

## STAFF REPORT

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**Date:** January 10, 2018

**To:** Mayor and City Council

**Thru:** Sabra Newby, City Manager

**Subject:** **B.6. Staff Report (For Possible Action): Approval of Consulting Agreement with HDR Engineering, Inc. (HDR) for Engineering Services for the Truckee Meadows Water Reclamation Facility (TMWRF) Return Activated Sludge (RAS) and Waste Activated Sludge (WAS) System 2 Pumping Improvement Project in the amount of \$605,966 with the City of Reno's share being \$415,874.47. (Sewer Fund)**

**From:** Dave Kershaw, Associate Civil Engineer

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**Summary:** The attached scope of work with HDR Engineering, Inc. will provide engineering design services for the Truckee Meadows Water Reclamation Facility (TMWRF) Return Activated Sludge (RAS) and Waste Activated Sludge (WAS) System 2 Pumping Improvement Project. This rehabilitation effort will include final design for replacement of System 2 RAS pumps and piping, installation of flow meters and control infrastructure. Staff recommends Council approve the Agreement for Consultant Services with HDR Engineering, Inc. for design and professional engineering services as described in the attached proposal in an amount not to exceed \$605,966 (Reno's share being \$415,874.47 from the Sewer Fund).

**Previous Council Actions:**

- November 15, 2017: Council approved an agreement with HDR Engineering, Inc. (HDR) for construction management services for the TMWRF RAS Pumping Improvements – System 1 Project in an amount not to exceed \$296,899, (Reno's share being \$203,761.78 from the Sewer Fund).
- March 9, 2016: Council approved an Agreement for Consultant Services with HDR for design and professional engineering services to develop a pumping system improvement design for RAS System 1 (Phase 1) in an amount not to exceed \$499,412 (Reno's share being \$342,746.46 from the Sewer Fund).
- October 22, 2014: Council approved an Agreement for Consultant Services with HDR for design and professional engineering services to perform a RAS system

evaluation in an amount not to exceed \$138,689 (Reno's share being \$95,182.26 from the Sewer Enterprise Fund).

**Background:** One of the key treatment processes at the Truckee Meadows Water Reclamation Facility (TMWRF) consists of providing the correct balance of raw sewage (nutrients), air and microorganisms in a mixed-liquor aeration basin to properly treat the raw sewage. This process consists of providing the appropriate habitat to allow microorganisms to consume the biodegradable organics in the raw sewage and then provide a means for settling out the microorganisms, and returning a portion of the microorganisms to the front of the process and dispose of the remaining. During the process the microorganisms quickly grow in mass and need to be removed from the process on a consistent basis to maintain a balance between the food source (sewage inflow), air and microorganism mass. Operation of this process requires the ability to monitor and control the flows of sewage, activated sludge (microorganisms) and air into three different parallel treatment trains. Therefore, TMWRF must monitor and control the flow of sewage, activated sludge (microorganisms) and air into each of the treatment trains.

HDR was previously contracted to evaluate the existing activated sludge system, provide system capacity calculations, and provide recommendations for improvements that results in a fully redundant and reliable system.

**Discussion:** Based on the activated sludge system evaluation, key improvements in the system are required to maintain system reliability and redundancy. The highest priority RAS System improvements were addressed in an earlier phase of work associated with RAS System 1. The current design scope addresses the final phase of improvements associated with RAS System 2. This scope of work will provide final design for pumping, piping, and control improvements in TMWRF's System 2 Return Activated Sludge (RAS) and Waste Activated Sludge (WAS) management system. The scope of work tasks, as detailed in the attached agreement, include development of construction plans, specifications and bid documents, opinion of probable construction costs, and bidding support services. HDR Engineering, Inc. was selected from the City's approved list of engineering consultants.

**Financial Implications:** The City of Reno will administer the agreement and will be reimbursed for a portion of the costs by the City of Sparks through the current cost sharing agreement for TMWRF operation and maintenance. The City of Reno and the City of Sparks share the cost of this project as follows: 68.63 percent for Reno and 31.37 percent for Sparks, as shown in Table 1. Costs for the City of Reno are budgeted in the Sewer Enterprise Fund. The project is included in the TMWRF Capital Improvement Plan approved by the TMWRF Joint Coordinating Committee (JCC).

**Table 1 – Cost Sharing Between Reno and Sparks**

<b>Total Cost of Contract</b>	<b>Reno Share</b>	<b>Sparks Share</b>
\$605,966	\$415,874.47	\$190,091.53
<b>Percentages</b>	68.63%	31.37%

**Legal Implications:** Legal review has been completed for compliance with City procedures and Nevada Law.

**Recommendation:** Staff recommends Council approve the Agreement for Consultant Services with HDR Engineering, Inc. for design and professional engineering services as described in the attached proposal in an amount not to exceed \$605,966 (Reno's share being \$415,874.47 from the Sewer Fund), and authorize the Mayor to execute the attached Agreement.

**Proposed Motion:** I move to approve the staff recommendation.

**Attachments:**

- TMWRF RAS Sys 2 Design Agreement (PDF)