

RESOLUTION NO. 09-172

**A RESOLUTION OF THE CITY COMMISSION OF THE CITY OF KEY WEST, FLORIDA, APPROVING TASK ORDER 09-06 FROM PEREZ ENGINEERING FOR PROFESSIONAL SERVICES FOR MECHANICAL INTEGRITY TESTING OF WWTP DEEP INJECTION WELLS IW-1 AND IW-2 IN THE AMOUNT OF \$41,020; PROVIDING FOR AN EFFECTIVE DATE**

BE IT RESOLVED BY THE CITY COMMISSION OF THE CITY OF KEY WEST, FLORIDA, AS FOLLOWS:

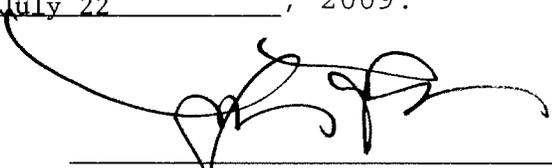
Section 1: That the attached Task Order 09-06 to Perez Engineering and Development, Inc. for engineering services in an amount not to exceed \$41,020.00 is hereby approved.

Section 2: That this Resolution shall go into effect immediately upon its passage and adoption and authentication by the signature of the presiding officer and the Clerk of the Commission.

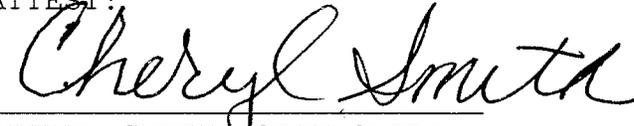
Passed and adopted by the City Commission at a meeting held this 21st day of July, 2009.

Authenticated by the presiding officer and Clerk of the Commission on July 22, 2009.

Filed with the Clerk July 22, 2009.

  
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MORGAN MCPHERSON, MAYOR

ATTEST:

  
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CHERYL SMITH, CITY CLERK



## THE CITY OF KEY WEST

Post Office Box 1409 Key West, FL 33041-1409 (305) 809-3700

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### EXECUTIVE SUMMARY

**TO:** Jim Scholl, City Manager  
E. David Fernandez, Asst. City Manager

**FROM:** Gary W. Bowman, General Services Director

**DATE:** June 19, 2009

**SUBJECT:** Approving Task Order 09-06 from Perez Engineering for Professional Services for Mechanical Integrity Testing of WWTP Deep Injection Wells IW-1 and IW-2 in the Amount of \$41,020.

#### ACTION STATEMENT:

This resolution will approve Work Order 09-06 for Perez Engineering in the amount of \$41,020 for Deep Injection Well Mechanical Integrity Testing Professional Services for IW-1 and IW-2 and the WWTP site.

The agreement is executed pursuant to F.S. 287.055 (CCNA), City Code 2-841, and the City's contract with Perez Engineering approved by Resolution # 07-332.

#### BACKGROUND:

The City utilizes two (2) deep injection wells for disposal of treated effluent from the Richard A. Heyman Environmental Protection Facility. The deep injection well system consists of two (2) deep injection wells (IW-1 and IW-2) and associated monitoring wells.

Rule 62-528, Florida Administrative Code requires that each injection well undergo mechanical integrity testing (MIT) every five (5) years. The most recent MIT of IW-1 was performed on January 5, 2005. Therefore, the next MIT for IW-1 must be performed no later than January 4, 2010. The most recent MIT of IW-2 was performed on March 9, 2006. Therefore, the next MIT for IW-2 is due no later than March 8, 2011.

Performance of the MIT requires the services of a well service company familiar with MIT of deep injection wells. It is recommended that the City group the MIT of both IW-1 and IW-2 together and perform the MIT of both

wells prior to January 4, 2010. Grouping the MIT of both injection wells will reduce contractor fees by allowing only one mobilization for the MIT of both wells. Grouping the MIT of both wells will also reduce the amount of consulting fees associated with the MIT of the wells since only one MIT plan for both wells will be required to be submitted to FDEP for review and approval and only one set of technical specifications will need to be prepared instead of needing to produce separate sets of documents if the MIT of the wells were not grouped.

