

TO ALL FROG POND PROPERTY OWNERS:

Please review the following summary of the Engineers Report for the condition of the dam and recommended work:

SUMMARY OF ENGINEER REPORT

Report prepared by Gary Burton of CAPCO Engineering, Inc. of Tyler, Texas.

Date: November 2019

The entire engineer report can be accessed at www.frogpondwcid.org

The report begins with a general description of our Dam and a summary of findings from the physical inspection, followed by details of their observations and condition assessment. The report concludes with recommendations. Note that periodically, the state department that oversees dams in our state, the Texas Commission on Environmental Quality (TCEQ), performs an inspection on our dam, most recently in 2018, and their observations are similar to those from the Engineer.

The following list is a summary of the Engineer's opinion of the conditions of the Dam and Spillway:

- the crest (top) of the Dam is considered to be in good condition.
- the lake-side (upstream) sloped face of the Dam is considered to be in fair condition,
- with the recent repair of hog damage paid by WCID providing improvement to the northern end of the Dam, but there are other locations we need to improve due to rodent holes.
- the downstream (back-side) sloped face of the Dam is considered to be in fair condition, but there are several issues such as voids or rodent holes needing fill very soon, and removal of the existing vegetation along the base (toe) of the Dam;
- the Spillway was found to be in fair condition, as a result of several repairs over multiple years with volunteers and contractors that repaired the Spillway's concrete apron, but there are several tasks listed which we can undertake now to address some defects, such as defects associated with the concrete side walls;
- the Reservoir Drain consists of a steel pipe through the Dam with gate valve on downstream side (which is only used to lower the lake below the Spillway box culvert elevation) was found to be in fair condition, but has seepage we need to address;
- the downstream channel (Wolf Creek) below the Spillway requires yearly removal of new vegetation to ensure efficient flow down the creek away from the Dam.

The WCID board of directors recommend the following short- and long-term action plans:

Volunteers are necessary for short term, annual maintenance to keep costs at a minimum and preserve funds for long term goals.

SHORT TERM/ANNUAL MAINTENANCE...Performed by volunteers.

- Fill voids on dam created by fallen trees and rodents.
- Clear brush and trees behind/downstream of the spillway
- Clear brush and small trees on downstream side of dam all the way to the toe.
- Operate low flow valve for the reservoir drain pipe: open, close, and grease
- Repair concrete apron of Spillway by filling voids below concrete and filling holes and cracks within concrete surface

LONG TERM GOALS

- Repair concrete side walls on each side of Spillway apron (E4), including placing concrete under lower ends of walls where erosion has occurred.
- Excavating behind concrete side walls and repairing/replacing soil drainage pipes, including installation of seepage control blanket (E6).
- Install a Toe Drain along the entire base of the downstream slope of the Dam to control erosion and loss of material from seepage through the Dam, which would strengthen the Dam against failure. This would consist of placement of gravel or crushed concrete over soil erosion blanket.
- Install Rock Riprap (rock or crushed concrete with a diameter of 12” or more) on the lake side slope of the Dam for some distance above and below the normal waterline, to prevent erosion of the Dam slope from wave action and high water conditions. This could be undertaken incrementally, perhaps installing a 100 foot segment at a time.
- Consider constructing an Emergency Spillway which would provide protection for the Dam in the event of a major rain event, greater than any we have experienced in recent years. This would allow a large volume of runoff to be discharged, in addition to the flows that can be passed through the existing Spillway.

Following receipt of the draft report, the WCID sent 12 comments to the Engineer to clarify several aspects, which the Engineer responded to with minor edits to the Report and with written responses to each of our comments. The comments and responses are posted along with the final report on the WCID website at www.frogpondwcid.org