Draft Supplemental Environmental Assessment

Isabella Lake Dam Safety Modification Project
Dams and Spillway Design Refinements

Kern County, California

June 2016

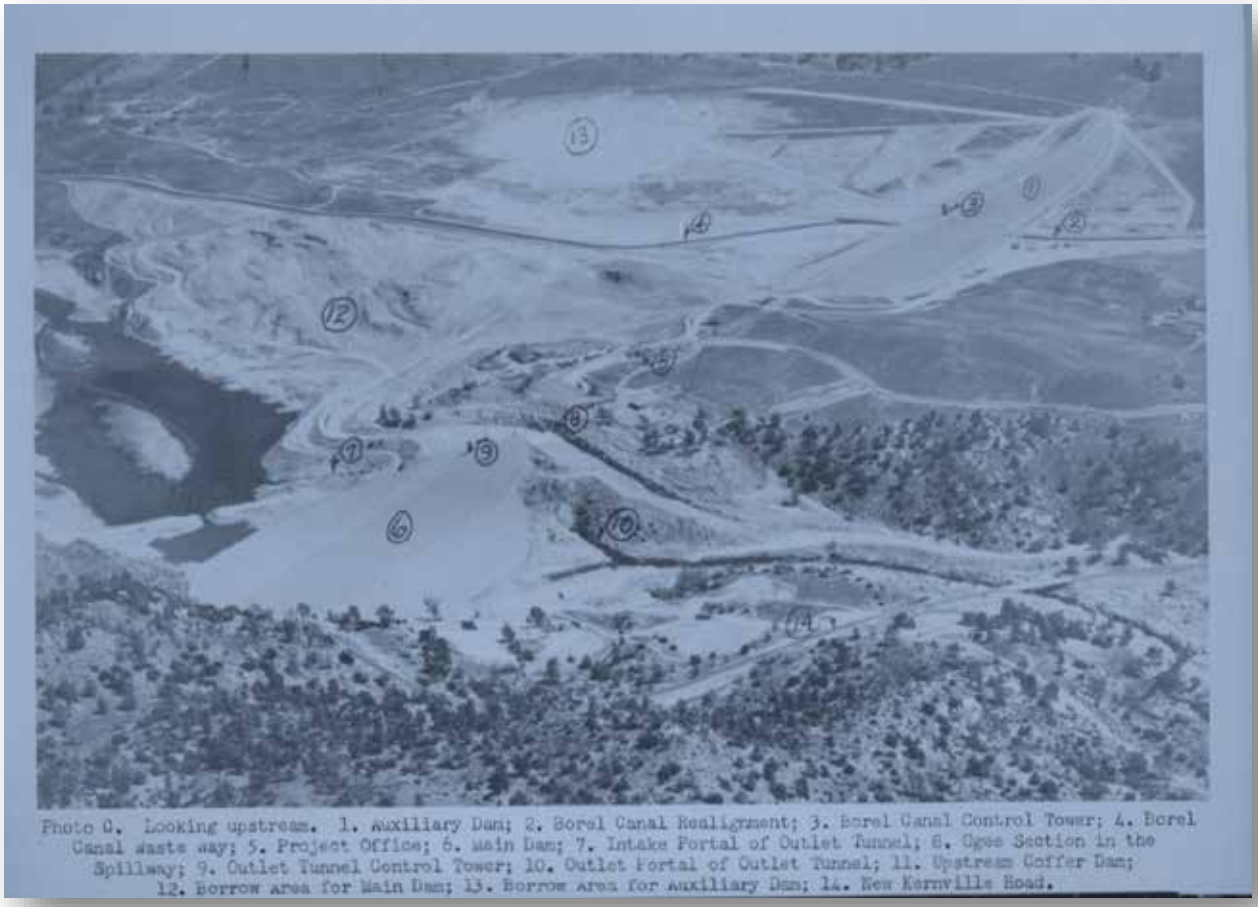

Photo C. Looking upstream. 1. Auxiliary Dam; 2. Borel Canal Realignment; 3. Borel Canal Control Tower; 4. Borel Canal waste way; 5. Project Office; 6. Main Dam; 7. Intake Portal of Outlet Tunnel; 8. Open Section in the Spillway; 9. Outlet Tunnel Control Tower; 10. Outlet Portal of Outlet Tunnel; 11. Upstream Coffer Dam; 12. Borrow area for Main Dam; 13. Borrow area for Auxiliary Dam; 14. New Kernville Road.

US Army Corps of Engineers

U.S. Army Corps of Engineers
Sacramento District – Lead Agency

U.S. Department of Agriculture, Forest Service
Sequoia National Forest – Cooperating Agency

Cover photograph was taken during Isabella Lake Dam construction in the early 1950s

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LIST OF ACRONYMS AND ABBREVIATIONS

ADA	Americans with Disabilities Act
ANSI	American National Standards Institute
APE	Area of Potential Effect
APN	Assessor Parcel Number
BLM	United States Bureau of Land Management
BMPs	Best Management Practices
BPGPSP	Bob Powers Gateway Preserve Strategic Plan
CNEL	Community Noise Equivalent Level
USACE	United States Army Corps of Engineers
CO_2e	Carbon Dioxide Equivalent
CVRWCB	Central Valley Regional Water Quality Control Board
cy	Cubic yard
dB	Decibel
DEIS	Draft Environmental Impact Statement
DSAC	Dam Safety Action Classification
DSM	Dam Safety Modification
DSS	Decent Safe and Sanitary
EIS	Environmental Impact Statement
EKAPCD	Eastern Kern Air Pollution Control District
EO	Executive Order
ER	Engineering Regulation
FEIS	Final EIS
FONSI	Finding Of No Significant Impact
HTRW	Hazardous, Toxic, and Radiological Waste
Isabella Dams	Isabella Lake Main Dam, Spillway and Auxiliary Dam
KWC	Kernville Work Center
KRV	Kern River Valley
KRVHF	Kern River Valley Heritage Foundation
Ldn	Day-Night Level
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding

NAVD	North American Vertical Datum
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act of 1966
NOx	Mono-Nitrogen Oxides
OM	Operations and Maintenance
OHWM	Ordinary High Water Mark
OSHA	Occupational Safety and Health Administration
PED	Preconstruction Engineering and Design
PM10	Particulate Matter
RA	Recreation Area
ROD	Record of Decision
ROG	Reactive Organic Gases
RV	Recreational Vehicle
SEA	Supplemental Environmental Assessment
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SOx	Oxides of Sulfur
SWPPP	Storm Water Pollution Prevention Plan
UCDC	United States Department of Commerce – U.S. Census Bureau
USGA	United States Government Agencies
USC	United States Code of Federal Regulations
USFS	U.S. Department of Agriculture Forest Service
USGS	U.S. Department of Interior Geological Survey
VAWT	Vertical-Axis Wind Turbine
VELB	Valley Elderberry Longhorn Beetle
VIC	Visitor Information Center

CHAPTER 1.0 PURPOSE AND NEED FOR THE ACTION

1.1 INTRODUCTION

Pursuant to the National Environmental Policy Act of 1969 (NEPA), as amended, this Dam and Spillway Design Refinements Supplemental Environmental Assessment (SEA) identifies and analyzes any additional beneficial or adverse potential effects that would result from the proposed design refinements to the Isabella Lake Dam Safety Modification (DSM) Project. The U.S. Army Corps of Engineers (USACE), Sacramento District, is the lead agency and the USDA Forest Service, Sequoia National Forest (USFS) is a cooperating agency.

The Isabella Lake DSM Project was previously evaluated under NEPA in the Isabella Lake DSM Project Draft Environmental Impact Statement (DEIS) of March 2012, and a Final Environmental Impact Statement (FEIS) of the same title in October 2012. The DEIS described and assessed impacts of the Isabella Lake DSM Project. A Record of Decision (ROD) was issued by the USACE on December 18, 2012. Several design elements were identified in the FEIS for further refinement and clarification, by subsequent tiered NEPA documents, as additional project details were developed. This SEA provides assessment of proposed design refinements that were identified to best accomplish the Isabella DSM Project. Alternatives assessed within the document are proposed action which best fulfill the purpose and need of the project.

1.2 LOCATION

Isabella Lake is situated approximately 35 miles northeast of Bakersfield, along Highway 178 and one mile upstream of the town of Lake Isabella (Figure 1). Water from the Kern River is retained by Isabella Lake Dam, and forms Isabella Lake in the southernmost part of the Sequoia National Forest, Kern County, California. As the most southerly of the rivers flowing into the San Joaquin Valley, the Kern River drains a Sierra Nevada area of 2,100 square miles. The North and South Forks comprise the headwaters of the Kern River, and each fork flows approximately 90 miles from the High Sierra to their confluence, about one and one-quarter mile upstream of the dam site. Downstream of Isabella Dam, the Kern River flows through the Kern River Gorge, through the Kern Valley, and into the San Joaquin Valley.

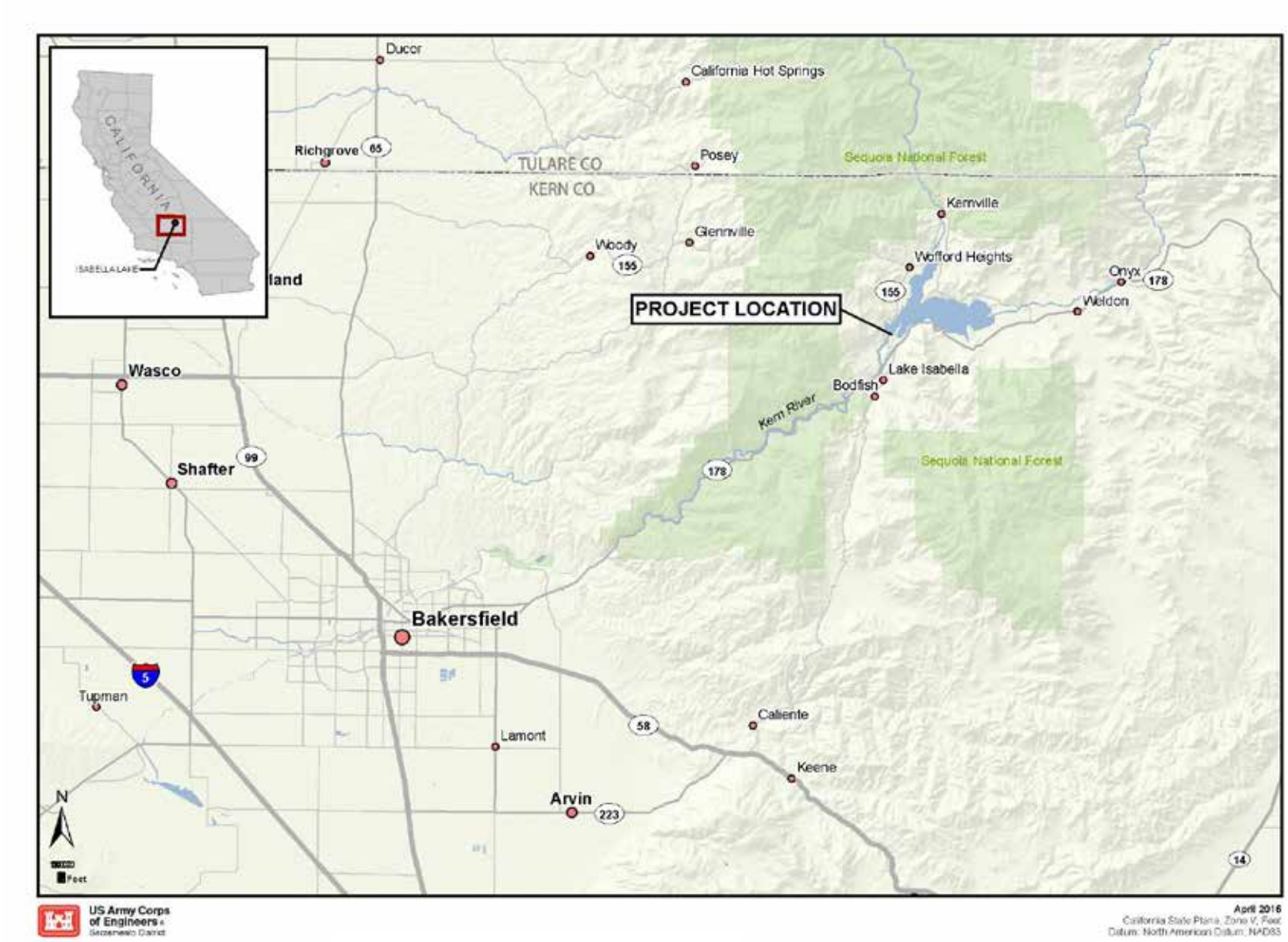

Figure 1. Project Location.

1.3 PROJECT AUTHORITY

1.3.1 Isabella Lake DSM Project Authority

The initial study for a flood reduction and water supply project on the Kern River was authorized by the Flood Control Act of June 22, 1936. Construction of Isabella Dam and Lake was authorized by the Flood Control Act of 1944, Public Law 78-534, Chapter 665, Section 10, page 901. Additional federal project authority is detailed in the Draft and FEIS for the Isabella Lake DSM Project (USACE 2012a, b).

Engineering Regulation (ER) 1110-2-1156 (Final 31 March 2014), describes the guiding principles, policy, organization, responsibilities and procedures for implementing risk-informed dam safety program activities. This regulation also describes the dam safety portfolio risk management process that is used within the USACE. The purposes of the dam safety program are to protect life, property and the environment by ensuring that all dams are designed, constructed, operated, and maintained as safely and effectively as is reasonably practicable. When unusual circumstances threaten the integrity of a structure and the safety of the public, the USACE is provided authority to take expedient actions, require personnel to evaluate the threat, and design and construct a solution.

1.4 ISABELLA LAKE DSM PROJECT BACKGROUND

In 2005, the USACE determined through an agency screening-level, risk assessment process that the Isabella Lake Main Dam, Spillway and Auxiliary Dam (Isabella Dams) posed unacceptable risk to life and public safety. Based on the risk assessment, the dams received a risk classification described as “urgent and compelling (unsafe) and as “critically near failure”, or “extremely high risk”. However, failure of Isabella Lake Dams is not believed to be imminent. The USACE commenced a dam safety study, and based on risk assessment, the USACE classified the Isabella Dams as Dam Safety Action Classification (DSAC) 1 in 2008 because elements of the Isabella Dams have been determined to be unsafe under extreme loadings and could result in significant and catastrophic consequences downstream.

The USACE completed a DSM Report in October 2012 (USACE 2012) that recommended remediation measures to reduce the public safety and property damage risks posed by floods, earthquakes, and seepage at the Isabella Dams. In October 2012, the USACE published a FEIS for the proposed remediation of the Isabella Dams. The Draft and FEIS described the anticipated direct and indirect impacts and cumulative effects expected to occur as a result of the remediation, including impacts to existing federal, state, local and privately owned infrastructure in the Isabella Dams vicinity.

The FEIS also addressed design changes to the DEIS; a summary of these changes is as follows:

- Main Dam full height filter and drain, with an approximate 16-foot crest raise;
- Retrofit of the Main Dam control tower for access with the raised dam;
- Improvements to the existing spillway;
- Construction of an approximate 300-foot wide emergency spillway;
- Auxiliary Dam modification, with an approximate 16-foot crest raise, and an approximate 80-foot wide downstream buttress, and shallow foundation treatment;
- Demolition and in-fill of the Borel canal upstream and downstream of the Auxiliary Dam, and fill of conduit under the auxiliary dam; and
- Removal of the Auxiliary Dam control tower outside of the potentially liquefiable foundation zone; and removal of the auxiliary dam control tower.

