



Agenda # 12
Commission Meeting Date:
September 6, 2016

**CITY OF GREAT FALLS
COMMISSION AGENDA REPORT**

Item: Professional Services Agreement Award: Water Treatment Plant Improvements Phase 1 – UV and Chemical Building, Surge Tank, and Electrical Building, O.F. 1519.6

From: Engineering Division

Initiated By: Public Works Department

Presented By: Jim Rearden, Public Works Director

Action Requested: Approve Professional Services Agreement

Suggested Motion:

1. Commissioner _____ moves:

“I move the City Commission (approve / not approve) a contract in the amount of \$282,830.99 to Industrial Automation Consulting, Inc. (IAC) for Professional Services associated with the Water Treatment Plant Improvements Phase 1 – UV and Chemical Building, Surge Tank, and Electrical Building, and authorize the City Manager to execute the professional services documents.”

2. Mayor Kelly requests a second to the motion, Commission discussion, public comment, and calls for the vote.

Staff Recommendation: Approve Professional Services Agreement.

Background:

Purpose

The upcoming Water Treatment Plant (WTP) Improvements project will install new processes, equipment and instruments at the plant associated with the new ultra violet (UV) and chemical building, surge tank, and electrical room additions. These new processes will be heavily automated and will generate a significant volume of data that will assist operations staff in monitoring the water treatment processes, building and site safety, security items, and electrical systems. IAC will provide the technical services necessary to incorporate all of the new improvements into the plant's existing Supervisory Control and Data Acquisition (SCADA) system. IAC will complete the computer engineering and programming necessary to provide the data from the new systems in a user friendly Human Machine Interface (HMI) that operations staff can access from workstations

throughout the plant. IAC will coordinate with the instrumentation suppliers to confirm that the new instruments provide the data required by the plant staff. Finally, IAC will provide the training to the plant staff to ensure they can operate the updates to the SCADA system.

Workload Impacts

IAC will conduct all of the SCADA system programming and staff training on the system controls associated with the upgrades to the WTP. City Water Plant Staff will be heavily involved in the transition process as well. City engineering and WTP staff will assist with project administration duties.

Project Work Scope

IAC will design and supply the new control panel located in the new UV and chemical feed building, and provide the programming code for the new and existing Programmable Logic Controllers (PLCs). IAC will also program the Wonderware InTouch HMI systems on computers in the filter building as well as the computer associated with the new panel in the UV and chemical feed building. IAC will coordinate the integration of the controls for all of the phase 1 improvements including: new electrical systems signals, improvements to the site security cameras and gate controls, UV and chemical feed system controls, and tank level and flow monitoring. Training will be provided on the maintenance and use for all updated components of the plant's SCADA system.

Initial Evaluation and Selection Process

IAC is a member of the team led by Black and Veatch that was selected for the design of the WTP Improvements project based on their submittal to a request for proposals to the City. IAC is also the controls engineering firm that designed and help maintain the programming for the WTP's current SCADA system. Based on IAC's involvement in the design phase and their past experience with the WTP's SCADA system, City Staff selected them to provide the construction phase services.

Conclusion

City staff recommends approval of the Professional Services Contract to Industrial Automation Consulting, Inc. in the amount of \$282,830.99.

Fiscal Impact

This contract will be funded through Water Treatment Plant funding secured through a loan from the State Revolving Fund (SRF).

Alternatives:

The City Commission could vote to disapprove of the Professional Services Agreement.

Attachments/Exhibits:

1. Professional Services Agreement

PROFESSIONAL SERVICES AGREEMENT

THIS AGREEMENT is made and entered into by and between the **CITY OF GREAT FALLS, MONTANA**, a municipal corporation organized and existing under the laws of the State of Montana, P.O. Box 5021, Great Falls, Montana 59403-5021, hereinafter referred to as "City," and Industrial Automation Consulting, Inc., PO Box 870, Three Forks, MT 59752, hereinafter referred to as "Consultant."

In consideration of the mutual covenants and agreements herein contained, the receipt and sufficiency whereof being hereby acknowledged, the parties hereto agree as follows:

1. **Purpose:** City agrees to hire Consultant as an independent contractor to perform for City services described in the Scope of Services attached hereto as Exhibit "A" and by this reference made a part hereof.

