



CENTENNIAL BEACH & BLUFF IMPROVEMENTS

Village of Winnetka Zoning Board Presentation



AGENDA

PROPOSED DESIGN

PIER DESIGN

PIER SAFETY

PARKING AND TRAFFIC

PUBLIC RESTROOMS

PEDESTRIAN BYPASS





Pier Design

Based in the contextual shoreline environment:

- *Reduces riptides*
- *Prevents lake-bed down-cutting*
- *Improves access to Lake Michigan*

Pier Safety

Improved public amenity:

- *Monitored swim zones*
- *Discourages diving*
- *Reduces riptides*

Parking and Traffic

- *Prioritizes green space over additional paving*
- *Safe, proximate parking provided*
- *Operations plan to address potential future congestion*

Restrooms

Seasonal accommodations of an ADA portable restroom

Pedestrian Bypass

- *Work with adjacent property owner to create an easement for access to the southern steps*
- *Modify the fenceline to allow for passage along WPD property*

Beach Closure Signage/Gate

Further consideration to additional signage and a more permanent method for closing the beach and pier will be addressed in the final permit design submittal to the Village pending WPD Board Review.*

Pier Handrail

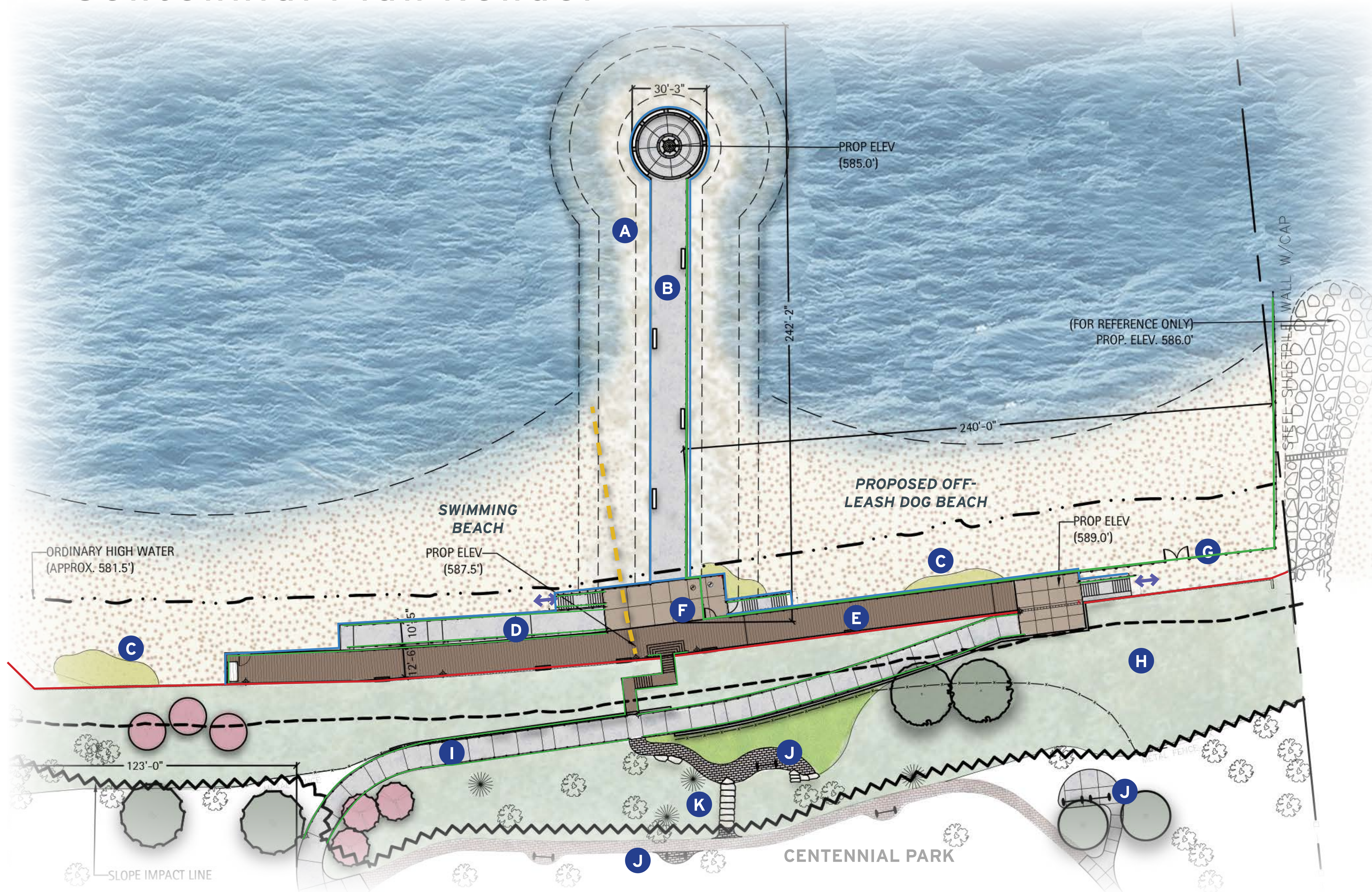
Additional handrail around the entire pier structure can be addressed in the final permit design submittal to the Village pending WPD Board Review.*

**Please Note: All changes or adjustments to the plan will need to be reviewed by Winnetka Park District Board for final approval*

Proposed Design



Centennial Plan Render



LEGEND

- TURF RESTORATION
 - DUNE GRASSES
 - BLUFF RESTORATION
 - ACCESS TO BEACH
 - SHEET PILE (PROPOSED)
 - SHEET PILE (EXISTING)
 - ELEMENT TO BE REMOVED
 - ORNAMENTAL FENCE/HANDRAIL
- A** RUBBLE MOUND BREAKWATER SHORELINE PROTECTION
 - B** ACCESSIBLE VIEWING PIER WITH BENCH SEATING
 - C** NATIVE BEACH DUNE PLANTING
 - D** ADA ACCESSIBLE BEACH ACCESS RAMP
 - E** ADA ACCESSIBLE BOARDWALK
 - F** SECURE DOG BEACH ACCESS
 - G** DOG BEACH FENCING
 - H** BLUFF RESTORATION
 - I** ACCESSIBLE PEDESTRIAN PATH & RAMP TO BEACH
 - J** RECONFIGURED SEATING AREAS (MAINTAIN PASSIVE USES & VIEWS TO LAKE)
 - K** OUTCROPPING STONE