**PURPOSE & JUSTIFICATION:**

This request is for MIT professional services for deep injection wells IW-1 and IW-2. The project will result in one MIT plan and contract documents for both IW-1 and IW-2. Perez Engineering & Development, Inc. (PE&D) in association with McNabb Hydrogeologic Consulting, Inc. (MHC) will prepare the MIT plan; technical specifications provide bid services, field services during testing and prepare a MIT report for each injection well.

The MIT of deep injection well IW-1 must be performed on or before January 4, 2010. This project also includes MIT of IW-2 to save the City contractor and consulting fees by reducing mobilization costs and consultant work.

Perez Engineering & Development, Inc. (PE&D) will provide resources and manpower on a lump sum basis for the MIT professional service for deep injection wells IW-1 and IW-2.

PE&D is very familiar with the deep injection well system at the Richard A. Heyman Environmental Protection Facility. PE&D provided professional MIT services for the most recently performed MIT of IW-1 and also provided consulting services during the design, permitting and construction of IW-2.

**OPTIONS:**

1. Using Perez Engineering to provide professional services provides the City with additional resources that are readily available, experienced, and knowledgeable of the City of Key West deep injection well system.
2. The City could choose not to use Perez Engineering and use another consultant for the MIT project. The use of another consultant will require the City to become familiar with the City's deep injection well system that PE&D has learned by performing deep injection well projects with the City. Using PE&D will result in the performance of the MIT work prior to the expiration date of the IW-1 MIT due date.

**FINANCIAL IMPACT:**

The fees for this task order total \$41,020. Funds are available in sewer budget line item 401-3503-535-31 to fund this task order.

**RECOMMENDATION:**

The staff recommends option # 1, that the City approve this task order from Perez Engineering & Development, Inc. to provide the required deep injection well professional MIT services.

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PROPOSAL FOR CONSULTING SERVICES

**Work Order No. 09-06**  
**Professional Services for Mechanical Integrity Testing of Deep Injection**  
**Wells IW-1 and IW-2**  
**at the City of Key West**  
**Richard A Heyman Environment Protection Facility**

**Prepared for**  
**City of Key West Utilities Department**

**June 2009**



**1010 Kennedy Drive, Suite 400**  
**Key West, Florida 33040**  
**305-293-9440**

WORK ORDER NO. 09-06

PROFESSIONAL SERVICES FOR MECHANICAL INTEGRITY TESTING  
OF DEEP INJECTION WELLS IW-1 AND IW-2  
SCOPE OF SERVICES

I. PROJECT DESCRIPTION

The City of Key West owns the Richard A. Heyman Environmental Protection Facility deep injection well system. The deep injection well system is utilized for disposal of treated wastewater. This Work Order presents the scope of services for consulting services for mechanical integrity testing of deep injection wells IW-1 and IW-2.

As specified in Rule 62-528, Florida Administrative Code (FAC), deep injection wells must demonstrate both internal and external mechanical integrity every 5 years. Mechanical integrity testing (MIT) for injection well IW-1 was last completed on January 5, 2005. Therefore, the next MIT for IW-1 must be performed no later than January 4, 2010. The most recent MIT of IW-2 was performed on March 9, 2006. Therefore, the next MIT for IW-2 is due no later than March 8, 2011. Performance of the MIT requires the services of a well service company familiar with MIT of deep injection wells. The City has opted to group the MIT of both IW-1 and IW-2 together and perform the MIT of both wells prior to January 4, 2010. Grouping the MIT of both injection wells will reduce contractor fees by allowing only one mobilization for the MIT of both wells.

Internal mechanical integrity testing will consist of performance of a video survey, temperature log, and pressure test on each of the injection wells. External mechanical integrity will consist of conducting a radioactive tracer survey (RTS) of the wells. A RTS is conducted by ejecting a radioactive tracer at the base of the well casing under low-rate injection conditions and monitoring its movement with gamma ray detectors.

In order to conduct the MIT on the injection wells, Perez Engineering & Development, Inc (PE&D) will be working with McNabb Hydrogeologic Consulting, Inc. (MHC) to provide the professional consulting services for the MIT. These services are listed in Tasks 1 through 5 below.

This project consists of the following:

1. Prepare and submit to the Florida Department of Environmental Protection (FDEP) a Mechanical Integrity Testing plan.
2. Prepare technical specifications for inclusion with bid documents.
3. Provide bidding services.

