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WORKING DRAFT

AN INFORMATION PAPER ON THE STRUCTURE OF COMPREHENSIVE FLOODPLAIN MANAGEMENT COORDINATION IN THE CENTRAL VALLEY

To ensure that flood recovery activities address the CALFED ecosystem restoration, water quality and levee system integrity program elements, floodplain management activities throughout both the Bay-Delta problem area and the solution area, including the Sacramento River and San Joaquin River basins, are being coordinated with the CALFED Bay-Delta Program and the CALFED member agencies. One of these floodplain management activities is the comprehensive evaluation of the San Joaquin and Sacramento River Basins being conducted by the Corps of Engineers and the State of California that will result in the development of a master plan for floodplain management.

Introduction

In response to the recurring flood threat in the Central Valley of California, as reflected most recently in the damages caused by the floods of January 1997, members of Congress, the Office of Management and Budget, the Council on Environmental Quality, the Assistant Secretary of the Army, the Corps of Engineers, the Governor, the State of California, and environmental and other resource groups have underlined the need to examine flood damage reduction and floodplain management activities throughout the Central Valley from a comprehensive basin-wide perspective. This comprehensive evaluation must include consideration of the full range of structural and non-structural measures, as well as the diverse, but interrelated, water and associated land and environmental resource management objectives.

Many efforts have been and are being made to look at the water and related resource problems in the Sacramento and San Joaquin River Basins. The San Joaquin River Watershed Management Plan, the Upper Sacramento River Fisheries and Riparian Habitat Management Plan, the CALFED Ecosystem Restoration Program Plan, and many others have identified needs and opportunities to better manage the floodplains of the Central Valley. In Fiscal Year 1997, the Corps and The Reclamation Board of the State of California are continuing cooperative efforts from previous (1994 and earlier) Sacramento and San Joaquin River Basin studies to address the problems that will persist after efforts to recover from the latest floods are completed.

Immediately following the January 1997 floods, the Administration directed the Office of Management and Budget and the Council on Environmental Quality to designate the Corps of Engineers as the lead in a multi-agency team to develop and implement a flood disaster recovery plan for the Central Valley. Under the authority of Public Law 84-99, the Corps, and the other

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members of the interagency levee task force, will repair eligible levees damaged by the floods to their pre-flood condition. While this work will address the short-term flood damage needs of the system, the long-term needs must be addressed by a comprehensive system analysis and plan.

Authorities

Public Law 84-99 authority to rehabilitate damaged flood control facilities is being used to repair damages which resulted from the January 1997 floods. The Corps of Engineers, in coordination with the State Department of Water Resources and other agencies and organizations, is making every effort to accomplish repair work which is within this authority before next flood season.

Beyond the authority of PL 84-88, the Corps and the State are working in conjunction with other agencies towards a long-term solution to floodplain problems.

State and Federal participation in a long-term comprehensive look at the Central Valley is recommended in the Governor's Flood Emergency Action Team (FEAT) Final Report and is authorized by Public Law 87-874 (Sacramento River Basin portion) and Congressional Resolution (San Joaquin River Basin portion). Comprehensive assessments of flood damage reduction measures and ecosystem restoration plans throughout the Central Valley will be conducted under these authorities with joint State and Federal funding through The Reclamation Board and the Corps of Engineers, and will result in the formulation of a master plan for floodplain management. The overall implementation of the various elements of the master plan will be achieved by Federal, State, and local entities through new, specific Congressional authorization; the Continuing Authorities Programs administered by the Corps of Engineers, including Section 205 of the Flood Control Act of 1948 (Small Flood Control Projects), Section 206 of the Water Resources Development Act of 1996 (Aquatic Ecosystem Restoration), and Section 1135 of the Water Resources Development Act of 1986 (Project Modifications for Improvement of the Environment); and/or State legislation.

Comprehensive Analysis of Existing and Future Flood Conditions

Potential flood damages in the Central Valley have been greatly reduced as a result of the flood control projects constructed by the Corps, the State, and other agencies; through sound flood plain management practices; and through the implementation of the National Flood Insurance Program. However, even with these projects and practices in place, lives and property are still at risk of flooding and in many places the potential for catastrophic failure now exists.

The limitations of the existing flood control systems in the Central Valley (and the threat of catastrophic failure they represent) and public awareness of the total flood risk must be recognized. Those areas that are not prone to flooding by virtue of being located on high ground must be differentiated from those that are protected by levees, for example. A blanket statement that a 100-year (or other) level of flood protection is afforded an area is insufficient. A better description of the actual risk is needed. The master plan for floodplain management in the Central

Valley developed under the comprehensive Sacramento and San Joaquin River studies will address these issues.

