



Chris Kern
The CEQA Master



Nicole Sandkulla
The Stakeholder

It Takes a Team to Build a Dam



Dan Wade
The “Dam” Expert &
Program Manager



Cullen Wilkerson
Protector of the Environment
During Construction



Debbie Craven-Green
The Permitting Wiz

Major Construction Needed on Two Dams to Restore Capacity



WATER SYSTEM IMPROVEMENT PROGRAM



Daniel L. Wade, WSIP Director



San Francisco
Water Power Sewer
Services of the San Francisco Public Utilities Commission

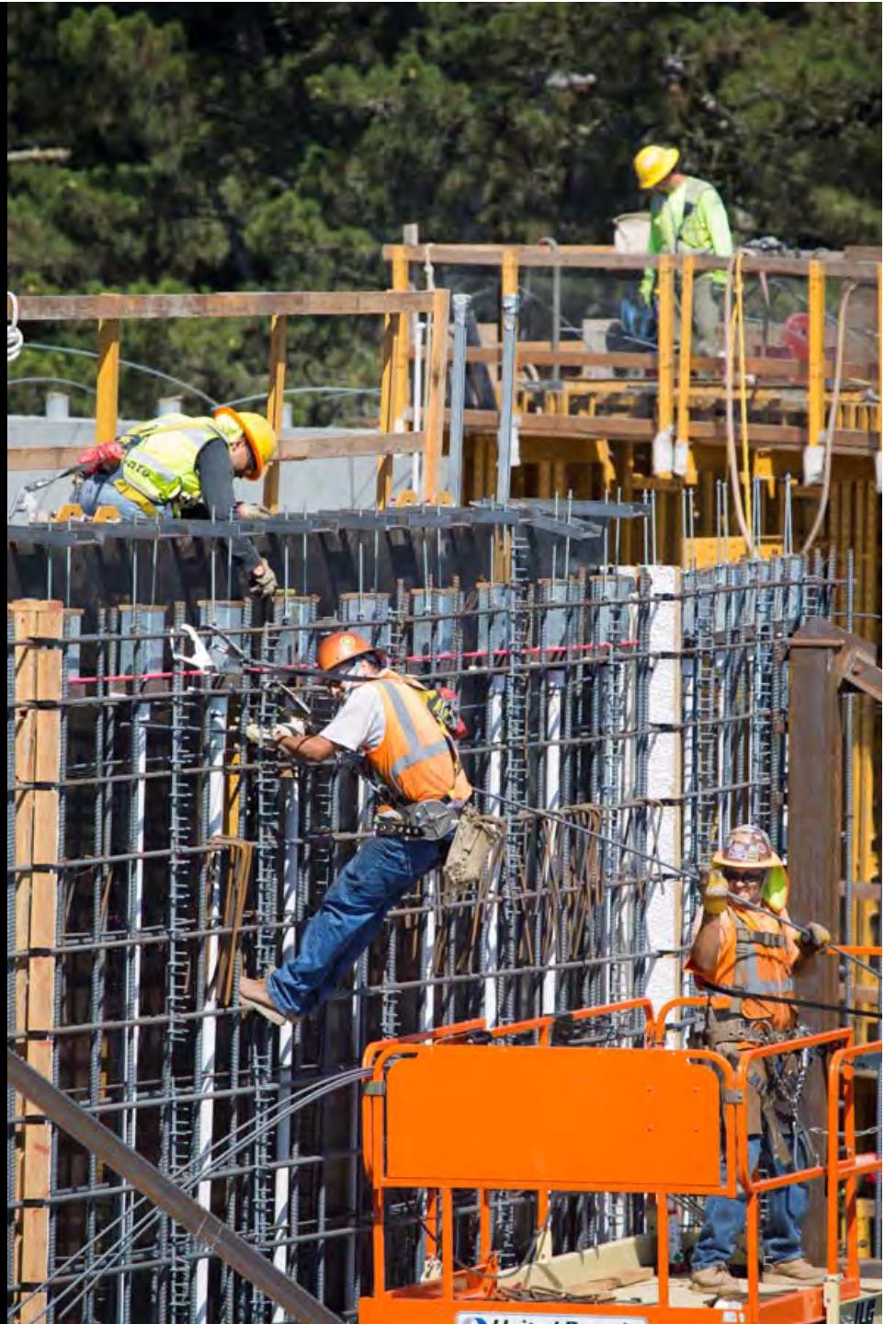
HETCH HETCHY REGIONAL WATER SYSTEM

CROSSES 3 MAJOR EARTHQUAKE FAULTS



WATER SYSTEM IMPROVEMENT PROGRAM

- 87 Projects
 - 2 dams
 - 3 tunnels
 - 3 treatment facilities
 - Pipelines, pump stations, reservoirs, tanks, etc.
 - Bioregional Habitat Restoration (BHR) Sites
- 7 Counties
- \$4.8 Billion
- 2019 Completion



A (VERY) PUBLIC PROGRAM

Governmental/
Regulatory Agencies



Special Interest
Groups



Labor/Contractor



With Many
Stakeholders

Elected Officials



Oversight
Bodies



Impacted
Communities



Wholesale/Retail
Customers



ENVIRONMENTAL STRATEGY

- Commitment and stewardship
- Pre-Construction
 - Avoidance of Impacts
 - Minimization of Impacts
 - Mitigation of Impacts
- Construction
 - BMPs
 - Training
 - Monitoring / Reporting
- Operations
 - Adaptive Management

