

PALM BEACH COUNTY
BOARD OF COUNTY COMMISSIONERS
AGENDA ITEM SUMMARY

Meeting Date: December 5, 2006 Consent [X] Regular []
Public Hearing []

Submitted By: Water Utilities Department
Submitted For: Water Utilities Department

I. EXECUTIVE BRIEF

Motion and Title: Staff recommends motion to approve: Consultant Service Authorization No. 7 to Brown & Caldwell, Inc. for effluent capacity improvements for the Southern Region Water Reclamation Facility in the amount of \$199,866.

Summary: This Consultant Services Authorization provides engineering and hydrogeological services related to the Southern Region Water Reclamation Facility (SRWRF) to increase the effluent disposal capacity. The improvements include re-rating the deep injection well permit for a higher disposal capacity, modifications to the deep injection monitor well and regulatory negotiations with the Florida Department of Environmental Protection (FDEP) in connection with the new underground injection control regulations. The contract with Brown & Caldwell, Inc. includes the small business (SBE) participation goal of 26%, which exceeds the 15% goal established by the Palm Beach County Ordinance (No. 2002-064). This Consultant Services Authorization includes 28.12%% overall participation. The consultant's cumulative SBE participation, including this Authorization, is 27.65% overall.

(WUD Project No. 07-002)

District 5

(MJ)

Background and justification: The SRWRF was originally designed and constructed to dispose of secondarily treated effluent through two Class I Deep Injection Wells at an injection velocity of 8 feet per second. The FDEP rules now allow an injection velocity of 10 feet per second through a modification to the deep injection permit. The deep injection wells will be re-rated to the maximum allowable capacity. FDEP has requested modifications to the deep injection well to monitor water quality at a lower interval. New Underground Injection Control Regulations have recently been enacted by the U.S. Environmental Protection Agency (EPA). This Consultant Services Authorization provides for staff assistance with the new regulatory requirements for the SRWRF deep injection wells and to deepen the monitor well. On April 19, 2005, the Board approved a contract for Professional Consulting Engineering Services with Brown & Caldwell (R-2005-0776) for Utility Hydrogeologic Engineering Services. Staff has reviewed the Consultant Service Authorization No. 7 and recommends the approval in the amount of \$199,866.

Attachments:

- 1. Two (2) Original Consultant Services Authorization No. 7
- 2. Location Map

Recommended By: Lisha L. Pica 11/27/06
Department Director Date

Approved By: [Signature] 12-4-06
Assistant County Administrator Date

CONSULTANT SERVICES AUTHORIZATION NO. 07

Project No. WUD 07-002

WUD Budget Line Item No. 4011-721-W010-6545

Project Title: Effluent Capacity Improvement for Southern Region Water Reclamation Facility

District No.: 5

THIS AUTHORIZATION # 07 to the Contract for Consulting/Professional Services dated April 15, 2005 with an effective date of June 1, 2005 (Resolution/Document R2005 0776), by and between Palm Beach County and the Consultant identified herein, is for the Consultant Services described in Item 3 of this Authorization. The Contract provides for 26% SBE participation. This Consultant Services Authorization includes 28.12%. The cumulative SBE participation, including this authorization is 27.65% overall. Additional authorization will be utilized to meet or exceed the stated overall participation goal.

1. **CONSULTANT:** Brown and Caldwell
2. **ADDRESS:** 1800 South Australian Avenue, West Palm Beach, Florida 33409
3. **Description of Services to be provided by the Consultant:**

Resolution of effluent capacity issues associated with the Southern Region Water Reclamation Facility (SRWRF) Class I injection wells including re-rating of injection wells from the current injection velocities of 8 feet per second to 10 feet per second, modification of the Deep Monitor Well and regulatory negotiations with the Florida Department of Environmental Protection (FDEP) in connection with the operating permit associated with this facility.

See EXHIBIT "A".

