Dam Breach Alternative

The concrete chute spillway of the lower pond, measuring approximately 60 feet long by 16 feet wide, collapsed from undermining due to the high discharge rate during Tropical Storm Helene. The concrete chute spillway is aligned at the left abutment and serves as the principal spillway. As it receives near constant flow, the proposed replace-in-kind option of cast-in-place concrete is considered the best option. Natural streambank repair downstream of the spillway structure may be warranted.

As an alternative to repair by replacement, consideration could be given to decommissioning the dam. Dam decommissioning is generally defined as the controlled demolition or breaching of a dam or reservoir to the extent that no water or fluid can be impounded by the dam or reservoir. For the Lower Pond Dam, decommissioning would involve preparation of Engineering Plans and Specifications documenting the following primary activities:

- Dewatering the pond and management of water during construction.
- Excavating a portion of the embankment at its lowest point downstream and constructing a stable channel from the notch to the receiving stream. The excavation would likely fall along the current lake drain pipe alignment where a small stream channel already exists. Note this channel has a steady flow from a constant leak in the lake drain pipe.
- The channel would be lined with geotextile fabric and rip rap, but the slopes above the channel can be grassed.
- The interior of the reservoir will need minor grading to promote drainage, and the entire area would be planted with grass or other permanent native vegetation.
- Trees outside of the breach zone can remain.
- Permits are required from NC DEQ Asheville Regional Office (Erosion Control), and potentially the US Army Corps of Engineers. A licensed NC Professional Engineer is required to prepare breach plans of jurisdictional dams.
- Record Surveying following construction.

S&ME is not aware of any current formal uses of the Lower Pond - other than potential flood and sediment control - and the original purpose of construction is unknown. The primary benefits of dam decommissioning are 1) the construction cost for breaching the dam and restoring the stream channel are estimated to be similar or less than repairs to the spillway; 2) returning the dam and pond to a natural-like stream channel is viewed as an environmental benefit; and 3) dam decommissioning would also be considered as a long-term investment by reducing maintenance and administrative costs associated with dam upkeep.

If the dam is not decommissioned, tree removal is recommended as a short- to mid-term maintenance activity. As a general guidance from NC Dam Safety, all trees, brush, and woody vegetation should be removed from all parts of the dam and appurtenant works and within 15 feet of any part thereof. The following are excerpts from a May 23, 2022 Memorandum prepared by the Dam Safety State Program which illustrate the requirements for tree removal:

- Any trees and brush less than six inches in diameter at breast height may be removed by cutting flush to the ground

- All trees six inches in diameter and greater at breast height are considered large trees and must be completely removed by excavation (clearing & grubbing) including root removal. The resulting excavations must be properly backfilled with select fill, and all disturbed areas must be regraded and revegetated.

The proposed repairs due to damage from Helene are only associated with the spillway replacement work. Although the presence of trees on the dam embankment is not a regulatory deficiency because the dam is non-jurisdictional, removing the trees from the dam following NC Dam Safety guidelines is a recommended activity for the safety and longevity and of the structure.

Permitting Considerations

The following is an excerpt from our February 6, 2026 proposal:

> Approval from the NCDEQ Dam Safety Program is required for new dam construction, repairs, or removal. The lower pond, however, is non-jurisdictional. Thus, approval for, and certification of repairs from NDEQ is not an anticipated requirement.
>
> Impacts to streams are typically subject to regulation by the U.S. Army Corps of Engineers (USACE) through Section 404 of the Clean Water Act (CWA) and by the North Carolina Department of Environmental Quality (NC DEQ) through Section 401 of the CWA. The proposed spillway replacement work likely qualifies for expedited review and authorization under the Nationwide Permit (NWP) program due to the damage being related to Tropical Storm Helene. Regardless of the applicability to the expedited agency review procedures, the work meets the criteria for coverage under the NWP3 – Maintenance. Provided that the project complies with the applicable general and specific conditions of NWP, submission of a Pre-Construction Notification (PCN) should not be required. Special Guidance issued by NCDEQ regarding Tropical Strom Helene repair work in Waters and Wetlands states that 401 Certifications are only required when the USACE determines that a 404 Permit is required (i.e. a 401 Certification is not needed when a 404 Exemption is applicable). Thus, effort associated with submission of a PCN pursuant to Section 401/404 Permitting has not been included with this proposal.

Following the Flood Plain Manager's recommendation, S&ME can reach out to the USACE Asheville Regulatory Field Office to discuss permitting requirements for the spillway replacement work and dam breach alternative.

Attachments: Site Photographs 1 through 6



Date: 2/17/2026

Photographer: Michael Romanello

1	**Location / Orientation**	Overview of pond / View looking northwest
	Remarks	Principal concrete chute spillway at back corner of pond.



Date: 2/17/2026

Photographer: Michael Romanello

2	**Location / Orientation**	Spillway Inlet / View from left abutment looking east
	Remarks	Approximate upstream concrete limits marked by change in water color.



Date: 2/17/2026

Photographer: Michael Romanello

3	**Location / Orientation**	Spillway channel / view looking upstream
	Remarks	Broken and displaced concrete spillway sections.



Date: 2/17/2026

Photographer: Michael Romanello

4	**Location / Orientation**	Spillway channel / view looking upstream
	Remarks	View from further downstream of Photo 3.



Date: 2/17/2026

Photographer: Michael Romanello

5	**Location / Orientation**	Lake Drain Outlet Pipe at downstream toe of dam
	Remarks	Leak with sediment and iron ochre accumulation



Date: 2/17/2026

Photographer: Michael Romanello

6	**Location / Orientation**	Dam crest / View looking west
	Remarks	Many large trees present on downstream side of dam. Shrubs present along upstream shoreline .