

Memo



To: Clay Pearson, City Manager

From: Jameson Appel, Project Manager

CC: Jon Branson, Deputy City Manager
Trent Epperson, Assistant City Manager
Robert Upton, P.E., Director of Engineering
Clarence Wittwer, Director of Public Works
Skipper Jones, Assistant Director of Capital Projects

Date: February 7, 2019

Re: Pre-Award for FM521 Ground Storage Tank Expansion, Design Contract

2/7/2019
To: Mayor and City Council members
Design contract upcoming for consideration. Clay

Purpose:

This memo provides information regarding the award of the engineering design contract for Phase II of the FM521 Ground Storage Tank Expansion project which will include upgrades to electrical, instrumentation and control. Continued growth and increasing demands on the water distribution system along with planning for the distribution of future surface water require increased storage capacity in this facility and the means to distribute that storage.

Background:

Phase I for the FM521 Water Pressurization Facility included the installation of a 3.0 million gallon pre-stressed concrete storage tank. Additional storage at this location will allow the City of Pearland to improve the operation of the existing distribution system by shaving water usage peaks, adding additional capacity to further improve maintenance of system pressure, and further improve the quality of delivered water through proper blending of all current and future sources. The City recently extended the FM 521 Waterline, and will extend the McHard Road Waterline in the future. The FM521 Waterline is intended to transfer water from the City's planned Surface Water Treatment Plant. The McHard Road water line which is designed to transfer less expensive water from the City of Houston's Southeast Water Purification Plant via Pearland's Alice Water Plant to the west side of Pearland to supplement and reduce the quantities of water purchased from other more expensive sources from the City of Houston FM 521 take point.

On November 27, 2017, the City of Pearland awarded a contract to Costello Engineering for development of a preliminary engineering report (PER) and final design for the proposed ground storage tank (Phase I), geotechnical, surveying, and water blending plan. Phase II design for pumping and controls of the expanded plant was withheld from the Phase I contract in order to narrow the field of bidders and lower cost of construction for firms that specialize in Ground Storage Tank construction.

November 26, 2018 DN Tanks was awarded the construction contract for Phase I with a bid of \$2,932,930.00. The contract includes 360 calendar days for substantial completion and an additional 30 days to achieve final completion. Notice to proceed date was January 28, 2019 and pre-tank site work is currently underway.

Scope of the Project:

The proposal for the design of Phase II addresses the build out pump sizing based upon water model projections, revisions to the electrical system, pump controls, and the installation of fiber and associated conduit. The project includes replacement of two existing 75HP booster pumps with two 150HP booster pumps, and replacement of two existing 75HP variable frequency drives (VFDs) with 150HP VFDs. Also, the addition of 1600' of fiber optic conduit extension, including fiber termination, between FM 2234 and water plant electrical building. Incoming power to the plant will need to be analyzed to determine adequate ampacity for proposed electrical loads and the permanent back-up generator capacity will need to be analyzed as well. The general scope includes plant site civil, mechanical, and electrical, instrumentation, HVAC, and controls associated with the larger booster pumps, added/larger VFDs, 3 MG ground storage tank, and three tank mixers.

- Basic Services Include:
 - Preliminary Engineering - \$4,655 (Lump Sum)
 - Final Design Services - \$42,180 (Lump Sum)
 - Bid Phase Services - \$5,040 (T&M, Hourly not to Exceed)
 - Construction Phase Services - \$26,420 (T&M, Hourly not to Exceed)
- Additional Services Include:
 - Topographic Surveying - \$6,000 (Lump Sum)
 - Easements - \$5,000 (assume 2 easement @ \$2,500/easement) if directed by City
 - Electrical/Controls Preliminary Engineering - \$13,508 (Lump Sum)
 - Electrical/Controls Final Design Services - \$130,856 (Lump Sum)
 - Electrical/Controls Bid Phase Services - \$3,080 (T&M, Hourly, NTE)
 - Electrical/Controls Construction Phase Services - \$37,763 (T&M, Hourly, NTE)
 - Reimbursable Expenses - \$4,000 as authorized by City (T&M, Not to Exceed)

Staff Recommendation

Engineering & Capital Projects and Public Works has determined the proposal to be complete and reasonable. Engineering & Capital Projects recommends award of the contract amendment to Costello Engineering in the amount not to exceed \$278,502 for the FM521 Ground Storage Tank Expansion Phase II project.

Budget:

Funding Sources	Series	To Date	Future	Total Budget
General Revenue - Cash				-
Certificates of Obligation				-
Certificates of Obligation				-
W/S Revenue Bonds	2017C	152,525		152,525

W/S Revenue Bonds		1,600,000	1,600,000
Impact Fee - Debt		1,900,000	1,900,000
Impact Fee - Cash	194,950		194,950
Other Funding Sources (Fund Balance)	152,525		152,525
Total Funding Sources	500,000	3,500,000	4,000,000

Expenditures	To Date	Future	Total
PER			-
Land			-
Design	237,100	278,502	515,602
Construction	2,932,930		2,932,930
Construction - Phase 2		925,000	925,000
Construction Materials Testing		25,000	25,000
FF&E			-
Total Expenditures	3,170,030	1,228,502	4,398,532

Project Balance/Contingency			(398,532)*
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* Budget deficit is being addressed during the mid-year budget adjustments for CIP.

