Fire Sta-2)
c	Town Park Nature-Based Shoreline Restoration Expansion Project
d	Nature-based Strategies for Shoreline Protection along Critical Routes
e	Town-wide Stormwater Infrastructure Improvement Feasiblity Assessment
f	Improving Water Quality through Stormwater Controls
g	Elevation Improvements to Critical Evacuation Route Along Island Causeway
h	Emergency Preparedness Plan
i	Communication Action Plan for Emergency Services
j	Feasibility Studies for Green Infrastructure Projects
k	Waterfront Bulkhead Enhancements for Flood Protection

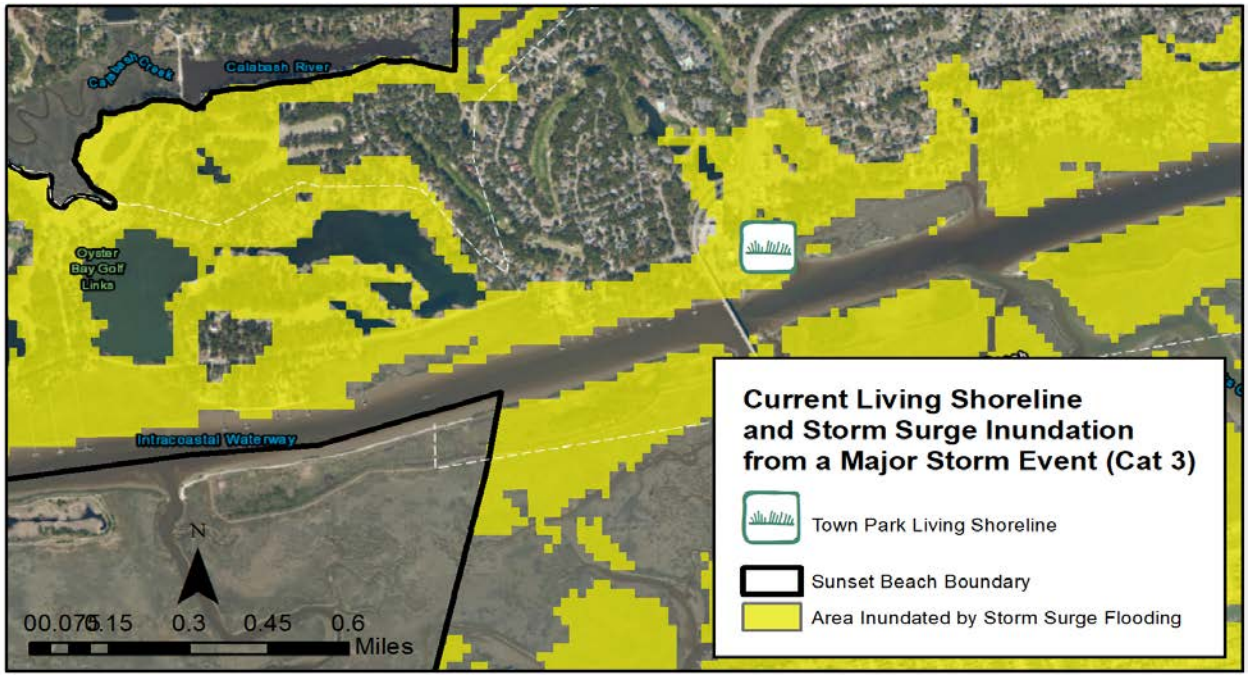
Project Name	Community Outreach and Education Program for Promotion of Green Infrastructure
Project Description	This project entails the Town of Sunset Beach implementing new Public Outreach and Education programs to provide green infrastructure solutions to residents. Program options could include developing a rain gutter and downspout promotion plan with educational and financial incentives for community members. The Town will seek partnerships and collaborations with the NC Coastal Federation to support this program.
Hazard(s) addressed by project	Flooding/ Public Awareness
Type of Solution	Communication and Outreach
Project Estimated Cost	$25,000/year (staff capacity needs + materials)
Potential Implementation Funding Sources	Federal/State/Local
Projected Estimated Timeline	Annual
Priority Rating	Mid-Term
Project Map	Community-wide