PIER DESIGN



Pier Design

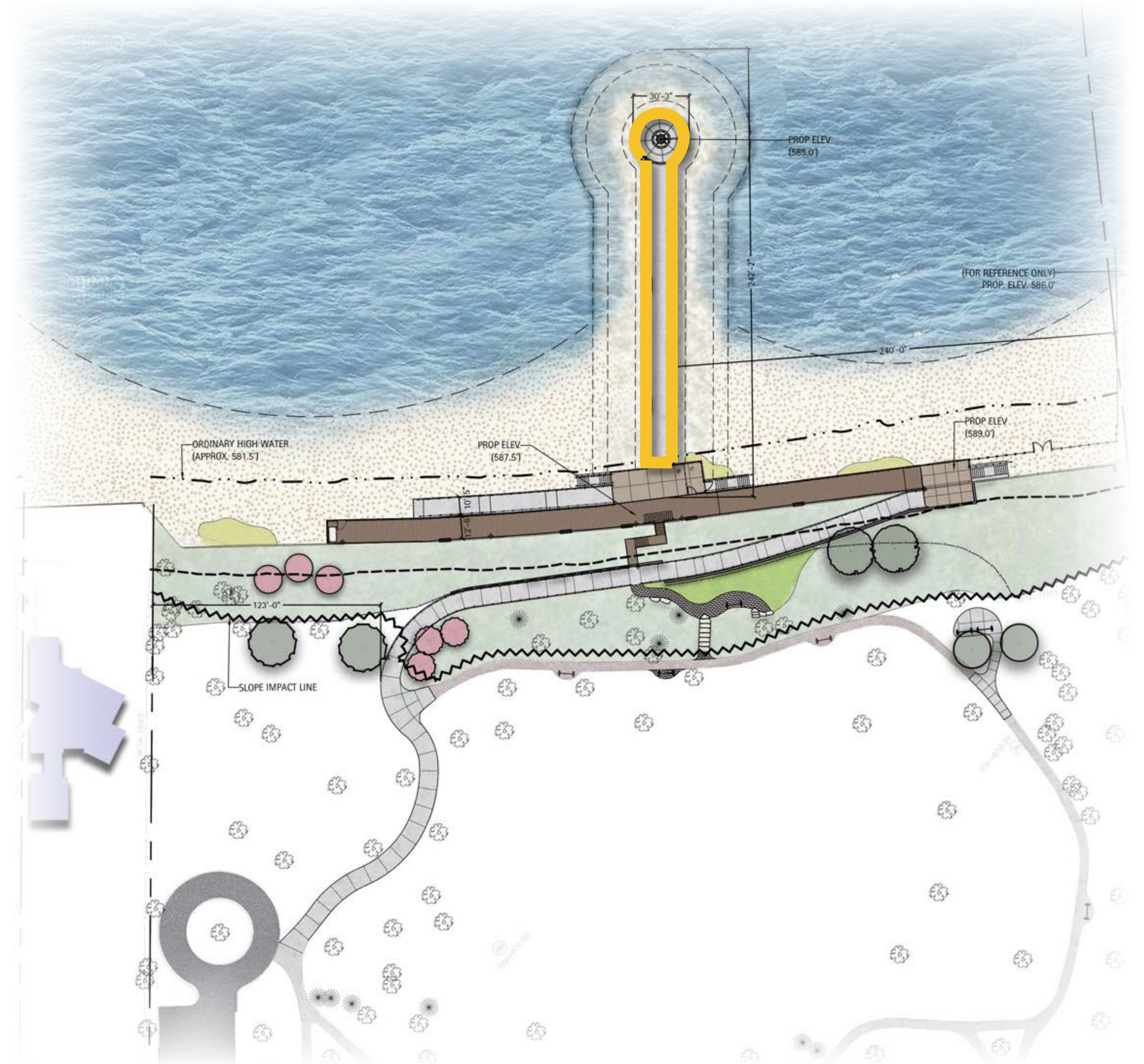
Overview

Design Criteria

- **Coastal Engineering**

Lake Bed Downcutting and Littoral Drift are natural processes that cause concerns for beaches along the Winnetka Shoreline.

*The design facilitates protection of the at-risk beaches by **limiting lake-bed down-cutting; retaining sand in an eroded, sand-starved environment; and providing accessible walkways to allow for greater public access to Lake Michigan.***



