US Army Corps of Engineers

U.S. Department of the Interior
Bureau of Reclamation

Record of Decision
Folsom Dam Safety and Flood Damage Reduction Joint Federal Project

Folsom, California
Mid-Pacific Region

May 2007

Mission Statements

Department of the Interior and Bureau of Reclamation

The mission of the Department of the Interior is to protect and provide access to our Nation's natural and cultural heritage and honor our trust responsibilities to Indian Tribes and our commitment to island communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

U.S. Army Corps of Engineers

The mission of the U.S. Army Corps of Engineers is to serve the Armed Forces and the Nation by providing quality, responsive engineering services including: planning, designing, building and operating water resources and other civil works projects; designing and managing the construction of military facilities for the Army and Air Force; and providing design and construction management support for other Defense and federal agencies, to meet national security, emergency and other national requirements.

Record of Decision

Folsom Dam Safety and Flood Damage Reduction
Joint Federal Project
Folsom, California

Approved:

Kirk C. Rodgers
Regional Director
U.S. Bureau of Reclamation

Date MAY 1 2007

John P. Woodley, Jr.
Assistant Secretary of the Army
Civil Works

Date May 3, 2007

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Glossary

These terms have the following meaning for the purposes of the JFP ROD:

Auxiliary Spillway A man-made channel, usually located in a saddle or depression in the reservoir rim which leads to a natural or excavated waterway, located away from the dam which permits the planned release of excess floodflow beyond the capacity of the service spillway. A control structure is seldom furnished. A crest is set at the maximum water surface elevation for a 100-year flood, or some specific frequency flood. The auxiliary spillway thus only has infrequent use.

Folsom Facility Refers to Folsom Dam and Appurtenant Facilities including the Main Concrete Dam, Left Wing Dam (LWD), Right Wing Dam (RWD), Dikes 1 through 8, and Mormon Island Auxiliary Dam (MIAD).

Preferred Alternative The preferred alternative incorporates all four components of the Folsom Dam Safety and Flood Damage Reduction action. This includes: (1) the new JFP Auxiliary Spillway addressing Reclamation's Dam Safety hydrologic risk reduction objective and the Corps' flood damage risk reduction objective; (2) Reclamation's Dam Safety seismic and static risk reduction features; (3) Reclamation's Dam Security enhancements; and (4) the Corps' flood damage reduction objectives.

List of Acronyms

ADT	Average daily traffic
APE	Area of Potential Effect
AQMD	Air Quality Management District
BMP	Best Management Practice
BO	Biological Opinion
CARB	California Air Resources Board
CCAO	Central California Area Office
CDFG	California Department of Fish and Game
CDPR	California Department of Parks and Recreation
CEQA	California Environmental Quality Act
Corps	Department of the Army, Office of the Secretary of the Army (Civil Works) (Corps)
CRHR	California Register of Historical Resources
CVRWQCB	Central Valley Regional Water Quality Control Board
CWA	Clean Water Act
DS/FDR	Dam Safety and Flood Damage Reduction
DWR	California Department of Water Resources
EGR	Exhaust Gas Recirculation
EIS/EIR	Environmental Impact Statement/Environmental Impact Report
FDR	Flood Damage Reduction
FWCAR	U.S. Fish and Wildlife Coordination Act Report
JFP	Joint Federal Project
LOS	Level of Service
LWD	Left Wing Dam
MBTA	Migratory Bird Treaty Act of 1918
MIAD	Mormon Island Auxiliary Dam
MMRP	Mitigation Monitoring and Reporting Program
NEPA	National Environmental Policy Act
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
OSHA	Occupational Safety and Health Association
PAC	Post Authorization Change
Partner Agencies	Reclamation, Corps, State Reclamation Board/California Department of Water Resources, and Sacramento Area Flood Control Agency
PL	Public Law
Reclamation	U.S. Bureau of Reclamation
Reclamation Board	State Reclamation Board
ROD	Record of Decision

RWD	Right Wing Dam
SAFCA	Sacramento Area Flood Control Agency
SHPO	State Historic Preservation Officer
SMAQMD	Sacramento Metropolitan Air Quality Management District
SWPPP	Storm Water Pollution Prevention Plan
USFWS	United States Fish and Wildlife Service
VELB	Valley Elderberry Longhorn Beetle
VOC	Volatile organic compounds
6STG	Six submerged tainter gates

List of Abbreviations

cy	cubic yards
CO	carbon monoxide
ft	foot/feet
Ldn	day-night average level
NO_x	nitrogen oxides
$PM_{2.5}$	fine particulate matter of 2.5 microns in size
PM_{10}	inhalable particulate matter of 10 microns in size
V/C	volume to capacity

Record of Decision
Folsom Dam Safety and Flood Damage Reduction Joint Federal Project

I. Introduction

This document is the joint Record of Decision (ROD) of the United States Department of the Interior, Bureau of Reclamation (Reclamation), Mid-Pacific Region, the lead federal agency, and the Department of the Army, Office of the Secretary of the Army (Civil Works) (Corps), cooperating federal agency, for the Folsom Dam Safety and Flood Damage Reduction (DS/FDR) action. Both agencies have reviewed the Folsom DS/FDR Draft Environmental Impact Statement/ Environmental Impact Report (EIS/EIR) [DES-06-53, State Clearing House # 2006022091] dated December 2006 and Final EIS/EIR [FES-07-10] dated March 2007, addressing dam safety and flood damage reduction components of the Folsom DS/FDR actions at Folsom, California. The EIS/EIR was developed in compliance with the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). The Corps has developed separately the American River Watershed Project/Folsom Modifications Post Authorization Change (PAC) Report addressing flood damage reduction issues for the watershed. This ROD is consistent with the PAC Report presentation of issues.

The Corps non-federal sponsors include the State Reclamation Board (Reclamation Board)/California Department of Water Resources (DWR) the lead CEQA agency and the Sacramento Area Flood Control Agency (SAFCA) the responsible agency under CEQA.

Based upon this review and the views of other agencies and the public the Corps finds that the equivalent features authorized by Congress in Section 101 (a) (6) of Public Law 106-53, the Water Resources Development Act of 1999, and the features described in Section 128(a) of Public Law 108-137, the Energy and Water Development Appropriations Act of 2004, and further described in Section 128 of Public Law 109-103, the Energy and Water Development Appropriations Act of 2006, to be economically justified, technically feasible, in accordance with environmental statutes, and in the public interest. The Corps finds the Joint Federal Project (JFP) Auxiliary Spillway to be a reasonable refinement to the Folsom Modification Project and approves the plan for implementation.

The Preferred Alternative discussed in the Final EIS/EIR, and the Corp's Selected Plan presented in its Post Authorization Change (PAC) Report, addressed four separate projects to be implemented and constructed jointly and separately by Reclamation and the Corps.

The Preferred Alternative, discussed in the Final EIS/EIR and in Reclamation's Safety of Dams (SOD) Modification Report, meets the dam safety objective for reducing hydrologic risk. Thus, Reclamation approves the Joint Federal Project (JFP) as functionally equivalent to the least cost dam safety modification alternative described in its Safety of Dams Modification Report for Folsom Dam dated May 2007.

II. Decision

Reclamation and the Corps' decision is to proceed with the environmentally Preferred Alternative as identified in the Final EIS/EIR. This alternative includes the JFP auxiliary spillway as well as dam safety and security features, which Reclamation will address in a separate ROD; and flood damage reduction features including a 3.5 foot embankment raise and replacement of the emergency gates on the main dam, which the Corps will address in a separate ROD. This joint ROD addresses only the JFP Auxiliary Spillway feature of the Preferred Alternative.

Should the Corps experience unforeseen delays in funding or in completing the design of the JFP auxiliary spillway, to the extent that such delays jeopardize completion of the JFP spillway within established schedules, Reclamation will revisit the fuseplug spillway alternative under existing information, in coordination with the Corps and the Corps nonfederal sponsors (Reclamation Board/DWR and SAFCA). A subsequent ROD may be issued.

The major features associated with the JFP Auxiliary Spillway are discussed below.

Joint Federal Project - Auxiliary Spillway

The JFP involves the construction of a new Auxiliary Spillway controlled by six submerged tainter gates (6STG) and including an approach channel, concrete-lined chute, and stilling basin. This new spillway will provide the operational capability for improved hydrologic control (controlled sustained discharge earlier and for longer durations and prevention of dam or embankment overtopping) of storm induced floods in excess of reservoir storage capacity in advance of and during extreme storm events.

The new Auxiliary Spillway will be constructed jointly by Reclamation and the Corps in three separate phases. Reclamation in Phases 1 and 2 will initiate excavation of the spillway chute and stilling basin and the Corps as part of Phase 3 will complete excavation of the chute including the approach channel, and will construct the control structure and concrete lining of the chute, approach channel, and stilling basin. The Final EIS/EIR addresses the impacts of all phases of spillway construction.

The JFP Auxiliary Spillway will include the following actions and features:

1. Excavation of approximately 3.5 million cubic yards (cy) of soil and rock material to create the approach channel, control structure, and spillway chute.

2. Lining of the approach channel, spillway chute, and stilling basin with concrete.

3. Construction of a new stilling basin at the downstream end of the Auxiliary Spillway chute.

4. Construction of a haul road, entirely on federal property, for the transport and stockpiling/disposal of excavated material.

5. Stockpiling/disposal of excavated material at the toe of the Left Wing Dam (LWD), Observation Point, Dike 7, Beal's Point (creation of staging areas), the right abutment of Mormon Island Auxiliary Dam (MIAD right groin), and the D1/D2 location southwest of MIAD.

6. Staging of contractor materials and equipment at the spillway excavation site, Observation Point, and D1/D2 location.

7. Construction of grade separation features or roadway modifications near the entries of Folsom Point and Beal's Point together with traffic control measures to allow nearly continuous access by the public to Folsom Point and Beal's Point throughout the construction period.

Although not part of the JFP ROD, the stockpiled material that is excavated from the spillway is intended for use in the construction of proposed dam safety improvements, including the placement of a downstream overlay at MIAD and construction of contractor staging platforms. The Safety of Dams and security upgrade features are being addressed under a separate ROD to be signed by Reclamation.

The Final EIS/EIR provides the necessary NEPA and CEQA documentation to undertake this Federal Action. It is anticipated that it will take up to 7 years, starting in the Fall of 2007 and ending in 2014, to complete all three phases of construction of the new JFP Auxiliary Spillway.

Technical and economic criteria used in the formulation of alternative plans were those specified in the Water Resources Council's *Principles and Guidelines*, dated March 10, 1983. All applicable laws, regulations, Executive Orders, guidelines, and local governmental plans were considered in evaluating the alternatives. Based on

review of these evaluations, we find that the overall benefits gained by construction of the authorized project outweigh any adverse effects.

III. Background and Alternatives Considered

Folsom Facility (the concrete dam and 11 earthen dams/dikes) impound waters of the American River forming Folsom Reservoir. Reclamation under its Dam Safety Program evaluated the Folsom Facility for hydrologic (flood flow), seismic (earthquake), and static (seepage) risks. In addition to seismic, hydrologic and static issues, which are addressed in a separate Dam Safety ROD, Reclamation determined that the Folsom Facility is at risk of overtopping during extreme flood events due to operational limitations of the existing spillway. The Corps determined under its American River Watershed Investigation authorizations that improvements to Folsom Dam release mechanisms would be required in order to increase the level of flood damage reduction for the lower American River. The purpose and need for the Folsom Dam JFP is a structural solution meeting the hydrologic risk reduction and flood damage reduction objectives of both agencies.

The JFP Auxiliary Spillway reflects a collaborative effort by Reclamation and the Corps in accordance with their National Partnership Agreement, together with the Corps' non-federal sponsors, the Reclamation Board/DWR, and SAFCA. Reclamation's Central Valley Project (CVP) water and power contractors have been informed and involved throughout the project development process in accordance with the Reclamation Safety of Dams Act (as amended). The JFP addresses a common hydrologic control solution that addresses Reclamation's dam safety hydrologic risk reduction and the Corps' flood damage reduction objectives for Folsom Dam.

Reclamations Dam Safety objectives are to protect public safety by ensuring that Folsom Dam and its appurtenant structures can safely control and pass the Probable Maximum Flood (PMF) and other extreme flood events. The Corps' flood damage reduction objective is to provide at least 1/200 flood protection to the lower American River corridor. As the Corps' cost share partners, SAFCA and DWR likewise seek to improve the level of flood protection for the Sacramento region.

Reclamation assumed the lead agency role and was responsible for the preparation of the EIS/EIR pursuant to NEPA. The Corps is a Cooperating Federal Agency and provided technical input and review for the Draft and Final EIS/EIR. The Corps has independently reviewed the Final EIS/EIR and concluded that all of its comments and suggestions have been satisfied. Therefore, the Corps, as a cooperating agency, has adopted the portions of the Final EIS/EIR that describe and analyze flood damage reduction actions at Folsom Dam to include: JFP Auxiliary Spillway; 3.5 foot embankment raise; and emergency gate replacement.

Reclamation and the Corps identified and analyzed six alternatives in the Draft EIS/EIR including the No Action Alternative, which is required under NEPA. The No Action Alternative would result in no construction to improve the structures at the Folsom Facility and thereby would achieve no reduction in hydrologic risk and no improvements to flood damage reduction potential for the lower American River.

In addition to the No Action Alternative, Reclamation and the Corps considered five action alternatives that meet the purpose and need in the Draft EIS/EIR:

Alternative 1 – Fuseplug Auxiliary Spillway

Alternative 1 would involve construction of an Auxiliary Spillway using an embankment fuseplug as the control structure. This alternative addressed Reclamation's Dam Safety hydrologic risk reduction objectives, but not the Corps flood damage reduction objectives.