Project Name	Relocation of Emergency Operations Center (EOC) facilities (Fire Sta-2)
Project Description	Currently, the Town's primary Emergency Operations Center (EOC) is located in Fire Station No. 1, which has a high vulnerability to flooding. Town staff have suggested relocating the EOC to Fire Station No. 2 as an alternative. Additionally, an alternate operational location for the Police Department during a major storm or natural disaster has been suggested to be Fire Station No. 2. This project would entail additional planning for capabilities for this facility to support staff in such an event, such as food storage and EOC equipment.
Hazard(s) addressed by project	Flooding
Type of Solution	Plans and Programs
Project Estimated Cost	To be Determined based on additional planning by staff
Potential Implementation Funding Sources	Local
Projected Estimated Timeline	Long-term
Priority Rating	Medium

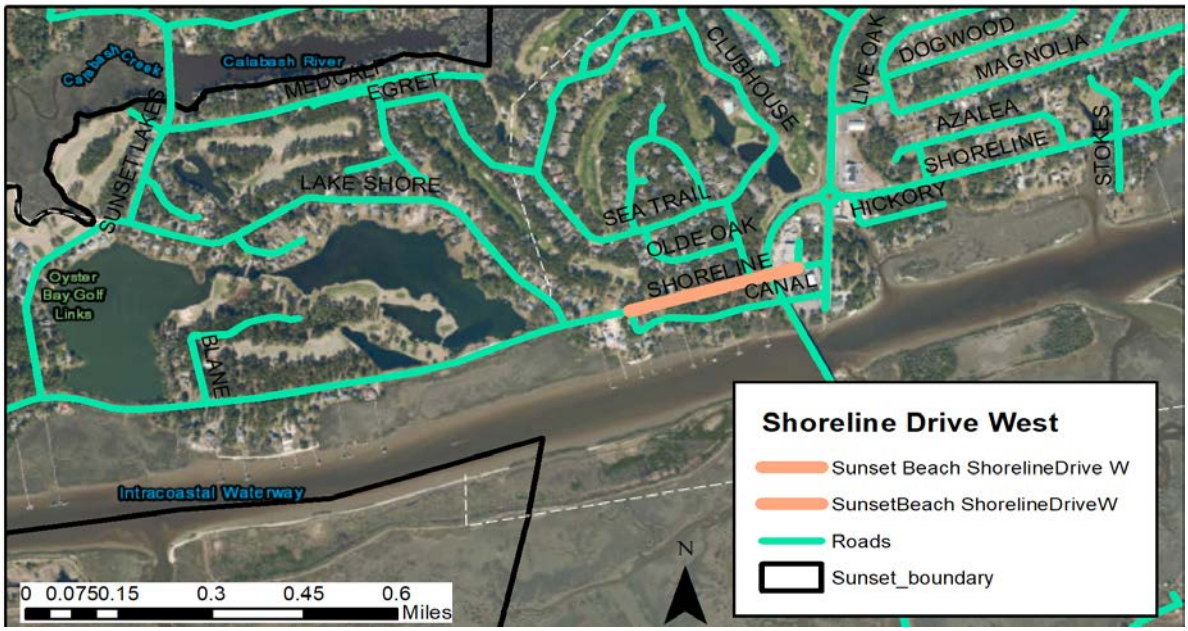
Project Map



Project Name	Town Park Nature-Based Shoreline Restoration Expansion Project
Project Description	In 2019, Sunset Beach constructed 0.2 acres of living shoreline adjacent to Town Park. The Town's goal is to expand the use of nature-based restoration strategies, such as living shorelines, for the enhancement and stabilization of the remaining shoreline along Town Park. This project would be designed to dissipate wave energy, reduce scour of the existing salt marsh fringe and uplands. Natural elements will be integrated into the design and may include salt marsh grasses and oysters, which naturally function to protect the shoreline from erosion and benefit fish and shellfish habitat.
Hazard(s) addressed by project	Flooding/Storm Surge
Type of Solution	Nature-based solution
Project Estimated Cost	$50 - $150 per linear foot based on the type of approach being employed
Potential Implementation Funding Sources	State/Federal
Projected Estimated Timeline	1 year for design/permitting + 1 year for implementation/planting
Priority Rating	High
Project Map	See map below of current living shoreline location and areas of potential need that are projected to be flooded by a major (category 3) hurricane

