WORK ORDER 1

This Work Order Number 1 is entered into as of this ___ day of _____, _____, pursuant to that certain Continuing Contract Agreement, dated May 2, 2023 (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 mutually agreed upon lump sum or maximum amount not-to-exceed professional fee. Any additional costs must be approved in writing, and at a rate not to exceed the prices set forth in Exhibit B (Rate Schedule) of the Agreement, made a part hereof by this reference. The Consultant will perform the professional services within the timeframe more particularly set forth in Exhibit A (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:

By: _____

Print Name: Jason R. Lee, P.E.

Title: Vice President

BOARD OF COUNTY COMMISSIONERS OF INDIAN RIVER COUNTY

By: _____
Joseph H. Earman, Chairman

BCC Approval Date: _____

Attest: Ryan L. Butler, Clerk of Court and Comptroller

By: _____
Deputy Clerk

By: _____
John A. Titkanich, Jr., County Administrator

Approved as to form and legal sufficiency:

_____
Dylan T. Reingold, County Attorney

EXHIBIT #A

Indian River County Department of Utility Services
West Regional Wastewater Treatment Facility (WRWWTF)
Effluent Reject System
Project ID 23.23.539

PROJECT UNDERSTANDING

Indian River County Department of Utilities Services (IRCDUS) owns and operates the West Regional Wastewater Treatment Facility (WRWWTF), a 6-MGD Annual Average Daily Flow activated sludge facility. Treated effluent from the WRWWTF currently flows via gravity from the Chlorine Contact Basins (CCB) to an Intermediate Pump Station (IPS), where it can be pumped to the reclaim system or gravity flow to the Rapid Infiltration Basins (RIBs) or the wetlands. The IPS also receives reclaim water flows from the South Regional Wastewater Treatment Facility (SRWWTF).

Florida Senate Bill 64 (SB64) requires IRCDUS to eliminate nonbeneficial surface water discharge to the golf courses and treatment wetlands. Accordingly, IRCDUS desires to construct process improvements to re-direct non-spec treated effluent, or "reject," from the wetland to the RIBs.

The following scope of services details the professional engineering services for design, permitting, bid and construction phase services associated with the proposed reject water improvements for the WRWWTF.

SCOPE OF SERVICES

Task 1 – Design

Consultant will attend one (1) project kickoff meeting with IRCDUS staff. Consultant will prepare meeting minutes and distribute to the project team.

Consultant will design piping improvements to facilitate installation of electrically actuated valves on the two (2) 30-inch mains that exit the IPS. Two (2) motor actuated butterfly valves will be installed to control the flow between the RIBs and the wetlands. Consultant will design piping improvements and slab on grade to support the motor actuators.

Consultant will design replacement of the RIB disposal piping. Consultant will design pipe sizes, material, and layout for each of the yard piping components. Approximately 700 linear feet of piping improvements are anticipated.

Consultant will prepare drawings and specifications for the reject improvements. Design documents will consist of construction plans, technical specifications, and opinion of probable construction costs (OPCC). Deliverables will be prepared and

submitted at the preliminary (~75%) and final (bidding) design intervals. We anticipate approximately twenty (20) plan sheets will be generated as part of the design and consist of the following:

- Cover sheet
- Site Plan & General Notes
- IPS Effluent Piping Modifications Plan & Section
- RIB Piping Replacement Plan & Profile (x2 sheets)
- RIB Splitter Box Improvements
- Construction Details (x2 sheets)
- Electrical and I&C (x12 sheets)

Soft-digs & Locates: Consultant will coordinate and provide up to sixteen (16) subsurface investigations using soft-dig technique for anticipated underground conflicts. Work will include utility designating and survey to identify horizontal location of existing utilities within the proposed work area.

Survey: Consultant will prepare topographic survey for a portion of the WRWWTF site that will be impacted by the proposed work. It is assumed all work will be constructed on IRCDUS owned land. The survey scope for the plant sites consists of the following items:

- Obtain existing elevations
- Location of the existing above ground structures and equipment, and soft-dig locations at the site.
- Building slabs at all corners near the ground surface, edge of pavement, sidewalks, inlets, swales, manholes inverts of sewer and drainage pipes, valve boxes and top of valve nuts
- Ground elevations at a 20-foot grid and within 10 feet near structures and buildings.
- The vertical datum elevations will be referenced to NAVD 88 datum.
- Horizontal datum to be NAD 83/90

Review comments from IRCDUS staff at the preliminary design phase will be discussed at during a review meeting and considered for implementation in design documents.

Consultant's subconsultant, C&W Engineering Consultants (C&W), will prepare electrical and instrumentation engineering design associated with the proposed improvements.

