



Santa Clara Valley Water District

File No.: 22-0207

Agenda Date: 2/15/2022

Item No.: 2.2.

BOARD AGENDA MEMORANDUM

SUBJECT:

Anderson Dam Seismic Retrofit Project Status Update.

RECOMMENDATION:

Receive information on the Anderson Dam Seismic Retrofit Project.

SUMMARY:

The Anderson Dam Seismic Retrofit Project (ADSRP) will correct dam seismic deficiencies and otherwise meet all current Federal Energy Regulatory Commission (FERC) and California Department of Water Resources, Division of Safety of Dams (DSOD) dam safety design standards. The full reservoir capacity will be restored upon completion of the Project.

Throughout 2019 to early 2020, project staff and consultants had been progressing with preparation of 90% design plans and specifications and supporting environmental and permitting documents. On February 20, 2020, the Santa Clara Valley Water District (Valley Water) received a letter order from FERC to immediately implement ADSRP-related interim risk reduction measures.

Valley Water is undertaking the Anderson Dam Federal Energy Regulatory Commission Order Compliance Project (FOCP) as a result of the February 20, 2020 directive from FERC to implement interim risk reduction measures at Anderson Dam. One of those measures is the Anderson Dam Tunnel Project (ADTP). The ADTP will construct a diversion system to augment the existing outlet, which will consist of a new diversion tunnel, an outlet structure, a micro-tunnel lake tap, and modifications to Coyote Creek just downstream of the base of the dam. The ADTP also includes reservoir bank and rim stability improvements and existing intake structure modification.

On April 27, 2021, Valley Water's Board of Directors awarded the construction contract for the Anderson Dam Tunnel Project (ADTP) to the top ranked best value proposer, Flatiron West, Inc., in the sum of \$161,140,321 and approved a contingency amount of \$40,000,000 (25% of the contract price).

A second FOCP measure is the Cross Valley Pipeline Extension Project (CVPEP). The CVPEP entails constructing a new pipeline to convey imported water from the Cross Valley Pipeline to Coyote Creek to supplement flows during the construction of the ADSRP downstream of Ogier Ponds. The Project scope includes constructing an outfall which will include an energy dissipator, and

creek bank improvements.

On November 9, 2021, Valley Water's Board of Directors awarded the construction contract for the CVPEP to the lowest responsible, responsive bidder, Garney Pacific, Inc., in the sum of \$12,867,059 and approved a contingency amount of \$1,930,059 (15% of the contract price).

ENVIRONMENTAL JUSTICE IMPACT:

There are no Environmental Justice impacts associated with this item.

FINANCIAL IMPACT:

Although there is no financial impact associated with this item, the Total Project Cost of the ADSRP has increased by \$589 million from \$647 million (FY2022-FY26 CIP) to \$1.236 billion (all dollar values referenced are inflated). Broadly, the reasons for this cost increase include the extension of the project construction schedule from 5 years to 10 years, additional environmental and permitting related costs, design changes, dam safety regulator mandated modifications and the previous undervaluation of Anderson Dam Tunnel Project cost. Further details are explained in the presentation (Attachment 1).

CEQA:

The recommended action does not constitute a project under CEQA because it does not have a potential for resulting in direct or reasonably foreseeable indirect physical change in the environment.

ATTACHMENTS:

Attachment 1: PowerPoint

UNCLASSIFIED MANAGER:

