



AGENDA MEMORANDUM

Future Item for the City Council Meeting of January 16, 2018

Action Item for the City Council Meeting of January 23, 2018

DATE: December 22, 2017

TO: Margie C. Rose, City Manager

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Professional Services Contract Amendment

Allison Wastewater Treatment Plant
Lift Station and Plant Improvements
(Capital Improvement Program)

CAPTION:

Motion authorizing the City Manager, or designee, to execute Amendment No. 2 to a professional services contract with Urban Engineering, of Corpus Christi, Texas in the amount of \$618,902, for a total restated fee of \$912,522, for Allison Wastewater Treatment Plant (WWTP) Lift Station and Plant Improvements for design, bid, and construction phase services. (Capital Improvement Program - CIP)

PURPOSE:

The purpose of this agenda item is to obtain authority to execute a professional services contract amendment for engineering and design improvements at the Allison WWTP.

BACKGROUND AND FINDINGS:

This project is part of major recapitalization for the Allison WWTP to improve Texas Commission on Environmental Quality (TCEQ) permit compliance and operating efficiencies. This item incorporates the Allison Plant Process Upgrade and Replacement project (E10045) with the ongoing Allison WWTP Lift Station and Plant Improvements project (E10043) to maximize cost efficiencies and minimize construction impacts through a single construction project. The

project design and construction schedule was accelerated due to recurring problems with maintaining aging systems and equipment.

CIP Description:

Allison WWTP Lift Station and Plant Improvements (E10043)

The Allison WWTP is in process of undergoing repairs and enhancements to extend major systems and service life of the plant. Recently completed work included repairs/replacement of existing headworks and grit removal equipment. This project provides for design and construction of lift station pumps and piping replacement, new electrical control room, new emergency generator, disinfection equipment replacement, clarifier telescopic valve replacement, new dewatering drain line, east aeration discharge piping modifications, and pre- and post-thickener scum baffle replacement.

Allison Plant Process Upgrade and Replacement (E10045)

This project provides critical upgrades and replacement of deteriorated equipment and systems at the Allison WWTP to avoid impending failures. This is a comprehensive project to address the major systems at the plant to extend these systems and operations until the next major lifecycle replacement/upgrade. The scope includes the dry pit/wet pit lift station, east and west aeration basins, two final clarifiers, automatic backwash filter, chlorine contact chamber and disinfection system, effluent reuse transfer pump station, aerobic digester, belt press building, blower building and other miscellaneous items.

Allison WWTP Background:

The Allison WWTP service basin extends from approximately Clarkwood Road to the western limits of the City that includes Calallen. The Allison WWTP was constructed in 1966 and upgraded in 1984. Plant headworks were modified and rehabilitated in 2013. Rated capacity of the plant is 5 million gallons per day (MGD) average daily flow, with current average daily flows of 2.89 MGD. An average of 210,000 gallons per month of plant effluent is used by Coastal Bend Veteran's Cemetery for irrigation.

Due to age and poor conditions, the plant continually experiences problems with meeting operational and permit requirements. Planned upgrades are critical to address ongoing safety concerns and operational problems. The Stantec report dated March 12, 2016, indicated the condition as "Poor" and the plant has continued to deteriorate.

Project Scope:

This item provides for engineering phase services for critical upgrades of all major systems at the plant. Scope of upgrades includes condition assessment, preliminary engineering, and design services for the plant's lift station, aeration basins, clarifier, backwash system, chlorine disinfection system, aerobic digester, thickener, belt press and building, and effluent pumping system.

Additionally, the engineer's effort includes nitrification and pollutant evaluation of plant sources to determine effects at the plant as well as any pretreatment alternatives that may be available to minimize impacts to plant treatment and costs. The plant currently experiences periodic high levels of nitrification that directly adversely impact the treatment process and result in discharge permit violations. The plant receives sewage from residential, institutional, commercial and industrial establishments with typical household waste liquid from toilets, baths, showers, kitchens, and sinks draining into sewers. Allison WWTP also receives sewage (industrial effluent) from commercial and industrial establishments that may receive pretreatment within the industrial complex to reduce pollutant load, before discharge to City sewer system.

The following summarizes engineering tasks:

- Perform nitrification and pollutant analyses by examining chemical analysis data from influent and effluent streams
- Evaluate existing treatment processes and permit requirements to develop alternate treatment improvements and plant optimization strategies
- Conduct field investigations, assessments, and meet with plant staff to prepare Preliminary Engineering Letter Report
- Participate in on-site workshops to evaluate existing operating strategies and alternatives to optimize treatment process, maintenance, and operating costs
- Prepare Preliminary Engineering Letter Report detailing recommended improvements and cost estimates
- Prepare detailed construction documents for structural, electrical, mechanical, operational, and miscellaneous improvements
- Conduct design review workshops
- Provide construction administration and technical support
- Identify and short-term improvements to enhance TCEQ permit compliance
- Prepare and submit to city final As-Built drawings

ALTERNATIVES:

1. Authorize execution of professional services contract. (Recommended)
2. Do not authorize execution of professional services contract. (Not Recommended)

OTHER CONSIDERATIONS:

Urban was selected for this project through Request for Qualifications No. 2014-08 Bond 2014 Proposition 2 Transportation, Parks, and Capital Improvement Projects.

CONFORMITY TO CITY POLICY:

Conforms to City Fiscal Policy

EMERGENCY / NON-EMERGENCY:

Non-Emergency

DEPARTMENTAL CLEARANCES:

Water Utilities Department

FINANCIAL IMPACT:

☐ Operating ☐ Revenue ☒ Capital ☐ Not applicable

Fiscal Year 2017-2018	Project to Date Expenditures	Current Year	Future Years	TOTALS
Line Item Budget	293,600	4,750,400	5,956,000	11,000,000
Encumbered / Expended Amount	293,600			293,600
This Item		618,902		618,902
Future Anticipated Expenditures		4,131,498	5,760,452	9,891,950
BALANCE	0	0	195,548	195,548

Fund: Wastewater CIP No. 06

Comments:

N/A

RECOMMENDATION:

City Staff recommends approval of Amendment No. 2 to a professional services contract with Urban Engineering, of Corpus Christi, Texas in the amount of \$618,902, for a total restated fee of \$912,522, for Allison Wastewater Treatment Plant (WWTP) Lift Station and Plant Improvements for design, bid, and construction phase services.

LIST OF SUPPORTING DOCUMENTS:

Project Budget
Location Map
Presentation
Contract