WSDOT and DFI

Embracing Change:
What you need to know

Andrew Fiske, State Geotechnical Engineer

October 9, 2023

Roger Millar, Secretary of Transportation

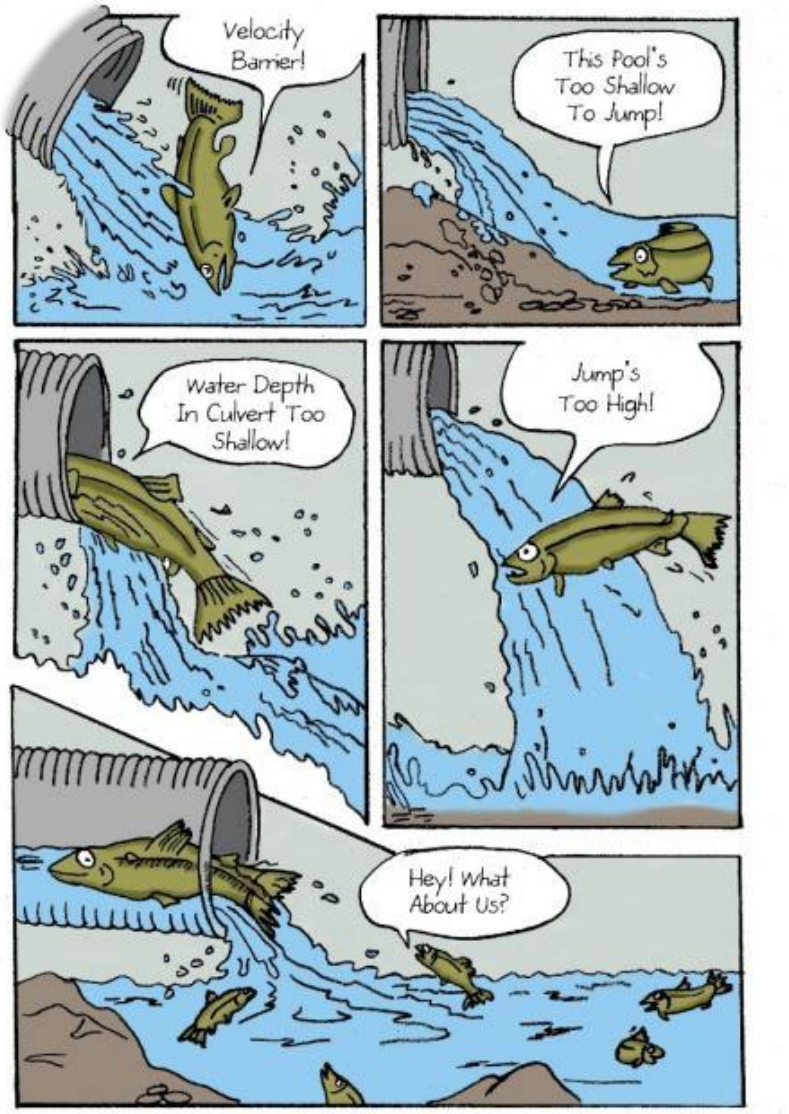
Amy Scarton, Deputy Secretary of Transportation

Overview

- Programs
- Policy
- Partnerships



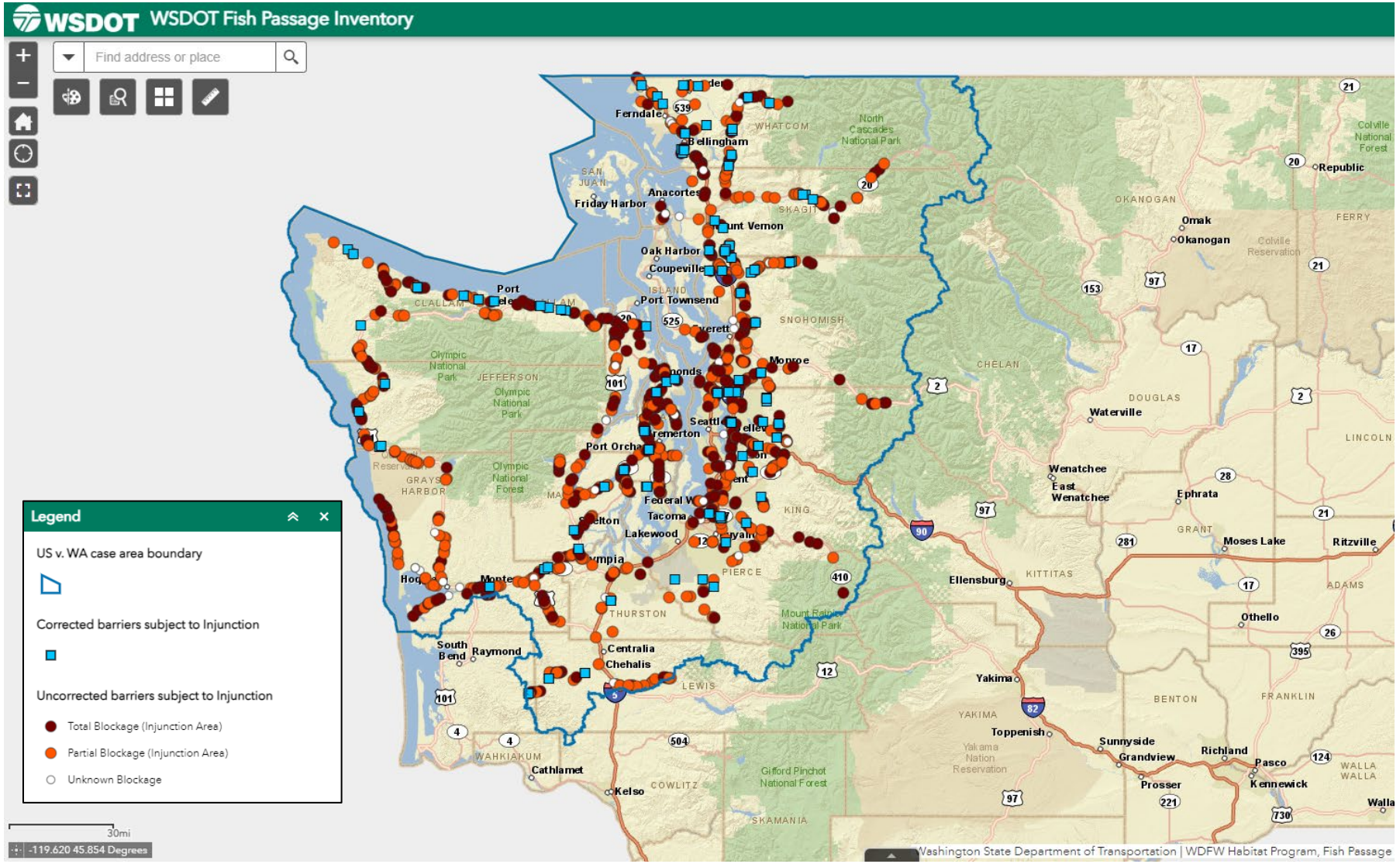
Programs – Fish Passage



Programs – Fish Passage

- Fish Passage Program started in 1991
- Federal Court Injunction for Fish Passages, March 2013
  - mandating that 90% of blocked habitat must be fixed by 2030
- Update June 2023: 114 barriers corrected, 502 miles of improved access for salmon and steelhead habitats
- Significant increase in number of projects under construction contract and beginning design in 2023-25 biennium (302 in total)