4. **Services completed by the Consultant to date:**
See EXHIBIT "B" and "C".
5. Consultant shall begin work promptly on the requested services.
6. The compensation to be paid to the Consultant for providing the requested services shall be:
 - A. Computation of time charges plus expenses, not to exceed \$
 - B. Fixed price of \$199,866
7. This Authorization may be terminated by the County without cause or prior notice. In the event of termination not the fault of the Consultant, the Consultant shall be compensated for all services performed through the date of termination, together with reimbursable expenses (if applicable) then due.

EXHIBIT E

PROJECT NO. WUD 07-002

AUTHORIZATION NO. 07

Budget Line Item No. 4011-721-W010-6545

- 8. EXCEPT AS HEREBY AMENDED, CHANGED OR MODIFIED, all other terms, conditions and obligations of the Contract dated with an effective date of April 15, 2005 remain in full force and effect.

IN WITNESS WHEREOF, this Authorization is accepted, subject to the terms, conditions and obligations of the aforementioned Contract.

CONSULTANT:

PALM BEACH COUNTY
A POLITICAL SUBDIVISION OF
THE STATE OF FLORIDA
BOARD OF COUNTY
COMMISSIONERS OF PALM
BEACH COUNTY, FLORIDA

FIRM: Brown And Caldwell

Signed: *Ronald M Ash*

Typed Name: Ronald M Ash P.E.

Title: Vice President

Date: 10/18/06

ATTEST:
M Addisho Bickel
(Signed)

Addie L. Greene, Chairperson

ALG

ATTEST:

Sharon Bock

(Clerk & Comptroller)

APPROVED AS TO FORM AND LEGAL
SUFFICIENCY:

(County Attorney)

BAT 1117/06

EXHIBIT A

CONSULTANT SERVICE AUTHORIZATION NO. 07

PALM BEACH COUNTY WATER UTILITIES DEPARTMENT ENGINEERING/PROFESSIONAL SERVICES

SCOPE OF WORK FOR EFFLUENT CAPACITY IMPROVEMENT FOR SOUTHERN REGION WATER RECLAMATION FACILITY

INTRODUCTION

Palm Beach County (COUNTY) entered into an agreement entitled Contract for Engineering/Professional Services - Palm Beach County Utilities Department Project No. WUD 05-003 (CONTRACT) with Brown and Caldwell (CONSULTANT) to provide engineering services for various general activities on (Reference Document R2005 0776). This Consultant Service Authorization will be performed under that CONTRACT.

This Consultant Services Authorization encompasses providing services related to the Southern Region Water Reclamation Facility (SRWRF) Effluent Disposal Facilities.

BACKGROUND

The Southern Region Water Reclamation Facility (SRWRF) was originally designed and constructed to dispose of secondarily treated effluent through two Class I Deep Injection Wells located at the facility. Back-up disposal capacity was provided through equalization tanks and ponds, and an interconnection to a Class I Injection well at Water Treatment Plant 3 facility. Since the original effluent disposal wells were constructed, a reclaimed water system and the Wakodahatchee wetlands were installed at SRWRF.

Flows have also increased significantly at the facility, and plans indicate that this trend will continue. There are regulatory issues associated with the existing effluent disposal wells, including the filing of a Petition for Limited Aquifer Exemption in 1997, which has never been acted upon by Florida Department of Environmental Protection (FDEP). New Underground Injection Control Regulations have recently been enacted by the U.S. Environmental Protection Agency (EPA) which will have an effect on facilities like SRWRF. Due to the changes at the plant, the regulatory issues and a need to resolve the issues at SRWRF, the following Scope of Work has been proposed to address the issues.

SCOPE OF SERVICES

CONSULTANT shall perform the engineering Scope of Services as described herein. The scope of work will address the following six items:

- Modifications to the SRWRF Dual Zone Monitor Well
- Injection well re-rating
- Preliminary Hydrogeologic Investigation for placement of a new well at SRWRF
- EPA UIC Rule Changes

Task 1: Modifications to SFWRF Monitor Well

It is assumed that all the work described in this scope will be submitted to the FDEP under a major permit modification application.