Task 2 – Permitting

Consultant will prepare and submit FDEP form 62-620.910(9) Application for a Minor Revision to a Wastewater Facility or Activity Permit, for existing permit FLA0041637.

Consultant will pay the permit processing fee of $500.

Consultant will respond up to two (2) Requests for Additional Information (RAI) from the FDEP to facilitate permit acquisition.

Task 3 – Bidding

Consultant will prepare electronic copy of bid documents, including drawings and specifications for IRCDUS purchasing department to be utilized for bidding purposes. Consultant will assist IRCDUS with front-end bid document preparation. IRCDUS purchasing department will advertise and administer the procurement of the bidding and respond to potential bidder questions.

Consultant will attend a mandatory pre-bid meeting, respond to contractor questions and prepare addendum(s), if required, which will be distributed to all the contract document holders by IRCDUS purchasing department. Consultant will respond to up to two (2) addenda during bid process.

Consultant will review bids, provide a summary of comments, and a letter that identifies the most responsive and responsible bidder.

Task 4 – Construction Phase Services

Consultant's proposal assumes construction duration will not exceed 12 months. Consultant assumes of the 12 months of contract duration, approximately 6 weeks of active construction will occur.

Consultant will attend pre-work meeting with Contractor. Consultant will prepare meeting minutes and distribute to project team.

Consultant will review Contractor furnished shop drawings. This scope assumes that up to six (6) shop drawing submittals will be required as part of the proposed work.

Consultant will review Contractor Applications for Payment. Consultant will make recommendations to Owner with respect to payment based on Consultant's observations and overall progress of the work. Consultant assumes four (4) payment application reviews will be required.

Consultant will attend up to six (6) site visits. Consultant will provide on-site construction observation services during the construction phase. Consultant will periodically visit the site during the expected 6-week construction duration in order to observe the progress of the Work (up to 6 total site visits). Such visits and observations by Consultant are not intended to be exhaustive or to extend to every aspect of Contractor's work in progress. Observations are to be limited to spot checking, selective measurement, and similar methods of general observation of the Work based on Consultant's exercise of professional judgment. Based on information obtained

during such visits and such observations, Consultant will evaluate whether Contractor's work is generally proceeding in accordance with the Contract Documents, and Consultant will keep IRCDUS informed of the general progress of the Work.

The purpose of our site visits will be to enable us to better carry out the duties and responsibilities specifically assigned in this Agreement to Consultant, and to provide the IRCDUS a greater degree of confidence that the completed Work will conform in general to the Contract Documents. Consultant shall not, during such visits or as a result of such observations of Contractor's work in progress, supervise, direct, or have control over Contractor's work, nor shall we have authority over or responsibility for the means, methods, techniques, equipment choice and usage, sequences, schedules, or procedures of construction selected by Contractor, for safety precautions and programs incident to Contractor's work, nor for any failure of Contractor to comply with laws and regulations applicable to Contractor's furnishing and performing the Work. Accordingly, Consultant neither guarantees the performance of any Contractor nor assumes responsibility for any Contractor's failure to furnish and perform its work in accordance with the Contract Documents.

Consultant will prepare IRCDUS requested "Asset Change List," or "ACL". The ACL will outline the major components or assets installed or removed as part of the work including new electrical panels, valves and actuators. The list will be prepared and submitted to IRCDUS to be used for updates to the IRCDUS's Computerized Maintenance Management System (CMMS) and Financial Information System (FIS). Assets will be identified at the lowest practical level for maintenance where work orders (WO) are assigned to carryout various maintenance tasks. The ACL will also include spare parts that are provided by the project and must be identified as such. Other key requirements for the ACL are as follows:

1. An electronic database deliverable provided at completion of the project. There is no specific requirement for the software, application, or tool used to prepare the ACL; however, the final data must be submitted in a common tabular format such as .csv or .xls.
2. The database will originate at the design/engineering stage by the Consultant who will pre-populate the ACL with known data/attributes that the consultant possesses, have access to getting or can derive (e.g., items specified with no alternates or substitution, design criteria that must be adhered to by the contractor, etc.).
3. Each row or record in the database shall represent a single (discrete) asset and its applicable data and attributes.
4. The Consultant will coordinate and manage the completion of the ACL which is carried through to the procurement/construction phase for further updates and eventual completion.
5. New assets added will include data and notable attributes for each asset to include but may not be limited to:
    a. Basic Asset Type – pump, tank, control valve, MCC, analyzer, PLC, etc.
    b. General Data – manufacturer/vendor, model, serial no.

c. Physical Data – voltage, TDH, capacity, diameter, material, etc.
d. Service Data – date installed/in-service, warranty period/start date, expected useful life
e. Financial Data – estimated installed cost (allocation of OPCC to the assets)

Once the Contractor considers the work to be substantially complete, Consultant will attend one (1) punch list walk through with the Contractor and Owner. Consultant will furnish "punch list" that identifies the remaining work to complete the project.

