Appendix 6A

BDCP/California WaterFix Coordination with Flood Management Requirements

Construction of water conveyance facilities would have the potential to result in localized and temporary increases in sedimentation at various river locations. Construction activities, such as pile driving during cofferdam installation and barge facility construction, could result in incremental suspension of river bed sediments. However, these impacts are expected to be isolated and minimal. Potential sedimentation effects will be further minimized by limiting the duration of in- water construction activities and through implementing the environmental commitments described in Appendix 3B, *Environmental Commitments AMMs, and CMs*, including the commitment to Develop and Implement Erosion and Sediment Control Plans to control short-term and long-term erosion and sedimentation effects and to restore soils and vegetation in areas affected by construction activities following construction. To address potential erosion and sedimentation impacts from barge facility construction, the project proponents will ensure that a Barge Operations Plan is developed and implemented for facility construction. The requirements for the Barge Operations Plan are described in Appendix 3B. This plan will be developed and submitted by the construction contractors per standard DWR contract specifications. In addition, project proponents will obtain water quality certification from the Regional Water Quality Control Board.

6A.6.3.2 Erosion and Levee Stability

Slope instability (e.g., landslides, soil creep, and debris flow) can occur as a result of gravity loads or in combination with earthquake loads. Analysis focused on areas where past instability had occurred or where water saturates slope materials to estimate the potential for slope instability. In areas where facilities may be built, new cut-and-fill slopes were identified and evaluated for stability. A qualitative slope stability evaluation was performed based on slope inclination, soil type, and groundwater conditions. For areas where adequate soil and site data were available, slope stability was evaluated using a two-dimensional slope model and the limit-equilibrium method.

Construction of the water conveyance facilities could have effects to levee stability and potentially increase risks of levee slope failures. To mitigate potential effects, all levee reconstruction/building pad construction would conform to applicable state and federal flood management engineering and permitting requirements, including engineering standards discussed in Appendix 3B, *Environmental Commitments, AMMs, and CMs*. The level of flood protection will be the same as required for the modified levee without the new facilities. The reconstruction of levees would improve levee stability over existing conditions due to improved side slopes, erosion countermeasures (geotextile fabrics, rock revetments, riprap, or other material), seepage reduction measures, and overall mass.

The proposed project would involve excavation that creates new cut-and-fill slopes and construction of new embankments and levees. As a result of ground shaking and high soil-water content during heavy rainfall, existing and new slopes that are not properly engineered and natural stream banks could fail and cause damage to facilities. The potential effect could be substantial because levee slopes and stream banks may fail, either from high pore-water pressure caused by high rainfall and weak soil, or from seismic shaking. Structures built on these slopes could be damaged or fail entirely as a result of slope instability. As discussed above, the proposed project would be designed and operated in a way to not increase flood management risk to the surround area. During project design, a geotechnical engineer would develop slope stability design criteria (such as minimum slope safety factors and allowable slope deformation and settlement) for the various anticipated loading conditions. The design criteria would be documented in a detailed geotechnical report prepared in accordance with state guidelines, in particular Guidelines for Evaluating and Mitigating Seismic Hazards in California (California Geological Survey 2008). Increased risk of channel bank scour would be low because peak monthly flows under the proposed project in the locations