Since the release of the 2012 FEIS, the approved plan has changed to eliminate the need for relocation of State Route 155, State Route 178, and Lake Isabella Blvd. Removal of the highway relocation from the Isabella DSM project eliminates substantial construction activity planned for construction in advance of the main DSM work. As a result, project costs have been reduced and environmental, economic and human consequences have been further minimized. Structural highway changes were addressed in the SEA for the Phase II Real Estate Acquisition and Relocation, Kern County, California (USACE 2015).

In addition, the 2012 ROD for the FEIS, described the USACE lack of authority to mitigate for USFS administrative and recreation facilities adversely affected by the Project. Since that time, the USACE concluded in conjunction with the Office of Management and Budget, that sufficient authority exists to allow the USACE to use its appropriated funds to mitigate and relocate USFS facilities impacted by the Isabella Lake DSM project. Mitigation for USFS administrative and recreation facilities was assessed by a SEA for USFS Forest Service Administration and Recreational Facilities Relocation (USACE 2016a). The USACE previously proposed to acquire the existing easement for the Borel Canal from Southern California Edison (SCE), and more recently this has been proposed with payment of just compensation to SCE for

the acquisition of its easement interest and the DSM project's impact on ongoing SCE operations of the Borel Hydroelectric Plant (USACE 2016b).

1.5 PURPOSE AND NEED FOR THE PROPOSED ACTION

The purpose of the Proposed Action is to remediate current deficiencies at the Auxiliary Dam, Main Dam and spillway with project design refinements applied to actions established within the 2012 FEIS. The Proposed Action is the integration of design refinements into the DSM Project. Unresolved issues were identified during the Preconstruction and Engineering Design (PED) phase of the Isabella Lake DSM project for further analysis. At the time of project approval, the 2012 FEIS did not evaluate all design options of smaller magnitude. As a result, it was determined that a series of supplemental NEPA documents would be required for analysis of design refinements following the FEIS and ROD. Refinements to the designs of the DSM Project consist of developments and changes that optimize efficiency, reduce resource impacts, and lower project costs.

The need for the Proposed Action on the DSM project is to reduce the likelihood and associated consequences of dam failures. The USACE has determined that the Isabella Dam facilities require a suite of structural improvements in order to safely meet authorized project purposes and to reduce risk to the public and property from dam safety issues posed by floods, earthquakes and seepage. Recent investigations determined that the Kern Canyon Fault which passes under the right abutment of the Auxiliary Dam is active. An offset of the fault could lead to a path for concentrated seepage, erosion and potential dam failure. Portions of the Auxiliary Dam foundation were assessed to be potentially liquefiable in an earthquake, and seismic loading of sufficient magnitude could lead to deformations in the dam. The current spillway lacks capacity to handle major flood events, and such events have the capability to cause significant loss of life and environmental and economic impacts downstream. Remediation would reduce significant seismic, hydrologic and seepage deficiencies at the Main and Auxiliary Dams to a level that satisfies tolerable risk guidelines, and also would fulfill the project design functions, including operation at authorized Lake capacity.

1.6 PURPOSE OF THIS SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT

This SEA partially fulfills the commitment to continue the NEPA analysis of the potential effects of implementing the Isabella Lake DSM project. Due to project complexity and unresolved design issues, the need for supplemental NEPA analyses to accomplish the action of the selected project alternative, was identified in the FEIS. As with other supplemental NEPA analyses identified in Section 1.9 of the DEIS and Section 1.4 of the FEIS, this SEA is tiered to the FEIS. Information and assessments that have not changed since the 2012 EIS analysis will not be restated in this SEA.

This SEA will assess design refinements of actions initially addressed within the 2012 FEIS. The design refinements evaluated here consist of: further design for Engineers Point as a material disposal site; the construction of the future permanent USACE office and maintenance facilities; a realignment of Barlow and Ponderosa roads; installation of dam security features, and a final design alignment of the Auxiliary Dam left abutment (Figure 2). Chapter 2 of this SEA discusses the Alternatives for the proposed design refinements. Chapter 3 assesses the existing environment, affected environment and consequences expected by implementing the proposed alternatives. Chapter 4 addresses cumulative and growth inducing effects created by the proposed alternatives.

Figure 2. Isabella Lake DSM Project Area with Design Refinements.

1.7 PRIOR NEPA DOCUMENTS

Prior NEPA documents for the Isabella Lake DSM project and supporting documents are available online at:

http://bit.ly/IsabellaDam

Hard copies of the Draft and Final Isabella Lake DSM EIS or any other prior NEPA document may also be obtained by contacting the Sacramento District Public Affairs Office, 1325 J Street, Sacramento, CA 95814; Phone (916) 557-5101; email: Isabella @usace.army.mil.

1.7.1 Draft and Final EIS Isabella Lake DSM Project

The Isabella Lake DSM Project FEIS was released for public review and comment in October 2012 and the ROD was signed on December 18, 2012. The 2012 DEIS is the primary source for detailed environmental assessment information for the Isabella Lake DSM Project, with the Final 2012 EIS focusing on the preferred alternative and subsequent changes to the DEIS analyses.

1.7.2 SEA Phase I and Phase II Real Estate Acquisition and Relocation

Subsequent NEPA documents, the Supplemental Environmental Assessments for Phase I and Phase II Real Estate Acquisition and Relocation Kern County, California, were finalized with Findings of No Significant Impact (FONSI) in August 2014 and July 2015 respectively. These documents also partially fulfilled the commitment to continue the NEPA analysis of implementing the Isabella Lake DSM project.

- The Phase I Real Estate Acquisition and Relocation SEA (USACE 2014b) specifically evaluated the effects of acquiring affected, occupied lands, and relocation of residents located at the privately owned Lakeside Village Mobile Home Park. A FONSI was determined for this action and signed August 2014. All residents with the potential to be significantly affected by the Isabella Lake DSM project construction-related activities have been relocated.

- The Phase II Real Estate Acquisition and Relocation SEA (USACE 2015) evaluates the effects of structure demolition/disposal associated with Phase I real estate actions proposed, as well as the effects of acquiring additional unoccupied or unimproved lands, and demolition/disposal of existing structures on all parcels affected by implementation

of the Isabella Lake DSM project. This Phase II Real Estate SEA also conducted evaluation of the temporary relocation of the USACE Office and Maintenance Facility.

1.7.3 SEA USDA Forest Service Administration and Recreation Facilities Relocation

A SEA and FONSI (USACE 2016a) was completed January 2016 to assess the proposed recreation mitigation and relocation of specific USFS administration and recreation facilities affected by the Isabella Lake DSM Project. Locations and structures to replace USFS facilities located in the construction footprint, including a USFS administrative office, warehouse, fire station, and visitor center, were identified and assessed. Recreation Areas that were in the project footprint or otherwise affected, were mitigated by construction and/or relocation of new recreation area facilities. The SEA assessed the relocation of Boat Launch 19, restrooms and parking areas to the French Gulch Recreation Area; relocation of the Auxiliary Dam Recreation Area and facilities to the north; construction of a new access road and additional facilities in the Old Isabella Road Recreation Area, and the addition of facilities to the South Fork Recreation Area. Public meetings, surveys and a Recreation Report (USACE 2016a) were utilized to obtain public and agency input on preferred facility locations and structures.

1.7.4 SEA Phase III Real Estate Easement Acquisition of Borel Canal at Isabella Lake Auxiliary Dam without Replacement

A SEA (USACE 2016b) for the Real Estate Easement Acquisition of Borel Canal at Isabella Lake was finalized with a FONSI on April 22, 2016. This SEA assessed acquisition of the existing easement for the Borel Canal from Southern California Edison (SCE); and payment of just compensation to SCE for both the acquisition of its easement interest and the DSM project's impact on ongoing SCE operations of the Borel Hydroelectric Plant.

1.8 DECISION TO BE MADE

The District Engineer, Commander of the Sacramento District, must decide whether or not the Proposed Action qualifies for a Finding of No Significant Impact (FONSI) under NEPA or whether a Supplemental EIS must be prepared. This Draft SEA will be circulated for a 30-day public and agency review and comment period. The Final SEA will address comments and include the decision of the District Engineer in the FONSI for a 30-day public review.

CHAPTER 2.0 ALTERNATIVES

2.1 INTRODUCTION

The following section describes the alternative development process. A single Preferred Alternative (Proposed Action), which reflects design refinements to the DSM project, is evaluated in detail in this SEA in accordance with 33 CFR 230.10. Other modifications and changes to the DSM Projects have been evaluated through prior NEPA documents as described in Section 1.7. The Proposed Action consists of specific design details that have been refined since the FEIS, and also design changes to best accomplish engineering challenges with reduced effects on resources and project costs. The design refinements were presented to the USFS, a cooperative partner, for preliminary assessment in early April 2016. A No Action alternative, required by NEPA, is also evaluated and utilized as a baseline to illustrate the potential effects of not implementing the Preferred Action.

2.2 ALTERNATIVE 1: NO ACTION ALTERNATIVE

The No Action Alternative describes the future conditions that would reasonably be expected to exist in the absence of the Proposed Action, and serves as the environmental baseline against which the adverse and beneficial effects of the action alternatives are evaluated. In this SEA, there is one action alternative, the Preferred Alternative (Proposed Action), which will be evaluated in detail and will be compared to the No Action Alternative. The "proposed action" may be, but is not necessarily, the agency's "preferred alternative." The proposed action may be a proposal in its initial form before undergoing analysis in the EIS process. If the proposed action is [46 FR 18028] internally generated, such as preparing a land management plan, the proposed action might end up as the agency's preferred alternative.

Under the No Action Alternative, there would be no Federal participation in remedial improvements to the Isabella Main Dam, Spillway, or Auxiliary Dam. The Operating Restriction at elevation 2,589.26 NAVD88 (356,700 acre-feet) would become permanent in order to lower the lake level to a safe elevation and capacity. Despite risk reduction measures, the Isabella Dams would still possess an unacceptable high risk of failure under the No Action Alternative. The potential environmental, economic, and human consequences of dam failure would be high at normal reservoir levels. The No Action Alternative would not fulfill the purpose and need of the proposed project as described in the 2012 DEIS and FEIS, and approved in the 2012 ROD. This alternative is further discussed in the 2012 DEIS and FEIS.

2.3 ALTERNATIVE 2: PREFERRED ACTION – DAM AND SPILLWAY DESIGN REFINEMENTS

Design refinements would be applied to structures described within the FEIS, and include material disposal on Engineering Point; realignment of Barlow and Ponderosa Roads; construction of the permanent USACE Office and Maintenance Facilities; embankment realignment of the left abutment of Auxiliary Dam; and installation of dam security features. Table 1 below, summarizes design refinements assessed in this SEA.

Table 1. Summary of Design Refinements

Project Action	**FEIS -** Isabella Lake Dam Safety Modification Project	**Draft SEA -**of Dams and Spillway Design Refinements
Material Disposal on Engineers Point	Material disposal was identified for 54 acres of Engineers Point	Further definition was made for the Engineers Point disposal boundary and the quantity and composition of disposal material.
Barlow Road and Ponderosa Drive Realignment	A realignment of Barlow and Ponderosa roads was identified as a necessity for the project.	A specific route and characteristics for the road realignment was defined.
Auxiliary Dam Left Abutment Embankment Realignment	Highway 178 realignment was identified as a necessity for the project.	A realignment to the Auxiliary Dam left abutment embankment was designed, thus eliminating the need for Highway 178 realignment.
Permanent USACE Office and Maintenance Facilities	The need for a permanent USACE office and maintenance facility was identified to replace the facility affected by the project.	A site for the new facility was identified and specific designs for the office and maintenance facility were defined.
Dam Security	The need for Dam security and force protection measures was identified.	Refinements were designed for dam security and final details are still in process.

2.3.1 Material disposal on Engineers Point

Engineers Point was originally used as the primary source of borrow material for the Isabella Dams construction in the 1950s. Within the 2012 DEIS, Engineers Point was again identified as a source of construction material to build a temporary cofferdam upstream of the Auxiliary Dam. However, with the removal of a temporary cofferdam and the Auxiliary Dam upstream berm construction at the Auxiliary Dam from project plans, the need for borrow material from Engineers Point was eliminated. The decision to remove the Auxiliary Dam Upstream Berm and establish a disposal area for rock waste and other soil material on Engineers Point was addressed in the 2012 FEIS (Section 2.2.5). The USACE determined in the FEIS, that approximately 54

acres would be established on Engineers Point to receive the unused rock material left over from the Emergency Spillway excavation. Design details and assessment to place disposal material on Engineers point were identified for a subsequent tiered NEPA document, and this SEA serves that purpose.

Up to 1.8 million cubic yards (cy) of material (Table 2) is expected, primarily from spillway excavation, for permanent disposal over a maximum amount of 52 acres at Engineers Point.

Table 2. Engineering Point Material Disposal Quantities.

Site Name	Fill Volume (Cubic Yards)	Surface Area (acre)	Minimum Elevation (feet, NAVD 88)	Maximum Fill Elevation (feet NAVD 88)
South Site	1,652,000	39	2550	2715
North Site	162,000	13	2550	2635
TOTALS	1,814,000	52		

Estimated fill volumes and surface area is approximate.

Approximately one-third of the disposal material would originate from the Emergency Spillway excavation and two-thirds is expected from the embankment and foundation excavation of the Dams. Embankment and foundation excavated material is expected to consist of approximately 25 percent fines, 70 percent sand, and 5 percent gravel and cobbles. The Spillway excavated material would consist primarily of excess blasted rock with zero to no fines; 15 percent gravel and sand and 85 percent cobbles and boulders. The average rock size deposited on Engineers Point would be approximately 12-inches in diameter, with a range of large rocks up to 36-inches in diameter and less than one percent of rock in the 48-inch to 60-inch range.

Disposal material would be placed only upon the west side of Engineers Point, extending anywhere from a minimum elevation of 2550 feet (below the gross pool) to a maximum 2715 feet at the highest point. Actual material disposal quantities and placement may vary, but are not expected to exceed 1.8 million cy. Figure 3 illustrates a maximum placement of 1.8 million cubic yards. Disposal material would be placed primarily at a 3H to 1V slope (horizontal units to vertical units) with accommodation of some 2H to 1V slopes. Level topography may result at the highest elevations as indicated by tan shading in Figure 3. Two disposal sites would be utilized on Engineers Point, a north site and a south site. The south site is adjacent to Boat Launch 19, and the north site extends towards the lake center. Utilization of the two sites by the contractor is expected to provide needed flexibility for uncertain conditions due to lake level fluctuation, weather changes and construction schedules.

Deposited material on lower elevations of Engineers Point would be raked to place larger rock along the shoreline to provide erosion protection and increase water oxygenation from wave

action. Placement of material would create a new ridgeline, but the modified ridgeline would not exceed existing ridgeline peaks. The final slope profile would vary with material quantity, and

Figure 3. Overhead view of Engineers Point with north and south disposal sites.