Upon completion of punch list, Consultant will perform a final site visit. Consultant will review Contractor furnished closeout documentation and if applicable, make recommendation for final payment and project closeout.

Consultant will review Contractor furnished red-lined as-builts. Consultant will utilize .dwg files provided by Contractor's surveyor for preparation of record drawings. Consultant will furnish final record drawing .pdf and .dwg files to IRCDUS.

Task 5 – WRWWTF Programming and Integration

See attached scope of work from Control System Design, Inc. for proposed programming and integration improvements.

SCHEDULE

Consultant will provide our services as expeditiously as practicable with the following goals:

Task 1 Design:	4 months from NTP
Task 2 Permitting	2 months after design complete
Task 3 Bidding	3 months after permit issued
Task 4 Construction Phase Services	12 months after contract awarded
Task 5 Programming and Integration	Concurrent to construction schedule

FEE SCHEDULE

We will provide these services in accordance with our Continuing Consulting Engineering Services Agreement for Professional Services dated May 2nd, 2023, 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:

Task 1: Design Phase Services	$ 94,081.00
Task 2: Permitting Services	$ 5,977.00
Task 3: Bid Phase Services	$ 7,146.00
Task 4: Construction Phase Services	$ 34,309.00

Task 5: Programming and Integration	$ 9,830.00
Total Tasks 1-5:	**$ 151,343.00**

ADDITIONAL SERVICES

The following services can be provided as additional services under separate future task order:

- Meetings beyond those provided herein
- Design beyond those provided herein
- Construction phase services beyond those provided herein
- Geotechnical Services

ESTIMATE FOR ENGINEERING SERVICES

PROJECT: WRWWTF Effluent Reject System
CLIENT: Indian River County Department of Utility Services
ESTIMATOR: NB 6/15/2023

DESCRIPTION:		DIRECT LABOR (MAN-HOURS)										
	WRWWTF Effluent Reject System	PRINC	SEN PROF	REG PROF	PROF2	PROF1	DESIGN INSP.	SEN. SUPP	SUPP STAFF	SUB	Dir Exp 4.6%	LINE TOTAL
NO.	TASK											
1	**Design**											
	Kickoff Meeting			4	4						$68	$1,548
	Design Improvements	4		16	40						$504	$11,464
	Plansheets (20)	4		20	40	60					$902	$20,502
	Specifications			6	20	40					$444	$10,104
	Preliminary Review Meeting			4	4						$68	$1,548
	OPCC			6	12	20					$266	$6,046
	QA/QC	8									$110	$2,510
	Survey - Zentz			2		8				$3,500	$67	$5,027
	Soft-Digs - Inframap			2		8				$16,750	$67	$18,277
	CSD			2		8				$4,500	$67	$6,027
	C&W			2		8				$9,500	$67	$11,027
2	**Permitting**											
	Minor Revision			3		10				$500	$89	$2,519
	RAIs (x2)			3		10					$89	$2,019
	C&W Support			2						$1,000	$19	$1,439
3	**BIDDING**											
	Pre-Bid Meeting			4	4						$68	$1,548
	Addenda			2	4				2		$56	$1,266
	Bid Recommendation Letter			2	4				2		$56	$1,266
	C&W			2						$2,000	$19	$2,439
	QA/QC	2									$28	
4	**CONSTRUCTION PHASE SERVICES**											
	Kickoff Meeting			4	4						$68	
	Shop Drawings (4)		1	4	6				2		$102	
	RFIs (3)		2	2	2				2		$66	
	Pay App Review (6)		2	4	6						$108	
	Progress Meetings (4)		4	4	8						$147	
	Site Visits (6)		4	4	8		24				$329	
	Asset Change List		4	8	8						$186	
	Closeout Documentation		2	4	4						$93	
	C&W		2							$7,500	$25	
	QA/QC	4									$55	
5	**PROGRAMMING & INTEGRATION**											
	CSD									$8,250	$0	
	Coordination			4		4			2		$69	
	TOTAL HOURS	22	21	120	178	176	24	0	10	$53,500	$4,303	
	LABOR ($/HOUR)	300	270	210	160	130	165	100	75			
	SUBTOTAL	6600	5670	25200	28480	22880	3960	0	750	53500	$4,303	

QUALITY PROFESSIONAL EXPERTISE

April 13, 2023

Kimley-Horn
1920 Wekiva Way, Suite 200
West Palm Beach, FL 33411

Bertrand King, EI
E: Bertrand.King@kimley-horn.com
O: 561-845-0665

Re: **West Regional Wastewater Treatment Facility (WRWWTF) Effluent Reject System**
Vero Beach, FL
Subsurface Utility Engineering Services

