Ke Ala Hele Makalae
Phase III
Lydgate Park to Lihi Park

Presented by
the Lydgate Park to Lihi Park
Planning & Design Teams
December 7, 2009
at the War Memorial Convention Hall
Kimura International

Review of Planning Process
design team is...

• updating the public on progress to date since the planning and Environmental Assessment were completed and the Finding of No Significant Impact (FONSI) was issued.

• required to follow the path alignment as specified in the Environmental Assessment.
### Three Phases of the Project Schedule

#### Lydgate Park to Lihi Park

<table>
<thead>
<tr>
<th>Phase</th>
<th>Status</th>
<th>Projected Completion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bryan Baptiste Bridge Widening</td>
<td>under construction</td>
<td>2010</td>
</tr>
<tr>
<td>Wailua Beach Park to Coconut Plantation Marketplace &amp; Kawaihau Connection</td>
<td>ready to bid</td>
<td>2011</td>
</tr>
<tr>
<td>Lanikai Street to Lihi Park</td>
<td>under design</td>
<td>2011</td>
</tr>
</tbody>
</table>
Lydgate Park to Lihi Park & Kawaihau Connection

Existing Path: Bryan Baptiste Bridge Widening

Sub-Phase A: Wailua Beach Park to Coconut Market Place & Kawaihau Connection

Sub-Phase B: Lanikai St to Lihi Park
Wailua Beach

Dr. Mike Dega—archaeological issues

- Archaeological Monitoring Plan Approved by the Department of Land and Natural Resources State Historic Preservation Division (SHPD), February 18, 2008.
- The team will supplement this Plan by manually pre-testing anchor locations to assess the presence/absence of cultural materials and/or burials.
- During testing, a Cultural Monitor designated by the SHPD will be present.
- Archaeological data shows known burials and other known, significant sites, to occur mauka side of Kuhio Highway (Coco Palms and above).
- No known archaeological sites occur on the makai side of the highway throughout Wailua Beach.
Dr. Mike Dega—archaeological issues

• Bennett (1931) listed Site 103 as “burial grounds” but its terminus is Lydgate Park, southern side of Wailua River. He lists only one site for Wailua Beach area proper: Kukui Heiau (Site 108), which occurs on the point named Lae Alakukui, to the north.

• There are no Land Commission Awards for Wailua Beach. According to Tax Map Key information, the land was owned by the Lihue Plantation Company.

• During and Post-project: Increased signage with history and significance of Wailuanuiahao.
Dr. Chip Fletcher—coastal erosion issues

• Wailua Beach has undergone long-term accretion at a rate of approximately 1 ft/yr in the center region.
• The beach is characterized by episodic erosion that occurs on a short-term basis associated with accelerations in the trade winds that drive higher than normal wave energy or refracted north swell (or south swells) with a strong easterly component.
• But in the past these episodes have been followed by accretion phases that have recovered the beach width to pre-eroded conditions. This is a typical behavior for Hawaiian beaches that are not deficient in their sand supply.
Wailua Beach, Kauai

HISTORICAL SHORELINES
- Feb 1927 T-sheet
- Nov 1950
- Mar 1972
- Apr 1975
- Jul 1987
- Aug 1988
- Sept 1992
- May 1992
- Sept 2002
- Feb 2002
- Oct 2007
- Jan 2008

Erosion rate measurement locations
(shore-normal transects)

Historical beach positions, color coded by year, are determined using orthorectified and georeferenced aerial photographs and National Ocean Survey (NOS) topographic survey charts. The low water mark is used as the historical shoreline, or shoreline change reference feature (SCRF).

Movement of the SCRF along shore-normal transects (spaced every 50 ft) is used to calculate erosion/abrasion.

Blue = accretion
Red = erosion

source: University of Hawaii
Coastal Geology Group 2009
(cut from original by Jim O'Connell, UH Sea Grant Kauai)
Dr. Chip Fletcher—coastal erosion issues

- The portion where the pathway and parking are planned will probably be attacked by erosion when global warming drives sea level higher in Hawaii.
- When erosion won’t stop, then the path and the parking materials should be removed.
- Until then I think the path and parking will enhance public access to this beautiful location without harming the beach.
Dr. Chip Fletcher—coastal erosion issues

- The overall design [the boardwalk] gives the unit strong resistance to shear forces generated by overwashing waves that is known to occur in this area on occasion.
- The planned design would allow segments of the boardwalk to be undermined but not disconnected from the overall configuration.
- The walkway may shift, in the way that portions of a snake shift laterally as it moves, but breaking free is unlikely.
“I feel the pathway will have no negative environmental impact.”

Dr. Chip Fletcher—coastal erosion issues
Wailua Beach to Coconut Plantation Marketplace phase
Wailua Beach to Coconut Plantation Marketplace phase
Wailua Beach to Coconut Plantation Marketplace phase
Lydgate Park to Lihi Park Ke Ala Hele Makalae Phase III Pathways Project

Wailua Beach to Coconut Plantation Marketplace phase
Wailua Beach to Coconut Plantation Marketplace phase
existing vegetation
existing retaining wall
path
10 ft.

PAPALOA ROAD TYPICAL ELEVATION (SOUTH PORTION)
PAPALOA ROAD TYPICAL ELEVATION

- landscaping
- screening shrub
- existing fence
- path

Dimensions:
- 5 ft.
- 10 ft.
- 5 ft.
PAPALOA ROAD TYPICAL ELEVATION
Lanikai Street to Lihi Park phase
Lanikai Street to Lihi Park phase

Typical Section
Lanikai Street to Lihi Park phase

CANAL TYPICAL ELEVATION
N.T.S.
Lanikai Street to Lihi Park phase

Typical Section
Lanikai Street to Lihi Park phase
Ala Road to Moanalikai Road, South portion

- Construct (2) 10-ft. Wide Asphalt Concrete Roadway
- New 10-ft. Wide Shared-Use Path
- New 10-ft. Striped Shared-Use Path on New Asphalt Concrete Pavement
- Provide 2-ft. Wide Detectable Warning Strip Between Path and Roadway
- Traffic Control Bollard
- Property Line
- To Lihue

Additional Images:
- Street scene with vehicles and street signs.
- Street scene with palm trees and ocean view.
- Street scene with trees and vehicles.
**Ala Road to Moanakai Road, North portion**

- **Niulani Street** (One-Way Traffic) Construct Roadway Improvements for Dedication to the County of Kauai.
- Widen Portion of Keaka Road to Provide Two (2) 10-ft. Wide Lanes at the Intersection.
- New 10-ft. Striped Shared-Use Path on New Asphalt Concrete Pavement.
- Construct (2) 10-ft. Wide Asphalt Concrete Roadway.
Moanakai Road to Lihi Park
Kawaihau connection

Lydgate Park to Lihi Park Ke Ala Hele Makal
Kawaihau Road area, mauka portion—boardwalk alternative
Lydgate Park to Lihi Park Ke Ala Hele Makalae Phase III Pathways Project

typical interpretive sign

photo simulation
your questions and comments

this presentation will be posted at
www.Kauai.gov

mahalo