



# Punalu'u Stream Restoration Project

November 8, 2022

Punalu'u Community Association Update



Kamehameha  
Schools®

# Punalu'u Stream Restoration



## PROJECT PURPOSE

- Restore Stream & Floodplain Processes
- Protect Cultural & Natural Resources
- Increase Community Engagement
- Conduct 'Āina-based Learning

*Punalu'u May 2022*

# October/November 2022 Updates

## Access into the Valley

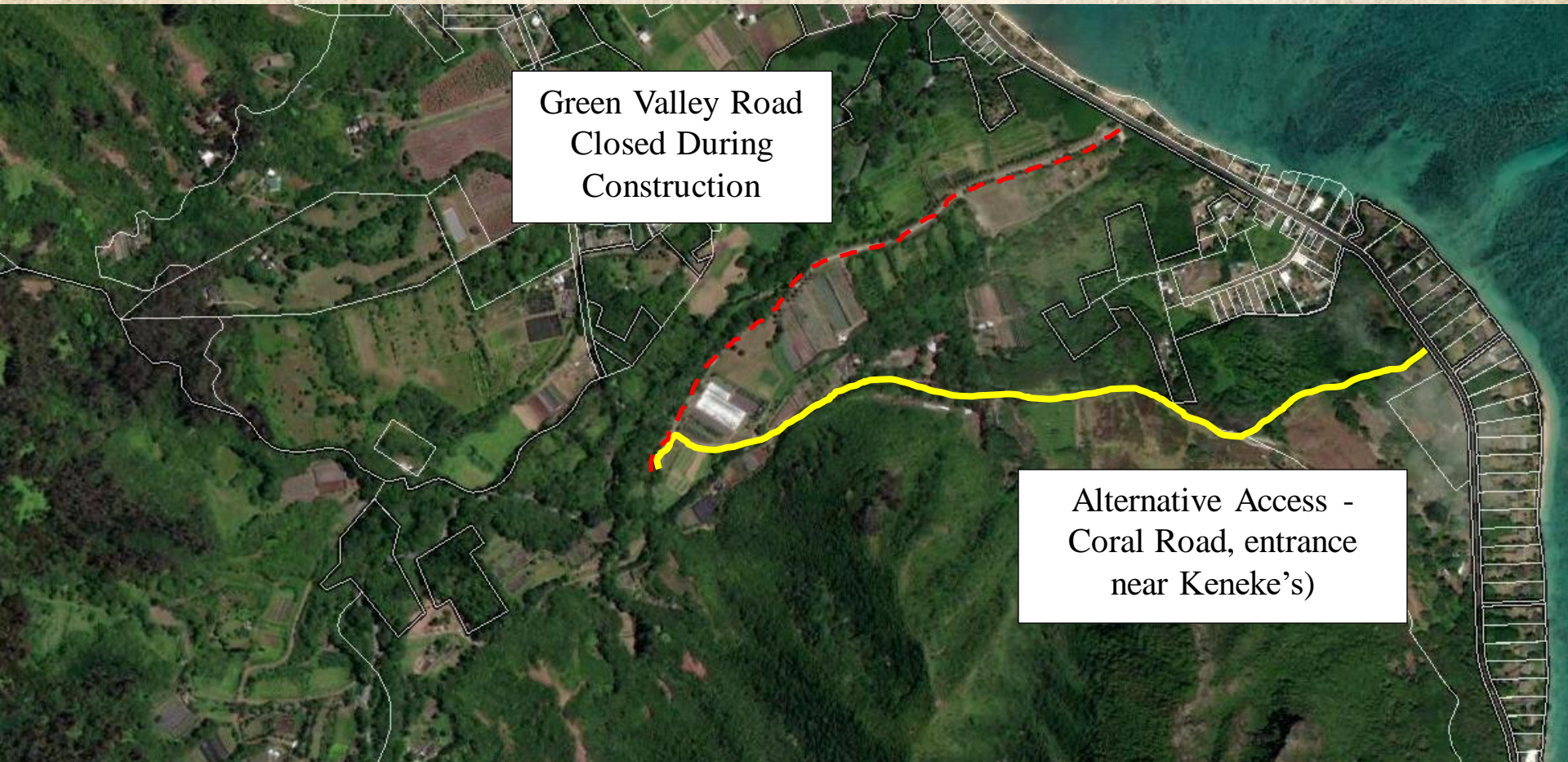
- Green Valley Road closed on Monday, October 3 for primary access into the valley due to construction.
- Alternative access is provided via Coral Road, entrance near Keneke's.
- Safety is our priority at the site and number 1 concern