Chris Hakes, 408-630-3796



Anderson Dam Seismic Retrofit Project

February 15, 2022

Agenda

Background

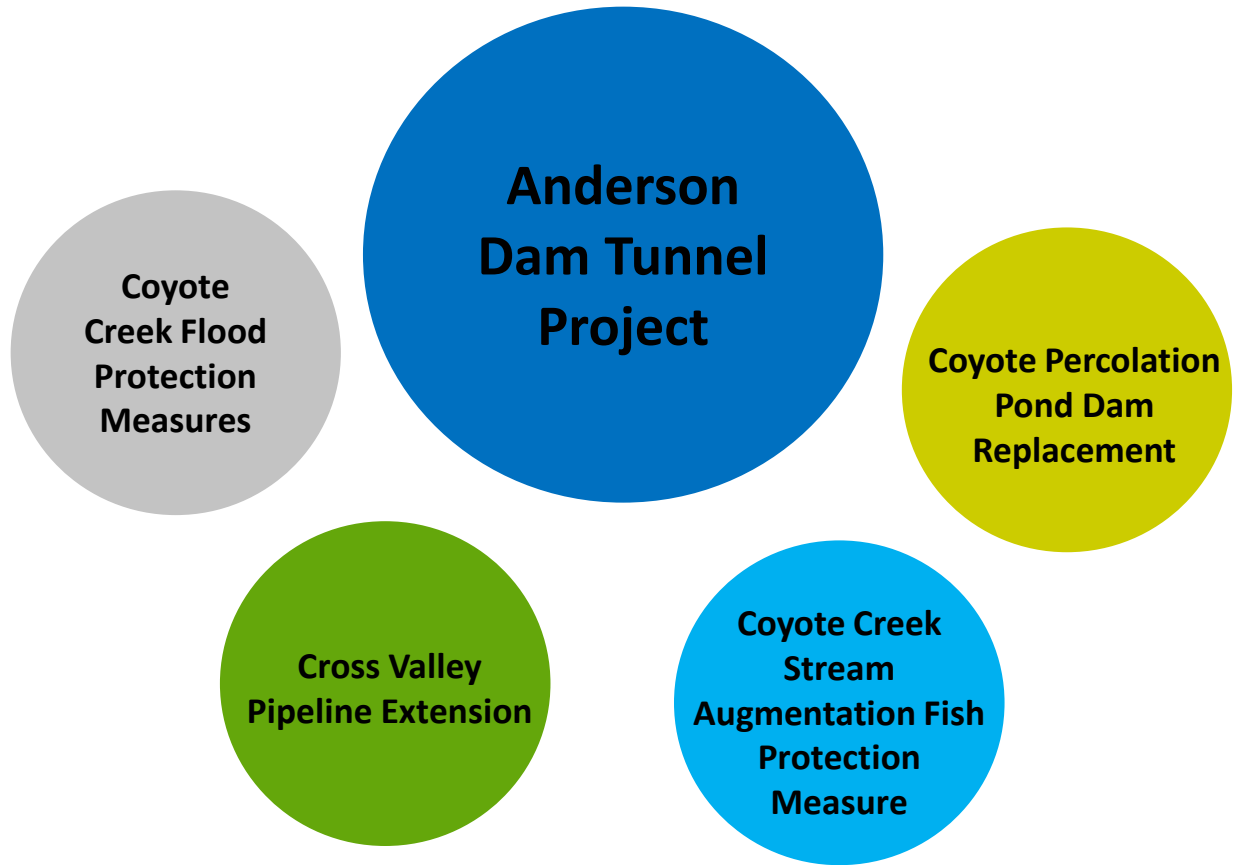
Project Cost

Current Status

Background

- Anderson Dam forms Anderson Reservoir, holding 90,000 acre feet of water when full and the largest of Valley Water's reservoirs.
- In 2012, following a seismic stability analysis, Valley Water began plans to retrofit the dam to meet current safety standards, creating the Anderson Dam Seismic Retrofit Project (ADSRP).
- On February 20, 2020, the Federal Energy Regulatory Commission (FERC) issued an order to Valley Water to undertake early implementation interim risk reduction measures associated with ADSRP immediately.

Anderson Dam Federal Energy Regulatory Commission Order Compliance Projects (FOCP)

