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# V I L L A G E   O F   K E Y   B I S C A Y N E

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## Office of the Village Manager

### *Village Council*

Robert Oldakowski, *Mayor*  
Robert L. Vernon, *Vice Mayor*  
Enrique Garcia  
Steve Liedman  
Jorge E. Mendia  
Thomas Thornton  
Patricia Weinman

### *Village Manager*

Jacqueline R. Menendez

DATE: November 8, 2006  
TO: Honorable Mayor and Members of the Village Council  
FROM: Jacqueline R. Menendez, Village Manager  
RE: Dune Restoration Project - Beach Renourishment Project

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### RECOMMENDATION

It is recommended that the Village Council approve the consulting engineering service proposal for the Dune Restoration Project for the Village of Key Biscayne Beach Renourishment, submitted by Coastal Systems International, Inc., in the amount not to exceed thirty eight thousand four hundred and nine dollars (\$38,409) pursuant to the engineering proposal attached hereto.

### BACKGROUND

Due to hurricanes in 2005, the dune areas in front of the Silver Sands Motel and the Ocean Club were compromised. The dunes need to be restored and enhanced. In addition, a dune exotic species survey will be conducted to map the dune areas vegetated as part of the 2002 Beach Renourishment. The following presents the scope of services to be provided by Coastal System, as an addendum to the Beach Nourishment contract dated June 6, 2000:

- Field Investigations
- Coastal Permit Applications and Permit Processing
- Initial Scope for Mapping Exotic Vegetation Removal and Replacement with Native Vegetation

The services for Part 20 (Dune Restoration Mapping) will be completed within 45 days of receiving a Notice to Proceed and favorable weather conditions.

The funding for this project will be obtained from the Capital Outlay Beach Renourishment line item.

cc: Randy White, Village Finance Director  
David M. Wolpin, Esq., Village Attorney

**RESOLUTION NO. 2006- \_\_\_\_\_**

**A RESOLUTION OF THE VILLAGE COUNCIL OF THE VILLAGE OF KEY BISCAYNE, FLORIDA, AUTHORIZING THE FURTHER PROCUREMENT OF ENGINEERING SERVICES FOR THE DUNE RESTORATION PROJECT OF THE VILLAGE OF KEY BISCAYNE BEACH RENOURISHMENT PROJECT, FROM THE FIRM OF COASTAL SYSTEMS INTERNATIONAL, INC.; PROVIDING FOR APPROVAL OF WORK AUTHORIZATION AS AMENDMENT OF EXISTING CONTRACT; PROVIDING FOR IMPLEMENTATION; PROVIDING FOR EFFECTIVE DATE.**

**WHEREAS**, pursuant to contractual agreement previously entered into between the Village of Key Biscayne and Coastal Systems International, Inc. (the "Engineer"), the Engineer has previously been retained by the Village in connection with services needed for the Village of Key Biscayne Beach Renourishment Project; and

**WHEREAS**, the Village Council finds that it is in the best interest of the Village to utilize the Engineer for the purpose of performing all necessary engineering services for the Dune Restoration project (the "Project") of the Village of Key Biscayne Beach Renourishment Project in accordance with the attached Work Authorization and with the Village Manager's memorandum which accompanies this Resolution, subject to the requirement that a follow up proposal shall be submitted for construction documents and construction administration.

**NOW, THEREFORE, IT IS HEREBY RESOLVED BY THE VILLAGE COUNCIL OF THE VILLAGE OF KEY BISCAYNE, FLORIDA, AS FOLLOWS:**

**Section 1.      Recitals Adopted.** That each of the recitals stated above is hereby adopted and confirmed.

**Section 2. Work Authorized, Specification of Funds.**

A. That pursuant to the existing continuing contract between the Engineer and the Village, the performance of additional engineering services pertaining to the above-described Dune Restoration Project, (excluding services for the preparation of construction documents and construction administration, which shall be the subject of a subsequent follow-up proposal), is hereby authorized, subject to the funding source and any limitations set forth in the above-referenced Village Manager's memorandum.

B. That the total fees and costs for the services authorized pursuant to the Work Authorization shall not exceed \$38,409.00.

**Section 3. Agreement Approved.** That the Village Manager is hereby authorized to execute the Work Authorization in substantially the form attached hereto, for the engineering work authorized hereunder between the Village and the Engineer, once approved by the Village Attorney as to form and legal sufficiency.