# October/November 2022 Updates

## Access into the Valley

- Green Valley Road closed on Monday, October 3 for primary access into the valley due to construction.
- Alternative access is provided via Coral Road, entrance near Keneke's.



Green Valley Road  
Closed During  
Construction

Alternative Access -  
Coral Road, entrance  
near Keneke's)

# October/November 2022 Updates

## **Best Management Practices Implemented**

- Our contractor, Goodfellow Bros, installed mandated erosion control measures that include nearly 6 miles of silt fencing around the perimeter of working areas. This fencing may be visible from Kamehameha Highway in places.
- We also shored up the existing front entrance with additional cobble and gravel material to help control mud and sediment from vehicles leaving the site. No excavated material will leave the site.



# October/November 2022 Updates

## Ground Disturbance Starting

- We started major earthwork in early October 2022 including grading near the Estuary component of the project.



# October 2022 Updates



# Early October 2022 Updates





# Early October 2022 Updates



# Early October 2022 Updates





**GOODFELLOW BROS.**  
ESTABLISHED 1921

517050 - Punaluu

23 Feb 2022

Trimble Stratus

Early October 2022



Early November 2022



Early November 2022



# Other Updates

## **Water quality**

- To prevent adverse impact to water quality, special protective curtains will be in place in designated areas of the stream corridor. Frequent water quality testing by a third-party firm will also be conducted. The project will shut down when water quality is not within permit-regulated limits and will not resume until the quality is within the established approved limits.

## **Potential impacts**

- The surrounding neighborhood will hear some construction-related noise throughout the workday, which will be between the hours of 7 a.m. and 5 p.m. The initial excavation area will be near the estuary on the front portion of the property and so we expect constructed-related noise on the Kahana side of the project.

## **Coconut Rhinosurus Beetle (CRB)**

- The State of Hawai'i CRB Taskforce visiting Punalu'u on October 6 to inspect the project area for CRB.
- This was due to concerns brought up at the Punalu'u Community Association meeting about CRB being present in Lā'ie and Hau'ula.
- The Taskforce did not detect any CRB in Punalu'u but did provide BMPs to our contractor and KS staff.



# Punalu'u Stream Restoration

## **CONTACT INFORMATION:**

### **Project Website:**

[www.ksbe.edu/aina/punaluu/stream\\_restoration/](http://www.ksbe.edu/aina/punaluu/stream_restoration/)

