

City of Alameda *Climate Adaptation and Hazard* *Mitigation Plan*

Transportation Commission
October 27, 2021



Climate Adaptation and Hazard Mitigation Plan

- Addresses natural and climate induced hazards that impact the City of Alameda
- Lays out a strategy for mitigating natural hazards and adapting to a changing climate.
- Success of the plan closely tied with our ability to meet CARP goals to reduce greenhouse gas emissions



ALAMEDA

**Climate Adaptation and
Hazard Mitigation Plan**

September 2021 DRAFT

Benefits of an Approved Plan

- Create a more disaster-resistant and resilient community
- Eligibility for hazard mitigation assistance programs
- Eligibility for points under the National Flood Insurance Programs Community Rating System (CRS)
- Eligibility for waiver of the 6.25% local match for Public Assistance money after a disaster (if adopted as part of the General Plan Safety Element).



Current Plan

- Local Hazard Mitigation Plan
 - FEMA Approval November 2016
- Must be updated every 5 years



Alignment with Other Plans

- General Plan Safety Element
- Climate Action and Resiliency Plan (CARP)
 - Adaptation chapter
- Emergency Management Plan



Natural Hazards Considered

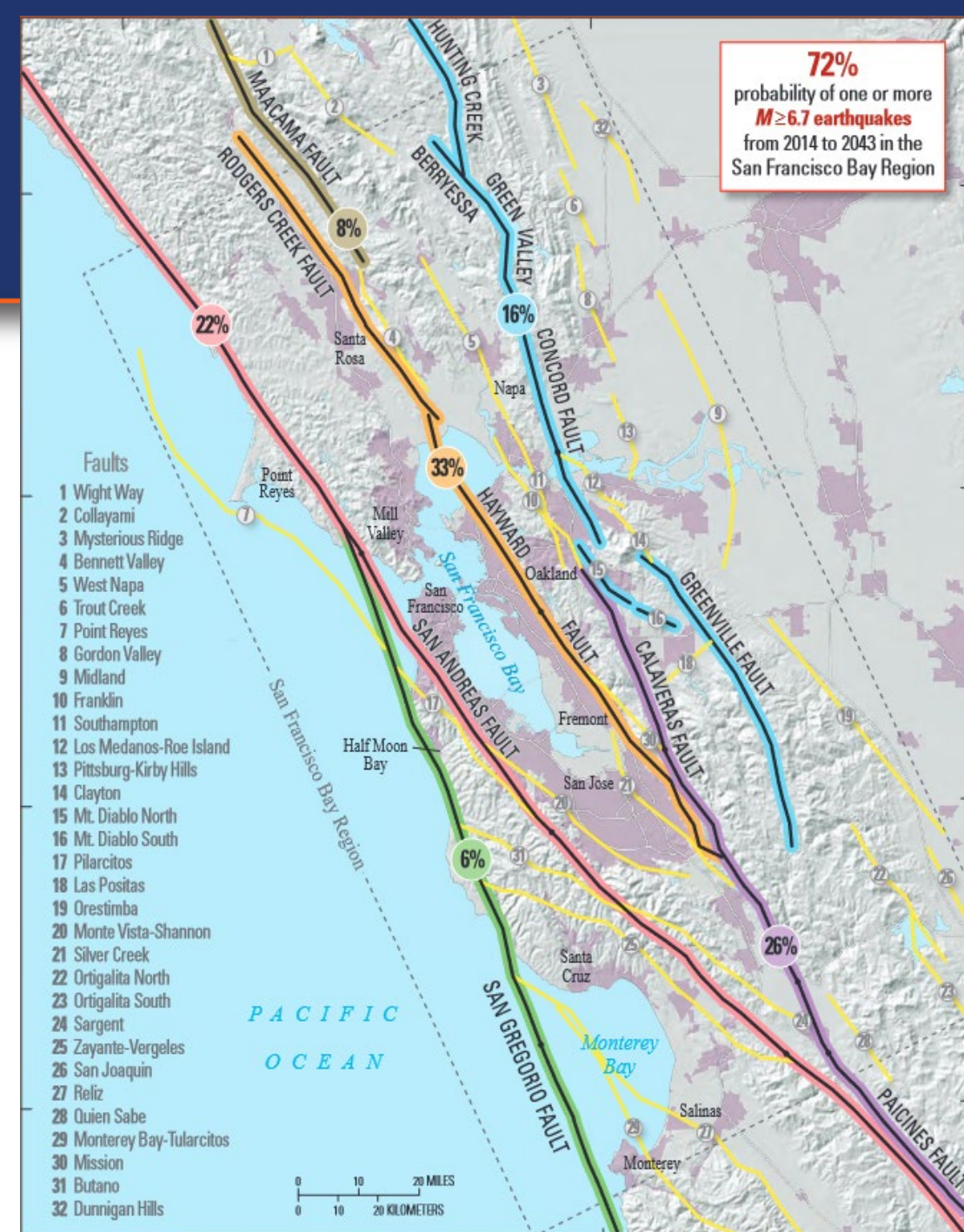
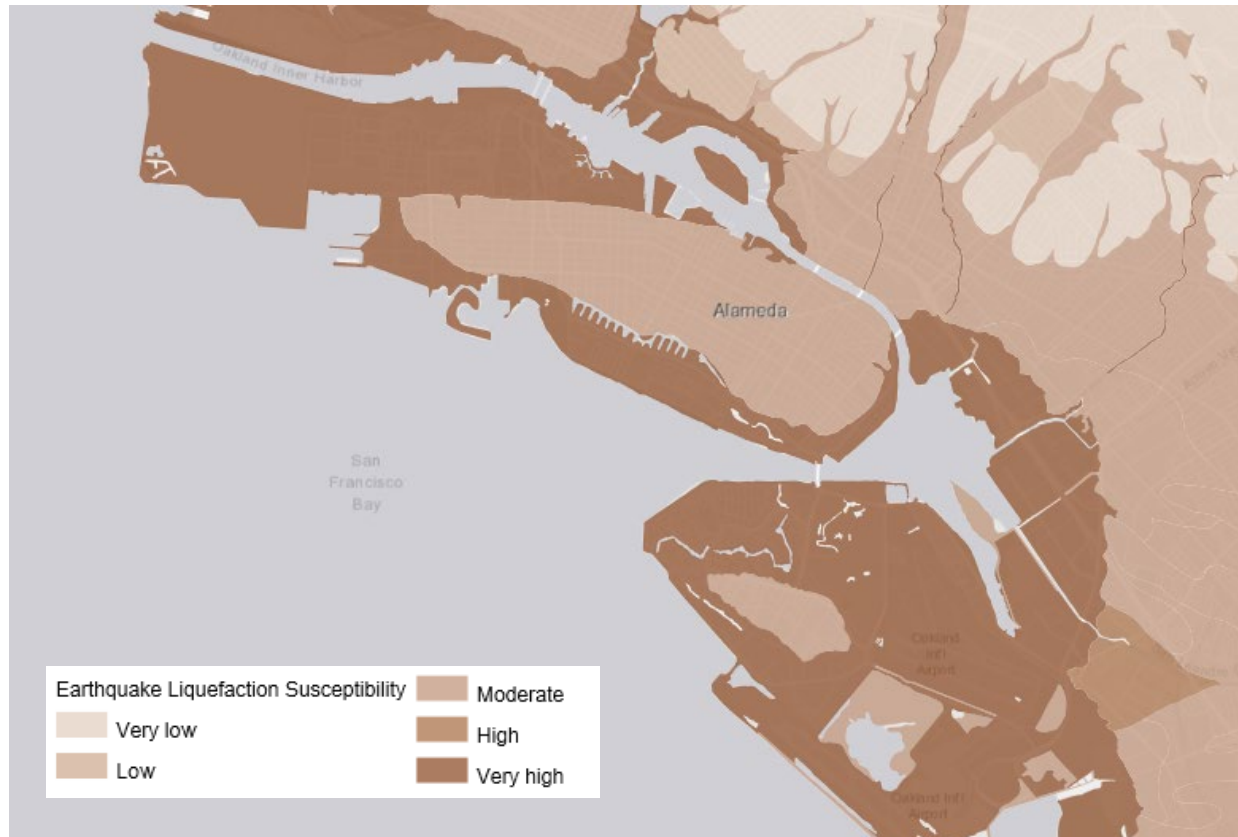
Hazard	Likelihood	Consequence
Earthquakes	Likely	Catastrophic
Flooding from storms	Likely	Moderate to Catastrophic
Sea level rise	Likely	Catastrophic
Tsunamis	Possible	Moderate to Catastrophic
Heat	Likely	Moderate
Drought	Likely	Moderate
Wildfire-related hazards (smoky air, PSPS)	Likely	Moderate
Dam breach inundation	Unlikely	Moderate

