

ATTACHMENT 9. ECONOMIC ANALYSIS: FLOOD DAMAGE REDUCTION

The Water Supply Stabilization Project No. 2 (WSSP2) is a groundwater banking project that will increase the reliability of water supplies in the Region and will have some direct and indirect flood damage reduction benefits in and outside of the project area. The proposed recharge basins primary purpose is to accept water from the SWP for recharging the groundwater basin, these recharge basins will provide some level of flood damage mitigation for local floods and floods in other areas of the State such as Kern County.

The WSSP2 recharge basins are located in the 500 year floodplain uphill relative to developed areas to the east. Floods are characterized by FEMA as “Shallow Flooding” with no flood depth information provided. The floodplain in the area is over 8 miles in width and floods spread out and drain from the southwest to the east. The sites have relatively flat slopes with elevation differences ranging from 20 to 25 ft per mile. These slopes will most likely result in relatively low flood velocities.

It is expected that during a flood event, flood waters would enter the recharge basins, temporarily be constrained by the low berms, would then wash out these small berms and flow to the next set of berms, where this process would repeat itself. The berms would temporarily detain the flood waters with an approximate capacity of 800 Acre Feet. During the process of detention, some of the flood water would be percolated into the groundwater basin. As noted in other Attachments of this Proposal, it is expected that about a half a foot a day can be percolated into the ground.

Some of the indirect flood reduction benefits include those benefits in other areas of the State such as Kern County which under flood conditions of the Kern River diverts flood waters into the California Aqueduct. This excess water can then be taken by AVEK and placed in the WSSP2 recharge basins. Additionally, there are future plans to incorporate the WSSP2 site as a potential receiving point for stormwater during the development of the Integrated Flood Management Plan that has been initially recommended for funding through a Proposition 84 Planning Grant.

The flood reduction benefits can only be defined as qualitative. Without knowing the actual flood characteristics and potential damage it is difficult to add a cost to the benefits identified above.