Programs – Fish Passage



Programs – Fish Passage Budget

2013-19	2019-21	2021-23	2023-25	2025-27	2027-29
~185M	~275M	~$488M	~$1.21B	~$1.61B	~$1.04B

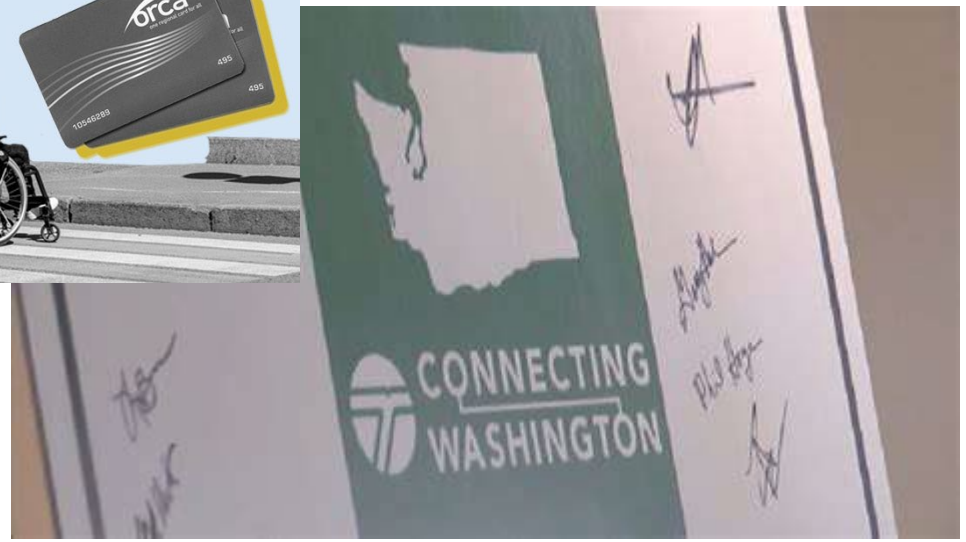
~$185 Million in the first 6 years

~$3.86 **B**illion in the last 6 years

Programs

- Moving Ahead Washington, 2022 (16.9 Billion over the next 16 years)
- Connecting Washington, 2015 ($16 Billion, 16 year program)



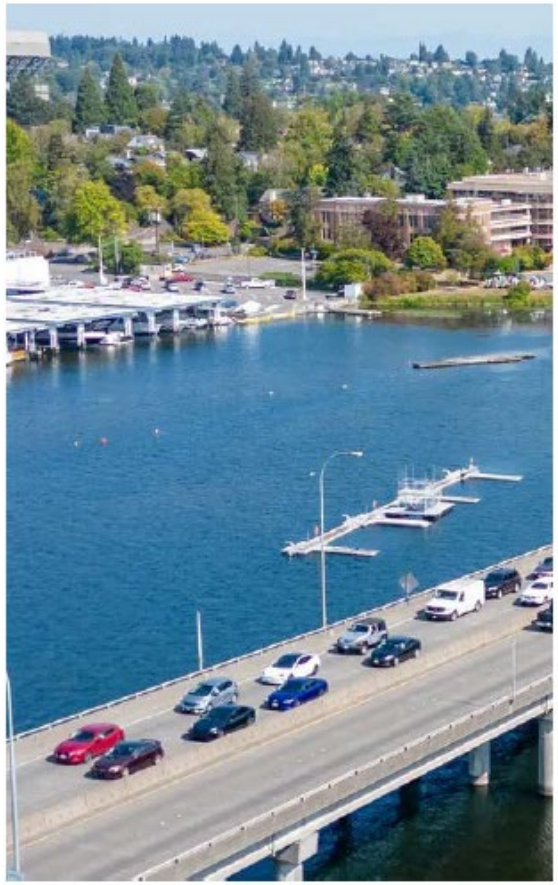


Policies

The Seattle Times

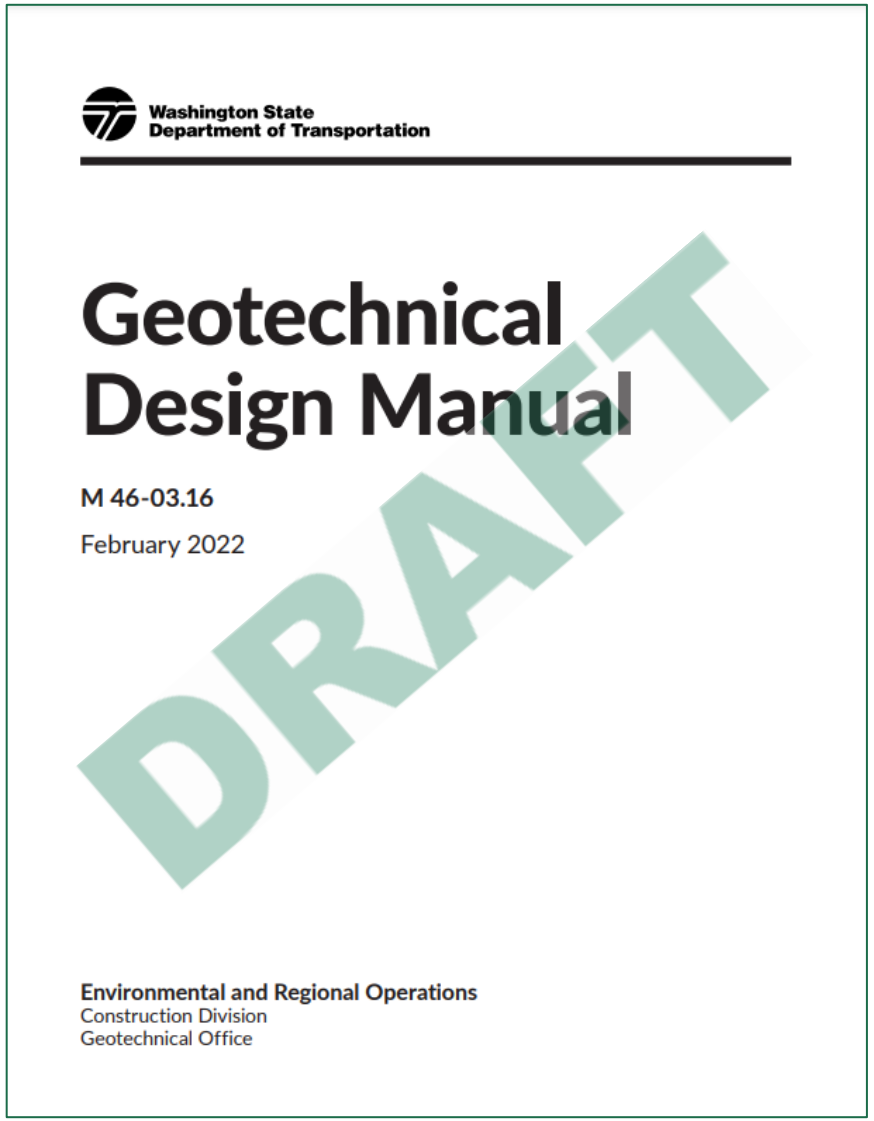
Prices skyrocket on WA transportation projects, and fewer contractors want the jobs