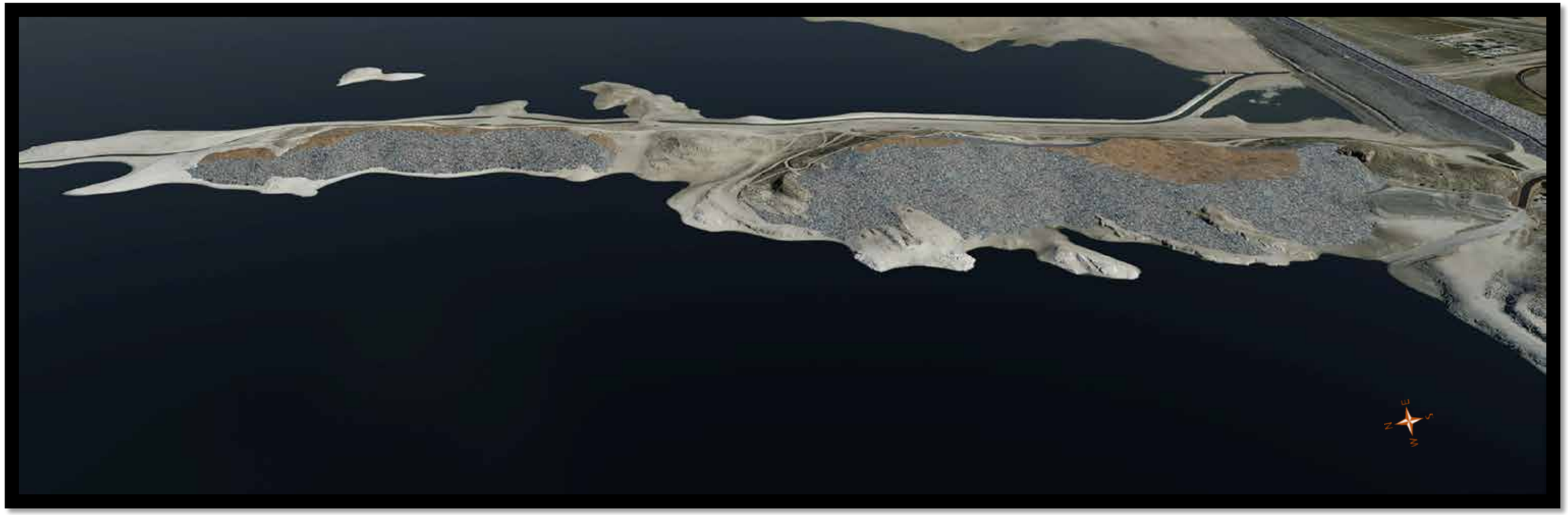

Figure 4. Engineers Point profile.
View of the potential west side of Engineers Point with the proposed maximum of 1.8 million cy of disposal material.
Superimposed gray area denotes deposited rock; tan area denotes level topography of deposited rock and fines.

construction schedule and operation. Slope and valley contouring between the highest elevation points would again be determined by the total amount of material and the contractor's placement of that material. However, disposal material would not be placed on the unimproved road through the middle section of the peninsula between the north and south sections, and the recreational road at the north shoreline of Engineers Point in order to provide for continued recreation passage to the western side of the point. Areas with sufficient soil substrate would be seeded with native grasses to preclude erosion. Placement of an estimated 700,000 cy of disposal material under gross pool level would result in a water displacement of approximately 450 acre-feet from the reservoir, which constitutes less than one percent of the original storage capacity.

2.3.2 Barlow and Ponderosa Roads Realignment

Portions of Barlow and Ponderosa Road would be realigned to provide construction access and post-construction recreational access (Figure 5) within the project area. Originally identified by the 2012 EIS, design refinements for Barlow and Ponderosa roads are described and assessed in this SEA. Figure 5 illustrates road alignment changes proposed for the purpose of providing appropriate access for large haul trucks and accommodation of the Auxiliary Dam abutment modifications. Approximately 1500 feet of Ponderosa Drive would be shifted in alignment adjacent to the current intersection of Barlow Road, and over 2500 feet of Barlow Road realignment would be graded from below the Auxiliary Dam to the new intersection with Ponderosa Road. Approximately 26,000 cy of excavation would be conducted in the realignments, and a total of approximately 44, 600 cy of fill would be placed for both roads. Approximately 2,200 tons of asphalt concrete would be used to pave the roads. The remaining sections of Barlow and Ponderosa road not modified for the haul route, would be removed, ripped, regraded and reseeded with native grass species. Barlow Road at the toe of Auxiliary Dam, would be removed with enlargement of the downstream abutment.

Permanent closure of Ponderosa Road to public use would commence with DSM construction, beginning as early as late summer 2017, with the demolition of the Isabella Lake USFS office. A permanent gate with a vehicle turn-around would be installed on Ponderosa Drive, approximately one-quarter mile from the junction of Highway 155. Another gate would be placed at Barlow Road near the intersection of Eva Avenue. Temporary closure of Barlow Rd would occur during the construction period, followed by a post-construction, permanent reopening for public vehicle access to Launch 19 and Engineers Point at the end of the DSM Project construction , which is currently estimated to be year end in 2022.

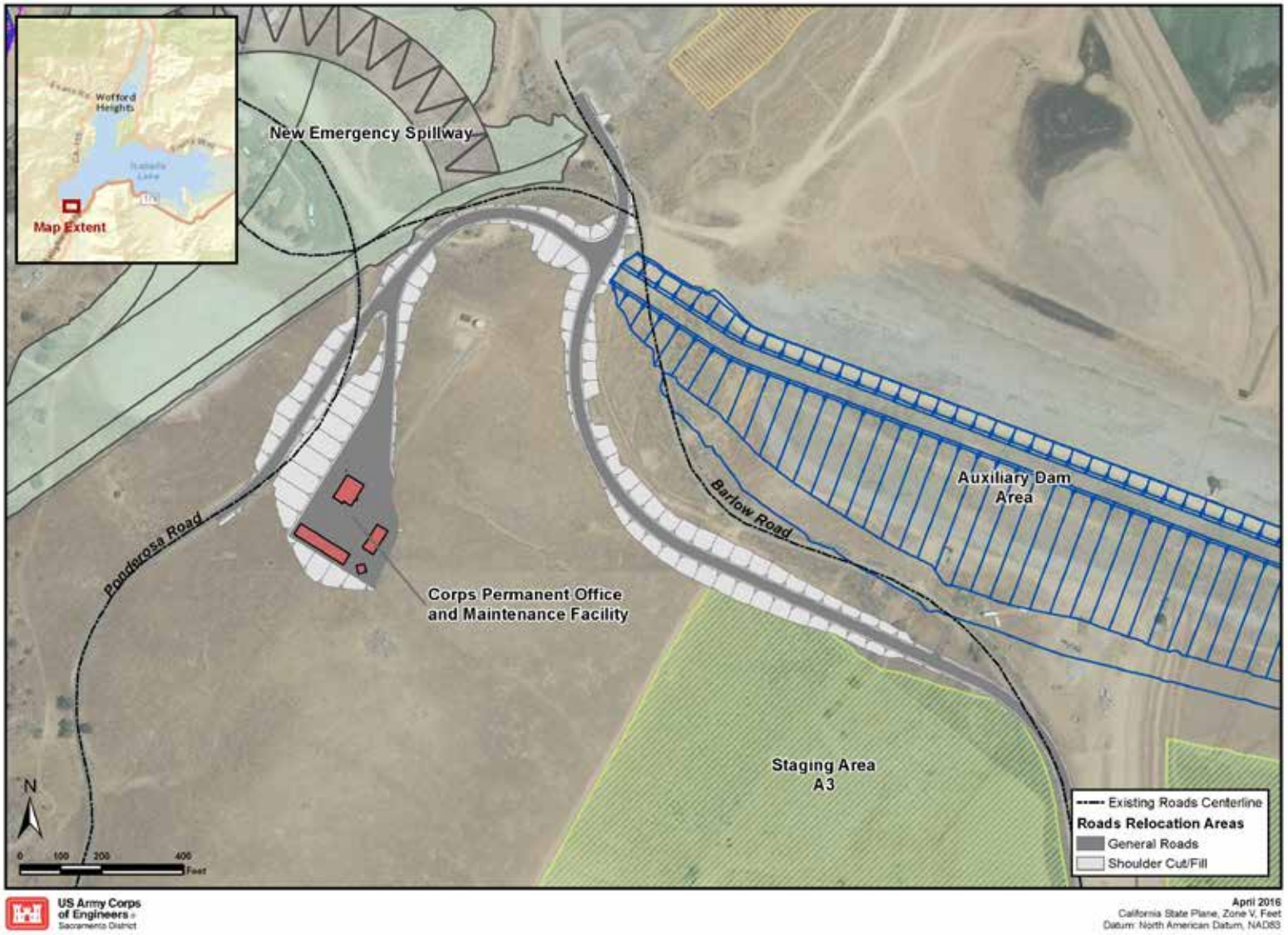

Figure 5. Proposed realignment of portions of Barlow and Ponderosa Roads.

2.3.3 Auxiliary Dam Left Abutment Embankment Realignment

The Auxiliary Dam left abutment embankment realignment (Figure 6) is a design refinement necessary to provide reservoir containment at high flood levels up to the probable maximum flood (PMF). The refinement is an additional change to Auxiliary Dam modifications specified in the FEIS of 2012 (Section 2.2.3). Extending the left embankment of the Auxiliary Dam into the Auxiliary Dam Recreation Area (RA) eliminates the need to relocate Highway 178. As a result, this refinement enables substantial reductions in environmental impacts, traffic concerns and project costs.

Approximately 375,000 cy of piled rock material obtained from spillway excavation would be placed over a new left abutment footprint. A secondary access road upon the dam crest would be installed from the Auxiliary Dam RA entrance road for construction and maintenance access. The new left abutment footprint would include approximately 375,000 cy of rock fill, extending 700 feet into the existing Auxiliary Dam Campground. The abutment slope which includes a 16 foot raise from the current dam height of 80 feet, would slope down to two vertical feet in height at Highway 178 and the RA entrance road. The proposed embankment realignment ties into the existing Auxiliary Dam and then curves northward to parallel Highway 178, terminating at the entrance road to Auxiliary Dam RA and Highway 178. As a result, the left abutment realignment would extend 700 feet into the existing Auxiliary Dam Recreation Area facilities, including the restroom, kiosk, camp host site and dump station. These displaced recreation facilities would be mitigated by constructing in-kind replacements further north. New facilities would be completed prior to demolition of the existing structures in order to maintain an availability of Auxiliary Dam RA facilities for recreationists. (USACE 2016a).

The construction period for the left abutment embankment realignment is expected to extend over approximately six months, though the realignment adjacent to the RA entrance road is expected to require less than 2 months of construction time. Construction on the embankment would occur between fall of 2017 and December 2022, but Auxiliary Dam realignment construction directly adjacent to the Recreation Area entrance road would be limited to Monday through Thursday, from Memorial Day to Labor Day, in order to prevent traffic congestion and conflict on summer weekends. Access to Staging Area A1 by large construction vehicles and equipment, would occur primarily via Haul Route 5 (H5) (USACE 2012b), or the upstream side of the Dam, in order to avoid recreational traffic at the Auxiliary Dam RA entrance and facilities. Staging Area A1 would be used for staging and temporary rock storage for embankment realignment construction.

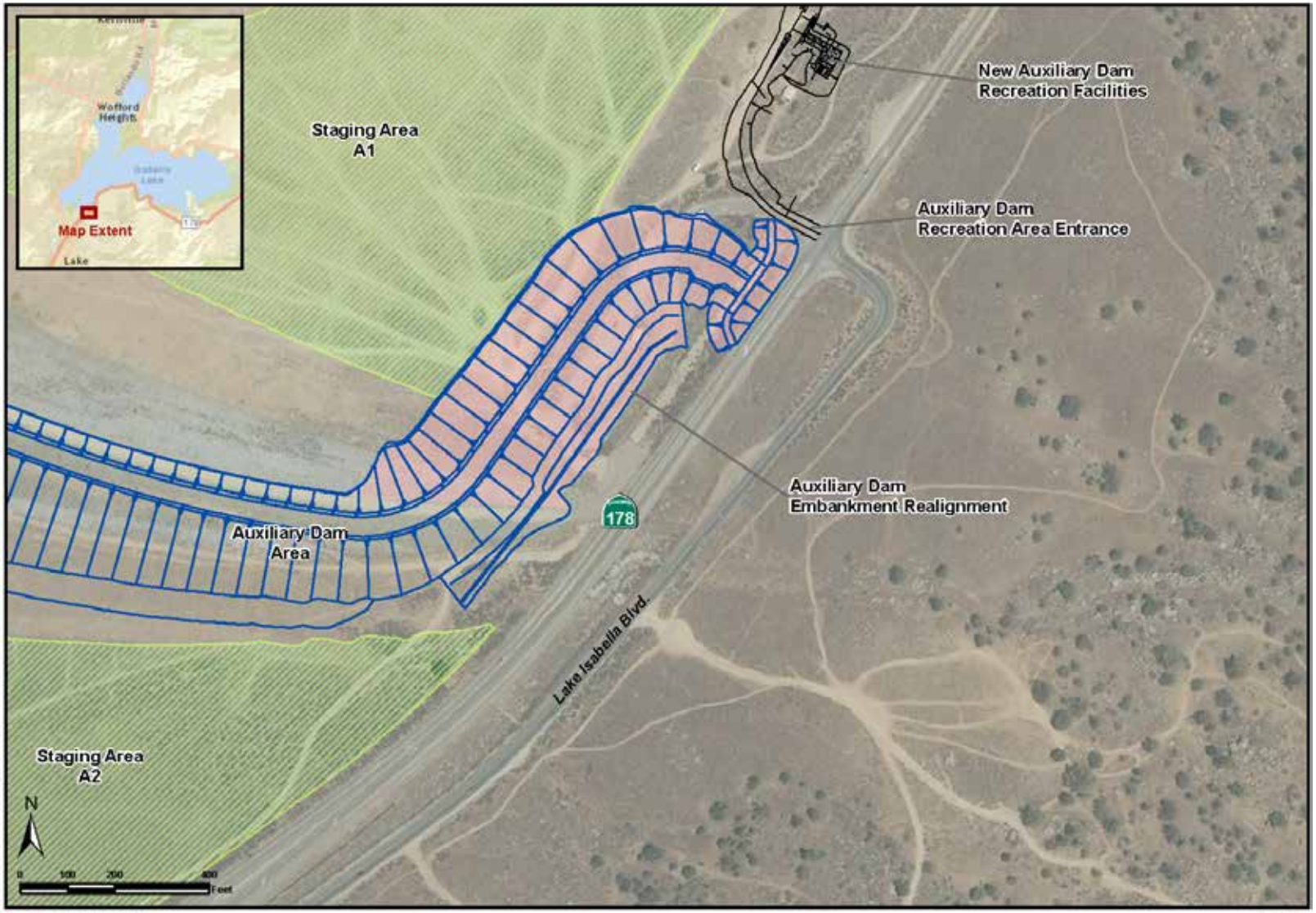

Figure 6. Auxiliary Dam Left Abutment Embankment Design Refinement.

2.3.4 Permanent USACE Office and Maintenance Facilities

A Permanent USACE Office and Dam Maintenance Facility (Operations Center) would be constructed, with an access off Ponderosa Drive (Figure 7), during the DSM construction, and prior to removal of the temporary USACE Operations Center. Grading would occur of an existing dirt access road with application of approximately 70,000 square feet of paving. In addition, a rectangular pad with an area of approximately 62,000 square feet would be graded and paved for the Operations Center. Four structures would be constructed at this site, including a one story wood frame administration building with fiber cement siding and a concrete tile roof (approximately 3,200 square feet and 17 feet in height); a three-sided metal walled and roofed storage shed (approximately 5,100 square feet and 15 feet in height); a maintenance shop (approximately 2,200 square feet) with roof top solar panels, and an enclosed flammables-storage building of 400 square feet. Building surfaces would be painted earth tones to blend with landscape colors for the purpose of reducing visual contrast. Installation of an eight-foot tall fence is required for facility security. Native, drought-tolerant landscaping would be incorporated into the compound. Facility lighting would comply with the Kern County Dark Skies Ordinance. Installation of an antenna of approximately 30 feet in height would occur on the asphalt pad.

