



Professional Service Agreement with Texas A&M University Corpus Christi for Survey & Assessment of Beach Erosion

City Council Meeting
September 10, 2024



Background



- On June 20, 2024, Mayor Paulette Guajardo signed a proclamation declaring a local state of disaster related to Tropical Storm Alberto.
- TAMUCC (Conrad Blucher Institute for Surveying & Science) has agreed to provide professional services for an emergency beach survey/assessment of beach erosion (berm & dune).
- The Agreement will commence without delay once executed & following the dissipation of other storms that may develop during the five-month contract term.
- The proposal outlines post-storm assessment of the beaches along North Padre Island (NPI) & Mustang Island, specifically:
 1. The beach fronting the NPI Seawall
 2. Beaches adjacent to Packery Channel on both Mustang/NPI that are in Corpus Christi jurisdictional boundaries & Packery Channel extents.
- These beach segments are actively maintained/managed by the Parks & Recreation Department & are considered high-use by pedestrians & vehicles.



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Shoreline Position Survey

The extent of this survey includes Mustang Island/North Padre Island (Fish Pass to 0.5 mile south of Bob Hall Pier). This survey will:

- Identify/document storm damage impacting berm width
- Calculate the rate of shoreline recession
- Identify storm driven change in beach width
- Identify/document limits of where the beach is < 150 feet wide to trigger & guide bollard relocation (Pedestrian Safe Beach).
- Document/define areas of focused erosion to identify problem areas otherwise missed
- Document/define lateral limits of fillets where berm width is ≥ 250 feet on the north & south side of jetties in Sediment Removal Areas (SRAs)
- Document/define hot spots of erosion requiring planning for restoration



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Beach Profile Survey

The extent of this survey includes adjacent beaches along Mustang Island & NPI from north of Fish Pass to approximately 0.5 mile south of Bob Hall pier. This survey will:

- Identify areas of erosion/deposition (beach maintenance & management planning)
 - Calculate rate of erosion/volume loss
 - Calculate sand volume estimated to restore beach elevation & design width
 - Can be applied by City Staff for post-storm documentation for FEMA reimbursement process or for alternate funding resources
 - Can be applied by City Staff for long-term, sand management strategies & beach nourishment planning over the post-storm recovery period
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Policy Alignment



The Shoreline Position Survey supports short & long-term beach management planning/maintenance per:

- Joint Corpus Christi/Nueces County Erosion Response Plan (2012)
- City of Corpus Christi Adaptive Beach & Dune Maintenance Plan (2015)

The Beach Profile Survey supports the following policies:

- City Ordinance 028494 § 10-772010 Vehicle-restricted & Pedestrian Safe Areas
- Environmental Impact Statement (EIS)
- TGLO (CEPRA)
- Joint City/Nueces County Erosion Response Plan (2012)
- Corpus Christi Beach & Dune Management Plan



Recommendation



- Staff recommends approval of the Professional Service Agreement for an emergency beach assessment & survey after Tropical Storm Alberto.