Alternative 2 – Fuseplug Auxiliary Spillway with Tunnel

Alternative 2 included a Fuseplug Auxiliary Spillway with a gated tunnel. Alternative 2 primarily addressed Reclamation dam safety hydrologic risk reduction objectives with the fuseplug auxiliary spillway and Corps concerns for flood damage reduction with a low level outlet works/tunnel.

Alternative 3 (Preferred Alternative) – JFP Gated Auxiliary Spillway

Alternative 3 was identified in the Final EIS/EIR as Reclamation's Preferred Alternative to address hydrologic dam safety risk reduction objective and by the Corps as a component of its Selected Plan. Alternative 3 includes the construction of a new 6STG Auxiliary Spillway.

Alternative 4 – 7-ft Raise with JFP Gated Auxiliary Spillway (removed from consideration between the Draft and Final EIS/EIR)

Alternative 4 included a JFP gated Auxiliary Spillway along with a 7-ft raise of all 12 Folsom Facility structures. Alternative 4 would address both Reclamations and the Corps' hydrologic control objectives for the Folsom Facility.

Alternative 5 – 17-ft Raise (removed from consideration between the Draft and Final EIS/EIR)

Alternative 5 used a 17-ft raise to contain flood waters and did not involve construction of a new Auxiliary Spillway.

In addition to the alternatives described above, several alternatives were considered during the screening process but were eliminated from further consideration for various reasons including technical, economic, and institutional infeasibility, significant environmental adverse effects, and inability to meet the purpose and need

statement of the project. Section 2.1.4 of the Draft EIS/EIR presents the measures that were evaluated for incorporation into the alternatives and the rationale for their elimination. Additionally, Alternative 3 is preferred by the Reclamation Board and SAFCA; and is the environmentally preferred/least environmentally damaging practicable alternative.

IV. Basis of Decision and Issues Evaluated

The purpose and need for the Federal Action takes into consideration Reclamation's statutory mission and authority for the operation, maintenance, safety and security associated with the Folsom Facility and the Corp's flood damage reduction objectives for the Folsom Facility and the Sacramento region. Five alternatives were evaluated in the EIS/EIR on how well they met the project's purpose and need, and their environmental consequences. Alternative 3 was identified as the Preferred Alternative because it best met both Reclamation's and the Corps' objectives. Alternative 1 would not meet the purpose and need objectives as thoroughly Alternative 3. Alternative 2 introduced greater environmental impacts as a result of construction of the gated tunnel (greater earthwork and construction underwater). Alternative 3 was assessed to have the least impacts of any alternative meeting all project objectives. Alternative 4, due to its raise component which was deemed unnecessary to meet hydrologic control objectives, introduced greater environmental impacts than Alternative 3. Alternative 5 was assessed to have the greatest and potentially non-mitigable impacts of the alternatives evaluated.

Public input received during the scoping process, comments at the public hearings, and comments on the Draft EIS/EIR were considered by Reclamation and the Corps during the revision of Alternative 3 as described in the Final EIS/EIR. Alternative 3 was identified as the Preferred Alternative in the Final EIS/EIR and as a component of both the Selected Plan by the Corps and planned Safety of Dams modifications by Reclamation. Public comments were received following the circulation of the Final EIS/EIR on March 30, 2007. The issues raised in these public comments are summarized in Appendix A.

Impacts of each of the alternatives were evaluated in the EIS/EIR in the following environmental resource areas:

- Hydrology, Water Quality, and Groundwater
- Water Supply
- Air Quality
- Aquatic Resources
- Terrestrial Vegetation and Wildlife
- Soils, Minerals, and Geological Resources
- Visual Resources
- Agricultural Resources

- Transportation and Circulation
- Noise
- Cultural Resources
- Land Use, Planning, and Zoning
- Recreation
- Public Services and Utilities
- Hydropower
- Population and Housing
- Public Health and Safety
- Indian Trust Assets
- Environmental Justice

The primary impact issue addressed in the Final EIS/EIR was minimizing adverse effects to recreational opportunities at Folsom Reservoir. Based upon comments received from the public on the Draft EIS/EIR, Alternative 3 (the Preferred Alternative) was revised to incorporate measures that improve public access and enjoyment of recreation sites during construction of the JFP Auxiliary Spillway. The Draft EIS/EIR introduced mitigation measures reducing other impacts and there was no change in mitigation strategy except for recreation in the Final EIS/EIR.

V. Compliance with Federal Regulations

In accordance with Section 7 of the Endangered Species Act, Reclamation requested formal consultation with the United States Fish and Wildlife Service (USFWS) on November 28, 2006. The Biological Opinion (BO) for this project was received from the USFWS on April 5, 2007. In compliance with the Incidental Take Statement, the non-discretionary mitigation measures listed in the BO will be implemented by Reclamation and the Corps. Reclamation and the Corps have determined that the proposed action will have no effect on listed species or critical habitat at under the jurisdiction of National Marines Fisheries Service.

In compliance with the Fish and Wildlife Coordination Act, USFWS submitted the Fish and Wildlife Coordination Act Report (FWCAR) for the Folsom Dam Safety and Flood Damage Reduction to Reclamation on April 6, 2007. All recommendations from the FWCAR were adopted with the following exceptions. In its FWCAR, the USFWS recommended that the responsible Federal Agencies develop a monitoring and adaptive management plan to monitor vegetation around the reservoir over the life of the project. Baseline conditions would be established and updated at intervals (10 years). In addition, the USFWS recommended compensatory mitigation for the loss of any habitat from unavoidable impacts resulting from a raise and/or inundation impacts. The two recommendations are not being adopted by this ROD. Construction of the Preferred Alternative will not result in inundation of the reservoir beyond existing conditions.

In compliance with the Clean Air Act, Reclamation completed a de minimus emissions conformity evaluation of the project, demonstrating that the project can conform to the Clean Air Act.

In compliance with the Clean Water Act, Reclamation and the Corps will obtain any necessary discharge permits, ensure compliance with permit requirements, and require their respective construction contractors to develop and adhere to respective Storm Water Pollution Prevention Plans.

In compliance with the National Historic Preservation Action, Section 106, Reclamation has initiated consultation with the State Historic Preservation Officer (SHPO). Reclamation will complete consultation with the SHPO prior to award of construction contracts related to this ROD.

VI. Implementing Decision and Environmental Commitments

Project planning, as described in the Final EIS/EIR, included all practicable means of avoiding adverse environmental impacts. Where avoidance is not possible, Reclamation and the Corps have committed to the following environmental mitigation programs, where appropriate and necessary, to ensure the protection of environmental resources and to implement the appropriate level of mitigation for impacts resulting from the project. All applicable mitigation measures pertaining to construction of the JFP feature of the preferred alternative in the Final EIS/EIR have been adopted in this ROD as environmental commitments. The Environmental Commitments Checklist in Appendix B of this ROD briefly summarizes the following:

- each of the environmental commitments contained in the JFP as well as Safety of Dams RODs,
- the corresponding impact(s) being mitigated,
- the entity(s) responsible for implementing the mitigation,
- the mitigation implementation and monitoring phase(s),
- the monitoring action(s) or plan(s) to be followed,
- the entity(s) responsible for enforcing mitigation,
- the entity(s) responsible for mitigation monitoring, and
- the compliance completion date.

The Folsom Safety of Dams and Joint Federal Project (SOD/JFP) Mitigation Monitoring and Reporting Plan (MMRP) is under parallel development with the SOD and JFP RODs; specific mitigation and monitoring plans and responsible entities are described in detail in the Folsom SOD/JFP MMRP.

With implementation of Alternative 3 (JFP Auxiliary Spillway) impacts could occur related to excavation, hauling, disposal, and stockpiling of materials, and construction of the JFP Auxiliary Spillway structure. Mitigation measures proposed in the Final EIS/EIR and carried forward in this JFP ROD are discussed below.

The Central California Area Office (CCAO) Area Manager will establish and facilitate a continuing forum to promote communication, coordination and cooperation among the Partner Agencies (Corps, Reclamation Board (Reclamation Board)/DWR and SAFCA) and local government throughout the construction of the dam safety, FDR and other projects and improvements at the Folsom Facility. The primary objective of this forum will be to facilitate timely completion of all projects on an integrated basis with minimum impact on Reclamation's continuing obligation to deliver water, generate power and manage and perform related programs and activities.

Hydrology, Water Quality, and Groundwater

The JFP auxiliary spillway will not alter regional hydrology or groundwater. To reduce potential effects on water quality as a result of (1) increased sedimentation from stormwater runoff, (2) spills of construction-related chemicals, (3) filling of waters of the state, and (4) increased mercury and metals in the reservoir due to dredging, the following commitments are incorporated into the project.

1. The responsible Federal Agency[1] working with their construction contractor will obtain a National Pollutant Discharge Elimination System (NPDES) permit prior to construction activities, commencing by filing a Notice of Intent (NOI) with the Central Valley Regional Water Quality Control Board (CVRWQCB) and preparing a Stormwater Pollution Prevention Plan (SWPPP).

2. The responsible Federal Agency working with their construction contractor in coordination with Reclamation's CCAO will incorporate measures in the SWPPP to control sediment and on-site spills. In addition to the environmentally friendly Best Management Practices (BMPs that avoid wildlife entrapment issues, such as flexible joint netting), and spill prevention recommended in the Final Fish and Wildlife Coordination Act Report, the SWPPP will contain a visual monitoring program as well as a chemical monitoring program for pollutants that are non-visible to be implemented if there is a failure of BMPs.

[1] Reclamation or the Corps, depending upon construction phase.

3. The responsible Federal Agency will prepare and obtain permits as stated in Section 401 and Section 404 of the Clean Water Act (CWA) regarding dredging or filling of waters of the United States, and activities involving discharging into those waters, which include wetlands, respectively.

4. The responsible Federal Agency will obtain guidance from the CVRWQCB for testing earthen materials before constructing work area platforms within or adjacent to the reservoir. This is to ensure that any potentially-associated pollutants will not be introduced into the reservoir that would violate water quality standards or substantially degrade existing water quality. Fill material will be placed and compacted in the reservoir during periods of lower water elevation, when possible. Best management practices will be adhered to in order to minimize water quality impacts during the placement of fill in the reservoir.

5. The responsible Federal Agencies working with their respective construction contractors will develop water quality monitoring plans for review by the CVRWQCB prior to any in-reservoir construction work. The plan will address sampling requirements during dredging, blasting, excavation, and placement of fill within the reservoir. To address methyl mercury dispersal concerns, turbidity readings will be taken during construction. If turbidity readings exceed action level values established by the CVRWQCB, corrective actions will be implemented in accordance with the plan. As determined by the water quality monitoring plan, routine water samples will be collected at appropriate locations (construction site and downstream of dam), at the start and completion of each dredging and/or blasting period. Assessment of metals in freshwater sediment will be based on recommendations stated in the FWCAR. Sediment containing elevated concentrations of metals including mercury and nickel will be controlled using a variety of methods, including, but not limited to, silt curtains, silt fences, as well as other BMPs and construction methods approved by the CVRWQCB. Dredged material will be placed on the downstream side of the reservoir in a contained area for drying and processing.

6. The Corps and its construction contractor will obtain a dewatering permit from CVRWQCB and will implement applicable water quality monitoring during construction of the approach channel.

Water Supply

The construction of the JFP Auxiliary Spillway will require the relocation of a 300-ft segment of the Natomas Pipeline to an above ground pipeline. Reclamation and its construction contractor will work closely through CCAO with City of Folsom for the timing of connection of a temporary intake so that there will not be an interruption to the City's water supply. These means will be determined in conformance with Reclamation's water service contracts as administered by CCAO and the CCAO Area Manager and will be coordinated by CCAO with the City of Folsom, and California

Department of Corrections prior to implementation. Therefore, there will be no adverse affects to water supply due to the construction of the JFP auxiliary spillway.

Air Quality

On March 28, 2007, Reclamation consulted with Region 9 U.S. Environmental Protection Agency Regional Officer on general conformity applicability analysis for Clean Air Act compliance. The project in this ROD can conform to the Clean Air Act requirements. Nevertheless, construction of the JFP Auxiliary Spillway may have potentially significant effects on air quality. These effects may include: (1) increase in stationary source emissions from concrete batch plant(s) and/or materials processing facilities, (2) increase in construction equipment emissions, (3) increase in NOx emissions, and (4) increase in fugitive dust. The following mitigation measures will be implemented by the construction contractor to reduce potential air quality effects and comply with air quality standards.

1. The responsible Federal Agencies (working with their construction contractors as appropriate) will provide a plan for approval by Sacramento Metropolitan Air Quality Management District (SMAQMD), demonstrating that the heavy-duty (> 50 horsepower) off-road vehicles to be used in the construction project, including owned, leased and subcontractor vehicles, will achieve a project wide fleet-average 20 percent NOx reduction and 45 percent particulate reduction compared to the most recent California Air Resources Board (CARB) fleet average at the time of construction.

2. The construction contractor working under the direction of the responsible Federal Agencies will submit to the SMAQMD a comprehensive inventory of all off-road construction equipment, equal to or greater than 50 horsepower, that will be used an aggregate of 40 or more hours during any portion of the construction project. The inventory shall include the horsepower rating, engine production year, and projected hours of use of fuel throughput for each piece of equipment. The inventory shall be updated and submitted monthly throughout the duration of the project, except that an inventory shall not be required for any 30-day period in which no construction activity occurs. At least 48 hours prior to the use of subject heavy-duty off-road equipment, the Mid-Pacific Construction Office (MPCO) construction engineer shall provide SMAQMD and the CCAO Area Manager with the anticipated construction timeline including start date, and name and phone number of the project manager and on-site foreman.

