

## TECHNICAL & ADMINISTRATIVE APPROACH

### PROJECT UNDERSTANDING

GMB understands that the goal of the consulting effort is to complete a **Resiliency Implementation Plan** with phases, priorities, project scopes, and budget ranges for resiliency projects in Fenwick Island, Delaware. These strategies will help mitigate the impacts from sea level rise and changing coast lines, both in the natural and built environment. The problems facing Fenwick Island are consistent with the evolving conditions in the MidAtlantic Coastal Plain region. “Nuisance” flooding is becoming more problematic as it impacts the ability to navigate the roadways or access work, home, school, and basic services. Natural and built environments are being impacted as shorelines erode and become inundated as the sea level rises, saltwater intrusion is negatively affecting infrastructure, and the general way of life is being altered at a faster pace than ever experienced previously. Fenwick Island is extremely vulnerable with its locale situated between the Little Assawoman Bay and the Atlantic Ocean; making it an island fully exposed to climate change and sea level rise.

Fenwick Island is a unique beach community at the very southern end of Delaware, which shares shorelines with state parks to the north and Ocean City to the south. Previous public engagement and outreach has been performed and will be utilized in the crafting of the Plan. Additional local engagement will also serve to inform the residents about long term strategies and end goals for the community and Fenwick Island. Preservation of private property, public infrastructure, and minimizing the impacts on the population will be key success metrics.

The goal of the consulting effort is to provide a framework with short-, mid-, and long-term projects and goals that can be implemented to help make Fenwick Island more resilient through 2050. Resiliency projects and strategies will be integrated with the flood protection measures outlined in the previously completed guidance documents.

### PROJECT APPROACH

GMB is cognizant of previously completed reports, brochures, and guidance documents for the issues that affect Fenwick Island. Below is several of them that will be utilized, at a minimum, for the Resiliency Implementation Plan:

- Community Sustainability Plan (2019)
- Preparing for Sea Level Rise Brochure
- Sea Level Rise Vulnerability Study
- Delaware Residents’ Opinions on Climate Change and Sea Level Rise 2014
- Recommendations for Adapting to Sea Level Rise in Delaware
- 2013 Drainage Inventory Map
- 2016 GIS Needs Assessment

**1. *Compile Previous Works:*** GMB will review the above works for recurring themes, priorities, directives, and identification of hot spots. This will ensure understanding of the previous individual goals outlined are utilized as a framework for this Plan.

**2. *Review and Update GIS Inventory:*** GMB is in receipt of the GIS inventory previously compiled of the Drainage Infrastructure in Fenwick Island. Since its creation in 2013 several projects have been completed and installed. We

plan to make a field visit with Michael Locke, the Public Works Manager to ensure the GIS base can be updated for utilization in the Plan and for projects moving forward.

**3. Meet with Council and Stakeholders:** Once the information described above is compiled, a meeting with the key stakeholders will be held. An understanding of priorities, goals, hot spots, and the framework for the plan will be set.

**4. Modeling:** The strategies outlined in the draft plan will be modelled using the current GIS data, potential infrastructure upgrades, and future benchmark for sea level rise and/or other climate change stressors.

**5. Draft Plan:** Once the framework and modeling are completed, a draft plan will be crafted.

We anticipate the draft plan will serve to:

- Summarize existing conditions.
- Identify vulnerable areas in the context of existing conditions and with consideration of potential sea level rise.
- Develop short-, mid-, and long-term goals.
- Evaluate proposed improvements and strategies.
- Prepare timelines and budgetary cost estimates for implementation.

**6. Public Meeting:** A presentation of the short-, mid- and long-term goals along with associated projects and what will be achieved with these strategies will be held. This can be during a Council work session or a stand-alone meeting for the public.

**7. Final Plan:** Upon completion of the study of past documents, update of the GIS map, meeting with Council and Stakeholders, crafting the draft plan, modeling the alterations, presenting to the Public, and without opposition, a Final Resiliency Plan will be created.

## **KEY PERSONNEL**

The Principal for the project will be **Andrew J. Lyons, Jr., P.E.** Mr. Lyons is a Vice President of GMB and works out of the Seaford, DE office. Mr. Lyons has 18 years of experience in Municipal Engineering Services. At GMB, Mr. Lyons works on a variety of projects, including studies, design, and contract administration. Engineering projects include municipal street and utility restoration, ADA design, sewer & water systems and extensions, wastewater treatment systems, storm drainage and storm sewer systems, site design, and highway entrance design. Mr. Lyons has special expertise in water system modeling. He currently serves the Town of Millville as Town Engineer, assisting the Town with site plan review and coordination for development projects. He is also currently working with the City of Lewes, Town of Millsboro, and Town of South Bethany on their municipal projects



The Technical Specialist for the effort will be **Stephen L. Marsh, P.E., LEED AP, CPSWQ.** Mr. Marsh is a Senior Vice President of GMB, East Region Director of Operations, and works out of the Salisbury office. Mr. Marsh has 30 years of experience in flood control and stormwater management projects and is the only Certified Professional in Stormwater Quality on the Eastern Shore. Mr. Marsh is a frequent guest lecturer at Salisbury University and Morgan State University, where



he lectures on topics such as urban hydrology and hydraulics, flooding on Delmarva, and the Chesapeake Bay.

Working in conjunction on the Plan will be **Brent Jett, P.E., CFM, CC-P**. Mr. Jett previously worked as the Assistant City Engineer in Cambridge. While with the City of Cambridge, he served on the Eastern Shore Climate Adaptation Partnership, a group that facilitated several flood studies, evaluated the impact that projected Sea Level Rise will have on daily life on Delmarva, and considered future infrastructure concerns relative to the changing landscape. He has experience with the grant programs at DNR and is familiar with the DNR team that administers the grants. Mr. Jett has worked closely with multiple Eastern Shore partners that are involved in climate change adaptation and coastal resiliency.



Field survey has not been included in this proposal, but if it were to be needed in any capacity Steve Adkins, PLS of Adkins Survey would be the consultant GMB would request for services. We have worked together in the past on projects in Sussex County with great success.