



March 29, 2006
BCI Project No. 19-14067

Mr. Wayne Simmons
Shadow Run Dam Corporation
Post Office Box 980
Riverview, Florida 33568

**RE: 2006 Annual Dam Inspection
Lake Grady Dam
Hillsborough County, Florida**

Dear Mr. Simmons:

On March 8, 2006, BCI Engineers & Scientists, Inc. (BCI) completed an inspection of the Lake Grady Dam and Spillway located in Valrico, Florida as shown on **Figure 1**. Carl W. Christmann, P.E. made the inspection, which included a walking reconnaissance of the area. Our observations were recorded and significant features were noted and photographed. The investigation included a discussion of the structure with Wayne Simmons.

On the day of our inspection, the reservoir staff gauge was not readable from the shoreline. The water level within the lake was slightly above the spillway discharge elevation and was conveying water out of the lake.

Spillway Structure

A large concrete spillway structure is present within the earthen embankment to control the lake levels and safely discharge water out of the lake. The upstream portion of the spillway structure was within a fenced area and was not accessible. The area inside the fence was heavily vegetated and the ground surface was not visible. The spillway structure was inspected from outside the perimeter fence on the upstream end. At the time of the inspection, some minor amounts of debris was partially blocking the spillway overflow, however water was still flowing over the structure. No obvious deficiencies were observed on the upstream end of the concrete structure.

The previous dam inspection performed in 2003 noted that the damaged floating boat barrier had not been repaired and some of the floats and supporting structure remained within the box culvert inlet. In addition, it was recommended that the floating barrier be replaced using appropriate materials to maintain the safety of fisherman, boaters, and other lake users. The new barrier was not observed during this inspection.

Furthermore, previous inspections identified areas where the corners of the concrete box culverts had been scarred and scraped by the up and down motion of the channel/float system during discharge events. No serious structural damage was noted at the time.

In past inspections, a small seepage leak was observed on the eastern-most box at the joint between the first concrete inlet section and the second section, about 3 inches up from the floor of the box on its western face. No indication of ongoing seepage was observed during this inspection.

Several very small leaks and drips were observed at a number of box section joints with iron stains at some joints. The overall alignment of the box sections was acceptable with no apparent tilting or shifting.

The downstream end of the spillway discharge was accessible through a section of missing fence (**Photo 1**). The downstream discharge appeared in good working condition and clear of debris which could affect discharges (**Photo 2**).

Excessive vegetation has accumulated around the downstream end of the culvert sections. This area should be mowed and maintained along with the remainder of the dam to facilitate visual identification of potential problems such as loss of soil and ground subsidence.

Earth Dam

The dam slopes are approximately 2:1 upstream and 3:1 downstream. The crest is approximately 30 feet wide and inclined to the reservoir side, which is appropriate. A walkway and park benches are present along the crest for residents to use. The slopes and crest have been recently cleared and mowed, facilitating inspection.

In general, a visual inspection of the upstream slope performed on foot indicates that it is in good condition (**Photo 3**). A majority of the embankment is well vegetated. Visual observations indicated areas where the vegetation is missing, likely due to the ruts created during mowing. These areas should be established with vegetation to prevent future erosion. Near the west abutment, some minor soil erosion was observed on the upstream slope. This is likely due to rainfall runoff from the road located along the crest. A drain within the pavement appears to contain large amounts of sediment which may be hindering the proper drainage of water from the roadway into the lake, causing overflow and erosion of the surrounding soils. The catch basin for the roadway drain should be cleaned out to prevent it from overflowing onto the embankment (**Photo 4**).

The downstream slope was inspected as well by walking and making visual observations. Observations of the downstream slope indicate the embankment is in good condition (**Photo 5**). A fence was present at the toe of the slope and the downstream area was heavily vegetated preventing visual observation of the area. The zone of soil erosion noted in the 2002 inspection report, located on the downstream slope, approximately 1/3 of the way along the dam from the western abutment, has been repaired and grassed.

The grass appears in good condition on the downstream slope with sparsely vegetated areas observed along the alignment, likely due to the ongoing mowing operations.

In addition, two piezometers were identified within the dam. The piezometer locations are shown on **Figure 1**. The piezometers do not appear to be in working condition (**Photo 6**).

