SIERRA CLUB OF HAWAIʻI
MĀLAMA I KA HONUA. *Cherish the Earth.*

LATE

Testimony of the Sierra Club of Hawaiʻi to the

Senate Committee on Water and Land

March 23, 2018 2:55PM Room 224

In opposition SCR 49 and 63

Aloha Chairwoman Case and members of the Land Board,

On behalf of our 20,000 members and supporters, the Sierra Club of Hawaiʻi strongly oppose a permanent seawall at the Hololani Condominium.

The Sierra Club of Hawaiʻi strives to improve local actions to mitigate for and adapt to climate change, especially sea level rise. This seawall at Hololani is an example of the short-term planning decisions that have destroyed shorelines throughout the Hawaiian Islands. Maui has lost more than 4 miles of beaches to coastal erosion fronting seawalls and other shoreline armoring. Many more miles of beach could be lost with sea level rise, if widespread armoring is continued to happen.

Seawalls eliminate the ability of beaches to naturally fluctuate with changing waves and tide. With nowhere to go, sandy beaches are squished between an unyielding seawall and rising water levels. Without proper transport, beaches are eventually lost, public shoreline access is hindered, coastal habitats suffer and local economies are impacted. Worse, seawall projects typically cost in the millions of dollars, putting a serious drain on financial resources that could otherwise be spent to make the road better.

Shoreline planners from the Maui County Planning Department (MPD) and the Office of Conservation and Coastal Lands (OCCL) of the Department of Land and Natural Resources (DLNR) determined that the Hololani project would impact the coastal zone as a result of shoreline hardening, create a wave environment that will contribute to further narrowing of the public beach and sand loss fronting the Hololani and would likely accelerate episodic and long-term erosion on adjacent, unarmored portions of the Kahana Bay beach cell.

Item D-3 submittal incorrectly indicates “no further regulatory requirements” are pending because the shoreline certification, Department of Health water quality certification processes, and concurrent resolutions from state lawmakers remain incomplete. Permitting construction under the easement without prior authorization by the governor and a concurrent resolution from the legislature violates Hawaii Revised Statutes (HRS) § 171-53(c).

That data shows impairment of waters due to exceedance of state standards for ammonium, nitrates/ nitrites, and turbidity. The Hololani project’s addition of further pollutants to already impaired waters would violate Hawaii’s anti-degradation policy.

Affected community members have raised questions about Hololani’s “hybrid revetment” and whether it qualifies as a reasonable alternative in light of new information, disclosed after Hololani published its 2013 Final Environmental Assessment, that an offshore source of sand may feasibly be used for regional beach renourishment.

The Hololani AOAO should only be allowed to construct a temporary seawall to be used until beach nourishment activities can be properly reviewed and implemented. The applicant should not be allowed to construct a permanent structure, as the staff report recommends.

Mahalo for the opportunity to testify on this important issue.

Senate Committee on Water and Land

LATE

March 23, 2018

RE: Testimony requesting denial of authorization for seawall and rock revetment purposes at TMK: (2) 4-3-010:009 in Kahana, Lahaina, Maui (Hololani Resort).

Honorable Members of the Committee:

I want to take this opportunity to ask that you deny the authorization for seawall and rock revetment at TMK: (2) 4-3-010:009 in Kahana, Lahaina, Maui and reconsider any other shoreline armoring projects for some of the reasons outlined below. I've attached a supporting PDF document with the slides referenced in the text.

In response to comments provided by DPW BLNR dated 21 March, 2018, with regards to the Hololani Resort seawall providing protection to the Lower Honoapiilani Rd. and the chronic flooding:

1. BLNR states the Lower Honoapiilani Rd is 25 feet from the shoreline at the juncture where the seawall will be built. Given the annual erosion rate of 0.8 ft per year for this area (Fletcher et al., 2003), also reference by BLNR, that would leave another 25 years before the highway will be compromised and therefore is not an immediate threat.

2. Flooding is a major threat in this area but improving drainage can be addressed without a seawall.

In response to comments provided by DPW BLNR dated 21 March, 2018, about the seawall will prevent erosion of clay in this region:

3. According to the five test borings drilled by Sea Engineering (Hololani FEA 2013, page 220) carried out to measure the underlying substrate, clay was only found on 2 of the bores and at a depth of 21 feet and 15 feet (slide 11 and 12). The area has predominantly sand and dune underlayment (slide 2 and 4). This suggests that managed retreat would sustain a beach by exposing the sand and dune substrate. Even following a 3-foot rise in sea level (by year 2100), the substrate mauka of the new high tide line will still contain sand and dune material (slide 3 and 6). And even if the underlying layer were clay, a seawall would only exacerbate the suspension of these fine sediments with increased wave energy impacting the seawall and scouring the base of the armoring, as witnessed with the Ukumehame seawall and as what continues to occur in front of the Kahana Sunset seawall.

4. As far as the seawall preventing anything from entering the ocean, this is highly unlikely given that it only penetrates the ground to 6 feet below sea level at its

deepest (slide 10) and most of the underlying substrate is sand and gravel (Hololani FEA 2013). Freshwater was also detected 8 feet below the surface, which will easily carry any land-based contaminants through the porous substrate and into the ocean, especially during heavy rains.

In response to the Hololani FEA 2013:

5. The introduction to the FEW mentions this shoreline area has eroded almost 40 feet since 1959, and stabilization structures have been authorized by the County and State since 1988 (page 4). This means that more than 30 years have passed and Hololani still does not have a plan for managed retreat. I can see no reason to treat this or any other threatened coastal structure that is suffering from sea level rise erosion, as an emergency measure when they have had decades to address this issue. Armoring benefits only the property owners and compromises the shoreline resource, which is a public trust. These resources should not be compromised for the recklessness of property owners that delayed action on these matters. Building or purchasing property near the water is always a risk, hence why we are required to buy flood and hurricane insurance. If the insurance doesn't cover damage from rising seas then that is unfortunate but it should not mean that the public must compromise their public trust to help a negligent property owner.

6. The stated conclusion that this particular seawall would not have a negative impact on the natural shoreline ecology seems ludicrous considering that the properties directly to the North, where shoreline armoring has been carried out, have completely lost their beach (slide 19). The aerial photo from 1949 (slide 13) clearly shows a nice sandy beach to the north but absent by the late 1980s (slide 15).

7. The suggestion that retreat would not be beneficial because west Maui is sand poor and the sand along this beach is just now being exhausted, also seems absurd. The geology maps for this region show plenty of dune substrate that would support a beach for many decades to come. Sea levels have been rising for the past 15,000 years (since the Last Glacial Maximum) causing the shoreline to retreat and beach along with it. To suggest that only now, in 2018, these beaches have suddenly drained their capacity seems very unlikely.

It is pertinent that we begin the discussion of managed retreat as this is the only option if we are going to preserve the integrity of our beaches and shoreline for the benefit of the public and the economy and not sacrifice these resources for the temporary benefit of a few land owners.