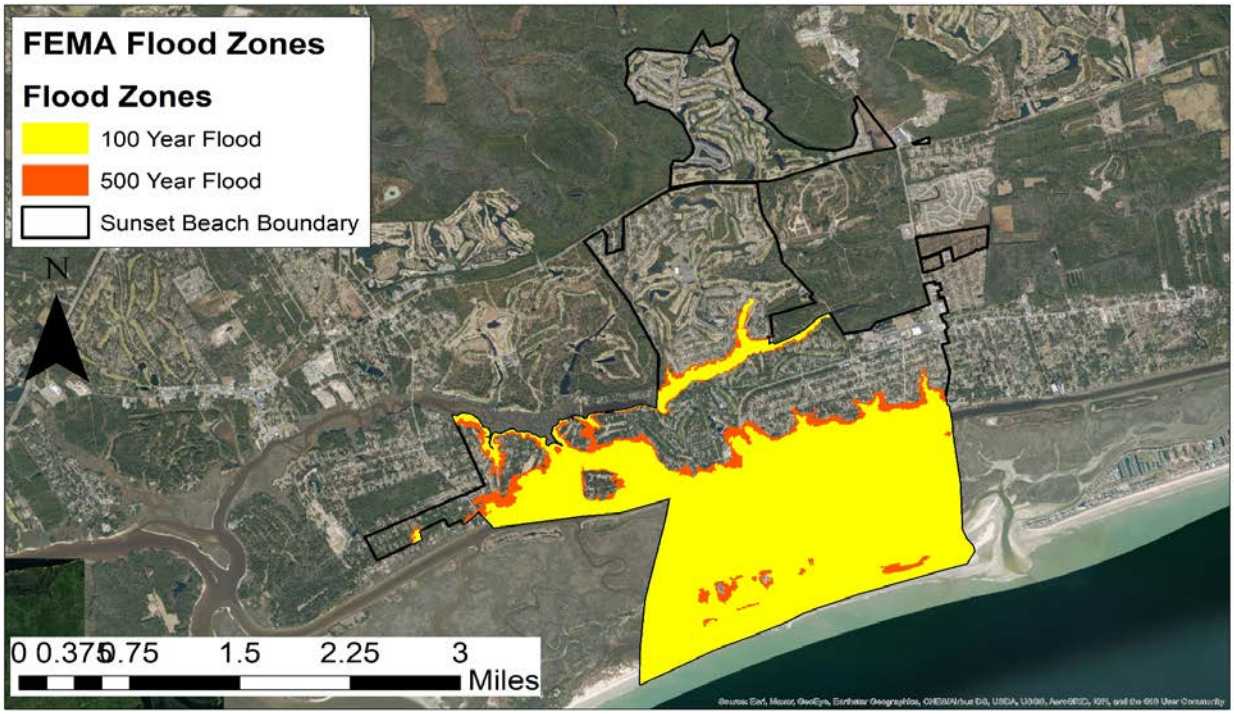


Project Name	Nature-based Strategies for Shoreline Protection along Critical Routes
Project Description	The Town of Sunset Beach aims to construct a living shoreline along Shoreline Drive West. Specifically, between W Shoreline Drive and Lake Shore Drive in the vicinity of the bird watch; an area susceptible to flooding where the marsh comes close to the road shoulder. Similarly, the section of Shoreline Drive West along the lake between 641 Shoreline Drive West and 303 Blaine Court where the marsh comes close to the road shoulder is susceptible to flooding. These areas, as well as others yet to be identified, will be assessed as part of this project for consideration in project location. *Mentioned in Climate Change Mitigation Plan*
Hazard(s) addressed by project	Flooding/Storm Surge
Type of Solution	Nature-based solution
Project Estimated Cost	$50 - $150 per linear foot based on the type of approach being employed
Potential Implementation Funding Sources	State/Federal
Projected Estimated Timeline	3 months for feasibility analysis + 1 year for design/permitting + 1 year for implementation/planting
Priority Rating	High
Project Map	See map below of Shoreline Drive W

