

# Historic Aspects of Ports and Harbors

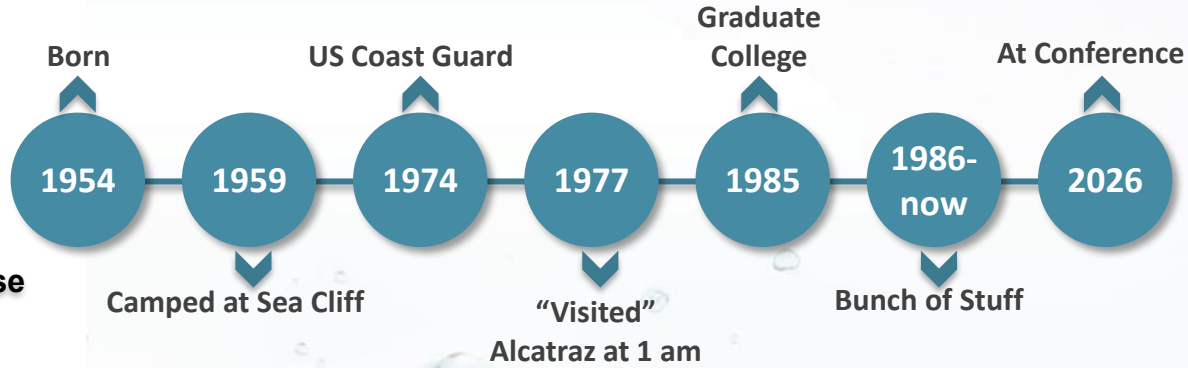
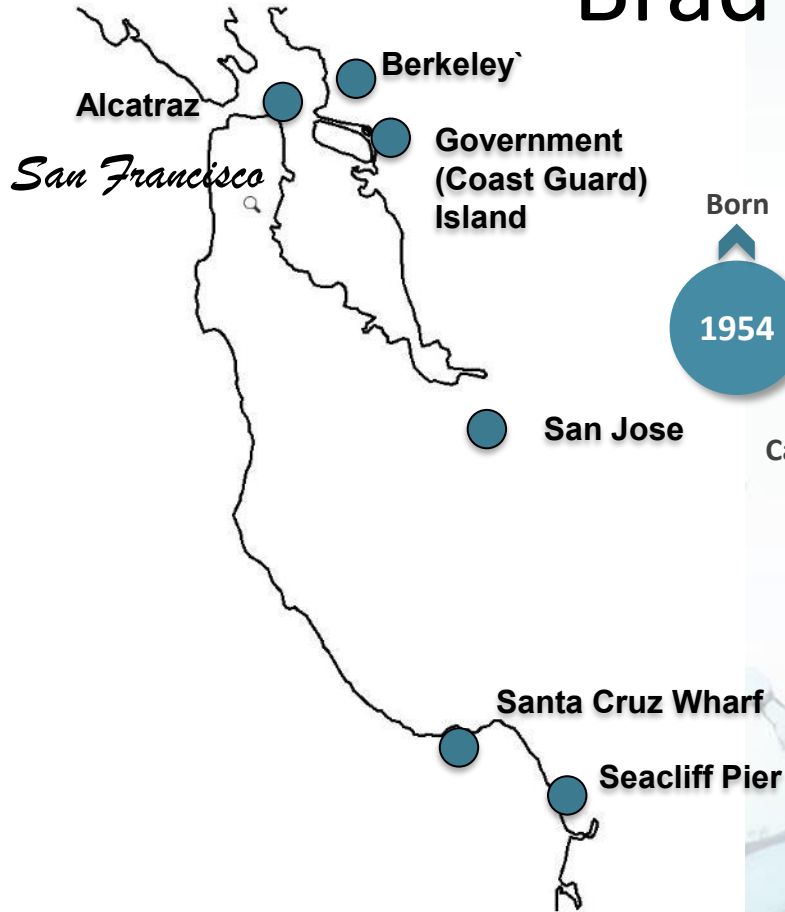
Brad Porter and Justin Estrada

Pacific Coast Congress 2026 Spring Conference

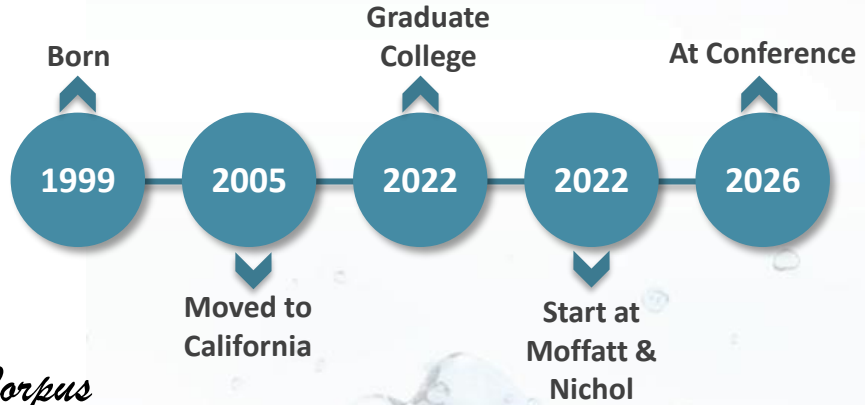
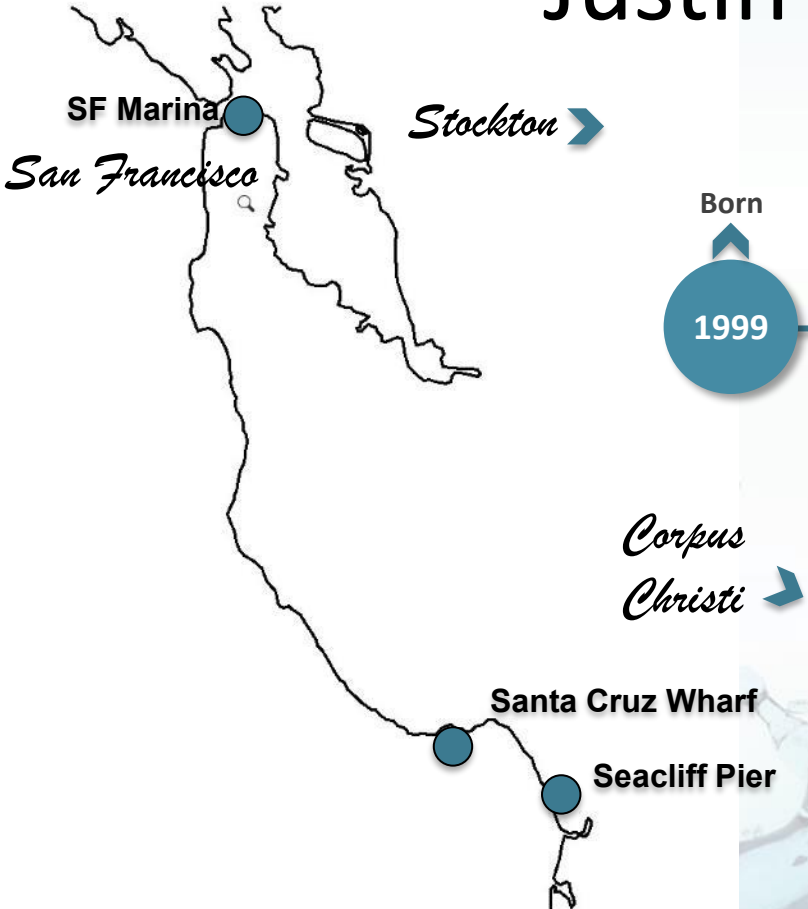
Emeryville, CA



# Brad's History



# Justin's History



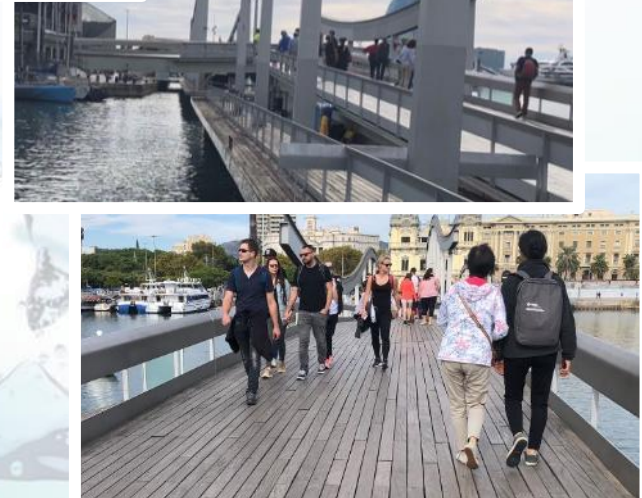
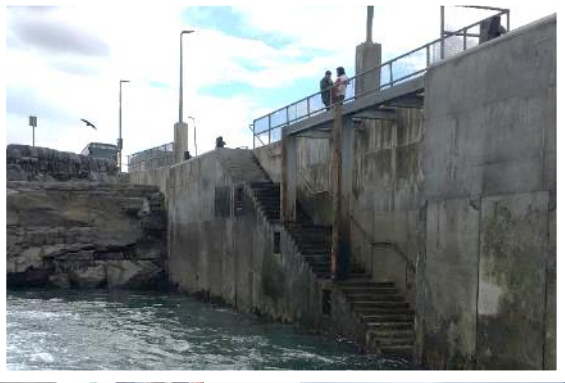
# Engineering Terms/Concepts