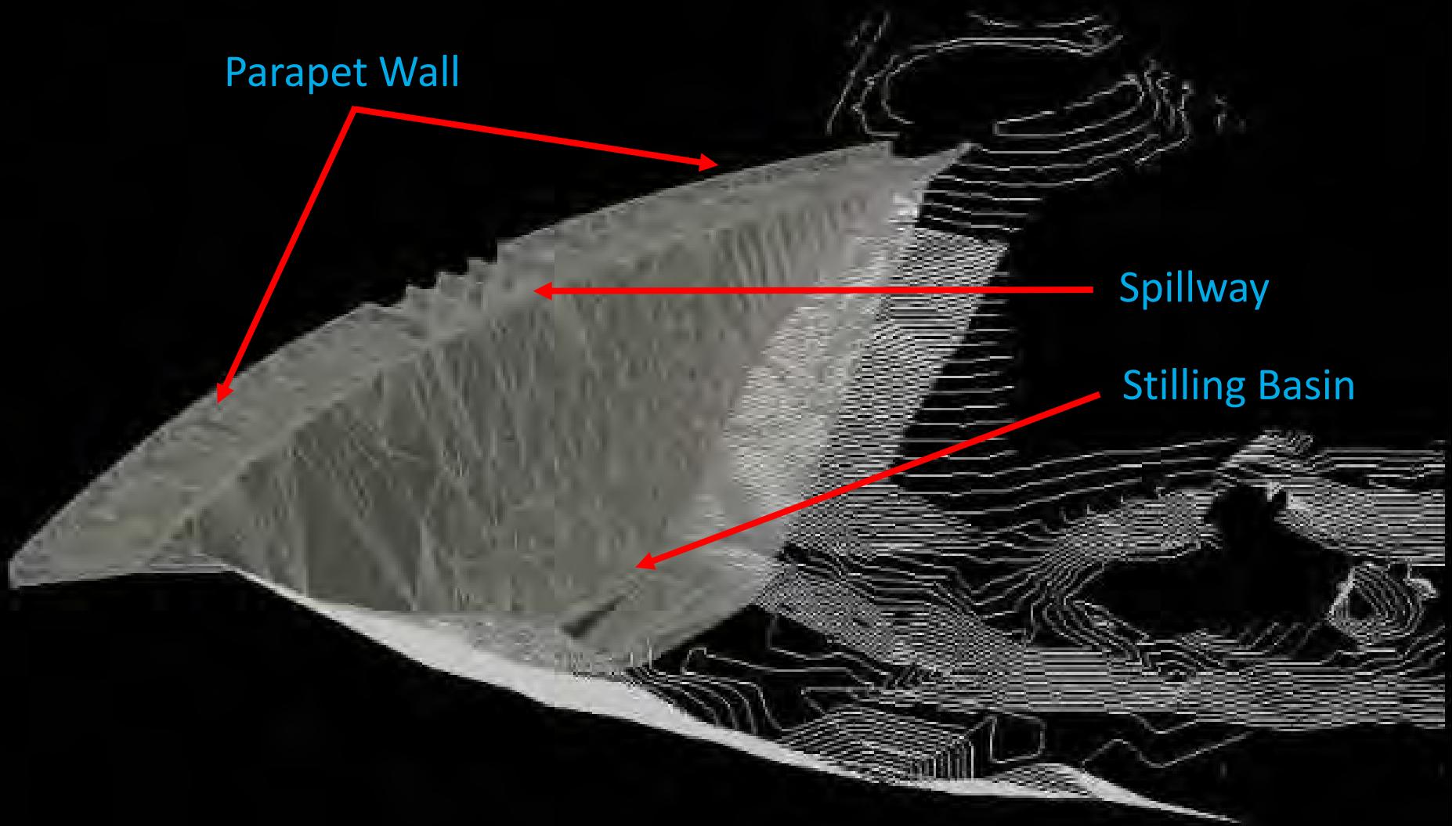


Lower Crystal Springs Dam

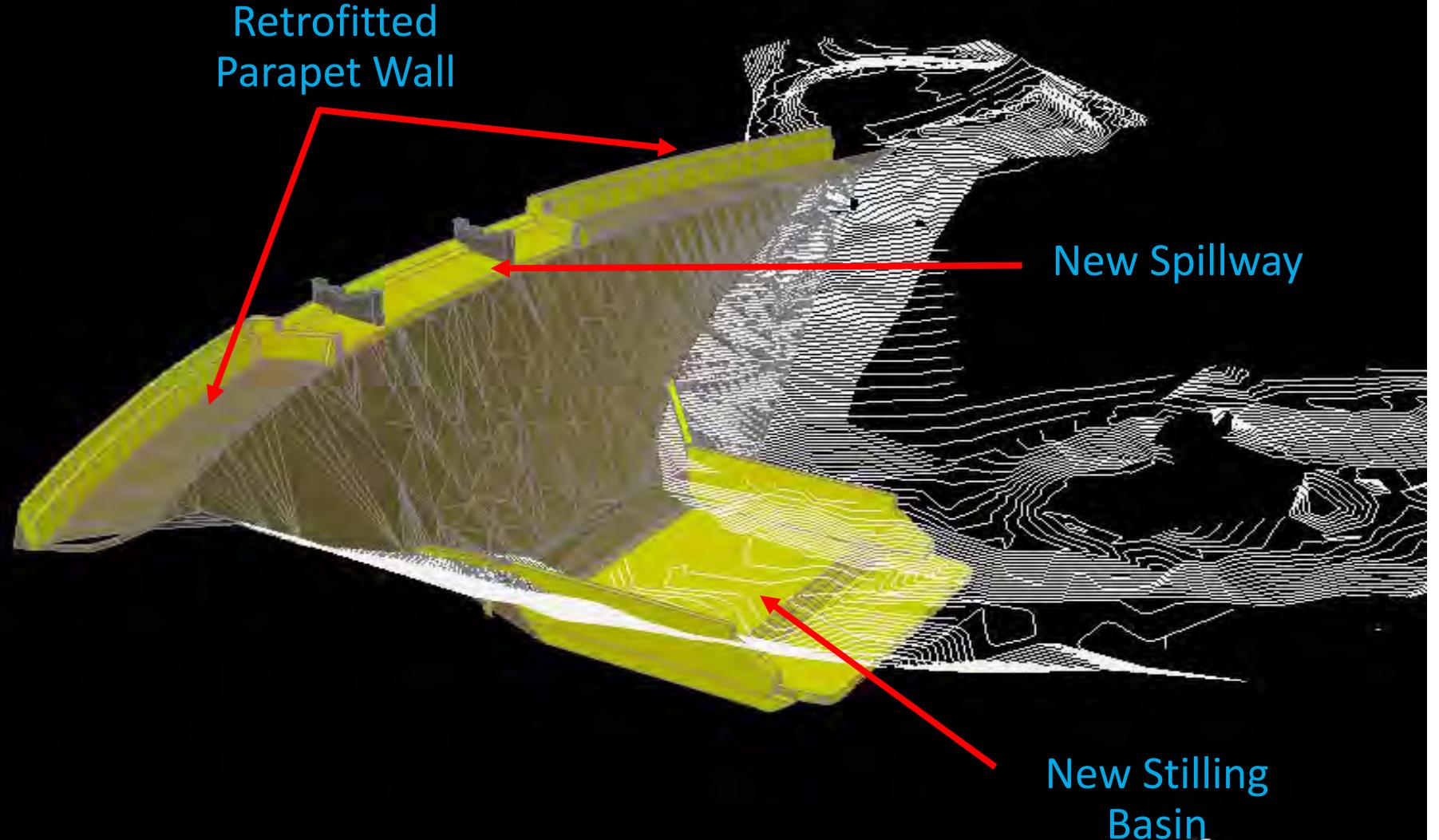
- Constructed in 1890
- Forms Lower Crystal Springs Reservoir
- Maximum Capacity: 22.15 Billion Gallons
- Current Capacity: 18.5 Billion Gallons



Existing Dam Configuration



Dam Improvements



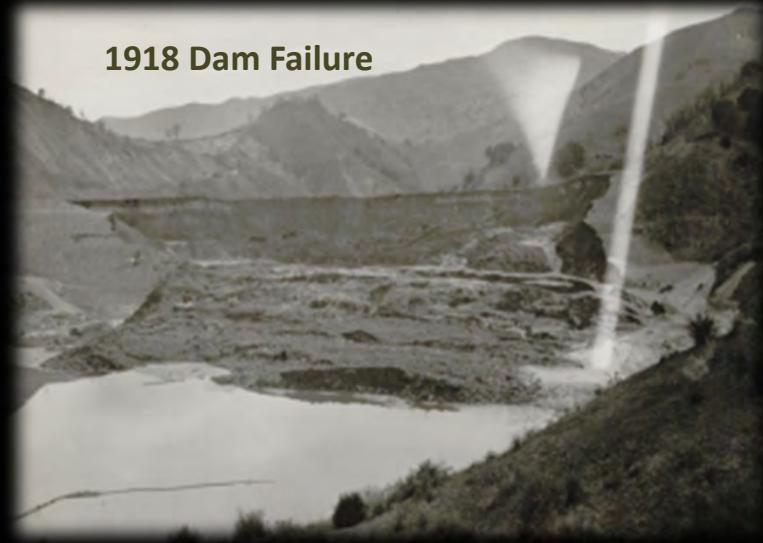
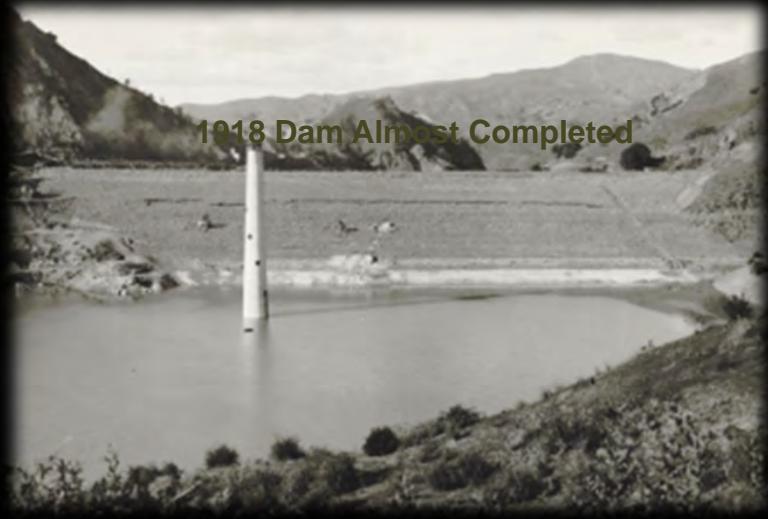
LCSD - New Spillway



