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ADDENDUM NO. 1

DATE: November 16, 2022

FROM: Baxter & Woodman, Inc., Consulting Engineers

TO: Planholders of record for the Work titled:

City of Joliet, Illinois
St. Pat's Phase 1B Water Main Improvements
City of Joliet Contract No. 2690-0123

The Bidding Documents are amended as follows:

1. SPECIFICATIONS

A. Section 01 32 53, DIGITAL UTILITY DATA COLLECTION:

Delete Section 01 32 53, DIGITAL UTILITY DATA COLLECTION in its entirety and insert the attached DIGITAL UTILITY DATA COLLECTION, revision dated November 16, 2022, in lieu thereof.

B. Section 01 22 29, MEASUREMENT AND PAYMENT:

Page 01 22 29-16, delete paragraph 1.26 A. 1. and replace with the following:

- "1. The work of this Pay Item consists of the removal and replacement of existing sanitary sewer with Class 52 ductile iron pipe or water main quality PVC pipe, including sawcutting, and removal and disposal of existing pavement; protection, repair or replacement of utilities; excavation; removal and disposal of waste excavated material; trench dewatering, including erosion and sedimentation control; watertight connections to existing pipes or structures; installation of pipe; bracing, bedding and covering of pipe; granular trench backfill material at pipe crossing and below all pavement; and cleanup.
2. Where new water main is being installed parallel to storm sewer, the ductile or PVC replacement shall extend on each side of the crossing until the perpendicular distance from the water main to the sewer is at least 10 feet."

Nothing in this Addendum shall be construed as changing other requirements of the Bidding Documents. Each Bidder shall acknowledge receipt of this Addendum by stating this on the outside of the SEALED bid package. BID PROPOSALS SHALL NOT BE OPENED WITHOUT ACKNOWLEDGEMENT OF RECEIPT OF ALL ADDENDUMS FOR THE GIVEN CONTRACT.

END OF ADDENDUM NO. 1

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SECTION 01 32 53

DIGITAL UTILITY DATA COLLECTION

PART 1 - GENERAL

1.1 SUMMARY

- A. The purpose of this specification is to provide real-time utility and infrastructure asset data for delivery into the City of Joliet's Geographic Information System (GIS). The Contractor is required to utilize GPS equipment to obtain project data points, assets, and real-time as-built utility information during construction.

1.2 SUBMITTALS

- A. Shop Drawing Submittals – (Reserved).
- B. Operation and Maintenance Manuals – (Reserved).
- C. Certificates and Guarantees – (Reserved).
- D. Spare Parts – (Reserved).

1.3 QUALITY ASSURANCE – (Reserved).

1.4 DELIVERY, STORAGE, AND HANDLING – (Reserved).

1.5 SITE CONDITIONS – (Reserved).

1.6 MAINTENANCE – (Reserved).

PART 2 - PRODUCTS

2.1 EQUIPMENT

- A. The City of Joliet will provide one complete GPS unit setup without a cellular device for each project.
 - 1. A deposit of \$7,500 in the form of cashier's check will be required and will be returned to the Contractor once the unit has been returned in good working order.
 - 2. The Contractor shall be responsible for providing a dedicated smart phone or tablet with 5G cellular connectivity for the GPS unit.
- B. The Contractor has the option to provide their own GPS units.
 - 1. Equipment requirements for data collection shall include GPS Rovers that meet the minimum accuracy and real-time GIS integration requirements. Equipment used to collect this data shall be properly calibrated and capable of meeting a minimum accuracy of 10 mm horizontally and 20 mm vertically (Trimble R2, DA2, or equal).

2. Only one GPS unit will be provided by the City. For multiple, simultaneous data collection operations with GPS, the Contractor may potentially need to provide multiple GPS units to collect required data.
 3. Additional GPS rentals are available from the following provider: Baxter & Woodman, Inc., Attn: Matt Washkowiak 815.301.7415. The cost for these services are not included in this project. The GPS provider shall be contacted for fees related to this service, if needed.
- C. The GPS equipment shall integrate and utilize the Esri ArcGIS Field Maps Application (downloadable from App Store and Google Play) with an Agency provided Project Map. The Contractor will provide real-time connectivity and data updates using a cellular data connection with the GPS unit. GPS units must be able to deliver real time, cellular networked data to an ESRI ArcGIS Online portal established by the Engineer. The Contractor will have access to collected data and can utilize this GIS information to assist them throughout the project. The Contractor will use a City provided ESRI license.
- D. The contractor will be responsible for successful operation of the GPS unit and data upload to the City's GIS database (including all necessary training, support, storage, maintenance, charging, and related operational requirements). City staff will not provide technical support of the GPS units.
1. Baxter & Woodman will provide a 2-hour training session at the start of construction and support for up to 4-hours per month.
 2. Additional GPS rental, setup, support, GIS integration, and training beyond the specified allotment is available from the following provider: Baxter & Woodman, Inc., Attn: Matt Washkowiak 815.301.7415. The cost for these services are not included in this project and the provider shall be contacted for fees related to this service, if needed.

