

Project Updates for Shell Key North Pass and Grand Canal Feasibility Study

By APTIM, Coastal, Ports & Marine, under contract with Pinellas County

September 3, 2019

Over the past month the APTIM team has finalized survey deliverables, made significant progress on modeling calibrations, and are preparing for next small group meeting.

Task 1 -- Literature Review and Data Gap Analysis

- Continued review of ownership determinations from the State
- Developed an ownership figure for inclusion in the Feasibility Report

Task 4 -- Preliminary Alternatives Analysis

- Continued internal development of preliminary sand management alternatives for evaluation

Field Assessment and Data Collection

- Delivered survey data and drawings via email 8/29/19

North Shell Key Morphology Study

- Developed sediment budgets to assess rate of sand movement for two time periods
- Worked towards completion of wave & morphology calibrations
- Prepared for small group meeting to discuss the details of the model set up, calibration, and alternatives selected for analysis: 9/11/19 at 10am

August 7, 2019

In summary, over the past month our team has continued work developing alternatives, collected current condition measurements, and is continuing to work with the County on approval for the North Shell Key Modeling/Morphology Study discussed at the small group meeting with Bob Weisberg on May 28, 2019.

Task 1 – Literature Review and Data Gap Analysis

- Reviewed ownership determinations from the State
 - FDEP has determined the area where the old pass existed as well as the portion of the sand north of Collany Key outside the preserve boundary are in private ownership.
- Developing an ownership figure for inclusion in the Feasibility Report

Task 4 – Preliminary Alternatives Analysis

- Continued internal development of preliminary sand management alternatives for evaluation

Field Assessment and Data Collection

- Continued processing of collected survey data
- Reviewed collected acoustic Doppler current profiler (ADCP) data
- Initial preparation of survey deliverables

North Shell Key Modeling/Morphology Study

- Received Notice to Proceed on 7/5/19
- Development of regional wave and flow grids
- Development of nested, local wave and flow grids
- Wave & morphology calibrations ongoing
- Sediment budget development ongoing

July 3, 2019

Task 2 – Evaluate Ongoing Monitoring Program

- Established beach profile locations for repeatable physical monitoring of north Shell Key

Task 4 – Preliminary Alternatives Analysis

- Internal development of preliminary sand management alternatives for evaluation

Field Assessment and Data Collection

- Survey crew collected:
 - Beach profiles along northern Shell Key
 - Bathymetric survey data of Grand Canal entrance study area
 - ADCP deployed and measured currents and water levels within Grand Canal

Modeling scope of work reviewed by County and submitted by APTIM on 7/2/19

June 4, 2019

Task 1 – Literature Review and Data Gap Analysis

- Reviewed Dr. Weisberg's report
- County is researching ownership

Task 3 – Field Assessment and Data Collection

- APTIM lead numerical modeler conducted a site visit 5/31/19
- Preparing for a late June survey of the study area – pending approval of separate survey proposal

Task 4 – Preliminary Alternatives Analysis

- Lindino Benedet, Tom Pierro, Tara Brenner, and Beau Suthard attended and discussed a presentation by Dr. Weisberg at TVCA 5/28/19

May 7, 2019

Task 1 – Literature Review and Data Gap Analysis

- County is researching ownership

Task 2 – Evaluate Ongoing Monitoring Program

- Reviewed water quality monitoring data
- Reviewed existing survey data

Task 3 – Field Assessment and Data Collection

- Tom, Tara, and Beau conducted a site visit on 4/30/19
- Comparison plots of 2016 and 2019 survey data
- Aerial shoreline change analysis

Task 4 – Preliminary Alternatives Analysis

- Stakeholder Meeting #1 held 4/30/19
- Reviewed comment cards from Stakeholder Meeting #1

April 4, 2019

Task 1 – Literature Review and Data Gap Analysis

- County provided data:
 - Robert Weisberg's report
 - Legislative Appropriation Request
- County is researching ownership

Task 2 – Evaluate Ongoing Monitoring Program

Task 3 – Field Assessment and Data Collection

- Processing of imagery collected 3/4/19 via unmanned aerial vehicle (UAV/drone)
- Developed georeferenced orthomosaic

Task 4 – Preliminary Alternatives Analysis

- Scheduled Stakeholder Meeting #1 for 4/30/19
- Drafted agenda and news release for Meeting #1

March 7, 2019

Task 1 – Literature Review and Data Gap Analysis

- County provided data:
 - Shell Key Digital Elevation Model
 - Beach profile data
 - Water quality data
- Confirmed USF-Coastal Research Laboratory beach profiles (only pre- post-storm available)
- Reviewed condition assessment of the Pass-a-Grille southwest jetty
- Reviewed photos and information provided by Shell Key/Grand Canal Committee
- County is researching ownership

Task 2 – Evaluate Ongoing Monitoring Program

- Reviewed 2018 Shell Key Management Plan Update
- Reviewed Shell Key Management Plan 2017 Update memo
- Received County water quality data

Task 3 – Field Assessment and Data Collection

- Performed a site visit and collected imagery with unmanned aerial vehicle (UAV) this week

Task 4 – Preliminary Alternatives Analysis

- Coordinating with County to schedule Stakeholder Meeting #1

February 8, 2019

Task 1 – Literature Review and Data Gap Analysis

- Generated a time series using aerial photos from 1994 to present
- Compiled pertinent resources and identified 9 reports to be used as citations in this feasibility study
- Reviewed pertinent literature in detail to understand the dynamic evolution of this coastal system
- Identified the following potential data gaps:
 - Water quality monitoring data
 - Seagrass monitoring data
 - Beach profile surveys of Shell Key
 - Beach profile surveys of Pass a Grille beach
 - Condition assessment of the Pass a Grille southwest jetty
- Met with County to discuss data gaps

Task 2 – Evaluate Ongoing Monitoring Program

- Reviewed 2018 Shell Key Management Plan Update

Task 3 – Field Assessment and Data Collection

- Initial field planning

- Coordinating with County for assistance in gaining access to Shell Key