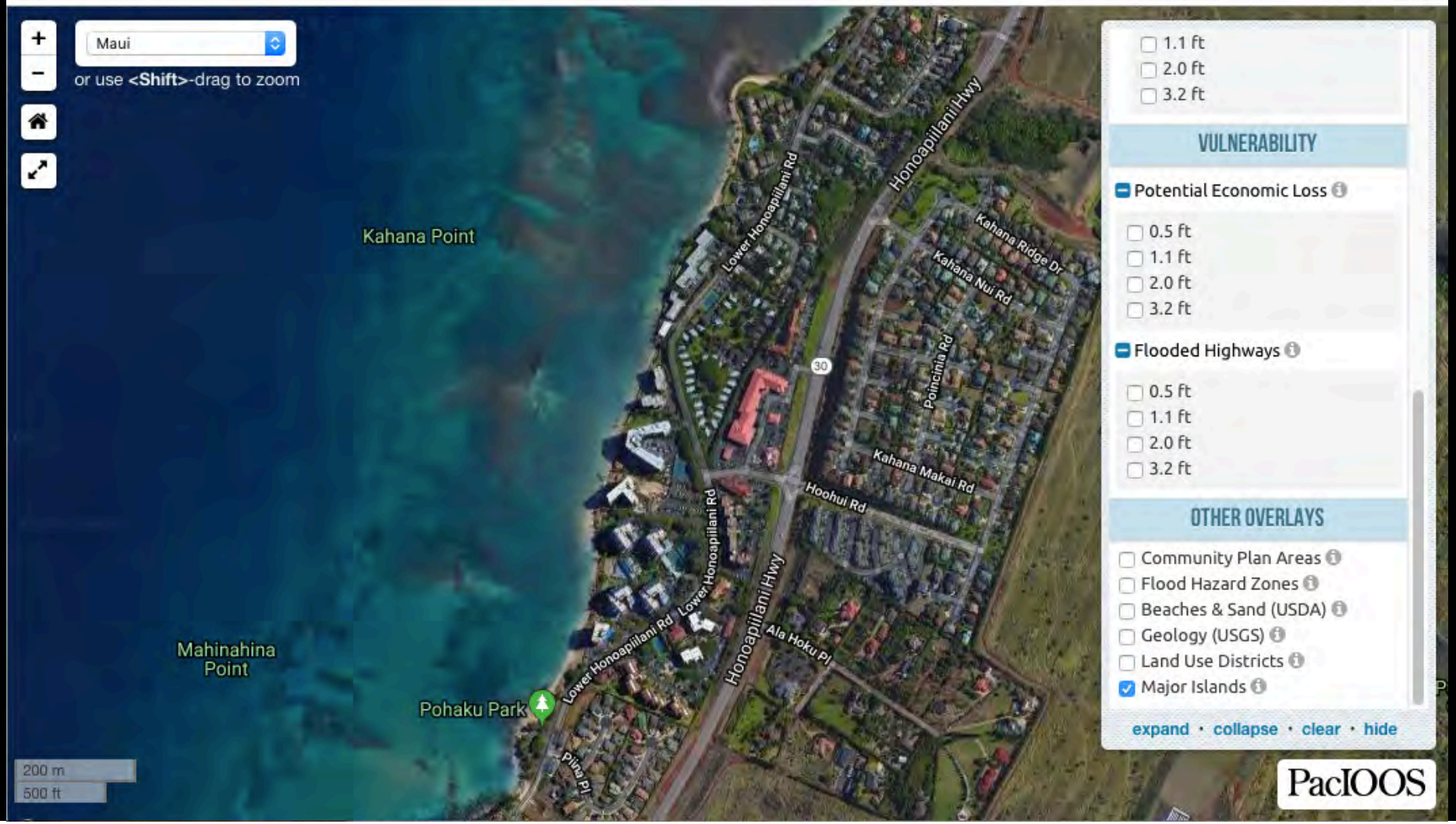
Thank you for your consideration,

Mark Deakos, *Ph.D.*
Napili
808-280-6448

Sea Level Rise : Hawai‘i Sea Level Rise Viewer

Current

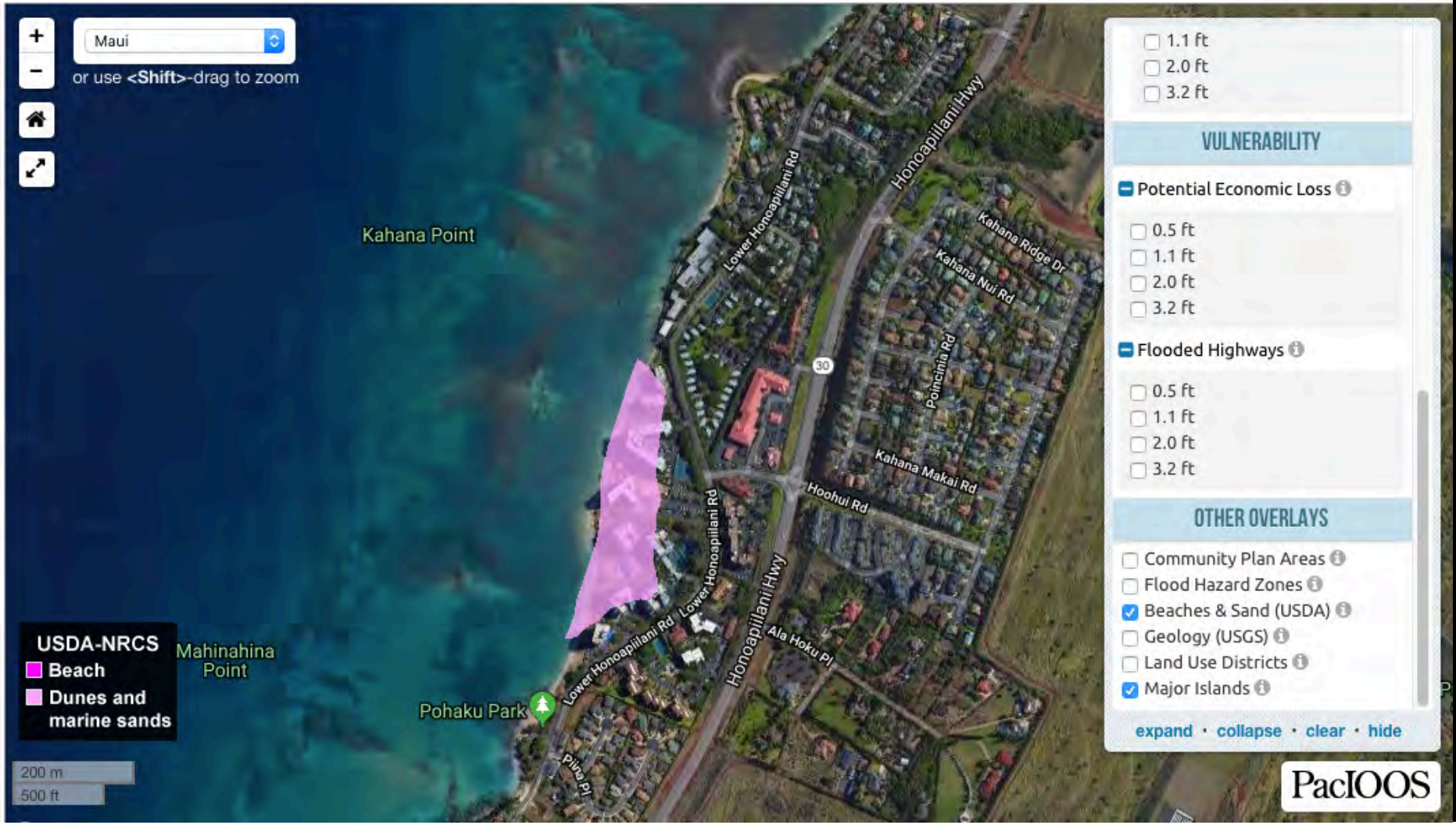