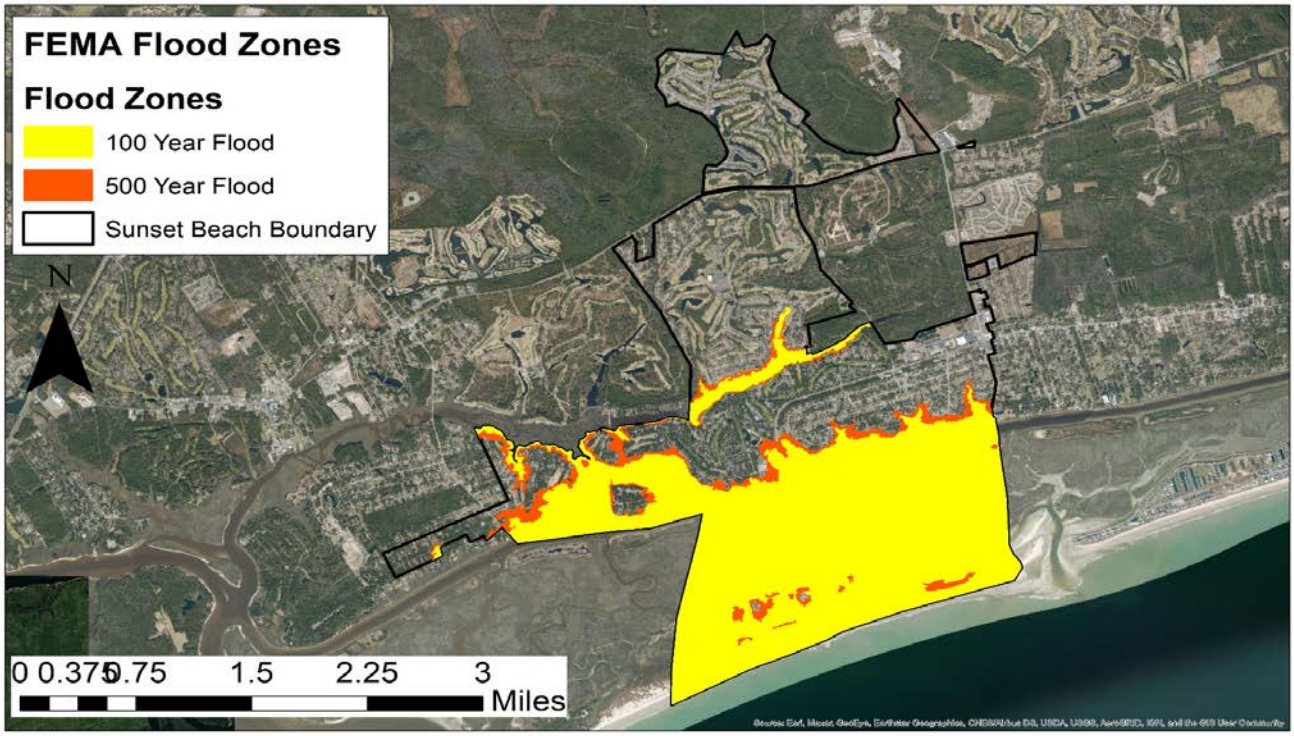


Project Name	Town-wide Stormwater Infrastructure Improvement Feasibility Assessment
Project Description	A feasibility study/assessment of stormwater infrastructure system will be conducted in areas of high risk and vulnerability from hazards, as identified in the Risk and Vulnerability Assessment. The Town is proposing a the assessment to identify areas of replacement or retrofits, specifically, the stormwater drain system underneath Shoreline Drive West in the vicinity of 801 W. Shoreline Drive, where there has been visible settlement of the pavement section. This pipe and road, as well as others that could be identified in this assessment, are owned and maintained by NCDOT and this project would entail collaboration with this agency. The Town has identified locations to conduct the suggested study: 1) 9190 Ocean Harbor Golf Club Drive; 2) 9170 Shady Forest Dr SW; 3) Sunset Lakes Blvd SW over the dam on the Calabash River; 4) Clubhouse Road in Sea Trail; 5) Angel Trace Road; 6) the intersection of Shoreline Drive West and 179B Beach Drive SW. Green infrastructure strategies will be implemented where feasible.
Hazard(s) addressed by project	Flooding/storm surge
Type of Solution	Feasibility Study of Green/Grey/Hybrid Infrastructure
Project Estimated Cost	To be Determined
