



# STAFF REPORT

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**Meeting Type:** Board of Directors  
**Title:** Spillway Capacity and Sub-Surface Condition Assessment  
**From:** Alex Anaya, Director of Engineering  
**Through:** Ben Horenstein, General Manager  
**Meeting Date:** April 30, 2024

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**TYPE OF ACTION:**      X      Action                      Information                      Review and Refer

**RECOMMENDATION:** Authorize the General Manager to execute a professional services agreement with Black and Veatch in the amount of \$926,525 with a staff requested contingency of \$138,979, for a total not to exceed amount of \$1,065,504, for the Spillway Capacity and Sub-Surface Condition Assessment

**SUMMARY:** The Spillway Capacity and Sub-Surface Condition Assessment includes work to evaluate changing climate conditions, hydraulic capacity evaluation of all seven of the District’s spillways, and sub-surface condition assessments of Bon Tempe, Peters, Seeger, and Soulajule spillways. After a competitive review process, staff recommends executing a professional services agreement with Black and Veatch to perform this work.

**DISCUSSION:** This item was previously presented at the Operations Committee on February 16, 2024. On June 27<sup>th</sup> 2023, the Marin County Civil Grand Jury published a report titled *Dam and Reservoir Safety – Water May Save Us – Water May Drown Us*. The underlying premise of the report, mainly focused on the District’s seven reservoirs, identified potential concerns with climate change, and the impact of atmospheric river events, on spillway capacities.

In response, the District considered a spillway analysis and determined, given the uncertainty of climate change, fully understanding any limitation of our storage system would provide long-term benefit. The District issued a Request for Proposals (RFP) titled “Spillway Capacity and Sub-Surface Condition Assessment Services”, aimed at evaluating the relationship between existing dam infrastructure and changing climactic conditions including the potential of increased frequency and severity of atmospheric rivers. The analysis proposed will include both hydrologic analysis to identify reservoir behavior in response to a variety of storm events, as well as hydraulic evaluations of each spillways’ ability to safely pass excess runoff.

The District is also requesting sub-surface condition assessment of Bon Tempe’s Spillway. Over the last several years, the three District dams have undergone condition assessments as instructed by the

California Division of Safety of Dams (DSOD), as per DSOD mandate. Since original construction in 1949, Bon Tempe Dam’s concrete spillway has had various minor repairs, and more recent findings warrant a similar sub-surface condition assessment.

In addition to the spillway assessment there are optional services in the contract for coring, borehole investigation, and concrete compressive strength testing to continue the DSOD approved Phase II Condition Assessment Workplan for Peters (Kent), Seeger (Nicasio), and Soulajule spillways. DSOD alteration permits have been obtained for this work.

On January 9, 2024, the District solicited engineering consultant firms specializing in dam safety and assessment through a Request For Proposals (RFP). On February 13th 2024, District staff received five proposals that were evaluated by a District Review Committee according to criteria outlined in the Request for Proposal. The Review Committee consisting of District staff compared and evaluated the proposals submitted by each firm. The proposals were evaluated using the following criteria: Project Understanding, Project Team, Project Approach, Qualification, Experience, and Budget.

After reviewing and evaluating the proposals, and conducting interviews with a subset of the firms, the Review Committee unanimously concluded that the proposal submitted by Black and Veatch provided the best comprehensive approach based on their subject matter expertise, familiarity with the District’s system, and attention to detail. District staff recommends the District select Black and Veatch to proceed with the Spillway Capacity and Sub-Surface Condition Assessment.

**Budget:**

Professional Services Agreement Fees: \$926,525

Contingency (15%): \$138,979

Total Budget: \$1,065,504

Budget Category: A1A05

The assessment is scheduled to be completed in spring 2025.

**ENVIRONMENTAL REVIEW:** Not Applicable.

**FISCAL IMPACT:** The Spillway Capacity and Sub-Surface Condition Assessment is funded in Fiscal Year 2023/2024 and 2024/2025 Adopted Capital Budget. As shown in the table below, the total cost for the agreement with Black and Veatch is \$926,525 with a staff requested contingency of \$138,979, for a total not to exceed amount of \$1,065,504.

Task Description	Budget
<b>Task 1</b> – Project Management and Coordination: This task includes project management activities including day-to-day administration, progress meetings, and technical reviews throughout the duration of the contract.	\$39,956
<b>Task 2</b> – Assessment of Changing Climate Conditions: This task includes work with Applied Weather Associate (AWA) to develop evaluate Global Climate Change projections and model output using Regional Downscaled Projections relevant for Northern California and specifically over areas of Marin Water’s dams	\$41,649

<b>Task 2</b> – Spillway Hydraulic Capacity Evaluation: This task includes data collection and records research, development of design storm hyetographs, development of hydrologic model, downstream hazard potential assessment, spillway hydraulic capacity assessment and report, and HEC-RAS model development.	\$269,900
<b>Task 3</b> – Bon Tempe Condition Assessment: This task includes site investigation, data collection, records research, condition assessment, spillway hydraulic assessment, and report preparation.	\$115,304
<b>Task 4 (Optional)</b> – Phase II Condition Assessment Workplan for Peters, Seeger, Soulajule: This task includes site investigation, data collection, records research, condition assessment, spillway cleaning and underdrain investigation, concrete coring, spillway hydraulic assessment, report preparation, and regulatory coordination.	\$459,716
<b>Professional Services Agreement Total</b>	\$926,525
<b>Contingency (15%)</b>	\$138,979
<b>Total Authorized Amount</b>	\$1,065,504

Staff is requesting the Board authorize the General Manager to execute a professional services agreement with Black and Veatch in the amount of \$926,525 with a staff requested contingency of \$138,979, for a total not to exceed \$1,065,504, for the Spillway Capacity and Sub-Surface Condition Assessment.

**ATTACHMENT(S):** None.

DEPARTMENT OR DIVISION	DIVISION MANAGER	APPROVED
Engineering	 <hr/> <b>Alex Anaya</b> <b>Engineering Director</b>	 <hr/> <b>Ben Horenstein</b> <b>General Manager</b>