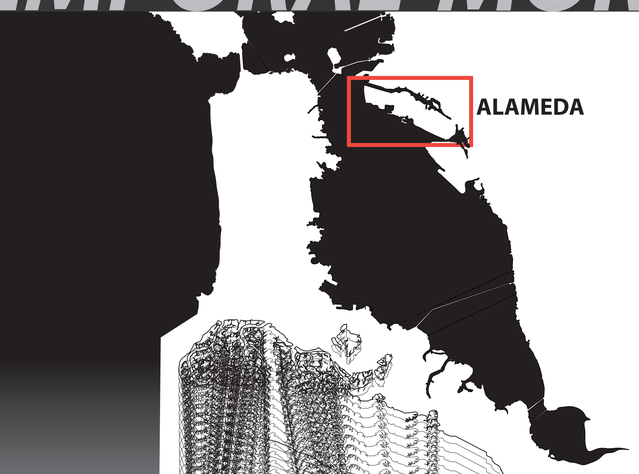
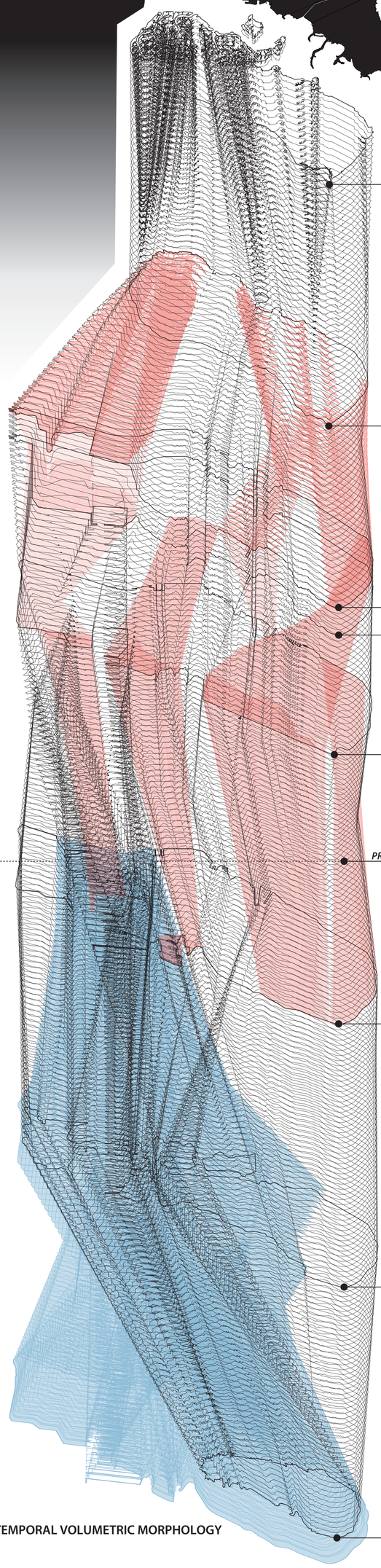
TEMPORAL MORPHOLOGY

SYNTHETIC GROWTH + NATURAL DECLINE OF ALAMEDA ISLAND

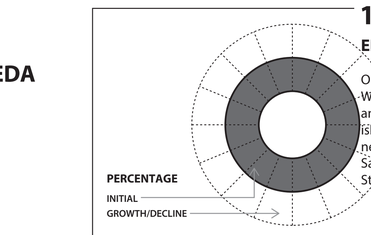




PROJECTIVE

PROJECTIVE

TEMPORAL VOLUMETRIC MORPHOLOGY



1877

ENCINAL AND LAND ADJACENCY

Originally named Encinal, it consisted of three villages: Woodstock on the west, the town of Alameda on the east, and Encinal in the middle of the island. One-third of the island on the northwest was a marshland, and was connected to the main landmass on the eastern part. The San Francisco and Alameda Railroad opened the Encinal Station in 1864, thus connecting the three villages.

1912

CHARTER, LANDFILL AND ESTUARY

The increase in population in the coming of the railroad demanded for an increase of land area, which is resolved by capping the marshland. The shipping industry was also a major factor in the creation and dredging of the estuary. The built environment started to increase within each village and started to branch out along the railways.

1938

MILITARY OCCUPATION

Built on reclaimed land, the site was acquired by the USAAC in 1930, but was later turned over to the Navy in 1936 during WWII. The Coast Guard Island, known as "Campbell Island" was artificially built up with landfill. The rest of Alameda were built up for residential.

