

10/14/2019

To: Mayor and City Council members

Expansion and upgrade to our water reclamation plan n Magnolia Parkway is moving along with proposals for the CMAR process out and due later this week. Will evaluate and bring recommendation in December. Clay



# JHEC WRF Expansion

**Scope:** A 2 MGD expansion to the existing 4 MGD water reclamation facility that will increase the treatment capacity to 6 MGD at the John Hargrove Water Reclamation Facility.

**Justification:** This 2 MGD expansion is based on growth projections for the JHEC WRF service area and additional flows that will be diverted to the JHEC WRF from the Longwood Service Area and the future development in the south. Current flows have exceeded 75% of current capacity. This is also to meet TCEQ's goal of regionalization of wastewater treatment facilities.

**Project Manager:** Cara Davis

**Construction Manager:** TBD

**Designer:** Ardurra Group

**Contractor:** TBD

**Budget Info:**



Funding Sources	Series	To Date	Future	Total Budget
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>

Expenditures	To Date	Future	Total
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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## Schedule Info:

	<b>Base Line</b>	<b>Current</b>
<b>Design Start</b>	March-19	April-19
<b>Bid Start</b>	November-20	September-19
<b>Construction Start</b>	November-20	
<b>Proposed Construction Completion</b>	January-23	

**Rain Days: 0**

\*This project will be procured through the Construction Manager at Risk (CMAR) process. The original / base line schedule was projected using the design-bid-build process.

## Highlights:

- Final Design contract was awarded at the March 4, 2019 Council meeting. Project Kickoff Meeting for the final design was held on April 9, 2019.
- The IT/SCADA Workshop was conducted on June 20, 2019. Consultants from the Surface Water Treatment Plant as well as Barry Rose WRF were invited to attend as they will have similar topics of discussion and needs on these projects. Major topics of discussion included Facility Connectivity and Overall SCADA Network, Cyber Security and Separate Networks, Server Room Design, Telecommunications, Office Features and Site Security. Major take-aways from the meeting are that the Public Safety Building (PSB) will be the main hub for SCADA servers for all City Infrastructure Facilities; SCADA setup for JHECWRF, BRWRF, and the SWTP shall be designed similar to the Reflection Bay Water Reclamation Facility Project (RBWRF); and JHECWRF, BRWRF, and the SWTP will be connected to the PSB via dedicated fiber optic cable lines.
- The project team conducted an Operations Building Programming Workshop on June 12, 2019 and began developing an Operations Building Layout for the site.
- Completed 30-day odor testing for Influent Lift Stations and Headworks to determine the odor control required for the site.
- Developed updated JHEC WRF site plan based on revised locations of Headworks and Operations Building stemming from staff review of overall site plan to better improve efficiencies.
- Geotechnical field work (borings) were performed on June 6, 2019 to evaluate the foundation recommendations for the proposed SBR and Headworks structures.
- Public Works and Capital projects staff along with the consultants for the Barry Rose and JHEC WRF projects made a site visit to the new membrane bioreactor (MBR) waste water treatment plant in Trophy Club, Texas where we were able to meet with product representatives to view the Kubota MBR plate technology and the drum fine screen applications as well as ask questions about daily operations and maintenance. The Headworks screens proposed for use at the JHEC plant are similar to the ones in use at this facility. After careful evaluation of the two processes (Sequential Batch Reactor (SBR) & MBR), the associated costs of both, the sites ability to accommodate one or the other process and the requirement or not for future expansions, the decision was made to retain the same SBR treatment process for this expansion rather than making a change at this time. However, the plant is being designed so that if the City wishes to move to the MBR technology in a future expansion the necessary equipment can be retrofitted to newly built structures.
- Staff prepared the CMAR Request for Proposal (RFP) which was advertised on September 11, 2019.

- Submitted 30% design package which included Design Criteria Memorandums for all process areas, Design Drawings, and Specification table of contents.
- Geotechnical Report Addendum – Report reviewed and finalized and submitted with the 30% design submittal.

**Upcoming Work:**

- CMAR advertisement and selection process
  - 1<sup>st</sup> Advertisement – September 11, 2019
  - 2nd Advertisement – September 18, 2019
- Pre-proposal conference & Site Visit – September 25, 2019
- Proposals Due – October 17, 2019
- Prospective CMAR Interviews – November 2019
- CMAR Contract Award – December 2019
- Complete 30% plan review

**Previous Memos:** 02.21.19, 05.19.19

Project Map:

# JOHN HARGROVE WATER RECLAMATION FACILITY



Legend/Notes

**WTP** Wastewater Treatment Plant



1:7.715  
1 inch = 640 feet

**NORTH**  
This product is for informational purposes only and may not be prepared or be suitable for legal, engineering, or surveying purposes.  
MAP PREPARED: JANUARY 24, 2018

# 30% PRELIMINARY SITE PLAN FOR PLANT