Dear Mr. King:

We have prepared this proposal to perform subsurface utility engineering services including utility designating and air vacuum excavation test holes for the above referenced project. We have received the following files by emails dated April 13, 2023 attached identifying the project locations:

- Inframap.pdf

Our scope of work shall be performed in accordance with the Procedures, Exclusions and Assumptions identified below and will include the following:

1. Quality Level B - Utility Designating and Survey – Utility designating and survey will be performed to provide horizontal locations of utilities within the project limits. Project limits include the area outlined in red in the client provided file.

2. Quality Level A - Air Vacuum Excavation Test Holes – Air vacuum excavation test holes will be performed at the proposed test hole locations once utility designating and potential utility conflicts have been verified. This proposal includes 12 test holes at utility conflict locations.

Quality Level B - Utility Designating and Survey

1. Electronic Sweep/Targeting - An electronic sweep of the project site will be conducted. This sweep will verify the location of utilities that were identified during record review and to search for utilities that were not identified during records review. The electronic sweep will be conducted utilizing active and passive type utility detection equipment that detects induced or naturally occurring energy fields present on conductive utilities. Utilities identified will be marked on the ground surface using InfraMap paint and symbols standards.

2. Field Drawings/Notes - Designators will draft field sheets that show the location, trend, and configuration of utilities detected. Field sheets will be prepared to differentiate utility systems and will show underground utility surface features and lines. Designated utilities will be annotated with size and material from utility record information, as applicable.

3. Survey- A survey crew will survey utility line targeting and utility surface features. Survey of designated utilities will be performed by utilizing applicable State Plane Coordinate System or client provided established survey control.

4. CAD – The survey data will be processed into an existing utility file in AutoCAD format in accordance with applicable CAD standards. Quality Levels will be annotated in accordance with ASCE 38.

5. Quality Assurance / Quality Control Review – The existing utility file will be compared to record drawings, field sketches and notes. The intent of this task is to ensure existing utilities are depicted thoroughly and accurately.

6. Deliverables - Deliverables will include an existing utility file in AutoCAD (dwg).

Quality Level A - Air Vacuum Excavation Test Holes

During utility locating by air / vacuum test holes InfraMap will complete the following tasks:

1. Agency Coordination – InfraMap will comply with laws and regulations concerning excavation by coordinating with utility inspectors, property owners, "ONE CALL" and others as required.

2. Anticipated Permits – InfraMap will prepare and coordinate throughout the permitting process and will bill the associated fees as a direct expense.

3. Test hole conflict identification and field locate –If InfraMap has not performed the utility designating prior to the test hole task, and we identify a discrepancy between existing utility location on client provided plans and what is in the field, we will notify the Client prior to any test hole work. We will make recommendations if utilities are not where the records maps indicate, or a utility is discovered that is not shown on any records and is not detectable during the electronic sweep. InfraMap will contact the client and discuss strategies to address the unpredictable field conditions. InfraMap will work with the client in the identification of additional test holes or removal of test holes from future scope of work.

4. MOT - Maintenance and Protection of Traffic in local jurisdiction will be provided in accordance with the *Florida Department of Transportation (FDOT) FY 2023-24 Standard Plans*, latest edition or other applicable requirements.

5. Test hole – InfraMap will perform the following for the test hole task:

    a. Excavate a test hole using air/ vacuum excavation. Provide all precautions necessary to perform the work safely and to cause no damage to the utility. The test hole will be of the minimum size required to expose the utility and record the following information:
        i. Depth below grade (cover).
        ii. Utility material, shape, and overall condition.
        iii. Approximate diameter of pipes, cables, conduits, and the configuration of multiple conduit systems.
        iv. The general directional trend of the utility.
        v. Thickness, type, and condition of paving material.
        vi. General soil conditions.

    b. Install a survey marker (PK or hub and tack) directly over the centerline of pipes or edge of concrete structures or conduit banks at grade. Ribbon of appropriate APWA / ULCC color will be installed in the backfill from utility to grade. Indicate on the test hole form the placement of the marker relative to the utility cross section. Record the location of the marker with a minimum of three swing tie measurements to convenient existing permanent structures on site.

    c. Backfill test hole with excavated material in 6-inch lifts by air pneumatic tamping. Restore test hole area to the original condition. Repair and restore all pavement cuts to ensure a long-lasting repair utilizing asphalt cold patch.

6. Survey - Survey of test hole locations to provide northing, easting and elevations of pin or hub associated with each test hole. Survey will be performed by utilizing applicable State Plane Coordinate System or client provided established survey control.