- Sidewalk superintendent
- Water
  - Hard
  - Slippery
- People-
  - Have lots of stuff
  - Like moving it

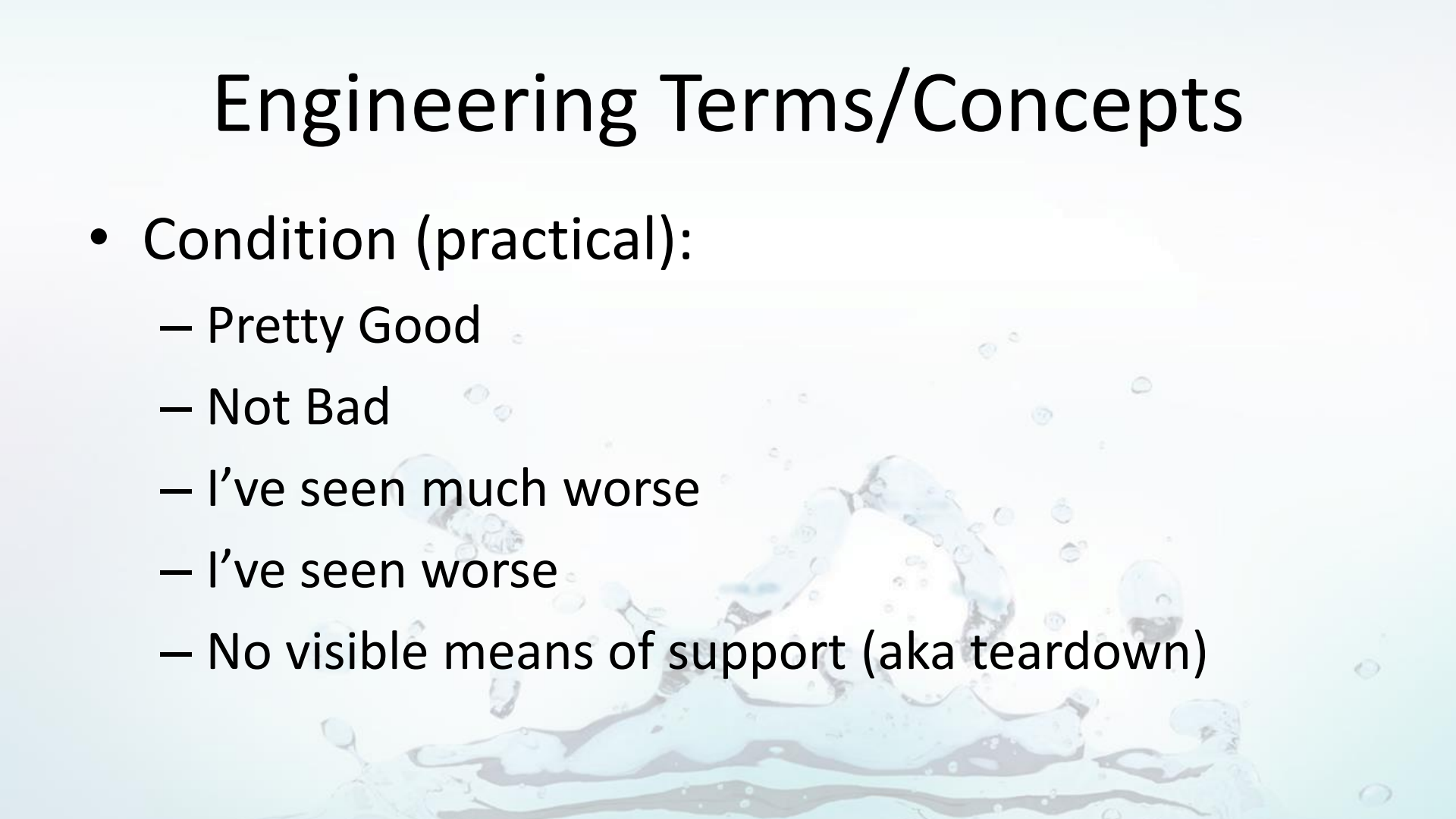


# Engineering Terms/Concepts

- Bus Man's Holiday



# Engineering Terms/Concepts

- Condition (practical):
    - Pretty Good
    - Not Bad
    - I've seen much worse
    - I've seen worse
    - No visible means of support (aka teardown)
- 
- A decorative background featuring a large, dynamic splash of water in shades of light blue and white, centered on the page. The splash is composed of many individual droplets and larger water masses, creating a sense of movement and freshness.

# Engineering Terms/Concepts

- Material Selection:
  - Rock lasts.....IF NO:
    - Steel in it
    - Earthquakes
    - Expansion
  - Everything else (wood, concrete, steel, etc) deteriorates in saltwater

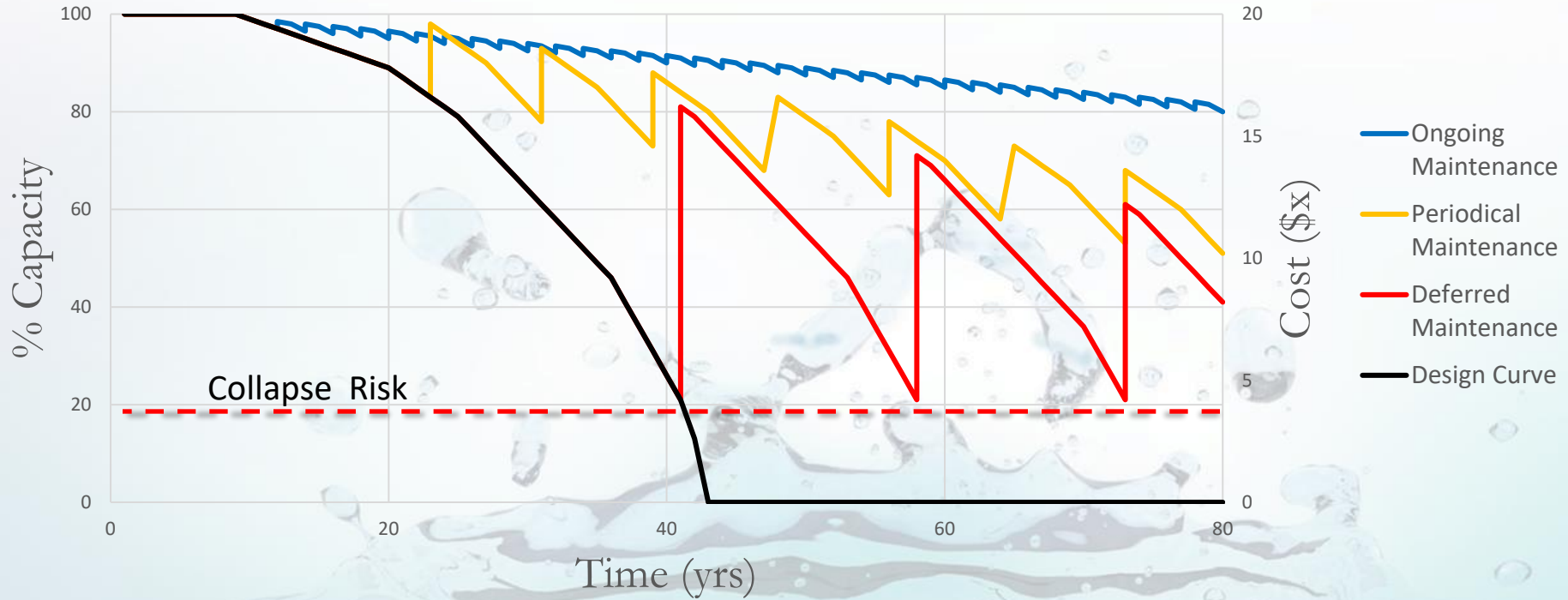
# Engineering Terms/Concepts

Rock lasts....



# Engineering Terms/Concepts

- Life Cycle (“design life” is meaningless)



# Historic California Facilities and Uses



- Transportation/rail
- Lumber
- Fishing/canneries
- Recreation/tourism
- National defense

A dynamic water splash graphic in shades of light blue and white, centered on a white background. The splash consists of a large, central water droplet with a crown-like top, surrounded by numerous smaller droplets and bubbles of varying sizes, creating a sense of movement and freshness.

