An aerial photograph of the Lake Michigan shoreline in Chicago. The image shows a multi-lane highway running parallel to the water, with a strip of green space and trees between the road and the shore. Several large, modern buildings are visible, some with dark roofs. The water is a deep blue-green color.

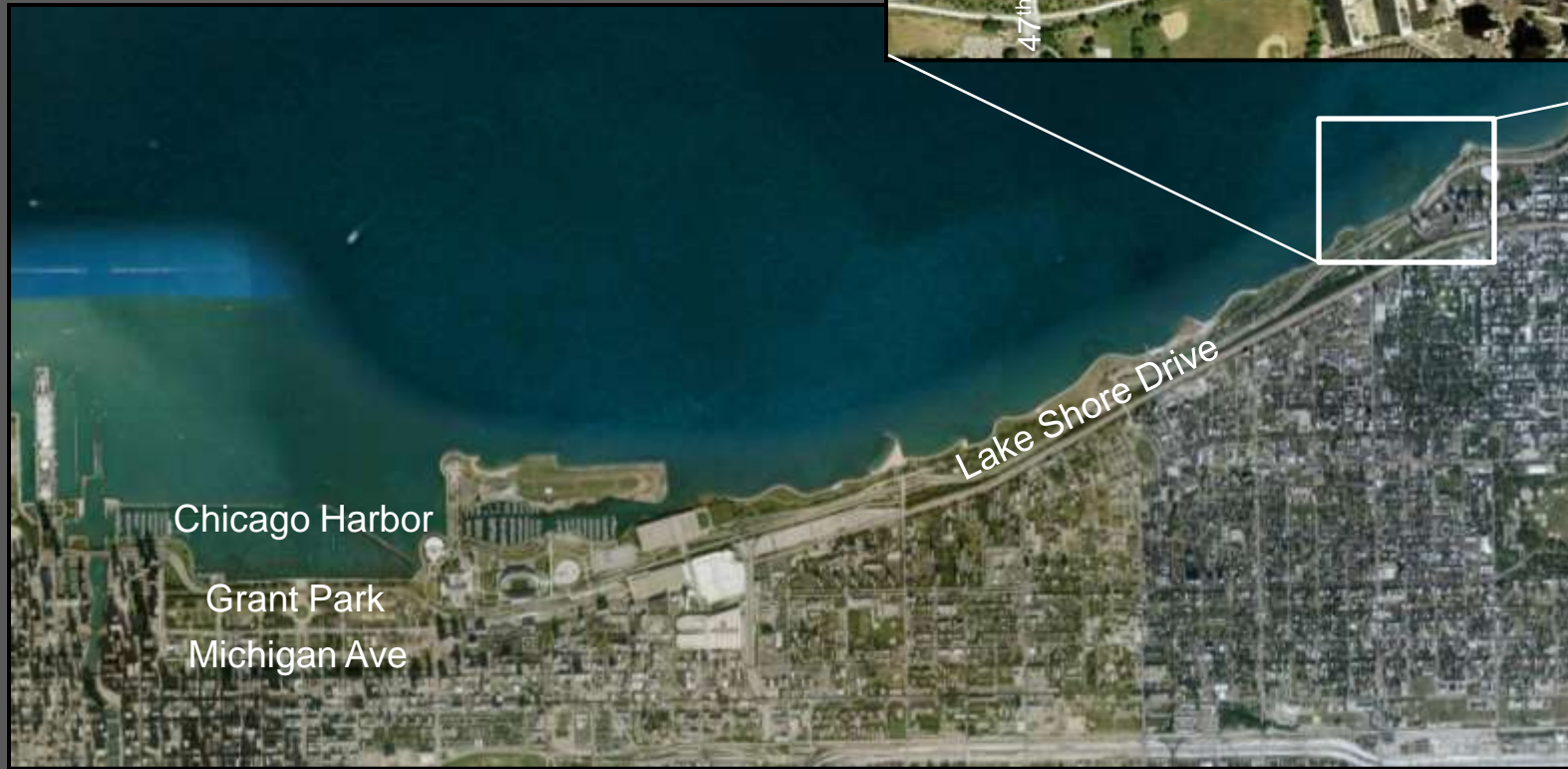
GREAT LAKES URBAN HABITAT SYMPOSIUM Chicago 2009

Morgan Shoal: Planning for a
Sustainable Ecosystem & Shoreline
Protection for Lake Michigan

