



# Memo

To: Clay Pearson, City Manager

From: Cara Davis, Sr Project Manager – Engineering & Capital Projects

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

Date: November 14, 2019

Re: John Hargrove Environmental Center (JHEC) Wastewater Treatment Plant Expansion

11/14/2019  
To: Mayor and City Council members  
Solid progress moving forward to expand our existing water reclamation plant at JHEC on Magnolia. Clay

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## Purpose

This memo provides information about progress on the John Hargrove Environmental Center (JHEC) Wastewater Treatment Plant Expansion project and the proposed award of a Construction Manager at Risk (CMAR) contract for Pre-Construction Services for the project at the November 25<sup>th</sup> City Council meeting.

## Background

The JHEC Wastewater Treatment Plant Expansion is being designed to expand the plant by 2 million gallons per day (MGD) to a total capacity of 6 MGD to meet the projected growth over the next 10-years and to meet the Texas Commission on Environmental Quality (TCEQ) requirement to begin the design when current flows to the plant exceed 75% of capacity. Current flows are expected to be above the 90% requirement for expansion within the next 3 years based upon the land development projections and model information. The proposed 2 MGD expansion accommodates the current City Limits Build-out flows within the JHWRF service area which includes the Massey Oaks and the surrounding area located in the city limits. The expansion does have some remaining capacity but does not accommodate for properties in the ETJ nor for the service area of the Municipal Utility District Nos. 2, 3 & 6. Should State rules for annexation change or new areas seek annexation, the JHWRF will need to be re-evaluated at that time for the proposed needs and current capacity demands. Planning and design for this expansion currently includes preparation of certain critical components (Influent lift station, headworks) to accommodate future expansion without impacts to operations.

The project is planned to be constructed using the Construction Manager at Risk (CMAR) delivery as outlined in Local Government Code, Chapter 252 and Government Code, Title 10, Subtitle F, Chapter 2269.251. The process requires the contractor to work hand-in-hand with the Owner and designers during the design process to generate cost-efficient plans, resolve constructability issues and reduce the risk of costly and time-consuming change orders before presenting a

Guaranteed Maximum Price (GMP) for the project. Staff's procedures to make this selection have carefully followed statutory guidelines for this process to ensure compliance with financing requirements from Texas Water Development Board (TWDB). A Project Information Form (PIF) was submitted last year (2018), which is the initial step in the loan application process, was accepted by TWDB. Staff is currently awaiting the formal Invitation to Apply to start the formal loan application process. TWDB delayed the second round of loan application processes due to Imelda and is now scheduled for late November.

On September 11, 2019, Staff advertised the JHEC and Barry Rose Water Reclamation Facility Request for Proposal (RFP) for CMAR to include pre-construction services and, by planned future contract amendment, construction phase services. A pre-proposal conference was held on September 24<sup>th</sup> for potential proposers to get a better understanding of the projects through a short presentation, question/answer session and site visits to the project sites for a guided tour. Six general contractor entities along with several subs and suppliers attended the meeting. Two well qualified CMAR firms responded, Pepper Lawson Waterworks (PLW), a Texas firm with a long history in our region, a recent successfully completed project (Reflection Bay WRF) with the City of Pearland and the current CMAR contractor for the Surface Water Treatment Plant. McCarthy Building Companies, a nationwide heavy construction firm, responded with a letter stating that their work load had prevented them from proposing.

The current contract includes Pre-Construction services only. The CMAR is to include provisions for project management and cost estimation personnel, continuous design review, constructability recommendations to ensure a complete set of plans. The design/review process will benefit from contractor input through on-going value engineering. The CMAR will assist in developing cost-effective design alternatives, construction method recommendations, bidding and sub-contracting portions of the work not self-performed and the development of detailed cost estimates leading up to the provision of a GMP at completion of the 90% plans.

