VERMONT

Vermont Department of Environmental Conservation *Agency of Natural Resources*
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MEMORANDUM

TO: **For the Record**
FROM: **Brian A. Terhune, P.E., Assistant Dam Safety Engineer**
DATE: **June 15, 2007**
SUBJECT: **Inspection of Curtis Pond Dam, Calais, VT**

On May 23, 2007, Brian A. Terhune, P.E. and Chris Pollock made a routine annual inspection of the Curtis Pond Dam located in Calais, Vermont, State Identification Number 40.09. A number of photos where taken. The last inspection of the dam was conducted on May 17, 2006. This report updates those observations and records additional information.

OVERALL CONDITION

The overall condition of the dam was poor, which has been reported in previous reports.

DOWNSTREAM HAZARD CLASSIFICATION

The dam is a Class 2, "Significant Hazard" Dam.

RECOMMENDATIONS FOR OWNER

1. The dam should be observed periodically for any change in the seepage pattern, volume or clarity. Also any sinkhole development or dam movement should be noted. Report any changes to the State Dam Safety Office at (802) 241-3454.

2. The small woody vegetation along the upstream waters edge should be removed.

3. The erosion at the water's edge along the left side should be backfilled with suitable material.

4. Monitor sinkholes along the crest of the dam for further erosion.

5. The project to determine the appropriate rehabilitation of the dam should be finalized.

DAM DESCRIPTION AND HISTORY

Curtis Pond dam is a small earthen fill gravity structure with a vertical rock face on the downstream side. The dam is located on an unnamed brook just upstream of the junction with Pekin Brook, a tributary of the Kingsbury branch of the Winooski River. When the dam was constructed, it raised the water behind it approximately seven feet causing the two natural ponds upstream to combine into what is now Curtis Pond.

The dam is approximately 120 feet long and has a maximum height of 14 feet. The pond was created for recreational purposes.

INSPECTION

The inspection of the dam was conducted on May 23, 2007 between 1230 and 1300 hours. The weather was clear with temperatures in the 70's. The water level was 0.67 feet above the top of the pipe to the right of the spillway channel.

1. Embankment Section

   a) Upstream Slope: The upstream slope had minor woody vegetation at the water's edge. There was no significant erosion along the waters edge.

   b) Downstream Face: The downstream face consists of a dry masonry, stone façade. The wall leans off vertical, as has been recorded in previous reports. The top 3 to 4 feet of the stone face are off vertical by 1.5 to 2 feet. Seepage through the stone face appears similar to previous inspections in both pattern and quantity.

   c) Crest: The left side of the crest was irregular with numerous depressions. An area of erosion noted on earlier inspections has progressed. Small sinkholes on the right crest that were reported by the neighbor have been backfilled. Most of the right crest has been topsoiled and reseeded. The pile of debris that was previously noted has been removed. The grass cover across the crest was well mowed.

2. Principal Spillway: The principle spillway consists of an uncontrolled channel in the crest. The approach and weir sections were clear of vegetation and debris. The discharge channel was rock lined and was free of vegetation.

3. Sluice Gate: The sluice gate was in poor condition. Water flow around the exit of the sluice gate was evident.

HYDROLOGY AND HYDRAULICS

The drainage area at this site is about 917 acres. The pond area at the normal pool is about 76 acres with storage of about 724 acre-feet. At the dam crest, the pool stores 1,000 acre-feet.

JURISDICTION

Since the dam impounds more than 500,000 cubic feet, any alteration, reconstruction or breaching would require prior approval from the Department under provisions of 10 VSA Chapter 43. Further drawdown of the pond would require approval from the Department under a 1272 Order.