

RESILIENT

BAY AREA CHALLENGE

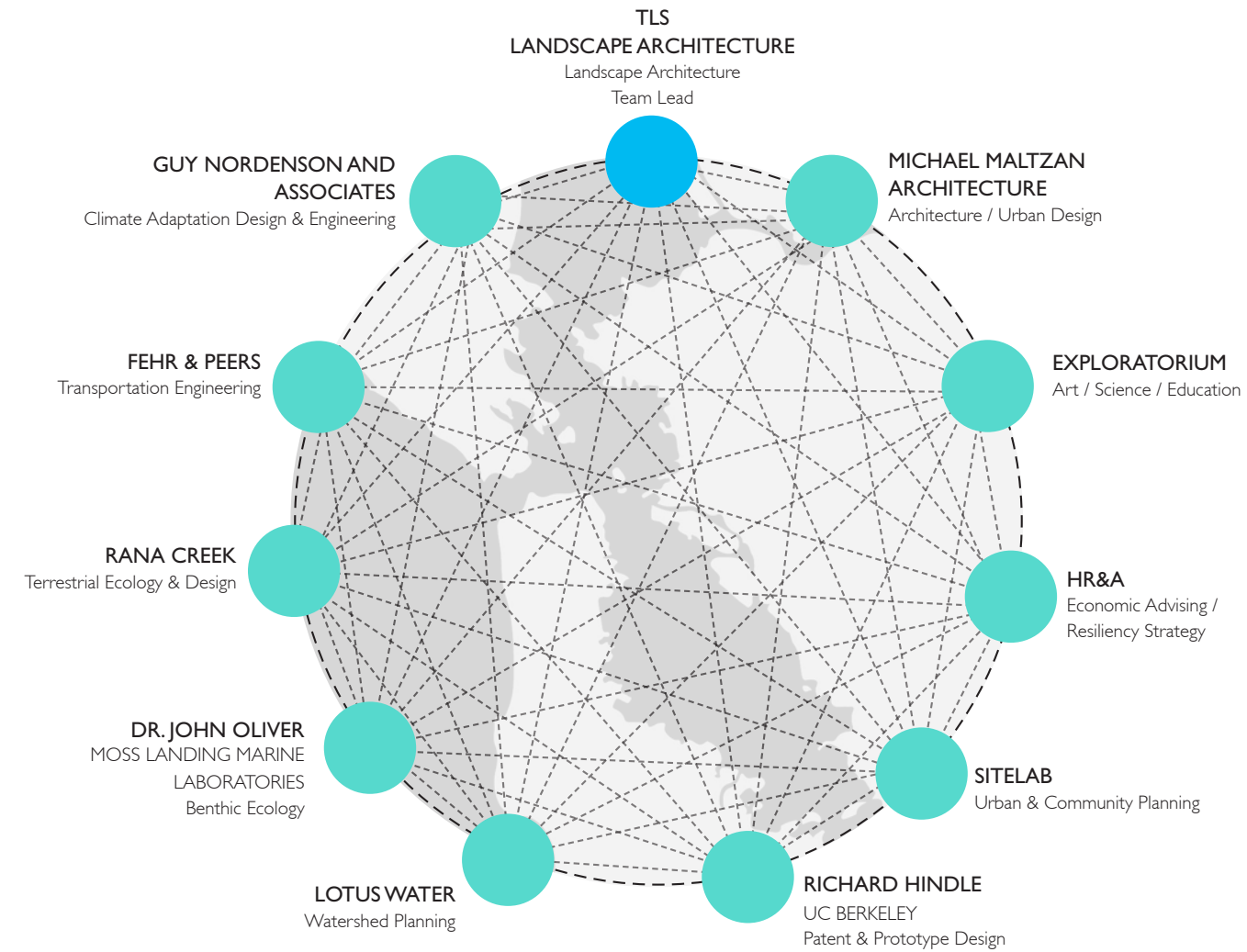
BY

DESIGN

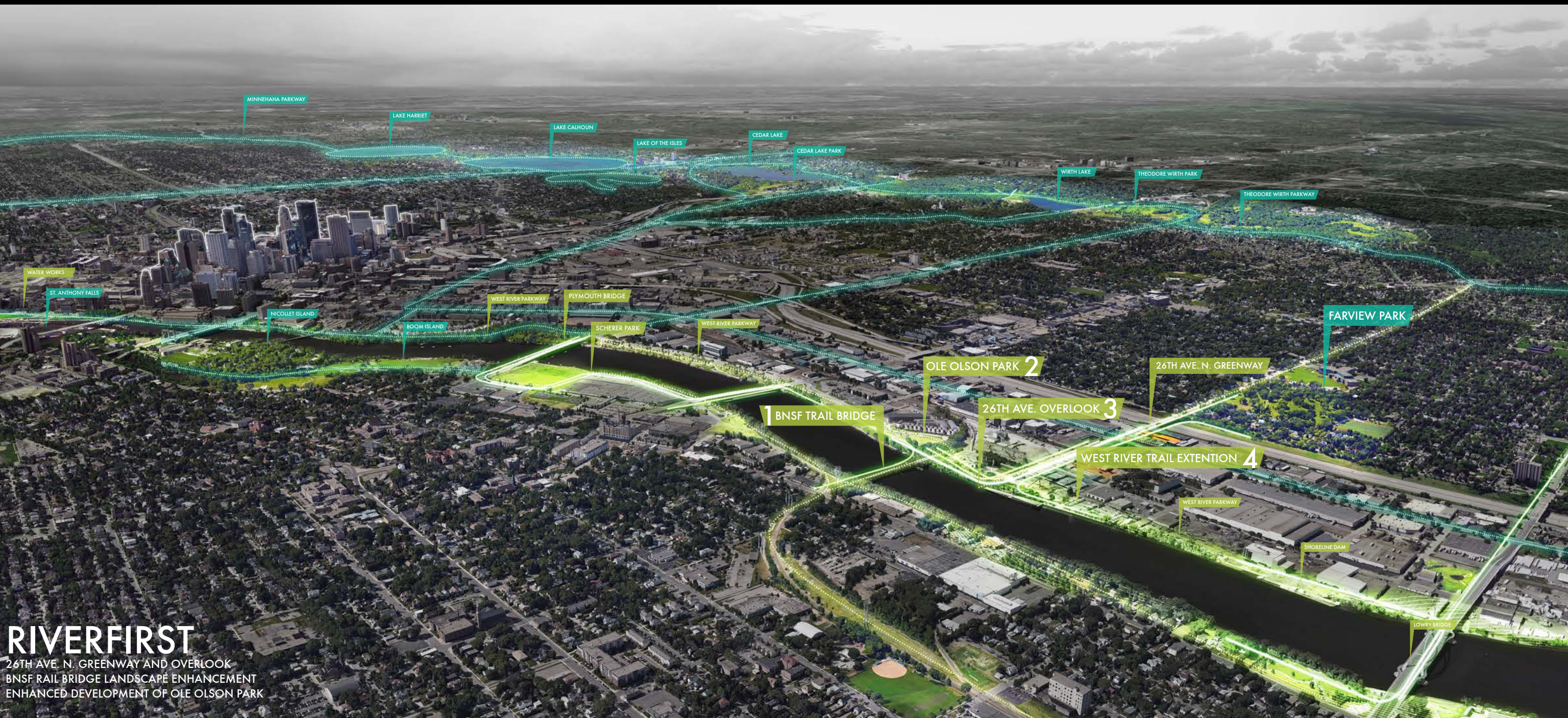
A collaborative design challenge committed to developing creative, community-driven solutions for building a more resilient future for the Bay Area.

COMMON GROUND

THE TEAM



TLS LANDSCAPE ARCHITECTURE



RIVERFIRST
26TH AVE. N. GREENWAY AND OVERLOOK
BNSF RAIL BRIDGE LANDSCAPE ENHANCEMENT
ENHANCED DEVELOPMENT OF OLE OLSON PARK

