

Staff Report

TO: Board of Directors
FROM: Gabe Aronow, Director of Engineering
DATE: April 8, 2026
SUBJECT: Rollins Reservoir Storage Update

ENGINEERING

RECOMMENDATION:

Receive a discussion related to storage progress at Rollins Reservoir.

BACKGROUND:

NID completed the Plan for Water (PFW) in 2024 and included a Board agenda item recommending further evaluation of increasing water supply options. One of the recommendations related to potential Rollins Reservoir improvements or operational changes that could improve storage conditions included the following options:

- A. Move forward with the Rollins 10,000 AF raise for further consideration. This alternative is the least costly option for increased storage and could be a viable step to address future predicted unmet demands. Further consideration would require the District to initiate a more thorough engineering analysis, specifically to determine whether the increased height of the weir and a potential dam raise would affect the ability to pass the Probable Maximum Flood (PMF) and result in an acceptable level of freeboard. This analysis is needed to determine the feasibility of this option and to update cost estimates.
- B. Move forward with further consideration of the Rollins 50,000 AF expansion and conduct a more thorough engineering analysis to determine if this alternative is feasible. This alternative provides the greatest benefit among the new storage options at Rollins and has the highest cost estimate.
- C. File an amended petition on Permit 11626 for an extension of time to further develop and use water under Permit 11 Rollins and for increased storage at Rollins Reservoir under either storage alternative.
- D. Continue to implement revised carryover storage targets and maximize the purchase of PG&E water to meet unmet water demands.
- E. Conduct an analysis to determine if there is a project that could be constructed to reduce further sedimentation of Rollins Reservoir.

In 2025, NID presented a Board agenda item on storage options at Rollins, including dam augmentation as noted above, sediment removal, establishing a sediment trap, and completing a bathymetric survey to confirm existing volume.

STORAGE STATUS:

- Dam augmentation to add 10,000 or 50,000 AF of new volume will require a significant study and will be substantially dependent on the status of the existing embankment. As part of the FERC Part 12d investigations, the Rollins embankment is scheduled for evaluation in the Fall of 2026 or early 2027 to assess its stability, liquefaction risk, and general condition. It is proposed to wait to implement further volumetric studies related to augmenting the embankment until these results are known.
- Sediment removal is being studied and may be viable at the river inlets to the reservoir, above the low water line. A site visit has been completed with a local contractor, and if a nearby site can be identified for sediment disposal, to avoid excessive hauling costs, volume recovery through sediment removal appears technically feasible. However, a local disposal site still needs to be confirmed to determine removal and hauling costs. Environmental site mitigations and material stabilization costs at the disposal site are also anticipated and need to be verified. These costs will also vary with the disposal location. Discussions with the local contractor and consideration of disposal sites are ongoing.
- The sediment trap concept has not evolved in a meaningful way at this time. One of the hold-ups is that establishing parameters for the trap size requires knowledge of peak influent flows from each river body, which are not known. The trap concept consists of a wide spot in the flow path, above the reservoir, where flow velocity is reduced (just like in the reservoir itself), allowing sediment to settle before flow continues downstream to the reservoir, void of sediment. While average river flows can be estimated, it is anticipated that most sediment migrates during peak-flow events that scour the watershed and carry materials downstream. Sizing a trap for average flows may be of limited or no value if all the sediment washes through an undersized trap during peak-flow events. An empirical option is to build a sediment trap, observe its effectiveness, and modify it to suit observed conditions. This empirical approach may be best employed as part of a sediment removal project, in which sediment is removed from part of the upstream river channel to serve as a trap while sediment is being removed from the reservoir. As noted above, costs for sediment removal are still being assessed.
- The bathymetric survey is underway and is expected to be completed by summer 2026. Survey control is currently being established. In addition to the bathymetric survey, topography will be captured above the waterline to assess volumetric increases associated with a dam raise.
- A new area of study is being scoped to understand inundation impacts to private properties and environmental impacts related to a dam raise. This will be used to complement the pending dam augmentation study, which will occur after the planned Part 12d study for the existing embankment.

FISCAL IMPACT:

There are no new fiscal impacts related to storage options presented at this time. The bathymetric survey is being completed through the Engineering consultation budget.

GA

Attachments: none