



September 9, 2021

2021 CLIMATE CHANGE RISK & RESILIENCE FORUMS

April 8	San Mateo, Foster City, Redwood Shores, Belmont, San Carlos
April 29	Redwood City, Menlo Park, East Palo Alto
June 3	Countywide Wildfire Risk and Resilience
September 9	Brisbane, South San Francisco, San Bruno, Millbrae, Burlingame
October 14	San Mateo County Pacific Coastline

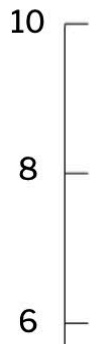
Forums are held on Thursdays, 7:00 PM to 8:30 PM

Climate Change Risk and Resilience Forum: Brisbane through Burlingame

San Mateo County Flood and Sea Level Rise Resiliency District

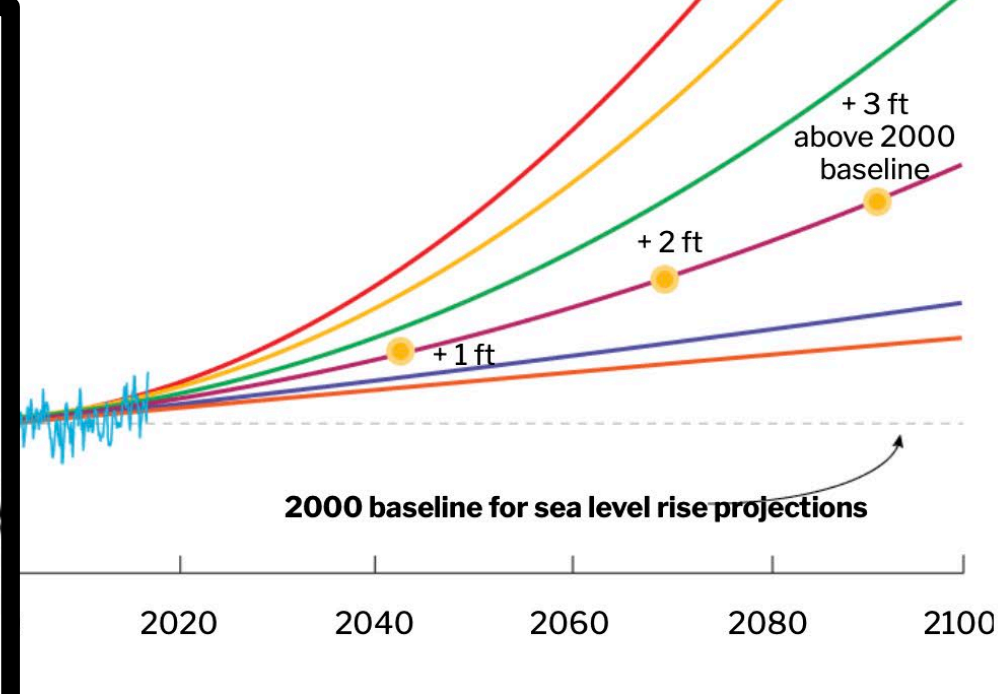
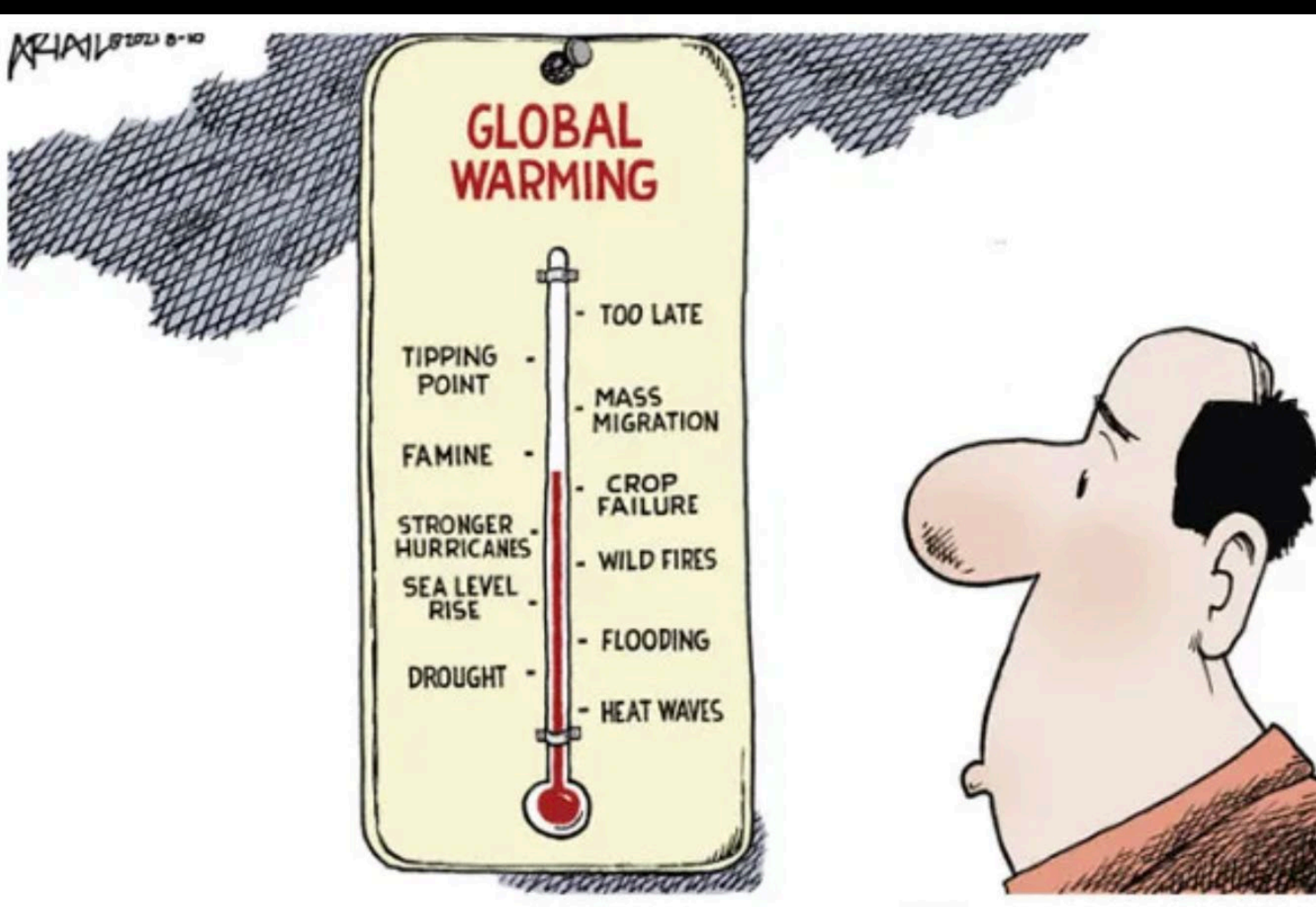
Len Materman, CEO



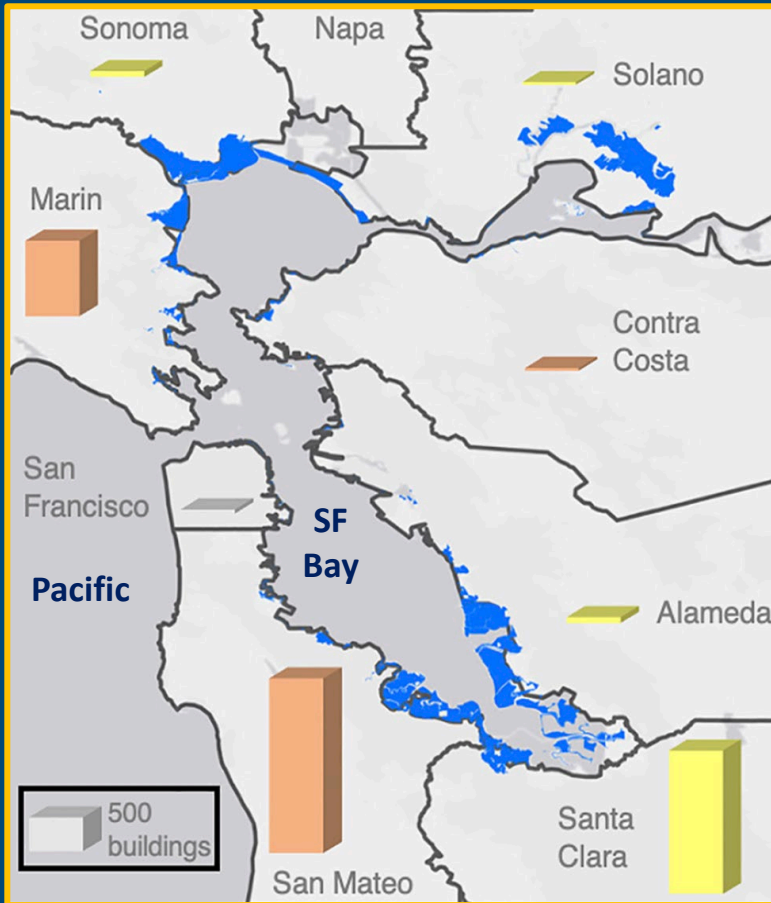


Sea Level Rise in San Francisco Bay: History and Future Scenarios

- extreme (2.5 meters by 2100)
- high (2 m)
- intermediate-high (1.5 m)