SITELAB URBAN STUDIO

URBAN DESIGN



EXPLORATORIUM

ART / SCIENCE / EDUCATION



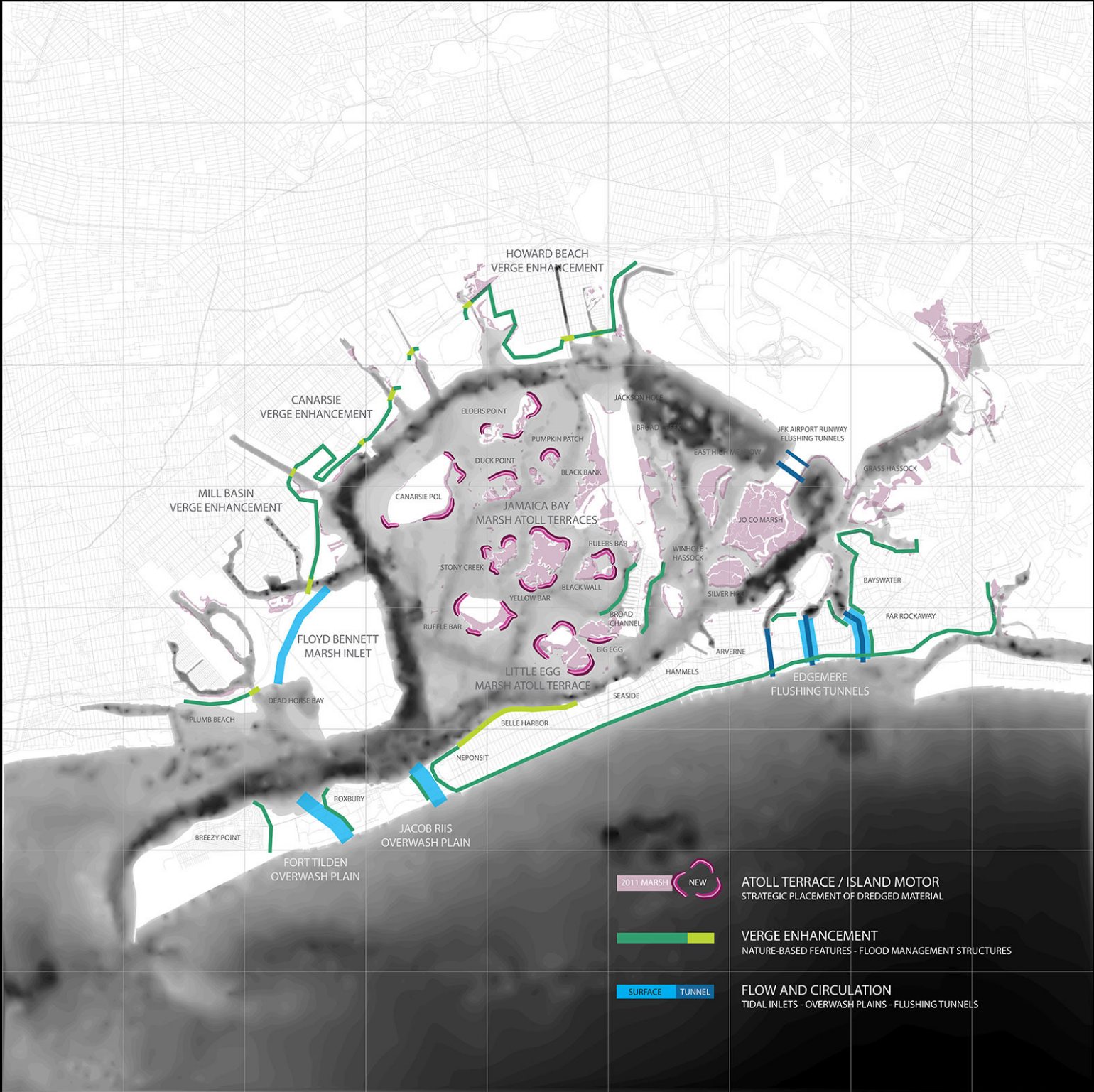
RANA CREEK ENVIRONMENTAL DESIGN



GUY NORDENSON

CLIMATE RESILIENCE

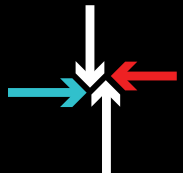
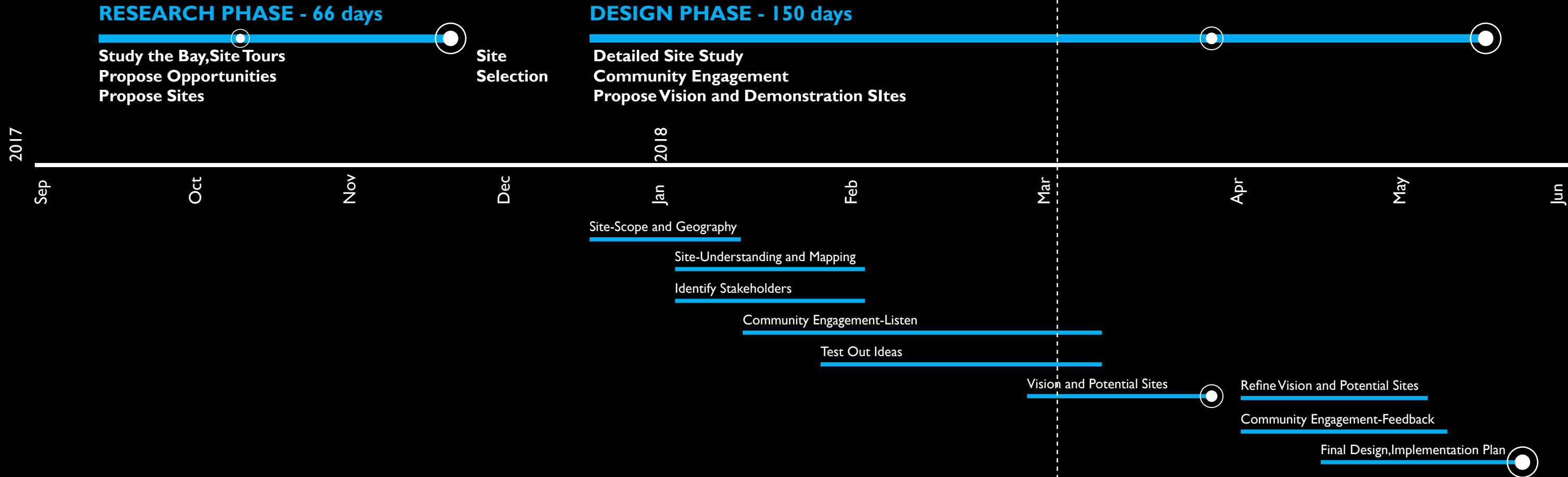
STRUCTURAL ENGINEERING



