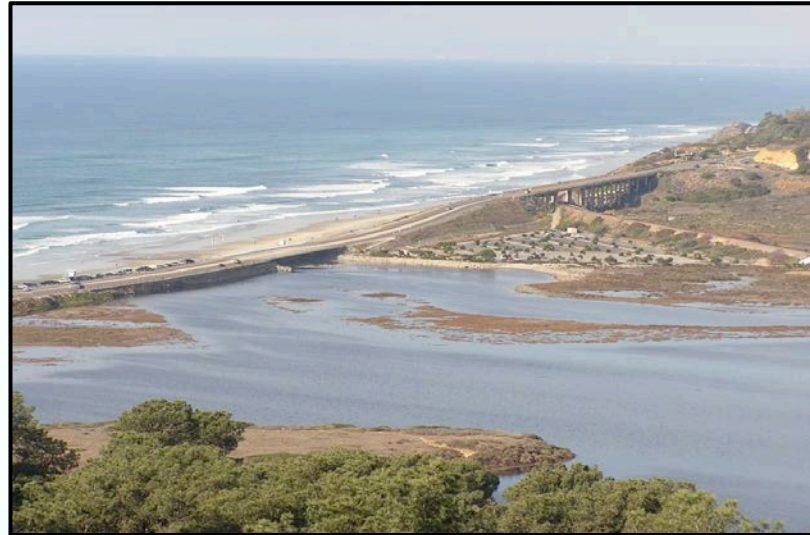


PRESERVING PUBLIC ACCESS TO TORREY PINES STATE NATURAL RESERVE

Managed Retreat Options for the North Beach Parking Lot



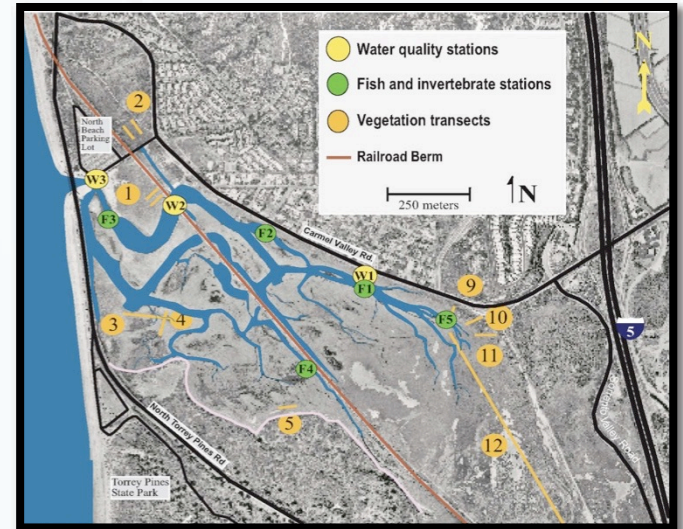
Public Workshop #3.
Presented by the
Los Peñasquitos Lagoon Foundation
January 10, 2023



Los Peñasquitos Lagoon Foundation

Founded in 1983

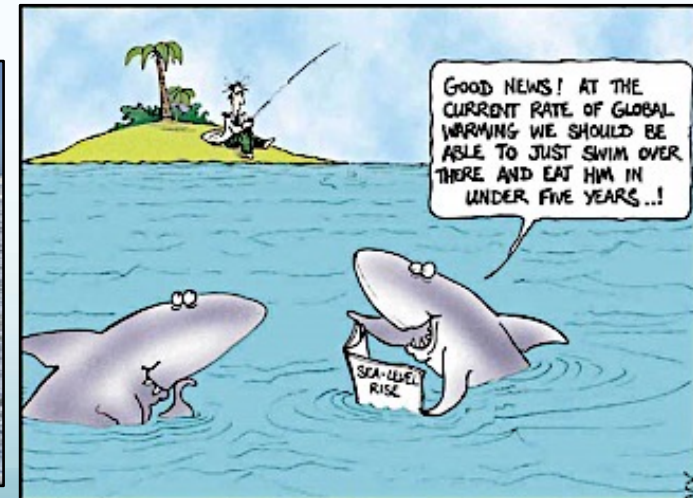
Mission Statement: *Dedicated to the restoration of Los Peñasquitos Lagoon and the preservation of land for scenic, historic, educational, recreational, agricultural, scenic and open space opportunities.*



Lospenasquitos.org

“Facts do not cease to exist because they are ignored”
– Aldous Huxley

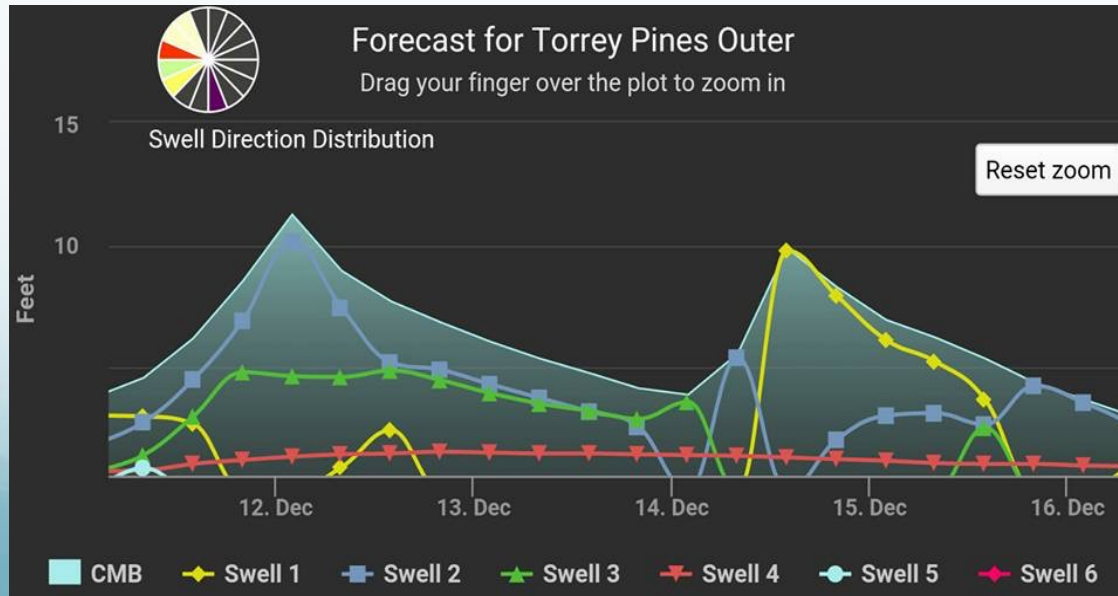
WHY PLAN FOR THE FUTURE?



COASTAL FLOODING



Wave energy and storm surge at Torrey Pines State Beach 1/06/23. Photo: M. Hastings.



Ocean swells and their influence on increasing ocean surface levels. Graphic by SIO.



Vulnerability of coastal infrastructure. Photos by GHD.

WHAT IS MANAGED RETREAT?

Overview

GENERAL DEFINITION:

Managed retreat is “the purposeful, coordinated movement of people and human infrastructures away from risks.”

APPLICATION TO COASTAL COMMUNITIES:

Sea level rise will affect low-lying coastal communities through coastal erosion and persistent flooding that can significantly damage human infrastructure and displace populations.

EXAMPLES:

- Relocation – removal and inland relocation of infrastructure.
- Realignment – replacing hardened flood control structures (e.g., sea walls) with “soft” coastal landforms (e.g., living shoreline).

