MEETING AGENDA

Date: Wednesday, February 13, 2019 2:00pm to 4:00pm

Location: Queen Kapiolani Hotel- Leahi Room 3rd floor
150 Kapahulu Ave. Honolulu, HI 96815
(Parking located across Kapahulu at the Zoo parking lot)

Host: Waikīkī Beach Special Improvement District Association (WBSIDA)

Contact: Dolan Eversole, University of Hawai‘i Sea Grant/WBSIDA
Cell (808) 282-2273 email: eversole@hawaii.edu

MEETING AGENDA

1. Waikīkī Beach Community Advisory Committee Updates (10 mins)
   a) Advisory committee composition. (Introduce new members)

2. Waikīkī Priority Project Areas – DLNR EIS Project Scope (60 mins) (Handout)
   a) DLNR Waikīkī EIS project background, goals and scope.
   b) September 27, 2018 meeting conceptual designs ranking summary. (Handout)
   c) Review beach maintenance techniques for Waikīkī.
      i. Ft DeRussy sand back-passing
      ii. Waikīkī Beach maintenance (Royal Hawaiian Cell)
      iii. Small-scale dredging systems
      iv. Kuhio Beach basin improvements
   d) Group discussion, questions and comments.

3. Waikīkī Beach Improvement Project Status Update (30 mins)
   a) Royal Hawaiian groin.
   b) Kuhio Beach sandbag groin.
   c) Repair of Kuhio Sand-filled Mattress
   d) Post-storm assessment

4pm Pau
# Waikiki Beach Community Advisory Committee

Tuesday, February 13, 2019 2:00pm to 4:00pm

## Sign in Sheet

<table>
<thead>
<tr>
<th>Name</th>
<th>Organization</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>Robert Fishay</td>
<td>UHNR FG</td>
<td><a href="mailto:mobile2012@gmail.com">mobile2012@gmail.com</a></td>
</tr>
<tr>
<td>Debi Bishop</td>
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<td><a href="mailto:debi.bishop@hilton.com">debi.bishop@hilton.com</a></td>
</tr>
<tr>
<td>Connie DeGuair</td>
<td>Hilton/WBCA</td>
<td><a href="mailto:connie.deguair@hilton.com">connie.deguair@hilton.com</a></td>
</tr>
<tr>
<td>John Clark</td>
<td>FWB</td>
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<tr>
<td>D.W. Smith</td>
<td>SEA Engineering</td>
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</tr>
<tr>
<td>Andy Bochkava</td>
<td>SEA Engineering</td>
<td><a href="mailto:abokhov@seaengineering.com">abokhov@seaengineering.com</a></td>
</tr>
<tr>
<td>Jason Wall</td>
<td>DPR-C+CC of OHA</td>
<td><a href="mailto:jwall@hawaiigov.state.hawaii">jwall@hawaiigov.state.hawaii</a></td>
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<tr>
<td>Katie Duke</td>
<td>UHPU Oahu</td>
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<tr>
<td>Nevell Newton</td>
<td>Outrigger Waikiki</td>
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</tr>
<tr>
<td>Brett Groombridge</td>
<td>Aqualuna, State, OCA, OHA</td>
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</tr>
<tr>
<td>Spencer Kimball</td>
<td>BWMRA</td>
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<tr>
<td>Jim Fulton</td>
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<td>Chip Fitchen</td>
<td>UH</td>
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<tr>
<td>Melissa Agbayani</td>
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<tr>
<td>John Batiles</td>
<td>DLNR ENG</td>
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</tr>
<tr>
<td>Delan Furusdi</td>
<td>UH Sea Grant</td>
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MEETING SUMMARY

I. Waikīkī Beach Community Advisory Committee Updates
   a) Advisory committee composition. (Introduce new members)
   b) September 27, 2018 meeting conceptual designs ranking summary. (Handout)

