AGENDA MEMORANDUM
Action Item for the City Council Meeting of July 29, 2025

DATE: July 29, 2025

TO: Peter Zanoni, City Manager

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Construction Contract Award and Professional Services Contract Amendment
ONSWTP Chlorine System Improvements

CAPTION:

Motion awarding a construction contract to Reytec Construction Resources, Inc., of Houston, Texas, in an amount up to $100,634,000.00 for the Chlorine System Improvements at O.N. Stevens Water Treatment Plant (ONSWTP) and authorize a professional service contract amendment No. 5 to Hazen and Sawyer, of Corpus Christi Texas in an amount of $1,472,769 with a total contract value not to exceed of $5,890,369 with FY 2025 funding available from the Water Capital Budget Fund.

SUMMARY:

This motion approves a construction contract for replacing the existing chlorine gas system at O.N. Stevens Water Treatment Plant (ONSWTP) with an onsite chlorine generation system. Providing a significant improvement in the reliability of the disinfection of treated water and the overall resiliency of ONSWTP. The on-site chlorine generation (OSG) system will eliminate health and safety risks associated with potential chlorine gas exposure for staff and the surrounding community. The scope of work also includes demolition of the existing chlorine gas system and the associated railcar infrastructure.

BACKGROUND AND FINDINGS:

The O.N. Stevens Water Treatment Plant (ONSWTP) currently uses a chlorine gas system for disinfection. The chlorine gas system was originally installed in 1981 and includes the 90-ton railcar storage area, gas measurement building, 1-ton container storage area, chlorine dioxide generation system, and eight (8) injection locations. This existing system is to be replaced due to safety concerns to the community, lack of redundancy, criticality of the process to provide safe drinking water, and operational challenges associated with the use of chlorine gas railcars. The purpose of this project is to replace the existing aging chlorine gas system with a new on-site chlorine generation system which greatly improves a critical process in providing safe drinking water to the community served by Corpus Christi Water.

The primary scope of work for this project includes the installation of an onsite sodium hypochlorite generating system with a total capacity of at least 18,000 lbs. per day, sodium hypochlorite feed and storage facility, and chlorine dioxide generators. Associated with the installation of new equipment and infrastructure is the demolition and removal of existing chlorine dioxide and rail car infrastructure.

The Texas Commission on Environmental Quality approved this project for construction on May 30, 2025 after the review of the complete set of plans and specifications. This approval was based upon the following scope of work.

Installation of one onsite sodium hypochlorite generating system with a total capacity of at least 18,000 pounds per day (PPD), with a capacity of 2,000 PPD per unit, consisting of;

- Four 72-ton fiberglass reinforced plastic (FRP) brine saturator tanks, with containment for six brine tanks and each tank has a diameter of 12-ft and a height of 20-ft;
- Three brine transfer pumps;
- Softener systems including two softener regeneration brine tanks, two trains of softeners, three softened water booster pumps; and
- Rectifiers, local control panels, standpipes for releasing hydrogen gas, water chillers, inline water heaters, and hydrogen gas dilution blowers.

Sodium hypochlorite feed and storage facilities consisting of:

- Thirteen 30,000-gallon FRP sodium hypochlorite bulk storage tanks, with a containment for sixteen bulk tanks;
- Eight peristaltic metering pumps, four duty and four standby, to inject chlorine solutions at locations prior to sedimentation basins and the clear wells; and
- Blowers at bulk storage tank area, dilution pumps, sodium hypochlorite recirculation pumps, injectors.
- Two 3-chemicals chlorine dioxide generators;
- Two 10,150-gallon polyethylene hydrochloric acid tanks with containment; and
- Two 12,000-gallon FRP sodium chlorite tanks with containment.

Associated yard piping, fittings, valves, civil/structural/electrical improvements, reduced pressure backflow prevention assemblies, and appurtenances.

Removal and demolition of the existing gas chlorine facility consisting of:

- Existing chlorine railcar storage area;
- Existing chlorine gas measurement building;
- Existing chlorine 1-ton container storage area; and

- Existing chlorine yard piping.

Removal and demolition of the existing chlorine dioxide facility consisted of:
- Existing two-chemical chlorine dioxide generators;
- Existing sodium chlorite containment area;
- Two existing 9,000-gallons HDPE bulk storage tanks;
- Existing 800-gallon HDPE day-storage-tank;
- Existing two Bredel Model 50 hose pumps;
- Existing eyewash and shower station; and
- Miscellaneous mechanical and electrical equipment.