San Mateo County: Ground Zero for Sea Level Rise Vulnerability



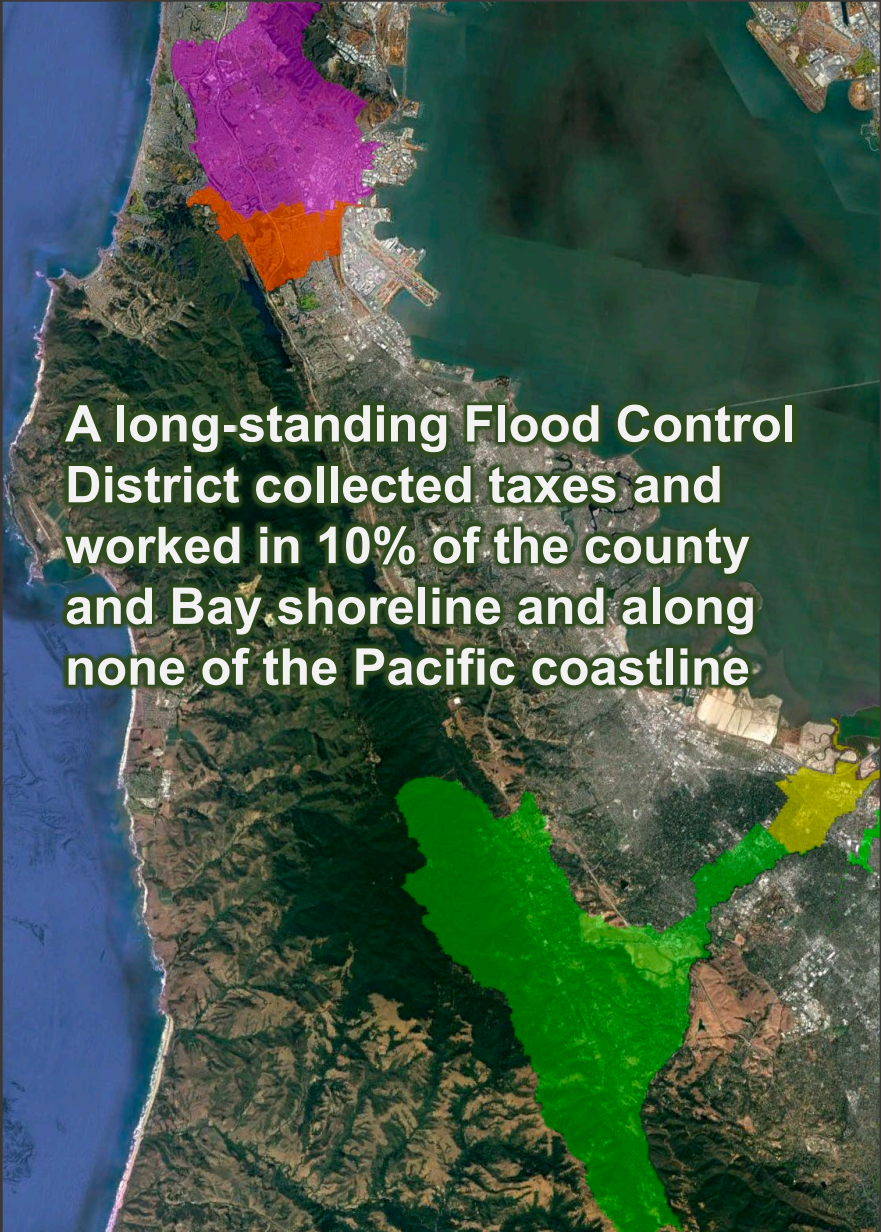
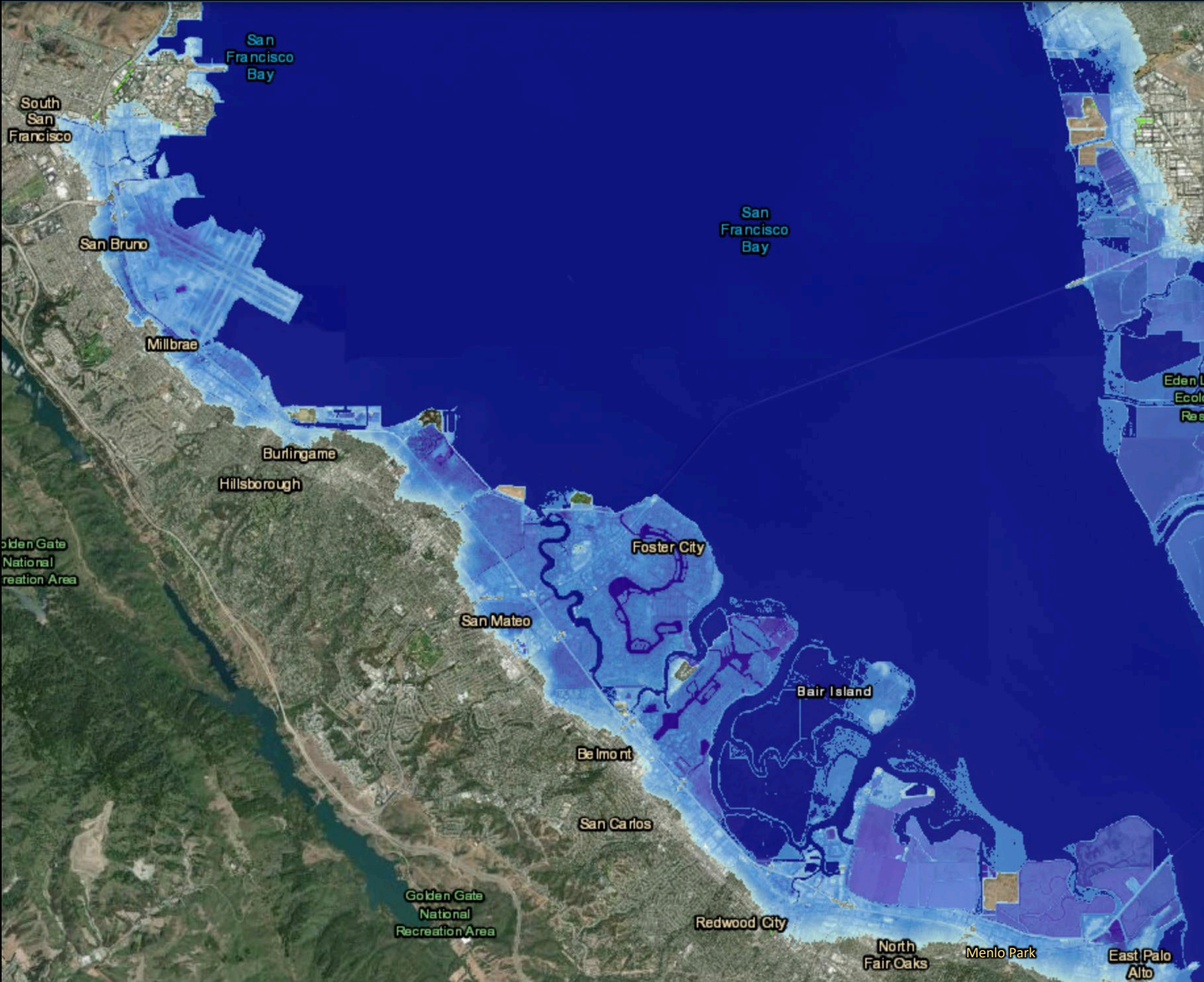
Most vulnerable CA county to 3 feet of sea level rise in terms of:

- population, including underrepresented population
- property value
- number of homes
- number of contaminated sites

One of six counties in U.S. and only one on West Coast with over 100,000 people living in an area impacted by 3 feet of sea level rise.

Key community assets in the county vulnerable to sea level rise: schools, hospitals, beaches, highways, water treatment plants, power plants, wetlands, and major corporations.

A transformative challenge the cities and County were not well-positioned to address

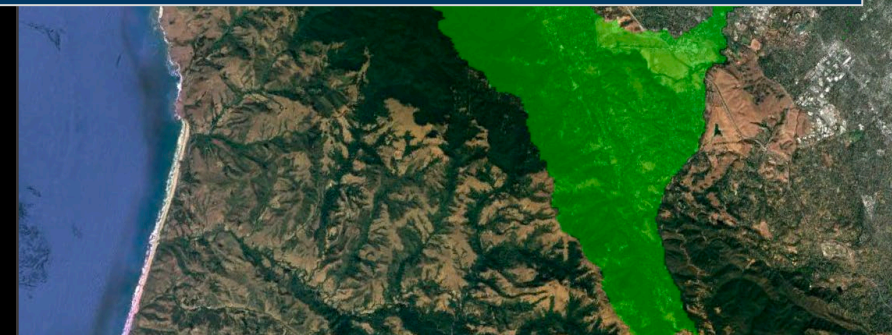
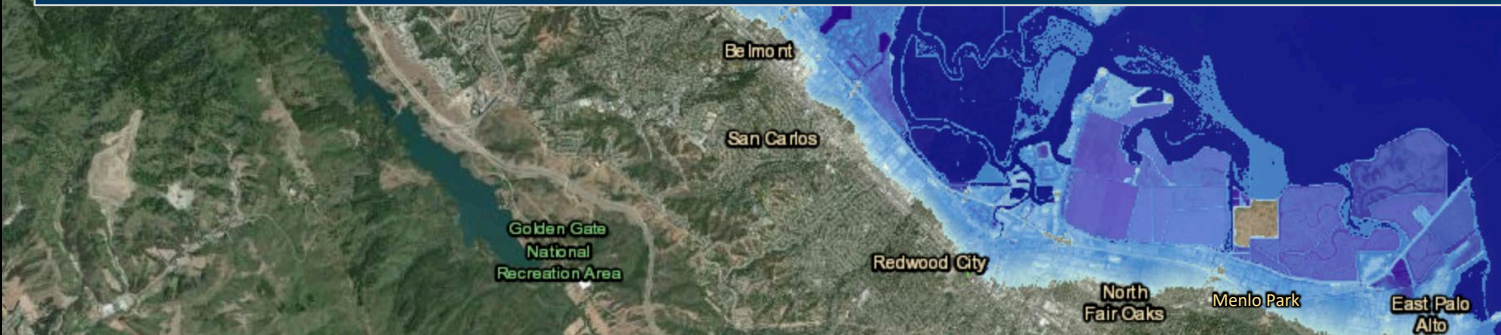


A transformative challenge the cities and County were not well-positioned to address



Resilience to climate change's impacts requires an urgent, holistic approach to:

- **THREATS** – more extreme storms and substantial sea level rise
- **GEOGRAPHY** – align and connect protection for neighboring jurisdictions
- **OBJECTIVES** – reduce threats; turn waterways & shorelines from liabilities into assets integrated into communities; utilize green infrastructure and public and private lands



Established January 1, 2020, our FY2021-22 priorities include:

- **Complete our first construction project – a long-planned effort to protect five mobile home parks from frequent flooding from the Bayfront Canal**
- **Advance new multi-jurisdictional projects that connect and align substantial protection for neighboring jurisdictions, and projects in 3 long-standing flood zones**
- **Work with cities and developers so that private property and public infrastructure is protected against sea level rise and more extreme storms**
- **Develop a source of long-term, stable funding for climate resilience work, and effectively manage District finances**

2021-22 Projects with OneShoreline as a
Lead / Partner / Potential Partner
connecting to a **Project by Others**