Potential Implementation Funding Sources	Local/State/Federal
Projected Estimated Timeline	Long-term; Feasibility Study could be completed in 8 - 12 months
Priority Rating	Intermediate

Project Map

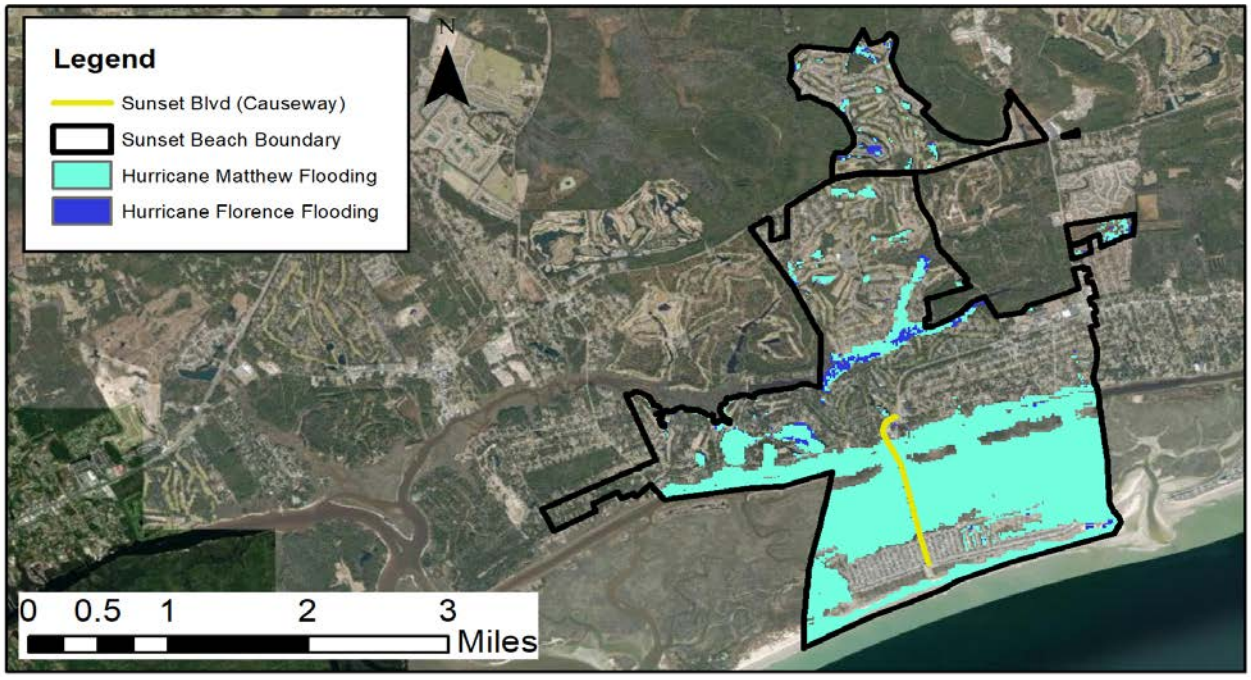


Project Name	Improving Water Quality through Stormwater Controls
Project Description	This project would involve adding engineered structures onto storm drains, such as SAFL baffles, on both the mainland and island of Sunset Beach. Implementing this type of change to storm drains can reduce the discharge of total suspended solids into the waterways and improve the water quality of downstream wetlands. The Town of Sunset Beach does have a successful 10-year Stormwater Program in progress, but it does not address sediment and discharge quality. Efforts of this program can be further enhanced by implementing a project that utilizes engineered structures on its storm drains to address water quality.
Hazard(s) addressed by project	Flooding
Type of Solution	Hybrid Strategy: Grey/Green Infrastructure
Project Estimated Cost	To be Determined; Water Quality Monitoring Program cost per year is variable + stormwater control measures
Potential Implementation Funding Sources	Local/State/Federal
Projected Estimated Timeline	Long-term
Priority Rating	Intermediate
Project Map	