**SAN FRANCISCO MARINA**

# San Francisco Marina Location



*San Francisco*

Alcatraz

SF Marina

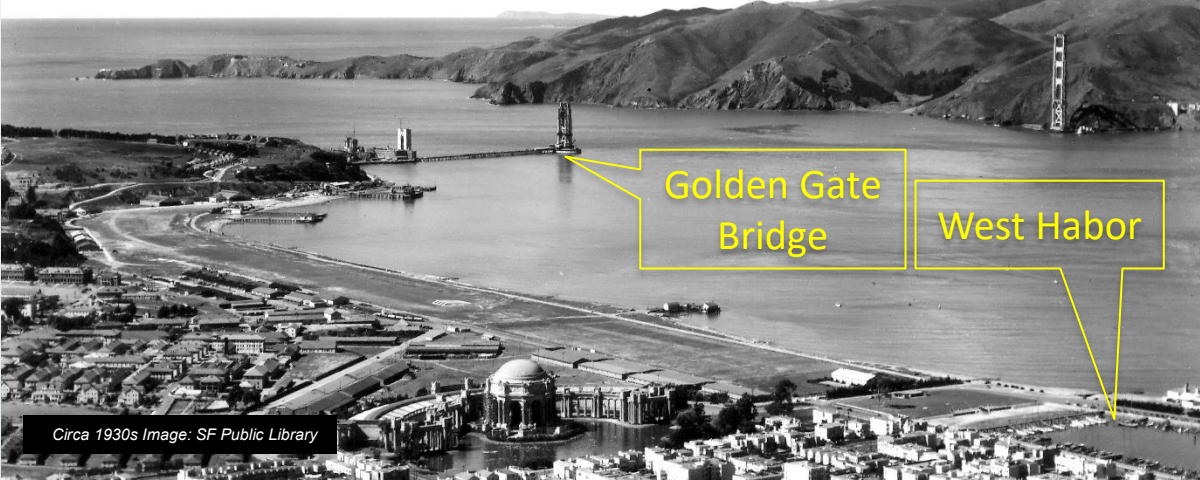
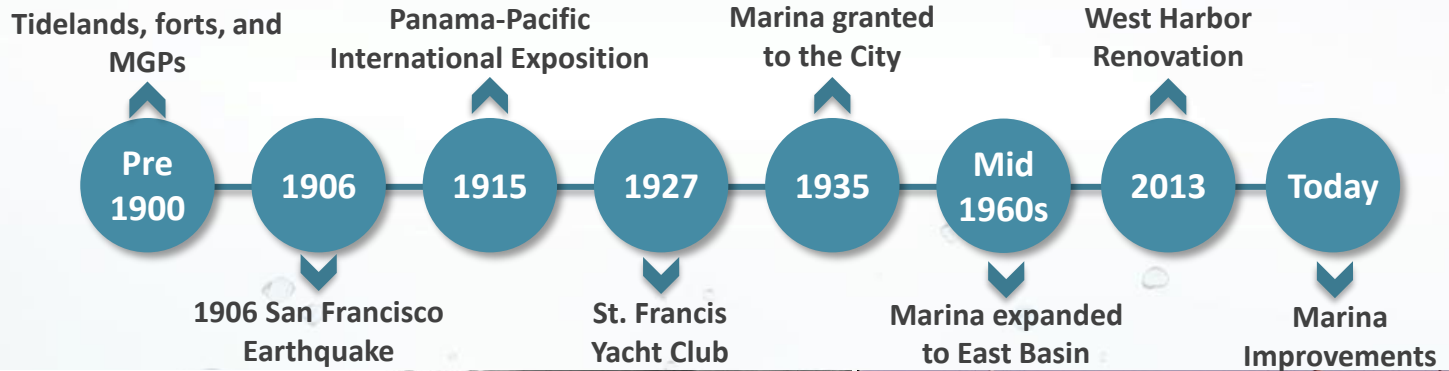
Beltline Train Ferry

Santa Cruz Wharf

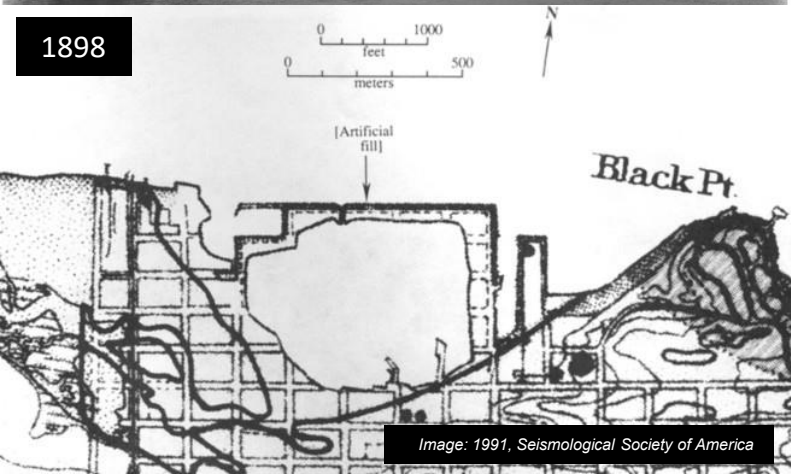
Seacliff Pier

*Los Angeles*

# San Francisco Marina Timeline



# San Francisco Marina



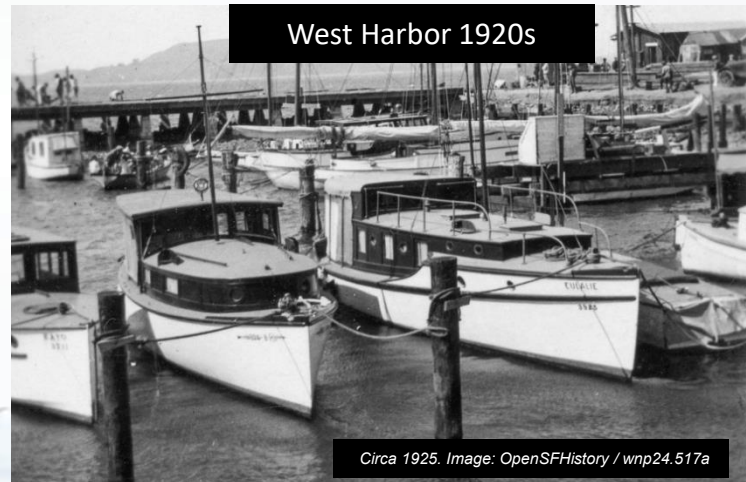
# San Francisco Marina

St. Francis  
Yacht Club



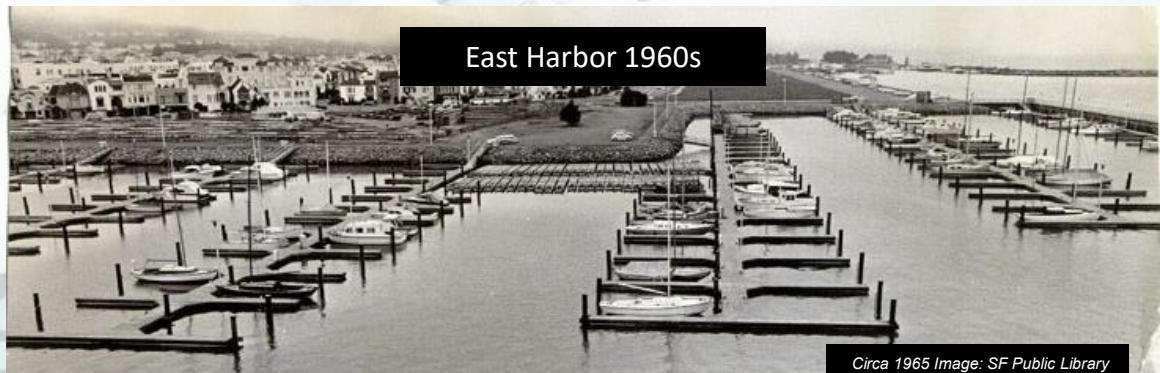
Circa 1930s. Image: OpenSFHistory / wnp37.01767

