

OFFICE OF EMERGENCY SERVICES

LAKE COUNTY SHERIFF'S OFFICE

2021

LAKE OPERATIONAL AREA

Lake County Emergency Operations Plan

Dam and Control Structure Failure Annex

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And

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For

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Lake County Water Resources Department/Watershed Protection District is responsible for three water control structures:

1. The Adobe Creek Dam

Adobe Creek Dam is located approximately five miles south of Finley. It can be reached from Highway 29 by the Highlands Springs turn-off on Bell Hill Road near Kelseyville or from Hopland via the Old Toll road. Adobe Dam is an earthen structure, containing up to 695 acre feet of water. It is owned and operated by Lake County Flood Control and Water Conservation District.

2. Highland Springs Dam

Highland Springs Dam is located approximately 0.5 miles west of Adobe Creek Dam. The Dam can be reached via Highlands Springs Road, Bell Hill Road or the Old Toll Road. Highland Dam is a 75-foot high earthen structure with a nominal containment volume of 3,500 acre-feet and a maximum flood control volume of about 5000 acre-feet of water.

3. Kelsey Creek Detention Structure

The Kelsey Creek Detention Structure is a groundwater recharge facility located one mile north of Kelseyville. It can be reached from Finley East Road.

4. Catastrophic Failure

The Watershed Protection District does not currently have dedicated 24-hour monitoring at any of the three sites discussed above. There is a caretaker at Highland Springs Park, but the caretaker has numerous other duties to attend to aside from dam monitoring. Consequently if any of the three structures suffered catastrophic failure for example after an earthquake, there would be little to no warning for downstream residents.

a) Kelsey Creek Detention Structure

The detention structure holds back water on an annual basis for groundwater recharge in the Kelsey Creek basin. The impounded water does not exceed the upstream bank height. Some years the detention structure is not operated due to adequate rainfall or the need to avoid impeding upstream movement of spawning Hetch (*Levinia exilicauda*) Failure of the structure when water is being held back would result in a significant downstream flush, but due to the deeply incised channel, few downstream structures would be affected. There is no automated monitoring system in place at the Kelsey Creek detention structure.

b) Highland Springs and Adobe Creek dams

At maximum capacity, Highland Springs Reservoir holds about 5000 acre-feet of water; normal pool is closer to 1000 acre-feet. Adobe Reservoir contains about 700 acre-feet of water. If the two dams suffered simultaneous catastrophic failure with the Highland Springs

reservoir at maximum volume, the resulting flood could exceed the 500 year flood elevation. This could affect most of the 3,288 acres of Big Valley; which could be inundated with a foot or more of water affecting as many as 150 structures. In terms of transportation impacts, the flood waters could adversely affect Lampson Field, Route 29 and other low-lying rural roads running through Big Valley. Inundation could wash out Bell Hill Road as occurred in 1995, and affect both Highland Springs Road and Adobe Road; alternate routes need to be identified. Approximately 75-100 residences are located in the proximate inundation area. Failure of the Adobe Reservoir Dam would result in extensive flooding to the inundation area along Adobe Creek.

5. Potential Failure

A situation of potential failure would exist when either dam displays leaks, wet spots, fissures or other signs of structural weakness prior to actual failure of the dam. In this situation the County would have hours or days to respond to the impending emergency. Actions would include structural assessment of the dam, repair if possible, release of water to relieve pressure on the dam and potentially evacuation of downstream residents.

6. Public Warning and Alert Notifications

The Office of Emergency Services is responsible for public warning efforts during the preparedness phases of a disaster, as well as the alert and notification needs during a disaster response. The Public Information Officer (PIO) within the Command Staff of the County EOC is the representative within the OES staff who is responsible for public information efforts. With the approval of the EOC Director, the PIO will disseminate emergency messages to the public regarding preparedness measures to take, evacuation areas and routes (if applicable), emergency resources, measures that County OES is taking during the event; and recovery assistance information.

7. Direct Notifications

The following entities/individuals will be notified in the event of a dam failure or potential failure or if there is an issue with the Kelsey Creek detention structure.

The Director of Lake County Water Resources, the Water Resources Program Coordinator or the Water Resources Engineer will be notified. That person will then contact:

a) Lake County Sheriff

Dispatch: (707) 263-2690

Administration: (707) 262-4200

b) Lake County OES

O: (707) 263-2690;

c) State Department of Water Resources

Michael Waggoner, Chief, field Engineering Branch (916) 227-9800

Or if after hours –

- i. Lakhbir Singh, O: (916) 227-4603; C: (916) 806-1110; H: (916) 923-1603
- ii. Russell Bowlus, O: (916) 227-4604; C: (916) 834-2629; H: (530) 753-4825
- iii. California Office of Emergency Services Warning Center (916) 845-8911

8. Proposed Operations: High flow Operations

During periods of unusually high, intense or long-lasting rainfall, the water surface elevation in the reservoir will be monitored to determine whether the control structure should be opened to release more water. If the water level continues to rise with the control structure is fully opened, the spillway will overtop. Maximum discharge from the Highland Springs reservoir principal spillway is 520 cubic feet per second (CFS) and 10,800 CFS from the emergency spillway. Maximum discharge from Adobe Creek reservoir is 940 CFS.

Both Highland Springs Reservoir Dam and Adobe Reservoir Dam are inspected annually by the California Department of Water Resources. During periods of extended or intense rainfall, the dams and Kelsey Creek detention structure will be monitored daily by Lake County Water Resources staff for signs of failure or weakness.

9. Response Priorities

Upon notification of a potential dam failure, the priority response would involve evacuation of residences within flood-prone elevations along Adobe Creek downstream of the Highland Springs and Adobe Creek reservoirs.

10. Resources and Shortfalls

Lake County Water Resources Department is currently short-staffed and needs to be better able to remotely monitor the water levels and discharges from Adobe Creek and Highland Springs reservoirs. Currently we rely on on-site assessment of discharge volume and relative water level elevation.