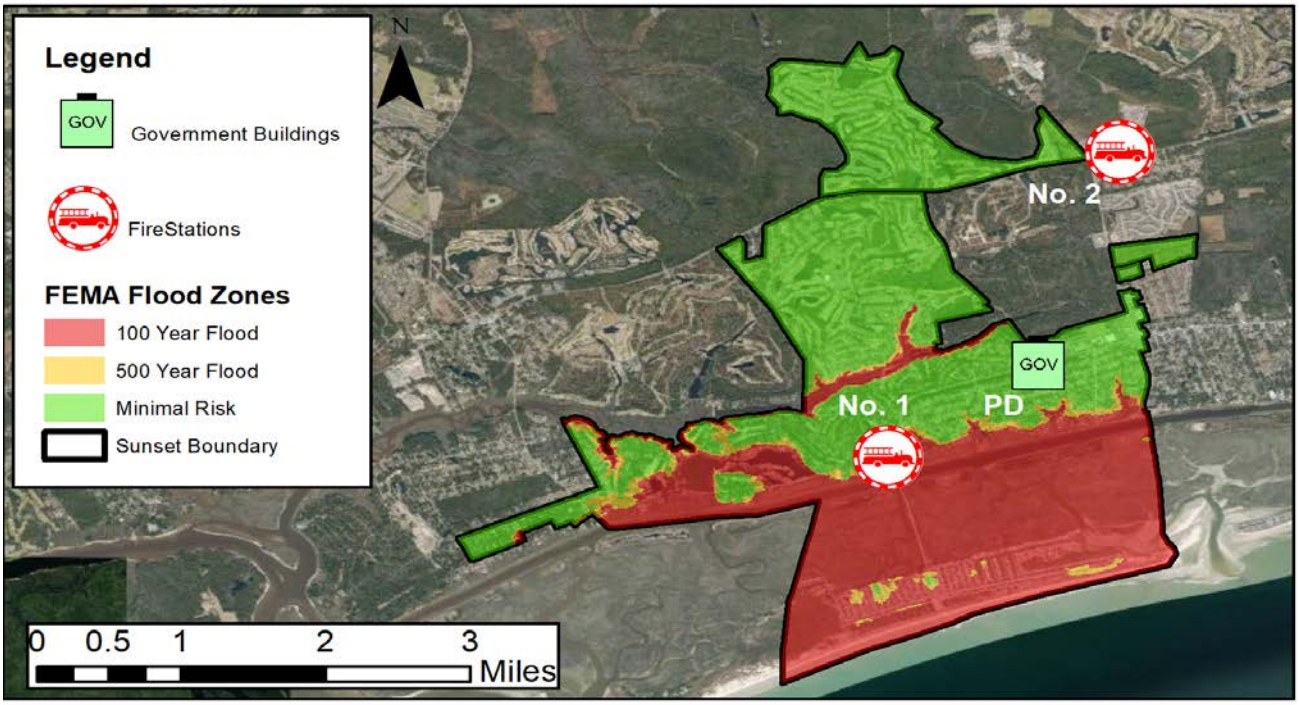


Project Name	Elevation Improvements to Critical Evacuation Route Along Island Causeway (Sunset Blvd.)
Project Description	Partnering with NCDOT, Town of Sunset Beach aims to elevate the roadway section of Sunset Blvd South, or the "causeway". This entire route, which is owned and maintained by NCDOT, has been inundated by storm surge in previous storm events, posing a major transportation concern. Elevating the roadway will ensure emergency services and community members can exit the island during a major storm event and is necessary for evacuation needs.
Hazard(s) addressed by project	storm surge, impassable roads, wind damage
Type of Solution	Gray Infrastructure
Project Estimated Cost	To be Determined until coordination with NCDOT is initiated
Potential Implementation Funding Sources	State/Federal
Projected Estimated Timeline	Long-term
Priority Rating	High