MICHAEL MALTZAN ARCHITECTURE



COMMON GROUND PROCESS/TIMELINE

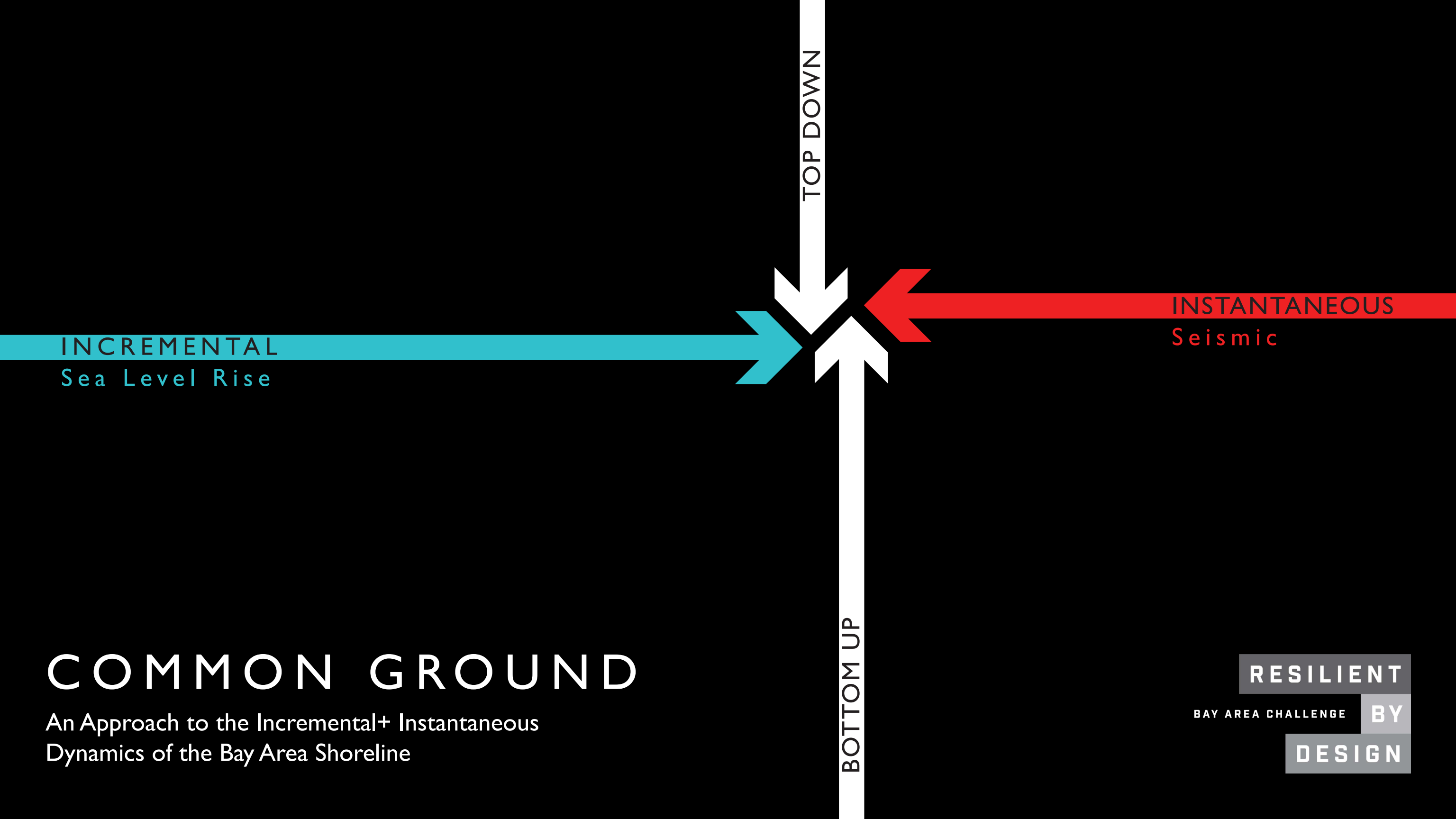


REBUILD BY DESIGN NYC



SCAPE





INCREMENTAL
Sea Level Rise

INSTANTANEOUS
Seismic

TOP DOWN

BOTTOM UP

COMMON GROUND

An Approach to the Incremental+ Instantaneous
Dynamics of the Bay Area Shoreline

RESILIENT
BAY AREA CHALLENGE BY
DESIGN

RESILIENCY

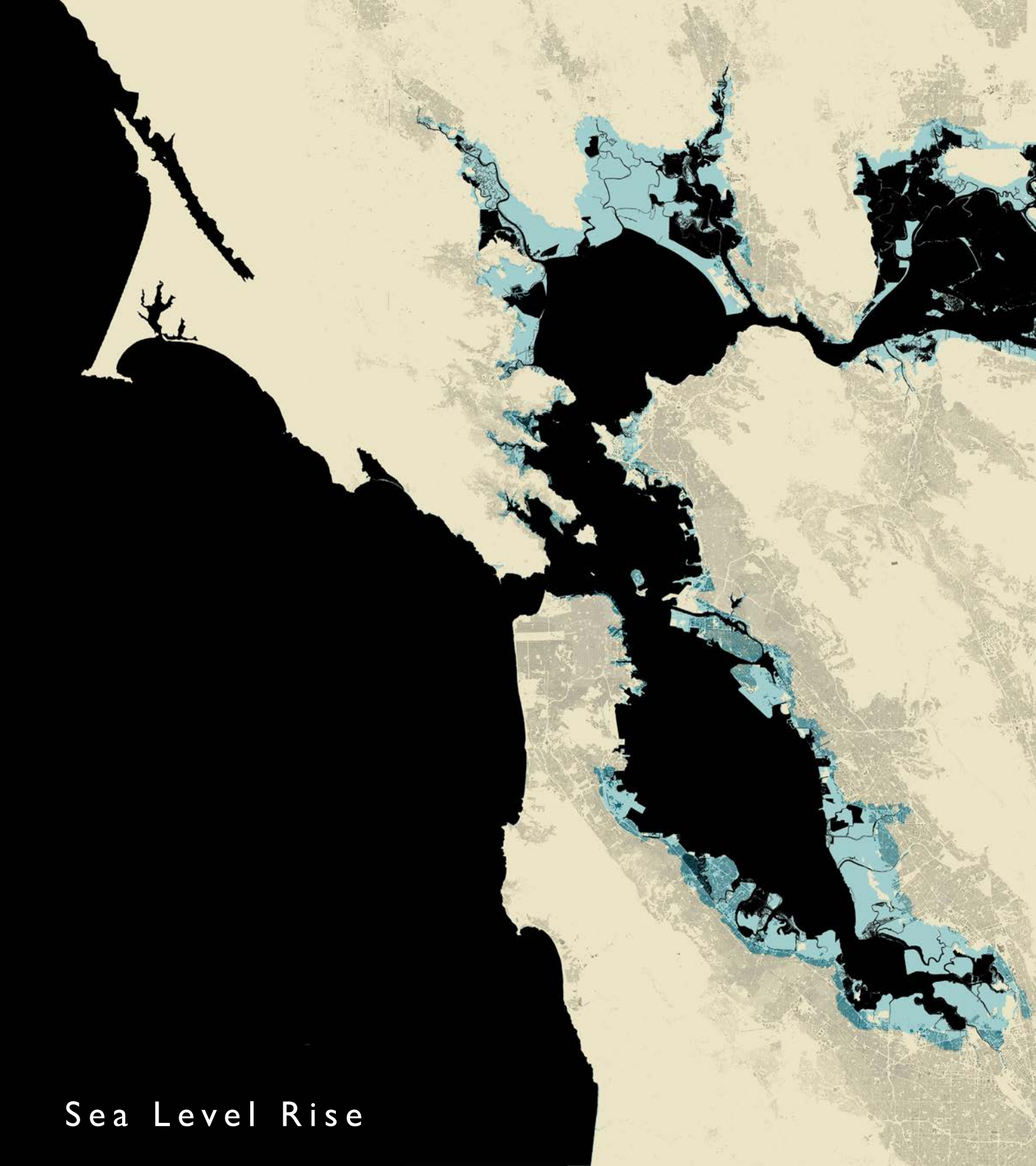
Dual Dynamics of the Bay



Sea Level Rise
2017 Floods on SR37



Liquefaction
1989 Loma Preita Earthquake



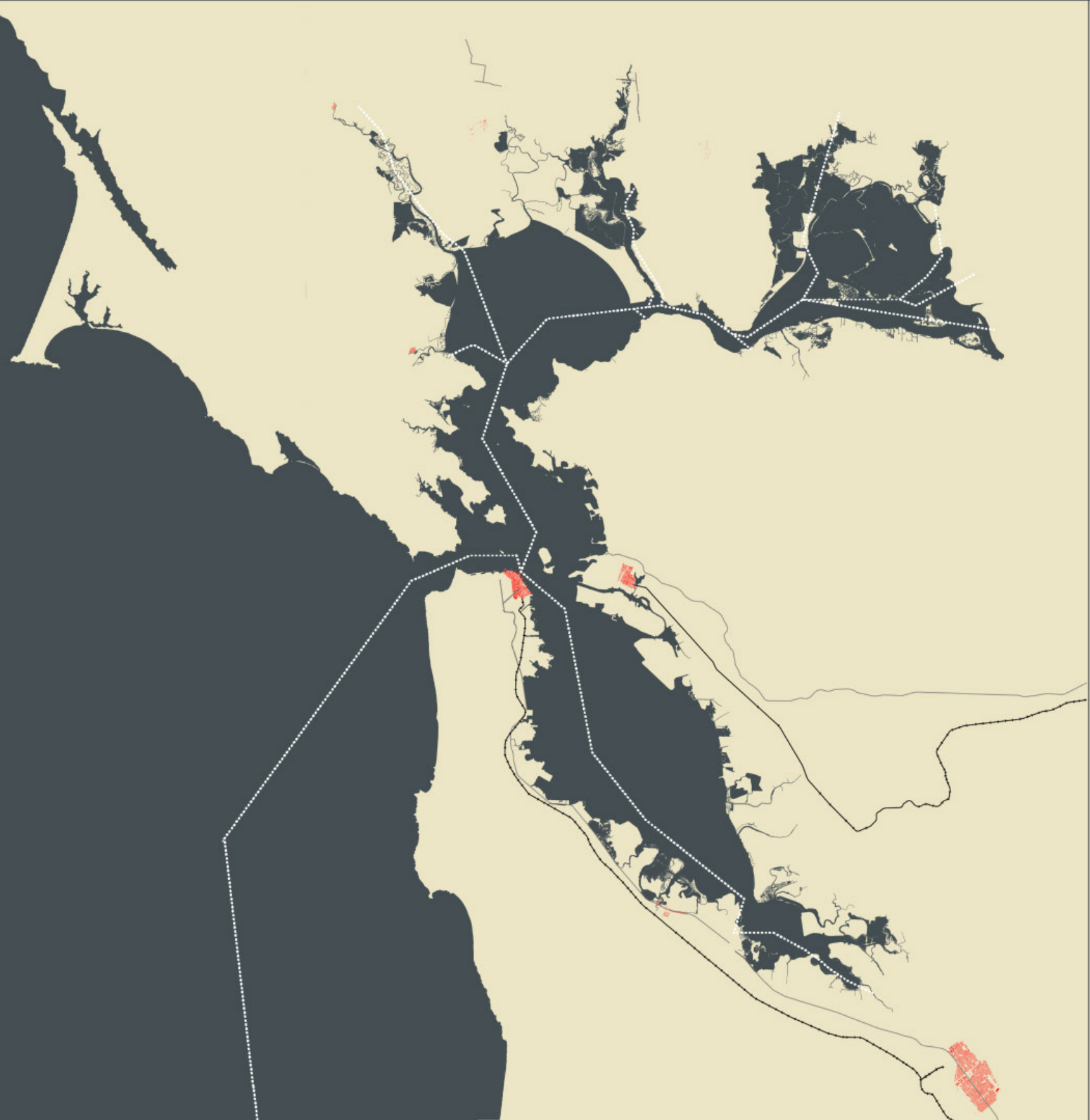
Sea Level Rise



Liquefaction+Fault Lines

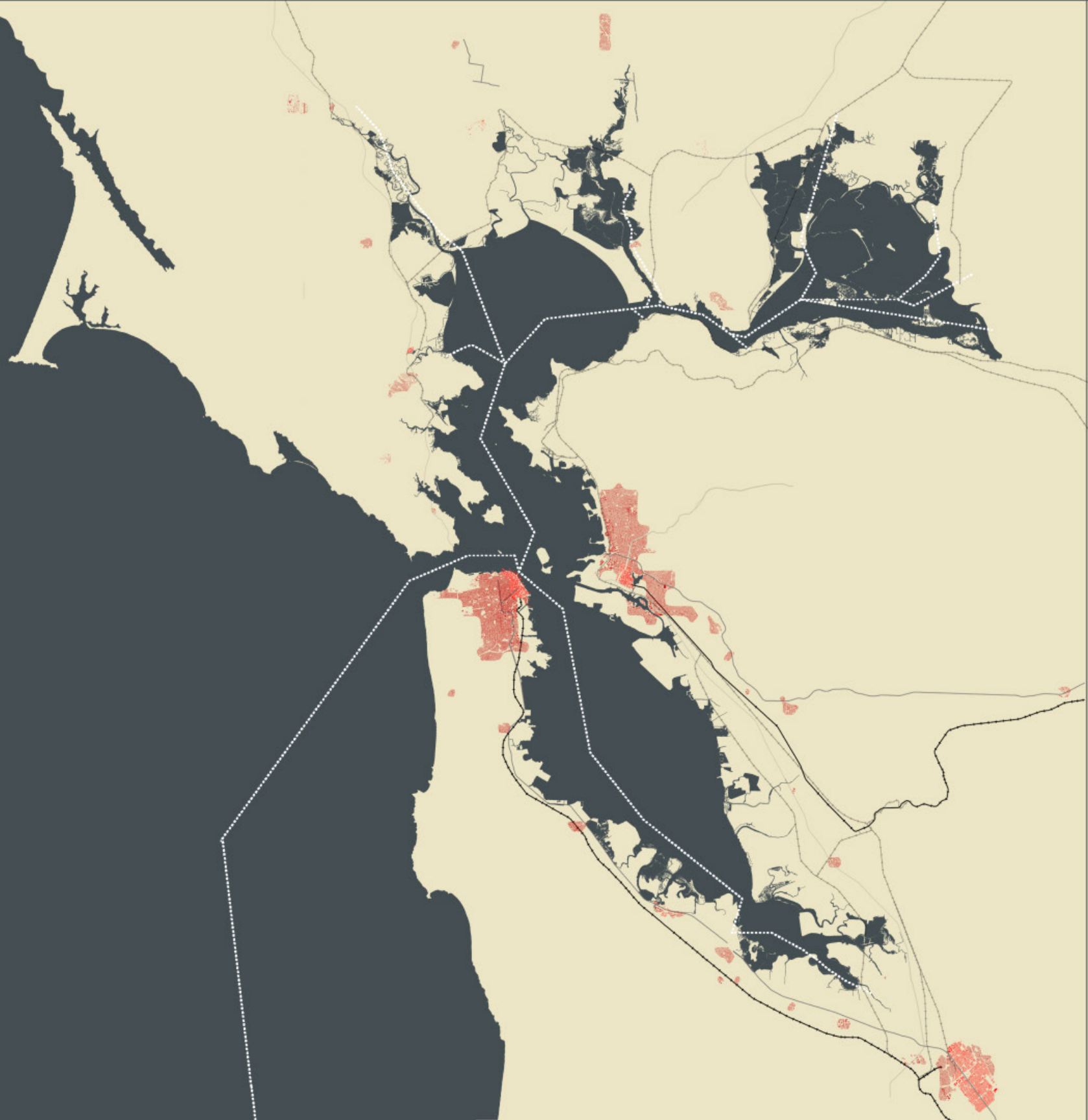
EARLY SETTLEMENT

WATERFRONT
WATER TRANSIT



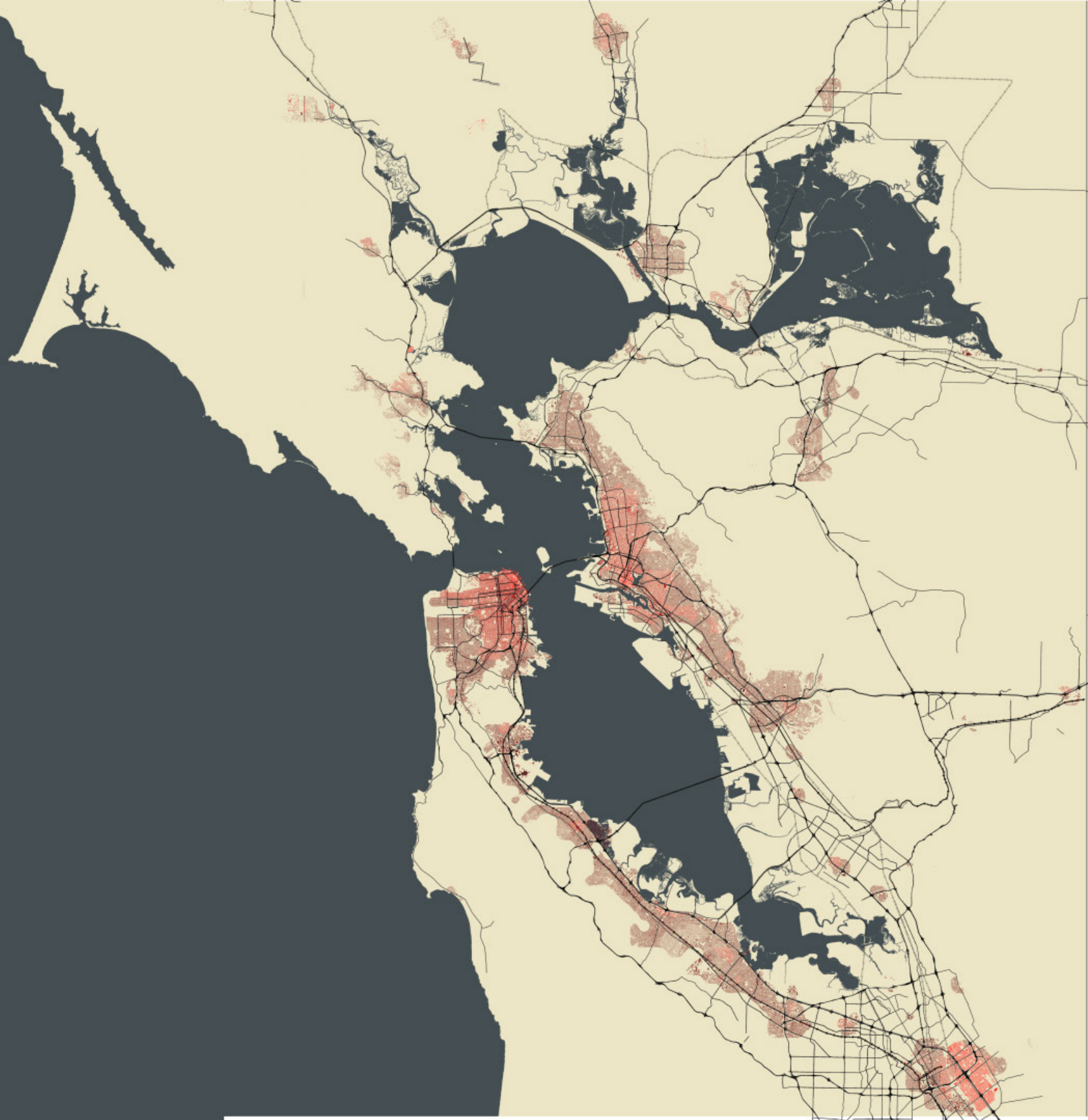
INDUSTRIALIZATION

RECLAMATION ALONG BAY WATERS
RAILROADS



POST WWII

CROSS BAY & INLAND
BRIDGES AND ROAD



TODAY

EXTENDED AUTO COMMUTING
WATERFRONT REDEVELOPMENT

GROW THE BAY?
INCREASED WATER TRANSIT?



SAN PABLO BAY



Agricultural Valleys

San Pablo Bay

San Francisco Bay

South Bay

IDENTITY ?



SAN PABLO BAY - THE WORKING ESTUARY



The Petaluma Heritage Mural in Petaluma, California by Steve Della Maggiora

SAN PABLO BAY

CALIFORNIA

From a Trigonometrical Survey
under the direction of A.D.BACHE Superintendent of the
SURVEY OF THE COAST OF THE UNITED STATES
Triangulation by R.D.CUTTS G.A.FAIRFIELD G.DAVIDSON Assistts. and A.E.RODGERS Sub-Assst.
Topography by R.D.CUTTS Asst. & A.E.RODGERS Sub-Assst.
Hydrography by the Party under the command of
Commander JAMES ALDEN U.S.S. Assist.

Scale 1:60,000
1863