Based on our observations we offer the following recommendations:

- 1.) Continue to monitor the box culvert joints for any minor leakage areas and report any changes in quantity or appearance of seepage.
- 2.) Continue to mow the dam slopes and crest and note any changes in extent or nature of erosion areas.
- 3.) Begin to maintain grassed areas around the terminal ends of the box culvert and around the spillway.
- 4.) Continue to improve grass cover on dam slopes in order to avoid potential future erosion.
- 5.) Repair and/or replace the floating access barrier using appropriate materials.

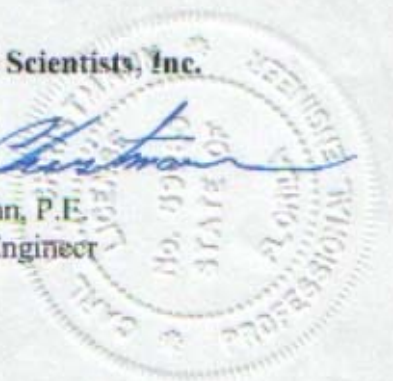
In conclusion, the condition of the dam and spillway are very good, and current inspection and maintenance practices should be continued. The dam should be observed regularly, and any changes in appearance or condition reported. Regular annual inspections should be conducted in order to promote good dam safety practices.

Sincerely,

BCI Engineers & Scientists, Inc.



Carl W. Christmann, P.E.
Sr. Geotechnical Engineer



Enclosures



Photo 1



Photo 2



Photo 3



Photo 4

BCI
ENGINEERS & SCIENTISTS, INC

BCI Project No. 19-14067
2006 Annual Dam Inspection
Lake Grady Dam

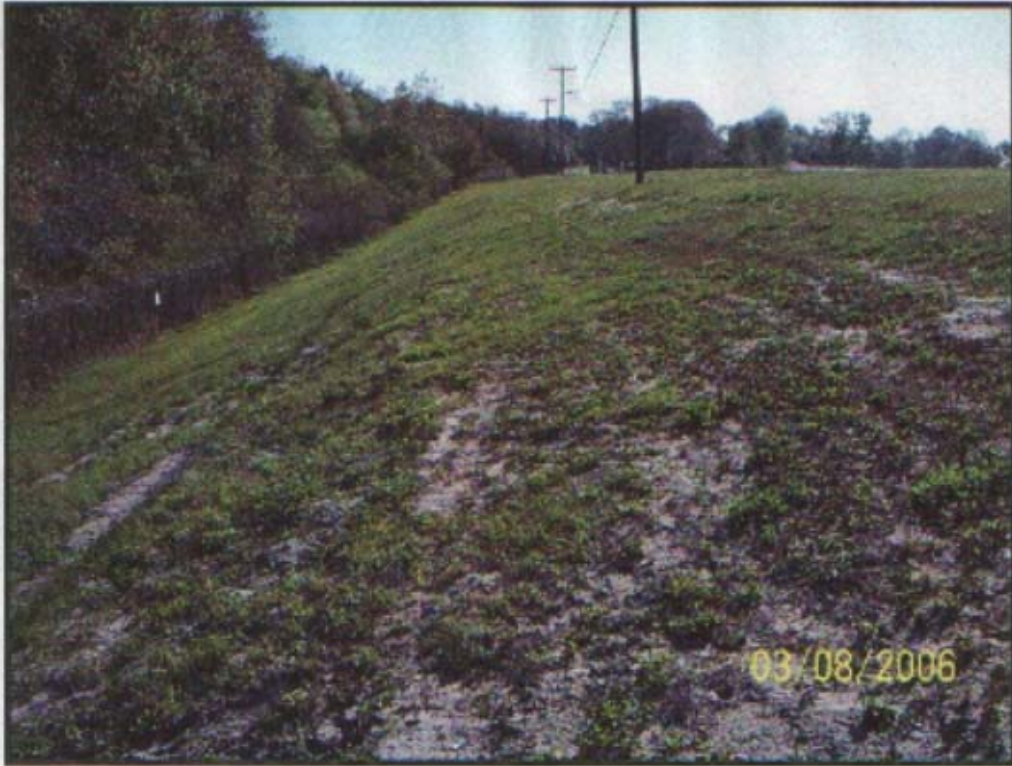


Photo 5



Photo 6

BCI
ENGINEERS & SCIENTISTS, INC.

BCI Project No. 19-14067
2006 Annual Dam Inspection
Lake Grady Dam



Spillway
Structure



Project #19-14067

Figure 1
Shadow Run Dam Corporation
Annual Dam Inspection