Pier Design

Coastal Engineering

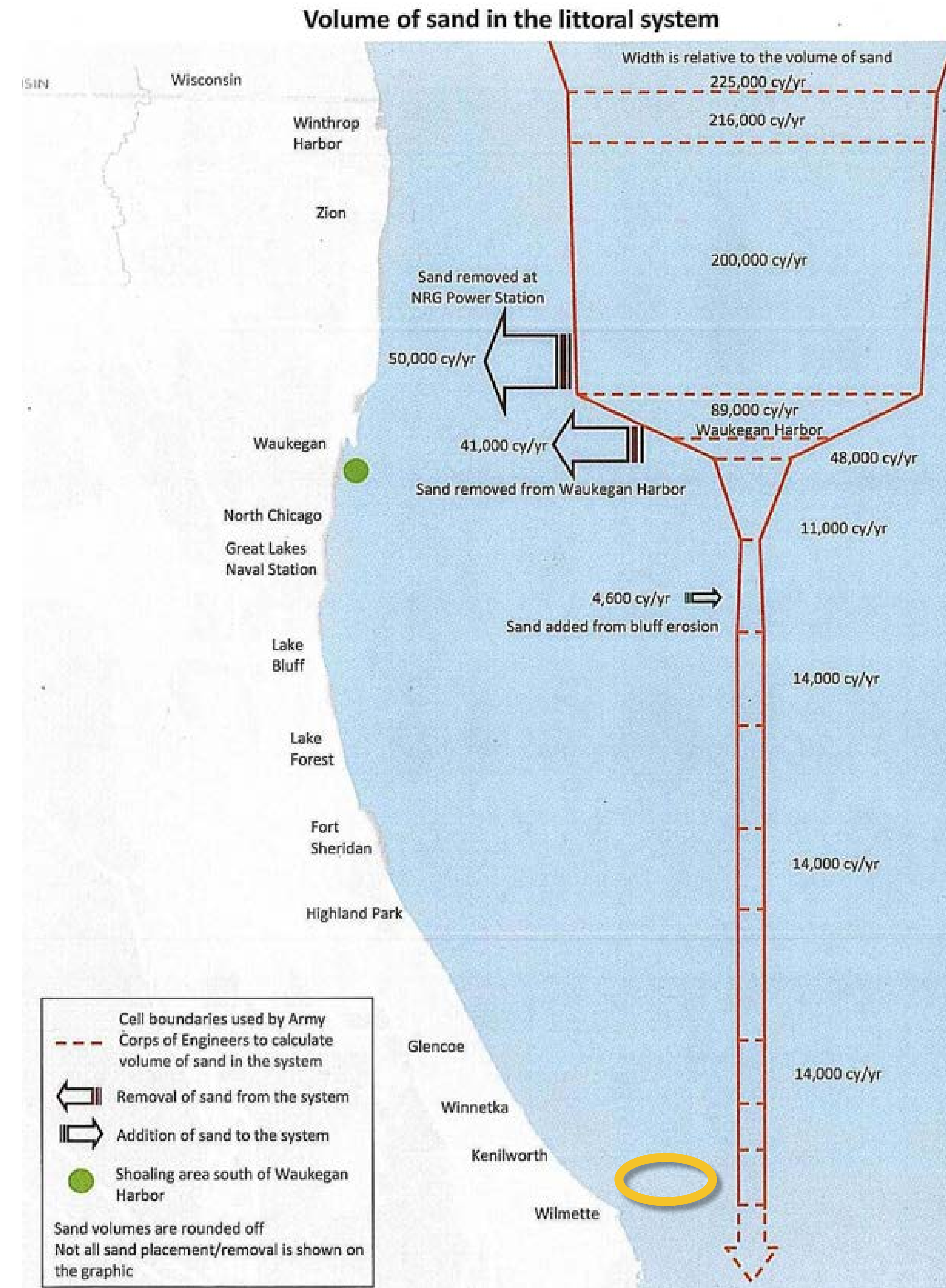
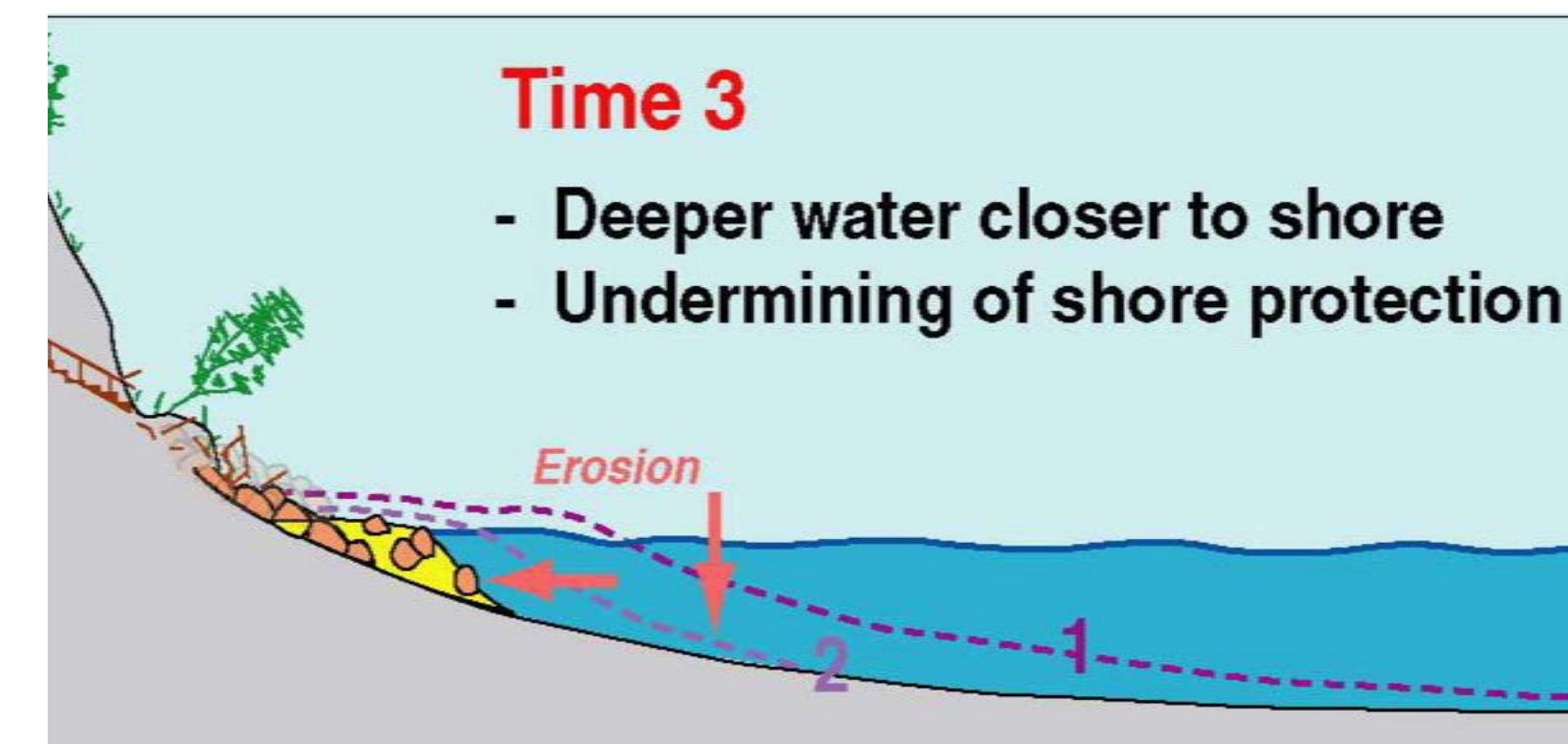