II. Waikīkī Priority Project Areas – DLNR EIS Project Scope (Handout)
   a) DLNR Waikīkī EIS project background, goals and scope.
   • Presenter: Dolan Eversole (Hawaii Sea Grant / WBSIDA)
   • Introductions (# of attendees = 18)
   Review of last WBCAC meeting
   • Review summary results of 9/27/2018 WBCAC meeting (Eversole)
   • Primary goal of WBCAC is to obtain feedback from key stakeholders to inform conceptual planning for beach improvement projects.
   • Review of past WBCAC assessments and how this information is being used to direct the next design phase of the EIS project.
   • WBCAC identified priority project cells (Kuhio, Royal Hawaiian, Halekulani)
   • WBCAC ranked conceptual project designs for each cell.
     o Halekulani beach cell groin field
     o Royal Hawaiian beach maintenance
     o Kuhio swim basins improvements
   • WBCAC informed selection of engineering design criteria for each cell. Feedback included assets & values, issues & problems, and potential solutions.
   • WBCAC preferred solutions for priority cells:
     o Kuhio – beach maintenance (concerns re: ocean safety and water quality)
     o Royal Hawaiian – beach restoration/maintenance using locally sourced sand, no new structures
     o Halekulani – beach expansion or creation
   • Offered Committee the opportunity to share comments or concerns as a critical juncture in the EIS process.
   • Questions and discussion.
Project-Specific updates

- Presenter: David Smith, PhD (Sea Engineering, Inc.)
- Sand is a critical component of any beach restoration project.
- Concerns re: sand, color, odor, fines (turbidity), coarse material (cobble), fracturing.
- Sand recovery methods:
  - Pneumatic sand conveyance system (unsuccessful in 2012).
  - Clamshell dredge & barge from offshore sand deposits.
  - “Eddy Pump” small-scale diver-operated dredge.
- Sand conveyance methods:
  - Pumping and back-passing
  - Conveyor belts can transport sand from barge to truck and truck to beach.
- Group discussion, questions and comments.
  - Committee discussion on the merits of sand quality and how to sort or filter undesirable components.
  - Discussion regarding small-scale pumping systems and the possibility of utilizing a system in Waikīkī.

Questions and discussion.

III. Waikīkī Beach Improvement Project Status Update

a) Royal Hawaiian Groin Replacement
- Presenter: Dolan Eversole (Hawaii Sea Grant / WBSIDA)
- Nearing the end of the regulatory permitting process.
- Project duration 2-3 months.
- Project will require partial beach closure (likely in the mornings) during construction.
- Staging and construction area at the Royal Hawaiian beach fronting the Royal Hawaiian hotel likely to be significant and ongoing during construction.

b) Kuhio Beach Sandbag Groin
- Presenter: Dolan Eversole (Hawaii Sea Grant / WBSIDA)
- Short-term project (5-10yrs) to allow us to develop/implement a long-term solution.
- All permit applications have been submitted and are under review.
- Anticipate construction commencing Fall, 2019 (Sep-Nov).
- Project duration 2-3 weeks and will require partial beach closure at Kuhio Beach park.

c) Post-storm assessment (Feb 10 high wind/surf event)
- Presenter: Dolan Eversole (Hawaii Sea Grant / WBSIDA)
- Kona Low event transported a substantial volume of sand to the Diamond Head end of Royal Hawaiian Beach, adjacent to the Kuhio swim basin.
- Overall the event was beneficial to Waikīkī by increasing beach sand volumes.
- Sand-filled mattress was damaged in summer of 2018 and repairs are being planned.
- Diamond Head side of Royal Hawaiian Groin experienced seasonal erosion.
- No other storm impacts were observed or discussed.
Waikīkī Beach Community Advisory Committee
Ho’omau ‘O Waikīkī Kahakai
“Waikīkī Beach Renews Itself”

MEETING AGENDA

Date: September 27, 2018* 1:30pm to 4:00pm
*Rescheduled August 23, 2018 meeting due to Hurricane Lane

Location: Royal Hawaiian Hotel
Regency I Room
2559 Kalakaua Ave, Honolulu, HI 96815

Host: Waikīkī Beach Special Improvement District Association (WBSIDA)
Contact: Dolan Eversole, University of Hawai‘i Sea Grant/WBSIDA
Cell (808) 282-2273 email: eversole@hawaii.edu

MEETING AGENDA

1. Waikīkī Beach Community Advisory Committee Updates (15 mins)
   a. Advisory Committee composition. (New members)
   b. March meeting issue mapping summary. (Handout)

2. Royal Hawaiian Groin Design Update (15 mins) (Handout)
   a) sea-level rise (SLR) consideration and new “L-spur” design.
   b) Timing and application status.

