

SAN FRANCISCO DISTRICT HIGHLIGHTS

CMANC SPRING MEETING 2022

LTC Kevin Arnett
District Engineer
13 October 2022



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ASA(CW) MICHAEL CONNOR'S PRIORITIES

- Upgrade the Nation's waterways and ports to strengthen supply chains and economic growth
- Build innovative, climate-resilient infrastructure to protect communities and ecosystems
- Modernize civil works programs to better serve the needs of disadvantaged communities
- Invest in science, research, and development to deliver enduring water-resource solutions
- Strengthen communications and relationships to solve water resource challenges



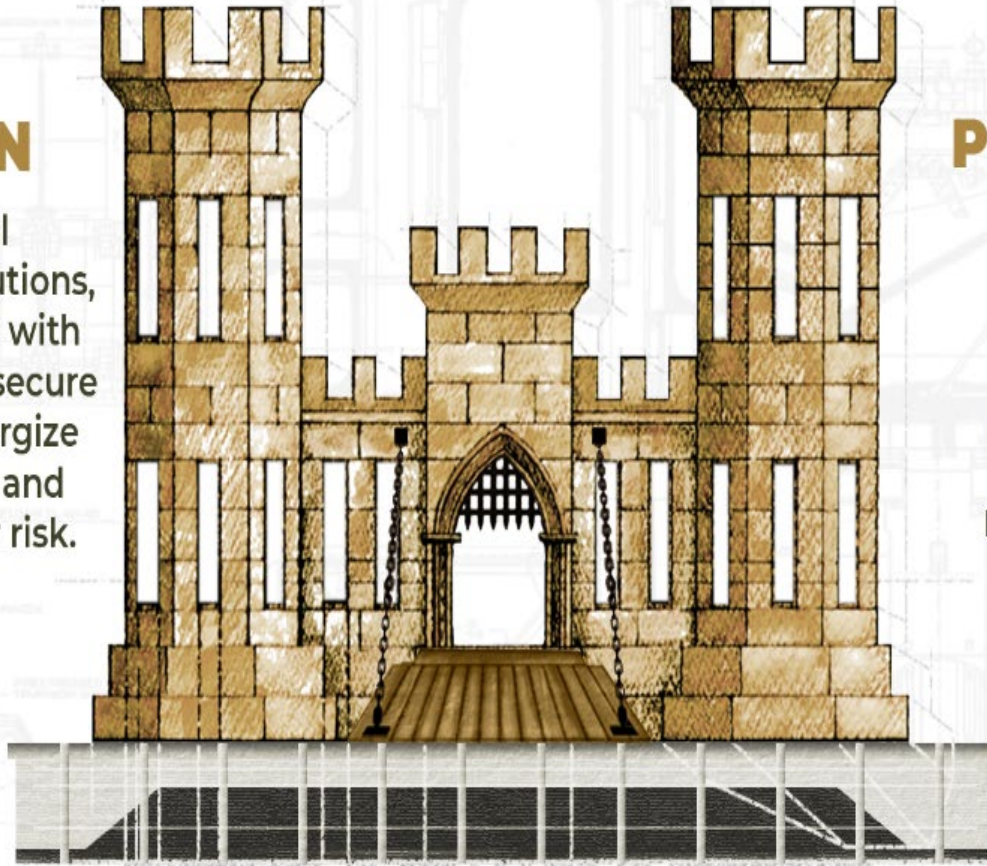
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U.S. ARMY CORPS OF ENGINEERS

MISSION

Deliver vital engineering solutions, in collaboration with our partners, to secure our Nation, energize our economy, and reduce disaster risk.



