

# WELCOME

TO THE COMBINED FEDERAL EFFORT  
TO IMPROVE FLOOD CONTROL AND SAFETY OF THE FOLSOM FACILITIES

Environmental Impact Statement/Environmental Impact Report (EIS/EIR)



US Army Corps  
of Engineers®  
Sacramento District



SAFCA



# ISSUES

## Combined Federal Effort Environmental Impact Statement/Environmental Impact Report

To insure the highest levels of public safety protection, Folsom Dam and associated structures must be strong enough to withstand the various types of forces and stresses created by a significant earthquake, storm or seepage event. The forces which may act upon the Dam are described in technical terms. As Californians, we are familiar with the **SEISMIC** forces which can impact the dam during an earthquake. From a **HYDROLOGIC** standpoint, dams must be able to safely pass the largest inflow considered probable, without the water eroding or otherwise failing the dam. **STATIC** refers to the very remote possibility of water slowly seeping through the earthen embankments. If undetected this seepage could weaken the structure.

The combined Federal effort is the investigating action to address these issues. The Study Team will evaluate various remedies for each concern in the Draft EIS/EIR and group the preferred solutions into one package for review in the Final EIS/EIR.

### HYDROLOGIC

A number of design combination options are under consideration to address hydrologic issues including a dam raise, an auxiliary spillway, modifications of the existing outlets or a tunnel. Examples of design options include:

**CONSTRUCT AUXILIARY SPILLWAY.** An Auxiliary Spillway is proposed to be constructed on the left abutment of the Main Folsom Dam. Construction would require the excavation and removal of significant quantities of earthen material and placement of concrete erosion protection surfaces and retaining walls.

**RAISE DESIGN.** This alternative option would raise all retention facilities including earthen and concrete structures. Earthen structures would be raised to a yet to be determined additional height. Options include, but are not limited to, structure walls placed along the crest, retention walls along the crest, raise of entire embankments from downstream toe to new crest height, and concrete parapet type walls atop concrete structure.

### SEISMIC

A number of design combination options are under consideration to address seismic issues including a downstream overlay, jet grouting and/or replace the foundation at MIAD and installation of tendons and/or shear keys at the concrete dam. Examples of design options include:

**REINFORCEMENT OF THE MAIN FOLSOM DAM** (Concrete Section of Folsom Dam) Modifications may be made to increase the stability of the main dam. Alternatives include, but are not limited to, reinforcement of pier and gate structures as well as increasing shear resistance

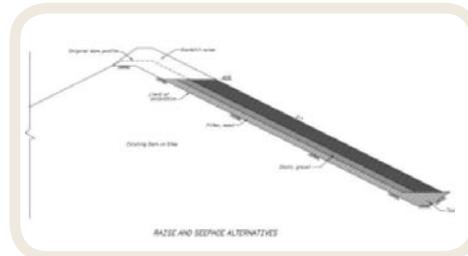
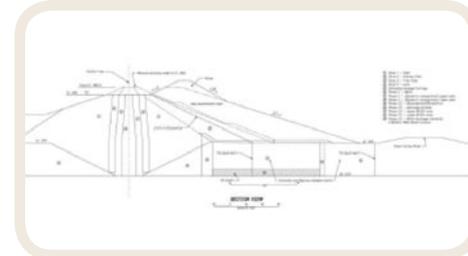
of foundation and lift lines by caissons or cable tie down alternatives and/or additional concrete placement.

**STABILIZATION OF MORMON ISLAND AUXILIARY DAM (MIAD).** MIAD is founded upon potentially liquefiable materials. Modification alternatives may include, but are not limited to, excavation and replacement of the foundation materials in question or stabilization of materials with jet grouting, shear walls, dewatering and overlay alternatives.

### STATIC

A number of design combination options are under consideration to address static issues including installation of filter and drain elements to prevent material movement should a internal leak develop and go undetected

**FILTERS AND DRAINS.** Modifications may include the installation of additional filter(s), drains and protection zone(s) on multiple earthen structures including the dikes, wing dams, and MIAD. This alternative may require placement of earthen or human-made materials within or on the upstream or downstream face of embankments.



