SOUTH MOLOKAI

SHORELINE EROSION MANAGEMENT PLAN PROJECT

DHHL VIRTUAL FOCUS GROUP MEETING FEBRUARY 10, 2021

DHHL PLANNING OFFICE / PLANNING CONSULTANTS HAWAII, LLC / COASTAL PLANNERS, LLC



PROJECT PURPOSE

- Enable DHHL to proactively plan for and manage shoreline erosion;
- Investigate the causes of shoreline erosion, and likely future progression;
- Identify effective and sustainable shoreline erosion management strategies; and
- 4. Educate the community as to the causes of shoreline erosion and appropriate management responses.

PROJECT AREA



Planning Process

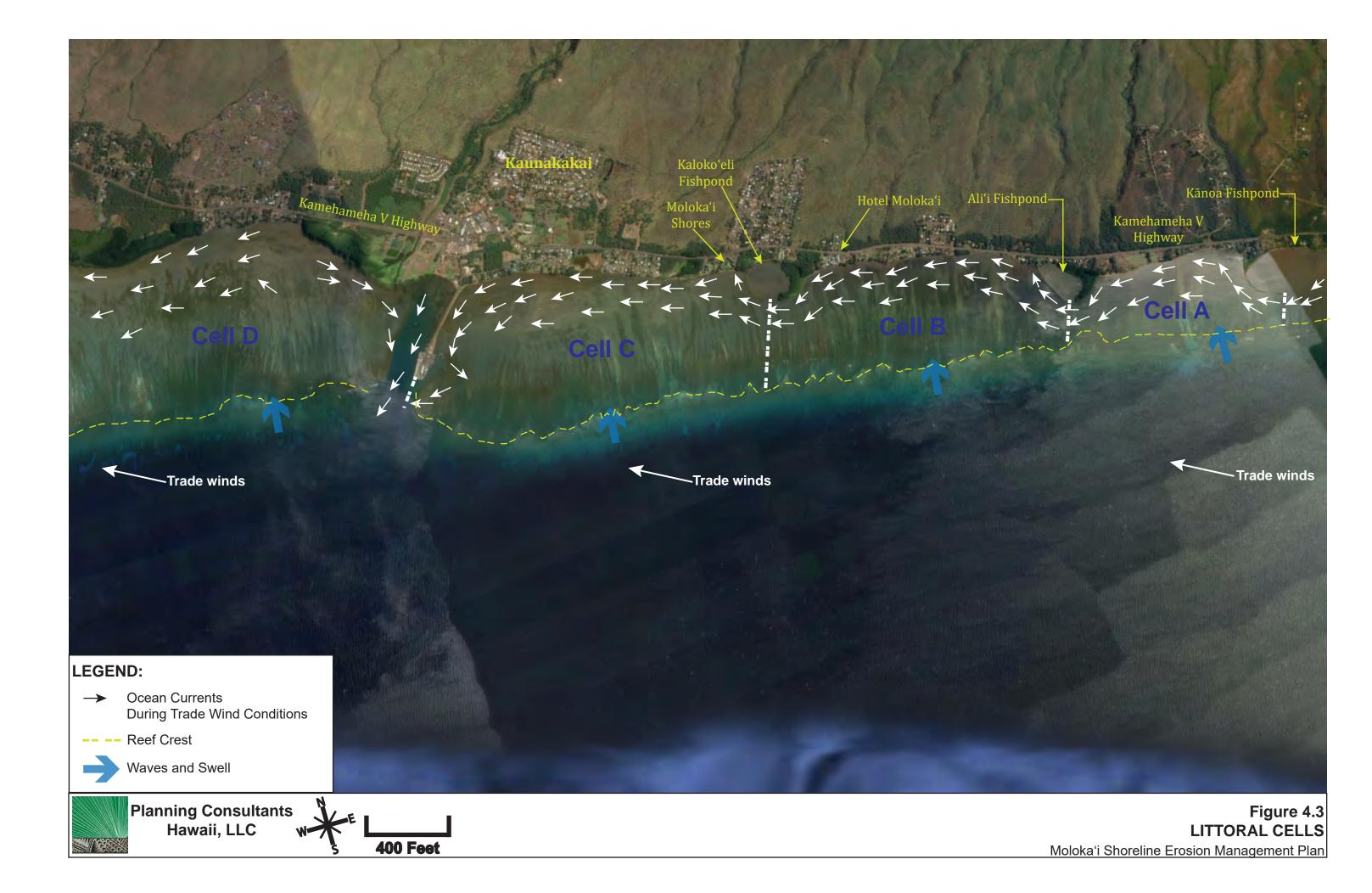
2. PLAN PREPARATION **Phase** 1. SCOPING Task Research Field Agency Prepare Data & Surveys Consultation Management Assessment Desktop Plan **Analysis** Community Engagement Conduct: Subtask Identify Project Identify Assess Shoreline Prepare the Draft, Prefinal and Final Plan Change Area Erosion Orientation Entitlements Hotspots Background, purpose and Meeting Conduct a Methodology Identify **Identify Factors Preliminary** Stakeholder **Applicable** Contributing to Evaluation of Key Findings from the Interviews Policy and **Erosion** Coastal Scoping Process Hydrodynamics Regulatory **Agency Meetings** Requirements Identify and Management Strategies Assess Describe Soft and Hybrid Focus Group Synthesize Coastal Anthropogenic Techniques Meeting 1 4 Findings from Changes Resources Meeting 2 Policy Approaches the Literature List Data and Fvaluate. Search Implementation Community Open Resources at Information Gap -Order-of-Magnitude House Risk from Costs Erosion -Likely Permit Hawaiian Homes -Requirements Commission Photograph the Schedule Meeting **Project Area**