West Harbor 1920s



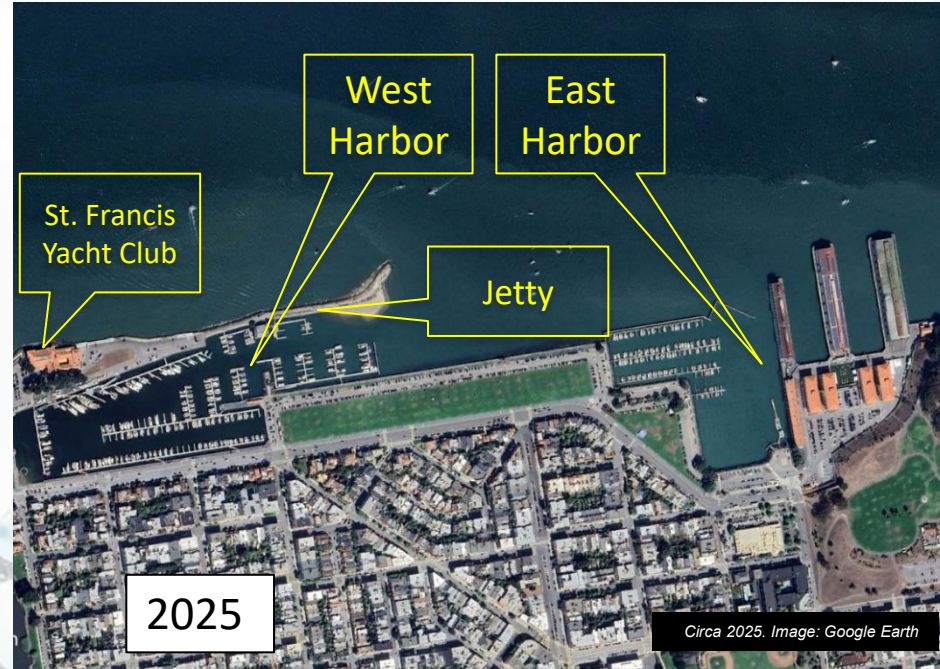
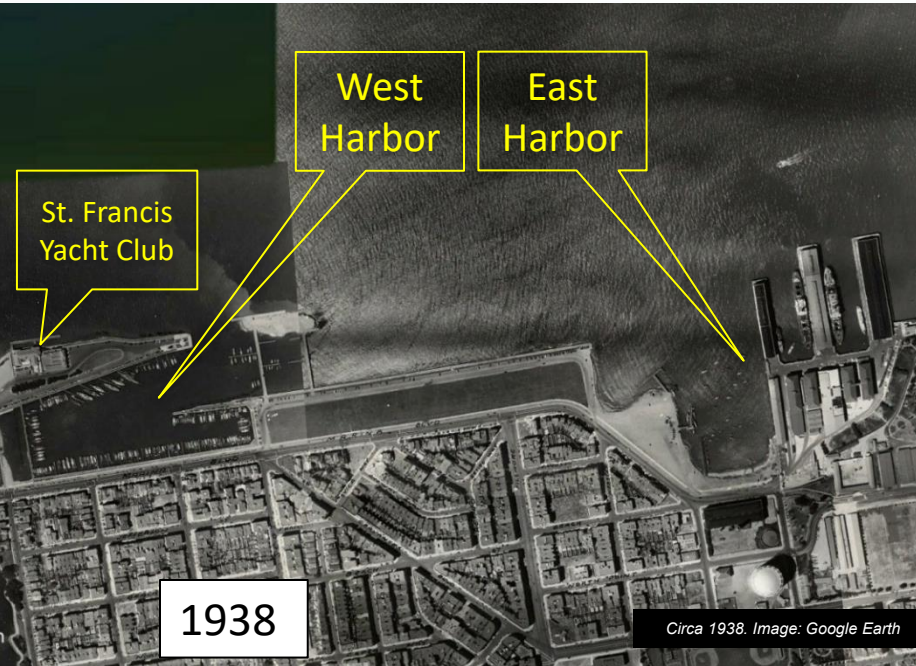
Circa 1925. Image: OpenSFHistory / wnp24.517a

East Harbor 1960s



Circa 1965 Image: SF Public Library

# San Francisco Marina



# San Francisco Marina

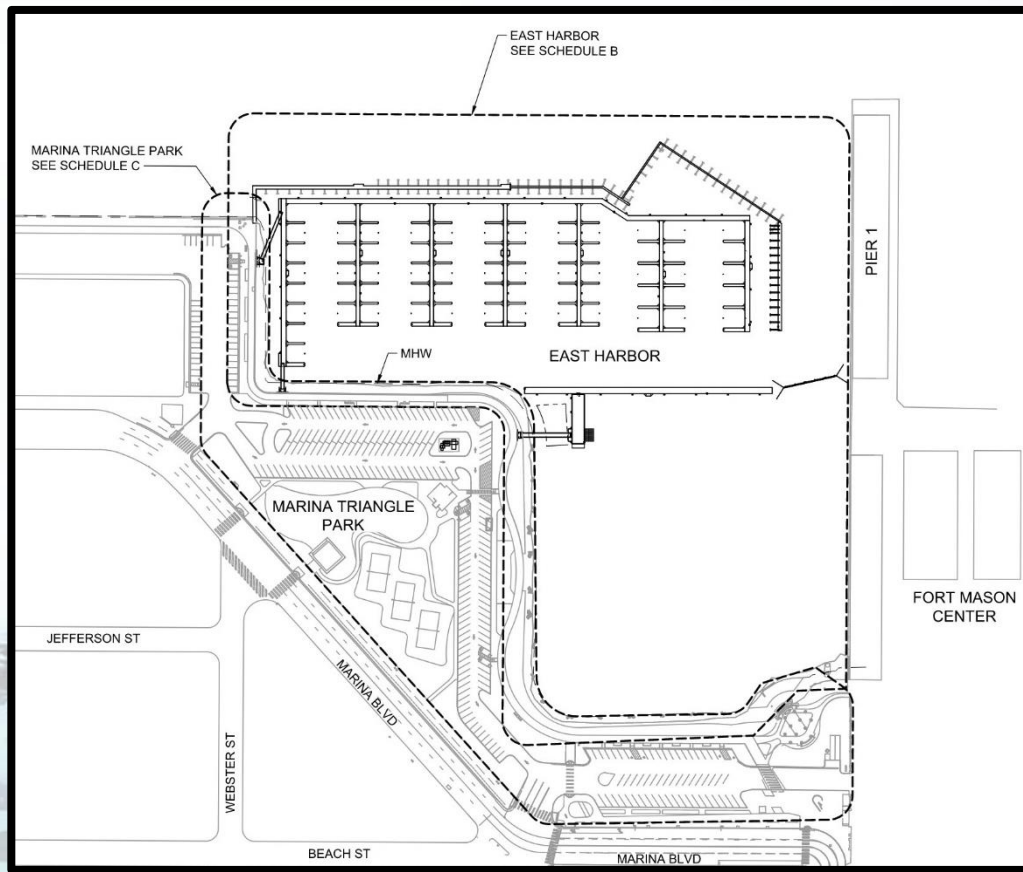
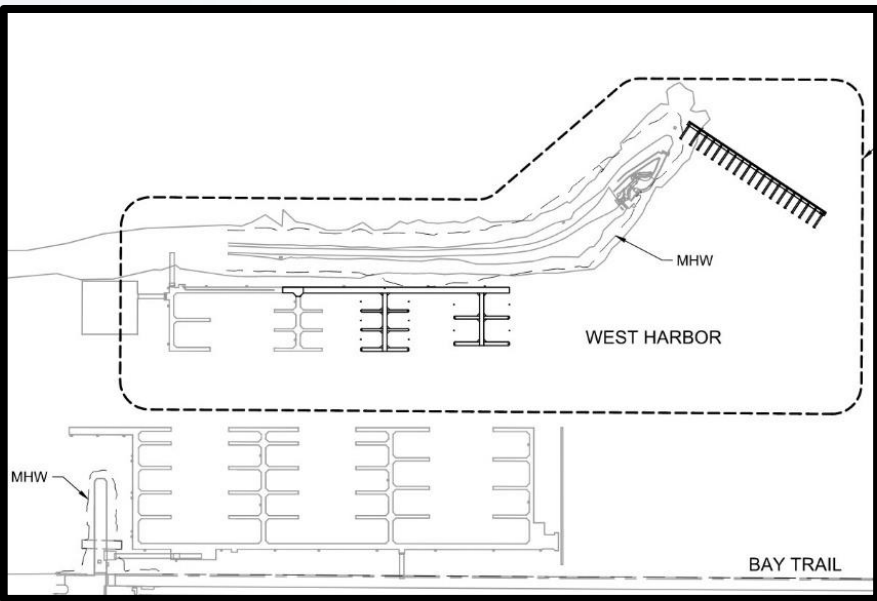
West Harbor



East Harbor



# San Francisco Marina



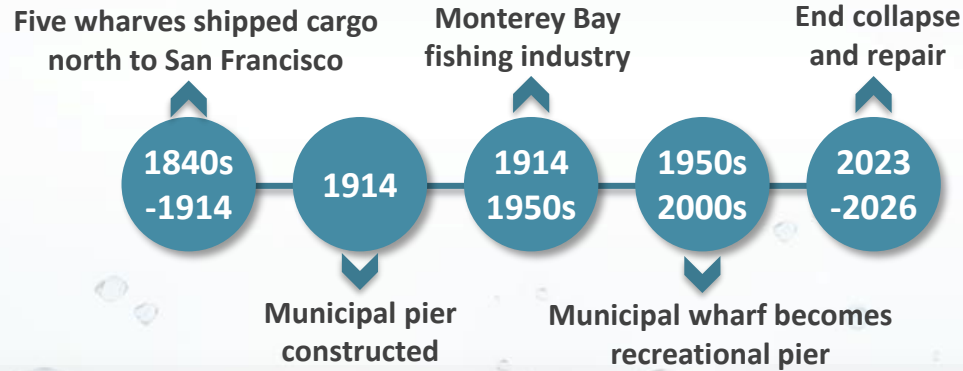
A high-speed photograph of a water splash against a light blue background. The splash is centered and features a large, bright white core surrounded by translucent blue water droplets and bubbles of various sizes. The overall effect is clean and refreshing.