2. **Term of Agreement:** This Agreement is effective upon the date of its execution through December 31, 2019. Both parties reserve the right to cancel this Agreement by providing a written thirty (30) day notice to the other party. The parties may extend this agreement in writing prior to its termination.

3. **Scope of Work:** Consultant will perform the work and provide the services in accordance with the requirements of the Scope of Services.

4. **Payment:** City agrees to pay Consultant Two Hundred Eighty-Two Thousand, Eight Hundred Thirty Dollars and Ninety-Nine Cents (\$ 282,830.99) for services performed pursuant to the Scope of Services. Any alteration or deviation from the described work that involves extra costs will be performed by Consultant after written request by the City, and will become an extra charge over and above the contract amount. The parties must agree upon any extra charges in writing.

5. **Independent Contractor Status:** The parties agree that Consultant is an independent contractor for purposes of this Agreement and is not to be considered an employee of the City for any purpose. Consultant is not subject to the terms and provisions of the City's personnel policies handbook and may not be considered a City employee for workers' compensation or any other purpose. Consultant is not authorized to represent the City or otherwise bind the City in any dealings between Consultant and any third parties.

Consultant shall comply with the applicable requirements of the Workers' Compensation Act, Title 39, Chapter 71, MCA, and the Occupational Disease Act of Montana, Title 39, Chapter 71, MCA. Consultant shall maintain workers' compensation coverage for all members and employees of Consultant's business, except for those members who are exempted by law.

Consultant shall furnish the City with copies showing one of the following: (1) a binder for workers' compensation coverage by an insurer licensed and authorized to provide workers'

compensation insurance in the State of Montana; or (2) proof of exemption from workers' compensation granted by law for independent contractors.

6. Indemnification: To the fullest extent permitted by law, Consultant shall fully indemnify, defend, and save City, its agents, representatives, employees, and officers harmless from and against any and all claims, actions, costs, fees, losses, liabilities or damages of whatever kind or nature arising from or related to Consultant's performance of this Agreement and Consultant's work on the Project or work of any subcontractor or supplier to Consultant.

7. Insurance: Consultant shall purchase and maintain insurance coverage as set forth below. The insurance policy must name the City, (including its elected or appointed officers, officials, employees, or volunteers), as an additional insured and be written on a "primary—noncontributory basis, and on an occurrence, not a claims made basis." Consultant will provide the City with applicable additional insured endorsement documentation substantially similar or identical to the example set forth below. Each coverage shall be obtained from an insurance company that is duly licensed and authorized to transact insurance business and write insurance within the state of Montana, with a minimum of "A.M. Best Rating" of A-, VI, as will protect the Consultant, the various acts of subcontractors, the City and its officers, employees, agents, and representatives from claims for bodily injury and/or property damage which may arise from operations and completed operations under this Agreement. All insurance coverage shall remain in effect throughout the life of this Agreement and for a minimum of one (1) year following the date of expiration of Consultant's warranties. All insurance policies must contain a provision or endorsement that the coverage afforded will not be canceled, materially changed, or renewal refused until at least thirty (30) days prior written notice has been given to Consultant, City, and all other additional insureds to whom a certificate of insurance has been issued. All insurance documentation shall be in a form acceptable to the City.

Insurance Coverage at least in the following amounts is required:

1.	Commercial General Liability (bodily injury and property damage)	\$1,000,000 per occurrence \$2,000,000 aggregate
2.	Products and Completed Operations	\$2,000,000
3.	Automobile Liability	\$1,000,000 combined single limit
4.	Workers' Compensation	Not less than statutory limits
5.	Employers' Liability	\$1,000,000
6.	Professional Liability (E&O) (only if applicable)	\$1,000,000 per occurrence \$2,000,000 aggregate

Consultant may provide applicable excess or umbrella coverage to supplement Consultant's existing insurance coverage, if Consultant's existing policy limits do not satisfy the coverage requirements as set forth above.

discriminate on the basis of race, color, religion, creed, political ideas, sex, age, marital status, physical or mental disability, national origin, or other class protected by state and/or federal law.