Rob Rejman: Chicago Park District

MORGAN SHOAL

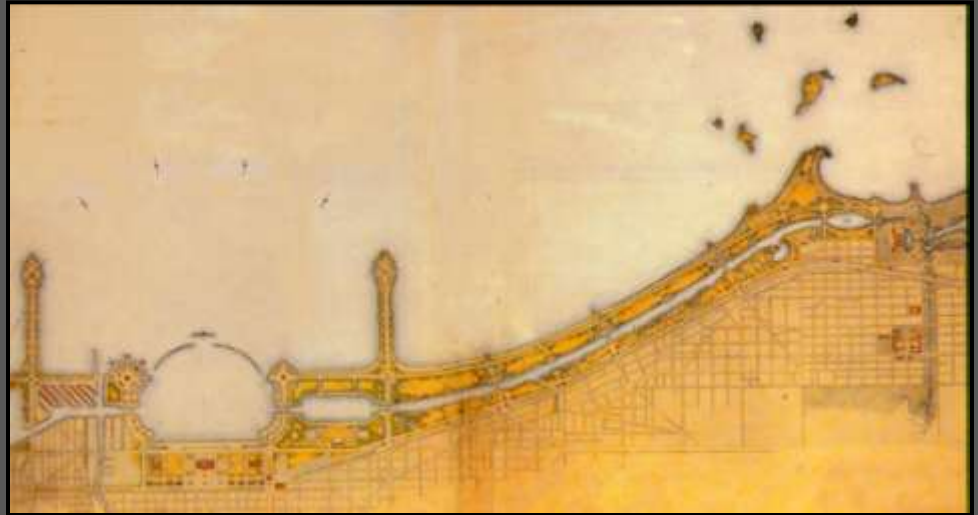
Project Boundaries



HISTORY

Burnham Park

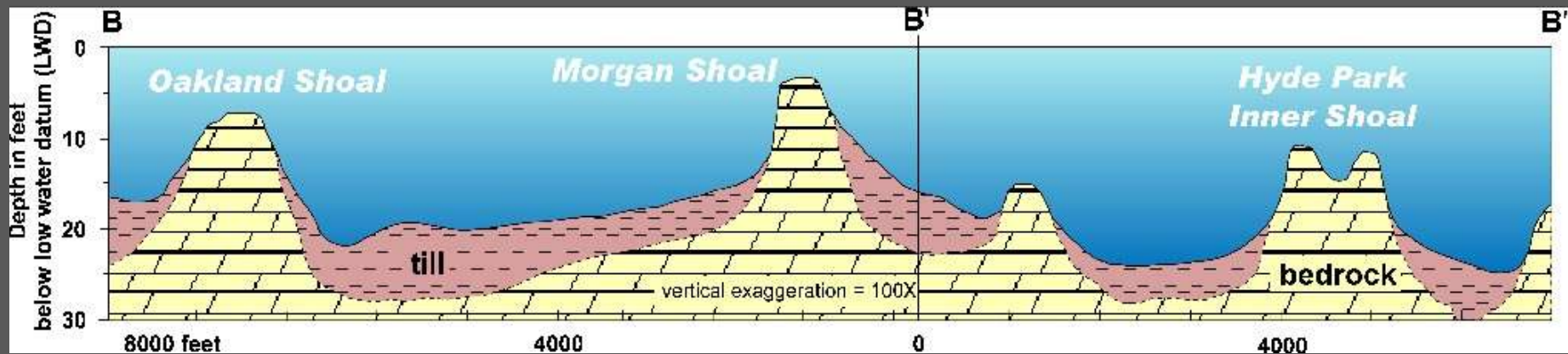
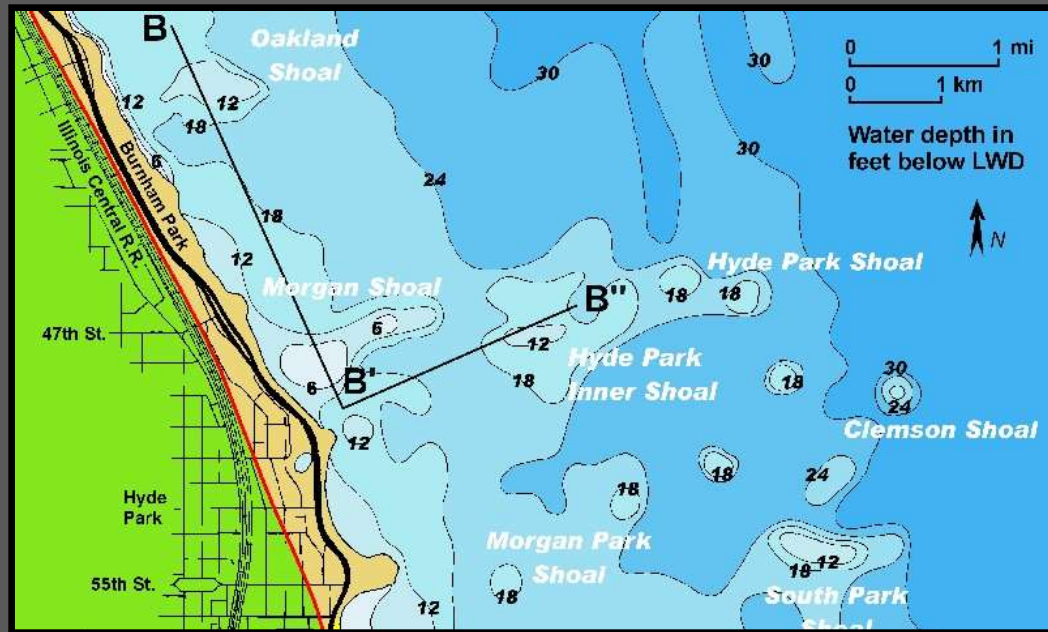
1909 Burnham Plan



1920 South Park Commission Plan

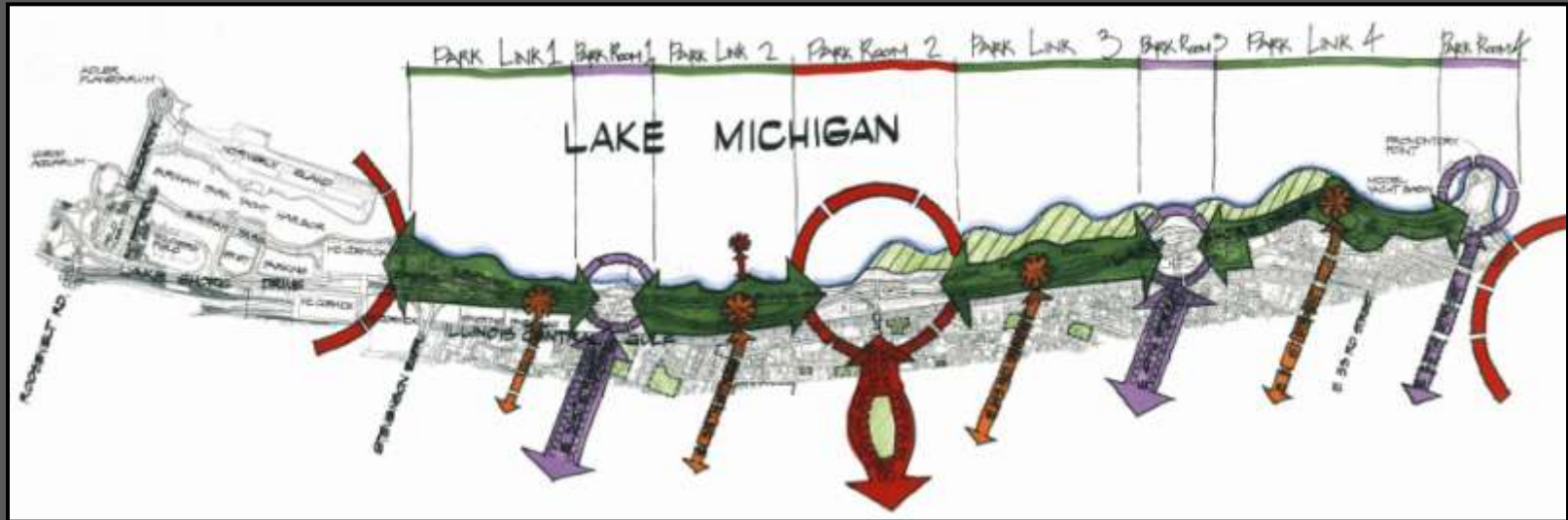


COASTAL ENGINEERING



HISTORY: BURNHAM PARK FRAMEWORK 1999

Plan Objectives



- Organize the park into “Park Links” & “Park Rooms”
- Relocate the majority of parking
- Increase parkland
- Preserve & enhance the natural landscape character
- Reduce noise from Lake Shore Drive