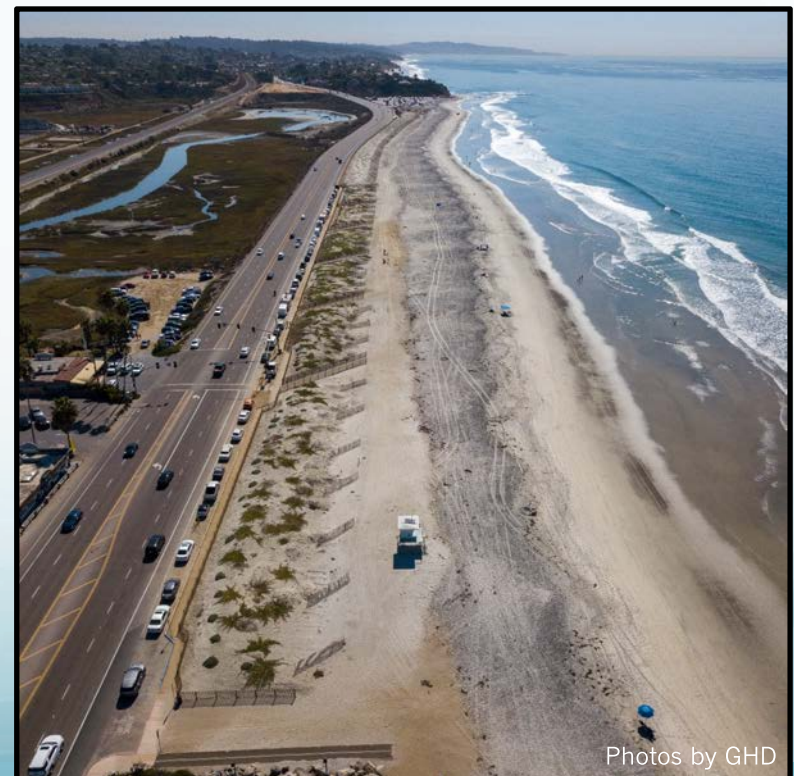
LIVING SHORELINES CONCEPT

A NATURE BASED APPROACH FOR COASTAL PROTECTION

Before



After



Photos by GHD

PROJECT LOCATION



PROJECT BACKGROUND

- Identified as a priority in the updated 2018 Los Peñasquitos Lagoon Enhancement Plan.
- Climate Ready Grant 2019
- Three broad approaches were selected for consideration:
 - Work within existing footprint.
 - Relocate to an upland location.
 - Relocate to an offsite location.
- Project Components:
 - Site Assessment
 - Stakeholder Outreach & Engagement
 - Alternative Analysis
 - Engineering Design (30%) & CEQA



PROJECT SITE WAS ORIGINALLY OPEN WATER



Coast Highway 1910

BIRTH OF SUNKEN CITY - 1932



1932 Construction of North Torrey Pines Lower Bridge over the inlet at Los Peñasquitos Lagoon.
Photo credit CA State Parks or San Diego History Center.

Sunken City created when tourist cabins on the beach moved east of coast highway during construction of Highway 101

SUNKEN CITY - 1943



Circa 1940. Sunken City after construction of Highway 101. Photo credit CA State Parks or San Diego History Center.

By 1943 Sunken City had 15 houses and a brine shrimp pond.

END OF SUNKEN CITY - 1952



Circa 1966 . North Beach Parking Lot replacing Sunken City Photo credit CA State Parks or San Diego History Center.

1952 City of San Diego turns over the beach, lagoon and its adjacent uplands to California State Parks. Sunken City is relocated to make room for the North Beach Parking Lot (completed in 1968).



PROJECT NEED

- Vulnerability to Flooding due to Sea Level Rise (SLR)
- Storm Water Management Needs
- Outdated Infrastructure (Utilities)
- Public Safety and Services Limitations for State Lifeguards
- Failing Rock Shoreline Protection (revetment)



PROJECT CONSTRAINTS

Sensitive Habitats & Species



Coastal CA
Gnatcatcher



Nuttall's Lotus



Belding's Savannah
Sparrow



Wandering
Skipper



ADDITIONAL CONSIDERATIONS

Resiliency to Climate Change (Sea Level Rise)

- Approaches and design features will need to consider this for near-term (2030), mid-term (2050) and long-term (2100).

North Beach Parking Lot: Capacity vs Utilization

- Does the parking lot ever reach capacity (502 parking spaces) during peak periods on summer weekends and holidays?

Potential Impacts: Increased Parking Along Residential Streets.

- Will reducing the lot size and removing parking spaces result in increased parking along residential streets?

Dedicated Drop Off Zone (Junior Guard Program, Uber, Lyft, Family)

- Should there be a dedicated drop off location/loop separate from parking areas in the reduced footprint approach to avoid gridlock?