PART 3 - EXECUTION

3.1 STANDARDS OF DATA COLLECTION

- A. The Contractor shall utilize and maintain the GPS equipment in accordance with manufacturer and local agency recommendations.
- B. Contractor shall obtain survey data during or immediately after installation of the utility. For open trench and exposed water main or sewer utilities, data points shall be obtained at intervals of 50 feet and at directional changes with a minimum of 2 points. Utilities that are bored (trenchless) will be surveyed at the exposed pit locations at both ends and along the boring route with depths manually inputted every 10 feet from the above ground locating devices. For water and sanitary services, data points shall be obtained at intervals of 10 feet and at directional changes with a minimum of 2 points.
- C. Data collection with the GPS device shall be completed by the contractor on a real-time basis as the project is being constructed. The contractor shall verify that data is being collected real-time with a provided GIS portal (simple website link) on a regular basis, no less than two times per day.

- D. GPS control points will be provided at the project start-up, and the contractor shall check in daily (beginning of day) to verify and maintain calibration of the device.
- E. At least 95% of collected data must meet GPS accuracy requirements. As a production guideline to the Contractor, GPS data collection may require occupying a point for 1-minute to gather the desired accuracy. If any point needs to be occupied in excess of 5-minutes to obtain the desired accuracy, the Contractor will note that shot in the data collection application, inform the Engineer, and move on to the next location. No point shall be occupied for more than 5-minutes.

3.2 DATA COLLECTION FEATURES

- A. The following features are anticipated and designated to be collected by the contractor during construction for the purpose of delivering GIS Digital As-Builts:
 - 1. Water main, services, fittings, valves, hydrants, meters, corporation stops, curb stops, structures, b-boxes, and related features (horizontal, vertical elevation top of pipe, sizes, model data)
 - a. In the event that polywrap is observed to not be properly installed on ductile iron pipe, the contractor will be required to take photos of all installed ductile iron pipe to verify that polywrap is properly installed. Photos shall be provided (within Field App) as determined by the Engineer.
 - 2. Proposed sanitary sewer, services, manholes, cleanouts, and related features (horizontal, vertical elevation top of pipe, sizes, model data)
 - 3. Proposed storm sewer, structures, and related features (horizontal, vertical elevation top of pipe, sizes, model data)
 - 4. Exposed Sanitary Services (horizontal, vertical elevation, sizes, regardless of type)
 - 5. Proposed Manhole and Structure attributes (horizontal, vertical elevation, depth, sizes, rims, inverts)
 - 6. Connections to existing utilities
 - 7. Any other proposed or modified underground utility work or related feature
- B. Final GPS survey code and data input requirements will be provided at project start-up.

3.3 DATA ACCEPTANCE

- A. The Contractor will be responsible for obtaining all designated features and verify collection standards are being met. If data has been found to be missing or omitted, the Engineer will notify the Contractor to obtain that data as deemed necessary, including the option to excavate, expose, and collect the missing information at no additional expense to the owner.
- B. The Engineer shall verify within the Local Agency's GIS quality reviewer that all data has been collected satisfactorily prior to payment for this item. Failure to do so will be grounds for denying the pay request. If, at any time, the Contractor fails to perform this work, the Engineer reserves the right to utilize an outside provider and deduct any expense from the contract due to perform the work.

- C. The Contractor shall be fully responsible for the safe and efficient gathering of data and use of equipment. No additional compensation shall be provided from any delays resulting from the operation and performance of Digital Data Collection.

3.4 SUBMITTALS

- A. Digital Data Collection will be conducted real-time during construction and visible with the ArcGIS Online portal. No final GIS package delivery will be required of the contractor.
- B. The Engineer will finalize data collection by completing final utility connected linework for the purpose of delivering GIS shapefiles compatible with ESRI supported GIS. Utility lines connected shall include all identified attributes. If needed, the Contractor will assist the Engineer and clarify final pipe data and connections within GIS.
- C. The Contractor may utilize data in the portal to estimate quantity computation and the progress of work.

END OF SECTION