7. CAD – The survey data will be processed into a test hole utility file in AutoCAD (dwg) format with symbols depicting horizonal locations of test holes.

8. Quality Assurance / Quality Control review – QA/QC review of the test hole reports will be completed to compare the findings of the test hole to the available utility information. InfraMap will evaluate and resolve any discrepancies.

9. Deliverables – Deliverables will include a test hole inventory summary table, individual test hole reports, and updated existing utility file in AutoCAD (dwg) format.

Exclusions and Assumptions:

1. The targeting of subsurface utilities, although highly reliable, is expressly understood to represent an approximate location of the target facility as marked on the ground surface. The accuracy of targeting is subject to certain factors beyond our control such as limitations of available technology and field conditions that may include, but are not limited to depth of utility, electrical conductivity of utility, site conditions and access.

2. Our electronic equipment cannot locate non-conductive pipe systems and or fiber optic line without tracer wire.

3. Concrete Pavement with reinforcement, as well as guide rails and chain link fence, could interfere with our electronic equipment at times to locate utilities.

4. Overhead utilities, irrigation systems, septic drain fields, residential/commercial services, and confined space entry are not included in this scope of work. In addition, gravity structure investigations including storm water and sanitary sewer are not included.

5. At this time, geotechnical borings or subgrade information have not been provided. Large stones, shale, coral, construction debris, or other subsurface conditions including a high groundwater table may limit the ability of our equipment to excavate to the utility and or make it very difficult to visually verify the utility condition and material.

6. In order to provide a cost-effective service that causes minimal disturbance to site amenities and utilities, and is acceptable to permitting agencies, the size of the Test Hole excavation is kept to a minimum. The diameter of most pipes greater than 24" cannot be recovered directly from one test hole and it may be necessary to perform additional holes.

7. This proposal assumes test holes will be repaired consistent with the cold patch specifications above. Depending upon test holes locations and/or local, county and state permit requirements, permanent asphalt patch repairs either using hot mix asphalt, asphalt infrared services or cement subbase, are out of the scope of these services. If required, an out-of-scope proposal or supplemental agreement will be prepared before proceeding further.

8. If a single test hole location is selected at a point where two or more utilities intersect (or trend close together), a single test hole may not be feasible to obtain information for all requested utilities. The utility of higher elevation may be of sufficient size as to prohibit further excavation in the existing test hole. To reach the utility of lower elevation in this instance a separate (additional) test hole will be required.

9. Encased systems and non-encased conduit banks are typically exposed on one edge. This allows the test

hole to be excavated down the side of the utility until a discernable bottom edge can be evaluated. Although it is usually possible to determine the bottom edge of these systems, it is not possible to determine conditions under these or other utility systems, such as concrete over pour and other utilities. It is important for the designer to remember that the bottom edge of an encased system or unencased conduit bank may not represent its lowest point, and that the shape of the system may not be the same on both sides. The width of these systems may not be determined from a single test hole. Encased systems and unencased conduit banks may require two test holes to document the width (and both of the sides top and bottom elevations).

10. Recoverable and accurate survey control, which can be accessed during mobilization, will be provided by the client. In the event the survey control is not located near the proposed utility investigation, we anticipate utilizing NRTK GPS. Note, the use of NRTK GPS may affect horizontal and vertical accuracies. If NRTK GPS cannot be utilized due to significant tree cover or satellite loss, a survey traverse will be required. This proposal does not include services to perform a survey traverse to transfer control to the work site. If required, same will be included on a time and materials basis if it cannot be absorbed into the existing budget.

11. This service will be provided with due diligence and in a manner consistent with standards of the subsurface utility mapping industry. Every reasonable effort will be made to locate all systems of interest whether indicated on records available to us or not. However, we do not guarantee that all existing utility systems can or will be detected. It may not be possible to detect utilities that we do not have prior knowledge of, such as systems that are not depicted on records available to us. Further, this service is not intended to detect non-utility structures such as but not limited to foundations, buried tanks, septic systems, wells, tunnels, concrete or metal structures, or the true size and limits of subsurface utility vaults and manholes.

FEE SCHEDULE

QUALITY LEVEL B - UTILITY DESIGNATING					
Resource		Rate	Units		Fee
Lump Sum	$	7,150.00	1	$	7,150.00
			TOTAL FEE ESTIMATE	$	7,150.00

QUALITY LEVEL A - UTILITY TEST HOLE SERVICES					
Resource		Rate	Units		Fee
Lump Sum	$	9,600.00	1	$	9,600.00
			TOTAL FEE ESTIMATE	$	9,600.00

Our total estimated cost for this project is **$16,750.00**. Our cost is in accordance with the scope of services, exclusions, and assumptions as indicated above and includes mobilization, mileage, performing of field services, office coordination and oversight, QA/QC, and preparation of final deliverables.

