



# KAWEHWEHE BEACH RESTORATION

## INTERIM PILOT PROJECT SUMMARY

2024

The Waikīkī Beach Special Improvement District Association (WBSIDA) is working with local government and stakeholders in response to severe and continued coastal erosion of Kawehewehe Beach in the Halekulani Beach sector of Waikīkī Beach on the south shore of O’ahu. Recent structural failure of the City and County of Honolulu Public Beach Right of Way between the Outrigger Reef and Halekulani hotels (ROW #141A) has required the closure of this important public access by the City and County of Honolulu (Figure 1). In response, the following interim beach restoration and mitigation plan is under development.

### PROJECT GOALS:

- Demonstrate an innovative small-scale dredging system for shallow water operation and beach, harbor and navigation channel maintenance and sand back-passing projects statewide. This project would serve as a pilot demonstration for the equipment and technique.
- Demonstrate the cost-effectiveness using new methods and best management practices for nearshore dredging and beach restoration and sand placement.
- Demonstrate efficiency of WBSIDA/DLNR as a public private partnership.
- Restore and maintain eroded public beach at Kawehewehe, Waikīkī.

### PROJECT SCOPE: (Kawehewehe)

- Small-Scale Beach Nourishment (SSBN) application through the DLNR.
- Placement of *up to* 5,000 cubic yards of sand as an interim, emergency measure.
- Phased placement areas (3 total) Kawehewehe, Grays and Sheraton Beaches
- Compliments the planned Phase I beach stabilization in the [Waikīkī Beach Improvements EIS](#) (Figure 2).
- Demonstration of small-scale dredge system for nearshore sand back-passing (Figure 2).

### PROJECT STATUS:

- Scope of work, costs estimates and conceptual design under development.
- WBSIDA is a willing and motivated project partner.
- The WBSIDA supports the planned Phase I Kawehewehe beach stabilization by the State but is also facilitating the proposed beach restoration as an interim (emergency) measure.

### POTENTIAL SAND SOURCES:

- Potential sand borrow areas.
- Onshore sand sources (O’ahu).
- Hilton pier channel or nearshore sand deposits, Kawehewehe channel (Figure 2).

**Phased Beach Restoration Plan for the Halekulani Beach Cell, Waikiki Beach, O’ahu**





**Figure 1. Current Conditions at Kawehewehe Beach, Waikīkī Beach, O’ahu  
(Fronting the C&C Beach ROW #141A and Outrigger Reef Hotel May- July, 2021)**





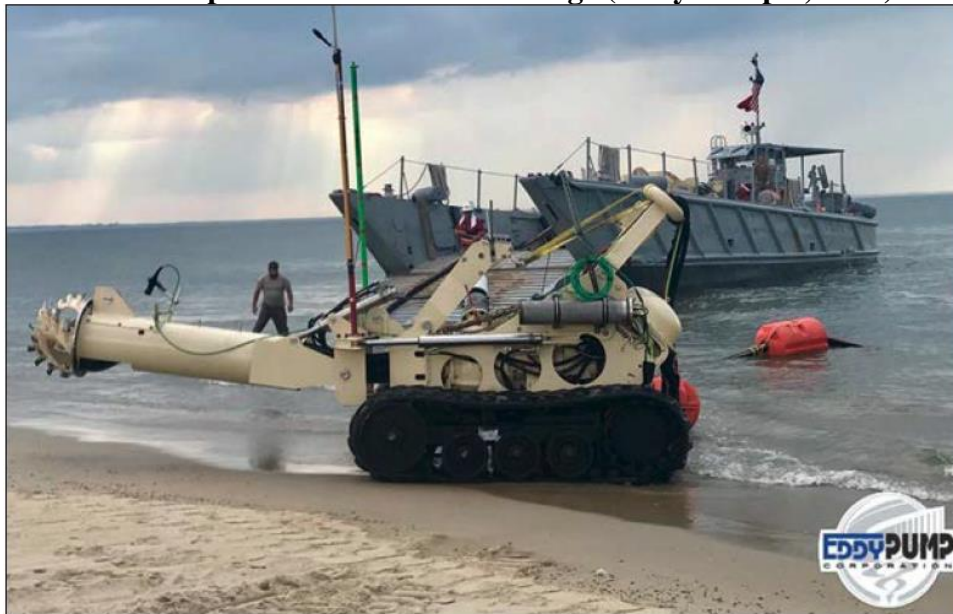
**Figure 3. Potential Small-Scale Dredge Systems for Beach Maintenance**  
(Source: [Waikīkī Beach Improvements EIS, Section 3.6.4 Small-scale Maintenance Dredging](#))

