

**Progress Report for Contract # 026**  
**Saving the Integrity of Keller Bay and Sand Point Peninsula**

End of 1<sup>st</sup> quarter: Oct. 1, 2022

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Project Summary: Our overarching goal is to protect the unique estuarine resources of Keller Bay by stopping the Sand Point Peninsula from breaching. Our strategy is to develop a living shoreline solution that incorporates public and private partners. Specific objectives include to:

- (1) Identify and model the best actions to stop the peninsula from breaching
- (2) Engage a working group, composed of stakeholders and agencies, to help design and identify a preferred action plan
- (3) Produce engineering/design plans and obtain permits for the Sand Engine

***Task 1: Identify and model the best actions to stop the peninsula from breaching***

Progress this Quarter: The team at Texas A&M University (TAMU) and its subcontracted partners (AquaStrategies and West) began this task in this first quarter of the project. Progress involved meeting virtually several times, and conducting one overnight field trip. During this field trip, the team collected bathymetry and topography datasets using survey-grade GPS. The team also began processing the bathymetric-topographic dataset. The team also deployed an array of sensors on a tripod offshore. These sensors included an acoustic doppler current profiler, a salinity and water level gauge, an ultrasonic wave sensor, and a supporting computer set up. We have begun progress on the deliverables that are highlighted below.

Next Quarter: We expect to continue working on and finalize the bathymetric-topographic map in the next quarter. We expect to conduct another trip to pick up several of the sensors and begin analyzing the data for the exceedance graphs and design criteria. We plan to conduct a third trip to construct and deploy a device to measure sediment flux in the nearshore, which will help us to estimate the quantity of sand that would be required for the Sand Engine.

Deliverables:

- (1) High resolution topo-bathymetric map of study area - **about halfway done**
- (2) Wave and flow velocity exceedance graphs for living shoreline design criteria – **just started**
- (3) Maps and videos of future morphologic evolution of study area, with and without various living shoreline alternatives, including a single or multiple Sand Engines – **not started**

***Task 2: Engage a working group, composed of stakeholders and agencies, to help design and identify a preferred action plan***

Progress this Quarter: Members of the team have begun meeting with individuals that may be included on the working group, and that may play a role in helping to: (a) obtain funding and management support for the construction part of the project, if implemented, (b) help play a role during permitting and state/federal agency approval, (c) assist in landowner or other arrangements to facilitate project implementation. These meetings were both virtual and in person and included representatives from the Matagorda Bay Foundation, US Fish and Wildlife, Texas Parks and Wildlife, Texas General Land Office (GLO), US Army Corps of Engineers (USACE), the Danish government (who built the original Sand Engine in the Netherlands), potential private donors and funding (carbon market), and private landowners who own affected or adjacent lands. Feagin presented the project concept and goals upon invitation at the Western Dredging Alliance Conference in Houston, as part of a joint TAMU-USACE panel. Feagin also submitted the project to the Texas Coastal Resiliency Master Plan at a GLO meeting in Victoria, a process managed by the GLO, for inclusion as a Tier 1 project (sets Texas priorities for coastal projects, helps acquire funding and support).

Next Quarter: The team plans to invite local officials, members of the MBMT, and adjacent private landowners to visit the site in person and discuss the project. The team plans to hold a first stakeholder meeting separately in the quarter after that (Spring), and additionally begin K-12 student programming at the site.

Deliverables:

- (4) Working group meeting recordings – **started and some saved for later submission**
- (5) Report on working group's regional strategy and funding plans – **not started**

***Task 3: Produce engineering/design plans and obtain permits for the Sand Engine***

Progress this Quarter: Not started.

Next Quarter: Do not expect to start until Year 2 begins.

Deliverables:

- (6) 30% E&D plans and alternatives for Sand Engine on state/federal-owned land – **not started**
- (7) Coastal Boundary survey – **not started**
- (8) Support package for permitting of Sand Engine – **not started**
- (9) Section 404 and other required permits for Sand Engine, 80% E&D – **not started**