11. Default and Termination: If either party fails to comply with any condition of this Agreement at the time or in the manner provided for, the other party, at its option, may terminate this Agreement and be released from all obligations if the default is not cured within ten (10) days after written notice is provided to the defaulting party. Said notice shall set forth the items to be cured. Additionally, the non-defaulting party may bring suit for damages, specific performance, and any other remedy provided by law. These remedies are cumulative and not exclusive. Use of one remedy does not preclude use of the others. Notices shall be provided in writing and hand-delivered or mailed to the parties at the addresses set forth in the first paragraph of this Agreement.

12. Modification and Assignability: This document contains the entire agreement between the parties and no statements, promises or inducements made by either party or agents of either party, which are not contained in this written Agreement, may be considered valid or binding. This Agreement may not be enlarged, modified or altered except by written agreement signed by both parties hereto. The Consultant may not subcontract or assign Consultant's rights, including the right to compensation or duties arising hereunder, without the prior written consent of City. Any subcontractor or assignee will be bound by all of the terms and conditions of this Agreement.

13. Ownership and Publication of Materials: All reports, information, data, and other materials prepared by the Consultant pursuant to this Agreement are the property of the City. The City has the exclusive and unrestricted authority to release, publish or otherwise use, in whole or part, information relating thereto. Any re-use without written verification or adaptation by the Consultant for the specific purpose intended will be at the City's sole risk and without liability or legal exposure to the Consultant. No material produced in whole or in part under this Agreement may be copyrighted or patented in the United States or in any other country without the prior written approval of the City.

14. Liaison: City's designated liaison with Consultant is Courtney Lyerly and Consultant's designated liaison with City is Darrin Strosnider.

15. Applicability: This Agreement and any extensions hereof shall be governed and construed in accordance with the laws of the State of Montana.

16. Binding: This Agreement and all of the covenants hereof shall inure to the benefit and be binding upon the City of Great Falls and the Contractor respectively and their partners, successors, assigns and legal representatives. Neither the City nor the Contractor shall have the right to assign, transfer or sublet their interest or obligations hereunder without written consent of the other party.

17. **Amendments:** Any amendment or modification of this Agreement or any provisions herein shall be made in writing and executed in the same manner as this original document and shall after execution become a part of the Agreement.

IN WITNESS WHEREOF, Consultant and City have caused this Agreement to be executed and intend to be legally bound thereby as of the date set forth below.

CITY OF GREAT FALLS, MONTANA

CONSULTANT

By _____
Gregory T. Doyon, City Manager

Date _____

By _____

Print Name C. T. WAMBEKE

Title PRESIDENT

Date 8/25/16

ATTEST:

(Seal of the City)

Lisa Kunz, City Clerk

* APPROVED AS TO FORM:

By _____
Sara R. Sexe, City Attorney

* By law, the City Attorney may only advise or approve contract or legal document language on behalf of the City of Great Falls, and not on behalf of other parties. Review and approval of this document was conducted solely from the legal perspective, and for the benefit, of the City of Great Falls. Other parties should not rely on this approval and should seek review and approval by their own respective counsel.

Attachment



**INDUSTRIAL
AUTOMATION
CONSULTING, INC.**

**PROPOSAL
To
CITY OF GREAT FALLS, MT – UTILITY PLANTS DIVISION
For
WTP UV DISINFECTION AND CHEMICAL FEED UPGRADES PROJECT**

August 23, 2016

Proposal Contents

Part A – Scope of Work

Section A1 – Technical Services Deliverables
Section A2 – Materials and Equipment Deliverables
Section A3 – Exceptions and Assumptions
Section A4 – General Conditions

Part B – Cost of Deliverables

Section B1 – Schedule of Values
Section B2 – Invoicing Schedule
Section B3 – Execution Schedule

PART A – SCOPE OF WORK

IAC shall supply the deliverables defined in Part A, Sections A1 and A2, with the exception to the items listed in Section A3.

Refer to the Project Manual by Black & Veatch, the Engineer of record, dated March 3rd 2016 for additional information concerning the Specification sections identified below.

