



# GEORGIA

DEPARTMENT OF NATURAL RESOURCES

## ENVIRONMENTAL PROTECTION DIVISION

**Richard E. Dunn, Director**

**Watershed Protection Branch**

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Atlanta, Georgia 30334  
404-463-1511

December 11, 2017

FILE COPY

Dr. Robert Bachus, P.E.  
Geosyntec Consultants  
61255 Roberts Blvd. NW, Suite 200  
Kennesaw, GA, 30144

SUBJECT: Petit Lake Dam  
Pickens County  
Permit #112-009-0462

Dear Dr. Bachus:

The Safe Dams Program has completed its review of the Emergency Action Plan submitted for the above-referenced project, received on July 5, 2017. The following comments must be addressed:

1. Once all revisions to the EAP are made, the EAP acceptance pages need to be completed.
2. The notification levels are listed as Condition C, Condition B, and Condition A, with Condition A being the condition where dam failure is imminent or has occurred. This differs from the standard Level 1, Level 2 and Level 3 designation. While the condition designation is not wrong, it may be unclear to emergency personnel what these designations are when they are accustomed to the other designations. In consultation with local Emergency Management, consideration should be given to renaming the conditions.
3. The Condition C notification description states that it is the responsibility of the Dam Owner's Representative to assess the situation. In some cases, the Engineer of Record or State Dam Safety Program should be contacted to provide engineering evaluation of the situation. A notification flow chart should be developed for the Condition C event.
4. The notification flow chart includes the Dawson County 911 Service. While part of Lake Petit is in Dawson County, failure of the dam would not result in a flood wave directly impacting Dawson County.
5. The inundation mapping is based upon a DAMBRK model performed in 1998 by Jordan, Jones and Goulding. This DAMBRK model only extends as far as Cox Lake, (Long Swamp Creek W/S Structure 14). As stated in Appendix B, "There is still substantial flow and elevation associated with the breach wave here and a

- modeling assessment of the capacity of Cox Lake is required.” Inundation modeling should be extended until the engineer performing the routing determines the flood wave no longer poses a risk. The inundation mapping should be sealed by a licensed Professional Engineer in the State of Georgia, and the breach parameters included.
6. A listing of Big Canoe property owners with contact information was provided as Table 2 in the EAP. However, not all the properties listed will be impacted by the dam failure flood wave. The contact information should be reviewed and prioritized so that those properties that are impacted first by dam failure be notified first. In addition, this list is of Big Canoe property owners only. Dam failure will impact areas downstream of Big Canoe also. The notification list should include all impacted residences.
  7. In the EAP, the dam height is listed as 115 feet, with the maximum storage as 6000 acre-feet. Both the National Inventory of Dams (NID) and the Georgia Safe Dams database list a maximum storage of 7500 acre-feet. The NID lists a height of 126 feet, and the Safe Dams program lists a height of 125 feet. The difference in height and volume will have an appreciable effect on the downstream inundation. These values should be checked, and if the State values are shown to be correct, they should be used in the EAP and in any subsequent dam breach modeling.
  8. Figure 2 routes traffic across East Branch Long Swamp Creek on Wilderness Parkway, which is in the path of the flood wave. The evacuation map should clearly state that this route should only be used before dam failure.

Please provide this office with an updated Emergency Action Plan addressing these comments, or a schedule for addressing these comments, within 30 days. If you have any questions, please contact our office at (404) 463-0655.

Sincerely,



Paul T. Wessel  
Environmental Engineer  
Safe Dams Program

PTW:kb

cc: Big Canoe Property Owner's Association