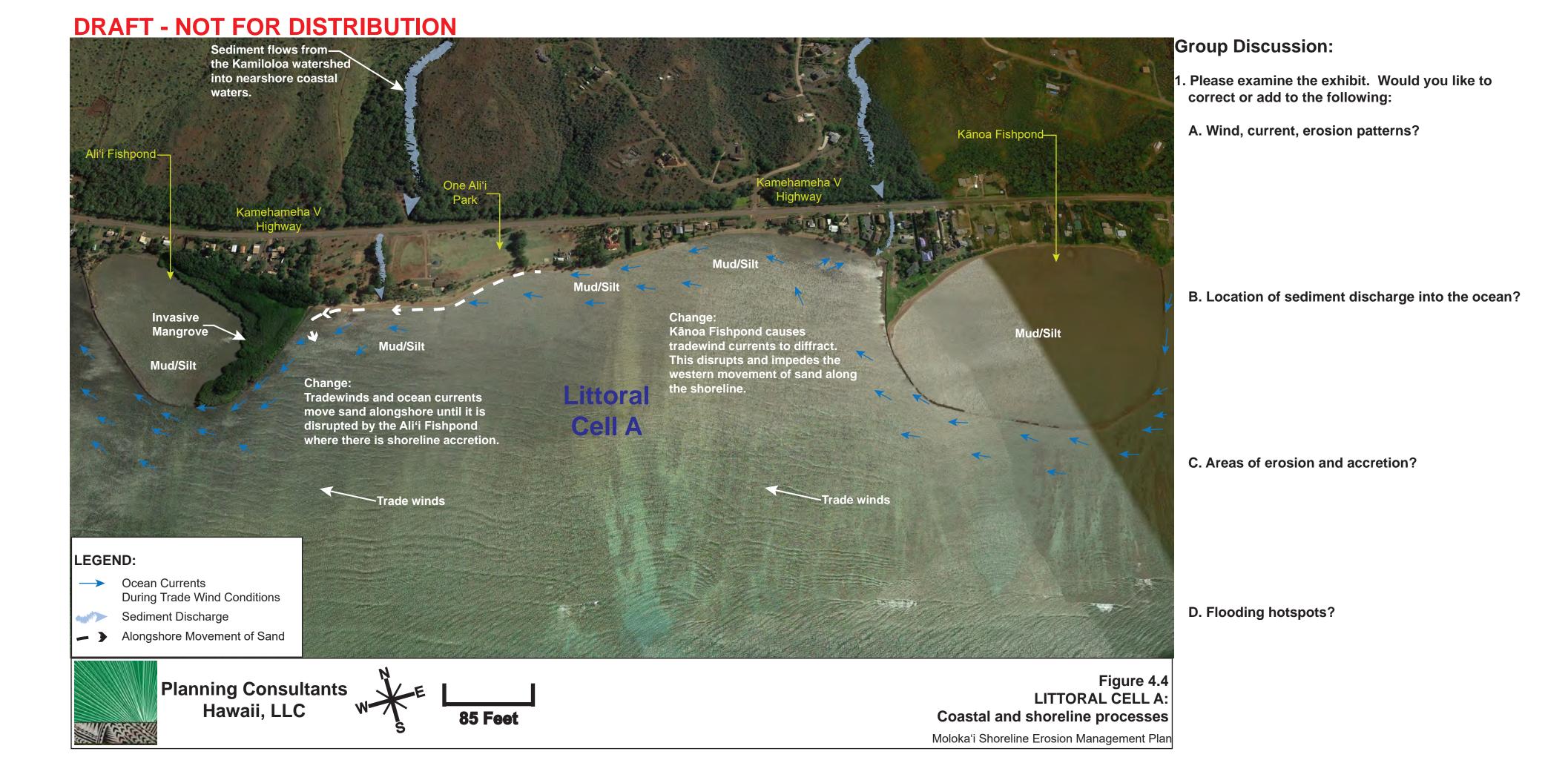
Completed