The project implementation strategy first included the selection of the chlorine generation system equipment provider. This allowed for the preselection of critical equipment. The construction contractor will install the pre-selected equipment while using the start-up and support services of the equipment provider. Finance & Procurement issued a Request for Proposal (RFP) #5580 to furnish an on-site sodium hypochlorite generation system to be used at the O.N. Stevens Water Treatment Plant. The proposal included both an Equipment Supply Agreement and a Maintenance Service Agreement. Proposal submissions were reviewed and scored according to the criteria published in the RFP.

The selection committee was comprised of representatives from Corpus Christi Water and Engineering Services with the Design Engineer (Hazen & Sawyer) and Executive Leadership members serving as Technical Advisors. Evaluations were based on three factors: 1) Firms' Experience, 2) Team Experience, and 3) Understanding Project Scope.

The City received two proposal submissions but one was disqualified for failure to meet the minimum criteria including the provision to provide a salt supplier within a 200-mile radius of the plant. This requirement is critical to the operation of this equipment due to the demand for salt to operate the system. Staff in addition to the design engineer (Hazen & Sawyer) performed a full evaluation of PSI Water Technologies proposal and has selected PSI Water Technologies as the sodium hypochlorite generation equipment provider.

PSI Technologies Inc. has provided similar installations in other areas and in Texas such as Austin. PSI Water Technologies has sold over 600 Microclor® units within the United States and internationally. In the state of Texas, PSI has 35 Microclor® units installed ranging in capacity of 20lbs per day to 6,000lbs per day. This includes installations in Austin, TX.

The construction phase of the project will be under one contract with a general contractor and include two phases. Phase 1 is the completion of bulk hypochlorite storage and feed equipment, allowing the plant to operate with 0.8 percent sodium hypochlorite (diluted from 12.5 percent) via truck deliveries. Phase 2 is the completion of the OSG building with sodium hypochlorite generators and ancillary equipment.

This project is part of the CCW strategic plan to improve operational resiliency for the O.N. Stevens Water Treatment Plant.

If this project did not progress, then a new capital project would have to be developed to include design engineering and construction of required chlorine gas infrastructure upgrades. The budgeted construction cost for these upgrades to the existing chlorine gas system are estimated at $42,500,000. Additional costs to this total would be design and professional service fees. The

request for qualifications, design award, and design of this project is estimated to take 2 years. Therefore, the construction estimate would likely increase.

Completion of this project is critical to the overall strategic plan for reliability and resiliency for the ONSWTP. This strategic plan developed by CCW provides a sequence for O.N. Stevens capital improvement projects that would address capacity constraints, future flows, and replacements/upgrades of infrastructure and equipment. Together these projects when complete will increase the reliable treatment capacity of the O.N. Stevens Water Treatment Plant from 105 MGD to 135 MGD.

This strategic plan for O.N. Stevens includes the projects as shown on the table below.

Project	Status	Estimated Project Completion Date
Pre-sedimentation Dredging	Construction	2028
Raw Water and Chemical Improvement Projects	Construction	2027
Filtration System Hydraulic Improvements	Construction	2026
Chlorine System Improvements	Pending Council Approval	2029
Flocculator and Basin Improvements	Design	2027
Solids Handling	Design	2029

PROJECT TIMELINE:

2022 - 2024	2025	2025 - 2029
March - December	**January – July**	**August - January**
Design	**Bid/Award**	**Construction**

Project schedule reflects City Council award in July 2025 with anticipated construction completion by January 2029.

COMPETITIVE SOLICITATION PROCESS:

On February 02, 2025, the Contracts and Procurement Department issued a Request for Bids (RFB #6299) for the Chlorine Storage and Handling Facility Improvements at O.N. Stevens Water Treatment Plant (ONSWTP) project.

On May 7, 2025, the City received one bid. The city analyzed the bid according to the contract documents and determined that Reytec Construction Resources, Inc was the lowest responsive and responsible bidder. As the lowest bid received was within the acceptable range of the Engineer's Opinion of Probable Cost, the city has elected to proceed with the project. A summary of the bid is provided below.

BID SUMMARY			
Contractor	**Base Bid 1**	**Alternate 1**	**Base Bid 1 + Alternate 1**
Reytec Construction	**$100,111,505.00**	**$522,495.00**	**$100,634,000.00**
Engineer's Opinion of Probable Construction Cost	***$107,260,000.00***	***(included in OPCC)***	***$107,260,000.00***

Base bid 1 is to bid the project as designed. Alternate 1 is for the construction of concrete paving in the area south of the chlorine handling facilities.