SCOPE OF PROPOSAL

1. Division 13 Sections Covered by this Proposal

- a. 13500 – Instrumentation and Control System
- b. 13500 – Appendix A – Instrument Device Schedule
- c. 13500 – Appendix B – Instrument Device Schedule
- d. 13550 – Software Control Block Descriptions
- e. 13570 – Panels, Consoles, and Appurtenances
- f. 13590 – Network Systems
- g. 13591 – Metallic and Fiber Optic Communications Cables and Connectors
- h. Drawings: I-4 through I-14
- i. Addenda 1 through 5, only where they apply to Sections 13500, 13550 and 13570
- j. Addenda 1 through 5, only where they apply to Drawings I-4 through I-14

Note: Sections 13590 and 13591 apply to only those items specific to control panel 200-PLC-CFUV.

2. Division 13 Sections Not Covered in this Proposal (Work by Others)

- a. 13190 – Fiberglass Reinforced Plastic Chemical Storage Tanks
- b. 13199 – Chemical Storage Tank Installation
- c. 13540 – Multiple Address Radio Equipment
- d. 13561 – Panel Mounted Instruments
- e. 13562 – Flow Instruments
- f. 13563 – Pressure and Level Instruments
- g. 13564 – Process Analytical Instruments
- h. 13566 – Miscellaneous Instruments
- i. 13580 – Uninterruptible Power Supply
- j. 13590 – Network Systems
- k. 13591 – Metallic and Fiber Optic Communications Cables and Connectors
- l. 13930 – Fire Suppression Sprinkler Systems
- m. 13930-S01 – Fire Sprinkler Systems

SECTION A1 – TECHNICAL SERVICES DELIVERABLES

1. Design Engineering

IAC shall engineer the design for new control panel 200-PLC-CFUV. The panel will be located in the new Chemical Feed and UV Disinfection Building.

2. Control Programming

a. IAC shall program the RX3i PAC in control panel 200-PLC-CFUV and the 90-30 PLC in the filter building control room as per Section 13550 – Software Control Block Descriptions. The conversion of the 90-30 PLC program and hardware to the RX3i Platform shall be done under a separate project.

b. The Control Loops involved with programming the RX3i and 90-30 controllers are as follows:

- Section 13550, Item 3.4.1: Typical Modulating Valve/Gate Control
- Section 13550, Item 3.4.2: Typical Open/Close Valve/Gate Control
- Section 13550, Item 3.4.3: UV Disinfection System Control
- Section 13550, Item 3.4.4: Liquid Ammonium Sulfate Feed Control
- Section 13550, Item 3.4.5: Chlorine Gas Feed System Control
- Section 13550, Item 3.4.6: Engine Generator and Power Monitoring
- Section 13550, Item 3.4.7: Building and Site Lighting Control
- Section 13550, Item 3.4.8: Miscellaneous Monitoring
- Section 13550, Item 3.4.9: Chemical Feed and UV Building Mixer

c. A summary of the I/O points that will be used by the RX3i PAC is listed in the tables below.

Legend:	
DI	Digital Input, Wired, 120VAC
DO	Digital Output, Wired, 120VAC
AI	Analog Input, Wired, 4-20maDC
AO	Analog Output, Wired, 4-20maDC

Wired			
DI	DO	AI	AO
66	36	16	6
Modbus			
DI	DO	AI	AO
102	8	216	6
All I/O			
DI	DO	AI	AO
168	44	232	12

Totals

d. Point counts were derived from the following parts of the Specifications and Plans:

- Section 13500, Appendix A, "Instrument/Device Schedule"
- Section 13530, Appendix B, "PLC Input/Output List", Addendum 2
- P&ID Drawings I-4 through I-14.

3. Human Machine Interface (HMI) Programming

a. IAC shall program the Wonderware InTouch software application for the Plant HMI running on computers in the Filter Building Control Room and the door-mounted PC on 200-PLC-CFUV in the UV Building, as per the general HMI functional requirements specified in Section 13550, Parts 1.1 through 3.02.

b. IAC shall develop the Wonderware InTouch HMI screens and functions to meet the specified requirements for the following control loops defined in Section 13500.3.4:

- 3-4.1 - Typical Modulating Valve/Gate Control Loop
- 3-4.2 - Typical Open/Close Valve/Gate Control Loop
- 3-4.3 - UV Disinfection System Control Loop
- 3-4.4 - Liquid Ammonium Sulfate Feed System Control Loop
- 3-4.5 - Chlorine Gas Feed System Control Loop
- 3-4.6 - Engine Generator & Power Monitoring Control Loop
- 3-4.7 - Building and Site Lighting Control Loop
- 3-4.8 - Miscellaneous Monitoring Control Loop
- 3-4.9 - Chemical Feed & UV Building Mixer Control Loop

c. IAC shall implement final HMI application changes after submitting the application screens to the Owner twice for review and comments.