LCSD - New Stilling Basin



Calaveras Dam

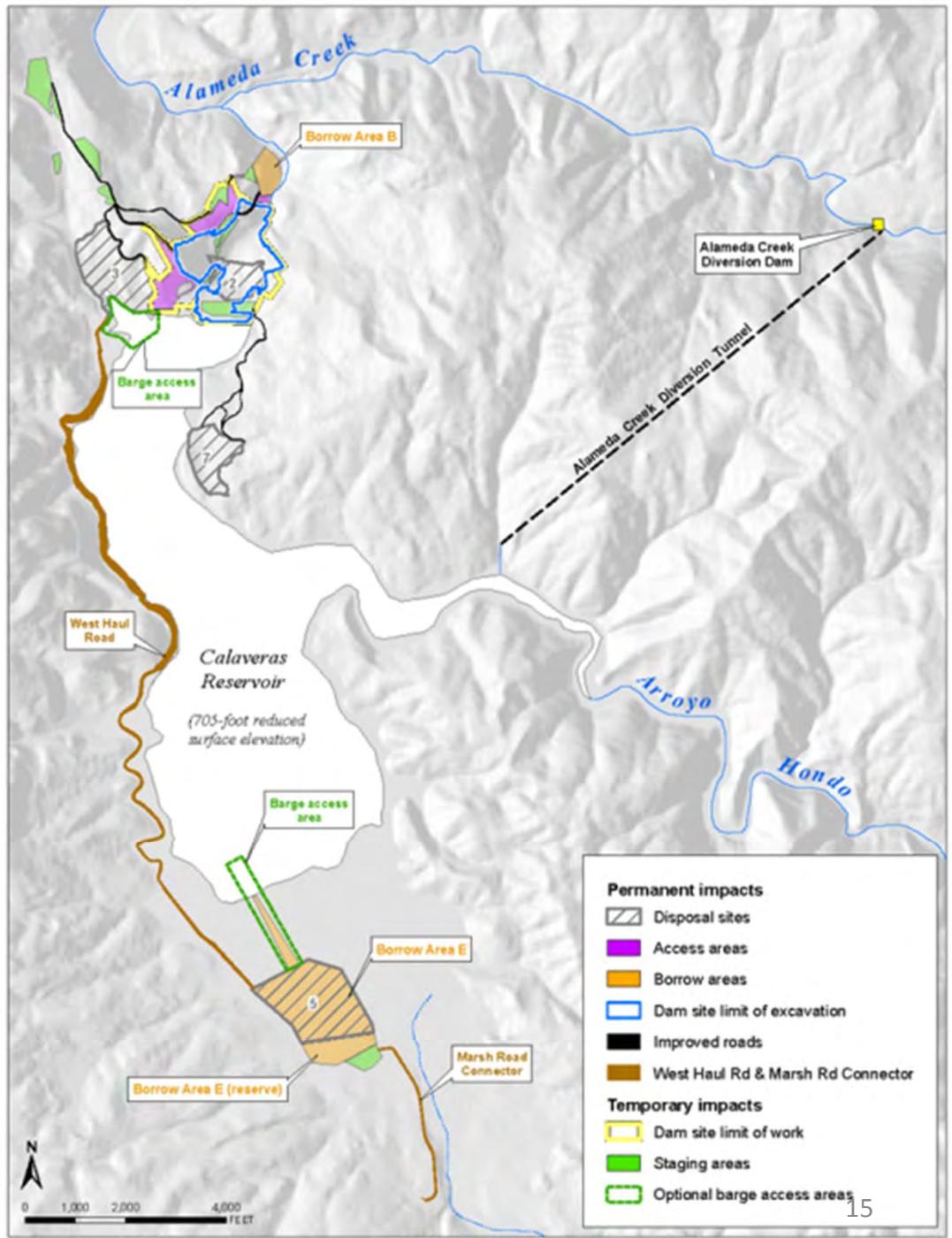


Calaveras Dam Replacement

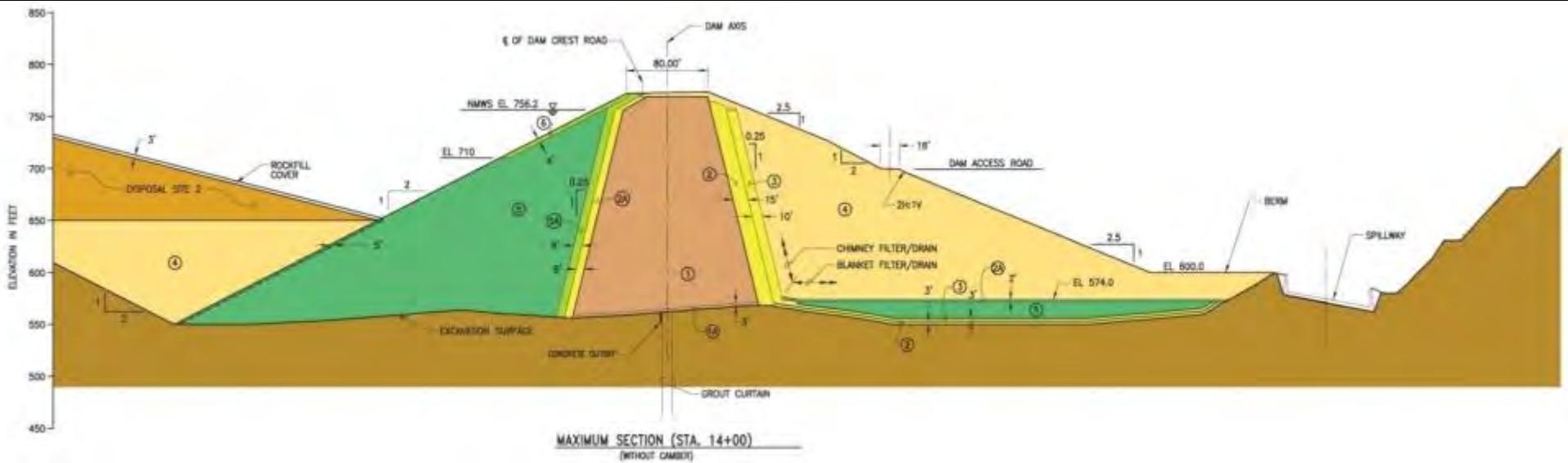


SCOPE OF WORK

- Replacement Dam
- Spillway
- Stilling Basin
- Intake/Outlet Works
- Borrow Areas
- Disposal Sites
- Haul Road
- Staging Areas
- Fish Passage
- Habitat Restoration



CROSS SECTION OF REPLACEMENT DAM



- Zoned Earth and Rock-Filled Dam
- 220 feet high & 1200 feet in length
- 80 feet wide at crest and 1200 feet wide at base