3. Kuhio Beach Sandbag Groin Project (30 mins) (Handout)
   • Final sandbag groin design update.
   • Design rationale and construction plan.
   • Access plan, timing and application status.
   • Group discussion, questions and comments.

4. Waikīkī Conceptual Designs - Halekulani, Royal and Kuhio (90 mins) (Handout)
   a) DLNR Waikīkī EIS project background, goals and scope.
   b) Review conceptual designs for Kuhio, Royal and Halekulani cells.
   c) Pedestrian access, SLR, public safety and aesthetic considerations for designs.
   d) Timing and application status.
   e) Group discussion, questions and comments.

4pm Pau
9-27-2018 Meeting Summary
Committee composition, past meeting summaries and information can be accessed online at: https://www.wbsida.org/waikiki-beach-community-advisory-committee/

Background Information
The 32-member Waikīkī Beach Community Advisory Committee (WBCAC) is intended to help to identify and address Waikīkī Beach management issues. The committee provides important guidance for planning and prioritizing future beach management projects in Waikīkī.

Waikīkī Beach Advisory Committee Goals
1. Advise the WBSIDA, the DLNR, the City and County of Honolulu and UH Sea Grant on the development and implementation of a Waikīkī Beach Management Plan.
2. Ensure that future beach management projects address the issues and concerns of the Waikīkī community and local stakeholders.
3. Advise/recommend on specific beach management projects in Waikīkī.
4. Provide community coordination, education, and outreach efforts about beach management issues and projects in Waikīkī.
5. Identify and evaluate alternatives for beach management and maintenance in Waikīkī.
General Meeting Summary:

- 21 of the 32-member committee (66%) were present for the 9-27-18 meeting.
- The meeting consisted of several project updates and a ranking sheet exercise for six different conceptual engineering designs for the three priority beach cells (Royal, Kuhio and Halekulani).
- Follow up discussion with several committee members and stakeholders on the overall outreach and communication strategy for the conceptual designs has resulted in the development of an overall project goals, objectives and strategies.
- Based on the above input, the WBSIDA is in the process of developing specific criteria for the identification of the desired recreational use, design rational and outcome objectives for each design cell. This is thought to assist in the committee assessment and ranking of various conceptual designs.

Project Updates

- Royal Hawaiian Groin (RHG)- A project update was provided to the committee on the various design changes planned for the RHG including the change in the shoreward portion to “L-head” and an overall increase in the overall crest elevation by 1.5ft to account for future projections of sea-level rise.
- Discussion of the RHG centered on public safety measures that can be built into the design to prevent and/or mitigate public access along the top of the groin.
- A suggestion of possibly adding a lifeguard station to the base of the RHG was brought up. There was acknowledgement this may serve to improve observational coverage and emergency response time from the RHG to the Ft. DeRussy groin which is currently unguarded.
- Kuhio Beach Groin (KBG)- A project update was provided to the committee on the various design changes planned for the KBG.
- Discussion included the KBG function, dimensions, orientation, sand source and installation methodology.
- Concern raised by several committee members about the use of the proposed sand barrow area in the Diamond head basin for the beach fill next to the KBG as it may increase the slope of the beach and cause a deepening of the shallow wading area leading to a safety concern. Other safety concerns were raised regarding slip/fall hazards on the groin as well as novice surfers hitting the groin.
- A suggestion was made for the planned KBH be oriented similar to the pre-existing groin in order to orient the groin into the prevailing waves, as opposed to shore-perpendicular.
Conceptual Design Ranking Exercise (60 mins)
Goal: Evaluate and rank potential conceptual designs.