J. H. Rogers
Assistant Coast Survey
In charge of office



The Principalities was situated in 1851 52 53 54 55
The Topography do do 1852 53 54 55 56
The Hydrography do do 1852 53 54 55 56

SAILING DIRECTIONS.
TO ENTER SAN PABLO BAY FROM SAN FRANCISCO BAY.
The channel connecting the Bays of San Francisco and San Pablo is about two miles in length, a vessel of heavy draught must avoid the Lighthouse and Whiting Rocks. A narrow passage between the Brothers and San Pablo Point is generally used by small craft and steamers, as it shortens the distance. Passing half a mile to the westward of Red Bank (see chart of San Francisco) Star 21, S.W. (N.W.) small San Pablo Point bears E. 1/2 N. 1/2 W. (Star 21, E. 1/2 N. 1/2 W.) for three miles when Point Point will bear S. by E. 1/2 E. (South) distant one mile, thence N.E. 1/2 E. (N. 40° E.) to entrance of the Straits of Karpinsky. The channel through San Pablo Bay is wide and deep, but the food should be used particularly when leaving. Small Point makes well our harbor, all the landward on the South are clear, showing an abrupt bank on this side of the channel, whilst on the North side the land rises gradually.
IF BOUND INTO HARK ISLAND STRAITS
When up with the Island head gradually in till the Floating Dock is open past the Magazine Wharf, then stand directly up the Straits, keeping the Western shore ahead, so as to avoid Commodore Bank, when the channel is only 120 yards wide.
No sailing directions are required for the Straits of Karpinsky, the charts being for the most part full and the water deep.