1



Sea Level Rise : Hawai‘i Sea Level Rise Viewer

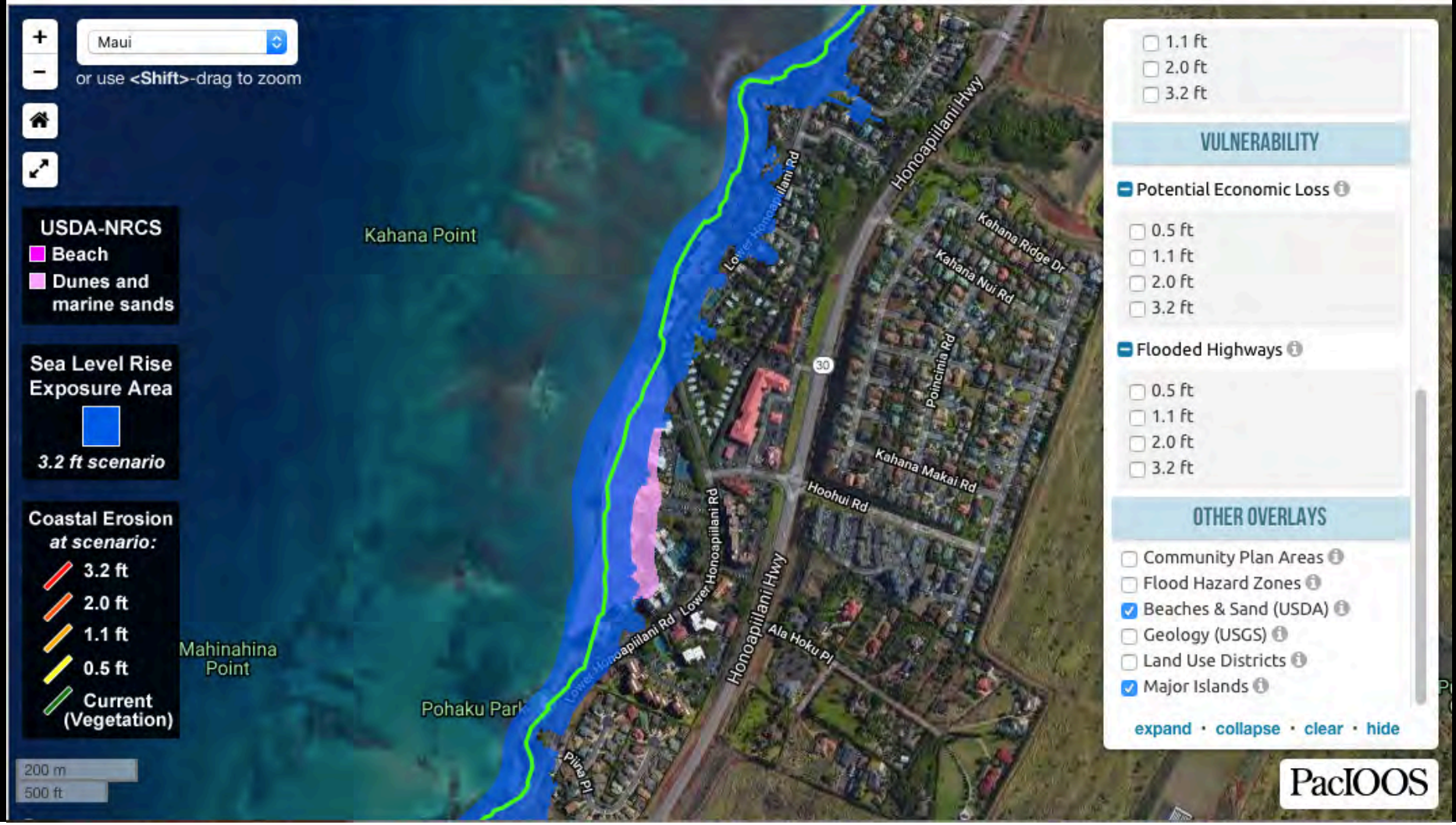
Underlying Beaches and Sand

2



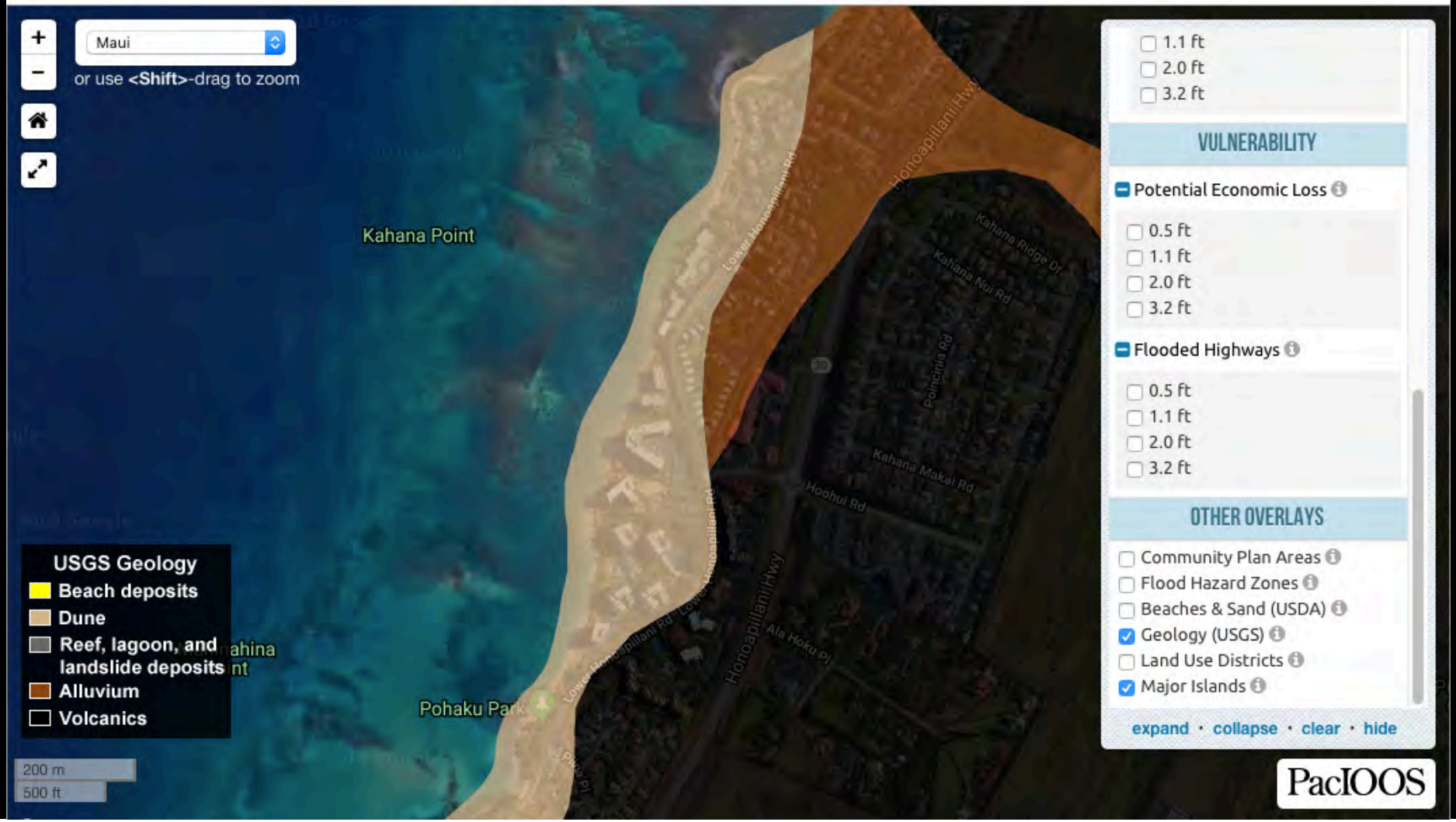
Sea Level Rise : Hawai'i Sea Level Rise Viewer