4. Panel Fabrication

a. IAC shall supply panel shop fabrication and testing for panel 200-PLC-CFUV. The completed panel shall be delivered internally prewired to terminal strips, fully tested, and ready for installation.

b. The door-mounted panel PC that will serve as the HMI shall be temporarily removed before shipping to minimize the risk of damage while in transit. The device shall be field-mounted by the installer after the panel enclosure is set in place and secured.

5. Pre-Installation Coordination

a. Before panel installation commences, IAC shall confer with the installer over telephone to review the installation drawing package and installation requirements.

6. Panel Installation Support

- a. IAC has budgeted up to 12 hours of remote support over telephone for the panel installer. The support is intended to address questions or issues encountered by the installer involving field wiring and termination, and communication network connections.

7. Startup and Commissioning

Startup and Commissioning shall be carried out in two phases.

- a. Prior to beginning the first Startup and Commissioning phase, there shall be an initial review/coordination meeting with the I&C System Supplier and with the UV System Manufacturer's Representative. A second review/coordination meeting, attended by the same personnel shall be held at approximate 50% completion point. IAC's budget for each meeting is one working day.
- b. Prior to beginning Startup, IAC shall conduct a Field Inspection to verify that field circuits have been wired correctly and that field process components and devices are functioning as intended. IAC's budget for this activity is 5 consecutive working days.
- c. The UV System supplier shall provide a trained Engineer on-site to assist IAC in integrating the UV Control System with the SCADA system. IAC's budget for this activity is 4 working days.
- d. Supported by the System Supplier, IAC shall conduct a SCADA system equipment Startup. Testing shall be from Plant PLC/HMI to the field equipment, including the UV System. IAC's budget for this activity is 10 working days.
- e. Supported by the System Supplier, IAC shall conduct the Site Acceptance Testing (Commissioning) tasks specified for the OCC in Section 13500, Part 3.4. All control loops shall be tested and validated at this time. IAC's budget for this activity is 10 working days.
- f. IAC's overall budget for Startup and Commissioning is as follows:
 - Engineers On-Site: 2 (may vary)
 - Total Working Days on Site: 31
 - Total Trips to Job Site: 8
- g. The Owner shall schedule IAC's startup activities.
- h. IAC shall provide a pre-startup checklist as an aid to determine readiness for IAC's startup.

8. Documentation

Based on the design, IAC shall develop the following documentation as it applies to control panel 200-PLC-CFUV:

- a. Fabrication Drawings (For the panel shop only)

- b. Installation Drawings
- c. As-Built Drawings
- d. O&M Manual
- e. User Manual

The drawing packages shall include the following:

- a. Panel layout, dimensioned
- b. Communications network architecture
- c. Bill of materials
- d. Nameplate legend
- e. Power distribution schematics
- f. Terminal strip layouts
- g. I/O module layouts
- h. I/O loop drawings
- i. Detail drawings

IAC shall supply a User Manual as part of the final documentation for the project.

- a. The User Manual shall focus on the Wonderware Intouch application running on the HMI computer mounted on the door of control panel 200-PLC-CFUV.
- b. The manual shall provide instructions on using the HMI to monitor the new UV disinfection system, and how to configure, control and monitor the new chemical feed systems.
- c. Other information provided by the User Manual will relate to the Power Monitors, Protective Relays, Backup Generator, UPSs, and Building and Site Lighting control.

