

**INDIAN RIVER COUNTY, FLORIDA
BOARD MEMORANDUM**

CONSENT

TO: Jason E. Brown, County Administrator

THROUGH: Richard B. Szpyrka, P.E., Public Works Director

THROUGH: Eric Charest, Natural Resources Manager

SUBJECT: Work Order No. 16 - Morgan & Eklund, Inc.
2021 Beach Profile Monitoring Surveys (SUMMER)

DATE: December 15, 2020

DESCRIPTION AND CONDITIONS

On October 4, 2016, the Board of County Commissioners (BCC) approved a contract with Morgan and Eklund, Inc. (M&E) for Professional Land Surveying and Mapping Services for a two-year term. The Board amended the Contract on October 18, 2016. The contract was renewed for a two-year term on October 4, 2018, and then again on October 4, 2020 for an additional two-year term. M&E is the selected County Consultant for professional onshore/offshore hydrographic surveying services.

The County's Beach Preservation Plan recommends semi-annual beach profile surveys in order to monitor the seasonal, summer and winter, fluctuations of the beach. Proposed Work Order No. 16 provides summer-time countywide hydrographic surveying (beach profile) services for the Sectors 3, 5, and 7 Beach Nourishment Projects and additional surveying to begin a 2021 countywide monitoring effort. All onshore and offshore beach profile surveys are conducted along the Florida Department of Environmental Protection (FDEP) Range Monuments at approximately 1,000 foot intervals (alongshore) and extend from the vegetated dune seaward to a location approximately 40 feet offshore (cross-shore). Due to the anticipated Sector 7 Beach and Dune Restoration project construction anticipated to begin in November 2021, additional intermediate profiles lines are also being performed during this Summer 2021 survey. For project tracking purposes, Work Order No. 16 is divided into four (4) separate tasks.

Task 1: Summer 2021 Sector 3, Phase 1 Physical Monitoring Survey (R-15 to R-45, 31 Onshore/Offshore Profile Lines)

Hydrographic surveys of the project area must continue semi-annually to determine the long-term performance of the beach and if infrastructure may be vulnerable to storm damage during years in between recommended beach projects identified in the Beach Preservation Plan. Hydrographic survey data collected from this task is required for post construction monitoring for Phase 1 of the Sector 3 project. Task 1 includes surveying (approx. 5.9 miles) required to provide post construction physical monitoring data for Phase 1 of the Sector 3 Beach and Dune Nourishment Project area. The survey area is larger than the estimated 3.6 miles of beach being nourished due to monitoring requirements. Task 1 totals a lump sum amount of \$18,142.50.

Task 2: Summer 2021 Sector 3, Phase 2 Physical Monitoring Survey (R-46 to R-60, 15 Onshore/Offshore Profile Lines)

Sector 3 Nourishment Project Phase 2 includes surveying the remainder of the Sector 3 project area (approx. 2.8 miles) required to provide pre-construction physical monitoring data for Phase 2 of the Sector 3 Beach and Dune Nourishment Project area which is anticipated to begin construction in November 2021. Task 2 totals a lump sum amount of \$8,060.00.

Task 3: Summer 2021 Sector 5 Physical Monitoring Survey (R-65 to R-91, 27 Onshore/Offshore Lines)

Sector 5 Beach and Dune Nourishment Project was completed in February 2020. The County is required by the FDEP Permit to monitor the physical changes associated with the nourishment project semi-annually to determine the long-term performance of the project and if infrastructure may be vulnerable to storm damage. Task 3 includes surveying (approx. 4.5 miles) required for the summer semi-annual monitoring of the Sector 5 Beach and Dune Nourishment Project area. Task 3 totals a lump sum amount of \$15,065.00.

Task 4: Summer 2021 Sector 7 Physical Monitoring Survey (R-97 to R-108, together with R99.5, 100.5, 101.25, 101.5, 101.75, 102.25, 102.5, 102.75, 103.25, 103.5, 103.75, 104.25, 104.5, 104.75, 105.25, 105.5, 105.75, 106.5 and 107.5, 31 Onshore/Offshore lines)

Hydrographic surveys of the project area must continue semi-annually to determine the long-term performance of the beach and if infrastructure may be vulnerable to storm damage during years in between recommended beach projects identified in the Beach Preservation Plan. Hydrographic survey data collected from this task is required for updates to the design of the upcoming Nourishment Project. Task 4 includes surveying (approx. 2 miles) required for the summer semi-annual monitoring of the Sector 7 Beach Nourishment Project area and for design updates for the upcoming nourishment project. Task 4 totals a lump sum amount of \$18,142.50.