Beach Blvd.
Seawall, Pacifica

Colma Creek
Navigable Slough
San Bruno Creek

SamTrans facility
and SSF shoreline

SFO

US
101

Burlingame
& Millbrae

Countywide
Flood Early Warning System

Foster City

Redwood Shores

Pillar Point Harbor
Princeton Shoreline
Mavericks & Surfers Beaches

Belmont Creek
in Twin Pines Park

US
101

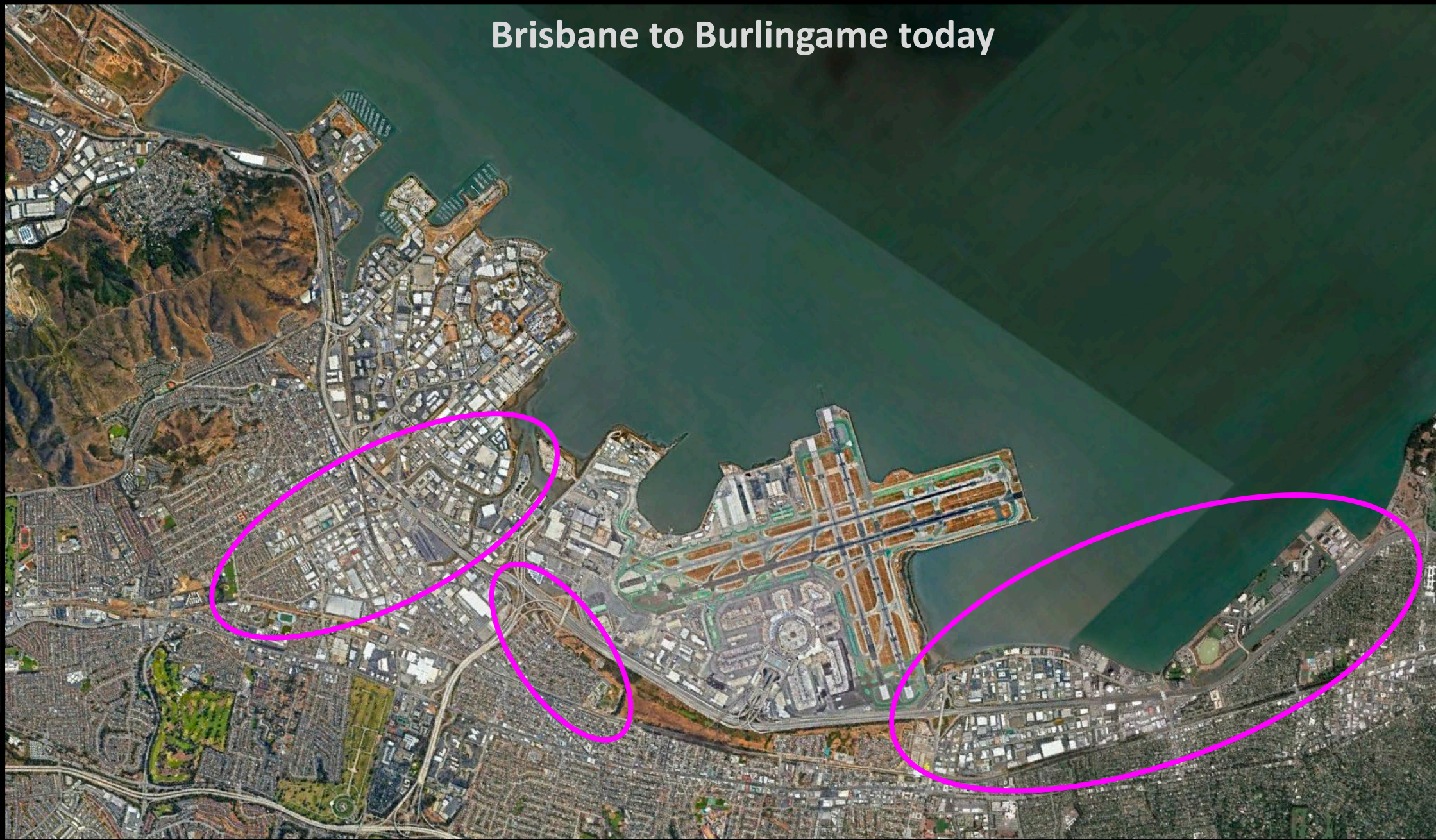
Cargill

Bayfront Canal &
Atherton Channel

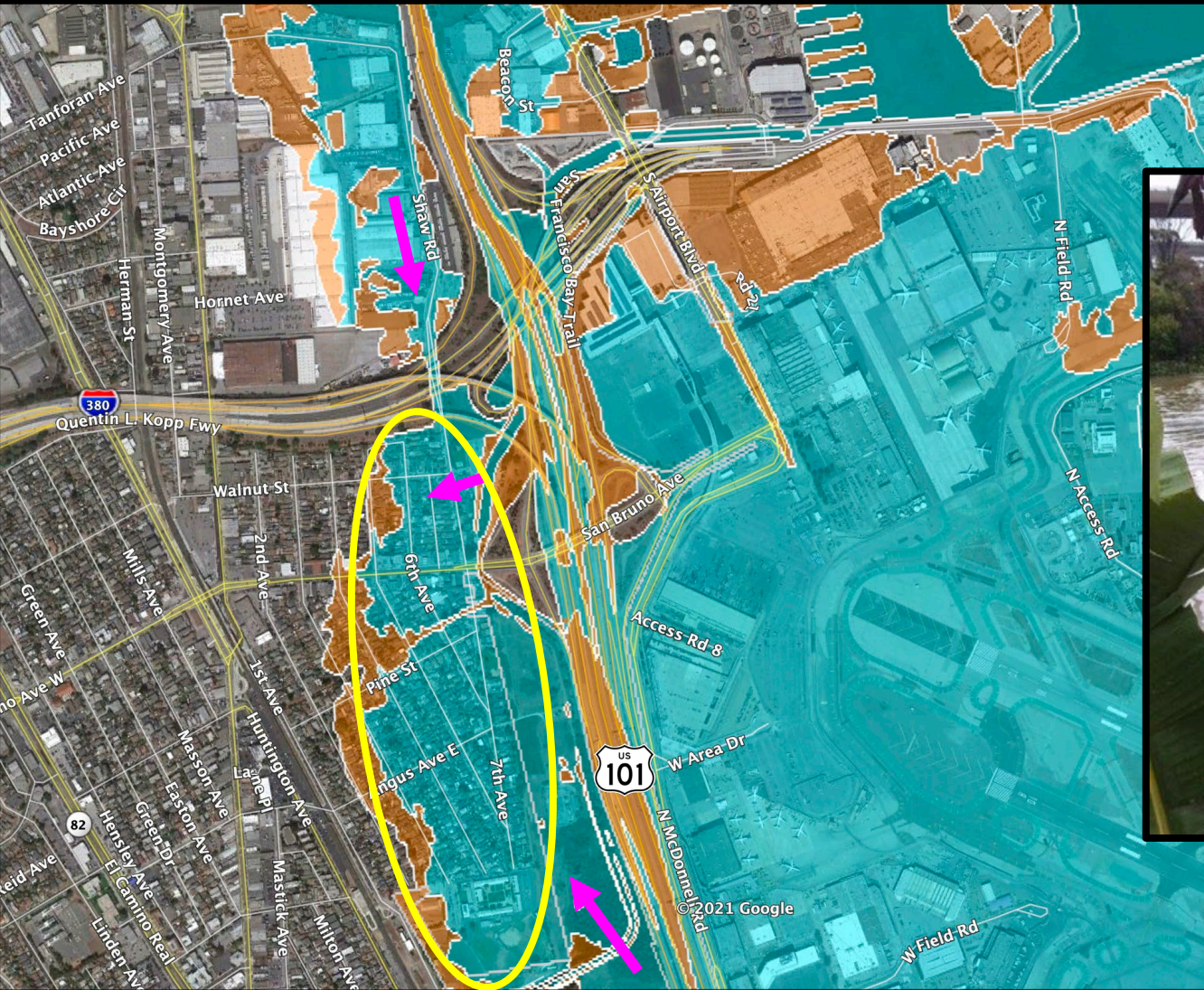
Brisbane to Burlingame 80 years ago



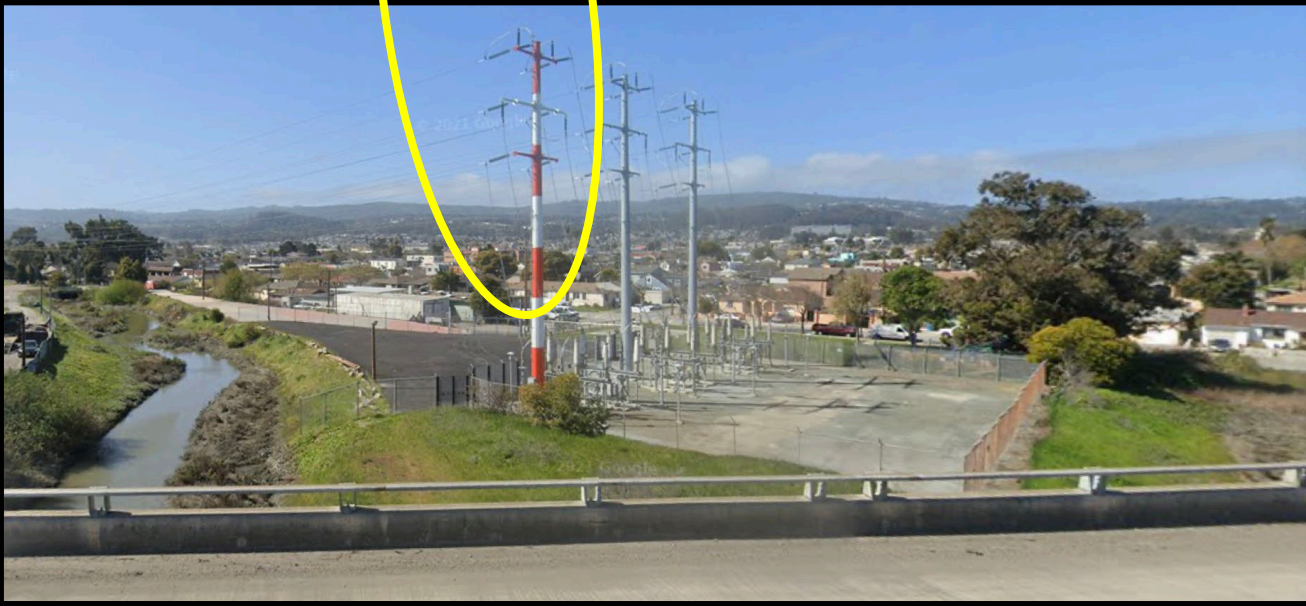
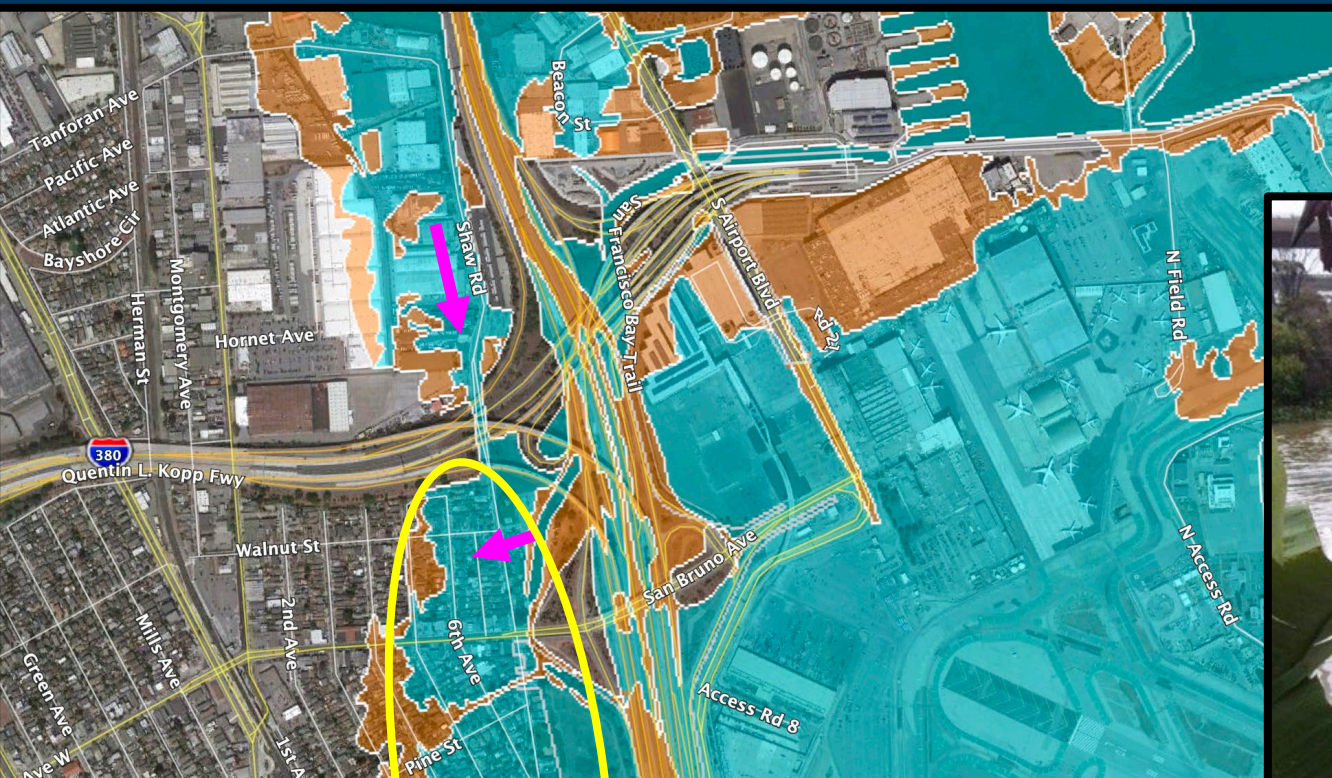
Brisbane to Burlingame today