Latitude of Main Island S.E. Station. 38° 52' 34.5"
Longitude of do. West from Greenwich 122° 15' 18.8"
Longitude of do. do. do. do. do. do. 122° 15' 18.8"
Variation of the Magnetic Needle in Dec. 1860 15° 55' E.
Dip of annual increase 0.8

SOUNDINGS
The soundings are expressed in fathoms to 10 fathoms, and within the dotted surface beyond them in fathoms and above the depth of the sound of the lowest low water of each 24 hours the depth of reference. The dotted surface beyond low water mark represents the bottom within the respective depths of 5, 10, 20, and 30 fathoms. The characteristic soundings only are given on the map; they are selected from the numerous soundings taken in the survey, so as to represent the figure of the bottom.

ABBREVIATIONS
used in the bottom of this Map

Abbreviations in Capital	Abbreviations in Small Letters
M. for Mud	Gr. for Gravel
S. for Sand	Sh. for Shell
St. for Stone	Sl. for Slab
Cl. for Clay	

Note: The principal materials and their qualities are represented by larger letters than the subsidiary.
* Signifies Sand Bank.

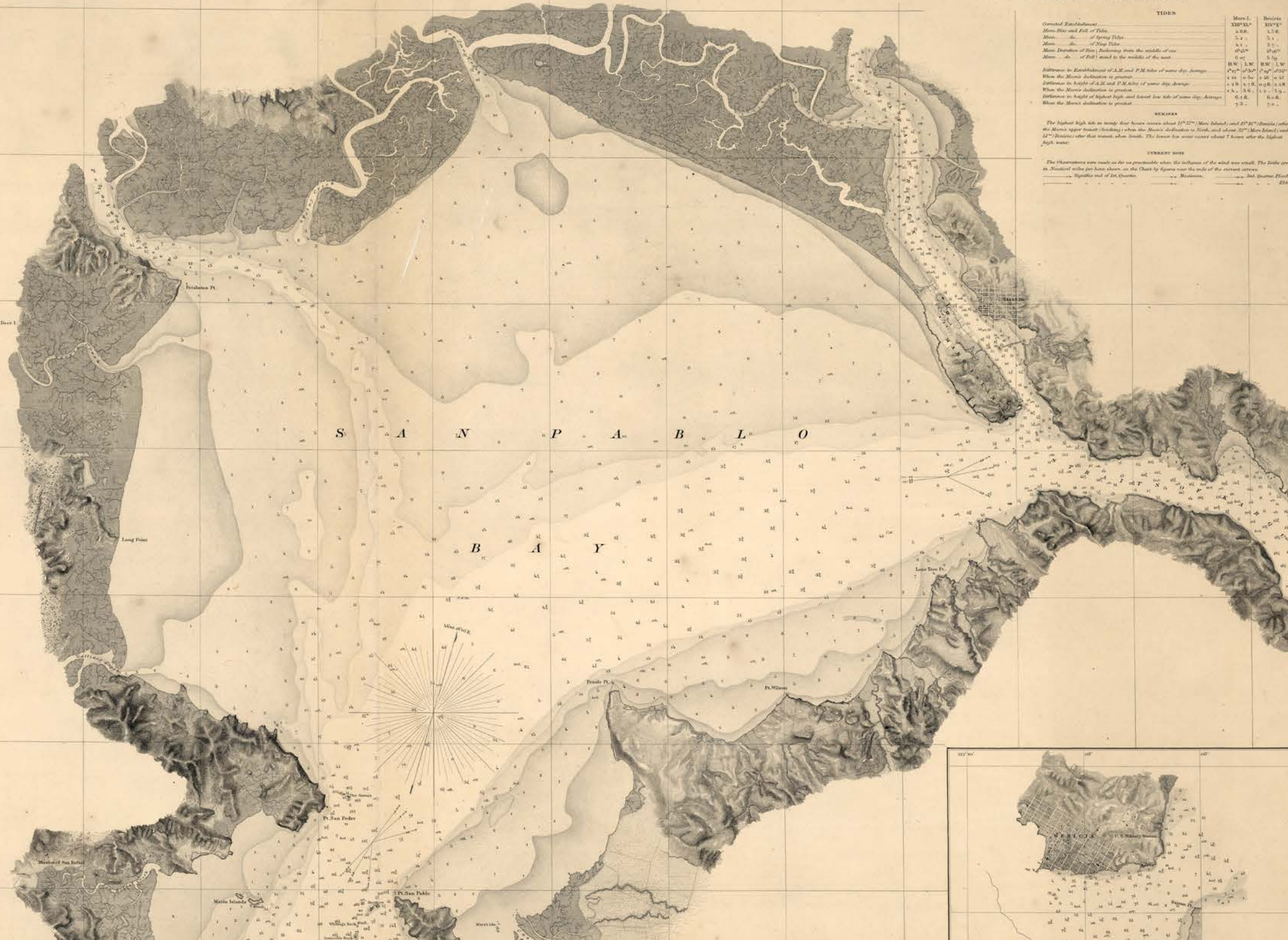


TIDES

Corrected Establishment	Mean L.	Mean H.
Mean Rise and Fall of Tide	1.8 ft.	1.8 ft.
Mean Rise of Spring Tide	2.4 ft.	2.4 ft.
Mean Rise of Neap Tide	1.2 ft.	1.2 ft.
Mean Duration of Run (Reckoning from the middle of one Mean Rise to the middle of the next)	6.47	6.47
Difference in Establishment of A.M. and P.M. Rise of same day, average	0.25	0.25
When the Moon's declination is greatest	0.25	0.25
Difference in height of A.M. and P.M. Rise of same day, average	0.25	0.25
When the Moon's declination is greatest	0.25	0.25
Difference in height of highest high and lowest low tide of same day, average	6.1 ft.	6.1 ft.
When the Moon's declination is greatest	7.2 ft.	7.2 ft.

REMARKS
The highest high tide in twenty four hours occurs about 12° 32' (Main Island) and 12° 32' (Point Pt.) (after the Moon's upper transit (sundown) when the Moon's declination is North, and about 12° (Main Island) and 12° (Point Pt.) after that transit when South. The lowest low water occurs about 7 hours after the highest high water.

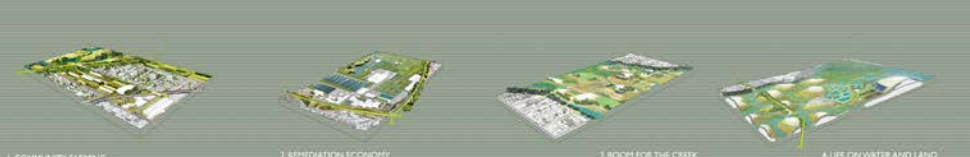
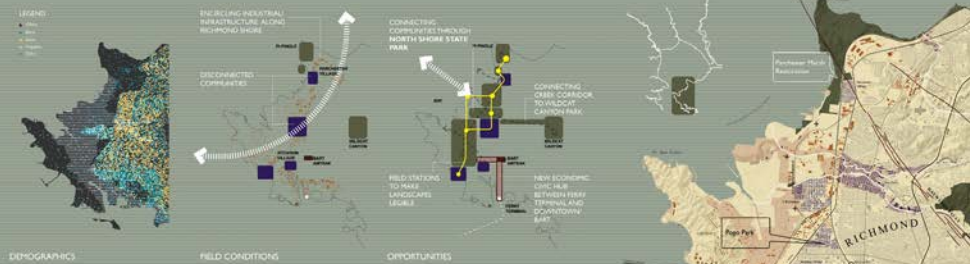
CURRENTS
The observations were made on the 10th of September when the influence of the wind was small. The tides are in Nautical miles per hour shown on the Chart by figures near the ends of the current arrows.
— Signifies end of 1st Quarter. — Maximum. — 2nd Quarter Flood. — 256



COMMON GROUND PROPOSED SITES

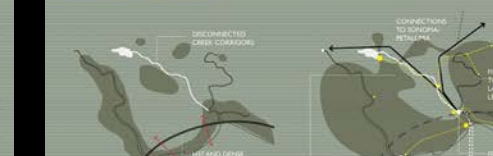
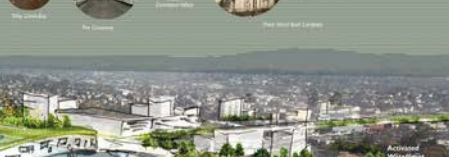
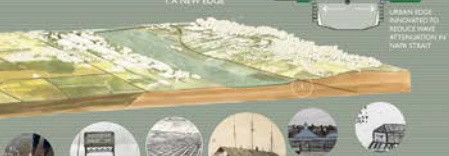
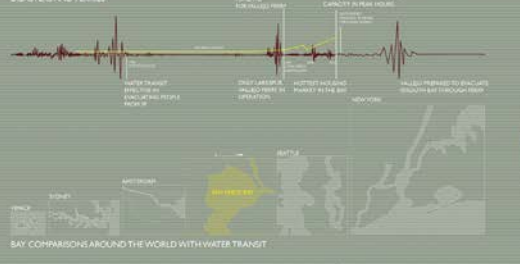
NORTH RICHMOND VOICES OF SAN PABLO BAY

