

STAFF REPORT

Date: November 15, 2023

To: Mayor and City Council

Thru: Doug Thornley, City Manager

Subject: Staff Report (For Possible Action): Approval of Consulting Agreement for Professional Engineering Services with Stantec Consulting Services Inc. for Sanitary Sewer Collection System Modeling and Support Services 2024 – 2025 in an amount not to exceed \$678,554. (Sewer Fund)

From: Roy Flores, Senior Civil Engineer

Department: Utility Services

Summary:

The City continues to refine and improve the development of a large-scale model of the City's major sanitary sewer infrastructure. This agreement will provide support to staff in analyzing recent flow monitoring data, updating the City's sanitary sewer hydraulic model utilizing recent/future flow monitoring data, assessing current/future sewer capacity needs, updating the sewer capital improvement plan, and supporting I/I reduction in the sewer system. Staff recommends Council approval of the consultant agreement with Stantec Consulting Services Inc. in an amount not to exceed \$678,554 for professional engineering services for Sanitary Sewer Collection System Modeling and Support Services for years 2024 – 2025.

Consent Review	Yes	No
1. Is this item an annual or standard item that comes before Council for regular approval?		X
2. Is this item an agreement required based on an item previously approved by Council?		X
3. Is this item Included in the current budget approved and adopted by Council?	X	
Other Considerations		
What percent of the total city budget does this item represent?	0.079%	

Alignment with Strategic Plan:

Fiscal Sustainability

Infrastructure, Climate Change, and Environmental Sustainability

Previous Council Action:

October 11, 2023 – Council approved a Consultant Agreement with V&A Consulting Engineers for Flow Monitoring Services (Phase 2) in an amount not to exceed \$262,500. (Sewer Fund)

October 26, 2022 – Council approved a Consultant Agreement with V&A Consulting Engineers for Flow Monitoring Services (Phase 1) in an amount not to exceed \$622,000. (Sewer Fund)

May 12, 2021 – Council approved a Consultant Agreement with Stantec for the Sanitary Sewer Collection System Modeling in an amount not to exceed \$521,936. (Sewer Fund)

Background:

Much of the City's critical sanitary sewer interceptors, and most recently the smaller collection-level piping within the McCarran Loop, have undergone capacity evaluations which led to the development of a large-scale model of the City's major sanitary sewer infrastructure. Most recently, City staff has worked with a consultant to develop a Flow Monitoring Plan, I/I Reduction Strategy, and Hydraulic Model Maintenance & Expansion Plan to support the following actions:

1. Prioritize areas for Inflow & Infiltration (I/I) field investigation and possible reduction
2. Assess current and future sewer capacity needs and identify deficits
3. Develop an operations plan for the three major diversion structures to maximize the collection system's capacity
4. Determine the right balance of I/I reduction versus up-sizing collection system piping
5. Evaluate and size short- and long-term sewer improvement projects
6. Expand and enhance the hydraulic model to reflect current dry- and wet-weather conditions
7. Identify hydraulic triggers to optimize timing for implementation of system improvements

Discussion:

Stantec Consulting Service Inc. was selected from the City of Reno 2022-2024 unranked qualified consultant list. Stantec will work with City staff to continue the development and refinement of the sanitary sewer model. The agreement will focus on five main components to assist the City with analyzing and evaluating the model and direct decisions on future improvements and mitigation:

1. *Flow Data Analysis*

The City is on year two of a three-year flow monitoring program. These sanitary sewer flow monitoring efforts provide comprehensive data to support the City's sewer capacity model and help evaluate and characterize wet-weather and dry-weather flows within the sewer network. An analysis of the wet-weather and dry-weather data from the previous two years data and recommendations for future flow

monitoring locations will be completed. A major area of concern and challenge for all wastewater collection system owners/operators throughout the country is inflow and infiltration, commonly known as I/I. Understanding the effects of wet-weather and dry-weather flows allows the City to make decisions to improve and ultimately optimize the collection system.

2. *Sanitary Sewer Collection System Modeling*

The City's sanitary sewer hydraulic model should be updated and validated on a regular basis to ensure there is a strong level of confidence that the model output reflects current flows and hydraulic characteristics in the actual sewer system. To validate the model, recent flow meter data will be utilized to recalibrate the model under dry-weather and wet-weather conditions.

3. *Capacity Assessment*

Historically sanitary capacity assessments and master planning efforts focused on specific regions within the community (e.g., Northwest Reno, North Valleys, Central & South Reno, etc.). With the completion of the 2022 All City Model, staff has the ability to look at the sanitary sewer collection system as a whole and make capacity assessments based on current and future flow conditions. This agreement will provide support to expand existing capacity model conditions, developing a near-term (2030) assessment, and a build-out condition assessment.

4. *Sewer Improvement Implementation Plan*

As development trends have changed, business/residential water consumption reduced, and new sewer infrastructure completed, it's important to revisit capital improvement recommendations from previous studies to ensure projects are still necessary and determine if projects need to be pushed out to a later date or enacted sooner than previously anticipated. The consultant will assist staff in developing a sewer improvement plan which includes hydraulic triggers for each project. A sequencing of these projects will be developed that includes a planning level cost estimate.

5. *I/I Reduction Support*

The consultant will perform an alternative evaluation on possible solutions to eliminate I/I in the sewer system based on recent flow monitoring data results and the City's future needs. This will also include determining the amount of I/I needed to be removed from the sewer system to avoid new infrastructure projects. The consultant will work with City staff to coordinate field activities as part of the I/I reduction efforts within the sanitary sewer system. An example of field activities includes smoke testing, dye testing, CCTV, multi-sensor inspection, manhole inspection,

lateral pipe inspection, and groundwater monitoring. Results from the field activities will assist the development of solutions to eliminate I/I from the sewer system.

Financial Implications:

This project is included in the approved FY24 Capital Improvement Program (Sewer Fund).

Legal Implications:

Legal review completed for compliance with City procedures and Nevada law.

Recommendation:

Staff recommends Council approval of the consultant agreement with Stantec Consulting Services Inc., for Sanitary Sewer Collection System Modeling and Support Services 2024 – 2025 in an amount not to exceed \$678,554 and authorize the Mayor to sign.

Proposed Motion:

I move to approve staff recommendation.

Attachments:

Agreement with Stantec Consulting Services Inc.