

**COMMENT LETTER 110 - EUGENE KOJAN PH.D. (OCTOBER 2, 1996),  
RECEIVED OCTOBER 7, 1996**

**Response to Comment 110-1**

*Comment Summary: The comment consists of a description of the geological setting for the Estero Americano and Two Rock storage reservoir site areas.*

The comment is consistent with the setting described in Section 4.3 of the Draft EIR/EIS.

**Response to Comment 110-2**

*Comment Summary: The comment states that the Draft EIR/EIS is seriously defective because treatment of soil erosion processes in the Draft EIR/EIS is inadequate.*

Dr. Kojan generally disagrees with the conclusions of the Draft EIR/EIS relating to soil erosion and sedimentation impacts. As demonstrated in the responses to the specific comments below, the authors of the Draft EIR/EIS disagree with Dr. Kojan's views. However, Dr. Kojan's views, and thus his differences, will be apparent and before the decisionmakers when they certify the EIR/EIS and select the ultimate Project.

Landslide and gully erosion are evaluated in the Draft EIR/EIS in the Geology, Soils and Seismicity section 4.3. The first evaluation criterion in Table 4.3-6 (page 4.3-54) pertains to unstable slope conditions and includes landslides and other types of mass movement. Significant impacts related to slope destabilization are identified for all South County reservoirs as discussed on pages 4.3-69 and 4.3-70. Also refer to Response to Comment 109-4 regarding evaluation of erosion from agricultural irrigation using the Universal Soil Loss Equation.

**Response to Comment 110-3**

*Comment Summary: The comment states that the Draft EIR/EIS does not address impacts from reservoir filling and drawdown and related landsliding.*

As stated in the discussion of Impact 3.5.1 on page 4.3-69 of the Draft EIR/EIS, alternating wetting and drying of reservoir slope material can reactivate existing landslides or create new landslides. This is identified as a significant impact of the Project at the South County reservoir sites that are underlain by the Petaluma Formation, which is susceptible to slope failure. The Draft EIR/EIS, on page 4.3-70, acknowledges that landsliding and other slope instability will result in reduced storage capacity at these reservoir sites and will require maintenance dredging at Adobe Road and Lakeville Hillside. Impacts at West County reservoir sites will be less than significant.

## **Response to Comment 110-4**

*Comment Summary: The comment states that the Draft EIR/EIS fails to evaluate reduction of static and dynamic slope stability in the vicinity of reservoir sites, and states that earthquakes may trigger landslides.*

The potential for Project components to result in unstable slope conditions is evaluated throughout Section 4.3 of the Draft EIR/EIS in accordance with evaluation criterion one (defined in Table 4.3-6 on page 4.3-54). As discussed in the Draft EIR/EIS beginning on page 4.3-39, numerous faults with various seismic potentials are located in the vicinity of the reservoir sites. None of the reservoirs sites, however, is located across the trace of a known active fault. The Bloomfield fault does not traverse any of the proposed dam facilities. The trace of the fault is mapped along the northeastern edge of the Carroll Road reservoir, but displacement on the fault will not affect critical water storage facilities. Refer to Response to Comment 90-29 for a summary of faults, including the Bloomfield fault, located in the vicinity of reservoir sites.

The Draft EIR/EIS indicates that special design engineering and construction at this site will be required. Slope instability at the site could be triggered by seismic activity. However, landslides into the reservoir will not pose a risk for catastrophic failure of the dam and reservoir. Refer also to Response to Comment 93-6 regarding historic performance of earth filled dams in California during large earthquakes.

## **Response to Comment 110-5**

*Comment Summary: The comment states that there is a potential for reservoir filling to result in a raise in groundwater levels.*

Potential groundwater mounding impacts from reservoir filling are discussed in the Draft EIR/EIS on page 4.5-48. Impacts will be significant at the Carroll Road, Bloomfield, and Huntley reservoirs sites and are considered potentially significant at the Valley Ford reservoir site.

## **Response to Comment 110-6**

*Comment Summary: The comment suggests that increased pore water pressure as a result of reservoir filling would result in siltation, piping, and other instability, and that this is not addressed in the EIR/EIS.*

As indicated in the discussion of Impact 3.5.1 on page 4.3-69 of the Draft EIR/EIS, reservoir filling and drawdown will result in potentially significant slope instability within the reservoir. South County reservoir sites are underlain by weak material of the Petaluma Formation. The process by which the destabilization will occur is related to increased saturation and near surface water movement, as suggested in the comment. Groundwater mounding and associated impacts outside the reservoir itself are discussed in the Draft EIR/EIS on page 4.5-48. Also refer to Response to Comment 110-5.

## **Response to Comment 110-7**

*Comment Summary: The comment indicates that irrigation will cause soil water to increase and, consequently, erosion and flooding to increase in the Americano and Stemple watersheds.*

Project impacts on erosion in the Americano and Stemple watersheds are addressed in Appendices E-7 (Evaluation of Soil Erosion Impacts for the West County and South County Reclamation Alternatives), I-10 (Baseline Hydrology and Irrigation Drainage Evaluation for West and South County Reclamation Alternatives), I-11 (Water Quality and Flow Model for Irrigation/Storage Area Streams), I-16 (Water Quality Impact Analysis Report Vol. 1) and L-7 (Aquatic Biological Resources Impacts Analysis Report). The Project will decrease erosion as a result of the management practices that will be required of irrigators. Section 6.4 in Appendix E-7 (Evaluation of Soil Erosion Impacts for the West and South County Reclamation Alternatives) of the Draft EIR/EIS describes the magnitude of the mass wasting reduction that will result from the Project. Project irrigation will not cause saturated soil conditions nor a groundwater level rise. Measure 2.2.3 on page 2-23 of the Draft EIR/EIS identifies specific irrigation practices which will prevent creation of saturated soil conditions. Comparison of Tables B3S and B6S in Appendix I-10 shows that the amount of runoff during a wet year under existing and Project conditions is 50,211 and 46,821 acre-feet per year, respectively. The reason for the decrease in runoff is explained on page 19 in Appendix I-10 as the result of improved soil and riparian corridor conditions that are expected to result from the Project. Improved soil management practices for agricultural lands that are included in the Project description are predicted to produce “reductions of 25 to 50 percent in sheet and rill erosion” (refer to page 22 in Appendix E-7). Thus, flooding impacts are not expected to be aggravated by the Project.

## **Response to Comment 110-8**

*Comment Summary: The comment states that cumulative erosion and sedimentation impacts in the Stemple/Americano Creek area are not addressed in the Draft EIR/EIS.*

The proposed Project will not result in increased siltation in this area as discussed in Responses to Comments 95-41 and 109-2.