4. Provide MIT field observation services.
5. Prepare a Mechanical Integrity Testing Report for each injection well providing an interpretation of the MIT data and historical monitoring well water quality and water level data.

## II. SCOPE OF SERVICES

1. Task 1 - Mechanical Integrity Testing Plan Preparation: prepare a detailed mechanical integrity testing plan for both deep injection wells. The testing plan will include provisions for evaluating the internal and external mechanical integrity of each well. Internal mechanical integrity will be demonstrated by performing a video survey, temperature log, and a pressure test on each injection well. External mechanical integrity will be demonstrated by conducting a radioactive tracer survey (RTS) of both wells. A RTS is conducted by ejecting a radioactive tracer at the base of the well casing under dynamic conditions and monitoring its movement with gamma ray detectors. Response to an unlimited number of RFIs from the FDEP related to the MIT plan is included with this task.
2. Task 2 - Mechanical Integrity Technical Specifications Preparation: prepare Technical Specifications and a Bid Form for the performance of the MIT work. A draft of the Technical Specifications and Bid Form will be prepared and submitted to the City for review and comment. Following a two (2) week review and comment period, the City's comments will be incorporated into the documents.
3. Task 3 - Bid Phase Services: prepare Addenda, if required, and assist in the awarding of the contract for conducting the MIT work. Bids will be received, opened and read aloud by the CITY at the designated time and location. We shall prepare a bid tabulation and a letter of recommendation for award of the contract for submittal to the City following evaluation of the bid proposals.
4. Task 4 - Mechanical Integrity Testing Field Services: provide resident observation services during the MIT work. Staff experienced in the construction and testing of Class I injection wells will perform resident observation. Resident observation is anticipated to last for approximately 5 days for 12 hours per day per well. Review and processing of shop drawings through final acceptance, review of Contractor's payment applications with recommendations to the CITY for payment, and recommendation for final acceptance by the CITY is also included in this task.
5. Task 5 - Mechanical Integrity Testing Reports Preparation: Following completion of the MIT work, reports summarizing the MIT work will be prepared. The reports will also provide a summary and interpretation of the previous five (5) years of the injection well system operating and monitoring data. A draft of the reports will be submitted the CITY for review and comment. Upon receipt of review comments, the MIT reports will be finalized and eight (8) copies of each report will be prepared for distribution. Response to up to two (2) RFIs related to the MIT reports is also included in this task.

**III. ASSUMPTIONS**

1. A well service contractor will contract with the CITY for the performance of the MIT.

**IV. DELIVERABLES**

1. Draft mechanical integrity testing plans
2. Final mechanical integrity testing plans (distributed to the FDEP and CITY)
3. Draft technical specifications with front end documents and bid form ready for bidding
4. Final technical specifications with front end documents and bid form (8 copies)
5. Letter of Recommendation to the CITY for Contractor selection
6. Signed and sealed MIT Report (10 copies distributed to FDEP and the CITY)

**V. COMPENSATION**

Professional fees for this work order will be on a Lump Sum basis. The Lump Sum amount of compensation is shown on Table 1, below.

**Table 1  
COMPENSATION  
PROFESSION SERVICES FOR MECHANICAL INTEGRITY TESTING OF IW-1 AND IW-2**

<b>Task</b>	<b>Labor Cost</b>
1 – MIT Plans Preparation	\$4,620
2 – Technical Specifications Preparation	\$7,840
3 – Bid Phase Services	\$700
4 – Field Services	\$13,160
5 – MIT Reports	\$14,700
<b>Total</b>	<b>\$41,020</b>

**VII. COMPLETION DATES**

Following are the estimated completion times. Dates are from execution of the Work Order.

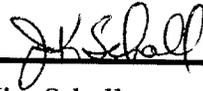
<u>Draft MIT Plans</u>	14 days
<u>Final MIT Plans</u>	7 days after receipt of comments
<u>Draft Specs and Bid Form</u>	30 days
<u>Final Specs and Bid Form</u>	7 days after receipt of comments

Draft MIT Reports

21 days after completion of testing

Final MIT Reports

7 days after receipt of comments



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Jim Scholl  
City Manager

Date



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Allen E. Perez, P.E.  
President

Date