PRIORITIES

PEOPLE

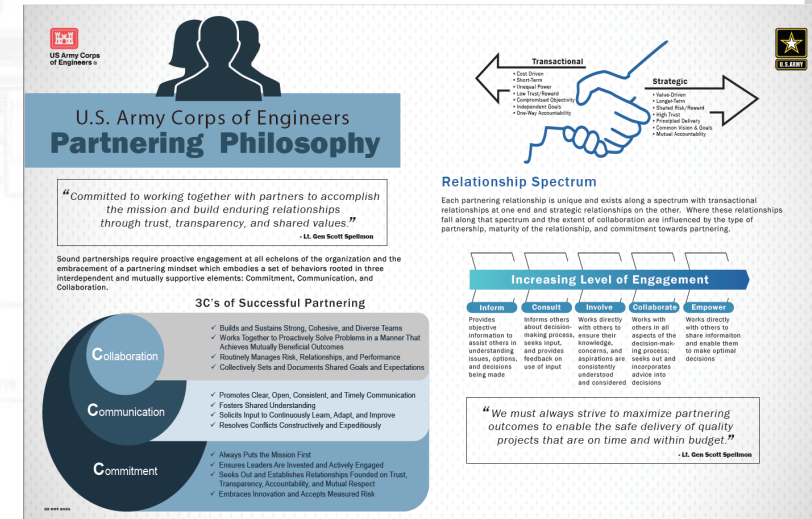
READINESS

PARTNERSHIPS

REVOLUTIONIZE

USACE R&D Strategy: Top 10 Priorities

LAYING THE FOUNDATION FOR A **BOLD NEW** ERA OF R&D



ENGINEERING SOLUTIONS FOR THE NATION'S TOUGHEST CHALLENGES

Finishing quality projects on time and within budget, safely.



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SAN FRANCISCO DISTRICT

Mission

Deliver safe and innovative navigation, flood risk, ecosystem restoration, and government facilities solutions and support for the Nation.

Vision

A trusted, talented, and capable District efficiently, sustainably, and equitably delivering our mission portfolio for the Nation's prosperity.

Values

Loyalty Duty Respect Selfless Service Honor Integrity Personal Courage



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SPN OPERATING ENVIRONMENT



- **Political** – Large and influential delegation (21 Districts)
- **Dredging:** Our navigation projects energize the economy, supporting the SF Bay Area's \$75B+ annual maritime industry
- **Military:** MOTCO – Strategic Military Port
- **Reducing disaster risk** for 6.5 million people and economies of SF Bay Area, Silicon Valley, Sonoma, Napa, and Central Coast – 99% chance of big earthquake in next 30 yrs (per USGS); additional risks of flooding, sea level change, tsunamis, and wildfires
- **Ecosystem:** South San Francisco Bay Shoreline construction project is the largest wetlands restoration project this side of the Mississippi
- **Regulatory:** Annually issue 350 nationwide, 200 Regional General Permits, 18 Standard permits, and 30 Letters of Permission
- **Veterans Affairs:** Large scale construction projects for the VA



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2042 STRATEGIC GOALS



1. Build Trust, Build Talent, and Build Capability

We will attract and develop a diverse, inclusive, and representative workforce with the expertise and ambition to deliver, operate, and permit projects for our partners, stakeholders, and the Nation. We will experiment with new approaches, share what we learn, and problem solve collaboratively.

BUILD TRUST. Leading the region in establishing, nurturing, and sustaining strong internal and external relationships.

BUILD TALENT. Attract, develop, and build a diverse workforce, providing the opportunity for individuals maximize their potential.

BUILD CAPABILITY. Relevant and responsive to current and future mission needs of our customers.

2042 STRATEGIC GOALS



2. Efficiently Deliver a Multi-Benefit Navigation Program that Preserves the Environment

Maintaining and protecting our federal ship channels enables an efficient and environmentally-sustainable sea-transport system for critical commerce. We will deliver that, while protecting species, ecosystems, and maximizing beneficial use of dredged sediments.

3. Deliver Large-Scale, Multi-Jurisdictional, & Multi-Benefit Sea Level Rise Adaptation Projects

Leveraging our federal authority, regulatory mission, and enterprise expertise, we will enable and deliver scientifically-rigorous solutions to build resilience against sea level rise. We will reduce flood risk by partnering with other agencies on projects that often cross municipal, county, and agency jurisdictions.



2042 STRATEGIC GOALS



4. Maximize Engineering with Nature Solutions

We will lead the region in the intentional alignment of natural and engineering processes to deliver and permit projects providing economic, environmental, and social benefits, efficiently and sustainability.

5. Build Community & Infrastructure Resilience to Western Extremes

Western extremes are only exacerbated by climate change. We will meet an increasingly complex risk landscape with urgency and innovation. We will demonstrate how tools like Forecast Informed Reservoir Operations can improve water supply, flood risk management, habitat, and recreation through interagency collaboration and data-informed decision making. We will help the region manage, mitigate, and respond to hazards.



2042 STRATEGIC GOALS



6. Deliver Value & Benefits Equitably

We will take thoughtful and authorized collective actions to remove barriers for, increase participation of, and equitably deliver benefits to historically marginalized and disadvantaged communities throughout our mission areas. We will respectfully meet our Federal Trust Responsibility to Tribes.



7. Support to Our Enduring National Security Requirements.

Consistent with our storied history, our professional, trained, and ready work force will support our Nation and our Army in emergency and security response. We will deliver Veterans Affairs facilities, honoring commitments to former service members.