Sep. 21, 2023 at 6:00 am | *Updated Sep. 21, 2023 at 6:00 am*



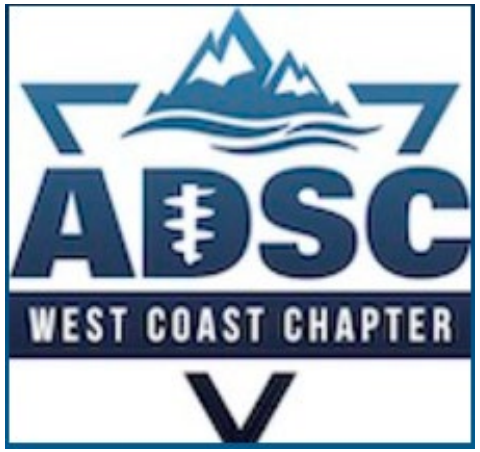
Policies

- Update of the Geotechnical Design Manual (GDM)
- Re-evaluating geotechnical risk sharing in Design Build Contracts
- Progressive Design Build Methods



Partnerships

- Associated Drilled Shaft Contractors (ADSC)
- Associated General Contractors (AGC)
- American Council for Engineering Companies (ACEC)







Agency and Owner Panel - Navigating Future Industry Changes



Photo by John Skelton

Seattle Department of Construction & Inspections

48th Annual Conference on Deep Foundations

Pao-Tsung Huang, Ph.D., P.E. I November 1, 2023

SEATTLE DEPARTMENT OF CONSTRUCTION AND INSPECTIONS (SDCI)

SDCI

SDCI issues construction, land use, and trade permits; conducts construction and housing-related inspections; ensures compliance with our codes; and regulates rental rules.

Geotechnical Engineering Review Group

- 8 Geotechnical PEs as reviewers
- ECA Code, Grading Code, and Building Code
- Wide range of construction projects



(Image source: Seattle Permit Records – Publicly Accessible)

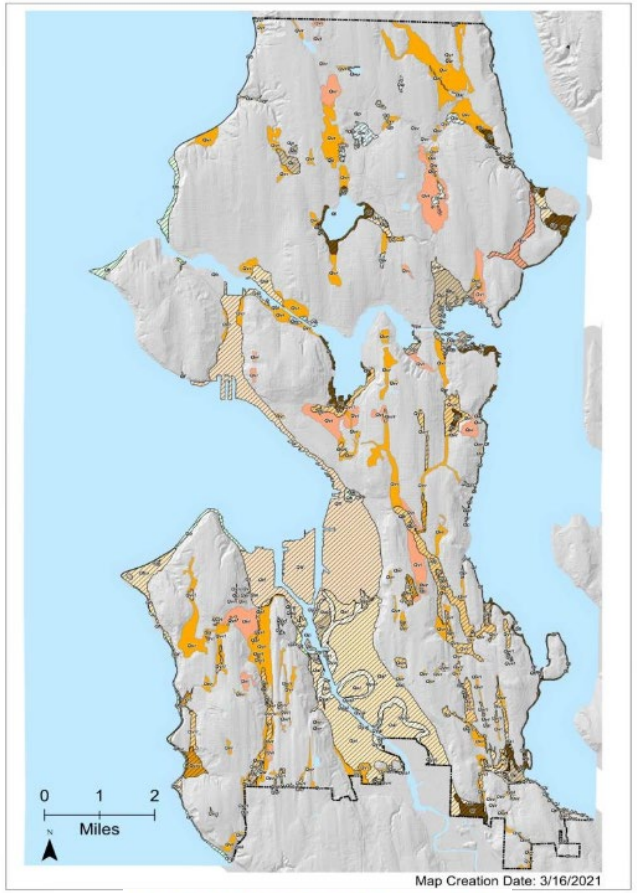
CHALLENGES FACED BY SDCI

Seismic Design of Ground Improvement

- Seattle is in highly seismic zone
- Areas with liquefaction-prone soils

<u>Challenges</u>

- No design guidelines
- Soil with high fines content
- Large depth to competent layers
- Rigid inclusions



Liquefaction-Prone Areas Map
Seattle, Washington
1:72,000
(Image source: SDCI Director's Rule 2-2023)

CHALLENGES FACED BY SDCI

Liquefaction-induced Settlement for Building Design

- How does liquefaction-induced settlement affect building foundation?

Static and Seismic Earth Pressure for Basement Wall Design

- Building Code requires at-rest earth pressure and seismic earth pressure

Challenges

- Large at-rest pressure for deep basement walls. What earth pressures should be used for basement wall design?
- Should seismic earth pressure be added to at-rest pressure?

