

STATE OF CALIFORNIA  
CALIFORNIA NATURAL RESOURCES AGENCY  
DEPARTMENT OF WATER RESOURCES  
DIVISION OF SAFETY OF DAMS

**INSPECTION OF DAM AND RESERVOIR IN CERTIFIED STATUS**

Name of Dam Seeger (Nicasio) Dam No. 33-8 County Marin  
 Type of Dam ERTH Type of Spillway Concrete side channel ogee  
 Water is 1.3 feet above the spillway crest and 13.7 feet below the dam crest.  
 Weather Conditions Overcast with light rain  
 Contacts Made Lucy Croy, Trinity Leonard, Carl Sanders and Ronnie Chasteen during the inspection  
 Reason for Inspection Periodic Evaluation

**Important Observations, Recommendations or Actions Taken**

Vegetation control continues to improve and is now excellent. As requested, additional clearing of the downstream toe and lower right downstream groin has been performed to improve access for monitoring by MMWD staff.

The downstream most 24-inch outlet control valve has been repaired, was fully cycled during this inspection, and is now fully functional.

I repeated my request that ruts within the lower access road across the downstream face of the dam be filled and graded to prevent rainfall from ponding on the downstream face.

**Conclusions**

From the known information and visual inspection, the dam, reservoir, and the appurtenances are judged safe for continued use.

**Observations and Comments**

<u>Dam</u>	<p>The visible portions of the upstream face, crest, downstream face, and abutments are in satisfactory condition with no indication of surficial distress or instability. The upstream face is armored with large boulder riprap that remains in satisfactory condition. I repeated my request that ruts within the lower access road across the downstream face of the dam be filled and graded to prevent rainfall from ponding on the downstream face.</p> <p>Vegetation control is excellent, and the crest, groins, and both faces of the embankment are covered with ankle tall grass and other low ground cover that protect against erosion without hindering inspection and monitoring for seepage and other defects. As requested, additional clearing of the downstream toe and lower right downstream groin has been performed to improve access for monitoring by MMWD staff.</p> <p>Similar to the previous inspections, rodent control also remains satisfactory and little indication of rodent activity was observed within the embankment footprint. Rodent activity is abundant within the adjacent natural ground but the embankment surface appears to be too rocky to attract burrowers.</p>
<u>Spillway</u>	<p>The approach, control section, and exit channel were open and clear. The spillway was flowing approximately 1.3 feet deep across the entrance weir. Flow within the concrete spillway chute appeared normal, and there was nothing to suggest a significant flaw within the concrete spillway channel.</p> <p>The current design storm, prepared in 1985, is for a 40,000 year return period producing 17,647 cfs</p>

Photos taken? Yes  No   
 cc for Owner/Book

Inspected by J. Lowe *10 Feb 2017*  
 Date of Inspection 7 February 2017  
 Date of Report 10 February 2017 *2/21/17*

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Date of Inspection 7 February 2017

## Observations and Comments

	<p>(~492 cfs / sq mi) from the 35.9 square mile drainage area. The spillway capacity is ~30,000 cfs which is greater than the peak inflow. Total freeboard is 15 feet and the residual freeboard for the design storm is 8.6 feet. Freeboard is satisfactory.</p>
<u>Outlet</u>	<p>Four 24-inch diameter butterfly valves on the inclined inlet structure provide upstream control for the fully encased normally pressurized outlet. The four mechanically operated valves are located at elevations 157.0', 146.0', 126.0', and 90.0'. A pair of geared head drive 24-inch butterfly valves arrayed in series provides downstream control.</p> <p>The downstream most 24-inch outlet control valve has been repaired, was fully cycled during this inspection, and is now fully functional. None of the remaining outlet controls were cycled during this inspection, but all upstream and downstream controls were partially cycled during the 5 April 2016 inspection.</p>
<u>Seepage</u>	<p>Rainfall prevented evaluation for minor seepage. No evidence of significant seepage was observed within the downstream face, groins, or abutments.</p> <p>The seepage weir and drainage channel beyond the weir were inundated during the inspection and could not be evaluated.</p>
<u>Instr.</u>	<p>Instrumentation consists of:</p> <ul style="list-style-type: none"><li>• Ten (10) survey monuments. Survey monuments were installed to monitor post construction settlement of the crest and settlement and displacement of the crest following significant seismic events. Survey monuments have been read at irregular intervals.</li><li>• One (1) seepage-measuring weir. The seepage-monitoring weir was installed to monitor flow beneath the toe of the embankment and is read monthly.</li></ul> <p>The ten survey monuments consist of seven (7) crest monuments, two (2) auxiliary monuments, and one (1) spillway monument. The seven survey monuments are located along the centerline of the embankment crest. Two (2) benchmarks are used to locate and reference the survey monuments.</p> <p>The latest instrumentation data was received from the owner on December 16, 2015, and no new data has been received since that time. The last instrumentation review is presented in the 5 April 2016 inspection report, and is not repeated here; I direct the reader to the earlier report for a detailed explanation of the instrumentation monitoring the dam, and the performance of the dam as reflected in the 16 December 2015 submittal. The conclusion of the April 2016 review was that, "Based on the data submitted the dam appears to be performing satisfactorily, and no additional instrumentation is believed necessary at this time".</p>

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The upstream face and the spillway control weir as viewed from the outlet tower access road. Flow over the weir is approximately 1.3' deep.



The downstream face as viewed from the access road to the base of the dam. Vegetation control is excellent and access for inspection and monitoring for seepage and other defects is unimpeded.

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I repeated my request that ruts within the lower access road across the downstream face of the dam be filled and graded to prevent rainfall from ponding on the downstream face.



The downstream toe of the dam showing the seepage weir location (circled), which was inundated by high spillway flow.

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Spillway flow leaving the concrete spillway channel and entering the unlined exit channel, above. The bottom photograph shows the recently repaired downstream most outlet control valve. A recently installed and very well constructed guardrail installed to protect workers operating the downstream outlet control valves.