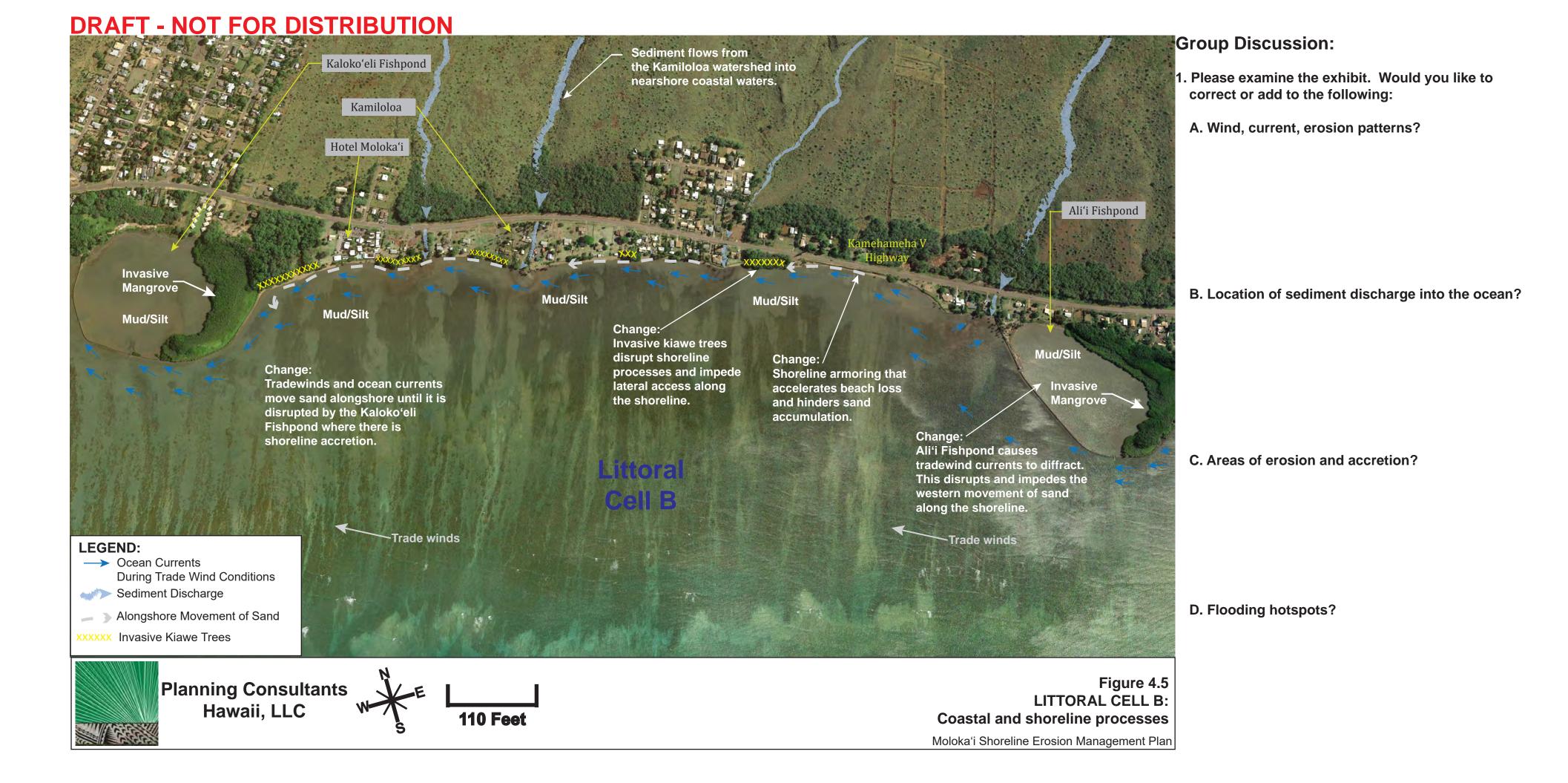
In progress

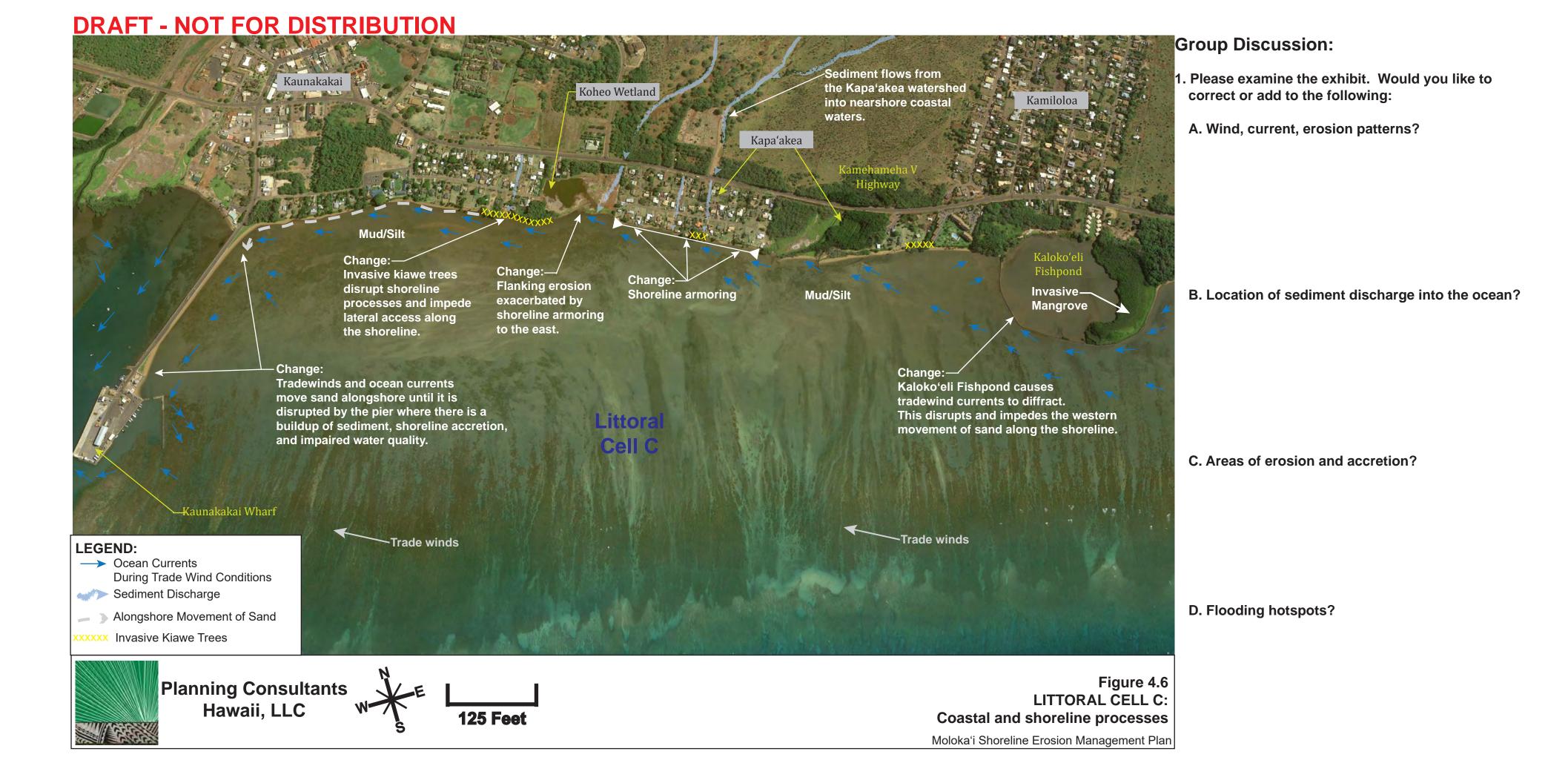
OVERVIEW OF THE PROJECT ÅREA'S COASTAL HYDRODYNAMICS