Upcoming field investigations may require that the Operations Center be relocated to an alternate site (Figure 7) for required offsets from the Kern Canyon Fault. The alternate site would be situated within 100 yards of the site described above, but on the left side of Ponderosa Drive at a lower elevation (Figure 7).

2.3.5 Dam Security

Homeland Security requires installment of Security and Force Protection Measures for the Isabella Dams. Previous security installations required for the Isabella DSM project have been deferred as a result of the DSM Project, and design of security measures has yet to be finalized. In absence of specific plans, both the expected security measures, and a projection of maximum measures that could be installed, are provided below. Figure 8 illustrates an expected scenario for security installations. Security and Force Protection would be implemented for the Main Dam and Outlet Works, Auxiliary Dam, Service and Emergency Spillways, Permanent USACE Operations Office and Facilities, and Recreation Area access points to all dam structures.

Restricted public access to the Main Dam is expected, but has not been determined for the Auxiliary Dam. To prevent vehicle access from the Main Dam Campground, two to three-foot diameter rock boulders would be placed at regular intervals to create a barrier approximately 150 feet downstream from the Main Dam toe. A similar, linear rock barrier would be installed at the downstream toe of the Auxiliary Dam and upstream of the Service Spillway and Emergency

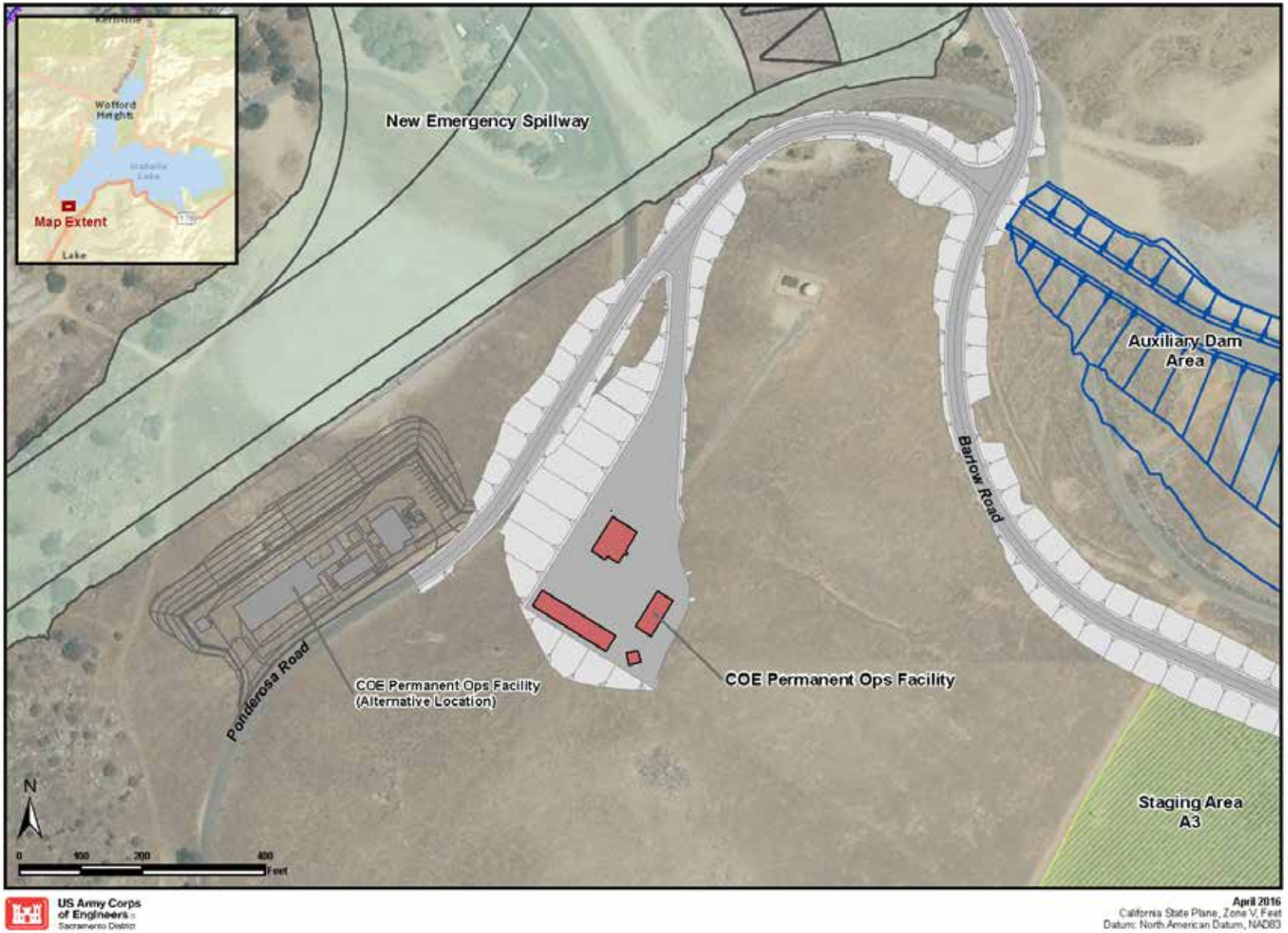

Figure 7. Permanent USACE Office and Maintenance Facility.

Spillway. A maximum security scenario would result in installation of additional boulders around all structures, both upstream and downstream, to prevent vehicle trespass.

Security measures are expected to include ten-foot high chain link fence around the downstream perimeter of Main Dam, erected between the rock barrier and dam structures. Fencing is intended to limit pedestrian access to the Main Dam from Main Dam Campground. Installation of fencing would also occur around the downstream side of the Auxiliary Dam between the boulder barrier and the dam toe. Fencing is not expected, but may be installed, on the upstream side or crest of both Dams. Chain link fence would be placed around the perimeter of the Emergency Spillway to limit pedestrian access along steep slopes and around the permanent USACE Office and Maintenance facilities. In a maximum protective scenario, chain link fence would extend completely around dam perimeters, and pedestrian gates would remain closed.

Additional security measures that are proposed for installation include boundary signage, gates and lighting. Gates would be installed at the Main Dam Campground, and the Auxiliary Dam to provide security or recreational access as required in response to threat levels. Gates to be installed at a future entrance to Auxiliary Dam from Barlow Road, are expected to remain open for pedestrian foot access during normal operating hours, except for times of elevated threat level. Vehicle gates would be installed within a quarter mile of the lower end of Ponderosa Drive, and would remain permanently closed to public access during and after DSM project construction. A Barlow Drive entrance gate would remain open, post-construction, to the public for access to Boat Launch 19 and Engineers Point except during times of increased threat and/or high pool elevations in flood events. Additional gates may be installed for access to facilities. Security lighting would be placed on the crest of dam structures and around the USACE Office and Maintenance Facility. Illumination would be focused downward on structures to assist in meeting compliance with the Kern County Dark Skies Ordinance.

Figure 8. Potential Dam Security Features.

CHAPTER 3.0 AFFECTED ENVIRONMENT AND CONSEQUENCES

3.1 INTRODUCTION

This section describes the environmental resources in the construction footprint, as well as effects of the Preferred Action and a No Action alternatives on area resources. Each resource section below presents the existing resource conditions, and environmental effects. As needed, mitigation measures are proposed to avoid, reduce, minimize, or compensate for any significant effects. In determining the effects, the consequences of the Proposed Action are compared to the consequences of taking no action. The majority of assessed effects are direct impacts, and indirect impacts are additionally identified. Assessment of cumulative impacts follows in Chapter 4. Effects are assessed for significance based on significance criteria, which have been established for each resource below in the Draft and FEIS.

3.2 ENVIRONMENTAL RESOURCES NOT EVALUATED IN DETAIL

Certain resources were eliminated from further analysis in this SEA because they were adequately addressed in the Isabella Lake DSM Project Draft and FEIS, or they would not result in any new or substantially more severe significant direct and indirect effects than were initially evaluated in the Isabella Lake DSM Project EIS. A brief discussion of these resources follows.

3.2.1 Geology, Soils and Seismicity

The Geology, Soils and Seismicity section of the Isabella DSM Project EIS (DEIS Section 3.4 and FEIS Section 3.2) sufficiently characterizes the regulatory setting and affected environment for this resource. There have been no additional revisions, studies or new data relevant to the discussion of the affected environment. Field explorations are in progress to determine seismic safety of the site proposed for the USACE Office and Maintenance Facilities. If the current proposed site is found to be situated directly over fault lines or proximity to fault lines that could result in structure damage, an alternate location is available for use. Proposed structures would be constructed on terrain and in soils that lack contaminants, and are not prone to liquefaction seepage and piping. Mitigation measures specified in Section 3.4.4 of the DEIS are expected to reduce any potential geology, soils and seismicity impacts to a level of not significant. The proposed design refinements do not present significant new circumstances or information regarding the nature and scope of effects to geology, soils, and seismicity associated with the DSM project that would change the analysis present in the 2012 Final EIS.

3.2.2 Socioeconomics and Environmental Justice

The Socioeconomics and Environmental Justice section of the Isabella Lake DSM Project EIS (DEIS Section 3.15 and FEIS Section 3.13), characterized the regulatory setting and affected environment for this resource. Criteria used to evaluate the intensity of impact on socioeconomic conditions and environmental justice were based on assessment of impacts on the demographic, economic and social factors described within the section. A significant socioeconomic impact was defined as: 1) a long-term increase in population that could not be accommodated by regional infrastructure: reduction in the availability of affordable housing; long term decreases in earnings or employment affecting the regional economy; 2) long term displacement of population or local business, or 3) loss in community facilities, events, population or major industry. Based on these criteria, the design refinements of the Auxiliary Dam left abutment, USACE Operation buildings, realignment of Ponderosa and Barlow roads and Security facilities are not expected to cause significant effects on socioeconomics or environmental justice.

3.2.3 Hazardous, Toxic and Radiological Waste

The hazardous, toxic and radiological waste (HTRW) section of the DEIS (Section 3.9.1) sufficiently characterizes the regulatory setting for this resource.

An alternative would be considered to have a significant effect if it would involve substances identified as potentially hazardous by the Comprehensive Environmental Response, Compensation, and Liability Act; the Resource, Conservation and Recovery Act; and/or 40 CFR Parts 260 and 270. A significant effect would entail: 1) exposure of workers to hazardous substances in excess of Occupational Safety and Health Administration (OSHA) standards; or 2) contamination of the physical environment, thereby exposing a hazard to humans, animals, or plant populations by exceeding Federal exposure, threshold, or cleanup limits.

No HTRW is known to exist within the soil of the Proposed Action sites. Proper abatement, if necessary, in the removal of the existing restroom facilities and dumping station at Auxiliary Dam Recreation Area (RA) would be conducted by the demolition contractor, prior to demolition, according to County, State and Federal regulations. The contractor would obtain all required permits and release forms prior to demolition work, from the Eastern Kern County Air Pollution Control District (EKAPCD), and from Kern County for proper disposal per Kern County Ordinance Code G-8057, which governs disposal of solid waste at Kern County waste facilities. The USACE has an ongoing hazardous material safety project outlined in EM 385-1-1 Safety and Health Requirements dated November 15, 2008, which requires staff and contractors

to follow Best Management Practices (BMPs). These BMPs would be implemented to prevent contamination of the environment and provide protection of construction crews as further elaborated within the 2012 DEIS under Section 3.9.4. The proposed design refinements do not present significant new circumstances or information regarding the nature and scope of effects to HTRW associated with the DSM project that would change the analysis present in the 2012 Final EIS.With HTRW regulation compliance and integration of BMPs, no significant effects are anticipated with implementation of the Proposed Action.

3.2.4 Land Use

The Land Use Section of the DEIS (Section 3.11) sufficiently characterized the regulatory setting for this resource. An action would be considered to have a significant effect on land use if it would result in incompatible land uses with existing and planned land used in the area; be inconsistent with land use designations or goals, policy or regulation, or produce a permanent conversion of prime and unique farmlands to other land uses.

The Proposed Action within the land use area of the Draft and FEIS were determined to not result in significant permanent effects of land use. The design refinements proposed within this project are within the land area assessed by the EIS and also would not produce a permanent conversion of farmlands or contribute to significant effects. The Proposed Action is compatible with existing and planned land uses, and would not have a significant effect on land use. The proposed design refinements do not present significant new circumstances or information regarding the nature and scope of effects to land use associated with the DSM project that would change the analysis present in the 2012 Final EIS.

3.2.5 Noise and Vibration

The Noise and Vibration Section of the Isabella Lake DSM Project EIS (DEIS Section 3.7) and FEIS (Section 3.6) and a Final Noise and Vibration Analysis (USACE 2012d) sufficiently characterizes the regulatory setting and the affected environment for this resource. Noise from the DSM Project was identified as a temporary significant effect within the Draft and FEIS, and this was also acknowledged within the Record of Decision (USACE 2012c). Mitigation measures were established for reduction of project noise, and would be included within the design refinements. The Kern River Valley Specific Plan (KRBSP) Noise Element establishes specific goals, policies and implementation measures for noise within the Plan Area, which includes the Isabella Lake DSM project area. The contractor would be responsible for complying with these policies or obtaining variance permits for noise during non-exempt hours. The USACE would cease construction activities on holidays and during special events.

Construction upon the Auxiliary Dam left abutment realignment adjacent to the entrance road would be limited to Monday through Thursday during the summer high-use period, reducing noise impacts to recreationists and other sensitive resources. Compliance would occur with these mitigation measures and Kern County permitted work hours for construction associated with design refinements. Overall noise associated with the DSM project would likely decrease due to the elimination of the Highway 178 realignment. The Proposed Action of design refinements is not expected to produce additional adverse noise that would contribute to significant effects.

3.2.6 Biological Resources

The Biological Resources section of the Isabella Lake DSM Project EIS (DEIS Section 3.10 and FEIS Section 3.8) sufficiently characterizes the regulatory setting and the affected environment for vegetation, wildlife, wetlands and special status species within the project area. Additional information and assessment is found in the SEA for USDA Forest Service Administration and Recreation Facilities (USACE 2016a). Construction activities associated with the design refinements would occur within the confines of the Auxiliary Dam and the DSM construction areas previously assessed for vegetation and wildlife within the DEIS (Section 3.10), FEIS (Section 3.8) and SEA for USDA Forest Service Administration and Recreation Facilities (USACE 2016a).

Since the 2012 FEIS, the United States Fish and Wildlife Service has designated revised critical habitat for the southwestern willow flycatcher (*Empidonax traillii extimus*) under the ESA (USFWS 2013b). No southwestern willow flycatcher habitat is included in the Proposed Action. On October 3, 2014, a proposed rule became effective for the USFWS determination for listing the western yellow-billed cuckoo (*Coccyzus americanus*) as a Federally threatened species, protected under the ESA (USFWS 2013a). No proposed critical habitat for the western yellow-billed cuckoo is found in the Proposed Action area. On September 17, 2014, the USFWS withdrew the rule to remove the valley elderberry longhorn beetle (*Democerus californicus*) (VELB). Though the VELB was not delisted, the range of the VELB was determined to be smaller than the extent proposed in the delisting rule. As a result, the counties of Kern, King, and Tulare are no longer considered within the range of the species, and projects proposed in those counties no longer require consultation with USFWS for VELB conservation. Up to seven elderberry shrubs would be removed by the Barlow Road realignment.