Sub-task 1.1 FDEP Meeting

The CONSULTANT will conduct a meeting with the FDEP to determine what modifications and testing will be required in order to bring the SRWRF injection well system into compliance.

Sub-task 1.2 Monitor Well Modifications Technical Memorandum

Based upon the meeting conducted in Sub-task 1.1, the preliminary design and testing program for the well improvements will be made and submitted in draft form to PBCWUD staff. After receipt of PBCWUD comments, the document will be completed in final form and submitted with the permit modification package to FDEP. As part of this task, response to two rounds of questions concerning this issue is anticipated.

Sub-task 1.3 Design of Monitor Well Modifications

Based upon comments received by FDEP as a result of Sub-task 1.2, the final design modifications and testing requirements will be determined and the Technical Memorandum finalized as part of the application package for the permit modification.

Sub-task 1.4 Specifications and Drawings

Technical Specifications and Drawings will be prepared for submittal with the permit modification application. Individual specification sections and drawings will be prepared for the required disciplines.

Sub-task 1.5 On-site Hydrogeologist

During the well modifications, a hydrogeologist will be on site to collect any necessary samples, monitor drilling activities and conduct the tests required as part of the permit modification.

Sub-task 1.6 Report Documenting Well Completion and Testing

Upon completion of the modification, the FDEP will require a completion report, documenting the modifications and testing procedures, together with an interpretation of the results. The preparation of a draft report for submittal to PBCWUD staff together with the submittal of final copies of the report to FDEP and the technical advisory committee will be performed under this task.

Task 2: Injection Well Re-rating

There are two Class I injection wells located at SRWRF; injection well IW-1 has always operated at a higher injection pressure and has accepted less effluent than injection well IW-2. When the wells were originally constructed, they were designed to inject at a maximum

injection velocity of 8 feet per second. Regulations enacted subsequent to their construction have permitted wells with an original design of 8 feet per second to be re-rated to accept more effluent, if it can be demonstrated that the wells can receive the effluent without adverse impacts. Due to the current permitting issues at SRWRF, it is unknown whether FDEP will permit both wells to be re-rated, however this task will establish whether one or both wells can be re-rated and carry out the testing necessary to re-rate the well or wells that can be re-rated for a normal operation at a velocity of 10 feet per second and 12 feet per second under emergency conditions. It is anticipated that all work connected with actually conducting the re-rating tests will be handled by PBCWUD staff in cooperation with the CONSULTANT. A contractor will not be engaged for these services.

Sub-task 2.1 FDEP Meeting

The CONSULTANT will conduct a meeting with the FDEP to determine what modifications and testing will be required in order to bring the SRWRF injection well system into compliance.

Sub-Task 2.2 Re-rating Plan

Compile a draft re-rating plan. Review with County staff, finalize and prepare for submittal to FDEP. Based upon FDEP review of the re-rating plan, there may be additional information required related to the plan. As part of this task, response to one round of questions concerning this issue is anticipated.

Sub-Task 2.3 Testing

Upon approval of the re-rating plan, meet with PBCWUD SRWRF staff to coordinate re-rating activities in up to two wells. It is anticipated that testing will take place using plant equipment and PBCWUD staff will operate the equipment for testing. The CONSULTANT will coordinate testing with PBCWUD and FDEP, and collect and record data in the field during the re-rating of one or both wells.

Sub-Task 2.4 Report to FDEP

Compile and analyze data collected during the re-rating test(s). Compile a report for submittal to FDEP. Provide copies of draft report to PBCWUD for review. Finalize and submit to FDEP.

Sub-Task 2.5 Implementation

Coordinate operational changes connected with increasing the injection rates in wells IW-1 and/or IW-2 with PBCWUD staff.

Task 3: Preliminary Hydrogeologic Assessment for New Injection Well

As part of the expansion planning for the SRWRF, a third injection well at the site is being contemplated however one of the existing injection wells at SRWRF is significantly more productive than the other, so PBCWUD is interested in a regional assessment of the surrounding geology in order to make a prediction related to selecting the most appropriate site for a third well. The regional hydrogeologic assessment around the SRWRF site will be conducted using data from other injection wells and published literature for a radius of up to about 20 miles.

