



City of Pflugerville

Legislation Text

File #: 2020-8504, **Version:** 1

Approving a Change Order in the amount of \$288,607.76 and 34 additional days for the construction contract for the Central Wastewater Treatment Plant Expansion Phase 1 Project with BAR Constructors, Inc. and authorize the City Manager to execute the same.

The Central Wastewater Treatment Plant (CWWTP) Phase 1 Expansion construction has been underway since December 2019 and is progressing. Since that time, varying field conditions, required design changes and added construction needs have been determined necessary for the project completion.

The Change Order includes an additional \$288,607.76 and the addition 34 days to the construction contract. It is necessary to be added for work required in accommodating the necessary items as discussed below. The categories for added work items include:

- 1) Owner Requested - changes necessary for plant operations in compliance with Texas Commission on Environmental Quality (TCEQ) Permit Restrictions and accommodate upcoming development demands for wastewater service (\$185,138.49)
- 2) Field Detailed Design - changes determined as needs based on reviews by the Design Engineer (FNI) and confirmation of the Owner's Representative (Plus Six Engineering) (\$80,234.64)
- 3) Value Engineering or Enhancement - associated with further investigation of the specifications for a small cost savings to the project (\$23,234.62)

The total added cost is an increase of approximately 0.7 percent (%) to the overall cost of the project. The current contract price is \$41,863,737.95 and the revised total not to exceed contract price, including this change order, will be \$42,152,345.71. Approval of the proposed Change Order will also increase the contract time by 34 days, which modifies the original substantial (10/12/2021) and final completion (12/11/2021) dates to 11/15/2021 and 01/14/2022 respectively.

Owner Requested Changes

The largest cost addition attributed to the proposed change order is related to three (3) items associated with City Staff needs related to the Central Wastewater Plant operations, to meet TCEQ Permit Restrictions as well to provide wastewater service. All of these items combined will allow the City to accommodate wastewater development needs that will be in advance of the completion of the Central Wastewater Treatment Plant Expansion project.

First, A Phosphorus Analyzer Building comprises a cost of \$71,226.21 that is included in the project in support of the new Effluent Filter Basin processing component, yet the Engineering Team has determined a requirement for the Phosphorus building to be relocated.

The second item is an amount of \$16,897.39 for a Pump Containment Curb and Blower Header

Rehabilitation related to the modifications for a more efficient operation by containing existing spills from leakage of valves in the solids handling area. After the bid of the project, the Operations staff noticed leaking valves and seals needed. The proposed work will contain a spill from the pumps and repair initial signs of leaking vales in the solids handling area.

The final staff requested change includes adding a Temporary Lift Station to the project in the amount of \$97,014.89 in preparation for operations at the Central Wastewater Plant to provide wastewater service for anticipated incoming flows from development. After the initiation of the CWWTP Expansion project, the City also awarded the West SH 130 Wastewater Interceptor (WSH130WWI) project in addition approved and issued a Construction Permit for a new large development project for the Project Charm (PC) Site. All three projects are interrelated as such for public wastewater infrastructure and the City would realize the need for operations within the 2021 year. The WSH130WWI project previously included a temporary lift station component, yet it was removed during design as this was realized as a value-engineering cost savings and there were no wastewater needs as projected within the City's Wastewater Master Plan. Yet, during the time of approval for the Wastewater Master Plan and bidding for the WSH130WWI, the Project Charm Site was accelerated. Upon approval of the PC Site Development public infrastructure Site and Construction Plans, Staff immediately realized and coordinated teams from the City, PC Site Development (Seefried), Engineers (PC, CWWTP, and WSH130WWI), and Construction Contractors (S.J. Louis, BAR Constructors, as well as Jones and Carter, Conlan) for a discussion that began during the PC preconstruction meeting in March and additional discussion meetings in May.

In review of the construction timelines for the three major public infrastructure projects, the WSH130WWI has a priority Phase A completion date of November 2020 that requires providing a wastewater tie-in for the Project Charm project Site. Project Charm also has the same timeline for need of wastewater service, which was coordinated between the two projects. Whereas, the original CWWTP Expansion project substantial completion date of November 12, 2021 extends past the date for need of wastewater service for the PC Site and requires the City to address the need of providing wastewater service. As a result to resolve the issue, City staff coordinated with the CWWTP Team (Design Engineer, Freese and Nichols, Inc. (FNI), and Owner's Representative, Plus Six Engineering and General Contractor, Bar Constructors) to investigate alternatives for providing the needed wastewater service for Project Charm and the resulting best solution is to provide a Temporary Lift Station for the unforeseen wastewater flows.