This exercise started with a presentation and discussion on six different conceptual designs for the three priority beach cells. Committee members were asked to rank the various designs on a 1-5 scale (1 = no support, 5 = full support) (Appendix A). The ranking sheet was also emailed out to all committee members as part of a briefing packet before the meeting and a form-fillable version was sent after the meeting. The results for this exercise are summarized below.

General Summary: Considering the limited sample size, the overall results suggest:
1. Preferred designs vary by each beach cell but tend to favor Options E and F (Halekulani T-heads and T-heads + SLR) as the top ranking for the first choice (Figure 1).
2. Similar ranking is observed if we look at the 1st choice PLUS the 2nd choice with Option F Halekulani T-heads + SLR as the overall preferred design (Figure 2).
3. Option C (Royal Hawaiian Beach) was an equal 2nd to Option E when considering the 1st choice PLUS the 2nd choice (Figure 2).
4. While there are exceptions in some beach cells, the least favored designs include Option B (Kuhio w/ breakwaters and C Royal Hawaiian.
5. Note Option C ranked an equal 3rd with 3 other designs when looking at 1st choices only an equal 2nd when looking at 1st Plus 2nd choices and an equal least preferred for the 5th choice. This seems to indicate a bi-modal distribution of ranking results or in other words the committee is largely split on this option with the same number of results as the 5th choice as there are for 1st plus 2nd (Figure 3). This might indicate more information and discussion is needed in order resolve this difference of opinion with this option if there is an interest in pursuing this option.

1 A larger sample size will result in more statistically relevant and representative results. This could be done as an online survey to a wider stakeholder group and/or as public survey. Ideally future surveys will evaluate and rank various options for each cell rather than rank overall for all cells.
Conceptual Design Ranking Exercise – Results

**Figure 1.**

1st Choice Waikiki Advisory Committee Concept Design

![Bar chart showing 1st Choice Waikiki Advisory Committee Concept Design](chart1.png)

**Figure 2.**

1st and 1st + 2nd Ranking Waikiki Advisory Committee Concept Design

![Bar chart showing 1st and 1st + 2nd Ranking Waikiki Advisory Committee Concept Design](chart2.png)
Figure 3.

Waikiki Advisory Committee Concept Design Ranking

<table>
<thead>
<tr>
<th>Option</th>
<th>1st</th>
<th>2nd</th>
<th>3rd</th>
<th>4th</th>
<th>5th</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option A- Kuhio Beach (Ewa Basin)</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Option B- Kuhio Beach (Breakwaters)</td>
<td>3</td>
<td>0</td>
<td>6</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Option C- Royal Hawaiian Beach</td>
<td>6</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Option D- Halekulani (revetment)</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>Option E- Halekulani (T-Heads)</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Option F- Halekulani (T-Heads + SLR)</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td>5</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Number of Votes

Legend:
- 1st
- 2nd
- 3rd
- 4th
- 5th

Waikiki Advisory Committee Concept Design Ranking

Legend:
- Option A- Kuhio Beach (Ewa Basin)
- Option B- Kuhio Beach (Breakwaters)
- Option C- Royal Hawaiian Beach
- Option D- Halekulani (revetment)
- Option E- Halekulani (T-Heads)
- Option F- Halekulani (T-Heads + SLR)
Conceptual Design Ranking Exercise –
Additional Committee Written Comments Received
(In no particular order)

1. No T-Heads
2. Safety critical for locals and visitors
3. Surf and recreation important
4. In favor of T-Heads but not the groins leading from shore to the heads.
5. Favor Breakwaters over groins
6. All structures are temporary, plan accordingly
7. Fully support T-Groins just need more details
8. Option A is good but B is better but need 3 more groins towards Kapahulu groin
9. Option C is good but need to take out T-Groin inshore of Canoes
10. Option E is good but need to move western most groin out of Halekulani channel
11. Option B- need to add replacement for Slippery Wall (Kuhio Breakwall)
12. Consider Multi-modal groins for safety, designed for safe access.
13. Design safe water entry areas and signage
14. Allow more mauka room for a beach to form and elevate beach
15. Design multi-use recreational access (stairs) rather than restrict access.
16. Safety concern for eddie formation and current flows (Koolina lagoon example)
17. Possible impacts of sand movement Ewa side of T-head
Appendix A: Sample of Conceptual Design Ranking Sheet