This shore was once a rich and complex set of ecosystems through tidal and fresh water influences. From Point Pinole on the east ridge of the Hayward Fault to Point Richmond on the west ridge of the Point Richmond Fault, tidal wetlands, multiple freshwater stream deltas, coastal prairies, and rich eel grass beds stretched from end to end. We seek to reconnect the isolated, disadvantaged neighborhoods that have been separated from the Bay and each other by industrial infrastructure. We want to propose resilient housing strategies to maintain the fabric of these communities over the long term. This large-scale idea here is to create a new open space, potentially Northshore State Park, an ecosystem complex and open space which stretches from Point Pinole to Point Richmond once again. We see this park starting at Panchester Village / Downtown March with Point Pinole ridge as the "backbone" and progressing west along the shore over time to eventually include even the current refinery. This will depend on land acquisition, easements, all manner of grants and donors, along with working out declining industrial users. But we must communicate both an ambitious vision and the persistence that will be needed.



VALLEJO-MARE ISLAND LIFE ON WATER AND LAND

Downtown Vallejo and Mare Island have had linked but separate lives since their founding. Both sit on stable uplands that are sliced in two by the Napa River channel. The river occupies a rift valley created by an underlying fault. Our proposal is to design the perpendicular transect connecting all these zones, creating a public corridor, train connection, ferry landing, with the intent to create one unified waterfront serving civic, cultural, neighborhood, and ecological needs. We'd like to create a place that dramatically connects one stable upland to the other and creates a structurally stable and water-oriented hub overlooking the channel. This one hub and connector could build upon the rapidly growing ferry traffic to Vallejo and add numerous public amenities, educational and intermodal programs that could be associated with the ferry landings as a new center in town. The circular structure that could open between the Vallejo and Mare Island ferry stops and link up with green spaces and parks, pedestrian-like networks on either side of the river. WETA is actively seeking new visions for the social and cultural life ferry landings can bring to cities like Vallejo in the coming growth of water transport.



SEARS POINT GEOLOGIC FOUNDATIONS

If you exclude the railways, the earliest history of Sears Point is not hard to see or imagine today. We should push forward with wetland recovery, create incentives for this work and along with that, recover the things that will exist there without normal flows, correctly. We propose to eliminate Highway 37 in its current location, and phase in a greatly expanded ferry network between commute locations. These are regional scale moves that will take courage but serve key regional needs if we take the challenge. With a healthy thought, we can re-imagine the Fairville Landing in place for San Pablo Bay visitors to visit by boats small enough to find an equilibrium between their small waters and the job of restoring marshes. Ideally, revenues from the boat operations could help fund ecological work and create a partnership. We see Sears Point as a node of cultural and ecological education, employing a network of way stations and interpretive installations below for their originality, including local places like old farm sheds, shell deposits, abandoned gas stations, sluice gates.

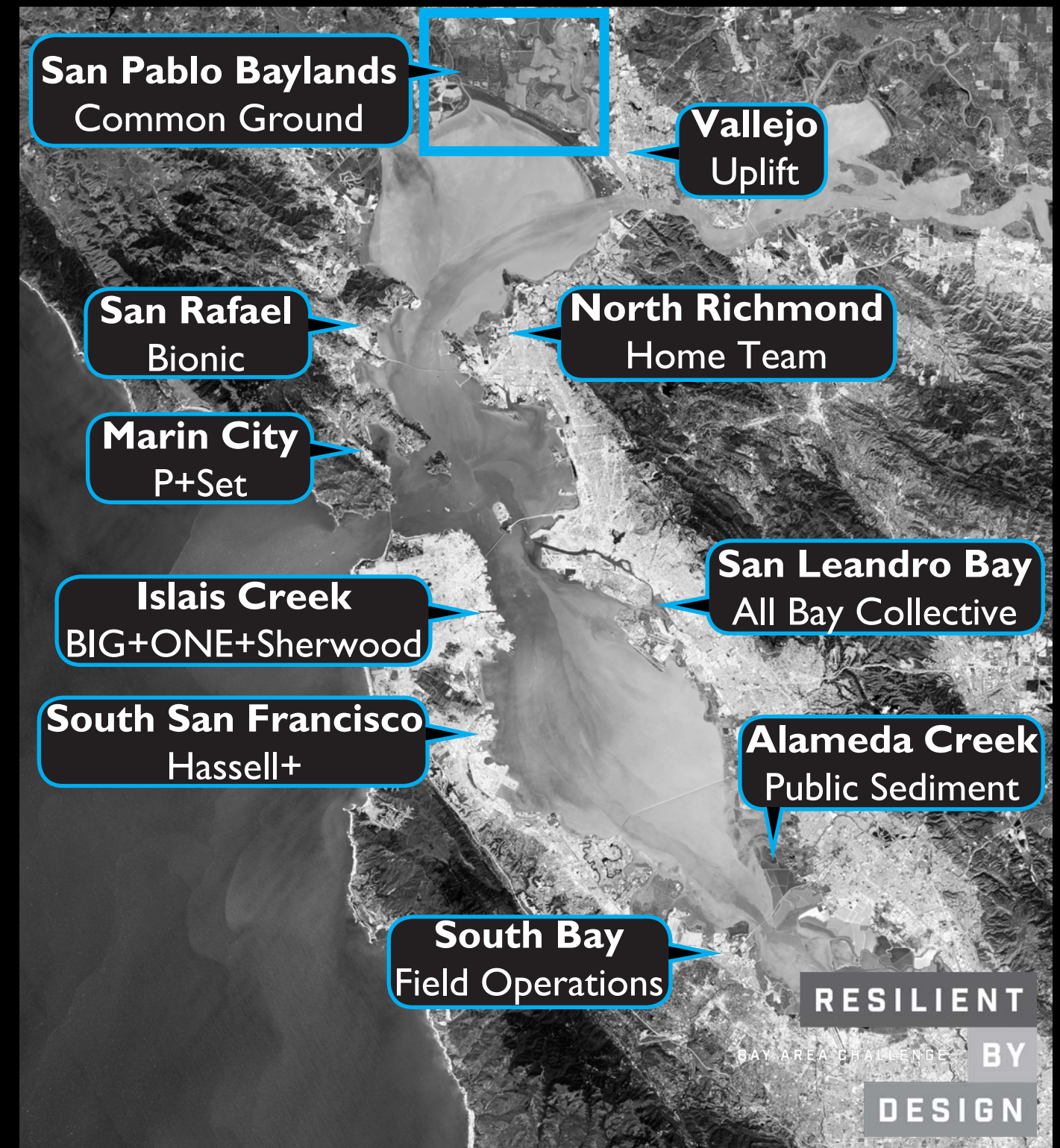


SAN PABLO BAY COMMON

San Francisco Bay is broken into multiple areas and identities – South Bay, Central Bay, the Delta / Suisun Bay, and San Pablo Bay. San Pablo Bay has the least clear identity and yet it has major unique features. Current infrastructure like Highway 37 and freight rail lines that encircle the San Pablo Bay but are brittle and poised to fail due to flooding and liquefaction. Perhaps we need to think longer term about adjusting our development patterns so that these headlands connecting with stable uplands become a focus of not only water transport but related ferry-oriented development. Perhaps the softer, lower zones around this Bay are more appropriate for parks, agriculture, wetlands, stream networks and other development more flexible and tolerant of liquefaction and flooding. This could be about reconsidering the working and productive history of this section of the Bay as a system that could be revitalized and reconnected through enhancing mobility and understanding of local conditions. Maybe we could think of San Pablo Bay as a test case for increasing civic agency in the Bay Area by connecting communities through improved transport and public field stations for learning about the places we inhabit and one another.

