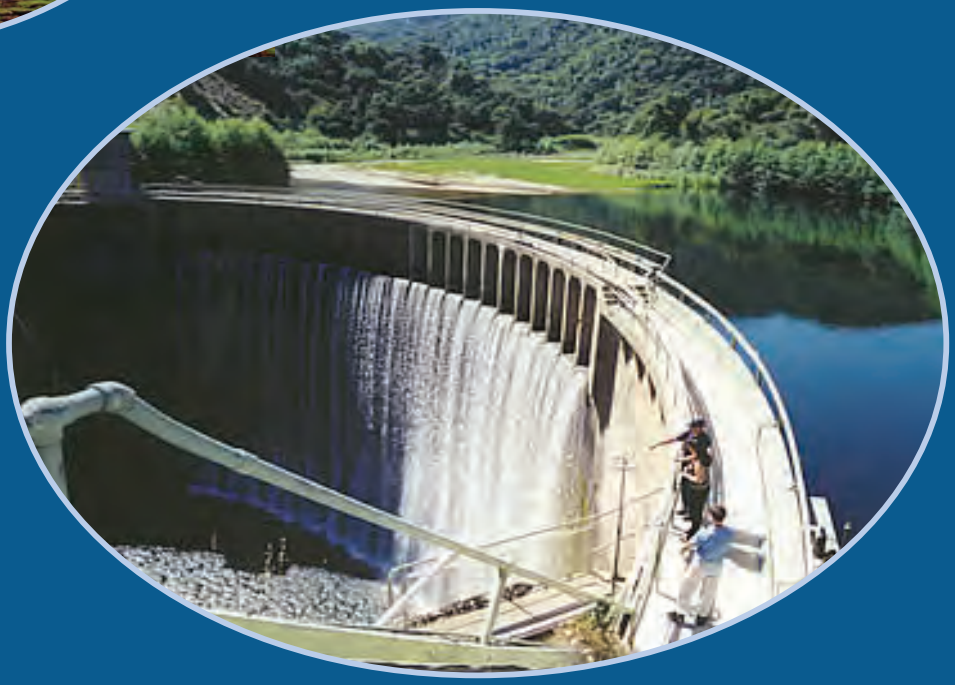
FINAL Environmental Impact Report /
Environmental Impact Statement

San Clemente Dam Seismic Safety Project

volume 1, Chapter 1.0 - 3.0



January 2008

Prepared for

California Department of Water Resources
U.S. Army Corps of Engineers

US Army Corps of Engineers®

SCH 1 #997042007

Certification of the Final Environmental Impact Report/Environmental Impact Statement (FEIR/EIS) for San Clemente Dam Seismic Safety Project

The Final Environmental Impact Report/Environmental Impact Statement (Final EIR/EIS) for the San Clemente Seismic Safety Project prepared for the Department of Water Resources and United States Army Corps of Engineers by Entrix Environmental Consultants is now complete. As Chief of the San Joaquin District of the Department of Water Resources, the lead agency under CEQA, I have reviewed the Final EIR/EIS, including the responses to comments, on the Draft FEIR/EIS and other related documents.

In accordance with CEQA Guidelines Section 15090, I herby certify:

1. The Final EIR/EIS was completed in compliance with the California Environmental Quality Act (CEQA)

2. The Department of Water Resources has reviewed and considered the information contained in the Final EIR/EIS prior to approving it. In accordance with CEQA Guidelines Section 15094, a Notice of Determination will be filed after a decision to approve a project alternative is made.

3. The Final EIR/EIS reflects the Department of Water Resources' independent judgment and analysis.

Paula J. Landis
Chief San Joaquin District
Department of Water Resources

12-31-07
Date

INFORMATION COVER SHEET

San Clemente Dam Seismic Safety Project Draft Environmental Impact Report/Environmental Impact Statement

Lead Agencies: U.S. Army Corps of Engineers (NEPA Lead Agency); California Department of Water Resources (CEQA Lead Agency)

NEPA Cooperating Agencies: U.S. Department of Commerce, NOAA's National Marine Fisheries Service (NMFS); U.S. Department of Interior, Fish and Wildlife Service

CEQA Responsible and Trustee Agencies: California Department of Fish and Game (CDFG), California Public Utilities Commission, Monterey Peninsula Water Management District, Central Coast Regional Water Quality Control Board

Project Sponsor/Proponent: California American Water Company (CAW)

Project Title: San Clemente Dam Seismic Safety Project

Project Location: The project is located in an unincorporated area of Monterey County, California, at the confluence of the Carmel River (River Mile 18.5) and San Clemente Creek, approximately 15 miles southeast of the City of Carmel-by-the-Sea and 3.7 miles southeast of Carmel Valley Village.

Project Purpose, Need & Objectives: The need for the San Clemente Dam Seismic Safety Project is to increase dam safety to meet current design standards. The purposes and objectives for the project are to protect public safety by meeting current standards for withstanding a Maximum Credible Earthquake and Probable Maximum Flood at San Clemente Dam, provide fish passage at the dam, maintain a point of diversion to support existing water supply facilities, water rights and services, and minimize financial impacts to California-American Water ratepayers.

Abstract: This Final EIR/EIS analyzes the Proponent's Proposed Project (dam strengthening) and the following alternatives: Alternative 1 (dam notching with partial sediment removal), Alternative 2 (dam removal with total sediment removal), Alternative 3 (Carmel River reroute and dam removal with in-place sediment stabilization), and Alternative 4 (No Project). Chapter 2 contains summaries of each alternative, and Chapter 3 contains detailed descriptions. With the exception of No Project, all of the alternatives evaluated in this EIR/EIS meet the purpose, need and objectives.

Date of Implementation: Depending on the alternative selected, the San Clemente Dam Seismic Safety Project would be implemented within five to seven years after project approval, including environmental review, permitting, design, infrastructure improvements, and all aspects of construction or demolition.

INFORMATION COVER SHEET

List of possible permits, approvals, and licenses: See EIR/EIS Chapter 1.5 ("Overview of Permit Approval and Consultation Requirements, San Clemente Dam Seismic Safety Project").

Authors and principal contributors to the Final EIR/EIS: ENTRIX, Inc. is the principal author (See EIR/EIS Chapter 6.0 for individual contributors).

CONTACTS

CEQA Lead: Department of Water Resources,
San Joaquin District
3374 East Shields Avenue
Fresno, CA 93726-6913
Contact: Charyce Hatler
Phone: (559) 230-3323
Email: chatler@water.ca.gov

NEPA Lead: U.S. Army Corps of Engineers,
San Francisco District
333 Market Street, 8th Floor
San Francisco, CA 94105-2197
Contact: Bob Smith
Phone: (415) 977-8450
Email: robert.f.smith@ usace.army.mil

Location of Background Information: You may access the Final EIR/EIS and find more information about the project and the responsible agencies on the Corps website at **http://www.spn.usace.army.mil/regulatory/currpn.html**, and on the DWR website at **http://www.sjd.water.ca.gov/environmentalservices/sanclemente/index.cfm** Copies of this Final EIR/EIS are also available for public review at the following locations:

California-American Water Co. Monterey Division 50 Ragsdale Drive, Suite 100 Monterey, CA 93942-0951	City of Monterey Library 625 Pacific Street Monterey, CA 93940
Monterey Peninsula Water Management District 5 Harris Court, Building G Monterey, CA 93940	City of Carmel-by-the-Sea, Harrison Library Ocean Avenue City of Carmel-by-the-Sea, CA 93921

FINAL

Environmental Impact Report
Environmental Impact Statement

for the

San Clemente Dam Seismic Safety Project

Prepared for

California Department of Water Resources

U.S. Army Corps of Engineers

Volume 1, Chapter 1.0 – 3.0

January 2008

TABLE OF CONTENTS

SECTION **PAGE**

VOLUME 1

CHAPTER 1.0 INTRODUCTION

CHAPTER 2.0 SUMMARY

CHAPTER 3.0 DESCRIPTION OF THE ALTERNATIVES

TABLE OF CONTENTS

SECTION **PAGE**

TABLE OF CONTENTS

SECTION **PAGE**

TABLE OF CONTENTS

SECTION **PAGE**

TABLE OF CONTENTS

SECTION **PAGE**

TABLE OF CONTENTS

SECTION **PAGE**

VOLUME 4

LIST OF FIGURES

SECTION **PAGE**

CHAPTER 3.0 DESCRIPTION OF THE ALTERNATIVES

CHAPTER 4.0 ENVIRONMENTAL SETTING, IMPACTS & MITIGATION MEASURES

LIST OF FIGURES

SECTION **PAGE**

LIST OF FIGURES

SECTION **PAGE**

LIST OF TABLES

SECTION **PAGE**

LIST OF TABLES

SECTION **PAGE**

LIST OF TABLES

SECTION **PAGE**

CHAPTER 5.0 CEQA & NEPA CONSIDERATIONS

ABBREVIATIONS & ACRONYMS

°C	degrees Celsius
°F	degrees Fahrenheit
µg/m^3	micrograms per cubic meter
AASHTO	American Association of State Highway and Transportation Officials
ADPA	Archaeological Data Preservation Act
ADT	Average Daily Traffic
AEP	Association of Environmental Professionals
AF	acre feet
AFY	acre-feet/year
AMBAG	Association of Monterey Bay Area Governments
amp	ampere
APE	Area of Potential Effect
AQMP	Air Quality Management Plan
ARB	Air Resources Board
ASR	aquifer storage and recovery
BA	Biological Assessment
BACT	Best Available Control Technology
BMPs	Best Management Practices
BO	Biological Opinion
BRM	bedrock mortar
CAA	Clean Air Act (Federal)
CAAA	Clean Air Act Amendments
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CAT	Caterpillar (bulldozer)
CAW	California American Water
CCAA	California Clean Air Act
CCRWQCB	Central Coast Regional Water Quality Control Board
CDFG	California Department of Fish and Game
CDHS	California Department of Health Services
CDMG	California Division of Mines and Geology
CDWR	California Department of Water Resources
CEQ	Council on Environmental Quality
CEQA	California Environment Quality Act

ABBREVIATIONS & ACRONYMS

USACE	United States Army Corps of Engineers
USC	United States Code
ug/L	Barium concentration
USDA	United States Department of Agriculture
USDOT	United States Department of Transportation
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
vpd	vehicles per day
vph	vehicles per hour
WCC	Woodward-Clyde Consultants
WY	water year
YOY	young-of-the-year

ABBREVIATIONS & ACRONYMS

CESA	California Endangered Species Act of 1984
CFR	Code of Federal Regulations
cfs	cubic feet per second
CGS	California Geologic Survey
CHL	California Historical Landmark
CMP	Construction Management Plan
CNDDB	California National Diversity Database
CNEL	community noise equivalent level
CNPS	California Native Plant Society
CO	carbon monoxide
CPUC	California Public Utilities Commission
CRDRP	Carmel River Dam and Reservoir Project
CRLF	California red-legged frog
CRHR	California Register of Historical Resources
CRP	Conservation Reserve Program
CRWC	Carmel River Watershed Conservancy
CSLC	California State Lands Commission
CVFP	Carmel Valley Filter Plant
CVMP	Carmel Valley Master Plan
CWA	Clean Water Act
CWHR	California Wildlife Habitat Relationships
CWP	Coastal Water Project
cy	cubic yards
CY	construction year
DA	Department of the Army
dB	decibel
dBA	decibels on the A-weighted scale
DEIR	Draft Environmental Impact Report
DHS	(California) Department of Health Services
DO	dissolved oxygen
DPM	Deputy Project Manager
DPR	(California) Department of Parks and Recreation
DPS	Distinct Population Segment
DSOD	Division of Safety of Dams

ABBREVIATIONS & ACRONYMS

DWR	(California) Department of Water Resources
EC	Environmental Coordinator
ECMP	EPNG Environmental Compliance Management Plan
ECS	Environmental Compliance Supervisor
EFZ	earthquake fault zone
EI	Environmental Inspector
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EJSA	Environmental Justice Study Area
EM	Environmental Manager
EMFAC	Emissions Factors
EO	Executive Order
FMP	Federal Maintenance Plan
EPA	Environmental Protection Agency
ESA	Endangered Species Act
ESALs	equivalent single axle loads
ESJA	environmental justice study area
ESU	Endangered Species Unit
ESUs	Evolutionarily Significant Units
FEMA	Federal Emergency Management Agency
FMP	Federal Maintenance Plan
fsp	feet per second
g/sec	gallons per second
gpm	gallons per minute
GCC	Global Climate Change
GCD	General Conformity Determination
GCR	General Conformity Rule
GHG	greenhouse gas
GIS	Geographical Information System
GPS	Global Positioning Software
H^2S	Hydrogen Sulfide
HABS	Historic American Building Survey
HAER	Historic American Engineering Record
HAP	hazardous air pollutant

ABBREVIATIONS & ACRONYMS

HCA	High Consequence Area
HCM	Highway Capacity Manual
HP	horsepower
HRI	Historic Resources Inventory
HUD	Housing and Urban Development
I/M	Inspection and maintenance (program)
IRWMP	Integrated Regional Water Management Plan
JPA	Joint Powers Authority
kV	kilovolt
kVa	kilovolt-ampere
kW	kilowatt
LEDPA	least environmentally damaging practicable alternative
L	limited
lb	pound
Ldn	day-night sound level
Leq(24)	24-hour equivalent sound level
LOS	level of service
LPD	Los Padres Dam
M	moderate
m/s	meters per second
m^2	Meter (squared)
m^3	cubic meters
MAOP	maximum allowable operating pressure
MBFZ	Monterey Bay Fault Zone
MBUAPCD	Monterey Bay Unified Air Pollution Control District
MCE	Maximum Credible Earthquake
MCWD	Marina Coast Water District
MCPBID	Monterey County Planning and Building Inspection Department
MEI	Mussetter Engineering, Inc.
mg/l	milligrams per liter
mgd	million gallons per day
MMCRP	Mitigation Monitoring Compliance Reporting Plan
MMP	Mitigation Monitoring Plan
MOA	Memorandum of Agreement

ABBREVIATIONS & ACRONYMS

MOU	Memorandum of Understanding
MP	milepost
mph	miles per hour
MPWMD	Monterey Peninsula Water Management District
MRWPCA	Monterey Regional Water Pollution Control Agency
MSL	Meters above sea level
MUC	Multiple Use Class
MWH	Montgomery, Watson and Harza
MVM	million vehicle miles
MY	migration year
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NCCAB	North Central Coast Air Basin
NDDB	Natural Diversity Data Base
NEPA	National Environmental Policy Act
NESHAP	National Emission Standards for Hazardous Air Pollutants
NFPA	National Fire Protection Association
NHPA	National Historic Preservation Act
NLPD	New Los Padres Dam
NMCH	see ROG, ROC
NMFS	National Oceanic and Atmospheric Administration Fisheries
NO_2	nitrogen dioxide
NOP	Notice of Preparation
NO_X	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NPPA	Native Plant Protection Act
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
NSR	New Source Review
NTUs	Nephelometric Turbidity Units
NWI	National Wetlands Inventory
NWR	National Wildlife Refuge
O_3	ozone
O&M	operation and maintenance

ABBREVIATIONS & ACRONYMS

OCRB	Old Carmel River Dam Bridge
OCRD	Old Carmel River Dam
OD	outside diameter
OHP	(California) Office of Historic Preservation
OHV	off-highway vehicle
OHWM	Ordinary High Water Mark
OSHA	Occupational Safety and Health Administration
p	pressure (sound)
Pb	lead
p_o	referenced pressure
PCE	passenger car equivalent
PE	Project Engineer
PEA	Proponent's Environmental Assessment
PERP	Portable Equipment Registration Program
PFMC	Pacific Fisheries Management Council
PG&E	Pacific Gas and Electric
PHI	Points of Historical Interest
PM_{10}	particulate matter less than 10 microns
PMF	Probable Maximum Flood
ppm	parts per million
PRC	Public Resources Code
PSD	Prevention of Significant Deterioration
psig	pounds per square inch gauge
P/SM	Pajaro/Sunny Mesa Community Services District
RDEIR	Recirculated Draft Environmental Impact Report
PVC	Polyvinyl Chloride
RFFA	Reasonably Foreseeable Future Actions
RHI	Rearing Habitat Index
RM	River Mile
RMP	Resource Management Plan
RO	reverse osmosis
ROC	reactive organic compounds
ROD	Record of Decision
ROG	Reactive organic gases

ABBREVIATIONS & ACRONYMS

RSPA	Research and Special Programs Administration
RTU	remote terminal unit
RWQCB	Regional Water Quality Control Board
SAA	Streambed Alteration Agreement
SBC	Southern Bell Communications
SCAQMD	Southern California Air Quality Management District
SCCC	South-Central California Coast
SCD	San Clemente Dam
SCEDC	Southern California Earthquake Data Center
scf	standard cubic foot
SCS	Soil Conservation Service
SEV	Severity of Effect
SHEMP	Seismic Hazards Evaluation and Mitigation Plan
SHHA	Sleepy Hollow Homeowners Association
SHPO	(California) State Historic Preservation Office
SHSRF	Sleepy Hollow Steelhead Rearing Facility
SHW	Sleepy Hollow Weir
SIP	State Implementation Plan
SO	sulfur oxide
SO^2	sulfur dioxide
SOMP	Sediment Operation and Management Plan for Fish Passage
SPL	sound pressure level
SPCC Plan	Spill Prevention Containment and Countermeasure Plan
SR	State Route
SSC	Suspended Sediment Concentrations
Sta	Station
SWRCB	State Water Resources Control Board
SWPPP	Stormwater Pollution Prevention Plan
TCP	traditional cultural properties
TES	threatened, endangered, and special-status
TI	Traffic Index
TCPs	traditional cultural properties
UECRM Plan	Upland Erosion Control, Revegetation, and Maintenance Plan
URBEMIS	Urban Emissions (software)

TABLE OF CONTENTS

SECTION **PAGE**

TABLE OF CONTENTS

SECTION **PAGE**

TABLE OF CONTENTS

SECTION **PAGE**

TABLE OF CONTENTS

SECTION **PAGE**

TABLE OF CONTENTS

SECTION **PAGE**

TABLE OF CONTENTS

LIST OF FIGURES

SECTION **PAGE**

CHAPTER 3.0 DESCRIPTION OF THE ALTERNATIVES

CHAPTER 4.0 ENVIRONMENTAL SETTING, IMPACTS & MITIGATION MEASURES

LIST OF FIGURES

SECTION **PAGE**

LIST OF FIGURES

SECTION **PAGE**

LIST OF TABLES

SECTION **PAGE**

CHAPTER 1.0: INTRODUCTION

CHAPTER 2.0: SUMMARY

CHAPTER 3.O OVERVIEW OF THE ALTERNATIVES

CHAPTER 4.0: ENVIRONMENTAL SETTING, CONSEQUENCES, & MITIGATION MEASURES

LIST OF TABLES

SECTION **PAGE**

LIST OF TABLES

SECTION **PAGE**

CHAPTER 5.0 CEQA & NEPA CONSIDERATIONS

ABBREVIATIONS & ACRONYMS

°C	degrees Celsius
°F	degrees Fahrenheit
µg/m^3	micrograms per cubic meter
AASHTO	American Association of State Highway and Transportation Officials
ADPA	Archaeological Data Preservation Act
ADT	Average Daily Traffic
AEP	Association of Environmental Professionals
AF	acre feet
AFY	acre-feet/year
AMBAG	Association of Monterey Bay Area Governments
amp	ampere
APE	Area of Potential Effect
AQMP	Air Quality Management Plan
ARB	Air Resources Board
ASR	aquifer storage and recovery
BA	Biological Assessment
BACT	Best Available Control Technology
BMPs	Best Management Practices
BO	Biological Opinion
BRM	bedrock mortar
CAA	Clean Air Act (Federal)
CAAA	Clean Air Act Amendments
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CAT	Caterpillar (bulldozer)
CAW	California American Water
CCAA	California Clean Air Act
CCRWQCB	Central Coast Regional Water Quality Control Board
CDFG	California Department of Fish and Game
CDHS	California Department of Health Services
CDMG	California Division of Mines and Geology
CDWR	California Department of Water Resources
CEQ	Council on Environmental Quality
CEQA	California Environment Quality Act

ABBREVIATIONS & ACRONYMS

CESA	California Endangered Species Act of 1984
CFR	Code of Federal Regulations
cfs	cubic feet per second
CGS	California Geologic Survey
CHL	California Historical Landmark
CMP	Construction Management Plan
CNDDB	California National Diversity Database
CNEL	community noise equivalent level
CNPS	California Native Plant Society
CO	carbon monoxide
CPUC	California Public Utilities Commission
CRDRP	Carmel River Dam and Reservoir Project
CRLF	California red-legged frog
CRHR	California Register of Historical Resources
CRP	Conservation Reserve Program
CRWC	Carmel River Watershed Conservancy
CSLC	California State Lands Commission
CVFP	Carmel Valley Filter Plant
CVMP	Carmel Valley Master Plan
CWA	Clean Water Act
CWHR	California Wildlife Habitat Relationships
CWP	Coastal Water Project
cy	cubic yards
CY	construction year
DA	Department of the Army
dB	decibel
dBA	decibels on the A-weighted scale
DEIR	Draft Environmental Impact Report
DHS	(California) Department of Health Services
DO	dissolved oxygen
DPM	Deputy Project Manager
DPR	(California) Department of Parks and Recreation
DPS	Distinct Population Segment
DSOD	Division of Safety of Dams

ABBREVIATIONS & ACRONYMS

DWR	(California) Department of Water Resources
EC	Environmental Coordinator
ECMP	EPNG Environmental Compliance Management Plan
ECS	Environmental Compliance Supervisor
EFZ	earthquake fault zone
EI	Environmental Inspector
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EJSA	Environmental Justice Study Area
EM	Environmental Manager
EMFAC	Emissions Factors
EO	Executive Order
FMP	Federal Maintenance Plan
EPA	Environmental Protection Agency
ESA	Endangered Species Act
ESALs	equivalent single axle loads
ESJA	environmental justice study area
ESU	Endangered Species Unit
ESUs	Evolutionarily Significant Units
FEMA	Federal Emergency Management Agency
FMP	Federal Maintenance Plan
fsp	feet per second
g/sec	gallons per second
gpm	gallons per minute
GCC	Global Climate Change
GCD	General Conformity Determination
GCR	General Conformity Rule
GHG	greenhouse gas
GIS	Geographical Information System
GPS	Global Positioning Software
H^2S	Hydrogen Sulfide
HABS	Historic American Building Survey
HAER	Historic American Engineering Record
HAP	hazardous air pollutant

ABBREVIATIONS & ACRONYMS

HCA	High Consequence Area
HCM	Highway Capacity Manual
HP	horsepower
HRI	Historic Resources Inventory
HUD	Housing and Urban Development
I/M	Inspection and maintenance (program)
IRWMP	Integrated Regional Water Management Plan
JPA	Joint Powers Authority
kV	kilovolt
kVa	kilovolt-ampere
kW	kilowatt
LEDPA	least environmentally damaging practicable alternative
L	limited
lb	pound
Ldn	day-night sound level
Leq(24)	24-hour equivalent sound level
LOS	level of service
LPD	Los Padres Dam
M	moderate
m/s	meters per second
m^2	Meter (squared)
m^3	cubic meters
MAOP	maximum allowable operating pressure
MBFZ	Monterey Bay Fault Zone
MBUAPCD	Monterey Bay Unified Air Pollution Control District
MCE	Maximum Credible Earthquake
MCWD	Marina Coast Water District
MCPBID	Monterey County Planning and Building Inspection Department
MEI	Mussetter Engineering, Inc.
mg/l	milligrams per liter
mgd	million gallons per day
MMCRP	Mitigation Monitoring Compliance Reporting Plan
MMP	Mitigation Monitoring Plan
MOA	Memorandum of Agreement

ABBREVIATIONS & ACRONYMS

MOU	Memorandum of Understanding
MP	milepost
mph	miles per hour
MPWMD	Monterey Peninsula Water Management District
MRWPCA	Monterey Regional Water Pollution Control Agency
MSL	Meters above sea level
MUC	Multiple Use Class
MWH	Montgomery, Watson and Harza
MVM	million vehicle miles
MY	migration year
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NCCAB	North Central Coast Air Basin
NDDB	Natural Diversity Data Base
NEPA	National Environmental Policy Act
NESHAP	National Emission Standards for Hazardous Air Pollutants
NFPA	National Fire Protection Association
NHPA	National Historic Preservation Act
NLPD	New Los Padres Dam
NMCH	see ROG, ROC
NMFS	National Oceanic and Atmospheric Administration Fisheries
NO_2	nitrogen dioxide
NOP	Notice of Preparation
NO_X	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NPPA	Native Plant Protection Act
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
NSR	New Source Review
NTUs	Nephelometric Turbidity Units
NWI	National Wetlands Inventory
NWR	National Wildlife Refuge
O_3	ozone
O&M	operation and maintenance

ABBREVIATIONS & ACRONYMS

OCRB	Old Carmel River Dam Bridge
OCRD	Old Carmel River Dam
OD	outside diameter
OHP	(California) Office of Historic Preservation
OHV	off-highway vehicle
OHWM	Ordinary High Water Mark
OSHA	Occupational Safety and Health Administration
p	pressure (sound)
Pb	lead
p_o	referenced pressure
PCE	passenger car equivalent
PE	Project Engineer
PEA	Proponent's Environmental Assessment
PERP	Portable Equipment Registration Program
PFMC	Pacific Fisheries Management Council
PG&E	Pacific Gas and Electric
PHI	Points of Historical Interest
PM_{10}	particulate matter less than 10 microns
PMF	Probable Maximum Flood
ppm	parts per million
PRC	Public Resources Code
PSD	Prevention of Significant Deterioration
psig	pounds per square inch gauge
P/SM	Pajaro/Sunny Mesa Community Services District
RDEIR	Recirculated Draft Environmental Impact Report
PVC	Polyvinyl Chloride
RFFA	Reasonably Foreseeable Future Actions
RHI	Rearing Habitat Index
RM	River Mile
RMP	Resource Management Plan
RO	reverse osmosis
ROC	reactive organic compounds
ROD	Record of Decision
ROG	Reactive organic gases

ABBREVIATIONS & ACRONYMS

RSPA	Research and Special Programs Administration
RTU	remote terminal unit
RWQCB	Regional Water Quality Control Board
SAA	Streambed Alteration Agreement
SBC	Southern Bell Communications
SCAQMD	Southern California Air Quality Management District
SCCC	South-Central California Coast
SCD	San Clemente Dam
SCEDC	Southern California Earthquake Data Center
scf	standard cubic foot
SCS	Soil Conservation Service
SEV	Severity of Effect
SHEMP	Seismic Hazards Evaluation and Mitigation Plan
SHHA	Sleepy Hollow Homeowners Association
SHPO	(California) State Historic Preservation Office
SHSRF	Sleepy Hollow Steelhead Rearing Facility
SHW	Sleepy Hollow Weir
SIP	State Implementation Plan
SO	sulfur oxide
SO^2	sulfur dioxide
SOMP	Sediment Operation and Management Plan for Fish Passage
SPL	sound pressure level
SPCC Plan	Spill Prevention Containment and Countermeasure Plan
SR	State Route
SSC	Suspended Sediment Concentrations
Sta	Station
SWRCB	State Water Resources Control Board
SWPPP	Stormwater Pollution Prevention Plan
TCP	traditional cultural properties
TES	threatened, endangered, and special-status
TI	Traffic Index
TCPs	traditional cultural properties
UECRM Plan	Upland Erosion Control, Revegetation, and Maintenance Plan
URBEMIS	Urban Emissions (software)

ABBREVIATIONS & ACRONYMS

USACE	United States Army Corps of Engineers
USC	United States Code
ug/L	Barium concentration
USDA	United States Department of Agriculture
USDOT	United States Department of Transportation
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
vpd	vehicles per day
vph	vehicles per hour
WCC	Woodward-Clyde Consultants
WY	water year
YOY	young-of-the-year

CHAPTER 1.0

INTRODUCTION

1.0 INTRODUCTION

1.1 AUTHORIZATION AND AGENCY ROLES

The California Department of Water Resources (DWR) and the U.S. Army Corps of Engineers (USACE) have prepared this Final Environmental Impact Report (EIR) and Environmental Impact Statement (EIS) under the California Environment Quality Act (CEQA) of 1970, and the National Environmental Policy Act (NEPA) of 1969.

The EIR/EIS addresses the San Clemente Dam Seismic Safety Project. The EIR/EIS is an informational document for both lead agency decision-makers and the public regarding the environmental effects of the proposed San Clemente Dam Seismic Safety Project. The DWR is the state lead agency responsible for certifying this EIR/EIS and filing a Notice of Determination (NOD) under CEQA, and the USACE is the federal lead agency responsible for issuing a Record of Decision (ROD) under NEPA. The National Marine Fisheries Service (NMFS) and the United States Fish and Wildlife Service (USFWS) are federal cooperating agencies.

1.2 PROJECT PROPONENT AND BACKGROUND

The California American Water Company (CAW) is an investor-owned public water purveyor that is regulated by the California Public Utilities Commission (CPUC). The Coastal Division of CAW provides public water service to the Monterey Peninsula, and owns and operates San Clemente Dam (SCD) and Reservoir. This thin arch concrete dam is located 18.5 miles upstream from the mouth of the Carmel River, below its confluence with San Clemente Creek. The reservoir was constructed as a water supply project and provides a physical diversion point on the Carmel River from which water flows to the Carmel Valley Filter Plant and is distributed to the Carmel Valley Village area and other down-gradient areas. Although the SCD initially impounded a reservoir of about 1,425 acre-feet at the spillway elevation of 525 feet, it has never served as a water storage or flood control project. More than 2.5 million cubic yards of sediment have accumulated behind the Dam since it was constructed in 1921.