**SANTA CRUZ WHARF**

# Santa Cruz Wharf Location

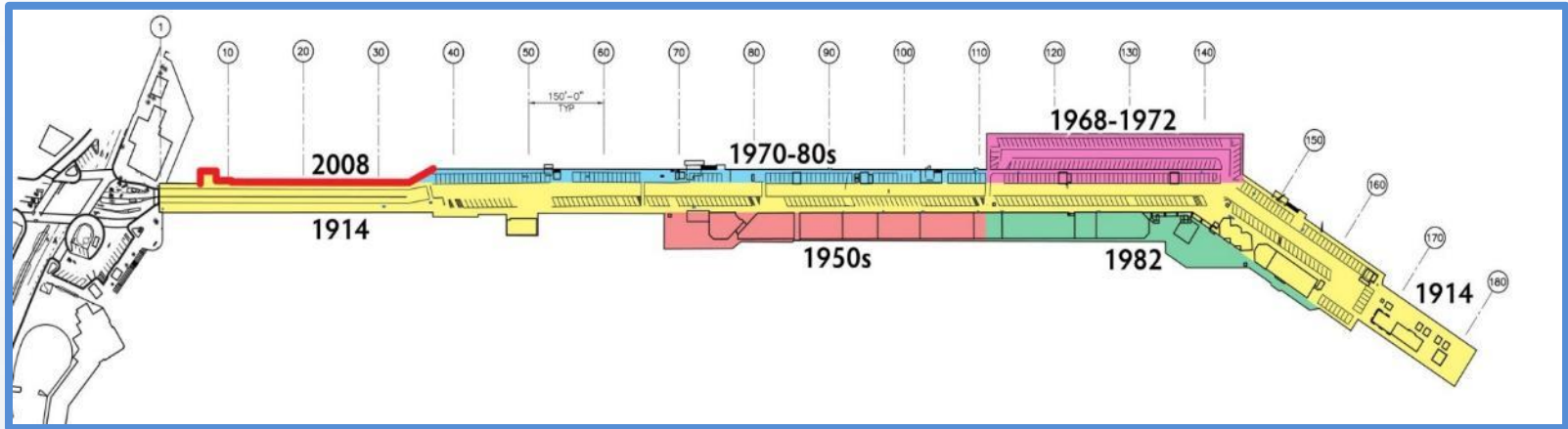


# Santa Cruz Wharf Timeline



*Municipal Wharf in 1940s. Image: Santa Cruz Municipal Library*

# Santa Cruz Wharf Timeline



# Santa Cruz Wharf



# Santa Cruz Wharf



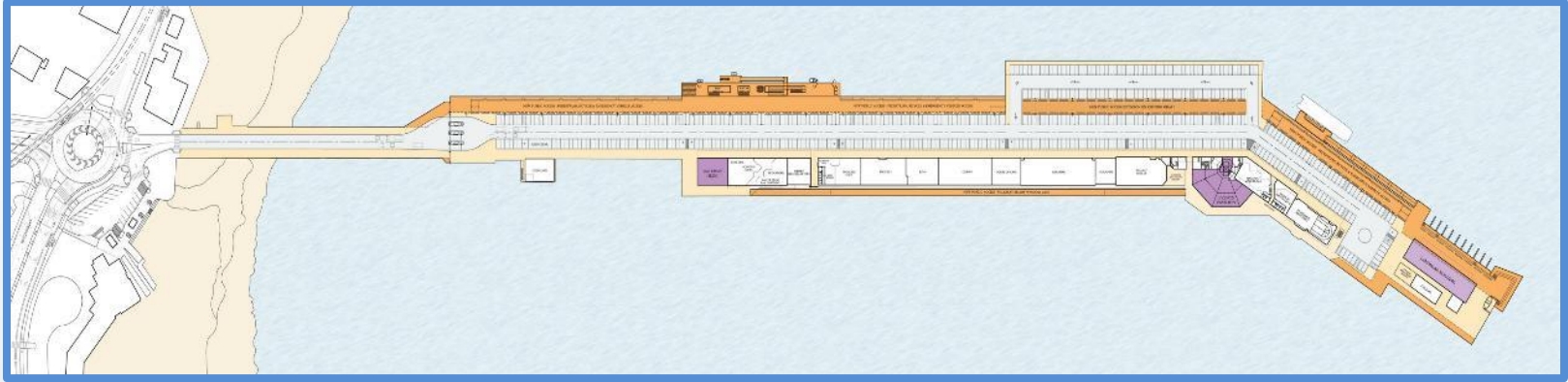
# Santa Cruz Wharf



# Santa Cruz Wharf



# Santa Cruz Wharf



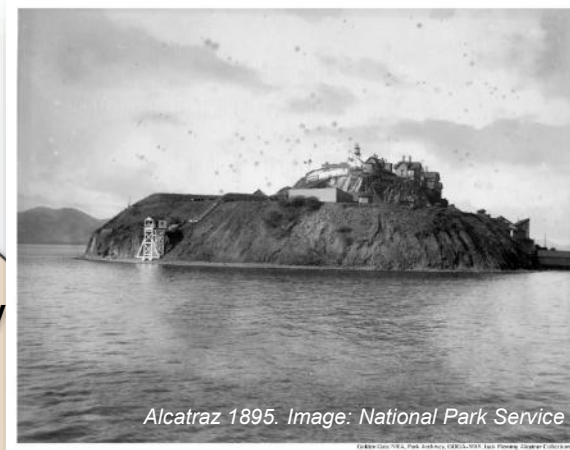
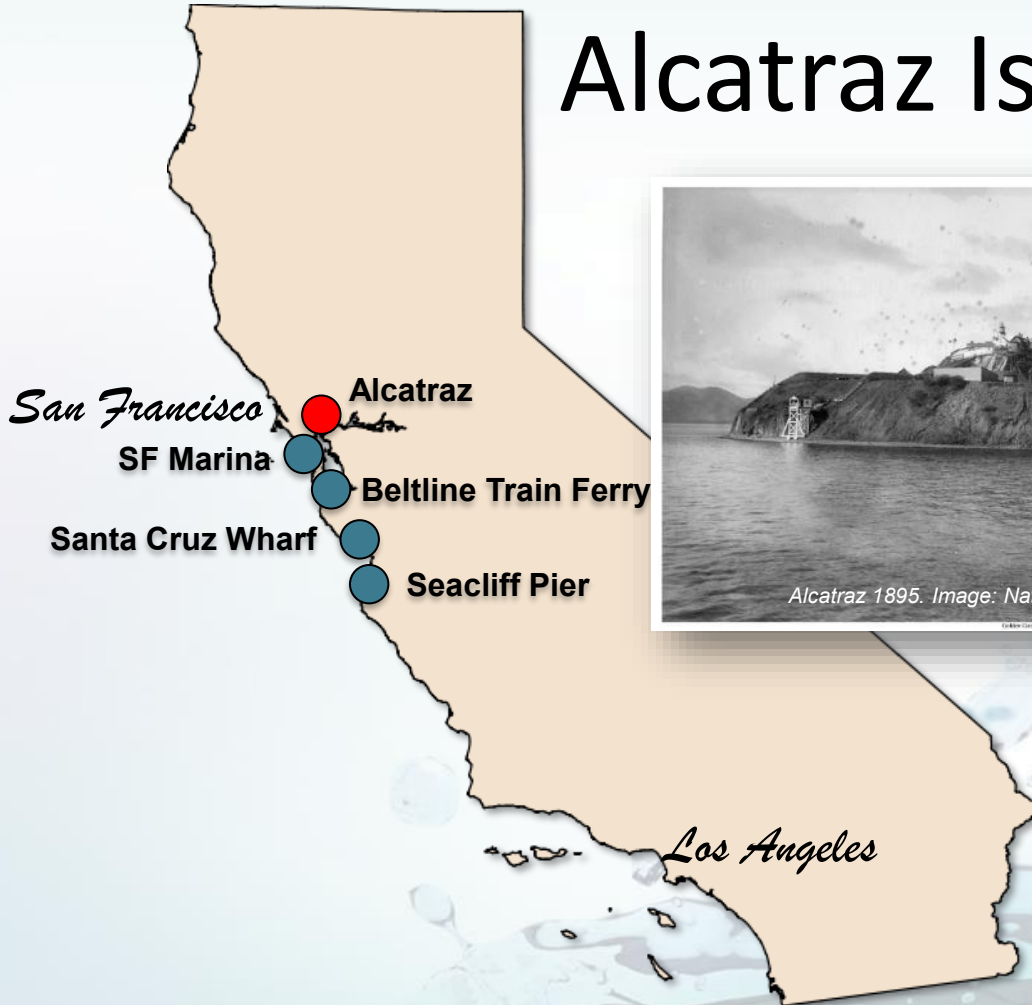
# Santa Cruz Wharf



A dynamic background featuring a large splash of water in shades of light blue and white, with numerous bubbles and droplets scattered throughout. The splash is centered and extends across most of the frame, creating a sense of movement and freshness.