If you have any questions or concerns regarding this proposal, please do not hesitate to call at (561)818-8770 or email lreumann@inframap.net. We look forward to working with Kimley-Horn on this project.

Regards,

Lee Reumann
Survey Manager

C & W engineering Inc.

Consulting Engineers – Electrical • HVAC • Plumbing

6903 Vista Parkway North, #10
West Palm Beach, FL 33411
(561) 642-5333

June 2, 2023

Mr. Nick Black, P.E.
Kimley Horn & Associates, Inc.
1920 Wekiva Way
West Palm Beach, FL 33411

Subject: **West Regional Wastewater Treatment Facility (WRWWTF)**
Effluent Reject System
Electrical Engineering Services Proposal **Rev1**
C&W Ref. 236614

Dear Nick:

I am pleased to submit this revised proposal for your consideration for Electrical Engineering Design Services for the IRC West Regional WWTF two new 30" motorized Butterfly valves. These valves will allow the facility to have the flexibility to direct excess overflow to either the Wetland ponds, or the RIBs (Rapid Infiltration Basin) along with related power and control/field instrument improvements. The revised proposal includes design through permitting, a bidding phase, and also a construction services phase.

Project Understanding:

The existing WWTF currently has no equalization storage for the treated effluent and this limits its operation flexibility during wet weather/peak flow situations. The proposed construction of two 30" motorized butterfly valves is to provide flexibility to plant staff so they may offload excess treated effluent to either the wetland ponds to the north, or the RIBs to the south. This solution provides some time for the facility to get by peak flow conditions in the meantime before having to build a ground storage tank and transfer pump station.

The proposed scope of engineering design services would provide a new electrical feeder to each of the two motorized 30" butterfly valves, including providing control through the existing PLC system and plant SCADA, along with some local control station(s) so they may also operate the opening and closing of the butterfly valves electrically.

C&W Ref. 236614

The improvements would rely on the existing electrical gear to provide a 480V feeder to the location of the proposed motorized valves and from there provide local control and disconnects to each of the motorized butterfly valves.

There will be power, grounding, site or area lighting provided at the locations, and field instruments as required for the proper operation of the valves and retaining ponds. All control and field instrument status signals would be run from their proposed location back to the nearest PLC and therefore added to the plantwide SCADA system.

We anticipate 90% and 100% permit submittals with specifications, drawings and opinion of construction costs to be provided at each submittal level. The electrical design scope is outlined below.

TASK 1 DESIGN SERVICES

Coordination

- Kimley Horn
- Electrical Equipment Vendors
- Chris Carpenter on existing SCADA/PLC
- And Owner

Electrical, Mechanical Engineering calculations

- Design 90% documents
  - Using Kimley Horn furnished civil, mechanical, and PID plans and backgrounds we will prepare our electrical and controls design documents for the power feeder from the existing electrical gear, electrical equipment at the butterfly valve's location, site grounding, lightning protection and area lighting. We will attend a review meeting and response to review

- Finalize 100% design documents for permit and bid
  - Response review comments, as required
  - Attend one final Review Meeting

Field Investigation

- Verify power feeder and electrical gear load, provide calculations as required. Coordinate with existing equipment and provide feeder to proposed motorized equipment. New electrical disconnects, raceways for power, control instruments and terminal j-boxes as required, grounding, lightning protection, and area lighting; verify existing conditions at the plant and equipment tied to existing systems perform load calculations and fault current calcs as required for the design.

Engineering

- Feeder Sizes, voltage Drop Calculations
- Fault current calculations

C&W Ref. 236614

Equipment Sizes

Confirm new added load with Generator/Emergency power gear.
Power and control of motorized butterfly valves with equipment sized to handle
Its power and load requirements and controls to allow for SCADA monitoring and control (opening and closing of the butterfly valves
Spare conduits for future equipment as required
Lightning protection and grounding of new butterfly valves area
Provide site lighting to the area as required

Electrical Site Plans

- Overall install with 480V feeder from main electrical room to proposed
- Area of motorized valves and field equipment
- Proposed equipment plant for the motorized valves (two if separate).
- Electrical Grounding and lightning protection plan
- Electrical site lighting area plan
- Enlarged area to clarify any field instrument or equipment needed
- With more detail.