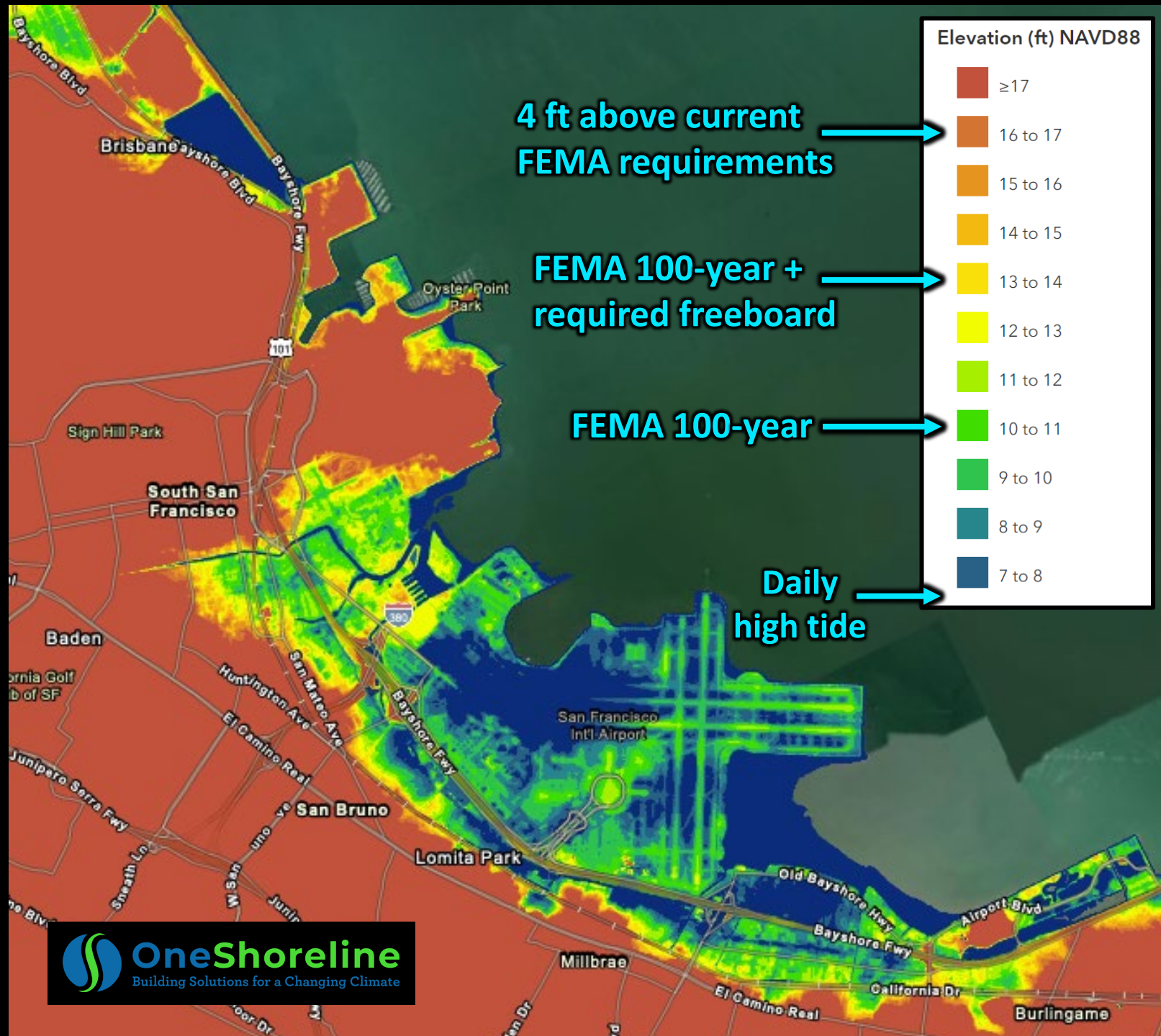


San Bruno's Belle Air Neighborhood



San Bruno's Belle Air Neighborhood





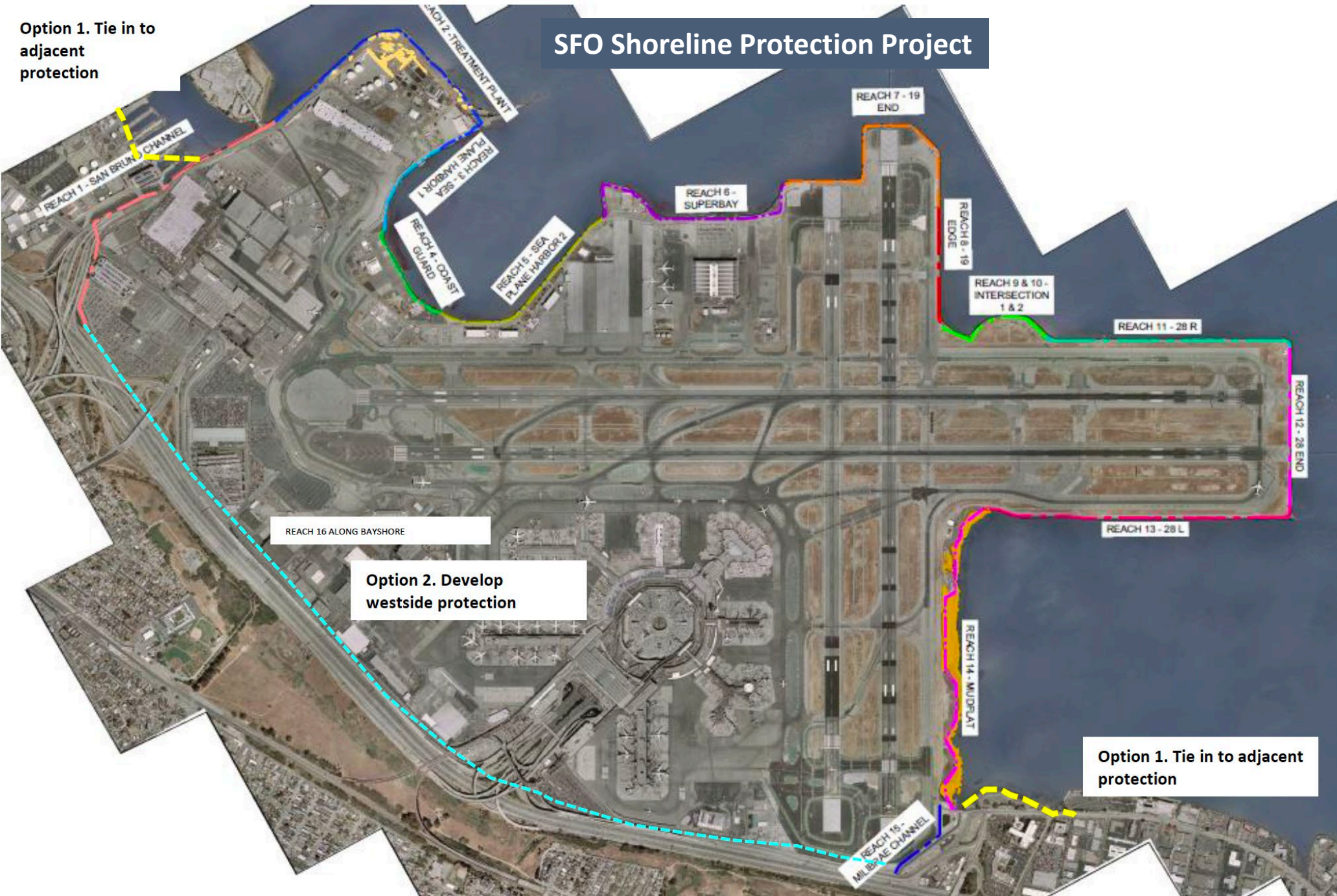
To remove properties from current and future risks, and avoid the more challenging and costly process to retrofit protection later, our vision is:

- New public/private infrastructure and buildings at yellow elevation.
- New waterfront development includes robust shoreline protection at dark orange as part of regional efforts.
- Marshes are restored to maximize their environmental and flood protection benefits.
- Trails are incorporated into shoreline protection and to allow access to the shoreline.