Hazards NOT considered in the plan

- Pandemics
- Terrorism
- Cold weather
- Large urban fires (except related to earthquakes)
- Energy shortages
- Hazardous materials release



Earthquakes



Seismic Status of Bridges and Tubes in Alameda

Bridge/Tube	Owner	Year Built	Seismic Performance
High Street bridge	Alameda County	1939	No collapse
Park St bridge	Alameda County	1935	No collapse
Miller-Sweeney bridge	Alameda County	1973	No collapse
Fruitvale rail bridge	U.S. Army Corps of Engineers	1951	Collapse hazard
Bay Farm Island vehicular bridge	Caltrans	1953	No collapse
Bay Farm Island bike/ped bridge	Caltrans	1996	No collapse
Webster and Posey tubes	Caltrans	1928 (Posey) 1963 (Webster)	No collapse
Constitution Way overcrossing	Caltrans	1985	No collapse
Grand St bridge	City of Alameda	1958	Unknown
Ballena bridge	City of Alameda	1966	Lifeline



Flooding + Sea Level Rise



Plan for at least 3.5' of sea level rise by 2070 in addition to 100-year storm (3.5')

- OPC 2018 “Medium-High Risk Aversion, high emissions” scenario

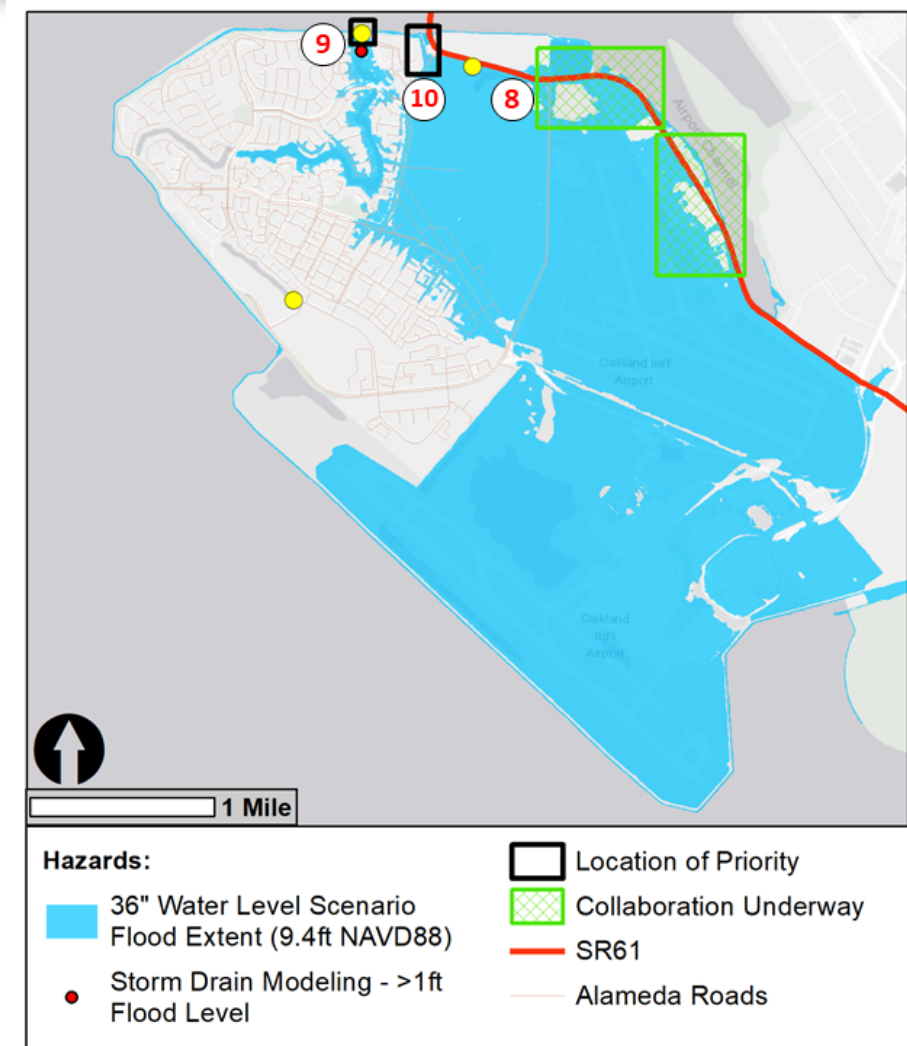
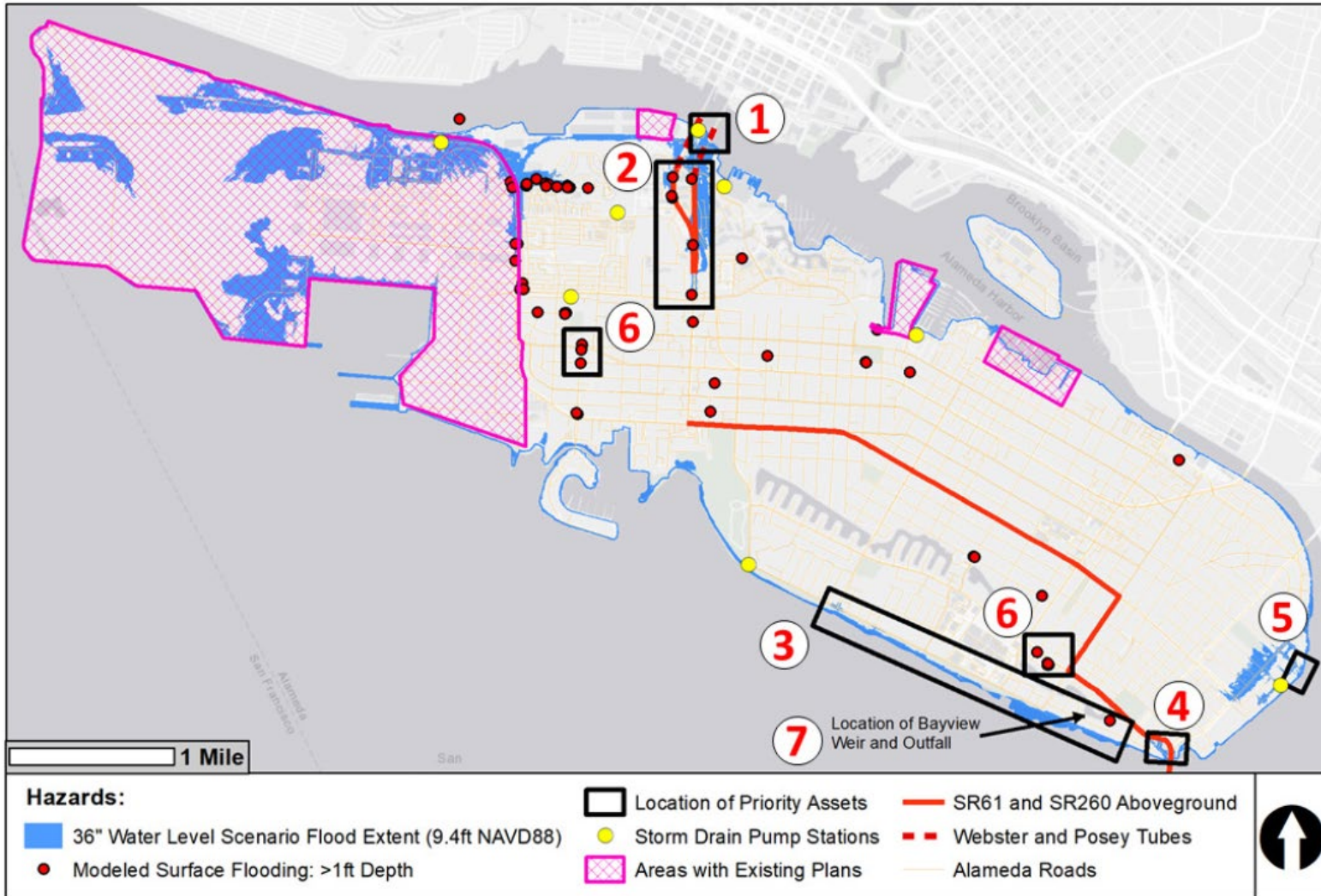