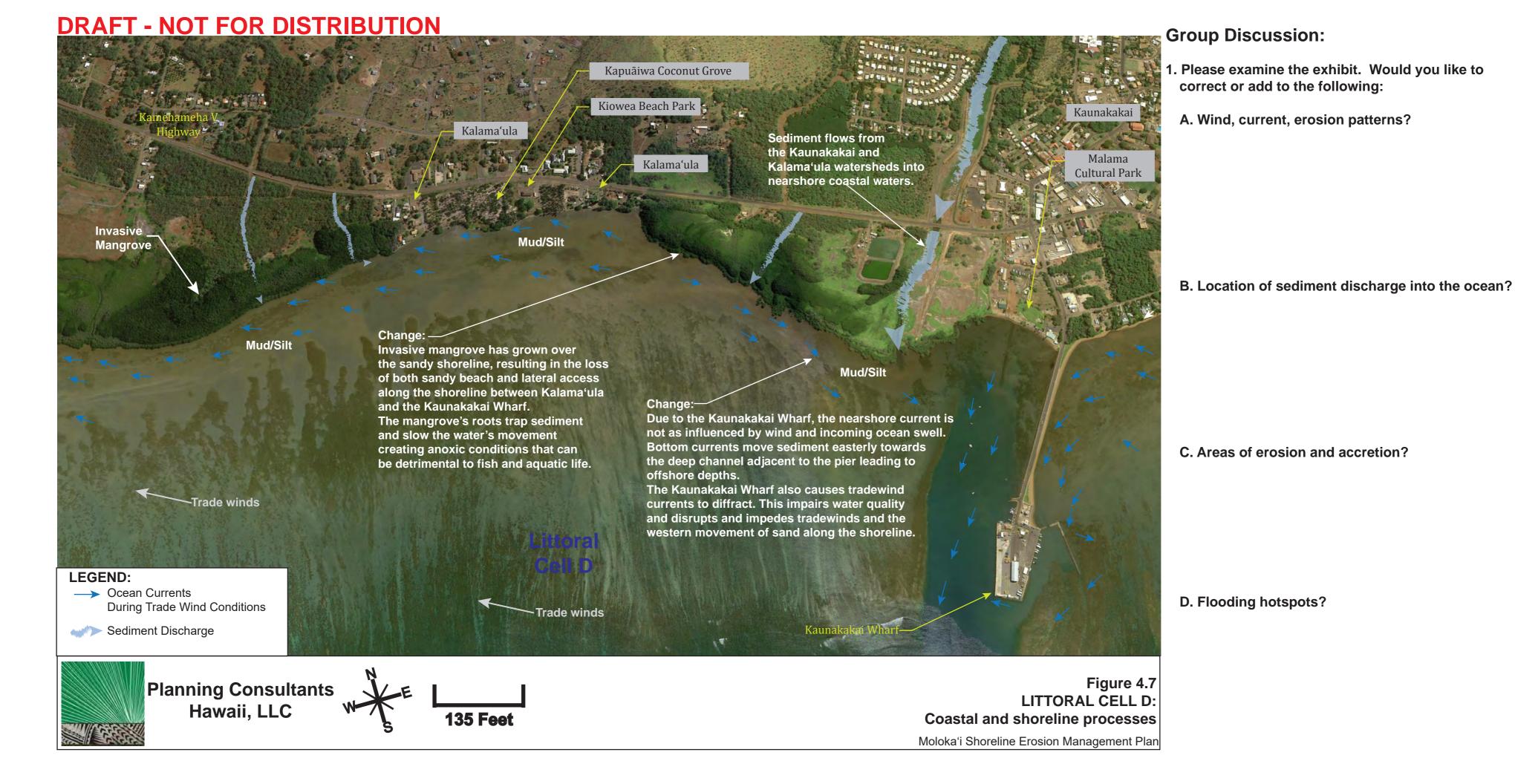












INVITED OPINION EXERCISES

- 1. Table 1 Response Options to Changing Shorelines
- 2. Table 2 Threatened Assets and Possible Actions
- 3. Beach Cell Existing Conditions (time permitting)

INVITED OPINION EXERCISES

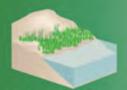
EXERCISE 1 Table 1 – Response Options to Changing Shorelines

A continuum of green (soft) to gray (hard) shoreline stabilization techniques

GREEN - SOFTER TECHNIQUES

GRAY - HARDER TECHNIQUES

Living Shorelines

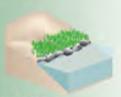


VEGETATION ONLY -

Provides a buffer to upland areas and breaks small waves. Suitable only for low wave energy environments.



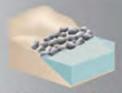
EDGING -Added structure holds the toe of existing or vegetated slope in place.



SILLS -Parallel to existing or vegetated shoreline, reduces wave energy, and prevents erosion. Suitable for most areas except high wave energy

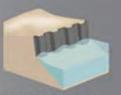
environments.

BREAKWATER -(vegetation optional) - Offshore structures intended to break waves, reducing the force of wave action, and encourage sediment pre-existing accretion, Suitable for most areas.



Coastal Structures

REVETMENT-Lays over the slope of the shoreline and protects it from erosion and waves. Suitable for sites with hardened shoreline storm surge and structures.



BULKHEAD -Vertical wall parallel to the shoreline intended to hold soil in place. Suitable for areas highly vulnerable to wave forces.