ADA Requirements and Opportunities for Improved Access

Converting Asphalt to Native Habitats that Support Endangered Species

Storm Water Management that Supports Invasive Species Management

- Halophytes vs Glycophytes

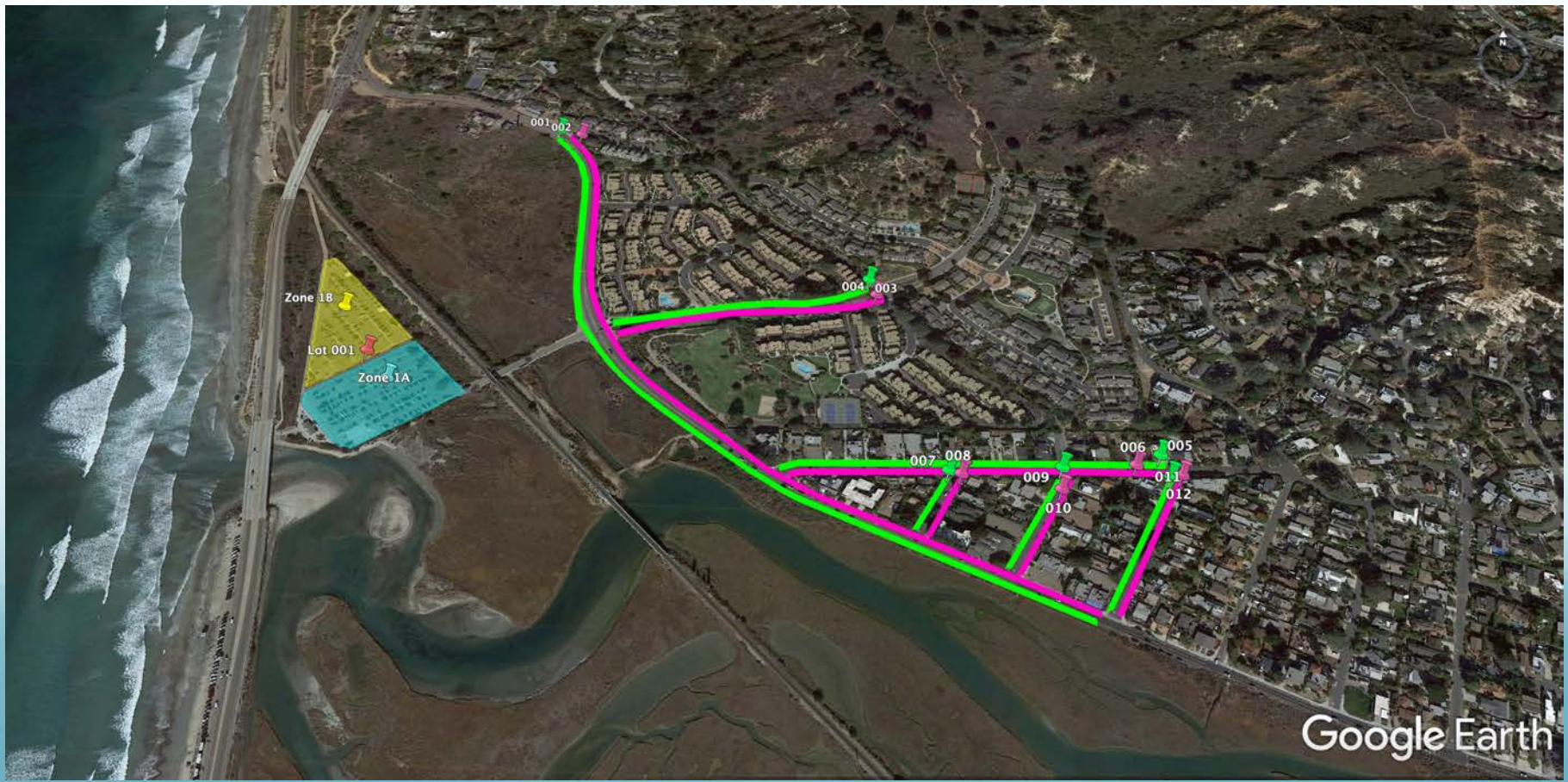
PARKING DEMAND STUDY

Need: Concern expressed by local community members during public engagement.

Purpose: Monitor parking on peak-use days to determine existing and future capacity needs for a "reduced footprint" approach for the North Beach Parking Lot.

Survey Dates/Times: July 4th, August 28th, and September 4th/ 7am-6pm

Study Area: North Beach Parking Lot and nearby Residential Streets

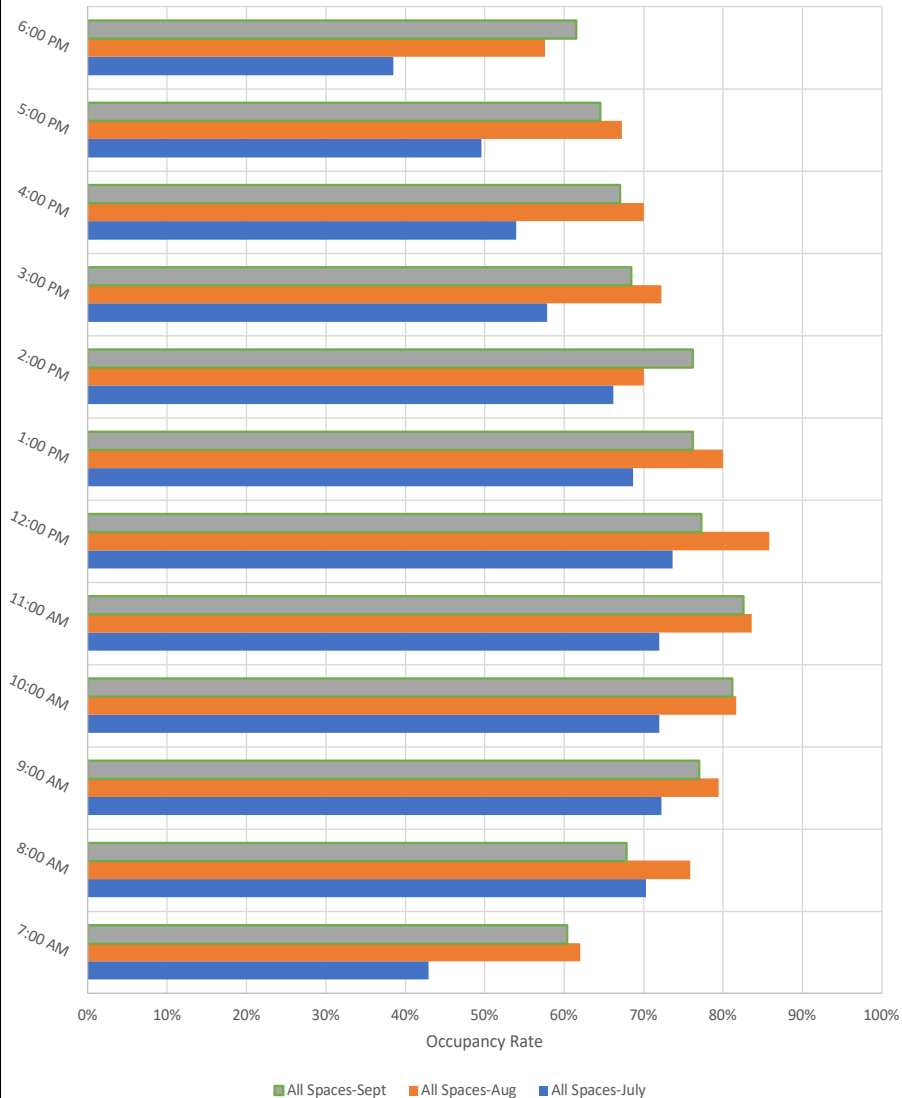


PARKING DEMAND STUDY

RESULTS

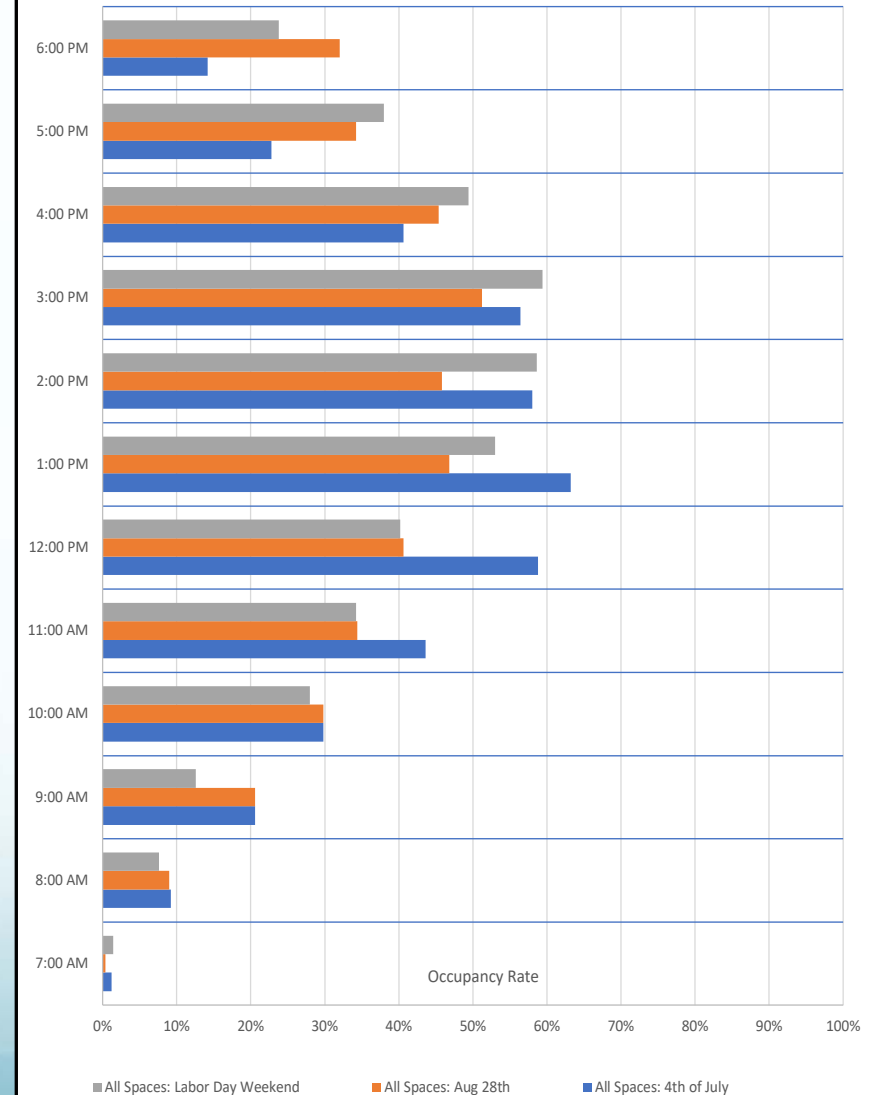
Residential Parking (All Segments)