Beaches and Sand Above High Water in 2100



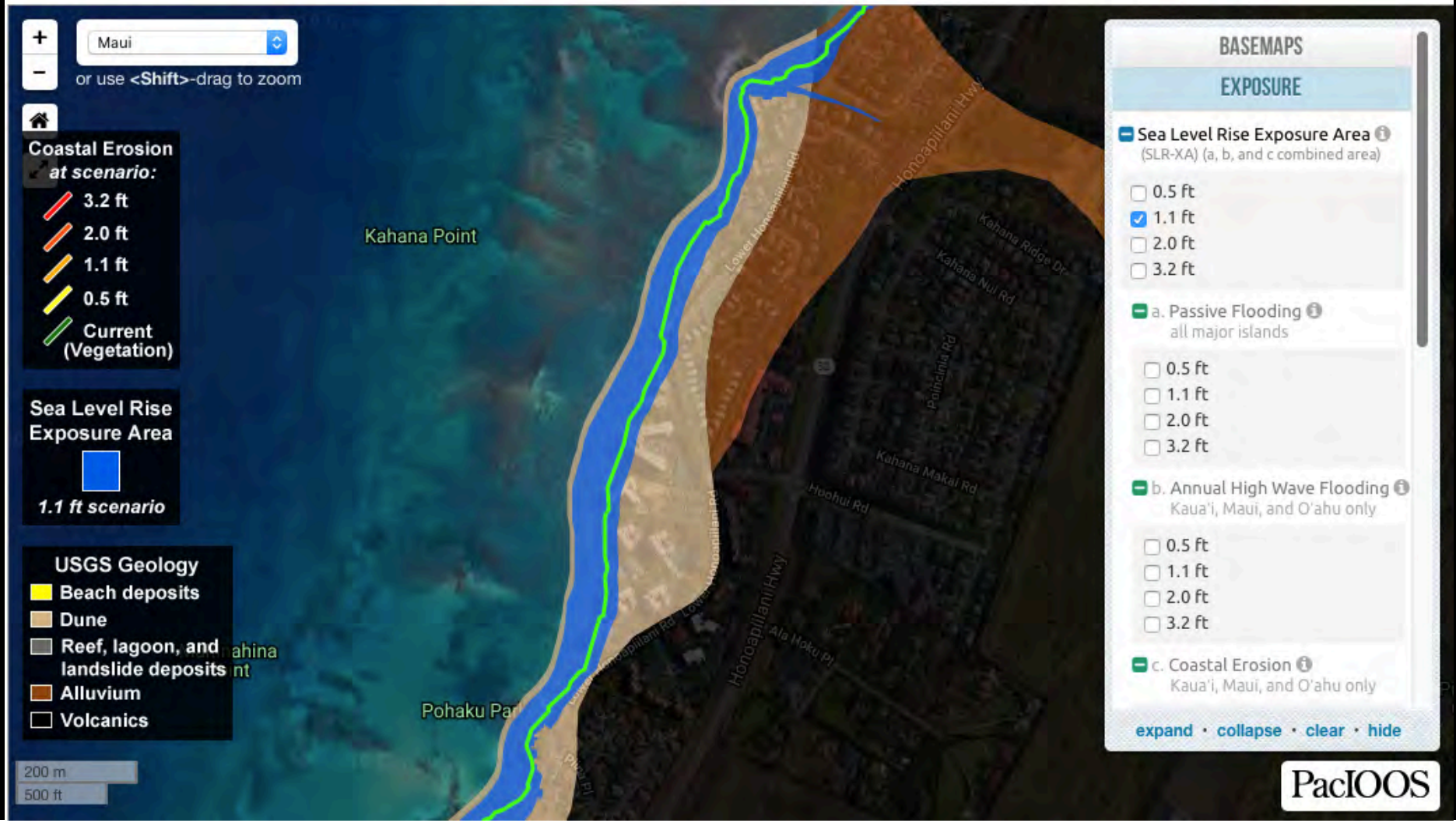
Sea Level Rise : Hawai‘i Sea Level Rise Viewer

Underlying Dunes



Sea Level Rise : Hawai'i Sea Level Rise Viewer

Underlying Dunes Above High Water 2050



Sea Level Rise : Hawai'i Sea Level Rise Viewer

Underlying Dunes Above High Water 2100

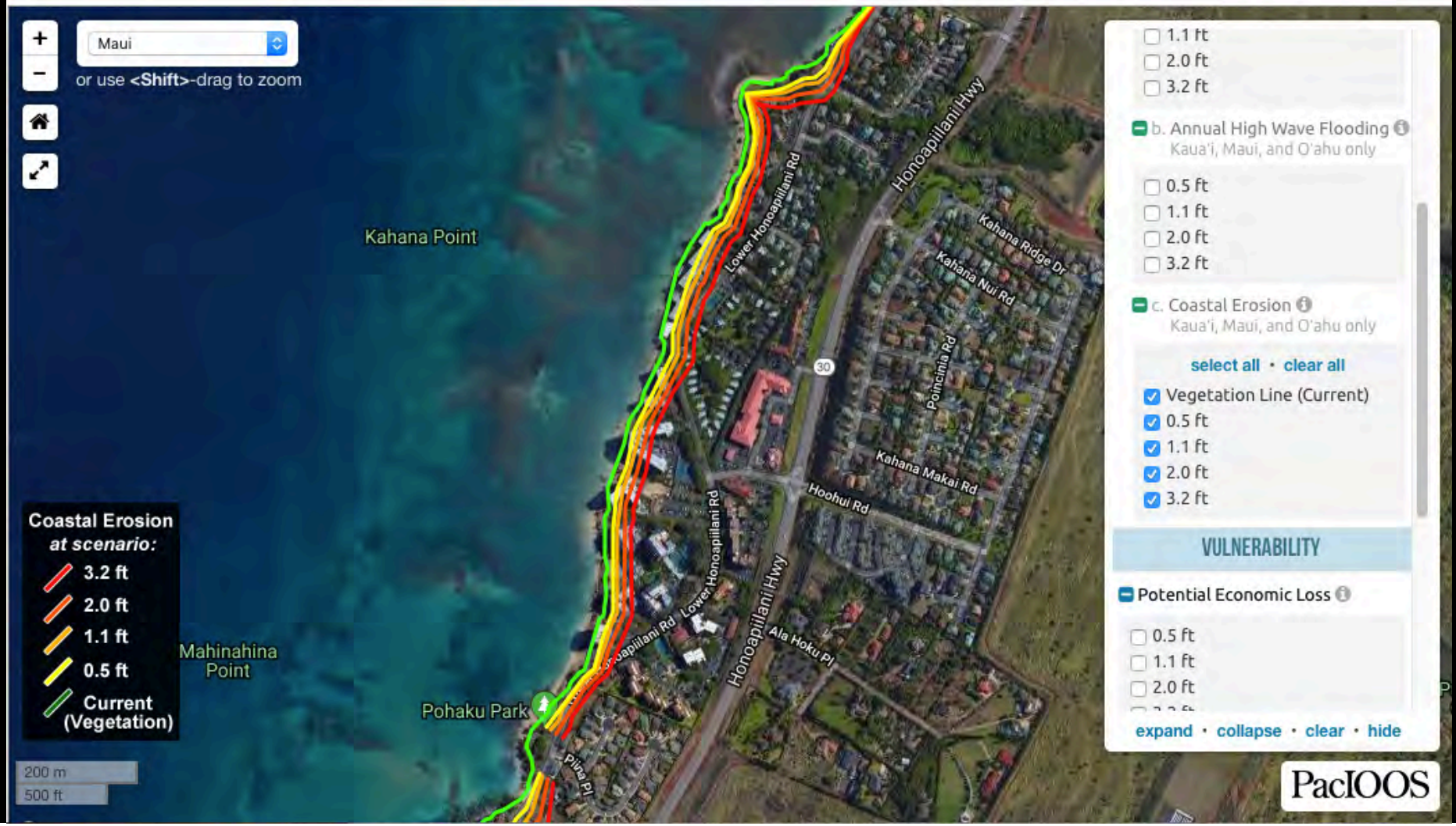
Sea Level Rise : Hawai‘i Sea Level Rise Viewer