The Dam includes a fish ladder that allows steelhead trout, a federally listed threatened species, to ascend 68 feet over the Dam to use the watershed above the Dam. The California red-legged frog, another federally listed threatened species and a California State species of special concern, also uses habitat at the reservoir and along the river and creek.

1.3 AGENCY DECISIONS TO BE MADE

The DWR Division of Safety of Dams (DSOD) commissioned engineering studies in the early 1990's to evaluate seismic safety of SCD. These studies concluded that the Dam could suffer structural damage leading to the potential loss of the reservoir during a Maximum Credible Earthquake (MCE). In addition, under the Probable Maximum Flood (PMF), water could overtop the Dam, possibly eroding the downstream abutment area

and posing the risk of dam failure. Based on these findings, DSOD has required that SCD be brought into compliance to withstand loading from a MCE on nearby faults and safely pass the PMF. The MCE at the Dam site was determined by DSOD to be a magnitude 7.0 event originating from the Tularcitos Fault, 1.25 miles away. The PMF at the Dam site was determined by DSOD to be about 81,000 cfs. CAW has filed a design application with DSOD to strengthen San Clemente Dam to bring it into compliance with DSOD requirements. DSOD has determined that the San Clemente Dam Seismic Safety Project may have a significant environmental impact and therefore requires the preparation of an EIR.

As part of the SCD Seismic Safety Project, CAW has applied to the USACE for authorization to deposit approximately 3,200 cubic yards of fill material into Waters of the U.S. to strengthen SCD. This application is being processed under Section 404 of the Clean Water Act (CWA). The USACE has determined that the SCD Seismic Safety Project may have a significant impact on the quality of the human environment and therefore requires preparation of an EIS.

1.4 PROJECT PURPOSE, NEED & OBJECTIVES

Under NEPA, an EIS requires a statement of purpose and need (40 CFR 1502.13). The need is the broad underlying necessity or requirement to which the NEPA lead agency is responding.

Consequently, the need determines the range of alternatives that must be studied and the alternatives considered under NEPA must meet the project need. The proposed action, or project, is not the need in itself, but is rather the lead agency's proposed response to the need for the project. Typically, the proposed action is only one of a number of alternatives that will meet the stated need.

The purpose(s) are typically the specific objectives of the proposed action, by which the need will be met. Project purposes do not define the need, but respond to it by drawing in related considerations that must be integrated into the overall project. Under NEPA and the USACE's implementing regulations, the terms "basic" and "overall" purposes are used to identify important features and/or results the project alternatives must meet.

Statements of purpose and need are intended to be comprehensive enough to adequately encompass the need, and specific enough to guide the development of alternatives.

The NEPA statement of purpose and need is similar to what CEQA calls "objectives." The CEQA Guidelines[1] Section 15124(b), states that the project description must include "a statement of objectives sought by the proposed project" and that the objectives are intended to help the lead agency develop a reasonable range of alternatives to evaluate in an EIR (in this way objectives are similar to the NEPA need).

[1] California Code of Regulations, Title 14, Chapter 3 (Sections 15000 through 15387); commonly referred to as CEQA Guidelines.

Objectives also aid decision-makers in preparing findings or statements of overriding considerations (if necessary). The Guidelines further state "the statement of objectives should include the underlying purpose of the project."

Alternatives considered in an EIS must meet the need to which the lead agency is responding. The evaluation of alternatives must consider and address the project's purposes. The environmental evaluation presented in an EIR/EIS as well as the findings made when approving a project alternative also must consider and address the overall project objectives, which include the underlying project purpose. However, while CEQA encourages decision-makers to select alternatives that meet project objectives, it does not require that the approved project meet all project objectives.

For this EIR/EIS, the NEPA and CEQA requirements of stating the underlying requirement to which the project responds (which NEPA terms the "need" and CEQA refers to as its "purpose" and includes among the project objectives) is met by the following statement of the project need:

The need for the SCD Seismic Safety Project is to increase dam safety to meet current standards for withstanding a MCE and passing the PMF at the Dam.

The purposes and objectives for the project under NEPA and CEQA are to:

- Protect public safety.
- Provide fish passage at the Dam.
- Maintain a CAW point of diversion on the Carmel River to support existing water supply facilities, water rights, and services.
- Minimize financial impacts to CAW rate payers.

CAW's Proponent's Proposed Project and the alternatives to it that are evaluated in this EIR/EIS meet the need of eliminating safety risks associated with the MCE and PMF at the Dam and address the objectives stated above.

1.5 FEDERAL, STATE, AND LOCAL REQUIREMENTS

In addition to DWR and USACE, several federal, state, regional, and local agencies and decision-making bodies have jurisdiction over affected resources or have other permitting or regulatory authority. These agencies and decision-makers will review and consider the information contained in this EIR/EIS, and will consider it in their decision processes. Table 1.5-1 lists the agencies expected to use this EIR/EIS as part of their decision-making processes.

Table 1.5-1: Overview of Permit Approval and Consultation Requirements for San Clemente Dam Seismic Safety Project

Jurisdiction	Permits, Approvals & Consultations
FEDERAL AGENCIES	
U.S. Army Corps of Engineers (USACE)	Section 404 Permit, Clean Water Act (CWA). The USACE must determine compliance with Section 404(b)(1) guidelines. The permit will authorize any release of accumulated sediment from the Dam, the construction of two cofferdams in the Carmel River at the downstream toe of the Dam, temporarily dewatering the reservoir and plunge pool, and improving the bridge across the Carmel River at the Old Carmel River Dam (OCRD). Acts as NEPA lead agency, issues a Record of Decision (ROD). The ROD is a written public record explaining the lead agency's decision on the proposed action.
U.S. Fish and Wildlife Service (USFWS)	Administers Endangered Species Act (ESA) for certain federally listed species (including California red-legged frog). Consults under Section 7 of the ESA with the lead federal agency (USACE). Determines whether a proposed action is likely to jeopardize the continued existence of, or destroy or adversely modify critical habitat of federally listed species. If appropriate, issues a Biological Opinion with an Incidental Take Statement for affected species.
National Marine Fisheries Service (NMFS)	Administers ESA for federally listed marine mammals and marine and anadromous fish (including steelhead). Consults under Section 7 of the ESA with the lead federal agency (USACE). Determines whether a proposed action is likely to jeopardize the continued existence of, or destroy or adversely modify critical habitat of federally listed species. Issues a Biological Opinion (BO) with an Incidental Take Statement for affected species.
Other federal permits/regulations: Clean Air Act (CAA) Conformity Statement, Executive Order (E.O). 11990 Wetland Protection, E.O. 11988 Flood Management, E.O. 12898 Environmental Justice, Magnuson-Stevens Act (essential fish habitat)	
STATE AGENCIES	
California Department of Water Resources, (DWR)	Acts as CEQA lead agency. Certifies the EIR was prepared pursuant to CEQA, adopts CEQA Findings and files a Notice of Determination (NOD) for the selected project.
California Department of Water Resources, Division of Safety of Dams (DSOD)	Approves an application to repair, alter, or remove a dam.
California Office of Historic Preservation (SHPO)	Section 106, National Historic Preservation Act (NHPA). The alteration of the structure of the Dam requires evaluation, since the facility is more than 50 years old. The project includes repairing, altering or removing the bridge that crosses the Carmel River at the Old Carmel River Dam (OCRD), which is also more than 50 years old.
California Department of Transportation (Caltrans)	Transportation Permit. Required for transport of oversized loads on state highways. (This permit is usually obtained by the construction contractor or subcontractors.)
California Public Utilities Commission (CPUC)	Regulates investor owned utilities to authorize investments and related rate changes.
California Department of Fish and Game (CDFG)	California Trustee Agency (CEQA Guidelines section 15386) with jurisdiction over natural resources affected by a project which are held in trust for the people of the State of California with regard to the fish and wildlife of the State, to designated rare or endangered native plants, and to game refuges, ecological reserves, and other areas administered by the department. Streambed Alteration Agreement (California Fish and Game Code Sections 1601 and 1603 permits). Issues agreement with conditions to protect resources whenever a bed or bank of stream, lake or reservoir is altered. Issues incidental take permits for State-listed species. (Note: Other CDFG code sections may apply, including operation of dams to maintain fish in healthy condition downstream of the Dam (5937) and prohibitions against release of substances deleterious to aquatic life (5650). These sections of the Fish and Game Code would subject the project to citation if there were a violation. CDFG also oversees the annual Memorandum of Agreement (MOA) negotiated among CAW, Monterey Peninsula Water Management District (MPWMD) and CDFG) that addresses releases to the river from Los Padres reservoir.
Regional Water Quality Control Board (RWQCB)	Certification or waiver of certification according to Section 401 of the Clean Water Act (CWA) for construction related disturbance of water quality. The project may require a National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction Activity.

Table 1.5-1: Overview of Permit Approval and Consultation Requirements for San Clemente Dam Seismic Safety Project, continued

Jurisdiction	Permits, Approvals & Consultations
STATE AGENCIES	
State Water Resources Control Board (SWRCB)	Approves and establishes project plans for a new point of diversion.
REGIONAL AGENCIES	
Monterey Bay Unified Air Pollution Control District (MBUAPCD)	Administers Air Quality Management Plan (AQMP) for Monterey Bay Region, Federal Maintenance Plan (FMP), and General Conformity Rule (GCR). May require permits for stationary equipment used in construction including mobile batch plants, compressors and generators unless this equipment is registered by the state, in which case only an inspection fee is required. A special permit may be required if sandblasting is used for surface preparation of the downstream face of the existing dam. A General Conformity Determination under the Clean Air Act is included as Appendix H to this EIR/EIS.
LOCAL AGENCIES	
Monterey Peninsula Water Management District (MPWMD)	Responsible for allocating production limits for the Monterey Peninsula Water Resource System. Administers annual mitigation program for the Monterey Peninsula Water Management District (MPWMD) Water Allocation Program. Issues River Access and River Work Permits. Participates in the development of an annual MOA with CAW and the CDFG that addresses releases to the river from Los Padres Reservoir.
Monterey Peninsula Regional Park District	MPRPD is not a regulatory agency, but owns and is responsible for the management of 919 acres of Carmel River watershed in the Project Vicinity. Over the next ten years, the MPRPD will be preparing a park management plan for the property. Areas of concern for the MPRPD include public access, sediment disposal on park land, and riverfront access and river restoration. MPRPD staff and Board reviews and comments on mitigation measures regarding MPRPD-owned land.
County of Monterey Public Works Department	Grading and encroachment permits for access road widening and improvements. Reviews code compliance for preservation of oak and other protected trees.
County of Monterey Water Resources Agency	Reviews work in the Carmel River bed described in the Section 404 permit, and proposed access road improvements. If floodplain remapping is required, a Letter or Map Revision or Conditional Letter of Map Revision may be issued.

1.5.1 FEDERAL REQUIREMENTS

NEPA / CEQA

A joint EIR/EIS must contain all the required elements of both the NEPA (P.L. 91-190; 42 (United States Code) U.S.C. 4321-4347; (Code of Federal Regulations) CFR §1500 et seq.) and the CEQA (Public Resources Code (PRC) §21000 et seq.). The two processes have many similarities, but also a few important differences. The following discussion highlights those differences and explains how this document incorporates the requirements of both. In general, the approach has been to meet the requirements of the more stringent of the two laws wherever they differ.

Significance

One of the primary differences between NEPA and CEQA is the way significance is determined and discussed in environmental documents. Under NEPA, significance is used to determine the need to complete an EIS as opposed to some lesser level of documentation. NEPA requires that an EIS be prepared when the proposed federal action (project) as a whole has the potential "to significantly affect the quality of the human environment." The determination of significance is based on context and intensity of impacts. Under NEPA, once a decision to prepare an EIS is made, it is the

magnitude of the impact that is evaluated and no judgment of its significance is required. NEPA does not require that a determination of significant impacts be stated in environmental documents.

CEQA does require California agencies to identify each "significant effect on the environment" that a project may have on the environment, and ways to mitigate or avoid each significant effect. A significant effect on any environmental resource triggers the preparation of an EIR. Each and every significant effect on the environment must be disclosed in the EIR and mitigated or avoided if feasible. In addition, CEQA Guidelines list a number of mandatory findings of significance, which also require the preparation of an EIR. At the end of the CEQA process, the lead agency must determine whether the project as approved will have a significant effect on the environment. There are no requirements under NEPA that parallel these requirements of CEQA.

The proposed San Clemente Dam Seismic Safety Project has been determined to require an EIR under CEQA and an EIS under NEPA. This joint EIR/EIS has been prepared to meet CEQA requirements for disclosing and identifying feasible mitigation for every significant effect, and NEPA requirements to evaluate the magnitude of impacts based on context and intensity.

EIR/EIS Content and Process

Under NEPA, an EIS must describe the environmental impacts of the proposed action; any adverse environmental effects that cannot be avoided; alternatives to the proposed action; the relationship between local, short term uses of the human environment and maintenance and enhancement of long term productivity; and any irreversible and irretrievable commitments of resources that would be involved in the proposed action. This document meets those NEPA requirements.

Under CEQA, an EIR must describe all significant effects on the environment that may be caused by the proposed project; significant effects that cannot be avoided; any irreversible effects; proposed mitigation measures; project alternatives; and growth-inducting impacts. This document meets those CEQA requirements.

Requirements for alternatives analysis differ between CEQA and NEPA. CEQA discusses the proposed project in detail and requires only enough information about alternatives to allow a meaningful comparison. NEPA requires that a reasonable range of alternatives be analyzed and discussed in comparable detail. This joint document meets the NEPA standard.

Air Quality and Conformity Statement

For joint NEPA/CEQA documents, the air quality analysis and technical report must comply with the federal CAA, and must contain a regional air conformity statement and a project level conformity statement (see air quality permitting discussion below). Evaluation of project impacts on air quality is included in Section 4.7 of this EIR/EIS.

Cultural Resources

Joint documents and cultural resources reports must comply with Section 106 of the NHPA. Surveys and reports prepared pursuant to Section 106 must be sent to the SHPO for concurrence (see cultural resources permitting discussion below). Evaluation of project impacts on cultural resources is included in Section 4.10 of this EIR/EIS.

Waters of the U.S. and Wetlands

Section 404 of the CWA (33 USC 1344) authorizes the USACE to issue permits, after notice and opportunity for public hearing, for the discharge of dredge or fill material into the Waters of the United States and adjacent wetlands. The decision to issue a permit is based on an evaluation of the probable impacts, including cumulative impacts, of the project and its impacts on the quality of the human environment (also see discussion of floodplains and wetlands permitting below).

For actions subject to NEPA where the USACE is the lead agency, the analysis of alternatives required for NEPA environmental documents will, in most cases, provide the information for the evaluation of alternatives under the Section 404(b)(1), *Guidelines for Specification of Disposal Sites for Dredged or Fill Material.* The Section 404(b)(1) Guidelines, published by the Environmental Protection Agency (EPA) in conjunction with the USACE, contain substantive environmental criteria used in evaluating discharges of dredged or fill material. Under these guidelines, no discharge can be permitted if a practicable alternative with less adverse impact on the aquatic environment (unless the identified alternative poses other significant environmental consequences) is available. In completing the ROD under NEPA, the USACE will require a Section 404 permit compliance and select a project that conforms to Section 404(b)(1) Guidelines. This is commonly called the Least Environmentally Damaging Practicable Alternative (LEDPA), although the term actually does not occur in the Guidelines. An alternative is considered practicable if it is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes. However, the USACE's evaluation of a Section 404 permit application is a two part test involving (1) a determination of whether the project complies with the Section 404(b)(1) Guidelines, and (2) a public interest review. This public interest review is a balancing test in which the public and private benefits of a project are compared against its adverse impacts to the environment. It includes such considerations as conservation, economics, aesthetics, navigation, fish and wildlife values, water supply, water quality, energy needs, flood damage prevention, and cultural resources. The USACE also considers all comments received in the permit process, whether in response to a public notice or a public hearing. A permit cannot be issued or an application must be denied if the project fails to comply with the Guidelines or is found to be contrary to the public interest.

Floodplains / Wetlands

The San Clemente Dam Seismic Safety Project is within the 100-year floodplain of the Carmel River and San Clemente Creek. The USACE mandates that impacts to

floodplains and wetlands be assessed and alternatives for protection of these resources be evaluated in accordance with Compliance with Floodplain/Wetlands Environmental Review Requirements (10 CFR 1022.12) and Federal E.O 11988 and E.O. 11990. Evaluation of project impacts on floodplains and wetlands is included in Section 4.8 of this EIR/EIS and constitutes the floodplain/wetlands assessment. The USACE published a notice of floodplain/wetlands involvement for this project in the *Federal Register* as part of its Notice of Intent. The ROD will contain the statement of findings for floodplain/wetlands impacts.

USACE Regulation of Discharge of Sediments

The USACE has published Regulatory Guidance Letter No. 05-04, providing guidance on the discharge of sediments from or through a dam and the breaching of dams, for purposes of Section 404 of the CWA and Section 10 of the Rivers and Harbors Act of 1899. The letter addresses releases of sediments from or through dams that require USACE permits. The guidance is not intended to require a USACE permit for routine high water flow dam operations that allow sediment-laden waters to flow from or through a dam; however deviations from normal dam operations resulting in the discharge of bottom sediment may require a USACE permit.

Sluicing of sediments through a dam is considered hydraulic dredging and the discharge of dredged material from a point source (i.e., The Dam) and requires a USACE permit pursuant to Section 404 of the CWA. Discharges of sediment through a dam are exempt from regulation when released for dam maintenance (but not for any other purpose such as maintenance of the reservoir pool). To be exempt, discharges of sediments through a dam would have to be necessary for essential dam maintenance. The USACE states that it is rarely necessary to sluice substantial quantities of sediments through a dam in order to accomplish essential dam maintenance and the Subsection 404(f) exemption will rarely, if ever, be applicable to the discharge of large quantities of sediments through a dam. A Sediment Operations and Management Plan (SOMP) (Appendix J) has been developed for sluicing under the Proponent’s Proposed Project or Alternative 1.

Discharge of sediments may also require a USACE Section 10 permit if they occur in "navigable waters of the United States”. This policy includes breaching of dams when sediment has accumulated in the reservoir basin and is released downstream.

Discharges of sediments may also be potentially regulated as fill material. Final revisions to the CWA Section 404 Regulatory Program defines "fill material" as material placed in Waters of the U.S. where the material has the effect of either replacing any portion of a water of the U.S. with dry land or changing the bottom elevation of any portion of a water. Based on this "effect" determination, USACE permits are generally required for the discharge of sediments from dams when such activities would have the effect of raising the bottom elevation of the downstream waters to a discernible, substantial degree.

The release of sediments incidental to normal dam operations is considered a de minimis discharge. These discharges do not trigger the need for a USACE permit so long as they are consistent with sediment loads entering the reservoir from upstream.

Some activities are not considered regulated discharges and do not require USACE permits, including actions such as the operation of continuously sluicing structures that mimic the natural increase and decrease of sediment in a stream; breaching or removal of a dam that results in the movement of only de minimis amounts of material or that results solely from an act of nature; releases during times of high water or flood stages for purposes of passing flood waters through the Dam; and the lowering of lake or pond levels that results in the release of only de minimis amounts of sediment.

The USACE may permit a reservoir to be drawn down and dredged material to be discharged downstream to avoid potential catastrophic dam failure, subject to emergency permitting procedures found at 33 CFR 325.2(e)(l).

Sluicing through a dam of less than 25 cubic yards of material may be authorized under Nationwide Permit 18. Districts may also develop Regional General Permits for larger amounts of sediments to be released through a dam. Small releases of sediments may be authorized under Nationwide Permit 23 if an agency has an approved Categorical Exclusion.

When discharging sediment from or through a dam or breaching a dam, the USACE requires reasonable measures to reduce potential harm to downstream waters. Reasonable measures include prior dewatering by pumping or by releasing water from the upper control structures on a reservoir; mechanical dredging or excavation of sediments and appropriate disposal; timing releases to coincide with high water periods for better dilution; more frequent flushing to keep the discharges small; releasing a sediment amount that is dependent on the amount of water flow; and installing temporary barriers to prevent exposed sediments from being transported by runoff from subsequent storm events.

Endangered Species Act (ESA)

The Federal Endangered Species Act (cited as ESA throughout this document) of 1973(16 United States Code [USC] 1536) as amended in 1988, establishes a national program for the conservation of threatened and endangered species of fish, wildlife and plants, and the preservation of the habitat critical to the survival of listed species. The purpose of the ESA is to conserve the ecosystems upon which endangered and threatened species depend and to recover listed species. Under the law, species may be listed as either “endangered” or “threatened.” “Endangered” is defined as a species in danger of extinction throughout all or a significant portion of its range. “Threatened” is defined as a species likely to become endangered within the foreseeable future. All species of plants and animals, except pest insects, are eligible for listing. All federal agencies are required to protect listed species and protect their habitats. Federal

agencies must use their authority to conserve listed species and ensure that their actions do not jeopardize the continued existence of listed species.

The ESA defines procedures for listing species, designating critical habitat for listed species, and preparing recovery plans. It also specifies prohibited actions and exceptions. The USFWS has primary responsibility for enforcing ESA with respect to terrestrial and freshwater organisms, while NMFS is responsible for enforcing ESA when marine species, including anadromous fish, are concerned.

Section 7(a) of the ESA requires federal agencies to ensure that the actions they authorize, fund, and carry out do not jeopardize species listed as threatened or endangered or their critical habitats. Section 7 provides that a project applicant may request consultation between a federal permitting agency and the USFWS or NMFS Fisheries (collectively, the "Services") if the applicant has reason to believe that a listed species is likely to be affected by a proposed project. The federal agency prepares a Biological Assessment (BA), which is reviewed by the Services. The responsible Service issues a BO regarding how the proposed action will affect listed species or critical habitat. If the Service determines that a proposed action will jeopardize the continued existence of a listed species, the Service must issue a BO offering “reasonable and prudent alternatives” about how the proposed action could be modified to avoid jeopardy.

Two federally listed threatened species occur in the Carmel River watershed and are present on the project site: the South-Central California Coast Steelhead (*Oncorhynchus (=Salmo) mykiss)* Evolutionary Significant Unit (ESU), and the California red-legged frog (*Rana draytonii*). The California red-legged frog is also listed under the California Endangered Species Act (CESA) as a species of special concern. Steelhead use the Project Area for migration, reproduction and juvenile rearing, however adult life stages occur primarily in the ocean. California red-legged frogs use the Project Area for all life history stages including reproduction, juvenile rearing and feeding and movement by adults. California red-legged frogs require aquatic habitats for egg laying and the development of tadpoles to juvenile frogs. Juvenile and adult frogs are dependent upon both terrestrial and aquatic habitats. Steelhead and steelhead habitat is under the jurisdiction of NMFS and the CDFG. California red-legged frogs and their habitat are under the jurisdiction of the USFWS and the CDFG. Designated critical habitat for both species occurs within the Project Area. Under a Settlement Agreement negotiated with the USFWS, CAW agreed to monitor, rescue, and translocate California red-legged frogs found in drying sections of the river to minimize effects of water pumping until a Habitat Conservation Plan is developed.

Potential impacts to threatened or endangered plants, wildlife, and fish species are discussed in Sections 4.4 and 4.5 of this EIR/EIS.

Under a 2001 Conservation Agreement negotiated with NMFS, CAW agreed not to divert water at San Clemente Dam during low flow periods (defined as 5 consecutive

days of 20 cfs or less flow as measured at the Don Juan gage). CAW also agreed to restrict its production from its upper Carmel Valley wells during low flow periods.

Fish and Wildlife Conservation Act

The Fish and Wildlife Conservation Act of 1980 (16 USC 2901 et seq.) encourages federal agencies to conserve and promote conservation of non-game fish and wildlife species and their habitats. In addition, the Fish and Wildlife Coordination Act (16 USC 661 et seq.) requires federal agencies undertaking projects affecting water resources to consult with the USFWS and the state agency responsible for fish and wildlife resources. These agencies have been sent copies of the Draft EIR/EIS and their comments have been considered. These agencies will also receive copies of the Final EIR/EIS.

Mitigation designed to conserve fish and wildlife and their habitat is provided in the sections in Sections 4.4 and 4.5 of this EIR/EIS.

Essential Fish Habitat (Magnuson-Stevens Act)

The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), as amended, requires Essential Fish Habitat (EFH) descriptions in federal fishery management plans and requires federal agencies to consult with NMFS on activities that may adversely affect EFH. The regulations implementing the EFH provisions of the Magnuson-Stevens Act (*Federal Register* 67, No. 12) require all fishery management councils to amend their fishery management plans to describe and identify EFH for each managed fishery. Amendment 14 to the Pacific Coast Salmon Plan (1997)[2] covers EFH for all fisheries under NMFS jurisdiction that would potentially be affected by the proposed action. EFH includes all streams, lakes, ponds, wetlands, and other currently viable water bodies and most of the habitat historically accessible to salmon. Activities upstream of impassable barriers are subject to consultation provisions of the Magnuson-Stevens Act when they would affect EFH downstream of those barriers.[3]

Under Section 305(b)(4) of the Magnuson-Stevens Act, NMFS is required to provide EFH conservation and enhancement recommendations to federal and state agencies for actions that adversely affect EFH. Whenever possible, NMFS uses existing interagency coordination processes to fulfill EFH consultations with federal agencies. Evaluation of project impacts on EFH is included in the Section 4.4 of this EIR/EIS.

[2] The Pacific Fishery Management Council (PFMC) manages Pacific Coast salmon fisheries. Amendment 14 contains Appendix A, which identifies EFH by species and rivers from Alaska to California. The Carmel River is listed and is considered to have historically provided habitat for coho salmon (Brown and Moyle 1991).

[3] The Act does not apply if actions do not affect downstream EFH; in any case SCD is not upstream of such a barrier.

Other Federal Regulations Affecting Biological Resources

Migratory Bird Treaty Act (16 USC §703-711; 50 CFR Subchapter B)

This Act includes provisions for protection of migratory birds, including basic prohibitions against any take not authorized by the Act. The Act is enforced by the USFWS.

Rivers and Harbors Act (§10; 33 USC §201 et seq.)

This Act protects waters of the United States and is administered by the USACE.

Clean Water Act of 1977 (33 USC §1251-1376; 30 CFR §330.5[a]26)

These sections provide for the protection of wetlands and are administered by the USACE.

Executive Order 11990 — Protection of Wetlands (May 24, 1977)

This order provides for the protection of wetlands and is enforced by the USACE.

Cultural Resources

Preserving cultural resources allows Americans to have an understanding and appreciation of their origins and history. A cultural resource is an object, structure, building, site or district that provides irreplaceable evidence of natural or human history of national, state or local significance. Cultural resources include National Landmarks, archeological sites, and properties listed (or eligible for listing) on the National Register of Historic Places. Regulations established for the management of cultural resources include:

- Antiquities Act of 1906 (16 U.S.C. 431-433).
- Historic Sites Act of 1935 (16 U.S.C. 461-467).
- Section 106 of the NHPA of 1966 (16 U.S.C. 470 et seq.), as amended.
- Archaeological Data Preservation Act (ADPA) of 1974 (16 U.S.C. 469 a-c).
- American Religious Freedom Act of 1978.
- EO 13007 Indian Sacred Sites.

The USACE has initiated the Section 106 consultation process for this project with the State Historic Preservation Officer SHPO for California, the ADPA, and the consulting and interested parties (see Section 4.10 for further detail).

1.5.2 STATE REQUIREMENTS

Annual MOA on Carmel River Flows (CDFG, MPWMD, CAW)

CDFG has a duty to protect fish and wildlife resources of the state of California. The MPWMD, pursuant to its rules and regulations, establishes a quarterly water supply strategy and budget for the Monterey Peninsula. CAW supplies water to the Monterey Peninsula and must comply with State Water Resources Control Board (SWRCB) Order 95-10, as amended. The CDFG, MPWMD, and CAW have a mutual objective of managing surface flow in the Carmel River, and to the extent feasible, maximizing flow from June through December each year. Consequently, CDFG, MPWMD, and CAW enter into an annual SCD MOA providing for flow releases based on actual and projected Carmel Valley rainfall, runoff, storage, and production needs, with the intent of enhancing fishery habitats in the lower Carmel River. Enhancement of fishery habitats is achieved by establishing a minimum storage pool at Los Padres Reservoir and establishing a rate and schedule for flows downstream of Los Padres and San Clemente dams. Flow rates vary depending on seasonal rainfall, and typically range between 3 and 8.5 cubic feet per second between May and December below the SCD. In 2004, minimum pool at Los Padres was set at elevation 980', or 91 acre feet of storage; the minimum pool at SCD was set at elevation 515', or 71 acre feet of storage. Releases were scheduled to maintain between 5 and 9 cfs in the lower Carmel River, depending upon the month. The Annual SCD MOA also incorporates certain provisions of Order 95-10, as amended, which limit CAW's diversions from SCD and limit CAW's operations of certain of its wells in the Carmel Valley Aquifer during the dry season.

Streambed Alteration Agreement (SAA, CDFG)

Sections 1600-1616 of the California Fish and Game Code require project proponents to submit to CDFG a Notification of Lake or Streambed Alteration for any project that may “substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.” Upon approval CDFG will issue a Streambed Alteration Agreement (SAA). As a state agency, CDFG requires that a CEQA document be completed prior to issuing an SAA. This EIR/EIS provides the required CEQA compliance for this project. In addition to completing the Notification of Lake or Streambed Alteration and verification of complete CEQA documentation, project applicants must submit a fee to CDFG in order to receive the SAA.