Currently the CWWTP Expansion Project is scheduled to be able to receive wastewater flow into the Influent Pump Station from the WSH130WWI in Summer 2021, which will not meet the need for Project Charm wastewater flows. Since WSH130WWI is the connection for wastewater between the Project Charm and the CWWTP, the best solution is to add a temporary lift station as part of the BAR Constructors, Inc. construction contract as a Change Order. The addition of the Temporary Lift Station would be accomplished by utilizing an existing manhole for the CWWTP Expansion construction project as the most cost effective option. The scope of work for the temporary lift station includes modification to flood protection berm, pipeline plugs, submersible pumps, fencing, an electrical panel, direct bury cable, and other small items.

Field Detailed Changes

All of the field detailed changes are a result from reviews as performed by the Design Engineer (FNI)

and determined necessary for reasons to clarify ambiguity in the design documents, scope changes, or modified for consistency of varying field conditions. Changes are associated with the Sump Pit and Drain Piping and Structural Support Changes (UV Filter as well as the Influent Filter and RAS Splitter Box, Headworks and BNR). These modifications attribute to a cost of \$80,234.64.

Value Engineering and Enhancement

The Value Engineering and Enhancement cost to the project adds \$23,234.62. Value Engineering was performed by BAR Constructors and FNI associated with further investigation of the specifications related to the Headworks and Influent Pump Station as well as with the 60-inch Hobas Pipe at the Splitter Box as called out for the project.

The compensation in this proposed Change Order is the full, complete and final compensation for all costs BAR Constructors may incur as a result of or relating to the proposed changes at this time. The changes in Contract Times are the complete and final adjustments for direct impacts to the ability of BAR Constructors to complete the Work within the Contract Times and are the only adjustments to which will be entitled to BAR Constructors.

Project Background

Competitive sealed proposals were received from three (3) Offerors on September 26, 2019 for the referenced project.

November 12, 2019, City Council approved the Staff recommendation for a construction contract awarded to BAR Constructors, Inc., in the amount of \$41,863,737.95 to construct the Central Wastewater Treatment Plant Expansion, Phase 1 project.

The City of Pflugerville is in the process of expanding the Central Wastewater Treatment Plant from its current permitted capacity of 5.3 MGD to 10.0 MGD (35 MGD peak two-hour flow) to meet the City's needs based on historical trends and projected population growth. In addition, the treatment processes are being upgraded to provide biological nutrient removal (BNR) of phosphorous to replace the existing chemical phosphorous precipitation process. Plus Six Engineering, LLC (PSE) serves as Owner's Representative for the Central Wastewater Treatment Plant Expansion. Freese and Nichols, Inc. (FNI) serves as Engineer of Record for planning, design and construction phase engineering services for the improvements.

The plant expansion will be implemented in three (3) construction phases with Phase 1 expanding capacity to 7.25 MGD, Phase 2 to upgrade treatment processes in existing units and Phase 3 to expand capacity to 10 MGD.

The Phase 1 construction project will provide a new influent pump station, headworks, biological nutrient removal treatment system, clarifier, filters, UV disinfection system, non-potable water, and chemical feed systems. The construction will include three (3) new electrical buildings, two (2) diesel stand-by generators, improvements to the flood protection berm, general site civil improvements, electrical/communications upgrades, and improvements to site security and surveillance. Phase 1 when completed will bring the capacity of the treatment plant to 7.25 MGD, matching the TPDES Permit Phase 1.

The Phase 2 construction project will replace the equipment in the existing biological treatment basins and add basin volume and equipment to upgrade the units to achieve biological nutrient

removal and rehabilitate the two (2) existing clarifiers. Phase Xylem Water Solutions, USA, Inc. 2 will also construct a new intermittent use effluent pump station which will enable the plant to discharge under high water level conditions in the receiving stream. It is anticipated that construction for Phase 2 will commence shortly after completion of Phase 1.

A future Phase 3 project will be required to complete the expansion to 10 MGD and will involve construction of a new clarifier and expansion or replacement of the solids dewatering process. The timing of Phase 3 will depend on the actual rate of population growth and corresponding increase in flow to the plant.

Prior City Council Action

City Council approved a construction contract with BAR Constructors, Inc. in the amount of \$41,863,737.95 at the November 12, 2019 meeting.

Deadline for City Council Action

Action is requested on July 14, 2020.

Funding Expected: Revenue Expenditure N/A

Budgeted Item: Yes No N/A

*This project is funded with a combination of wastewater impact fees and utility bonds.

Amount: \$288,607.76

1295 Form Required? Yes No

Legal Review Required: N/A Required Date Completed: _____

Supporting documents attached:

- Change Proposal Request, Supporting Documents
- Owner's Representative Recommendation Letter
- Project Location Map

Recommended Action

Approve a Change Order in the amount of \$288,607.76 and 34 additional days for the construction contract for the Central Wastewater Treatment Plant Expansion Phase 1 Project with BAR Constructors, Inc. and authorize the City Manager to execute the same.