3. The Preferred Alternative has been demonstrated to meet air quality conformity (de minimus) under current assumptions regarding construction schedule and equipment. Should the construction schedule change or the contractor require use of equipment comprising an inventory different from that used to in the assessment of general conformity, the contractor shall conduct a full conformity

analysis, based on those changes, to verify that the schedule and/or new equipment stays below de minimus levels. Demonstration of Conformity with NOx de minimus threshold levels requires the following information:

- Identification of the fleet of equipment and machines that will be used to construct the project
- Identification of the engine type, horsepower size, and emission factor for each piece of equipment
- Identification of the number of hours of operation for each typical work day for each piece of equipment
- Identification of the number of days the equipment/machine will be used each calendar year
- Calculation of total emissions by multiplying emission factors by hours of operations for each piece of equipment
- Summing all emissions of all machines used for the construction project, both daily and annually.

4. The responsible Federal Agencies working with their construction contractors will apply fugitive dust control on roadways, processing plants, and concrete batch plants to reduce PM_{10} and $PM_{2.5}$ emissions at or below required levels. Typical dust mitigation measures may include:

    - Wet suppression and soil stabilization
    - Palliative approved by USFWS
    - Wind fencing around active area
    - Paving on-site roadways
    - Truck wheel washing facilities at site exits onto public roadways
    - Maintaining minimum truck bed freeboard or covering haul truck beds

5. Facility power for the concrete batch plants and rock/material screening facilities will come from the electric utility grid, not diesel-driven generators and pumps. Using grid power eliminates both the gaseous pollutants associated with diesel engines, as well as diesel particulates, which are listed toxic air contaminants in California.

6. In addition to the measures outlined above, the construction contractor will be encouraged to incorporate the following additional control measures as part of off-sets of emissions.

    - The responsible Federal Agencies working with their construction contractors will evaluate the use of equipment with engines that incorporate exhaust gas recirculation (EGR) systems. EGR systems may need to be part of the engine design for a substantial portion of the existing construction equipment fleet in the region to be effective. While

EGR systems can provide reductions of NOx, PM10, CO, and VOC emissions, the availability of construction equipment with EGR systems will need to be reviewed in detail prior to the final decision to incorporate this option in the Air Quality Management Plan for the Preferred Alternative.

- The responsible Federal Agencies working with their construction contractors will evaluate the installation of a lean NOx catalyst in the engine exhaust system. Lean NOx catalyst filters may be available for construction equipment exhaust. These units will need to be certified by CARB before being installed on specific construction equipment engines. In addition, other add-in exhaust filters are not compatible with aqueous diesel fuel. A detailed review of applicable catalysts and compatibility with different fuels will need to be conducted before a final decision can be made to incorporate this option in the Air Quality Management Plan.

- Construction contractor will be encouraged to accelerate turnover of equipment to decrease emissions to be below 85 pounds per day of NOx.

- Construction contractor will seek opportunities to install electric-driven conveyors on portions of the material haul routes to reduce on-site truck emissions and road dust.

- Construction contractor will seek opportunities to upgrade all off-road equipment to meet Tier 3 standards.

- Construction contractor will look for opportunities to install ARB-verified control devices for off-road diesel engineer NOx emissions where the device can be installed in a safe manner and the emissions reduction associated with the installing the device is cost-effective.

Aquatic Resources

Construction of the JFP Auxiliary Spillway may have several potentially significant effects on aquatic resources. These effects may include: (1) alteration of habitat for protected vernal pool invertebrates or direct impacts to these species, (2) direct or indirect impacts to adjacent wetland ecosystems. The responsible Federal Agencies will implement the following mitigation measures to reduce potential effects of the JFP Auxiliary Spillway on aquatic resources:

1. Reclamation will complete protocol surveys for special-status branchiopods prior to any grading or other construction activities in potential habitat for these species.

2. The responsible Federal Agency working with its construction contractor will avoid (preserve) potential vernal pool habitat by placing fencing around a 250-ft buffer area from the vernal pool edge to prevent effects from vehicle compaction and other construction-related activities. For vernal pool habitat that is to be avoided, an approved biologist (monitor) will inspect construction-related activities to ensure that no unnecessary take or destruction of habitat occurs. The biologist will contact the construction representative who has the authority to stop activities that may result in such take or destruction until corrective measures have been taken. The biologist will also be required to report immediately any unauthorized effects to Reclamation or the Corps, CCAO Area Manager, the MPCO Construction Engineer, and to the USFWS and California Department of Fish and Game (CDFG).

3. Adverse impacts to Federally listed vernal pool species and their designated critical habitat in the Folsom DS/FDR footprint will be compensated in a manner outlined in the April 5, 2007 USFWS BO and Incidental Take Statement for the project. Any vernal pool habitat that is directly or indirectly affected by the proposed project will be compensated for by purchasing credits at a USFWS approved conservation bank. Measures to offset the loss of vernal pool crustacean habitat include a 2:1 preservation and 1:1 creation compensation ratio. Per the BO, Reclamation shall provide proof of purchase (payment receipts) of vernal pool preservation and creation/restoration credits to the USFWS prior to the commencement of ground-disturbing activities.

4. The uppermost layer of soil in seasonally ponded habitat may contain cysts of vernal pool crustaceans as well as seeds of vernal pool plants. Therefore, before these wetlands are disturbed per the USFWS BO, Reclamation will make the top layer of soil available to any vernal pool creation bank that requests it, with USFWS approval, for inoculating newly created ponds. Soil stockpiled for this purpose shall be shielded from rain with a water-proof cover to ensure that it remains completely dry.

5. The responsible Federal Agency will develop a fish removal plan prior to dewatering the approach channel and implement the plan at the time of dewatering.

Terrestrial Vegetation and Wildlife

Construction of the JFP Auxiliary Spillway may have several potentially significant effects on terrestrial vegetation and wildlife resources. These effects may include: (1) impacts to special-status plant and wildlife species, (2) impacts to protected oak woodlands, (3) increase in sedimentation in streams, creeks, and seasonal wetlands, (4) potential impacts to nesting birds protected by the Migratory Bird Treaty Act (MBTA), (5) loss of native vegetation, and (6) loss and/or disturbance of wetlands

and other waters of the U.S. The responsible Federal Agencies will implement the following measures.

1. Reclamation will employ biologists with appropriate experience and expertise to conduct pre-construction surveys within the project footprint in all areas that may contain suitable habitat for special-status plant, invertebrate, or wildlife species (amphibian, reptile, bird, and mammal). The biologists will identify locations of special status plant, invertebrate, or wildlife species and take necessary measures to provide protection.

2. To the extent consistent with project implementation needs, the responsible Federal Agency working with its construction contractors will avoid any populations of special-status plant, habitat types (oak-grey pine woodland, chaparral, riparian areas, and seasonal wetlands), invertebrate, or wildlife species by placing fencing around the population and a suitable buffer area. Environmental monitors employed either by the responsible Federal Agency or its construction contractor will regularly inspect any fenced sensitive biological resources to ensure no disturbance. Special status populations that cannot be avoided will be fully mitigated for per the BO.

3. Reclamation will employ qualified biologists (monitors) throughout the construction period to identify any at-risk special-status plant or animal species. The biologist will consult with the appropriate agency to remove individuals of special-status species from the project area, according to USFWS and CDFG laws, handling guidelines, licenses, and permits.

4. Reclamation will consult with the USFWS and CDFG should populations of special-status plant, invertebrate, or wildlife species be found that cannot be avoided; special mitigation measures may need to be developed for those populations.

5. To minimize the potential for incidental take of listed species resulting from project-related activities, the nondiscretionary measures for listed species described in this section from the project's BO must be implemented by the responsible Federal agency. The responsible Federal Agency will address the conservation measures described in the Project Description, Terms and Conditions, and Reporting Requirements of the project BO per the Endangered Species Act. The procedures outlined in the Guidelines for the Valley Elderberry Longhorn Beetle (dated July 9, 1999) shall be followed unless otherwise stated below. If the responsible Federal agency fails to ensure compliance with these measures, the protective coverage of the incidental take statement may lapse. The responsible Federal agency will include a copy of the USFWS' BO within its solicitations for construction of the project and provide a copy of these solicitations to the USFWS per the BO. Should project features change from

those described in the BO, then re-consultation with the USFWS and CDFG will be required.

6. All construction personnel at the Folsom DS/FDR construction site will receive environmental awareness training from the responsible Federal Agency biologist(s) associated with the project, or suitably trained representative(s), regarding the potential presence of listed, special-status, and protected (e.g., oak trees) species in the project area and the importance of avoiding impacts to these species and/or habitats and reporting sightings. Special emphasis will be given to the identification of elderberry shrubs and the need to avoid damaging these shrubs and possible penalties of non-compliance. Per the USFWS BO, proof of environmental training shall be delivered by the responsible Federal Agency to the Chief of the Endangered Species Division of the USFWS.

7. To the extent possible, Reclamation will direct its construction contractor to initiate excavation and construction activities during non-breeding seasons for special-status and protected wildlife. Habitat for special status and protected species will be removed during the non-breeding season if practicable to preclude return to the project area by the species during construction activities.

8. To the extent possible, Reclamation will direct its construction contractor to remove vegetation and potential bird breeding habitat in the Folsom DS/FDR project area between September 1 and February 28, when birds are not expected to be nesting within the project area, in order to comply with MBTA and Executive Order 13186. Impacts to non-breeding birds still may occur between September 1 and February 28, because they are not reproductively constricted to the project area during that period. During the period from March 1 to August 31, bird reproduction is occurring and therefore the potential for impacts to nesting birds exists.

9. For appropriate phases of work, prior to bringing in equipment from other sites, construction contractors will clean all mud, soil, and plant/animal material from the equipment. This will help prevent the importation of plants or animals that are exotic, non-native, or invasive.

10. The construction contractor will be required to implement eco-friendly erosion and sedimentation control measures (BMPs that avoid wildlife entrapment issues) for all grading, filling, clearing of vegetation, or excavating that occurs as part of site and haul road construction.

11. The construction contractor will be required to minimize dust impacts to vegetation, wetlands, and breeding wildlife. Unpaved access roads will be frequently watered with raw water using a sprayer truck during periods when trucks and other construction vehicles are using the roads, except during periods

when precipitation has dampened the soil enough to inhibit dust. The speed limit on unpaved roads in the construction footprint will be limited to avoid visible dust. A dust palliative will need to be approved by the USFWS.

12. Reclamation will develop a Revegetation Plan to address potential losses to all habitats impacted within the project footprint. The Plan will specify the native plant and seed mixture for reestablishment of habitats in disturbed areas. The Revegetation Plan will be implemented immediately following construction in accordance with requirements in the SWPPP, FWCAR, and MMRP. The Revegetation Plan will include operations and maintenance (O&M) procedures for all mitigations sites developed for the project. The Revegetation Plan will be developed in coordination with the USFWS.

13. Reclamation will monitor all revegetated or disturbed areas for invasive non-native plant species, particularly star thistle, French broom and pampas grass, for five years following completion of construction, with the assistance of a qualified botanist. If invasive species are becoming established on areas disturbed by project activities during the five year period, invasive species will be removed at times that preclude the plants from setting new seed.

14. Reclamation will follow recommendations in the FWCAR and complete mitigation in the FWCAR for all affected habitats. The extent of the mitigation will be determined and documented in the MMRP prior to commencement of construction activities. Reclamation will develop a Habitat Mitigation Plan as a component of the MMRP that will include O&M procedures for establishing and monitoring the success of mitigation sites. The Habitat Mitigation Plan will address the compensatory mitigation requirements for native oaks-grey pine, riparian, chaparral, wetlands, and elderberry conservation sites. The Plan and procedures will be developed in coordination with the USFWS.

15. Reclamation will mitigate for native oaks and oak-grey pine woodlands impacted by construction at the ration stipulated in the FWCAR.

16. Reclamation will mitigate for riparian vegetation impacted by construction at the ratio stipulated in the FWCAR.

17. Reclamation will mitigate for chaparral vegetation impacted by construction at the ratio stipulated in the FWCAR.

18. Reclamation will mitigate for wetlands impacted by construction at the ratio stipulated in the FWCAR.

19. Reclamation will be required to develop and implement a bird monitoring plan as part of the MMRP to monitor and mitigate construction-related impacts to birds

during the breeding season, in compliance with the MBTA and Executive Order 13186. Mitigation will include but is not limited to a nest monitoring zone of an adequate size to avoid or significantly reduce impacts to breeding birds at active construction sites. Also, methods to either deter nesting or habituate birds to construction noise and activities will be employed. Also, an appropriate buffer zone around active nests of special status bird species will be implemented. Nest monitoring will be conducted by a biologist qualified and experienced in such methods.

20. Reclamation will avoid, minimize, or mitigate for impacts to elderberry shrubs. Where shrubs cannot be avoided for the Folsom DS/FDR action, Reclamation, working with its construction contractor and CCAO, will establish with high visibility fencing prior to construction and maintain a 100-foot buffer zone around all elderberry plants containing stems measuring 1.0 inches or greater in diameter at ground level per the details in the USFWS BO. If shrubs cannot be avoided or fenced at 100', Reclamation will consult with the USFWS to fence the shrubs at 20' from the dripline of the shrub. Shrubs that are located within the project action area will be transplanted per the BO. Also, informational signs will be erected every 50 ft along the edge of the avoidance area and maintained throughout the construction period. Firebreaks will not be included in the buffer zone. In addition, the USFWS will be provided with a map identifying avoidance area(s) and written details describing avoidance measures including those in the BO. A biological monitor will be present on site when work will encroach on the elderberry buffer. The USFWS will be consulted before any disturbances within the buffer area occur; any adverse effects to the buffer area will be reported immediately to the USFWS and corrected by restoration and maintenance measures outlined in the BO. After construction is complete, if appropriate, buffer areas will continue to be protected from the adverse effects of the project as per appropriate restoration and maintenance measures outlined in the BO.