**Submersible Slurry Pump**



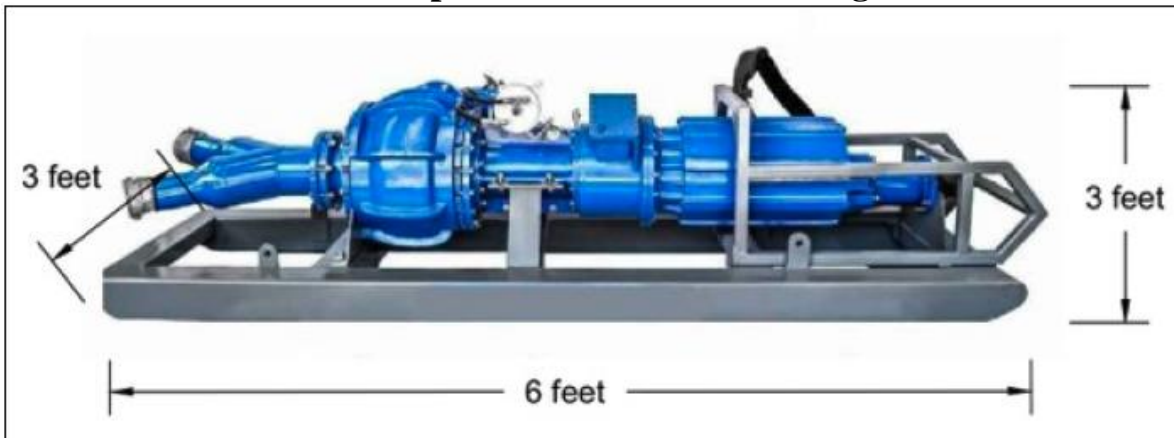
**Production rate:** Up to 100 cy of sand per hour.  
**Cost:** Varies

**Remote Operated Submersible Dredge (Eddy Pump©, 2021)**



**Production rate:** Up to 30 to 50 cy of sand per hour.  
**Cost:** ~\$1 million

## Diver-Operated Submersible Dredge



### Precision Marine Dredging with Multi-Diver Support

Our diver operated dredge unit is electric or hydraulic powered and designed for submersible, high-solids pumping. Ideal for marine dredging applications with support for up to 3 divers. The hydraulic diver operated dredge units are fully modular, allowing the same unit to be easily converted to a Cable Hanging Dredge or Excavator Dredge Attachment with little modification needed.

Typical dredging applications include marine construction, harbor maintenance and intracoastal water projects.



MADE IN USA

**WE PUMP SOLIDS  
NOT WATER**



**Production rate:** Up to 50 cy of sand per hour. (Two-hose system)  
**Cost:** ~\$150,000-\$300,000 plus power unit rental.



## Mini Pontoon Dredge (DAE)

### 4" Mini Pontoon Dredge Heavy-Duty



Specifications	
Min. Flow Rate	250 GPM
Max. Flow Rate	1200 GPM
Max. Head	160'
Discharge Size	4"
Intake Size	6"
Solids Handling	3"
Max. Speed	1800 RPM
Max. Percent Solids	70%
Max Cubic Yds / Hr.	150
Depth Masts Max Lift (above waterline, pump retracted)	17.4 ft
Standard Operation Depth	1.6 - 16 ft



#### Key Features

- Lightweight, Portable, & Easy to Transport from One Project to the Next
- Autorun Allows a Single Operator to Monitor Progress
- Non-Clogging Pump Capable of Handling Solids Up To 3-Inches
- Transport 40-70% Solids
- High Viscosity, High Specific Gravity, Low pH Pumping Design
- High Abrasive Resistant Pump for Longer Wear

The DAE Pumps Mini Pontoon Dredge is a portable, robust, and smaller version dredge that is capable of dredging areas that the large dredging operations cannot access. The Mini Pontoon Dredge allows a single operator to run a dredge remotely and pump at high production rates. Ideal for lagoons, basins, ponds, and other smaller dredging projects, this unique pontoon dredge pump is designed not to harm poly, clay, or concrete liners. The DAE Pumps Mini Pontoon Dredge offers non-clogging pumping capability designed for high solids industrial pumping applications.