# IMPACTS

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### POTENTIAL IMPACTS IN THE FOLSOM AREA

- Biological Resources
- Traffic Congestion
- Air Quality, including dust
- Noise
- Visual aesthetics
- Impacts to the local community
- Recreation
- Cultural Resources
- Other potential issues identified during scoping

### IMPACTS AT THE RESERVOIR

- Cultural Resources
- Biological Resources
- Air Quality
- Traffic (Haul Trucks)
- Aesthetics
- Socioeconomic
- Recreation
- Noise

The EIS/EIR will analyze local, downstream and cumulative impacts of the alternatives under review. This will include impacts related to any construction activities around Reclamation facilities, which include the Folsom Dam and all of the associated structures.



# OVERVIEW

## *Combined Federal Effort Environmental Impact Statement/Environmental Impact Report*

**B**uilt in 1955, Folsom Dam is one of the principal reservoirs of the Bureau of Reclamation's (Reclamation) Central Valley Project, and is an integral part of California's water delivery, power and flood control system. Folsom Dam provides drinking water for more than 200,000 people, irrigation water for more than 7,000 acres of farmlands, flood control for the growing Sacramento metropolitan area, and a recreation resource for millions of Californians.



### COMBINED FEDERAL EFFORT – PROVIDING FOR THE LONG-TERM SAFETY OF FOLSOM DAM

The combined Federal effort will address Reclamation's Dam Safety Program objectives of improving public safety at Folsom Dam and all associated structures, and the US Army Corps of Engineers (Corps), SAFCA, and The Reclamation Board's flood damage reduction projects that are designed to provide increased flood protection for the Sacramento area.

Reclamation and the Corps are committed to the safe design and operation of their facilities. Folsom

Dam was built using the best engineering of the mid 20th century. Since then, the understanding of dam construction has progressed, and it is clear that while still safe, Folsom Dam and the associated structures are in need of a thorough assessment and rehabilitation.

This is due in part to the large increase in population immediately below the dam, since it was constructed.

### ASSESSING THE IMPACTS

An Environmental Impact Statement/Environmental Impact Report (EIS/EIR) will be prepared to assess the potential impacts of any modifications made to the structures or to how Folsom Dam is operated as a result of the alternatives identified by the CAS and various Corps environmental documents. In the EIS/EIR, the issues and alternatives will include:

Proposed modifications to Folsom Dam will address issues associated with:

- Hydrologic - Major Flood Events
- Seismic - Earthquakes
- Static - Seepage and Piping through embankments

Modifications associated with flood control operations, seismic and static alternatives include, but are not limited to:

- Embankment Raise Options
- Auxiliary Spillway Options
- Tunnel Options
- Mormon Island Auxiliary Dam Seismic Alternatives
- Concrete Dam Seismic Options
- Folsom Dam and Embankment Static Alternatives
- Enlarge / Add outlets to the Dam

# ROLES & RESPONSIBILITIES

*Combined Federal Effort  
Environmental Impact Statement/Environmental Impact Report*

Since 1955, the Bureau of Reclamation (Reclamation) and the U.S. Army Corps of Engineers (Corps) have been working together to ensure the safe maintenance and operation of Folsom Dam. This collaboration has provided 50 years of protection for people and businesses downstream, in addition to providing power and a reliable water supply.

Both agencies are also continuously seeking to improve the structural integrity of the facility, and operate the dam more efficiently to accomplish the missions of both Reclamation and the Corps.



## PROJECTS AT FOLSOM DAM AND DOWNSTREAM

Reclamation and the Corps, other agencies and regional stakeholders, are also working together to insure consideration of other projects in the vicinity of Folsom Dam. Current projects include:

- Folsom Bridge Project
- Levee Improvements on the American River downstream of Folsom Dam
- Forecast Based Operations Feasibility Study – to release water earlier, in advance of incoming storms

## PROTECTING THE REGION FROM FLOODS

The Corps, partnering with the State Reclamation Board and the Sacramento Area Flood Control Agency (SAFCA), has a mission to increase flood protection to the Sacramento region. The Corps coordinates flood storage at Folsom Dam in combination with levees along the American River, as well as flood management on the Sacramento River system to reduce the risk of flooding.

