



Spillway Capacity Assessment

Board of Directors

April 30, 2024



Agenda

- Background
- Grand Jury Report
- Spillway Capacity Assessment
- Condition Assessments

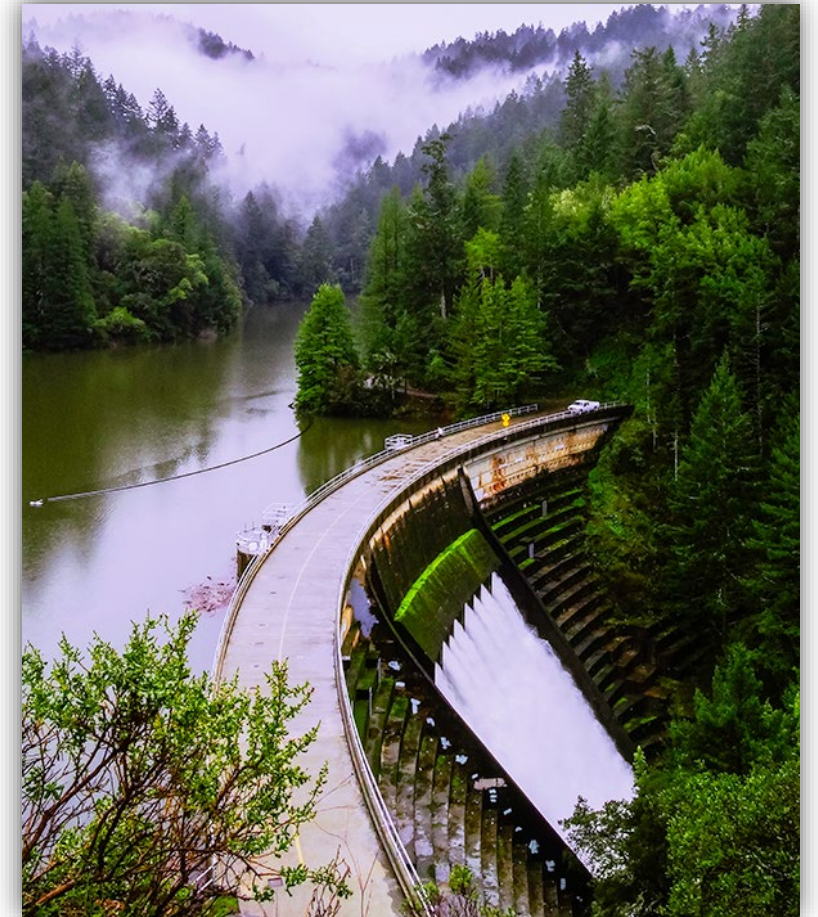


Spillway of Seeger Dam, Nicasio Reservoir

Background

- District owns & operates 7 dams
 - 6 earthen, 1 concrete
 - Total capacity 79,566 acre-feet
 - Constructed 1872 to 1979

Dam	Year of Construction
Lagunitas	1872
Phoenix	1907
Alpine	1917
Bon Tempe	1949
Peters (Kent)	1954
Seeger (Nicasio)	1961
Soulajule	1979



Alpine Dam, current

2023 Grand Jury Report

- County of Marin Civil Grand Jury published report on June 27th, 2023
- Staff assessed Grand Jury report findings and recommendations and provided official response to Grand Jury in August 2023
- Underlying premise of the Grand Jury Report identifies concerns with climate change, atmospheric river impacts and spillway capacities
 - Staff plan on utilizing dam expert to provide support relating to spillway capacity analysis

Condition Status

- **According to DSOD, all District dams are determined safe for continued use**
 - No change in existing conditions as per the annual report
 - Monthly observation and data regularly reviewed to ensure consistency
 - No observed changes in structural integrity
 - No significant horizontal or vertical movement in surveying data
- This effort of confirming spillway capacity is a pro-active and precautionary review given projections of future atmospheric rivers

Spillway Capacity Assessment

- Will evaluate the hydraulic capacity of all seven of the District's spillways
- Incorporates climate change projections and uses regional downscaled projections relevant for Northern California and specifically over areas of Marin Water's dams
- Develops design storm hyetographs and HEC-RAS model
- Assesses downstream hazard potential assessment and spillway hydraulic capacity assessment

Sub-Surface Condition Assessment

- Bon Tempe spillway condition assessment
 - Includes site investigation and non-destructive testing, such as delamination surveys and crack measurement
 - Spillway hydraulic assessment to determine potential for cavitation and uplift
- Potentially continues conditions assessments at Peters (Kent), Seeger (Nicasio), and Soulajule spillways with concrete coring, underdrain investigations

Summary

- Spillway Capacity Assessment being performed to ensure spillways appropriately sized for changing climate conditions
- Also includes sub-surface condition assessment for Bon Tempe
- Staff recommends the Board authorize the General Manager to execute a professional services agreement with Black and Veatch for \$926,525 (*optional tasks are \$460,000*)
- Authorize the General Manger to execute change orders not to exceed \$138,979 for a total not to exceed amount of \$1,065,504