



AGENDA MEMORANDUM

Future Item for the City Council Meeting of April 9, 2019
Action Item for the City Council Meeting of April 16, 2019

DATE: March 19, 2019

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Professional Services Contract
O.N. Stevens Water Treatment Plant (ONSWTP) Clearwell No. 3
(Capital Improvement Program)

CAPTION:

Motion to authorize execution of a professional services contract with LNV, Inc. of Corpus Christi, Texas in the amount of \$1,803,753 for design of O.N. Stevens Water Treatment Plant Clearwell No. 3.

PURPOSE:

This contract provides for engineering and design services to replace the existing treated water storage tank Clearwell No. 1 with a new treated water storage tank, Clearwell No. 3., at the O.N. Stevens Water Treatment Plant (ONSWTP).

BACKGROUND AND FINDINGS:

Existing Clearwell No. 1 is a concrete ground storage tank that holds four million gallons of treated water. High Service Pump Station No. 1 sits on top of Clearwell No.1 and pumps treated water from the tank into the distribution system. The tank and pump station were constructed in 1954 as a part of the original ONSWTP and are at the end of their useful life. A recent condition assessment indicated that the structural integrity of the concrete is nearly lost due to 65 years of vibration caused by the pumps mounted on top of the Clearwell. Repairs for long-term use are not possible, requiring a new Clearwell. Moreover, if taken offline for repair the Plant would lose

some of its emergency storage of finished water. Its archaic, square design contains areas of poor water flow and mixing which can jeopardize water quality. Additionally, the headworks of the existing Clearwell No. 1 contain a hydraulic bottleneck, and its capacity of only four million gallons conflicts with ongoing efforts to increase the overall Plant's capacity to 200 MGD to meet growing water demand.

The proposed project will deliver a new, ten million-gallon Clearwell No. 3 and demolish the existing High Service No. 1 and Clearwell No. 1 structure. A new High Service Pump Station No. 3 is already being constructed under a separate project which will replace High Service Pump Station No. 1.

This professional services contract provides for engineering design, bid, and construction phase support services. The following is a summary of the primary tasks:

- Detailed field investigations and assessments of existing utilities
- Drainage design and erosion protection for the sloping terrain
- Structural design of the foundation, floor, wall, roof, and baffling system
- Computational fluid dynamic modeling to optimize chemical dispersion and complete mixing in the Clearwell
- Design for major reconfiguration of filter effluent piping to remove hydraulic bottlenecks and allow flexible diversion of flows for maintenance and in emergency situations
- Determination of water quality monitoring plan and of associated sampling points and water quality analyzers
- Design for reconfiguration of chemical feed piping and injection points
- Design of electrical power system and process monitoring network for the new Clearwell, associated instrumentation, and water quality analyzers
- Design for demolition of existing Clearwell No. 1, High Service No. 1, and of associated electrical and instrumentation systems and process piping
- Participation in on-site workshops to evaluate existing operating strategies and alternatives to optimize treatment process, maintenance, and operating costs
- Planning project execution risk management to avoid accidental disruption of ongoing operation and supplying treated water to the City during construction
- Conduct design review workshops
- Preparation of Preliminary Engineering Letter Report and of detailed construction and demolition documents
- Provide bid and construction phase administration and technical support
- Identification of additional improvements to enhance water supply, quality and TCEQ permit compliance

ALTERNATIVES:

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

OTHER CONSIDERATIONS:

LNV was selected for this project under RFQ 2018-01.

CONFORMITY TO CITY POLICY:

Complies with statutory requirements for professional services contracts. Conforms to FY 2019 Capital Improvement Program (CIP) Budget.

EMERGENCY / NON-EMERGENCY:

Non-Emergency

DEPARTMENTAL CLEARANCES:

Utilities Department

FINANCIAL IMPACT:

Operating Revenue **Capital** Not applicable

Fiscal Year 2018-2019	Project to Date Expenditures (CIP only)	Current Year	Future Years	TOTALS
Budget		1,500,000	26,500,000	28,000,000
Encumbered / Expended Amount				
This item		1,000,000	803,753	\$1,803,753
Future Anticipated Expenditures This Project		50,000	24,558,000	24,608,000
BALANCE		450,000	1,138,247	1,588,247

Fund(s): Water Fund 4096

Comments:

Activity: 18131-A-4096-EXP 550950
Fund Name: Water Fund 4096 (2015 CIP)
Account No. 550950 (Professional Services)
Project No. 18131A O.N. Stevens Water Treatment Plant Clearwell No. 3.
Sequence No. Water CIP Sequence #9

RECOMMENDATION:

City Staff recommend approval of an engineering design contract with LNV, Inc. for ONSWTP Clearwell No. 3 design, bid, and construction phase services.

LIST OF SUPPORTING DOCUMENTS:

Project Budget
Location Map
Presentation
Contract