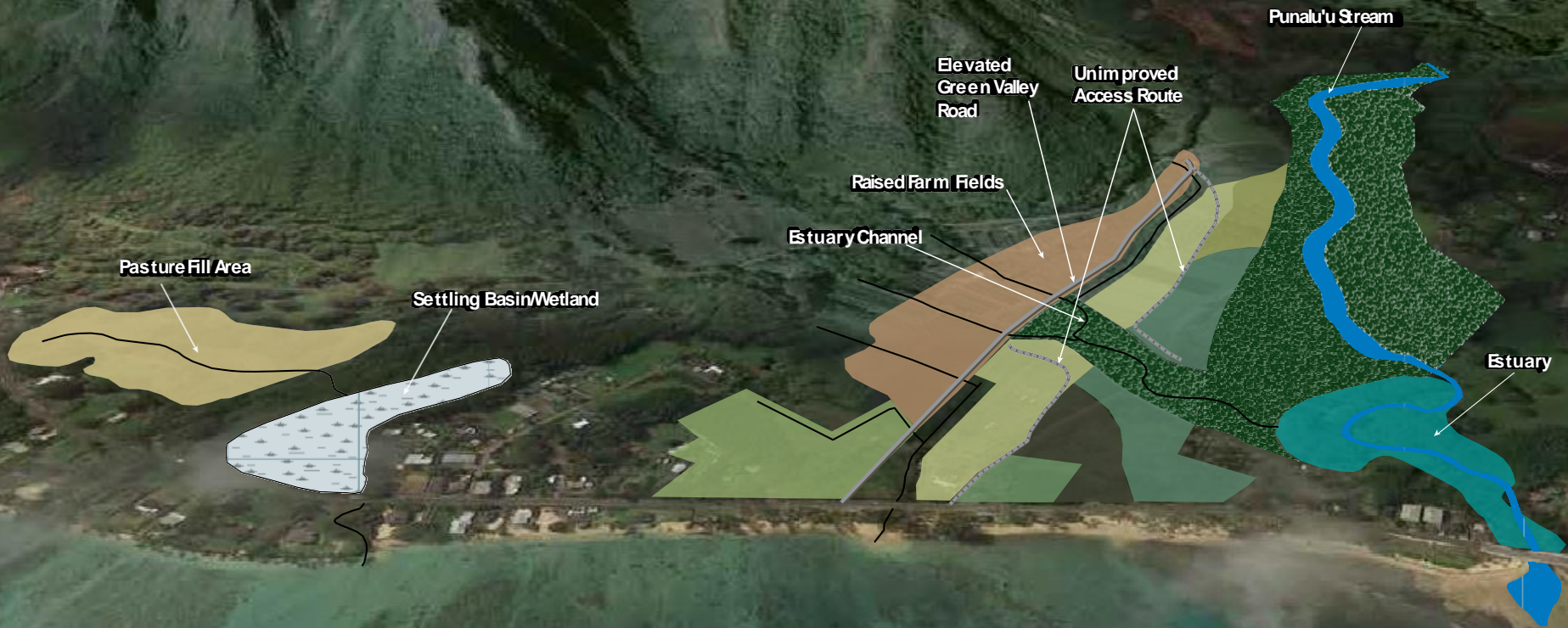
### **Email:**

[punaluu@ksbe.edu](mailto:punaluu@ksbe.edu)