Project Map

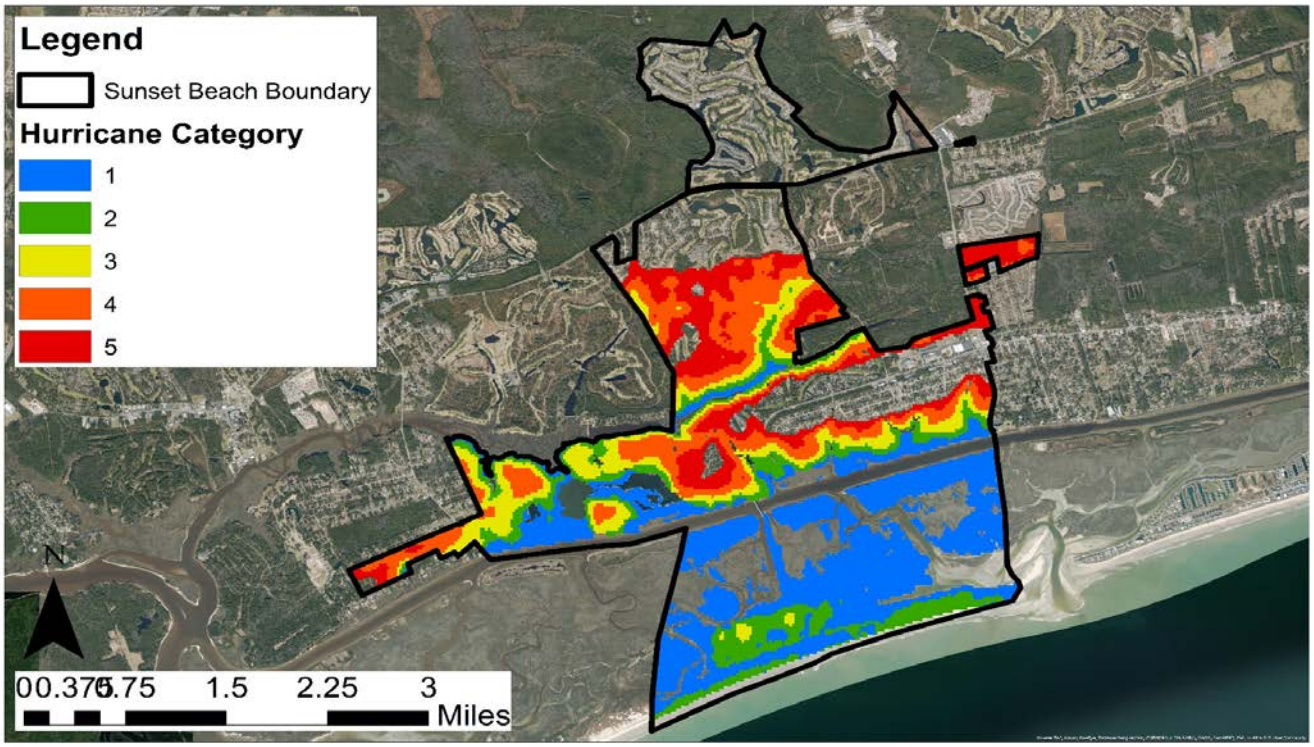


Project Name	Emergency Preparedness Plan
Project Description	The Town of Sunset Beach will prepare an Emergency Preparedness Plan and associated materials to ensure that the Town's emergency services are readily equipped in the event of a major storm or natural disaster. This would involve assessing inventory of supplies, existing plans and programs, and readiness of staff and materials. Additionally, this project will aim to obtain funding for acquiring the necessary supplies and materials for emergency preparedness. Specific examples of supplies and materials needed that have already been identified by Town staff include: a flat bottom shallow draft boat, a camera station to monitor location status on east and west beach sections and gazebo area during storms, a training tower facility for Fire Station No. 2, and a hardened structure to protect police vehicles and equipment during a storm.
Hazard(s) addressed by project	Flooding/Storm Surge/Wind
Type of Solution	Plans and Programs
Project Estimated Cost	To be Determined with further analysis by Town staff
Potential Implementation	
Funding Sources	Local/State/Federal
Projected Estimated Timeline	Short Term (1 - 2 years)
Priority Rating	High
Project Map	



