

## Becoming Sea Level Wise

The City of Virginia Beach worked with NOAA to prepare an action plan showing how we should prepare for Sea Level Rise. *The Sea Level Wise Adaptation Strategy*, published in March 2020, was unanimously adopted by City Council to be included as part of the City's Comprehensive Plan. The report outlines a proactive, long-term approach to enable the City of Virginia Beach to adapt to these changing environmental conditions. This approach consisted of 4 Phases described below:

### **Program Phases Impact Assessment**

The first phase of Sea Level Wise focused on establishing a full understanding of flood risks by analyzing sea level rise and recurrent flooding impacts to both built infrastructure and the natural environment. The study team evaluated vulnerability and flood risk exposure of City assets and critical infrastructure for existing and future sea level rise scenarios. A range of conditions—including nuisance tidal flooding, storm surge flooding, and stormwater runoff—were evaluated. This understanding of the local environmental context, worsening flood hazards, and resultant impacts is presented in Part II of this report.

### **Adaptation Research**

Phase two concentrated on developing and evaluating options for addressing short-term and long-term flood risks. Through targeted research efforts—focusing on the use of natural features, large- and small-scale infrastructure, parcel-level mitigation techniques, and policy and planning actions—an array of possible risk-mitigating interventions were identified. Various policy, programmatic, and engineering approaches provide options for comprehensive city-wide action. This set of complementary ecological, structural, design, and preparedness techniques developed in this process lays the foundation for the Adaptation Framework.

### **Strategy Development**

In Phase three, a comprehensive planning process brought together all the distinct Sea Level Wise components to form an integrated Adaptation Strategy. This Strategy contains a multi-layered framework with high-level strategic objectives to guide adaptation efforts across the entire city, as presented in Part III of the report. It also contains actionable adaptation projects for each of the City's four major watersheds. In developing this Strategy, potential adaptation techniques and projects were systematically evaluated based on costs, benefits, and feasibility to help identify the most effective and practical solutions. The watershed-specific strategies and projects are presented in Part IV of this report.

### **Long-Term Implementation**

The final phase involves implementing the projects identified throughout this effort. The City will either adopt or further evaluate best approaches for implementation. Such implementation will see strategies integrated into the City's comprehensive plan, as well as other planning and design processes. Financing, additional feasibility studies, design, construction also fall under this phase. The path forward with phased implementation and evaluation are presented in Part V of this report.