Several different SAAs will be necessary for this project because the work involves stream crossings at more than one location and construction activity over multiple years. When project activities are similar each year, one SAA can be developed to cover the project term. For the San Clemente Dam Seismic Safety Project, the types of project actions could vary substantially from the first year to the last, consequently, separate SAAs may be required for the various activities such as construction of a

bridge across Tularcitos Creek, reconstruction of the Old Carmel River Dam Bridge (OCRB), and dewatering the plunge pool.

All SAAs define the seasonal work windows and protection measures required by CDFG, and Lake or Stream Alteration Program staff typically makes site visits prior to releasing an SAA.

California Fish and Game Code

The CDFG enforces the California Fish and Game Code. The California Species Preservation Act of 1970 (Code sections 900-903) provides for the protection and enhancement of the birds, mammals, fish, amphibians, and reptiles of California and prohibits the taking or possessing of any bird egg or nest. Sections 3511 and 5050 prohibit the taking or possessing of birds and reptiles listed as "fully protected". The Native Plant Protection Act of 1977 (Code sections 1900 et seq.) lists state-designated rare and endangered plants and provides specific protection measures for identified populations. Sections 1930-1993 provide for the Significant Natural Areas program and database.

CESA, Code §2050-2098, 1984) includes provisions for the protection and management of species listed as endangered or threatened, or designated as candidates for such listing. The act requires consultation "to ensure that any action authorized by a state lead agency is not likely to jeopardize the continued existence of any endangered or threatened species or results in the destruction or adverse modification of habitat essential to the continued existence of the species" (§2090). Plants of California declared to be endangered, threatened, or rare are listed in 14 CCR §670.2. Animals of California declared to be endangered, threatened, or rare are listed in 14 CCR §670.5.

Air Quality Plans

As required by the California CAA and Amendments (Health and Safety Code (HSC) Section 40910 et seq.) and the Federal CAA and Amendments (42 U.S.C. Section 7401 et seq.) the MBUAPCD is responsible for air monitoring, permitting, enforcement, long-range air quality planning, regulatory development, education and public information activities related to air pollution. California Health and Safety Code Sections 39002, et seq. and 40000, et seq. both require local districts to be the primary enforcement mechanism for air pollution control. The MBUAPCD promulgates and administers rules and regulations for the implementation and enforcement of the attainment and maintenance of federal and state ambient air standards.

Relevant to this project, MBUAPCD administers state and federal management plans, oversees general conformity, and enforces the statewide Portable Equipment Registration Program (PERP). The San Clemente Dam Seismic Safety Project must comply with:

- The 2004 AQMP for the Monterey Bay Region, which addresses attainment of state ozone standard and is updated every three years.

- The 1997 FMP, which addresses non-attainment areas for state and federal ambient air quality standards, including attainment of the Particulate Matter ($PM_{10)}$ standard.

- The General Conformity Rule, which was adopted to comply with the CAA Section 176(c) which prohibits federal entities from taking actions (e.g., funding, licensing, permitting, or approving projects) in National Ambient Air Quality Standards (NAAQS) nonattainment or maintenance areas which do not conform to the State Implementation Plan (SIP) for the attainment and maintenance of NAAQS pursuant to Section 110(a) of the Clean Air Act.

- The 1997 Statewide PERP, which establishes a uniform program to regulate portable engines and portable engine-driven equipment units. Once registered in the Program, engines and equipment units can operate throughout the State of California without the need to get individual permits from local air districts. Districts are preempted from permitting, registering, or regulating portable engines and portable equipment units registered with the Air Resources Board (ARB). However, local air districts are responsible for enforcing the program.

The San Clemente Dam Seismic Safety Project may affect air quality, primarily during construction and sediment management operations. Potential air impacts are discussed in Section 4.3, Air Quality, in Chapter 4.0 of this EIR/EIS. For general conformity, the Project will need to show that it does not conflict with the AQMP or the FMP, and that all non-mobile source equipment used complies with PERP.

Regulation of Water Utilities

The CPUC is charged with the regulation of the rates and service of investor-owned utilities (including all investor-owned water utilities, such as CAW) in California. The CPUC has several divisions, including its water division. The CPUC adopts Rules of Practice and Procedure and issues General Orders regulating various aspects of rates, services, facilities, and the safety and financial practices of utilities. Water utilities are under a mandate to serve customers within their authorized service areas. The CPUC routinely examines the adequacy of a water utility's water production, treatment, storage, and distribution systems. All major projects, such as the San Clemente Dam Seismic Safety Project, must be approved by the CPUC.

Greenhouse Gas Emissions

The California Air Resources Board (CARB), the California EPA, and other governmental agencies with jurisdiction have not yet developed guidelines on how to prepare a CEQA impact assessment for a project's greenhouse gas (GHG) contribution to Global Climate Change (GCC). The State Legislature enacted and the Governor signed Assembly Bill (AB) 32, the Global Warming Solutions Act of 2006, which charged CARB to develop regulations on how the State would address GCC. AB 32 focuses on reducing GHG in California. AB 32 requires CARB, the state agency charged with regulating statewide air quality, to adopt rules and regulations that would achieve greenhouse gas emissions equivalent to statewide levels in 1990 by 2020. SB 97

(2007) requires the State of California Governor's Office of Planning and Research to prepare "guidelines for the mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions" required by CEQA by July 2009. These guidelines, in turn, will be certified and adopted by the Resources Agency by January 2010.

1.5.3 LOCAL REQUIREMENTS

Monterey Peninsula Water Management District (MPWMD)

The MPWMD allocates water resources for the Monterey Peninsula Water Resources System and monitors the environmental effects of water production in the Carmel River watershed. MPWMD also issues River Access and River Work Permits.

The MPWMD Water Allocation Program sets annual water allocations for water resources within MPWMD's jurisdiction, including allocations for CAW. All water distribution systems within MPWMD's jurisdiction, including the CAW system, require a permit from MPWMD. As specified in the MPWMD Rules and Regulations (Rule 20 (B)), a change in CAW's distribution system (such as alternatives that would relocate CAW's point of diversion) may require a permit from MPWMD.

The MPWMD has developed a Mitigation Plan for the MPWMD Water Allocation Program. The Mitigation Plan is renewed on an annual basis, and focuses on fisheries, riparian vegetation and wildlife, the Carmel River lagoon, special-status species, and aesthetics. Activities undertaken under the Plan include irrigation and erosion control, fishery enhancement, flow releases, water quality monitoring, municipal water demand reduction, and regulating activities in the river corridor.

Monterey County Policies and Regulations

Monterey County has adopted policies and regulations managing forest resources. Under the provisions of Title 16, Chapter 16.60, Monterey County Code, no oak, madrone, or redwood tree six inches or greater in diameter (at two feet above ground level) shall be removed in the Carmel Valley Master Plan (CVMP) area without a tree removal permit. Chapter 16.60 also provides that no landmark oak tree shall be removed in any area except as approved by the Director of Planning and Building Inspection. Landmark oak trees are defined as trees 24 inches or greater in diameter (at two feet above ground level), or trees that are visually significant, historically significant, or exemplary of their species. Replacement of oak trees removed by project actions at a 1: 1 ratio is required under Chapter 16.60.

Monterey County Land Use Plans

The Monterey Country Comprehensive Plan and Local Area Plans (such as the Cachagua area plan) set planning and development policy for areas throughout the County, including those areas in which the San Clemente Dam Seismic Safety Project will be developed. The Monterey County Planning Department may require permits for the following activities:

- Removal of more than 3 oaks or any other protected trees for development or improvement of road or other project features would require a County permit.

- Development of any slopes over 30 percent would require Use Permits from Planning and Building Inspection.

- An encroachment permit would be required from County Public Works Department to access existing roads with new access points or improvements in existing rights-of-way.

- Grading permits would be required for the concrete batch plant, installation of the crane, and development of new and existing access roads.

1.6 PROJECT HISTORY

In 1980, DSOD requested that CAW evaluate the ability of the Dam to safely pass the PMF and withstand the MCE. Woodward-Clyde Consultants (WCC) was retained by CAW and completed an initial report in 1982. Although this preliminary report concluded that the Dam had adequate strength to resist the loadings imposed by either of these events, DSOD requested additional analysis, which was conducted by WCC and submitted by CAW. In a letter dated May 9, 1986, DSOD concluded that the proposed MCE and the response spectra were satisfactory; however, DSOD requested a more detailed analysis.

During the 1980s, MPWMD pursued the construction of a new dam on the Carmel River and investigated the San Clemente Dam site (referred to as the "New San Clemente Project") as an alternative location for a 29,000 acre-foot reservoir. Because the new reservoir, if constructed, would have inundated the existing dam and reservoir, DSOD agreed to defer their request for a more detailed analysis of the existing SCD. However, in February 1989, MPWMD shifted its focus from the New San Clemente Project to a dam site downstream of Los Padres Dam (LPD), which was believed to be a less environmentally damaging, more practicable alternative. When that project failed to proceed, DSOD renewed its request to CAW for completing an updated engineering analysis of the existing dam's stability.

In 1990, CAW retained an engineer to perform the required seismic and flood stability evaluations to comply with DSOD's request. The *Seismic and Flood Stability Evaluation, San Clemente Dam* report (WCC 1992) confirmed that with full storage, the Dam may not be stable under the MCE and the downstream abutment area would be susceptible to excessive erosion under PMF conditions. The existing spillway has a discharge capacity of about 20,800 cubic feet per second (cfs) at the Dam crest elevation. The PMF is estimated to be approximately 81,000 cfs, which would overtop the Dam by approximately 14 feet. Based on these findings (circa 1992), the DSOD required that SCD be brought into compliance with current seismic safety standards, to withstand loading from a MCE on the Tularcitos Fault and safely pass the PMF (these two events are not expected to occur simultaneously). DSOD also restricted use of flashboards.

At that time, an initial set of alternatives for repair of SCD was developed. This set of alternatives included:

- Strengthen the Dam;
- Lower the Dam crest (notching);
- Breach the Dam/crest at 490 feet (dam removal);
- Strengthen the Dam and raise the crest 10 feet;
- Strengthen the Dam and raise the crest 20 feet; and
- Strengthen the Dam, raise the crest 20 feet, and dredge the reservoir.

A 1993 report concluded that the alternatives would result in significant environmental impacts. Subsequently, CAW further defined the project objectives and identified additional alternatives for further evaluation.

Additional dam stress analyses were performed (WCC 1993), evaluating various reservoir levels, failure modes, and dam overtopping scenarios. These preliminary conceptual design alternatives were based on a determination that the Dam would have to be notched to elevation 509 (16 feet below the existing spillway elevation) for seismic stability and to elevation 506 to safely pass the PMF. The report noted that the stresses were greatly reduced when the superstructure was removed. DSOD accepted the 1993 report and agreed upon the design alternatives and CAW proceeded with preliminary engineering feasibility studies.

The engineering analysis, entitled *Structural Improvement of San Clemente Dam, Preliminary Feasibility Study* (1995), presented eight alternatives for dam reinforcement. Six of these were evaluated from an engineering and environmental impact perspective:

- Notching
- Post-Tensioning Tendons
- Arch Beams
- Arch Beams with Buttress Supports
- Downstream Thickening
- Roller-Compacted Concrete (RCC) Dam

The "No Action" alternative and a dam armoring alternative were also evaluated, but were found to be ineffective and dismissed prior to the environmental evaluation. The report compared all of the alternatives and identified dam thickening as the project

alternative that best met project objectives at an acceptable level of environmental impact. In August 1995, DSOD accepted the *Preliminary Feasibility Study* and confirmed that further study of the concept of dam thickening under CEQA was warranted. A final report was submitted to DSOD in September 1996.

In early 1996, CAW contracted with Moffat & Nichol Engineers to determine the feasibility of dredging San Clemente reservoir and potential sites for disposal or end-use of the dredged material. In September 1996 Moffat & Nichol Engineers submitted its report entitled *San Clemente Reservoir Dredging Feasibility Study*.

WCC was retained to perform preliminary project design for evaluation in a CEQA EIR, addressing access, retrofit design and rendering, dam break analysis, construction materials report and concrete production plan. In January 1997, WCC submitted to DSOD a draft engineering report entitled *Design Memorandum: Structural Improvements San Clemente Dam*. That report summarized the criteria used in the preliminary design of the proposed downstream thickening project; design alternatives for construction access from Carmel Valley Road to the Carmel Valley Filter Plant; the result of engineering analysis performed to verify the appropriateness of the design; mechanical and design considerations; and construction issues and site conditions.

In March 1997, DSOD accepted the MCE design criteria and other information prepared under the preliminary design scope of work (with some additional questions regarding the need for dowels). A Draft EIR (DEIR) for the SCD Seismic Retrofit Project was prepared in December 1998 and circulated for public review through February 1999. The DEIR analyzed dam removal, notching, and mitigated retrofit with sediment management alternatives. Comments on the DEIR requested new and expanded information including additional analysis of existing and new dam notching and removal alternatives, access alternatives, additional traffic analysis, as well as analysis of sediment releases from SCD, flushing flows, and other potential changes associated with dam removal.

The substantial amount of new information led to the preparation of a Recirculated Draft EIR (RDEIR) prepared by Denise Duffy & Associates, which was issued in 2000. The RDEIR responded to NMFS' desire to both meet dam safety objectives and restore natural fish passage, bedload transport and channel and canyon slopes and associated habitat occupied by the reservoir. The alternatives section of the RDEIR contained more detailed sediment management options to prevent the adverse effects of uncontrolled sediment releases.

Comments received on the RDEIR requested that dam removal be evaluated in more depth as an alternative. NMFS and others commenting on the RDEIR requested further analysis on hydrology and sediment transport in the Carmel River. Other comments requested further consideration of the Dam removal alternative, sediment management alternatives, and alternative access routes.

As a result of these comments, significant additional studies, funded by CAW, were conducted in cooperation with NMFS, USFWS, CDFG, MPWMD, DWR, and others to evaluate a wide range of sediment disposal options, including sediment releases to the Carmel River under various flow scenarios and associated with a range of notching and dam removal alternatives. An interagency working group spent considerable time and effort to explore potentially feasible means of notching the Dam or removing it with less adverse effects.

Since the release of the December 1998 DEIR, the reservoir has nearly filled with sediment, leading to concerns about fisheries/aquatic and flood plain impacts associated with uncontrolled releases. In 2003 the DSOD required modifications to SCD to meet interim dam safety requirements, including an interim drawdown (see Section 3.6). An Interagency Group identified a technical approach that could provide for safe controlled flow releases with acceptable environmental effects. Consultation under the Federal ESA for the interim drawdown was conducted with USFWS and NMFS leading to issuance of BOs under Section 7 of the ESA by USFWS and NMFS.

1.7 SCOPING, IDENTIFICATION OF ISSUES, AND PUBLIC REVIEW

NEPA procedures require public scoping for an EIS. CEQA provides for a response to the Notice of Preparation (NOP) by State Responsible and Trustee Agencies, and acknowledges the necessity for scoping when an EIR/EIS is prepared jointly with a federal agency.

DWR initially determined the need to prepare an EIR under CEQA in 1997, based on a preliminary evaluation of potential significant impacts of project construction and operation. An NOP with a 30-day review period was issued by DWR on March 25, 1997, and distributed to interested parties and organizations. A revised NOP for the EIR/EIS (SCH #2005091148) was filed on September 28, 2005 with the State of California Governor's Office of Planning and Research State Clearinghouse and was distributed by certified mail to all federal permitting agencies and California Responsible Agencies and Trustee Agencies (see Appendix A).

The USACE has determined that the deposition of fill and other project impacts may have a significant impact on the quality of the human environment and requires preparation of an EIS under NEPA. A Notice of Intent (NOI) for the SCD Seismic Retrofit Project was published by the USACE in the Federal Register on September 30, 2004 (Appendix B). The close of the comment period was November 30, 2004.

Public and agency scoping meetings for the EIR/EIS were held in Monterey, California on November 4 and November 9, 2004 to solicit input on the issues, impacts and alternatives that should be evaluated in the EIR/EIS. A scoping announcement and comment form was sent to public and agency mailing lists of more than 1,000 persons. The mailings were sent to local Monterey area residents, including participants in prior CEQA-mandated processes. A press release was sent to local print and radio news media, as well as other outlets and a flyer was prepared and posted throughout the

Monterey area. A project information package was developed and made available at both the public and agency scoping meetings in November 2004. Earlier scoping meetings had been held in April 1997 as part of the CEQA process for the 1998 DEIR and 2000 RDEIR.

Scoping comments were received at the public and agency meetings, and on comment forms made available at the meetings and sent to the public and agency mailing lists. Comments also were received on a project comment website. Letters containing comments were also received. A total of 197 comment responses were received. In addition, 235 comments that had been received on the RDEIR published in 2000 were taken into consideration. These comments were summarized in a detailed Scoping Report published January 20, 2005, and were considered by the Lead and Cooperating Agencies in determining the scope of the EIR/EIS. The majority of comments were made in the following issue areas:

- Aesthetics
- Air quality and noise
- Fish and aquatic biology
- Hydrology
- Project and alternatives
- Public health and safety
- Ratepayer and economic impacts
- Sediment transport, removal and disposal
- Terrestrial biology
- Traffic, safety, and access
- Water quality
- Water resources
- Wetlands

The Draft EIR/EIS was circulated for public comment from April 21, 2006 through July 3, 2006. A Notice of Availability was published in the Federal Register on May 19, 2006 and a Notice of Completion for the EIR was issued through the California State Clearinghouse on April 21, 2006. A Public Hearing on the Draft EIR/EIS was held in Carmel Valley on May 23, 2006. More than 650 comments were received on the Draft EIR/EIS. Appendices C and D contain the written comments received and the transcript

of the Public Hearing. The Final EIR/EIS has been rewritten to incorporate responses to these comments whenever the comment could best be addressed by modifying the document itself. Additional information is provided in the Final EIR/EIS which clarifies and amplifies the information included in the Draft EIR/EIS. Responses to comments are provided in Appendix E. The responses to all comments are arranged by subject area. Appendix E also provides reference to the sections of this Final EIR/EIS that have been modified in response to comments.

1.8 TERMINOLOGY USED IN THE EIR/EIS

The EIR/EIS uses the following terminology consistent with CEQA Guidelines to denote the significance of potential environmental impacts.

- A "less than significant" impact or an impact that is "not significant" would cause no substantial adverse changes in the environment; no mitigation is needed.

- A "significant" impact could or would cause substantial physical changes in the environment. Mitigation is recommended to reduce the impact to a less-than-significant level.

- A "significant and unavoidable" impact is one that could or would cause a substantial adverse change in the environment that cannot be avoided if the project is implemented. Mitigation may be recommended, but would not reduce the impact to a less-than-significant level.

Impacts for each resource or issue are analyzed and evaluated based on the following factors:

- Extent — considers whether the impact would be local or regional in nature;

- Duration — considers whether the impact is short-term (typically construction-related) or long-term (typically described in terms of years);

- Seasonality/Timing — considers variation in impact based on timing of effects (e.g., for steelhead trout and California red-legged frog);

- Intensity — considers whether the impact would be negligible (imperceptible or not detectable); minor (slightly perceptible and generally localized); moderate (apparent and having the potential to become larger); or major (substantial, highly noticeable and possibly permanent);

- Type — considers whether the impact would be beneficial or adverse.

1.9 ORGANIZATION OF THE EIR/EIS

The EIR/EIS is organized into six chapters which conform to the required contents of an EIR established in CEQA (Article 9, Contents of Environmental Impact Reports) and the recommended format of an EIS under NEPA (40 CFR 1502.10). Chapter 2.0 provides a

summary of the Proponent's Proposed Project and alternatives, and their potential for significant impacts and recommended mitigation measures. Chapter 3.0 provides a description of each component of the Proponent's Proposed Project and each major alternative, including planning, construction, and operations.

Chapter 4.0 presents the environmental setting, consequences and recommended mitigation measures. It is organized topically, following the major categories of potential environmental impact associated with the Proponent's Proposed Project and alternatives. Each topical section describes the local and regional setting and the known environmental impacts of the project. This Draft EIR/EIS considers the full range of potential environmental impact issues. Each issue has been analyzed against established standards of significance where applicable. Mitigation measures are recommended for each significant impact.

Chapter 5.0 discusses unavoidable adverse impacts, irreversible or irretrievable commitments of environmental resources, growth inducement, and cumulative impacts. It also considers the relationship between short-term uses of the environment and the maintenance and enhancement of long-term productivity. Chapter 6.0 lists the persons who prepared the report, agencies and persons contacted, and a bibliography. A list of acronyms appears in the Table of Contents.

1.10 EIR/EIS PROCESS

The EIR/EIS is intended for use by the lead agencies and the cooperating, responsible, and trustee agencies that may have permit or review authority over the project. A Notice of Availability (NOA) of the Draft EIR/EIS was published in the *Federal Register* on May 19, 2006 and a Notice of Completion for the Draft EIR was issued through the California State Clearinghouse on April 21, 2006. The Draft EIR/EIS was circulated for public comment from April 21, 2006 through July 3, 2006. Comments received by the lead agencies on the Draft EIR/EIS were reviewed and responses to comments have been addressed in this Final EIR/EIS. A Notice of Availability of the Final EIR/EIS will be published in the *Federal Register*, and no federal decision will be made until 30 days after the date of publication.

Prior to approving a project, DWR must certify that the final EIR/EIS has been completed in compliance with CEQA, that it has reviewed and considered the information in the Final EIR/EIS, and that the Final EIR/EIS reflects its independent judgment and analysis.. Once DWR approves a project, it will file a Notice of Determination (NOD) with the State Clearinghouse. Under NEPA, the USACE will issue a ROD explaining its decision and why it has taken the chosen course of action. The ROD will be prepared by the USACE and cannot be signed until at least 30 days after publication of the Final EIR/EIS. The ROD for this EIS/EIR will be signed at the completion of federal permitting associated with the USACE decision (including ESA Section 7 consultation, NHPA Section 106, and CAA Section 404). The ROD is part of the public record and will be made available upon request from the USACE.

It is not the purpose of an EIR/EIS to recommend either approval or denial of a project. NEPA requires each federal agency to adopt procedures to ensure that its decisions consider environmental effects, and the ROD is to be used in the federal decision. Although the EIR/EIS does not control the lead agencies' ultimate decisions on the project, the Lead Agencies must consider information in the EIR/EIS during the approval process. Under NEPA, no alternative may be selected unless it has been adequately discussed and evaluated in an EIS (or an environmental assessment [EA]). Under CEQA, DWR must respond to each significant impact identified in the EIR. If significant, adverse environmental impacts are identified in the EIR, approval of the project under CEQA must be accompanied by written findings, determining the following, as appropriate:

- Changes or alterations have been required in, or incorporated into, such project that mitigate or avoid the significant environmental effects thereof as identified in the completed EIR.

- Such changes or alterations are within the responsibility and jurisdiction of another public agency and such changes have been adopted by such other agency, or can and should be adopted by such other agency.

- Specific economic, social or other considerations make infeasible the mitigation measures or project alternatives identified in the EIR.

If mitigation measures are to be made a condition of the approval of the project, a mitigation monitoring plan/program must be adopted before the project is approved. CEQA requires the decision-making agency to balance, as applicable, the economic, legal, social, technological, or other benefits of a proposed project against its unavoidable environmental risks when determining whether to approve a project. When an agency approves a project that will result in significant and unavoidable impacts, it must make a Statement of Overriding Considerations. The NOD filed for the project must include information on whether the agency certified the EIR and made the findings, if required, under CEQA and whether it adopted a mitigation monitoring plan/program and/or a Statement of Overriding Considerations.

CHAPTER 2.0

SUMMARY

2.0 SUMMARY

2.1 PROPONENT'S PROPOSED PROJECT AND MAJOR ALTERNATIVES

No "preferred alternative" has been designated by the lead agencies. The Proponent's Proposed Project is dam strengthening (under the National Environmental Protection Act [NEPA], this is termed the "proposed action"). The following alternatives are considered in this EIR/EIS:

- Alternative 1: Dam Notching with Partial Sediment Removal
- Alternative 2: Dam Removal with Total Sediment Removal
- Alternative 3: Carmel River Reroute and Dam Removal with in-place Sediment Stabilization
- Alternative 4: No Project

The Proponent's Proposed Project and its action alternatives (Alternatives 1, 2, and 3) include site access and sediment removal, fish passage, and water diversion. The Proponent's Proposed Project and Alternatives 1, 2, and 3 meet the requirement of increasing the safety of San Clemente Dam (SCD) to meet design criteria for withstanding a Maximum Credible Earthquake (MCE) and passing a Probable Maximum Flood (PMF). Alternative 4 does not meet dam safety requirements.

2.1.1 PROPONENT'S PROPOSED PROJECT: DAM STRENGTHENING

The Proponent's Proposed Project is to strengthen the existing SCD, which is owned and operated by the Coastal Division of the California American Water Company (CAW). The proposed improvements are intended to comply with California Department of Water Resources (DWR), Division of Safety of Dams (DSOD) requirements to address safety deficiencies and eliminate the risk of failure during a MCE or a PMF event.

The Project Area is within the upper reaches of the Carmel River in an unincorporated area of Monterey County. SCD sits at the confluence of the Carmel River and San Clemente Creek (River Mile [RM] 18.5), approximately 15 miles southeast of the city of Carmel-by-the-Sea and 3.7 miles southeast of the Carmel Valley Village. SCD impounds a reservoir and serves as a surface water diversion. Another impoundment, at Los Padres Dam (LPD), is approximately five miles upstream at RM 23.5 on the Carmel River.

The Proponent's Proposed Project would eliminate safety risks by thickening the downstream face of the Dam with concrete, strengthening the right abutment near the dam crest, modifying the spillway and dam crest to increase effective spillway width and armoring the abutments with gunite to prevent erosion. A concrete batch plant would be

installed onsite to manufacture the required concrete. A tower crane would be staged at the base of the Dam to move construction materials from the batch plant to the Dam face and fish ladder. The electrical system at the Dam would be improved. During construction, the Carmel River and San Clemente Creek would be diverted around the construction area, the plunge pool at the base of the Dam would be dewatered, and a fish rescue and relocation operation would be operated during construction years. The plunge pool downstream of the Dam would be completely drained prior to dam thickening to allow access for construction workers and machinery for thickening operations and new fish ladder construction. The existing fish ladder allows steelhead trout (listed under the federal Endangered Species Act [ESA] as threatened) to ascend 68 feet to the reservoir and watershed above the Dam. The Proponent's Proposed Project includes a new fish ladder that would comply with existing criteria for fish passage promulgated by the National Marine Fisheries Service (NMFS) and the California Department of Fish and Game (CDFG). A sluice gate would be installed to manage sediment releases, to maintain upstream passage to the fish ladder exit and to maintain water flow into the CAW diversion pipeline. Sediment management following the Sediment Operations and Management Plan (SOMP) would be required to maintain the existing surface water supply intake and to ensure fish passage through the accumulated sediment. In addition, a notch would be cut into the Old Carmel River Dam (OCRD), which is about 1800-feet downstream of SCD, in order to provide adequate fish passage.

A new access from Carmel Valley Road (the "Tularcitos Access Route") would be constructed to bypass the portion of San Clemente Drive which goes through the Sleepy Hollow community by crossing Tularcitos Creek and connecting Carmel Valley Road to San Clemente Drive near CAW's Carmel Valley Filter Plant (CVFP). In addition, the Old Carmel River Dam Bridge (OCRB) and the access road from the CVFP to the Dam would be improved. The existing access road along the east side of the Carmel River, between the OCRD and the base of San Clemente would be rebuilt. The bypassed portion of San Clemente Drive would be used for up to eight months the first year of construction until the Tularcitos Access Route is completed.

The dam thickening alternative would take an estimated four to five years to complete, including environmental review, permitting, design, and infrastructure improvements.

2.1.2 ALTERNATIVE 1: DAM NOTCHING

This alternative would eliminate safety risks by notching the Dam to the approximate elevation of 506 feet in the area of the existing spillway bays. The gates, piers and walkway at the top of the Dam would be removed. This alternative would reduce mass sufficiently to avoid catastrophic failure of the Dam during a MCE event. Notching to an elevation of 506 feet also would be sufficient to ensure dam safety during a PMF. A new facility to divert water would be constructed upstream of the Dam to replace the existing surface water diversion at SCD. The electrical system at the Dam would be upgraded to support a conveyor sediment transport system. During construction, the Carmel River

and San Clemente Creek would be diverted around the construction area, the plunge pool at the base of the Dam would be dewatered, and a fish rescue and relocation operation would be operated during construction years. The plunge pool downstream of the Dam would be completely drained prior to dam notching to allow access for construction workers and machinery for notching operations and new fish ladder construction.

Sediment in the reservoir would be removed down to the level of the notch. A new Carmel River channel and San Clemente Creek channel would be reconstructed in a geomorphically stable configuration in the excavated sediments in the reservoir's inundation zone. Approximately 1.5 million cubic yards (cy) (930 acre-feet [AF]) of accumulated sediment would be removed over two seasons by excavation with heavy equipment. Sediment would be transported from the reservoir via a conveyor belt system to a disposal area east of San Clemente Reservoir. A new facility to divert water would be constructed upstream of the Dam to replace the existing surface water diversion at San Clemente. The existing fish ladder would be removed and a new ladder would be designed and built to accommodate the lowered dam elevation and to comply with existing criteria for fish passage promulgated by NMFS and CDFG. A sluice gate would be installed to enable managed sediment releases to maintain upstream passage from the fish ladder exit to upstream channels. Sediment management following the SOMP would be required to ensure fish passage through the accumulated sediment. In addition a notch would be cut into OCRD, which is about 1800-feet downstream of SCD, in order to provide adequate fish passage.