CHALLENGES FACED BY SDCI

Seismic Retrofit to Unreinforced Masonry (URM) Buildings

Technical

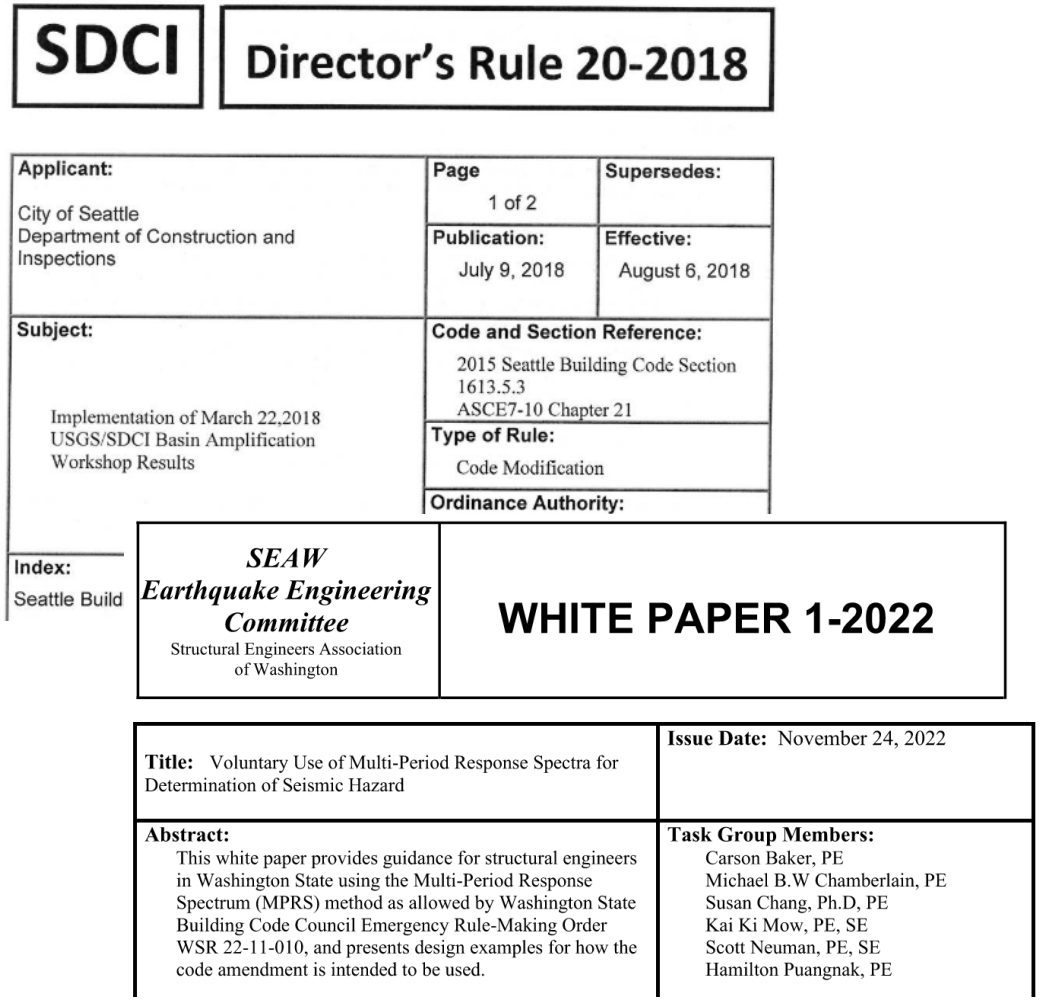
- Primary goal: protect life-safety
- Developing a retrofit standard that aligns with desired performance objectives while balancing retrofit cost concerns

Policy

- Funding mechanism
- Historic preservation and neighborhood character
- Impact to vulnerable populations

EVOLVING TECHNICAL POLICIES

- Basin Amplification Effects
- Voluntary Use of Multi-Period Response Spectra for Determination of Seismic Hazard
- Draft URM Retrofit Technical Standard
- Peer Review for Seismic Design of Ground Improvement



SDCI | **Director's Rule 20-2018**

Applicant: City of Seattle Department of Construction and Inspections	**Page** 1 of 2	**Supersedes:**
	Publication: July 9, 2018	**Effective:** August 6, 2018
Subject: Implementation of March 22,2018 USGS/SDCI Basin Amplification Workshop Results	**Code and Section Reference:** 2015 Seattle Building Code Section 1613.5.3 ASCE7-10 Chapter 21	
	Type of Rule: Code Modification	
	Ordinance Authority:	
Index: Seattle Build		

SEAW Earthquake Engineering Committee Structural Engineers Association of Washington	**WHITE PAPER 1-2022**

Title: Voluntary Use of Multi-Period Response Spectra for Determination of Seismic Hazard	**Issue Date:** November 24, 2022
Abstract: This white paper provides guidance for structural engineers in Washington State using the Multi-Period Response Spectrum (MPRS) method as allowed by Washington State Building Code Council Emergency Rule-Making Order WSR 22-11-010, and presents design examples for how the code amendment is intended to be used.	**Task Group Members:** Carson Baker, PE Michael B.W Chamberlain, PE Susan Chang, Ph.D, PE Kai Ki Mow, PE, SE Scott Neuman, PE, SE Hamilton Puangnak, PE

CALIFORNIA DEPARTMENT OF WATER RESOURCES

Embracing Change-

Collaborative Delivery Program

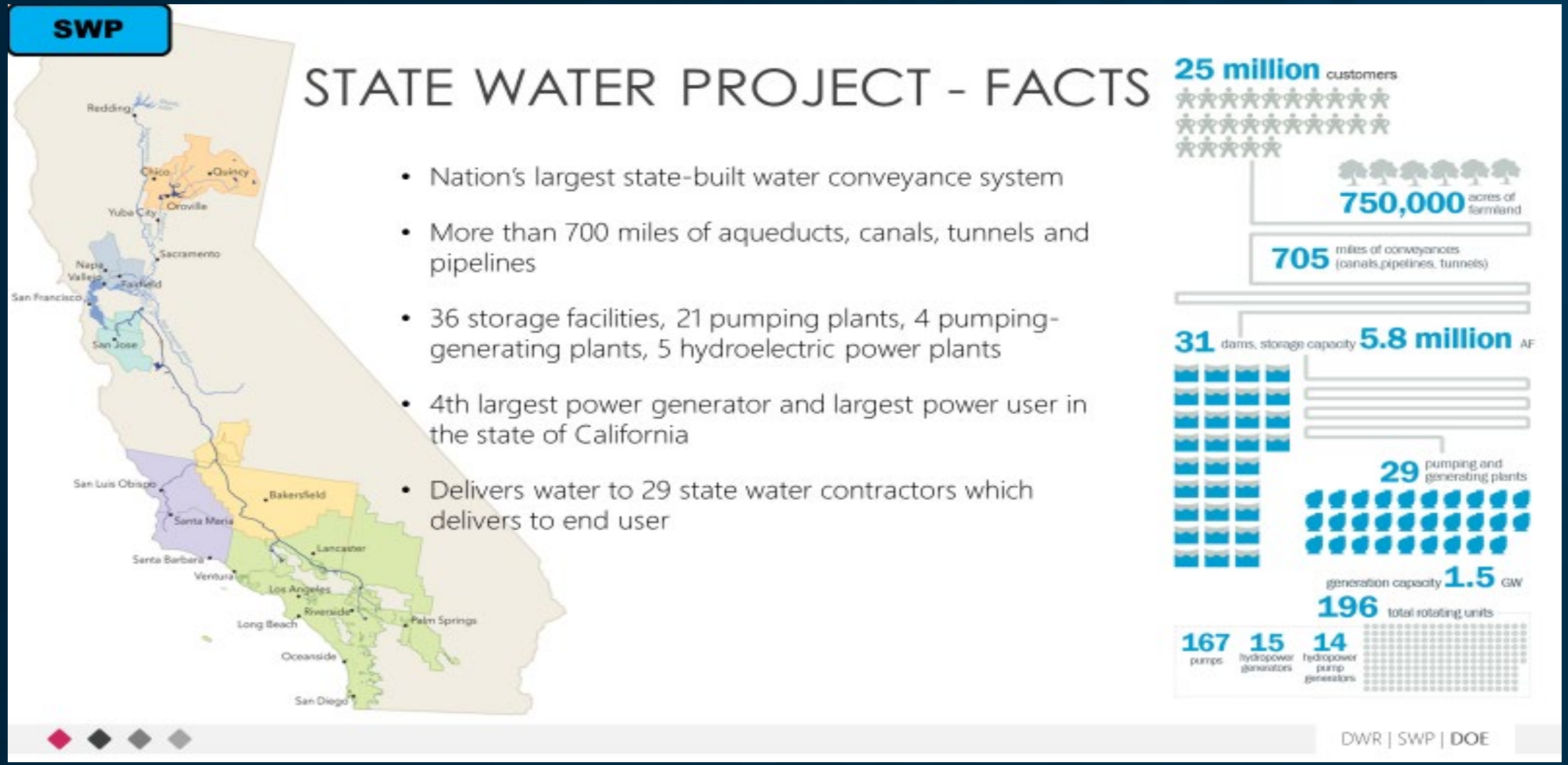


Jeanne M. Kuttel, P.E.
Assistant Division Manager
Division of Engineering

Deep Foundations Institute Annual Conference
November 1, 2023
Seattle, WA

CA Department of Water Resources

Who are we? What do we do?



