

**CCNA2018 WORK ORDER 29**

**Upper Floridan Aquifer Monitor Well Data Logger Installation, Aquifer Testing, and Water Level Evaluation**

This Work Order Number 29 is entered into as of this \_\_\_\_ day of \_\_\_\_\_, 2020, pursuant to that certain Continuing Consulting Engineering Services Agreement for Professional Services entered into as of this 17<sup>th</sup> 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:**

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

**By:** \_\_\_\_\_

**By:** \_\_\_\_\_  
**Susan Adams, Chairwoman**

**Print Name:** \_\_\_\_\_

**Title:** \_\_\_\_\_

**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 #1**

### **Work Order Number 29**

## **Upper Floridan Aquifer Monitor Data Logger Installation, Aquifer Testing, and Water Level Evaluation**

### **PROJECT UNDERSTANDING**

Consultant has been requested to provide hydrogeologic consulting services related to monitoring well water levels in the North Wellfield. The scope of work consists of the purchase and installation of electronic water level monitoring data loggers in four (4) existing IRCU Upper Floridan Aquifer (UFA) monitoring wells (MN1, MN2, MN3, and MS1) and the rental and installation of electronic water level monitoring data loggers in three (3) offsite UFA irrigation wells (owned by others). Following data logger installation, Consultant will plan and coordinate an aquifer performance test (APT) with KHA and IRCU at the Hobart (North) Water Treatment Plant (WTP) utilizing the existing UFA production wells. The APT will be implemented in a way to minimize impacts to North WTP operations, but also allows for the evaluation of monitoring well water level data to calculate site specific aquifer characteristic. Following testing, Consultant will summarize and tabulate water level and pumping data and generate a brief technical memorandum outlining the testing procedure, results, and recommendations.

### **SCOPE OF SERVICES**

#### **Task 1: Floridan Aquifer Data Logger Installation**

Consultant will procure and install four (4) In-Situ Level Troll 700 electronic water level data loggers in four (4) existing IRCU UFA monitor wells for continuous water level monitoring. Three (3) of the IRCU monitor wells are located at the North WTP and include MN1, MN2, and MN3 and will be used in the APT and one (1) is located at the South Plant (MS1). The permanent data logger installations for the four IRCU MW's will include 5 feet of communication cable, large desiccant adaptors, two threaded surface mounted data logger adaptors, two artesian well adaptors, and one Bluetooth enabled communication adaptor. Consultant will provide and install three (3) In-Situ Level Troll 700 electronic water level data loggers, cables and desiccant adaptors at three offsite monitor wells selected by IRCU based on access for a 14 day continuous monitoring period.

#### **Task 2: North WTP Aquifer Performance Testing and Reporting**

Consultant will assist in the planning, coordination and implementation of an APT using the IRCU North WTP production wells. The APT plan will be designed to keep within WTP operational constraints but allow for the evaluation of groundwater withdrawals on UFA monitoring well water level data to generate site specific aquifer characteristics. The APT plan will incorporate background data collection, a 24 - 48 hour pumping period, and a recovery period. The proposed APT plan shall be performed within a

continuous 14-day period to include data collection in the 3 off site UFA monitor wells with rental data loggers. Electronic water level data loggers installed in the six (6) UFA monitor wells will be programmed to collect water level data during testing. Manual water level measurements will be collected daily during background, pumping and recovery phases of the APT to verify continuous electronic water level measurement data.

Following the recovery period, water level data from the 6 monitoring wells will be downloaded and evaluated to determine site specific aquifer hydraulic parameters for comparison to aquifer parameters used in the current IRCU consumptive use permit. Consultant will generate a brief technical memorandum to be submitted electronically summarizing the testing procedure, water level data, comparison of UFA APT data to results submitted in the Draft CDM Smith “Groundwater Modeling in Support of Indian River County Utilities Consumptive Use Permit Modification” Report, 2016, and recommendations.

**TIME SCHEDULE**

Services for Tasks 1 is anticipated to be completed within 4 - 6 weeks of notice to proceed. Task 2 is anticipated to include up to 3-4 months of monitoring, including up to 3 – 4 weeks of technical memorandum preparation.

**FEE SCHEDULE**

We will provide these services in accordance with our Continuing Consulting Engineering Services Agreement for Professional Services dated April 17<sup>th</sup>, 2018, by and between INDIAN RIVER COUNTY, a political subdivision of the State of Florida (“COUNTY”) and Kimley-Horn and Associates, Inc., (“Consultant”).

The Consultant will provide professional services for a lump sum fee as follows:

<b>Task No.</b>	<b>Task</b>	<b>Task Fee</b>
Task 1	Floridan Aquifer Monitor Well Data Logger	\$20,329
Task 2	North Water Treatment Plant Aquifer Performance Testing	\$19,518
	<b>TOTAL LUMP SUM FEE</b>	<b>\$ 39,847</b>

**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:

- This work does not include groundwater modelling services