# Punalu'u Stream Restoration

## PROPOSED PROJECT DESIGN



# Punalu'u Stream Restoration

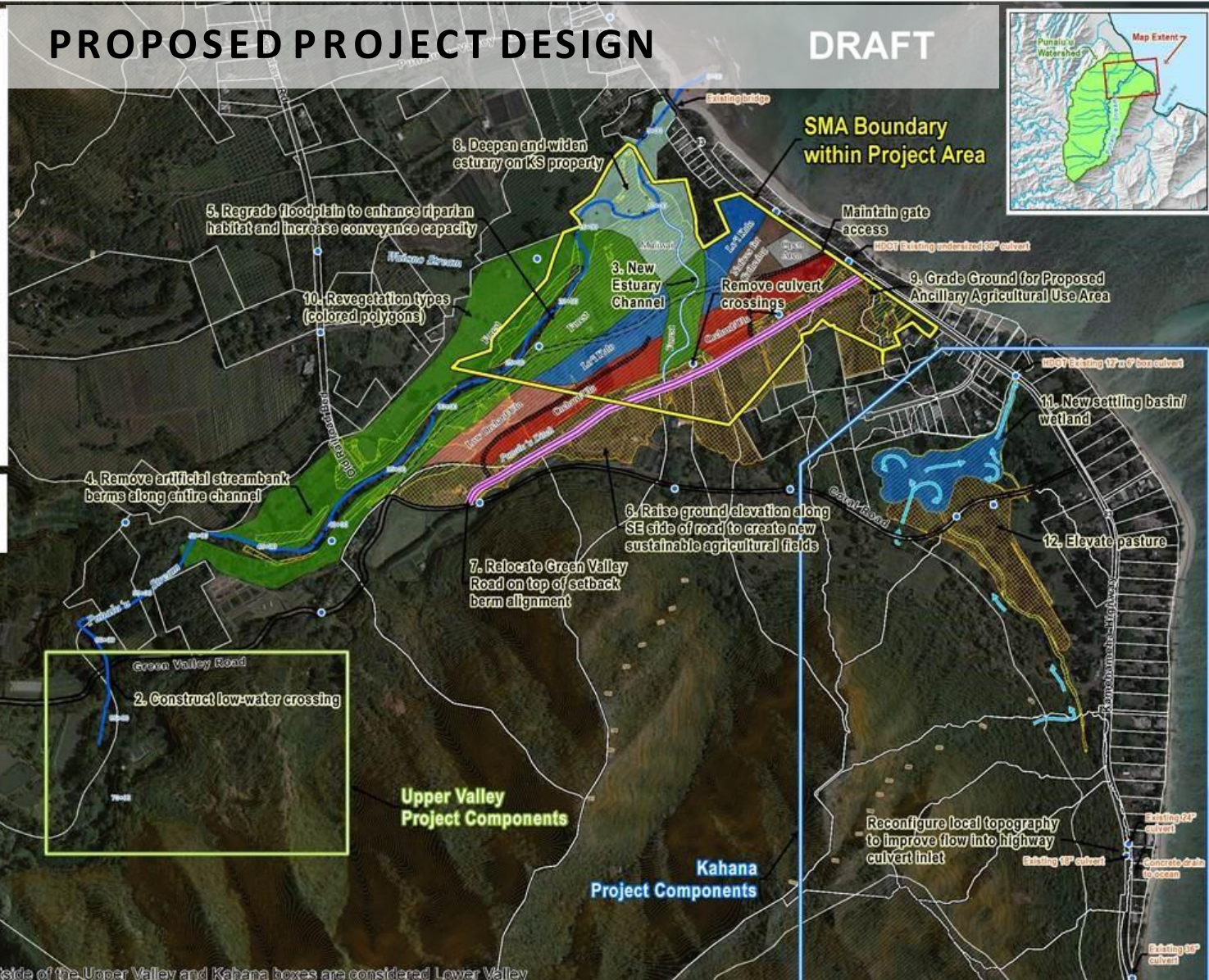
## PROPOSED PROJECT DESIGN

DRAFT

### Legend

- Existing culvert
- New culvert
- + River station
- Raise elevation
- Lower elevation
- New setback berm with new Green Valley Road
- New unimproved access route
- Decommission Green Valley Road
- Existing unpaved road
- Punalu'u Stream
- Existing topographic contour (Interval = 10 feet)
- Sub-basin boundary
- Non-KS tax parcel boundary
- New Kahana flow path

0 300 600 900 1,200 Feet  
 1 inch = 300 feet (printed on 22" x 34" paper)  
 Topography from 2007 LIDAR Survey (USACE)  
 Contour Interval = 10 feet  
 Aerial image acquired in 2008 (USGS)



650 K STREET, SUITE 400  
 HONOLULU, HAWAII 96813  
 TEL: (808) 731-0000  
 FAX: (808) 731-0001



**Project Design Components**  
 Punalu'u Flood Mitigation and Stream Restoration  
 Punalu'u Stream O'ahu, Hawaii

DATE: 11/05/2020  
 DESIGNED BY: BB, TN  
 DRAWN BY: BB  
 CHECKED BY:  
 PROJECT NO: 0040 12  
 PLAN NO:

Note: All project components outside of the Upper Valley and Kahana boxes are considered Lower Valley

# Punalu'u Stream Restoration

## **PROJECT CONSTRUCTION**

- Estimated duration 18 to 24 months
- Project segmented and sequenced to minimize impact
- Work within high water mark restricted to USACE work periods & conditions
- Constant monitoring to avoid adverse impacts
- Erosion and sediment controls
- No work during rain and high stream flows
- Immediate work stop if adverse water quality issues are observed
- Archaeological monitoring required