## IMPROVING THE STRUCTURAL INTEGRITY OF FOLSOM DAM

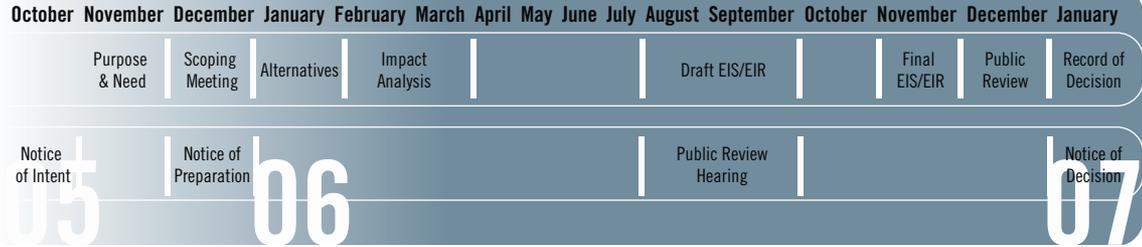
Reclamation is responsible for the safety and structural integrity of Folsom Dam. Reclamation knows the potential structural hazards that can impact a large concrete dam in a seismically active region of California. Reclamation is actively assessing structural improvements for the three safety issues in its Corrective Action Study (CAS): hydrologic, static, and seismic issues present challenges for Folsom Dam and its associated facilities.

Both Reclamation and the Corps are now pooling their resources to make the Corrective Action Study a reality. They will be working closely with other regional stakeholders and the public to identify the best remedy for each of the three safety issues in the CAS.

# EIS/EIR PROCESS

## Combined Federal Effort Environmental Impact Statement/Environmental Impact Report

The National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA) processes both provide an opportunity for the public and concerned agencies to help clearly identify and define environmental issues and alternatives to be examined for a proposed action. The NEPA/CEQA process is intended to help public officials make decisions and take corrective actions based on an understanding of the environmental consequences.



### HOW IS THE PUBLIC INVOLVED?

The Combined Federal Effort is seeking public comment early in the EIS/EIR process and at critical milestones throughout the EIS/EIR process.



#### SCOPING

This is one of three open houses by the Corps, Reclamation, The Reclamation Board and SAFCA to present their combined efforts: Reclamation's Folsom Dam Corrective Action Study, Corps Folsom Dam Modifications and Folsom Dam Raise Projects.

The purpose of the scoping phase is to define the issues that will be studied during the EIS/EIR process. You are invited to provide input on issues relevant to defining the range of alternatives and analyzing environmental impacts. Scoping comments can be provided in person, by mail, or by e-mail or fax, and are due by close of business, January 13, 2006.

#### PUBLIC REVIEW AND COMMENT ON THE DRAFT EIS/EIR

The general public and state and federal agencies will have an opportunity to review and comment on the Draft EIS/EIR, which will be distributed at the beginning of a 60-day comment period when the Draft EIS/EIR is finished in late 2006. A public hearing will also be held during the review phase to officially record oral comments regarding the Draft EIS/EIR. Public comments received during this phase will be addressed in the Final EIS/EIR.

#### PUBLIC REVIEW OF FINAL EIS/EIR

Once the Final EIS/EIR is prepared, it is released to the public for a final 30-day review before Reclamation prepares and adopts the decision. The Record of Decision (ROD) will summarize and address any outstanding comments that are relevant to the Final EIS/EIR.

### WHAT IS THE ROD?

The ROD will document the alternative selected by the Corps, Reclamation, The Reclamation Board and SAFCA.

The ROD will identify all of the alternatives considered and the environmental, economic, and any essential considerations of national security in reaching the decision.

The ROD will include the consideration of measures made to avoid or minimize effects from the selected alternative.

A Notice of Determination (NOD) will complete the CEQA process for California.

The ROD is the final step in the EIS/EIR process.