# **ALCATRAZ ISLAND AND PRISON**

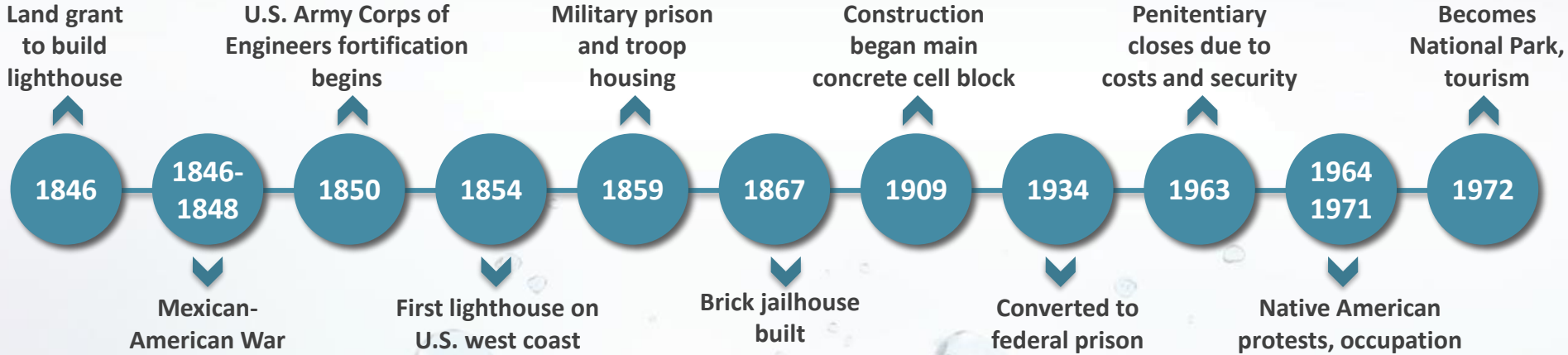
# Alcatraz Island and Prison



# Alcatraz Island and Prison



# Alcatraz Timeline



Weaponry 1868. Image: National Park Service



Officers circa 1902. Image: National Park Service

Credit: National Archives, Image Courtesy of Golden Gate NRA, Park Archives, Office of Executive Signage, AZ Collection, GPOCA 1536226



Alcatraz circa 1900. Image: National Park Service

# Alcatraz Island and Prison



Figure 2-63. Wharf (c1919) (source: GOGA-3089)



# Alcatraz Island and Prison



STABILIZE 1939 CONCRETE WHARF AL211, ALCATRAZ ISLAND



# Alcatraz Island and Prison



A dynamic background featuring a large splash of water with numerous bubbles and droplets, set against a light, hazy sky. The water is captured in mid-air, creating a sense of movement and freshness.

# **BELTLINE TRAIN SYSTEM**

# Beltline Train System

2016  
Remaining  
foundation  
of train ferry  
structure



2100A California Drive, Suite 300  
48001-2004, CA 94501-2004  
925-244-5611 Fax 925-244-4722  
www.msrrail.com

## MEMORANDUM



To: John DeMato, Vice President, Wind River  
Cc: Robert Russell, James Lang LaSalle  
From: Reed Porter, PE  
Date: November 6, 2015  
Subject: Wind River Pier Abutment Investigation  
MSR Job No.: 9021

### Background

The purpose of this memo is to describe the observations of an above water inspection completed by Matthew A. Birch on Wednesday, October 28 of existing pier abutments and to determine their suitability for reuse as a pedestrian public access pier. The abutments are remnants of an old train loading facility located on the northwest shore of Alaska (Enclinal) Basin on the northwest shore of the City of Alameda across from Brooklyn Basin in the Alameda Estuary. The pier remnants were the foundation elements of a facility used to load train cars onto floating barges/ferries. The facility was part of the Belt Line System operated by Alchison, Topinka and Seavey Railroad in the early 1900s. Figure 1 shows the layout of this facility as it once existed and also shows it superimposed on the present one occupied by Wind River.

### Structure Description

The pier remnants are made up of three separate structures, a large abutment near shore and two smaller platform structures extending north in the estuary. The two platforms are outside of the projected lines of the abutment-one on the west one on the east. Photographs 1 and 2 show these structures at high and low tides. Drawings of the original facility are not available. Figure 2 shows the likely conceptual layout of the facility. The south abutment supported train tracks on the shore side to a hinge gangway on the other side. The other end (water side) of the gangway was supported by a lifting mechanism made of cable winches supported by a tower on each of the platforms. The lifting mechanism attached to the gangway was used to raise and lower the gangway to match the elevation of the barge deck with the changing tide. The train would then be loaded onto the floating barge across the abutments and gangways.

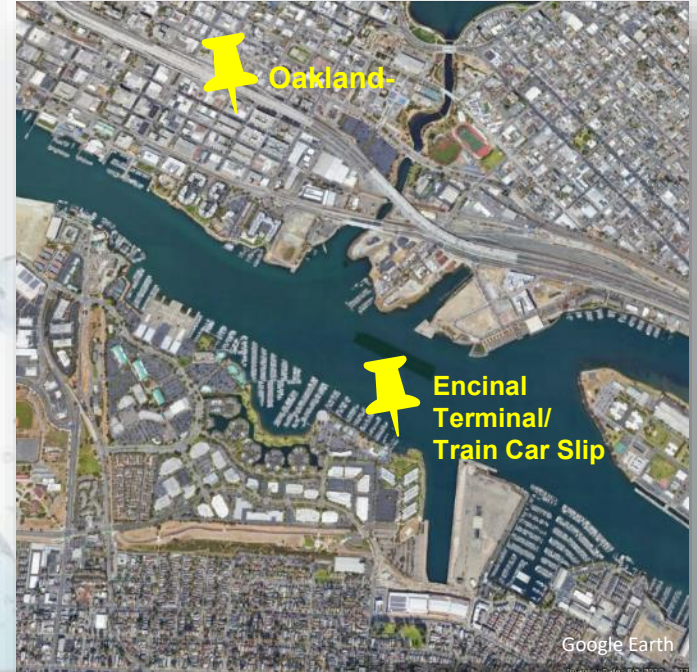
Each of these three structures is founded on concrete piles driven into the bay bottom below. On top of the concrete piles is a thick (8-9 ft) concrete cap. The south abutment has pockets, or depressions, formed in the concrete into which longitudinal beams would have been supported. Photographs 3 and 4 show the south abutment and photographs 5 and 6 show the two platforms. All of the concrete piles are