1942

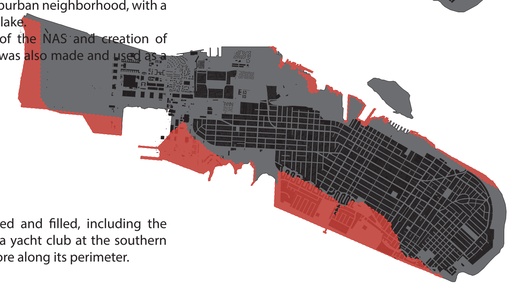
ALAMEDA NAVAL STATION

By the time Alameda NAS was completed, its land area was one-fourth, in proportion to the entire island.

1960

"SOUTH SHORE" AND HORNET FIELD

As population increased more, so did the demand for land. "South Shore" was yet another result of the capping and landfill - creating the suburban neighborhood, with a backyard-facing man-made lake.
Along with the extension of the NAS and creation of "South Shore," Hornet Field was also made and used as a recreational area.



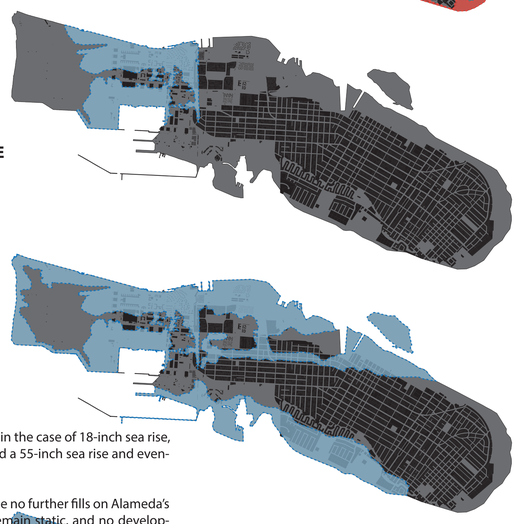
2000

MORE FILLS

Alameda was further capped and filled, including the wave breaker for the piers, a yacht club at the southern portion of the island and more along its perimeter.

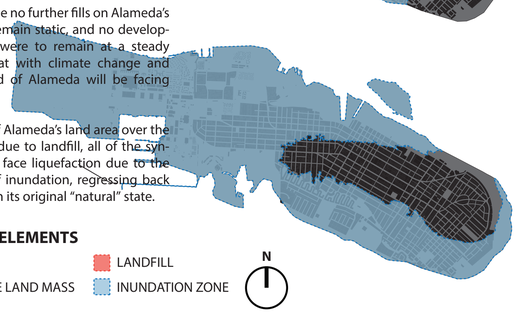
(2050)

18" SEA RISE



(2100)

100-YEAR FLOOD LINE



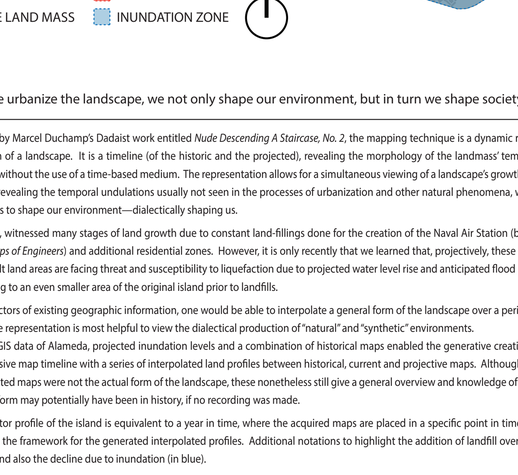
(2150)

55" SEA RISE

The following are scenarios in the case of 18-inch sea rise, 100-year expected flood and a 55-inch sea rise and eventual threat of liquefaction.

Assuming that if there will be no further fills on Alameda's land mass, population to remain static, and no developments or if these factors were to remain at a steady growth, then it means that with climate change and global warming, the island of Alameda will be facing decline in growth.

Regardless of the growth of Alameda's land area over the course of the last century due to landfill, all of the synthetic fills and caps would face liquefaction due to the three different scenarios of inundation, regressing back to an even smaller area than its original "natural" state.