Schedule:

Design phase is planned to be completed 135 days after the notice to proceed date. A letter report will initially be provided to document the basis of design, followed by a 90% deliverable and a 100% submittal

The Phase II design completion and supplementary bid and award are scheduled to coincide with the completion of Phase I tank construction. As to begin full utilization of the newly constructed tank as soon as possible without overlap of trades.

Phase 1	Base Line	Current
Design Start	September-17	January-18
Proposed Bid Start	October-18	September-18
Proposed Construction Start	January-19	
Proposed Construction Completion	January-20	

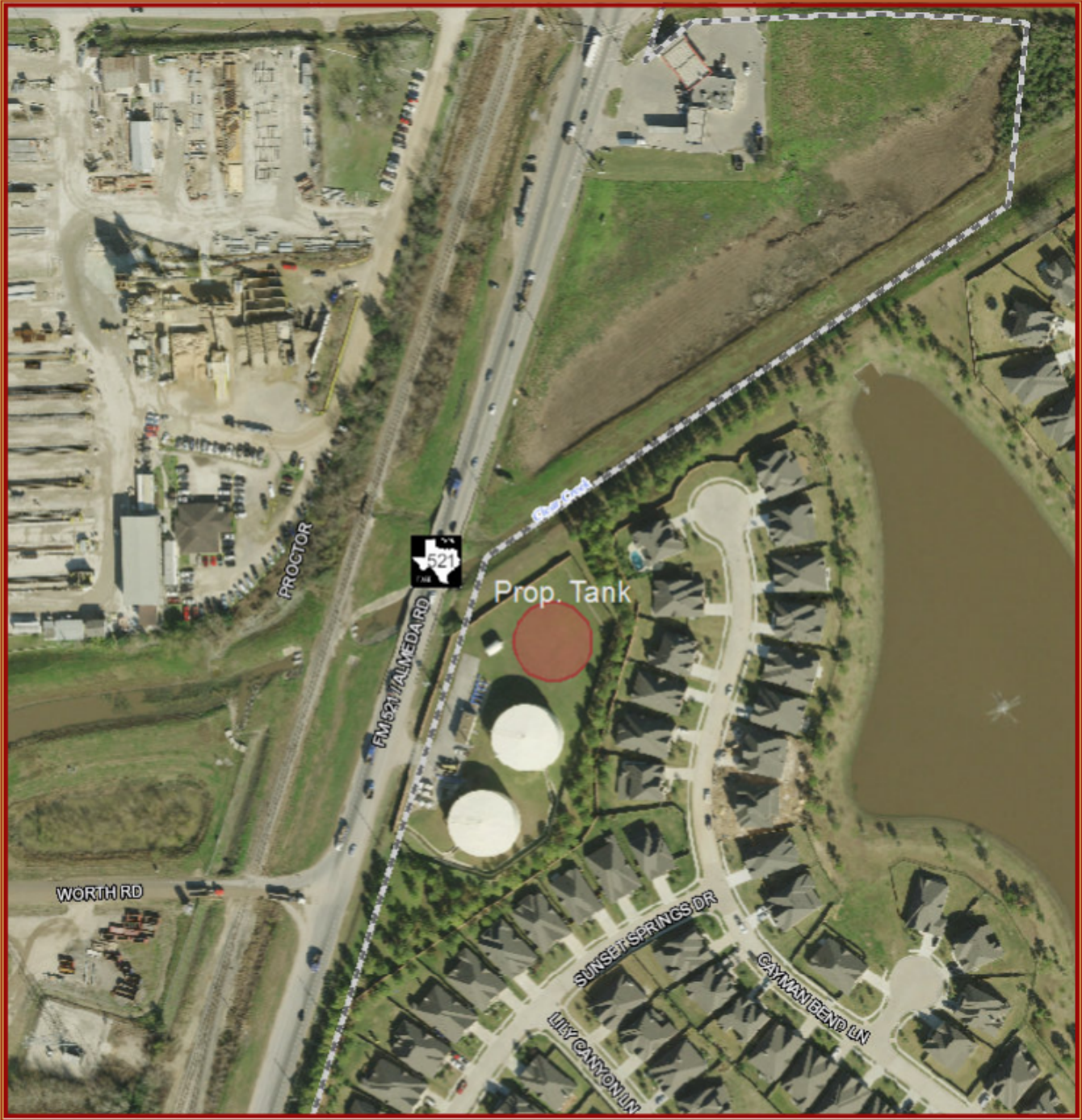
Phase 2	Base Line	Current
Design Start	March-19	
Proposed Bid Start	July-19	
Proposed Construction Start	September-19	
Proposed Construction Completion	June-20	

Request for Council Action:

At the February 25th City Council meeting staff will recommend that Council award the contract amendment for design to Costello Engineering & Surveying the amount not to exceed of \$278,502.

Figure 1: Project Location





FM 521 Water Pressurization Plant Site

1:2,400

1 inch = 200 feet



This product is for informational purposes only and may not be prepared or be suitable for legal, engineering, or surveying purposes.

MAP PREPARED: OCTOBER 20, 2017