HISTORY

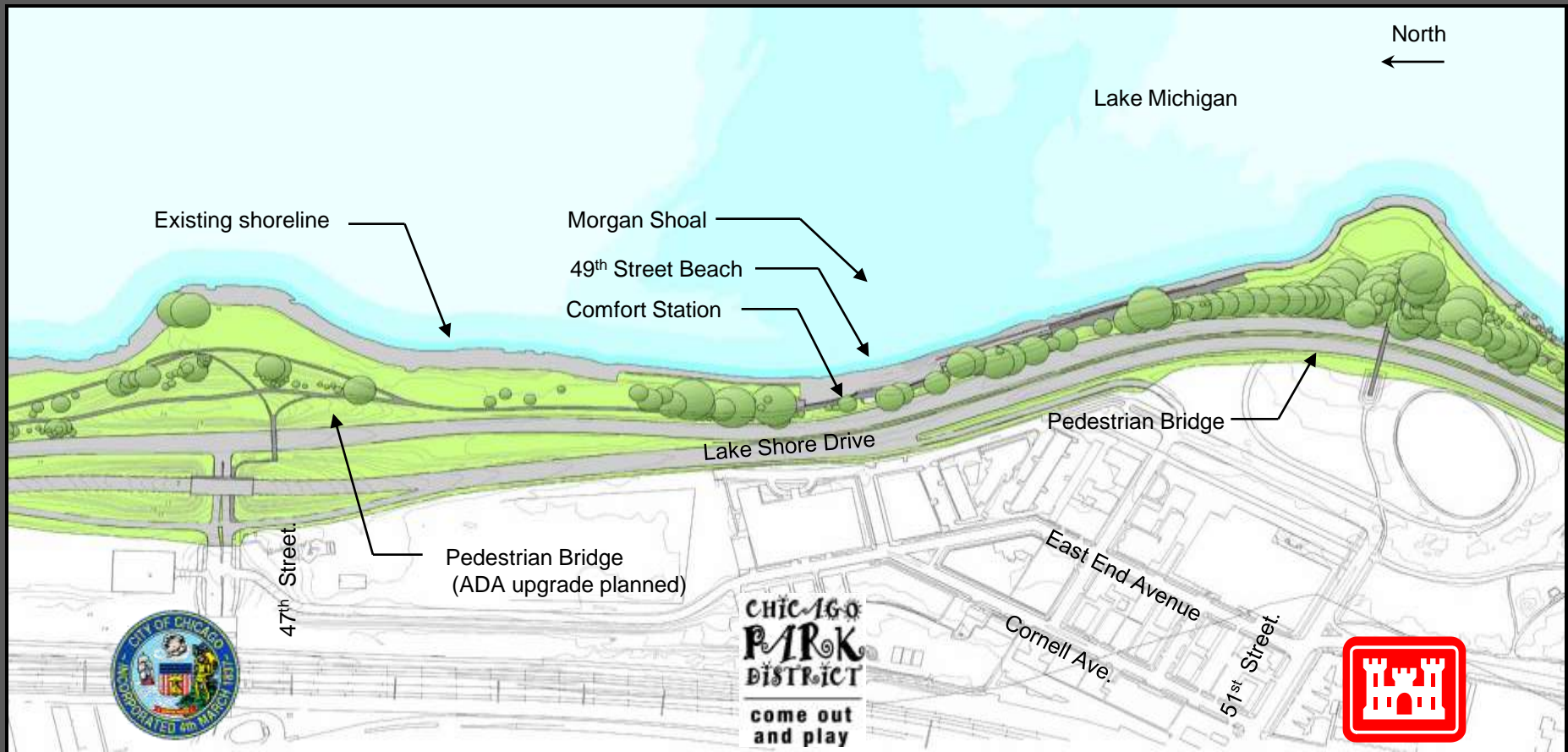
Plan Objectives



- Improve access & circulation
- Create beaches
- Preserve view corridors
- Create gateways
- Recreate habitat & shoreline ecology
- Comply with the Lakefront Protection Ordinance

CHICAGO SHORELINE PROTECTION PROJECT

45th Street to 51st Street



City of Chicago
Dept of Environment

Chicago Park District

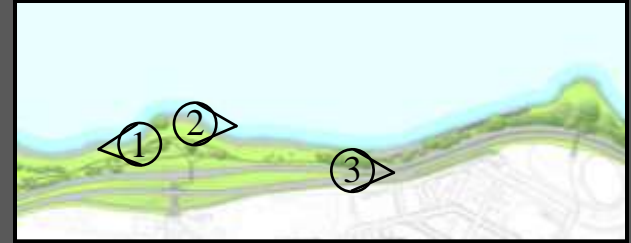
U.S. Corps
of Engineers

EXISTING CONDITIONS



1. View to City

45th Street to 51st Street



2. Existing revetment



3. Existing trail & comfort station

EXISTING CONDITIONS



1. Existing revetment

45th Street to 51st Street



2. Site access – 47th St. Bridge



3. Narrow pebble beach

CHICAGO SHORELINE PROTECTION

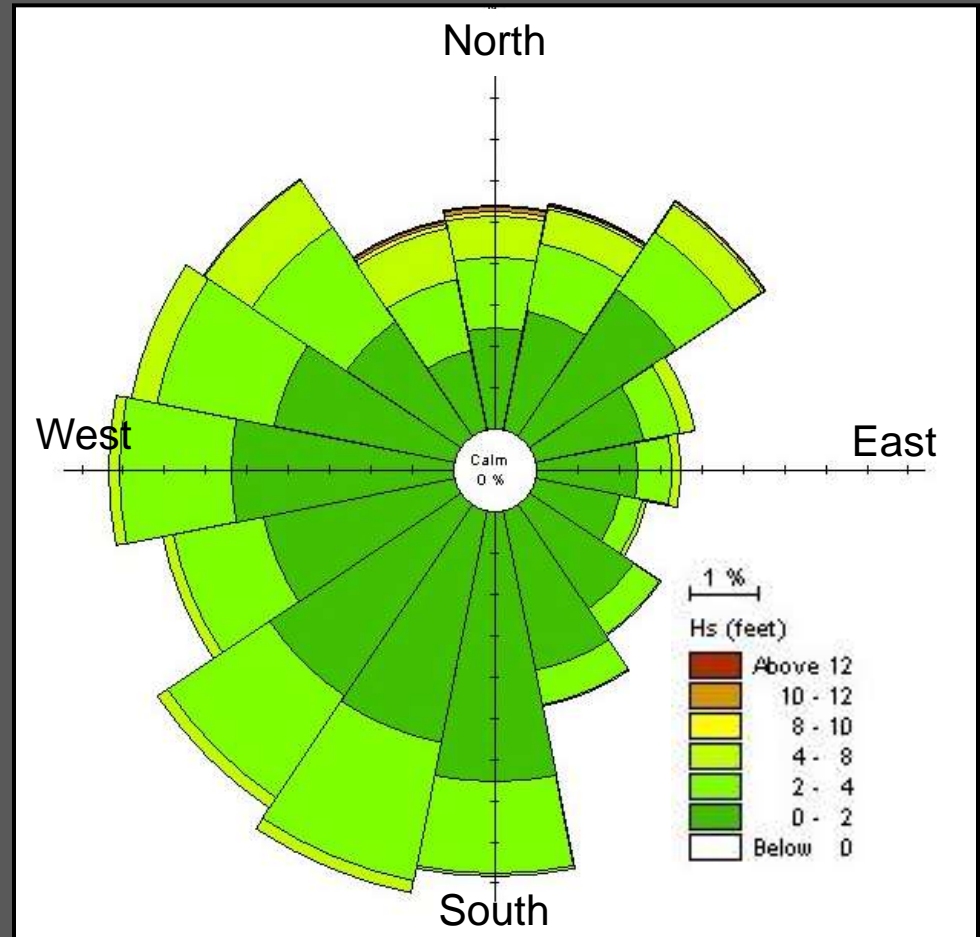
- Control flooding of the park & Lake Shore Drive
- Prevent shoreline erosion
- Provide universal access to the shoreline revetment
- Increase usable parkland
- Expand & diversify recreational & environmental amenities