The path to resilience will be easier and less costly if we embark upon it today.

SFO Shoreline Protection Project

Option 1. Tie in to adjacent protection



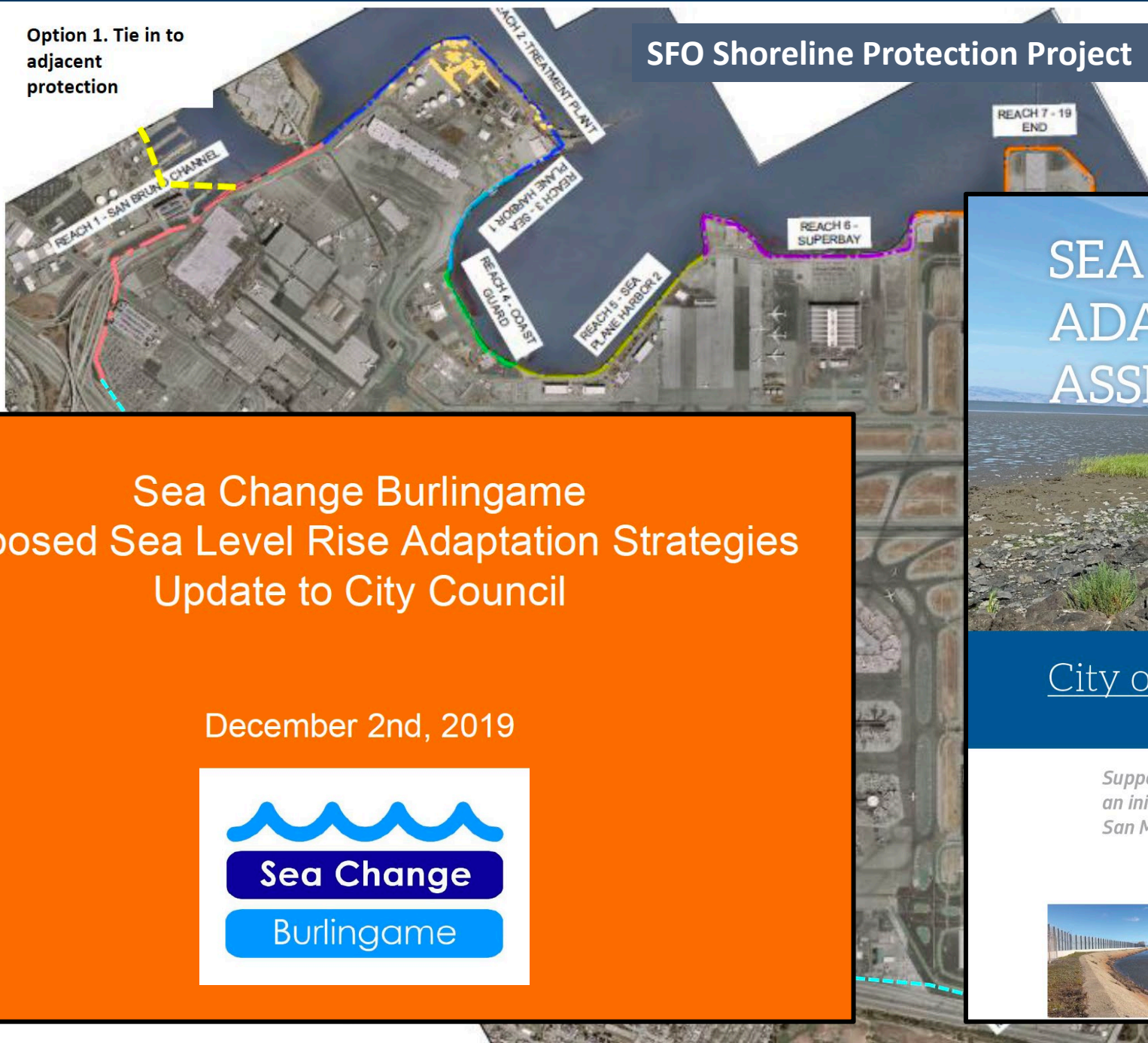
REACH 16 ALONG BAYSHORE

Option 2. Develop westside protection

Option 1. Tie in to adjacent protection

Option 1. Tie in to adjacent protection

SFO Shoreline Protection Project



Sea Change Burlingame Proposed Sea Level Rise Adaptation Strategies Update to City Council

December 2nd, 2019



SEA LEVEL RISE ADAPTATION ASSESSMENT



City of Millbrae, CA

*Supported by Climate Ready SMC,
an initiative of the County of
San Mateo Office of Sustainability*





The Project

Partners would:

- establish common objectives and assumptions
- share technical information
- share environmental mitigations
- share costs
- utilize public and private land rights to meet objectives

Objectives and standards related to climate change and new development

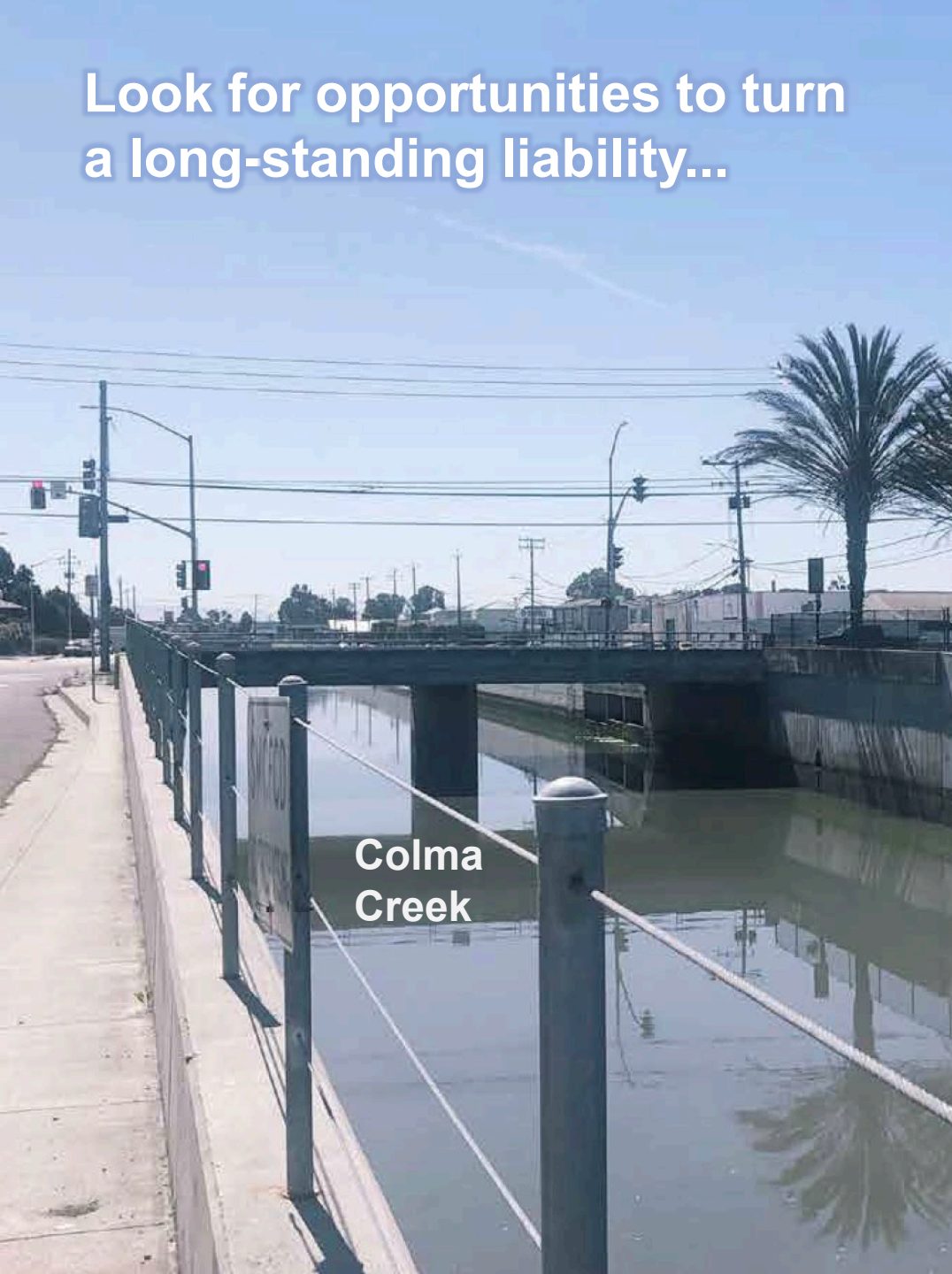
- Cities evaluate development proposals to ensure compliance with various requirements. If the location of a proposed development is in the FEMA 100-year flood zone, most cities require that a first floor and some infrastructure are above the flood elevation.**
- Not yet considered are conditions brought by climate change, which is a lost opportunity:
 - 1) to incorporate protection into the early planning of a new development, and**
 - 2) for the private sector to share in the cost of protecting that property, related infrastructure, and the neighborhood.****
- In addition, city updates to a General Plan or Specific Plan present opportunities to incorporate climate considerations into the vision of a city's future.**
- OneShoreline has engaged South San Francisco, Burlingame, and Redwood City so far.**

OneShoreline is working with cities to look for opportunities for development to take into account future conditions

- General Plan & Specific Plan Updates
- Zoning Ordinances
- Development Projects



Look for opportunities to turn
a long-standing liability...



