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# VILLAGE OF KEY BISCAYNE

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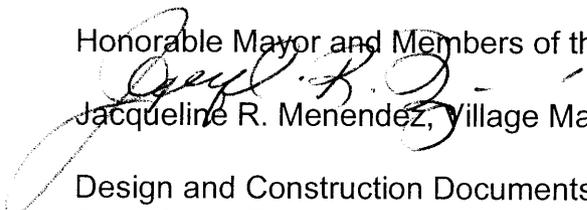
Office of the Village Manager

*Village Council*  
Robert L. Vernon, *Mayor*  
Jorge E. Mendia, *Vice Mayor*  
Michael Davey  
Enrique Garcia  
Steve Liedman  
Thomas Thornton  
Patricia Weinman

## MEMORANDUM

*Village Manager*  
Jacqueline R. Menendez

March 6, 2007

TO: Honorable Mayor and Members of the Village Council  
FROM:  Jacqueline R. Menendez, Village Manager  
RE: Design and Construction Documents for Reuse for Water Mains for Zone 1 and Zone 2/3

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### RECOMMENDATION

It is recommended that the Village Council approve the following resolution for Professional services for the design and Construction Documents for Reuse Water Mains for Zone 1 and Zone 2/3 between the Village of Key Biscayne and PBS&J.

### BACKGROUND

In an effort to support alternative water supply projects in Miami Dade County, the Miami Dade Water and Sewer Department has selected the Village as a pilot for their water reuse program. MDWASD has asked the Village to expand the scope of the sanitary sewer project to include the installation of purple pipes in order to be able to provide reclaimed water for irrigation. The attached agreement provides for the design and preparation of construction documents for reuse water mains for Zone 1 and Zone 2/3. This project includes the design of approximately 40,000 linear feet of reuse water main.

Funding for this agreement will come from a grant in the amount of \$4.8 million from the South Florida Water Management District. The cost of this agreement will not exceed \$170,400.

**RESOLUTION NO. 2007-**

**A RESOLUTION OF THE VILLAGE COUNCIL OF THE VILLAGE OF KEY BISCAYNE, FLORIDA, AUTHORIZING THE VILLAGE MANAGER TO APPROVE A WORK AUTHORIZATION WITH POST BUCKLEY SCHUH AND JERNIGAN, INC. ("PBSJ"), PROVIDING FOR PBSJ TO PROVIDE DESIGN AND CERTAIN RELATED SERVICES FOR THE POTENTIAL REUSE WATER COMPONENT OF THE VILLAGE'S WATER AND SANITARY SEWER PROJECT, INCLUDING PREPARATION OF COST ESTIMATE FOR THE REUSE WATER COMPONENT OF THE PROJECT; PROVIDING FOR IMPLEMENTATION OF ENGINEERING WORK AUTHORIZED BY THIS RESOLUTION; AND PROVIDING FOR AN EFFECTIVE DATE.**

WHEREAS, the Village Manager has recommended that the Village Council authorize Post Buckley Schuh and Jernigan, Inc. ("PBSJ") to perform additional engineering services for the Village pursuant to the continuing contract for engineering services between the Village and PBSJ, so as to enable the Village Council to have the necessary engineering information with which to make decisions concerning the potential reuse water component of the water and sewer improvement project of the Village; and

WHEREAS, the Village Council finds that it is in the best interest of the Village to authorize the Village Manager to arrange for PBSJ to provide the necessary engineering information as described above, as described in PBSJ's proposal of February 26, 2007.

**NOW, THEREFORE, BE IT RESOLVED BY THE 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. Survey, Study, Design and Related Work Authorized.**

A. That the Village Manager is hereby authorized to execute a work authorization with PBSJ to obtain the above described engineering services from PBSJ, subject to approval of the Village Attorney as to form and legal sufficiency of the work authorization, and subject to the restriction that the fees and costs charged to the Village for such engineering services shall not exceed a lump sum fee of One Hundred Seventy Thousand Four Hundred (\$ 170,400) Dollars.

B. That funding for this work of PBSJ shall be as provided in the Village's Manager's memorandum which accompanies this item.

**Section 3. Implementation.** That the Village Manager is hereby authorized to take any and all action necessary to implement the purposes of this Resolution.