PARK EXPANSION – 37TH TO 40TH STREETS



COASTAL ENGINEERING: PLANNING CONSIDERATIONS

- Wave Action: Energy & Height
- Shoreline Protection Structures
- Soft Edge vs Hard Edge
- Water Quality
- Permit Considerations
- Littoral Sand Transport



PLANNING PROCESS

- Alderman
- Public Agencies
- Design Group
- Community at Large
- Interactive Website



PROGRAM ELEMENTS

Passive & Low Impact Recreation



PROGRAM ELEMENTS

Pedestrian & Bicycle Paths & Boardwalks



PROGRAM ELEMENTS

Environmental Education



Guided Tours



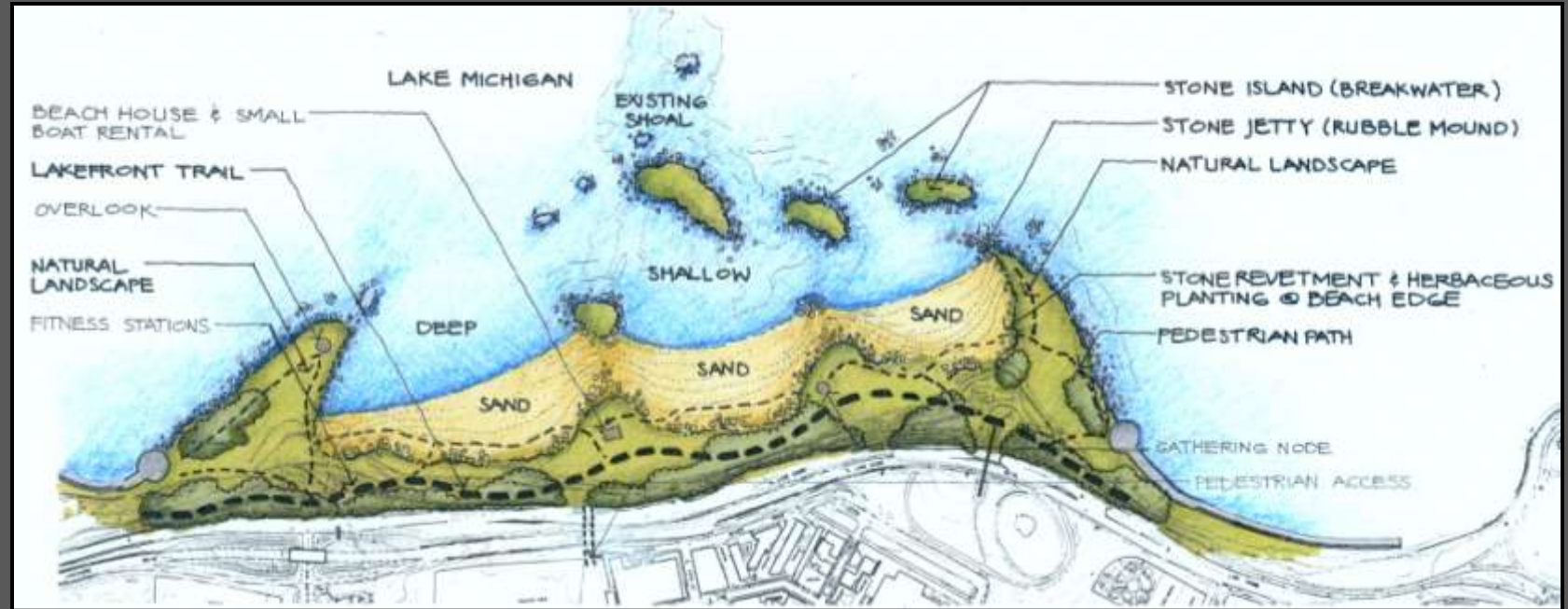
Interpretive Signage

PROGRAM ELEMENTS

Sand & Pebble Shoreline & Beaches



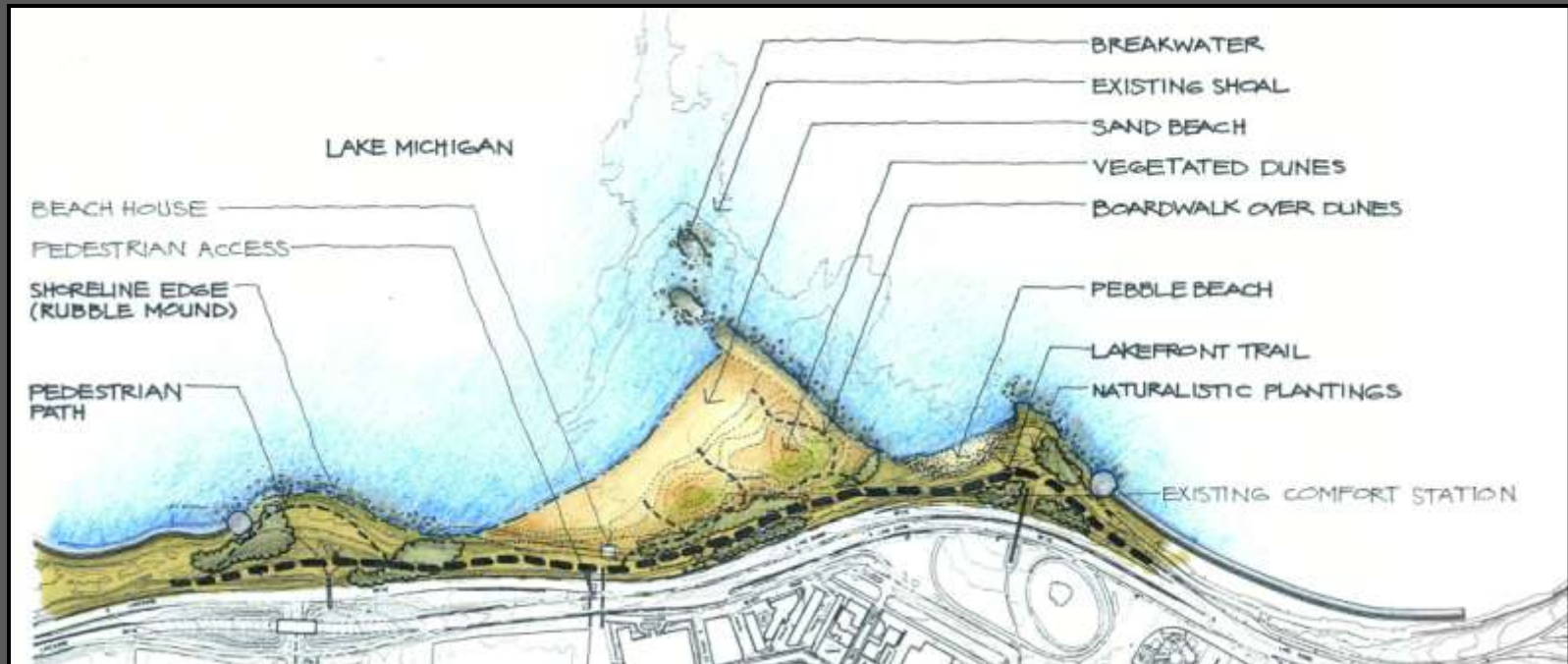
PRELIMINARY DESIGN CONCEPTS



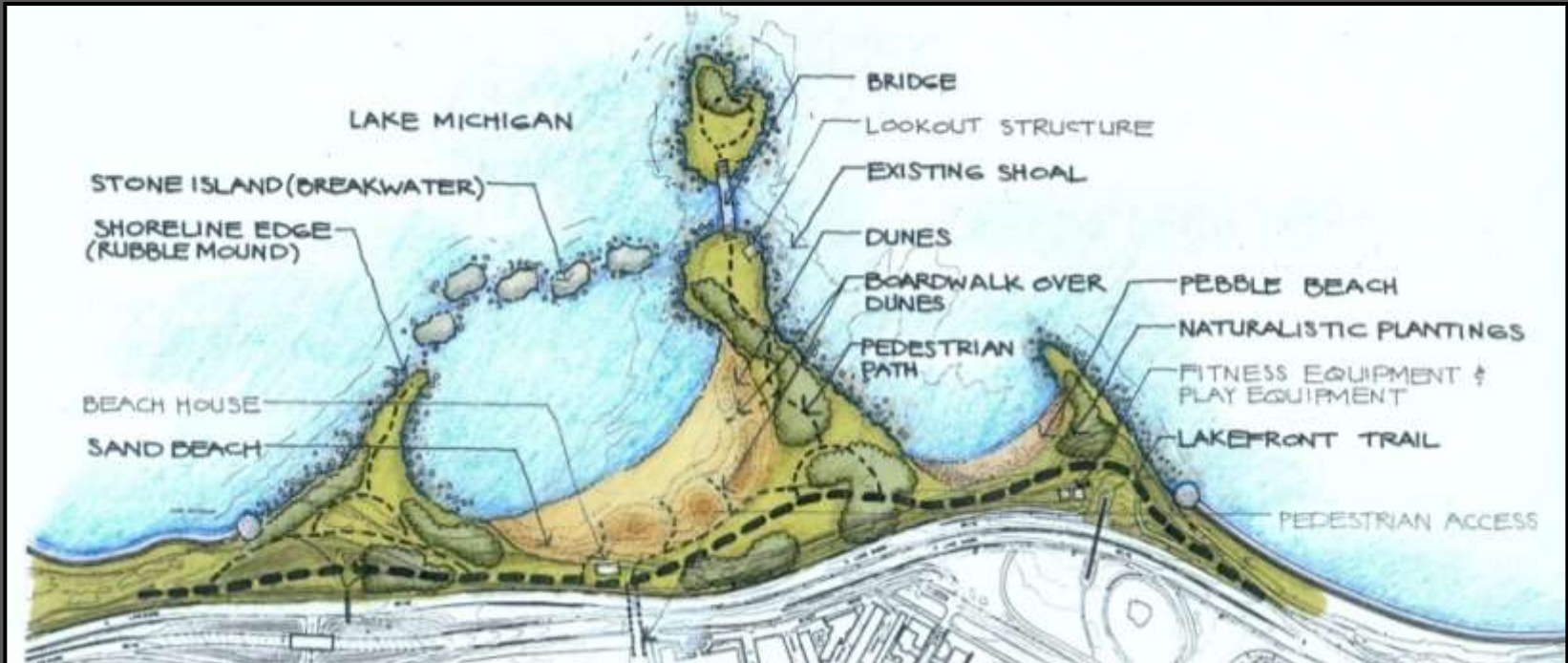
0 500' 1000' 2000'



PRELIMINARY DESIGN CONCEPTS



PRELIMINARY DESIGN CONCEPTS



0 500' 1000' 2000'