Colma
Creek

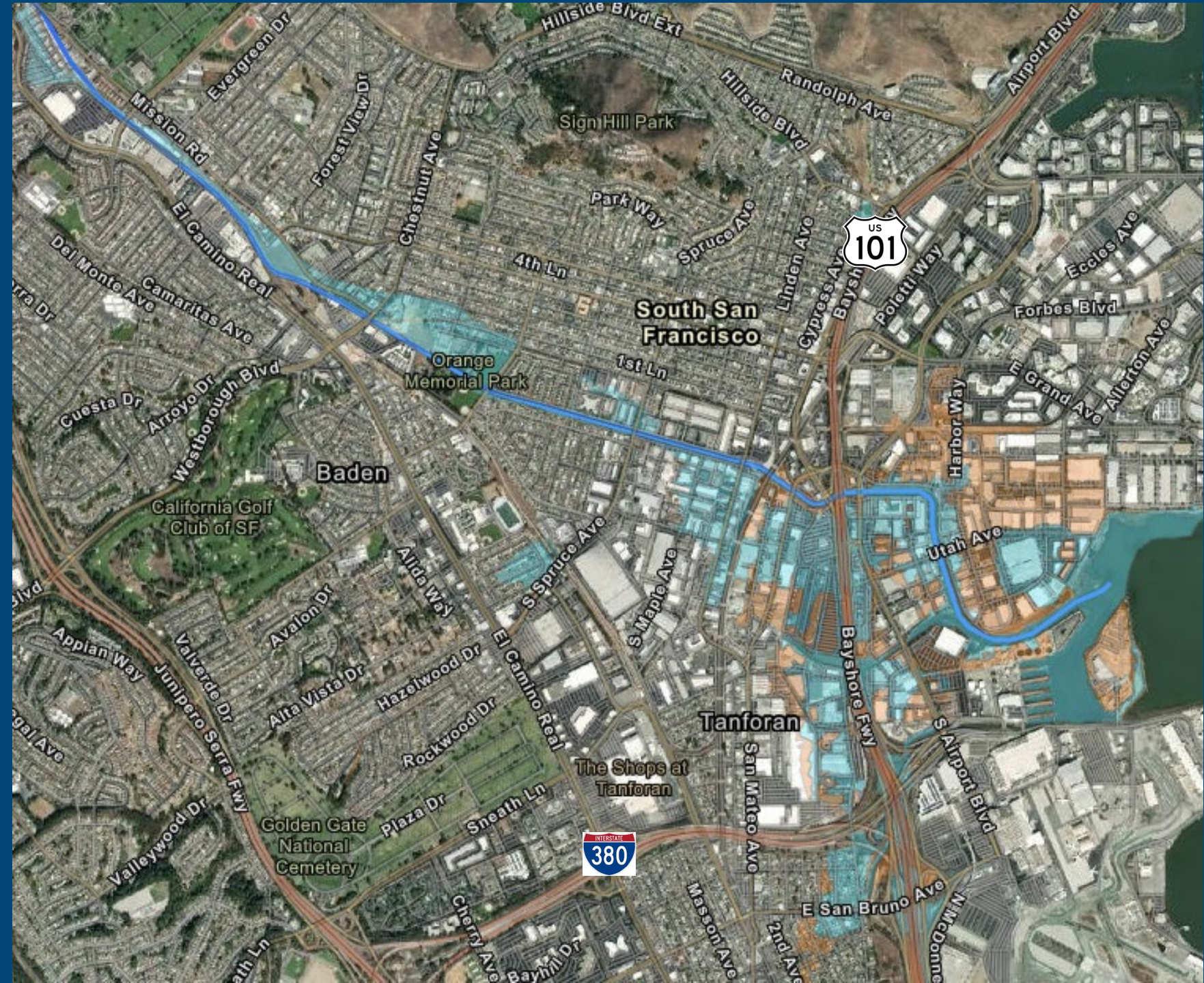
...into a community asset.



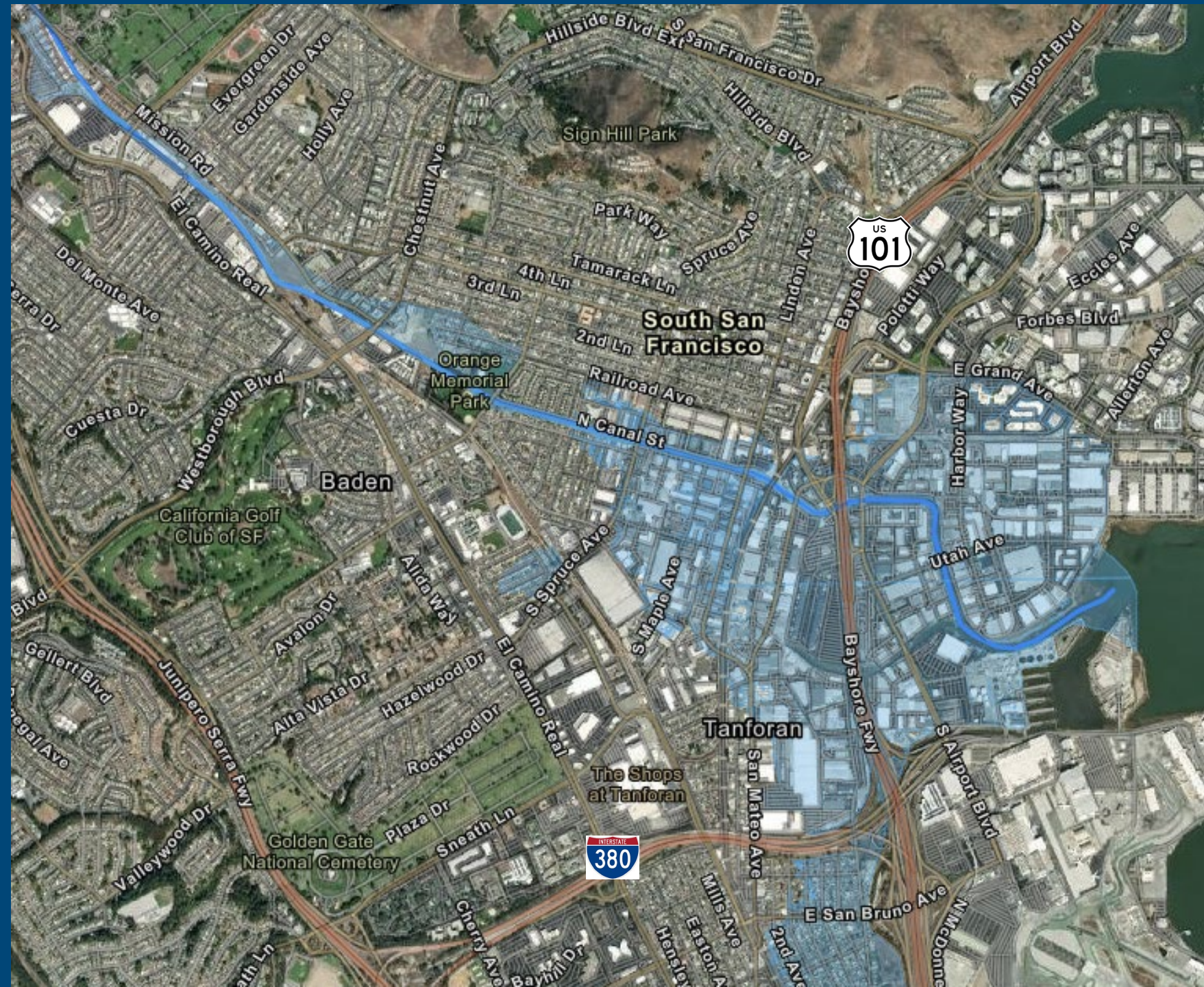
OneShoreline has developed a Future Conditions Dashboard to help city staff, homeowners, developers, etc. visualize and plan for site-specific water depths due to flooding and sea level rise.



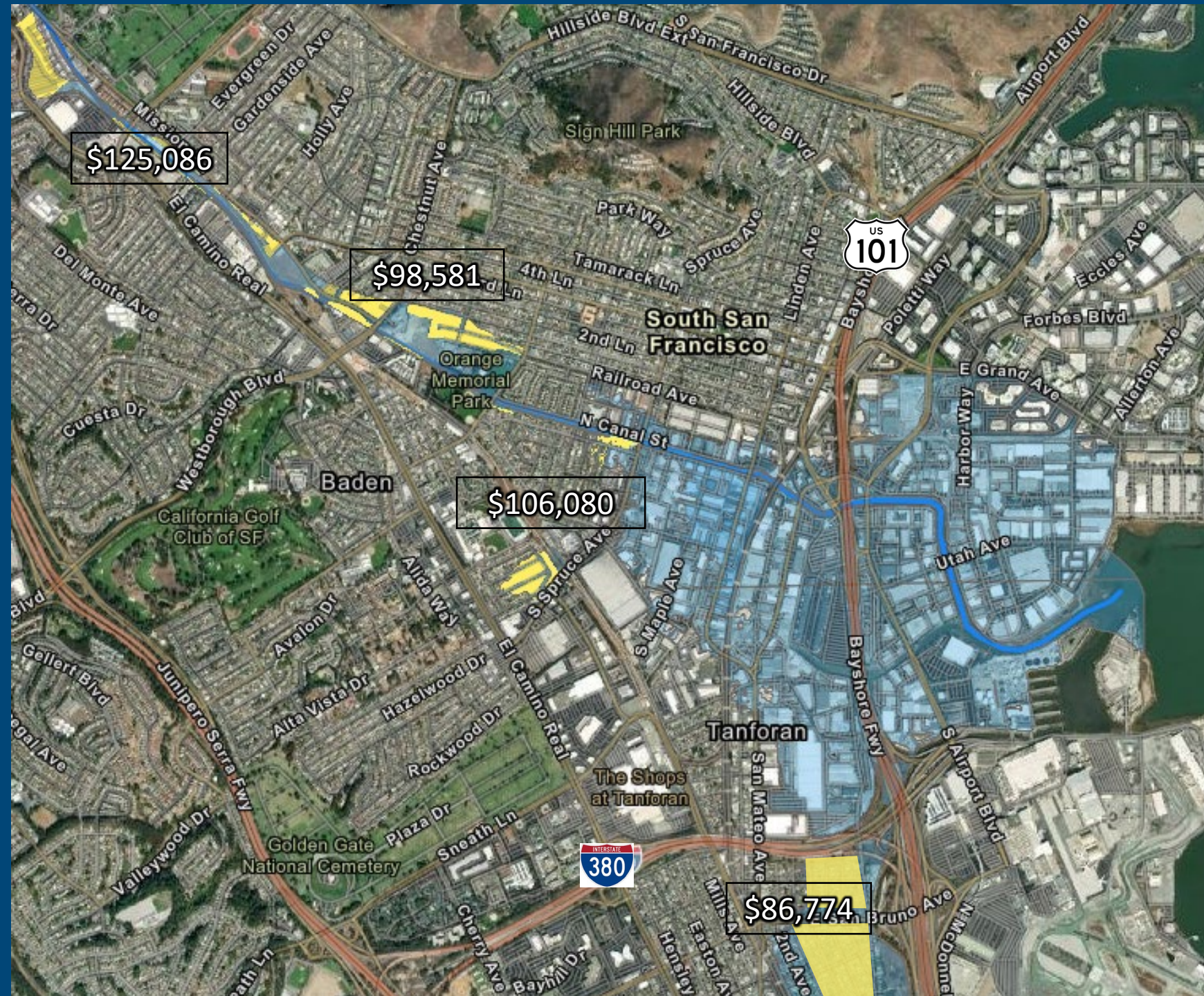
FEMA Flood Zone



Future Flood Conditions with Sea Level Rise



Current **residential** median household income impacted by future flooding conditions