# Punalu'u Stream Restoration

DRAFT



630 K STREET, SUITE 400  
SACRAMENTO, CA 95814  
TEL: (916) 737-3000 icd.com

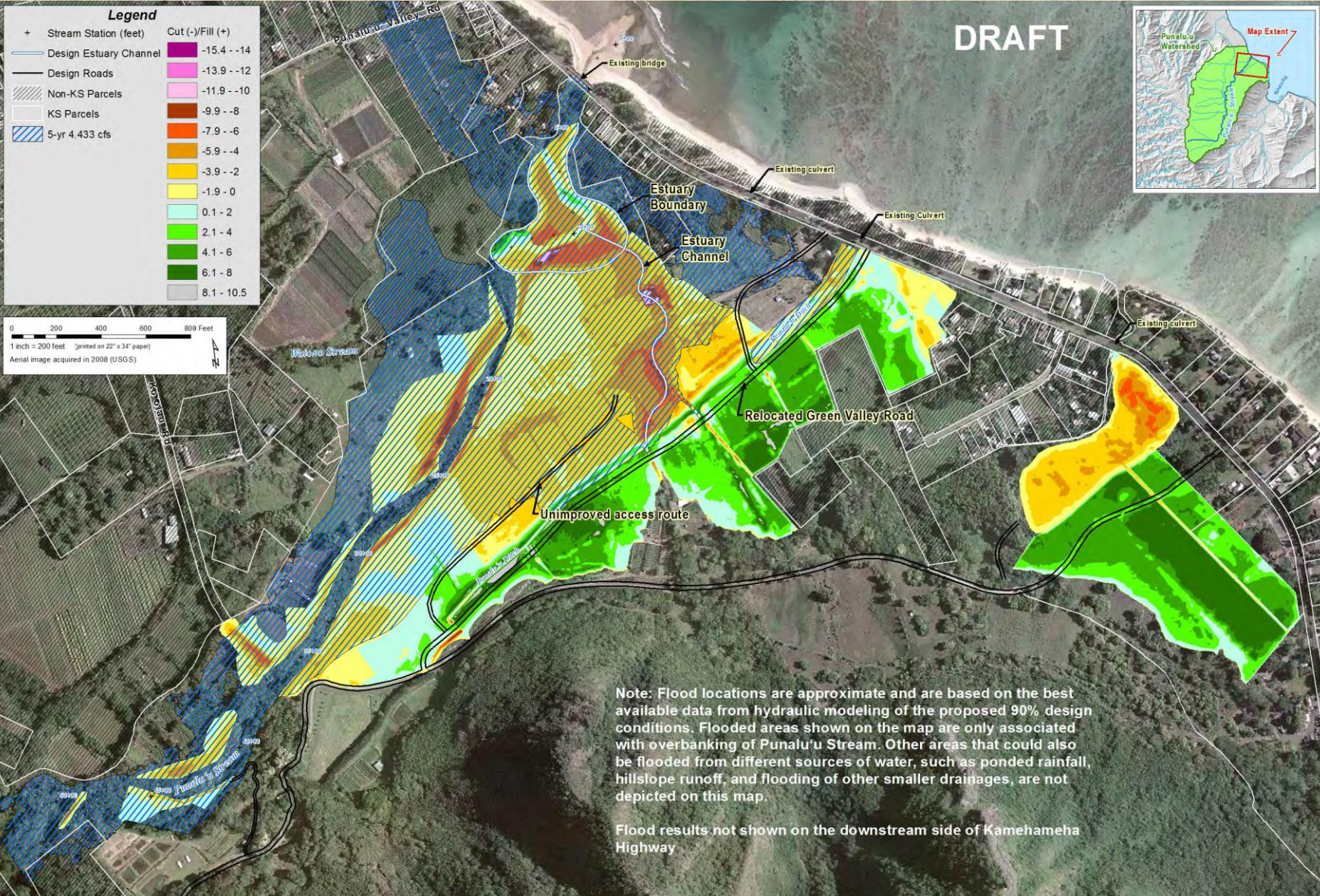
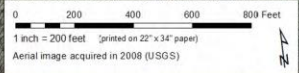