A design for sediment transport and disposal would be implemented that avoids sediment transport by truck through any populated area. Existing access roads (including San Clemente Drive) with minor improvements would be used to reach the base of the Dam for construction activities at and below the Dam. The OCRB and the access road from the CVFP to the Dam would be improved and the existing access road along the east side of the Carmel River, between OCRD and the base of SCD, would be rebuilt. An existing 4WD road (the Jeep Trail) would be improved to connect Cachagua Road with the sediment disposal site and to the reservoir area above the Dam. This route would be used only to move construction equipment and materials necessary to construct the road, prepare the sediment disposal site, connect the sediment disposal site to the Dam by conveyor belt and maintain the conveyor belt. All sediment transport would occur via conveyor belt from the Dam to the disposal site. No sediment would be hauled by truck over any roads. The stream channels through the upstream sediment plain would be stabilized.

The dam notching alternative would take an estimated six years to complete, including environmental review, permitting, design, infrastructure improvements, sediment removal, dam notching and upstream channel reconstruction through the sediment plain.

2.1.3 ALTERNATIVE 2: DAM REMOVAL

This alternative would permanently eliminate safety concerns through the removal of the Dam. The Dam would be demolished and removed from the site. A new facility to divert water would be constructed upstream of the Dam to replace the existing surface water diversion at San Clemente. The electrical system at the Dam would be upgraded to support a conveyor sediment transport system.

During construction, the Carmel River and San Clemente Creek would be diverted around the construction area, the plunge pool at the base of the Dam would be dewatered, and a fish rescue and relocation operation would be operated during construction years. The plunge pool downstream of the Dam would be completely drained prior to dam removal to allow access for demolition.

Approximately 2.4 million cy (1,555 AF) of accumulated sediment would be removed over three seasons by excavation with heavy equipment. Sediment would be transported from the reservoir via a conveyor belt system to a disposal area east of San Clemente Reservoir. The historic Carmel River channel and San Clemente Creek exposed by sediment excavation in the reservoir's inundation zone would be reconstructed in their historical valleys.

A design for sediment transport and disposal would be implemented that avoids sediment transport by truck through any populated area. Existing access roads (including San Clemente Drive) with minor improvements would be used to reach the base of the Dam for construction activities at and below the Dam. The OCRB and the access road from the CVFP to the Dam would be improved and the existing access road along the east side of the Carmel River, between OCRD and the base of SCD, would be rebuilt. An existing 4WD road (the Jeep Trail) would be improved to connect Cachagua Road with the sediment disposal site, and to the reservoir area above the Dam. This route would be used only to move construction equipment and materials necessary to construct the road, prepare the sediment disposal site, and connect the sediment disposal site to the Dam by conveyor belt. All sediment transport would occur via conveyor belt from the Dam to the disposal site. No sediment would be hauled by truck over any roads.

The existing dam and fish ladder would be demolished and removed from the site. A notch would be cut into OCRD, which is about 1800-feet downstream of SCD, in order to provide adequate fish passage.

The dam removal alternative would take an estimated seven years to complete, including environmental review, permitting, design, infrastructure improvements, sediment removal, dam demolition, and creek channel reconstruction.

2.1.4 ALTERNATIVE 3: CARMEL RIVER REROUTE AND DAM REMOVAL

This alternative would permanently eliminate safety concerns through the removal of the Dam. The Dam and fish ladder would be demolished and rubble used on site to stabilize the sediment pile. A new facility to divert water would be constructed upstream of the Dam to replace the existing surface water diversion at San Clemente. The electrical system at the Dam would be improved.

Approximately 380,000 cy (235 AF) of accumulated sediment behind the Dam on the San Clemente Creek arm of the reservoir would be relocated to the Carmel River arm by excavation with heavy earthmoving equipment. A portion of the Carmel River would be permanently bypassed by excavating a 450-foot-long channel through the ridge that separates the Carmel River and San Clemente Creek, approximately 3000 feet upstream of the Dam. The bypassed portion of the Carmel River would be used as a sediment disposal site for the sediment accumulated in the Carmel River and excavated from the San Clemente Creek arm. The spoils from the bypass channel construction (235,000 cy or 145 AF) would be used for construction of a diversion dike at the upstream end of the bypassed reservoir arm. The sediments at the downstream end of the bypassed reservoir arm would be stabilized and protected from erosion.

During construction, the Carmel River and San Clemente Creek would be diverted around the construction area, the plunge pool at the base of the Dam would be dewatered, and a fish rescue and relocation operation would be operated during construction years. The plunge pool downstream of the Dam would be completely drained prior to dam removal to allow access for demolition.

The Carmel River would be reconstructed through the historic inundation zone in the San Clemente Creek arm from the exit of the bypass channel to the dam site. The San Clemente Creek channel would be reconstructed through its historic inundation zone from the exit of the diversion channel to the dam site. Impacts to the river channel through the historic inundation zone would be mitigated. The existing fish ladder would be demolished and removed from the site. A notch would be cut into OCRD, which is about 1,800 feet downstream of SCD, in order to provide adequate fish passage.

A design for sediment transport and disposal would be implemented that avoids sediment transport by truck through any populated area. Existing access roads (including San Clemente Drive) with minor improvements would be used to reach the base of the Dam for construction activities at and below the Dam. The OCRB and the access road from the CVFP to the Dam would be improved and the existing access road along the east side of the Carmel River, between OCRD and the base of SCD, would be rebuilt. An existing 4WD road (the Jeep Trail) would be improved to connect Cachagua Road with the reservoir.

This project is expected to take five years to complete, including environmental review, permitting, design, infrastructure improvements, sediment removal, bypass channel

excavation, diversion dike construction, dam demolition, and creek channel reconstruction.

2.1.5 ALTERNATIVE 4: NO PROJECT

Under this alternative, the Dam would be left in place with all its existing facilities. A new fish ladder would not be constructed, OCRD would not be notched, and the sediment would be left in place behind the Dam. The reservoir would continue to accumulate sediment at an average rate of about 16.5 AF per year. Minor sediment removal may occur to allow the Dam to maintain the existing surface water supply intake serving the upper Carmel Valley Village area. The existing drawdown ports in the Dam and the existing fish bypass facility would both likely remain operational until the reservoir fills with sediment.

2.2 ALTERNATIVES CONSIDERED AND ELIMINATED

A number of alternatives have been previously considered and eliminated for the San Clemente Dam Seismic Safety Project. These include:

- Alternative designs for dam strengthening
- A new San Clemente Reservoir
- Dam removal through incremental notching and localized sediment management
- Alternative access routes
- Alternative means to excavate, transport, and dispose of sediment accumulated behind SCD
- Alternative disposal sites
- Alternative means to replace the CAW water diversion point at San Clemente Reservoir

Alternatives considered and eliminated are detailed in Section 3.1.

2.3 COMPARISON OF ALTERNATIVES: IMPACTS AND MITIGATION MEASURES

Table 2.1 presents a summary and comparison of the San Clemente Dam Seismic Safety Project, including the Proponent's Proposed Project and its alternatives. The matrix shows the affected resource areas and impact issues, and summarizes impact significance and mitigation for each alternative. The following discussion highlights key comparative impacts among the project alternatives. It also discusses changes and additional information provided in this Final EIR/EIS in response to comments that clarify and amplify the information included in the Draft EIR/EIS. The changes and additions are described in a summary manner. Further details and reasons for the changes are discussed in the specific resource sections. Where an issue determination has been changed, it is discussed under the specific issue heading for that alternative.

If an environmental resource issue is specified as “short-term” or “long-term” in Table 2.1, the referenced issue is limited to the respective definitions of these terms presented below, and in Chapter 4.0 of this report:

- Short-term impacts typically occur within the construction period (concurrent with the number of construction seasons, and vary from one alternative to another) or as a result of construction.

- Long-term impacts persist beyond the construction period and typically involve operations. They may be intermittent but over a longer period.

- Some of the resource issues have impacts that are both short-term and long-term.

Table 2-1: Impacts and Mitigation Matrix for Proponent's Proposed Project and Alternatives

ENVIRONMENTAL RESOURCES & ISSUES	PROPONENT'S PROPOSED PROJECT (DAM THICKENING)	ALTERNATIVE 1 (DAM NOTCHING)	ALTERNATIVE 2 (DAM REMOVAL)	ALTERNATIVE 3 (CARMEL RIVER REROUTE & DAM REMOVAL)	ALTERNATIVE 4 (NO PROJECT)
GEOLOGY & SOILS					
GS-1: Ground Shaking *Risk of dam failure due to seismic activity*	**Impact**: less than significant **Mitigation**: no mitigation required	**Impact**: less than significant **Mitigation**: no mitigation required	DOES NOT APPLY (dam removal eliminates risk of failure)	DOES NOT APPLY (dam removal eliminates risk of failure)	**Impact**: long-term, significant and unavoidable risk of dam failure under maximum credible earthquake
GS-2: Access Route Landslides/Slope Stability *Risk of slides due to oversteepening hillsides*	**Impact**: short-term, less than significant with mitigation **Mitigation**: geotechnical design of road improvements, BMPs; in addition to SWPPP (Appendix K)	**Impact**: short-term, less than significant with mitigation **Mitigation**: geotechnical design of road improvements, BMPs; in addition to SWPPP (Appendix K)	**Impact**: short-term, less than significant with mitigation **Mitigation**: geotechnical design of road improvements, BMPs; in addition to SWPPP (Appendix K)	**Impact**: short-term, less than significant with mitigation **Mitigation**: geotechnical design of road improvements, BMPs; in addition to SWPPP (Appendix K)	DOES NOT APPLY
GS-3: Reservoir Landslides *Risk of slides due to oversteepening hillsides*	**Impact**: less than significant **Mitigation**: no mitigation required	**Impact**: less than significant **Mitigation**: no mitigation required	DOES NOT APPLY	DOES NOT APPLY	DOES NOT APPLY
GS-4: Soil Erosion *Risk of erosion along access road improvements and in sediment disposal areas; sediment and rock discharge to streams*	**Impact**: long-term, less than significant with mitigation **Mitigation**: erosion control and water quality BMPs in the SWPPP (Appendix K) NOTE: use of sediment disposal areas would not apply to the Proponent's Proposed Project.	**Impact**: long-term, less than significant with mitigation **Mitigation**: erosion control and water quality BMPs in the SWPPP (Appendix K)	**Impact**: long-term, less than significant with mitigation **Mitigation**: erosion control and water quality BMPs in the SWPPP (Appendix K)	**Impact**: long-term, less than significant with mitigation **Mitigation**: erosion control and water quality BMPs in the SWPPP (Appendix K)	DOES NOT APPLY

Table 2-1: Impacts and Mitigation Matrix for Proponent's Proposed Project and Alternatives

ENVIRONMENTAL RESOURCES & ISSUES	PROPONENT'S PROPOSED PROJECT (DAM THICKENING)	ALTERNATIVE 1 (DAM NOTCHING)	ALTERNATIVE 2 (DAM REMOVAL)	ALTERNATIVE 3 (CARMEL RIVER REROUTE & DAM REMOVAL)	ALTERNATIVE 4 (NO PROJECT)
GS-5: Bypass Rock Removal by Blasting *Topography alteration and safety hazards associated with blasting*	DOES NOT APPLY	DOES NOT APPLY	DOES NOT APPLY	**Impact**: short-term, less than significant with mitigation **Mitigation**: Blasting Safety Plan Preliminary blasting BMPs have been incorporated into the SWPPP (Appendix K).	DOES NOT APPLY
GS-6: Erosion at Left Dam Abutment *Risk of erosion due to dam overtopping, leading to dam failure*	DOES NOT APPLY	DOES NOT APPLY	DOES NOT APPLY	DOES NOT APPLY	**Impact**: long-term, significant, unavoidable
HYDROLOGY & WATER RESOURCES					
WR-1: Changes in Streamflow During Construction *Changes in streamflow downstream of the Dam during construction drawdown, dewatering the plunge pool, or when inflow exceeds the bypass capacity*	**Impact**: short-term, less than significant **Mitigation**: no mitigation required	**Impact**: short-term, less than significant **Mitigation**: no mitigation required	**Impact**: short-term, less than significant **Mitigation**: no mitigation required	**Impact**: short-term, less than significant **Mitigation**: no mitigation required	DOES NOT APPLY

Table 2-1: Impacts and Mitigation Matrix for Proponent's Proposed Project and Alternatives

ENVIRONMENTAL RESOURCES & ISSUES	PROPONENT'S PROPOSED PROJECT (DAM THICKENING)	ALTERNATIVE 1 (DAM NOTCHING)	ALTERNATIVE 2 (DAM REMOVAL)	ALTERNATIVE 3 (CARMEL RIVER REROUTE & DAM REMOVAL)	ALTERNATIVE 4 (NO PROJECT)
WR-2a: Changes in Sediment Flow Passing SCD Immediately After Construction *Changes in the amount of sediment transported from the upper watershed (above SCD) to the lower Carmel River (below SCD) immediately after construction*	**Impact**: short-term, less than significant **Mitigation**: no mitigation required	**Impact**: short-term, less than significant **Mitigation**: no mitigation required	**Impact**: short-term, significant, unavoidable **Mitigation**: Stream restoration and revegetation would stabilize sediment in reservoir area and avoid long-term significant impacts. These actions would occur in 7250 feet of the Carmel River and 3000 feet of San Clemente Creek.	**Impact**: short-term, significant, unavoidable **Mitigation**: Stream restoration and revegetation would stabilize sediment in reservoir area and avoid long-term significant impacts. These actions would occur in 200 feet of the Carmel River, 3000 feet of San Clemente Creek, and a 450-foot bypass channel.	DOES NOT APPLY
WR-2b: Changes in Sediment Storage and Composition in the Lower River During Construction *Changes in the sediment composition in the Carmel River below SCD*	**Impact**: short-term, less than significant with mitigation **Mitigation**: Water Quality Protection Plan including diversion of turbid water to settling basin (Appendix K SWPPP)	**Impact**: short-term, less than significant with mitigation **Mitigation**: Water Quality Protection Plan including diversion of turbid water to settling basin (Appendix K SWPPP)	**Impact**: short-term, significant, unavoidable **Mitigation**: Stream restoration and revegetation would avoid long-term significant impacts. These actions would occur in 7250 feet of the Carmel River and 3000 feet of San Clemente Creek.	**Impact**: short-term, significant, unavoidable Mitigation: Stream restoration and revegetation would avoid long-term significant impacts. These actions would occur in 200 feet of the Carmel River, 3000 feet of San Clemente Creek, and a 450-foot bypass channel.	DOES NOT APPLY
WR-3a: Change in Sediment Deposition in the Reservoir *Changes in the amount of sediment deposited in the reservoir upstream of SCD*	**Impact**: long-term, less than significant with mitigation, potentially beneficial **Mitigation**: Implementation of the SOMP (Appendix J)	**Impact**: long-term, less than significant with mitigation, potentially beneficial **Mitigation**: Implementation of the SOMP (Appendix J)	**Impact**: long-term, less than significant **Mitigation**: no mitigation required	**Impact**: long-term, less than significant **Mitigation**: no mitigation required	**Impact**: long-term, less than significant, potentially beneficial

Table 2-1: Impacts and Mitigation Matrix for Proponent's Proposed Project and Alternatives

ENVIRONMENTAL RESOURCES & ISSUES	PROPONENT'S PROPOSED PROJECT (DAM THICKENING)	ALTERNATIVE 1 (DAM NOTCHING)	ALTERNATIVE 2 (DAM REMOVAL)	ALTERNATIVE 3 (CARMEL RIVER REROUTE & DAM REMOVAL)	ALTERNATIVE 4 (NO PROJECT)
WR-3b: Increased Sediment Deposition that Obstructs Fish Passage *During low-flow years, when all the flow is through the fish ladder, sediment would move close to the fish ladder, and possibly impair fish passage from the ladder to the remnant pool*	**Impact**: long-term, less than significant with mitigation **Mitigation**: decrease capacity of the ladder forcing more water over spillway; implement SOMP	**Impact**: long-term, less than significant with mitigation **Mitigation**: decrease capacity of the ladder forcing more water over spillway; implement SOMP	**Impact**: long-term, less than significant **Mitigation**: no mitigation required	**Impact**: long-term, less than significant with mitigation **Mitigation**: design of reconstructed channel and bypass channel to allow for fish passage	**Impact**: long-term, significant, unavoidable
WR-4a: Increased Sediment Deposition in the Lower River *Increased sediment load passing SCD depositing in the Carmel River bed below SCD*	**Impact**: long-term, less than significant, potentially beneficial **Mitigation**: no mitigation required	**Impact**: long-term, less than significant, potentially beneficial **Mitigation**: no mitigation required	**Impact**: long-term, significant, unavoidable **Mitigation**: none available	**Impact**: long-term, less than significant **Mitigation**: no mitigation required	**Impact**: long-term, less than significant, potentially beneficial
WR-4b: Increase in Frequency of High Suspended Sediment Concentrations *High flow will increase the sediment concentration in the river and sediment management activities, such as sluicing, would further increase the suspended sediment concentration downstream of the Dam*	**Impact**: long-term, less than significant **Mitigation**: no mitigation required	**Impact**: long-term, less than significant **Mitigation**: no mitigation required	**Impact**: long-term, significant, unavoidable **Mitigation**: none available	**Impact**: long-term, significant, unavoidable **Mitigation**: none available	**Impact**: long-term, less than significant

Table 2-1: Impacts and Mitigation Matrix for Proponent's Proposed Project and Alternatives

ENVIRONMENTAL RESOURCES & ISSUES	PROPONENT'S PROPOSED PROJECT (DAM THICKENING)	ALTERNATIVE 1 (DAM NOTCHING)	ALTERNATIVE 2 (DAM REMOVAL)	ALTERNATIVE 3 (CARMEL RIVER REROUTE & DAM REMOVAL)	ALTERNATIVE 4 (NO PROJECT)
WR-5: Changes in Channel Bed Geometry *Additional sediment passing the Dam to the lower river would aggrade or degrade the river channel or change the channel cross section*	**Impact**: long-term, less than significant potentially beneficial **Mitigation**: no mitigation required	**Impact**: long-term, less than significant **Mitigation**: no mitigation required	**Impact**: long-term, significant, unavoidable **Mitigation**: none available	**Impact**: long-term, less than significant **Mitigation**: no mitigation required	**Impact**: long-term, less than significant
WR-6: Changes to the 100-year Flood Elevation *The increased sediment loading would alter the bed of the Carmel River and influence the 100-year flood elevation*	**Impact**: long-term, less than significant **Mitigation**: no mitigation required	**Impact**: long-term, less than significant **Mitigation**: no mitigation required	**Impact**: long-term, significant, unavoidable **Mitigation**: monitor downstream sediment accumulation; increases >0.5 feet would trigger channel restoration	**Impact**: long term, less than significant **Mitigation**: no mitigation required	**Impact**: long-term, less than significant
WR-7: Impact to Location or Timing of Water Supply Diversions *Changes to the location or timing of water supply diversions*	DOES NOT APPLY	**Impact**: long-term, less than significant with mitigation **Mitigation**: diversion would be operated to maintain fish passage flows in January-May. Diversion affects 7200 feet of stream	**Impact**: long-term, less than significant with mitigation **Mitigation**: diversion would be operated to maintain fish passage flows in January-May. Diversion affects 7200 feet of stream	**Impact**: long-term, less than significant with mitigation **Mitigation**: diversion would be operated to maintain fish passage flows in January-May. Diversion affects 3200 feet of stream	DOES NOT APPLY
WR-8: Increase Risk of Dam Failure *Risk of dam failure due to seismic activity or flooding, leading to or increasing downstream flooding*	**Impact**: long-term, less than significant **Mitigation**: no mitigation required; dam thickening design eliminates risk of failure	**Impact**: long-term, less than significant **Mitigation**: no mitigation required; dam notching design eliminates risk of failure	DOES NOT APPLY dam removal eliminates risk of failure	DOES NOT APPLY dam removal eliminates risk of failure	**Impact**: long-term, significant and unavoidable risk of dam failure under MCE or PMF

Table 2-1: Impacts and Mitigation Matrix for Proponent's Proposed Project and Alternatives

ENVIRONMENTAL RESOURCES & ISSUES	PROPONENT'S PROPOSED PROJECT (DAM THICKENING)	ALTERNATIVE 1 (DAM NOTCHING)	ALTERNATIVE 2 (DAM REMOVAL)	ALTERNATIVE 3 (CARMEL RIVER REROUTE & DAM REMOVAL)	ALTERNATIVE 4 (NO PROJECT)
WATER QUALITY					
WQ-1: Road Construction and Improvement Activities *Sediment discharge to watercourses, increased turbidity*	**Impact**: short-term, less than significant with mitigation **Mitigation**: erosion control and water quality monitoring methods in the SWPPP (Appendix K)	**Impact**: short-term, less than significant with mitigation **Mitigation**: erosion control and water quality monitoring methods in the SWPPP (Appendix K)	**Impact**: short-term, less than significant with mitigation **Mitigation**: erosion control and water quality monitoring methods in the SWPPP (Appendix K)	**Impact**: short-term, less than significant with mitigation **Mitigation**: erosion control and water quality monitoring methods in the SWPPP (Appendix K).	DOES NOT APPLY
WQ-2: Instream, Streambank and/or Stream Margin Construction Activities *Disturbance of streambeds, increased turbidity*	**Impact**: short-term, less than significant with mitigation **Mitigation**: erosion control and water quality monitoring methods in the SWPPP (Appendix K) Note: Less than 1 acre of streambed impacted	**Impact**: short-term, less than significant with mitigation **Mitigation**: erosion control and water quality monitoring methods in the SWPPP (Appendix K). Note: Approximately 7.7 acres of streambed impacted	**Impact**: short-term, less than significant with mitigation **Mitigation**: erosion control and water quality monitoring methods in the SWPPP (Appendix K) Note: Approximately 8.9 acres of streambed impacted	**Impact**: short-term, less than significant with mitigation **Mitigation**: erosion control and water quality monitoring methods in the SWPPP (Appendix K) Note: Approximately 8.6 acres of streambed impacted	DOES NOT APPLY
WQ-3: Accidental Leaks and Spills of Toxic Substances *Discharge of toxic substances*	Impact: short-term, less **than** significant with mitigation **Mitigation**: erosion control and water quality monitoring methods in the SWPPP (Appendix K) and SPCC (Appendix R)	**Impact**: short-term, less than significant with mitigation **Mitigation**: erosion control and water quality monitoring methods in the SWPPP (Appendix K) and SPCC (Appendix R)	**Impact**: short-term, less than significant with mitigation **Mitigation**: erosion control and water quality monitoring methods in the SWPPP (Appendix K) and SPCC (Appendix R)	**Impact**: short-term, less than significant with mitigation **Mitigation**: erosion control and water quality monitoring methods in the SWPPP Appendix K) and SPCC (Appendix R)	DOES NOT APPLY
WQ-4: Stream Diversions, Sheetpile Cutoff Walls, and Cofferdams *Increased suspended sediment and turbidity*	**Impact**: less than significant **Mitigation**: no mitigation required	**Impact**: less than significant **Mitigation**: no mitigation required	**Impact**: less than significant **Mitigation**: no mitigation required	**Impact**: less than significant **Mitigation**: no mitigation required	DOES NOT APPLY

Table 2-1: Impacts and Mitigation Matrix for Proponent's Proposed Project and Alternatives

ENVIRONMENTAL RESOURCES & ISSUES	PROPONENT'S PROPOSED PROJECT (DAM THICKENING)	ALTERNATIVE 1 (DAM NOTCHING)	ALTERNATIVE 2 (DAM REMOVAL)	ALTERNATIVE 3 (CARMEL RIVER REROUTE & DAM REMOVAL)	ALTERNATIVE 4 (NO PROJECT)
WQ-5: Stream Diversions Ponded Areas *Increased turbidity and temperature, decreased dissolved oxygen*	**Impact**: short-term, less than significant with mitigation **Mitigation**: pipeline design to minimize effects, monitoring, mixing to reduce high water temperatures	**Impact**: short-term, less than significant with mitigation **Mitigation**: pipeline design to minimize effects, monitoring, mixing to reduce high water temperatures	**Impact**: short-term, less than significant with mitigation **Mitigation**: pipeline design to minimize effects, monitoring, mixing to reduce high water temperatures	**Impact**: short-term, less than significant with mitigation **Mitigation**: pipeline design to minimize effects, monitoring, mixing to reduce high water temperatures	DOES NOT APPLY
WQ-6: Stream Diversions Return of Bypassed Flows *Localized scour, sedimentation and turbidity*	**Impact**: short-term, less than significant with mitigation **Mitigation**: energy dissipation structures	**Impact**: long-term, less than significant with mitigation **Mitigation**: energy dissipation structures	**Impact**: long-term, less than significant with mitigation **Mitigation**: energy dissipation structures	**Impact**: long-term, less than significant with mitigation **Mitigation**: energy dissipation structures	DOES NOT APPLY
WQ-7: Rewatering After Stream Diversions *Fine sediment and toxins in return flow*	**Impact**: short-term, less than significant with mitigation **Mitigation**: erosion control and water quality monitoring methods in the SWPPP (Appendix K)	**Impact**: short-term, less than significant with mitigation **Mitigation**: erosion control and water quality monitoring methods in the SWPPP (Appendix K)	**Impact**: short-term, less than significant with mitigation **Mitigation**: erosion control and water quality monitoring methods in the SWPPP (Appendix K)	**Impact**: short-term, less than significant with mitigation **Mitigation**: erosion control and water quality monitoring methods in the SWPPP (Appendix K)	DOES NOT APPLY
WQ-8: Discharge from Settling Basins *Increased temperature and turbidity, decreased dissolved oxygen*	**Impact**: short-term, less than significant with mitigation **Mitigation**: erosion control and water quality monitoring methods in the SWPPP (Appendix K)	**Impact**: short-term, less than significant with mitigation **Mitigation**: erosion control and water quality monitoring methods in the SWPPP (Appendix K)	**Impact**: short-term, less than significant with mitigation **Mitigation**: erosion control and water quality monitoring methods in the SWPPP (Appendix K)	**Impact**: short-term, less than significant with mitigation **Mitigation**: erosion control and water quality monitoring methods in the SWPPP (Appendix K)	DOES NOT APPLY

Table 2-1: Impacts and Mitigation Matrix for Proponent's Proposed Project and Alternatives

ENVIRONMENTAL RESOURCES & ISSUES	PROPONENT'S PROPOSED PROJECT (DAM THICKENING)	ALTERNATIVE 1 (DAM NOTCHING)	ALTERNATIVE 2 (DAM REMOVAL)	ALTERNATIVE 3 (CARMEL RIVER REROUTE & DAM REMOVAL)	ALTERNATIVE 4 (NO PROJECT)
WQ-9: Reservoir Drawdown *Increased turbidity, decreased dissolved oxygen*	**Impact**: short-term, significant, unavoidable **Mitigation**: slow drawdown to minimize effects NOTE: reservoir partially drawn down	**Impact**: short-term, significant, unavoidable **Mitigation**: slow drawdown to minimize effects NOTE: reservoir completely dewatered impact greater than the Proponent's Proposed Project	**Impact**: short-term, significant, unavoidable **Mitigation**: slow drawdown to minimize effects NOTE: reservoir completely dewatered impact greater than the Proponent's Proposed Project	**Impact**: short-term, significant, unavoidable **Mitigation**: slow drawdown to minimize effects NOTE: reservoir completely dewatered impact greater than the Proponent's Proposed Project	**Impact**: long-term significant, unavoidable
WQ-10: Reservoir Sediment Excavation *Increased turbidity*	**Impact**: short-term, less than significant with mitigation **Mitigation**: erosion control and water quality monitoring methods in the SWPPP (Appendix K)) NOTE: minimal excavation specific quantities unknown	**Impact**: short-term, significant, unavoidable **Mitigation**: erosion control and water quality monitoring methods in the SWPPP (Appendix K) NOTE: About 1.5 million cubic yards (cy) of sediment would be excavated	**Impact**: short-term, significant, unavoidable **Mitigation**: erosion control and water quality monitoring methods in the SWPPP (Appendix K) NOTE: About 2.5 million cubic yards (cy) of sediment would be excavated	**Impact**: short-term, significant, unavoidable **Mitigation** erosion control and water quality monitoring methods in the SWPPP (Appendix K) NOTE: 380,000 cubic yards (cy) of sediment would be excavated	DOES NOT APPLY
WQ-11: SCD Fish Ladder *Increased turbidity, release of toxic substances*	**Impact**: short-term, less than significant with mitigation **Mitigation**: erosion control and water quality monitoring methods in the SWPPP and SPCC Plan (Appendix K and R)	**Impact**: short-term, less than significant with mitigation **Mitigation**: erosion control and water quality monitoring methods in the SWPPP and SPCC Plan (Appendix K and R)	DOES NOT APPLY	DOES NOT APPLY	DOES NOT APPLY

Table 2-1: Impacts and Mitigation Matrix for Proponent's Proposed Project and Alternatives