21. Reclamation will transplant each elderberry plant that cannot be avoided during Folsom DS/FDR construction to a conservation area approved by the USFWS. All elderberry plants containing stems measuring 1.0 inches or greater in diameter at ground level will be transplanted to a conservation area if technically feasible, per the USFWSs' BO as well as the Valley Elderberry Longhorn Beetle (VELB) conservation guidelines (USFWS 1999). Elderberry shrub transplantation will be completed between November 1, 2007 and February 15, 2008; if transplantation is not completed during this period, Reclamation will re-initiate consultation with USFWS if appropriate. Should the project affect a lesser or greater number of stems than discussed in the BO, then Reclamation will re-initiate consultation with the USFWS.

22. Reclamation will compensate for each elderberry stem measuring 1.0 inch or greater in diameter at ground level that is adversely affected during Folsom DS/FDR construction with elderberry seedlings and associated native plant seedlings in the conservation area, per the BO for the Project and USFWS' 1999 VELB Conservation Guidelines. A minimum survival rate of at least 60 percent of the elderberry plants will be maintained throughout the monitoring period. If survival drops below this level, additional seedlings or cuttings will be planted. Stock for plantings will be obtained from local sources. Compensation shall be completed within six months after construction begins on the project, per the BO.

23. Reclamation will be responsible for planting native plants associated with elderberry plants at the Folsom DS/FDR Action site, or at similar reference sites, at ratios provided in the BO for the Project. A minimum survival rate of at least 60 percent of the associated native plants must be maintained throughout the monitoring period. If survival drops below this level, additional seedlings or cuttings will be planted. Only stock from local sources will be used.

24. Reclamation will establish a conservation area distinct from the project area of no less than 15.91 acres, or an approved conservation bank, that will be protected in perpetuity as a compensation site for transplanted elderberry plants and associated native vegetation. This area will provide at least 1,800 square feet for each transplanted elderberry plant. An O&M manual will be developed for the site in coordination with the USFWS. The condition of the valley elderberry longhorn beetle, elderberry shrubs, and general condition of the conservation area will be monitored per the O&M manual over a period of ten consecutive years or for seven years over a 15-year period occurring on the first, second, third, fourth, fifth, seventh, tenth, and fifteenth years. Fulfillment of compensation requirements shall be delivered to the Chief of the Endangered Species Division of the USFWS, per the BO.

Soils, Minerals, and Geological Resources

Construction of the JFP auxiliary spillway will affect soils, minerals, and geological resources. These effects include: (1) asbestos disturbance due to haul road construction and stockpiling activities at D1/D2 and (2) a potential increase in soil erosion due to construction activities. The responsible Federal Agencies will implement the following mitigation measures.

1. The responsible Federal Agency will prepare a geologic site characterization report (signed by a California Registered Geologist) and a county approved Dust Mitigation Plan for submittal to Sacramento and El Dorado Counties. The geologic site characterization report will identify areas of naturally-occurring asbestos. The Dust Mitigation Plan will specify the activities allowed in areas

with asbestos and the BMPs required to minimize airborne naturally-occurring asbestos. These BMPs may include, but are not limited to, the following:

- Pre-wet work area and keep area sufficiently wet during construction operations. An approved palliative material may also be used to seal loose fibers to the parent material;
- Limit vehicle access and speed on serpentine and other materials potentially containing asbestos;
- Cover areas that are exposed to vehicle travel;
- Material transfers and stockpiles of loose material must be covered, kept adequately wet, or sealed by an approved palliative; and,
- Worker safety precautions and monitoring should be considered. Written employee notifications should be provided, notifying employees of the potential health risk and requirements of the asbestos Dust Mitigation plan (El Dorado County 2003).

Visual Resources

Construction of the JFP auxiliary spillway may affect visual resources with the introduction of color and form changes to the landscape. Temporary visual resource impacts during construction are not mitigable. The restoration of disturbed areas following construction will reduce any form or color impacts due to construction.

Agricultural Resources

Construction of the JFP Auxiliary Spillway will not affect agricultural resources as there are no agricultural resources within the footprint of the Folsom DS/FDR actions.

Transportation and Circulation

Construction of the JFP auxiliary spillway may have potentially significant temporary effects on transportation and circulation. These effects may include: (1) Level of Service (LOS) deterioration; (2) an Average Daily Traffic (ADT) Increase >2%; (3) and LOS F volume to capacity ratio (V/C) Increase >0.05.

The responsible Federal Agency in coordination with their construction contractor, CCAO, and City of Folsom engineer will implement the following actions to minimize transportation impacts to a less than significant level.

1. In conjunction with the development and review of more detailed project design and construction specifications, the responsible Federal Agency, including CCAO and CCAO Area Manager, will prepare a peak hour capacity analysis on specific intersections to evaluate the need for changes to traffic signal timing, phasing modification, provision of additional turn lanes through re-striping or physical improvements, as necessary and appropriate to reduce project-related

impacts to an acceptable level. In conjunction with that assessment, the potential need for roadway improvements or operation modifications (i.e., temporary restrictions on turning movements, on-street parking, etc.) to enhance roadway capacity in light of additional traffic from the project will be evaluated. The completion of these evaluations and the identification of specific traffic improvement measures, as deemed necessary and appropriate in light of the temporary nature of impacts, will be coordinated with the transportation departments of the affected jurisdictions.

2. The responsible Federal Agency, including CCAO and CCAO Area Manager, working with their respective construction contractor will prepare a transportation management plan, outlining proposed routes to be approved by the appropriate local entity, and implement it. High collision intersections will be identified and avoided if possible. Drivers will be informed and trained on the various types of haul routes, and areas that are more sensitive (e.g., high level of residential or education centers, or narrow roadways). To the extent practicable, deliveries will be restricted to non-commute hours.

3. The responsible Federal Agency, including CCAO and the CCAO Area Manager, working with their respective construction contractor will develop and utilize appropriate signage to inform the general public of the haul routes and route changes, if applicable.

Noise

Construction of the JFP auxiliary spillway may have potentially significant temporary effects on noise levels. These effects may include increased night time noise levels as a result of the Folsom DS/FDR activities. The responsible Federal Agency will implement the following noise mitigation measures to reduce potential effects to sensitive receptors:

1. To comply with applicable noise ordinances, the responsible Federal Agency in coordination with CCAO will direct their construction contractor to incorporate the appropriate level of sound attenuation on equipment and near facilities that will attenuate sound at sensitive receptors. Potential sound attenuation measures that could be considered include temporary sound barriers near the noise source.

2. The construction contractor will be responsible for maintaining equipment to comply with noise standards (e.g., exhaust mufflers, acoustically attenuating shields, shrouds, or enclosures).

3. The construction contractor will be required to enclose above-ground conveyor systems in acoustically-treated enclosures.

4. The construction contractor will be required to line or cover hoppers, conveyor transfer points, storage bins and chutes with sound-deadening material.

5. The construction contractor will be required to schedule truck loading, unloading, and hauling operations so as to reduce nighttime noise impacts to comply with local noise ordinances.

6. The responsible Federal Agency will schedule blasting to daylight hours only and will adhere to restrictions on blasting as stated per Reclamation and Corps' safety regulations.

7. Blasting vibration monitoring will be implemented as per Reclamation and Corps safety guidelines.

8. The responsible Federal Agency along with their respective construction contractor will examine any properties, structures and conditions where complaints of damages have been filed. Inspections will be performed within three weeks of rock excavation and blasting work.

Cultural Resources

Reclamation completed cultural resources inventories within the proposed and final area of potential effects (APE) for the Folsom Dam DS/JFP Projects. As engineering and design efforts focused the footprint of proposed impact areas, the potential to adversely affect historic properties was reduced. In March 2007, pursuant to Section 106 of the National Historic Preservation Act (NHPA), Reclamation initiated consultation with the State Historic Preservation Officer (SHPO) for the preferred alternative. At present, Folsom Dam (including the adjacent Right and Left Wing Dams) is the sole historic property identified within the APE.

Reclamation has determined that the other cultural resources within the APE, the Folsom Lake Dikes and three historic sites, are not eligible for inclusion in the National Register of Historic Places. Reclamation has concluded that implementation of the preferred alternative will result in no adverse effect to Folsom Dam. The documentation for these determinations is in the final stages of preparation and Reclamation will submit the documentation package to SHPO once it is complete and seek their concurrence.

Reclamation's responsibility to comply with section 106 of the NHPA will be complete once the State Historic Preservation Officer concurs with these determinations. If SHPO does not concur, Reclamation will consult with SHPO to resolve the disagreement and, if necessary, develop a memorandum of agreement to mitigate any unforeseen adverse effects. Reclamation is required to complete the section 106 process prior to the award of any construction contract for the proposed project.

If human remains are discovered during project implementation, procedures outlined in Reclamation's Directives and Standards for the Inadvertent Discovery of Human Remains on Reclamation Lands (LND 07-01) will be followed. The discovery of Native American human remains is subject to the provisions of the Native American Graves Protection and Repatriation Act and regulations found at 43 CFR Part 10.

The standard contract specifications contain directions to follow in the unlikely event of the discovery of other cultural resources during the construction phase of this project. Any such discovery will also be considered under the provisions of 36 CFR Part 800.13.

Construction of the JFP auxiliary spillway may have potentially significant effects on cultural resources. These effects may include: (1) adverse impacts to historic properties and/or historical resources, (2) adverse impacts to previously unknown historic properties and/or historical resources, and (3) adverse impacts upon previously undiscovered and potential historic properties and/or historical resources within the area of the increased reservoir elevation, and locations of new embankment, or footprints of construction work at existing Folsom Facilities.

Land Use, Planning, and Zoning

There will be no changes to land use under the JFP auxiliary spillway for the Folsom DS/FDR actions.

Recreation

The public will have nearly continuous access to main recreation facilities at Folsom Lake throughout the construction period. However, construction of the JFP Auxiliary Spillway will temporarily impact recreational opportunities at Folsom Point and Beal's Point during construction or modification of roads, grade separation facilities and related features for purposes of providing continuous access. Although not planned or anticipated, other more extended closures may be necessary as a result of unforeseen project circumstances. Trails associated with Folsom Point and Beal's Point may also be interrupted. Overall, effects may include: (1) occasional temporary loss of recreational use (2) loss of recreational use on trails at Beal's Point, and (3) lost recreation on the Folsom Point-Brown's Ravine Trail. The responsible Federal Agencies in coordination with CCAO will implement the following mitigation measures to reduce potential effects on recreation:

1. All construction-related damages to recreation facilities including improved trails will be replaced in kind by the appropriate Federal Agency, in accordance with their respective policies and guidance.

2. The responsible Federal Agency in coordination with CCAO and their recreation managing partner will post signage and public announcements to inform the

public of construction activities and recreation facility closures and provide instructions as to where alternative access to Folsom Reservoir will be possible. The selected alternative is to construct a grade separation at Folsom Point. Traffic will be separated either through a tunnel that creates a grade separation or via a controlled, secured intersection with a flag person or other engineered mechanism. In any case, the public will have continuous access to Folsom Point during the construction period. This will significantly reduce the impacts on the recreation facilities.

3. To the extent practicable, material processing and batch operations will be consolidated at the Overlook and Left Wing Dam areas. Any necessary borrow or staging areas at or near Beal's Point, Folsom Point or other developed recreation areas will be sited as far away as practicable from parking lots, boat launches, beaches, picnic areas and other facilities in order to minimize recreation impacts, as determined by the responsible Federal Agency in coordination with CCAO. When materials processing or stockpiling cannot be located sufficiently distant from developed recreation areas, appropriate measures will be taken for noise and safety considerations.

4. The responsible Federal Agency will ensure that sites used for stockpiling, disposal, staging and construction activities will be re-contoured by the lead constructing agency, as appropriate, to pre-construction conditions, or to contours which do not pose a safety hazard.

5. The responsible Federal Agency will include in the plans and specifications, as appropriate, details necessary to ensure that the entrance stations at Folsom Point will meet public safety and traffic requirements during construction. The measures will provide nearly continuous access to all recreation sites at Folsom Reservoir through grade separation, detours, traffic controls, reconfiguration of roadways or other actions.

6. The responsible Federal Agencies including CCAO and the CCAO Area Manager will ensure that construction activities and any temporary or more extended closures will be scheduled to minimize impacts during peak recreation use periods, holidays, and special events so as to allow public access to the extent practical.

7. The responsible Federal Agencies working with the construction contractor, CCAO, and the CCAO Area Manager will develop a traffic management plan for all public roads and trails within the recreation areas where both public and construction traffic occur. The plan will include measures such as flagmen and appropriate signage. The traffic plan will be submitted to the appropriate entities, or included in the Plans and Specifications for construction. An appropriate mile per hour speed limit will be imposed in all public areas close to

or intersecting construction. Construction crews and traffic will utilize internal haul routes, to the extent practicable. The construction contractor will finalize and comply with the plan.

8. The responsible Federal Agency working with CCAO and their recreation managing partner at Folsom Reservoir will identify suitable detours, with appropriate signage, for any bike, equestrian, or pedestrian trails that are interrupted by construction, per agency guidance and policy. Public service announcements will also be distributed and posted to inform the public of route changes. Where possible to ensure public safety, the recreational trails affected by the truck traffic will be relocated to allow the trails to stay open during construction.