Invasive and native grasses and shrubs would be removed for the realignment of Ponderosa and Barlow Road, 62,000 sq. feet for the USACE Office and Maintenance Facilities, and up to thirty seven acres would be removed for the Auxiliary Dam abutment realignment No additional special status wildlife or plants species were identified during an April 2016 survey conducted

along Barlow and Ponderosa Roads, and the Auxiliary Dam embankment realignment site. No wetlands are present within the project area where design refinements would occur.

Protections specified for migratory birds, to comply with the Migratory Bird Treaty Act, would be applied to project areas and adjacent habitat affected by construction activity, as detailed by the SEA for the USDA Forest Service Administration and Recreation Facilities (USACE 2016a). Impacts upon biological resources would be reduced with the elimination of the Highway 178 realignment proposal and substitution of the Auxiliary Dam left embankment realignment to provide for flood containment. Soils disturbed by the project would be seeded with native grasses, and the contractor would be required to take measures to preclude the import of non-native plant material (USDA Forest Service 2005).

No substantial loss, degradation or fragmentation of natural vegetative communities or wildlife habitat is expected from the Proposed Action, nor would interference occur with movement of resident or migratory wildlife species. Vegetation, wildlife, wetlands and special status species would not incur adverse or significant impacts from the proposed design refinements. The proposed design refinements do not present significant new circumstances or information regarding the nature and scope of effects to biological resources associated with the DSM project that would change the analysis present in the 2012 Final EIS.

3.2.7 Air Quality

The Air Quality Section of the DEIS (Section 3.5), FEIS (Section 3.3) and the Regulatory Section in the Air Quality analysis (Appendix F of the FEIS) sufficiently characterized the general regulatory setting and the affected environment for this resource. Greenhouse gases (GHG) were assessed in the DEIS (Section 3.5.2) and within the FEIS (3.3.2). Substantial reductions in projected DSM project emissions and GHG from assessment in the DEIS have been afforded by removal of several proposed high emission producing actions including Highways 178 and 155 relocation, upstream Auxiliary Dam buttress fortification, and use of the South Fork Delta Area as a sand borrow source.

A change in Tier equipment requirements would be enacted for the purposes of DSM Project construction flexibility. Exceptions would be considered for use of Tier 3 equipment or a lower Tier, instead of Tier 4 equipment for the DSM project in extenuating circumstances. Such exceptions would be approved on a case-by-case basis by the USACE when Tier 4 equipment for the DSM project cannot be purchased or leased by the contractor, and a written request from the Contractor fully documents the unavailability of Tier 4 equipment and the emissions output. This action could increase emissions, but the increase would be negligible, temporary, and would not contribute towards exceedance of federal or EKAPCD thresholds.

Since the release of the FEIS, the EKACPD has adopted amendments to Rule 402 (Fugitive Dust) at the District's Regular Board of Directors Meeting held March 12, 2015. These amendment changes would be submitted through EKAPCD to the Environmental Protection Agency (EPA) for incorporation as part of the California State Implementation Plan, and would constitute a revision to the State Plan. Design refinements since the Draft and FEIS have reduced the amount and duration of DSM Project construction actions, resulting in a reduction of fugitive dust production. The Isabella Lake DSM Project has adopted the most recent amendments to EKCAPD's Rule 402 to reduce potential air quality impacts from fugitive dust. Rule 402 provides flexibility in applying rules, but the FEIS (Section 3.3.2) stated that a 15 mile per hour speed limit would be utilized to meet Rule 402. A 15 mile speed limit is not a prerequisite to compliance with Rule 402, and comprises but one of the available options to meet required thresholds. To utilize this flexibility, 15 mph speed limits signs may not be posted, and instead, the best and appropriate Rule 402 options would be utilized on a case basis to meet threshold compliances.

The proposed design refinements do not present significant new circumstances or information regarding the nature and scope of effects to air quality and GHG associated with the DSM project that would change the analysis present in the 2012 Final EIS. Compliance with EKAPCD rules and thresholds and implementation of the applicable BMPs would minimize air quality effects to a less- than-significant level.

3.3 RECREATION

3.3.1 Regulatory Setting

The recreation section of the DEIS (Section 3.12.2) characterizes the regulatory setting for this resource. The Draft and FEIS assessed the potential effects of the Isabella Lake DSM Project on recreation facilities and opportunities as significant to recreational use on a temporary and permanent basis. Since the release of the EIS, the USACE in coordination with the Office of Management and Budget concluded that sufficient authority from a 1964 MOA exists to allow the USACE to use its appropriated funds to relocate in-kind services of USFS facilities impacted by the Isabella Lake DSM project. With these mitigations, permanent and temporary loss of recreation facilities would not occur, though adverse effects may occur to recreation use during construction actions. The Proposed Action of the SEA for the USDA Forest Service Administration and Recreational Facilities Relocation (USACE 2016a) assessed the relocation of the permanent recreational facilities. Construction of the Proposed Action would mitigate the loss of current Auxiliary Dam Recreation Area (RA) facilities and camping acreage.

3.3.2 Existing Conditions

The DEIS (Section 3.12.3) and the SEA of the USDA Administration and Recreation Facilities Relocation (USACE 2016a) sufficiently details the existing condition of Isabella Lake recreation.

3.3.3 Effects

Basis of Significance

An action would be considered to have a significant effect on recreation if it would:

- Result in a permanent loss of recreational opportunities or resources;
- Severely restrict or eliminate access to recreational opportunities and facilities;
- Cause a substantial disruption in a recreational use or activity; or
- Substantially diminish the quality of the recreational experience.

No Action

Under the No Action alternative, there would be no Federal participation in remedial improvements to the Isabella Main Dam, spillway or auxiliary dam. The Operating Restriction at elevation 2,589.2 NAVD88 (356,700 acre-feet) would become permanent. Initiated by the USACE in 2006, the Operation Restriction was intended as an emergency deviation from the Water Control Plan in order to lower the lake level to a safer elevation and capacity. It is possible that without dam safety modifications to reduce the risk of dam failure and life safety concerns, the Operating Restriction would be modified and further reduce the lake level. However, despite risk reduction measures, the Isabella Dams would still possess an unacceptably high risk of failure under the No Action Alternative. The potential environmental, economic, and human consequences of dam failure would be extremely high.

Under the No Action Alternative, the USACE would not mitigate for impacts of the Isabella Lake DSM Project because construction would not be conducted, and project related impacts would not occur on USFS administration and recreation facilities. Reduced lake levels to maintain the Operating Restriction for dam safety purposes may have an adverse effect on

recreation aesthetics and water-based recreation such as rafting and fishing. Fishing success has been related to high lake water levels (DEIS Section 3.12.2).

Proposed Action

The design refinements of this SEA propose to modify the Auxiliary Dam left abutment alignment by extending the abutment over the existing restroom, kiosk, and camp host site of the Auxiliary Dam RA. As mitigation for this action (USACE 2016a), new Auxiliary Dam RA facilities would be constructed north of the abutment realignment, and additional land area would be cleared to compensate for temporary loss of camping acreage. The project would also utilize Staging Area A1. As stated within the FEIS, Staging Area A1 could function as an equipment and vehicle staging area, a sand borrow area, and a possible sand processing plant for the DSM Project. Because Staging Area A1 would border the new Auxiliary Dam RA boundary and facilities site, and the Auxiliary Dam realignment abuts the entrance to the RA, temporary and direct effects could occur to recreationists. Recreation-based congestion occurs at Auxiliary Dam RA during summer months, with the highest public use of Isabella Lake Recreation Areas. Existing turn lanes on Highway 178 for the Auxiliary Dam RA entrance, would provide the safest access to the new dump station to be located at the Old Isabella Road RA. However, there is public concern regarding potential congestion from combined recreation uses accessing this entrance road. Additional use of the RA entrance road and Staging Area A1 by construction vehicles and equipment would add to temporary, direct and indirect recreation impacts at the new Auxiliary Dam RA facilities.

Auxiliary Dam realignment construction adjacent to the RA entrance road would require active traffic control. A rock wall of rock approximately two feet in height would be built adjacent to the road with traffic and safety management conducted by the DSM project contractor. Construction at this junction is not expected to exceed a month, but active work could generate temporary and direct impacts of noise, traffic congestion and adverse visuals for recreationists expecting a quiet camping experience. Construction of the remainder of the abutment would be conducted at an increasing distance from the new Auxiliary Dam RA, but noise and physical presence of the construction equipment could cause annoyance to recreationists. If a noise variance were granted by Kern County to the contractor, noise generated during construction in non-exempt hours could result in annoyance or sleep disruption to campers. The recreation experience might be further degraded by introducing new sources of construction lighting for safety and illumination. Construction could also generate dust from the movement of vehicles, soil excavation, and wind blowing across exposed soil.

Recreation could be indirectly impacted by the increased construction traffic in and around the Lake. Noise and visual effects from construction operations would especially affect the new Auxiliary Dam RA facilities (camp host site, restrooms, kiosk and access road) due to its

proximity to the construction boundary. The Draft and FEIS assessed that camping experience during construction could result in reduced visitation to this area of the lake over time as campers seek other areas for a higher quality camping experience. The Auxiliary Dam realignment construction could contribute to this indirect effect. Despite these temporary impacts, the Proposed Action enables the removal of prior proposals to: relocate Highway 178; import sand from a South Fork borrow site to the A1 Staging Area, and fortify the upstream abutment of the Auxiliary Dam, which would have created a substantially greater recreation impacts. The new design refinements are expected to result in reductions in noise, visual contrast, air quality, traffic congestion, and project longevity compared to the prior DSM Project designs within the Draft and FEIS.

To preclude conflict between construction work and recreational access, Auxiliary Dam realignment construction bordering the entrance road would be limited to Monday through Thursday, during the high-use recreation period from Memorial Day to Labor Day. No construction would occur during holidays and the Fishing Derby weekend. Additional recommendations would be made to the contractor to focus construction during periods of low recreation use in the winter months, late fall and early spring.

To avoid conflict between recreation and construction vehicles, large trucks and equipment would access the Auxiliary Dam abutment by the H5 haul route or alternate route instead of the RA entrance. Only personal vehicles and small trucks, or specific vehicles permitted by the Contracting Officer on a case basis, would access the abutment construction or Staging Area A1 via the RA entrance. In order to reduce potential noise and visual conflict, the Staging Area boundary would be shifted approximately 100 feet further west from the Auxiliary Dam RA restrooms, kiosk and camp host facility abutting the Staging Area A1 boundary. The contractor would install signing, and solid or blanketed fencing to define construction boundaries and reduce potential impacts of noise, visuals, and fugitive dust. Incorporating mitigations listed below for the Auxiliary Dam realignment construction, is expected to reduce projected effects to less-than-significant with mitigation.

Installation of Dam Security Features, the chain link fence and rock barrier are expected to reduce pedestrian and vehicle access to the Dams, and reduce recreation acreage at the Main Dam Campground. Installation of a gated closure on Ponderosa Drive would not limit post-construction public access to the USFS Visitor Center or Boat Launch 19. The current USFS Visitor Information Center (VIC) would be demolished as part of the Emergency Spillway construction. A temporary VIC would be constructed at the new USFS fire station off of Isabella Blvd. preceding demolition. Boat Launch 19 would remain accessible to the public through Barlow Road after the DSM Project is completed. Barlow Road realignment would provide new asphalt surfaces and improved road safety for public vehicles towing boats to Boat Launch 19. Relocation of the USACE Office and Maintenance facility off of Ponderosa Drive is not

expected to cause significant effects to recreation use. Road realignments, the USACE Operations facility and security installations would be less-than-significant with mitigations.

The DSM project with the proposed design refinements would not result in a permanent loss of recreational opportunities or resources, or severely restrict or eliminate access to recreation opportunities and facilities, and any loss would be mitigated by construction of new and additional facilities as described in the January 2016 SEA (USACE 2016a). Temporary and substantial disruptions in recreational activity, and reduction of the quality of the recreational experience may be experienced as a result of the DSM Project with the proposed design refinements, but incorporation of mitigation measures below is expected to reduce this effect to less-than-significant.

3.3.4 Mitigation Measures

1. Heavy construction vehicles and equipment would be required to access the Auxiliary Dam left abutment realignment by haul route H5 or alternate route to avoid the RA entrance, except as approved on a case-by-case basis. This mitigation measure is in addition to those specified in the FEIS and DEIS.

2. Construction of the Auxiliary Dam left abutment realignment adjacent to the RA entrance road would not be conducted from Friday through Sunday during the high recreation use periods of Memorial Day through Labor Day; on holidays, and during the Fishing Derby event. This mitigation measure is in addition to those specified in the FEIS and DEIS.

3. Fencing, signing and other appropriate methods of distinguishing construction boundaries for the public would be employed by the contractor to reduce recreation conflicts. Solid or blanketed fencing would be utilized at the Staging Area A1 boundary adjacent to the new Auxiliary Dam RA facilities. This mitigation measure is in addition to those specified in the FEIS and DEIS.

4. Recommendations would be made to the contractor to schedule construction events outside the high recreation use periods, and to locate impacting construction actions away from the RA boundary. This mitigation measure is in addition to those specified in the FEIS and DEIS. This mitigation measure is in addition to those specified in the FEIS and DEIS.

5. An increased buffer of approximately 100 feet would be created between Staging Area A1 and the new Auxiliary Dam RA road access, restroom facilities, kiosk and camp host site. This mitigation measure is in addition to those specified in the FEIS and DEIS.

6. A Traffic Safety Management Plan in accordance with Caltrans California manual on Uniform Traffic Control Devices would be completed by the contractor prior to commencement of construction activities as specified in the DEIS and FEIS. The Plan would also address reduction of traffic conflicts at the Auxiliary Dam RA. This mitigation measure is in addition to those specified in the FEIS and DEIS.

3.4 AESTHETICS AND VISUAL RESOURCES

3.4.1 Regulatory Setting

There are no known Federal, State, or local regulation governing the visual resources associated with the many natural and scenic resources in the Kern River Valley and Isabella DSM Project area. The Sierra Nevada range is composed of prominent ridgelines; canyons, lakes, rivers and extensive forests are found in these areas. These resources are valuable to the identity and economy of the valley by enhancing the visual character of local communities and providing distinguishing characteristics. The conservation element of the Kern River Valley Specific Plan includes goals, policies, and implementation actions for scenic resources and light pollution in order to preserve these visual resources in the Kern River Valley. Also the open space and recreation element contains an open space/watershed goal to preserve open space as a visual and environmental resource and to maintain the rural atmosphere of the valley (Kern County 2011)

3.4.2 Existing Conditions

The Aesthetics and Visual Resources Section of the DEIS (Section 3.13), FEIS (Section 3.11) and the Final Aesthetic Resources Analysis of the Preferred Alternative, sufficiently characterize the regulatory setting for this resource.

