
CHAPTER 4

DECISION ANALYSIS

As discussed in Chapter 2, there are few single projects that can provide complete flood protection during a 100-year flood event. However, a multiple benefit solution for the watershed would require that several projects be initiated and coordinated with each other to provide the lower Pajaro River with the maximum range of benefits. Therefore, the individual projects that were evaluated in Chapter 3 were grouped into “packages” that would provide complete flood protection. To coordinate with the Corps efforts, the alternatives identified in Phase 2 were coupled with either of the two Corps projects to provide a minimum of 100-year flood protection.

After review of the packages, the Staff Working Group identified the following packages as the favored alternative packages:

- Corps Alternative 3 (65-yr) Project and New Small San Benito Dam
- Corps Alternative 3 (65-yr) Project and Open Earthen Bypass Channel
- Corps Alternative 1 (30-yr) Project and New San Benito Dam
- Corps Alternative 1 (30-yr) Project, New Pacheco Dam, and New Small San Benito Dam.

Since the Soap Lake Floodplain Preservation project was necessary to maintain the 100-year flow design value, this project was included with each of the packages.

This chapter includes a summary of the process used to develop the 100-year flood protection packages and selection process to identify several packages that could be considered viable options to provide downstream flood protection.

4.1 Development of 100-Year Flood Protection Packages

The 100-year flood protection packages were developed from combinations of the Corps projects and the alternative projects evaluated in Chapter 3. Since the two Corps projects did not provide complete 100-year flood protection, additional flood protection projects were considered necessary to supplement the Corps projects. Figure 4-1 is a graph of the modeled flood flow discharges at Chittenden at general plan buildout. The graph includes flood protection benefits for the Corps Alternative 1 with 30-year flood protection and Corps Alternative 3 with 65-year flood protection for the Lower Pajaro River. The 100-year flood event discharge and the existing level of flood protection are also shown. If the Corps Alternative 3 (65-year protection) project is constructed to provide flood protection, an additional 4,100 cfs of flow must be conveyed downstream or detained upstream by other facilities to provide 100-year protection. If the Corps Alternative 1 (30-year protection) project is constructed to provide flood protection, an additional 12,400 cfs must be conveyed downstream or detained upstream by other facilities to provide the same level of protection.

An incremental flood protection project was added to either of the Corps projects to provide protection against floods ranging from 43,500 cfs (98 percent of the 100-year flood flow) to 48,800 cfs (110 percent of the 100-year flood flow). The range of protection allowed is due to the preliminary nature of this phase of the study and potential routing effects that cannot be assessed at this preliminary stage.