FEMA Flood Zones

Sea Level Rise : Hawai‘i Sea Level Rise Viewer

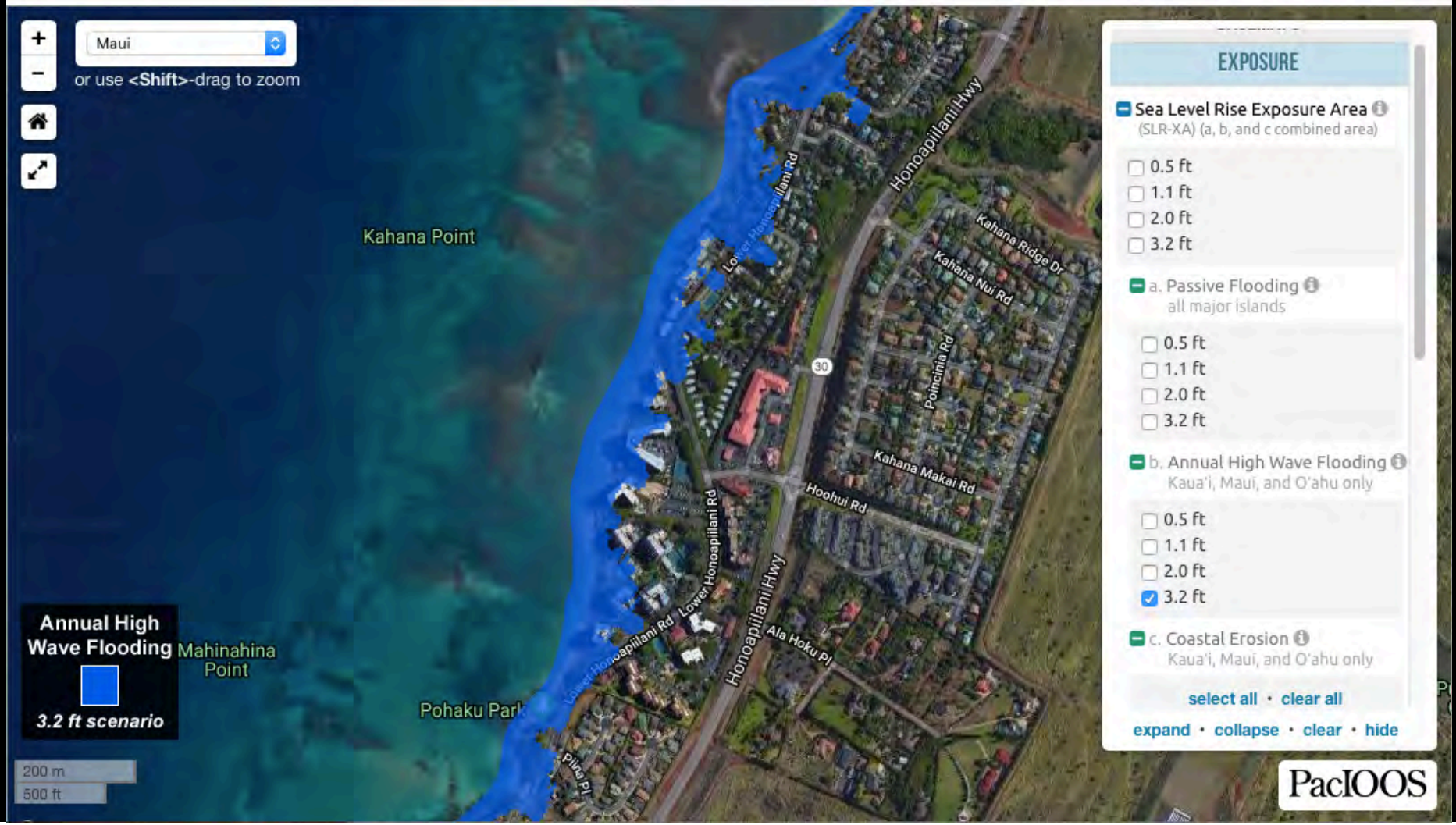
Erosion Line by Foot

8



Sea Level Rise : Hawai'i Sea Level Rise Viewer

Annual High Wave Flooding 2100



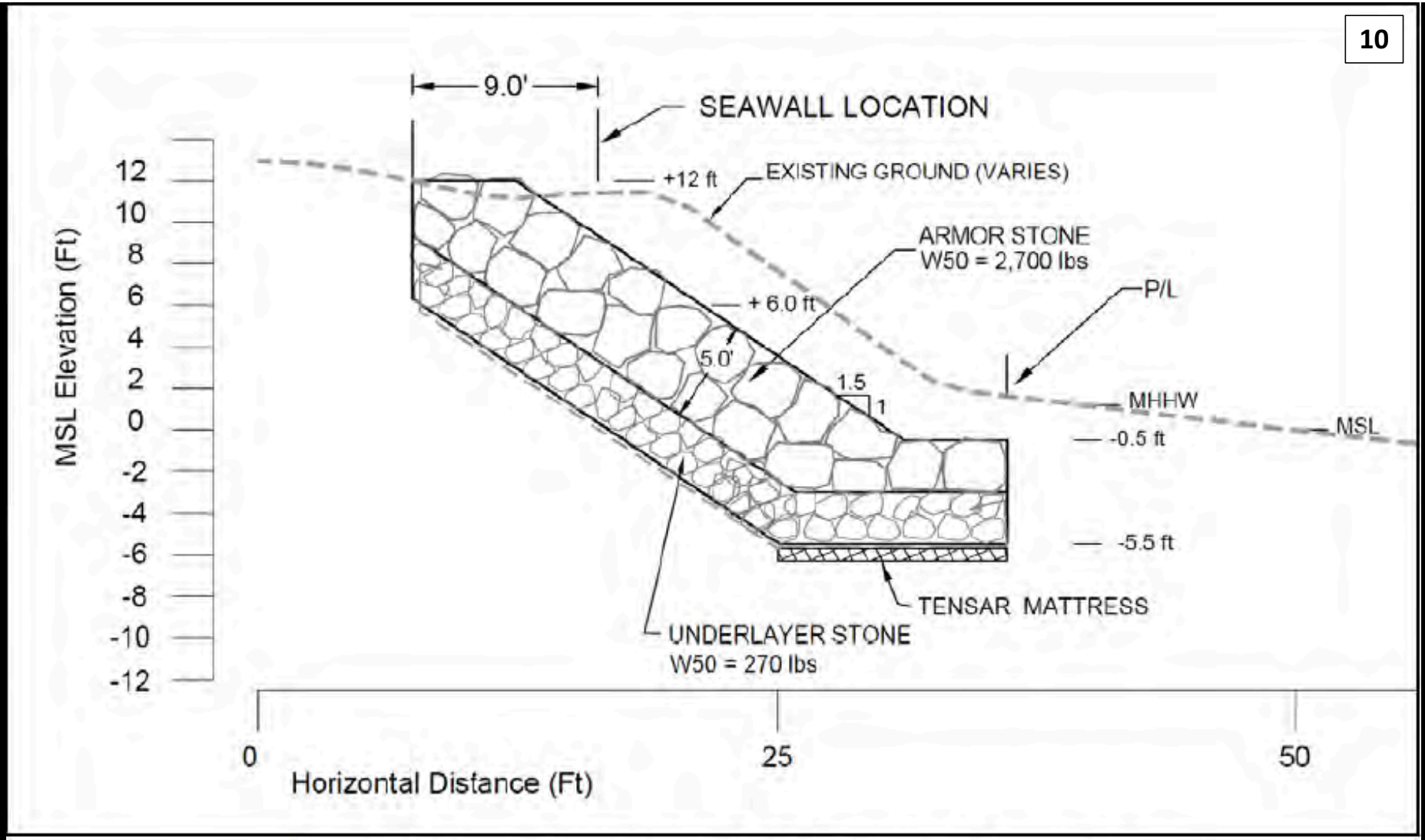


Figure 3-2. Design cross-section for full revetment structure

LOG OF BORING NO. 2

ELEVATION: see Plate 2
EQUIPMENT USED: B-59 Drill Rig
DEPTH OF BORING (FT.): 21.5
DATE DRILLED: June 9, 2010
DEPTH OF GROUNDWATER: 8.7 feet

DEPTH (FT.)	GRAPHIC SYMBOL	SOIL CLASSIFICATION	DESCRIPTION	SAMPLE	BLOWS/FOOT	COLOR	MOISTURE	CONSISTENCY	DRY DENSITY (PCF)	MOISTURE CONTENT (% OF DRY WT.)	PENETROMETER (TSF)
0		ML	SILT (topsoil)			dark brown	moist	stiff		29.8	
		GM	silty GRAVEL with sand					mod. dense		8.3	
		SP	SAND		19	yellowish brown				9.3	
3		SP	cinder SAND			reddish brown					
		SM	silty SAND with gravel			brown		dense			
6					32					18.1	
							moist to very moist				
								mod. dense			
9							sat.				
		SP-SM	SAND with silt			dark gray				47.1	
		SP	SAND		18	olive gray to dark gray brown				37.7	
12											
15						reddish brown				37.6	
		GM	silty GRAVEL with sand		16					46.7	
18		rock	ROCK, weathered			dark gray		soft to mod. hard rock			
			Core Run #1: 19' to 21.5' Rec. = 33% RQD = 30%		23/0"						
21		CL	CLAY			very dark gray		stiff		38.3	
			END OF BORING AT 21.5 FEET								

