



LEGISLATIVE MEMORANDUM

TO: Honorable Mayor and Members of the City Council

FROM: Suzanne Sherman, City Manager

THRU: Gabriel Bowden, Utilities Director

DATE: October 3, 2024

RE: Consideration to accept the Water Master Plan and Wastewater Master Plan as prepared by Infrastructure Solution Services, LLC – Utilities Department; Presentation by Clayton McCormack, PE

SUMMARY:

The Utilities Department is requesting that City Council accept the Water Master Plan dated June 2024 and the Wastewater Master Plan dated July 2024. Utilities master plans should be conducted every five years, providing planning for the next 20 years. The master plans evaluate the existing systems and infrastructure. The information gathered in the evaluations is used to project the impact of future growth and development on the system. The goal of the master plans is to identify improvement needs and provide recommendations for Capital Improvement Projects (CIPs) to meet the future needs over a five, ten, and twenty-year planning horizon. The Utilities Department will use the master plans to determine what projects to pursue and program into the annual budgets.

The Water Master Plan includes evaluations of the following components – distribution system, water treatment plants, and future capacity needs.

- Distribution System - A new hydraulic model representation of the existing water distribution was developed using the most current geographic information system (GIS) database of the water distribution infrastructure. The water models were used to evaluate the existing system for any deficiencies and simulate projected demands on the transmission/distribution system.
- Water Treatment Plants (WTP) - An evaluation of the current condition of the water treatment plants was conducted. This evaluation provides an assessment of the system and what infrastructure is approaching the end of service life and will need to be replaced and/or rehabilitated.
- Future Capacity Needs - This includes the evaluation of the water supply, water treatment, system storage, and pumping infrastructure. The operational and rated capacity of each

WTP was compared against the total modeled water demands at each of the five, ten and twenty-year planning horizons to determine expansion requirements.

The CIP projects recommended in the Water Master Plan include additional groundwater supply well, expanding the treatment capacity at the WTPs, upgrading/replacing pumps, addition of water transmission mains, and construction of a booster station.

The Wastewater Master Plan includes evaluations of the following components – collection system, wastewater treatment plants, water reclamation facilities, and future capacity needs.

- Collection System - A new hydraulic model representation of the existing wastewater collection system was developed using the most current GIS database of the wastewater collection system infrastructure, and wastewater flows estimated from water billing data. The models were used to evaluate the existing system for any deficiencies and simulate projected demands on the collection system.
- Wastewater Treatment Plants (WWTP) and Water Reclamation Facilities (WRF) - An evaluation of the current condition of the wastewater treatment plants was conducted. This evaluation provides an assessment of the system and what infrastructure is approaching the end of service life and will need to be replaced and/or rehabilitated.
- Future Capacity Needs - This includes the evaluation of the wastewater collection system, wastewater treatment, system storage, and pumping infrastructure. The operational and rated capacity of each WWTP and WRF was compared against a model calibrated to wastewater flow, force main pressure and lift station run time. This calibrated model was used to evaluate wastewater flows at each of the five, ten and twenty-year planning horizons to determine expansion requirements.

The CIP projects recommended in the Wastewater Master Plan include expanding the treatment capacity at the WWTP and WRF, addition of force mains, improvements to gravity sewer, construction of an additional deep well, and construction of a booster station

The results of the evaluations in the master plans indicate that the projected increase in water demand and the increase in wastewater flows will require significant expansion and investments in the water and wastewater systems and infrastructure over the next twenty years.

Staff is requesting Council approval of the Water Master Plan dated June 2024 and the Wastewater Master Plan dated July 2024.

REQUESTING DEPARTMENTS:

Utilities

Honorable Mayor and Members of the City Council

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FISCAL IMPACT:

None

STAFF RECOMMENDATION:

Motion to approve the Water Master Plan dated June 2024 and Wastewater Master Plan dated July 2024.

ATTACHMENTS:

1. Water Master Plan June 2024
2. Wastewater Master Plan July 2024
3. Consultant Presentation