

WESTON & SAMPSON ENGINEERS, INC.

P.O. Box 189, 98 South Main Street
Waterbury, Vermont 05676
(802) 244-5051

MEMORANDUM

TO: Ms. Valerie Capels, Town of Waitsfield
FROM: Ken Bisceglia, P.E., CHMM, WSE
DAY/DATE: November 21, 2008
PROJECT: Town Pond Dam
SUBJECT: Design Plans and Alternatives Discussion
COPIES TO: File 2080236

We provided you our design plans for the replacement “in-kind” of the outlet system for the dam. This is the “State-preferred” option based on our discussions with Stephen Bushman of the Vermont Dam Safety and Hydrology Section. The estimated cost of construction is on the order of \$75K. Below are some other options we discussed with you at our meeting on November 10th.

Open channel spillway across the crest: We looked at sizing an open channel spillway across the crest of the dam for the 100-year storm. The weir crest would have to be six feet long parallel to the dam at El. 89.5 with 2H:1V sides sloping up to the crest of the embankment at El. 93.5. That means the channel will be 22 ft. across the top of the dam. The auxiliary spillway at the abutment would not be needed in this case. The estimated cost for constructing the channel, then bulkheading and backfilling the existing outlet system with flowable grout fill is on the order of \$50K.

Open channel spillway and a bridge: To situate a bridge to span the channel, the inside edges of 2 ft. wide footings/abutments would be set at the tops of the channel sideslopes. The footings would need to extend down to 5 ft. below the ground surface. The bridge would then have a span of approximately 24 feet. We've done this before using prefabricated steel pedestrian bridges from Steadfast Bridge and Continental Bridge (they are beautiful). Assuming an 8-foot wide bridge, the cost for the bridge is going to add about \$30K including the abutment/footing construction plus engineering costs. This makes this option more expensive than replacing the existing components "in-kind" in terms of cost.

Complete dam removal: Complete dam removal is considered technically feasible, but wetland impacts and permitting by the DEC would have to be investigated. This would probably be the lowest cost alternative. It would eliminate the Town’s responsibility for maintaining the dam as well as the risks associated with damages from flowage from the pond. Also, the excavated gravel could be used elsewhere by the Town for other uses. A wetland path/footbridge (similar to the path being constructed nearby) could be constructed to span the new stream channel formed by dam removal.