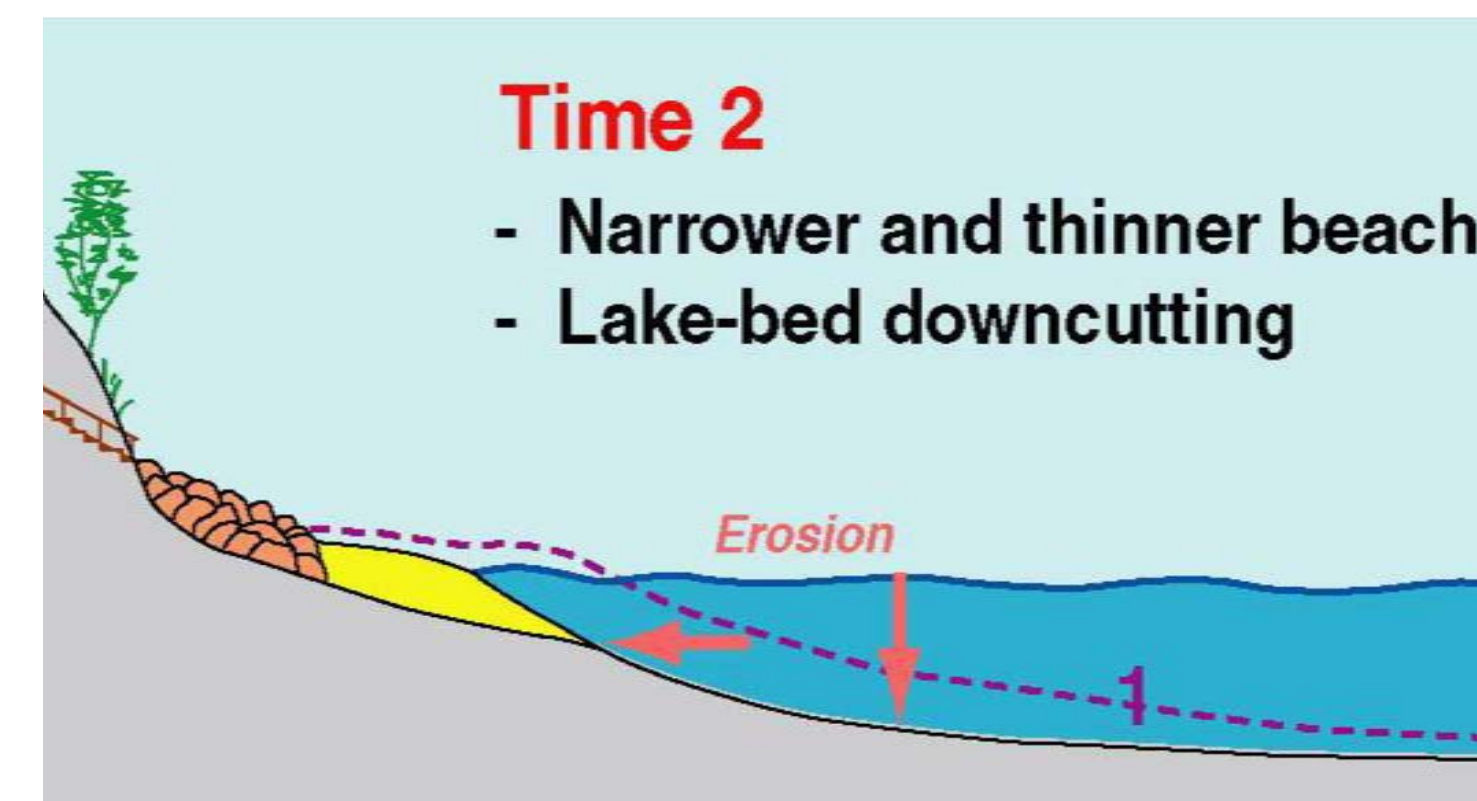
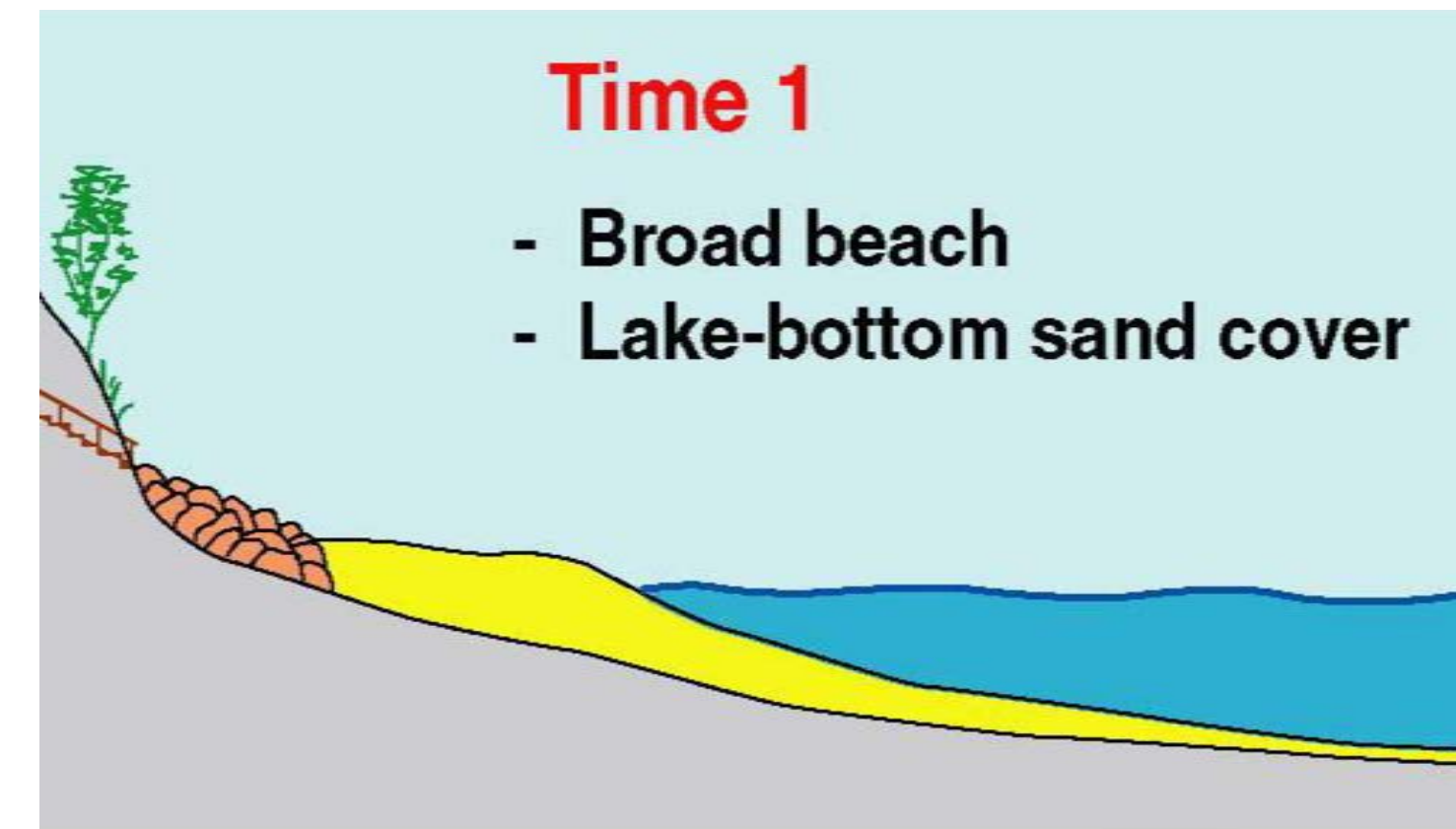