The comprehensive studies will include hydrologic and hydraulic evaluations of flood conditions on the Sacramento and San Joaquin Rivers. These efforts will analytically evaluate the Sacramento and San Joaquin systems in order to identify the flooding and related environmental resource problems and opportunities to remedy the problems, as well as to assess the effects of flood damage reduction and environmental restoration measures throughout the basins including the Bay-Delta. The evaluations will clearly and accurately describe the flood risks associated with the existing systems as well as any modifications needed, by taking into account the limitations of the current flood control system.

Flood Damage Reduction and Environmental Restoration Measures

The broad Federal study authorities and State recommendations allow the flexibility to investigate the widest array of potential solutions and to consider the highest levels of flood protection, environmental restoration, reservoir operation, and flood plain management. Structural and non-structural measures such as re-operating reservoirs, modifying weirs and bypasses, setting back levees, restoring river meanders, acquiring flood plains, and relocating flood prone properties will be evaluated in the comprehensive feasibility studies.

Comprehensive Study Coordination and Relation to Long-Term CALFED Bay-Delta Program

The CALFED Bay-Delta Program is developing a long-term program to address four major areas of concern in the Bay-Delta including ecosystem health, water quality, water supply reliability, and levee system integrity. The comprehensive flood damage reduction and environmental restoration studies by the Corps and the State will provide opportunities to meet many of the CALFED objectives in these areas. The Corps, the State, and the CALFED agencies are prepared to work together in developing and implementing future plans for flood damage reduction, flood plain management, and ecosystem restoration.

The comprehensive studies will include public and agency workshops involving focused study groups made up of stakeholder representatives and general interested public members. These study groups may focus on economics, agriculture, recreation, industrial, environmental restoration and flood damage reduction issues. Focused study group members will include stakeholders already identified by the CALFED BDAC public involvement process.

To coordinate with the CALFED Bay-Delta Program, progress on the comprehensive Sacramento River and San Joaquin River basin studies will be reported to CALFED regularly in the manner shown in the attached organizational structure.

Comprehensive Study Process

The Sacramento River and San Joaquin River basins have different geographic, hydrologic, institutional, flood management, and other aspects. While their unique characteristics require two separate studies, the comprehensive Sacramento River and San Joaquin River basin studies will both follow the same series of steps that identify and respond to problems associated with the flood damage reduction and environmental restoration objectives for the study areas. The steps, shown in the attached flow diagram, are:

- **Specify Flooding and Environmental Resources Problems and Opportunities** -- this step will include developing baseline study area and sub-area maps in Geographical Information System (GIS) format using existing information whenever possible, and collecting information from the State's report on the 1997 floods, the Corps' 1997 Small Community Assessment, CALFED's Ecosystem Restoration Program Plan, the State's Upper Sacramento River Fisheries and Riparian Habitat Management Plan (SB 1086), the San Joaquin River Watershed Management Plan, the State's Delta Tributaries Watershed Program, and other activities.
- **Inventory, Forecast, and Analyze Flooding and Environmental Resource Conditions** -- this step will utilize comprehensive basin models that describe hydrologic and hydraulic, ecological, and land use/economic conditions in the study areas. Potential flood damage reduction and environmental restoration measures will be evaluated using these tools. Alternative watershed management plans will be formulated from these structural and non-structural measures during the next step.
- **Formulation of Alternative Plans** -- this step entails developing criteria which will be used to evaluate the effectiveness of alternative management plans, and developing an array of complete alternative flood damage reduction/environmental restoration plans that address the identified problems.
- **Evaluation of Alternative Plans** -- The economic, environmental, and social effects of the alternative plans will be assessed using the evaluation criteria, and compared with the baseline conditions that would be expected to prevail if no flood damage reduction or environmental restoration actions are taken.
- **Selection of Recommended Plan** -- A master plan will be selected from the alternatives that will provide the framework for managing flood damage reduction and environmental restoration efforts throughout the Sacramento River and San Joaquin River basins. Feasibility reports will be prepared describing the effects of the plans from national, regional, and local perspectives.

While the recommended plan will provide the framework for basin flood damage reduction and environmental restoration and management, the implementation of specific projects within the framework may be carried out by various entities, depending on the project and Federal and State authorities.

Comprehensive Study Cost and Schedule/Interim Products

The comprehensive studies will be completed in three years, at a total cost of \$21 million. A major milestone will be met in 18 months that separates the studies into two phases. The first phase of the studies consists of developing the foundation of a master plan for flood damage reduction and environmental restoration in the Sacramento and San Joaquin River Basins. The second phase will entail the detailed evaluation of the engineering, economic, environmental, and other effects of the master plan.

The major products developed in the first half of the study will determine the scope and direction of the second half. Following are the three major products developed in the first 18 months of the comprehensive studies, which will be documented in an interim report:

- a comprehensive assessment of the major recent (1986, 1995, 1997) floods in the Sacramento and San Joaquin River Basins;
- a complete evaluation of the existing flood control systems and their deficiencies; and
- the basis for comprehensive flood and environmental restoration management plans for the Sacramento and San Joaquin River Basins.