3.4.3 Effects

Basis of Significance

An action would be considered to have a significant effect on aesthetics and visual resources if it would:

- Result in a complete modification of scenic resources;

- Severely limit or fully screen existing scenic viewsheds, or;
- Substantially diminish the quality of the existing scenic attractiveness

No Action Alternative

Under the No Action Alternative, there would be no Federal participation in remedial improvements to the Isabella Main Dam, Spillway or Auxiliary Dam. The Operating Restriction at elevation 2,589.26 NAVD 88 (356,700 acre-feet) would become permanent. Initiated by the USACE in 2006, the Operating Restriction was intended as an emergency deviation from the Water Control Plan in order to lower the lake level to a safe elevation and capacity. It is possible that without the DSM project to reduce the risk of dam failure and life safety concerns, an Operating Restriction may further reduce the lake level. However, despite risk reduction measures, the Isabella Dams would still possess an unacceptable high risk of failure under the No Action Alternative.

The timing and nature of a potential dam failure cannot be specified, but the loss of one or both dams would likely flood areas between Isabella Lake and Bakersfield. The catastrophic loss of dams would cause a significant long-term alteration of the visual landscape for the Isabella Lake basin as well as the San Joaquin Valley, due to flooding of the areas between Isabella Lake and Bakersfield. This would be considered a significant adverse impact on visual resources. Under the No Action Alternative, the Isabella Lake DSM project would not occur and as a result, the proposed design refinement actions would not take place. Reduced lake levels to maintain the Operating Restriction for dam safety purposes could have an adverse effect on recreation-based aesthetics.

Proposed Action

Overall Design Refinement Project Area

Construction would disturb the ground surface by removing low-growing vegetation, changing topography, and by altering drainage patterns. These surface disturbances would temporarily affect visual resources by creating exposed soil across the landscape with a different texture and color. A border of vegetation would appear along roads and around work areas due to water run-off, providing a contrasting visual to adjacent roads and work areas lacking vegetation. Road lines would abruptly divide the landscape viewshed due to lack of vegetation and altered natural topography lines.

Construction would affect visual resources by adding a noticeable level of commotion from construction equipment activities, vehicles and delivery of construction materials to areas that previously incurred low activity. Supplies and equipment would create visual clutter. Also, the color of construction equipment and vehicles would contrast with muted tans, greys, and greens of the terrain and vegetation. The regular, geometric and boxy forms of newly constructed structures would contrast with the rolling form of the terrain and the scattered vegetation. The rigid vertical elements would create various focal points on a mostly open landscape and would not mimic other landscape elements, which are mostly vegetation and large rock. However the newly constructed features would maintain visual consistency with the existing dam structures.

Auxiliary Dam Left Abutment Embankment Realignment/Auxiliary Dam Recreation Area

Auxiliary Dam design refinements would extend the embankment of the left abutment into the Auxiliary Dam RA (Figure 6). The left abutment embankment realignment would not result in a total modification of the views from the Auxiliary Dam RA Campground or from the water between Engineers Point and the Auxiliary RA shore. The existing views to the hills and mountains south of the Auxiliary Dam would be retained; however the observer's viewing experience from the water or at the campground could be minimally obstructed in the immediate background (up to four miles), when the viewer is in the immediate foreground (300 feet away). As the viewer moves into the middle ground (1/2 mile to 4 miles) from the Auxiliary Dam, the dam raise would be absorbed into the existing scenic viewshed due to the large scale of wide open views within the Isabella basin.

The new left abutment footprint would include approximately 375,000 cy of rock fill, extending 700 feet into the existing Auxiliary Dam Campground. The abutment slope which includes a 16 foot raise from the current dam height of 80 feet, would slope down to two vertical feet in height at Highway 178. A new visual feature would be created as a result, but the location and proximity of the new abutment realignment would not completely block views or dominate the landscape except at the entrance road. The new visual surface would match the existing Auxiliary Dam surface textures and colors. Views to the south and west from Highway 178 would be similar to views from the Auxiliary Dam RA.

Engineers Point

Engineers Point would receive up to 1.8 million cy of material over a maximum of 52 acres on the western side. The fill material could create saddles or level topography, but would not exceed the highest elevation of Engineers Point. The rock fill would be noticeable to the observer on the eastern side from the immediate foreground when viewed from the east at Auxiliary Dam RA and Highway 178 due to the contrasting textures and fill lines. The new fill lines would diminish as the observer travels further away from the eastern site of Engineers

point. The new feature would not obscure the existing viewshed perspectives within the Isabella basin.

The rock disposal on the western side of Engineers point, as viewed from the Lake surface in the immediate foreground or from the French Gulch foreground, would create a new contrasting visual feature in the landscape (Figure 9). When viewed from the water close to Engineers Point, the rock fill massing on Engineers Point would have an austere and monolithic appearance devoid of vegetation. The color, texture, and form of the rock material in the fill areas, however, would be consistent with the rock material used to armor the Main Dam with the exception of the occasional larger boulder. Though the disposal material would constitute a new feature, the materials would blend and retain austere muted colors and textures of the surrounding Isabella basin. The new fill lines and textures would become less distinctive as the observer moves further away from Engineers Point into the background. The material disposal on Engineers Point would not obscure the existing viewshed perspectives within the Isabella Basin.

Permanent USACE Office and Maintenance Facilities

The office and maintenance building, fence, and antenna would be visually prominent to an observer in the immediate foreground, at the vantage point of Ponderosa Drive and Barlow Road. The use of native landscape plantings would contribute towards screening and blending the maintenance facilities into the surrounding landscape; though the planting would not completely hide all the contrasting features. The antenna would remain visible to observers in the immediate foreground. The alternate site for the facility is situated at a lower elevation and visual prominence would be reduced.

The remaining observation points of the USACE Office and Maintenance Facility are located in the middle ground (1/2 to 4 miles away) or background (4 miles to horizon). At these distances, the perspective of the facilities would be absorbed into the existing scenic viewshed due to the large scale of wide open views within the Isabella basin. Office and Maintenance facilities features would not be highly noticeable or apparent.

Road Realignments

The proposed construction features would require the realignment of sections of Ponderosa Drive and Barlow Road. The abandoned road sections (approximately 1100 linear feet) would not remain (Figure 8), but would be re-graded, ripped and seeded with native grasses. The new road sections would be moved proportionally to accommodate the newly constructed features. The road cuts and associated grading would be visible in the immediate foreground following construction until the side cuts re-vegetate. The abandoned road sections would be visible to

observers in the immediate foreground traveling on Barlow Road or Ponderosa Drive. The new road cuts and abandoned roads would not be apparent in the middle ground or background.

Dam Security Measures

Security and Force Protection would be implemented for the Main Dam and Outlet Works, Auxiliary Dam, Service and Emergency Spillways, Permanent USACE Operations Office and Facilities, and Recreation area access points to all Dam structures (Figure 8).

The fencing and boulder security measures at the dam facilities would be evident to observers in the immediate foreground (0 to 300 feet). The fencing is chain link and would not create a continuous visual barrier to the elements beyond the fencing. The view of the proposed security fencing would be absorbed into the landscape as the observer moves into the distance at the foreground, middle ground, and background observation perspectives.

The DSM project with proposed design refinements would create new visual features in the landscape. However, the surfaces of the project components would be consistent with the appearance of existing structures with a uniform and consistent material, which would blend into the existing Isabella Basin landscape. Importantly, while the project may create temporary visual alterations and introduce new visual features into a highly disturbed area, the long term benefits of the project would help to reduce the likelihood of visual disaster from a possible dam failure. The project would not result in a complete scenic resource modification, severely limit or fully screen existing scenic viewsheds, or substantially diminish the quality of the existing scenic attractiveness. Therefore the DSM Project with proposed design refinements does not present a significant visual and aesthetic effect to the Isabella basin.

Figure 9. Southeast View to Engineers Point from French Gulch Recreation Area.

3.4.4 Mitigation Measures in Addition to the EIS

The following mitigation measures would be incorporated into the project:

1. On-site natural materials would be used to armor the dams and provide security boulders.

2. Fill on Engineers Point would not exceed the existing highpoints.

3. New building surfaces would be painted with local earths tones to blend with the surrounding landscape. Native, drought-tolerant landscaping would be incorporated to provide screening and blending into the surrounding landscape.

3.5 WATER QUALITY

3.5.1 Regulatory Setting

The Water Resources Section of the Isabella Lake DSM Project DEIS (Section 3.6.1) sufficiently characterizes the regulatory setting for this resource.

3.5.2 Existing Conditions

The Water Resources Section of the Isabella Lake DSM Project DEIS (Section 3.6.2) sufficiently characterizes the affected environment for this resource. There have been no additional revisions, studies, or new data relevant to the discussion of the affected environment.

3.5.3 Effects

Basis of Significance

An alternative would be considered to have a significant adverse effect on water quality if it would substantially degrade water quality, contaminate a public water supply, substantially degrade or deplete ground water resources, interfere with ground water recharge, or expose special status species or humans to substantial pollutant concentrations.

No Action.

In accordance with ER 1110-2-1156 (Safety of Dams – Policy and Procedure), the Interim Risk Reduction Measure elevation of 2,589.26 feet NAVD 88 would become the permanent operating level. However, based on USACE studies, one or both dams have unacceptably high risk. The timing and nature of a potential dam failure cannot be specified, but the loss of one or both dams would likely flood areas between Isabella Lake and Bakersfield and beyond. This would substantially degrade water quality, contaminate water supply, and expose humans or special status species to substantial pollutant concentrations. The No Action alternative would have a significant, long-term adverse effect to water quality.

Proposed Action

The material excavated for the emergency spillway would be tested for suitability of placement at Engineers Point. Placement of material on Engineer's Point would reduce the potential for adverse effect. Placement above or below the Ordinary High Water Mark (OHWM), would be permitted differently through the Regional Water Quality Control Board (RWQCB). Special considerations would be made based on the behavior and characteristics of the material placed on Engineers Point. The duration of in-water work would be minimized to reduce adverse impacts to water quality. Rainfall prior to slope stabilization could lead to increased sediment runoff into the lake. Turbidity and DO levels could be temporarily impacted by sediment-laden runoff from Engineers Point. Any adverse effects during construction from the placement of material at engineers point would be reduced to less than significant through the use of Best Management Practices (BMPs). Post-construction stabilization BMPs would minimize adverse effects from this action.

The realignment of the Auxiliary Dam left abutment would consist of approximately 375,000 cy of piled rock material obtained from spillway excavation. Design refinements to the Auxiliary Dam left embankment abutment would have similar water quality impacts as compared to the design detailed in the Draft and FEIS. The embankment construction would result in an increase to the amount of sediment susceptible to erosion due to an increased embankment footprint. Rainfall prior to slope stabilization could lead to increased sediment runoff into the lake. The use of BMPs will reduce impacts to less than significant levels during construction. Long term slope stabilization measures would prevent adverse impacts to water quality post-construction.

Mitigation required for the design changes outlined in this SEA would be the same as those proposed in the draft and FEIS (Table 3-125 and Sections 3.4 and 3.6.4 respectively). Long-term BMPs will reduce impacts to less-than-significant by attempting to retain storm water on site. The water quality management plan will also contain a contingency plan in the event that water quality thresholds are unable to be met during in water work activities. If the current level of mitigation does not provide for protection of aquatic resources, affecting work would be

discontinued until measures are applied to ensure protection. Also, project work affecting any exceedance of CVRWQCB Section 401 thresholds would cease until resolution is conducted to ensure that the project can meet Section 401 Certification thresholds. During construction, the USACE will continuously provide quality assurance monitoring of DO, pH, conductivity, temperature, and turbidity at a compliance point located in the reservoir. The contractor will be responsible for monitoring of temperature, pH, conductivity, turbidity, dissolved oxygen, total dissolved arsenic, total dissolved uranium, and settleable material, at a frequency determined in the Section 401 certification. BMPs including, but not limited to, silt curtains, silt fences, as well as other BMPs and construction methods approved by the CVRWQCB to control sediment will be used to ensure compliance with water quality standards.

The proposed design modifications would result in the disturbance of more than one acre; therefore, the contactor would be required to obtain a NPDES storm water permit (Section 402 of the CWA) from the CVRWCB. The Construction Storm Water Permit covers storm water discharges from construction sites discharging to waters of the United States. A storm water pollution prevention plan (SWPPP) is typically required under this permit and would be the responsibility of the contractor. The SWPPP would be designed prior to groundbreaking and include necessary BMPs to prevent potential pollutants from leaving the construction site during a storm event. Fugitive dust control measures are also included as part of the SWPPP. The contractor would be responsible for implementing, maintaining, and monitoring BMPs during material placement and stabilization. In addition, the contractor will monitor storm water runoff discharge from representative areas. All storm water discharge will be subject to numeric action levels for pH and turbidity. The numeric action level for turbidity is 250 NTU, and for pH it is less than 6.5 or greater than 8.5.

The design refinements to relocate Barlow and Ponderosa Road would result in temporary adverse effects to storm water runoff quality during construction. BMPs will reduce these impacts to less than significant. .No post-construction impacts to water quality are anticipated to result from these realignments. The construction of the Permanent USACE Office and Maintenance Facilities would result in impacts during construction from soil surface disturbance. Similar to Engineers Point Material Disposal and the Auxiliary Dam left embankment realignment, mitigation for roads and the Operations Center will consist of temporary storm water BMPs and long-term BMPs. The effects resulting from this action would be less than significant with the inclusion of BMPs. The increase in impervious area resulting from the buildings and parking lots could increase the amount of run-off at the site. The proposed dam security measures are not expected to have adverse effects to water quality with the mitigations listed below and would not be significant with mitigation.

3.5.4 Mitigation

- As stated within the Draft and Final EIS, the USACE will comply with project specific Central Valley Water Quality Control Board (CVRWQCB) Section 401 certification during all in-water work activities. As required by the Section 401 certification, the contractor will be required to submit a water quality management plan that identifies mitigation control measures related to management of in-water BMPs to meet the State water quality thresholds. This plan will include a project specific Storm water Pollution Prevention Plan (SWPPP) that will identify specific BMPs that will be used during construction.

- The contractor would also prepare a Rock Material Disposal Management Plan as discussed within the EIS, for rock placement below the Isabella Lake high ordinary high water mark (OHWM) at Engineer's Point as defined in the water quality section of the ROD. The plan would include BMPs for avoiding and minimizing impacts on water quality and enhancing fish habitat around the perimeter of Engineers Point by placement of larger rocks and boulders as an irregular revetment.

- The water quality management plan referenced in the EIS, would include a narrative and map of all BMPs to be used during in-water work to comply with the water quality limits in the Section 401 certification. The proposed compliance locations and parameters were developed from baseline water quality data and the State of California's Tulare Basin Plan. The water quality standards proposed for in water work activities include the following:

    - *Dissolved Oxygen*: Baseline data for dissolved oxygen at the surface indicates that the lake is naturally oxygen deficient. Due to the natural low levels of DO at the surface, activities will be monitored under the WARM interstate guidelines of 5.0 mg/L for both the Kern River and Isabella Lake. For instances when DO is below the WARM threshold, four- hour compliance point data will be screened within 2 standard deviations of data from one background station from the previous 48 hours or within 2 standard deviations of the long term mean.

    - *Settleable Material*: Monitoring will occur for settleable matter not to exceed 0.1 mL/L in surface waters as measured in proposed compliance points.

    - *pH*: The proposed monitoring points will be monitored for pH levels not be depressed below 6.5, raised above 8.3, or changed at any time more than 0.3 units from normal ambient pH. An averaging period of the previous 48-hours will be used.