Legend

- Land
- Water
- 6' Sea Level Rise



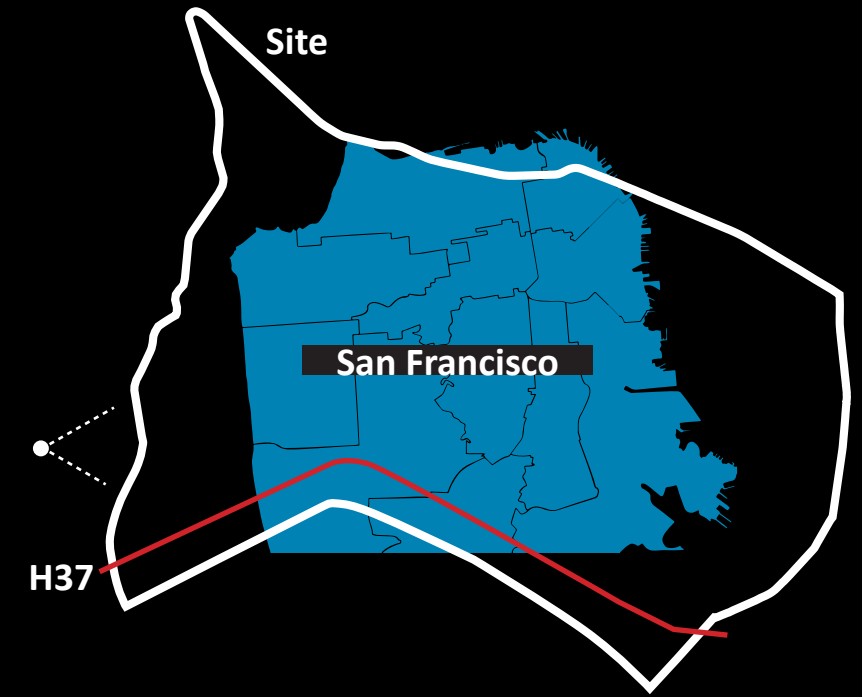
COMMON GROUND

San Pablo Baylands



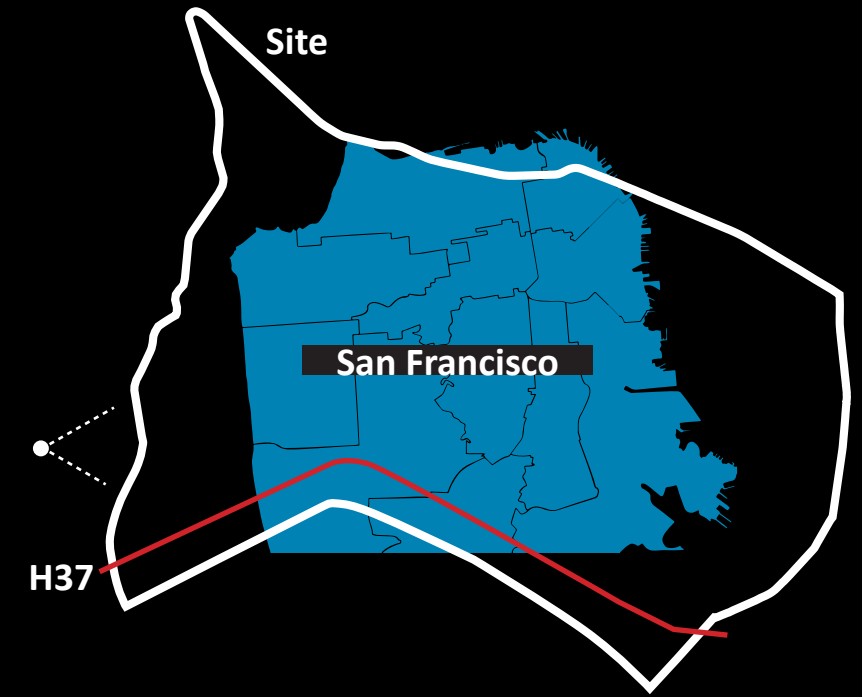
COMMON GROUND

Site



COMMON GROUND

6' SLR (2100)

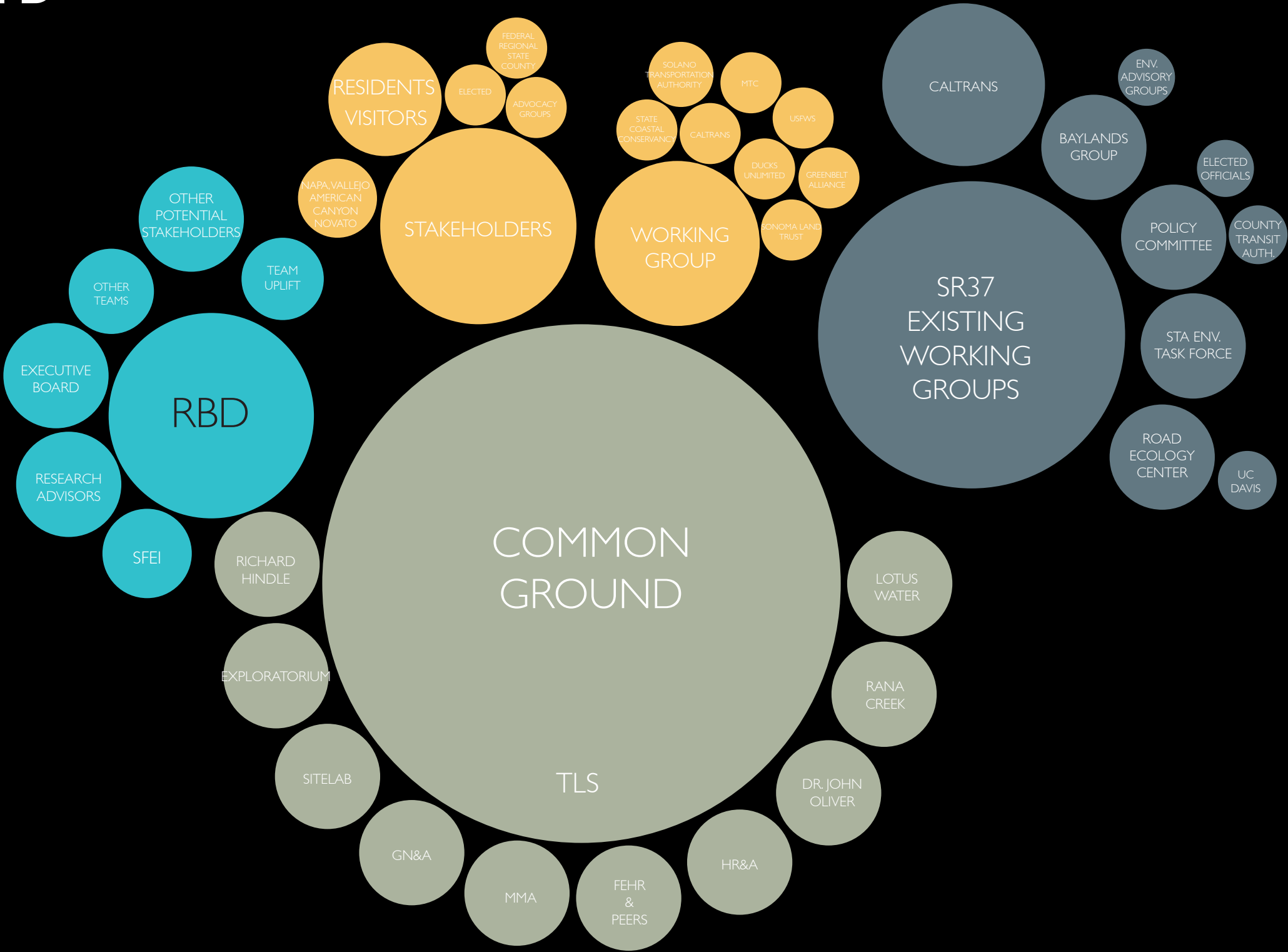


COMMON GROUND+RBD WORKING GROUP



Adding Value to Existing Efforts

COMMON GROUND COLLABORATION



COMMON GROUND GOALS for RESILIENCY



LISTEN

Understand and incorporate the goals of stakeholders and local communities.

BUILD

Build from the efforts of other working groups.

SUPPORT

Support the ongoing process to redesign SR37 and restore marshlands.

ENVISION

Provide a vision for the future that addresses sea level rise and offers positive outcomes for nearby communities, wildlife, and transportation.

COMMON GROUND OUTREACH

FLYWAY FESTIVAL

MARE ISLAND
FEB 10th & 11th





ific Ocean

WHERE A
PLEASE M

LIVE
↑



WHAT PARTS OF THE BAY
HAVE YOU VISITED?
PLEASE MARK WITH A ●

COMMON GROUND OUTREACH

WHAT NAME
would you use to identify this
region?

¿QUÉ NOMBRE
usaría para identificar este
región?

Industry & Marsh

HAVE YOU VISITED
the marshes around
Highway 37? Why?

¿HA VISITADO
los pantanos del
Highway 37? ¿Por qué?

not properly... don't
know the right spots to
check out!



What would you like to
see in the Baylands
IN THE FUTURE?

¿Qué le gustaría ver
en Baylands
EN EL FUTURO?

trails
bird sanctuaries
educational markers, signs,
museums

WHAT NAME
would you use to identify this
region?

¿QUÉ NOMBRE
usaría para identificar este
región?

SAN PABLO BAY
wetlands



HAVE YOU VISITED
the marshes around
Highway 37? Why?

¿HA VISITADO
los pantanos del
Highway 37? ¿Por qué?

I have but its had to get
back on the highway - it takes
too much time / Bird watching

What would you like to
see in the Baylands
IN THE FUTURE?

¿Qué le gustaría ver
en Baylands
EN EL FUTURO?