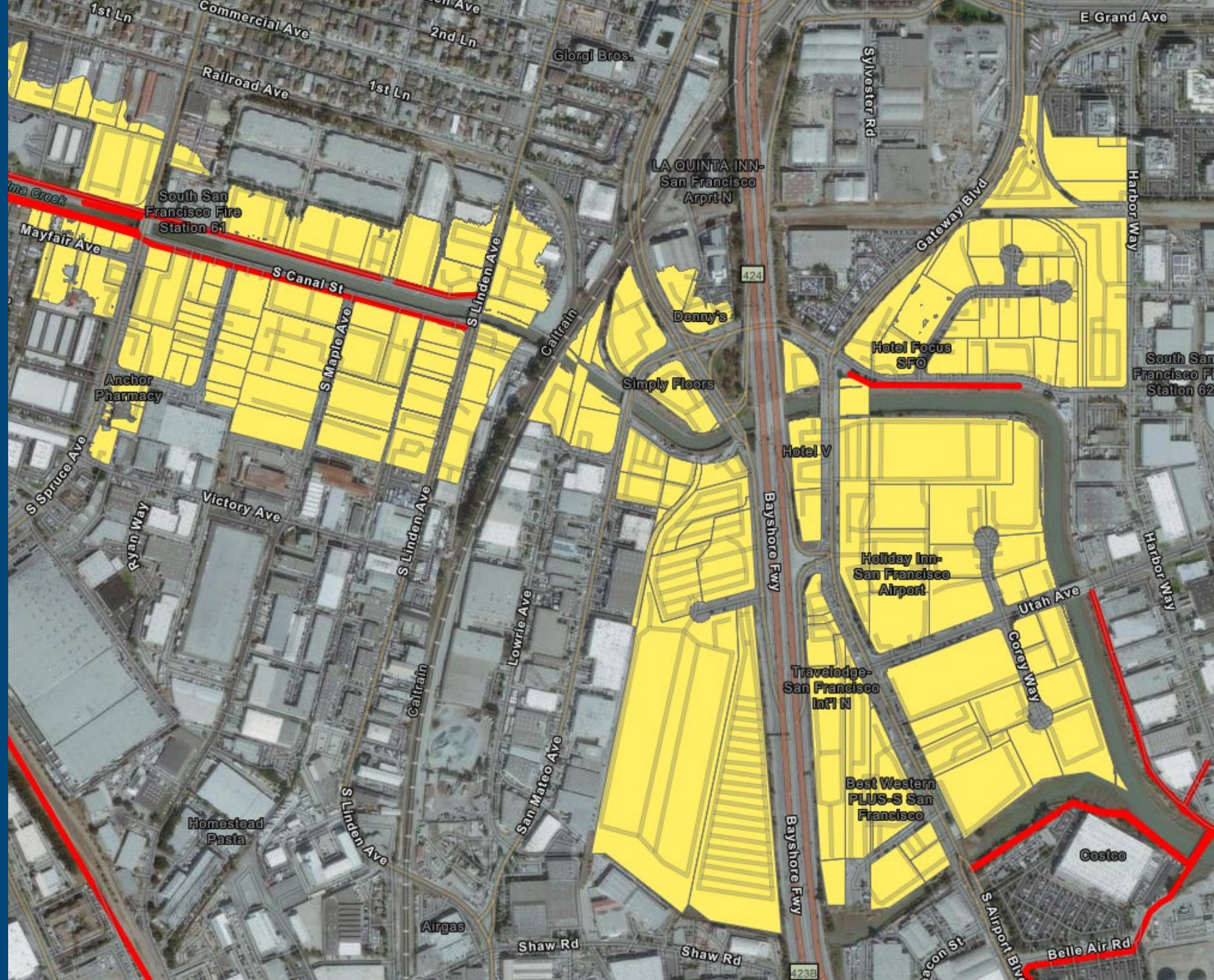
Proposed
Residential land
use in SSF General
Plan Update
impacted by future
flooding conditions



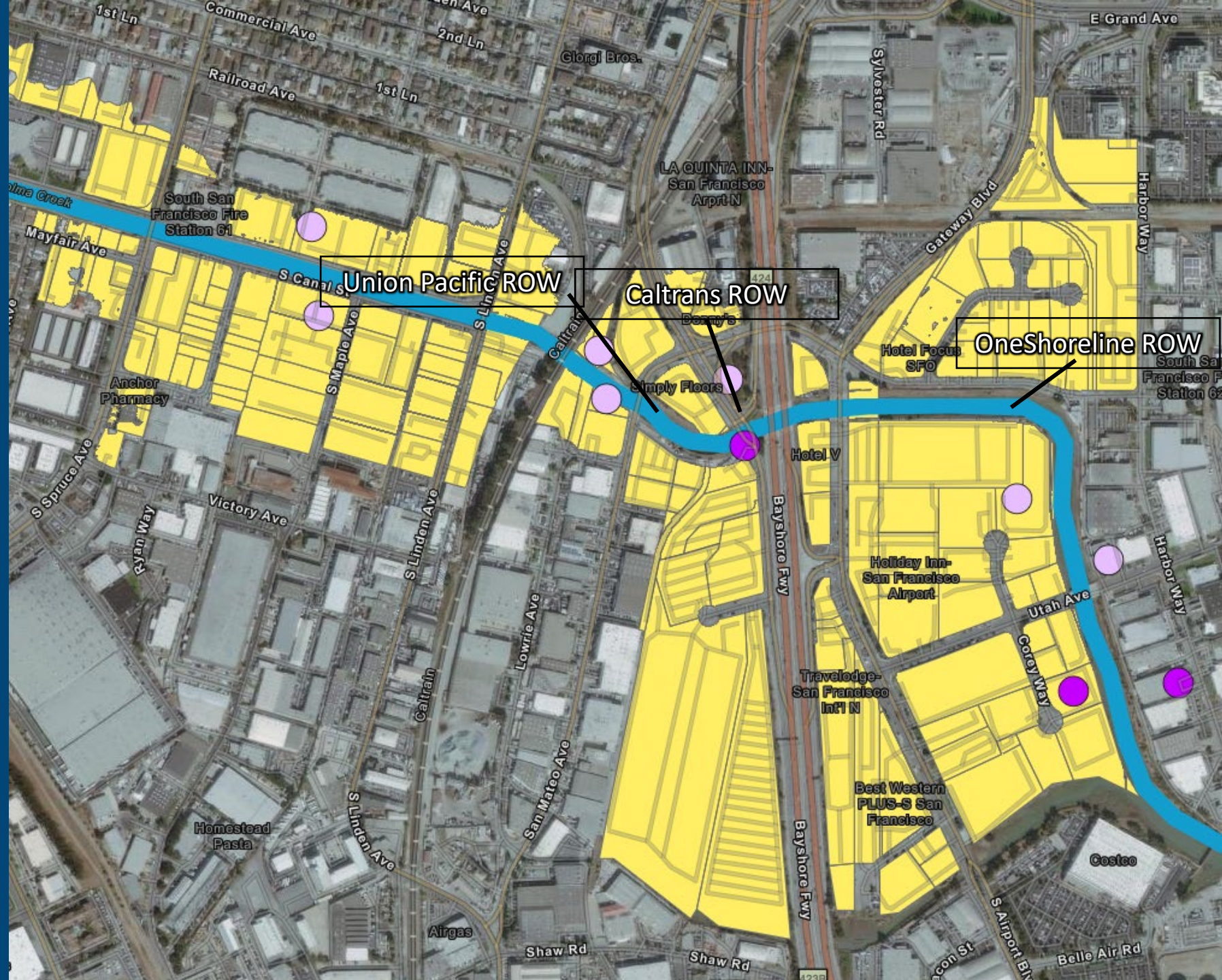
Residential land use proposed in SSF General Plan impacted by future flooding conditions and existing **tree cover**



Residential land use proposed in SSF General Plan impacted by future flooding conditions and existing **trails**



Land rights
and
project
opportunities



Flood Early Warning System & Emergency Action Plans

Colma Station

San Bruno Station

San Mateo Station

Atherton Station

In 2020, in-stream gauges were installed or upgraded on Colma Creek, San Bruno Creek, San Mateo Creek, and Atherton Channel.

Potentially Pescadero and Butano Creeks regarding post-wildfire erosion and flood threats.

(E) Pescadero Station

(P) Butano Flasher

(E) Butano Station

(P) Butano Station - Cloverdale Rd

Colma &
San Bruno Creeks

In FY21-22, we will initiate multi-jurisdictional
Emergency Action Plans in four watersheds,
beginning with Colma Creek

Belmont Creek

Bayfront Canal &
Atherton Channel

Thank you.



Sea Level Rise in South San Francisco



San Francisco)



