



WASHOE COUNTY

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STAFF REPORT

BOARD MEETING DATE: June 11, 2019

DATE: May 10, 2019

TO: Board of County Commissioners

FROM: Dylan Menes, S.E., P.E., Senior Licensed Engineer
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THROUGH: Dwayne Smith, P.E., Division Director, Engineering and Capital Projects
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SUBJECT: Recommendation to authorize payment to the City of Reno [in the amount of \$603,271.80] for the disposal of treated effluent from the South Truckee Meadows Water Reclamation Facility diverted to the City of Reno sanitary sewer collection system. (Commission District 2.)

SUMMARY

Washoe County owns and operates the South Truckee Meadows Water Reclamation Facility (STMWRF) located in the South Truckee Meadows area which provides sanitary sewer treatment and effluent management for both Washoe County and City of Reno residents. All treated effluent that does not evaporate is used for primarily irrigation and some is used for construction activities, delivered through an extensive reclaimed water irrigation network. In the off-season the Huffaker Hills Effluent Storage Reservoir is used to temporarily store the effluent. Historic effluent water losses in the reservoir were approximately 1,000 ac-ft to over 1,800 ac-ft annually and to correct the losses, Washoe County initiated lining of the reservoir in phases, eliminating the loss of this resource through infiltration into the ground.

Planning efforts anticipated the need to complete the lining of the reservoir within the next 5+ years but, due to increasing sewer flows and impacts from recent record setting precipitation events which have temporarily increased infiltration flows, it is necessary to complete the lining of the reservoir this year.

To keep stored water levels safely below the top of the existing liner and to create volume necessary for the next phase of liner construction, Washoe County worked with the City of Reno to develop a short-term solution whereby excess treated effluent flows would be sent to the Reno sewer system. Conveyance and treatment costs were determined using the existing STMWRF Solids Handling Agreement between Washoe County and Reno and costs for the excessive flows were proportioned to account for additional wear and subsequent increased maintenance costs.

Temporary conveyance of Washoe County's treated effluent flows occurred between July 2017 and July 2018 and has allowed Washoe County to maintain effective management of effluent water generated at the facility. A total of 298,792,800 gallons were

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successfully diverted during this time. This temporary conveyance of effluent to the City of Reno's sanitary sewer system has also allowed continued compliance with the Nevada Department of Environmental Protection (NDEP) permits as a zero-discharge sewer treatment facility and allowed the Utility to maintain its commitment to the citizens of Washoe County by providing a safe environment and allow for continued economic development.

Strategic Objective supported by this item: Safe, secure and healthy communities.

PREVIOUS ACTION

On April 9, 2019, the Board of County Commissioners (Board) awarded a bid and approved the Agreement to the lowest responsive, responsible bidder for the Phase 1 – Cast-In-Place Pipe (CIPP) Lining Project [Low Bidder - SAK Construction, LLC, in the amount of \$1,746,298]; and approved an Agreement for Professional Consulting Services between Washoe County and Brown and Caldwell to provide construction services for the Phase 1 – Cast-In-Place Pipe Lining Project [\$167,358].

On September 25, 2018 the Board awarded a bid and approved the Agreement to the lowest responsive, responsible bidder for the 2018 Manhole Rehabilitation Project [Low Bidder - National Coating & Lining Co., in the amount of \$372,707.00].

On July 18, 2018 the Board authorized an agreement for Professional Consulting Services between Washoe County and Electro Scan Inc., commencing August 28, 2018 through August 27, 2019, to provide condition assessment of approximately 14,000 feet of sanitary sewer interceptors within the South Truckee Meadows Water Reclamation Facility service area [\$124,500.00].

On July 12, 2016, the Board approved a change order for \$30,188.85 to the Agreement for Professional Consulting Services between Washoe County and NewFields Companies, LLC that provided inspection and material testing services during construction of the Huffaker Hills Effluent Storage Reservoir – Phase 2 Liner Expansion Project.