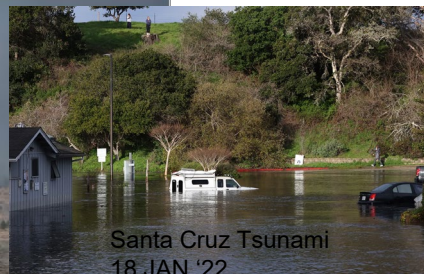
MAKE SIGNIFICANT DIFFERENCES!



Adapt to a changing environment and the impacts of increasingly extreme weather at home and abroad. USACE research will prioritize adaptation strategies that protect DoD missions, communities, and critical infrastructure from relative sea level rise, floods, coastal storms, drought, extreme heat, and other impacts from climate change.

3 Jan '22 King Tide

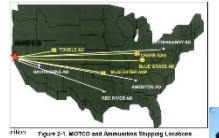
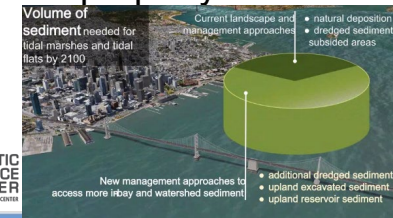
4 Support Resilient Communities



Innovate holistic approaches to aligning Civil Works projects with ecosystem benefits, such as Engineering with Nature®. The Corps will develop methods to *use dredged sediment* and other materials to restore habitat while reducing the risks to life and property from hazards like floods.

6 Ensure Environmental Sustainability and Resilience

SFEI AQUATIC SCIENCE CENTER

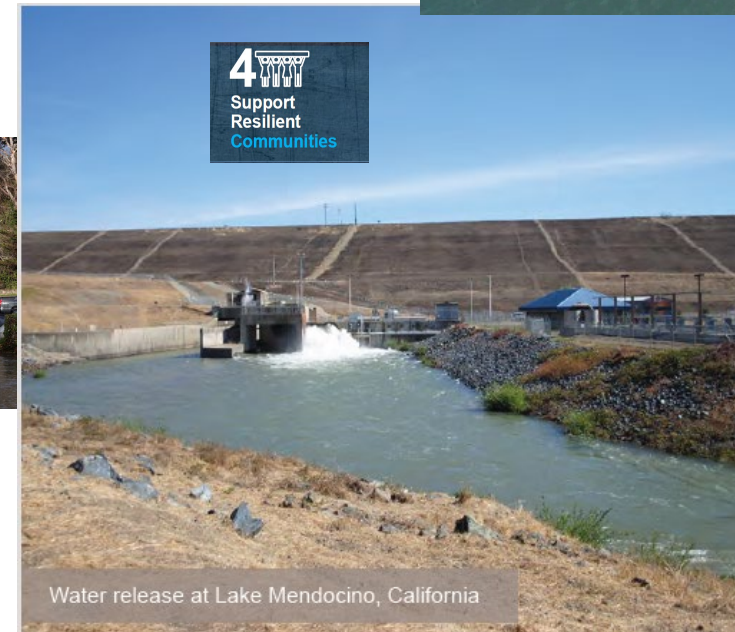


2 Win Future Wars



Innovating Solutions for Water Resource Management

Reservoirs in the United States supply millions of people with drinking water and recreational opportunities every year, while also being managed to reduce flood risk and minimize negative impacts to ecosystems. USACE has recognized a need for new research into holistic water management that does not rely exclusively on infrastructure construction, including developing tools that enable smarter and more nimble infrastructure operations. For example, Forecast Informed Reservoir Operations (FIRO) uses environmental data and advanced weather forecasting to better manage water releases and retention. Understanding reservoir level changes before the first drop of water hits the ground helps to conserve water for communities while protecting citizens from flooding risks.



4 Support Resilient Communities

MULTI-BENEFIT NAVIGATION PROGRAM

→ MISSION

- To provide safe, reliable, efficient, and environmentally sustainable waterborne transportation systems for movement of commerce, national security needs, and recreation.

→ Program Objectives

- Maintain inland waterways and coastal channels, with emphasis on those with a high or moderate level of commercial use; and
- Support investment that would provide a high return to the Nation.

→ SPN Navigation Program

- Averages 14 projects and \$75 million per year
- And our debris mission

Innovate holistic approaches to aligning Civil Works projects with ecosystem benefits, such as **Engineering with Nature®**. The Corps will develop methods to *use dredged sediment* and other materials to restore habitat while reducing the risks to life and property from hazards like floods.