**Section 4. Implementation.** That the Village Manager is hereby authorized to take any necessary action to implement the purposes of this Resolution and the Work Authorization.

**Section 5. Effective Date.** That this Resolution shall be effective immediately upon adoption hereof.

PASSED AND ADOPTED this \_\_\_\_\_ day of November, 2006.

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ROBERT VERNON, MAYOR

ATTEST:

CONCHITA H. ALVAREZ, CMC

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VILLAGE CLERK

APPROVED AS TO FORM AND  
LEGAL SUFFICIENCY

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Village Attorney

103.001/Resolutions/Engineering Services for Dune Project 11.8.06



COASTAL SYSTEMS INTERNATIONAL, INC.  
464 South Dixie Highway • Coral Gables, Florida 33146  
Tel: 305-661-3655 • Fax: 305-661-1914  
www.coastalsystemsint.com

135040.01-A

October 30, 2006

Mr. Armando Nunez  
Public Works Director  
VILLAGE OF KEY BISCAYNE  
88 West McIntyre Street  
Key Biscayne, Florida 33149

**RE: CONSULTING ENGINEERING SERVICES RELATIVE TO THE DUNE RESTORATION PROJECT FOR THE VILLAGE OF KEY BISCAYNE BEACH RENOURISHMENT PROJECT, VILLAGE OF KEY BISCAYNE, MIAMI-DADE COUNTY, FLORIDA**

Dear Mr. Nunez:

Pursuant to our recent discussions, Coastal Systems International, Inc. (Coastal Systems) is pleased to submit this proposal relative to the above referenced project. Due to hurricanes in 2005, the dune areas in front of the Silver Sands Motel and the Ocean Club were compromised. FEMA funding has been obtained by the Village to restore and enhance the dunes in this area. In addition, a dune exotic species survey will be conducted to map the dune areas vegetated as part of the 2002 beach renourishment. This scope of services is for the field investigations, coastal permit applications, and permit processing. A follow-up proposal will be submitted for construction documents and construction administration.

Additionally, initial scope is included for mapping of exotic vegetation along the balance of the Village's dune in preparation for implementation of a dune maintenance plan (exotic vegetation removal and replacement with native vegetation).

The following presents the scope of work for services to be provided by Coastal Systems for The Village of Key Biscayne (Village):

**PART 20 – DUNE RESTORATION MAPPING**

- a. **Dune Topographic Survey:** Coastal Systems will mobilize a survey team to survey beach profiles in the vicinity of R-103 and R-106 to map the dune erosion. Cross sections spaced at appropriate intervals (approximately 100') will be obtained utilizing land-based topographic surveying methods to map approximately 600 linear feet of shoreline. Profiles will extend from the landward edge of dune offshore to wading depth.

*Deliverables: Eight (8) copies of Topographic Surveys signed/sealed*

- b. Vegetation Mapping:** As part of the dune restoration project, dune vegetation planting will be required after completion of the dune fill areas; removal and replacement of any exotic vegetation within the project area will also be required by the regulatory agencies. Updated maps of the 2002 dune restoration area will be prepared by Coastal Systems for use by the subconsultant, Coastal Growers, Inc. to map exotic species. Coastal Growers will identify areas of exotic and native species within the dune restoration area and will delineate them on the map.
- c. Dune Revegetation Plans:** A layout of replacement dune vegetation will be designed for the dune restoration area. These sketches will be in a format that is sufficient for permitting with the regulatory agencies. Species with details and quantities of dune vegetation will be estimated.
- d. Dune Fill Plans:** Coastal Systems will post process the survey data and generate a digital terrain model (DTM) for the dune restoration. Volumes will be calculated, and a truck haul dune restoration project designed. Permit sketches will be prepared on 8.5" X 11" paper showing the proposed dune fill cross sections.

*Deliverables: Eight (8) copies of plans, signed/sealed*

- e. Sand Testing:** Coastal Systems will retain a Geotechnical subconsultant to perform laboratory grain size analysis on three (3) sand samples obtained from the existing dunes. The test data will be analyzed in accordance with DEP standards and submitted as follows in tabular form: 1) Sieve number 2) diameter in mm 3) diameter in phi units 4) weight retained on sieve 5) weight percent retained on sieve 6) cumulative weight retained on sieve 7) cumulative weight percent retained on sieve. All weights and percentages will be recorded to the nearest 0.01 gm, a table of mean, median (D50), standard deviation (sorting), silt percent and carbonate content. Cumulative frequency plots will be provided of each sample. If composite statistics are calculated, the spreadsheet will be provided as well as a cumulative frequency curve of the composite. In addition, the existing dune sand will be compared to up to two (2) commercially available beach compatible dune sand sources. If additional testing, onsite meetings, or additional coordination with DEP staff are required to identify an appropriate compatible source of sand for the project, these services will be provided under Part 24 up to the available budget, or under a separate scope of services.