On August 11, 2015, the Board approved an Agreement for Professional Consulting Services between Washoe County and NewFields Companies, LLC, for a six month term, to provide inspection and material testing services during construction of the Huffaker Hills Effluent Storage Reservoir – Phase 2 Liner Expansion Project.

On July 14, 2015, the Board awarded a bid and approved the Agreement to the lowest responsive, responsible bidder for the Huffaker Hills Effluent Storage Reservoir – Phase 2 Liner Expansion Project, A&K Earth Movers, Inc. in the amount of \$4,060,000.

On January 30, 2015, the Purchasing and Contracts Manager approved a consulting services contract with NewFields Companies, LLC in the amount of \$80,900 for the Phase 2 design of the project.

BACKGROUND

Washoe County, through its Community Services Department, Utilities Division, manages sewer treatment and treatment capacity growth at STMWRF. Treatment capacity allows for continued development in the South Truckee Meadows.

The South Truckee Meadows area has experienced rapid population growth and record setting wet-winters in recent years. This combination of population growth and development, coupled with the extreme wet winter of 2016-2017 led to large increases in sewer influent flows to STMWRF. The increased wet weather impacted sanitary sewer flows primarily via the mechanism of inflows, whereby storm water enters into the sanitary sewer system at surface grade, increasing STMWRF influent. Additionally, minor increases in infiltration occurred as elevated groundwater tables made their way into the sanitary sewer network and ultimately, increased treated effluent volumes.

The increased sewer treatment inflows generated a commensurate increase in the amount of treated effluent from STMWRF. This effluent is stored in the Huffaker Reservoir, adjacent STMWRF and used in Washoe County's reclaimed water system for irrigation and industrial uses, primarily in the summer months. During the winter when effluent reuse demand drops more effluent is stored in the reservoir than is used in the reclaimed system. This raises the elevation in the storage reservoir, which has a limited capacity due to the existing liner system requirements.

To manage the increased effluent volumes, staff worked with the City of Reno staff and used the existing STMWRF Solids Handling Agreement, determined the costs for temporary disposal, proportioned to account for the additional costs associated with the significantly higher volumes.

For long-term management of effluent volumes, the Utility is working on reducing both the infiltration of groundwater and increasing effluent capacity. Staff has been aggressively investigating and lining problematic areas of the sanitary sewer conveyance system to reduce infiltration and inflows through a program of manhole and sewer interceptor lining projects, as well as increasing the storage volume at Huffaker Reservoir through a third phase of liner installation currently under design. The Utility is also actively investigating other methods of effluent management.

Washoe County's Huffaker Hills Effluent Storage Reservoir was completed in 1991 and initially included a soil liner system. Due to failures of the soil-liner system it was determined that the reservoir should be rehabilitated with an impervious liner made from high-density polyethylene (HDPE). The rehabilitation of the reservoir lining system was divided into three phases. Phase 1 was completed in 2007 and Phase 2 was completed in 2016. Phase 3 will include approximately 1 million square feet of HDPE liner, and when complete, the reservoir will be fully lined to its current maximum storage volume of 4,000 acre feet. It is anticipated that the total of Phase 3 will be between 8 and 10 million dollars.

FISCAL IMPACT

Sufficient funds and budget authority for the \$603,271.80 expense related to the disposal of STMWRF's treated effluent exist in the Utilities Fund (566), cost center 664900, account 711020 (Water/Sewer). Revenues in support of these expenses are provided from monthly sewer rate charges.

RECOMMENDATION

It is recommended that the Board of County Commissioners authorize payment to the City of Reno [in the amount of \$603,271.80] for the disposal of treated effluent from the South Truckee Meadows Water Reclamation Facility diverted to the City of Reno sanitary sewer collection system.

POSSIBLE MOTION

Should the Board agree with staff's recommendation, a possible motion would be: "Move to authorize payment to the City of Reno [in the amount of \$603,271.80] for the disposal of treated effluent from the South Truckee Meadows Water Reclamation Facility diverted to the City of Reno sanitary sewer collection system."