Length of Major City Roadways within 100-year Flood Zone

Major Roadways Impacted by Flooding (and Area of City) at 100-yr Flood Event	Approx. Linear Footage (LF) Affected at Current 100-yr Flood Event
Main Island:	
SR 260/Webster St. Leading to Posey Tube Portal Descent (Northern Shoreline)	3,000 LF
SR 260/Webster St Loop Leading to Webster Tube Portal Descent (Northern Shoreline)	600 LF
Fernside Blvd. (Eastern Shoreline)	2,000 LF
Main Street (Alameda Point)	5,700 LF
Bay Farm Island:	
Doolittle Drive	1,800 LF
Harbor Bay Parkway	6,100 LF
Island Drive	4,600 LF
Maitland Drive	4,400 LF
Mecartney Road	2,500 LF
Robert Davey Jr. Drive	2,000 LF
Total Major Roadway Exposure:	32,700 LF



Priority Flooding Locations



Groundwater Rise

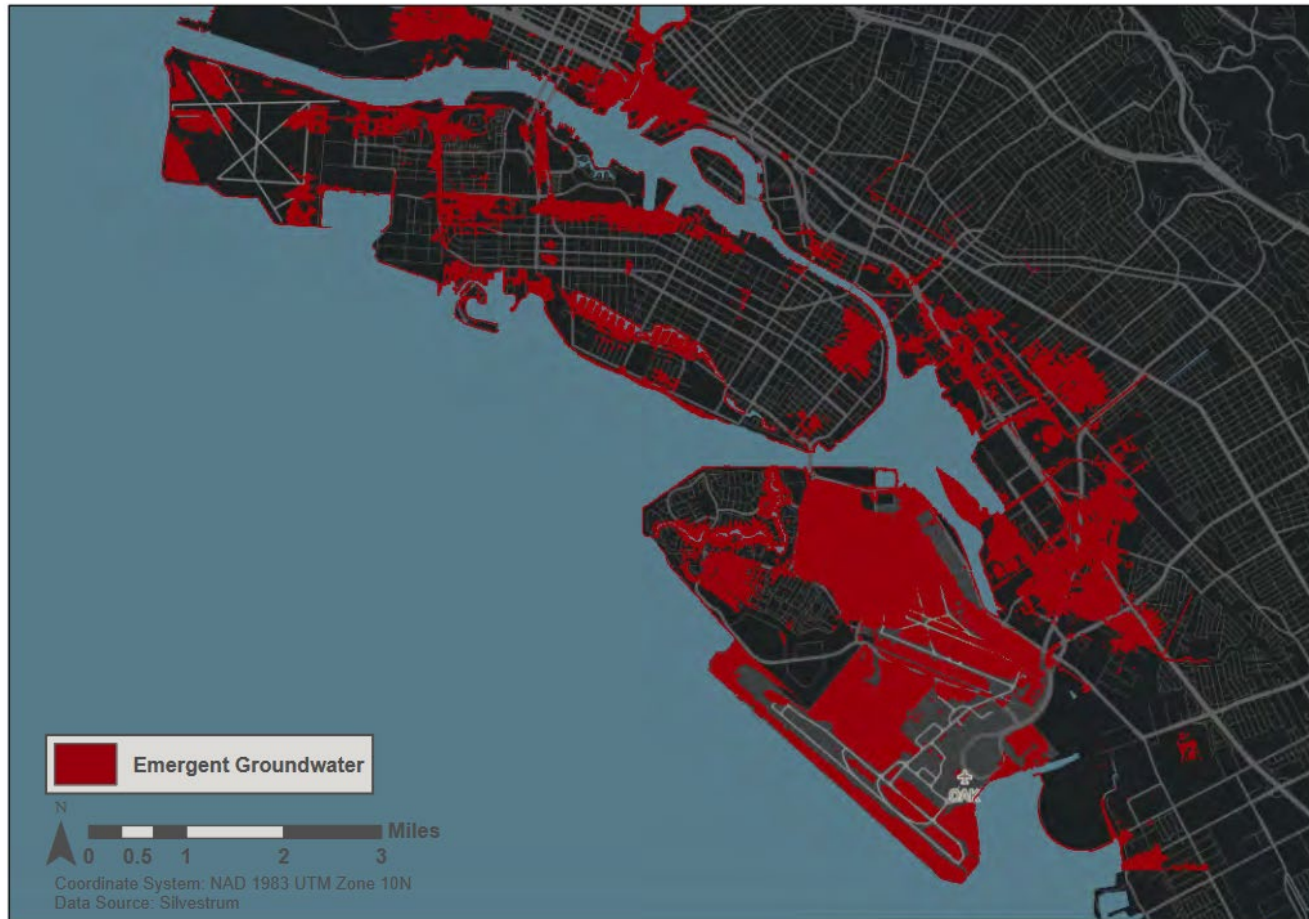
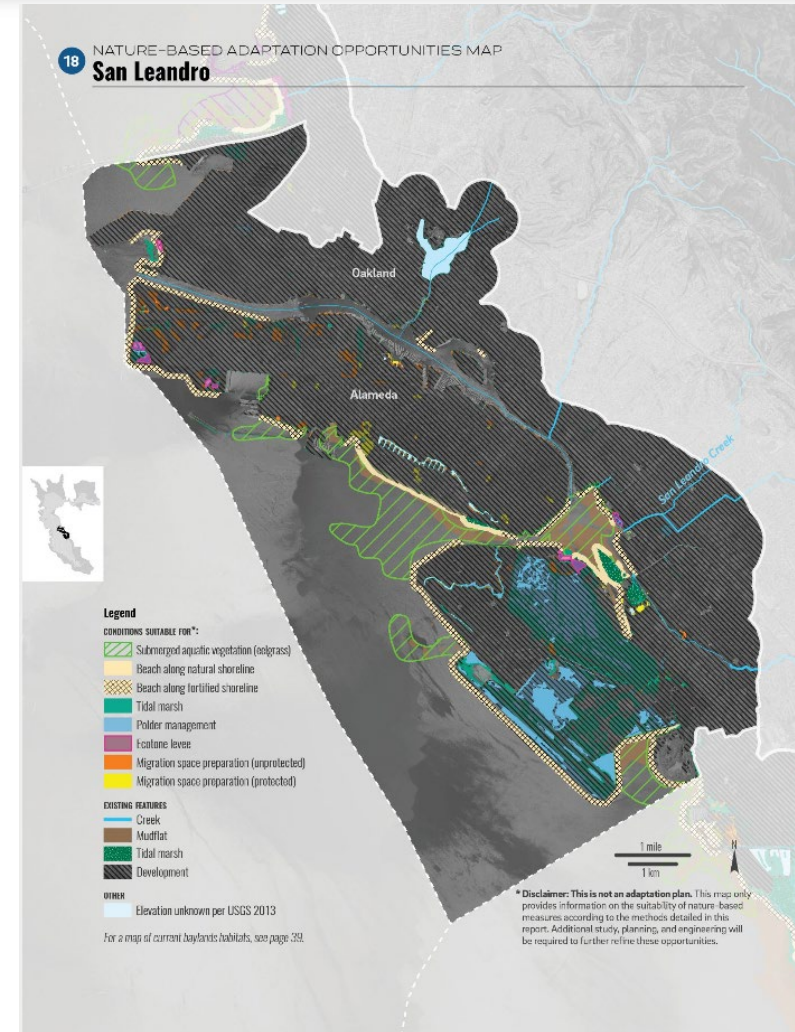


