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Re: On-going Deterioration Due to Seepage and Potential Overtopping
London Lake Dam Rehabilitation Project
Jack London State Historical Park
Glen Ellen, California

Ladies and Gentlemen:

As you are aware, Miller Pacific Engineering Group has been consulting with the California Department of Parks and Recreation for the last three years regarding the condition of the grouted stone dam at Jack London Lake in Sonoma County. The water seepage through cracks in the grouted joints and the lack of a properly functioning spillway places the dam at risk of future failure.

We have been asked how much longer the current conditions can exist before some type of failure occurs, and the answer of course is that we can not predict exactly how or when the dam may fail, but we are of the opinion that it is only a matter of time. The current spillway system depends on Park staff to monitor the reservoir water level and hand-operate an over-flow gate valve in order to maintain a safe level behind the dam. We have recommended lowering the water level to reduce pressures on the dam and slow internal erosion that is occurring due to water seepage.

The water seepage through the face of the dam progressively erodes more grout with time and subsequently weakens the dam's ability to resist water pressures. The lack of a proper spillway leads to the risk of over-topping of the dam during extended winter rains, such as what happened two winters ago, significantly increasing the risk of erosion damage around the edges and downstream of the dam. Also, the dam reportedly was constructed with a mortar cap, which no longer exists. This mortar cap would likely have prevented water from penetrating through the crest of the dam, preventing some additional seepage.

Our recommendations and the project plans for the new spillway and seepage barrier address the hazards described above and will reduce the risk of future damage and failure back to acceptable limits. Again, we judge that these improvements should be implemented as soon as possible to restore the dam and reservoir to a reasonably safe condition, and to provide an over-flow system that is not so dependant on Parks staff to monitor and hand-operate the old gate valve.

If you or others have further questions, please do not hesitate to call.

Yours very truly,
MILLER PACIFIC ENGINEERING GROUP



Michael Morisoli
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(Expires 12/31/08)