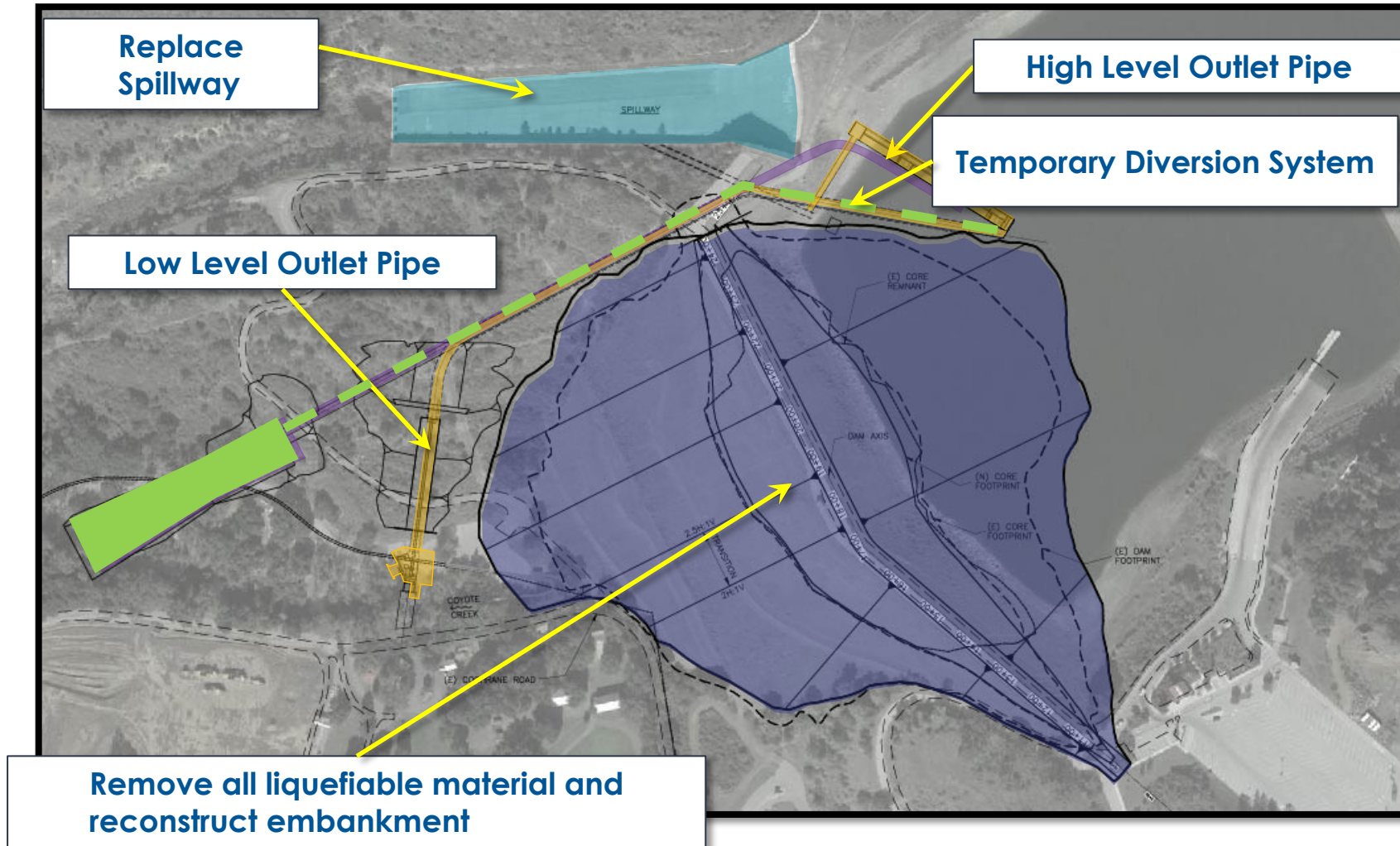


ADSRP

- Seismic retrofit of dam embankment
- Construction of new higher capacity outlet tunnel and outlet works
- Replacement of concrete spillway and raising wall height 9-feet to safely discharge large storm flows
- Increase dam crest height 7-feet

