B & W Engineering Laboratories, Inc.

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08 February 2021
Job No. 9762
Serial No. D-3011

Ms. Ally Martin
Woodland Lake HOA
[redacted]

Ref: Spillway Area Inspection
Woodland Lake Dam
Eudora, Mississippi

Dear Ally:

The primary spillway area of Woodland Lake Dam was inspected on 04 January 2021 by Robert Jones and the undersigned. A "sink hole" that had been noted just below (west of) the southern end of the weir section that controls the normal pool elevation of Woodland Lake was the primary concern of the inspection. At the time of inspection, lake water was flowing across the weir and appropriately down the concrete spillway. The following observations were made.

1. Inspection of the sink hole revealed that the sod that previously covered the area had fallen into the hole, indicating that sink hole formation was likely caused by subsurface erosion. In many cases, such erosion occurs over an extended period of time and is not noticed until the surface falls into the hole. See Photo #1.

2. Another slightly smaller sink hole was noted near the water's edge, east of the Item #1 sinkhole. Very soft wet soil was noted in this sink hole.

3. Several much smaller erosion depressions were noted along the southern edge of the spillway. Based on probing with a tile probe rod, soft soil exists beneath these depressions, extending beneath the side slopes of the spillway.

4. Another larger depression was noted near the lower (west) end of the spillway, just east of the downstream end sill. Moving water of unknown source was noted in this depression. See Photo #2, which shows a small portion of this depression.

5. Water flow patterns observed near several spillway construction joints, appeared to change across such joints, possibly indicating flow through such joints. This could not be verified at the time of inspection.

It is recommended that a more thorough inspection be performed during a dry season at a time during which flow over the spillway weir has not been noted for at least several days.

Depending on the findings of such inspection, testing will likely be recommended at that time if deemed appropriate, allowing recommendations related to “permanent” repair of the spillway to be provided.

At this time, it is recommended that the depressions/holes described in Items 1, 2, and 3 above, be filled with bentonite clay, in either granular or chip form, up to a depth of about six inches, after first removing any remaining remnants of sod or other organic materials that may be encountered. Tamped silty clay should be placed over the bentonite up to the previous surface levels, and new sod should be placed over the silty clay. This must be considered a temporary solution, unless the recommended inspection deems it otherwise.

If there are any questions, or if additional information is required, please advise.

Respectfully submitted,

B & W Engineering Laboratories, Inc.

Jamie C. Cunningham, P.E.

John L. Walton, Sr., P.E.
President

JLW/jw0221

APPENDIX A

PHOTOGRAPHS

Photo #1: Sink Hole South of Upper End of Spillway, 04 January 2021

Photo #2: Depression Near Lower End of Spillway, 04 January 2021