

Western Regional Water Commission

STAFF REPORT

DATE: May 17, 2019

TO: Chair and Members, Western Regional Water Commission (“WRWC”)

FROM: Jim Smitherman, WRWC Water Resources Program Manager

SUBJECT: Discussion and possible approval of a proposal by the Regional Effluent Management Team for funding, in an amount not to exceed \$75,000 from the Regional Water Management Fund (“RWMF”), to evaluate the feasibility of discharging Reno-Stead Water Reclamation Facility effluent to Long Valley Creek.

SUMMARY

The City of Reno expects to initiate an expansion of the Reno-Stead Water Reclamation Facility (“RSWRF”) in the summer of 2019 and finish in 2021, in anticipation of forecasted growth in the Stead/Lemmon Valley area. The 2016-2035 Regional Water Management Plan (“RWMP”) recognizes the need for the RSWRF expansion, and in addition it acknowledges the need to develop new effluent reuse or disposal options. Near-term, in-basin expanded reuse options, such as connecting new reuse customers and incrementally increasing effluent management capacity, are of value, and are being planned. In addition, it is important to pursue longer-term alternatives.

While discussing various effluent management options, the Regional Effluent Management Team (the “Team”) asserted numerous times that planning for future effluent management must include multiple options. The Team has concluded unanimously that the feasibility of discharging effluent to Long Valley Creek should be among the alternatives studied. Present flood conditions in Lemmon Valley, which limit expansion of discharge to Swan Lake, add emphasis to the need to study discharge alternatives at locations outside the Lemmon Valley basin. The Long Valley Creek option could provide added reliability and flexibility for the RSWRF expansion. Further, the Long Valley discharge option could provide a valuable future effluent management alternative to the Cold Springs Water Reclamation Facility.

In its discussions, the Team acknowledged the ongoing feasibility study concerning the possible future use of Category A+ reclaimed water technology, and emphasized that investigations are at a relatively early stage of a long-term study with no guarantee of a positive outcome. The Long Valley discharge option could help bridge a timing gap between capacity needed in the next few years and the possible future option of using Category A+ reclaimed water for purposes such as underground storage and aquifer recharge.

The Team recommends that a proposal provided by Stantec Consultants to City of Reno staff would form the basis of the feasibility scope of work. The Northern Nevada Water Planning Commission considered the proposal at its May 1, 2019 meeting and voted unanimously to forward a recommendation for approval to the WRWC. The following list outlines the proposed tasks related to investigating the feasibility of securing the necessary permits for a Long Valley Creek discharge alternative:

1. Discuss with involved parties, including local and state governments and property owners
2. Develop water balance to estimate the quantity and timing of water to be discharged using:
 - a. 2017 water year (“WY”) as a base case with a daily assessment of effluent discharge/reuse
 - b. Modified WY2017 to “design” rainfall, effluent flows, and modified discharge strategy to Swan Lake
 - c. Discharge strategy for flood conditions on both Long Valley Creek and Swan Lake
3. Identify Long Valley Creek existing conditions and topics of possible concern, including
 - a. Beneficial uses
 - b. Endangered species present
 - c. Flooding issues/concerns
 - d. 303 (d) listings (high risk of pH & DO problems from bio-stimulation)
 - e. Hydrograph/flow patterns
4. Characterize effluent water quality and reliability features with respect to
 - a. National and state toxics rules
 - b. Disinfection
 - c. Nutrients
 - d. Biological oxygen demand, suspended solids, dissolved solids, turbidity
5. Identify and characterize discharge location alternatives
 - a. Develop accurate map of Long Valley Creek and its known tributaries relative to state line and previously proposed pipe route
 - b. Determine land ownership at alternative discharge points and between discharge point and Long Valley Creek
 - c. Discuss with property owners
6. Determine conveyance issues based on water balance forecasts:
 - a. Estimate effluent residence time in pipe when discharging and forecast of water quality change (if any), and mitigation (if any, e.g., in-pipe aeration).
 - b. Procedures to drain the pipe when not in use
 - c. Determine whether first-flush from a dry pipe is of concern, and if so, mitigation measures
7. Identify discharge point facilities
 - a. At minimum, a caged flap valve, rip-rap and energy dissipation features, and secure sampler (small building or vault)
 - b. Holding basin and ancillary facilities for first flush, if necessary
 - c. Power requirements

BACKGROUND

The 2016-2035 RWMP, Section 9.3.3, states that expansion of the RSWRF capacity from 2 to 4 million gallons per day (“MGD”), average annual flow, will require the development of new reuse or disposal options to utilize the increased treatment capacity. Section 9.3.3 also identifies a small number of effluent management alternatives for the Stead/Lemmon Valley area, which include expansion of the existing reuse system for irrigation, storage in either or both surface reservoir(s) or underground, and discharge to locations outside Lemmon Valley, such as Long Valley Creek.

PREVIOUS ACTION

None

FISCAL IMPACT

If approved, the fiscal impact to the RWMF will not exceed \$75,000 for Fiscal Year 2019-2020. The Fiscal Year 2019-2020 tentative budget recommended by the NNWPC, and approved by the WRWC, includes adequate budget for this project. Budget authority is located in Fund Group 766, Fund 7066, Account Number 710100, Professional Services, Cost Object WP310201.

RECOMMENDATION

The NNWPC recommends that the WRWC approve funding, in an amount not to exceed \$75,000 from the RWMF, to evaluate the feasibility of discharging Reno-Stead Water Reclamation Facility effluent to Long Valley Creek, and authorize the Chair to execute a contract with Stantec Consultants for that purpose.

POSSIBLE MOTION

“Move to approve funding, in an amount not to exceed \$75,000 from the RWMF, to evaluate the feasibility of discharging Reno-Stead Water Reclamation Facility effluent to Long Valley Creek, and authorize the Chair to execute a contract with Stantec Consultants for that purpose.”

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