Littoral Drift

The movement of sand controlled by wave climate, bathymetry, shoreline orientation, and natural or artificial headlands that deflect waves and currents.

Lake-bed Downcutting

Lake-bed Downcutting is the process of waves crashing into shore, which over time, causes erosion that deepens a lake by removing lake-bed clay. This process creates dangerous beach environments creating deeper near shore waters allowing for accelerated erosion. Once lakebed downcutting existings, shoreline protection measures are too late.



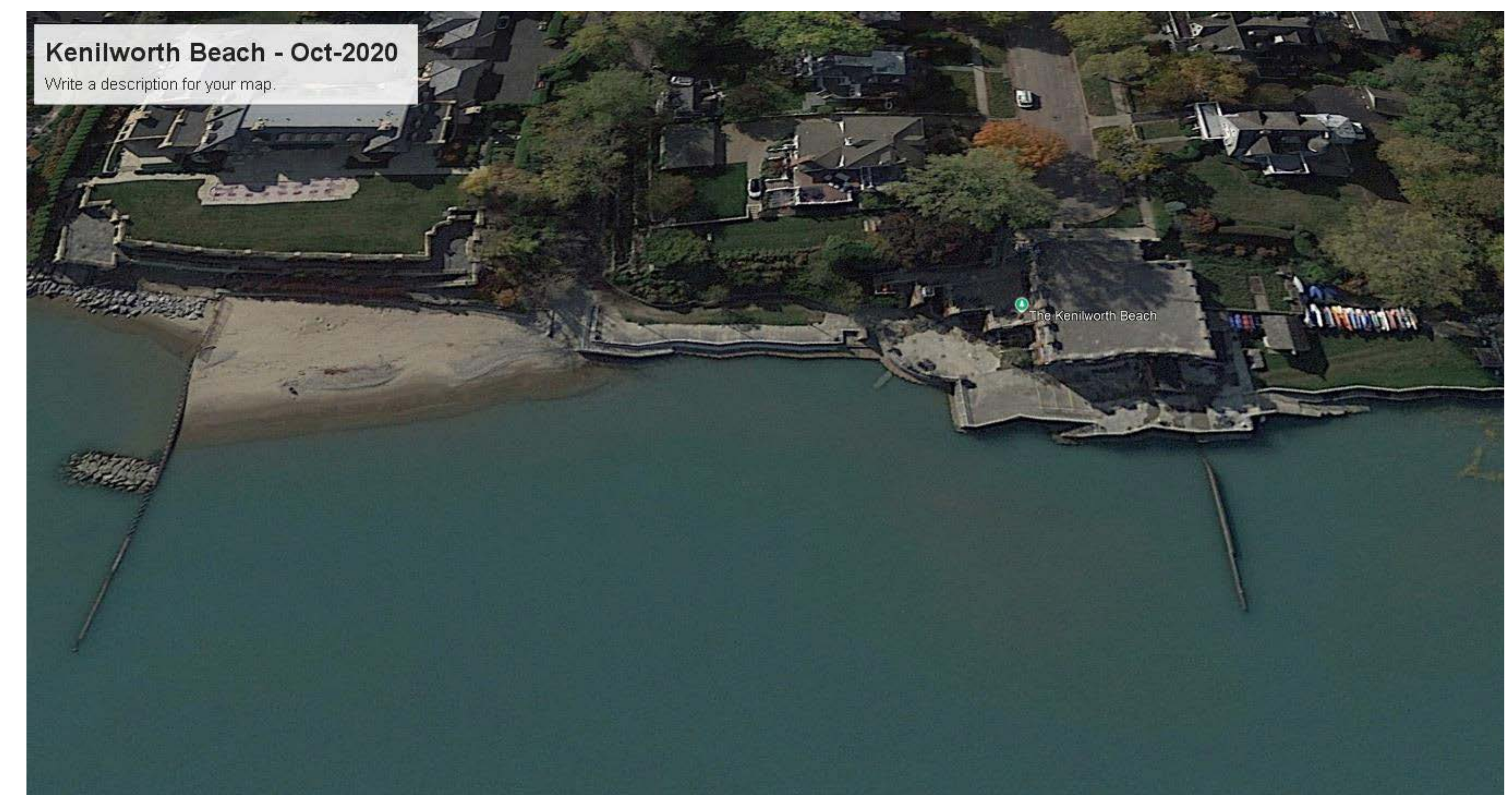
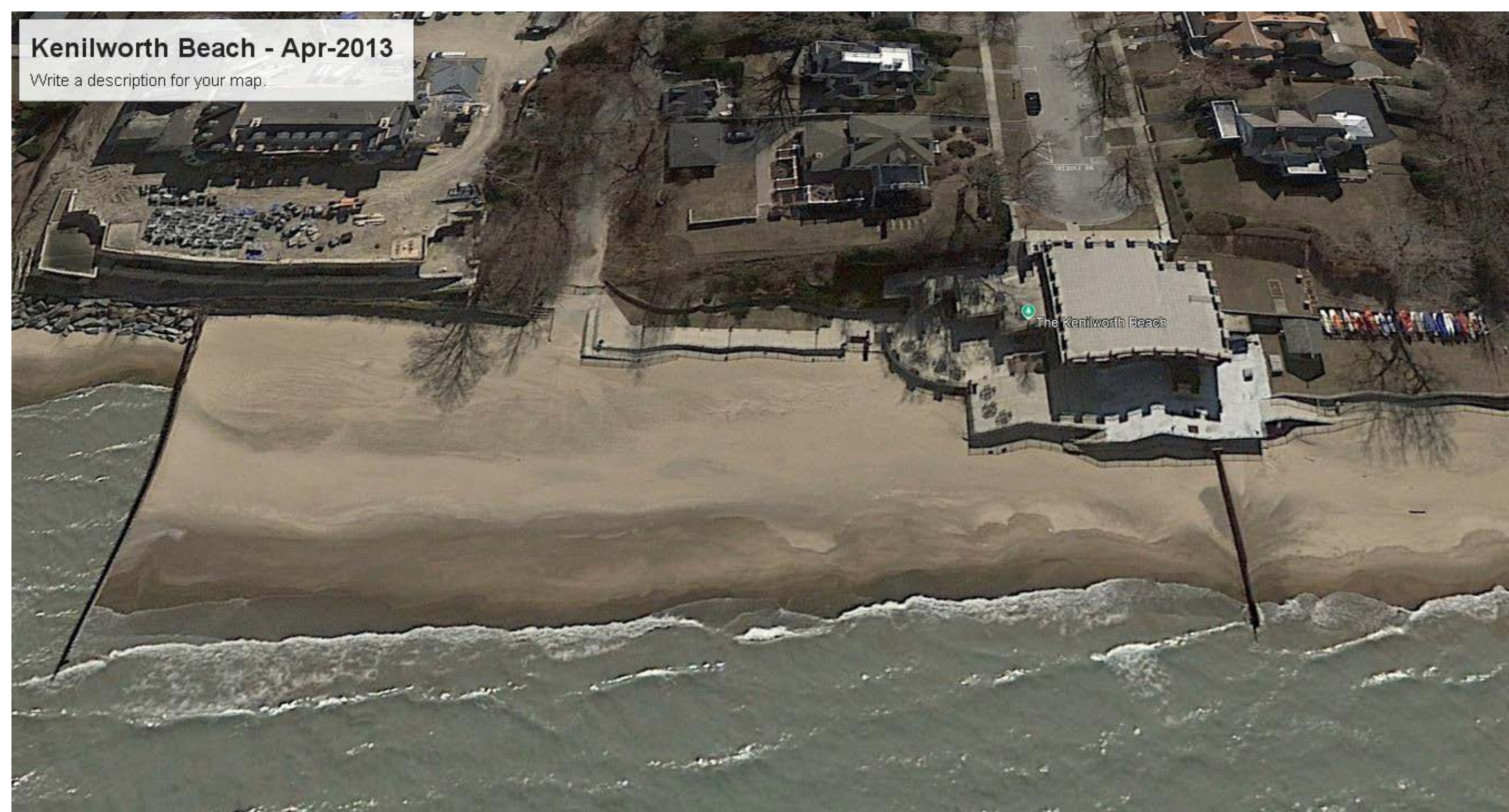
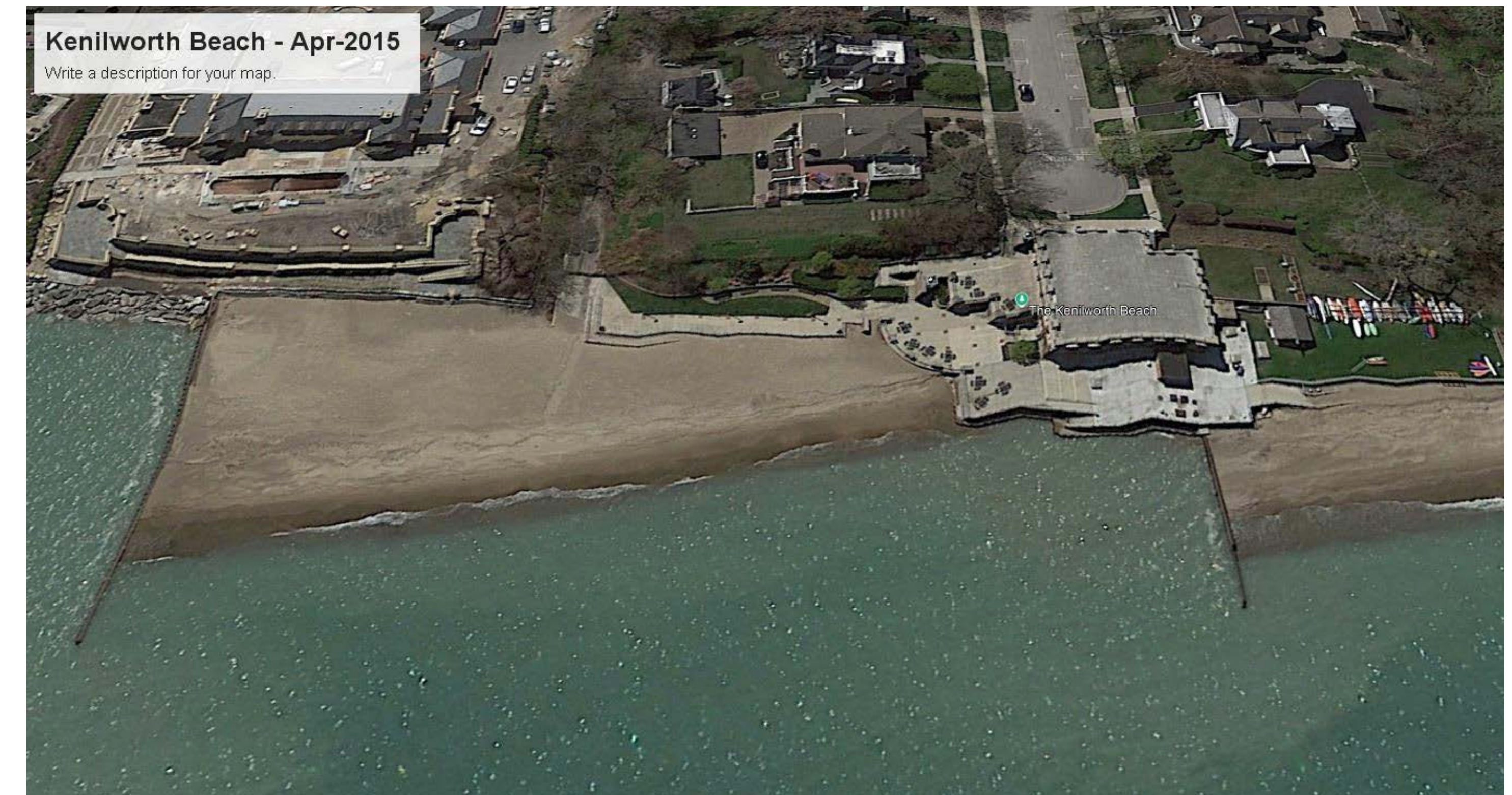
Pier Design