Hourly Occupancy Rate: Total On Street



North Beach Parking Lot

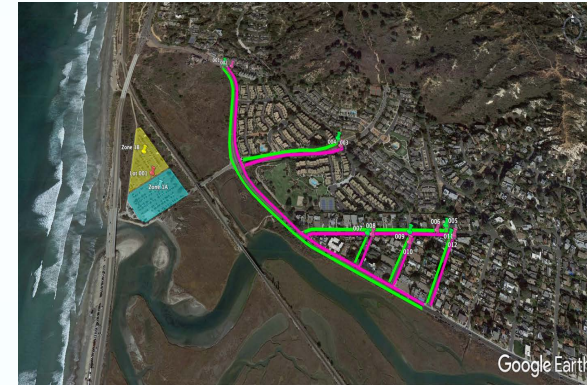
Hourly Occupancy Rate: Off Street



PARKING DEMAND STUDY

IMPLICATIONS

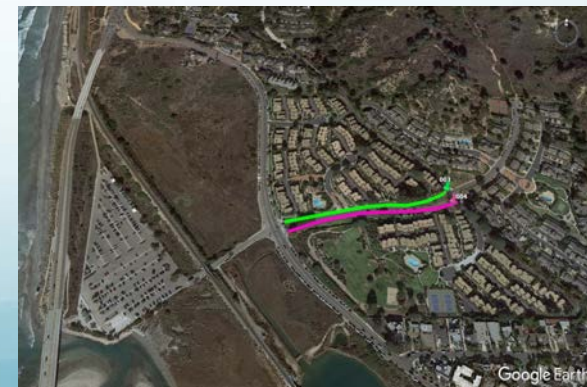
- Street parking is preferred over the North Beach Parking Lot even with diminished capacity along residential streets.
- North Beach Parking Lot could be reduced and still meet the demand for off-street parking.
- North Beach Parking Lot would still provide overflow parking when street parking is not available.
- Areas of the North Beach Parking Lot could be converted to native habitat to expand overall acreage and benefit rare/endangered species.
- Lifeguard facilities could be expanded and updated to improve public safety needs and priorities.



North Beach Parking Lot & All Street Segments



Carmel Valley Road



Del Mar Scenic Parkway

PROJECT MILESTONES

Stakeholder Outreach & Engagement

- **State Parks Staff (Lifeguard, Maintenance, Cultural, Environmental)**
- **University City Planning Group (10/13/20)**
- **Torrey Pines Community Planning Board (11/12/20)**
- **Del Mar City Council (2/16/21)**
- **Public Workshop 1 (2/17/21)**
- **Public Workshop 2 (3/20/21)**
- **One Paseo Event & North Beach Parking Lot Trolley (8/7/21)**
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- **UCSD Osher Speaker Series (3/11/22)**
- **Torrey Pines Docents (11/11/22)**
- **Online Survey 1 – User Group Background, Priorities & Preferences (218 respondents)**
- **Online Survey 2 – Ranking of Design Approaches & Concept Designs for Managed Retreat (128 respondents)**

Development & Assessment of Managed Retreat Approaches

- **Reduced Footprint, Upland Relocation, Offsite Relocation**

Concept Design Alternatives of Reduced Footprint Approach

- **Northern Retreat, Southern Retreat, Capped.**

Feasibility Study & Selection of the Preferred Alternative

PROJECT MILESTONES

Online Survey 1 Results

✓ Q 2 Which of the following best describes how you most frequently enjoy/utilize the North Beach Parking Lot and beach? (Choose up to 3)

Answer	Responses	Percentage	
Access for Active Recreation (surfing, walking, swimming, paddle boarding, beach combing).	203	93.12%	<div></div>
Organized Programs (Junior Lifeguards, Running Clubs, Beach Cleanups)	30	13.76%	<div></div>
Passive Recreation (painting, photography, coastal views, bird watching).	65	29.82%	<div></div>
Beach drop offs (Junior Lifeguards, family members).	29	13.30%	<div></div>
Access to amenities (bathrooms, showers).	96	44.04%	<div></div>
(Did not answer)	5	2.29%	<div></div>
<div> <div></div> <div>20%</div> <div>40%</div> <div>60%</div> <div>80%</div> <div>100%</div> </div>			
Total Responses	428		



PRESERVING PUBLIC ACCESS TO TORREY PINES STATE NATURAL RESERVE
Managed Retreat of the North Beach Parking Lot
 Public Workshop #1. February 17, 2021

CALIFORNIA DEPARTMENT OF PARKS AND RECREATION (San Diego Coast District) | LOS PEÑASQUITOS LAGOON FOUNDATION (Connecting Communities Since 1983) | Coastal Conservancy

PRESERVING PUBLIC ACCESS TO TORREY PINES STATE NATURAL RESERVE
Managed Retreat Options for the North Beach Parking Lot

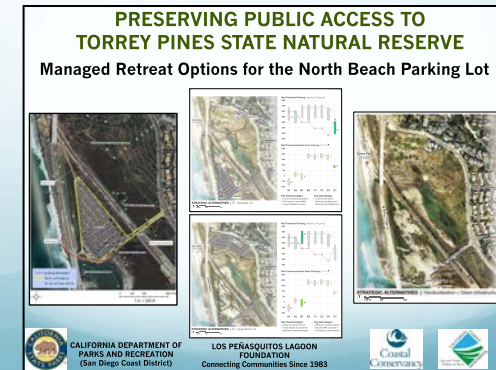
CALIFORNIA DEPARTMENT OF PARKS AND RECREATION (San Diego Coast District) | LOS PEÑASQUITOS LAGOON FOUNDATION (Connecting Communities Since 1983) | Coastal Conservancy