ENVIRONMENTAL RESOURCES & ISSUES	PROPONENT'S PROPOSED PROJECT (DAM THICKENING)	ALTERNATIVE 1 (DAM NOTCHING)	ALTERNATIVE 2 (DAM REMOVAL)	ALTERNATIVE 3 (CARMEL RIVER REROUTE & DAM REMOVAL)	ALTERNATIVE 4 (NO PROJECT)
WQ-12: OCRD Notching *Increased turbidity, release of toxic substances*	**Impact**: short-term, less than significant with mitigation **Mitigation**: erosion control and water quality monitoring methods in the SWPPP (Appendix K)	**Impact**: short-term, less than significant with mitigation **Mitigation**: erosion control and water quality monitoring methods in the SWPPP (Appendix K)	**Impact**: short-term, less than significant with mitigation **Mitigation**: erosion control and water quality monitoring methods in the SWPPP (Appendix K)	**Impact**: short-term, less than significant with mitigation **Mitigation**: erosion control and water quality monitoring methods in the SWPPP (Appendix K)	DOES NOT APPLY
WQ-13: Sluice Gates *Increased turbidity*	**Impact**: long-term, significant, unavoidable **Mitigation**: Implementation of the SOMP (Appendix J)	**Impact**: long-term, significant, unavoidable **Mitigation**: Implementation of the SOMP (Appendix J) NOTE: The elevated turbidity level would be greater for Alternative 1 than for the Proponent's Proposed Project, but could have a shorter period of duration	DOES NOT APPLY	DOES NOT APPLY	DOES NOT APPLY
WQ-14: Dam-related Construction or Demolition *Increased turbidity, release of toxic substances and fine grained sediment*	**Impact**: short-term, less than significant with mitigation **Mitigation**: erosion control and water quality monitoring methods in the SWPPP and SPCC Plan (Appendix K and R)	**Impact**: short-term, less than significant with mitigation **Mitigation**: erosion control and water quality monitoring methods in the SWPPP and SPCC (Appendix K and R)	**Impact**: short-term, less than significant with mitigation **Mitigation**: erosion control and water quality monitoring methods in the SWPPP (Appendix K)	**Impact**: short-term, less than significant with mitigation **Mitigation**: erosion control and water quality monitoring methods in the SWPPP (Appendix K)	DOES NOT APPLY
WQ-15: Operations/Post-project Conditions *Improved post-project water quality in reservoir and restored streams*	**Impact**: beneficial **Mitigation**: no mitigation required	**Impact**: beneficial **Mitigation**: no mitigation required	**Impact**: beneficial **Mitigation**: no mitigation required	**Impact**: beneficial **Mitigation**: no mitigation required	**Impact**: long-term, significant, unavoidable

Table 2-1: Impacts and Mitigation Matrix for Proponent's Proposed Project and Alternatives

ENVIRONMENTAL RESOURCES & ISSUES	PROPONENT'S PROPOSED PROJECT (DAM THICKENING)	ALTERNATIVE 1 (DAM NOTCHING)	ALTERNATIVE 2 (DAM REMOVAL)	ALTERNATIVE 3 (CARMEL RIVER REROUTE & DAM REMOVAL)	ALTERNATIVE 4 (NO PROJECT)
WQ-16: Sediment Disposal *Stormwater sediment discharge at sediment disposal site.*	DOES NOT APPLY	**Impact**: long-term, less than significant with mitigation **Mitigation**: monitoring sediment disposal site and erosion control as needed following storm events (SWPPP Appendix K)	**Impact**: long-term, less than significant with mitigation **Mitigation**: monitoring sediment disposal site and erosion control as needed following storm events (SWPPP Appendix K)	**Impact**: long-term, less than significant with mitigation **Mitigation**: monitoring sediment disposal site and erosion control as needed (SWPPP Appendix K)	DOES NOT APPLY
WQ-17: Construction of Diversion Channel and Diversion Dike *Increased turbidity*	DOES NOT APPLY	DOES NOT APPLY	DOES NOT APPLY	**Impact**: short-term, less than significant with mitigation **Mitigation**: erosion control and water quality monitoring methods in the SWPPP (Appendix K)	DOES NOT APPLY
FISHERIES					
FI-1: Access Route Improvements *Short-term alteration of aquatic habitat*	**Impact**: short-term, less than significant with mitigation; long-term, less than significant with mitigation **Mitigation**: limits on tree removal; measures to prevent roadfill from entering streams; streamside revegetation; SWPPP (Appendix K) Botanical Resources Management Plan (Appendix U) NOTE: Tularcitos Access Route.	**Impact**: short-term, less than significant with mitigation **Mitigation**: limits on tree removal; measures to prevent roadfill from entering streams; streamside revegetation; SWPPP (Appendix K), Botanical Resources Management Plan (Appendix U) NOTE: Cachagua Access Route	**Impact**: short-term, less than significant with mitigation **Mitigation**: limits on tree removal; measures to prevent roadfill from entering streams; streamside revegetation; SWPPP (Appendix K) Botanical Resources Management Plan (Appendix U) NOTE: Cachagua Access Route	**Impact**: short-term, less than significant with mitigation **Mitigation**: limits on tree removal; measures to prevent roadfill from entering streams; streamside revegetation; SWPPP (Appendix K) Botanical Resources Management Plan (Appendix U) NOTE: Cachagua Access Route	DOES NOT APPLY

Table 2-1: Impacts and Mitigation Matrix for Proponent's Proposed Project and Alternatives

ENVIRONMENTAL RESOURCES & ISSUES	PROPONENT'S PROPOSED PROJECT (DAM THICKENING)	ALTERNATIVE 1 (DAM NOTCHING)	ALTERNATIVE 2 (DAM REMOVAL)	ALTERNATIVE 3 (CARMEL RIVER REROUTE & DAM REMOVAL)	ALTERNATIVE 4 (NO PROJECT)
FI-2: Dewatering River Channels for Construction Purposes *Short-term loss of aquatic habitat*	**Impact**: short-term, significant, unavoidable **Mitigation**: fish rescue, erosion control and water quality protection plan SWPPP (Appendix K), stream channel restoration NOTE: dewatering would occur during 1 construction season	**Impact**: short-term, significant, unavoidable **Mitigation**: fish rescue, erosion control and water quality protection plan SWPPP (Appendix K), stream channel restoration NOTE: dewatering would occur during 1 construction season	**Impact**: short-term, significant, unavoidable **Mitigation**: fish rescue, erosion control and water quality protection plan SWPPP (Appendix K), stream channel restoration NOTE: dewatering would occur during 3 construction seasons	**Impact**: short-term, significant, unavoidable **Mitigation**: fish rescue, erosion control and water quality protection plan SWPPP (Appendix K), stream channel restoration NOTE: dewatering would occur during 1 construction season	DOES NOT APPLY
FI-3: Operation of a Trap and Truck Facility at OCRD *Short term loss of access for adult steelhead to upstream reaches*	DOES NOT APPLY	DOES NOT APPLY	DOES NOT APPLY	DOES NOT APPLY	DOES NOT APPLY
FI-4: Diversion of Carmel River and San Clemente Creek Around San Clemente Reservoir for Construction Purposes *Short-term loss of aquatic habitat*	**Impact**: short-term, significant, unavoidable **Mitigation**: fish rescue and relocation, NOTE: impacts to rearing habitat upstream of the reservoir, in about 1,200 feet of the inflowing Carmel River, and in less than 100 feet of San Clemente Creek during one construction year	**Impact**: short-term, significant, unavoidable **Mitigation**: fish rescue and relocation NOTE: impacts to rearing habitat upstream of the reservoir for about 5,200 feet in the Carmel River and for about 1,350 feet in San Clemente Creek during two construction years.	**Impact**: short-term, significant, unavoidable **Mitigation**: fish rescue and relocation NOTE: impacts to rearing habitat upstream of the reservoir for about 5,200 feet in the Carmel River and for about 1,350 feet in San Clemente Creek during three construction years.	**Impact**: short-term, significant, unavoidable **Mitigation**: fish rescue and relocation NOTE: impacts to rearing habitat upstream of the reservoir for about 3,300 feet in the Carmel River and about 1,350 feet for San Clemente Creek during two construction years.	DOES NOT APPLY

Table 2-1: Impacts and Mitigation Matrix for Proponent's Proposed Project and Alternatives

ENVIRONMENTAL RESOURCES & ISSUES	PROPONENT'S PROPOSED PROJECT (DAM THICKENING)	ALTERNATIVE 1 (DAM NOTCHING)	ALTERNATIVE 2 (DAM REMOVAL)	ALTERNATIVE 3 (CARMEL RIVER REROUTE & DAM REMOVAL)	ALTERNATIVE 4 (NO PROJECT)
FI-5: Reservoir Dewatering *Short-term loss of aquatic habitat*	**Impact**: short-term, significant, unavoidable **Mitigation**: fish rescue and relocation, erosion control and water quality protection plan (SWPPP Appendix K) NOTE: drawdown would occur during 1 construction season	**Impact**: short-term, significant, unavoidable **Mitigation**: fish rescue and relocation, erosion control and water quality protection plan (SWPPP Appendix K) NOTE: drawdown would occur during 2 construction seasons	**Impact**: short-term, significant, unavoidable **Mitigation**: fish rescue and relocation, erosion control and water quality protection plan (SWPPP Appendix K) NOTE: drawdown would occur during 3 construction seasons	**Impact**: short-term, significant, unavoidable **Mitigation**: fish rescue and relocation, erosion control and water quality protection plan (SWPPP Appendix K) NOTE: drawdown would occur during 2 construction seasons	**Impact**: long-term, significant, unavoidable
FI-6: Water Quality Effects on Fish *Short-term loss of aquatic habitat*	**Impact**: short-term, less than significant with mitigation **Mitigation**: erosion control and water quality protection plan (SWPPP Appendix K), divert flows around reservoir, drawdown timing, insulate or shade diversion pipes, aeration	**Impact**: short-term, less than significant with mitigation **Mitigation**: erosion control and water quality protection plan (SWPPP Appendix K), divert flows around reservoir, drawdown timing, insulate or shade diversion pipes, aeration	**Impact**: short-term, less than significant with mitigation **Mitigation**: erosion control and water quality protection plan (SWPPP Appendix K)), divert flows around reservoir, drawdown timing, insulate or shade diversion pipes, aeration	**Impact**: short-term, less than significant with mitigation **Mitigation**: erosion control and water quality protection plan (SWPPP Appendix K)), divert flows around reservoir, drawdown timing, insulate or shade diversion pipes, aeration	DOES NOT APPLY
FI-7: Fish Ladder Closure *Short-term limiting fish movement past the Dam site*	**Impact**: short-term, less than significant **Mitigation**: no mitigation required	**Impact**: short-term, less than significant **Mitigation**: no mitigation required	**Impact**: short-term, less than significant **Mitigation**: no mitigation required	**Impact**: short-term, less than significant **Benefit**: no mitigation required	DOES NOT APPLY

Table 2-1: Impacts and Mitigation Matrix for Proponent's Proposed Project and Alternatives

ENVIRONMENTAL RESOURCES & ISSUES	PROPONENT'S PROPOSED PROJECT (DAM THICKENING)	ALTERNATIVE 1 (DAM NOTCHING)	ALTERNATIVE 2 (DAM REMOVAL)	ALTERNATIVE 3 (CARMEL RIVER REROUTE & DAM REMOVAL)	ALTERNATIVE 4 (NO PROJECT)
FI-8: Upstream Fish Passage *Long-term impact to fish migrating to upstream spawning and rearing habitat*	**Impact**: long-term, beneficial with mitigation **Mitigation**: ongoing, inspection of the river channel upstream of the fish ladder exit would be performed to determine that adequate channel depths are being maintained and implementation of the SOMP to maintain the upstream river channel for fish passage	**Impact**: long-term, beneficial with mitigation **Mitigation**: ongoing, inspection of the river channel upstream of the fish ladder exit would be performed to determine that adequate channel depths are being maintained. and implementation of the SOMP to maintain the upstream river channel for fish passage	**Impact**: long-term, beneficial **Benefit**: dam removed, upstream passage occurs in free-flowing stream	**Impact**: long-term, beneficial **Benefit**: dam removed, upstream passage occurs in free-flowing stream	**Impact**: long-term, significant, unavoidable
FI-9a: Sediment Impacts to Downstream Channels from Sluicing, Dredging, or Sediment Transport Downstream *Long-term alteration of aquatic habitat*	**Impact**: long-term, less than significant **Mitigation**: no mitigation required	**Impact**: long-term, less than significant **Mitigation**: no mitigation required	**Impact**: short-term significant, unavoidable; long-term beneficial **Mitigation**: channel restoration and revegetation (Appendix U), erosion control and water quality protection (SWPPP) Appendix K	**Impact**: short-term, less than significant; long-term beneficial **Mitigation**: no mitigation required	DOES NOT APPLY
FI-9b: Impacts to Fish from Excavation or Dredging of Sediment for Fish Passage *Potential juvenile fish entrainment and mortality*	**Impact**: long-term, less than significant **Mitigation**: no mitigation required	**Impact**: long-term, less than significant **Mitigation**: no mitigation required	DOES NOT APPLY	DOES NOT APPLY	DOES NOT APPLY

Table 2-1: Impacts and Mitigation Matrix for Proponent's Proposed Project and Alternatives

ENVIRONMENTAL RESOURCES & ISSUES	PROPONENT'S PROPOSED PROJECT (DAM THICKENING)	ALTERNATIVE 1 (DAM NOTCHING)	ALTERNATIVE 2 (DAM REMOVAL)	ALTERNATIVE 3 (CARMEL RIVER REROUTE & DAM REMOVAL)	ALTERNATIVE 4 (NO PROJECT)
FI-10: Relocate CAW Water Diversion Upstream *Long-term reduction of flow in reaches of Carmel River between the new diversion point and dam*	DOES NOT APPLY	**Impact**: long-term, less than significant with mitigation **Mitigation**: an Operations Plan would be developed in conjunction with NMFS, CDFG, SWRCB, and the MPWMD to establish flows for steelhead habitat in this reach of the river	**Impact**: long-term, less than significant with mitigation **Mitigation**: an Operations Plan would be developed in conjunction with NMFS, CDFG, SWRCB, and the MPWMD to establish flows for steelhead habitat in this reach of the river	**Impact**: long-term, less than significant with mitigation **Mitigation**: an Operations Plan would be developed in conjunction with NMFS, CDFG, SWRCB, and the MPWMD to establish flows for steelhead habitat in this reach of the river	DOES NOT APPLY
FI-11: Fish Screen Installation *Long-term elimination of entrainment or impingement at the diversion*	**Impact**: long-term, beneficial **Mitigation**: no mitigation required	**Impact**: long-term, beneficial **Mitigation**: no mitigation required	**Impact**: long-term, beneficial **Mitigation**: no mitigation required	**Impact**: long-term, beneficial **Mitigation**: no mitigation required	DOES NOT APPLY
FI-12: Downstream Fish Passage Over SCD *Long-term improvement to fish passage over the Dam*	**Impact**: long-term, beneficial **Mitigation**: improved fish ladder and spillway modifications improve fish passage conditions	**Impact**: long-term, beneficial **Mitigation**: lower dam and low flow channel in spillway improve fish passage conditions	DOES NOT APPLY	DOES NOT APPLY	**Impact**: long-term, significant unavoidable
FI-13: Stream Sediment Removal, Storage, and Associated Restoration *Long-term reduction of aquatic habitat, short-term alteration of aquatic habitat*	DOES NOT APPLY	**Impact**: short-term, significant, unavoidable; long-term, less than significant with mitigation **Mitigation**: stream channel restoration in historic alignment, riparian revegetation	**Impact**: short-term, significant, unavoidable; long-term, beneficial **Mitigation**: stream channel restoration in historic alignment, riparian revegetation	**Impact**: short-term, significant, unavoidable; long-term, beneficial **Mitigation**: new channel constructed through bypass and SCC, riparian revegetation	DOES NOT APPLY

Table 2-1: Impacts and Mitigation Matrix for Proponent's Proposed Project and Alternatives

ENVIRONMENTAL RESOURCES & ISSUES	PROPONENT'S PROPOSED PROJECT (DAM THICKENING)	ALTERNATIVE 1 (DAM NOTCHING)	ALTERNATIVE 2 (DAM REMOVAL)	ALTERNATIVE 3 (CARMEL RIVER REROUTE & DAM REMOVAL)	ALTERNATIVE 4 (NO PROJECT)
FI-14: Notching OCRD *Short-term loss of rearing habitat, Improvement of fish passage*	**Impact**: short-term, less than significant with mitigation; long-term, beneficial **Mitigation**: fish rescue, stream recontoured to match new alignment, access roads regraded, riparian revegetation	**Impact**: short-term, less than significant with mitigation; long-term, beneficial **Mitigation**: fish rescue, stream recontoured to match new alignment, access roads regraded, riparian revegetation	**Impact**: short-term, less than significant with mitigation; long-term, beneficial **Mitigation**: fish rescue, stream recontoured to match new alignment, access roads regraded, riparian revegetation	**Impact**: short-term, less than significant with mitigation; long-term, beneficial **Mitigation**: fish rescue, stream recontoured to match new alignment, access roads regraded, riparian revegetation	DOES NOT APPLY
FI-15: Sleepy Hollow Steelhead Rearing Facility *Loss or degradation of water supply*	**Impact**: long-term, less than significant with mitigation **Mitigation**: an alternative water supply would be made available to the SHSRF in the Carmel River	**Impact**: long-term, less than significant with mitigation **Mitigation**: an alternative water supply would be made available to the SHSRF in the Carmel River	**Impact**: long-term, less than significant with mitigation **Mitigation**: an alternative water supply would be made available to the SHSRF in the Carmel River	**Impact**: long-term, less than significant with mitigation **Mitigation**: an alternative water supply would be made available to the SHSRF in the Carmel River	**Impact**: long-term, significant, unavoidable
TERRESTRIAL BIOLOGY					
VE-1: Special-Status Plant Species *Effects on Virgate eriastrum or Lewis's clarkia populations*	**Impact**: short-term, less than significant with mitigation **Mitigation**: avoid populations of CNPS List 4 species	**Impact**: short-term, less than significant with mitigation **Mitigation**: avoid populations of CNPS List 4 species	**Impact**: short-term, less than significant with mitigation **Mitigation**: avoid populations of CNPS List 4 species	**Impact**: short-term, less than significant with mitigation **Mitigation**: avoid populations of CNPS List 4 species	DOES NOT APPLY

Table 2-1: Impacts and Mitigation Matrix for Proponent's Proposed Project and Alternatives

ENVIRONMENTAL RESOURCES & ISSUES	PROPONENT'S PROPOSED PROJECT (DAM THICKENING)	ALTERNATIVE 1 (DAM NOTCHING)	ALTERNATIVE 2 (DAM REMOVAL)	ALTERNATIVE 3 (CARMEL RIVER REROUTE & DAM REMOVAL)	ALTERNATIVE 4 (NO PROJECT)
VE-2: Loss of Protected Oak Woodland *Loss of oak woodlands*	**Impact**: long-term, less than significant with mitigation **Mitigation**: avoid stand of blue oak along "high road" access by fencing. Botanical Resources Management Plan (Appendix U) provides for 3:1 replacement, plantings, monitoring, conservation easements, irrigation, protection from browsing NOTE: Smallest acreage of oak woodland potentially impacted	**Impact**: long-term, less than significant with mitigation **Mitigation**: avoid stand of blue oak along "high road" access by fencing. Botanical Resources Management Plan (Appendix U) provides for 3:1 replacement, plantings, monitoring, conservation easements, irrigation, protection from browsing NOTE: 2nd largest area of oakwood lands that may be impacted	**Impact**: long-term, less than significant with mitigation **Mitigation**: avoid stand of blue oak along "high road" access by fencing. Botanical Resources Management Plan (Appendix U) provides for 3:1 replacement, plantings, monitoring, conservation easements, irrigation, protection from browsing NOTE: Largest area of oak woodland that may be impacted	**Impact**: long-term, less than significant with mitigation **Mitigation**: avoid stand of blue oak along "high road" access by fencing. Botanical Resources Management Plan (Appendix U) provides for 3:1 replacement, plantings, monitoring, conservation easements, irrigation, protection from browsing NOTE: 3rd largest area of oak woodland that may be impacted	DOES NOT APPLY
VE-3: Loss of other Native Vegetation *Loss of native vegetation*	**Impact**: long-term, less than significant with mitigation **Mitigation**: facility and access footprints minimize loss of native vegetation; fencing; diffuse outflows to minimize erosion; supplemental irrigation; Botanical Resources Management Plan (Appendix U)	**Impact**: long-term, less than significant with mitigation **Mitigation**: facility and access footprints minimize loss of native vegetation; fencing; diffuse outflows to minimize erosion; supplemental irrigation; Botanical Resources Management Plan (Appendix U)	**Impact**: long-term, less than significant with mitigation **Mitigation**: facility and access footprints minimize loss of native vegetation; fencing; diffuse outflows to minimize erosion; supplemental irrigation; Botanical Resources Management Plan Appendix U)	**Impact**: long-term, less than significant with mitigation **Mitigation**: facility and access footprints minimize loss of native vegetation; fencing; diffuse outflows to minimize erosion; supplemental irrigation; Botanical Resources Management Plan (Appendix U)	DOES NOT APPLY

Table 2-1: Impacts and Mitigation Matrix for Proponent's Proposed Project and Alternatives

ENVIRONMENTAL RESOURCES & ISSUES	PROPONENT'S PROPOSED PROJECT (DAM THICKENING)	ALTERNATIVE 1 (DAM NOTCHING)	ALTERNATIVE 2 (DAM REMOVAL)	ALTERNATIVE 3 (CARMEL RIVER REROUTE & DAM REMOVAL)	ALTERNATIVE 4 (NO PROJECT)
VE-4: Indirect Effects on Native Vegetation *Effects caused by increased erosion and sedimentation*	**Impact**: short-term, less than significant with mitigation **Mitigation**: BMPs for erosion control; minimize changes to existing drainage patterns; avoid work within tree dripline; dust control; revegetation; monitoring see Botanical Resources Management Plan (Appendix U) and SWPPP (Appendix K)	**Impact**: short-term, less than significant with mitigation **Mitigation**: BMPs for erosion control; minimize changes to existing drainage patterns; avoid work within tree dripline; dust control; revegetation; monitoring see Botanical Resources Management Plan (Appendix U) and SWPPP (Appendix K)	**Impact**: short-term, less than significant with mitigation **Mitigation**: BMPs for erosion control; minimize changes to existing drainage patterns; avoid work within tree dripline; dust control; revegetation; monitoring see Botanical Resources Management Plan (Appendix U) and SWPPP (Appendix K)	**Impact**: short-term, less than significant with mitigation **Mitigation**: BMPs for erosion control; minimize changes to existing drainage patterns; avoid work within tree dripline; dust control; revegetation; monitoring see Botanical Resources Management Plan (Appendix U) and SWPPP Appendix K)	DOES NOT APPLY
WI-1: Dam Strengthening *Disruption of bat nesting areas*	**Impact**: short-term, less than significant with mitigation **Mitigation**: preconstruction survey followed by consultation	DOES NOT APPLY	DOES NOT APPLY	DOES NOT APPLY	DOES NOT APPLY
WI-2: Removal of Ancillary Facilities *Displacement of special-status bats*	DOES NOT APPLY	**Impact**: short-term, less than significant with mitigation **Mitigation**: preconstruction survey followed by consultation	**Impact**: short-term, less than significant with mitigation **Mitigation**: preconstruction survey followed by consultation	**Impact**: short-term, less than significant with mitigation **Mitigation**: preconstruction survey followed by consultation	DOES NOT APPLY

Table 2-1: Impacts and Mitigation Matrix for Proponent's Proposed Project and Alternatives

ENVIRONMENTAL RESOURCES & ISSUES	PROPONENT'S PROPOSED PROJECT (DAM THICKENING)	ALTERNATIVE 1 (DAM NOTCHING)	ALTERNATIVE 2 (DAM REMOVAL)	ALTERNATIVE 3 (CARMEL RIVER REROUTE & DAM REMOVAL)	ALTERNATIVE 4 (NO PROJECT)
WI-3: Cofferdam Construction and Plunge Pool Dewatering *Adverse effects to special-status species*	**Impact**: short-term, significant, unavoidable; long-term, beneficial with mitigation **Mitigation**: preconstruction survey; rescue and relocate CRLF and Western pond turtles; monitoring; predator removal. (see Appendix V Protection Measures for Special-status Species)	**Impact**: short-term, significant, unavoidable; long-term, beneficial with mitigation **Mitigation**: preconstruction survey; rescue and relocate CRLF and Western pond turtles; monitoring; predator removal. (see Appendix V Protection Measures for Special status-Species)	**Impact**: short-term, significant, unavoidable; long-term, beneficial with mitigation **Mitigation**: preconstruction survey; rescue and relocate CRLF and Western pond turtles; monitoring; predator removal. (see Appendix V Protection Measures for Special-status-Species)	**Impact**: short-term, significant, unavoidable; long term beneficial with mitigation **Mitigation**: preconstruction survey; rescue and relocate CRLF and Western pond turtles; monitoring; predator removal. (see Appendix V Protection Measures for Special-status Species)	DOES NOT APPLY
WI-4: Notching OCRD *Effects on spawning habitat and herpetofauna*	**Impact**: short-term, less than significant with mitigation **Mitigation**: site habitat assessment and protocol surveys followed by agency consultation	**Impact**: short-term, less than significant with mitigation **Mitigation**: site habitat assessment and protocol surveys followed by agency consultation	**Impact**: short-term, less than significant with mitigation **Mitigation**: site habitat assessment and protocol surveys followed by agency consultation	**Impact**: short-term, less than significant with mitigation **Mitigation**: site habitat assessment and protocol surveys followed by agency consultation	DOES NOT APPLY
WI-5: Concrete Batch Plant Construction and Operation *Habitat for special-status species*	**Impact**: short-term, less than significant with mitigation **Mitigation**: preconstruction surveys and relocation of horned lizards and CRLF with barriers to prevent recolonization; Cooper's hawk nest surveys and avoidance, noise abatement; monitoring. clearing (see Appendix V Protection Measures for Special-status Species)	DOES NOT APPLY	DOES NOT APPLY	DOES NOT APPLY	DOES NOT APPLY

Table 2-1: Impacts and Mitigation Matrix for Proponent's Proposed Project and Alternatives

ENVIRONMENTAL RESOURCES & ISSUES	PROPONENT'S PROPOSED PROJECT (DAM THICKENING)	ALTERNATIVE 1 (DAM NOTCHING)	ALTERNATIVE 2 (DAM REMOVAL)	ALTERNATIVE 3 (CARMEL RIVER REROUTE & DAM REMOVAL)	ALTERNATIVE 4 (NO PROJECT)
WI-6: Tularcitos Access Road Construction *Effects to special-status species*	**Impact**: short-term, less than significant with mitigation **Mitigation**: minimize tree removal; pre-construction surveys and avoid dusky-footed woodrat nests; erosion controls; barriers; bat surveys along Tularcitos route and avoid roosts. (see Appendix V Protection Measures for Special-status species)	DOES NOT APPLY	DOES NOT APPLY	DOES NOT APPLY	DOES NOT APPLY
WI-7: Reservoir Drawdown without Sediment Removal *Effects on California red-legged frog (CRLF) habitat*	**Impact**: short-term significant unavoidable; long term beneficial with mitigation **Mitigation**: amphibian rescue and relocation; predator control; abundance surveys	DOES NOT APPLY	DOES NOT APPLY	DOES NOT APPLY	DOES NOT APPLY

Table 2-1: Impacts and Mitigation Matrix for Proponent's Proposed Project and Alternatives

ENVIRONMENTAL RESOURCES & ISSUES	PROPONENT'S PROPOSED PROJECT (DAM THICKENING)	ALTERNATIVE 1 (DAM NOTCHING)	ALTERNATIVE 2 (DAM REMOVAL)	ALTERNATIVE 3 (CARMEL RIVER REROUTE & DAM REMOVAL)	ALTERNATIVE 4 (NO PROJECT)
Issue WI-8: Vegetation Removal and Construction-Related Disturbance *Effects on Special-Status Bird Species and Others Protected by the Migratory Bird Treaty Act or Raptor Protections*	**Impact**: short-term, less than significant with mitigation **Mitigation**: vegetation removal would be conducted between Mar. 1-Aug.1 to the extent possible. If vegetation removed outside Mar. 1-Aug 1 timeframe, implementation of preconstruction surveys and avoidance measures for special-status species and migratory birds would be implemented	**Impact**: short-term, less than significant with mitigation **Mitigation**: vegetation removal would be conducted between Mar. 1-Aug.1 to the extent possible. If vegetation removed outside Mar. 1-Aug 1 timeframe, implementation of preconstruction surveys and avoidance measures for special-status species and migratory birds would be implemented	**Impact**: short-term, less than significant with mitigation **Mitigation**: vegetation removal must be conducted between Mar. 1- Aug. 1, implementation of preconstruction surveys and avoidance measures for special-status species and migratory birds	**Impact**: short-term, less than significant with mitigation **Mitigation**: vegetation removal must be conducted between Mar. 1- Aug. 1, implementation of preconstruction surveys and avoidance measures for special-status species and migratory birds	DOES NOT APPLY
WI-9 Pre-Existing Access Road Improvements *Effects to special-status species*	**Impact**: short-term, less than significant with mitigation. **Mitigation**: minimize tree removal; map and flag active wood rat nests along route; routes planned to avoid dusky-footed woodrat nests; erosion controls; barriers; map, flag, and avoid roosts. (see Appendix V Protection Measures for Special-status Species) NOTE: Applies only to improvements to San Clemente Drive.	**Impact**: short-term, less than significant with mitigation **Mitigation**: minimize tree removal; map and flag active wood rat nests along route; routes planned to avoid dusky-footed woodrat nests; erosion controls; barriers; map, flag, and avoid roosts. (see Appendix V Protection Measures for Special-status Species) NOTE: Applies to improvements to San Clemente Drive and Cachagua and the Jeep Trail	**Impact**: short-term, less than significant with mitigation **Mitigation**: minimize tree removal; map and flag active wood rat nests along route; routes planned to avoid dusky-footed woodrat nests; erosion controls; barriers; map, flag, and avoid roosts. (see Appendix V Protection Measures for Special-status Species) NOTE: Applies to improvements to San Clemente Drive and Cachagua and the Jeep Trail	**Impact**: short-term, less than significant with mitigation **Mitigation**: minimize tree removal; map and flag active wood rat nests along route; routes planned to avoid dusky-footed woodrat nests; erosion controls; barriers; map, flag, and avoid roost. (see Appendix V Protection Measures for Special-status Species) NOTE: Applies to improvements to San Clemente Drive and Cachagua and the Jeep Trail	DOES NOT APPLY