**Section 4. Effective Date.** That this Resolution shall be effective immediately upon adoption hereof.

PASSED AND ADOPTED this 13th day of March, 2007.

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MAYOR ROBERT L. VERNON

ATTEST:

\_\_\_\_\_  
CONCHITA H. ALVAREZ, CMC, VILLAGE CLERK

APPROVED AS TO FORM AND LEGAL SUFFICIENCY:

\_\_\_\_\_  
VILLAGE ATTORNEY



*An employee-owned company*

February 26, 2007

Ms. Jacqueline R. Menendez  
Village Manager  
Village of Key Biscayne  
85 West McIntyre Street  
Key Biscayne, FL 33149

**RE: Proposal for Professional Services for Village of Key Biscayne for the Design and Construction Documents for Reuse Water Mains for Zone 1 and Zone 2/3**

**File: 01-1588.00**

Dear Ms. Menendez,

PBS&J is pleased to present, herein, a Proposal for Professional Services for the Village of Key Biscayne for the design and preparation of construction documents for reuse water mains for Zone 1 and Zone 2/3. This project shall include the design of approximately 40,000 linear feet of reuse water mains.

More specifically, PBS&J is proposing to perform the following tasks:

## **Scope of Work**

### ***Task 1 Project Control***

#### Task 1.1 Project Meetings

PBS&J anticipates holding four meetings through the duration of the project including a project kick-off meeting, a preliminary design review meeting, 50% design review meeting and a 90% design review meeting.

#### Task 1.2 Design Reviews

PBS&J will provide five (5) copies of the preliminary design and (5) copies of the Plans and Specifications at 50% and 100% for review by the Village of Key Biscayne and the Miami-Dade Water and Sewer Department (MDWASD). Design review meetings will be held approximately one week after each submittal.

## ***Task 2      Surveying***

PBS&J will utilize the survey work that has previously been performed for the waterline and sewer system projects in Zone 1 and Zone 2/3. New survey will be needed for approximately 2,500 linear feet of the reuse water main route for the section of piping that will be installed on Fernwood Road from East Heather Drive to approximately 500 feet north of Harbor Drive. The route survey will end north of Harbor Drive where the proposed reuse water main will connect to the proposed MDWASD reuse main. A utility easement for the installation of the reuse water north of Harbor Drive will be needed and is not included in this scope.

The route survey shall include cross sections at approximately 100-foot stations, benchmarks at 1,500-foot intervals, topography and underground utilities as marked by the Village of Key Biscayne, utility companies and/or their agents. The survey will establish sufficient horizontal and vertical control for the performance of the design and for future construction. Design baseline will be calculated along the centerline of the streets. PBS&J will also set vertical control and benchmarks for construction along the survey route. PBS&J will obtain all topographic data with electronic field books and prepare base map drawings in AutoCAD 2005.

## ***Task 3      Hydraulic Modeling***

PBS&J will develop a hydraulic computer model of the reuse system to size the reuse water mains. The model will be built using WaterCad Version 7.0. PBS&J will begin by creating the piping system in WaterCad and assigning appropriate elevation data based on existing survey information. Next, PBS&J will assign estimated reuse water demands to the system. The reuse water demands will be estimated by applying typical irrigation rates for South Florida to an average irrigable area for single family lots. The average irrigable areas for single family lots and non-residential areas will be computed using aerial maps along with available parcel maps. MDWASD will need to provide an estimated hydraulic grade (or pressure) at the location where this project connects to the reuse water main proposed by MDWASD, which is approximately 500 feet north of Harbor Drive. Once the demands and piping are established, PBS&J will size the system pipes based on acceptable velocity, pressures, and headloss. PBS&J will submit design criteria and methodology in the form of a technical memorandum to the Village of Key Biscayne for review and concurrence prior to performing the hydraulic modeling runs. A preliminary design will be provided to the Village of Key Biscayne as a deliverable for this Task.

## ***Task 4      Design***

### **Task 4.1      Drawings and Specifications**

PBS&J will prepare drawings and specifications (Contract Documents) for the project in accordance with the Village of Key Biscayne, Miami-Dade Water and Sewer Department (MDWASD), Miami-

Dade County Department of Environmental Resources Management (DERM), Florida Department of Environmental Protection (FDEP) and Florida Department of Health requirements.