9. The responsible Federal Agency will consult with CCAO and the CCAO Area Manager on any proposal for more extended closures due to unforeseen project circumstances. CCAO, working with the City of Folsom and other local municipalities, will notify the public and provide the opportunity for public input prior to any extended closure.

Public Services and Utilities

Construction of the JFP Auxiliary Spillway may have potentially significant effects on public services and utilities. These effects may include: (1) the relocation of electricity infrastructure, (2) a need for electricity to power processing and concrete batch plants, (3) the relocation of existing water and wastewater infrastructure, (4) an increase in solid waste, (5) a potential increase in emergency response times to the Folsom Facility, and (6) the relocation of telecommunication infrastructure.

The responsible Federal Agency will implement the following mitigation measures to reduce potential effects on public services and utilities:

1. The responsible Federal Agency, including CCAO and the CCAO Area Manager, working with their respective construction contractor will coordinate with utility companies and other relevant agencies before construction to locate existing utilities and avoid damage. Avoid the relocation of utilities whenever possible. Provide notification of any potential interruptions in services to the appropriate agencies.

2. The responsible Federal Agency, including CCAO and CCAO Area Manager, working with their respective construction contractor and local power utility will stage utility relocations to minimize interruptions in service.

3. The construction contractor will be instructed to select licensed landfills with adequate capacity to receive construction wastes.

4. The construction contractor will be instructed to recycle construction wastes whenever possible.

5. The construction contractor will be directed to dispose of hazardous wastes at licensed hazardous waste facilities.

6. Prior to construction, the responsible Federal Agency in conjunction with its respective construction contractor will consult with local police, fire, CCAO and CCAO Area Manager, and CDPR staff to develop and implement emergency response plans and establish emergency vehicle routes.

Hydropower

The Folsom DS/FDR actions will not change current power operations; therefore, there will be no changes to hydropower under the JFP auxiliary spillway.

Population and Housing

The Folsom DS/FDR actions will not require new housing construction; therefore, there will be no effects to population and housing due to construction of the JFP Auxiliary Spillway

Public Health and Safety

Construction of the JFP Auxiliary Spillway may have potentially significant effects on public health and safety. These effects may include: (1) an increase in hazards by the placement of construction equipment in waterways, roadways, or other areas potentially accessible by park visitors, (2) an increase in the risk of fire, (3) health and safety effects to workers from exposed buried chemical materials, and (4) exposure of hazardous materials to workers.

The following mitigation measures will reduce potential effects of construction of the JFP Auxiliary Spillway on public health and safety:

1. The responsible Federal Agency working with CCAO and Reclamation's recreation managing partner will develop a Public Safety Management Plan to ensure safety of all visitors to Folsom Reservoir. Components of the plan will address:

    - Public notification of the location and duration of construction activities, pedestrian/bicycle path/trail closures, and restrictions on reservoir use (i.e., boating, water skiing, fishing, swimming);
    - Verification with local jurisdictions that construction blockage of existing roadways will not interfere with existing emergency evacuation plans;
    - Adequate signage regarding the location of construction sites and warning of the presence of construction equipment;

- Fencing of construction staging areas and of construction areas if dangerous conditions exist when construction is not occurring; and
- Temporary walkways (with appropriate markings, barriers, and signs to safely separate pedestrians from vehicular traffic) and detour signage where an existing sidewalk or pedestrian/bicycle path/trail will be closed during construction.

2. Prior to initiating construction activities, the responsible Federal Agency in consultation with CCAO and CCAO Area Manager and the appropriate city, county and State fire suppression agencies will prepare and implement a Fire Management Plan. The plan will include fire prevention and response methods including fire precaution, pre-suppression, and suppression measures consistent with the policies and standards in the affected jurisdictions.

3. The construction contractor will prepare and implement a Worker Health and Safety Plan in compliance with Occupational Safety and Health Administration (OSHA) construction standards prior to the start of construction activities.

4. Prior to initiation of construction activities, the construction contractor will be required to prepare a Hazardous Materials Management Plan for review by the responsible Federal Agency. The purpose of this plan is to have an established plan of action if hazardous materials are encountered during construction and to establish BMPs to reduce the potential for exposure to hazardous wastes.

5. The construction contractor will be directed to use as appropriate blasting mats to cover blasts in order to minimize the possibility of fly rock.

Indian Trust Assets

There are no Indian Trust Assets within the Folsom DS/FDR project footprint.

Environmental Justice

The Folsom DS/FDR actions will not cause disproportional adverse human health or environmental impacts to low income or minority populations.

VII. Supplemental Environmental Documentation

There are several actions that had insufficient engineering details at the time of release of the Folsom DS/FDR EIS/EIR. Supplemental environmental document may be necessary in order for the project to meet NEPA/CEQA disclosure requirements. In addition, consultation with NMFS and the USFWS will occur as needed once action details are known.

- **Auxiliary Spillway Approach Channel Construction.** Construction of the approach channel for the new Auxiliary Spillway will require activities within the reservoir. The dredging mechanism for the channel is still under evaluation as part of engineering optimization by the Corps. The impacts of channel construction will need to be evaluated once the construction details are defined..

- **Auxiliary Spillway Stilling Basin Construction.** The JFP Auxiliary Spillway will require a new stilling basin at the point where the spillway will enter the American River. Details regarding the stilling basin and how it will be constructed are currently being refined by Reclamation.

- **Any unforeseen impacts.** In the event that unforeseen impacts to the human environment should arise due to construction of the JFP auxiliary spillway, additional supplemental environmental documentation will be provided. An example includes the possibility of a temporary or permanent traffic light at Dike 5 for construction access to Dikes 4, 5, and 6, RWD, and Beal's Point.

- **Folsom Reoperations.** Under a separate process from the Folsom DS/FDR actions, an analysis of environmental effects due to changes in operations of the Folsom Facility will be addressed in a subsequent environmental document.

Appendix A
Comments on the Folsom DS/FDR
Final EIS/EIR

Appendix A - Comments on the Folsom DS/FDR Final EIS/EIR

The Final Folsom DS/FDR EIS/EIR was released for a 30-day review period on March 30, 2007. Comments received during the 30 days that were originally responded to in the Final EIS/EIR were not summarized in Appendix A. Comments received on the dam raise will be addressed in the ROD for the dam raise.

Five sets of comments were received during the review period. Because the Final EIS/EIR addressed four projects that have interrelated features and the commenters did not specify which project their comment pertains to, Reclamation has separated out the comments for each project. The comments related to the Safety of Dams project work are summarized in the SOD ROD. Comments Specific to the Joint Federal Project work are summarized below.

Many of the comments received did not raise substantive issues, or new issues that have not been addressed in the Final Folsom DS/FDR EIS/EIR, therefore, no additional response is provided to those comments.

The comments that were not addressed in the EIS/EIR are summarized below:

1. Seismic earthquake loadings – the commenter requested information on the design earthquake used to determine the stability of the dam and improvements.

2. MIAD engineering study – the commenter requested information regarding the stability of the foundation of MIAD.

3. Dust control suggestion – the commenter suggested using spray irrigation in lieu of water trucks to control fugitive dust.

4. Construction activities at Mooney Ridge – the commenters have construction proximity concerns and request that the Mooney Ridge area not be used for construction purposes.

5. The City of Folsom expressed concern that the EIS/EIR did not have an alternative for an underground relocation for the raw water intake or pipeline.

6. The City of Folsom requested that a future auxiliary intake and pipeline be incorporated into the spillway structure.

7. The City of Folsom would like clarification on how the Folsom Bridge Project affects the replacement of the section of the pipeline affected by the auxiliary spillway.

8. The City of Folsom requested that Mitigation Measure WS-1 be rewritten to include language that any temporary disruptions to water supply be coordinated with the City, and that the Cities concurrence would be required for any scheduled disruptions.

9. The City of Folsom would like clarifications on impacts to wildlife from night work, in particular, lights and noise.

10. The City of Folsom requested that an arborist be available throughout construction period to minimize impacts to trees.

Several responses to comments contained in the Final EIS/EIR, Appendix A, are hereby clarified below:

Response to comment # 312-21 states in part, "Until a decision has been made to implement…the Corps decision regarding the 3.5-ft raise." This portion of the response should be deleted.

Response to comment # 315-6 should be deleted and revised to, “The refinements to the Preferred Alternative as described in the FEIS/EIR have eliminated a materials processing plant near Folsom Point and opposite to Mooney Ridge, reducing impacts at those locations.”

Response to comment # 392-5 should be deleted and revised to, “The engineering for the raise, either a 3.5-ft parapet wall or earthen raise to all embankment structures, is not completely refined. If a 3.5-ft parapet wall is constructed, maintenance of this structure would be discussed in the Corps’ Operation and Maintenance (O&M) Manual. The Corps intends to adopt the Final EIS/EIR to satisfy the requirements of NEPA for the flood damage reduction features of the proposed action (JFP, 3.5’ raise and emergency gate replacement) that would be accomplished under the Corps’ Folsom Dam Modifications and Folsom Dam Raise Projects. A Record of Decision (ROD) for the flood damage reduction only features of the Selected Plan (3.5’ Raise and emergency gate replacement) would be completed separate from the Joint Federal Project ROD. Supplemental environmental compliance documentation will be completed as necessary. The Corps and Reclamation will continue coordination with the public during implementation of the Raise project.

Appendix B
Environmental Commitments Checklist

Appendix B: Environmental Commitments Checklist

Reclamation and the Corps (as applicable) have adopted the mitigation measures outlined in Section V of the ROD that are within their respective responsibilities to implement as binding conditions of approval. Project-specific mitigation measures will be implemented as part of design development of the project, during project construction, and/or after completion of construction of the project. These mitigation measures have been described in the Folsom Dam Safety/Flood Damage Reduction (DS/FDR) Final EIS/EIR, dated March 2007.

Under NEPA, the ROD must identify the proposed monitoring and enforcement program for each mitigation measure (40 CFR Section 1505.2(c)). The Council on Environmental Quality (CEQ) Regulations for NEPA state that, "Agencies may provide for monitoring to assure that their decisions are carried out and should do so in important cases. Mitigation and other conditions established in the environmental impact statement or during its review and committed as part of the decision shall be implemented by the lead agency or other appropriate consenting agency. The lead agency shall:

(a) Include appropriate conditions in grants, permits or other approvals.

(b) Condition funding of actions on mitigation.

(c) Upon request, inform cooperating or commenting agencies on progress in carrying out mitigation measures which they have proposed and which were adopted by the agency making the decision.

(d) Upon request, make available to the public the results of relevant monitoring" (40 CFR Section 1505.3).

Although none of the actions proposed under the Safety of Dams (SOD) and Joint Federal Project (JFP) RODs will be implemented by a State agency, approvals and permits from State agencies will be necessary for some construction actions. Consequently, commitments in these RODs include measures to comply with the California Environmental Quality Act (CEQA). Section 21081.6 of CEQA requires public agencies to adopt a reporting and monitoring program for the changes to the project that have been adopted to mitigate or avoid significant effects on the environment. A Mitigation Monitoring and Reporting Program (MMRP) is implemented to ensure that a project complies with all environmental commitments and mitigation measures proposed in its Environmental Impact Statement (EIS) or Environmental Impact Report (EIR), and as adopted in the project's ROD.

This Environmental Commitments Checklist (ECC), which provides an overview of the Folsom SOD/JFP MMRP, contains the elements required by NEPA and CEQA for the Folsom SOD and JFP actions. The ECC briefly summarizes the following:

- A summary of the environmental commitment statement for each measure contained in the JFP as well as Safety of Dams RODs,
- The corresponding impact(s) being mitigated,
- The entity(s) responsible for implementing the mitigation,
- The time frame for the mitigation implementation and monitoring phase(s),
- The monitoring action(s), plan(s), and/or regulations to be followed,
- The entity(s) responsible for enforcing mitigation,
- The entity(s) responsible for monitoring adherence to the mitigation requirement, and
- The compliance completion date (note this column will be completed at the time the mitigation measure is successful or no longer needed).

The ECC identifies Reclamation's and the Corps' (as applicable) mitigation and monitoring commitments as part of these agencies' responsibilities related the Folsom JFP, SOD, and Security Upgrade Project actions. Reclamation is the responsible Federal agency for impacts and all corresponding mitigation related to construction of the JFP Auxiliary Spillway, SOD, and Security Upgrade Project actions with the exception that the Corps is the responsible Federal agency for impacts and corresponding permits related to its efforts leading to the construction of the JFP Auxiliary Spillway control structure that addressed the flood damage reduction portion of the JFP. Environmental commitments for additional flood damage reduction construction activities, including the 3.5-ft raise and emergency spillway gate replacements, will be addressed separately by the Corps.

The Folsom SOD/JFP MMRP is under parallel development with the SOD and JFP RODs; specific mitigation and monitoring plans and responsible entities will be described in detail in the Folsom SOD/JFP MMRP. The purpose of the Folsom SOD/JFP MMRP is to provide sufficient detail for each measure, as described in the Final EIS/EIR and adopted in the ROD, to ensure successful mitigation of significant adverse environmental impacts resulting from the project. The MMRP will also provide feedback to agency staff and decision makers about the effectiveness of the mitigation measures and will help to identify the need for action before irreversible environmental damage occurs. Specifically, the intent of this program is to:

- Provide guidance to document and implement the required mitigation;
- Identify the agency(s) responsible for monitoring/reporting;
- Identify the frequency and duration of monitoring/reporting;
- Establish a record of the monitoring/reporting; and
- Ensure compliance with those mitigation measures that are within the responsibility of Reclamation and/or the Corps to implement.