Table 2-1: Impacts and Mitigation Matrix for Proponent's Proposed Project and Alternatives

ENVIRONMENTAL RESOURCES & ISSUES	PROPONENT'S PROPOSED PROJECT (DAM THICKENING)	ALTERNATIVE 1 (DAM NOTCHING)	ALTERNATIVE 2 (DAM REMOVAL)	ALTERNATIVE 3 (CARMEL RIVER REROUTE & DAM REMOVAL)	ALTERNATIVE 4 (NO PROJECT)
WI-10: Reservoir Drawdown or Elimination with Sediment Removal *Effects on California red-legged frog (CRLF) habitat*	DOES NOT APPLY	**Impact**: short-term, significant, unavoidable; long-term; beneficial with mitigation **Mitigation**: amphibian rescue and relocation; predator control; hand vegetation clearing (see Appendix V Protection Measures for Special-status Species)	**Impact**: short-term, significant, unavoidable; long-term beneficial with mitigation **Mitigation**: amphibian rescue and relocation; predator control; hand vegetation clearing (see Appendix V Protection Measures for Special-status Species)	**Impact**: short-term, significant, unavoidable; long-term beneficial with mitigation **Mitigation**: amphibian rescue and relocation; predator control; hand vegetation clearing (see Appendix V Protection Measures for Special-status Species)	DOES NOT APPLY
WI-11: Sediment Removal *Destruction of spawning habitat*	DOES NOT APPLY	**Impact**: short-term, significant, unavoidable; long-term, beneficial with mitigation **Mitigation**: amphibian rescue and relocation; predator control; restrictions on vegetation clearing; abundance surveys	**Impact**: short-term, significant, unavoidable; long-term, beneficial with mitigation **Mitigation**: amphibian rescue and relocation; predator control; restrictions on vegetation clearing; abundance surveys	**Impact**: short-term, significant, unavoidable; long-term, beneficial with mitigation **Mitigation**: amphibian rescue and relocation; predator control; restrictions on vegetation clearing; abundance surveys	DOES NOT APPLY
WI-12: Sediment Transport And Disposal *Adverse effects to special-status species*	DOES NOT APPLY	**Impact**: long-term, less than significant with mitigation **Mitigation**: pre-construction surveys followed by implementation of BMPs	**Impact**: long-term, less than significant with mitigation **Mitigation**: pre-construction surveys followed by implementation of BMPs	DOES NOT APPLY	DOES NOT APPLY

Table 2-1: Impacts and Mitigation Matrix for Proponent's Proposed Project and Alternatives

ENVIRONMENTAL RESOURCES & ISSUES	PROPONENT'S PROPOSED PROJECT (DAM THICKENING)	ALTERNATIVE 1 (DAM NOTCHING)	ALTERNATIVE 2 (DAM REMOVAL)	ALTERNATIVE 3 (CARMEL RIVER REROUTE & DAM REMOVAL)	ALTERNATIVE 4 (NO PROJECT)
WI-13: Bypass Channel Excavation *Loss of habitat for special-status species*	DOES NOT APPLY	DOES NOT APPLY	DOES NOT APPLY	**Impact**: long-term, significant, unavoidable **Mitigation**: rescue and relocate CRLF and Western pond turtles and presence/absence surveys for special-status species and flagging for avoidance	DOES NOT APPLY
WETLANDS					
WET-1: Permanent Loss of Wetlands and Other Waters of U.S. *Permanent loss of jurisdictional waters of the U.S.*	**Impact**: long-term, less than significant with mitigation **Mitigation**: Restoration, Mitigation & Monitoring Plan (in Botanical Resources Management Plan Appendix U).. Wetlands similar in function restored at a 3:1 ratio. Conservation easement or mitigation bank on similar, unaffected and fully functional wetlands at 3:1 ratio. Other waters restored or conserved at a 3:1 ratio. Final specifics of mitigation will be determined by the constraints of the 404(b) permit for the project	**Impact**: long-term, less than significant with mitigation **Mitigation**: Restoration, Mitigation & Monitoring Plan (in Botanical Resources Management Plan Appendix U). Wetlands similar in function restored at a 3:1 ratio. Conservation easement or mitigation bank on similar, unaffected and fully functional wetlands at 3:1 ratio. Other waters restored or conserved at a 3:1 ratio. Final specifics of mitigation would be determined by the constraints of the 404(b) permit for the project	**Impact**: long-term, less than significant with mitigation **Mitigation**: Restoration, Mitigation & Monitoring Plan (in Botanical Resources Management Plan Appendix U). Wetlands similar in function restored at a 3:1 ratio. Conservation easement or mitigation bank on similar, unaffected and fully functional wetlands at 3:1 ratio. Other waters restored or conserved at a 3:1 ratio. Final specifics of mitigation would be determined by the constraints of the 404(b) permit for the project	**Impact**: long-term, less than significant with mitigation **Mitigation**: Restoration, Mitigation & Monitoring Plan (in Botanical Resources Management Plan Appendix U). Wetlands similar in function restored at a 3:1 ratio. Conservation easement or mitigation bank on similar, unaffected and fully functional wetlands at 3:1 ratio. Other waters restored or conserved at a 3:1 ratio. Final specifics of mitigation would be determined by the constraints of the 404(b) permit for the project	DOES NOT APPLY

Table 2-1: Impacts and Mitigation Matrix for Proponent's Proposed Project and Alternatives

ENVIRONMENTAL RESOURCES & ISSUES	PROPONENT'S PROPOSED PROJECT (DAM THICKENING)	ALTERNATIVE 1 (DAM NOTCHING)	ALTERNATIVE 2 (DAM REMOVAL)	ALTERNATIVE 3 (CARMEL RIVER REROUTE & DAM REMOVAL)	ALTERNATIVE 4 (NO PROJECT)
WET-2: Short-term Disturbance of Wetlands and Other Waters of U.S. *Short-term filling of fringe wetlands*	**Impact**: short-term, less than significant with mitigation **Mitigation**: in addition to Mitigation Measure WET-1, cofferdam timing and construction criteria, and protection of the plunge pool staging area. Replacement plantings at 3:1 ratio (see Mitigation VE-3)	**Impact**: short-term, less than significant with mitigation **Mitigation**: in addition to Mitigation Measure WET-1, cofferdam timing and construction criteria, and protection of the plunge pool staging area. Replacement plantings at 3:1 ratio (see Mitigation VE-3)	**Impact**: short-term, less than significant with mitigation **Mitigation**: in addition to Mitigation Measure WET-1, cofferdam timing and construction criteria, and protection of the plunge pool staging area. Replacement plantings at 3:1 ratio (see Mitigation VE-3)	**Impact**: short-term, less than significant with mitigation **Mitigation**: in addition to Mitigation Measure WET-1, cofferdam timing and construction criteria, and protection of the plunge pool staging area. Replacement plantings at 3:1 ratio (see Mitigation VE-3)	DOES NOT APPLY
WET-3: Indirect Impacts to Wetlands and other Waters of U.S. *Indirect adverse impacts to vegetation, including increased erosion and sedimentation*	**Impact**: short-term, less than significant with mitigation **Mitigation**: mitigated by implementation of Mitigation Measure VE-4	**Impact**: short-term, less than significant with mitigation **Mitigation**: mitigated by implementation of Mitigation Measure VE-4	**Impact**: short-term, less than significant with mitigation **Mitigation**: mitigated by implementation of Mitigation Measure VE-4	**Impact**: short-term, less than significant with mitigation **Mitigation**: mitigated by implementation of Mitigation Measure VE-4	DOES NOT APPLY
AIR QUALITY					
AQ-1: Dam Site Activities *Short-term emissions from construction equipment and road dust*	**Impact**: short-term, significant, unavoidable **Mitigation**: BMPs, including watering, chemical stabilization, and other measures	**Impact**: short-term, significant, unavoidable **Mitigation**: BMPs, including watering, chemical stabilization, and other measures	**Impact**: short-term, significant, unavoidable **Mitigation**: BMPs, including watering, chemical stabilization, and other measures	**Impact**: short-term, significant, unavoidable **Mitigation**: BMPs, including watering, chemical stabilization, and other measures	DOES NOT APPLY
AQ-2: Access Road Upgrades *Short-term dust and other emissions during access road improvements*	**Impact**: short-term, significant, unavoidable **Mitigation**: BMPs for dust suppression	**Impact**: short-term, significant, unavoidable **Mitigation**: BMPs for dust suppression	**Impact**: short-term significant, unavoidable **Mitigation**: BMPs for dust suppression	**Impact**: short-term significant, unavoidable **Mitigation**: BMPs for dust suppression	DOES NOT APPLY

Table 2-1: Impacts and Mitigation Matrix for Proponent's Proposed Project and Alternatives

ENVIRONMENTAL RESOURCES & ISSUES	PROPONENT'S PROPOSED PROJECT (DAM THICKENING)	ALTERNATIVE 1 (DAM NOTCHING)	ALTERNATIVE 2 (DAM REMOVAL)	ALTERNATIVE 3 (CARMEL RIVER REROUTE & DAM REMOVAL)	ALTERNATIVE 4 (NO PROJECT)
AQ-3: Project-Generated Traffic *Short-term dust and other emissions during project-related travel*	**Impact**: short-term, significant, unavoidable **Mitigation**: point of contact for residents to obtain corrective action when dust impacts occur which would include BMPs for dust suppression	**Impact**: short-term, significant, unavoidable **Mitigation**: point of contact for residents to obtain corrective action when dust impacts occur which would include BMPs for dust suppression	**Impact**: short-term, significant, unavoidable **Mitigation**: point of contact for residents to obtain corrective action when dust impacts occur which would include BMPs for dust suppression	**Impact**: short-term significant, unavoidable **Mitigation**: point of contact for residents to obtain corrective action when dust impacts occur which would include BMPs for dust suppression	DOES NOT APPLY
AQ-4: Concrete Batch Plant Operation *Operation of a new, short-term stationary source*	**Impact**: short-term, less than significant with mitigation **Mitigation**: compliance with MBUAPCD requirements under New Source Review rules	DOES NOT APPLY	DOES NOT APPLY	DOES NOT APPLY	DOES NOT APPLY
NOISE					
NO-1: Dam Site Activities *noise from construction equipment and activity*	**Impact**: short-term, significant, unavoidable **Mitigation**: limiting operations to daytime working hours	**Impact**: short-term, significant, unavoidable **Mitigation**: limiting operations to daytime working hours	**Impact**: short-term, significant, unavoidable **Mitigation**: limiting operations to daytime working hours	**Impact**: short-term, significant, unavoidable **Mitigation**: limiting operations to daytime working hours	DOES NOT APPLY
NO-2: Access Road Upgrades *noise generated during access road improvements*	**Impact**: short-term, significant, unavoidable **Mitigation**: use of quiet-design construction equipment, mufflers, enclosures; eliminate unnecessary idling; equipment maintenance and lubrication; timing restrictions for equipment use	**Impact**: short-term, significant, unavoidable **Mitigation**: use of quiet-design construction equipment, mufflers, enclosures; eliminate unnecessary idling; equipment maintenance and lubrication; timing restrictions for equipment use	**Impact**: short-term, significant, unavoidable **Mitigation**: use of quiet-design construction equipment, mufflers, enclosures; eliminate unnecessary idling; equipment maintenance and lubrication; timing restrictions for equipment use	**Impact**: short-term, significant, unavoidable **Mitigation**: use of quiet-design construction equipment, mufflers, enclosures; eliminate unnecessary idling; equipment maintenance and lubrication; timing restrictions for equipment use	DOES NOT APPLY

Table 2-1: Impacts and Mitigation Matrix for Proponent's Proposed Project and Alternatives

ENVIRONMENTAL RESOURCES & ISSUES	PROPONENT'S PROPOSED PROJECT (DAM THICKENING)	ALTERNATIVE 1 (DAM NOTCHING)	ALTERNATIVE 2 (DAM REMOVAL)	ALTERNATIVE 3 (CARMEL RIVER REROUTE & DAM REMOVAL)	ALTERNATIVE 4 (NO PROJECT)
NO-3: Project-Generated Traffic *noise from construction-related travel, including mobilization, materials, and workers*	**Impact**: short-term, significant, unavoidable **Mitigation**: implementation of mitigation for NO-2, and in addition low speed limits and restrictions on timing of worker travel and truck deliveries	**Impact**: short-term, significant, unavoidable **Mitigation**: implementation of mitigation for NO-2, and in addition low speed limits and restrictions on timing of worker travel and truck deliveries	**Impact**: short-term, significant, unavoidable **Mitigation**: implementation of mitigation for NO-2, and in addition low speed limits and restrictions on timing of worker travel and truck deliveries	**Impact**: short-term, significant, unavoidable **Mitigation**: implementation of mitigation for NO-2, and in addition low speed limits and restrictions on timing of worker travel and truck deliveries	DOES NOT APPLY
NO-4: Concrete Batch Plant Operation *noise from operation of a new short-term stationary source*	**Impact**: short-term, significant, unavoidable **Mitigation**: sound-damped conveyors, equipment enclosures, mufflers; use material piles at the plant as noise berms	DOES NOT APPLY	DOES NOT APPLY	DOES NOT APPLY	DOES NOT APPLY
Issue NO-5: Sediment Disposal Site 4R Activities *noise from construction related travel and activity*	DOES NOT APPLY	**Impact**: short-term, significant, unavoidable **Mitigation**: standard measures: limiting operations to normal daytime working hours to reduce noise nuisances would be routinely applied to construction activities near the Stone Cabin	**Impact**: short-term, significant, unavoidable **Mitigation**: standard measures: limiting operations to normal daytime working hours to reduce noise nuisances would be routinely applied to construction activities near the Stone Cabin	DOES NOT APPLY	DOES NOT APPLY

Table 2-1: Impacts and Mitigation Matrix for Proponent's Proposed Project and Alternatives

ENVIRONMENTAL RESOURCES & ISSUES	PROPONENT'S PROPOSED PROJECT (DAM THICKENING)	ALTERNATIVE 1 (DAM NOTCHING)	ALTERNATIVE 2 (DAM REMOVAL)	ALTERNATIVE 3 (CARMEL RIVER REROUTE & DAM REMOVAL)	ALTERNATIVE 4 (NO PROJECT)
TRAFFIC & CIRCULATION					
TC-1: Road Segment Traffic Operations *Additional traffic on area road network*	**Impact**: short-term, less than significant with mitigation **Mitigation**: construction Management Plan to reduce the number of vehicles and their interaction with other vehicles and promote safety; Traffic/Transportation Plan that includes a traffic coordination, trip reduction, and traffic safety	**Impact**: short-term, significant, unavoidable **Mitigation**: construction Management Plan to reduce the number of vehicles and their interaction with other vehicles and promote safety; Traffic/Transportation Plan that includes a traffic coordination, trip reduction, and traffic safety, flagging, escort of transport trucks	**Impact**: short-term, significant, unavoidable **Mitigation**: construction Management Plan to reduce the number of vehicles and their interaction with other vehicles and promote safety; Traffic/Transportation Plan that includes a traffic coordination, trip reduction, and traffic safety, flagging, escort of transport trucks	**Impact**: short-term significant, unavoidable **Mitigation**: construction Management Plan to reduce the number of vehicles and their interaction with other vehicles and promote safety; Traffic/Transportation Plan that includes a traffic coordination, trip reduction, and traffic safety, flagging, escort of transport trucks	DOES NOT APPLY
TC-2: Intersection Traffic Operations *Changes to intersection level of service*	**Impact**: short-term, less than significant with mitigation **Mitigation**: construction Management Plan to reduce the number of vehicles and their interaction with other vehicles and promote safety; Traffic/Transportation Plan that includes a traffic coordination, trip reduction, and traffic safety	**Impact**: short-term, less than significant **Mitigation**: no mitigation required	**Impact**: short-term, less than significant **Mitigation**: no mitigation required	**Impact**: short-term, less than significant **Mitigation**: no mitigation required	DOES NOT APPLY

Table 2-1: Impacts and Mitigation Matrix for Proponent's Proposed Project and Alternatives

ENVIRONMENTAL RESOURCES & ISSUES	PROPONENT'S PROPOSED PROJECT (DAM THICKENING)	ALTERNATIVE 1 (DAM NOTCHING)	ALTERNATIVE 2 (DAM REMOVAL)	ALTERNATIVE 3 (CARMEL RIVER REROUTE & DAM REMOVAL)	ALTERNATIVE 4 (NO PROJECT)
TC-3a: Traffic Safety Carmel Valley Road *Increased accident rates*	**Impact**: short-term, less than significant with mitigation Mitigation: construction Management Plan to reduce the number of vehicles and their interaction with other vehicles and promote safety; Traffic/Transportation Plan that includes traffic coordination, trip reduction, and traffic safety **Mitigation** could also include funding additional traffic enforcement	**Impact**: short-term, less than significant with mitigation **Mitigation**: in addition to mitigation TC-1, fund additional enforcement, widen Cachagua Road	**Impact**: short-term, less than significant with mitigation **Mitigation**: in addition to mitigation TC-1, fund additional enforcement, widen Cachagua Road	**Impact**: short-term, less than significant with mitigation **Mitigation**: in addition to mitigation TC-1, fund additional enforcement, widen Cachagua Road	DOES NOT APPLY
TC-3b: Traffic Safety San Clemente Drive *Increased accident rates*	**Impact**: short-term, significant, unavoidable **Mitigation**: construction Management Plan to reduce the number of vehicles and their interaction with other vehicles and promote safety; Traffic/Transportation Plan that includes traffic coordination, trip reduction, and traffic safety	**Impact**: short-term, significant, unavoidable **Mitigation**: construction Management Plan to reduce the number of vehicles and their interaction with other vehicles and promote safety; Traffic/Transportation Plan that includes traffic coordination, trip reduction, and traffic safety	**Impact**: short-term, significant, unavoidable **Mitigation**: construction Management Plan to reduce the number of vehicles and their interaction with other vehicles and promote safety; Traffic/Transportation Plan that includes traffic coordination, trip reduction, and traffic safety	**Impact**: short-term, significant, unavoidable **Mitigation**: construction Management Plan to reduce the number of vehicles and their interaction with other vehicles and promote safety; Traffic/Transportation Plan that includes traffic coordination, trip reduction, and traffic safety	DOES NOT APPLY

Table 2-1: Impacts and Mitigation Matrix for Proponent's Proposed Project and Alternatives

ENVIRONMENTAL RESOURCES & ISSUES	PROPONENT'S PROPOSED PROJECT (DAM THICKENING)	ALTERNATIVE 1 (DAM NOTCHING)	ALTERNATIVE 2 (DAM REMOVAL)	ALTERNATIVE 3 (CARMEL RIVER REROUTE & DAM REMOVAL)	ALTERNATIVE 4 (NO PROJECT)
TC-4: Inadequate Corner Sight Distances *Inadequate visual sight distance at intersections for stopping safety*	**Impact**: less than significant **Mitigation**: no mitigation required	**Impact**: short-term, less than significant with mitigation **Mitigation**: improve affected intersections	**Impact**: short-term, less than significant with mitigation **Mitigation**: improve affected intersections	**Impact**: short-term, less than significant with mitigation **Mitigation**: improve affected intersections	DOES NOT APPLY
TC-5: New Intersections *Effect on safety and traffic*	**Impact**: short-term, less than significant with mitigation **Mitigation**: advance warning/signing; right turn taper on eastbound Carmel Valley Road approach to Tularcitos Access Road	DOES NOT APPLY	DOES NOT APPLY	DOES NOT APPLY	DOES NOT APPLY
TC-6: Neighborhood Quality of Life *Effect of increased traffic on residential neighborhoods*	**Impact**: short-term, significant, unavoidable Mitigation: construction Management Plan to reduce the number of vehicles and their interaction with other vehicles and promote safety; Traffic/Transportation Plan that includes traffic coordination, trip reduction, and traffic safety	**Impact**: short-term, significant, unavoidable **Mitigation**: construction Management Plan to reduce the number of vehicles and their interaction with other vehicles and promote safety; Traffic/Transportation Plan that includes traffic coordination, trip reduction, and traffic safety	**Impact**: short-term, significant unavoidable **Mitigation**: construction Management Plan to reduce the number of vehicles and their interaction with other vehicles and promote safety; Traffic/Transportation Plan that includes traffic coordination, trip reduction, and traffic safety	**Impact**: short-term, significant unavoidable **Mitigation**: construction Management Plan to reduce the number of vehicles and their interaction with other vehicles and promote safety; Traffic/Transportation Plan that includes traffic coordination, trip reduction, and traffic safety	DOES NOT APPLY

Table 2-1: Impacts and Mitigation Matrix for Proponent's Proposed Project and Alternatives

ENVIRONMENTAL RESOURCES & ISSUES	PROPONENT'S PROPOSED PROJECT (DAM THICKENING)	ALTERNATIVE 1 (DAM NOTCHING)	ALTERNATIVE 2 (DAM REMOVAL)	ALTERNATIVE 3 (CARMEL RIVER REROUTE & DAM REMOVAL)	ALTERNATIVE 4 (NO PROJECT)
TC-7: Pavement Loadings *Effect of project traffic on pavement*	**Impact**: short-term, less than significant with mitigation **Mitigation**: repair damage to affected roads immediately after construction is completed	**Impact**: short-term, less than significant with mitigation **Mitigation**: repair damage to affected roads immediately after construction is completed	**Impact**: short-term, less than significant with mitigation **Mitigation**: repair damage to affected roads immediately after construction is completed	**Impact**: short-term, less than significant with mitigation **Mitigation**: repair damage to affected roads immediately after construction is completed	DOES NOT APPLY
CULTURAL RESOURCES					
CR-1: Ground Disturbance *Disturbance to archaeological sites*	**Impact**: long-term, less than significant with mitigation **Mitigation**: construction monitoring, avoid 3 archaeological sites, or archeological evaluation and/or historical documentation of them	**Impact**: long-term, less than significant with mitigation **Mitigation**: construction monitoring, avoid archaeological sites, or archeological evaluation and/or historical documentation	**Impact**: less than significant with mitigation, long-term **Mitigation**: construction monitoring, avoid archaeological sites, or archeological evaluation and/or historical documentation	**Impact**: long-term, less than significant with mitigation **Mitigation**: construction monitoring, avoid archaeological sites, or archeological evaluation and/or historical documentation	DOES NOT APPLY
CR-2: Damage to Historic Structures from Construction-related Vibration *Construction-related vibration*	**Impact**: short-term, less than significant with mitigation **Mitigation**: rigid support of excavation structures to minimize ground movement	**Impact**: short-term, less than significant with mitigation **Mitigation**: rigid support of excavation structures to minimize ground movement	**Impact**: short-term, less than significant with mitigation **Mitigation**: rigid support of excavation structures to minimize ground movement	**Impact**: short-term, less than significant with mitigation **Mitigation**: rigid support of excavation structures to minimize ground movement	DOES NOT APPLY
CR-3: Introduction of Short-term Dirt/Unintended Damage *Construction/demolition-related accumulation of dirt*	**Impact**: short-term, less than significant with mitigation **Mitigation**: spray water on the ground surface prior to ground disturbance.	**Impact**: short-term, less than significant with mitigation **Mitigation**: spray water on the ground surface prior to ground disturbance.	**Impact**: short-term, less than significant with mitigation **Mitigation**: spray water on the ground surface prior to ground disturbance.	**Impact**: short-term, less than significant with mitigation **Mitigation**: spray water on the ground surface prior to ground disturbance.	DOES NOT APPLY

Table 2-1: Impacts and Mitigation Matrix for Proponent's Proposed Project and Alternatives

ENVIRONMENTAL RESOURCES & ISSUES	PROPONENT'S PROPOSED PROJECT (DAM THICKENING)	ALTERNATIVE 1 (DAM NOTCHING)	ALTERNATIVE 2 (DAM REMOVAL)	ALTERNATIVE 3 (CARMEL RIVER REROUTE & DAM REMOVAL)	ALTERNATIVE 4 (NO PROJECT)
CR-4: Demolition or Alteration to Historic Properties *Alterations to OCRD and associated fish ladder and to SCD*	**Impact**: long-term, significant, unavoidable **Mitigation**: recordation of resources (HABS/HAER), interpretive displays, educational program	**Impact**: long-term, significant, unavoidable **Mitigation**: recordation of resources (HABS/HAER), interpretive displays, educational program	**Impact**: long-term, significant, unavoidable **Mitigation**: recordation of resources (HABS/HAER), interpretive displays, educational program	**Impact**: long-term, significant, unavoidable **Mitigation**: recordation of resources (HABS/HAER), interpretive displays, educational program	DOES NOT APPLY
CR-5: Alteration of Surrounding Environment *Alter character of setting for San Clemente Dam Historic Resource District*	**Impact**: long-term, significant, unavoidable **Mitigation**: prepare NRHP Nomination Form for Historic District, complete Historic Preservation Management Plan, MOA	**Impact**: long-term, significant, unavoidable **Mitigation**: prepare NRHP Nomination Form for Historic District, complete Historic Preservation Management Plan, MOA	**Impact**: long-term, significant, unavoidable **Mitigation**: prepare NRHP Nomination Form for Historic District, complete Historic Preservation Management Plan, MOA	**Impact**: long-term, significant, unavoidable **Mitigation**: prepare NRHP Nomination Form for Historic District, complete Historic Preservation Management Plan, MOA	DOES NOT APPLY
CR-6: Introduction of Visual Obstructions *Loss of visual integrity for San Clemente Dam Historic Resource District*	**Impact**: long-term, significant, unavoidable **Mitigation**: photographic documentation, use of compatible design, materials and construction methods	**Impact**: long-term, significant, unavoidable **Mitigation**: photographic documentation, use of compatible design, materials and construction methods	**Impact**: long-term, significant, unavoidable **Mitigation**: photographic documentation, use of compatible design, materials and construction methods	**Impact**: long-term, significant, unavoidable **Mitigation**: photographic documentation, use of compatible design, materials and construction methods	DOES NOT APPLY
VISUAL RESOURCES (AESTHETICS)					
VQ-1: Residential Views on Hills East of Carmel Valley Road *Operation of construction equipment within the viewshed*	**Impact**: short-term, less than significant **Mitigation**: no mitigation required	DOES NOT APPLY	DOES NOT APPLY	DOES NOT APPLY	DOES NOT APPLY

Table 2-1: Impacts and Mitigation Matrix for Proponent's Proposed Project and Alternatives

ENVIRONMENTAL RESOURCES & ISSUES	PROPONENT'S PROPOSED PROJECT (DAM THICKENING)	ALTERNATIVE 1 (DAM NOTCHING)	ALTERNATIVE 2 (DAM REMOVAL)	ALTERNATIVE 3 (CARMEL RIVER REROUTE & DAM REMOVAL)	ALTERNATIVE 4 (NO PROJECT)
VQ-2: Changes to Viewsheds from Residences Adjacent to CVFP and SCD *Construction activities within the viewshed*	**Impact**: short-term, less than significant **Mitigation**: no mitigation required	**Impact**: short-term, less than significant **Mitigation**: no mitigation required	**Impact**: short-term, less than significant **Mitigation**: no mitigation required	**Impact**: short-term, less than significant **Mitigation**: no mitigation required	DOES NOT APPLY
VQ-3: Residential Views from Sleepy Hollow *Operation of construction equipment and ancillary facilities within the viewshed*	**Impact**: short-term, significant, unavoidable **Mitigation**: none available NOTE: This includes the proposed concrete batch plant	**Impact**: short-term, less than significant **Mitigation**: no mitigation required NOTE: This does not include the proposed concrete batch plant	**Impact**: short-term, less than significant **Mitigation**: no mitigation required NOTE: This does not include the proposed concrete batch plant	**Impact**: short-term, less than significant **Mitigation**: no mitigation required NOTE: This does not include the proposed concrete batch plant	DOES NOT APPLY
VQ-4: Changes to Viewsheds from the Stone Cabin *Construction activities within the viewshed of the Carmel River*	DOES NOT APPLY	**Impact**: short-term, less than significant, beneficial, long-term **Mitigation**: no mitigation required	**Impact**: short-term, less than significant, beneficial, long-term **Mitigation**: no mitigation required	**Impact**: short-term, less than significant, beneficial, long-term **Mitigation**: no mitigation required	DOES NOT APPLY
VQ-5: Changes to Viewsheds from the Jeep Trail *Construction activities within the viewshed*	DOES NOT APPLY	**Impact**: short-term, significant, unavoidable; long-term, less than significant with mitigation **Mitigation**: short-term-screening the sediment disposal site adjacent to the Jeep Trail with vegetation during construction; long term, revegetation of the sediment disposal site and the removal of the sediment conveyor overcrossing	**Impact**: short-term, significant, unavoidable; long-term, less than significant with mitigation **Mitigation**: short-term-screening the sediment disposal site adjacent to the Jeep Trail with vegetation during construction; long term, revegetation of the sediment disposal site and the removal of the sediment conveyor overcrossing	DOES NOT APPLY	DOES NOT APPLY

Table 2-1: Impacts and Mitigation Matrix for Proponent's Proposed Project and Alternatives

ENVIRONMENTAL RESOURCES & ISSUES	PROPONENT'S PROPOSED PROJECT (DAM THICKENING)	ALTERNATIVE 1 (DAM NOTCHING)	ALTERNATIVE 2 (DAM REMOVAL)	ALTERNATIVE 3 (CARMEL RIVER REROUTE & DAM REMOVAL)	ALTERNATIVE 4 (NO PROJECT)
RECREATION					
REC-1: Access to Stone Cabin via Jeep Trail *Sediment pile blocked access via the Jeep Trail under the design for Site 4R proposed in the Draft EIR/EIS*	DOES NOT APPLY	**Impact**: short-term, less than significant **Mitigation**: no mitigation required. The alternative has been redesigned to move the disposal site uphill and provide a conveyor overcrossing. These changes would allow access to the cabin via the Jeep Trail during construction.	**Impact**: short-term, less than significant **Mitigation**: no mitigation required. The alternative has been redesigned to move the disposal site uphill and provide a conveyor overcrossing. These changes would allow access to the cabin via the Jeep Trail during construction.	DOES NOT APPLY	DOES NOT APPLY
REC-2: Disruption of Use of Jeep Trail to Stone Cabin *Heavy equipment traversing Jeep Trail*	DOES NOT APPLY	**Impact**: short-term, significant, unavoidable **Mitigation**: operation of heavy earth moving and other construction equipment would occur during normal working hours	**Impact**: short-term, significant and unavoidable **Mitigation**: operation of heavy earth moving and other construction equipment would occur during normal working hours	**Impact**: short-term, significant and unavoidable **Mitigation**: operation of heavy earth moving and other construction equipment would occur during normal working hours	DOES NOT APPLY
REC-3: Rerouting or Restoring the Carmel River Channel *Restore the river to its original free-flowing state*	DOES NOT APPLY	**Impact**: long-term, beneficial **Mitigation**: no mitigation required	**Impact**: long, term, beneficial **Mitigation**: no mitigation required	**Impact**: long-term, beneficial **Mitigation**: no mitigation required	DOES NOT APPLY

Table 2-1: Impacts and Mitigation Matrix for Proponent's Proposed Project and Alternatives

ENVIRONMENTAL RESOURCES & ISSUES	PROPONENT'S PROPOSED PROJECT (DAM THICKENING)	ALTERNATIVE 1 (DAM NOTCHING)	ALTERNATIVE 2 (DAM REMOVAL)	ALTERNATIVE 3 (CARMEL RIVER REROUTE & DAM REMOVAL)	ALTERNATIVE 4 (NO PROJECT)
REC-4: Deposition of Sediment on Site 4R *Sediment disposal on parkland*	DOES NOT APPLY	**Impact**: short-term significant, unavoidable; long-term, less than significant with mitigation **Mitigation**: following construction, the open space park site would be restored to close to its pre-project state. The site would return to use as open space parkland	**Impact**: short-term significant, unavoidable; long-term less than significant with mitigation **Mitigation**: following construction, the open space park site would be restored to close to its pre-project state. The site would return to use as open space parkland	DOES NOT APPLY	DOES NOT APPLY
LAND USE					
LU-1: Conflict with Existing Plans and Policies in the Project Area *Construction and operations changing the existing land use*	**Impact**: long-term, less than significant with mitigation **Mitigation**: land use permits issued by Monterey County Planning and Building Inspection Department would render this issue impact less than significant	**Impact**: short-term, significant, unavoidable; long-term, less than significant **Mitigation**: consultation with the Monterey Park District would be required to ensure desired restoration of Site 4R and the Jeep Trail following construction activities.	**Impact**: short-term, significant; unavoidable; long-term, less than significant **Mitigation**: consultation with the Monterey Park District would be required to ensure desired restoration of Site 4R and the Jeep Trail following construction activities.	DOES NOT APPLY	DOES NOT APPLY
ENVIRONMENTAL JUSTICE					
EJ-1: Minority and Low Income Populations *Disproportionate Impacts on Minority and Low Income Populations*	**Impact**: less than significant **Mitigation**: no mitigation required	**Impact**: less than significant **Mitigation**: no mitigation required	**Impact**: less than significant **Mitigation**: no mitigation required	**Impact**: less than significant **Mitigation**: no mitigation required	DOES NOT APPLY

Changes from Draft EIR/EIS to Final EIR/EIS

In response to comments received on the Draft EIR/EIS, additional information has been provided in this Final EIR/EIS which clarifies and amplifies the text and various determinations of significant impacts under CEQA.

