



**Willow Lake Association,  
Martin Oakes, 2100 Oriole Drive, Freeport, IL 61032**

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Nov, 2007

Mr. M. Leslie,  
Willett, Hofmann & Associates,  
18 North Galena Avenue,  
Suite 150,  
Freeport, IL 61032

Dear Mr. Leslie,

As noted in the annual inspection report for Willow Lake Dam, concrete repairs have been required each year. We would like to make permanent repairs in 2008 and request that you review and advise what steps are appropriate. Your consulting fees should be billed to us.

In 1998 we contracted with Structural Bonding Systems of Grafton Wisconsin. They found two hollow spots. One under the horizontal slab, the other under the lower portion of the chute east side. No water was present in either case, and no sign of particulate transportation. Several cubic yards of concrete were pumped into the cavities. This concrete plugged the lower east side drain. However in thirty years, I have never seen these drains discharge water.

Cracks were filled by epoxy injection, and grouted over. Photographs are available.

Each year, as necessary, additional repairs have been made. See attached PDF file showing pictures of this years work.

We assume that the best way to repair the concrete is to pour a new base over the top of the existing one? Please see the proposal and budgetary estimate from Civil dated May 18, 2004.

When the stilling basin was dug, springs filled the footings with water, which was pumped out. After our recent heavy rains, water is seeping at one point where the stilling basin meets the chute.

When the original dam was poured, it appears that the ogee lip was roughly shaped, then trowelled to a finish. Some of this surface has spalled.

Following are our questions:

- What permits are required (Stephenson County, IDoNR) and how do we apply for them?
- How should the surface be prepared? Is sandblasting appropriate?
- How much of the existing loose or hollow concrete should be removed?
- Should a chemical bonding agent be applied to the surface? If so what?
- What composition (mix) should the concrete be?
- What should be the thickness of the new slab?
- Should the new pour be reinforced, if so with what and what design? Should reinforcing be drilled or anchored into the existing slab?
- Slight seepage exists where the ogee lip meets the east and west vertical walls. How should this be dealt with? Does it make sense to pour a buttress wall?
- How should expansion joints be designed? Should they be placed over the existing ones? Should they be filled with rubber? The existing concrete seems to be divided into very large slabs.
- Do we need to resurface the sloping face of the ogee lip.
- Some design standards have changed since the original drawings were submitted to IDoNR for approval in 1973. In particular the footing depth of the front vertical ogee wall. Will IDoNR require any changes to upgrade the design or are we "Grandfathered?"
- Civil poured the stilling basin. Are they the best choice for the work we propose? Is there any other company in the area competent to bid on this project?
- Are there any other factors to consider?

After you have reviewed these questions, it may be appropriate for us to meet. I intend to prepare a specification for the work and solicit bids.

Sincerely,

A handwritten signature in cursive script that reads "Martin Oakes". The signature is written in black ink and is positioned above a solid horizontal line that serves as a separator.

Martin Oakes