NAME: 

Waikīkī Beach Conceptual Designs- Comment Sheet
1= no support, 5 = fully support

What is your level of your support for the following conceptual designs? 1-5 Scale

a) Kuhio Beach Option A (Ewa Basin only) 

b) Kuhio Beach Option B (A + Breakwaters) 

c) Royal Hawaiian Beach (L-spur and T-head) 

d) Halekulani Option A (Revetments) 

e) Halekulani Option B (T-Heads) 

f) Halekulani Option A (T-Heads + SLR) 

Other comments you want to add?

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________
Walkīkī Beach Engineering Design Criteria

KUHIO BEACH WAIKIKI

ASSETS & VALUES

- Economic Value: 31%
- Recreational: 29%
- Aesthetic: 23%
- Historic/cultural: 14%
- Other: Safe water: 3%

ISSUES & PROBLEMS

- Erosion/wave run-up: 21%
- Environmental Degradation: 24%
- Structural Damage: 17%
- Lack of Amenities: 14%
- Other: Safe water, lack of restrooms: 24%

KUHIO BEACH SOLUTIONS

- 1st Choice
- 2nd Choice
- 3rd Choice

<table>
<thead>
<tr>
<th>Solution</th>
<th>1st Choice</th>
<th>2nd Choice</th>
<th>3rd Choice</th>
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</thead>
<tbody>
<tr>
<td>No Action</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maintenance and/or repair of existing structures</td>
<td></td>
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<tr>
<td>Replace existing structures with similar design, location, and functions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Replace existing structures with different design, location, and/or function</td>
<td></td>
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<td></td>
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<tr>
<td>Remove existing structures</td>
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<tr>
<td>Beach maintenance</td>
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<td></td>
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<tr>
<td>Beach restoration using compatible sand from local sources</td>
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<td></td>
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<tr>
<td>Beach restoration using compatible sand from non-local sources</td>
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<tr>
<td>Beach expansion and/or creation</td>
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<tr>
<td>Shoreline reconfiguration</td>
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<tr>
<td>Other: Maintain safe swim, improve water circulation, re-direct storm water</td>
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</table>
Waikīkī Beach Engineering Design Criteria

**DESIRED ASSETS & USES**

- Maintain calm and shallow water uses and beach-ocean interaction (swimming, bathing)
- Maintain ocean access at Ewa basin (Surfing access)
- Maintain existing commercial uses
- Maintain cultural/historical sense of place
- Maintain public access along Kapahulu groin and esplanade
- Preserve/protect surf sites (Walls, Queens, Baby Queens)

**EXISTING ISSUES & PROBLEMS**

- Beach Erosion and seaward slumping
- Water quality impacts
- Infrastructure and amenities lack of maintenance
- Seasonal beach erosion
- Public safety hazard on breakwater
- Beach loss at Diamond Head end of beach cell

**DESIGN STRATEGIES & OPTIONS**

- Beach maintenance and restoration using locally sourced sand
- Small-scale beach maintenance (use existing basin sand for beach profile shaping)
- Replace existing structures with a different design function
- Improve water quality within basin (additional testing)
- Reduce sand loss through the breakwater channel
- Stabilize/manage seasonal beach dynamics
Waikiki Beach Engineering Design Criteria

ROYAL HAWAIIAN BEACH, WAIKIKI

ASSETS & VALUES

- Economic Value: 38%
- Historic/cultural: 26%
- Aesthetic: 18%
- Recreational: 18%
- Other: 0%

ISSUES & PROBLEMS

- Erosion/wave run-up: 39%
- Structural Damage: 26%
- Environmental Degradation: 10%
- Shoreline Access: 13%
- Amenities: 6%
- Lack of: 6%
- Other: Too much sand

