

## Turtle Beach Access Channel Field Investigation Plan

The proposed Turtle Beach Boat Access channel shall be dredged to a minimum depth of -6 ft NGVD 29. ECE shall explore the subsurface to identify sediment characteristics of the dredge material within the proposed access channel using 4 vibratory core borings to -8 ft NGVD 29 as shown in the attached Figure. All coring and subsequent sediment testing will be conducted in accordance with the U. S. Army Corps of Engineers Standards and Florida Department of Environmental Protection Requirements for Subsurface Investigations.

The existing benchmarks shall be used for correcting elevations at the core sites to NGVD. Cores will be taken via 2 <sup>3</sup>/<sub>8</sub>" (approximate) galvanized steel tubing. In the event full penetration cannot be achieved, penetration to 80 percent of the desired core depth at each core location will be considered adequate to satisfy the requirements of the contract, provided that the recovery is at least 80 percent of the penetrated depth. In the event that refusal is encountered prior to achieving the desired depth, a hydraulic jetting technique will be used to compliment a second run and to optimize the probability of achieving core penetration to the desired depth. In any event, three attempts will be considered to have completed the core at a given site.

Cores will be labeled, cut into three-foot sections, split, color photograph, and transferred to Coastal Tech's *Coastal Geology & Sediments Laboratory* ("lab") in Melbourne, Florida for analysis.

Cores will be logged and described in accordance with USC terminology including lithologic and compositional details. As many as three sediment samples will be obtained from the major sediment horizons within each of the 10 cores for analysis of texture, composition, and color. The sieve analysis shall be conducted in ½ φ intervals using a range of screen openings (n ~ 19) capable of accommodating all grain-size classes contained in each sample. The USC description of each sample shall be based on Hazen uniformity coefficient and coefficient of curvature if the sample contains fines less than 12% passing the 200 sieve. If the sample contains fines greater than 12% passing the 200 sieve, the description will be based upon the visual observations of a qualified technician. Material finer to the number 200 and 230 screens shall be quantified and expressed as a weight percent of sample. Total organic matter, carbonate, and non-combustible (~siliciclastic) material shall be calculated using the Loss on Ignition method and expressed as a weight percent of sample. The color of each sediment sample shall be characterized in accordance with the Munsell Color System, including an estimate of sample water content at the time of analysis.

A final report will be prepared that summarizes the results of the laboratory analysis and including (1) a plan view depiction of core locations using a base map provided; (2) core color photographs in digital format; (3) core logs; (4) granulometrics, including cumulative grain size frequency distribution curves and

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size-class frequency distribution histograms; and (5) a tabular summary of each sediment sample analysis to include (a) the core identification number, (b) sediment sample depth, (c) percent retained on each sieve, (d) mean grain size (mm & phi), (e) sorting, (f) weight percent fines (no. 200 and 230 screens reported separately), (g) weight percent organic matter, carbonate and siliciclastic, (h) weight percent coarse gravel and/or cobble and (i) sediment color. All sedimentological data will be generated using gINT software when applicable and delivered in a format consistent with Florida DEP's ROSS archive program. A small physical subsample of material representing the major sediment types, as identified within the suite of cores, will also be provided.

The physical subsamples and bagged cores shall be delivered to Sarasota County for storage in their facilities.