Figure 4.4 Emergent Groundwater with 36" of Sea Level Rise



San Leandro Bay/Estuary Adaptation Working Group

- Coordinates San Leandro Bay and Estuary flood and adaptation projects to protect and restore water quality, habitat, and adjacent community vitality.
- Landscape unit shares common physical characteristics that benefit from being managed as individual units



Tsunami



Highlighted Strategies

- Citywide Sea Level Rise Adaptation Plan
- Doolittle Drive Adaptation
- Northern Shoreline Adaptation near Posey/Webster Tubes
- Refine Groundwater Model
- Resilient Transportation Network
- Disaster Debris Plan and Agreement
- Tsunami Education
- Tsunami Evacuation Planning
- Emergency Transportation Planning
- Lifeline Estuary Crossing



Community Engagement/Next Steps

- Boards and Commissions
 - Sept 27: Planning Board
 - Oct 13: Commission on Persons with Disabilities
 - Oct 25: Public Utilities Board
 - Oct 27: Transportation Commission
 - Oct 28: Social Service and Human Relations Board
 - Oct 28: Alameda Collaborative for Children, Youth and their Families
 - Nov 4: Historical Advisory Board
- City Council adoption following FEMA provisional approval



Staff recommendation

Review and comment on the draft Climate Adaptation and Hazard Mitigation Plan