*Deliverables: Sand Test Results*

**PART 21 – DEP CCCL PERMIT FOR DUNE RESTORATION**

This scope of services assumes that, as the proposed dune restoration activities are to extend seaward of the Erosion Control Line (ECL) but remain upland of the mean high water line (MHWL) and are to take place outside of the marine turtle nesting season, that the Florida Department of Environmental Protection (DEP) Bureau of Beaches and Coastal Systems will be the sole regulatory agency with jurisdiction over the project and that authorization will be issued in the form of a DEP Coastal Construction Control Line (CCCL) Permit with separate DEP Division of State Lands Consent to use sovereign lands seaward of the ECL. If any additional authorizations are required, they will be addressed under a separate scope.

- a. **DEP Permit Application - Dune:** The Village will provide Coastal Systems with an executed (all by property owners) DEP permit application form, and a DEP permit application fee (amount to be determined). Please note that the DEP will likely require the riparian (upland) property owners to be co-applicant if the project is to extend landward of the ECL onto their properties. Copies of warranty deeds for these properties will also likely be required by the DEP.

Coastal Systems is producing the design plans, 8-1/2" x 14" sized plan reductions, and a survey meeting the standard requirements of the DEP. The plans and sketches must be signed and sealed by a registered professional engineer or architect; the survey must be signed and sealed by a registered land surveyor. The Village will provide a letter to the DEP indicating their approval and confirming that the project "does not contravene local setback requirements or zoning or building codes" and "is consistent with the local Comprehensive Plan." Any additional items required by the DEP will be provided by the Village or by Coastal Systems under a separate scope of services.

- b. **DEP CCCL Permit Processing - Dune:** Coastal Systems will maintain contact with DEP staff to expedite their review of the permit request. Coastal Systems will confer with the DEP as to questions, revisions or additional information that may be required for permit issuance. Coastal Systems will confer with the Village as to questions, revisions or additional items that may be required. Under this initial scope, Coastal Systems anticipates providing approximately 40 hours of permit processing services and addressing approximately two (2) DEP Requests for Additional Information (RAI). Coastal Systems will also begin to coordinate with the Florida Fish and Wildlife Conservation Commission (FWC) relative to any comments they may have regarding the project under this initial permit processing scope; as the project is to be constructed outside the marine turtle nesting season, comments are expected to be minimal. Any additional data or analyses required by the DEP or FWC that are not expressly provided in this contract will be addressed under a separate scope of services. Any coordination required relative to public comments will be provided under a separate scope of services.

- c. **DEP Notice to Proceed - Dune:** Coastal Systems will provide services to assist the Client in securing a DEP "Notice to Proceed" with construction. Specifically, Coastal Systems will provide services relative to coordinating and processing final construction plans and meeting Special Permit Conditions outlined in the DEP Final Order. Coastal Systems will attend one (1) Pre-Construction Conference with a DEP Representative, as required in the Special Permit Conditions outlined in the Final Order.

At the Pre-Construction Conference, Coastal Systems will provide project administration relative to advising the Client of their responsibilities to meet the conditions of the DEP Permit. Specifically, Coastal Systems will advise the Client, structural engineer, and surveyor as to their responsibilities in preparing the necessary engineering certifications, Foundation Location and Elevation Certification (FLEC), Monthly Periodic Progress Reports, and Final Certification Report, as required by the DEP. It is assumed that construction will commence immediately following the Pre-Construction Conference and will be completed within less than 3 months. Coastal Systems will submit the required DEP monthly progress reports to Tallahassee and will coordinate issuance of the Final Certification and scheduling of the DEP Final Inspection meeting onsite. This scope of services assumes that there will be no construction delays or deviations from the DEP permit.