Start of Embankment Dam Construction



PROTECTION OF SPECIAL STATUS SPECIES





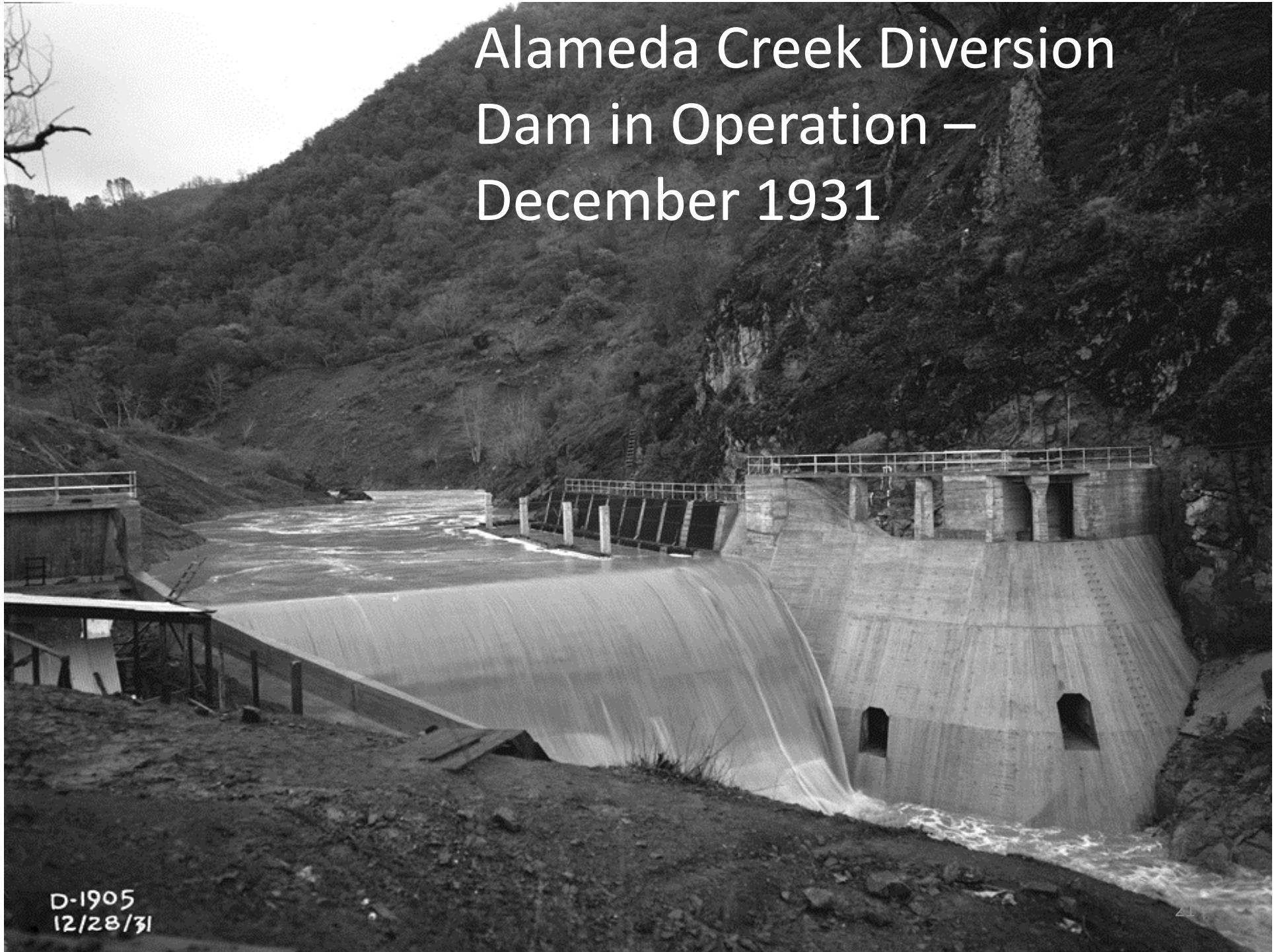
Lower Alameda Creek

Upper Alameda Creek



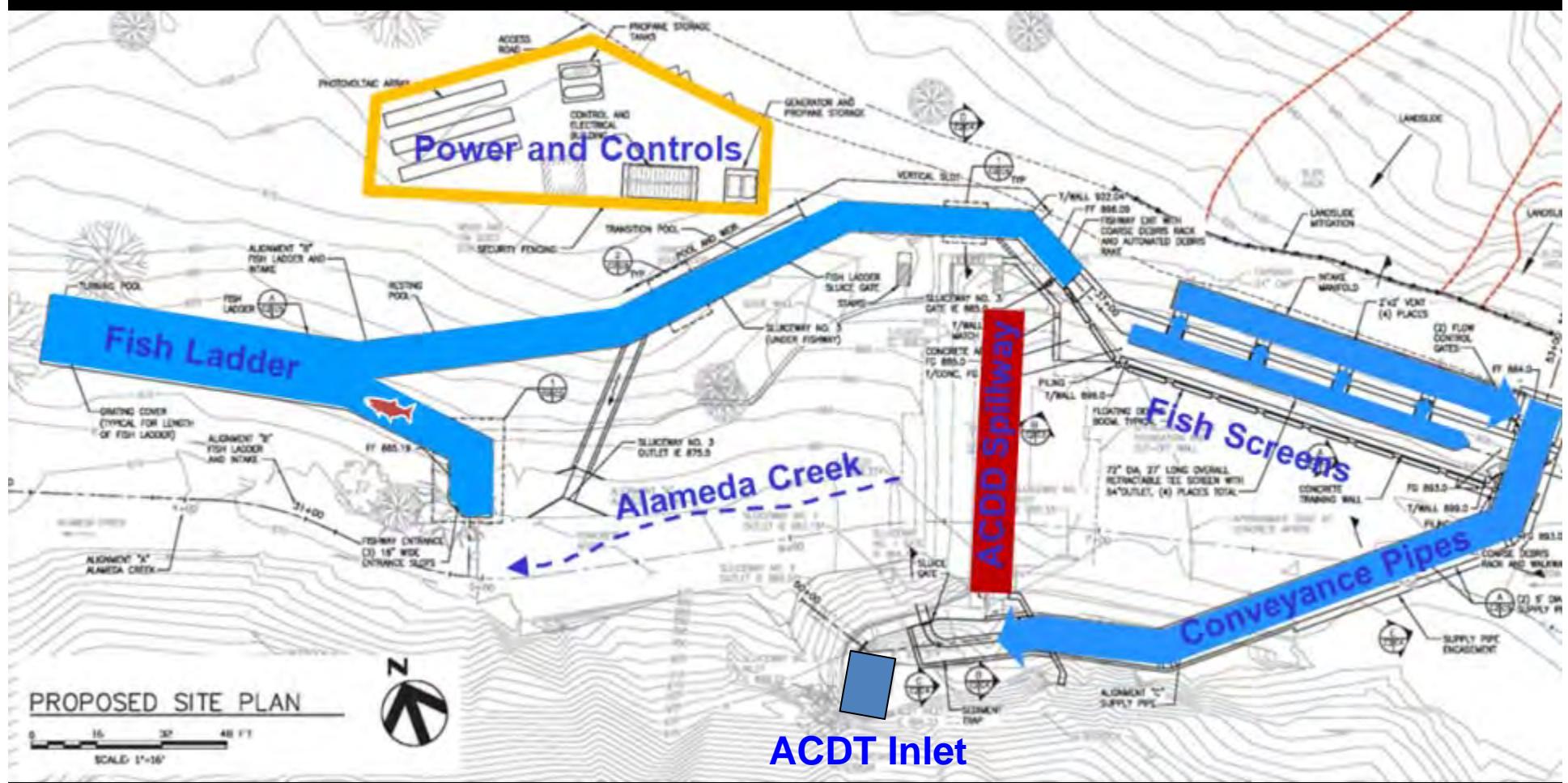


Alameda Creek Diversion Dam in Operation – December 1931



D-1905
12/28/31

FISH PASSAGE FACILITIES AT ALAMEDA CREEK DIVERSION DAM



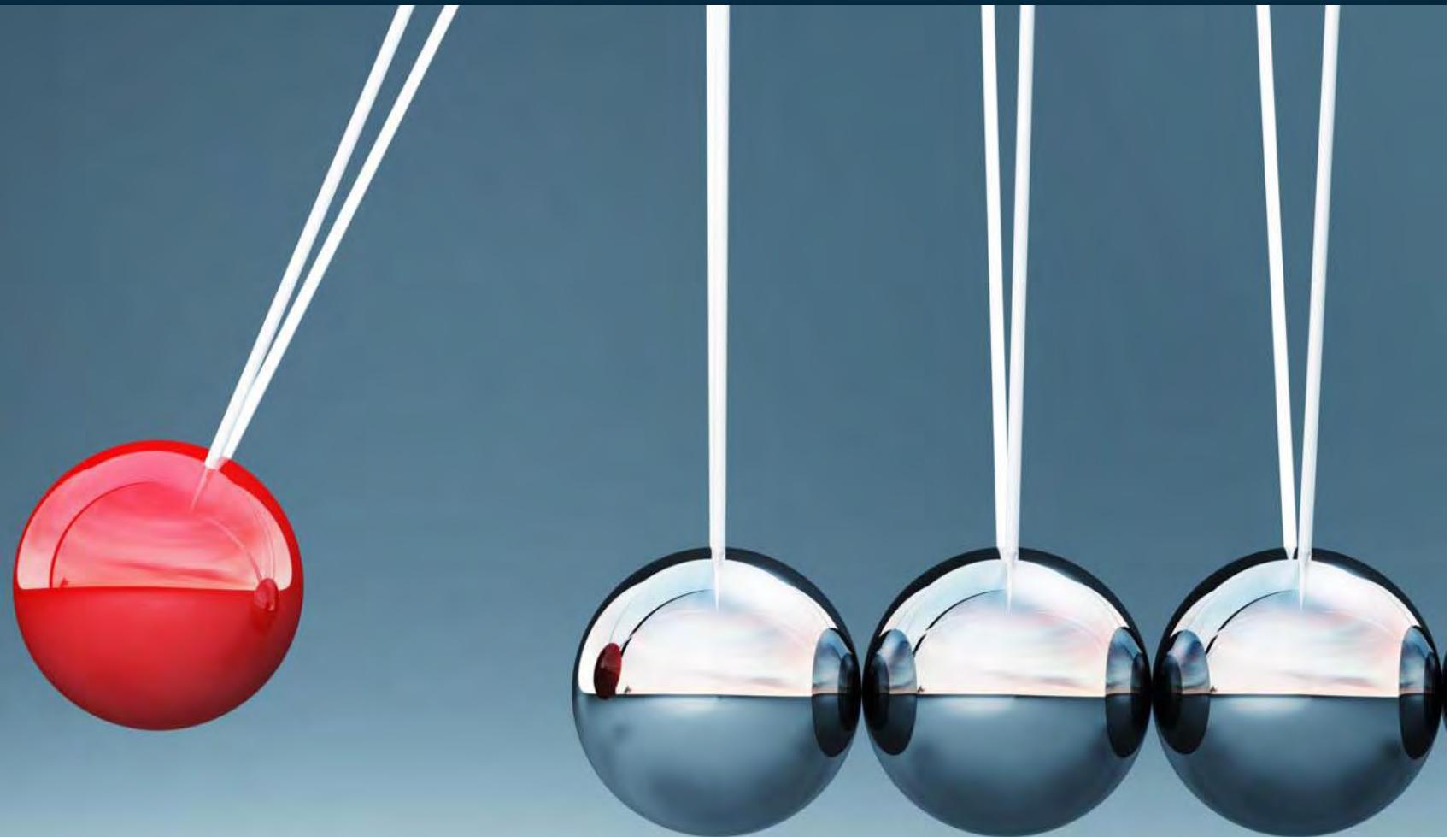
Fish Passage Facilities at Alameda Creek Diversion Dam



