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September 1, 1993

Mr. Steve Yaeger  
Deputy Executive Officer  
Bay-Delta Oversight Council  
1416 Ninth Street, Suite 1306-3  
Sacramento, CA 95814

Dear Mr. Yaeger:

Your letter of August 4, 1993 directed to David Forkel of Reclamation District No. 2026 has been forwarded to me for review and response. Your letter enclosed two position papers developed by the Department of Water Resources, one entitled Briefing Paper on Delta Levees dated August 1993 and the other entitled Review of Seismic Stability Issues for Sacramento-San Joaquin Delta Levees dated July 1993 marked as a draft.

The Department of Water Resources is to be commended for its efforts, particularly its recent efforts relative to geotechnical issues in the Delta.

The Briefing Paper on Delta Levees properly identifies the most serious problem as being in those areas where deep peat soils or other very soft soils underlie the present levee system and where Delta levee heights have become relatively tall. What the paper does not point out is that of the 550,000+ acres in the Delta protected by levees, far less than half is threatened by significant soft soil problems and the continuing problem of subsidence. This element of the "broken Delta" analysis would be best directed toward the islands where the levees are functionally the tallest and the remaining peat soils are the deepest.

The report properly identifies that continued subsidence in the peat soil areas will require the continued lowering of the drainage ditch water elevation to preserve an aerobic soil condition for growing crops now prevalent in the Delta. Lowering the water surface in the interior of an island functionally increases the structural height of the levee. Such a change does not necessarily require that material be added to the top of the levee, but it definitely requires that the landside geometry of the levee be altered to resist levee breaching forces.

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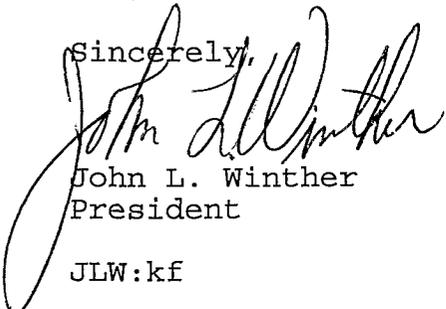
If sand underlies the peat soil, which is a common situation in many parts of the Delta, boils or wet spots can appear at great distances from the levees as the depth of the peat is decreased unless an aggressive plan of drainage is employed. It is important, however, that this seemingly never-ending spiral of subsidence and attendant levee stability be tempered by the fact that a relatively small percentage of the Delta islands and levees are suffering from this ongoing trend. Management practices in the entire Delta need not be developed on the worst-case basis.

We believe that the near-shore dredger cuts that have developed over the years to maintain Delta levees in many instances could be filled with ship channel dredge spoils to reduce seepage, improve levee stability and provide near-shore shallow water. This, in turn, would encourage the growth of tules. All of these factors taken together not only improve levee stability, but serve to add shaded riverine habitat and stabilize the soil just below the water line on the outside of the levees. The additional shaded riverine habitat could serve to mitigate for habitat loss due to certain levee maintenance work.

The briefing paper on seismic stability issues clearly points out the importance of establishing whether or not Delta soils amplify or dampen seismically-induced ground motion. The results of the Department of Water Resources' ongoing studies will be of great interest.

Thank you for the opportunity to submit our comments on the Department of Water Resources briefing papers. Your effort to receive input from such a wide variety of commentators is commendable. We look forward to receiving and commenting upon the balance of the briefing papers.

Sincerely,



John L. Winther  
President

JLW:kf

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