Reytec Construction has successfully worked on numerous similar construction projects for the City of Corpus Christi. Listed below are the recent projects that have been completed or under construction:

- Raw Water Influent and Chemical Facilities Improvements at ONSWTP in an amount of $86,679,500.00 on March 19, 2024. This project is currently under construction and the city has encountered no issues with the contractor.

- Nueces River Raw Water Pump Station Transmission Main in an amount of $7,421,500.00 on March 28, 2023. This project is currently under construction and the city has encountered no issues with the contractor.

- O.N. Stevens Clearwell No. 3 in an amount of $3,387,006, subcontractor to CSA. This project is currently under construction and the city has encountered no issues with the contractor.

Reytec Construction has also completed additional large plant projects for other municipat entities :

- Wastewater Treatment Plant Expansion to 1.5MGD; Fort Bend County Municipal District No. 134E; $26,139,000.00 contract price

- John Hargrove Environmental Complex; Pearland, TX; $102,151,000.00 contract price

- 1.4 MGD WWTP No.2 Expansion & Lift Station; Montgomery County MUD 199; $17,610,000.00 contract price

- Central Pump Station; Corpus Christi, TX; $4,488,589.50 contract price

- Thirty-five inch Water Line Placement; Houston, TX; $19,770,848.92 contract price

ALTERNATIVES:

City Council could choose not to award the construction contract to Reytec Construction Resources, Inc. Without this project, the ONSWTP will continue to utilize the chlorine gas system which includes ongoing risks to treatment plant personnel and the surrounding community. Additionally, the existing chlorine gas infrastructure would require improvements. A new capital

project would have to be developed to include design engineering and construction. The budgeted construction cost for these upgrades to the existing chlorine gas system are currently estimated at $42,500,000. Additional costs not included in this total would be the design fees and other professional services. The request for qualifications, design award, and design of this project is estimated to take 2 years. Therefore, the construction estimate would likely increase.

FISCAL IMPACT:

The fiscal impact for Corpus Christi Water in FY25 is an amount of $52,250,000.00 for the construction contract and $1,472,769 for the professional service contract amendment with funding available from the Water Capital Fund. The remaining funds will be incurred in FY26, FY27 and FY28 in an amount of $48,384,000.00. The short-range Capital Improvement Plan (CIP) construction budget for this project was set at $80,250,000, resulting in a budget shortfall of $20,384,000.00. Budgetary adjustments will be made as part of the annual capital budget process for FY 2026, FY 2027, and FY 2028 to reflect the new contract costs.

Year 1 (FY2025): $53,722,769.00
Year 2 (FY2026): $10,000,000.00
Year 3 (FY2027): $21,000,000.00
Year 4 (FY2028): $17,384,000.00

FUNDING DETAIL:

Fund:	**Water 2023 CIP (Fund 4487)**
Department:	Water (45)
Organization:	Grants & Capital Projects Funds (89)
Project:	ONSWTP Chlorine System Improvements (Project 21104)
Account:	Construction (550910)
Activity:	21104
Amount:	$13,228,528.28

Fund:	**Water 2023 CIP (Fund 4487)**
Department:	Water (45)
Organization:	Grants & Capital Projects Funds (89)
Project:	ONSWTP Chlorine System Improvements (Project 21104)
Account:	Outside Consultant (550950)
Activity:	21104
Amount:	$1,472,769.00

Fund:	**Water 2025 CIP (Fund 4492)**
Department:	Water (45)
Organization:	Grants & Capital Projects Funds (89)
Project:	ONSWTP Chlorine System Improvements (Project 21104)
Account:	Construction (550910)
Activity:	21104
Amount:	$39,021,471.72

Total: $53,722,769.00

RECOMMENDATION:

Staff recommends awarding the construction contract to Reytec Construction Resources, Inc. of Houston, Texas for the ONSWTP Chlorine System Improvements project in the amount of $100,634,000.00 for Total Base Bid plus selected Alternate 1 and for the professional services design amendment in the amount of $1,472,769. The construction duration is planned for 42 months from issuance of the Notice to Proceed to begin construction in August 2025.

LIST OF SUPPORTING DOCUMENTS:

Bid Tabulation
CIP Page
Location & Vicinity Maps
PowerPoint Presentation
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