90% Design Plan Modeled Flooding  
5-yr Recurrence Interval 4,433 cfs  
Punalu'u Flood Mitigation and Stream Restoration  
Punalu'u Stream O'ahu, Hawai'i

DATE	01/03/2014
DESIGNED BY	EB, TA, MH
DRAWN BY	EB
CHECKED BY	
PROJECT NO	00640.12
PLAN NO	
1	
SHEET 1 of 1	

**Legend**

+ Stream Station (feet)	Cut (-)/Fill (+)
Design Estuary Channel	-15.4 - -14
Design Roads	-13.9 - -12
Non-KS Parcels	-11.9 - -10
KS Parcels	-9.9 - -8
5-yr 4,433 cfs	-7.9 - -6
	-5.9 - -4
	-3.9 - -2
	-1.9 - 0
	0.1 - 2
	2.1 - 4
	4.1 - 6
	6.1 - 8
	8.1 - 10.5

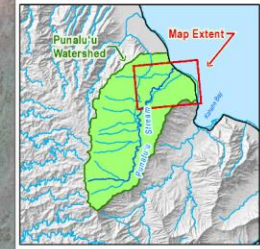


Note: Flood locations are approximate and are based on the best available data from hydraulic modeling of the proposed 90% design conditions. Flooded areas shown on the map are only associated with overbanking of Punalu'u Stream. Other areas that could also be flooded from different sources of water, such as ponded rainfall, hillslope runoff, and flooding of other smaller drainages, are not depicted on this map.

Flood results not shown on the downstream side of Kamehameha Highway

# Punalu'u Stream Restoration

**DRAFT**



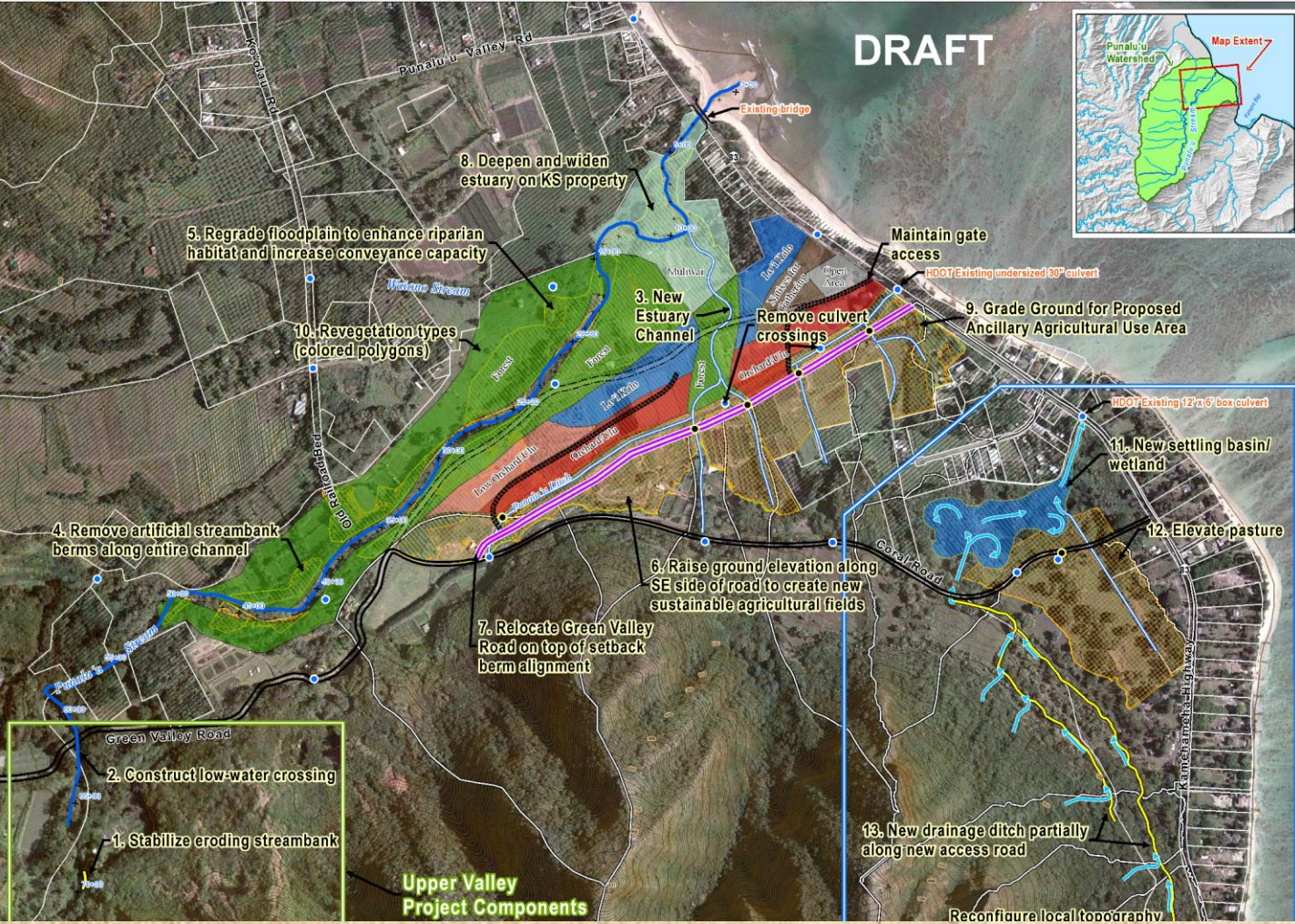
400 K STREET, SUITE 400  
SACRAMENTO, CA 95814  
TEL: (916) 737-3000  
www.nsf.com