- *Salinity/Conductivity*: The compliance points in Lake Isabella will be monitored for conductivity levels not to exceed 300 µmho/cm. For instances outside of this thresholds, four- hour compliance point data will be screened within 2 standard deviations of data from one background station from the previous 48 hours or within 2 standard deviations of the mean.

- *Temperature: Elevated temperature wastes shall not cause the temperature of waters designated COLD or WARM to increase by more than 5°F above natural receiving water temperature.*

- *Turbidity*: Due to the natural mixing effect occurrence in the lake, natural turbidity is equal to or between 5 or 50 NTUs, thus increases will not exceed 20 NTUs. For instances where background turbidity is between 50 NTU and 100 NTU, increases will not be in excess of 10 NTU.

In addition to measures required in the EIS, the water quality management plan would also contain a contingency plan in the even that water quality thresholds are unable to be met during in water work activities. The use of additional BMPs would be required if the current level of mitigation does not provide for protection of aquatic resources. All project work affecting any exceedance of thresholds would cease until resolution is conducted to ensure that the project can meet CVRWQCB Section 401 Certification thresholds.

During construction, the USACE would continuously provide quality assurance monitoring of DO, pH, conductivity, temperature, and turbidity at a compliance point located in the reservoir. The contractor would be responsible for monitoring of temperature, pH, conductivity, turbidity, dissolved oxygen, total dissolved arsenic, total dissolved uranium, and settleable material, at a frequency determined in the Section 401 certification. BMPs including, but not limited to, silt curtains, silt fences, as well as other BMPs and construction methods approved by the CVRWQCB to control sediment would be used to ensure compliance with water quality standards.

3.6 CULTURAL

3.6.1 Regulatory Setting

The Cultural Resources section of the FEIS (Section 3.14) sufficiently characterizes the regulatory setting for this resource. For further discussion of Traditional Cultural Properties, as well as the regulatory setting for compliance with the Archaeological Resources Protection Act and the Native American Graves Protection and Repatriation Act refer to pages 3-319 through 3-323 of the DEIS. USACE project activities are in compliance with Section 106 of the National Historic Preservation Act of 1966 so long as they are undertaken pursuant to the procedures described in the Programmatic Agreement (PA) among the USACE, the Sequoia National Forest, the California State Historic Preservation Officer (SHPO), and the Advisory Council on Historic Preservation.

3.6.2 Existing Conditions

Record Search

The areas discussed in this document are covered by a record search conducted at the Sequoia National Forest and Southern San Joaquin Valley Information Center. In addition, archaeological surveys of the areas were performed in late 2015 by archaeologists with the USACE (Kraus, 2016, Perry 2013, Polson and Montag 2015). These surveys resulted in the identification of two archaeological sites and three isolated artifacts in close proximity to the proposed activity areas for Dams and Spillway SEA. One previously recorded site was not encountered by the USACE team. All three archaeological sites have been classified as avoidance areas during construction work and will not be affected.

Known Cultural Resources.

- **Borel-06** is a prehistoric site comprising multiple milling features and several flaked stone and groundstone artifacts, all located on a hill on the northwest tip of Engineers Point. An exposed sediment profile at the current Lake Isabella waterline suggests intact subsurface deposits may exist. A user-created road and campsite are located on the same hill, but no other contemporary disturbance was evident. It should be noted that CA-KER-8 is located to the west across the old bed of the Kern River (now inundated) according to its original 1947 site record. While Borel-06 is in close proximity to CA-KER-8, it should not be considered a realignment of that site.

- **Borel 7** is a single mining adit on a steep exposed rock face on the northeast side of Engineer Point. No other features or artifacts were observed that could provide diagnostic information.

- **CA-KER-1683** was recorded in 1984 as a single grinding slick on a boulder, located 25m north of highway mile marker 46/50. In the original recording, archaeologists speculated that it may have been an outlier of another nearby site. This site was not relocated by USACE archaeologists Nikki Polson and William Welsh during the September 2015 survey effort.

- **Borel Isolate 1** is a single piece of groundstone located on a wave-cut terrace just west of the Borel Canal on the southwest side of Engineer Point. It is a bifacial handstone, heat oxidized on one face.

- **Launch Area Isolate 1** comprises four fragments of sun-colored amethyst glass.

- **Launch Area Isolate 2** is a possible flake tool of heavily patinated obsidian.

Consultation

State Historic Preservation Officer. The USACE will initiate consultation with the State Historic Preservation Officer (SHPO) concerning the eligibility and/or effects to resources within the areas covered under this EA.

Native American Consultation. Native American consultation for this project is ongoing, both through a series of ongoing meetings, but also written communication. Tribes with interest in the area will be provided with information concerning the survey work covered by this EA. If cultural resources beyond those discussed here are disclosed by tribes during this consultation process, the USACE will ensure that they are either avoided or treated in accordance with the PA.

Assessment Methods

Analysis of the potential impacts was based on evaluation of changes to historic properties within the study area that may result from implementation of the project. The term "historic property" refers to any cultural resource that has been found eligible for listing, or is listed, in the NRHP. Section 106 of the National Historic Preservation Act of 1966, as amended (NHPA), outlines the process in which Federal agencies are required to determine the effects of their undertakings on historic properties. In making a determination of the effects to historic properties, consideration was given to:

- Specific changes in the characteristics of historic properties in the study area.

- The temporary or permanent nature of changes to historic properties and the visual study area around the historic properties.

- The existing integrity considerations of historic properties in the study area and how the integrity was related to the specific criterion that makes a historic property eligible for listing in the NRHP.

3.6.3 Effects

Basis of Significance

Any adverse effects on cultural resources that are listed or eligible for listing in the NRHP (i.e., historic properties) are considered to be significant. Effects are considered to be adverse if they:

- Alter, directly or indirectly, any of the characteristics of a cultural resource that qualify that resource for the NRHP so that the integrity of the resource's location, design, setting, materials, workmanship, feeling, or association is diminished.

No Action

This alternative would have no effect on existing cultural resources in the project area because current conditions would remain unaltered.

Proposed Action

Effects to cultural resources could result from four types of construction related actions: (1) effects to the integrity of the visual and physical setting of historic properties; (2) effects to the structural integrity of historic buildings and structures from demolition; (3) effects from earth moving activities; and (4) effects from clearing, grubbing, and follow-on planting. Any cultural resources found during construction would be evaluated and consulted on as stipulated in the PA.

All three sites located in the vicinity of the Proposed Action will be avoided by project work. The sites are located outside the footprints of proposed project work and will be placed in avoidance areas to ensure that no unintended effects occur.

3.6.4 Mitigation

Pursuant to the programmatic agreement, the USACE is in the process of drafting and implementing a Historic Property Treatment Plan to guide efforts to include procedures to avoid or mitigate effects to historic properties for the Isabella Lake project as a whole.

None of the archaeological sites described here will be impacted by the Proposed Action. If any previously unknown resources are discovered during our on-going tribal consultation processes, or during construction, the USACE will take steps to either avoid those resources, or mitigate adverse effects to a less than significant level. Should construction plans change, the USACE will reopen consultation with the SHPO and Native American Tribes as stipulated in the PA.

3.7 TRAFFIC

3.7.1 Regulatory Setting

The Traffic and Circulation section of the DEIS (Section 3.7) and FEIS (Section 3.6) and the Final Traffic and Circulation Analysis: Preferred Alternative Report (USACE 2012c) sufficiently characterizes the regulatory setting for this resource.

3.7.2 Existing Conditions

The Traffic and Circulation section of the DEIS (Section 3.7) and the Final Traffic and Circulation Analysis: Preferred Alternative Report (USACE 2012e) characterizes the affected environment for this resource. No additional studies or new data has been generated to date that are relevant to the discussion of the affected environment. Public concern was expressed regarding potential traffic congestion at the entrance to the new Auxiliary Dam Recreation Area (RA).

3.7.3 Effects

<u>Basis of Significance</u>

- An action would be considered to have a significant effect on transportation if it would:

- Cause an increase in traffic that is substantial in relation to the existing load and capacity of a roadway; cause an increase in safety hazards on area roadways, or;

- Cause substantial deterioration of the physical condition of area roadways.

No Action

Under the No Action Alternative, there would be no Federal participation in remedial improvements to the Isabella Main Dam, Spillway or Auxiliary Dam. The Operating Restriction at elevation 2,589.26 NAVD (356,700 acre-feet) would become permanent. Initiated by the USACE in 2006, the Operating Restriction was intended as an emergency deviation from the Water Control Plan in order to lower the lake level to a safe elevation and capacity. It is possible that without dam safety modifications to reduce the risk of dam failure and life safety concerns, the Operation Restriction would be further modified to reduce the lake level. However, despite risk reduction measures, the Isabella Dams would still possess an unacceptably high risk of failure under the No Action alternative. The potential environmental, economic and human consequences of dam failure could be extremely high.

Under the No Action Alternative, the USACE would not mitigate for impacts of the Isabella Lake DSM Project because construction would not be conducted, and project related impacts would not occur. Changes in traffic levels or circulation would not occur and as a result, no construction related traffic effects would occur.

Proposed Action

Design refinements since the DEIS release include elimination of the traffic associated with the South Delta Sand borrow site and the modification of the Auxiliary Dam abutment that would have used the Auxiliary Dam RA entrance. Additional design refinements since release of the FEIS, include the elimination of the Highway 178 reroute, which has substantially reduced projected traffic volumes.

Assessment of current and project use level was conducted at the intersection of Lake Isabella Blvd, directly across from the Auxiliary Dam RA entry (USACE 2012a; USACE 2012e). In addition, existing left and right hand turn lanes at the four-way intersection provides for a higher margin of safety. The Traffic Study, Draft and FEIS evaluated traffic at the Lake Isabella Blvd. and Highway 178 intersection. Traffic analyses assessed typical dialy use during peak AM and PM travel times. The most recent Level of Service (LOS) measured at the Isabella Blvd. intersection resulted in low traffic delay values projected for current intersection use and the highest anticipated use period (year 2019) during project construction. Traffic studies did not measure recreation traffic for summer use or holiday periods, or for traffic entering the RA entrance Road. The Auxiliary Dam RA entrance would provide access to the new Auxiliary Dam RA; the Isabella Old Road RA with dump station, the A1 Staging Area and the Auxiliary

Dam realignment construction. Potential exists for construction related traffic congestion at the lake Isabella Road and Highway 178 intersection during periods of high recreational use because of design refinements to the Auxiliary Dam.

Congestion of recreational traffic at this intersection during the summer high-use period was expressed as a public concern as the Auxiliary Dam RA entry would be the safest entry for recreational vehicles (RV) to access the new mitigated dump station. RVs are the most frequently used method of camping at the RAs around the lake and the dump station receives frequent use during the summer season. Indirect effects could also result if perception of traffic congestion at the Auxiliary Dam RA forestalls recreationists from using the site. These concerns have resulted in mitigations to reduce potential project traffic conflicts at the new Auxiliary Dam RA entrance and facilities site.

In order to reduce direct potential related traffic effects at the RA entrance and Isabella Lake Blvd and Highway 178 intersection, Auxiliary Dam realignment construction work would not take place adjacent to the roadway from Friday through Sunday, during Memorial Day to Labor Day. This schedule would alleviate need for the contractor's traffic safety personnel to stop or hold traffic in place during the summer high-use weekends, thereby eliminating potential construction-caused congestion. Contractors would utilize Haul Route 5 or an Auxiliary Dam upstream road, as the primary route for large trucks and equipment to access construction work on the Auxiliary Dam left abutment. Haul Route 5 and a potential Auxiliary Dam upstream route do not coincide with public roads. and would not contribute to traffic at the intersection of Highway 178 and the Auxiliary Dam RA entrance. Only passenger vehicles and small trucks of construction employees, and heavy equipment approved on an individual basis by the USACE Contracting Officer, would be allowed to enter the Auxiliary Dam RA entrance road to access Auxiliary Dam abutment project work. A Traffic Safety Management Plan in accordance with the Caltrans California manual on Uniform Traffic Control Devices would be completed by the contractor prior to commencement of construction activities. Additional mitigation is specified below.

Other design refinements within the Proposed Project are not expected to provide additional direct adverse effects to public traffic and circulation. Projected construction traffic would decrease from EIS projections due to removal of the Highway 178 realignment. Still, indirect effects could result from reduced visitation due to perceptions of traffic congestion at the Auxiliary Dam. Engineers Point's unimproved roads would be closed to the public during the construction period as defined in the EIS, but would be opened to the public after DSM Project completion. The unimproved, eastside road on Engineers Point would be closed to public access during the construction period, but may be available for special events and the July 4th holiday. If the contractor uses this unimproved road during construction, the physical characteristics of the road will be returned to pre-project condition. Two unimproved routes that provide east-to-

west access on Engineers Point would be maintained, and re-opened to the public after the DSM project construction is completed. Dam security enhancements; the realignment of Ponderosa Drive and Barlow Road, and installation of the permanent USACE Office and Maintenance Facility would be conducted within the project construction area that is not accessed by public vehicles; adverse effects are not expected from these design refinements.

Temporary deterioration of roadways upon Engineers Point could occur before subsequent repairs are made to pre-project conditions. By adopting the mitigations below, an increase in traffic that is substantial in relation to the existing load and capacity of a roadway or would cause safety hazards on area roadways, is not expected and would not cause less-than-significant impacts.

3.7.4 Mitigation

The following mitigation measures would be incorporated into the project:

1. A Construction Traffic Management Plan, as referenced in the EIS, would be produced by the contractor prior to project commencement and approved by the USACE. The plan would include placement of appropriate signs, flaggers, barricades, and traffic delineation to minimize disruption and ensure public safety.

2. In addition to mitigation specified within the EIS, heavy trucks and equipment would access the Auxiliary Dam left abutment construction primarily by the H5 route or an alternate route that does not coincide with public roads.

3. In addition to EIS mitigation, access through the Auxiliary Recreation entrance would be limited to small vehicles and trucks; other construction related vehicles and equipment would be permitted on an individual basis by the Contracting Officer.

4. In addition to EIS mitigation, construction work on the Auxiliary Dam left abutment adjacent to the RA entry road would not be conducted during the high recreational use period of Memorial Day to Labor Day on Friday through Sunday; on holidays, or during the Fishing Derby event.

5. In addition to EIS mitigation, the contractor would be encouraged to avoid Auxiliary Dam embankment realignment construction during periods of high recreation use.

CHAPTER 4.0 CUMULATIVE AND GROWTH-INDUCING EFFECTS

The Council on Environmental Quality's (CEQ) regulations (40 CFR 1500-1508) implement the procedural provisions of the NEPA, as amended (42 U.S. C. 4321 *et seq.),* define cumulative effects as *"the impact on the environment which results from the incremental impact of the action when added to other past, present, or reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative Impacts can result from individually minor but collectively significant actions taking place over a period of time" (40 CFR 1508.7).*

This section briefly discusses other major local, State, and Federal projects near the project area for which evaluation is required. Additional information on cumulative effects relative to these design refinements can be found in the Isabella Lake DSM project EIS (USACE 2012a, USACE 2012 b). In addition, mitigation or compensation measures must be developed to avoid or reduce any adverse effects to less than significant based on Federal and local agency criteria. Those effect that cannot be avoided or reduced to less than significant are more likely to contribute to cumulative effects in the area. The exact construction timing and sequencing of these projects are not yet determined or may depend on uncertain funding sources.