Source: Systems Approach to Geomorphic Engineering (SAGE) Natural and Structural Measures for Shoreline Stabilization brochure in NOAA Guidance for Considering the Use of Living Shorelines, 2015, page 8.

WORD DOCUMENT

INVITED OPINION EXERCISES

EXERCISE 2

Table 2 – Threatened Assets and Possible Actions

TABLE 2 - THREATENED ASSETS AND POSSIBLE REMEDIES

	WHAT IS UNDER THREAT	RESPONSE or REMEDY	X = Dislike √ = OK ♥ = Like	WHAT ARE THE COSTS & BENEFITS: Effectiveness, Environmental, Pollution & Visual Impacts
		1. Soft & Green	1	1
		2. Sand Bags	2	2
		3. Rock Sill & Sedge	3	3
		4. Rock Gabions	4	4
CARPORT		5. Boulder Mound	5	5
		6. Sheet Pile Bulkhead	6	6
		7. Seawall	7	7
		8. Rock Revetment	8	8
		9. Groin	9	9
	thus Nickes	10.Realign / Retreat	10	10

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a		6. Sheet Pile Bulkhead	6	6
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ROADWAYS ,, sinkholes,		6. Sheet Pile Bulkhead	6	6
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KAPUĀIWA COCONUT GROVE erosion, SLR & salt water intrusion)		1. Soft & Green 2. Sand Bags 3. Rock Sill & Sedge 4. Rock Gabions 5. Boulder Mound 6. Sheet Pile Bulkhead 7. Seawall 8. Rock Revetment	1	1.
		9. Groin 10.Realign / Retreat	9	9

NEXT STEPS

- 1. Process the results from this Focus Group Meeting.
- 2. Develop the plan's preliminary draft recommendations.
- 3. Host a second focus group meeting to vet the plan's preliminary draft recommendations.
- Revise preliminary draft recommendations to reflect input received during Focus Group Meeting 2.
- 5. Host a public open house.
- 6. Prepare the pre-final and final draft plan.



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