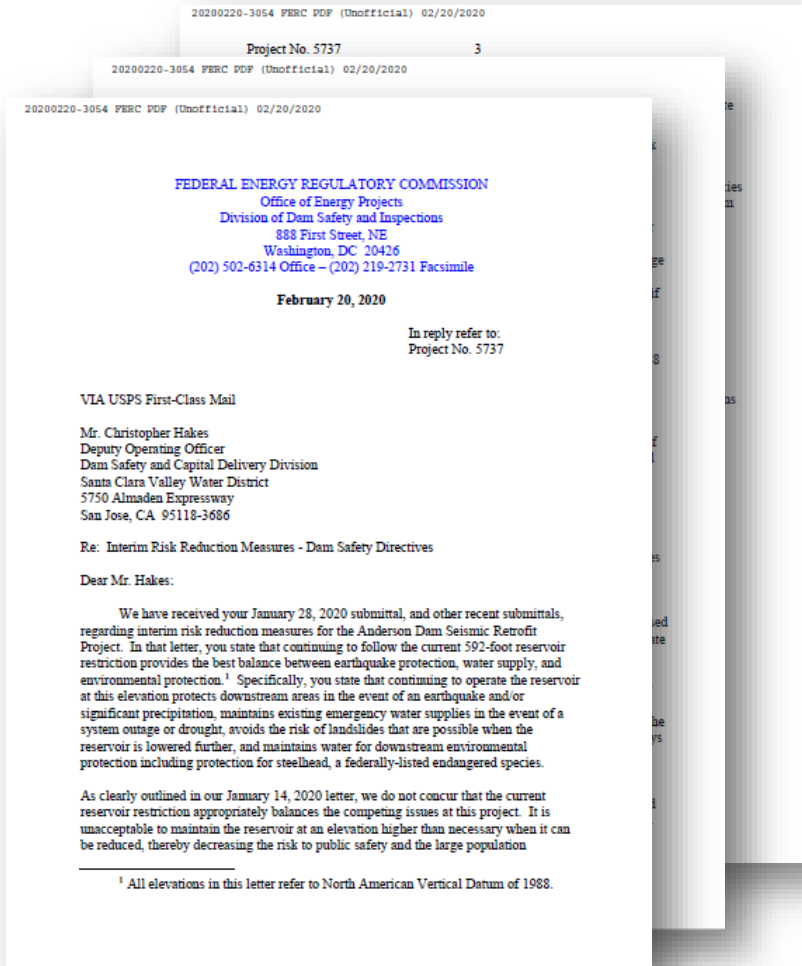
Anderson Dam Seismic Retrofit Project Components

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FERC Directive: Risk Reduction Measures

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1. Lower reservoir to new restriction (El. 565')