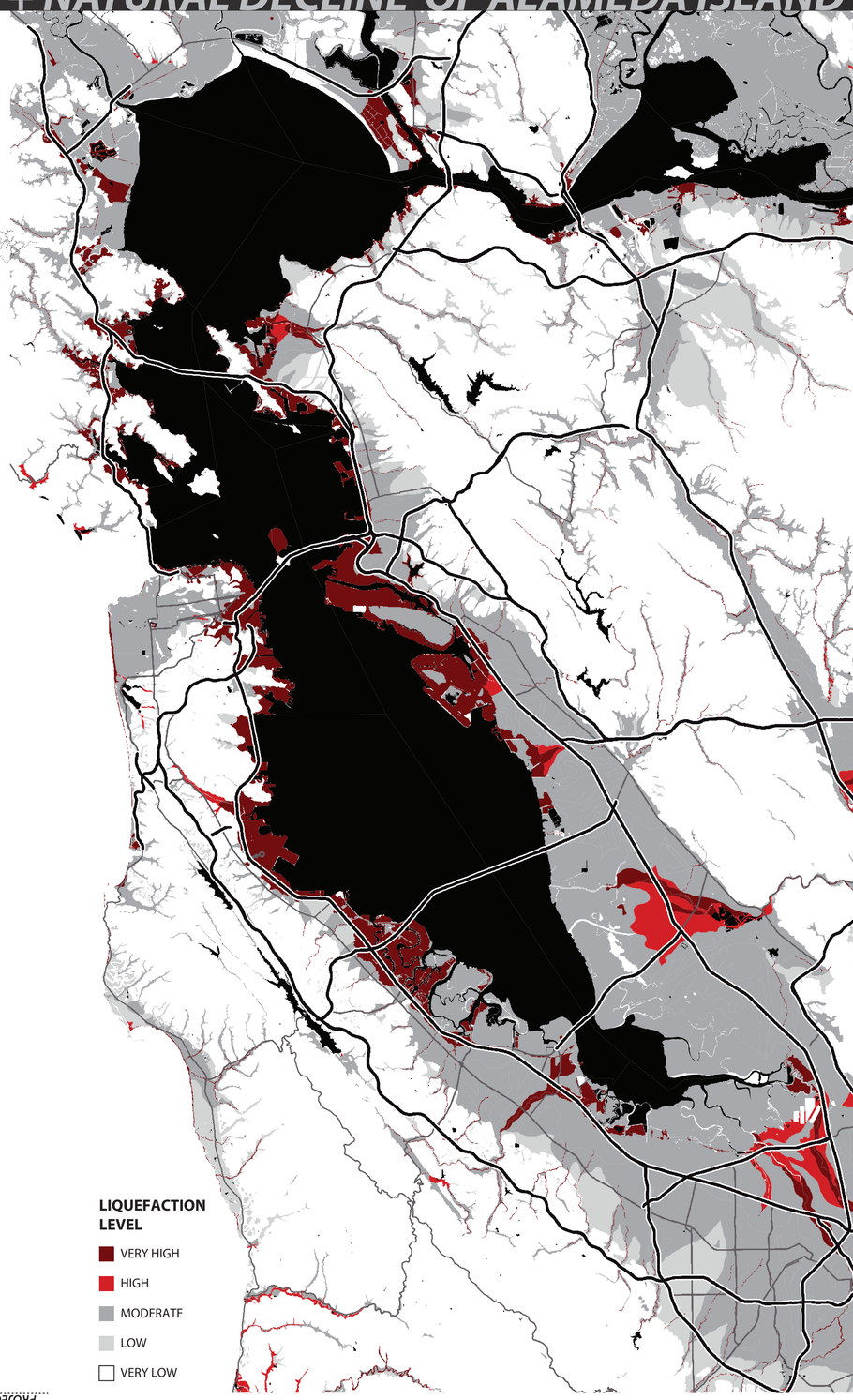
TEMPORAL ELEMENTS

- BUILDINGS
- COLLECTIVE LAND MASS
- LANDFILL
- INUNDATION ZONE

N

0 | 50, 000 | 100, 000 | 150, 000 | 200, 000

HISTORIC AND PROJECTIVE POPULATION

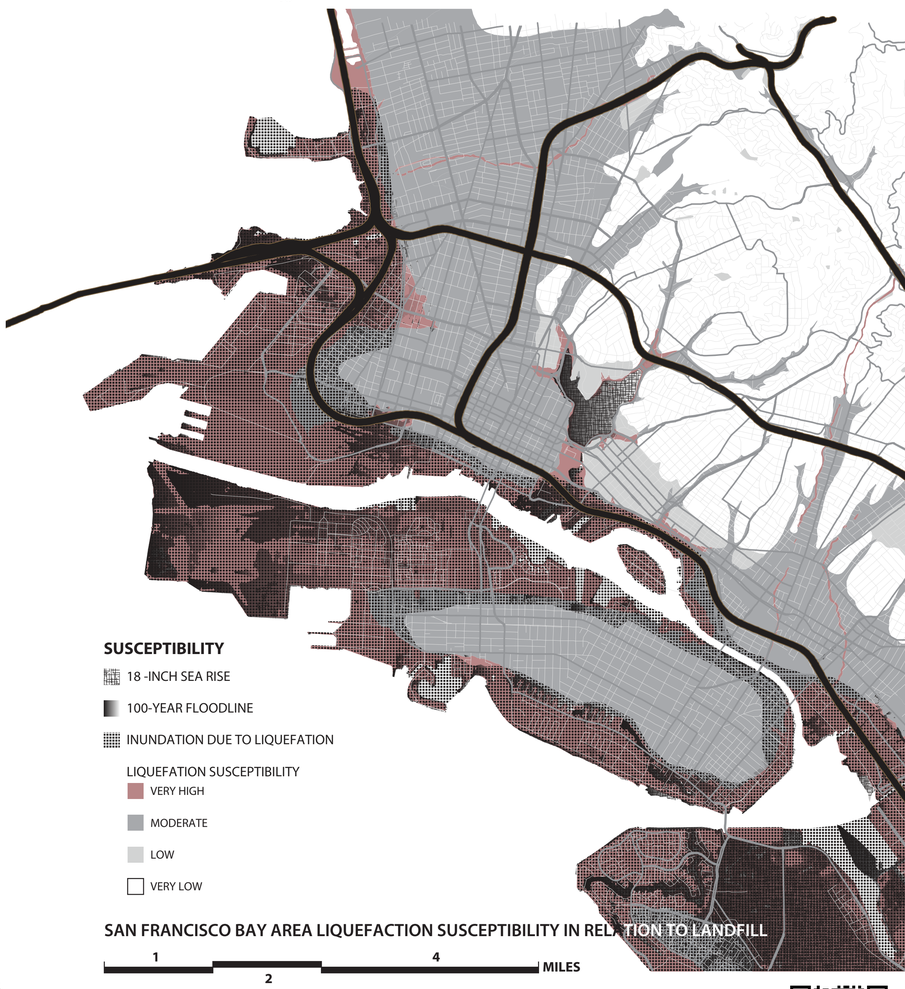


LIQUEFACTION LEVEL

- VERY HIGH
- HIGH
- MODERATE
- LOW
- VERY LOW

SAN FRANCISCO BAY AREA LIQUEFACTION SUSCEPTIBILITY IN RELATION TO LANDFILL

5 | 10 | 20 MILES



SUSCEPTIBILITY

- 18 -INCH SEA RISE
- 100-YEAR FLOODLINE
- INUNDATION DUE TO LIQUEFATION

LIQUEFATION SUSCEPTIBILITY

- VERY HIGH
- MODERATE
- LOW
- VERY LOW

SAN FRANCISCO BAY AREA LIQUEFACTION SUSCEPTIBILITY IN RELATION TO LANDFILL

1 | 2 | 4 MILES


Alameda, 1940


Alameda, Present

As we urbanize the landscape, we not only shape our environment, but in turn we shape society.

Inspired by Marcel Duchamp's Dadaist work entitled *Nude Descending A Staircase, No. 2*, the mapping technique is a dynamic representation of a landscape. It is a timeline (of the historic and the projected), revealing the morphology of the landmass' temporal volume, without the use of a time-based medium. The representation allows for a simultaneous viewing of a landscape's growth and decline, revealing the temporal undulations usually not seen in the processes of urbanization and other natural phenomena, which continues to shape our environment—dialectically shaping us.