Coastal Engineering

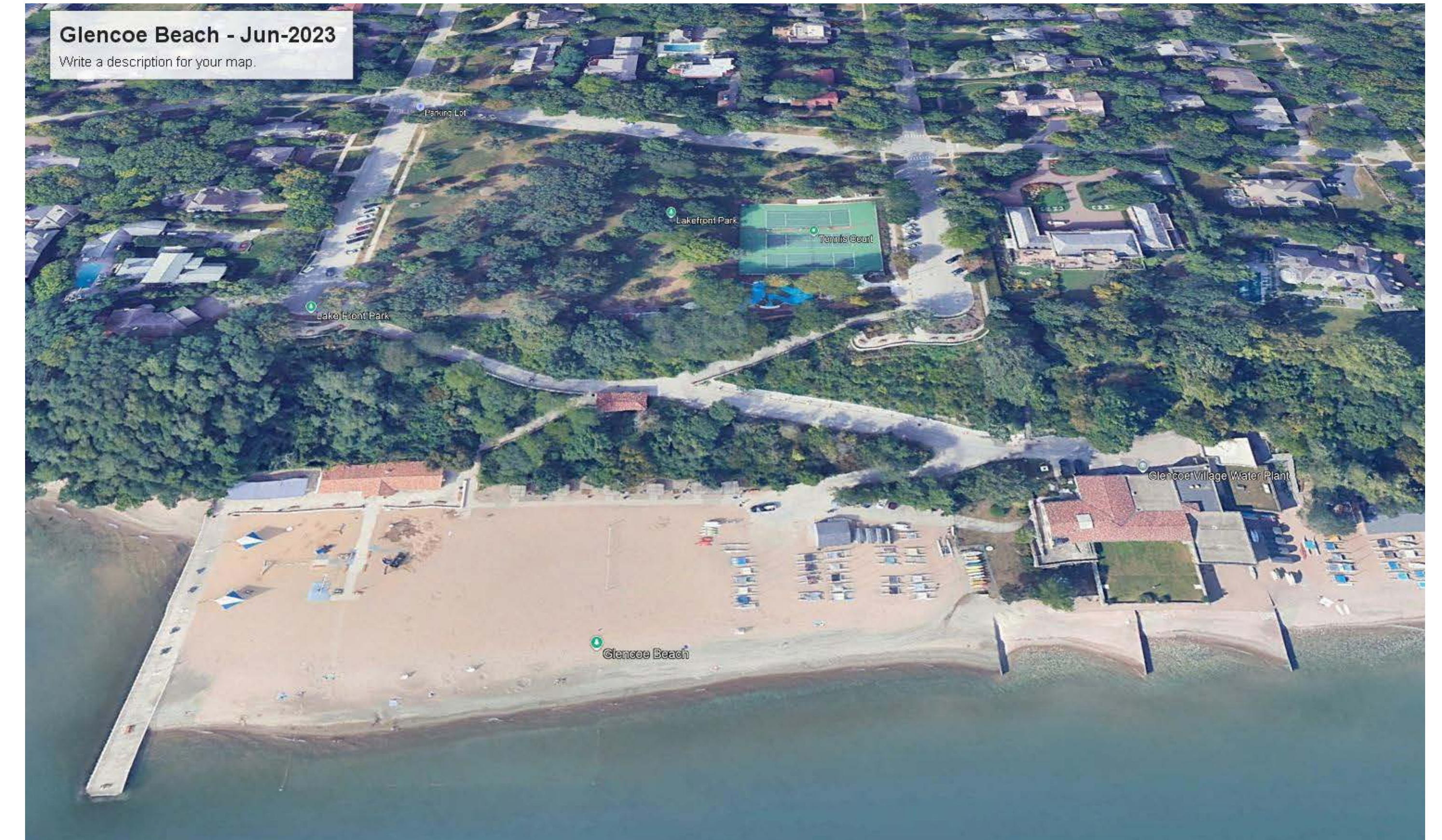
Littoral Barriers

An obstacle to littoral drift or migration of material along the shore. Littoral barriers may be natural, for example, rocky headlands or man made jetties, breakwaters or dredged channels. These hinder the normal drift of material along the shore



Pier Design

Coastal Engineering

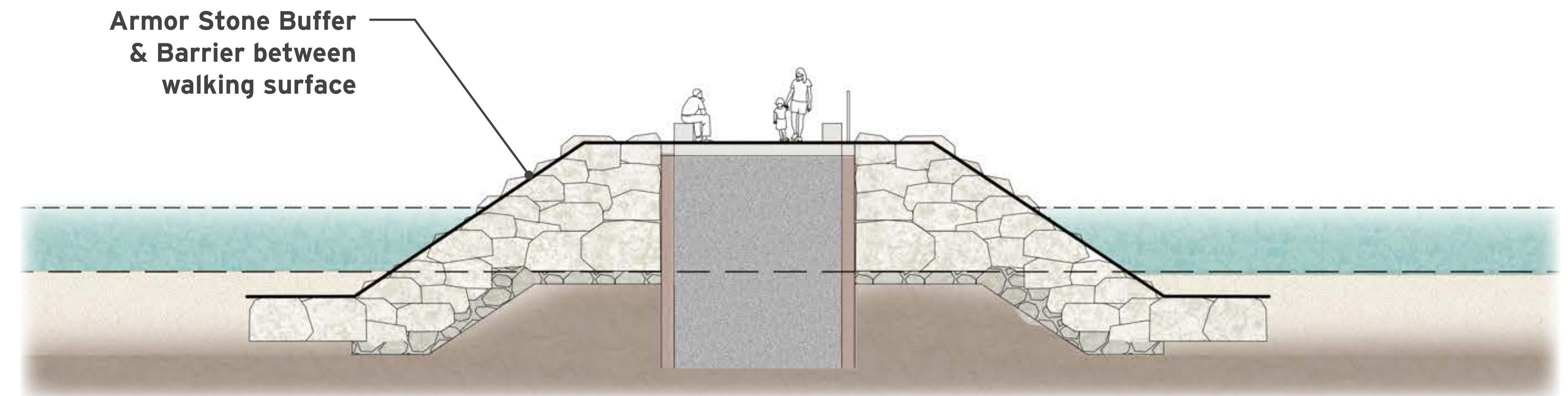
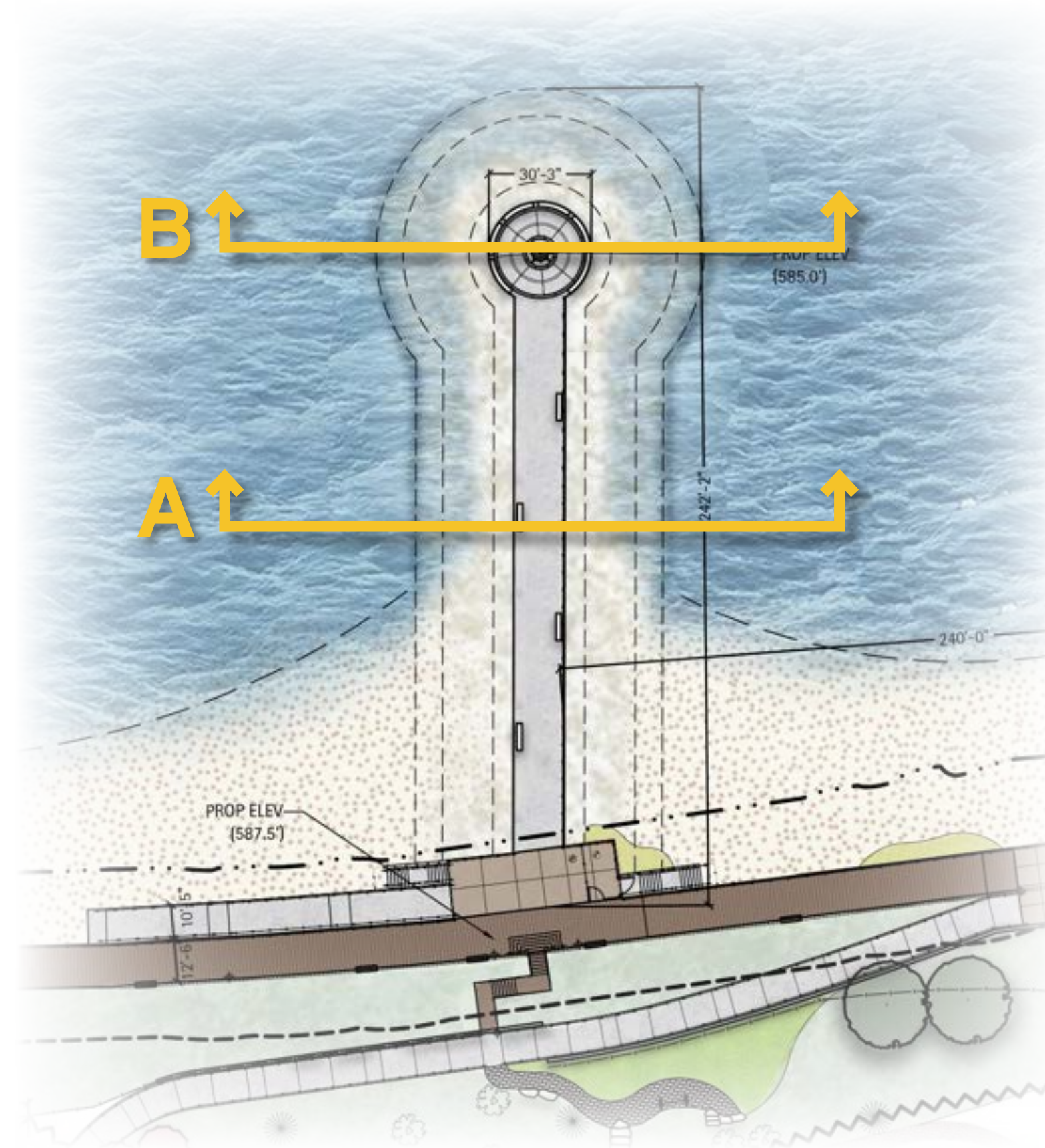