9. Software Archive and Backups

- a. Following Final Completion, IAC shall create backup copies of all current control programs and HMI software applications which were created or modified for this project.
- b. A SCADA System Configuration file shall also be created to document control equipment settings, software settings, network settings, and software version and license information.
- c. Backups shall be saved to a “thumb drive” and the Programming Device being supplied as part of this proposal. Once the system is commissioned the Owner shall be responsible for ensuring that the backups are up-to-date, and that older backups are archived.

SECTION A2 – MATERIALS AND EQUIPMENT DELIVERABLES

Note: Materials and quantities listed are preliminary and may change based on the final approved design. Items marked with an asterisk () shall be shipped loose and may require field assembly and/or installation.*

1. Control Panel 200-PLC-CFUV

Panel 200-PLC-CFUV shall be comprised of the following major components and materials. Not all items are listed.

- a. A GE RX3i PAC control platform assembled using the following components.
 - 1 ea. IC695CPE305: RX3i CPU
 - 2 ea. IC695CHS012: 12 slot universal backplates, with support for serial and PCI modules
 - 2 ea. IC695PSA040: 40 watt power supplies (occupies two slots), one per base
 - 2 ea. IC695ETM001: Ethernet communications cards (1 per base)
 - 5 ea. IC694MDL250: Isolated 16 point 120VAC digital input cards
 - 3 ea. IC694MDL350: Isolated 16 point 120VAC digital output cards
 - 3 ea. IC695ALG112: Isolated 12 point analog input cards
 - 1 ea. IC695ALG808: Isolated 8 point analog output card
 - 12 ea. IC694TBB032: Terminal blocks, for I/O cards
 - 2 ea. IC693ACC307: Backplate bus termination plugs
- b. 1 ea. Hoffman A62H4810LP3PT free-standing enclosure (on legs) with backplate
- c. 1 ea. Hoffman touch-up paint, in aerosol can*
- d. 2 ea. Hoffman corrosion inhibitor capsules
- e. 1 ea. Hoffman 28" fluorescent light fixture, with switch
- f. 1 lot T&B wire duct, with covers
- g. 1 lot DIN rail
- h. 1 ea. Allen-Bradley DIN rail mounted duplex receptacle
- i. 2 ea. Allen-Bradley 1606 series redundant 24VDC power supplies
- j. 1 ea. Phoenix Contact 120VAC Mains surge protector
- k. 1 lot Phoenix Contact surge protectors for analog I/O external to the UV Building
- l. 1 lot Allen-Bradley interposing relays
- m. 1 ea. Ground bar
- n. 1 lot Fuses, various
- o. 1 lot Terminal strip components (Circuit breakers, fuses, single and double high terminal blocks, end barriers, end anchors, jumpers, markers)

2. Human Machine Interface (HMI)*

IAC shall provide an HMI computer that shall be installed on the door of 200-PLC-CFUV. The HMI shall consist of the following components.

- a. 1 ea. Maple Systems panel PC, 19" 1280x1024 touch screen
- b. 1 ea. Wonderware InTouch, 3K tags, with I/O

- c. 1 ea. Wonderware CAL
- d. 1 ea. Microsoft SQL Server CAL

3. Programming Device

IAC shall supply a programming device for the RX3i PAC with programming software, licensed to the Owner, and preinstalled. The computer will be turned over to the Owner in like-new condition upon completion of the project.

- a. 1 ea. Laptop computer, by Dell, HP, or equal
- b. 1 ea. ME86MBP001: GE Proficy Machine Edition Logic Developer Pro Suite, licensed to the Owner
- c. 1 ea. GE IP Global Care Support Subscription, one year.

4. Network Equipment

IAC shall provide networking equipment that shall be installed in 200-PLC-CFUV. The networking equipment is as follows.

- a. 1 ea. N-Tron 708-FX2-ST Ethernet switch, fully managed
- b. 1 ea. Snap DIN rail mounted fiber patch panel
- c. 1 ea. Fiber optic patch cable, duplex
- d. 1 lot CAT6 copper patch cables

5. RX3i Training

Training on the RX3i control platform shall be provided for the Owner's technician responsible for maintaining the RX3i control systems used by the Great Falls water system infrastructure.

- a. 1 training class seat for 1 person at a designated training venue for the RX3i PAC. The training class will be 4-5 days in duration.
- b. Travel and field expenses for the training shall be provided by the Owner.