# Beltline Train System

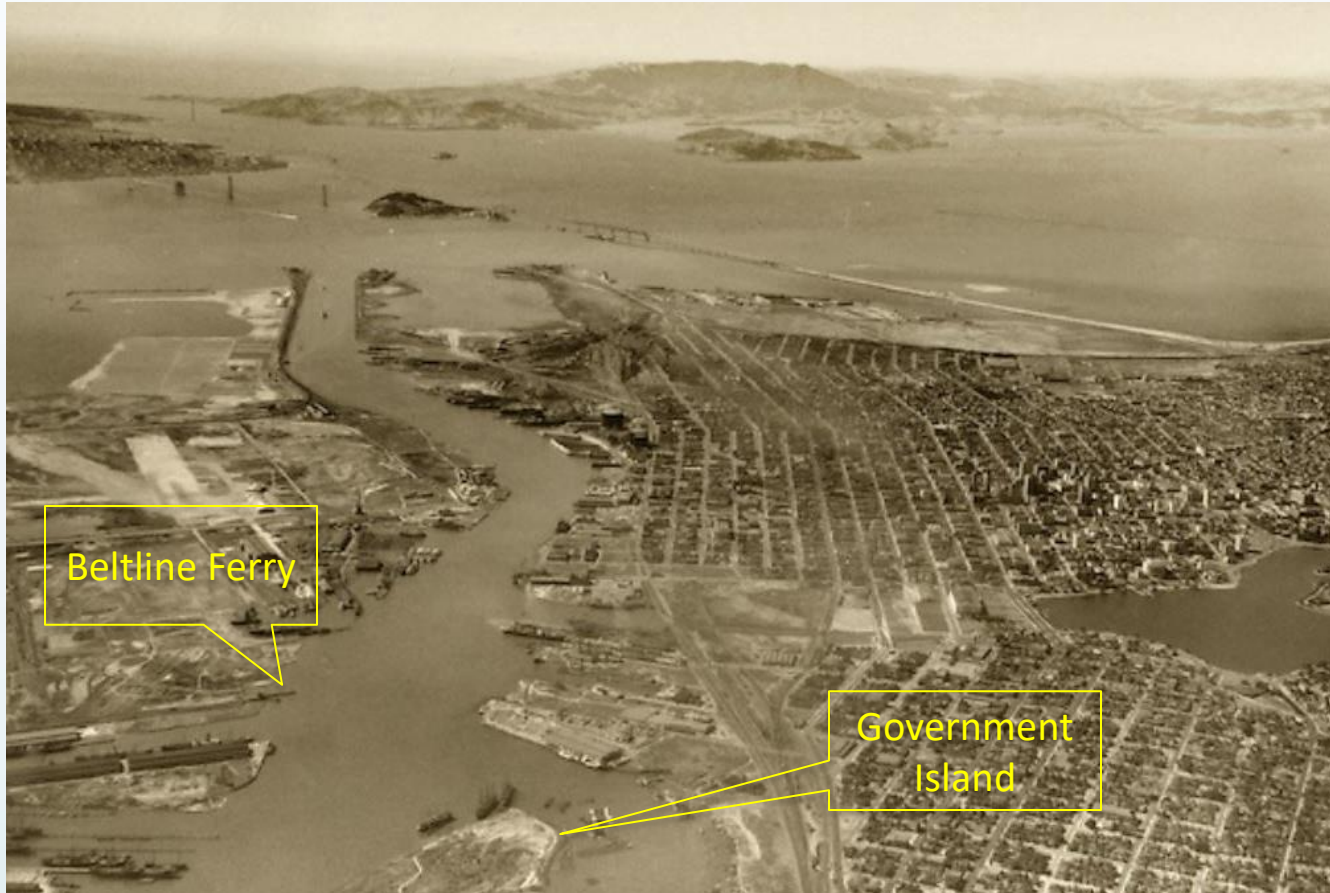




# Beltline Train System

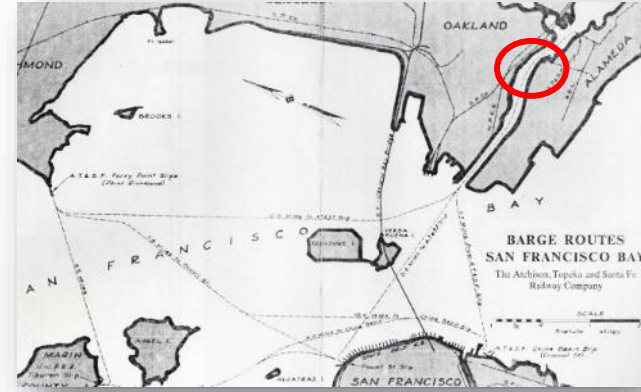


# Beltline Train System



1935

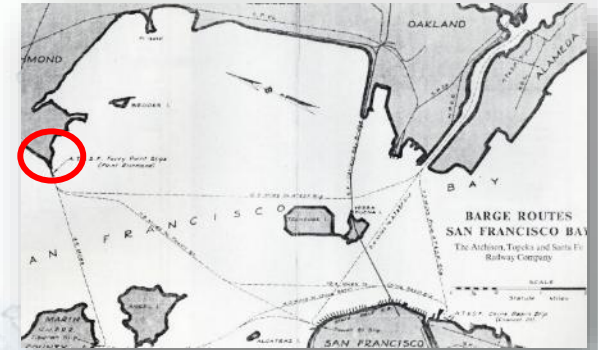
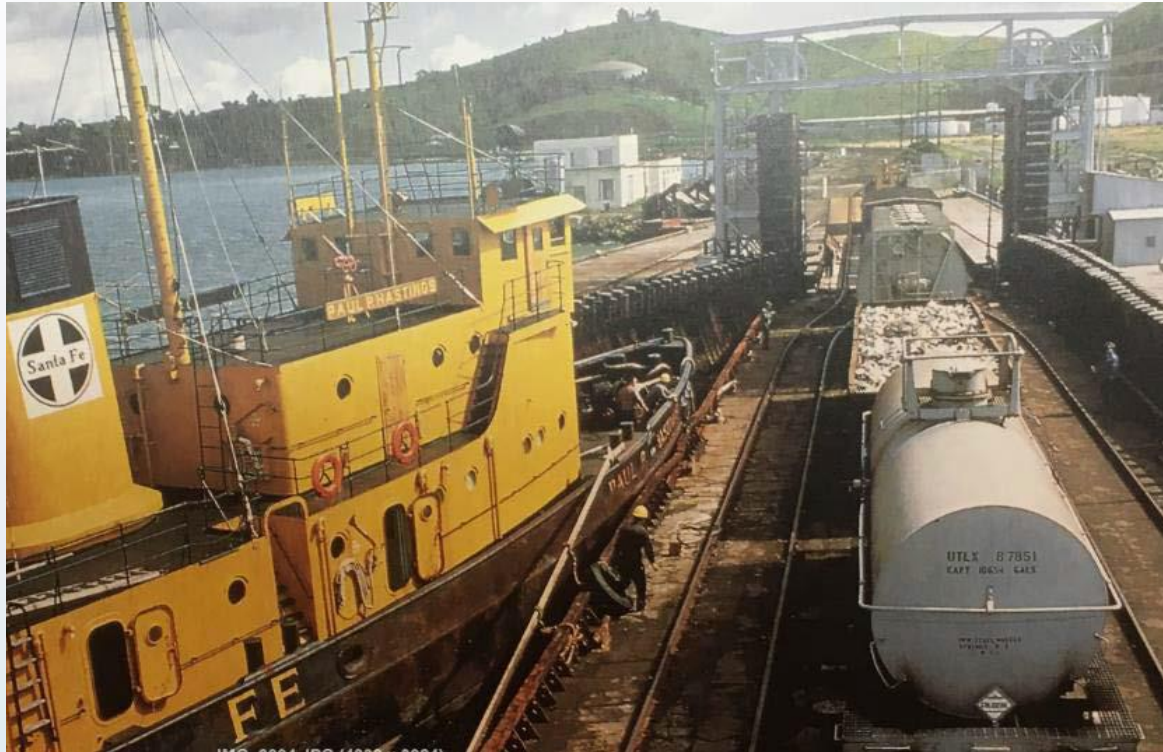
# Beltline Train System



# Beltline Train System



# Beltline Train System



1960s



# Beltline Train System



Pier 41 Port of San Francisco 2017



Pier 41 Port of San Francisco Circa 1950s

A high-speed photograph of a water splash against a light blue background. The splash is centered and features a large, bright white core surrounded by translucent blue water droplets and bubbles of various sizes. The overall effect is clean and refreshing.

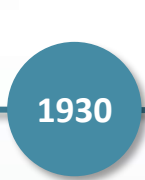
**SEACLIFF PIER**

# Seacliff Pier Location



# Seacliff Pier Timeline

SS Palo Alto grounded to  
create floating pleasure pier



Sea damaged ship,  
investors went bankrupt



Storm damage,  
closed to public.