2022 Legislative Authorization

California Public Contract Code (PCC) Sections

- Fixed Price Design-Build (FPDB) –Section 10200 - 10214
- Construction Manager/General Contractor (CM/GC)– Commencing with Section 10112

Authorization Key Points

- Authorizes DWR to deliver 7 Projects with each delivery method over the 10 years from 2022-2032.
- Limits Projects to those necessary for the construction, maintenance, or operation of elements of State Water Facilities (State Water Project) over $1 million.
- Preserves existing authorization for FPDB for the entire Salton Sea Program.
- For FPDB, price *must* be considered.

2023 Legislative Authorization

California Public Contract Code (PCC) Sections

- Progressive Design Build – Commencing with Section 10215-10215.8

Authorization Key Points

- Authorizes DWR to deliver 8 Projects with preconstruction services required to start before 12/31/2033.
- Excluded are the Through-Delta facilities and seawater desalination projects.
- Projects must be estimated at $25 million or more.
- Price *may* be considered.

Challenges

- Develop a Project Delivery Selection Method (PDSM)
- Develop new contract processes for all three new methods
- Write new contract documents for three methods
- Dedicated in-house and consultant resources to provide consistency
- Training of staff to understand the new procurement methods
- Culture shift from traditional DBB
- Desire by Executive to execute projects within a year.

Progress to Date

- 1st CM/GC RFQ advertised December 2022 and preconstruction services task awarded May 2023- Chipps Island Restoration
- PDSM's completed to identify potential future projects for FPDB.
- Planning to develop an Owners Advisor A&E contract to support DWR staff.
- Reevaluating PDSM to identify potential PDB projects.

Thank You!

Jeanne M. Kuttel, P.E.
Assistant Manager-Planning, Management & Delivery
Division of Engineering
California Department of Water Resources
Jeanne.Kuttel@water.ca.gov