6. Wonderware Training

Training for Wonderware Intouch, Wonderware Historian, and Wonderware Application server shall be provided for the Owner's technician responsible for maintaining the HMI and data Historian used by the Great Falls water system infrastructure.

- a. 1 training class seat for 1 person at a designated training venue for Wonderware Intouch. The training class will be 4-5 days in duration.
- b. 1 training class seat for 1 person at a designated training venue for Wonderware Historian Server and Client. The training class will be 4 days in duration.
- c. 1 training class seat for 1 person at a designated training venue for Wonderware Application Server. The training class will be 4 days in duration.
- d. Travel and field expenses for the training shall be provided by the Owner.

SECTION A3 – EXCEPTIONS AND ASSUMPTIONS

1. Section 13500, Item 1-1, Paragraph 3

Statements: "OCC will be responsible for supplying...all modifications to existing plant PLC control panels required for the project."

Exceptions: IAC shall supply documentation for any required modifications. The modifications shall be implemented by others.

2. Section 13500, Item 1-1, Paragraph 3

Statements: "OCC will be responsible for making final termination within the enclosure..."

Exceptions: Final terminations in control panel 200-PLC-CFUV shall be completed by others, following drawings supplied by IAC for the control panel.

3. Section 13500, Item 1-7

Exceptions: Control panel 200-PLC-CFUV will have no indicating lights. Therefore, no spares shall be provided by IAC. All indicators required for the control panel shall be shown on the HMI screen mounted on the door of the enclosure.

4. Section 13500, Item 2-3.04

Exceptions: The UPS for 200-PLC-CF-UV is external to the enclosure and shall be supplied and installed by others.

5. Section 13500, Item 2-8

Exceptions: Programming devices and software for instruments shall be supplied by others. However, as per Item 1-3.06, IAC shall furnish a new laptop computer with programming software for the RX3i PAC in 200-PLC-CFUV.

6. Section 13500, Item 3.1.02

Exceptions: As per clarifications from the specifying Engineer, all instruments shall be furnished by others. As such, all instruments shall be installed, wired, configured, commissioned, and calibrated by others.

7. Section 13500, Item 3-2.b

Statements: "Install and configure all new network hardware not being provided by the OCC or the UV System Supplier. Obtain IP address assignments for network hardware from the OCC."

Exceptions: IAC network equipment deliverables include an Ethernet switch for 200-PLC-CFUV. All other network hardware, including fiber optic equipment, shall be supplied, installed, and configured by others. However, IAC shall supply IP addresses for this equipment.

8. Section 13500, Item 3-5

Specifications: This item specifies Instrument Training, Network Training, CCTV Training, and Supplemental Training requirements and specifies that the training shall be provided by the System Supplier.

Exceptions: All Instrument, Network, CCTV, and Supplemental Training are excluded from the scope of the proposal.

9. Section 13561, Item 2-2

Specifications: This item specifies panel front-mounted devices that include Digital Indicators, Selector Switches, Indicating Lights, Pushbutton Switches and Alarm Horns.

Exceptions: The only panel front mounted device for 200-PLC-CFUV is a Panel PC HMI Computer. All necessary Indicator, Switch, and notifications functions shall be provided by the HMI software application running on the panel PC. IAC shall develop and program the software application for the HMI.

10. Section 13561, Item 2-3

Specifications: This item specifies panel mounted devices that include Signal Monitors, and Strip Heaters.

Exceptions: 200-PLC-CFUV will not have any Signal Monitors or Strip Heaters. Therefore all such devices are excluded. The panel may have some relays, which if required, will be reflected in the final design for 200-PLC-CFUV.

11. Sections 13562, Section 13563, and 13564

Exceptions: All instruments are excluded and shall be supplied, installed, wired, configured, and calibrated by others. All materials used for installing instruments, including stands, racks, tubing, piping, seals, fittings, and valves are excluded.

12. Section 13566, Items 2-1.02 and 2-1.03

Exceptions: Instrument programming devices and instrument configuration software are excluded.

13. Section 13566, Items 2-2

Exceptions: All CCTV equipment is excluded, including cameras, mounts, housings, recorders, encoders, software, cables, and materials used for installation.