PROJECT MILESTONES

Online Survey 1 Results

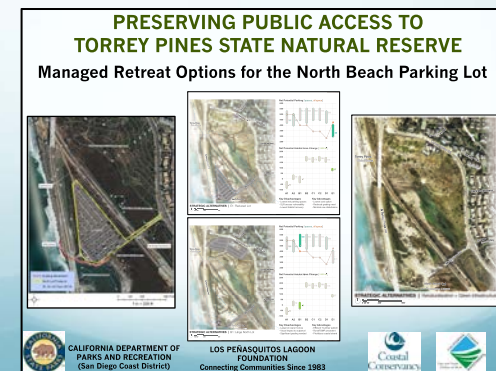
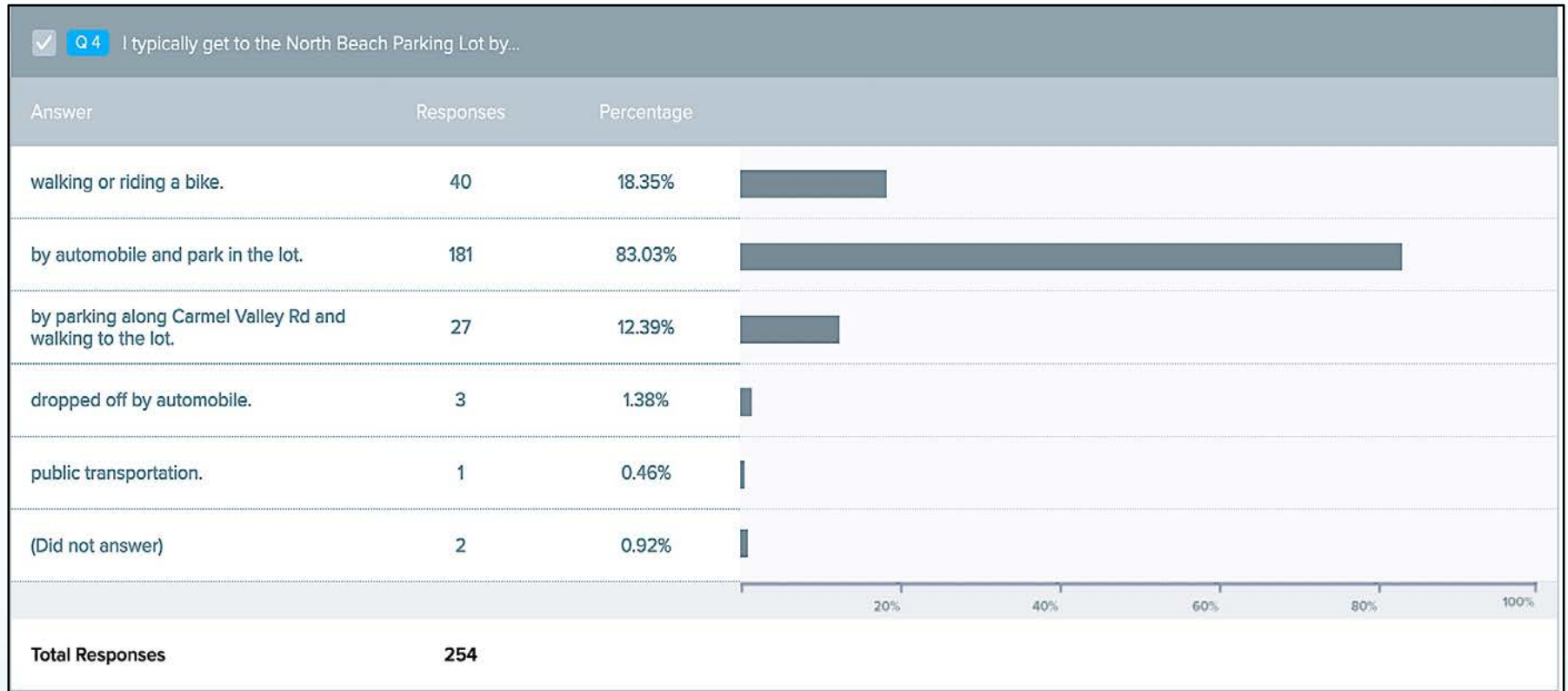
☒ Q 3 I am a resident of.....

Answer	Responses	Percentage	
a community near the North Beach Parking Lot (Torrey Pines or Del Mar).	70	32.11%	<div></div>
a community located up to 5 miles from the North Beach Parking Lot.	70	32.11%	<div></div>
a community located between 5-15 miles from the North Beach Parking Lot.	65	29.82%	<div></div>
a community located further than 15 miles from the North Beach Parking Lot.	14	6.42%	<div></div>
(Did not answer)	1	0.46%	<div></div>
<div> <div></div> <div>20%</div> <div>40%</div> <div>60%</div> <div>80%</div> <div>100%</div> </div>			
Total Responses	220		



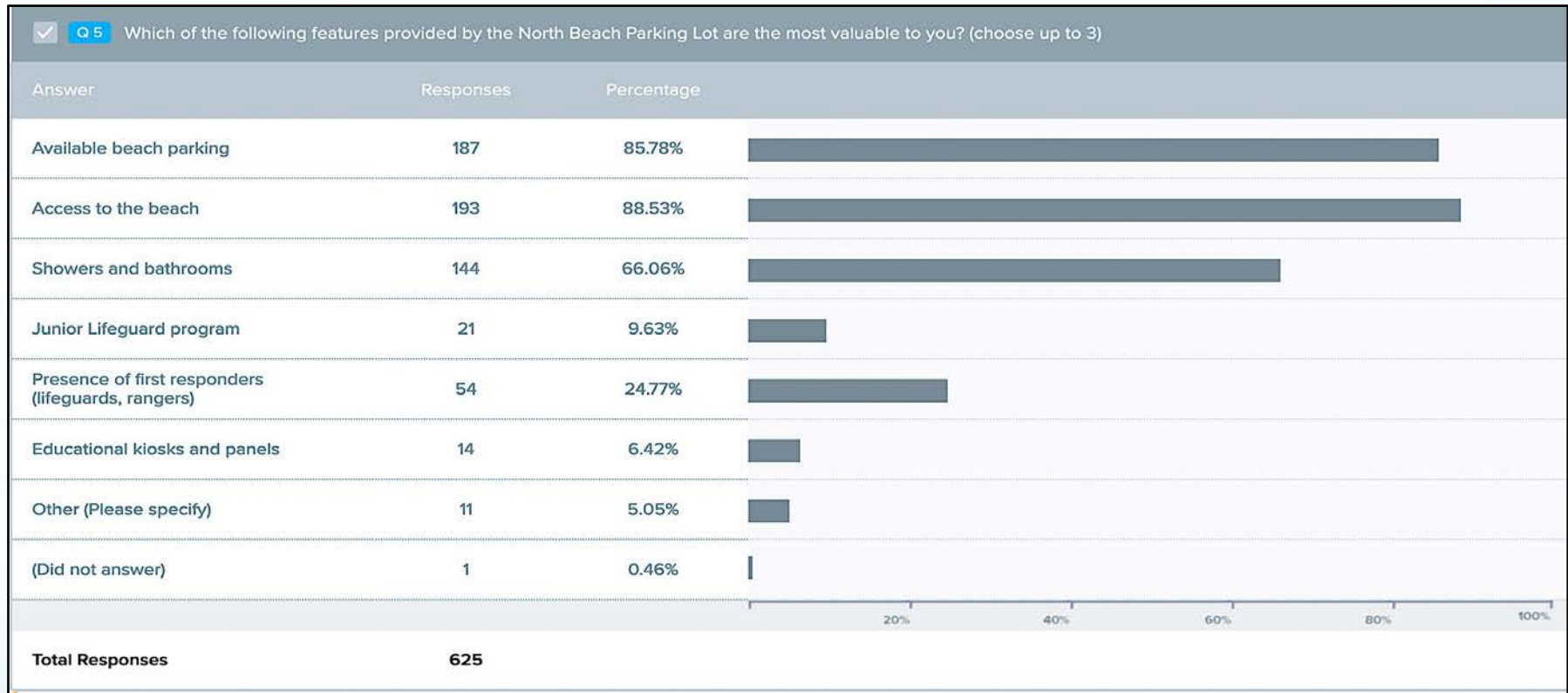
PROJECT MILESTONES

Online Survey 1 Results



PROJECT MILESTONES

Online Survey 1 Results



PRESERVING PUBLIC ACCESS TO TORREY PINES STATE NATURAL RESERVE
Managed Retreat of the North Beach Parking Lot
 Public Workshop #1, February 17, 2021