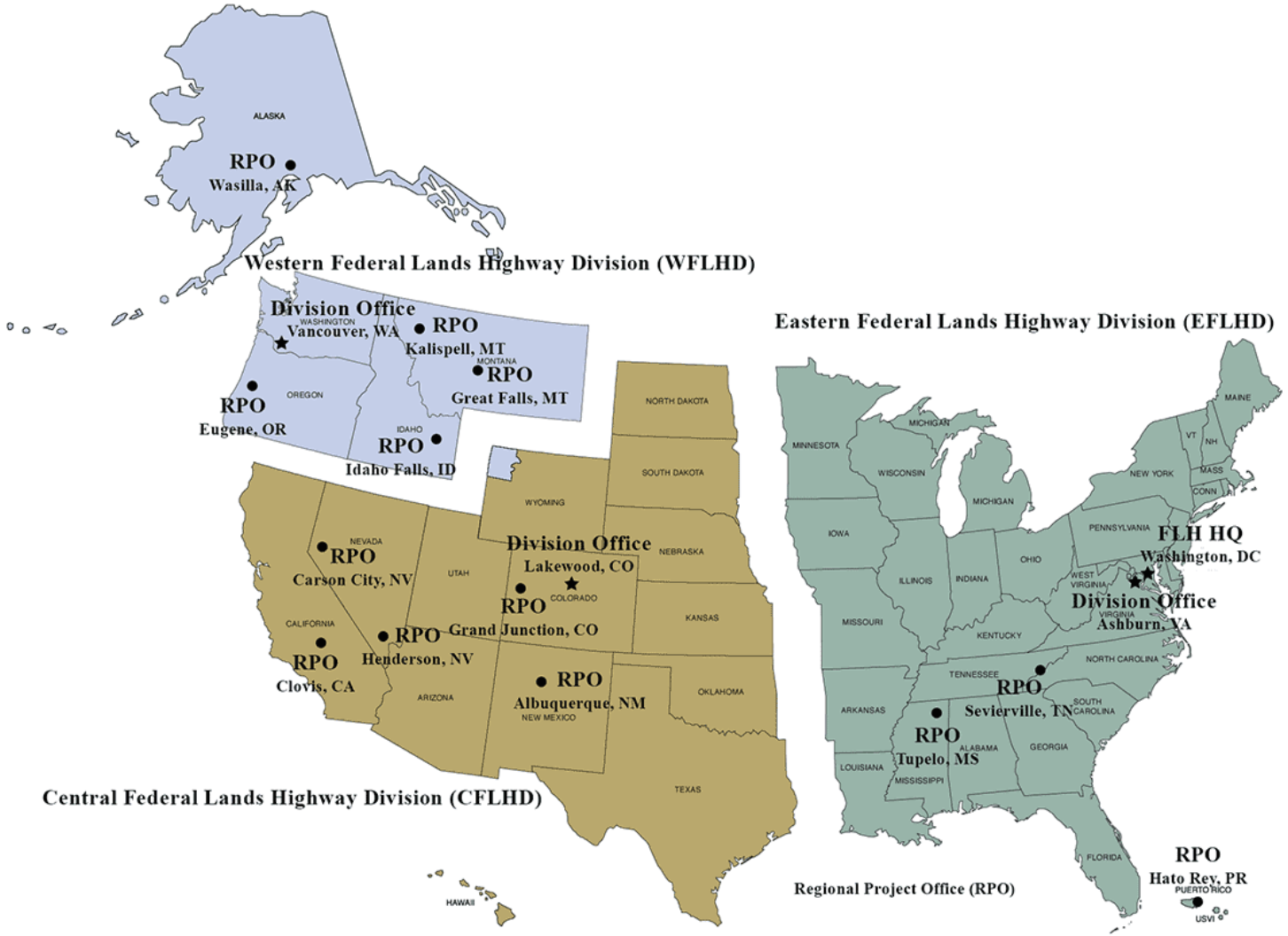
Agency and Owner Panel

Evan Garich, PE
Western Federal Lands Highway Division, FHWA

U.S. Department of Transportation
Federal Highway Administration

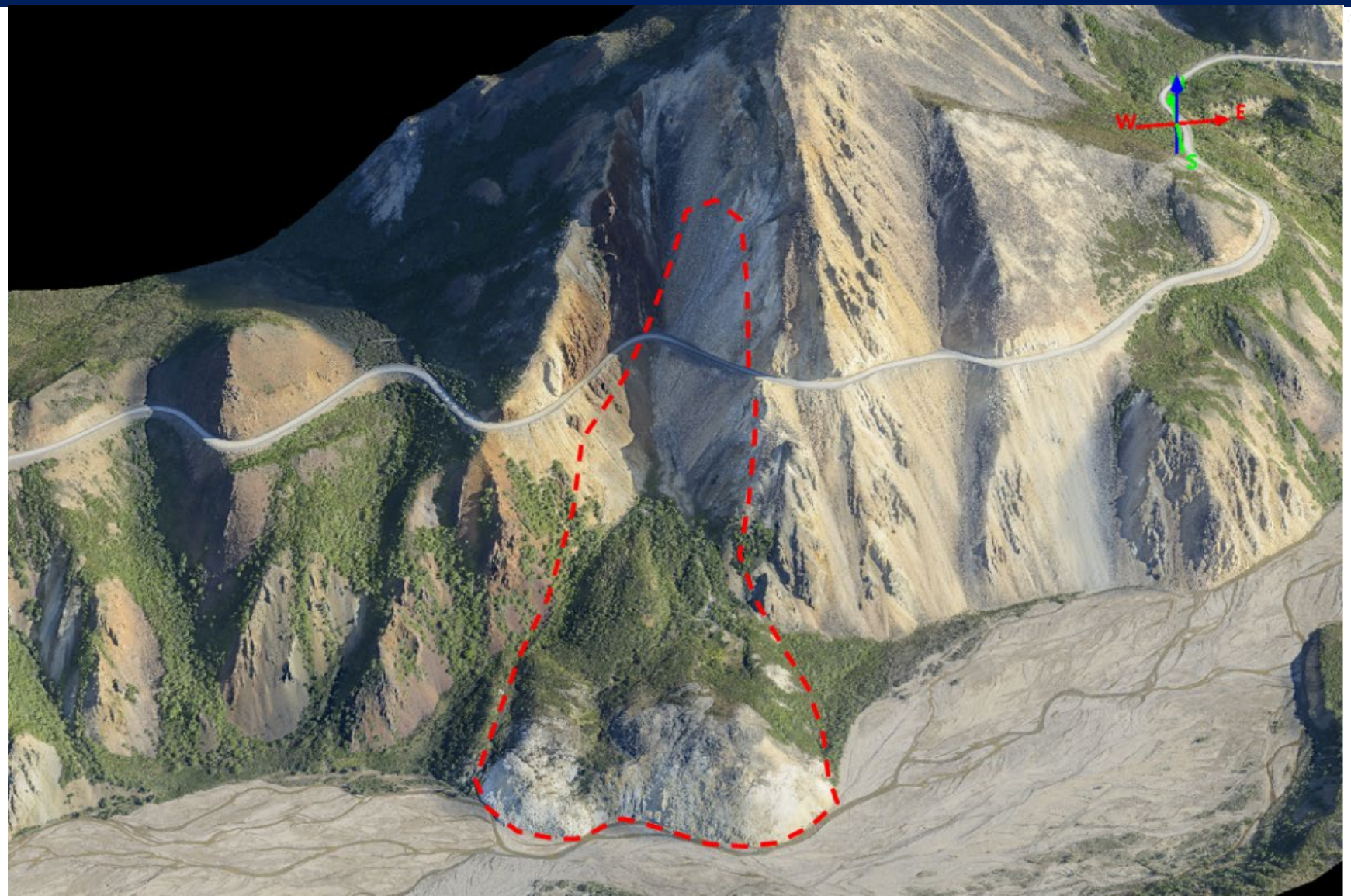
November 1, 2023