Pier built to access ship

Recreational fishing

Pier Removed



SS Palo Alto before grounding. Image: Public Domain



SS Palo Alto 2014. Image: WCC2 Don DeBoid

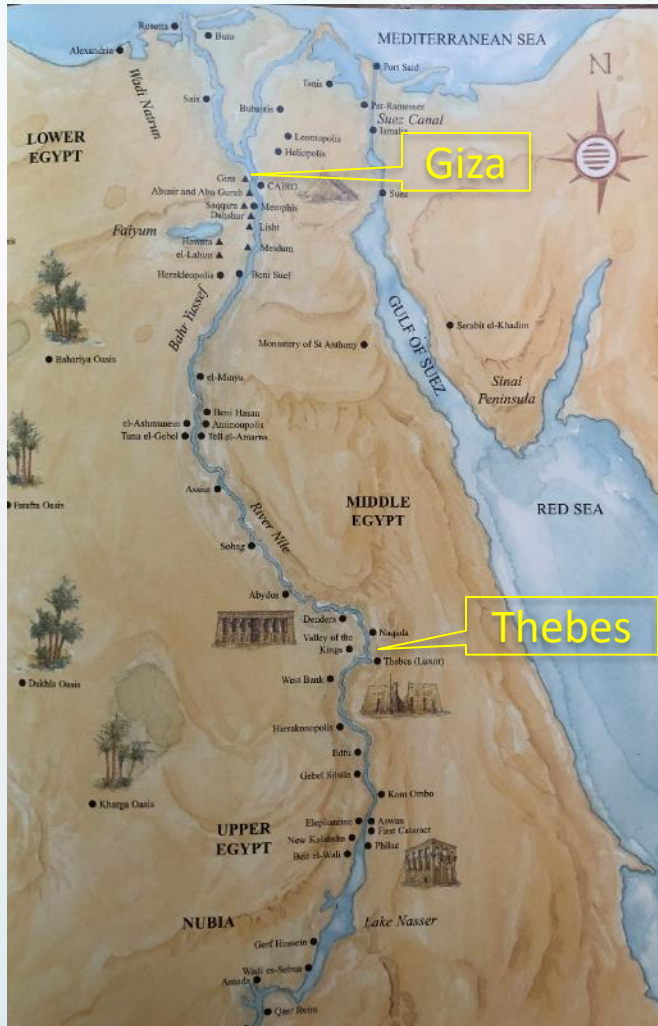


2023

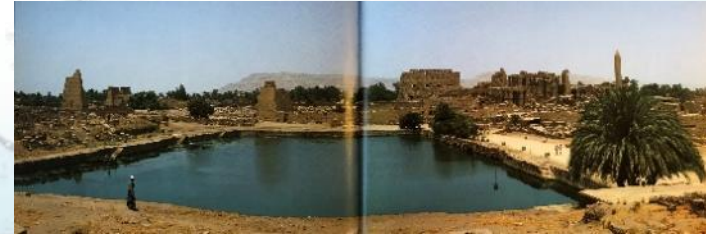
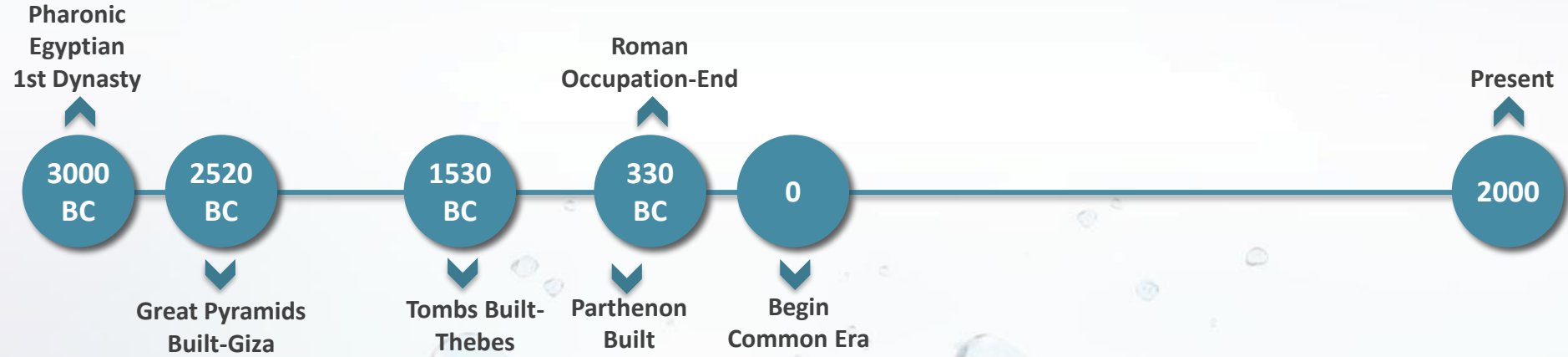
A background image featuring a dynamic splash of water against a light, pale greenish-blue gradient. The water is captured in mid-air, with numerous droplets and bubbles of varying sizes scattered throughout the scene, creating a sense of movement and freshness. The overall aesthetic is clean and modern.

# **EGYPTIAN TOMBS**

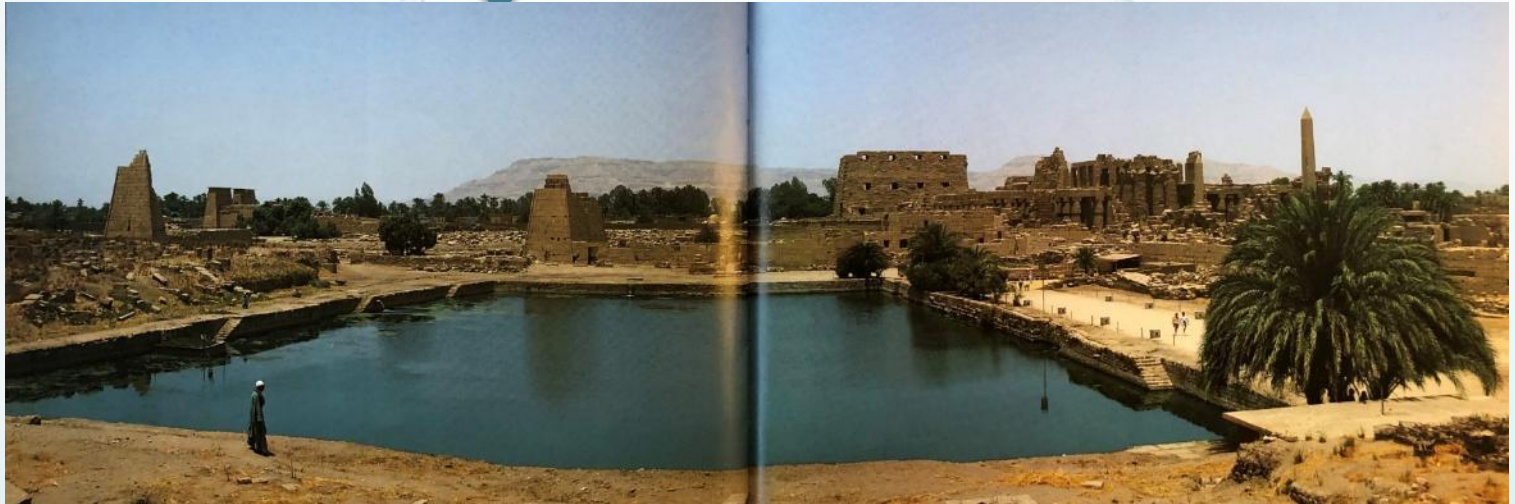
# Egypt Location



# Egypt Timeline



# Egypt-Thebes/Temple Karnak



# Egypt-Thebes/Temple Karnak



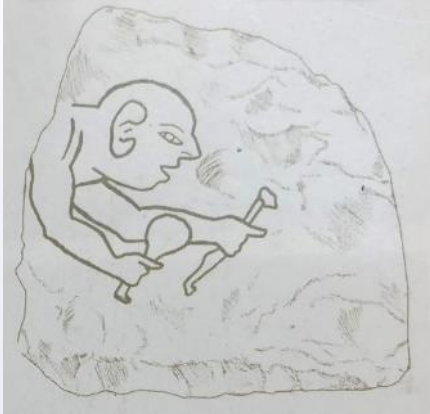
# Egypt-Thebes/Valley of Kings



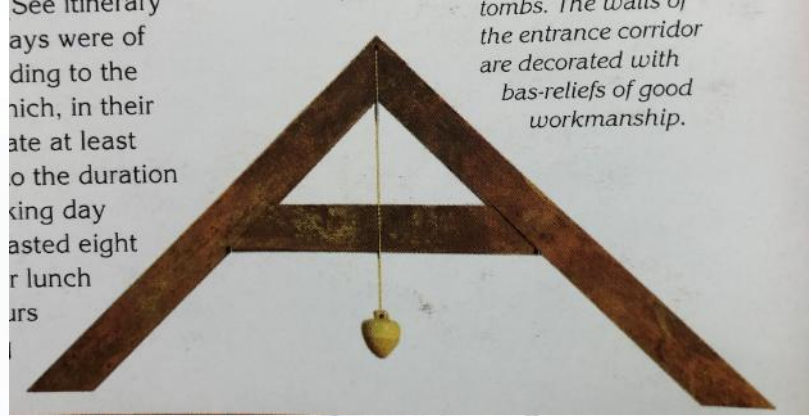
# Egypt-Thebes/Valley of Kings



# Egypt-Thebes/Valley of Kings



See itinerary  
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tombs. The walls of  
the entrance corridor  
are decorated with  
bas-reliefs of good  
workmanship.

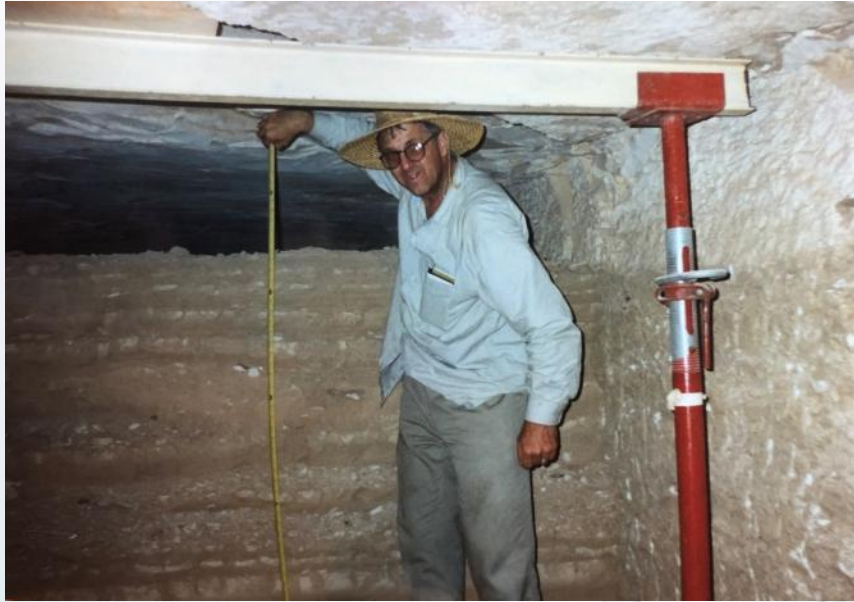


family reasons. Or

# Egypt-Thebes/Valley of Kings



# Egypt-Thebes/Valley of Kings



# Historic Aspects of Ports and Harbors

## Moffatt & Nichol

**Brad Porter**

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(925) 956-4939

[bporter@moffattnichol.com](mailto:bporter@moffattnichol.com)





# TEXT LEVEL 1

Text Level 2

COLUMN 1	COLUMN 2	COLUMN 3

# Alcatraz

- Project Experience (9517)
  - Inspection and repair design
  - Finger pier and utility vault inspection
  - Fender pile replacement



# Seacliff Pier

- Project Experience (4926, 9280)
  - Evaluation and design
  - Structural assessment