PROJECT NAME: HOLOLANI ROCK REVETMENT
PROJECT NO.: 101408-FM

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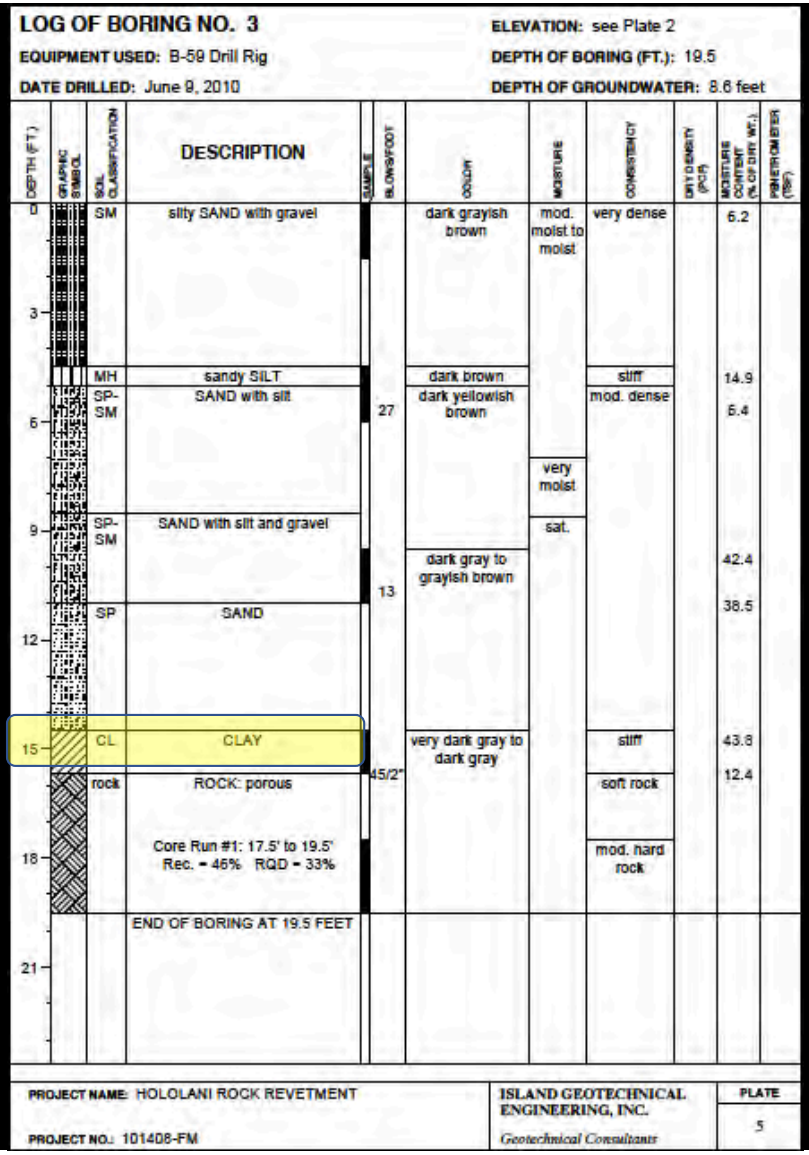
Geotechnical Consultants

PLATE 4



LOG OF BORING NO. 3

ELEVATION: see Plate 2
EQUIPMENT USED: B-59 Drill Rig
DEPTH OF BORING (FT.): 19.5
DATE DRILLED: June 9, 2010
DEPTH OF GROUNDWATER: 8.6 feet

DEPTH (FT.)	GRAPHIC SYMBOL	SOIL CLASSIFICATION	DESCRIPTION	SAMPLE	BLOWS/FOOT	COLOR	MOISTURE	CONSISTENCY	DRY DENSITY (PCF)	MOISTURE CONTENT (% OF DRY WT.)	PENETROMETER (TSF)
0		SM	silty SAND with gravel			dark grayish brown	mod. moist to moist	very dense		6.2	
3		MH	sandy SILT			dark brown		stiff		14.9	
6		SP-SM	SAND with silt		27	dark yellowish brown		mod. dense		6.4	
							very moist				
9		SP-SM	SAND with silt and gravel				sat.			42.4	
					13	dark gray to grayish brown				38.5	
12		SP	SAND								
15		CL	CLAY			very dark gray to dark gray		stiff		43.8	
		rock	ROCK: porous		45/2"			soft rock		12.4	
18			Core Run #1: 17.5' to 19.5' Rec. = 46% RQD = 33%					mod. hard rock			
21			END OF BORING AT 19.5 FEET								