2. Take all necessary measures to safely prepare and drain the reservoir to El. 488'



3. Oct. 1 - Begin draining reservoir to dead pool (El. 488')



4. Develop plan to maintain dead pool elevation in event of significant inflow



5. Expedite design and construction of new Outlet Tunnel

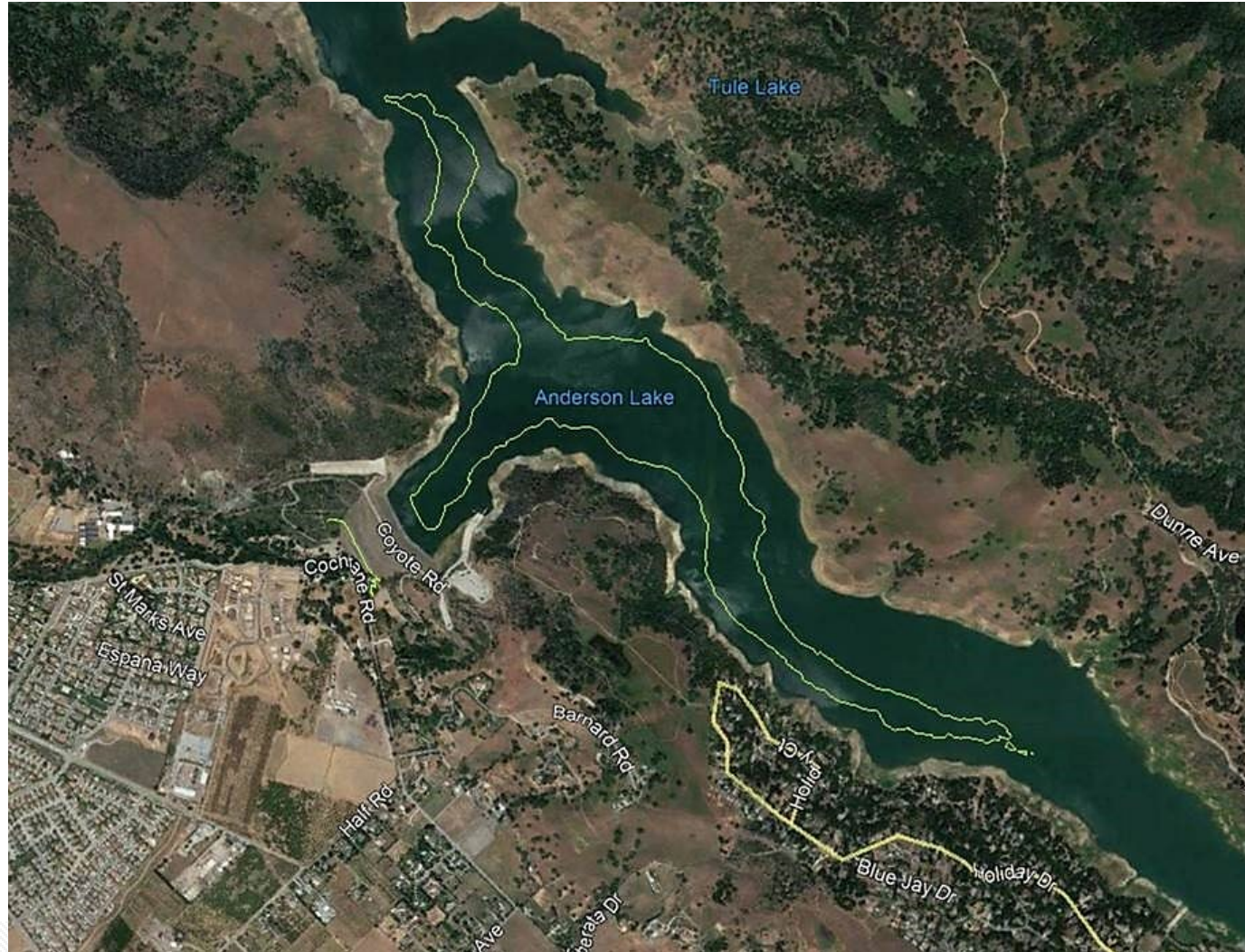


6. Secure permits and complete design of larger Seismic Retrofit Project



Anderson Reservoir at 3% Capacity - Map

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Anderson Dewatered

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Agenda

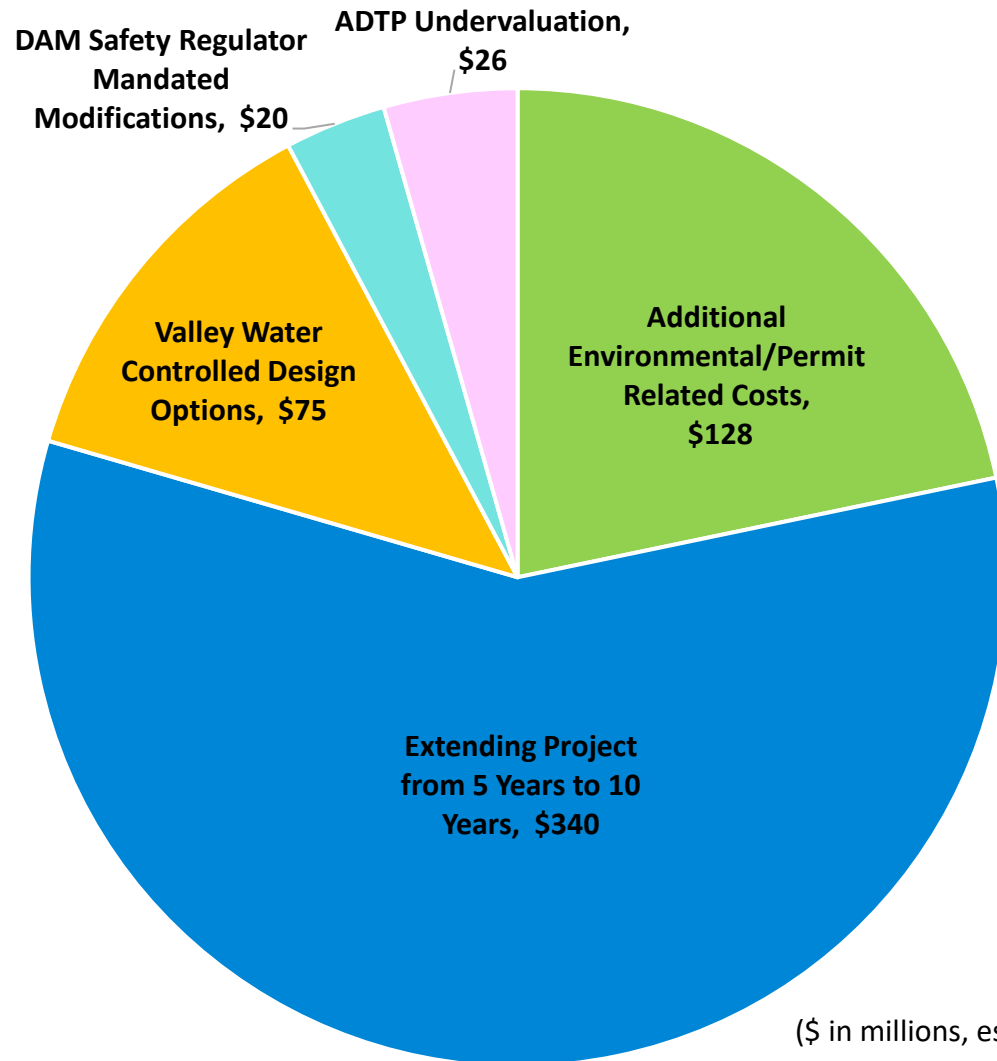
Background

Project Cost

Current Status

Anderson Dam Seismic Retrofit Project - Cost Increases

- FY 21: \$576M (Inflated)
 - FY 22: \$647M (Inflated)
 - FY 23: \$1.236B (Inflated)
- + \$589M



(\$ in millions, estimated inflated values)

Agenda

Background

Project Cost

Current Status

FOCP Elements - Current Status

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- Reservoir Drawdown to Deadpool and Maintain Level at Deadpool – Complete
- Anderson Dam Tunnel Project (ADTP) Construction – On-going
- Anderson Dam Tunnel Operation and Maintenance – Post ADTP Construction
- Bank and Rim Stability Improvements (Included in ADTP)
- Existing Intake Structure Modifications (Included in ADTP)
- Creek Channel and Bank Erosion Control Modifications (Included in ADTP)
- Imported Water Releases and Cross Valley Pipeline Extension – On-going
- Coyote Percolation Dam Replacement – In Design
- Coyote Creek Flood Management Measures – In Design
- Steelhead Fish Avoidance and Minimization Measures – In Design
- Implementation of Additional Project Specific Avoidance and Minimization Measures - In Planning/Design