Folsom Safety of Dams and Joint Federal Project Environmental Commitments Checklist							
Environmental Commitment/Mitigation Measure[2]	***Impact(s) being Mitigated***	***Implementation Responsibility***	***Project Phase of Mitigation***	***Monitoring Action or Plan***	***Enforcement Responsibility***	***Monitoring Responsibility***	***Compliance (Date)***
Hydrology, Water Quality, and Groundwater							
1: Obtain a National Pollutant Discharge Elimination System (NPDES) permit, file a Notice of Intent (NOI) with the Central Valley Regional Water Quality Control Board (CVRWQCB), and prepare a Stormwater Pollution Prevention Plan (SWPPP).	Potential water quality impacts within the reservoir or small local tributaries that discharge into the reservoir.	Reclamation/Contractor for Phase 1 and 2 spillway construction and all SOD work Corps/Contractor for Phase 3 spillway work	Before, during and following construction until site restoration	NPDES Permit requirements, SWPPP and Water Quality Monitoring Plan, Plans and Specifications	CVRWQCB	Reclamation CCAO	
2: Incorporate SWPPP measures to control sediment and on-site spills, use eco-friendly Best Management Practices (BMPs) and prevent spills. If there is a failure of BMPs, the SWPPP will contain provisions for a visual monitoring program and a chemical monitoring program for pollutants that are non-visible.	Potential impacts on drainages and waterways.	Reclamation/Contractor for Phase 1 and 2 spillway construction and all SOD work Corps/Contractor for Phase 3 spillway work	During construction	SWPPP and Water Quality Monitoring Plan, Plans and Specifications	CVRWQCB	Reclamation MPCO, CCAO	
3: Prepare and obtain permits abided by as stated in Section 401 and Section 404 of the Clean Water Act (CWA).	Potential impacts on water quality due to soil erosion associated with material being excavated and placed in reservoir. Loss of wetlands.	Reclamation Secs. 404/401 permit/cert for Phase 1 and 2 auxiliary spillway construction and all SOD work Corps Sec. 401 cert for Phase 3 auxiliary spillway work	Before and during construction	Section 401 and Section 404 approvals	Corps, CVRWQCB	Reclamation MPCO, CCAO	
4: Obtain guidance from the CVRWQCB for testing earthen materials before constructing work area platforms within or adjacent to the reservoir. BMPs will be adhered to in order to minimize water quality impacts during the placement of fill in the reservoir.	Potential impacts to water quality from stockpiling of materials in reservoir.	Reclamation obtain guidance Contractor implements BMPs	Before and during placement of fill below typical maximum reservoir water level	Water Quality Monitoring Plan, Plans and Specifications	CVRWQCB	Reclamation MPCO, CCAO	
5: Develop a Water Quality Monitoring Plan for review by the CVRWQCB prior to any in reservoir construction work. The plan will address sampling requirements during dredging, blasting, excavation, and placement of fill within the reservoir. Assessment of metals in freshwater sediment will be based on recommendations stated in the Fish and Wildlife Coordination Act Report (FWCAR). Sediment containing elevated concentrations of metals will be controlled using BMPs and construction methods approved by the CVRWQCB.	In-reservoir construction work could cause adverse water quality effects.	Reclamation develops plan Contractor implements BMPs Reclamation/Contractor for Phase 1 and 2 spillway construction and all SOD work Corps/Contractor for Phase 3 spillway work	Before and during all construction work	Water Quality Monitoring Plan, FWCAR, Plans and Specifications	CVRWQCB	Reclamation MPCO, CCAO	
6: Obtain a dewatering permit from CVRWQCB and implement water quality monitoring during construction of the approach channel.	Potential to impact water quality from construction of the approach channel.	Corps/Contractor obtains permit Contractor implements BMPs for Phase 3 spillway work	Before and during approach channel construction work	Water Quality permit, Plans and Specifications	CVRWQCB	Reclamation MPCO, CCAO	
7: Perform jet grouting tests at Mormon Island Auxiliary Dam (MIAD) prior to implementing the full jet grouting action. If leakages are expected to occur and could cause adverse water quality effects, a cutoff wall will be constructed before jet grouting occurs at MIAD.	Potential to impact water quality and water levels downstream of MIAD.	Reclamation	During and immediately following jet grouting	Environmental Commitments Plan	CVRWQCB, Reclamation MPCO	Reclamation CCAO	
8: Monitor surface and groundwater levels and water quality prior to, during, and after jet grouting of MIAD.	Potential to reduce the water source and quality and result in adverse water quality effects for the wetlands downstream of MIAD.	Reclamation/Construction Contractor	Before, during, and 6 months following jet grouting	Environmental Commitments Plan, FWCAR, Plans and Specifications	CVRWQCB, USFWS	Reclamation CCAO	
9: Cease work should jet grout daylight more than 50 ft from the point of construction or until it can be determined that the grout will remain localized.	Potential to impact water quality downstream of MIAD.	Reclamation/Construction Contractor	During jet grouting	Environmental Commitments Plan, Plans and Specifications	Reclamation MPCO	Reclamation CCAO	

[2] For complete text of the environmental commitment/mitigation measures, see Environmental Commitments section of this ROD.

Folsom Safety of Dams and Joint Federal Project Environmental Commitments Checklist							
Environmental Commitment/Mitigation Measure[2]	***Impact(s) being Mitigated***	***Implementation Responsibility***	***Project Phase of Mitigation***	***Monitoring Action or Plan***	***Enforcement Responsibility***	***Monitoring Responsibility***	***Compliance (Date)***
10: Inspect all wetlands near jet grout injection that could be impacted by construction for the presence of grout at a frequency of once per hour.	Potential to impact water quality downstream of MIAD.	Reclamation/Construction Contractor	During jet grouting	Environmental Commitments Plan, Plans and Specifications	Reclamation MPCO	Reclamation CCAO	
11: Line all temporary jet grout solidification areas with an impervious material that does not allow the migration of any construction-related wastes.	Potential to impact water quality downstream of MIAD.	Reclamation/Construction Contractor	During jet grouting	Environmental Commitments Plan, Construction Plans and Specifications	Reclamation MPCO	Reclamation CCAO	
Water Supply							
1: Construct a temporary bypass using means that will not disrupt water supply. These means will be discussed with the affected parties prior to implementation.	Potential interruption of water supplies to local purveyors from relocation of Natomas Pipeline.	Reclamation/Construction Contractor	During bypass connection and reconnection to existing service line	Environmental Commitments Plan, Plans and Specifications	Reclamation MPCO, City of Folsom, Department of Corrections	Reclamation CCAO	
Air Quality							
1: Submit a plan for approval by Sacramento Metropolitan Air Quality Management District (SMAQMD), demonstrating that the heavy-duty off-road vehicles will achieve a project wide fleet-average 20 percent NOx reduction and 45 percent particulate reduction.	Potential adverse air quality impacts from construction activities.	Reclamation/ Construction Contractor for Phase 1 and 2 spillway construction and all SOD work Corps/Construction Contractor for Phase 3 spillway work	Submittal prior to initiation of construction	SMAQMD Emissions Reduction Plan, Plans and Specifications	SMAQMD	Reclamation MPCO, CCAO	
2: Submit to the SMAQMD a comprehensive inventory of all off-road construction equipment, equal to or greater than 50 horsepower, that will be used an aggregate of 40 or more hours during any portion of the construction project. At least 48 hours prior to the use of subject heavy-duty off-road equipment, submit to SMAQMD the anticipated construction timeline.	Potential adverse air quality impacts from construction activities.	Construction Contractor for Phase 1 and 2 spillway construction and all SOD work Construction Contractor for Phase 3 spillway work	Submittal prior to initiation of construction	SMAQMD Off-Road Equipment Inventory, Plans and Specifications	SMAQMD	Reclamation MPCO, CCAO	
3: Demonstration of Conformity with NOx de minimus threshold levels.	Potential adverse air quality impacts from construction activities.	Reclamation/Construction Contractor for Phase 1 and 2 spillway construction and all SOD work Corps/Construction Contractor for Phase 3 spillway work	Prior to initiation of construction	NOx de minimus demonstration, Plans and Specifications	USEPA	Reclamation MPCO, CCAO	
4: Apply fugitive dust control on roadways, processing plants, and concrete batch plants to reduce PM_{10} and $PM_{2.5}$ emissions at or below required levels.	Potential adverse air quality impacts from construction activities.	Reclamation/Construction Contractor for Phase 1 and 2 spillway construction and all SOD work Corps/Construction contractor for Phase 3 spillway work	During construction	Fugitive Dust Control Plan, Plans and Specifications	SMAQMD	Reclamation MPCO, CCAO	
5: Obtain power for the concrete batch plants and rock/material screening facilities from the electric utility grid, not diesel-driven generators and pumps.	Potential adverse air quality impacts from construction activities.	Reclamation/Construction Contractor for Phase 1 and 2 spillway construction and all SOD work Corps/Construction Contractor for Phase 3 spillway work	Prior to and during construction	SMAQMD Emissions Reduction Plan/ NOx de minimus Demonstration, Plans and Specifications	SMAQMD, Reclamation MPCO	Reclamation CCAO	
6: Encourage contractors to seek additional control measures as part of emissions off-sets.	Potential adverse air quality impacts from construction activities.	Construction Contractor for Phase 1 and 2 spillway construction and all SOD work Construction Contractor for Phase 3 spillway work	Prior to construction	SMAQMD Emissions Reduction Plan, Plans and Specifications	Reclamation MPCO	Reclamation CCAO	
Aquatic Resources							
1: Complete protocol surveys for special-status branchiopods prior to any grading or other construction activities in potential habitat for these species.	Potential impacts on habitat for protected vernal pool invertebrates or direct impacts to these species.	Reclamation	Prior to construction	Environmental Commitments Plan	USFWS	Reclamation CCAO	

Folsom Safety of Dams and Joint Federal Project Environmental Commitments Checklist							
Environmental Commitment/Mitigation Measure[2]	***Impact(s) being Mitigated***	***Implementation Responsibility***	***Project Phase of Mitigation***	***Monitoring Action or Plan***	***Enforcement Responsibility***	***Monitoring Responsibility***	***Compliance (Date)***
2: Avoid (preserve) and monitor potential vernal pool habitat by placing fencing and a suitable buffer area around the vernal pool area to prevent effects from vehicle compaction and other construction-related activities. Report and stop activities that may result in such take or destruction until corrective measures have been taken.	Potential impacts on habitat for protected vernal pool invertebrates or direct impacts to these species.	Reclamation/Construction Contractor for Phase 1 and 2 spillway construction and all SOD work Corps/Construction Contractor for Phase 3 spillway work	Prior to and during construction	Environmental Commitments Plan, Plans and Specifications	USFWS	Reclamation CCAO	
3: Compensate for loss of vernal pool habitat in a manner outlined in the USFWS Biological Opinion for the project. Provide proof of purchase (payment receipts) of vernal pool preservation and creation/restoration credits to the USFWS prior to the commencement of ground-disturbing activities.	Potential impacts on habitat for protected vernal pool invertebrates or direct impacts to these species.	Reclamation	Prior to construction	Habitat Mitigation Plan, Environmental Commitments Plan	USFWS	Reclamation CCAO	
4: Make the top layer of soil available to any vernal pool creation bank that requests it, with USFWS approval, for inoculating newly created ponds.	Potential impacts on habitat for protected vernal pool invertebrates or direct impacts to these species.	Reclamation/Construction Contractor	During construction	Environmental Commitments Plan, Plans and Specifications	USFWS	Reclamation CCAO	
5: Develop and implement a fish removal plan prior to construction of the approach channel.	Construction of the approach channel would displace and potentially harm fish.	Corps	Before and during construction	Approach Channel Dewatering Permit, Fish Management Plan	CDFG, CVRWQCB	Corps	
6: Conduct bioassessment studies prior to, during, and after jet grouting of the MIAD foundation.	Potential impacts to wetlands.	Reclamation	Prior to, during, and 4 years following jet grouting	Environmental Commitment Plan	CVRWQCB	Reclamation CCAO	
Terrestrial Vegetation and Wildlife							
1: Conduct pre-construction surveys within the project footprint in all areas that may contain suitable habitat for special-status plant, invertebrate, or wildlife species. Identify locations of special status plant, invertebrate, or wildlife species and take necessary measures to provide protection.	Potential alteration of terrestrial habitat for special-status plants, invertebrates, or wildlife species.	Reclamation	Prior to construction	Environmental Commitment Plan, FWCAR	USFWS, CDFG	Reclamation CCAO	
2: Avoid and monitor any populations of special-status plant, invertebrate, or wildlife species by placing fencing around the population and a suitable buffer area. Ensure no disturbance.	Potential impacts to special-status plants, invertebrates, or wildlife species.	Reclamation/Construction Contractor for Phase 1 and 2 spillway construction and all SOD work Corps/Construction Contractor for Phase 3 spillway work	Prior to and during construction	Environmental Commitment Plan, FWCAR, Plans and Specifications	USFWS, CDFG	Reclamation CCAO, MPCO Corps	
3: During the construction period, consult with the appropriate agency to remove individuals of special-status species from the project area, according to USFWS and CDFG laws, handling guidelines, licenses, and permits.	Potential impacts to special-status plants, invertebrates, or wildlife species.	Reclamation for Phase 1 and 2 spillway construction and all SOD work Corps for Phase 3 spillway work	During construction	Environmental Commitment Plan, needs to inform	USFWS, CDFG	Reclamation CCAO, Corps	
4: Consult with USFWS and CDFG should populations of special-status plant, invertebrate, or wildlife species be found that cannot be avoided; special mitigation measures may need to be developed for those populations.	Potential impacts to special-status plants, invertebrates, or wildlife species.	Reclamation will consult Construction Contractor needs to inform Reclamation in Phase 1 and 2 spillway construction and all SOD work Construction Contractor needs to inform Corps in Phase 3 spillway work	Prior to and during construction	Environmental Commitment Plan, FWCAR	USFWS, CDFG	Reclamation CCAO, MPCO Corps	
5: The nondiscretionary measures for listed species from the project's Biological Opinion described in the Environmental Commitments section of the ROD must be implemented by the responsible Federal agency. (See Environmental Commitments for Terrestrial Vegetation and Wildlife 20, 21, 22, 23, and 24 as well as Aquatics 1, 2, 3, and 4.) Should project features change from those described in the BO, then the responsible Federal agency will be required to re-consult with the USFWS.	Potential alteration and loss of terrestrial habitat or impacts to special-status plants, invertebrates, or wildlife species.	Reclamation/Construction Contractor for Phase 1 and 2 spillway construction and all SOD work Corps/Construction Contractor for Phase 3 spillway work	Prior to, during, and after construction	Environmental Commitment Plan, Biological Opinion	USFWS	Reclamation CCAO, MPCO Corps	

