

Dam Safety Records on Black Mountain Reservoir
Review 10/16/2009 by Marshall Taylor

The Black Mountain Reservoir Dam (upper dam) is a regulated high-hazard structure with a hydraulic height of approximately 46 feet and storage capacity of 56 acre-feet with a 3 acre surface area. It drains approximately 281 acres but high flows are bypassed around the lake. It has a 12' wide weir on concrete basin spillway with a nominal capacity of 350 cfs. Normal pool is at 2605' MSL. A USACE Phase I Dam Safety Program Report is in the project folder. The Phase I report notes that the PMF would overtop this dam by 2.2' to 2.4' and the ½ PMF would overtop by 1.3' to 1.4'. That report recommended draining and breaching of the dam unless subsequent studies and spillway improvements led to increased dam safety.

After the Phase I Dam Safety report and subsequent inspections by NC Dam Safety, the Town received an order to repair or to drain and breach the dam. An authorization to re-impound was issued in December 1984, based on spillway improvements and toe drain designs completed in 1983 by J.N. Nilsson, a Black Mountain engineer. Construction was supervised by Mr. Nilsson.

In December 2005 NC Dam Safety requested preparation of an EAP (signed by Max Fowler). The Town has not provided an EAP to date.

The upper dam, and flows which bypass it, drain into the lower dam which is a non-regulated structure. Total drain area to the lower dam is estimated at 450 acres. Note that failure of the upper dam would almost certainly lead to failure of the lower dam.