PROJECT NAME: HOLOLANI ROCK REVETMENT
PROJECT NO.: 101408-FM

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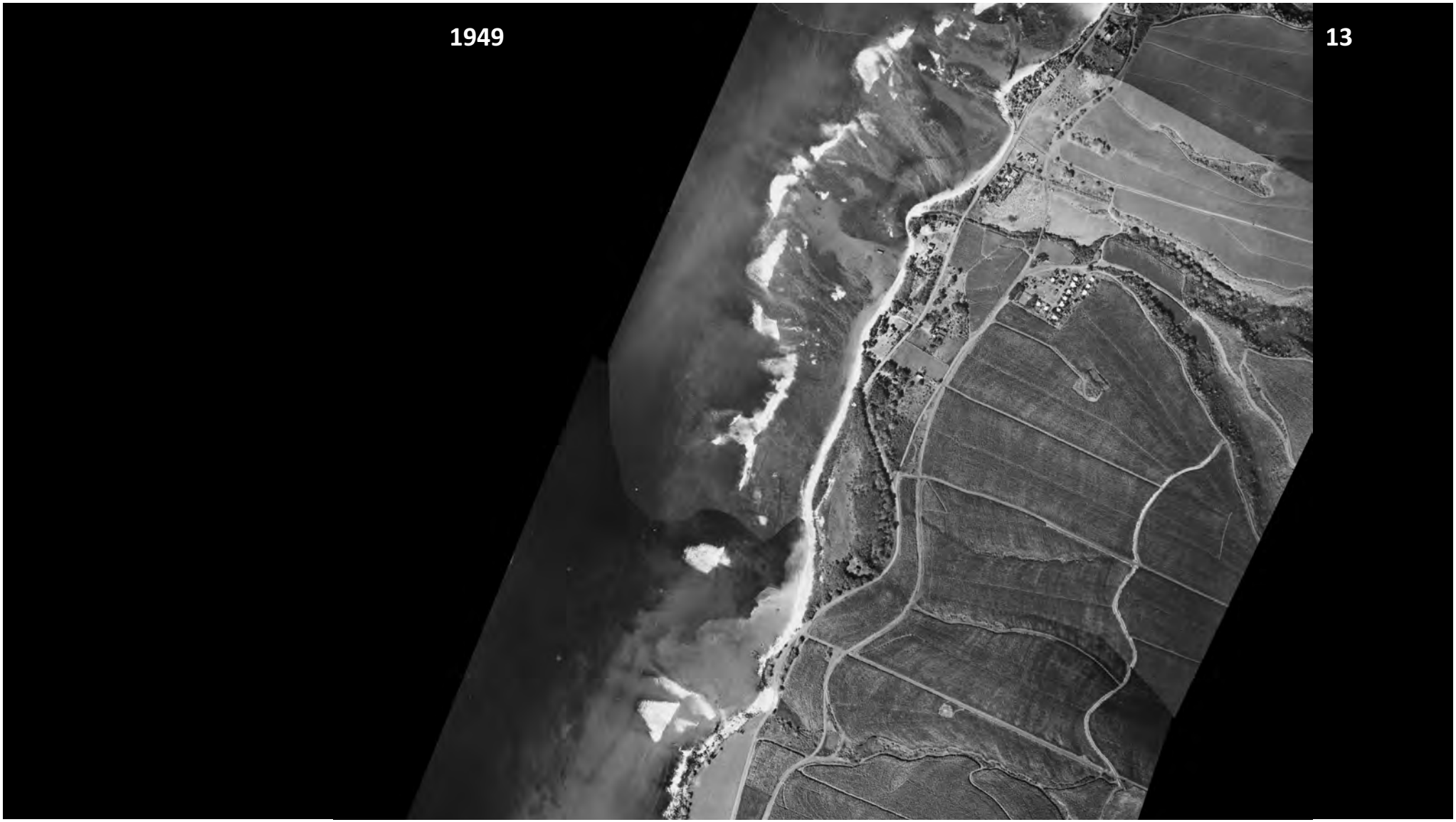
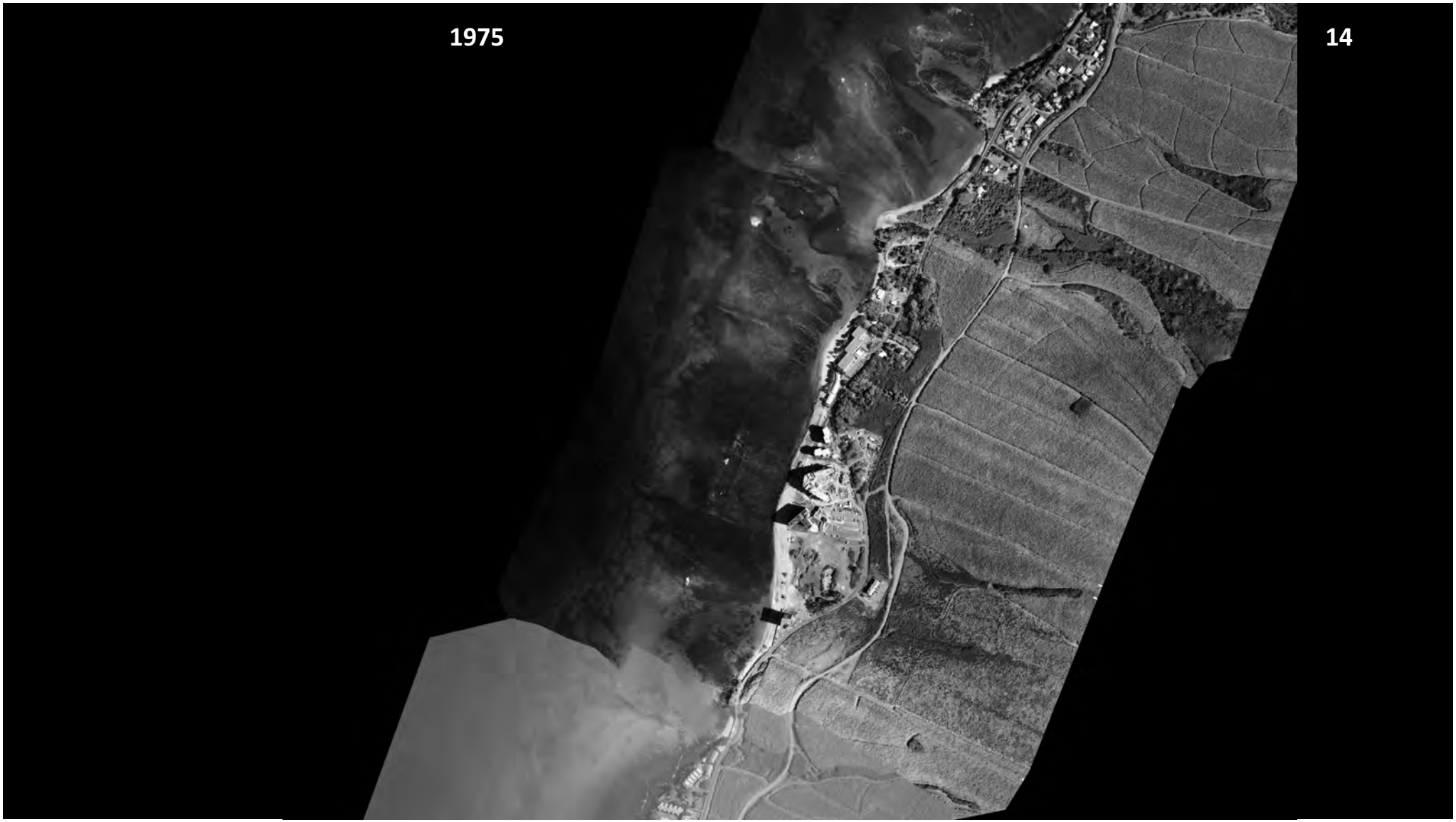
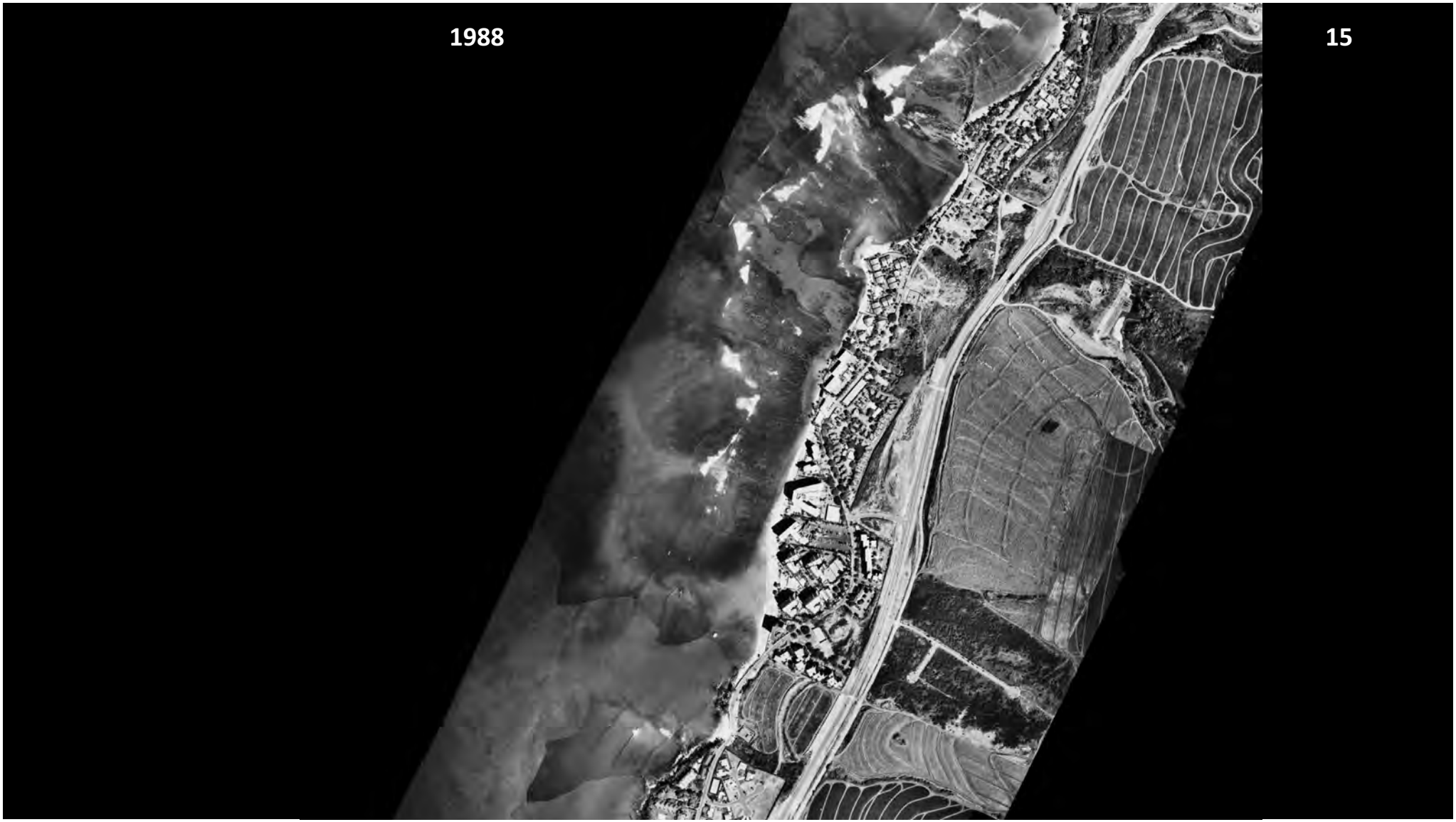
PLATE 5