Alameda, witnessed many stages of land growth due to constant land-fillings done for the creation of the Naval Air Station (by the *Army Corps of Engineers*) and additional residential zones. However, it is only recently that we learned that, projectively, these artificially built land areas are facing threat and susceptibility to liquefaction due to projected water level rise and anticipated flood plain; regressing to an even smaller area of the original island prior to landfills.

Using vectors of existing geographic information, one would be able to interpolate a general form of the landscape over a period of time. The representation is most helpful to view the dialectical production of "natural" and "synthetic" environments.
Current GIS data of Alameda, projected inundation levels and a combination of historical maps enabled the generative creation of the cohesive map timeline with a series of interpolated land profiles between historical, current and projective maps. Although, the interpolated maps were not the actual form of the landscape, these nonetheless still give a general overview and knowledge of what the landform may potentially have been in history, if no recording was made.

Each vector profile of the island is equivalent to a year in time, where the acquired maps are placed in a specific point in time and serves as the framework for the generated interpolated profiles. Additional notations to highlight the addition of landfill over time (in red) and also the decline due to inundation (in blue).

ANIMATION

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Historic and Present Aerial Images
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(2010) "Present San Francisco Bay Area Aerial" http://cdn-www.airliners.net/aviation-photos/photos/0/0/6/1482600.jpg