Typical Equipment

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Tunneling Equipment

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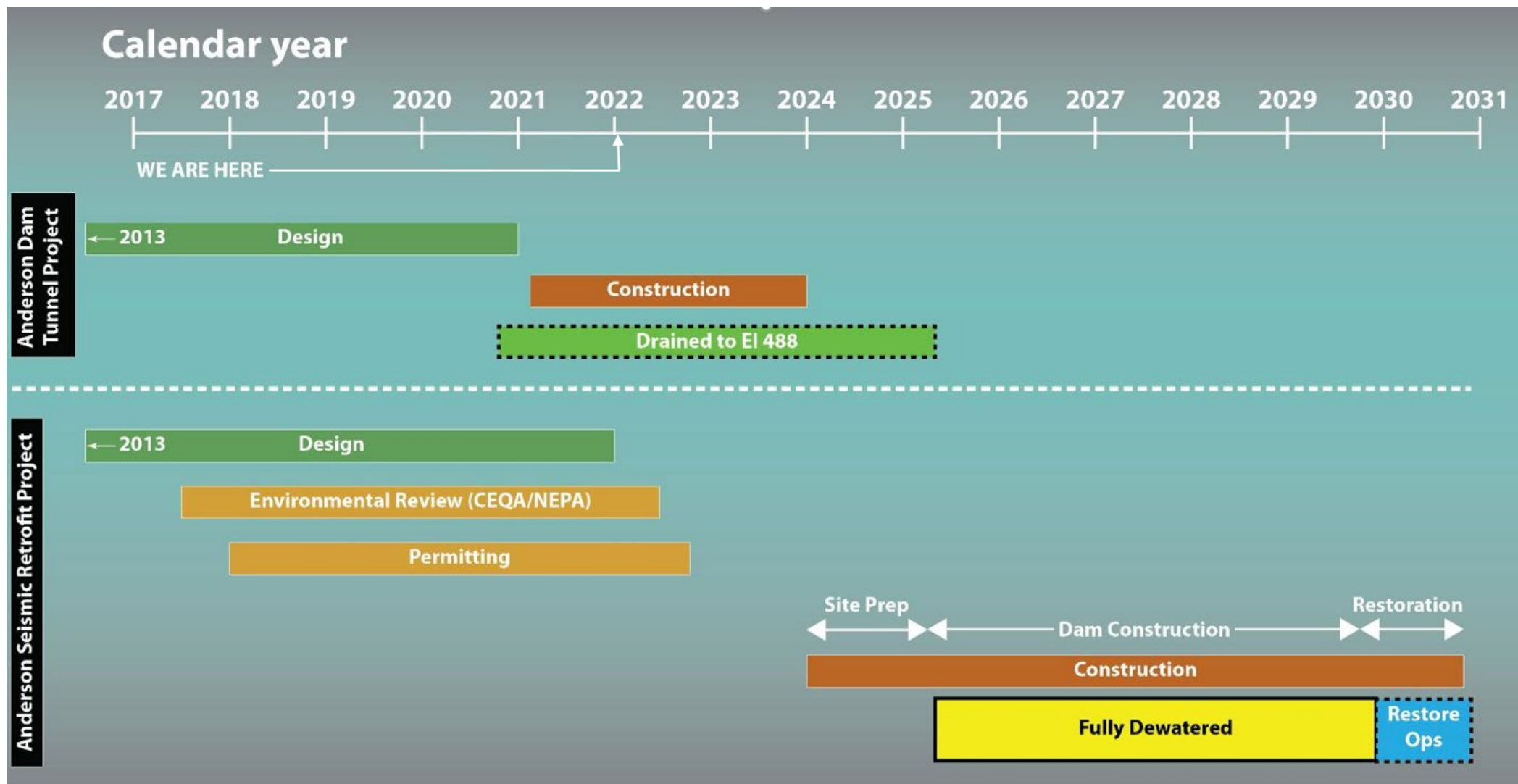
ADTP Potential Impacts

Potential impacts include:

- After storm events, the water level in the reservoir will rise temporarily
- Increased flows in Coyote Creek, downstream of the dam, after storm events
- Noise from construction equipment (large diesel engines) and backup alarms
- Work activities will mainly be Monday through Friday during the daytime, but some Saturdays may be required
- Smells caused by elevated levels of algae in the summer.
Algal blooms can deplete oxygen levels in the water and produce hydrogen sulfide (rotten egg taste and odor)

Project Schedule

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Regulatory Agencies

Federal

- FERC - Federal Energy Regulatory Commission lead on design and environmental
- USACE - US Army Corps of Engineers
- US Fish and Wildlife Service
- US Environmental Protection Agency
- National Oceanic and Atmospheric Association - NOAA
 - National Marine Fisheries Service - NMFS

State

- Division of Safety of Dams – DSOD
- California Office of Historic Preservation (SHPO)
- California Department of Fish and Wildlife
- State Water Resources Control Board
 - Regional Water Quality Control Board

County

- Valley Habitat Agency
- Santa Clara County Parks

Cities of:

- Morgan Hill
- Gilroy
- San José