PRELIMINARY DESIGN CONCEPTS



ECOLOGY & ENVIRONMENT

Coastal & Inland Wetlands



ECOLOGY & ENVIRONMENT

Natural Dune & Swale



ECOLOGY & ENVIRONMENT

Prairie Features

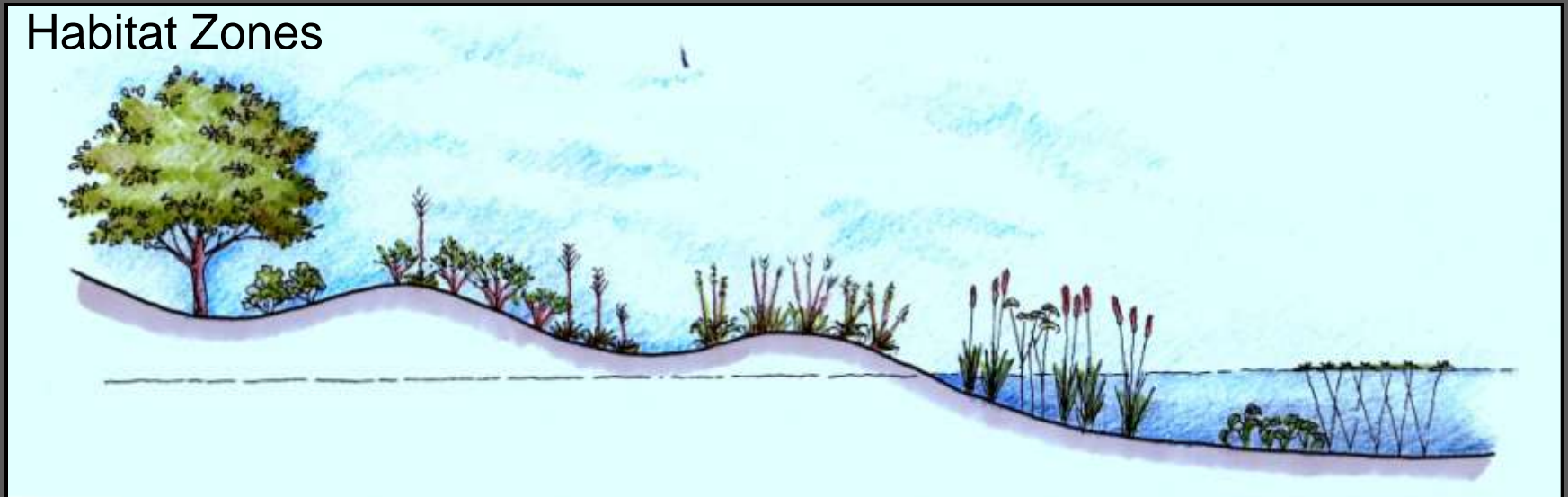


Re-create native plant communities

ECOLOGY & ENVIRONMENT

Bird & Wildlife Habitat

Habitat Zones



Upland
Trees & Shrubs

Shrub
Shrubs & Sedges

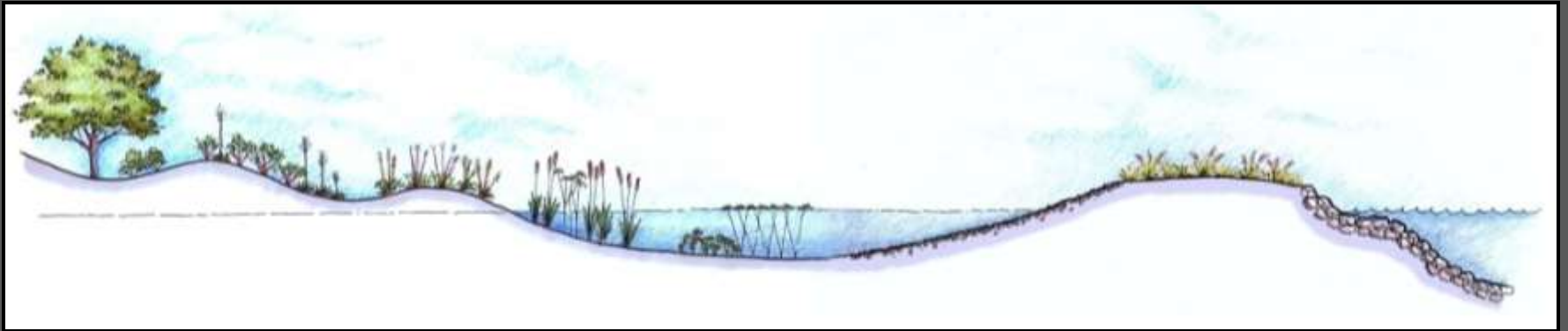
Wet Meadow
Sedges, Grasses &
Rushes

Emergent
Cattails & Emergent
Plants

Aquatic
Submerged Plants

ECOLOGY & ENVIRONMENT

Bird & Wildlife Habitats