Sub-Task 3.1 Data Collection and Review

Data on the geologic character of adjacent injection wells and literature about the geology and hydrogeology of the area will be collected and a hydrogeologic assessment performed. The purpose of the hydrogeologic assessment will be to generate cross sections to characterize the injection zone in the vicinity of SRWRF to provide an opinion on the best location for a third injection well on County-owned property at or near SRWRF. Geologic and construction data from the existing injection wells at SRWRF will also be reviewed for an explanation of the differences between the character of the injection zones. Ownership information will be obtained from the County to review adjacent potential well locations. Meet with County staff to coordinate information.

Sub-task 3.2 Technical Memorandum

A Technical Memorandum will be prepared to document the results of the hydrogeologic assessment, including illustrations of the prepared cross sections. The memorandum will contain a recommended site location or a general area where it is recommended that the county consider locating a third well for SRWRF based principally on available geologic data. Meet with County staff to review draft document.

Task 4: UIC Permitting In Connected With Improvements at SRWRF

A UIC major permit modification will be required to carry out the work to the monitor well and conduct the injection well re-rating.

This task provides for the work to compile the permit modification required to obtain the permit modification from UIC. Documents, such as the re-rating plan will be compiled as part of other tasks and submitted to the FDEP as one permit modification package. Coordination of responses for up to two rounds of questions concerning this permit is also anticipated, and is included in this task.

Sub-task 4.1 Permit Modification Compilation

The information required for the permit modification which will include 90% technical specifications and drawings and supporting documentation will be compiled and submitted in draft to PBCWUD staff for review. The package then will be finalized and submitted to FDEP with the required permit fee (to be supplied by PBCWUD). Changes to the draft documents submitted as part of the permit package will be addressed as part of the compilation of those documents under the relevant task.

Sub-task 4.2 Meetings with FDEP.

Conduct up to three meetings with FDEP in connection with the submittal of this permit modification, at the following milestones:

- After submittal of the package
- A subsequent meeting during the review period to address potential issues
- After completion of the work

Sub-Task 4.3 Response To Requests For Additional Information

It is anticipated that once the information is submitted to FDEP they will have clarifying questions associated with the information submitted. The purpose of this sub-task is to provide the coordination necessary to obtain the relevant information and respond to up to two rounds of questions from FDEP. Responses for individual technical issues are covered under the relevant task as part of this scope of work.

Sub-Task 4.4 Completion of Modifications

This sub-task provides for coordinating the certification of completion and reports once the work is complete, provision to address report comments from FDEP and project closeout.

Task 5: Contractor Selection

It is anticipated that once the information is submitted to FDEP they will have clarifying questions associated with the information submitted. This task will provide for compilation of technical specifications and drawings into a biddable format together with standard front end documents to be provided by the County. This task provides for preparation of one addendum prior to bidding, attendance at a pre-bid meeting, recommendation of award and preparation of conformed contract documents.

Sub-task 5.1 Contract Documents and Technical Specifications Compilation

The CONSULTANT will compile the technical specification sections prepared as part of the work described in Task 1 into one biddable document with the County's standard front end. A set of drawings including each required discipline will be compiled.

The final contract documents, incorporating all the proposed changes, will be forwarded to PBCWUD for bidding purposes. It is anticipated that PBCWUD will duplicate and distribute the copies of the Contract Documents and Drawing sets to prospective bidders.

Sub-task 5.2 Bidding and Award

The CONSULTANT will provide assistance during the bidding and award process by performing the following:

- Attend pre-bid meeting with PBCWUD staff to answer prospective contractor's questions and attend site visit prior to bidding
- Provide up to two addenda prior to bidding
- Prepare a recommendation of award and tabulation of bid results
- Prepare one set of conformed Contract Documents. These documents will reflect changes made by addendum during the bidding process. It is anticipated that PBCWUD will duplicate and finalize the requisite number of copies.