



The City of
OKLAHOMA CITY
UTILITIES DEPARTMENT

October 21, 2021

Project Title: North Canadian Wastewater Treatment Plant – Headworks Improvements and Hydraulic Study

Project Location: North Canadian Wastewater Treatment Plant

Project Number: ST-0173

Estimated Project Cost: To be determined.

Project Description: This project will provide engineering services for Headworks Improvements and a Hydraulic Study at the North Canadian Wastewater Treatment Plant (WWTP).

Background: OCWUT funds, operates, and maintains the North Canadian WWTP to provide its customers wastewater services. The North Canadian WWTP was constructed in the 1980s and has a rated capacity of 80 million gallons per day (mgd) through three separate treatment trains (Phases I, II, and III). Phase I has the largest rated treatment capacity at approximately 60 mgd, while the remaining flows are split between Phase II and Phase III. The North Canadian WWTP has developed the need for improvements related to age and design life limitations.

Project Intent: The Engineer will provide preliminary engineering services required to evaluate the existing headworks facility for Phase I and develop recommended improvements. The Engineer will also complete a hydraulic study of each process of the WWTP to determine the current hydraulic capacity of the plant, identify flow restrictions, and develop recommended improvements related to plant hydraulics.

Phase I Headworks Evaluation: The headworks facility for Phase I includes a raw sewage pump station and bar screens for pre-treatment. Five submersible pumps discharge raw sewage into an inlet for the bar screens. The discharge pipes are covered with metal plates to prevent backflow and maintain backpressure for the pumps. Due to continuous exposure to corrosive gases in the bar screen inlet, the coating and concrete surrounding the metal plates and have corroded significantly over time. A complete evaluation of the facility will be provide, including but not limited to, corrosion, pumping system, bar screens, structural, and ancillary equipment such as hoists. A short-term and long-term improvements plan is required.

Hydraulic Study: North Canadian WWTP has undergone numerous improvements since the original construction. The hydraulic study will analyze the existing plant, Phase I, II, III, and applicable support processes, to determine the hydraulic capacity of each process, develop hydraulic grade profiles, identify existing hydraulic issues, and create a recommended



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improvement plan. Plant improvements currently under design will be incorporated into the hydraulic study.

The Engineer will provide preliminary engineering services. Final design, bidding, construction administration and management, inspection, and as-built services may be added with a future amendment.