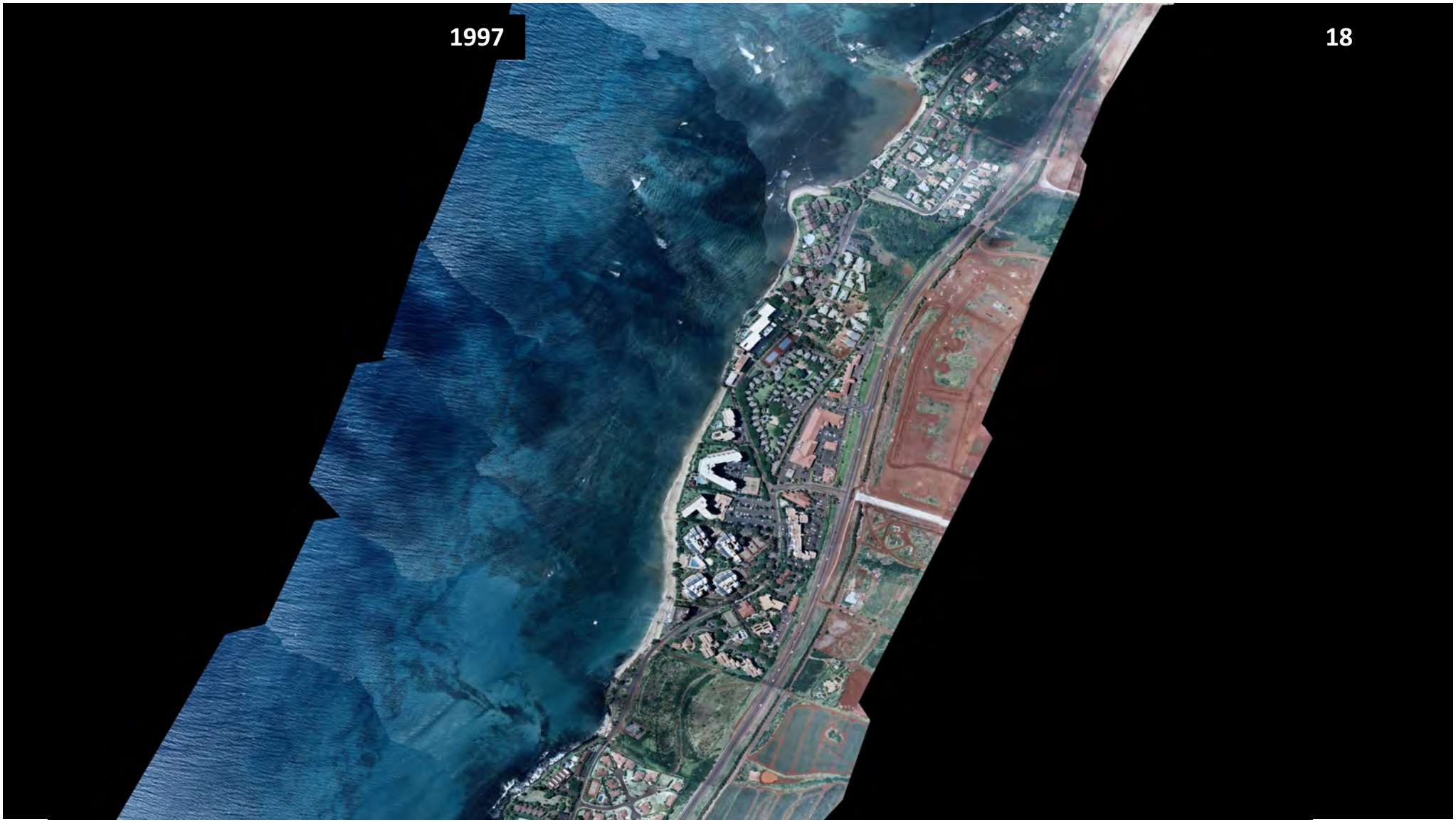

1949
13


1975
14


1988
15


1987
16


1988
17


1997
18

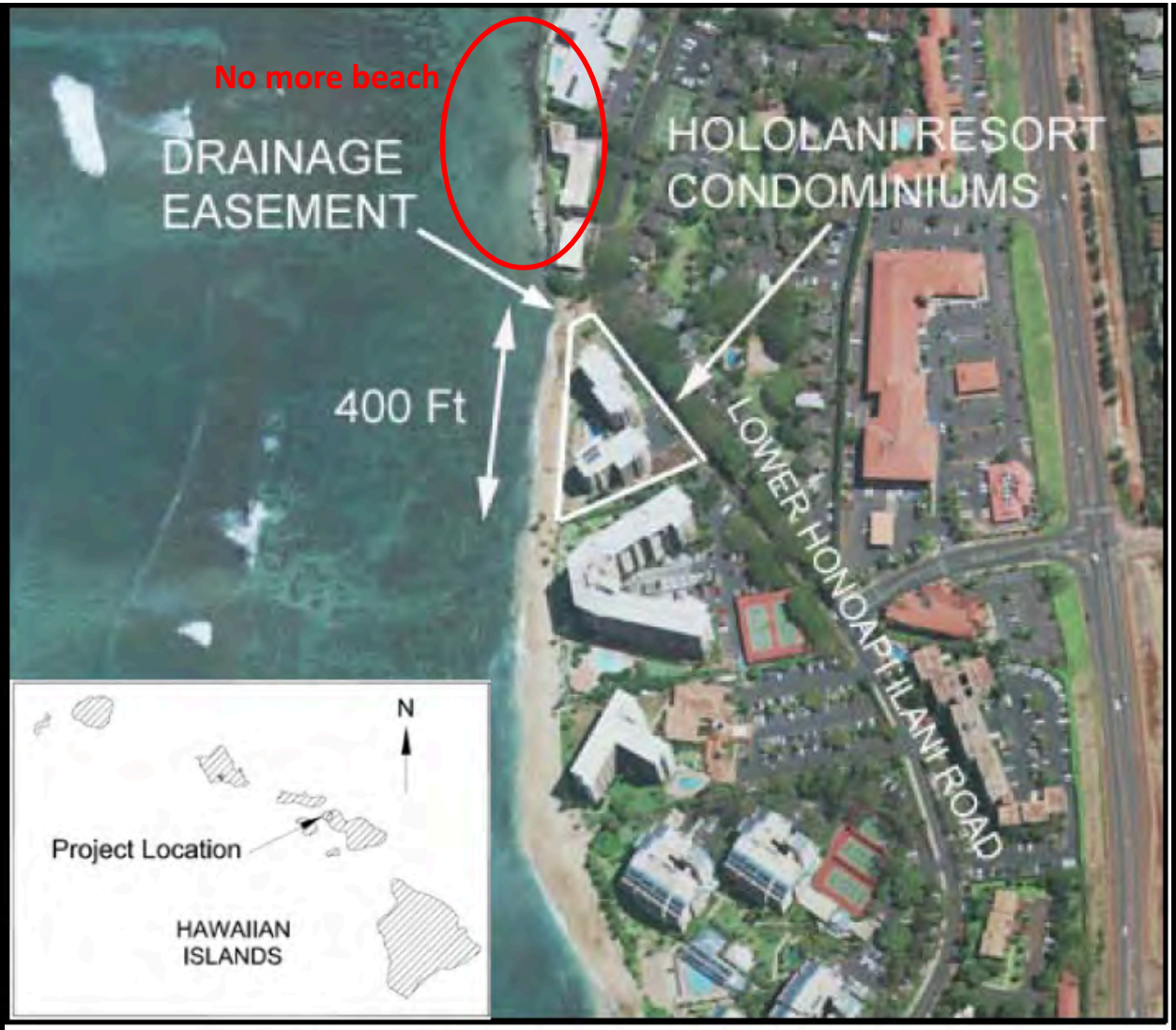


Figure 1-1. Project site location