Lagoon and Island Profile



Lagoon and Beach Profile

ECOLOGY & ENVIRONMENT

Wetland Establishment



Initial Installation

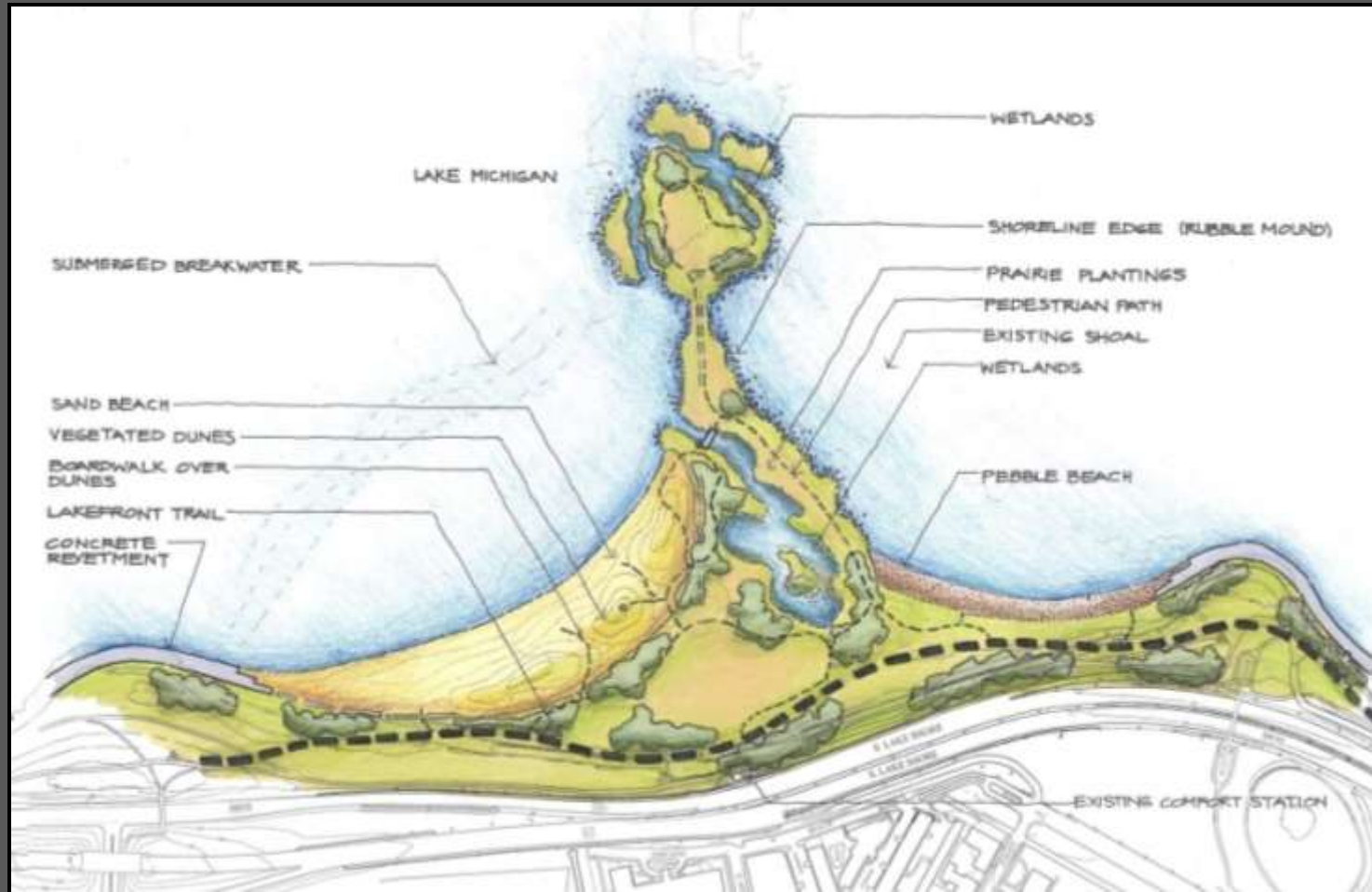


Established plants

PRELIMINARY DESIGN CONCEPTS



PRELIMINARY DESIGN CONCEPTS



ECOLOGICAL GOALS

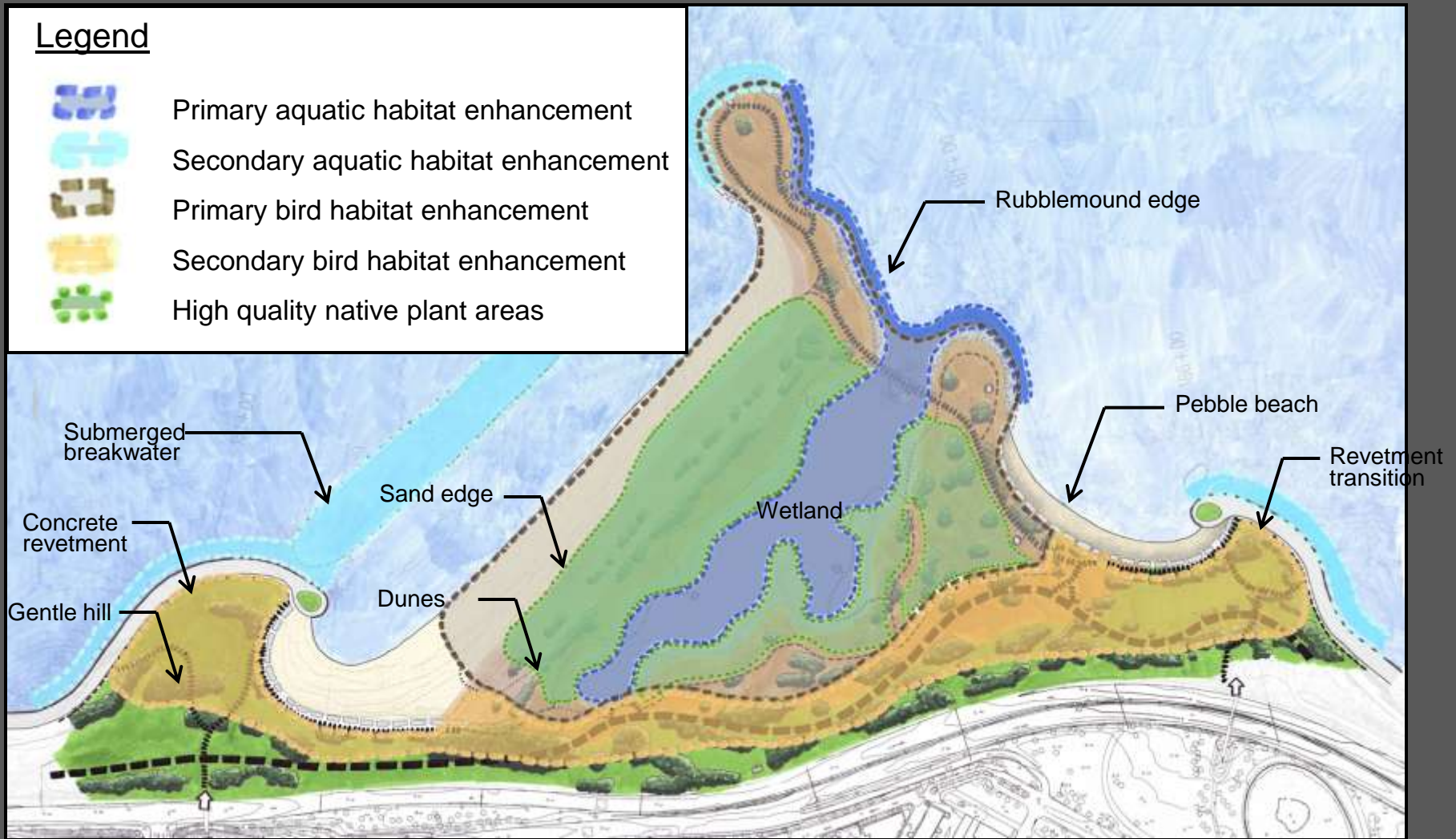


ECOLOGICAL GOALS

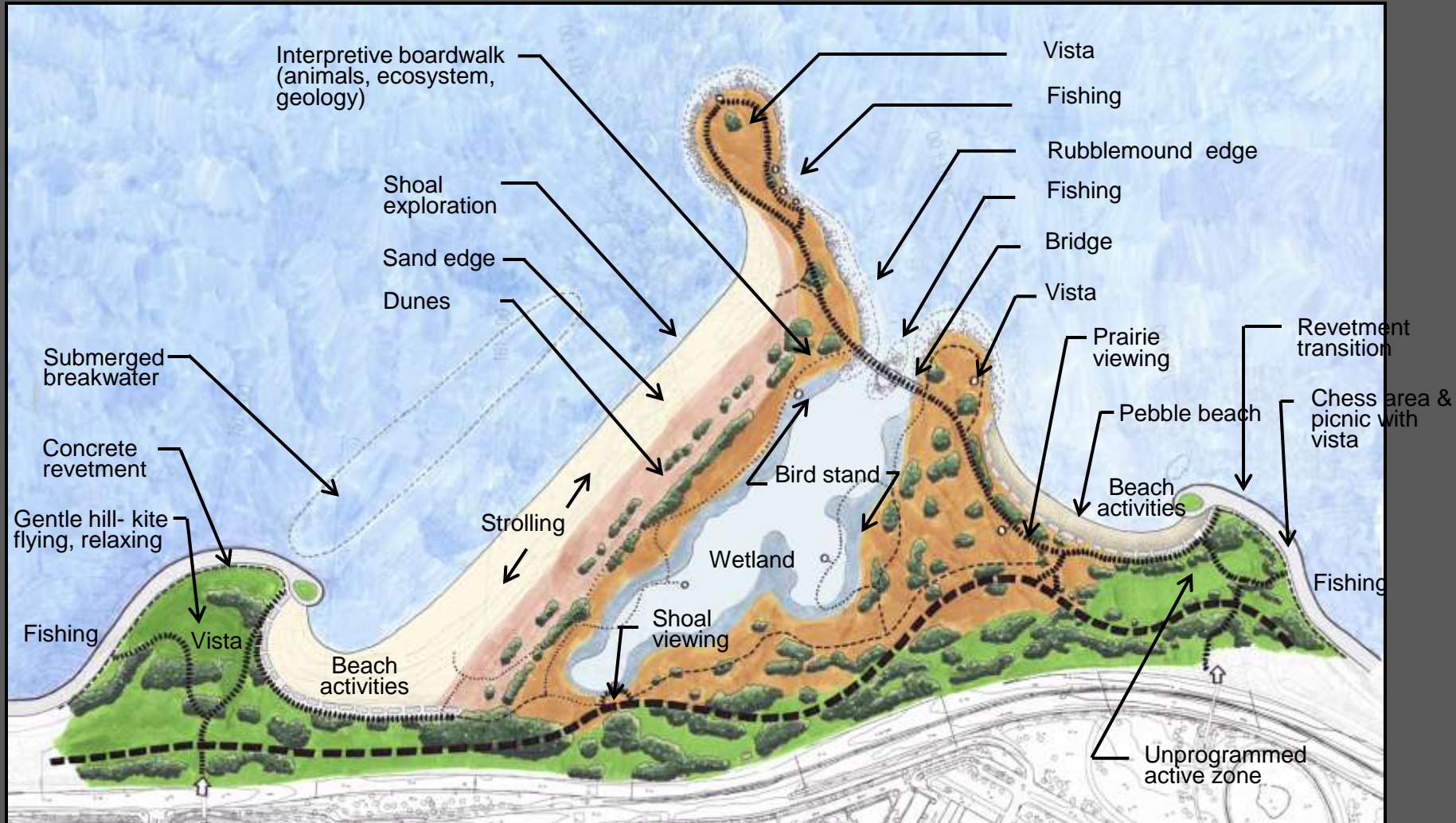
Legend



- Primary aquatic habitat enhancement
- Secondary aquatic habitat enhancement
- Primary bird habitat enhancement
- Secondary bird habitat enhancement
- High quality native plant areas