Folsom Safety of Dams and Joint Federal Project Environmental Commitments Checklist							
Environmental Commitment/Mitigation Measure[2]	***Impact(s) being Mitigated***	***Implementation Responsibility***	***Project Phase of Mitigation***	***Monitoring Action or Plan***	***Enforcement Responsibility***	***Monitoring Responsibility***	***Compliance (Date)***
6: Conduct environmental awareness training for all on-site construction personnel regarding the potential presence of listed, special-status, and protected (e.g., oak trees) species in the project area and the importance of avoiding impacts to these species and/or habitats and reporting sightings. Provide the USFWS with proof of environmental training.	Potential alteration and loss of terrestrial habitat or impacts to special-status plants, invertebrates, or wildlife species.	Reclamation/Construction Contractor for Phase 1 and 2 spillway construction and all SOD work Corps/Construction Contractor for Phase 3 spillway work	Prior to and during construction	Environmental Commitment Plan, Biological Opinion, Plans and Specifications	USFWS, CDFG	Reclamation CCAO, MPCO Corps	
7: Initiate excavation and construction activities, to the extent possible, during non-breeding seasons for special-status and protected wildlife. Habitat will be removed during the non-breeding season if practicable to preclude return to the project area by the species during construction activities.	Potential impacts to special status wildlife habitat during construction activities.	Reclamation	Prior to construction	Environmental Commitment Plan	USFWS, CDFG	Reclamation CCAO, MPCO	
8: Remove vegetation and potential bird breeding habitat, to the extent practical, between September 1 and February 28, when birds are not expected to be nesting within the project area.	Potential impacts to bird breeding habitat during construction activities.	Reclamation	Prior to construction	Environmental Commitment Plan, MBTA, Executive Order 13186	USFWS, CDFG	Reclamation CCAO, MPCO	
9: Clean all mud, soil, and plant/animal material from the equipment prior to bringing it on the project site.	Impact of importation of non-native plants or animals.	Construction Contractor for Phase 1 and 2 spillway construction and all SOD work Construction Contractor for Phase 3 spillway work	Prior to and during Construction	Environmental Commitment Plan, Plans and Specifications	Reclamation MPCO Corps	Reclamation CCAO	
10: Implement eco-friendly erosion and sedimentation control measures for all grading, filling, clearing of vegetation, or excavating that occurs as part of site and haul road construction.	Potential impacts to special-status plants, invertebrates, or wildlife species.	Reclamation/Construction Contractor for Phase 1 and 2 spillway construction and all SOD work Corps/Construction Contractor for Phase 3 spillway work	During construction	Environmental Commitment Plan, FWCAR, Plans and Specifications	USFWS, Reclamation MPCO	Reclamation CCAO	
11: Minimize dust impacts to vegetation, wetlands, and breeding wildlife. Use dust palliative approved by the USFWS. Control truck speed to avoid visible dust.	Potential impacts to special-status plants, invertebrates, or wildlife species and habitats.	Reclamation will consult on dust palliative Reclamation's Construction Contractor for Phase 1 and 2 spillway construction and all SOD work Corps' Construction Contractor for Phase 3 spillway work	During construction	Fugitive Dust Control Plan, Biological Opinion, Environmental Commitment Plan, Plans and Specifications	Reclamation MPCO, USFWS	Reclamation CCAO	
12: Develop a Revegetation Plan in coordination with USFWS to address potential losses to all habitats impacted within the project footprint.	Potential alteration or loss of habitat for special-status plants, invertebrates, or wildlife species.	Reclamation	Prior to construction	Revegetation Plan, FWCAR	USFWS	Reclamation CCAO	
13: Monitor all revegetated or disturbed areas for invasive non-native plant species for three to five years following completion of construction.	Impact of competition by invasive non-native plants.	Reclamation	Following construction disturbance	Revegetation Plan	Reclamation CCAO	Reclamation CCAO	
14: Follow recommendations in the FWCAR and complete mitigation in the FWCAR for all affected habitats. The extent of mitigation will be determined and documented in the MMRP prior to the commencement of construction activities.	Potential alteration or loss of habitat or impacts to special-status plants, invertebrates, or wildlife species.	Reclamation	Prior to, during and following construction	Environmental Commitment Plan, Habitat Mitigation Plan, FWCAR	USFWS	Reclamation CCAO	
15: Compensate for native oaks and oak-grey pine woodlands impacted by construction at the ratio stipulated in the FWCAR.	Potential alteration or loss of native oaks and oak-grey pine woodlands.	Reclamation	During and following construction	Habitat Mitigation Plan, FWCAR	USFWS	Reclamation CCAO	
16: Compensate for riparian vegetation impacted by construction at the ratio stipulated in the FWCAR.	Potential alteration or loss of riparian vegetation.	Reclamation	During and following construction	Habitat Mitigation Plan, FWCAR	USFWS	Reclamation CCAO	

Folsom Safety of Dams and Joint Federal Project Environmental Commitments Checklist							
Environmental Commitment/Mitigation Measure[2]	***Impact(s) being Mitigated***	***Implementation Responsibility***	***Project Phase of Mitigation***	***Monitoring Action or Plan***	***Enforcement Responsibility***	***Monitoring Responsibility***	***Compliance (Date)***
17: Compensate for chaparral vegetation impacted by construction at the ratio stipulated in the FWCAR.	Potential alteration or loss of chaparral vegetation.	Reclamation	During and following construction	Habitat Mitigation Plan, FWCAR	USFWS	Reclamation CCAO	
18: Compensate for wetlands impacted by construction at the ratio stipulated in the FWCAR.	Loss of wetlands from construction-related activities.	Reclamation	During and following construction	Habitat Mitigation Plan, FWCAR	USFWS	Reclamation CCAO	
19: Develop and implement a Bird Monitoring Plan to monitor and mitigate construction-related impacts to birds during the breeding season. Nest monitoring will be conducted by a biologist qualified and experienced in such methods. Establish a nest buffer zone; implement acoustic hazing.	Potential impacts to breeding birds during construction activities.	Reclamation	Prior to and during construction	Bird Monitoring Plan, MBTA, Executive Order 13186	Reclamation CCAO	Reclamation CCAO	
20: Establish with high visibility fencing around all elderberry plants containing stems measuring 1.0 inches or greater in diameter at ground level prior to construction and maintain a 100-foot buffer zone. Informational signs will be erected every 50 ft along the edge of the buffer. Provide the USFWS with a map identifying avoidance area(s) and written details describing avoidance measures. Consult with USFWS before any disturbances within the buffer area can occur; report any adverse effects to the buffer area to the USFWS. Restore and maintain affected area.	Potential impacts to host plants for the valley elderberry longhorn beetle.	Reclamation/Contractor for Phase 1 and 2 spillway construction and all SOD work Corps/Contractor for Phase 3 spillway work	Prior to and during construction	Habitat Mitigation Plan, Biological Opinion, Plans and Specifications	USFWS, MPCO	Reclamation CCAO	
21: Transplant each elderberry plant that cannot be avoided during Folsom SOD/JFP construction to a conservation area approved by USFWS. Should the project affect a lesser or greater number of stems than discussed in the Biological Opinion, then Reclamation will reinitiate consultation with the USFWS.	Potential impacts to host plants for the valley elderberry longhorn beetle.	Reclamation	Prior to construction and following transplanting	Habitat Mitigation Plan, Biological Opinion, VELB Conservation Guidelines	USFWS	Reclamation CCAO	
22: Compensate for each elderberry stem measuring 1.0 inch or greater in diameter at ground level that is adversely affected during Folsom SOD/JFP construction with elderberry seedlings and associated native plant seedlings in the conservation area Compensation shall be completed within six months after construction begins on the project.	Potential impacts to host plants for the valley elderberry longhorn beetle.	Reclamation	During and following transplanting	Habitat Mitigation Plan, Biological Opinion, VELB Conservation Guidelines	USFWS	Reclamation CCAO	
23: Plant native plants associated with elderberry plants at the Folsom SOD/JFP actions, or at similar reference sites.	Potential impacts to host plants for the valley elderberry longhorn beetle.	Reclamation	During and following transplanting	Habitat Mitigation Plan, Biological Opinion, VELB Conservation Guidelines	USFWS	Reclamation CCAO	
24: Establish a conservation area distinct from the project area that will be protected in perpetuity as a compensation site for transplanted elderberry plants and associated native vegetation. Provide at least 1,800 square feet for each transplanted elderberry plant Monitor for a period of up to 15 years. Deliver to the Chief of the Endangered Species Division of the USFWS, fulfillment of compensation requirements.	Potential impacts to host plants for the valley elderberry longhorn beetle.	Reclamation	Prior to transplanting	Habitat Mitigation Plan, Biological Opinion, VELB Conservation Guidelines	USFWS	Reclamation CCAO	
25: Delineate wetlands downstream of MIAD prior to jet grouting using flagging. No equipment will be staged within 25 ft of a wetland, nor will work take place within 25 ft of a wetland.	Potential impacts to wetlands	Reclamation delineates wetlands Construction Contractor avoid wetlands	Prior to and during jet grouting	Habitat Mitigation Plan, Plans and Specifications	Reclamation MPCO	Reclamation CCAO	
26: Develop a monitoring and adaptive management plan with the USFWS to monitor the hydrology and vegetation at Mormon Island Preserve. Establish baseline and monitor for 6 months following construction. Implement adaptive management mitigation to return effected systems to baseline conditions if necessary.	Potential impacts to wetlands	Reclamation	Prior to, during, and following jet grouting	Habitat Mitigation Plan, FWCAR	USFWS	Reclamation CCAO	

Folsom Safety of Dams and Joint Federal Project Environmental Commitments Checklist							
Environmental Commitment/Mitigation Measure[2]	***Impact(s) being Mitigated***	***Implementation Responsibility***	***Project Phase of Mitigation***	***Monitoring Action or Plan***	***Enforcement Responsibility***	***Monitoring Responsibility***	***Compliance (Date)***
Soils, Minerals, and Geological Resources							
1: Prepare a geologic site characterization report (signed by a California Registered Geologist) to address asbestos concerns and a county approved Dust Mitigation Plan. Implement measures in Dust Mitigation Plan.	Potential adverse air quality impacts from construction.	Reclamation prepares report Construction Contractor implements dust plan in Phase 1 and 2 spillway construction and all SOD work Corps' Construction Contractor implements in Phase 3 spillway work	Prior to and during Construction	Geologic Site Characterization Report, Fugitive Dust Control Plan, Plans and Specifications	Sacramento and El Dorado counties, Reclamation MPCO, Corps	Reclamation CCAO	
2: Comply with Hydrology, Water Quality, and Groundwater Measure #1.	Potential sedimentation impacts within the reservoir or small local tributaries that discharge into the reservoir.	Reclamation/Construction Contractor for Phase 1 and 2 spillway construction and all SOD work Corps/Construction Contractor for Phase 3 spillway work	Before, during and following construction until site restoration	NPDES Permit requirements, SWPPP and Water Quality Monitoring Plan, Plans and Specifications	CVRWQCB	Reclamation CCAO	
Visual Resources							
None.							
Agricultural Resources							
None.							
Transportation and Circulation							
1: Prepare a Peak Hour Capacity analysis (as a section of a Traffic Management/Circulation Plan) on specific intersections to evaluate the need for traffic improvement measures, in coordination with the transportation departments of the affected jurisdictions.	Transportation effects from construction.	Reclamation for Phase 1 and 2 spillway construction and all SOD work Corps for Phase 3 spillway work	Prior to and during construction	Traffic Management/ Circulation Plan	Reclamation MPCO, CCAO, City of Folsom, City of Roseville, Placer County	Reclamation CCAO	
2: Prepare a transportation management plan, outlining proposed routes to be approved by the appropriate local entity, and implement it. To the extent practicable, deliveries will be restricted to non-commute hours.	Transportation effects from construction.	Reclamation/Construction Contractor for Phase 1 and 2 spillway construction and all SOD work Corps/Construction Contractor for Phase 3 spillway work	Prior to and during construction	Traffic Management/ Circulation Plan, Plans and Specifications	Reclamation MPCO, CCAO, City of Folsom, City of Roseville, Placer County	Reclamation CCAO	
3: Develop and utilize appropriate signage to inform the general public of the haul routes and route changes, if applicable.	Transportation effects from construction.	Reclamation/Construction Contractor for Phase 1 and 2 spillway construction and all SOD work Corps/Construction Contractor for Phase 3 spillway work	Prior to and during construction	Traffic Management/ Circulation Plan, Plans and Specifications	Reclamation MPCO, CCAO, City of Folsom, City of Roseville, Placer County	Reclamation CCAO	
Noise							
1: Incorporate the appropriate level of sound attenuation on equipment or near facilities that will attenuate sound at sensitive receptors to comply with local noise ordinances.	Noise impacts generated by construction activities.	Reclamation/Construction Contractor for Phase 1 and 2 spillway construction and all SOD work Corps/Construction Contractor for Phase 3 spillway work	During construction	Noise Monitoring Plan, Plans and Specifications	Reclamation MPCO, CCAO	Reclamation CCAO	
2: Maintain equipment to comply with noise standards (e.g., exhaust mufflers, acoustically attenuating shields, shrouds, or enclosures).	Noise impacts generated by construction activities.	Construction Contractor	All construction	Noise Monitoring Plan, Plans and Specifications	Reclamation MPCO, Corps	Reclamation CCAO	
3: Enclose above-ground conveyor systems in acoustically-treated enclosures, if necessary.	Noise impacts generated by construction activities.	Construction Contractor	All construction	Noise Monitoring Plan, Plans and Specifications	Reclamation MPCO, Corps	Reclamation CCAO	
4: Line or cover hoppers, conveyor transfer points, storage bins and chutes with sound-deadening material.	Noise impacts generated by construction activities.	Construction Contractor	During construction	Noise Monitoring Plan, Plans and Specifications	Reclamation MPCO, Corps	Reclamation CCAO	