Some of this information is in the form of additional sediment modeling which better define the impacts of specific actions – for example the sedimentation analysis described in Section 4.2 Hydrology and Water Resources and the Sediment Operations and Maintenance Plan (Appendix J). Some of the information is in the form of more detailed mitigation measures – for example a draft Storm Water Pollution Prevention Plan (Appendix K), a draft Spill Prevention, Containment, and Countermeasure Plan (Appendix R), a draft Biological Resources Plan (Appendix U) and a draft Special-Status Species Plan (Appendix V). Some impact issues have been divided into subsections or changed to rearrange impact analysis — for example in Section 4.2 Hydrology and Water Resources, several impact issues were rearranged so that impacts from construction and operation were separated and impacts upstream and downstream of the Dam were separated.

Several changes have been made to the alternatives that reduce impacts – for example, the sediment disposal site was moved from an area where it blocked access to the Stone Cabin, and the time for closure of the SCD fish ladder was moved later in the season when fish migration upstream is unlikely. Additional resource sections have been added based on public comment received — for example, Section 4.12 on Recreation and 4.13 on Land Use.

The discussion below identifies changes within each impact area. Further clarification is provided in the specific impact sections.

No Project Alternative

As described above, the No Project alternative would leave the Dam, and its existing facilities in place. A new fish ladder would not be constructed, the OCRD would not be notched and sediment behind the Dam would be left in place. These actions were evaluated as part of the No Project Alternative in the Draft EIR/EIS, but have been removed from the Final EIR/EIS to allow the report to conform more closely to the intent of a No Project (No Action) alternative under NEPA and CEQA and to be consistent with the NOP. Since the No Project Alternative is considered unlikely because it would leave the Dam out of compliance with DSOD standards, the changes are not discussed in the comparisons below.

Geology

Geological and soils effects under all alternatives would be less than significant or mitigable to levels less than significant with the exception of the seismic risk and erosion at the left Dam abutment causing SCD failure, leading to downstream flooding. This would be significant and unavoidable under the No Project Alternative, but would be

avoided by the selection of the Proponent's Proposed Project or any of its action alternatives.

In response to comments received on the Draft EIR/EIS, additional information has been provided in this Final EIR/EIS which clarifies and amplifies the following determination of significant impacts under CEQA:

- **Issue GS-5: Bypass Rock Removal by Blasting**: Blasting entails safety hazards and could trigger landslides on unstable slopes. The significance determination has been changed from less than significant to less than significant with mitigation. Preliminary blasting BMPs have been incorporated into the SWPPP (Appendix K). Implementation of additional measures in a complete blasting plan (required as part of final construction specifications) would reduce blasting-related impacts to a less than significant level.

Hydrology and Water Resources

The key factor differentiating alternatives for this resource area is the change in the flux of sediment passing the SCD site. The amount and composition of sediment passing downstream drives changes in riverine sediment composition, riverine sediment storage, channel bed geometry, and the elevation of the 100-year floodplain.

Under the Proponent's Proposed Project and Alternative 1, the SOMP (Appendix J) would be used to regulate downstream sediment releases. Neither of these alternatives would have significant and unavoidable effects on sediment flows, storage, composition, deposition, suspended sediments, channel geometry, or the 100-year flood elevation. Implementation of the SOMP and water quality BMPs included in the Storm Water Pollution Prevention Water Quality Protection Plan (Appendix K) would reduce any impacts to levels less than significant. In a few cases, impacts could be beneficial (e.g., to sediment deposition in the lower river).

The dam removal alternatives (Alternatives 2 and 3) would have significant, unavoidable short-term effects on sediment flow, composition, and storage during construction due to sediment mobilized from restored stream channels. Both alternatives would significantly increase the frequency of high suspended sediment concentrations in the Carmel River downstream of SCD. Under these alternatives, the Dam would be removed and the largest amount of sediment transport would occur past the Dam site and down the Carmel River. Alternative 2 would experience the largest component of sediment transport past the dam site because Alternative 3 retains the lower gradient reach upstream of the bypass channel, similar to a hung valley in a natural river system, that would store some of the sediment transported from upstream. Sediment may be mobilized from the unexcavated sediment remnants in the restored stream channels under Alternatives 2 and 3. Under Alternative 2, the river would return to its pre-dam sediment transport rate in the inundation zone, however Alternative 2 would have long-term significant and unavoidable impacts on sediment deposition and channel geometry in the lower Carmel River. No mitigation is available for these impacts.

Under the No Project Alternative, the reservoir would fill at the same rate as under existing conditions and some sediment would be passed downstream. In response to comments received on the Draft EIR/EIS, several of the Impact Issues were disaggregated into separate issues in the Final EIR/EIS and additional information has been provided which clarifies and amplifies the discussion of these impacts: WR-2 became WR-2a, 3a, 3b, 4a, and 4b; WR-3 became a portion of 2b and WR-4 became a portion of 2b and 4a. The issues addressed in each of the refined impacts issues are briefly described below and in more detail in Section 4.2.

- **WR-2a: Changes in Sediment Flow Passing the San Clemente Dam Immediately after Construction**. This impact issue was clarified to apply to conditions immediately after construction. Further modeling determined that the short-term impact of Issue WR-2a would be significant and unavoidable under Alternatives 2 and 3 (instead of less than significant with mitigation for WR-2 in the Draft EIR/EIS). For Alternative 1, the determination changed from less than significant with mitigation to no mitigation required.

- **WR-2b: Changes in Sediment Storage and Composition in the Lower River during Construction**. This issue applies only to short-term impacts (whereas the Draft EIR/EIS issues WR-3 and WR-4 included both short- and long-term considerations). Further modeling determined that this impact would not be significant and unavoidable for all the action alternatives, as stated in the draft. It was determined to be less than significant with mitigation under the Proponent's Proposed Project and Alternative 1; and significant and unavoidable under Alternatives 2 and 3.

- **WR-3a: Change in Sediment Deposition in the Reservoir.** This impact issue addresses long-term effects of sediment deposition. It would be less than significant with mitigation and potentially beneficial under the Proponent's Proposed Project and Alternatives 1, and less than significant with mitigation under Alternatives 2, 3, and 4.

- **WR-3b: Increased Sediment Deposition that Obstructs Fish Passage**. This impact issue addresses long-term effects of sediment deposition. It is less than significant with mitigation under all project alternatives (but under Alternative 2, no mitigation is required). Under Alternative 4 (No Project), it is significant and unavoidable.

- **WR-4a: Increased Sediment Deposition in the Lower River**. This impact issue addresses long-term effects of sediment deposition. It was less than significant, potentially beneficial under the Proponent's Proposed Project and Alternatives 1 and 4; less than significant with no mitigation required under Alternative 3; and significant and unavoidable under Alternative 2.

- **WR-4b: Increase in frequency of High suspended Sediment Concentrations**. This impact issue addresses long-term effects of sediment deposition. It was determined to be less than significant with no mitigation under the Proponent's

Proposed Project, Alternative 1 and Alternative 4; and significant and unavoidable under Alternatives 2 and 3.

- **WR-5: Changes in Channel Bed Geometry**. This issue is numbered as it was in the Draft EIR/EIS. It would be less than significant with mitigation for all project alternatives in the Draft EIR/EIS. Further modeling conducted for the Final EIR/EIS determined it would be less than significant with no mitigation required under the Proponent's Proposed Project and Alternatives 1, 3 and 4 and significant and unavoidable under Alternative 2.

- **WR-6: Changes to the 100-year Flood Elevation**. This issue is numbered as it was in the Draft EIR/EIS. Further modeling conducted for the Final EIR/EIS determined this issue would be less than significant with no mitigation required under the Proponent's Proposed Project and Alternatives 1, 3 and 4 and significant and unavoidable under Alternative 2.

- **WR-7: Impact to the Location or Timing of Water Supply Diversions**. This issue is numbered as it was numbered in the Draft EIR/EIS. The issue has also been clarified to consider the location and timing of water supply diversions. For the Draft EIR/EIS, no mitigation would be required (although screening of the intake was proposed); in the Final EIR/EIS, mitigation would be required, consisting of operating the diversion to maintain fish passage flows from January through May.

Water Quality

Sluicing under the Proponent's Proposed Project and Alternative 1 would lead to increases in turbidity in the Carmel River below the Dam. All of the action alternatives entail construction activities, where the fish ladder would be replaced and the OCRD would be notched. The Proponent's Proposed Project and the action alternatives all would involve partial or complete dewatering of the construction areas and plunge pool for from one to four construction years. Activities at construction sites and along access roads where new routes or improvements are undertaken would entail potential discharge of contaminants to watercourses in the Project Vicinity, including the Carmel River, San Clemente Creek, and Tularcitos Creek. These would include localized scour, stream bed disturbance, and erosion leading to sediment discharge, suspended sediment and turbidity. Other effects would include changes in temperature and levels of dissolved oxygen and accidental spills and leaks of toxic substances.

In response to comments received on the Draft EIR/EIS, additional information has been provided in this Final EIR/EIS which clarifies and amplifies the following determinations of significant impacts under CEQA:

- **Issue WQ-9: Reservoir Drawdown**. Under Alternatives 2 and 3, the reservoir would be completely dewatered during project implementation; the impacts would be the same as in the Proponent's Proposed Project and Alternative 1 and would be significant and unavoidable.

- **Issue WQ-10: Reservoir Sediment Excavation**. Under Alternatives 2 and 3, the sediment would be excavated from the reservoir during project implementation; the impacts would be the same as Alternative 1 except sediment excavation quantities would be different, (2.5 million cubic yards for Alternative 2 and 500,000 cubic yards for Alternative 3). Very fine suspended sediments and iron oxides would be expected to remain in suspension in the reservoir, resulting in elevated turbidity and decreased dissolved oxygen levels during the two periods of excavation activity and for about two months following excavation. The impacts would be significant and unavoidable.

Fisheries

The Proponent's Proposed Project and action alternatives entail a number of activities which would cause the short-term loss and degradation of aquatic habitats and cause mortality to fish. Some of these (e.g., replacing bridge piers, fish rescues and relocations, and notching the OCRD), are similar among all of the action alternatives.

Sluicing to manage sediment accumulations behind SCD would cause limited short term increases in suspended sediment and turbidity that would be repeated each year, leading to less than significant impacts on fish as the increases would be similar to the turbidity caused during a storm event. Restoring the sediment transport capacity past the Dam would increase suspended sediment levels downstream of SCD and increase the volume of coarse sediment delivered to the river channel downstream of the Dam. This increase can have short term significant adverse impacts and long-term beneficial impacts to habitat conditions in the lower river.

Construction-related diversions of the Carmel River and San Clemente Creek would have greater impacts for Alternatives 1, 2, and 3, than for the Proponent's Proposed Project because of the increased number of years needed to complete these projects. Depending on permit conditions, construction-related stream diversions would last for one to two years under the Proponent's Proposed Project, two to three years for Alternatives 1 and 3, and three to four years for Alternative 2. The annual effects of dewatering the plunge pool, the reservoir area, and diverting the inflowing streamflow around the reservoir area would be somewhat similar in the same construction year across the alternatives with effects varying depending on the number of construction years and extent of the area to be dewatered. Reservoir drawdown would be required under all the alternatives as well, but would not last as long or be as severe under the No Project Alternative (this alternative would entail the continuation of "interim drawdowns" until the reservoir fills with sediment).

The Proponent's Proposed Project and all the action alternatives would entail less-than-significant impacts from closing the fish ladder during construction because diversion activities in the river or dewatering the reservoir would not be conducted until May 31, or when flows passing SCD are less than 50 cfs, which ever comes first. Upstream fish passage at the Dam would be completely mitigated by dam removal under Alternatives 2 and 3. Under the Proponent's Proposed Project and Alternative 1 the fish ladder

would be improved but the Dam would remain in place. Downstream fish passage impacts would continue as an existing condition for fish moving over the Dam under the Proponent's Proposed. Under Alternative 1, in addition to an improved ladder, the functional height of the Dam would be reduced by about 20 feet. Under Alternative 4, no new ladder be provided and impacts would continue consistent with existing conditions. A comparison of steelhead access issues for upstream adults or downstream juveniles or kelts moving past the dam site with proposed mitigation measures is provided in Table 2-2. Notching the OCRD would be done late in the season when movement in the river would be minimal for all the action alternatives.

Relocating the CAW water supply diversion further upstream on the Carmel River would be necessary under Alternatives 1, 2, and 3, and would affect flows downstream from the diversion point to the Dam to a less than significant level on fish after an operation plan is implemented to provide flow for steelhead. The Proponent's Proposed Project and Alternative 4 would keep the diversion where it is, so flows upstream of the Dam would not be affected.

In response to comments received on the Draft EIR/EIS, additional information is provided in this Final EIR/EIS which clarifies and amplifies the following determinations of significant impacts under CEQA:

- **Issue FI-3: Operation of a Trap and Truck Facility at OCRD**. Operation of a Trap and Truck facility at OCRD has been eliminated from the fisheries impact issues. In the Draft EIR/EIS, operation of the Trap and Truck facility was proposed as mitigation for Fish Ladder Closure (Impact Issue FI-7) which was anticipated to occur in late April or May. The earliest diversion and dewatering-related actions would begin is May 31. This time frame has virtually eliminated the Fish Ladder Closure Issue and has therefore eliminated the necessity to operate a Trap and Truck facility at the ORCD.

Table 2-2: Comparison of Fish Access Issues by Alternative

ACCESS ISSUES BY ALTERNATIVE					OCRD NOTCH	
			OPERATION			
ACCESS	UPSTREAM	DOWNSTREAM	UPSTREAM	DOWNSTREAM	BOTH U/S AND D/S	BOTH U/S AND D/S
PROPONENT'S PROPOSED PROJECT	LIMITED FISH RESCUE AND RELOCATION FOR 1 YEAR	RESCUE AND RELOCATION FOR 1 YEAR	NEW LADDER	NEW LADDER AND SPILLWAY	UPSTREAM –N/A, DOWNSTREAM RESCUE AND RELOCATION	RIVER
ALTERNATIVE 1	FISH RESCUE AND RELOCATION FOR2 YEARS	RESCUE AND RELOCATION FOR 2 YEARS	NEW SHORTER LADDER	NEW SHORTER LADDER AND SPILLWAY	UPSTREAM –N/A, DOWNSTREAM RESCUE AND RELOCATION	RIVER
ALTERNATIVE 2	FISH RESCUE AND RELOCATION FOR 3 YEARS	RESCUE AND RELOCATION FOR 3 YEARS	RIVER	RIVER	UPSTREAM –N/A, DOWNSTREAM RESCUE AND RELOCATION	RIVER
ALTERNATIVE 3	FISH RESCUE AND RELOCATION FOR 2 YEARS	RESCUE AND RELOCATION FOR 2 YEARS	RIVER	RIVER	UPSTREAM –N/A, DOWNSTREAM RESCUE AND RELOCATION	RIVER
NO PROJECT	NONE	NONE	EXISTING LADDER	EXISTING LADDER AND EXISTING SPILLWAY	UPSTREAM –N/A, DOWNSTREAM RESCUE AND RELOCATION	RIVER

- **FI-9a: Sediment Impacts to Downstream Channels from Sluicing, Dredging or Sediment Transport Downstream**. This impact issue was the original FI-9 in the Draft EIR/EIS and the determination has been changed from significant, unavoidable to less than significant for the Proponent's Proposed Project, and Alternative 1. For Alternatives 2 and 3, although the long-term impact is beneficial, the short-term impact for Alternative 2 remains significant and unavoidable. The short-term impact for Alternative 3 is less than significant. The change is based on the additional analyses conducted on suspended sediment levels from sluicing to downstream channels. Impacts from exposure to suspended sediment from the Proponent's Proposed Project and Alternative 1 to downstream resources are similar to impacts that occur during storm events and would take place during storm events.

- **FI-9b: Impacts to Fish from Excavation or Dredging of Sediment for Fish Passage**. In response to comments received on the Draft EIR/EIS, the SOMP (Appendix J) has been expanded to include other methods for managing sediment, in addition to sluicing. This impact issue has been added to include impacts to fish passage upstream of the Dam that could be caused by these methods. It applies to the Proponent's Proposed Project and Alternative 1. The benthic habitat that would be dredged to maintain fish passage consists of fine sediments that have recently accumulated behind the Dam and is of very low habitat quality. These fine sediments have low invertebrate productivity and provide no spawning and limited rearing habitat. Juvenile and adult fish are known to easily avoid suction dredges (Harvey and Lisle 1998), so steelhead mortality is expected to be uncommon. The impact would be less than significant.

- **FI-12: Downstream Fish Passage over SCD**. In the Draft EIR/EIS, this issue was applied to Alternatives 2 and 3 and the determination would be beneficial because dam removal would allow unobstructed passage. However, the impact applies to passage over the existing Dam and therefore does not apply to Alternatives 2 and 3 because the Dam would be removed. This Final EIR/EIS has been revised to reflect this determination.

Vegetation and Wildlife

The Proponent's Proposed Project and all of the action alternatives affect terrestrial vegetation and wildlife habitat. The comparative acreages of vegetation (excluding water areas) affected are shown in Table 2.3. The Proponent's Proposed Project affects a relatively minor amount of vegetation (3.4 acres, not including water), while Alternatives 1 and 2 affect the most vegetation (about 41.8 acres and 61.4 acres respectively), due to the inclusion of the sediment disposal site in their totals and the additional sediment removal area for Alternative 2. Alternative 3 affects about 44.7 acres. Open water was removed from Table 2.3 to retain the focal point of the Table on vegetation affected. The No Project Alternative avoids these impacts.

Table 2-3: Vegetation Potentially Affected by Proponent's Proposed Project and Alternatives

Alternative	TOTAL	Annual grassland	Arroyo willow series	Blue oak series	Black sage series	Central Coast cottonwood-sycamore riparian forest	Chamise series	Chamise-black sage series	Coast live oak series	California sagebrush - black sage series	Developed	Emergent wetland	Mock heather scrub	Mulefat series	Mulefat-willow riparian	Ruderal	Sandbar	Sandbar annuals	California sycamore riparian-coast live oak	California sycamore riparian-mock heather scrub	California sycamore series	White alder riparian	White alder-willow riparian	Willow riparian
Proponent's Proposed Project	3.4	0.2	0.02	0.003	0.004	0.7	0.1	0.08	1.0	0.04	0.04	0	1.0	0	0	0.05	0	0	0.02	0.2	0.04	0	0	0
Alternative 1	41.8	3.8	0	0.003	0.004	1.3	0.6	0.6	20.1	0.1	0.2	0.02	0	0	0.02	0.01	0.4	1.8	0	0	0.04	0	11.9	1.0
Alternative 2	61.4	6.6	0	0.003	0.004	1.3	1.0	1.1	26.3	0.3	0.2	0.02	0	1.2	0.6	0.01	2.7	1.8	0	0	0.04	0.1	17.0	1.0
Alternative 3	44.7	7.1	0	0.003	0.1	0.2	1.5	0.3	9.6	0.0	0.04	0.02	0	1.2	0.6	0.01	2.0	1.8	0	0	0.04	0.1	18.9	1.0
Alternative 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

The Proponent's Proposed Project and Alternative 1 may disrupt bat nesting areas, and Alternatives 1, 2, and 3 may displace special-status bats, due to dam-related construction. All action alternatives may affect California red-legged frogs (CRLFs). The Proponent's Proposed Project and Alternative 4 would preserve existing CRLF habitat and Alternative 1 preserves a lesser amount of frog habitat. Alternative 2 would remove habitat in the San Clemente arm and temporarily eliminate it from the sediment storage area of the Carmel River arm, but would have minimal effects on habitat upstream from the bypass channel on the Carmel River. However, the Proponent's Proposed Project and all action alternatives would include mitigation to improve CRLF habitat in areas along the Carmel River not being affected by the project, resulting in overall improvement to the CRLF community. The concrete batch plant associated with the Proponent's Proposed Project may affect horned lizards and Cooper's hawks. Brushland and riparian habitat clearing and excavation would remove some habitat for special-status species during the bypass channel excavation under Alternative 3 which would be a significant impact. Alternatives 1 and 2 would entail potential effects to terrestrial habitat and species at the sediment disposal site that the other alternatives would not required.

In response to comments received on the Draft EIR/EIS, additional information is provided in this Final EIR/EIS which clarifies and amplifies the following determinations of significant impacts under CEQA:

- **WI-3 Cofferdam Construction and Plunge Pool Dewatering**: This impact issue was the original WI-3 in the Draft EIR/EIS and has been changed from significant, unavoidable to short-term, significant, unavoidable; long-term, beneficial with mitigation for all the action alternatives. Overall, it was determined that the mitigation for the CRLF as described in Appendix V, Protection Measures for Special-status Species, would enhance the habitat in the long-term compared to the existing conditions for Alternatives 1, 2, and 3. However, the impact would remain significant and unavoidable initially, for the Proponents Proposed Project and Alternatives 1, 2, and 3, because there is still the potential to impact the sensitive species and their habitat near the plunge pool dewatering in the short-term.

- **WI-7 Reservoir Drawdown without Sediment Removal**. The original WI-7 in the Draft EIR/EIS has been changed from significant, unavoidable to short-term significant, unavoidable; long-term, beneficial with mitigation. As was the case in the Draft EIR/EIS, this impact only applies to the Proponent's Proposed Project. Overall it was determined that the mitigation for the CRLF as described in Appendix V, Protection Measures for Special-status Species, would enhance the habitat in the long-term compared to the existing conditions. However, the impact would remain significant and unavoidable initially because the potential remains for short-term impacts to CRLF individuals and their habitat near the reservoir.

- **WI-9 Pre-Existing Access Road Improvements**. In the Draft EIR/EIS, this impact issue was formerly titled Cachagua Access Road Improvements, and WI-9 did not apply to the Proponent's Proposed Project. However, in the Final EIR/EIS, this

impact issue was refined to include improvements to San Clemente Drive. Widening and improving the existing access road could potentially result in minor indirect impacts to Monterey dusky-footed wood rat, pallid bat, and other special-status wildlife species. Therefore, WI-9, in the short-term, would be less than significant with mitigation described in Appendix V, Protection Measures for Special-status Species for the Proponent's Proposed Project. This does not alter impact determinations for the other alternatives reflected in the Draft EIR/EIS.

- **WI-10 Reservoir Drawdown or Elimination with Sediment Removal**: The original WI-10 in the Draft EIR/EIS has been changed from significant, unavoidable to short-term, significant, unavoidable; long-term, beneficial with mitigation. As was the case in the Draft EIR/EIS, this impact applies to Alternatives 1, 2, and 3. Overall, it was determined that the mitigation for the CRLF as described in Appendix V, Protection Measures for Special-status Species, would enhance the habitat in the long-term compared to the existing conditions. However, the impact would remain significant and unavoidable initially because the potential remains for short-term impacts to CRLF individuals and their habitat near the reservoir during reservoir drawdown with sediment removal.

- **WI-11 Sediment Removal**. The original WI-11 in the Draft EIR/EIS has been changed from significant, unavoidable to short-term, significant, unavoidable; long-term, beneficial with mitigation. Overall, it was determined that the mitigation for the CRLF as described in Appendix V, Protection Measures for Special-status Species, would enhance the habitat in the long-term compared to the existing conditions for Alternatives 1, 2, and 3. However, the impact would remain significant and unavoidable in the short-term for Alternatives 1, 2, and 3, because the potential remains for some loss either during removal of CRLFs and tadpoles, Coast Range newt larvae, and western pond turtle juveniles and hatchlings from the sediment bed before commencing vegetation removal or sediment excavation, or if individuals are missed during rescue operations.

Wetlands

The Proponent's Proposed Project and all of the action alternatives would affect wetlands and certain waters of the U.S. The comparative acreages of wetlands affected are shown in Table 2-4. The Proponent's Proposed Project would affect a relatively minor amount of wetland area and other Waters of the U.S. (about 7.8 acres). Alternative 1 affects a larger area (about 8.8 acres). Alternative 2 would affect the largest area (12.5 acres), while Alternative 3 would affect an intermediate acreage (about 10.8 acres), due to the inclusion of the sediment disposal site in their totals and the additional sediment removal area for Alternative 2. The No Project Alternative avoids these impacts. No changes were made to determinations of significant impacts from the Draft EIR/EIS. All ratios for restoration or for conservation are 3:1 in this Final EIR/EIS (in the draft EIR/EIS, some ratios were 1:1). This reflects current mitigation requirements for wetlands.

Table 2-4: Area of Waters of the U.S. and Potential Jurisdictional Wetlands Potentially Impacted by Proponent's Proposed Project and Alternatives

	Other Waters of the U.S. (acres)	Potential Jurisdictional Wetlands (acres)
Proponent's Proposed Project		
Access Road (Bridge)		0.02
Reservoir pool	6.8	
Plunge pool	0.2	0.04
Carmel River downstream of plunge pool	0.2	0.30
Tularcitos crossing	0.03	0.01
Concrete ford	0.1	0.06
TOTAL	**7.33**	**0.43**
Alternative 1		
Site 4R channel	0.12	
Access Road (Bridge)		0.02
Carmel River, San Clemente Creek, and Reservoir Pool	7.3	0.02
Plunge Pool	0.2	0.04
Carmel River downstream of plunge pool	0.3	0.6
Concrete ford	0.1	0.06
TOTAL	**8.02**	**0.7466**
Alternative 2		
Site 4R channel	0.12	
Access Road (Bridge)		0.02
Carmel River, San Clemente Creek, and Reservoir Pool	10.9	0.2
Plunge pool	0.2	0.04
Carmel River downstream of plunge pool	0.3	0.6
Concrete Ford	0.1	0.06
TOTAL	**11.62**	**0.92**
Alternative 3		
Access Road (Bridge)		0.02
Carmel River, San Clemente Creek, and Reservoir Pool	10.4	0.2
Concrete ford	0.1	0.06
TOTAL	**10.5**	**0.28**
Alternative 4		
No direct impacts		

Air Quality

All of the action alternatives would have similar effects on air quality. Alternative 2 would have the greatest effects due to the extended construction/sediment excavation schedule.

