



# Cranston, Robertson & Whitehurst, P.C.

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## MEMORANDUM OF MEETING

**RECEIVED**  
**FEB 8 1998**  
**DAM SAFETY**

*Lake Petit Dam  
Pictures to.*

**To:** Troy Ledbetter  
**From:** Thomas H. Robertson *(THP)*  
**Subject:** Petit Cove Dam  
Our File No. 97-329  
**Date:** January 27, 1998  
**Present:** Big Canoe Property Owners Association  
Board of Directors

Jordan Jones & Goulding, Inc.  
Piedmont Geotechnical Consultants  
Cranston, Robertson & Whitehurst, P.C.  
Georgia Safe Dams Program

John Baugus  
Bill Byrne  
Troy Ledbetter  
Mark Kilby  
Karl Myers  
Tom Robertson  
Tom Woosley

The purpose of the meeting was to summarize the results of investigations on the dam; to outline a program for further studies, plans for resulting upgrades, and construction; and to establish an approximate schedule for these steps.

The consultants gave a summary of their findings to date for the benefit of Tom Woosley, generally along the lines of the previous meeting (January 14, 1998), and discussions ensued on relevant matters which are listed below:

1. Mark Kilby reviewed the various alternatives considered to date. The most likely alternative will be to construct a buttress berm and appurtenances; the other remaining alternative is to remove part of the existing embankment, install a chimney drain and replace the material.
2. Mark Kilby reported that Geotech Systems Engineering will accomplish the site specific seismic evaluation. Glen Ricks [sp?] of Georgia Tech will participate in the undertaking. Their work will consist of on-site field tests, computer modeling, and reporting. The work will take about six to eight weeks to complete. Meanwhile, Karl Myers will assume a seismic risk factor of 0.15 for the purpose of interim analyses.

3. The consultants will conduct sensitivity analyses of the effects of different internal water pressures and soil conditions to determine whether or not results of additional studies might affect the repair method enough to warrant the additional effort necessary more precise values. This work will be accomplished concurrently with the site specific seismic evaluation.
4. It is likely that reduced internal water pressures might affect the magnitude of the repair measure significantly, and the installation of additional piezometers, warranted. If so, it might not take as many measurement points as the six piezometers originally proposed; rather, one or two strategically placed measurement points might be adequate, because of their locations near the downstream toe.
5. Karl Myers discussed the potential results of additional laboratory testing, particularly the fact that rock fragments within the existing embankment fill and potential borrow material make it difficult to produce reliable data from a testing program. It might be better to assume conservative values for angles of internal friction of 30 degrees for the existing fill and 32 degrees for new fill.
6. Following the completion of the analyses described above, the consultants will prepare a report summarizing the studies and analyses accomplished and outlining a conceptual plan and updated cost estimate for the upgrade approach. This report would be submitted to the Safe Dams Program for concurrence on the general approach.
7. Upon receipt of concurrence from Safe Dams Program, the consultants will prepare plans and specifications for the improvement work.
8. The schedule was discussed. It was the consensus of the engineers that construction work would need to be done during favorable weather, probably summertime. It is unlikely that approved plans could be had and a contract awarded in time to do the work in 1998. More likely, the work will need to be done in the warm months of 1999. The possibilities of fast track plan reviews and phased construction were discussed, but generally thought improbable.
9. The alternative of cutting into the existing dam was discussed. This alternative would probably require the draining of the lake and keeping it drained during a construction period of 6 to 8 months. This drawdown is undesirable, because the lake is used as the water supply for the community, and because of the possibility of sloughing of the banks where steep slopes are reported to exist within the reservoir. If the lake were lowered, a temporary intake and pumping station would be required at either Lake Sconti or Lake Disharoon. Cranston, Robertson & Whitehurst, P.C. will make an estimate of the cost of constructing and operating the temporary water intake works.
10. Tom Robertson pointed out that there are existing utilities within the roadway at the toe of the dam that will need to be relocated as a part of the construction, and costs should be

Troy Ledbetter  
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included for this work. These utilities include at least water, power, and CATV, and may include one or more telephone lines.

11. Several alternative sources of fill material were discussed. Troy Ledbetter suggested draining Lake Sconti and/or Lake Disharoon and taking material from there. Karl Myers thought that this material might be difficult to compact, due to high moisture content, and thought that it would be most desirable to obtain the material from a hilltop. Other potential on-project locations included the proposed Wilderness Parkway extension, the North Gate Recreation Site, potential pond sites or golf routes within the northeast area, and the present borrow area east of Steve Tate Highway.
12. T.W. Phillips Grading, Inc. of Dawsonville, Georgia, and L & W Limestone Company (who did the work on Grandview Dam) were mentioned as potential contractors.
13. Mark Kilby presented the attached draft fee proposal outlined, which was accepted in principle by John Baugus, subject to receipt of a more detailed formal proposal.

cc All Attendees