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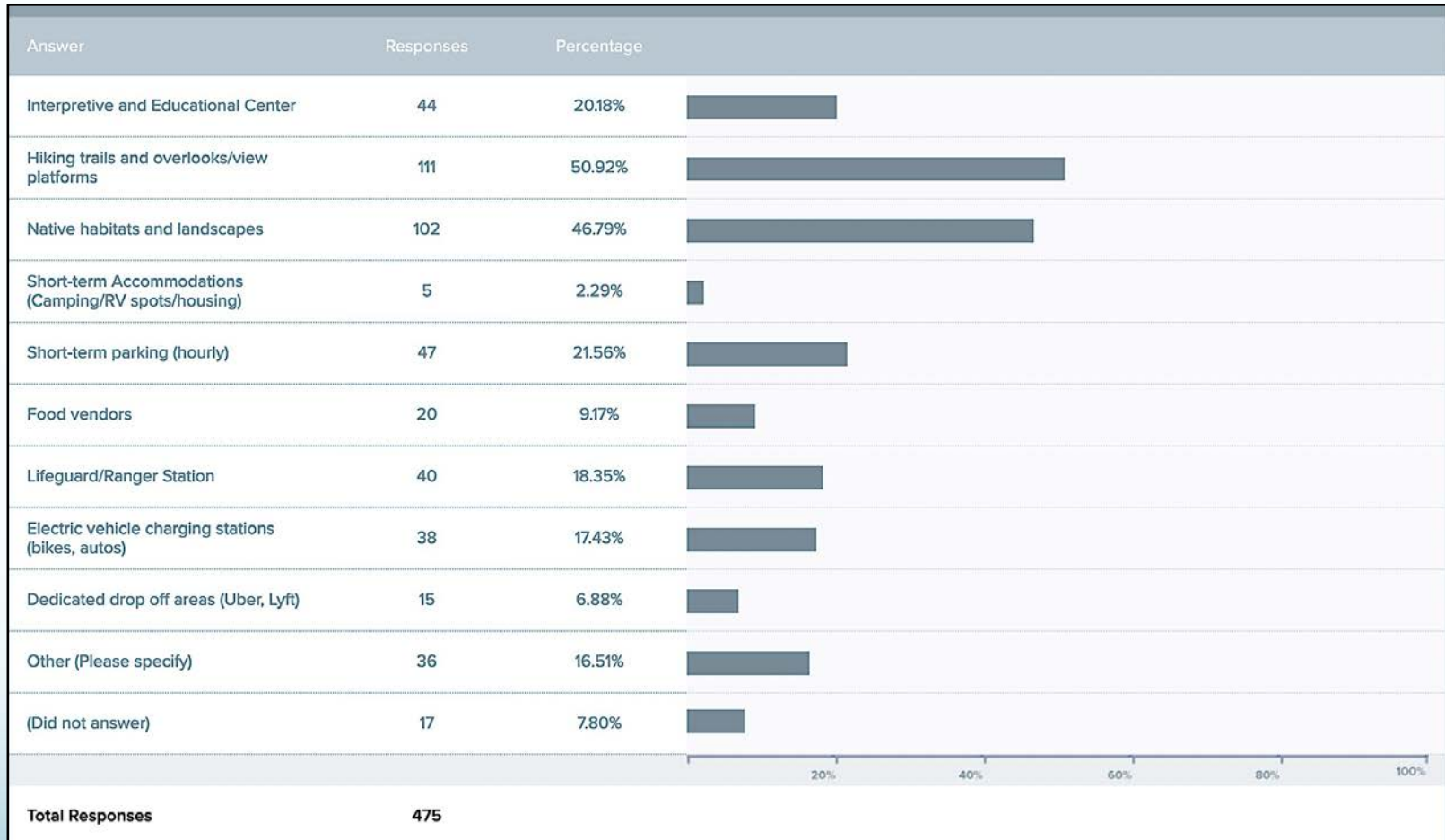
PRESERVING PUBLIC ACCESS TO TORREY PINES STATE NATURAL RESERVE
Managed Retreat Options for the North Beach Parking Lot

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PROJECT MILESTONES

Online Survey 1 Results

Additional Features



PROJECT MILESTONES

Stakeholder Outreach & Engagement

- State Parks Staff (Lifeguard, Maintenance, Cultural, Environmental)
- University City Planning Group (10/13/20)
- Torrey Pines Community Planning Board (11/12/20)
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- Online Survey 2 – Ranking of Design Approaches & Concept Designs for Managed Retreat (128 respondents)

Development & Assessment of Managed Retreat Approaches

- **Reduced Footprint, Upland Relocation, Offsite Relocation**

Concept Design Alternatives of Reduced Footprint Approach

- Northern Retreat, Southern Retreat, Capped.

Feasibility Study & Selection of the Preferred Alternative

REDUCED FOOTPRINT APPROACH



Retreat to the South



Retreat to the North



UPLAND RELOCATION APPROACH



Open Lot



Lot with Landscape Capped Roof



OFFSITE RELOCATION APPROACH



PROJECT MILESTONES

Public Engagement Results – Preferred Approach

REDUCED FOOTPRINT APPROACH



#1. Reduced Footprint



UPLAND RELOCATION APPROACH



#2. Upland Relocation

OFFSITE RELOCATION APPROACH



#3. Offsite Relocation



PROJECT MILESTONES

Stakeholder Outreach & Engagement

- State Parks Staff (Lifeguard, Maintenance, Cultural, Environmental)
- University City Planning Group (10/13/20)
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Development & Assessment of Managed Retreat Approaches

- Reduced Footprint, Upland Relocation, Offsite Relocation

Concept Design Alternatives of Reduced Footprint Approach

- **Northern Retreat, Southern Retreat, Capped**

Feasibility Study & Selection of the Preferred Alternative

PROJECT MILESTONES

Online Survey 2 Results – Preferred Concept Design

POTENTIAL OPTIONS – REDUCED FOOTPRINT Maintain Northern Section of the Lot and Restore Habitat to the South

KEY ADVANTAGES

- Lowest cost option.
- Minimal new disturbance.
- Restoration/expansion of coastal habitats adjacent to the inlet area and lagoon.
- Potential for trails in areas of restored coastal habitats.
- Better protected from SLR than Option 1A due to lot location.
- Beach access similar to existing.

KEY DISADVANTAGES

- Loss of parking spaces.
- Long-term SLR resilience.
- Lower potential for habitat recovery.
- Vulnerability to erosion with removal of revetment at inlet.



OPTION 1B. REDUCED PARKING LOT

#1. Retreat to the North

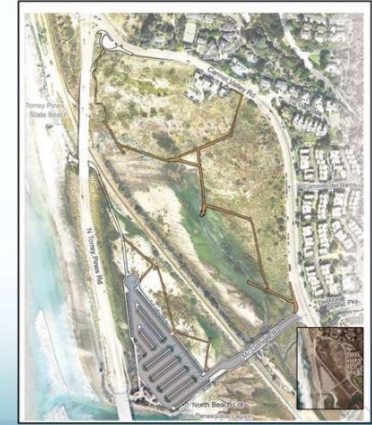
POTENTIAL OPTIONS – REDUCED FOOTPRINT Maintain Southern Section of the Lot and Restore Habitat to the North

KEY ADVANTAGES

- Lowest cost option.
- Minimal new disturbance.
- Restoration of coastal strand habitat.
- Potential for trails in areas of restored coastal strand habitat.
- Beach access similar to existing conditions.

KEY DISADVANTAGES

- Loss of parking spaces.
- Long-term SLR resilience.
- Lowest potential for habitat recovery.



OPTION 1A. REDUCED PARKING LOT

#2. Retreat to the South

POTENTIAL OPTIONS – REDUCED FOOTPRINT Maintain Southern Section of the Lot and Restore Habitat with Green Roof

KEY ADVANTAGES

- Balances parking spaces with habitat expansion.
- Minimal new disturbance.
- Beach access similar to existing.
- Green roof improves visual corridors.

KEY DISADVANTAGES

- Loss of parking spaces.
- Long-term SLR resilience.
- Higher cost than Option 1A and Option 1B.