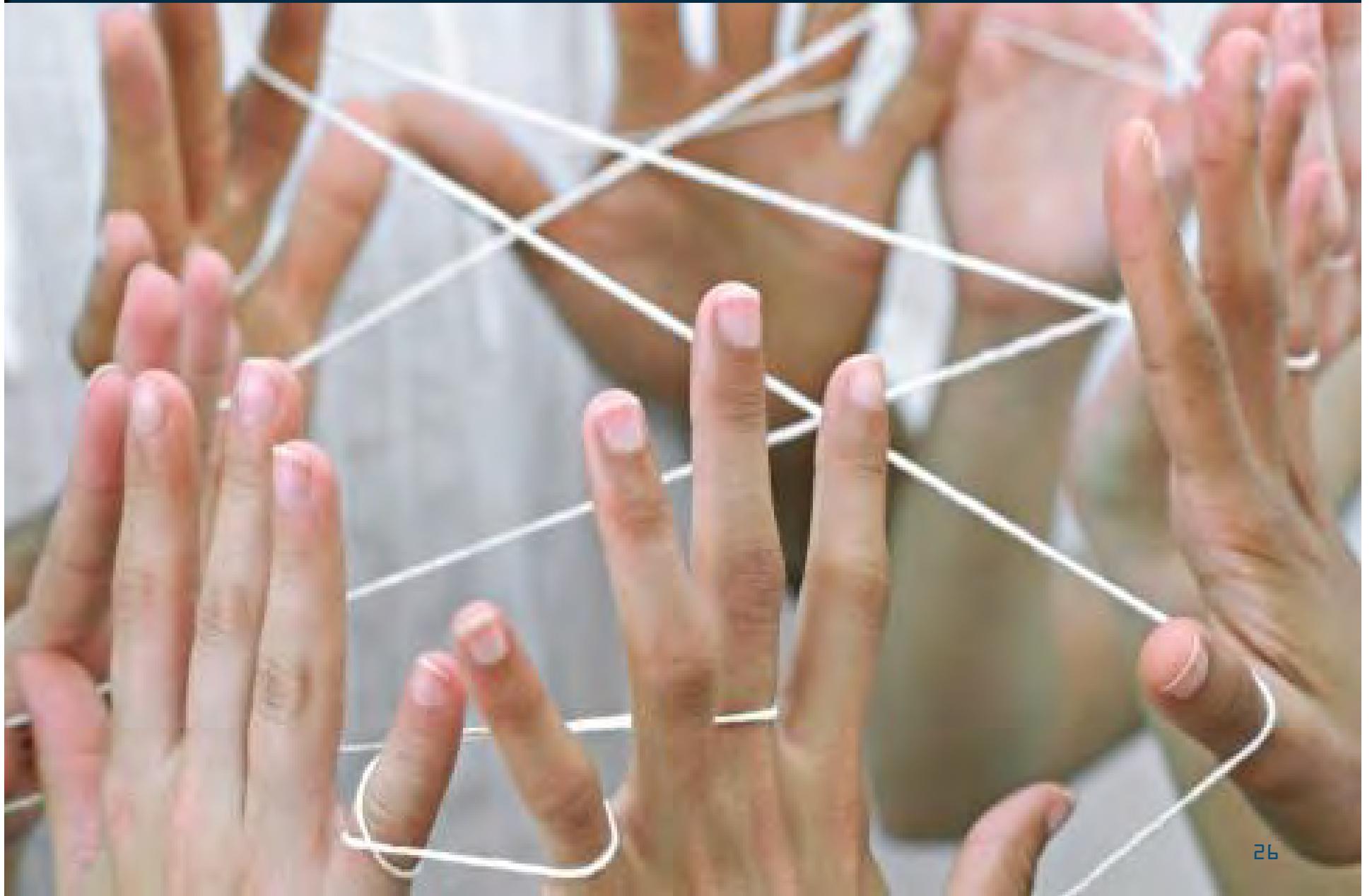
What We Learned



Visionary Leadership



Lead up, Down, and Sideways



One Team Culture



Trust the Team



Consistency and Resiliency

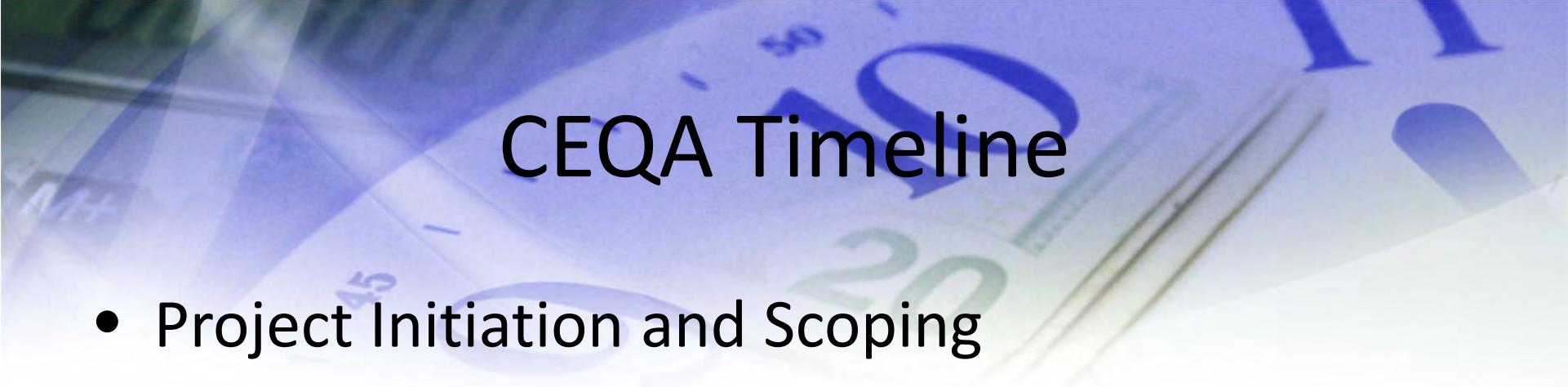


Transparency & Accountability



Communications



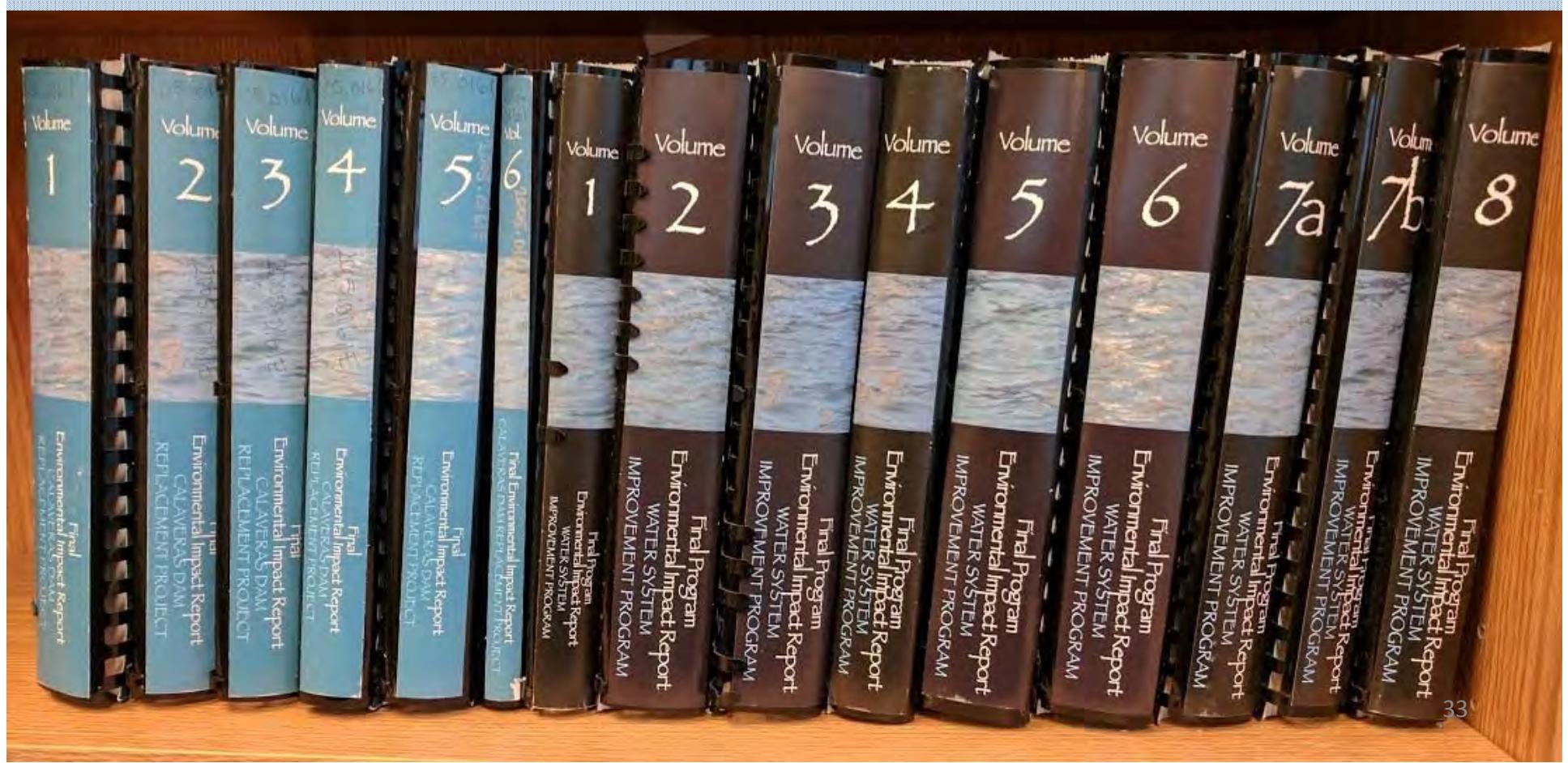


CEQA Timeline

- Project Initiation and Scoping
 - Fall 2005
- Technical Studies & Draft EIR Preparation
 - 2006 – 2009
- Public Review and Response to Comments
 - 2010 – 2011
- Final EIR Certification January 2011

Project EIR + Program EIR

- Water System Improvement Program EIR
- 38 project level EIRs



Habitats

• Study area	1,900 acres
• Wetlands	34 acres
• Streams	14.3 miles
• Open Water (Reservoir)	1,012 acres
• Grasslands	863 acres
• Oak woodlands	327 acres
• Scrub	79 acres
• Riparian forest	38 acres



