

Sand Nourishment and Retention Pilot Project: *Envisioning a New Future for Oceanside*

Jayne Timberlake
Coastal Zone Administrator

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Coastal Processes, Interrupted



Photo source: UCSB Aerial Library



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Sand Management

Year	Activity	Sand Nourishment (Cubic Yards – CY)
1942 – 1944	Camp Pendleton Harbor – Initial Construction	1,500,000
1958	Camp Pendleton Harbor – Improvements	800,000
1963	Small Craft Harbor – Initial Construction	3,400,000
1965 – 2022	Harbor Mouth Dredging and Sand Disposal	13,729,200 (Avg. 245,000/year)
1982	San Luis Rey River Dredging	1,300,000
1989 – 1992	Sand Bypass System	124,300
2001	Regional Beach Sand Project I	421,000
2012	Regional Beach Sand Project II	293,000
		21,567,500 Total



Phase 1 Beach Sand Feasibility Study – Conclusions



Phase 2 Sand Nourishment and Retention Pilot Project – Objectives

Objective: Design of a hybrid sand retention structure that mimics natural systems and develop a complimentary sand nourishment program.

Phase 2 Project Core Tasks:

- Develop nourishment program
- Retain sand on Oceanside's coastline (3-30 years)
- Encourage community education about adapting to sea level rise
- Provide an additional "tool" for coastal resilience building in California



Re:BEACH Oceanside

Sediment Stabilization Strategies

- Coastal Resilience Design Competition
- Develop three nature-based or hybrid solutions
- Jury and Advisory Panel
- Continuous public and stakeholder engagement

Final Design and Permitting

- Phase 2 will yield an implementable project

SAND NOURISHMENT & RETENTION PILOT PROJECT

A COASTAL RESILIENCE
DESIGN COMPETITION

OCEANSIDE, CA



**Project
Understanding
& Approach**



Resist

Accommodate

Retreat



Phase 2 – Sand Nourishment and Retention Pilot Project

Baseline Monitoring Program

- Scientific beach volume monitoring with community scientists
- Informs baseline conditions
 - Comparison point for evaluating success of pilot project
- Littoral Sub-Cell Study
- Adaptive Management Plan



Photo credit: Erik Jepsen/University Communications



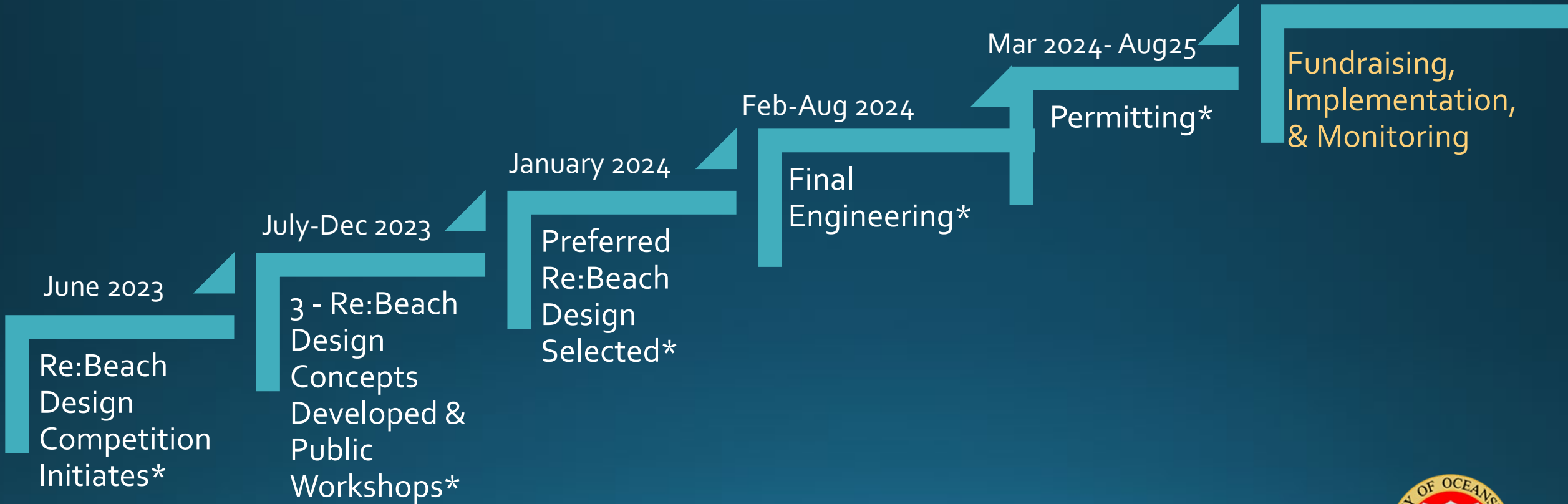
Fiscal Impact

Phase 2 Sand Nourishment and Retention Pilot Project

Implementation	Amount
Construction of Retention Structure	\$50M - \$120M
Sand Nourishment (300,000 cubic yards)	\$6M
Total	\$56M - \$126M



Schedule



Funded by City of Oceanside*
Project Needs



Social and Economic Benefits

- Reduce vulnerabilities and risks to infrastructure
- Increase flood and erosion protection capacity
- Enhance coastal access for diverse communities
- Strengthen tourism appeal and commercial opportunities
- Improve knowledge base of opportunities of balanced resilience approaches
- Time and space for comprehensive adaptation planning
- Advance regional coordination and dialogue



Conclusions and Impacts

- Project will value the past, capitalize on the present, and invest in the future of Oceanside
- Multi-decadal problem will only get worse without new and innovative actions
- Project is a result of community concerns transforming to coastal stewardship
- Opportunity to develop political and social capacity for a new path forward for coastal resilience



More Information Needed?

City of Oceanside Coastal Management webpage:

https://www.ci.oceanside.ca.us/gov/pw/beach/coastal_management/default.asp

Jayne Timberlake

Coastal Zone Administrator, City of Oceanside

jtimberlake@oceansideca.org

760-435-3073