14. Section 13580

Exceptions: All UPS units and accessories shall be supplied and installed by others. UPS related training shall be provided by others.

Section 13590, Rack Mounted Ethernet Switch

Exceptions: The SCADA Ethernet switch shown on drawing I-11 and specified in Section 13590 shall be supplied, installed, powered, and connected to the plant SCADA network by others.

15. Section 13591

Specifications: IAC shall supply a fiber patch panel for 200-PLV-CFUV. Fiber patch cables internal to 200-PLC-CFUV shall be supplied and installed by IAC.

Exceptions: Fiber optic trunk cable, connectors, and other related equipment and materials shall be supplied and installed by others. All fiber optic cable testing, defined under item 3-2.02 shall be provided by others.

SECTION A4 – GENERAL CONDITIONS

1. Only the equipment, materials, and services specifically identified in Sections A1 and A2 above are included in this Bid Proposal.
2. All equipment and materials supplied by IAC shall be installed, field wired, and terminated by others.
3. The Installer of IAC supplied materials shall markup IAC's construction drawings, showing field wiring labels, power circuit origins and any modifications to the original design.
4. All modifications to existing electrical and mechanical systems are by others.
5. All demolition work, mechanical and electrical, is by others.
6. When equipment deliveries shipped by IAC are accepted at their destination, storage and protection of the equipment becomes the responsibility of others.
7. Prior to IAC's arrival on-site for startup, it is recommended that all equipment and materials supplied by IAC shall be fully installed and ready for service.
8. Prior to IAC's arrival on-site, it is recommended that all equipment and materials supplied by others but required for IAC's startup shall be fully installed and ready for service.
9. The Contractor/Owner shall provide the services of a qualified electrician as required to assist IAC during its startup activities.

PART B – COST OF DELIVERABLES

SECTION B1a – Technical Services Time Budget

Category	Budgeted Hours	Personnel	Budgeted Hourly Rates
Project Management	78	C. Wambeke	\$180
Project Engineering	214	M. Jenko	\$170
PLC Development	141	D. Strosnider	\$165
HMI Development	140	A. Wirth	\$165
Technician	12	D. Jones	\$145
Startup and Commission	480	B. David	\$145
Administration	81	C. Hanson	\$85
Remote Support	29		
Engineering Travel	98		

Total Estimated Labor Hours	1273
Total Estimated Labor Cost	\$214,404
Total Estimated Expenses	\$12,110
Total Estimated Labor and Expenses Cost	\$226,514

Notes:

1. Expenses Include Travel Costs and Field Expenses.
2. Startup and Commission Time is the Minimum Time Specified in Section 13500.

SECTION B1b – Equipment and Masterials Deliverables Budget

Control Panel 200-PLC-CFUV Materials	\$30,733.39
Control Panel 200-PLC-CFUV Fabrication and Shipping	\$2700.00
HMI Computer and Software. (Computer: 19" Color Panel PC with Touch Screen. Software: Wonderware InTouch Runtime With 3K tags and I/O server. Wonderware CAL, Microsoft SQL CAL	\$7,637.95
Programming Device and Software. Computer: Dell Laptop PC. Software: Proficy Machine Edition Logic Developer Pro Suite, GE IP Global Care Complete Subscription.	\$3245.65
Training for GE RX3i PAC, and Wonderware InTouch, Historian Client, Historian Server, and Application Server (Travel and Field Expenses by Owner)	\$12,000.00
Total Estimated Cost for Equipment and Materials	\$56,316.99

Note: All Material and Third Party Services provided through IAC will be invoiced to the City at cost.

Total Estimated Cost for All Deliverables: \$282,830.99.

SECTION B2 – T&E INVOICING SCHEDULE

IAC shall issue T&E invoices for Sections B1a and B1b based on progress toward completion of the project. Invoices will be submitted bimonthly based on invoicing closing periods of the 15th and the last day of the month. Payment terms shall be "Net 30 Days".

SECTION B3 – EXECUTION SCHEDULE

IAC shall supply the deliverables according to the following milestones:

Milestone	Days From Contract*
Substantial Completion	TBD
Final Completion	TBD

* Calendar days from execution of contract with IAC