Access points /
get the road up so wildlife +
water to occur

the majority of you were:



we asked you what name you use to

IDENTIFY THIS REGION

SEARS POINT

SONOMA-NAPA MARSHES

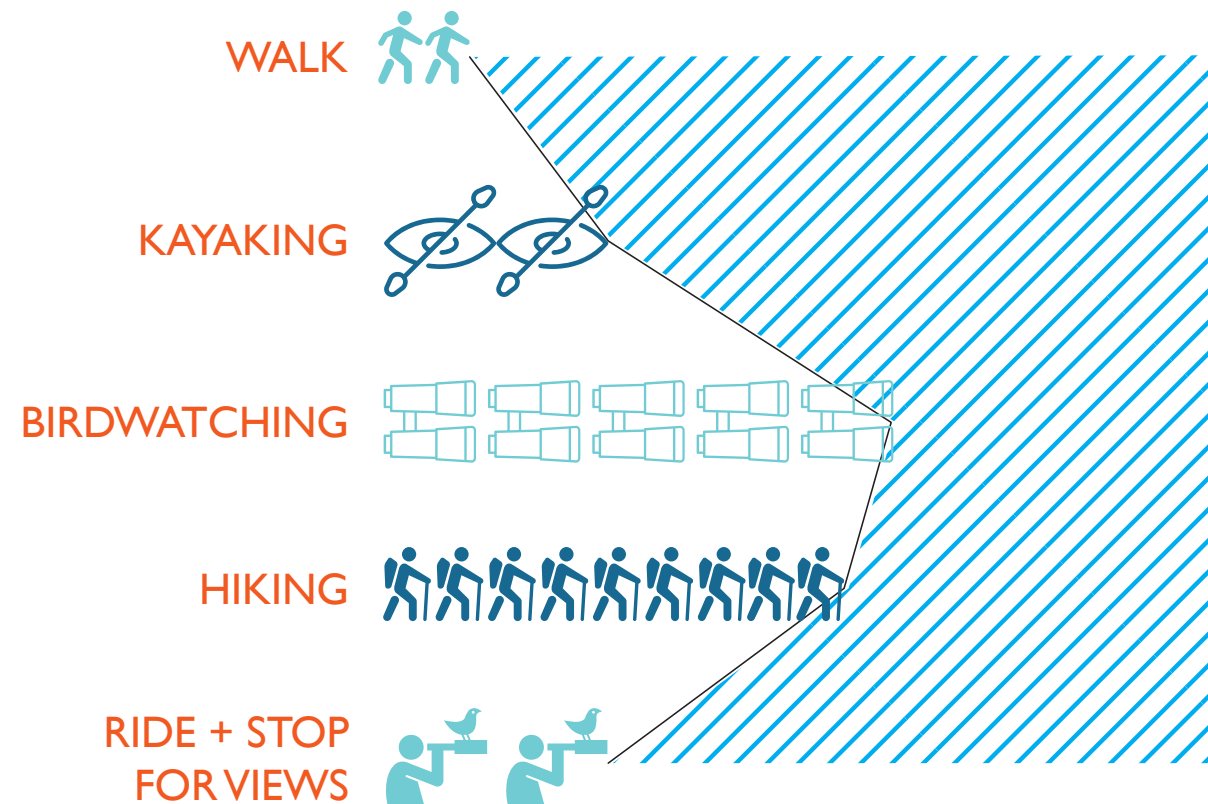
NORTH BAY

NAPA ESTUARY

SAN PABLO BAY

NORTH BAY WETLANDS

why you visit the
MARSHES AROUND
HIGHWAY 37



WHY YOU HAVEN'T VISITED

the marshes around Highway 37...

"It seems as if
nothing is there"

"Don't know the right
spots to check out"

"Explanation
of how the
estuary works
– what is
happening
here?"

"Not easily
accessed"

Need a "way to know the
tides before you visit"

COMMON GROUND

OUR FOCUS

IDENTITY

Strengthen the identity of the San Pablo Bay Region to encourage better understanding of the baylands as a major ecological and educational resource.

ADAPTATION

Provide new strategies for adaption of the San Pablo Baylands in response to sea level rise.

MOBILITY

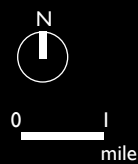
Deliver long-term inter-modal connections around and across the San Pablo Baylands.

ACCESS

Provide more equitable access to the communities of San Pablo Bay, with particular attention given to programs for disadvantaged communities to broaden the constituency for these baylands.



SITE EXISTING CONDITIONS





MUDFLAT

SUBSIDING LAND
(FORMER MARSHLAND)




HW37



FLOODED AREA
(FORMER MARSHLAND)

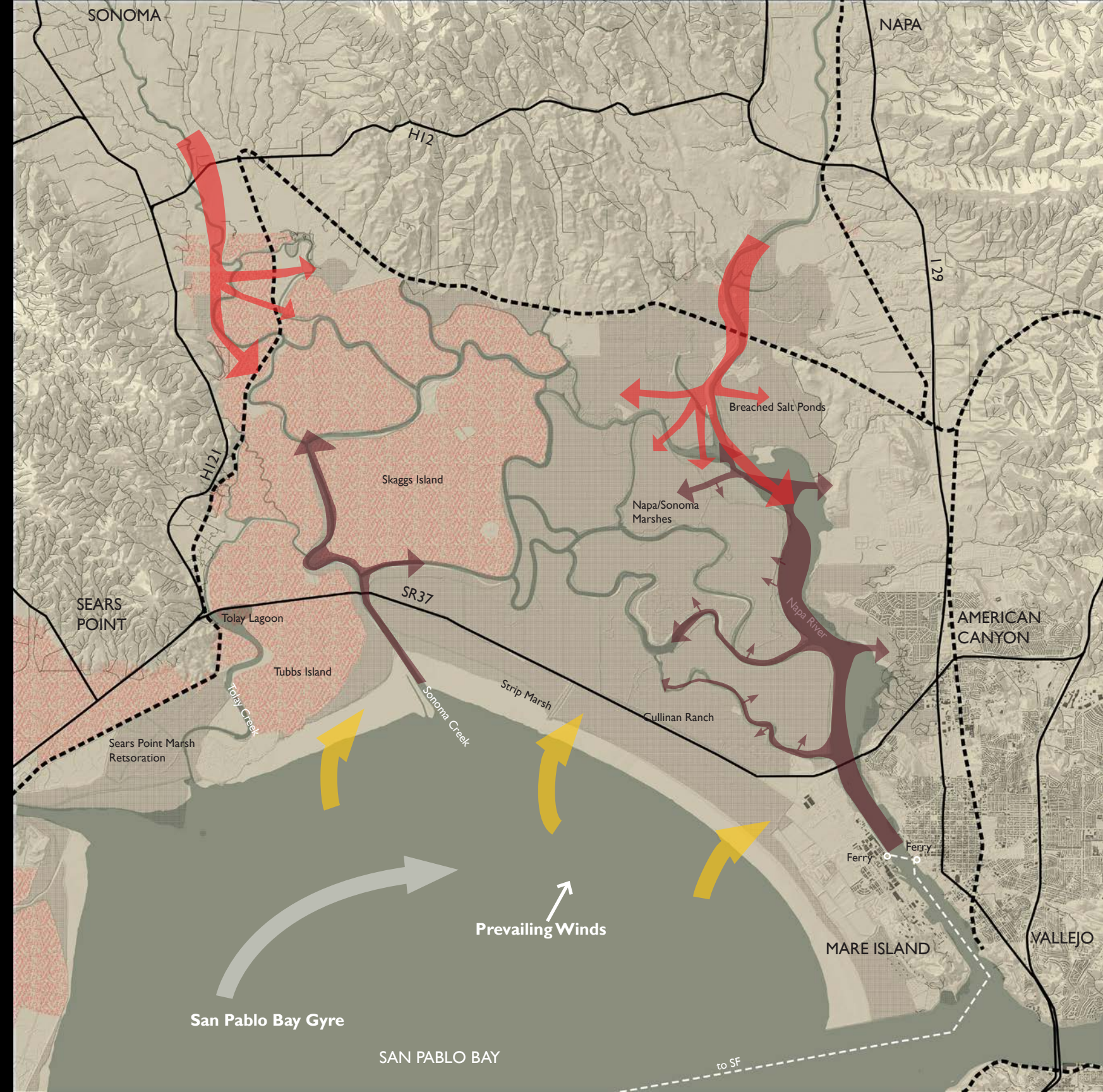
LEVEED
SLOUGH

SITE ANALYSIS

SEDIMENT SOURCES

-  **RIVER/CREEK (from north)**
Sonoma Creek and Napa River account for 1/3 of total sediment entering the bay
-  **TIDAL (from sides)**
Sloughs, Tolay Creek, Sonoma Creek, Napa River
-  **WAVE (from south)**
From waves from San Pablo Bay
This has led to strip marsh accretion of 20'-30'/year over the last 150 years but is predicted to slow with sea level rise.

-  Diked land parcels subsided up to 7' below current sea level
-  Restored/in process of restoration wetlands protected by strip marsh berm



SITE SAN PABLO BAYLANDS

STRATEGIES

- ELEVATION CAPITAL
- SR 37 CAUSEWAY
- TERRAFORMING
- LOOPS & GATEWAYS

OPPORTUNITIES

- SCENIC SR37
- NATURAL & CULTIVATED ADAPTION
- INCREASE ACCESS AND LEGIBILITY

IDENTITY

SAN PABLO BAY WILDLIFE REFUGE ?

SCENIC CORRIDOR ?

REGIONAL PARK ?

STATE PARK ?

BAYLANDS NATIONAL SEASHORE?