Special-Status Species

- Callippe Silverspot Butterfly
- California Red-Legged Frog
- California Tiger Salamander
- Foothill Yellow-Legged Frog
- Alameda Whipsnake
- Bald Eagle
- Berkeley Kangaroo Rat
- Western Pond Turtle
- Raptors
- Loggerhead Shrike
- Grasshopper Sparrow
- Tricolored Blackbird
- American Badger
- Townsend's Big-Eared Bat
- Pallid Bat
- Western Mastiff Bat

Ted C MacRae 2010
35

Naturally Occurring Asbestos

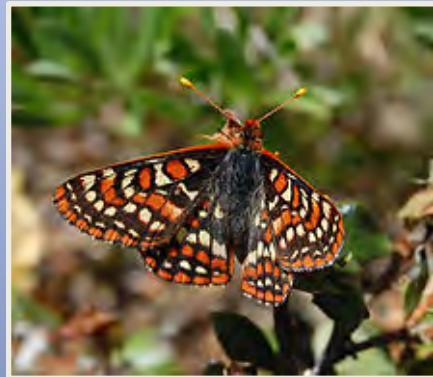
- Excavation and handling of 4 million cubic yards of NOA containing material
- Worker safety
- East Bay Regional Parks employees
- Park visitors
- Dust control
- Monitoring and Reporting
- Shutdown conditions
- Appeal filed by East Bay Regional Parks

Project Changes DEIR to FEIR

- Changes to instream flow schedules for Steelhead
- Fish ladder added at Alameda Creek diversion dam
- Fish screens added at Alameda Creek diversion tunnel and Calaveras dam adits
- Adaptive management plan for Steelhead added
- Spillway grade control structures added
- Intake tower modifications
- Additional instrumentation
- Electrical distribution line upgrade added
- Right dam abutment excavation expanded
- Borrow area E modified
- West haul road work area modified

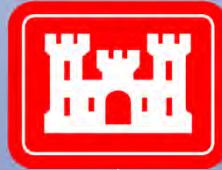
Permitting CDRP & LCSD







NOAA
FISHERIES



SFPUC







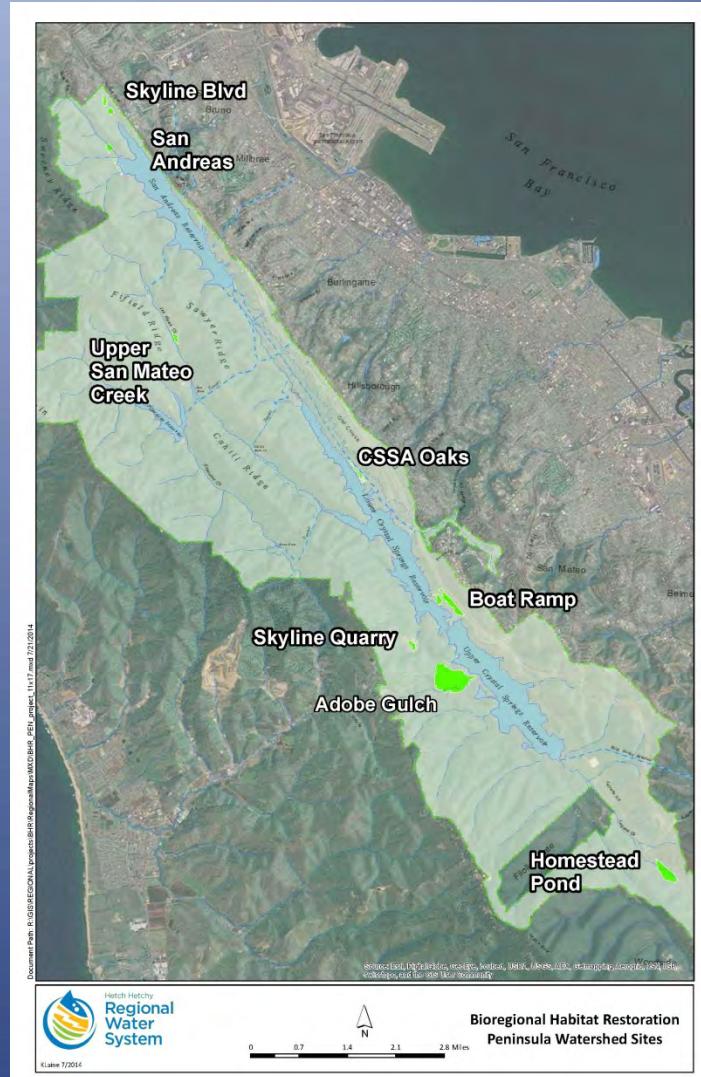
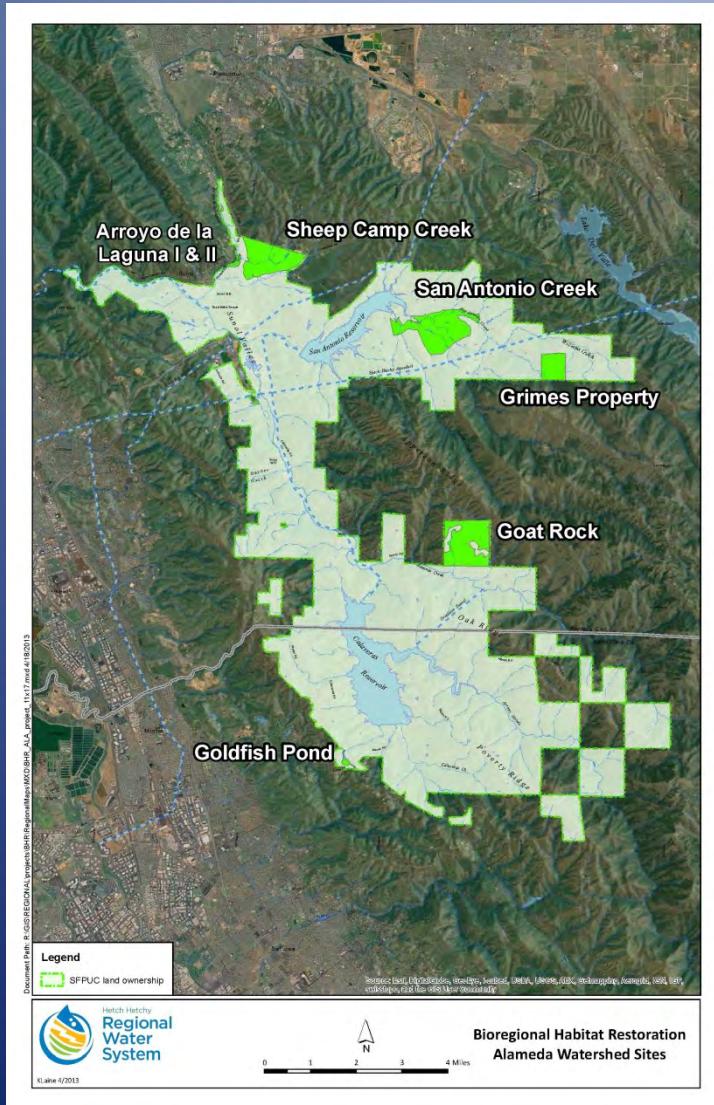
CDRP Spoils Disposal