Federal Lands Highways

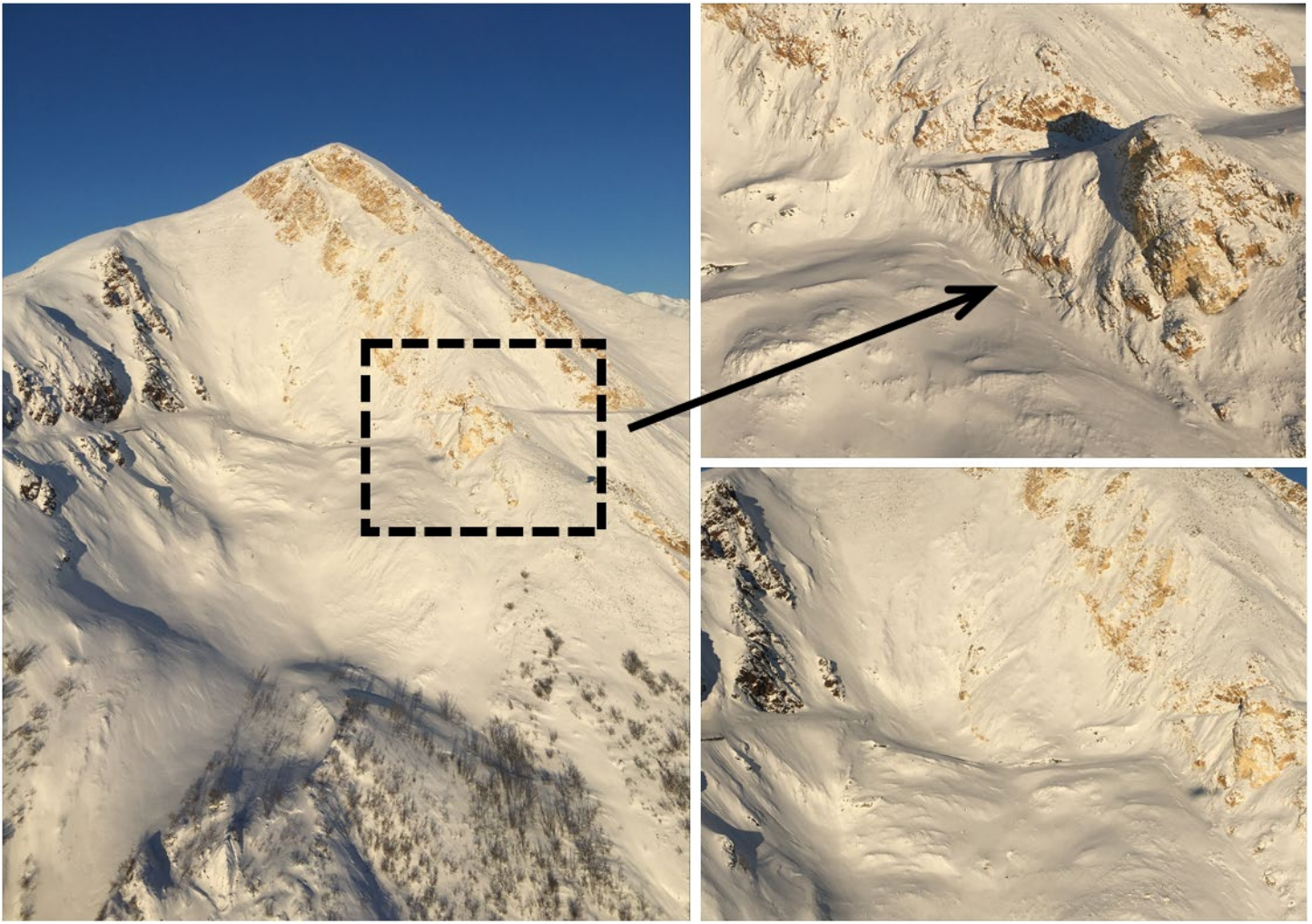


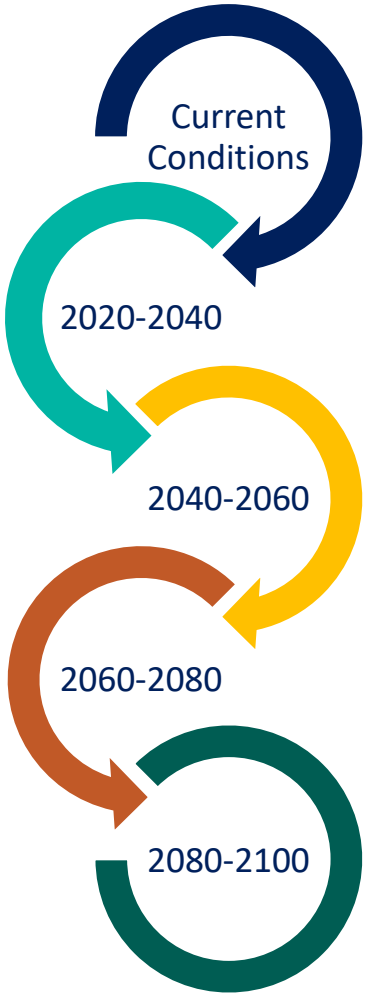
- Our mission is to improve transportation to and within Federal and Tribal Lands by providing technical services to the highway/transportation community.