REGIONAL DREDGED MATERIAL MANAGEMENT PLAN

Building from existing knowledge of flux of sediment between shallows and mudflats and marshes

Science Framework and Modeling

- Research Framework by SFEI + Stantec
- Hydrodynamic simulation models by MacWilliams in South Bay and Corte Madera
- ERDC/USACE modeling and pilots
- Barnegat Inlet, New Jersey Back Bays

Field studies

- Marsh Sediment in Translation (MSIT)
 - Studies at China Camp (NERR, USGS)

Bay Sediment RMP

- Studies at Whales tale (sediment transport across mudflats and onto marshes) (Lacy and Thorne, USGS) 2021

Final report for sea-level rise response modeling for San Francisco Bay estuary tidal marshes (USGS)

- 12 sites around Bay

Possible Actions

- Strategic placement
 - 1122 Strategic Shallow Water Placement pilot
 - Regional approach to strategic placement

Monitoring/AM

- 1122 Project specific monitoring
- Regional monitoring (WRMP)

Updates:

- SFEI Regional Analysis & ERDC Sediment transport modeling ready to fund
- JAN '23 Release SoWs & PMPs



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SECTION 1122 OF WRDA 2016 BENEFICIAL USE OF DREDGED MATERIAL PILOT PROGRAM

- Section 1122 of WRDA of 2016 requires USACE to establish a pilot program to carry out 10 projects for the beneficial use of dredged material
- Proposal by State Coastal Conservancy with BCDC requested funds for both direct and strategic placement
- Working group drafted a framework to recommend ways to assess impacts, site suitability, logistics, monitoring (SFEI)
- SF District was funded to do strategic shallow water placement pilot project to test new innovative method



*\$19M more for
Sec 1122 as of 3
OCT*

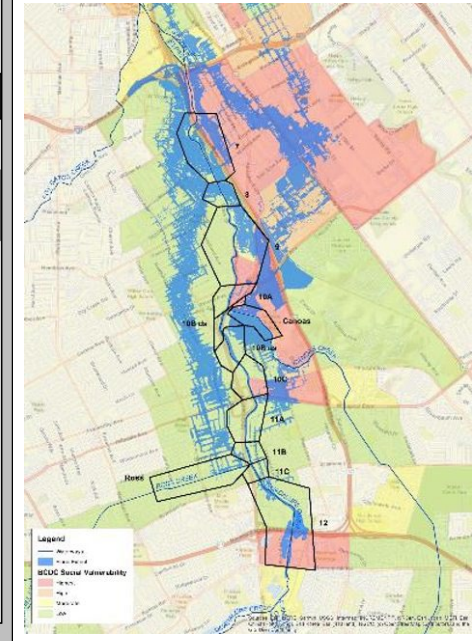
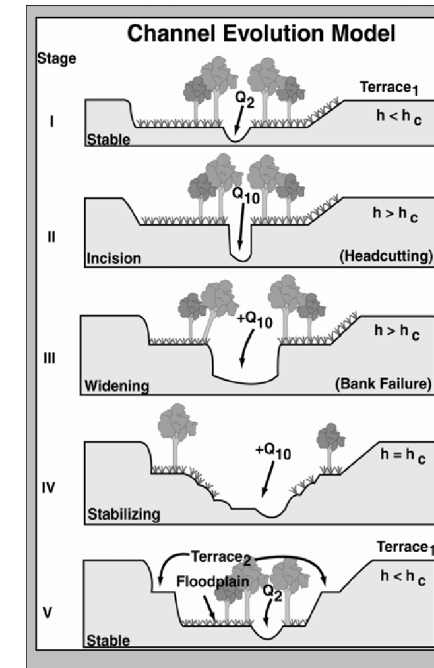
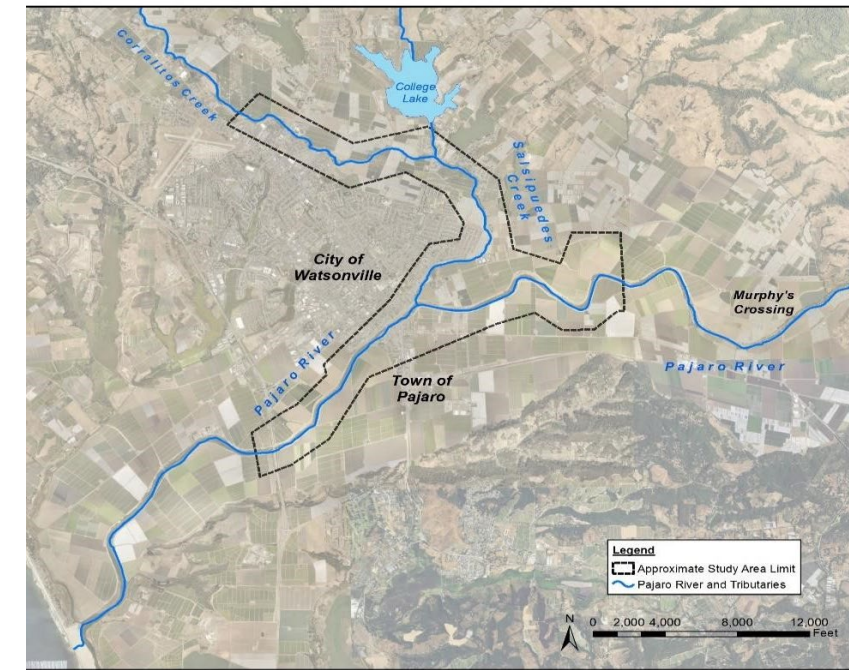