ROYAL HAWAIIAN BEACH SOLUTIONS

- NO ACTION
- MAINTENANCE AND/OR REPAIR OF EXISTING STRUCTURES
- REPLACE EXISTING STRUCTURES WITH SIMILAR DESIGN, LOCATION, AND FUNCTIONS
- REPLACE EXISTING STRUCTURES WITH DIFFERENT DESIGN, LOCATION, AND/OR FUNCTION
- REMOVE EXISTING STRUCTURES
- BEACH MAINTENANCE
- BEACH RESTORATION USING COMPATIBLE SAND FROM LOCAL SOURCES
- BEACH RESTORATION USING COMPATIBLE SAND FROM NON-LOCAL SOURCES
- BEACH EXPANSION AND/OR CREATION
- SHORELINE RECONFIGURATION
- OTHER: PROTECT SURF SITES, T-HEAD GROIN, MAINTAIN SURF CULTURE
Walkīkī Beach Engineering Design Criteria

**DESIRED ASSETS & USES**

- Active uses and dynamic beach-ocean interaction
- Maintain mixed recreational use (swimming, surfing, bathing)
- Maintain economic/commercial use (catamarans, canoes, surf lessons/beach rentals)
- Maintain cultural/historical sense of place
- Maintain vessel ingress/egress through channel
- Preserve/protect surf sites (Canoes, Queens, Baby Queens)

**EXISTING ISSUES & PROBLEMS**

- Beach Erosion/Wave Run-up
- Seasonal beach erosion
- Structural failure of structures
- Limited seasonal lateral access
- Beach loss at Diamond Head end of beach cell

**DESIGN STRATEGIES & OPTIONS**

- Beach restoration using locally sourced sand
- Small-scale beach maintenance (use nearshore sandbar for sand back-passing)
- Replace existing structures with similar design
- Limited new shoreline structures-preserve open beach and view planes
- Improve lateral access alongshore (Pinch point at Moana)
- Reduce sand loss through the sand channel
- Stabilize/management seasonal beach dynamics
HALEKULANI BEACH, WAIKIKI

ASSETS & VALUES
- Economic Value: 28%
- Recreational: 28%
- Historic/cultural: 28%
- Aesthetic: 11%
- Other: access...

ISSUES & PROBLEMS
- Structural Damage: 29%
- Environmental Degradation: 10%
- Shoreline Access: 27%
- Lack of Amenities: 3%
- Erosion/wave run-up: 29%

HALEKULANI BEACH SOLUTIONS

- NO ACTION
- MAINTENANCE AND/OR REPAIR OF...
- REPLACE EXISTING STRUCTURES WITH...
- REMOVE EXISTING STRUCTURES
- BEACH MAINTENANCE
- BEACH RESTORATION USING...
- BEACH EXPANSION AND/OR CREATION
- SHORELINE RECONFIGURATION
- OTHER: REVETMENT

1st Choice | 2nd Choice | 3rd Choice
---|---|---

Chart shows the priority of solutions from least to most preferred.

Legend:
- 0
- 1
- 2
- 3
- 4
- 5
- 6
- 7
## Walkīkī Beach Engineering Design Criteria

### Desired Assets & Uses
- Maintain mixed recreational use (swimming, surfing, bathing).
- Maintain high level of water quality
- Preserve submarine groundwater discharge at Halekulani Channel (Kawehewehe)
- Maintain vessel ingress/egress through Halekulani channel
- Preserve/protect surf sites (Populars, Threes, Fours)

### Existing Issues & Problems
- Beach Erosion/Wave Run-up
- Overtopping of seawalls
- Structural failure of seawalls
- Limited lateral access
- Wave reflection off seawalls

### Design Strategies & Options
- Beach Expansion and/or restoration
- Maintain and/or replace existing structures with similar design
- Improve lateral access alongshore (Boardwalk, walkway and/or beach)
- Reduce wave reflection off structures
- Reduce sand loss through the Halekulani sand channel
- Improve health and resilience of reef ecosystem