**Legend**

- Existing culvert
- New culvert
- +00 River station
- ▨ Raise elevation
- ▨ Lower elevation
- ~ New drainage swale
- ~ New setback berm with new Green Valley Road
- ~ New unimproved access route
- ~ Decommission Green Valley Road
- ~ Existing unpaved road
- ~ Punalu'u Stream
- ~ Existing topographic contour (Interval = 10 feet)
- Sub-basin boundary
- ▨ Non-KS tax parcel boundary
- ~ New Kahana flow path

0 300 600 900 1,200 Feet  
1 inch = 300 feet (printed on 22" x 34" paper)  
Topography from 2007 LIDAR Survey (USACE)  
Contour Interval = 10 feet  
Aerial Image acquired in 2008 (USGS)



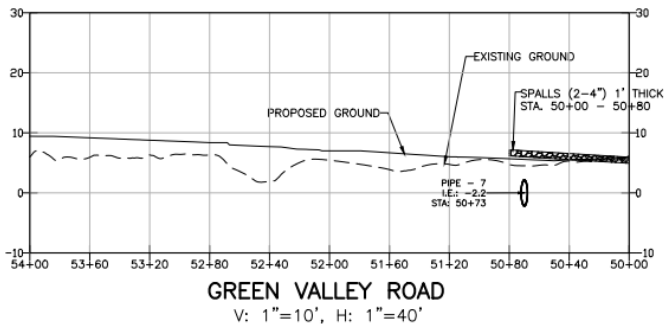
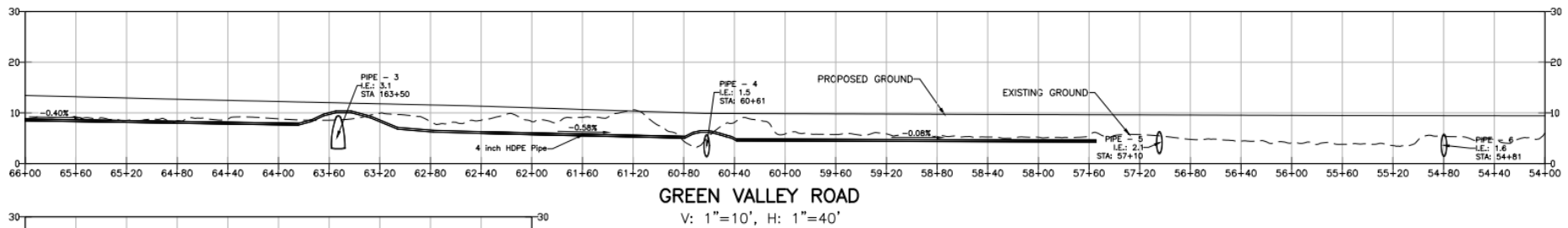
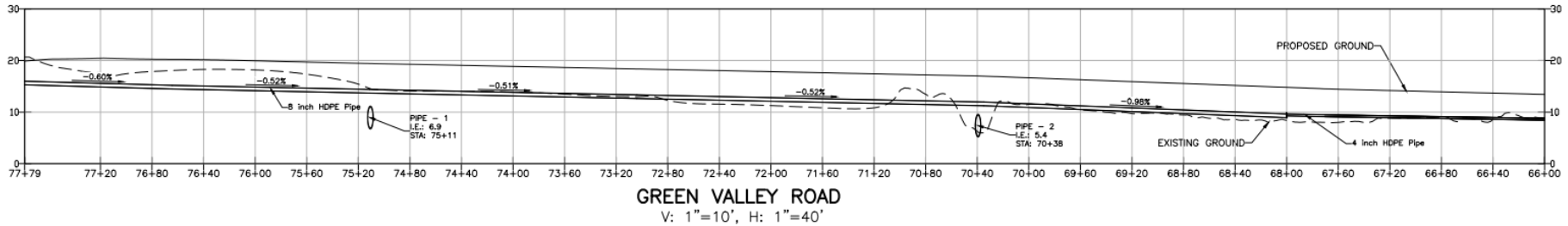
**Upper Valley Project Components**

- 1. Stabilize eroding streambank
- 2. Construct low-water crossing

Project Design Components  
Punalu'u Stream Oahu, Hawaii

# Punalu'u Stream Restoration

## Proposed New Green Valley Road (Main Access Road)



STA.	ELEVATION	NORTHING	EASTING	CROSS SECTION
50+00	0.00	148798.8	1680789.0	