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DELIVER VALUE & BENEFITS EQUITABLY

- 'Bridging the Equity Gap' Webinar series
- Lunch & Learns; Presentations on EJ at CPCX, IWR
- Consistent w/ ASA(CW) March 2022
EJ Implementation Memo & EJ40
- Pajaro FRM
 - 32% living below poverty level (double CA percentage)
 - Median household income 38% lower than national average
 - Many residents agricultural laborers – flooded ag lands would increase poverty
- Upper Guad GRR
 - EWN & EJ

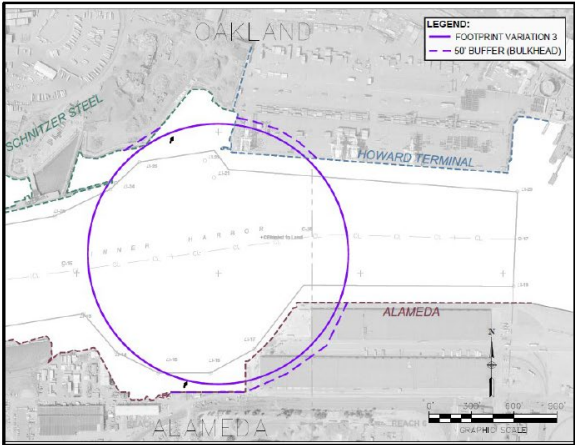


OAKLAND HARBOR TURNING BASINS GENERAL INVESTIGATIONS PLANNING STUDY

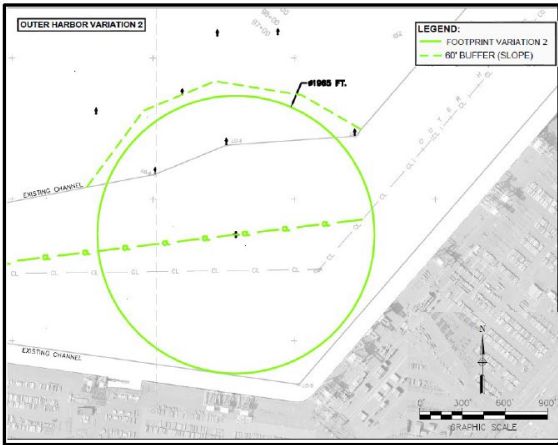
	NED Plan		TSP / CBP
	D-0 – INNER AND OUTER HARBOR	D-1 – INNER AND OUTER HARBOR (WITH BENEFICIAL USE)	D-2 - INNER AND OUTER HARBOR (WITH BENEFICIAL USE & ELECTRIC DREDGES)
OTHER SOCIAL EFFECTS AS COMPARED TO NED		Additional acres of wetland restored	Additional acres of wetland restored Reduced air quality-related health impacts in an already disproportionately impacted West Oakland community

JAN 2021 ASA(CW) Memo directed consideration of comprehensive benefits Updates:

- ASA: Electric dredging = mitigation
- Continue to work closely on communities of concern



Inner Harbor



Outer Harbor

PARTNERING & CLOSING

- The Federal Standard still applies; BU \$ increment partner needed
- Limited placement locations (but 1122 Pilot may help)
- Sea-level rise and changing climate will result in a different environment
- Resource Agency policies make change hard
 - Proposal to list Bay-Delta Longfin Smelt as endangered
 - Sacramento Deep Water Shipping Channel -> Clamshell
- Time to think differently—Water Board Oakland proposal
- RDMMP comment and other ways to gain efficiencies
- Feedback on our long-term vision



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