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5: Schedule truck loading, unloading, and hauling operations so as to reduce nighttime noise impacts to comply with local noise ordinances.	Nighttime noise impacts generated by construction activities.	Construction Contractor	During construction	Noise Monitoring Plan, Plans and Specifications	Reclamation MPCO, Corps	Reclamation CCAO	
6: Schedule blasting to daylight hours only and will adhere to restrictions on blasting as stated per Reclamation and Corps' safety regulations.	Noise impacts generated by blasting activities.	Reclamation/Construction Contractor for Phase 1 and 2 spillway construction and all SOD work Corps/Construction Contractor for Phase 3 spillway work	During blasting periods	Noise Monitoring Plan, Plans and Specifications	Reclamation MPCO, Corps	Reclamation CCAO	
7: Monitor blasting vibration per Reclamation and Corps safety guidelines.	Noise impacts generated by blasting activities.	Reclamation/Construction Contractor for Phase 1 and 2 spillway construction and all SOD work Corps/Construction Contractor for Phase 3 spillway work	During blasting periods	Noise Monitoring Plan, Plans and Specifications	Reclamation MPCO, Corps	Reclamation CCAO	
8: Examination of any properties, structures and conditions where complaints of damages have been filed will be performed within three weeks of rock excavation and blasting work.	Noise impacts generated by blasting activities.	Reclamation/Construction Contractor for Phase 1 and 2 spillway construction and all SOD work Corps/Construction Contractor for Phase 3 spillway work	During blasting periods	Noise Monitoring Plan, Plans and Specifications	Reclamation MPCO, Corps	Reclamation CCAO	
Cultural Resources							
1: Complete the Section 106 process prior to the award of any construction contract for the proposed project.	Potential impacts to historic properties and/or historical resources.	Reclamation	Prior to award of contract	Section 106	SHPO	Reclamation CCAO	
2: Develop a memorandum of agreement or a programmatic agreement with SHPO to mitigate impacts to any identified historic properties or historic resources. Implement mitigation measures per agreement.	Potential impacts to historic properties and/or historical resources.	Reclamation	Prior to construction/during construction if additional cultural resources are found	SHPO Programmatic Agreement	SHPO	Reclamation CCAO	
3: Include in the standard contract specifications directions to follow in the unlikely event of the discovery of human remains or other cultural resources during the construction phase of this project.	Potential impacts to historic properties and/or historical resources.	Reclamation/Construction Contractor for Phase 1 and 2 spillway construction and all SOD work Corps/Construction Contractor for Phase 3 spillway work	Prior to construction/during construction if additional cultural resources are found	SHPO Programmatic Agreement, 36 CFR Part 800.13, Inadvertent Discovery of Human Remains (LND 07-01), Plans and Specifications	SHPO	Reclamation CCAO	
Land Use, Planning, and Zoning							
None.							
Recreation							
1: Damages to recreation facilities will be replaced in kind, in accordance with agency policies and guidance.	Potential construction-related damages to recreation facilities.	Reclamation/Construction Contractor for Phase 1 and 2 spillway construction and all SOD work Corps/Construction Contractor for Phase 3 spillway work	During and following construction	Recreation Management Plan, Plans and Specifications	Reclamation MPCO, Corps, Recreation Management Partner	Reclamation CCAO	
2: Post signage and public announcements to inform the public of construction activities and recreational facility closures. Provide instructions as to where alternative access to Folsom Reservoir will be possible.	Potential loss of recreational use at Folsom Reservoir.	Reclamation/Construction Contractor for Phase 1 and 2 spillway construction and all SOD work Corps/Construction Contractor for Phase 3 spillway work Recreation Management Partner	Prior to and during construction	Recreation Management Plan, Plans and Specifications	Reclamation MPCO Corps	Reclamation CCAO	

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3: Consolidate to the extent practicable, material processing and batch operations at the Overlook and Left Wing Dam areas. When materials processing or stockpiling cannot be located sufficiently distant from developed recreation areas, appropriate measures would be taken for noise and safety considerations.	Decline of recreational experience at Folsom Reservoir.	Reclamation/Construction Contractor for Phase 1 and 2 spillway construction and all SOD work Corps/Construction Contractor for Phase 3 spillway work	During construction	Recreation Management Plan, Plans and Specifications	Reclamation MPCO, Corps	Reclamation CCAO	
4: Re-contour sites used for stockpiling, disposal, staging and construction activities, as appropriate, to pre-construction conditions or to contours which do not pose a safety hazard.	Potential public recreation safety hazard.	Reclamation/Construction Contractor for Phase 1 and 2 spillway construction and all SOD work Corps/Construction Contractor for Phase 3 spillway work	During and following construction	Recreation Management Plan, Plans and Specifications	Reclamation MPCO, Corps	Reclamation CCAO	
5: Provide nearly continuous access to all recreation sites at Folsom Reservoir through grade separation, detours, traffic controls, reconfiguration of roadways or other measures. Ensure that the entrance stations at Folsom Point and Beal's Point will meet public safety and traffic requirements during construction.	Potential loss of recreational use at Folsom Reservoir.	Reclamation/Construction Contractor for Phase 1 and 2 spillway construction and all SOD work Corps/Construction Contractor for Phase 3 spillway work	During construction	Recreation Management Plan, Plans and Specifications	Reclamation MPCO, Corps	Reclamation CCAO	
6: Ensure that construction activities and any temporary or more extended closures will be scheduled to minimize impacts during peak recreation use periods, holidays, and special events so as to allow public access to the extent practical.	Potential loss of recreational use at Folsom Reservoir.	Reclamation/Construction Contractor for Phase 1 and 2 spillway construction and all SOD work Corps/Construction Contractor for Phase 3 spillway work	During construction	Recreation Management Plan, Plans and Specifications	Reclamation MPCO, Corps	Reclamation CCAO	
7: Develop a Traffic Management Plan (as a chapter of the Recreation Management Plan) for all public roads and trails within the recreation areas where both public and construction traffic occur. An appropriate mile per hour speed limit would be imposed in all public areas close to or intersecting construction. Construction crews and traffic will utilize internal haul routes, to the extent practicable.	Construction traffic could result in substantial interruptions to recreation.	Reclamation/Construction Contractor for Phase 1 and 2 spillway construction and all SOD work Corps/Construction Contractor for Phase 3 spillway work	During construction	Recreation Management Plan, Plans and Specifications	Reclamation MPCO, Corps, Recreation Management Partner	Reclamation CCAO	
8: Identify suitable detours, with appropriate signage, for any bike, equestrian, or pedestrian trails that are interrupted by construction, per agency guidance and policy. Post public service announcements to inform the public of route changes. Relocate trails where possible to allow trail access during construction.	Loss of recreational trail use.	Reclamation/Construction Contractor for Phase 1 and 2 spillway construction and all SOD work Corps/Construction Contractor for Phase 3 spillway work	Prior to and during construction	Recreation Management Plan	Reclamation MPCO, Corps, Recreation Management Partner	Reclamation CCAO	
9: Notify the public and provide the opportunity for public input prior to any extended closure of any recreational facility.	Potential loss of recreational use.	Reclamation for Phase 1 and 2 spillway construction and all SOD work Corps for Phase 3 spillway work	During construction	Recreation Management Plan	Reclamation MPCO, Corps, Recreation Management Partner	Reclamation CCAO	
Public Services and Utilities							
1: Coordinate with utility companies and other relevant agencies before construction to locate existing utilities and avoid damage. Avoid the relocation of utilities whenever possible. Provide notification of any potential interruptions in services to the appropriate agencies.	Potential disruption/relocation of infrastructure.	Reclamation/Construction Contractor for Phase 1 and 2 spillway construction and all SOD work Corps/Construction Contractor for Phase 3 spillway work	Prior to and during construction	Plans and Specifications, Environmental Commitments Plan	Reclamation MPCO, Corps, Local Utilities and appropriate agencies	Reclamation CCAO	

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2: Stage utility relocations to minimize interruptions in service.	Potential effects to infrastructure.	Reclamation/Construction Contractor for Phase 1 and 2 spillway construction and all SOD work Corps/Construction Contractor for Phase 3 spillway work	Prior to and during construction	Plans and Specifications, Environmental Commitments Plan	Reclamation MPCO, Corps, Local Utilities and appropriate agencies	Reclamation CCAO	
3: The Construction Contractor will be instructed to select licensed landfills with adequate capacity to receive the wastes.	Construction activities would generate solid waste.	Construction Contractor	Prior to and during construction	Plans and Specifications	Reclamation MPCO, Corps	Reclamation CCAO	
4: The Construction Contractor will be instructed to recycle construction wastes whenever possible.	Construction activities would generate solid waste.	Construction Contractor	During construction	Plans and Specifications	Reclamation MPCO, Corps	Reclamation CCAO	
5: The Construction Contractor will be directed to dispose of hazardous wastes at licensed hazardous waste facilities.	Construction activities would generate hazardous waste.	Construction Contractor	During construction	Plans and Specifications	Reclamation MPCO, Corps	Reclamation CCAO	
6: Consult with local police, fire, and recreation managing partner to develop and implement emergency response plans and establish emergency vehicle routes.	Potential increase in emergency response times to the Folsom Facility.	Reclamation/Construction Contractor for Phase 1 and 2 spillway construction and all SOD work Corps/Construction Contractor for Phase 3 spillway work	Prior to construction	Emergency Response Section of Worker Health and Safety Plan, Plans and Specifications	Reclamation MPCO, Corps	Reclamation CCAO	
Hydropower Resources							
None.							
Population and Housing							
None.							
Public Health and Safety							
1: Prepare a Recreation Management Plan to maintain public safety during all phases of construction. Components of the plan will address public notification of recreation facilities closure duration, location, restrictions, signage, safety fencing requirements, and coordination with local jurisdictions.	Construction activities could result in heath and safety impacts to the public.	Reclamation/Construction Contractor for Phase 1 and 2 spillway construction and all SOD work Corps/Construction Contractor for Phase 3 spillway work	Prior to and during construction	Recreation Management Plan, Plans and Specifications	Reclamation MPCO, Corps, Recreation Management Partner	Reclamation CCAO	
2: Prepare and implement a Fire Management Plan as part of the Worker Health and Safety Plan. The plan will include fire prevention and response methods including fire precaution, pre-suppression, and suppression measures consistent with the policies and standards in the affected jurisdictions.	Potential for fire hazards during construction activities.	Reclamation/Construction Contractor for Phase 1 and 2 spillway construction and all SOD work Corps/Construction Contractor for Phase 3 spillway work	Prior to construction	Worker Health and Safety Plan (Fire Management section), Plans and Specifications	Reclamation MPCO, Corps, Appropriate city and county officials	Reclamation CCAO	
3: Prepare and implement a Worker Health and Safety Plan in compliance with Occupational Safety and Health Administration (OSHA) construction standards prior to the start of construction activities.	Construction activities could result in exposure to hazardous materials or other health and safety issues.	Construction Contractor for Phase 1 and 2 spillway construction and all SOD work Corps' Construction Contractor for Phase 3 spillway work	Prior to construction	Worker Health and Safety Plan, Plans and Specifications	Reclamation MPCO, Corps, OSHA	Reclamation CCAO	

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4: Prepare a Hazardous Materials Management Plan that establishes the plan of action if hazardous materials are encountered during construction. Establish BMPs to reduce the potential for exposure to hazardous wastes.	Construction activities could result in exposure to hazardous materials.	Construction Contractor for Phase 1 and 2 spillway construction and all SOD work Corps' Construction Contractor for Phase 3 spillway work	Prior to and during construction	Hazardous Materials Management Plan, Plans and Specifications	Reclamation MPCO, DTSC, Local agencies	Reclamation CCAO	
5: Use as appropriate blasting mats to cover blasts in order to minimize the possibility of fly rock.	Safety concern during blasting.	Construction Contractor for Phase 1 and 2 spillway construction and all SOD work Corps' Construction Contractor for Phase 3 spillway work	During blasting periods	Worker Health and Safety Plan, Plans and Specifications	Reclamation MPCO, Corps	Reclamation CCAO	
Indian Trust Assets							
None.							
Environmental Justice							
None.							