Pretty Rocks Landslide, Denali National Park, AK



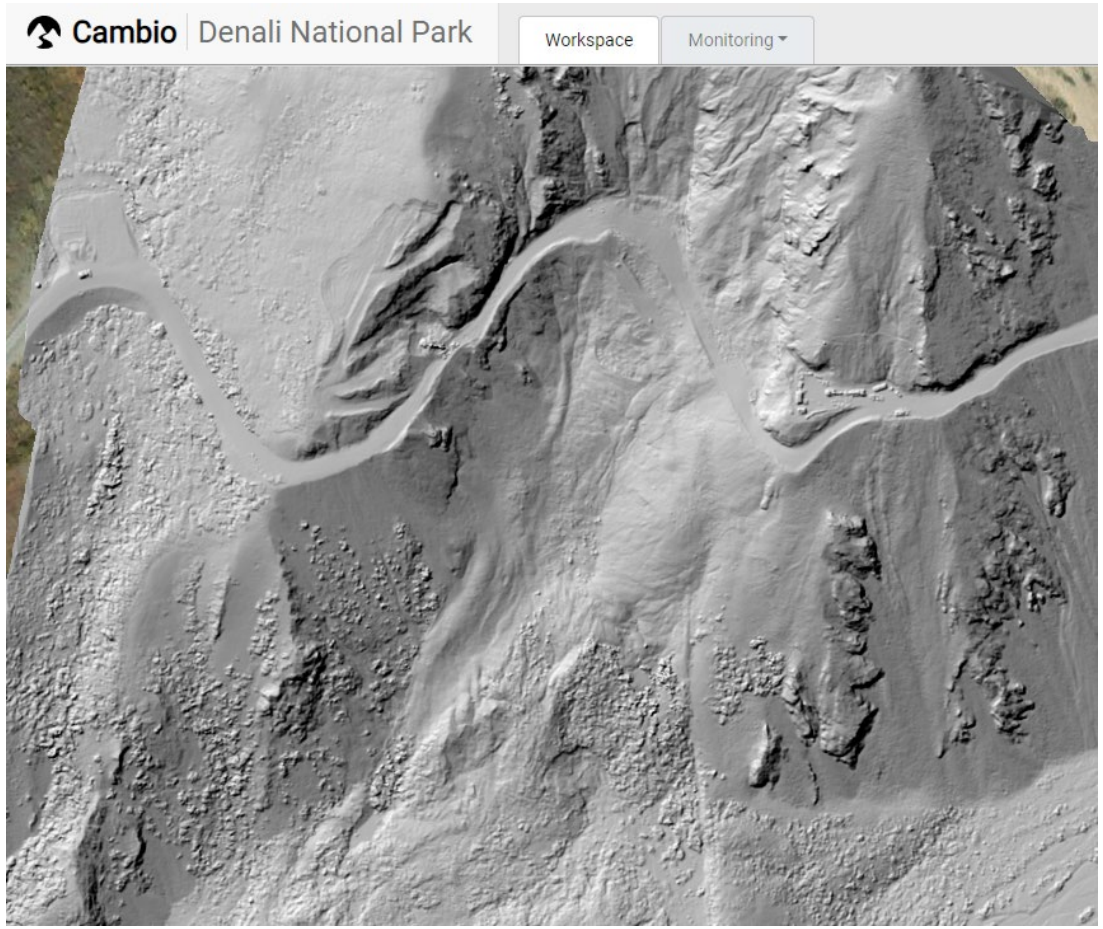
Embracing Change: Design Criteria



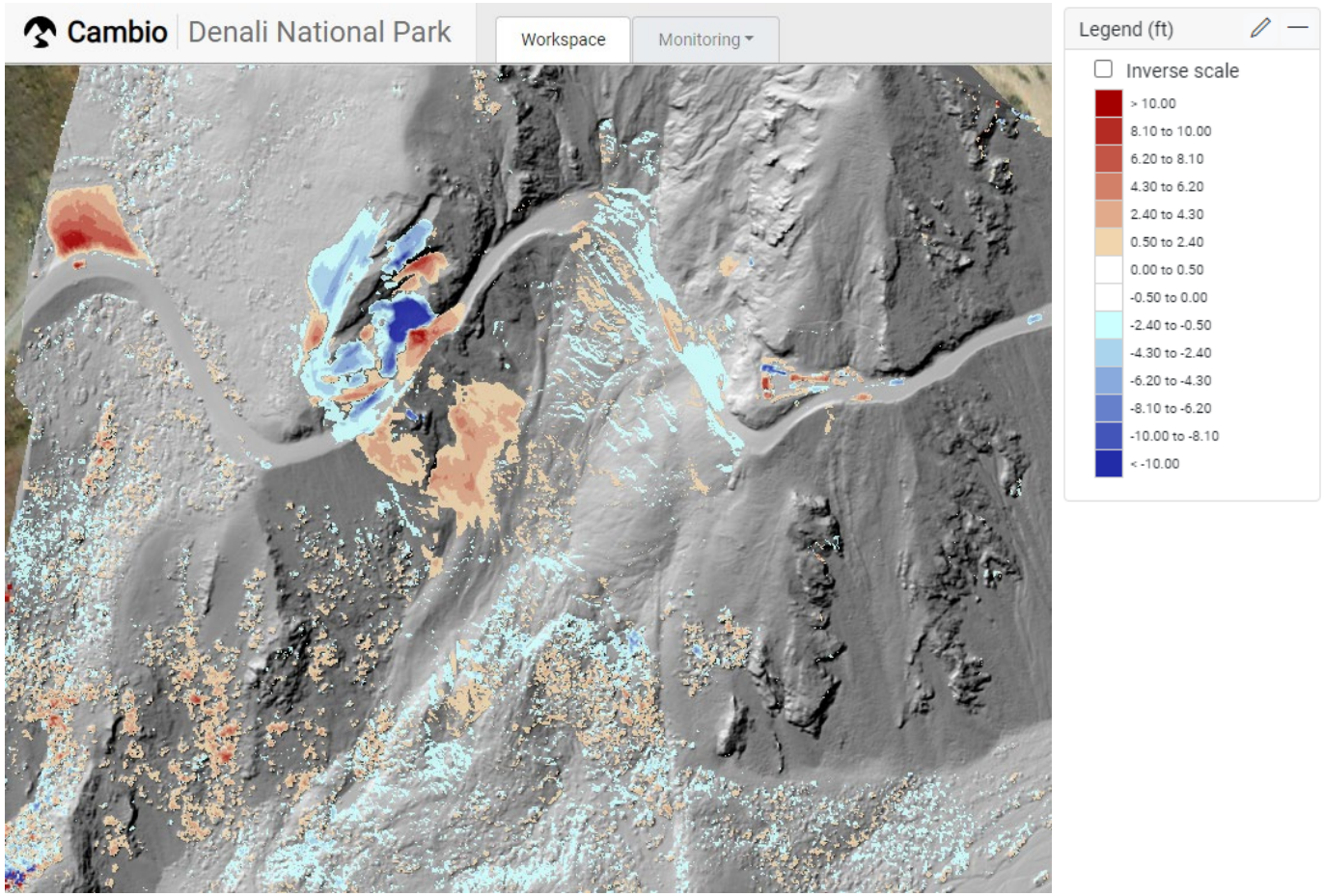


Graphics: BGC Engineering

Embracing Change (Detection)



2023-10-01



2023-10-01 vs. 2023-09-26

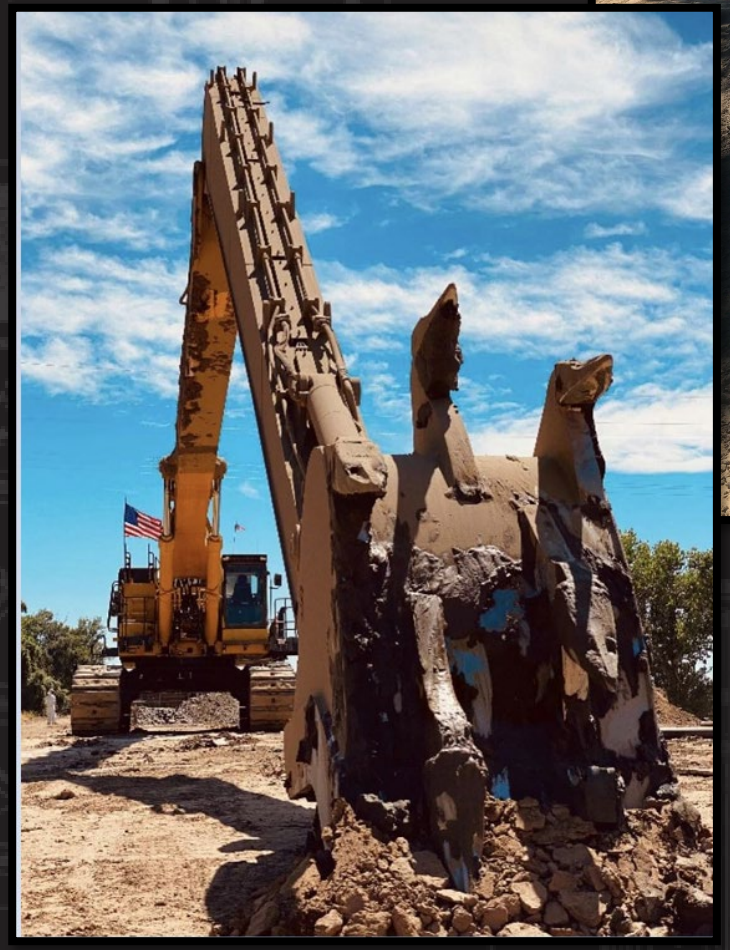
Embracing Change

- Opportunities and challenges
- FHWA will need to collaborate
  - Partners – understand needs
  - Industry – identify opportunities, leverage expertise

EMBRACING CHANGE: PRE-POST AWARD COLLABORATION

Nikole May
Supplemental Program Manager
Folsom Dam Raise Program Manager (Acting)





U.S. ARMY

US Army Corps of Engineers®

SOUTH PACIFIC DIVISION



Program Boundaries

Civil Works

- 2,500 civilians and $10B in civil works, military programs and interagency and international support improving the safety, economy and quality life of the American people.
- 5 Operating Districts
- Oriented around major regional watersheds and leverages federal resources for navigation, flood damage reduction and ecosystem restoration.
- Major river basins include the Sacramento, San Joaquin, Santa Ana, Colorado and Rio Grande, which are governed by complex water rights.
- Water resources are vital to agriculture, urban development, Tribal interests, recreation and natural ecosystems in a region with more than 300 threatened and endangered species.

SPD Strategic Vision Statement: Delivering bold solutions to serve and strengthen all communities

SUPPLEMENTAL PROGRAM

The US Army Corps of Engineers Civil Works Directorate has received supplemental appropriations to the agency's regular appropriations. The supplemental funding is used to help with disaster recovery and investment in America's critical infrastructure.



PRE-AWARD

We don’t know what we don’t know – Partnering is key to success

Industry Day
- Workload Planning
- Identify Constraints/Challenges
- Share Best Practices
- Brainstorm Solutions

Reverse Industry Days
- Help us help you

Value Engineering
- Optimize Cost/Worth
- Maintain Performance/Quality
- Maintain Reliability/Safety

Bidder Inquiries
- Understanding of the Requirement
- Identify Ambiguities/Conflicts
- Identify Risk
- Industry Expertise

POST-AWARD

We don’t know what we don’t know – Partnering is key to success

IAW 52.248-1, *The Contractor is encouraged to develop, prepare, and submit value engineering change proposals (VECPs) voluntarily.*

Contractor's practical experience and purchase options can often generate substantial savings.

- Requirements
- Materials
- Methods
- Efficiencies
- Effectiveness



WHAT HAVE WE LEARNED



Committed to working together with partners to accomplish the mission and build enduring relationships through trust, transparency, and shared values.

- Lt. Gen. Scott Spellmon