

HIDEAWAY BEACH EROSION CONTROL PROJECT
2024 MONITORING SURVEY SCOPE OF WORK
CEC FILE NO. 24.020
December 4, 2023

The scope of services presented herein is designed for Coastal Engineering Consultants, Inc. (Engineer) to assist the City of Marco Island (City) and the Hideaway Beach District Board (District) perform the annual monitoring, surveys, and reporting including but not limited to those required by Florida Department of Environmental Protection Joint Coastal Permit 0309260-001-JC/Permit Modification 0309260-009-JN. All monitoring activities as described herein shall be conducted and provided in accordance with the Physical Monitoring Plan (PMP) dated June 28, 2012, and the current version of the “Monitoring Standards for Beach Erosion Control Projects” as established by the DEP Bureau of Beaches and Coastal Systems (BBCS).

TASK 1 PHYSICAL MONITORING SURVEY

Establish horizontal and vertical control, one-time, on the uplands within the Project. Field verify control information utilized in the survey. Conduct monitoring survey of the beach profiles as described in the PMP. Conduct monitoring survey of the Mean High Water (MHW) from the southern end of the South point fill to the terminal jetty / west side of Collier Creek; and along Sand Dollar Island between the limits of the Nearshore Borrow Area. Conduct bathymetric survey of Nearshore Borrow Area. Conduct supplemental lines within Tigertail Lagoon along historical alignments and extending them 500 feet beyond the Sand Dollar Island fill template.

Traditional beach and hydrographic survey methods will be used to collect beach profile data. Wading beach profile portions will be conducted using standard techniques from the dune across the beach and seaward to a depth of approximately -3 feet NAVD88. The offshore, hydrographic portions of the profiles will be conducted utilizing a survey vessel typically outfitted with a digital fathometer, a Differential Global Positioning System (GPS), and navigational software. An approximate 50-foot overlap will occur between the seaward terminus of the beach profiles and the landward origination of the hydrographic profiles in order to verify correct equipment operations. Fathometer calibrations via ‘bar checks’ will be performed periodically during surveys. Tidal fluctuations will be measured and compensated for on the survey vessel using Real Time Kinematic (RTK) GPS technology. Tidal data will be recorded for the duration of the vessel surveys and applied during data reduction to achieve elevations referenced to NAVD88.

Elevations of the beach profiles will be obtained at appropriate intervals and at all noticeable breaks in grade (greater than 1 foot vertically). Soundings from offshore portions of beach profiles will be obtained at appropriate intervals. Survey transects will originate at stations in the upland area of the beach corresponding to the established monuments and extend offshore along the appropriate azimuth (degrees clockwise from magnetic north). Monitoring of the beach and offshore profiles shall include the beach fill areas along with the State’s property extending to the jetty (H-14 to H-16). The azimuths and line lengths shall coincide with the approved PMP.

Contract with an aerial flight company to obtain scale rectified aerials of the Project area.

Reduce the survey data and export survey profiles. Prepare and submit an engineering report and the monitoring data to FDEP's BBCS within 90 days following completion of the annual monitoring survey. The report shall include:

- signed and sealed survey report,
- analysis for patterns, trends, or changes between surveys and for cumulative changes over time,
- evaluation of the erosion and accretion rates occurring between the initial post-construction survey and the monitoring survey, and an assessment of the volume of fill remaining within the Project area, evaluation of the adjustment of the beach fill and volume accumulations outside of the Project area, and an assessment of alongshore and cross-shore fill movement, and
- Adaptive Management Plan Analysis as described in PMP.

TASK 2 DISTRICT AND CITY SUPPORT SERVICES

This task includes coordination with the City and District including attending Board meetings; preparing and giving presentations; review of reports and permits; providing technical support and recommendations; and written or phone correspondence in reference to the Project.

TASK 3 SUPPLEMENTAL SURVEYS

Perform topographic and bathymetric surveys requested in support of the Tigertail Lagoon / Sand Dollar Island Restoration program. The budget includes two (2) one-day surveys. The survey extents will be coordinated with H&M.

SCHEDULE OF FEES

TASK	AMOUNT	BASIS
1 Physical Monitoring	\$ 46,920	Fixed Fee
2. District and City Support Services	\$ 4,840	Time and Materials
3. Supplemental Surveys	\$ 10,210	Fixed Fee
Total	\$ 61,970	