

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

End of 2ndquarter: Nov. 30, 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) had conducted one overnight field trip during the previous quarter, which the billing now reflects for the subcontractors in this quarter's invoicing. During the current quarter, TAMU personnel visited the field to maintain the sensors. We also worked on developing a device to measure sediment flux in the nearshore, and continued to work on the bathymetric-topographic map.

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 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: Personnel from both West and TAMU also presented on a panel at the American Society of Civil Engineers – Environmental & Water Resources Institute in Houston. This panel was focused on the potential use of Sand Engines in Texas and was organized by

personnel from subcontractor West, with the purpose to build the stakeholder team for this project. The participants included personnel the government of the Netherlands (who constructed the first Sand Engine), the US Army Corps of Engineers, and the Texas General Land Office.

Next Quarter: The team still 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**