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March 8, 2022

Abbas Rastandeh Sr. Project Manager-Construction Services Tarrant County Facilities Management 100 W. Weatherford St, Rm 350 Fort Worth, Texas 76196 Office: 817-475-9099

RE: PROPOSAL FOR DESIGN FOR RESOURCE CONNECTION SEWER INFRASTRUCTURE FORT WORTH, TEXAS BHB PROJECT 2021.010.005

Dear Rastandeh:

We appreciate the opportunity to offer our proposal to provide the surveying and civil engineering services for the design for the reconstruction of the existing gravity sanitary sewer system at the Tarrant County Resource Connection. It is my understanding that the existing sanitary sewer system was constructed at the time of the original campus in the early 1970's. Tarrant County Facilities Management, Building Services stated that the existing sewer system is constructed of vitrified clay pipe. As we know, the old vitrified clay pipes have many short joints and they are prone to excessive infiltration/inflow and root intrusion.

In our telephone conference on Wednesday, February 9, 2022, to discuss the Study that we prepared comparing options for the sewer system replacement, we decided that a combination of traditional open cut construction and trenchless replacement (most likely pipe bursting method) will be the optimum methods for the reconstruction project. We will design the open cut portions of the project when the new pipe can be located in areas where open cut does not disturb the existing pavement, traffic flow or general operations at the campus. The trenchless methods will be used in areas of existing pavement and walks or in other areas where open trenches would disrupt the campus. We believe that a majority of the reconstruction can be open cut trench construction.

The existing private sewer system consists of 7,800 LF of sewer lines, ranging in size from 6" to 10". Individual building services connect to nearest sewer lines. Building sewer services range in size from 4" to 6". The existing sewer system is gravity flow and connects to the City of Fort Worth sewer system at two locations:

- The buildings at the southwest part of the campus connect to the CFW system at the southwest corner of the site.
- The large majority of the site, mainly the central part of the campus with eight buildings, connects to the CFW system at the north end of the campus, near

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Seminary Drive.

For this site the best practice is to replace the sewer lines with like sized mains.

The scope of work included in this proposal includes the following:

- 1. Topographic survey of the entire existing sewer system. We will survey an approximate 50' wide strip along the existing sewer lines. The survey crew will open existing manholes and determine flowline elevations and rim elevations of all existing sewer manholes (unless it is not possible to remove a manhole cover). We will also tie all existing improvements, existing visible utility features and open storm drain manholes in the vicinity of the existing sewer lines. We will contact Digtess to locate existing utilities prior to performing the topographic survey and will show all marked utilities on the design plans and profiles. We will verify sewer pipe type to determine if Vitrified Clay or Concrete Pipe was installed.
- Prepare sewer system reconstruction plans, consisting of Plan and Profiles for all sewer lines 6"-10" in size. We do not anticipate profiles for individual sewer services to the buildings. We will identify which portions are to be constructed with open cut construction and which portions are to be constructed with Pipe Bursting technology.
- 3. The design will be in accordance with the Uniform Plumbing Code, since this is a private sewer system.
- 4. Submit construction documents to the CFW for review and obtain approval.
- 5. Coordinate with Fort Worth Water Department for the two connections to the existing CFW sewer mains. We do not anticipate any work on the existing public mains.
- 6. Prepare details for all construction.
- 7. Prepare Contract Documents and Specifications for the project.
- 8. Coordinate with Tarrant County Facilities Management personnel as the project proceeds forward. We are anticipating two or three submittals for coordination and review. This will be your choice for number of interim submittals.
- 9. Construction administration is limited to Shop Drawing Review, responding to RFIs, and six site visits during construction.
- 10. Attend up to 12 biweekly OEC regular progress meetings, issue resolution and progress reports.
- 11. Assist Tarrant County in the receipt of bids, respond to substitution requests during bidding, analysis of bids and recommendations for award of the contract.

The following is not included in this scope of work:

- 1. Video inspection of the existing sewer system.
- 2. Design of any public improvements (not anticipated).
- 3. Design of any other utility improvements.
- 4. Subsurface Utility Engineering (SUE) for the existing underground utilities.
- 5. Geotechnical investigation (not anticipated to be needed).
- 6. Payment of any fees required by regulatory agencies.
- 7. Construction staking for construction. We assume that this will be the responsibility of the Contractor.

8. Submittal for Permits to the City of Fort Worth. We assume that a Plumbing Permit will be required and this will be the responsibility of the Contractor.

In consideration for the scope described above we propose the following fees:

Topographic Survey	\$17,500.
Civil Engineering Design	\$72,000.
Bidding Period Services	\$ 1,500.
Construction Administration Services	\$19,000.
Reimbursable Expenses	\$5 <i>,</i> 000.
Total	\$115,000.

Thank you for the opportunity to work with you on this project and we appreciate the opportunity to serve Tarrant County.

Sincerely, Baird, Hampton & Brown

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John W. Baird, Jr., P.E.