In response to comments received on the Draft EIR/EIS, additional information is provided in this Final EIR/EIS which clarifies and amplifies the following determinations of significant impacts under CEQA. The effects would only occur during construction

and mitigation measures were included in the Draft EIR/EIS. However, some of the effects could contribute to exceedances of local thresholds of significance. Others may be above the level that is normally acceptable to local residential areas. Therefore even though the impact levels for these determinations are substantially the same as they were in the Draft EIR/EIS, the impact determination has been changed from less than significant with mitigation to short-term, significant and unavoidable. There would be no air quality related impacts associated with the No Project Alternative.

- **AQ-1: Dam Site Activities**. Construction activities would generate short-term emissions from diesel-powered equipment and road dust. In the Draft EIR/EIS, impacts from these emissions were determined to be less than significant with mitigation for all the alternatives; however, if not mitigated, fugitive dust could exceed the MBUAPCD construction threshold of significance[1] for $PM_{10.;}$ In addition, ambient air quality in distant residential areas or at the Dam site from NO_X emissions may be above the mass emissions significance threshold set by the MBUAPCD. Therefore, the impact determination would be short-term, significant and unavoidable for all of the action alternatives. There would be no air quality related impacts associated with the No Project Alternative.

- **AQ-2: Access Road Upgrades**. In the Draft EIR/EIS, impacts related to this issue were determined to be less than significant with mitigation for the Proponent's Proposed Project and Alternatives 1, 2, and 3. However resultant dust emissions at some times and at some locations may be above what is normally acceptable to residences of Sleepy Hollow; therefore the impact determination would be short-term, significant and unavoidable. There would be no air quality related impacts associated with the No Project Alternative.

- **AQ-3: Project-Generated Traffic**. In the Draft EIR/EIS, impacts related to this issue were determined to be less than significant with mitigation for all of the alternatives. However, PM_{10} emissions could exceed the MBUAPCD threshold during material deliveries and concrete placement, primarily due to travel on unpaved roads between the Filter Plant and Dam. Therefore, the resulting impact would be short-term, significant and unavoidable for all the action alternatives. There would be no air quality related impacts associated with the No Project Alternative.

Noise

All of the action alternatives would have similar effects on noise for access road upgrades and project-generated traffic even though different access routes may be used. Alternative 2 would have the greatest effects due to the extended construction/sediment excavation schedule. Residences along San Clemente Drive may be affected by construction associated with the Proponent's Proposed Project and the action alternatives resulting from the increase in noise from traffic, access road construction and improvements. Of all the action alternatives, they would experience the least volume of noise from traffic with the Proponent's Proposed Project. The batch

[1] MBUAPCD, CEQA Air Quality Guidelines, October 1995 (last revised June 2004), Figure 5-1

plant for the Proponent's Proposed Project may also impact sensitive receptors in the area. For Alternatives 1, 2, and 3, visitors to the Stone Cabin and other Jeep Trail users may also experience increased noise along Cachagua Road and the Jeep Trail. There would be no noise related impacts associated with the No Project Alternative.

In response to comments received on the Draft EIR/EIS, additional information is provided in this Final EIR/EIS which clarifies and amplifies the following determinations of significant impacts under CEQA. The effects would be short-term and mitigation measures were included in the Draft EIR/EIS. However, some of the effects may be above the level that is normally acceptable to local residential areas. Therefore even though the impact levels for these determinations are substantially the same as they were in the Draft EIR/EIS, the impact determination has been changed from less than significant or less than significant with mitigation to short-term, significant and unavoidable.

- **NO-1: Dam Site Activities**. In the Draft EIR/EIS, impacts related to this issue were determined to be less than significant, no mitigation required for all of the alternatives. However, resultant noise levels at some times and at some locations may be above the normally acceptable range and/or more than 5 dBA above background. Therefore, the resulting impact would be short-term, significant and unavoidable for the action alternatives. Although impacts would be significant and unavoidable, these instances would be transient and short-term. There would be no noise related impacts associated with the No Project Alternative.

- **NO-2: Access Road Upgrades**. In the Draft EIR/EIS, impacts related to this issue were determined to be less than significant, with mitigation required for all of the action alternatives. However, resultant noise levels at some times and at some locations may be above the normally acceptable range and/or more than 5 dBA above background. Therefore, the resulting impact would be short-term, significant and unavoidable for the action alternatives. Although impacts would be significant and unavoidable, these instances would be transient and short-term.

- **NO-3: Project-Generated Traffic**. In the Draft EIR/EIS, impacts related to this issue were determined to be less than significant, with mitigation required for all of the alternatives. However, resultant noise levels at some times and at some locations may be above the normally acceptable range and/or more than 5 dBA above background. Therefore, the resulting impact would be short-term, significant and unavoidable for the action alternatives. Although impacts would be significant and unavoidable, these instances would be transient and short-term. There would be no noise related impacts associated with the No Project Alternative.

- **NO-4: Concrete Batch Plant Operation**. In the Draft EIR/EIS, impacts related to this issue were determined to be less than significant, with mitigation for the Proponent's Proposed Project and did not apply to the other alternatives. However, resultant noise levels at some times and at some locations may be above the normally acceptable range and/or more than 5 dBA above background. Therefore,

the resulting impact would be short-term, significant and unavoidable for the Proponent's Proposed Project. Receptors that could be disturbed by plant noise would be limited to two properties on San Clemente Drive that are within about 150 meters of the plant. These impacts would only apply to the Proponent's Proposed Project and would be short-term in duration and limited to the period of construction.

- **Issue NO-5: Sediment Disposal Site 4R Activities**. This issue was added because the disposal site for Alternatives 1 and 2 would be close to a recreational residence called the Stone Cabin. The spatial relationship of the Jeep Trail to the Stone Cabin would significantly reduce noise impacts on the Stone Cabin, however, given the sparsely populated rural nature of the area it cannot be determined with certainty that the impact would be less than significant; therefore the impact would be short-term significant and unavoidable.

Traffic and Circulation

All of the alternatives would have mitigable effects in creating additional traffic on the area road network. Those with the longer construction schedules and larger workforces would have the larger effects. However, under Alternatives 1, 2, and 3 during the construction of the Jeep Trail improvements, non-project related traffic traveling on the Jeep Trail would be subjected to delays of unknown duration which would be significant. None of the alternatives would significantly affect level of service at intersections. Alternatives 1, 2, and 3 would require improvements to the intersection of Cachagua Road with Carmel Valley Road. The Proponent's Proposed Project would create a new intersection on Carmel Valley Road (with the new Tularcitos Access Route). Alternatives 2, 3, and 4 would entail minor additional amounts of traffic through local residential neighborhoods on San Clemente Drive (avoided by the Tularcitos Access Route for the Proponent's Proposed Project after construction of the new route). All of the alternatives could damage pavement on local roads.

In response to comments received on the Draft EIR/EIS, additional information is provided in this Final EIR/EIS which clarifies and amplifies the following determinations of significant impacts under CEQA. The effects would be short-term and mitigation measures were included in the Draft EIR/EIS. However, some of the effects may be above the level that is normally acceptable to local residential areas. Therefore even though the impact levels are the substantially the same as they were in the Draft EIR/EIS, the impact determination has been changed from less than significant with mitigation to unavoidable and significant.

- **TC-1: Road Segment Traffic Operations**. In the Draft EIR/EIS, impacts related to this issue were determined to be less than significant, with mitigation required for all of the alternatives. However, Under Alternatives 1, 2, and 3, non-project related traffic using the Jeep Trail would be subjected to delays during the construction of improvements to the Jeep Trail. The impact of the project during the construction of improvements to the Jeep Trail would be short-term, significant, and unavoidable because it is not known how long of a delay a motorist would experience during the

road construction period. There would be no traffic related impacts associated with the No Project Alternative.

- **TC-2: Intersection Traffic Operations**. In the Draft EIR/EIS, impacts related to this issue were determined to be less than significant. However, under the Proponent's Proposed Project the residents along San Clemente Drive may experience a short-term delay during AM and PM peak hours upon departure and return to their residents. Although the level of impact for this issue has not changed the determination would be short-term less than significant with mitigation to reduce the number of trips and coordinate traffic. There would be no traffic related impacts associated with the No Project Alternative.

- **TC-3a: Traffic Safety on Carmel Valley Road**. This impact issue was originally TC-3 Traffic Safety in the Draft EIR/EIS and included traffic on Carmel Valley Road and San Clemente Drive. In the Draft EIR/EIS, Impact Issue TC-3 applied to all of the alternatives. Because of concerns expressed by residents on San Clemente Drive, the Impact Issue has been divided into two subsections. Impact Issue TC-3a addresses traffic safety on Carmel Valley Road, and the impact determination of is short-term less than significant is unchanged from the Draft EIR/EIS. There would be no traffic related impacts associated with the No Project Alternative.

- **TC-3b: Traffic Safety San Clemente Drive**. Impact Issue TC-3b addresses addresses traffic safety on San Clemente Drive. For the Proponent's Proposed Project, mobilization and demobilization of construction equipment using San Clemente Drive are expected to occur over a period of several weeks and involve 15 to 30 trips with heavy equipment. Thereafter, 5 to 10 trips per day would occur on San Clemente Drive for worker, supervisor and maintenance access over a period of up to eight months during the construction of the Tularcitos Access Road. For Alternatives 1, 2, and 3, San Clemente Drive would be needed to provide access below the Dam, which is not accessible from the Chachagua Access Route. It is anticipated that less than 25 percent of the total construction traffic would use San Clemente Drive for access below the Dam under these alternatives. Under Alternatives 1, 2, and 3, the number of trips added to San Clemente Drive is not projected to exceed 12 trips per day. Because of the rural nature of the area, the increase in the amount of traffic on San Clemente Drive would be short-term significant and unavoidable for all of the action alternatives. There would be no traffic related impacts associated with the No Project Alternative.

- **TC-6: Neighborhood Quality of Life**. In the Draft EIR/EIS, impacts related to this issue did not apply to the Proponent's Proposed Project and Alternative 1 and were determined to be less than significant for Alternatives 2, 3, and 4. However, For the Proponent's Proposed Project, mobilization and demobilization of construction equipment using San Clemente Drive are expected to occur over a period of several weeks and involve 15 to 30 trips with heavy equipment. Thereafter, 5 to 10 trips per day would occur on San Clemente Drive for worker, supervisor and maintenance access over a period of up to eight months during the construction of the Tularcitos Access Road. For Alternatives 1, 2, and 3, San Clemente Drive would be needed to

provide access below the Dam, which is not accessible from the Chachagua Access Route. It is anticipated that less than 25 percent of the total construction traffic would use San Clemente Drive for access below the Dam under these alternatives. The number of trips added to San Clemente Drive is not projected to exceed 12 trips per day. Although San Clemente Drive would continue to operate at LOS A, based on neighborhood quality of life level of service thresholds, this increase in amount of traffic may be noticeable to the residents. Because of the rural nature of the area, any additional traffic on San Clemente Drive would be short-term, significant and unavoidable for all the action alternatives. There would be no traffic related impacts associated with the No Project Alternative.

- **TC-7: Pavement Loadings**. In the Draft EIR/EIS Impact Issue TC-7 was determined to be less than significant with mitigation under Alternative 4. Because there would be no traffic related impacts associated with the No Project Alternative, this Impact Issue no longer applies to this alternative.

Cultural Resources

All of the action alternatives could damage cultural resources through ground disturbance, vibration, accumulation of dirt, and unintended damage. The Proponent's Proposed Project and action alternatives would each alter or remove the historic SCD. All of the action alternatives would alter (notch) OCRD, which is also a historic resource. They would also affect the character and visual integrity of the SCD historic district. These changes would affect the environment and the visual integrity of the area and would be significant and unavoidable.

In response to comments received on the Draft EIR/EIS, the following change was made in the Final EIR/EIS in the determination of significant impacts under CEQA (the impact itself has not changed).

- **CR-4: Demolition or Alteration to Historic Properties**. Under Alternatives 1, 2, and 3, notching or demolition of the historic Dam and fish ladder would be significant and unavoidable impacts that could not be fully mitigated.

Aesthetics / Visual Resources

All of the action alternatives would affect the viewsheds of neighboring areas. Residences on hills east of Carmel Valley would be able to see the operation of construction equipment. Because of the amount of traffic on Carmel Valley Road this would not be significant. Residences near the CVFP and SCD would also see construction activities. Due to the location of these residences, dam operations and maintenance activities are routine features of the landscape and the additional construction work would not be significant. Views from the San Clemente Drive residences and to users of the Stone Cabin would also change in the short-term and are discussed more fully below.

In response to comments received on the Draft EIR/EIS, additional information is provided in this Final EIR/EIS which clarifies and amplifies the following determinations of significant impacts under CEQA. The effects would be short-term and mitigation measures were included in the Draft EIR/EIS. However, some of the effects may be above the level that is normally acceptable to local residential areas. Therefore even though the impact levels are substantially the same as they were in the Draft EIR/EIS, some of the impact determinations have been changed from less than significant or less than significant with mitigation to short-term, significant and unavoidable.

- **VQ-1: Residential Views on Hills East of Carmel Valley Road**. An error was corrected in Table 2.1: in the Draft EIR/EIS, the table indicated a less than significant impact for Issue VQ-1 under Alternative 1; however this issue does not apply to Alternative 1 because the Tularcitos Access Route would not be constructed under this alternative.

- **VQ-3: Changes to the Viewsheds from Residences in Sleepy Hollow Subdivision**. This issue was erroneously coded as "does not apply" to the Proponent's Proposed Project and to Alternative 1 in the Draft EIR/EIS. It does apply to both alternatives. For the Proponent's Proposed Project, it refers to the views of the concrete batch plant which residents say would be visible from two of the residences. Although it is uncertain whether it can be seen from these residences, because of the rural nature of the area, this impact would be a short-term, significant unavoidable; impact, with no mitigation available. The Impact Issue also applies to Alternative 1, but would be short-term, less than significant. As with Alternative 2 and 3 the issue describes views of construction equipment passing through the Subdivision during normal working hours during the construction period.

- **VQ-4: Changes to Viewsheds from the Stone Cabin**. This issue was added in response to comments received during review of the Draft EIR/EIS. It documents a short-term less than significant impact and a long-term beneficial impact under Alternatives 1, 2, and 3; and does not apply to the Proponent's Proposed Project and Alternative 4.

- **VQ-5: Changes to Viewsheds from the Jeep Trail**. This issue was added in response to comments received during review of the Draft EIR/EIS. A short-term, significant and unavoidable impact to those traveling on a short segment of the Jeep Trail would occur during the period of sediment disposal operations and revegetation and long-term less than significant with mitigation under Alternatives 1 and 2. It would not apply to the Proponent's Proposed Project or Alternatives 3 or 4.

Recreation

The Draft EIR/EIS addressed recreation in a general chapter on "other environmental effects." For the Final EIR/EIS, a new section has been created to address recreation in more detail, responding to comments raised in public review. The following issues are addressed in this section:

- **REC-1: Access to the Stone Cabin via the Jeep Trail**. This issue documents a change in design made in response to comments. The location of the Site 4R disposal site inadvertently blocked access to the Stone Cabin via the Jeep Trail. The proposed design for Site 4R in the Final EIR/EIS relocates the site slightly uphill to avoid this impact and provides a sediment conveyor overcrossing. Impact Issue REC-1 would be short-term, less than significant for Alternatives 1 and 2 and would not apply to the Proponent's Proposed Project or Alternatives 3 or 4.

- **REC-2: Disruption of Use of Jeep Trail to Stone Cabin**. Travel by recreational users on the Jeep Trail would be disrupted at various times during the period of construction for Alternatives 1, 2, and 3. This would be a short-term, significant, and unavoidable impact.

- **REC-3: Rerouting or Restoring the Carmel River Channel**. This issue documents the beneficial impacts of river restoration under Alternatives 1, 2, and 3.

- **REC-4: Deposition of Sediment on Site 4R**. This impact applies to the two alternatives that would use Site 4R (Alternatives 1 and 2) and would be short-term, significant unavoidable; long-term, less than significant with mitigation (site restoration).

Land Use

The Draft EIR/EIS addressed land use in a general chapter on "other environmental effects." For the Final EIR/EIS, a new section has been created to address land use in more detail, responding to comments raised in public review. None of the project alternatives would pose a long-term conflict with existing plans and policies.

A short-term, significant and unavoidable impact would occur for the alternatives that require the use of Site 4R (Alternatives 1 and 2), because existing park land would be used for sediment disposal. This impact would be reduced to less than significant in the long-term by revegetation.

Environmental Justice

None of the alternatives would have significant effects on environmental justice. No changes in the determination of significant impacts under CEQA were made based on comments received on the Draft EIR/EIS.

2.4 AREAS OF KNOWN CONTROVERSY AND ISSUES TO BE RESOLVED

The Proponent's Proposed Project and action alternatives address all areas of known controversy. During the CEQA process, the issues of fish passage, sediment management, and construction-related traffic became areas of controversy. The design of these alternatives is intended to resolve existing issues in these areas.

Previous areas of known controversy and issues to be resolved that led to the Proponent's Proposed Project and culminated in the previous CEQA process are described in Section 1.6, Project History. The initial issue to be resolved concerned dam safety (ability to withstand the MCE and PMF). From 1980 to 1992, several investigations were conducted leading to the conclusion that the Dam would not withstand the MCE or PMF. The DWR/DSOD directed CAW to proceed with a project that would remove dam safety deficiencies, which led to the preparation of the original CEQA EIR in 1998. This issue is addressed by the Proponent's Proposed Project and all action alternatives.

During the CEQA process, the issues of fish passage, sediment management, and construction-related traffic became areas of controversy. Fish passage issues are addressed by the proposed replacement of the fish ladder (Proponent's Proposed Project, Alternative 1) or removal of the Dam (Alternatives 2 and 3). For the alternatives that retain the Dam (Proponent's Proposed Project and Alternative 1) sediment management is addressed through sluicing or dredging (Proponent's Proposed Project and Alternative 1). The effects of sediment management, including sluicing operations under the Proponent's Proposed Project and Alternative 1 have been addressed in an updated SOMP (Appendix J) and in updates to Chapters 4.2 and 4.4 of this Final EIR/EIS. These updates respond to concerns raised by NMFS and others regarding impacts to steelhead, a listed species, that may result from proposed sluice gate operations, due to increased suspended sediment concentrations in the Carmel River below the Dam. Other concerns addressed were potential effects to steelhead survival, spawning, rearing, and migration and to adult fish due to fallback through the sluiceway and fish passage above the Dam. Even though all of the action alternatives would affect steelhead larvae and juveniles during construction, all of the action alternatives, including the Proponent's Proposed Project, improve conditions for steelhead from the baseline conditions.

Concerns were expressed that some of the action alternatives might adversely affect the CRLF, another listed species. However, with mitigation and enhancement activities, all of the action alternatives would maintain or improve the existing habitat for the CRLF.

Sediment disposal management issues are addressed either by offsite storage (Alternatives 1 and 2) by means of a conveyor belt or in place stabilization (Alternative 3) for the Dam removal alternatives. For Alternatives 1 and 2, the identified sediment disposal site is located on Regional Park lands and close to an historic residential cabin. While the disposal site could create a short-term adverse visual impact, the only current users close to the site are the users of Stone Cabin. After disposal is completed, the site would be restored and the access road would, at the discretion of the Regional Park District, either be returned to its original condition or left in its improved state. No transportation of sediment would be done using roads.

Construction traffic issues relate to air quality, noise, aesthetics, traffic circulation, and traffic safety. They are addressed by the development of access alternatives that

minimize construction traffic through existing neighborhoods. For the Proponent's Proposed Project, San Clemente Drive would be used for approximately eight months until the new Tularcitos Access Road is built which would bypass Sleepy Hollow Subdivision. Alternatives 1, 2, and 3 would use Cachagua Road and an improved Jeep Trail for most of the necessary construction work. San Clemente Drive would continue to be used about 25 percent of the time to reach areas that are not accessible from the Chachagua Access Route. Both access routes are located in rural areas that experience little traffic other than from the residents. For this reason, the Final EIR/EIS considers many of the traffic-related impacts unavoidable and significant. However, the impacts would be short-term (only during construction) and would often be temporary and intermittent. In addition, a number of mitigation measures would be included in all the action alternatives that are designed to control the extent, the timing and the adverse impacts of construction traffic.

2.5 SUMMARY OF SIGNIFICANT EFFECTS AND MEASURES OR ALTERNATIVES TO REDUCE OR AVOID EFFECTS

Significant, unavoidable effects of the San Clemente Dam Seismic Safety Project and the No Project Alternative are summarized in Section 5.1. Other significant effects were identified, but can be reduced to less than significant or avoided by the mitigation measures specified in this EIR/EIS. These are summarized below:

Geology & Soils

There is a risk of landslides or slope instability along access roads. This can be mitigated through BMPs relating to geotechnical design of the road improvements. Soil erosion may occur along access road improvements leading to sediment discharge into watercourses. This can be mitigated through implementation of the Storm Water Pollution and Prevention Plan (SWPPP) (preliminary draft in Appendix K).

Hydrology and Water Resources

Under the Proponent's Proposed Project and Alternative 1, the SOMP would be used to regulate downstream sediment releases. Neither of these alternatives would have significant and unavoidable effects on sediment flows, storage, composition, deposition, suspended sediments, channel geometry, or the 100-year flood elevation. Implementation of the SOMP and water quality BMPs included in the SWPPP (Appendix K) would reduce any impacts to levels less than significant.

Under Alternatives 2 and 3, sediments could be mobilized and transported by the Carmel River and San Clemente Creek as they move through their restored channels in the areas exposed by excavation and as they reestablish channels traversing the newly-excavated sediment wedge. This could increase sediment flux passing the SCD site, downstream sediment composition and sediment storage in the Carmel River, and the channel geometry and floodplains of the Carmel River.

Water Quality

Sluicing under the Proponent's Proposed Project and Alternative 1 would lead to increases in turbidity in the Carmel River below the Dam that would be short-term, significant and unavoidable. The SWPPP, referred to under Geology and Soils, would be implemented to mitigate potentially significant effects to water quality from many project-related construction activities. These activities include: sediment discharge to watercourses during road construction and improvement; increased turbidity caused by disturbance of streambeds; accidental spills and leaks of toxic substances; fine sediments and toxins in return water after stream diversions; increased temperature and turbidity and decreased dissolved oxygen in water discharged from settling basins; and increased turbidity and release of toxic substances during construction of the OCRD notching and OCRB improvements and SCD construction or demolition. In addition, energy dissipation structures would be used to mitigate localized scour, sedimentation and turbidity when returning bypassed flows from stream diversions. Pipeline design, monitoring, filtering and mixing cooler, cleaner water would mitigate increased turbidity, decreased dissolved oxygen, and increased temperatures from dewatering the reservoir and carrying flows from stream diversions to the downstream river.

Fisheries

Construction related impacts occur for the Proponent's Proposed Project and the alternatives relating to impairment of upstream migration and effects from road and bridge construction on steelhead habitat in the Carmel River. Dewatering upstream channels, the reservoir and the plunge pool would cause short-term, unavoidable loss of fish and fish habitat for each construction season. These would be mitigated by annual fish rescues and relocation. Mitigation also includes water quality protection measures, stream channel restoration or recontouring, limits on tree and limb removal, measures to preclude roadfill from entering streams, streamside revegetation, and erosion control measures. Impacts to upstream fish passage would be mitigated by the construction of an improved fish ladder under the Proponent's Proposed Project and Alternative 1. Stream diversions under Alternatives 1, 2, and 3 would be mitigated by limiting the timing and amount of diversions in the Carmel River, and by an operations plan to provide flows for steelhead. Impacts associated with sediment removal and new river channels would be mitigated for Alternatives 1, 2, and 3 by river channel reconstruction and riparian revegetation.

Vegetation and Wildlife

Avoiding populations of CNPS List 4 species would mitigate the loss of special-status plant species under the Proponent's Proposed Project and all alternatives. Oak woodland would be avoided or mitigated through fencing and the implementation of a Revegetation Plan that provides for 3:1 replacement, plantings, monitoring, conservation easements, irrigation, and protection from browsing. Loss of other native vegetation would be mitigated by designing facility and access footprints to minimize loss; fencing; diffusing project outflows to minimize erosion; applying supplemental irrigation; and implementing a Revegetation Plan. Indirect effects to native vegetation

would be mitigated by BMPs for erosion control (SWPPP, Appendix K); minimizing changes to existing drainage patterns; avoiding work within tree driplines; dust control; revegetation; and monitoring.

Effects on special-status wildlife and their habitat would be mitigated through preconstruction surveys, rescue and relocation operations, predator control, CRLF habitat enhancement, and the development of other measures through consultation based on the results of surveys (details provided in preliminary draft of the Protection Measures for Special-status Species, Appendix V). Bat roosts, hawk nests, and woodrat nests would be avoided. Short-term barriers would be installed to prevent relocated species from reentering work areas. Biological monitoring would be conducted to allow for adaptive management of mitigation measures. Restrictions on vegetation clearing practices would protect vulnerable amphibians.

Wetlands

Impacts from the Proponent's Proposed Project and Alternatives 1, 2, and 3 to wetlands and other waters of the U.S. would be mitigated by the implementation of a Restoration, Mitigation & Monitoring Plan (Appendix U). Wetlands similar in function would be restored at a 3:1 ratio. Conservation easements on similar, unaffected and fully functional wetlands would be undertaken at a 3:1 ratio. Other waters would be restored or conserved at a 3:1 ratio. Cofferdams would be mitigated by criteria regulating their timing of placement and construction. The plunge pool staging area would be protected by construction BMPs and replacement plantings would be undertaken at a 3:1 ratio.

Air Quality

Construction or demolition activities at the dam site would generate fugitive dust (PM_{10F}), as would access road improvements and project-related traffic. These impacts would be mitigated by a variety of BMPs for dust suppression, such as watering, chemical stabilization and the provision of a point of contact for local residents to obtain corrective action when dust impacts occur.

Noise

Access road improvements and project-generated traffic would increase noise levels above acceptable levels at sensitive receptors located along access routes and in the Sleepy Hollow neighborhood. These impacts would be mitigated by using quiet-design construction equipment, mufflers, and enclosures; eliminating unnecessary idling; equipment maintenance and lubrication; timing restrictions for equipment use; low speed limits; and restrictions on timing of worker travel and truck deliveries.

Traffic

The Proponent's Proposed Project and all alternatives would add a significant level of traffic to the area road network. This would be mitigated by development of a Construction Management Plan to reduce the number of vehicles and their interaction with other vehicles and promote safety, and a Traffic Coordination and Communication

Plan that includes traffic coordination, trip reduction, and traffic safety, flagging, and the escort of transport trucks. The Traffic Coordination and Communication Plan would include procedures for distributing the schedule of construction activities to the other users of the Jeep Trail. Procedures would be included in the Plan that would minimize the delay to non-project related Jeep Trail users during construction of improvements to the road as well as during subsequent project activities. Increased traffic also increases the potential for an increase in accidents. Additional mitigation would include funding additional enforcement and widening Cachagua Road (Alternatives 1, 2, and 3). Potential impacts due to inadequate corner site distances would be mitigated by improvements constructed at the affected intersections. Repairing damage to affected roads immediately after construction is completed would mitigate project-related traffic effects on pavement.

Cultural Resources

Ground disturbance that could affect archaeological resources would be avoided by construction monitoring, or mitigated by archeological evaluation or historical documentation. Unavoidable impacts due to demolition or alteration of historic structures and the character and visual integrity of their setting would be reduced by documentation, preparation of a Historic Preservation Management Plan, Historic American Building Survey/Historic American Engineering Record (HABS/HAER) recordation, interpretive displays, educational programs, photographic documentation, and use of compatible design, materials, and construction methods.

Visual Resources (Aesthetics)

Visual effects would be largely short term and less than significant without mitigation. Short term significant effects to travelers on the Jeep Trail would be caused by sediment disposal at Site 4R. These effects would be partly mitigated by screening and, in the longer term, by revegetation. Short-term significant effects would also be experienced by residences in the Sleepy Hollow subdivision. There is no mitigation for these effects although mitigation for traffic impacts would coordinate traffic activity to reduce circulation and limit these impacts to daytime use.

Land Use

Conflicts with existing plans and policies of Monterey County would be avoided by consultation with Monterey County during project permitting. Although use of Site 4R for sediment disposal has been moved so that it does not block access to the Stone Cabin, there would still be some short-term significant and unavoidable impacts to the MPRPD due to use of the Jeep Trail during the construction period by Alternatives 1, 2, and 3. These short-term impacts would be reduced by consultation with the MPRPD. There are no long-term impacts. Following construction, the road would be restored to its pre-project condition or left in its improved condition based on consultation with MPRPD

Recreation

Short-term significant and unavoidable effects due to disruption of recreational access via the Jeep Trail would be partly mitigated by restricting the times of operation for heavy equipment. Short-term significant and unavoidable effects due to deposition of sediment at Site 4R would be mitigated by restoration of the site.