- Electrical power oneline or riser diagram
  - 480V feeder from existing switchboard/MCC to motorized valves
  - Electrical equipment and raceways with conduit and wire sizes
  - Load calc with details on normal and emergency power with added
  - New load.
  - Control schematics including signal status and controls from
  - Local step-down transformer and small panelboard for
  - miscellaneous 120V power and control loads
  - powered motorized valves installation details.
  - Conduit and Wire Design
  - Pipe Stands and other equipment mounting details
  - Panel Board Schedules

- Electrical I&C Oneline Diagram
  - I&C Equipment per Kimley Horn's PID diagrams
  - Provide P&I Diagram with Conduit and Wire Tags
  - Conduit tags on equipment and room plans (existing and proposed)
  - PLC equipment modifications if needed to add analog and discrete
  - I/O cards as required.
  - Controls Schematic
  - Any Local HOA control station at each motorized valve
- Electrical and I&C details
- Field instrument details

Technical Specifications for Electrical, controls, will be provided

Other Specs as may be required by the design

Opinion of Construction Costs will be provided at 90% and 100% submittals.

Review for Coordination Purposes, Specifications prepared by KHA Engineers

Scope does not include Control Strategy Narratives for process control, KHA Engineers to provide.

In house, Technical Review of Plans and Specifications

TASK 2 PERMITTING PHASE

Permitting for DEP approval is included

TASK 3 BIDDING PHASE

Attend a Pre-bid meeting
Respond to Contractor questions
Provide an addendum if necessary.
Provide our review of the bid as requested from KHA and IRC

TASK 4 CONSTRUCTION PHASE

Attend a Pre-Construction meeting
Respond to Contractor RFI questions, we don't anticipate more than three.
Provide a review of equipment shop drawings, we anticipate no more than four equipment shop drawings.
Provide during the construction period up to four visits, we anticipate for the construction to last approximately six months.

1- Attend two site visits during the monthly progress meeting, one visit shall include a field inspection begore backfilling power and control conduits.
2- Provide a visit during the startup and testing phase, prepare a report and a punch list.
3- Provide a final visit to check on outstanding punch list items and finalize our Inspection.

Based on the above scope of work, the lump sum firm price fee for our service will be as follows:

Task 1 Engineering Design Phase:	**$ 9,500.00 Lump Sum**
Task 2 Permitting:	**$ 1,000.00 Lump Sum**
Task 3 Bidding:	**$ 2,000.00 Lump Sum**
Task 4 Construction Phase:	**$ 7,500.00 Lump Sum**
Total Design fee:	**$ 20,000.00 Lump Sum**

C&W Ref. 236614

Notes and clarifications:

1. I&C Oneline Diagrams will be based on Kimley Horn and Associates P&I Diagrams, adding conduit and wire tags.
2. Deliverables include drawings, specification, and opinion of construction costs will be provided at 90, and 100% submittals.
3. We will provide conformed set of drawings after the binding period.
4. No value engineering time and effort has been added to this proposal, any value engineering would be additional fee and scope to respond to comments and attend meetings.
5. Limited construction services are included based on the scope provided.

I trust the above is in agreement with your expectations and the needs of this project. We look forward to the opportunity to be of service to you. Please call if you have questions or comments regarding the above.

Very truly yours,

C&W Engineering, Inc.

Michael Guida, P.E.

cc: JLR/NL/file

	DESCRIPTION	HOURS		LABOR
	West Regional Wastewater Treatment Facility (WRWWTF) Effluent Reject System			
1	Review of the existing PLC I/O, location and implementation to support two motor operated valves. Assuming that the valves are open/close with contact outputs for open close, and up to 5 discrete inputs per valve. Location of any 120 Vac power for the control circuit.	10	$	1,500.00
2	Review the existing instrumentation to verify enough to support determining the quality of the water and when to reject or use this water.	10	$	1,500.00
3	Assistance with the creation of design documents relative to the outcome of the above and final control and interface with the plant Scada systems.	10	$	1,500.00
TOTAL		30	$	4,500.00

	DESCRIPTION	HOURS		LABOR
	West Regional Wastewater Treatment Facility (WRWWTF) Effluent Reject System			
1	Submittal review and comment relative to the control hardware and interface.	10	$	1,500.00
2	Provide programming of existing PLC to incorporate the I/O control of the two valves and the logic necessary to cycle them when the water is out of spec.	20	$	2,700.00
3	Provide configuration of the HMI database and displays to incorporate this control.	10	$	1,350.00
4	Startup the valves to verify operation, then verify the programming and display functionality and put into service.	10	$	1,350.00
5	Any additional modifications to support any requests from operations after running the system for a while.	10	$	1,350.00
TOTAL		60	$	8,250.00

William B. Zentz & Associates, Inc.
Professional Surveying & Mapping
684 Old Dixie Highway Vero Beach, Florida 32962
Phone : (772) 567-7552

Proposal

April 19, 2023 Proposal #23-06

To : Kimley-Horn & Assoc.
1920 Wekiva Way, Ste. 200
West Palm Beach, Fl 33431
Attn: Nick Black, P.E.