Task 5: Summer 2021 Countywide Beach Monitoring (R-61 to R-64, R-92 to R-96, and R-109 to R-119, 20 Onshore/Offshore lines)

For the shoreline outside of the Sectors 3, 5, and 7 beach projects, countywide beach profile surveys are necessary to identify areas of chronic beach erosion and determine if infrastructure may be vulnerable to storm damage. The beach profile surveys will then be used to determine appropriate projects to mitigate erosion as identified in the County Beach Preservation Plan, including the upcoming Nourishment Projects. Task 5 includes the remaining countywide (approx. 4 miles) beach profile surveys. Task 4 totals a lump sum amount of \$11,795.00

Please note:

The Sebastian Inlet District (District), as part of their Inlet Management Plan, conducts semiannual beach profile surveys along the northern 5.6 miles of the County. The District continues to partner with the County and has agreed to provide their certified 2021 beach profile survey data to the County, resulting in a complete 22.4 mile countywide beach profile survey and a combined annual savings of approximately \$30,000 to the County.

FUNDING

Funding for these tasks comes to a total lump sum fee of \$71,205.00. Funding for the individual tasks are as follows:

Task 1: Summer 2021 Sector 3, Phase 1 Physical Monitoring Survey (R-15 to R-45, 31 Onshore/Offshore Profile Lines)

Funding for Task 1 is budgeted and available for physical monitoring of Phase 1 of the Sector 3 Beach Nourishment Project area in the Beach Restoration Fund/ Sector 3 Post-Construction Monitoring, Account No. 12814472-033490-05054. Task 1 totals a lump sum amount of \$18,142.50.

Task 2: Summer 2021 Sector 3, Phase 2 Physical Monitoring Survey (R-46 to R-60, 15 Onshore/Offshore Profile Lines)

Funding for Task 1 is budgeted and available for design of the Sector 3 Beach Nourishment Project area in the Beach Restoration Fund/Sector 3 Beach Renourishment/Hurricane Matthew, Hurricane Irma and Hurricane Dorian, Account No. 12814472-066514-17001. Task 1 totals a lump sum amount of \$8,060.00.

Task 3: Summer 2021 Sector 5 Physical Monitoring Survey (R-65 to R-91, 27 Onshore/Offshore Lines)

Funding for Task 3 is budgeted and available for physical monitoring of the Sector 5 Beach Nourishment Project area in the Beach Restoration Fund/ Sector 5 Post-Construction Monitoring, Account No. 12814472-033490-15021. Task 3 totals a lump sum amount of \$15,065.00.

Task 4: Summer 2021 Sector 7 Physical Monitoring Survey (R-97 to R-108, together with R99.5, 100.5, 101.25, 101.5, 101.75, 102.25, 102.5, 102.75, 103.25, 103.5, 103.75, 104.25, 104.5, 104.75, 105.25, 105.5, 105.75, 106.5 and 107.5, 31 Onshore/Offshore lines)

Funding for Task 4 is budgeted and available for design of the Sector 7 Beach Nourishment Project area in the Beach Restoration Fund/Sector 7 Beach Renourishment/Hurricane Matthew, Hurricane Irma and Hurricane Dorian, Account No. 12814472-066512-17001. Task 4 totals a lump sum amount of \$18,142.50.

Task 5: Summer 2021 Countywide Beach Monitoring (R-61 to R-64, R-92 to R-96, and R-109 to R-119, 20 Onshore/Offshore lines)

Funding for Task 5 is budgeted and available for physical monitoring of non-project areas in the Beach Restoration Fund/Other Professional Services, Account No. 12814472-033190. Task 5 totals a lump sum amount of \$11,795.00.

RECOMMENDATION

The recommendation of staff is for the BCC to approve Work Order No. 14 to the Professional Land Surveying and Mapping Services contract with Morgan and Eklund, Inc., in the amount of \$71,205.00 and authorize the Chairman to sign two (2) copies of the Work Order on behalf of the County.

ATTACHMENTS

1. Morgan and Eklund WO No. 16
2. Work Order No. 16 Agreement

APPROVED AGENDA ITEM FOR: January 5, 2021