Northern Area

Former Oyster Point Landfill

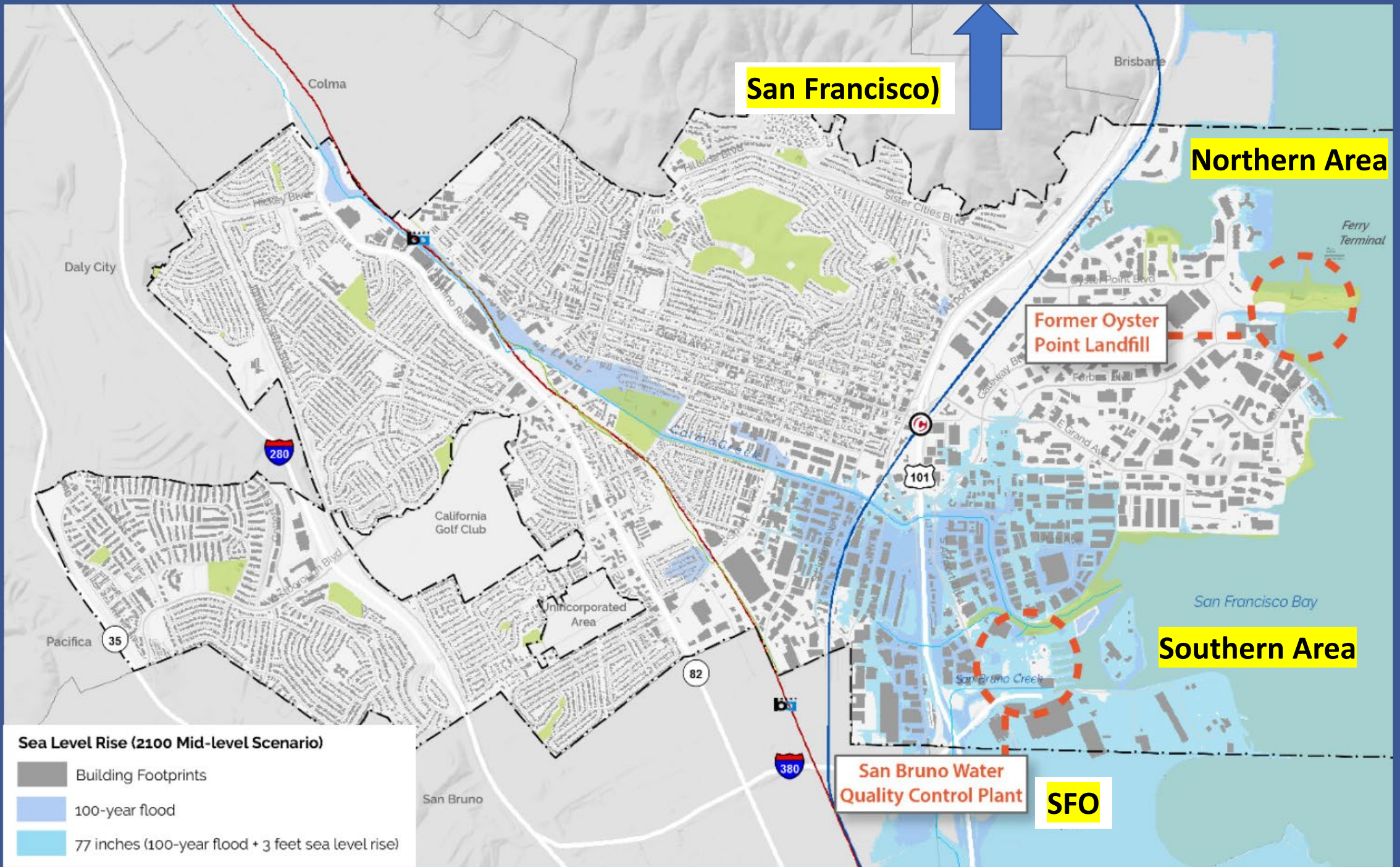
Southern Area

San Bruno Water Quality Control Plant

SFO

Sea Level Rise (2100 Mid-level Scenario)

-  Building Footprints
-  100-year flood
-  77 inches (100-year flood + 3 feet sea level rise)



Southern Area – Partner with Army Corps of Engineers

Led by
U.S. Army Corps
of Engineers

Large Problem
Requiring
Many Partners

- Use Section 203 of the Water Resources Development Act (WRDA) of 1986
- Feasibility Study of Colma and San Bruno Creek Flood Risk
- Short Range Goal: Devise solid plans to protect against flooding.
- Medium Range Goal: Work with USACE and Congress to gain federal construction \$\$
- Long Range Goal: Reduce flood risk along San Bruno and Colma Creeks and the South San Francisco shoreline



US Army
USACE of Engineers
San Francisco District



Northern Area Part One – Partner with Private Developers

Kilroy Realty Oyster Point Development



OYSTER POINT
PHASE IC
MARINA WATERFRONT

Vision for Oyster Point : Kilroy Realty



Vision for Oyster Point : Ensemble Hotel



Northern Area Part Two – Public Park & Recreation Lands

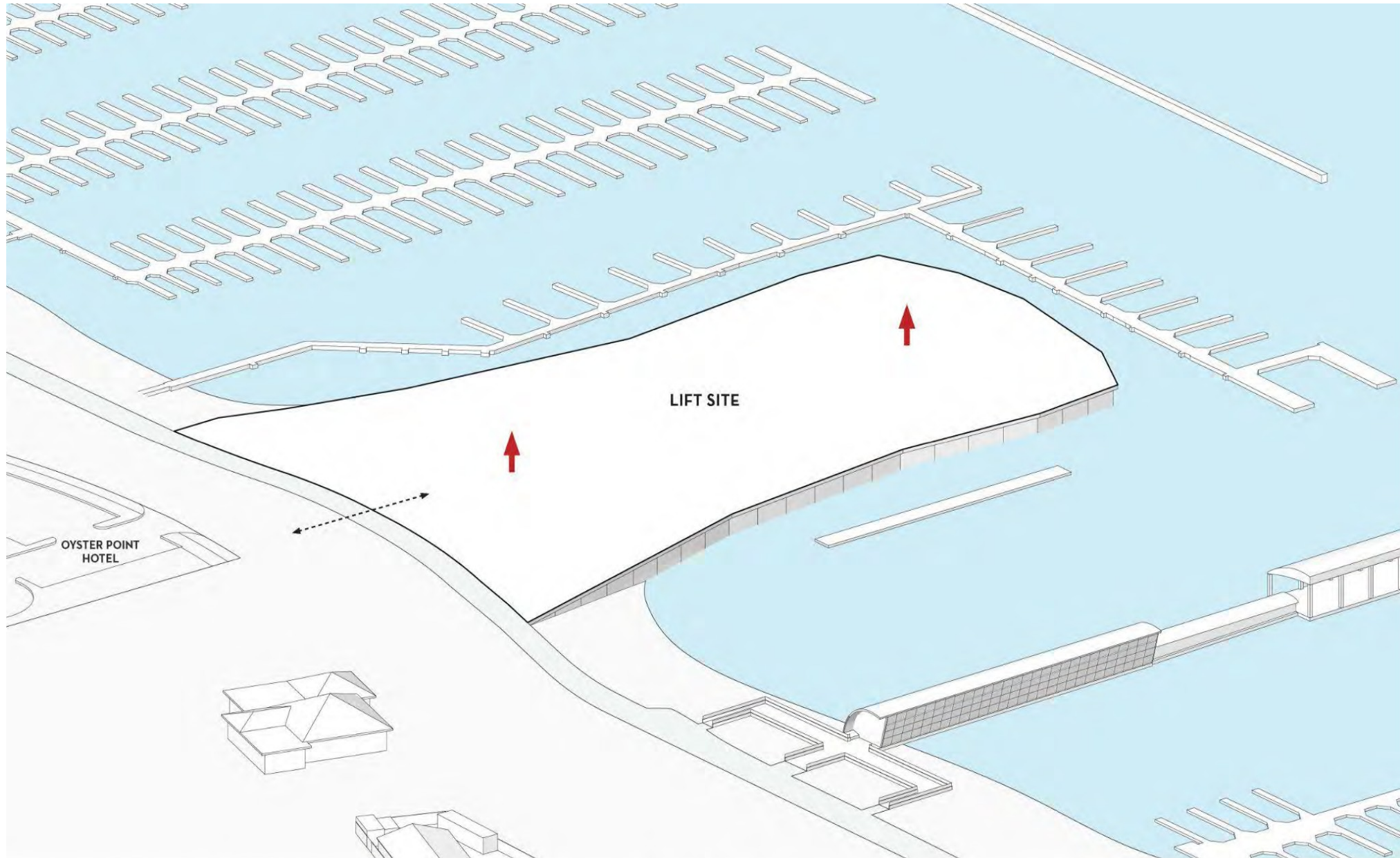


"The Spit"

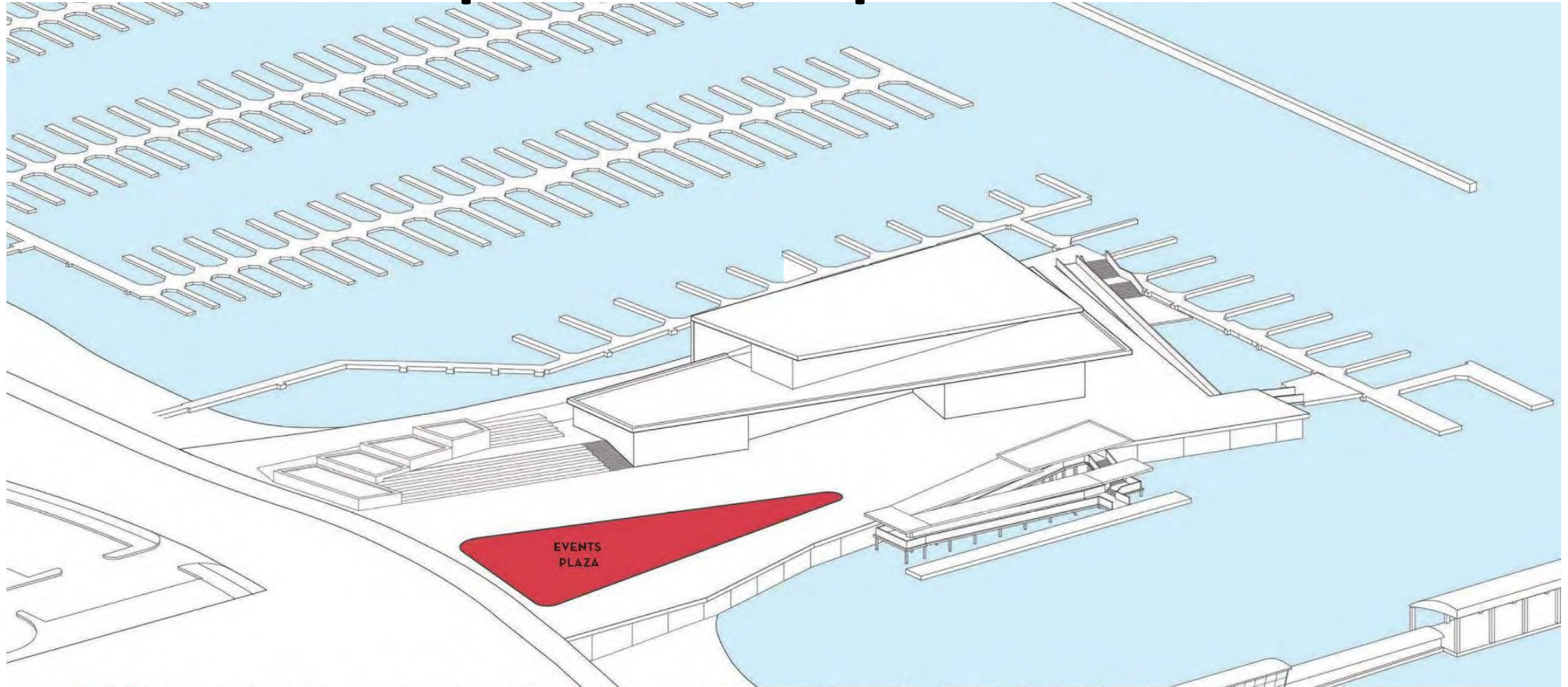
- Public Ferry Terminal
- Public Marina
- Public Fishing Pier
- Open Space

Requires Public Dollars, Grants and Donations

Plans to Improve “The Spit” Area – Phase I



Plans to Improve “The Spit” Area – Phase II



“The Spit” Area Final Vision



South San Francisco Guiding Principles

- 1. START NOW**
- 2. Work with Urgency**
- 3. Build Alliances and Partnerships**
- 4. Focus on Solutions that work for South San Francisco**
- 5. Get it done!**

Thank You