OPTION 2A. PARKING LOT WITH GREEN ROOF

#3. Capped Structure (Green Roof)



PROJECT MILESTONES

Stakeholder Outreach & Engagement

- State Parks Staff (Lifeguard, Maintenance, Cultural, Environmental)
- University City Planning Group (10/13/20)
- Torrey Pines Community Planning Board (11/12/20)
- Del Mar City Council (2/16/21)
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Development & Assessment of Managed Retreat Approaches

- Reduced Footprint, Upland Relocation, Offsite Relocation

Concept Design Alternatives of Reduced Footprint Approach

- Northern Retreat, Southern Retreat, Capped

Feasibility Study & Selection of the Preferred Alternative

POTENTIAL OPTIONS NORTHERN RETREAT

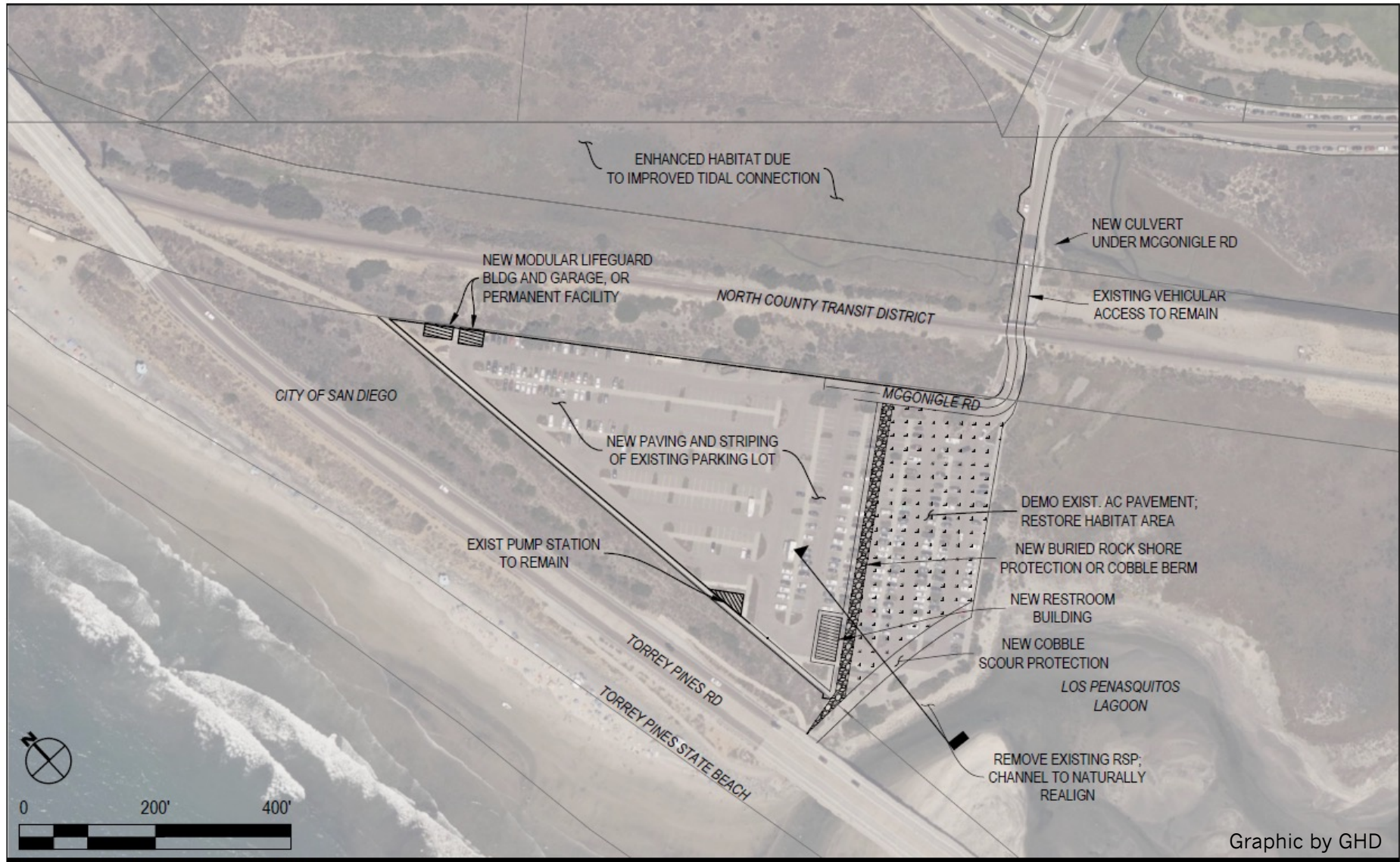
Alternative 1 – Reduced Footprint (Light Touch)



Graphic by GHD

POTENTIAL OPTIONS NORTHERN RETREAT

Alternative 2 – Reduced Footprint (Moderate Touch)



POTENTIAL OPTIONS NORTHERN RETREAT

Alternative 3 – Reduced Footprint (Heavy Touch)



Graphic by GHD

ALTERNATIVE ANALYSIS CRITERIA

Habitat Enhancement

- Restoration
- Marsh Enhancement (McGonigle)
- Sensitive Species
- Water Quality/Vector
- Ecosystem Resilience (Sustainability)

Beach Access & Amenities

- Pedestrian Access
- Vehicular Access
- State Parks Facilities
- Aesthetics
- Temporary Access Impacts (Construction)

Coastal Hazards

- Flood Protection/SLR Resilience
- Inlet Stability/Hydraulics

Regulatory

- CEQA/NEPA Process
- Permitting Process
- Consistency with State Parks Plans & Policy

Financial/Economic

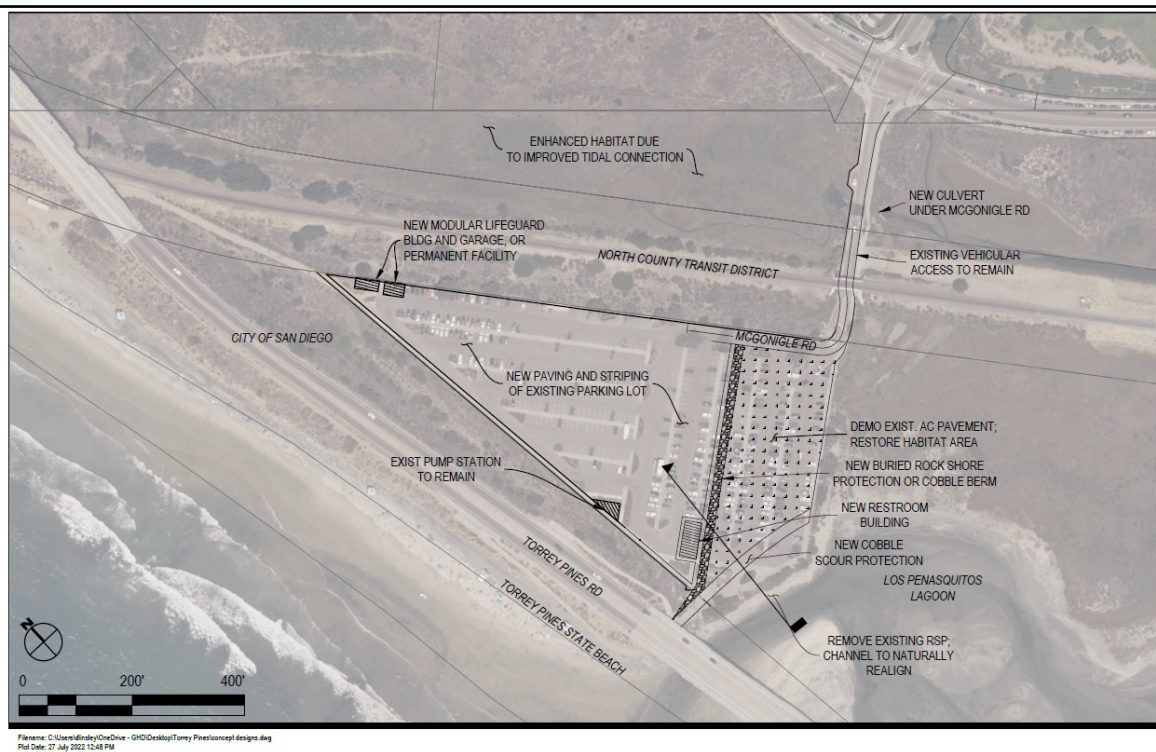
- Construction Costs
- Long-Term Maintenance & Operation Costs

