



## Legislation Text

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**File #:** AGR 20-020, **Version:** 1

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Consideration of and action on an agreement with Ardurra Group, LLC for professional engineering services related to the Clearwell and Disinfection Improvements at the Surface Water Treatment Plant.

### Summary:

The Ardurra Group has performed looking into changing the disinfectant at the water treatment plant and increasing the amount of CT (Contact Time) for the disinfectant in the process. These topics have been combined into one agreement for the design of both projects into one for cost savings in both design and construction phases.

**Disinfection:** This project changes the type of chemical used as the primary disinfectant at the water plant. Currently, the plant utilizes two (2) 1-ton containers of gas chlorine and 39% Aqueous Ammonia. As discussed in Council Workshop in February, this project changes the chlorine to a low grade hypochlorite solution, doing away with the gas and the safety measures and Risk Management plan associated with gas chlorine. Additionally the plant will change to liquid ammonium sulfate (LAS), a more stable ammonia product. The disinfectant used by the plant will remain monochloramines, but the chemicals to create them will be safer for plant staff and the community.

**Clearwell:** The clearwell is the basin between our filters and the water being pushed into the city. It is primarily made up of a basin with 6 transfer pumps. The Texas Commission on Environmental Quality (TCEQ) requires a certain CT (contact time) of the disinfectant. This number is determined by the disinfectant residual, the time it takes to go through the process, the temperature, and a few other factors. Additionally, TCEQ requires plants to be constructed with a firm capacity, defined as total station maximum pumping capacity with the largest pumping unit out of service. The City of Deer Park Water Treatment Plant currently meets both requirements, however 1) the CT is only met when Coastal Water Authority maintains chlorine in the raw water feed, 2) the CT dips in extreme cold temperatures and 3) firm capacity is only met when the clearwell is within one foot of overflowing. This project is designed to add CT by building baffles inside the two onsite Ground Storage Tanks (GSTs) and to add pumping capacity through the addition of a pump to the existing clearwell or to increase the size of the pumps in the clearwell. Additional modifications of piping will be required regardless of which method to increase pumping capacity is used.

The agreement with Ardurra Group, LLC, is for the design of the combined projects with basic services costing \$603,173.00 and additional services of \$74,636.50 for a total cost of \$677,809.50.

### Fiscal/Budgetary Impact:

This project is funded through Water/Sewer Bond Series 2019

Staff recommends approving the design phase.