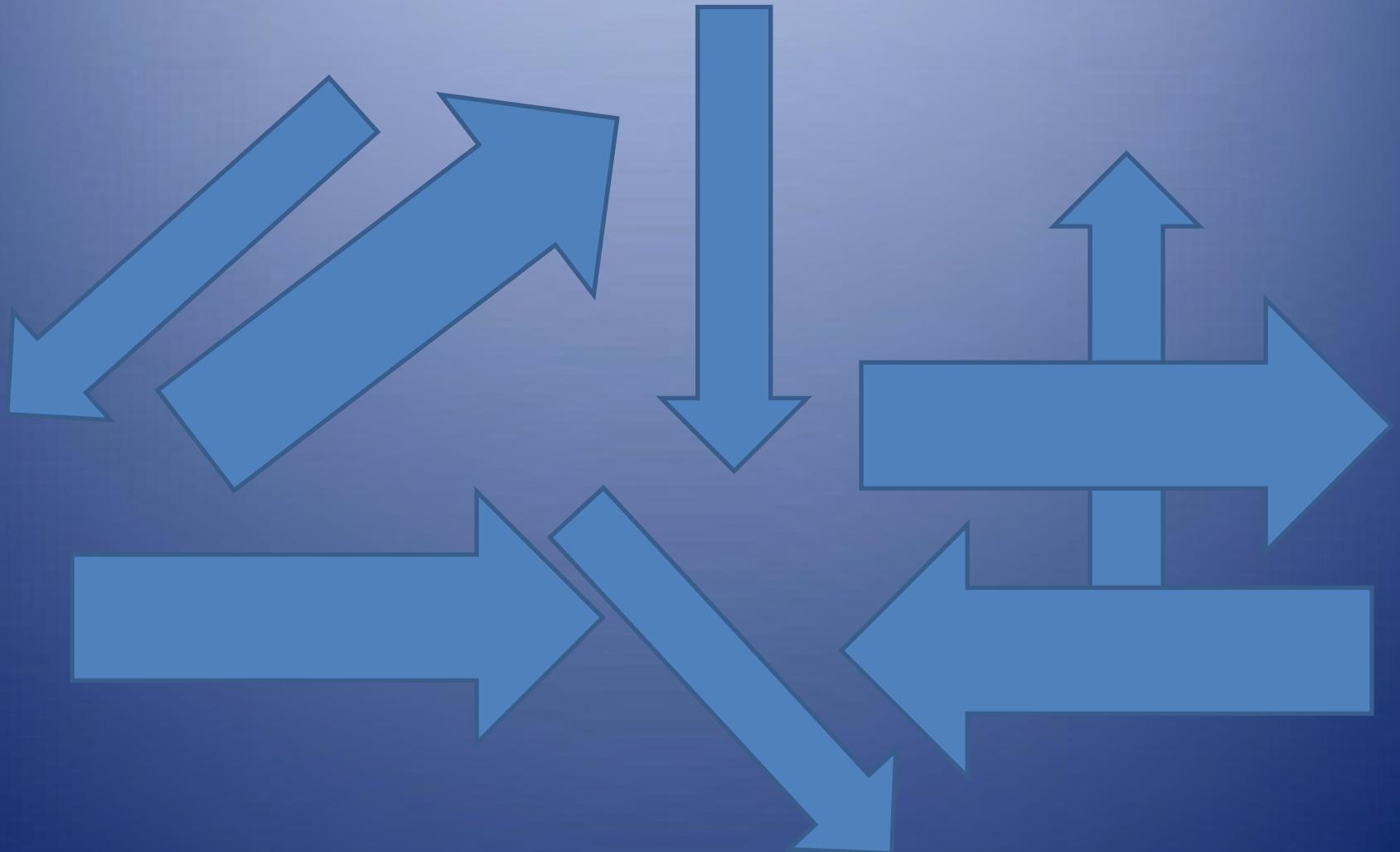
LCSD Fountain Thistle



Ecosystem Level Mitigation



Mitigation for Permitted Impacts



Bioregional Habitat Restoration (BHR)









Paleontologists at work recovering a whale vertebrate

Environmental Construction Compliance



San Francisco
Water Power Sewer
Services of the San Francisco Public Utilities Commission

What's Wrong with this Picture?

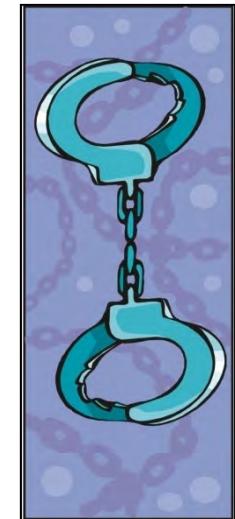


And this One?

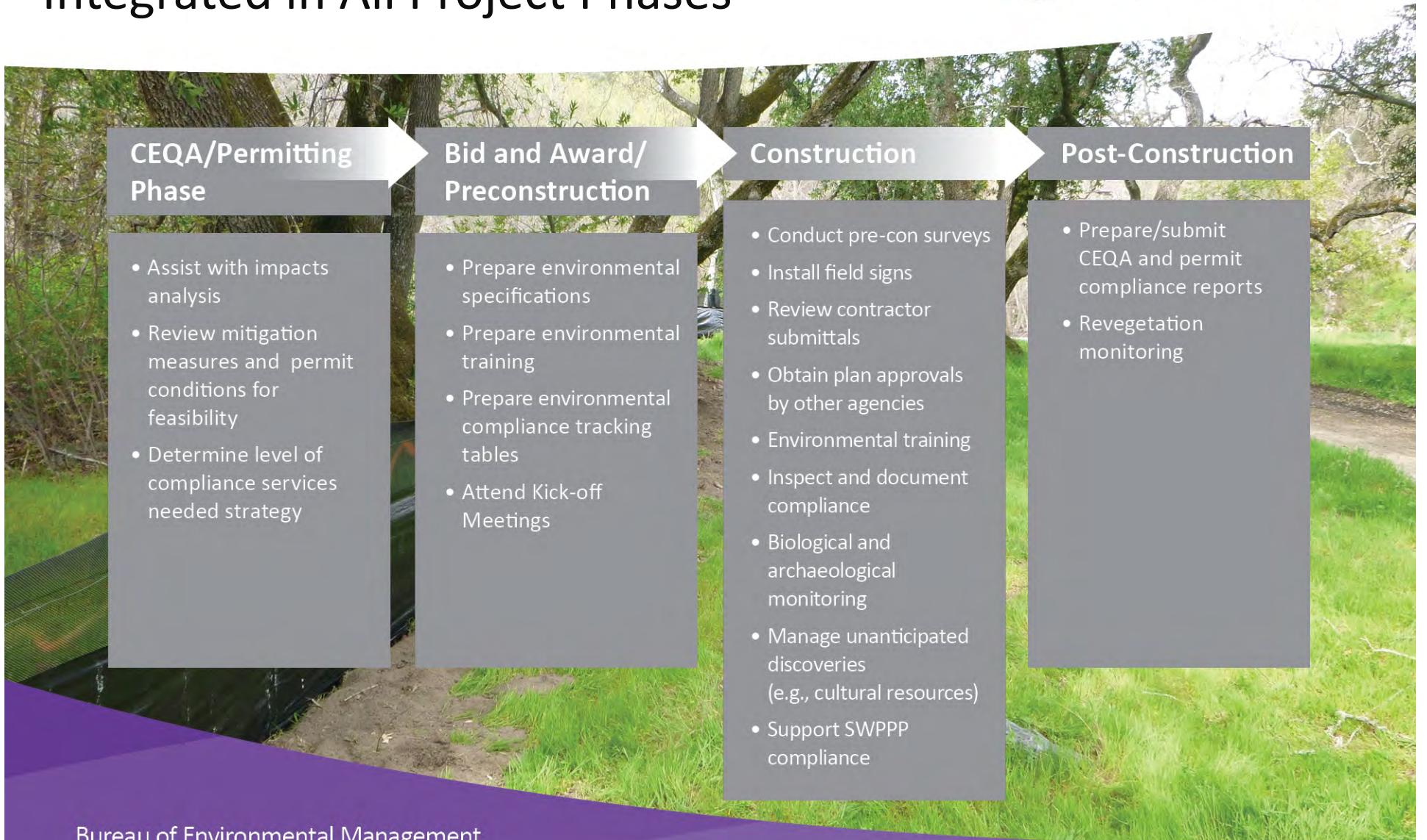


SFPUC is Committed to Compliance

- Agency Mission
 - Manage the resources—human, physical, and natural—entrusted to its care
- CEQA/NEPA mitigation measures, permit conditions, and Standard Construction Measures
- Avoid:



