

## Estabrook Dam Repair Summary

**The following repairs shall be completed prior to refilling the impoundment.** Plans and specifications shall be prepared by a professional engineer registered in the State of Wisconsin and submitted to the Department by **July 29, 2011**. Repairs shall be completed by a competent contractor by **July 27, 2012**.

Repair summary taken from “Structural Engineering Evaluation of the Estabrook Park Dam”, AECOM, September 28, 2010. Repairs are consistent with the July 28, 2009, Repair or Abandon Order for the Estabrook Dam and the October 16, 2007, Revised Work Schedule.

Estabrook Dam Feature	Repair Type
Gated Spillway	Remove and replace deteriorated concrete below water level at piers, +/-
Gated Spillway	Remove and replace deteriorated concrete above water level at piers, bridge deck and walls
Gated Spillway	Repair the expansion joints at bridge deck and walls
Gated Spillway	Seal top of bridge deck to reduce penetration of water into concrete
Gated Spillway	Properly prepare and paint vertical steel gates and grease/lube operating components
Gated Spillway	Add grouted tie down anchors (steel) into bedrock, upstream side of all piers, for winter ice loading if impoundment is not drained in the winter
Shoreline	Add geofabric and riprap along eroding shoreline near gated spillway
Overflow Spillway	Repair/replace broken stoplogs and steel posts
Overflow Spillway	Patch deteriorated concrete at crest and tuckpoint joint between concrete and stone masonry facing
Icebreakers	Repair deteriorated concrete on tops and at water line. Replace failed icebreaker and replace one leg of second icebreaker
Whole Facility	Develop and implement a log and debris cleanup program for all three dam features. (Alternate – Consider new icebreaker design/layout to divert logs to north bank of river for ease of maintenance)

Repairs identified in the July 28, 2009, Repair or Abandon Order for the Estabrook Dam and the October 16, 2007, Revised Work Schedule that are not mentioned in the AECOM Engineering Evaluation and Environmental Report.

Remove debris from fixed crest spillway. (This should include management of contaminated sediment associated with remaining, post-storm debris removal.)
Develop an Emergency Action Plan. Timeline: 10 days after completing repairs
Develop an Inspection, Operation, and Maintenance Plan. (This should include annual debris removal and management of any co-mingled, contaminated sediment.) Timeline: 10 days after completing repairs
Obtain owner access to the south bank for operation, maintenance, and repair, and submit a copy of the applicable deeds to the Department.
Establish benchmarks and provide documentation from a registered land surveyor regarding the location and elevations.