

CCNA2018 WORK ORDER 3

FLORIDAN WELL DEEPENING AND PERFORMANCE IMPROVEMENT

This Work Order Number 3 is entered into as of this ____ day of _____, 2018, pursuant to that certain Continuing Consulting Engineering Services Agreement for Professional Services entered into as of this 17th day of April, 2018 (collectively referred to as the "Agreement"), by and between INDIAN RIVER COUNTY, a political subdivision of the State of Florida ("COUNTY") and Kimley-Horn and Associates, Inc., ("Consultant").

The COUNTY has selected the Consultant to perform the professional services set forth on Exhibit A (Scope of Work), attached to this Work Order and made part hereof by this reference. The professional services will be performed by the Consultant for the fee schedule set forth in Exhibit B (Fee Schedule), attached to this Work Order and made a part hereof by this reference. The Consultant will perform the professional services within the timeframe more particularly set forth in Exhibit C (Time Schedule), attached to this Work Order and made a part hereof by this reference all in accordance with the terms and provisions set forth in the Agreement. Pursuant to paragraph 1.4 of the Agreement, nothing contained in any Work Order shall conflict with the terms of the Agreement and the terms of the Agreement shall be deemed to be incorporated in each individual Work Order as if fully set forth herein.

IN WITNESS WHEREOF, the parties hereto have executed this Work Order as of the date first written above.

CONSULTANT:

Kimley-Horn and Associates, Inc.

**BOARD OF COUNTY COMMISSIONERS
OF INDIAN RIVER COUNTY**

By: _____

Brian Good, P.E.

Print Name: _____

Brian Good

Title: _____

Principal

By: _____

Peter D. O'Bryan, Chairman

BCC Approved Date: _____

Attest: Jeffrey R. Smith, Clerk of Court and Comptroller

By: _____

Deputy Clerk

Approved: _____

Jason E. Brown, County Administrator

Approved as to form and legal sufficiency: _____

Dylan T. Reingold, County Attorney

EXHIBIT A

Work Order Number 3

Indian River County Department of Utility Services

South Oslo Rd Water Plant

Floridan Well Deepening and Performance Improvement

PROJECT UNDERSTANDING

Indian River County Utilities (IRCU) owns and operates six (6) Floridan supply wells which are the raw water supply and source water for the South Oslo Rd water treatment facility. During drilling and construction of the new wells S-7 and replacement well S-4R, it was discovered that enhanced well performance and potential for improved water quality can be achieved through deepening of the existing wells. The specific capacity (gpm/ft) of well S-4R was improved 10-fold over the existing and abandoned well S-4 by drilling the new well S-4R deeper by more than 120 ft.

Therefore, it is recommended to consider deepening the existing wells while the contractor is on-site and incorporate additional drilling into their rehabilitation scope while the contractor is still mobilized. Improved water quality and well performance result in lower operating costs since the pumping energy is less and the membrane feed-pressures are lower with better water quality.

The project will consist of deepening the borehole of wells' S-2, S-3, S-5 and S-6:

- Mobilization of a larger rig
- Removal & restoration of electrical gear
- Specific capacity pump testing
- Drilling a 15-inch borehole
- Acidizing and developing well
- Restoration of site and wellhead

The following scope consists of additional oversight during drilling, and coordination to the existing work order with IRCU. The well contractor, All Webbs Enterprises, Inc. (AWE) is already onsite and mobilized.

SCOPE OF WORK

TASK 1 – PROJECT MANAGEMENT

Consultant will review schedule prepared by the contractor, provide coordination with IRCU operations and subconsultant, JLA Geosciences, Inc., and provide oversight of the well deepening procedures and activities by AWE.

Consultant will assist with the processing of the change order to deepen each of the existing wells, as well as provide supporting information and technical evaluation into the merits of deepening these wells. Consultant will respond to contractor questions, and provide written responses for IRC to process for the work prepared by KHA. Consult will review change order proposal from contractor and provide review summary and recommendation to IRCU.

TASK 2 – UFA WELL DEEPENING & CONSTRUCTION PHASE SERVICES

Consultant will prepare guidelines for the deepening of four (4) Floridan aquifer production wells located in the South-Oslo Road Wellfield, which is in addition to the existing rehabilitation scope to be performed by AWE. Consultant will provide scope coordination and answer questions by the existing contractor.

Consultant will provide construction phase services including hydrogeological services, performance testing of each well, and preparation of a supporting well completion report for wells #S-2, S-3, S-5, and S-6 Floridan Aquifer wells. Consultant will utilize subconsultant services of JLA Geosciences, Inc. for the Hydrogeologic Consulting Services (JLA).

Consultant will provide hydrogeological support and observation services during Upper Floridan Aquifer well deepening, including pilot hole drilling and reaming, geophysical logging, completion interval drilling and associated testing, preliminary well development, acid treatment, pump development and testing, post rehabilitation development testing and specific capacity testing; and witness post- rehabilitation videos. Consultant will also provide well performance testing, including water level measurements, specific capacity analysis, and basic water quality testing (conductivity, chlorides, silt density indices~SDI's and sand testing). Consultant will provide up to 280 hours of on-site hydrogeological services (JLA) for well deepening.