#### **PART 22 – DEP CONSENT TO USE STATE LANDS - DUNE**

Coastal Systems will prepare and submit to the DEP Joint Coastal Permitting section a request for issuance of a letter of Consent to use State Lands relative to proposed dune restoration activities seaward of the ECL and landward of the MHWL on sovereign (state-owned) land. All sand to be placed must be beach compatible and approved by the DEP. Coastal Systems will maintain contact with DEP Joint Coastal Permitting staff to process the request for Consent of Use as required by the DEP CCCL Permitting program. If onsite meetings or additional coordination with DEP staff are required to identify an appropriate compatible source of sand for the project, these services will be provided under Part 24 up to the available budget allowance, or under a separate scope of services.

#### **PART 23 – DUNE MEETINGS AND ADDITIONAL SERVICES**

Coastal Systems will provide approximately 15 man-hours for meetings with the Village and/or regulatory agency staff to discuss project strategy, schedule and other project related issues.

#### **PART 24 – INITIAL DUNE MAINTENANCE MAPPING**

Coastal Systems will retain Coastal Growers to map exotic vegetation within the Village's dune outside the area of the primary dune restoration project addressed in Parts 20 through 23. Updated maps of the 2002 dune restoration area will be prepared by Coastal Systems for use by Coastal Growers to map exotic species; areas of exotic species will be delineated on the map and a quote for exotic removal and replacement costs will be provided. Production of drawings and coordination of permits will be provided under a separate scope, as appropriate.

**GENERAL**

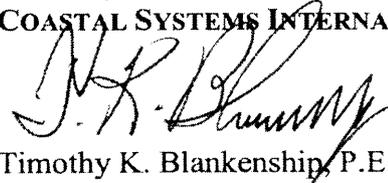
**Fees:** This fee proposal is valid for 60 days. Fees for the above services are summarized in the attached Table 1.

**Schedule:** The services for Part 20 will be completed within 45 days of receiving a Notice to Proceed and favorable weather conditions.

**Contract:** Services will be provided as an addendum to the Beach Nourishment contract dated June 6, 2000.

We look forward to continuing to provide consulting services for the Key Biscayne Beach Renourishment Project. Please sign this work order, which will serve as our authorization to proceed. Should you have any questions or if we may be of further assistance, please do not hesitate to contact me at (305) 669-8650 or [tblankenship@coastalsystemsint.com](mailto:tblankenship@coastalsystemsint.com).

Sincerely,  
COASTAL SYSTEMS INTERNATIONAL, INC.



Timothy K. Blankenship, P.E.  
Director

**SIGNED:** \_\_\_\_\_ **DATE:** \_\_\_\_\_  
VILLAGE OF KEY BISCAYNE

**PRINT:** \_\_\_\_\_  
NAME TITLE

TB:mr

Enclosures

**TABLE 1**  
**CONSULTING ENGINEERING SERVICES FEES RELATIVE TO THE DUNE RESTORATION PROJECT FOR THE VILLAGE OF KEY BISCAYNE BEACH RENOURISHMENT**  
**VILLAGE OF KEY BISCAYNE BEACH RENOURISHMENT**

DESCRIPTION	TYPE	FEES
<b>Part 20 – Dune Restoration Mapping</b>		
Dune Topographic Survey	Lump Sum	\$4,900
Vegetation Mapping	Lump Sum	\$1,800
Dune Revegetation Plans	Lump Sum	\$1,200
Dune Fill Plans	Lump Sum	\$3,400
Sand Testing	Lump Sum	\$2,100
<b>Subtotal:</b>		<b>\$13,400</b>
<b>Part 21 – DEP CCCL Permit for Dune Restoration</b>		
DEP Permit Application - Dune	Lump Sum	\$2,500
DEP CCCL Permit Processing - Dune	Lump Sum	\$6,000
DEP Notice to Proceed - Dune	Lump Sum	\$4,000
<b>Subtotal:</b>		<b>\$12,500</b>
<b>Part 22 - DEP Consent to Use State Lands - Dune</b>		
DEP Consent to Use State Lands - Dune	Lump Sum	\$6,000
<b>Subtotal:</b>		<b>\$6,000</b>
<b>Part 23 – Dune Meetings and Additional Services</b>		
Dune Meetings and Additional Services	Lump Sum	\$1,600
<b>Subtotal:</b>		<b>\$1,600</b>
<b>Part 24 – Initial Dune Maintenance Mapping</b>		
Initial Dune Maintenance Mapping	Lump Sum	\$1,900
<b>Subtotal:</b>		<b>\$1,900</b>
<b>Estimated Expenses (8.5%)</b>		<b>\$3,009</b>
<b>Subtotal:</b>		<b>\$3,009</b>
<b>GRAND TOTAL:</b>		<b>\$38,409</b>