Environmental Construction Compliance Integrated in All Project Phases



Construction Management Plan and Procedures

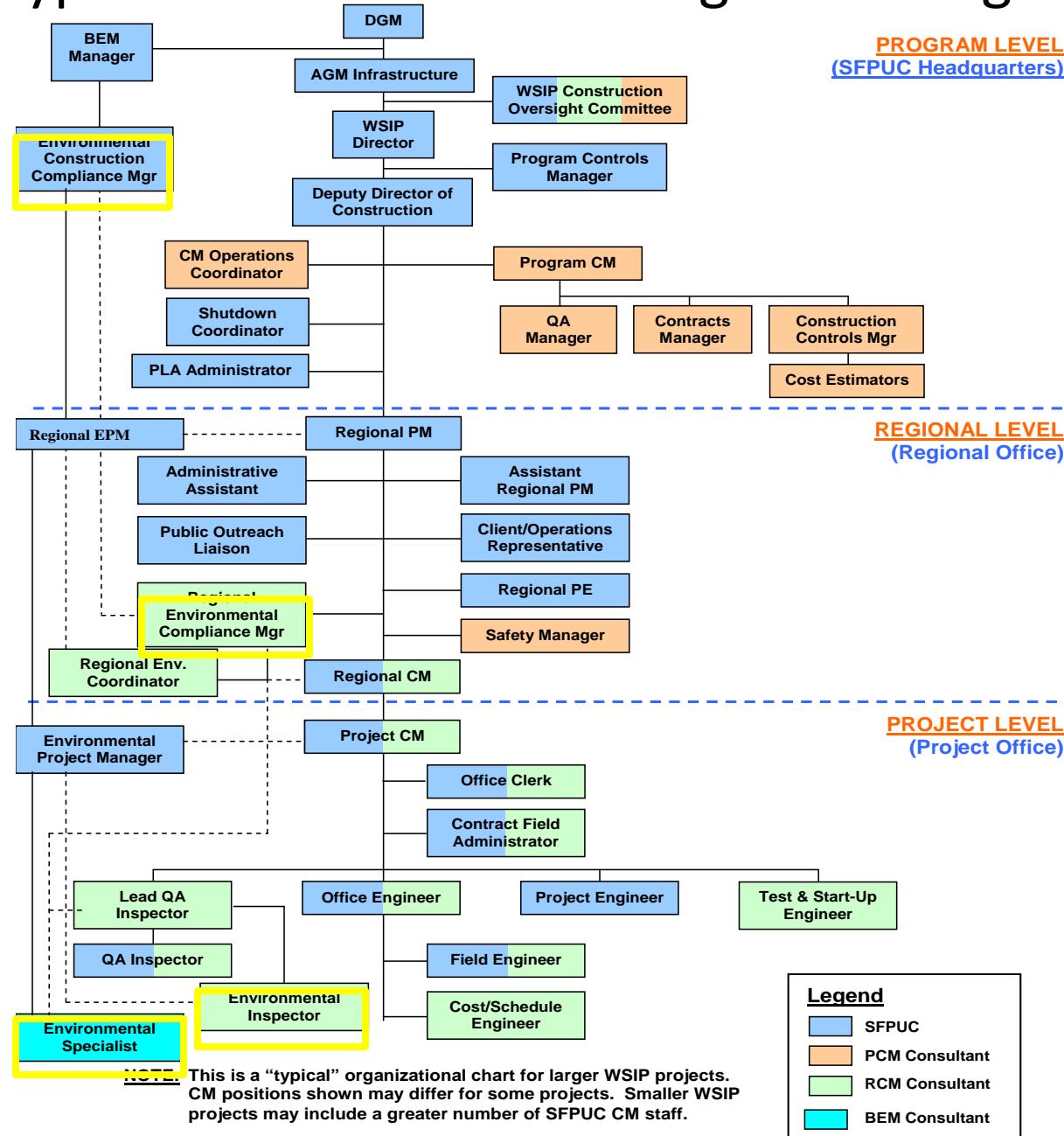
The screenshot shows a web browser displaying the San Francisco Public Utilities Commission's website. The URL in the address bar is www.sfwater.org/index.aspx?page=256. The page title is "Construction Management Procedures". The left sidebar has a "WSIP CM PROGRAM" section with links for "Management Plan", "Management Procedures" (which is currently selected), "Safety Approach", and "Business Processes". The main content area has a breadcrumb navigation: CONSTRUCTION > WATER SYSTEM IMPROVEMENT PROGRAM WSIP > WSIP CM PROGRAM. The main heading is "Construction Management Procedures". Below it, a text block states: "These procedures apply to all personnel working on the Water System Improvement Program (WSIP) to the extent that their work is affected by these WSIP Construction Management (CM) Procedures and does not conflict with specific SFPUC policies or the contract under which the work is executed. Every major CM function should have a procedure which describes that activity's implementation process, its control and desired result." A list of current WSIP Construction Management Procedures follows:

- WSIP Construction Management Procedures - Table of Contents
- P001 - Preparation and Control of WSIP CM Procedures
- P002 - Request for Information (RFI)
- P003 - Value Engineering Change Proposal (VECP)
- P004 - Submittals
- P005 - Meeting Minutes
- P006 - Document Control & Management and Correspondence
- P007 - QA Daily Inspection Reports
- P008 - Pre-construction Conference
- P009 - Non-Compliance Notices - Quality
- P010 - Applications for Payment
- P011 - Construction Quality Management
- P012 - Safety Reporting Procedures
- P013 - Construction Claims Management
- P014 - Drawing Control
- P015 - Construction Schedule Management
- P016 - Construction Change Management

- P051 - Environmental Requirements Table
- P052 - Environmental Inspection and Special Environmental Monitoring
- P053 - Environmental Non-compliance Notice
- P054 - Environmental Minor Project Deviation (MPD)
- P055 - Monthly Environmental Compliance Report
- P056 - Environmental Quarterly Compliance Reporting Table
- P057 - Environmental Daily Monitoring Log
- P058 - Environmental Daily Inspection Reports

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WSIP Typical Construction Management Organization



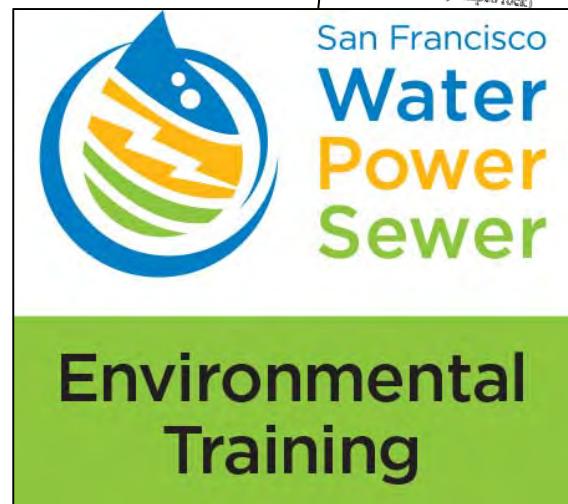
Last Revised by GBL on 10/3/07

Regular Field Meetings



Training

- Training



ALERT !

This is to notify you that this project site may be located in an archaeological area. If you notice anything that indicates the presence of an archaeological site, the San Francisco Environmental Review Office either the

- Environmental Inspector
- Regional Environmental Inspector
- Regional Environmental Review Office
- Environmental Construction Inspector

All work within the vicinity of the project site has evaluated the discovery. You should be aware of potential archaeological sites. It is not always encountered. Below are some things

- PREHISTORIC ARCHAEOLOGICAL
- Concentrations of shellfish remains
 - Evidence of fire (ashes, charcoal)
 - Concentrations of bones
 - Recognizable Native American artifacts (humanly shaped rock)

HETCH HETCHY WATER SYSTEM IMPROVEMENT PROGRAM

ENVIRONMENTAL AWARENESS TRAINING

Peninsula Pipeline Seismic Upgrade Project

This Environmental Awareness Training brochure was prepared as a general overview of the environmental requirements for construction personnel. It is intended neither as a complete list of environmental requirements, nor as a substitute for Contract Documents or permits.

General Environmental Requirements

- All project personnel must attend Environmental Awareness Training prior to beginning work on the project site.
- Only work in designated project work areas and access roads.
- Do not enter restricted areas that contain sensitive or protected resources; observe all flagging, fencing, and field signs.
- Limit speeds to 15 mph on unpaved roads and staging/parking areas.
- Do not litter with food or waste. Place all trash in containers with lids or covers to avoid attracting wildlife.
- Pets and firearms are not allowed on the project.
- Maintain all traffic control barriers and signs.
- Be courteous to residents and the general public. Direct questions to the designated public information liaison.

Hazardous Materials Management

- Maintain emergency spill response supplies onsite.
- Clean-up and contain all leaks and spills immediately, if safe to do so, and dispose of materials properly. Immediately report spills to your supervisor and the Environmental Inspector (EI).
- Inspect vehicles/equipment daily at start-up for leaks and repair immediately.
- Conduct all refueling and vehicle/equipment servicing in designated areas at least 100 ft. from surface waters.
- Place a drip pan or absorbent material under vehicle/equipment until leaks are repaired and during refueling/servicing.
- Store hazardous materials and other wastes at least 100 ft. from surface waters unless otherwise approved by the EI.
- Store hazardous materials in a designated storage area in a watertight labeled container with secondary containment or enclosed storage shed.
- Use designated concrete washout areas. Contain concrete and other wastes in areas to avoid discharge of pollutants to soil or watercourses.

Compliance Protocols and Methods

- Environmental Inspector manual
- Checklists and tracking tables
- Non-compliance resolution process
- Minor project changes process



HETCH HETCHY WATER SYSTEM IMPROVEMENT PROGRAM

Environmental Inspection Manual

July 2009

SFPUC Alameda Creek Diversion Dam Fish Passage Facilities Project
CDFW Incidental Take Permit No. 2081-2015-006-03
Designated Biologist Daily Compliance Certification

Name:	Chris Patterson	Date:	4/7/17
Summary of Work Performed: Sluice #3 form/rebar earth work wet installation			
Permit Compliance Verification Checklist:			
Permit Condition*	Condition Summary	Completed Y, N, N/A	Comments
6.3	Activities halted due to non-compliance with ITP and/or failure to implement reasonable measures ordered by Designated Biologist to avoid take of Covered Species	N	
6.4	All workers environmentally trained by Designated Biologist prior to working on the Project	Y	
6.5	Construction Monitoring Binder is on-site and includes list of signatures of all Project personnel who have completed environmental training	Y	
6.6	Trash contained in covered receptacles and removed daily	Y	
6.7	Dust adequately controlled to ensure visibility is acceptable	U	

Managing Migratory Birds



Handling Paleontological Discoveries

- *Carcharodon megalodon or Carcharocles megalodon*
 - related to modern great white shark
 - reached lengths greater than 52 feet



Maintaining Creek Flow Simultaneous with Dewatering



Benefits of Commitment to Compliance

12 years of WSIP construction with

- No violations
- Few incidents of listed species take
- Strong relationships with resource agencies
 - Self-reporting encourages trust
- Effective handling of discoveries
- Meeting project schedules