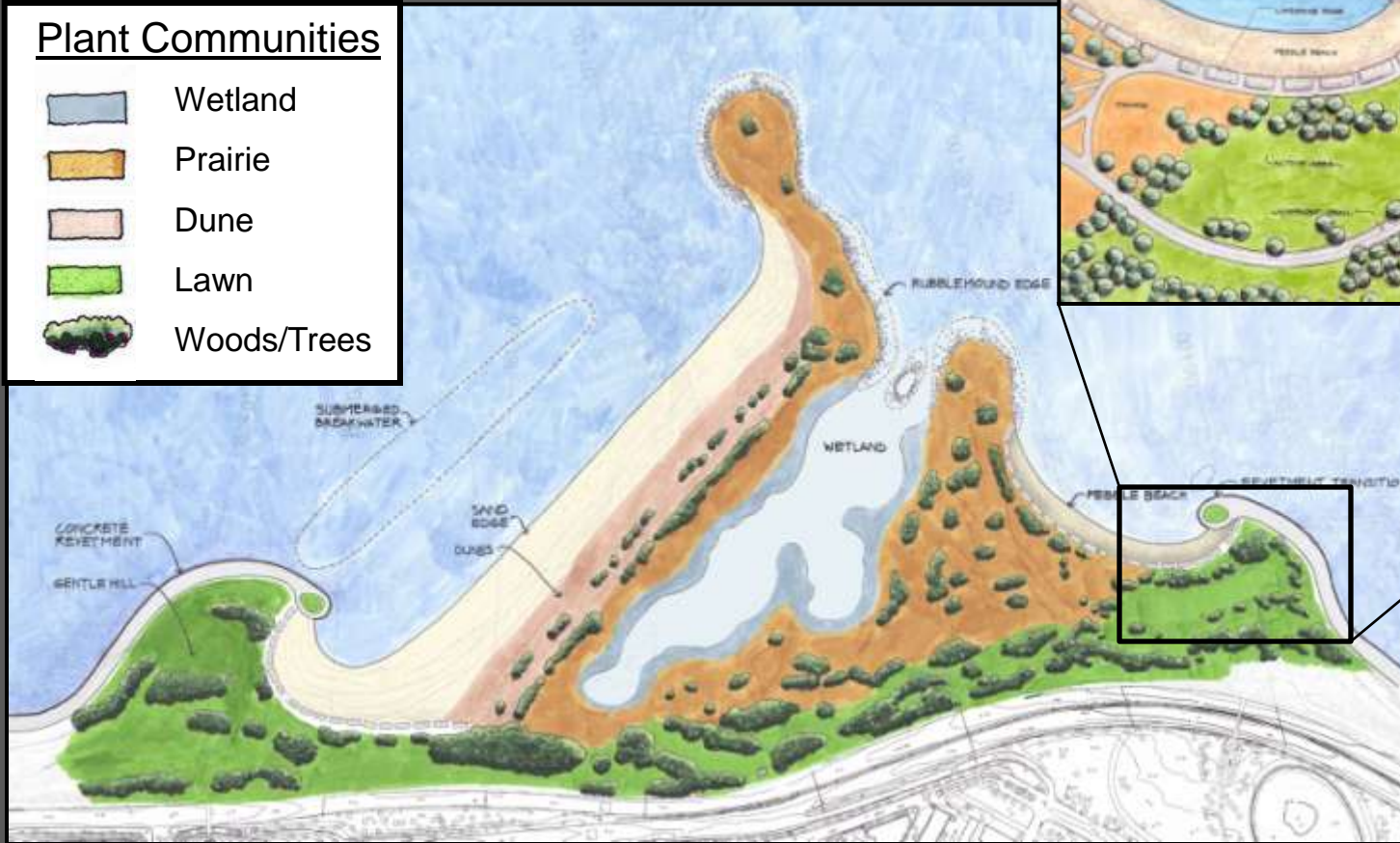
ACTIVITIES



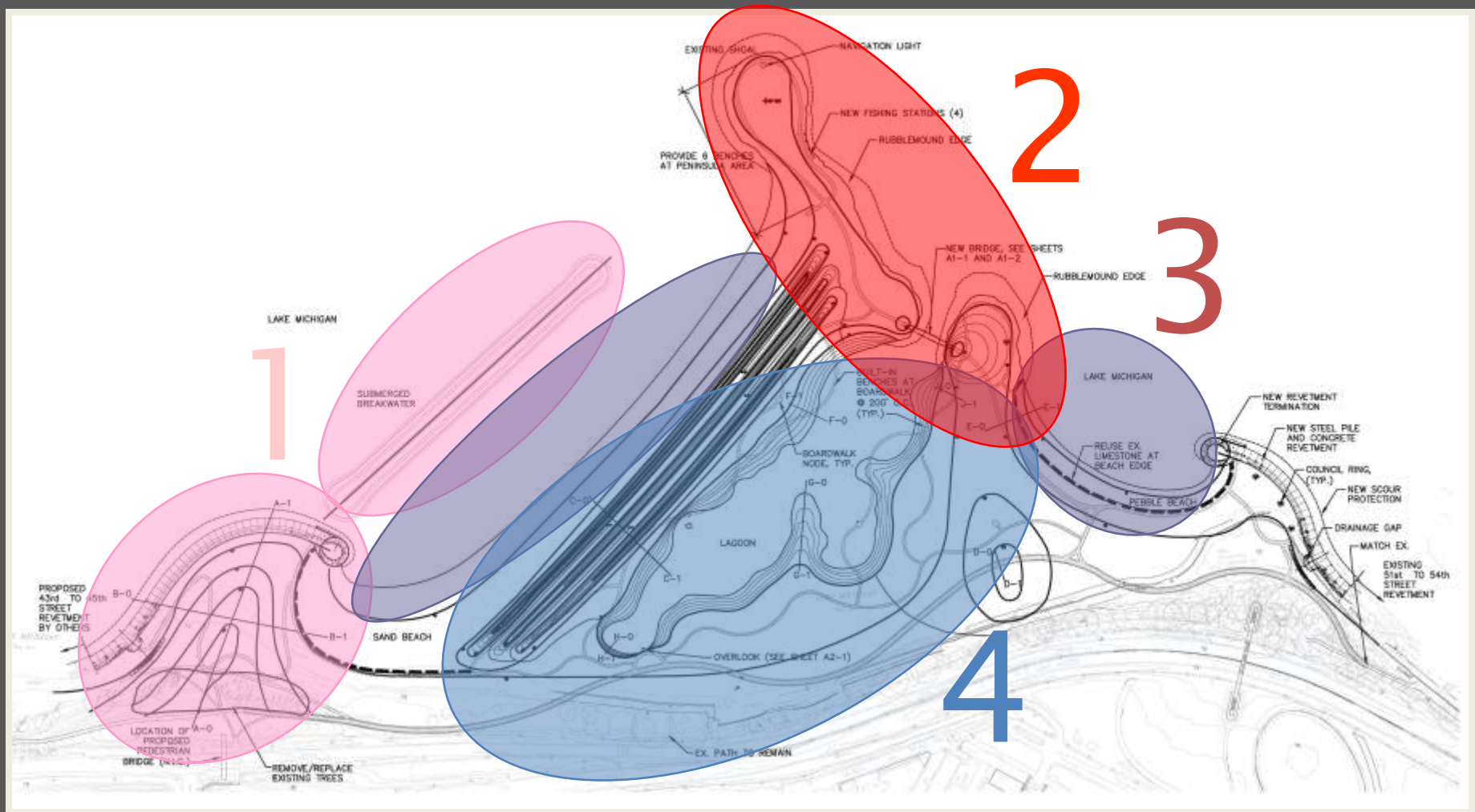
PLANT COMMUNITIES


Plant Communities

- Wetland
- Prairie
- Dune
- Lawn
- Woods/Trees



CONSTRUCTION PHASES



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