



DEPARTMENT OF WATER SUPPLY • COUNTY OF HAWAII

345 KEKŪANAŌ'A STREET, SUITE 20 • HILO, HAWAII 96720

TELEPHONE (808) 961-8050 • FAX (808) 961-8657

September 27, 2018

RE: Waikoloa Reservoirs No. 1, No. 2, and No. 3

Dear Waimea Community:

Recent events at Nu'uuanu Reservoir on O'ahu reminds us to be vigilant and mindful of possible concerns here on Hawai'i Island.

The Department of Water Supply (DWS) operates and maintains Waikoloa Reservoirs No. 1, No. 2, and No. 3 above Waimea Town. These reservoirs serve as raw water storage which is then processed through our Waimea Water Treatment Plant to produce potable drinking water for the community.

Each of the three reservoirs can hold approximately 50 million gallons of water. Currently, only two reservoirs are filled with water, and the third (Waikoloa Reservoir No. 1) has been empty since 2011 to conduct planning, surveying, design and permitting requirements for its repair. That project is currently being advertised for construction bids.

There are significant features in DWS' three reservoirs that enhance their overall integrity and safety:

1. Inflow of water to all three reservoirs are via pipelines with control valves, versus directly from streams or other water sources. In other words, we can close a valve to stop water from filling the reservoirs.
2. All reservoirs are above the normal 100-year flood elevations. This feature, along with item one above, make these reservoirs unaffected by rainfall runoff and flash flooding.
3. All three reservoirs are concrete-lined, meaning there are concrete panels on the inside and bottom of each of the reservoirs. This helps to minimize the potential for leaks and increase the overall integrity of the reservoir.
4. Each of the reservoirs have concrete spillways versus earthen or dirt spillways. The spillways are designed to allow a regulated flow as well as any additional rainfall, to be released from the reservoirs to a pre-designated flow path. The spillways are significantly larger than the inlet piping, ensuring that water levels do not exceed the spillway elevation, which is approximately 4-5 feet below the crest (top elevation) of the reservoir. A concrete spillway is less affected by water overflowing versus an earthen spillway.
5. Each of the reservoirs have drains, which can be opened to reduce the amount of water in the reservoir.
6. Waikoloa Reservoir No. 2 was recently improved to have flatter embankment (outside) slopes, additional geosynthetic liners on top of the concrete liner, underdrains to monitor for seepage around the slopes, and a piezometer, which gives us the ability to measure saturation of the embankment. Waikoloa Reservoir No. 1 will also have similar improvements done with the current repair project.

The Department of Water Supply is an Equal Opportunity provider and employer.

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Emergency Preparedness

The State Department of Land and Natural Resources (DLNR) – Dam Safety Division requires dam (reservoir) owners to have an Emergency Action Plan (EAP). DWS completed an EAP for each reservoir in 2010 (updated in 2015 and 2017), including an evacuation map for a dam failure event. The EAPs are being provided to educate and inform residents, businesses, and landowners of the potential hazards associated with their properties. In the unlikely event of a potential or imminent dam failure, the EAP process will be initiated. The EAPs were developed and will be implemented in coordination with the Hawai'i County Civil Defense Agency, Fire Department, Police Department and other appropriate agencies to ensure your safety.

Copies of the EAPs can be found here: <https://www.hawaiidws.org/waikoloa-eaps>

The DLNR – Dam Safety Division has reviewed and concurred with the individual EAPs for each reservoir and performs inspections every other year. The last inspections were held in April 2018, with no issues identified. In addition, during and after natural events (i.e. earthquakes, hurricanes, storms, etc.), inspections are required of each reservoir with reports back to the DLNR - Dam Safety Division. For example, during the last two storms (Lane and Olivia), DWS reported twice daily. There were no issues or concerns with our reservoirs during those events.

In the unlikely event of an emergency, DWS urges the community to be informed and prepared:

- Know the type of flood risk in your area. Visit the State DLNR website at: <http://gis.hawaiinfip.org/fhat/> and use their online “**Flood Hazard Assessment Tool**” to determine if you are in an evacuation zone.
- Sign up to receive **Hawai'i County Civil Defense Alerts**: <https://countyofhawaii.bbcportal.com/>

At this time, there is NO potential or imminent threat for a failure of DWS' three reservoirs. Repeat, there is NO potential or imminent threat for a failure of DWS' three reservoirs.

This is an effort to provide information to the community for their own planning and preparations.

The Department of Water Supply will continue to be vigilant in the monitoring of our reservoirs, and any matters that may be of concern will be immediately communicated to Civil Defense and emergency responders.

Contact DWS

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