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	Sand Can	yon		Dam No. 1029-2		County	Orange						
Type of Dam	Earth			Type of Spillway	Ogee weir and	channel							
Water is	0.1	feet	below	spillway crest and	8.6	feet	below	dam crest.					
Weather Conditions Sunny													
Contacts Made Danielle Drake with IRWD and Richard Sanchez with GEI													
Reason for Inspection Maintenance Inspection													

Important Observations, Recommendations or Actions Taken

Upstream Slide Gate #2 is inoperable with a bent stem. Reportedly, the owner plans to repair the gate by September of 2024. This timeline is acceptable.

Vegetation is beginning to grow back in the outlet exit channel again, which needs to be removed during routine maintenance work (Photo 5).

A new seepage location at a concrete weir structure on the downstream left groin needs to be monitored on a monthly basis (Photos 6 and 7). A method to capture and measure flows at this location needs to be established so that the seepage can be monitored.

As previously requested, future instrumentation reports need to include rain data for the piezometer data plots. Additionally, piezometer P-2B needs to be closely monitored for any continuing spikes in the data.

Conclusions

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

Observations and Comments

- Dam The asphalt-lined crest appeared level and well-aligned. The visible portions of the upstream asphalt-lined face and groins appeared to be uniform and stable. There is some cracking in the asphalt lining on the crest and upstream face; however, it is expected with age and does not pose a dam safety concern at this time. The downstream face, groins, and toe appeared to be in satisfactory condition with no signs of instability or distress. Vegetation control was satisfactory. No significant rodent activity was observed.
- Spillway The approach, ogee weir, and downstream channel were clear and unobstructed. The concrete surfaces of the ogee weir and the side walls appeared to be in satisfactory condition with no significant cracks or spalls observed. Some reeds were beginning to grow back at the downstream end of the concrete channel that need to be removed during routine maintenance work to create a buffer of at least 10 feet from the concrete structure (Photo 4).
- Outlet The low-level outlet controls consist of four upstream slide gates and seven downstream valves. All of the controls were last fully cycled in our presence on April 19, 2023, except for the upstream Slide Gate #2. The stem for Slide Gate #2 was bent while cycling the gate that same day and has not been operated since. Reportedly, the owner plans to repair the gate by September of 2024. This timeline is acceptable. Vegetation is beginning to grow back in the outlet exit channel again, which needs to be removed during routine maintenance work.

			Inspected by	C. M. Lancas	ter <i>cr</i> -	1h ^{7/2}	/2024		
Photos taken?	Yes X	No	Date of Inspection	3/25/2024					
cc for	Owne	r/Book	Date of Report	6/13/2024					
_					BC	7/2/2	024		
DWR 1261 (Rev.	10/09)			Sheet	1	of	6		

Name of Dam Sand Canyon

Dam No. 1029-2

Date of Inspection 3/25/24

Observations and Comments

<u>Seepage</u> No signs of seepage were observed on the downstream face or toe of the dam. There are two subdrain outfalls inside a seepage collection vault at the downstream toe of the dam. The left drain was flowing ~1 gpm and the right drain was dry. The flows were clear and free of any sediment.

A longstanding concrete weir structure, located on the downstream left groin, about midway up the groin, was observed with standing water and some small flows traveling down the groin. There is a crack in the structure that the water was escaping through; however, the seepage appeared to emanate from around the structure as well. The flows appeared to be clear and free of sediment. Reportedly, small flows are seen in the location when the reservoir elevation is high. The structure was thought to be an old irrigation line from the reservoir; however, when the water was tested against the reservoir, it did not appear to be similar in composition. I requested the water be tested against the seepage water in the vault as the composition of the water could change as it passes through the dam. Following the inspection, I was notified that the water was similar in composition to flows seeping through the subdrain. A method to capture and measure flows at this location needs to be established so that the seepage can be monitored.

Instrumentation at this dam consists of 6 survey monuments, 11 open well piezometers, 7 vibrating wire piezometers, and 2 subdrains. The latest instrumentation report was transmitted to DSOD on May 31, 2023, covering data through calendar year 2022. The instrumentation data was reviewed in our July 10, 2023, inspection report, which concluded that the data shows the dam is performing satisfactorily.

As previously requested, future instrumentation reports need to include rain data for the piezometer data plots. Additionally, piezometer P-2B needs to be closely monitored for any continuing spikes in the data.

Sheet 2 of 6

Name of Dam Sand Canyon

Dam No. 1029-2

Date of Inspection 3/25/24



Photo 1. Downstream face of the dam.



Photo 2. Upstream face of the dam.

Name of Dam Sand Canyon

Dam No. 1029-2

Date of Inspection 3/25/24



Photo 3. Spillway approach and ogee weir.



Photo 4. Downstream end of the spillway. Vegetation needs to be removed at least 10 feet from the concrete.

Name of Dam Sand Canyon

Dam No. 1029-2

Date of Inspection 3/25/24



Photo 5. Downstream outlet channel.



Photo 6. New seepage location on the downstream left groin.

Name of Dam Sand Canyon

Dam No. 1029-2

Date of Inspection 3/25/24



Photo 7. Interior of the concrete weir structure on the downstream left groin.