All plans will be prepared in AutoCAD 2005 format. This will consist of plan and profiles with 1"=40' horizontal scale and 1"=4' vertical scale, standard details, general notes and key sheets. PBS&J will investigate the placement of the new reuse water mains in the same location as the existing abandoned water lines using pipe bursting trenchless technology.

#### Task 4.2 Construction Cost Estimate

PBS&J will prepare an estimate of probable project costs, as defined by the American Association of Cost Estimators. The construction cost estimate will be submitted with the 90% Contract Documents and updated as needed and submitted with the Final Contract Documents.

### ***Task 5 Permitting Assistance***

PBS&J will prepare permit applications to submit to the MDWASD, FDEP, and DERM on behalf of the Village of Key Biscayne. As part of this task, PBS&J will respond to two (2) Requests for Information from each of the permitting agencies. PBS&J will also provide plans and complete dry-run permitting of the project where applicable. It is assumed, herein, that any and all permit and/or permit application fees will be the responsibility of the Village of Key Biscayne.

### ***Task 6 Engineering Services During Construction***

It is assumed, herein, that overall construction management services for the project are not a part of this contract, that the Construction Manager, to be designated by the Village, will be the primary and sole point of contact with the Construction Contractor and that PBS&J will provide engineering services during construction as follows:

#### Task 6.1 Pre-Bid Services

PBS&J will attend one pre-bid conference for the project and respond to pre-bid RFIs.

#### Task 6.2 Shop Drawings and Technical Submittals

It is assumed, herein, that the Construction Manager will receive and log shop drawings and technical submittals required to be submitted by the Construction Contractor and will transmit submittals to PBS&J for review. PBS&J will review and return submittals to the Construction Manager within 10 working days of receipt. PBS&J will review for compliance with MDWASD specifications and for conformance with the design concept and compliance with the Contract Documents.

#### Task 6.3 Request for Information

PBS&J will issue technical interpretations and clarifications of the Contract Documents, along with

associated support materials, as requested by the Construction Manager. These interpretations will be rendered and a response prepared and submitted to the Construction Manager within one week of the Construction Manager's RFI.

## Deliverables

Task 3.1	Preliminary Design and Tech Memo	5 Draft Copies and 5 Final Copies
Task 4.1	Plans and Specifications	25 Copies: 5 50%, 5 90%, 5 Permitting, 10 Final
Task 4.2	Construction Cost Estimate	1 Hard Copy
Task 5	Permitting Assistance	Approved Dry-Run Plans & Permit Applications

## Schedule and Budget

### Schedule

PBS&J is proposing the following schedule for this project:

<u>Task Description</u>	<u>Approximate Duration</u>
Task 3.1 Preliminary Design and Tech Memo	5 weeks
<i>Preliminary Design Review</i>	1 week
Task 4.1 Plans and Specifications	12 weeks
<i>50% Design Review</i>	1 week
<i>90% Design Review</i>	1 week
Task 4.2 Cost Estimate (with 90% and Final Design Submittal)	
Task 5 Permitting Assistance	<u>12 weeks</u>
<b>Total Pre-Construction</b>	<b>32 weeks</b>

### Budget

PBS&J is proposing a Lump Sum Fee of \$170,400 to complete the Tasks 1 through 6.

## Exceptions

The following are not included in this proposal:

- Making substantial revisions to drawings, specifications, or other documents when such revisions are inconsistent with written approvals or instructions previously given, or are due to causes beyond the control of PBS&J
- Construction Management Services
- As-built or record drawings for this project
- Easement Documents

Ms. J. R. Menendez  
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- Public Hearings
- Capital Financing Plan
- Environmental Assessments
- Services Associated with Easement Acquisitions
- Value Engineering
- SRF Related Activities
- Any additional services other than those specified herein

We appreciate the opportunity to submit this proposal. If you have any questions, please call me at 305-514-3218.

Sincerely,  
PBS&J



Patricia A. Carney, P.E., DEE  
Program Manager

PAC/dc

cc: Armando Nuñez, Village of Key Biscayne