Consultant will review completion interval drilling and testing data and review acid treatment and testing plans. Consultant will review pump test results and provide recommendations for permanent pump setting depth and recommended in service pumping rate. It is assumed that the existing pumps will be re-installed in the existing wells.

Consultant will coordinate water quality testing, which includes additional water quality data for membrane projections. It is assumed no FDEP permit will be required.

Consultant will provide additional wellsite review pre- and post- deepening and rehabilitation since contractor must remove the existing wellhead equipment to allow an alternate deepening rig on-site.

Consultant will attend meetings and make onsite site visits for each of the four (4) existing wells to be deepened; provide coordination during construction, review of individual well geophysical and video logging, , review contractor's submittals including acid treatment plan, onsite hydrogeologic observation during critical elements of deepening, well logging.

Consultant will prepare four (4) copies of a hydrogeologic technical memorandum for rehabilitation of each well summarizing the results of these modifications.

KHA will prepare a well completion report for the deepened wells #2, 3, 5 and 6, including a summary of the lithologic logs, field logs, hydrologic and water quality data, and preparation of figures, data, lithologic logs, and appropriate attachments.

It is anticipated that the additional construction phase that will be added will be up to 380 calendar days from notice to proceed with the deepening scope to final completion.

The re-installation of the well pump, column piping, and electrical service for the deepened wells is assumed to be included under the drilling and rehabilitation phase. Consultant will attend up to four (4) onsite progress meetings to discuss progress, review construction related issues, and provide coordination where needed.

It is assumed that NO FDEP permitting will be required since the size of the well casing, and capacity of the wellpump will not change. The Contractor will provide the SJRWMD well construction and well completion reports.

TASK 3 – SUMMARY TECHNICAL REPORT

Consultant will prepare a summary technical report for the deepening of four (4) Floridan aquifer production wells, and submit DRAFT versions to IRCU staff for review. Consultant will submit final copies to IRCU and include comments from IRCU staff.

SCHEDULE

In general, the schedule will coincide with the Contractor's (AWE) schedule and consultant will work expeditiously to meet it:

Task 1, 2 Construction Observation	380 days from AWE Completion Date
Task 3 Prepare Tech Memo	6 – 8 weeks after Contractor Substantial completion

FEE SCHEDULE

We will provide these services in accordance with the Continuing Consulting Engineering Services Contract Agreement for Professional Services with Kimley-Horn and Associates dated April 17th, 2018.

The Consultant will provide professional services for Task 1 through Task 3 on a lump sum fee basis of \$84,876 as follows:

Task No.	Task	Fee
TASK 1	PROJECT MANAGEMENT	\$ 18,295
TASK 2	WELL DEEPENING CONSTRUCTION PHASE	\$ 55,118
TASK 3	SUMMARY TECH MEMO	\$ 11,463
	TOTAL	\$ 84,876

ADDITIONAL SERVICES

The following services are not included in the Scope of Services for this project, but may be required depending on circumstances that may arise during the execution of this project. Additional services include, but may not be limited to the following:

- Mechanical Design of pumps or wellheads
- Preparation of wellfield operating plans
- Permitting support other than FDEP certification of completion

ITEMS FURNISHED BY OWNER

The following items will be furnished by the Owner and are necessary for completion of the tasks described herein.

- None

EXHIBIT B - FEE SCHEDULE

8-Jan-18

PROJECT: IRCU WELLFIELD DEEPENING						SHEET 1 OF 1			
CLIENT: Indian River County Utilities						FILE NO.			
ESTIMATOR: MDM						DATE: 6/11/18			
DESCRIPTION:		DIRECT LABOR (MAN-HOURS)							
		PRINC	SEN PROF	REG PROF TH/FH	DES/ P2	CLK P1	EXP SUB	Dir Exp	LINE TOTAL
NO.	TASK								
1	PROJECT MANAGEMENT								
	Review data, questions, coordination		2	8	16	4		\$171	\$3,885
	Coordinate change order for deepening scope		4	6	8	8		\$157	\$3,565
	Attend progress meetings (4)		16		24	2	500	\$290	\$7,102
	SUB - JLA						3,403	\$340	\$3,743
2	UFA Well Rehabilitation Construction Services								
	Initial site meetings		8	12		8	500	\$201	\$5,069
	SUB - JLA						\$50,049	\$0	\$50,049
3	SUMMARY TECH MEMO								
	Finalize and submit report for deepening - append to rehab reports		6	12		4		\$163	\$3,697
	SUB - JLA						\$7,060	\$706	\$7,766
	TOTAL HOURS	0	36	38	48	26	\$61,512	\$2,029	\$84,876
	LABOR (\$/HOUR)	235	225	150	105	96		\$0	\$0
	SUBTOTAL	0	8100	5700	5040	2496	0	\$21,336	\$0

\$18,295

\$55,118

\$11,463

\$84,876