51+00	7.39	148718.6	1680729.7	
52+00	8.31	148645.0	1680662.4	G-G
53+00	8.58	148578.4	1680587.8	
54+00	9.43	148518.1	1680508.0	H-H
55+00	9.47	148458.3	1680427.9	
56+00	9.52	148399.5	1680347.0	I-I
57+00	9.60	148342.0	1680265.2	
58+00	9.67	148284.6	1680183.3	J-J
59+00	9.76	148227.2	1680101.4	

STA.	ELEVATION	NORTHING	EASTING	CROSS SECTION
60+00	9.85	148169.8	1680019.6	K-K
61+00	10.20	148115.5	1679935.6	
62+00	11.00	148063.2	1679850.4	L-L
63+00	11.68	148018.7	1679761.1	
64+00	12.24	147978.6	1679669.6	M-M
65+00	12.81	147933.4	1679580.3	
66+00	13.43	147888.3	1679491.1	N-N
67+00	14.05	147843.1	1679401.9	
68+00	14.80	147792.0	1679316.6	O-O
69+00	15.72	147726.9	1679240.7	

STA.	ELEVATION	NORTHING	EASTING	CROSS SECTION
70+00	16.65	147681.8	1679164.9	P-P
71+00	17.32	147602.1	1679084.8	
72+00	17.83	147545.3	1679002.5	Q-Q
73+00	18.35	147488.5	1678920.2	
74+00	18.85	147425.3	1678842.7	R-R
75+00	19.36	147361.9	1678765.4	
76+00	19.94	147307.1	1678681.8	S-S
77+00	20.33	147247.7	1678602.2	
77+80.8	19.85	147170.5	1678591.9	

# Map of Lower Punalu'u