Construction Phase Services will be added to the contract by amendment upon acceptance of the GMP. All work packages and equipment purchases will be bid through competitive open book bidding against market conditions. Management oriented tasks such as awarding and managing subcontracts for construction activities, accepting assignment of pre-purchased equipment procured by the City, management of all other equipment and material procurement, and maintenance of quality controls and schedules are included. Other tasks to facilitate construction and startup include conducting monthly progress meetings with on-site trades, processing subcontractor pay applications, shop drawings and submittals, implementing plant commissioning and start-up, performance testing and providing operations and maintenance manuals. Lastly, the CMAR is expected to provide warranty work and maintenance for a period of two years upon completion. Construction Phase services are NOT a component of the current contract scheduled for the current award.

## Current Status

The Selection Committee reviewed the qualifications of the responsive proposal which included Experience with previous projects of similar size and scope, quality and experience of key personnel assigned, history of meeting or exceeding cost and schedule targets, safety records, project approach, self-performance capabilities.

The fee proposal was unsealed and reviewed for compliance with instructions within the request. Part One requested respondents provide the billing rate for each team member and the estimated man/hours required to perform Pre-Construction Services. This information was then extrapolated to provide an estimated Pre-Construction Fee. Pepper Lawson (PLW) estimated approximately 8,104 man/hours at an average rate of \$89.95 dollars per hour totaling \$728,960.00.

Part Two requested provision of a Construction Phase Services Fee expressed as a percentage of the cost of construction based on an estimated \$60 million-dollar construction cost. PLW proposed a fee of 4.85% and is in line with other City CMAR projects.

PLW performed very well on the Reflection Bay Water Reclamation plant project developing a \$400,000 cost savings option in the first weeks of construction. Additionally, when one of their sub-contractors made a mistake that required a re-design effort by the Engineer of Record, Pepper Lawson paid for the additional work, no questions asked. This project was delivered almost six months ahead of schedule and well within budget.

## Recommendation

On November 25th, Staff will bring the final negotiated CMAR contract for the JHEC Wastewater Treatment Plant Expansion to Council with the recommendation to approve the selection process and award the contract for Pre-Construction services to PLW Waterworks in the Lump Sum amount of \$728,960. The Agenda Request will provide the full scope of work included and the proposed schedule of values for the contract.

A notice to Proceed would be issued immediately and the CMAR will begin work with Ardurra Group, the designer for the plant.

## Budget Information

Current budget information reflects very early construction costs estimated from the design engineer. This estimate was developed during the Preliminary engineering phase and contains a significant contingency to cover unknowns. As with other CMAR led projects cost estimating and refinement of cost-effective design and construction methodologies are primary scope components for the CMAR. These figures will change as the project progresses and ultimately produces the CMAR's GMP at which time the City may accept that price and issue a contract for construction.

<b>Funding Sources</b>	<b>Series</b>	<b>To Date</b>	<b>Future</b>	<b>Total Budget</b>
General Revenue - Cash				-
W/S Revenue Bonds	2016A	752,500		752,500
W/S Revenue Bonds	2018B	2,111,526		2,111,526
W/S Revenue Bonds			26,305,000	26,305,000
Impact Fee - Cash		2,111,525		2,111,525
Impact Fee - Debt	2016A	752,500		752,500
Impact Fee - Debt			26,305,000	26,305,000
Other Funding Sources		386,949		386,949
<b>Total Funding Sources</b>		<b>6,115,000</b>	<b>52,610,000</b>	<b>58,725,000</b>

<b>Expenditures</b>	<b>To Date</b>	<b>Future</b>	<b>Total</b>
PER	475,000		475,000
Land			-
Design	3,775,000	710,000	4,485,000
Construction		47,380,000	47,380,000
Construction Management/Inspection		1,800,000	1,800,000
Construction Materials Testing		400,000	400,000
FF&E			-
<b>Total Expenditures</b>	<b>4,250,000</b>	<b>50,290,000</b>	<b>54,540,000</b>


<b>Project Balance/Contingency</b>	<b>4,185,000</b>
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# JOHN HARGROVE WATER RECLAMATION FACILITY



## Legend/Notes

 Wastewater Treatment Plant



1:7,715  
1 inch = 640 feet

**NORTH**  
This project is for informational purposes only and may not be prepared or approved by the City of Pearland. No responsibility is assumed by the City of Pearland for any errors or omissions in this project.  
DATE PREPARED: JANUARY 24, 2018