Project Name	Communication Action Plan for Emergency Services
Project Description	A Communication Action Plan between the Town of Sunset Beach and adjacent municipalities will be developed to address communication concerns in the event of a major storm or natural disaster. This project would involve collaboration with Brunswick County and partnerships with adjacent municipalities to find ways to streamline communication during such emergencies. Currently, operational communications during and after a storm event are dependent on the County system which is out of the control of the Town. Collaborating with the County as well as other localities will allow for cohesiveness and control. The plan can include an alert system or establishing reliable messaging capabilities to communicate with community members.
Hazard(s) addressed by project	Flooding/Storm Surge/Wind
Type of Solution	Plans and Programs
Project Estimated Cost	To be Determined but may include staff time and resources
Potential Implementation Funding Sources	Local/County
Projected Estimated Timeline	6 months - 12 months for plan development; ongoing to ensure coordination is maintained
Priority Rating	High
Project Map	N/A

Project Name	Green Infrastructure Feasibility Study
Project Description	Feasibility studies will be conducted to determine the need and success potential for green infrastructure projects such as constructed wetlands, living shorelines, roadside buffers, or other solutions for mitigation of tidal and storm surge flooding in key vulnerable areas as identified in the Risk and Vulnerability Assessment Report. Specifically, low-lying roads and their vicinity should be examined to identify locations for solutions that could address transportation and evacuation concerns as well as portions of the Town within the floodplain of the ICW and tidal rivers and creeks. Town staff have already identified potential areas to conduct these studies and include: 1) Shoreline Drive East (in the vicinity of 303 Shoreline Drive crossing Turtles Creek on the ICW side) and 313 Shoreline Drive East; 2) Along 40th Street (on the island), specifically at the intersection of Bay Street and 40th Street and adjacent to 318 40th Street; 3) Clubhouse Road over Calabash River; 4) Rice Mill Circle east of Pink Palace crossing Jones Golf Course; 5) Sea Trail catchment areas 226-228 at intersection of Angel Trace Road and Sunset Blvd N; 6)309-403 and 439-641 Shoreline Drive West. Additionally, this project could examine areas within the ETJ. These areas include: 1) Power transformer on Angel Trace Road; Angel Trace Road crossing Calabash River; Ocean Harbor Club Drive east of Peakwood Drive SW.
Hazard(s) addressed by project	Flooding
Type of Solution	Feasibility Study
Project Estimated Cost	$100,000 - $300,000 dependent on whether concept design is included
Potential Implementation Funding Sources	Local/State/Federal
Projected Estimated Timeline	1 - 2 years dependent on need for preliminary design plans
Priority Rating	High
Project Map	See map below of Storm Surge Inundation in Sunset Beach



Project Name	Waterfront Bulkhead Enhancements for Flood Protection
Project Description	The Town of Sunset Beach aims to address the challenge of protecting the low-lying coastal and residential land areas from rising water levels through a program to raise existing waterfront bulkheads. This program would apply to bulkheads maintained by the Town as well as those on private property. When considering waterfront enhancements, consider the risks of floods lifting docks off pilings and tossing them around doing damage to everything in their path. Raising piling heights to freeboard heights could mitigate this risk. *Suggested in the RCCP Community Application*
Hazard(s) addressed by project	Storm Surge/Sea Level Rise/Flooding
Type of Solution	Gray Infrastructure
Project Estimated Cost	$400 - $600/linear foot and is dependent on case by case basis
Potential Implementation Funding Sources	Local/Private
Projected Estimated Timeline	Long-term
Priority Rating	Low
Project Map	See map below of residential land parcels and projected 1 foot rise in sea level