For : Survey Work
West Regional Wastewater Treatment Facility (WRWWTF) Effluent Reject System

Scope of work:

Perform topographic & surface location survey of area requested at the above site as shown on attached aerial.

Provide CAD and ASCII point files and signed pdf.

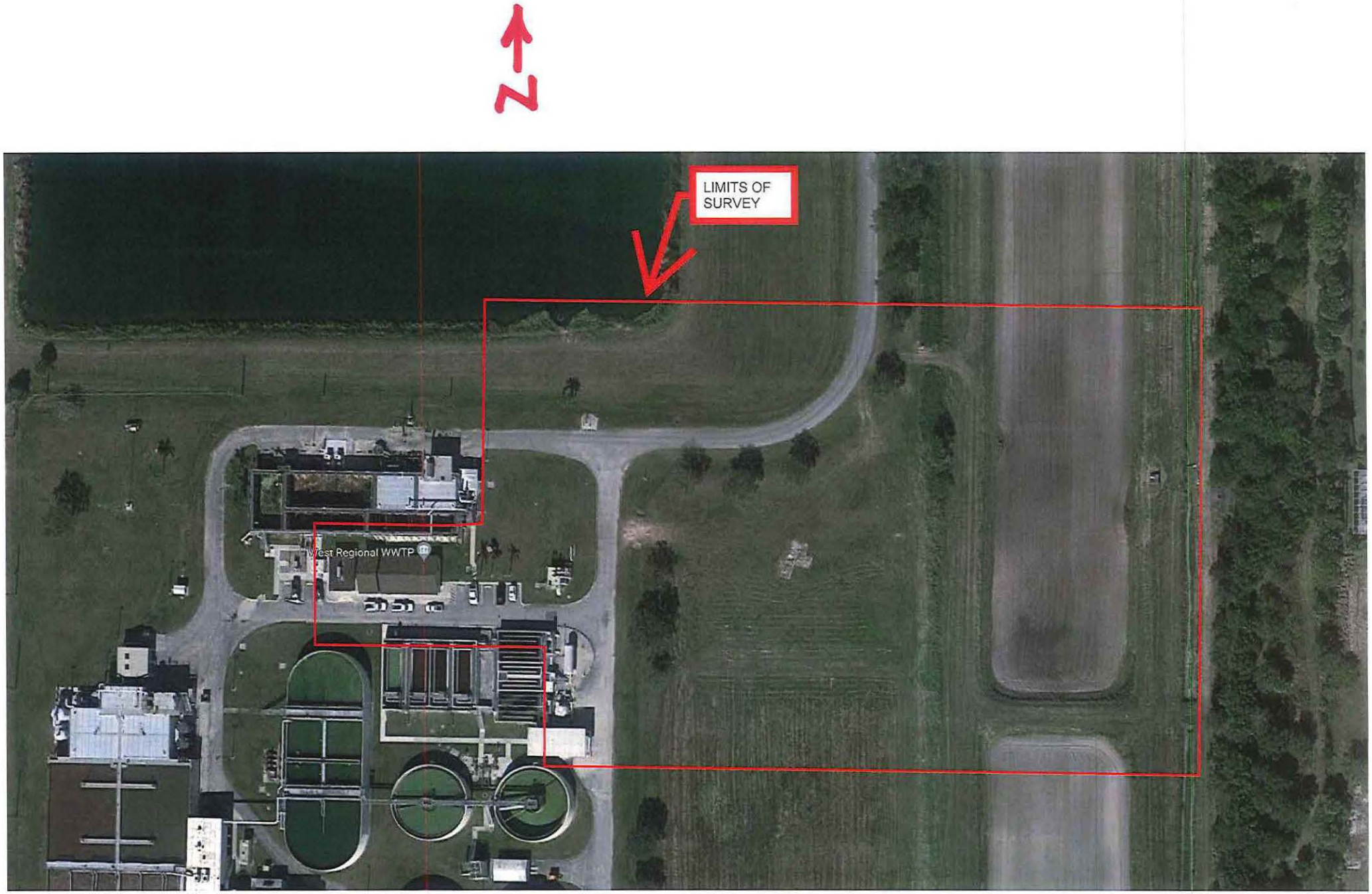
Datum:
Vertical: NAVD 1988
Horizontal Florida HPGN, current adjustment

Associated fees:

Lump sum fee $3,500.00

Total this proposal $3,500.00

Thank you for your request for survey services.
Please submit Purchase Order to Validate Proposal.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LIMITS OF SURVEY
West Regional WWTP