Mitigation of any significant cumulative effects could be accomplished by rescheduling actions of proposed projects and adopting different technologies to meet compliance. Significance of cumulative effects is determined based upon compliance with Federal mandates and specified criteria identified in this document for affected resources. The effects of the proposed Dam and Spillway Design Refinements would result in minor additional effects. Proposed design refinements would not contribute to additional adverse cumulative effects on geology, soils and seismicity, socioeconomics, aesthetics, cultural resources, or special-status species. Short term cumulative effects on traffic and recreation may occur as a result of the Auxiliary Dam embankment modifications and Engineers Point modifications.

4.1 LOCAL PROJECTS

4.1.1 Additional Projected Cumulative Actions

The actions on the following list were assessed as to their relevance for inclusion in this cumulative impact analysis based on their geographic area of influence and proximity to Isabella Lake, and time period as a viable action and/or planning period involved. Detailed descriptions of these projects can be found in Section 4.3 of the 2012 Isabella Lake DSM project DEIS.

- USFS Motorized Travel Management EIS (USFS October 2009)
- USFS Giant Sequoia Monument Management Plan for the Keyesville Special Recreation Management Area (ongoing)
- Kern River Valley Specific Plan (Kern County July 2011)
- Kern River Preserve Vegetation Restoration Projects(ongoing)
- Isabella Partners Hydroelectric Project (ongoing)

4.2 ANALYSIS OF POTENTIAL CUMULATIVE EFFECTS

4.2.1 Recreation

The DEIS (Section 3.12. 3) details the potential impacts of the Isabella Lake DSM project on recreation. These recreation impacts were identified to be significant and the Proposed Action of this SEA would contribute directly to temporary direct and indirect effects. Projects with the potential to cause additional recreation effects in the project vicinity include various portions of the Isabella Lake DSM Project, the Borel Hydroelectric Project and Isabella Partner Hydroelectric project. These impacts would be directly cumulative when projects are in simultaneous construction mode, but if not conducted simultaneously, could extend the indirect effect of recreation avoidance over a longer construction period. However, other recreational areas can be accessed within a ten-mile area to avoid construction impacts associated with the RAs for recreationists that seek solitude. Mitigation to limit construction work hours and days during the high-use season have been adopted for this Project Action and other construction actions within the immediate Auxiliary Dam RA vicinity. Restrictions on RA access by construction vehicles and equipment would also be implemented to reduce effects on recreation traffic and noise. Because recreation effects are temporary and mitigation measures would be implemented to reduce effects on recreation, the Proposed Action is not expected to contribute to a significant cumulative recreation impact. This Proposed Action further reduces cumulative recreation impacts that would have occurred with a prior design to realign Highway 178.

4.2.2 Visual

Because construction activities associated with implementing any of the proposed Isabella DSM Project Action Alternatives would be visible from several viewing points in the vicinity of Isabella Lake, adverse temporary visual impacts would result. This would be due to the visible presence of construction equipment, vehicles, materials, traffic, personnel, and nighttime light. These visual impacts would be temporary, lasting only the duration of the construction period. Some of the proposed construction activities such as the material disposal at Engineers Point, the larger Auxiliary Dam footprint, and the USACE Office and Maintenance Facilities would increase the viewable proportion of artificial structures upon the natural landscape features. Some of these visual impacts would be long term, but are not significant as they are sufficiently consistent with existing visuals. In regard to potential cumulative impacts, the Proposed Action in this SEA does assess the same view and observation perspectives of previously analyzed resources and actions, but the Proposed Action would be visually consistent with them. Implementation of the proposed design refinements from the Proposed Action would not contribute to cumulative impacts on Aesthetic Resources.

4.2.3 Water Quality

Anticipated cumulative effects to water quality from proposed plan are similar to those detailed for cumulative impacts within the DEIS. Surface disturbance can lead to increased runoff and erosion, which will lead to the potential of increased sediment and contaminants in surface waters adjacent to the project. Construction methods will be used that limit the duration and quantity of soil disturbance and loss of vegetation, which would have the least amount of adverse cumulative impacts on water resources and the environment.

4.2.4 Cultural

Pursuant to the programmatic agreement, the USACE is in the process of drafting and implementing a Historic Property Treatment Plan to guide efforts to include procedures to avoid or mitigate effects to historic properties for the Isabella Lake project as a whole.

None of the archaeological sites described here will be impacted by the Proposed Action. If any previously unknown resources are discovered during our on-going tribal consultation processes, or during construction, the USACE will take steps to either avoid those resources, or mitigate adverse effects to a less than significant level. Should construction plans change, the USACE will reopen consultation with the SHPO and Native American Tribes as stipulated in the PA.

4.2.5 Traffic

Cumulative traffic levels were assessed as not significant by the Isabella Lake DSM Project DEIS (Sections 3.7and 4.4) and FEIS (Section 3.5) for DSM Project traffic levels. These traffic levels would be reduced by the Proposed Action. Design refinements of the Proposed Action do not provide changes to these assessments with the exception of the construction of the Auxiliary Dam left abutment realignment. Traffic congestion could be expected with the combined use of the Auxiliary Dam RA entrance road by both DSM Project traffic and summer high-use recreational traffic, however, mitigations would limit construction traffic during this period to less-than-significant. The proposed Auxiliary Dam abutment realignment would also reduce cumulative adverse effects by providing an alternative to traffic effects that would have resulted from Highway 178 realignment for flood containment. Other design refinements of the Proposed Action occur within the construction boundaries, and are not expected to contribute additional adverse cumulative traffic effects on intersections or roadways. The Proposed Action is not expected to contribute significant cumulative effects.

4.3 GROWTH-INDUCING EFFECTS

The Proposed Action would not directly induce growth in or near the project area. New development must be consistent with existing Kern County General Plan policies and zoning ordinances regarding land use, open space, conservation, flood protection, and public health and safety. Local population growth and development would be consistent with the Land Use Element of the Kern River Valley Specific Plan. Construction activities associated with Design refinements would not result in a substantial increase in the number of permanent workers or employees, or a need for additional permanent housing and local services;

CHAPTER 5.0 COMPLIANCE WITH ENVIRONMENTAL LAWS AND REGULATIONS

5.1 FEDERAL LAWS AND REGULATIONS

This chapter addresses Federal statutes, implementing regulations, and Executive Orders potentially applicable to the proposed Dams and Spillway Design Refinements project. Prior to initiation of construction, the project would be in compliance with all applicable laws, regulations and Executive Orders. Additional description of environmental laws and regulations is found in the 2012 DEIS.

5.1.1 Federal Laws and Regulations

Clean Air Act, as amended and recodified (42 U.S.C. 7401 et seq.). *Compliance*. The primary objective of the Clean Air Act is to establish Federal standards for various pollutants from both stationary and mobile sources and to provide for the regulation of polluting emissions via state implementation plans. Based on the available data, the USACE has concluded that the project would not exceed or contribute towards the exceedance of any Federal or State thresholds for emissions. As a result, the project would remain in compliance with Federal air quality standards and would not hinder the attainment of air quality objectives in the local air basin. The proposed design refinements to the DSM Project have benefitted the compliance status of the DSM Project as analyzed in the EIS. This benefit has been achieved with removal of the Highway 178 realignment action, and substitution with the Auxiliary Dam left abutment realignment, which has reduced project emissions.

Clean Water Act (33 U.S.C. 1251 et seq.). *Compliance*. The Clean Water Act establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. A Section 404(b)(1) assessment for the Isabella DSM project and a Section 401 water quality certification application is required because the project would involve the placement of fill below the high water line in jurisdictional waters of the United States. Because the project would result in more than one acre of construction-related land disturbance, the Contractor would be required to pursue a General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit, 99-08-DWQ). Compliance would be achieved with the Section 401 certification by adopting all specified requirements, mitigations and thresholds. The Section 401 certification would be obtained in the fall of 2016 and the Section 404(b) has been updated. The proposed design refinements to the DSM Project have not affected the compliance status of the DSM Project as analyzed in the EIS.

Endangered Species Act (16 U.S.C. 1531 et seq.). *Compliance*. There are known threatened and endangered species that could potentially occur within the vicinity of the project, but presence is not documented within the area of the Dams and Spillway Design Refinements (USFWS Biological Opinion of October 2012 and the USFS Biological Evaluation found in USACE 2016a). With the removal of the valley elderberry longhorn beetle from federal listing, no federal endangered or threatened species or habitat for these species is currently documented in the project footprint. Additional coordination was conducted with the USFS regarding special status and sensitive species. Project Actions are not expected to affect these species. No proposed or designated critical habitat exists in or near the Proposed Action area. No protected or candidate species are expected to be affected by the implementation of the Proposed Action. The proposed design refinements to the DSM Project have not affected the compliance status of the DSM Project as analyzed in the EIS.

Fish and Wildlife Coordination Act (16 U.S.C. 661, et seq.) *Compliance*. This act requires Federal agencies to consult with the USFWS and the California Department of Fish and Wildlife before undertaking projects that control or modify surface water. Consultation was conducted with the USFWS regarding the project's potential to control or modify surface water and the discharge of fill material below the ordinary high water mark. The Coordination Act Report regarding this consultation is included in the 2012 FEIS. A field trip was additionally conducted with the USFWS on April 7, 2016 to view and discuss the site of the Proposed Action. The USFWS was provided a draft copy of the Draft SEA. The proposed design refinements to the DSM Project have not affected the compliance status of the DSM Project as analyzed in the EIS.

Farmland Protection Policy Act (7 U.S.C. 4201 et seq.) *Compliance*. This Act requires a Federal agency to consider the effects of its actions and programs on the Nation's farmlands. The Proposed Action will not result in any effects on areas of potential prime or statewide important farmland. The proposed design refinements to the DSM Project have not affected the compliance status of the DSM Project as analyzed in the EIS.

Migratory Bird Treaty Act, as amended (16 U.S.C 703 et seq.) *Compliance*. The Migratory Bird Treaty Act implements various treaties and conventions between the United States, Canada, Japan, Mexico, and Russia, providing protection for migratory birds as defined in 16 U.S.C. 715j. The construction could temporarily disturb existing habitat in the project area for migratory birds, however, additional mitigation measures cited by this SEA would minimize or negate these effects. An avian monitor would be onsite during construction actions to survey for breeding activities and nests, and ensure protections and actions are conducted to comply with the MBTA. The implementation of the Proposed Action would have no significant effect on

habitat or bird populations. The proposed design refinements to the DSM Project have not affected the compliance status of the DSM Project as analyzed in the EIS.

National Environmental Policy Act (42 U.S.C. 4321 et seq.). *Partial Compliance*. NEPA applies to all Federal agencies, and to most of the activities the agencies manage, regulate or fund, which affect the environment. This act requires disclosure off the environmental effects, alternatives, potential mitigation and environmental compliance procedure of the Proposed Action. NEPA requires the preparation of an appropriate document to ensure that Federal agencies accomplish the law's purposes. Full compliance would be achieved when the result of a Finding of No Significant Impact (FONSI) or other appropriate finding has been completed. Public comments received during the public review period will be addressed and incorporated into the Final SEA. The submittal of the Final SEA and a signed FONSI, or other appropriate document would complete the NEPA process and fully comply with this Act. The proposed design refinements to the DSM Project have not affected the compliance status of the DSM Project as analyzed in the EIS.

National Historic Preservation Act of 1966, as amended (16 U.S.C. 470 et seq.). *Compliance*. Section 106 of the NRHP requires a Federal agency to consider the effects of Federal undertakings on historic properties, i.e., cultural resources that are listed in, or are eligible for listing in, the National Register of Historic Places. Per the FEIS, the implementing regulation for Section 106 is 36 CFR Part 800 (revised 2004), "Protection of Historic Properties," which requires Federal agencies to initiate Section 106 consultation with the California SHPO. The USACE is consulting under a Programmatic Agreement with the SHPO for this project which satisfies compliance with Section 106 of the NRHP. The SHPO concurred with the USACE findings concerning all resources. The proposed design refinements to the DSM Project have not affected the compliance status of the DSM Project as analyzed in the EIS.

Wild and Scenic Rivers Act (16 U.S.C. 1217, et seq.). *Compliance*. This act was enacted to preserve selected rivers or sections of rivers in their free-flowing condition in order to protect the quality of river water and to fulfill other national conservation purposes. This project does not change the compliance of the EIS and does not affect the Kern River or Wild and Scenic River status. The proposed design refinements to the DSM Project have not affected the compliance status of the DSM Project as analyzed in the EIS.

Resource Conservation and Recovery Act. (42 U.S.C. §6901 et seq.). *Compliance*. The Resource Conservation and Recovery Act (RCRA) gives EPA the authority to control hazardous waste from the "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also set forth a framework for the management of non-hazardous solid wastes. The 1986 amendments to RCRA enabled EPA to address environmental

problems that could result from underground tanks storing petroleum and other hazardous substances. The USACE will be in compliance with transport of any hazardous materials from the cradle to the grave. The proposed design refinements to the DSM Project have not affected the compliance status of the DSM Project as analyzed in the EIS.

5.1.2 Executive Orders

Executive Order 11990, Protection of Wetlands. *Compliance*. This order directs the USACE to provide leadership and take action to minimize the destruction, loss, or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands in implementing Civil Works projects. Wetlands were assessed for project actions in the 2012 FEIS and wetland mitigation has been coordinated with the USFWS and will be implemented in 2017 within the Kern Valley. No additional wetlands would be affected as a result of the design refinements addressed in this SEA. The proposed design refinements to the DSM Project have not affected the compliance status of the DSM Project as analyzed in the EIS.

Executive Order 13693, Planning for Federal Sustainability in the Next Decade. *Compliance*. Signed by the President in March 15, 2015, Federal agencies are directed to promote building energy conservation, efficiency and management, and reduce energy use by vehicle fleets. Federal agencies shall also reduce greenhouse gas emissions, and increase water efficiency in industrial, landscape, agricultural and potable water uses. Specific percentage goals by year are established for reductions of greenhouse gas emissions, water, and energy use. Compliance with this direction would be achieved by achieving LEED silver standards and incorporating photovoltaic cells for a portion of the building energy system as specified by USACE directives for compliance with the Executive Order. The proposed design refinements to the DSM Project have not affected the compliance status of the DSM Project as analyzed in the EIS.

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations. *Compliance*. The order directs all Federal agencies to identify and address adverse human health or environmental effects of their programs, policies, and activities on minority and low-income populations. There are no effects on minority or low-income populations as a result of the DSM Project as analyzed in the EIS. The proposed design refinements to the DSM Project have not affected the compliance status of the DSM Project as analyzed in the EIS.

Executive Order 11988, Floodplain Management. *Compliance*. The direction of this Executive Order is the avoidance, to the extent possible, of long-and-short-term adverse effects associated with the occupancy and modification of the base floodplain and the avoidance of

direct and indirect support of development in the base floodplain wherever there is a practicable alternative. Construction of the Auxiliary Dam abutment is consistent with appropriate development in the floodplain. Long and short term adverse effects would not occur with occupancy. The proposed design refinements to the DSM Project have not affected the compliance status of the DSM Project as analyzed in the EIS.

5.2 COORDINATION AND REVIEW OF THE SEA

This Draft SEA will be circulated for 30 days to interested Federal, State, and local agencies, organizations and the public. All comments receive in the 30 day period will be considered and incorporated into the Final SEA as appropriate.

5.3 FINDINGS

Based on information in this draft SEA, the Proposed Action is not expected to result in significant adverse effects on the environmental resources in or in the vicinity of the action area. Following the public review period, a determination will be made whether a FONSI is warranted or whether preparation of an EIS is necessary. The FONSI will be published with the Final SEA.

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