Weighting of Criteria

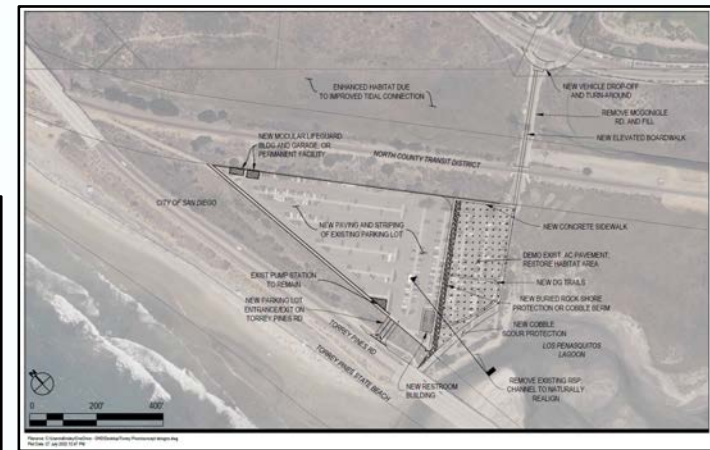
- Habitat Enhancement (25%)
- Beach Access & Amenities (25%)
- Coastal Hazards (30%)
- Regulatory (10%)
- Financial/Economic (10%)

PROJECT MILESTONES

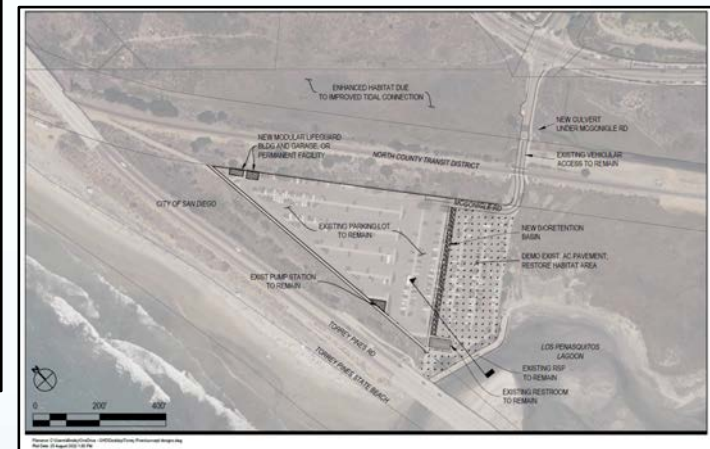
Feasibility Study Results – Preferred Alternative



#1. Alternative 2 – Moderate Touch



#2. Alternative 2 – Heavy Touch



#3. Alternative 1 – Light Touch



NEXT STEPS

Concept Design (30%) & CEQA (Phase1)

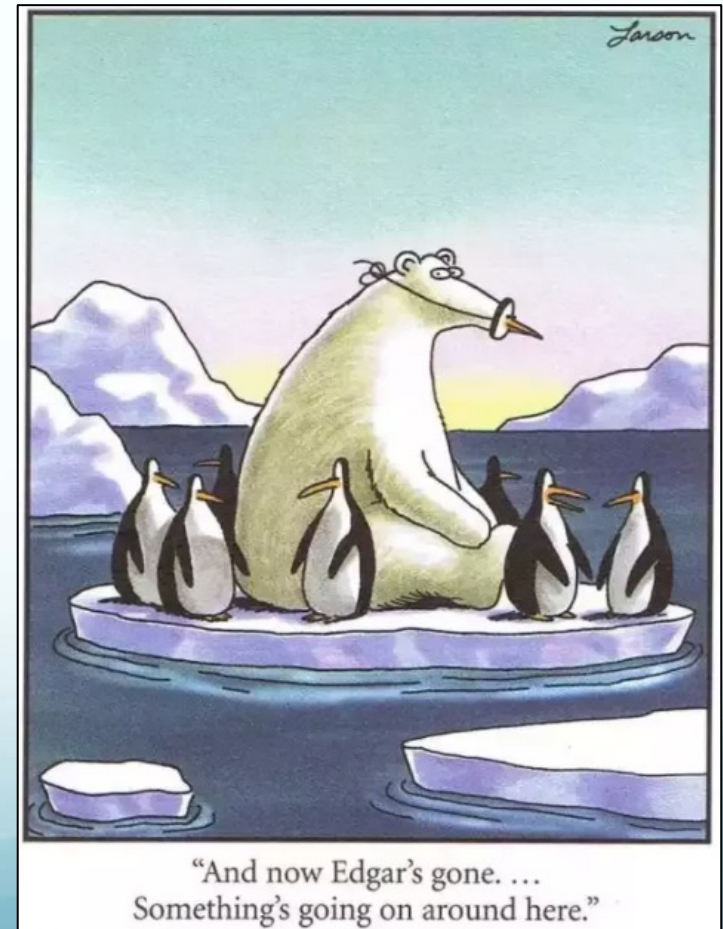
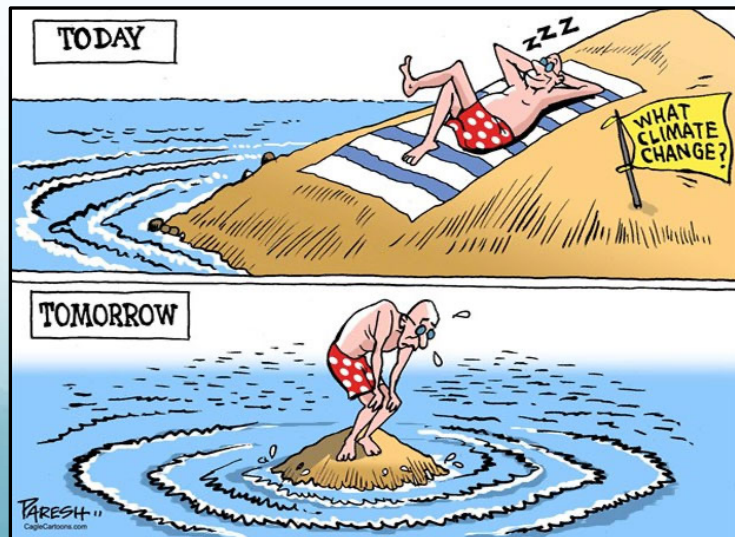
- Completion in February 2023

Final Design, Construction Plans, & Permits (Phase 2)

- Technical Studies (Parking Demand, Geotech)
- Stakeholder Engagement
- Applying for grant funding

Construction (Phase 3)

- Phasing to Preserve Public Use
- TBD



THANK YOU

“Cherish these natural wonders, cherish the natural resources, cherish the history and romance as a sacred heritage, for your children and your children’s children.” — Theodore Roosevelt