Pier Design

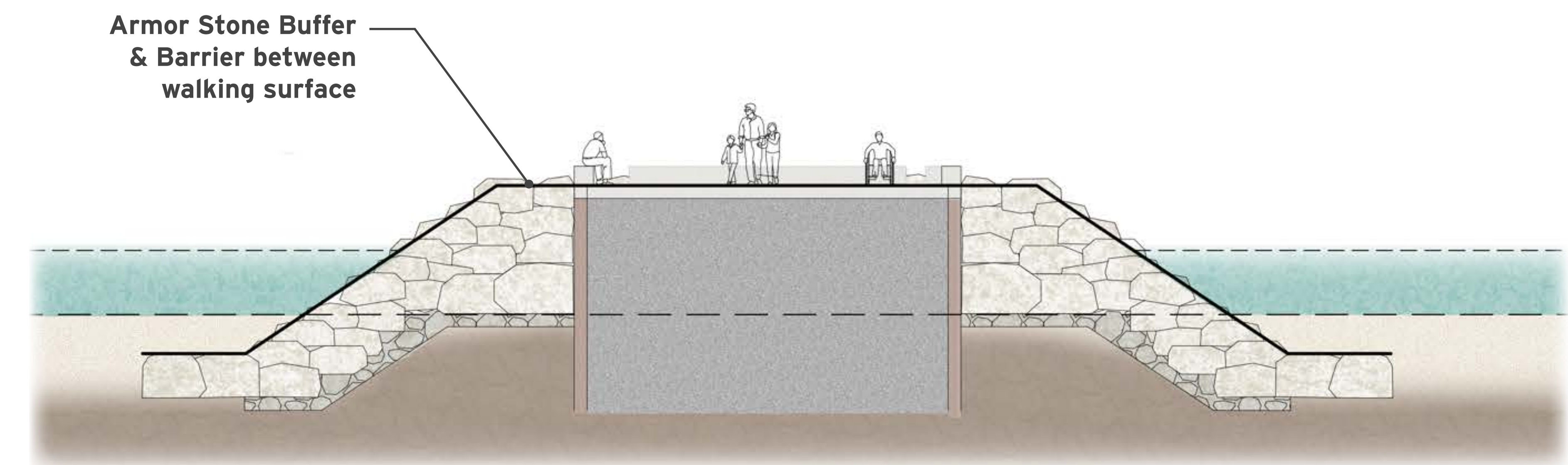


Coastal Engineering

KEY MAP



SECTION A - Looking East



SECTION B - Looking East

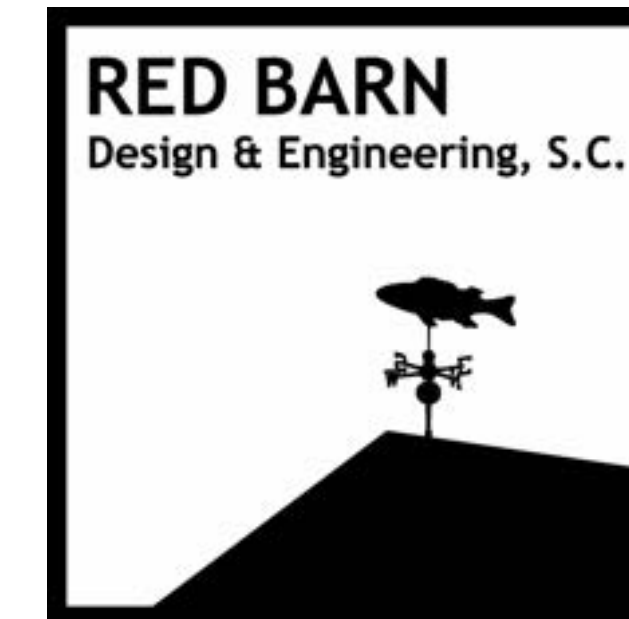
Rubble Mound Breakwater with Pier Surface

- *Length: Promotes sand retention*
- *Height x Width (shape): Reduces wave energy leading to fewer rip currents*

Pier Design



Design Statement from Red Barn



6750 Woodland Dr.
Waunakee, WI 53597

p. 608.849.2042
c. 608.843.1870

redbarnde@tds.net

Coastal Engineering Design Criteria

- *Balances environmental sustainability and industry standard engineering, while being responsive to community feedback.*
- *[Pier] structure serves as an improvement over the existing steel groin as it relates to reduction of any existing rip currents currently experienced along the steel groin, while performing additional sand retention and seasonal accretion at the beach areas.*
- *Length and width [of the pier] were carefully selected to ensure it provides the right scale for the site while achieving vital environmental goals.*
- *Length of the pier aligns with the dimensions of other piers along the Winnetka shoreline*

6 December 2024

DESIGN STATEMENT: Site Improvements Centennial Park and Beach Project

The design elements and project components, and project documents for the Centennial Park and Beach site, have been prepared and under the direction of the Winnetka Park District (WPD). These documents were prepared in accordance with current State and Federal codes, regulations, and industry standards for site improvement projects along the Great Lakes shoreline.

The projects incorporate elements that reflect a balance of environmental sustainability, and industry standard engineering, while being responsive to community feedback. These elements, combined with input received from local stakeholders and the requirements outlined in the Village's Amended Lakefront Construction Ordinance, have shaped the project design now presented for Special Use Permitting for Centennial Park and Beach.

A key feature of the proposed design is the new pier structure, which features a steel sheet pile core bordered by a rubble mound revetment structure. This structure serves as an improvement over the existing steel groin as it relates to reduction of any existing rip currents currently experienced along the steel groin, while performing additional sand retention and seasonal accretion at the beach areas. These improvements provide enhanced public space at the park beachfront. The pier's length and width were carefully selected to ensure it provides the right scale for the site while achieving vital environmental goals.

The crest elevations of both the pier core and rubble mound revetment were selected to follow the Village's Lakefront Ordinance, while adhering to the principle of minimal intervention necessary to fulfill these objectives.

The chosen length of the pier aligns with the dimensions of other piers along the Winnetka shoreline, ensuring consistency with the area's existing shoreline improvements. This thoughtful consideration allows the design to blend harmoniously with the surrounding environment while enhancing the functionality of the beach.

The project documents were prepared by a collaborative team including the WPD, RED BARN Design & Engineering, The Lakota Group, Spaceco Inc., Shabica & Associates, and Christopher Burke Engineering. Documents for State and Federal permitting, and project documents for bidding and construction have been prepared as part of this coordinated effort.



PIER SAFETY



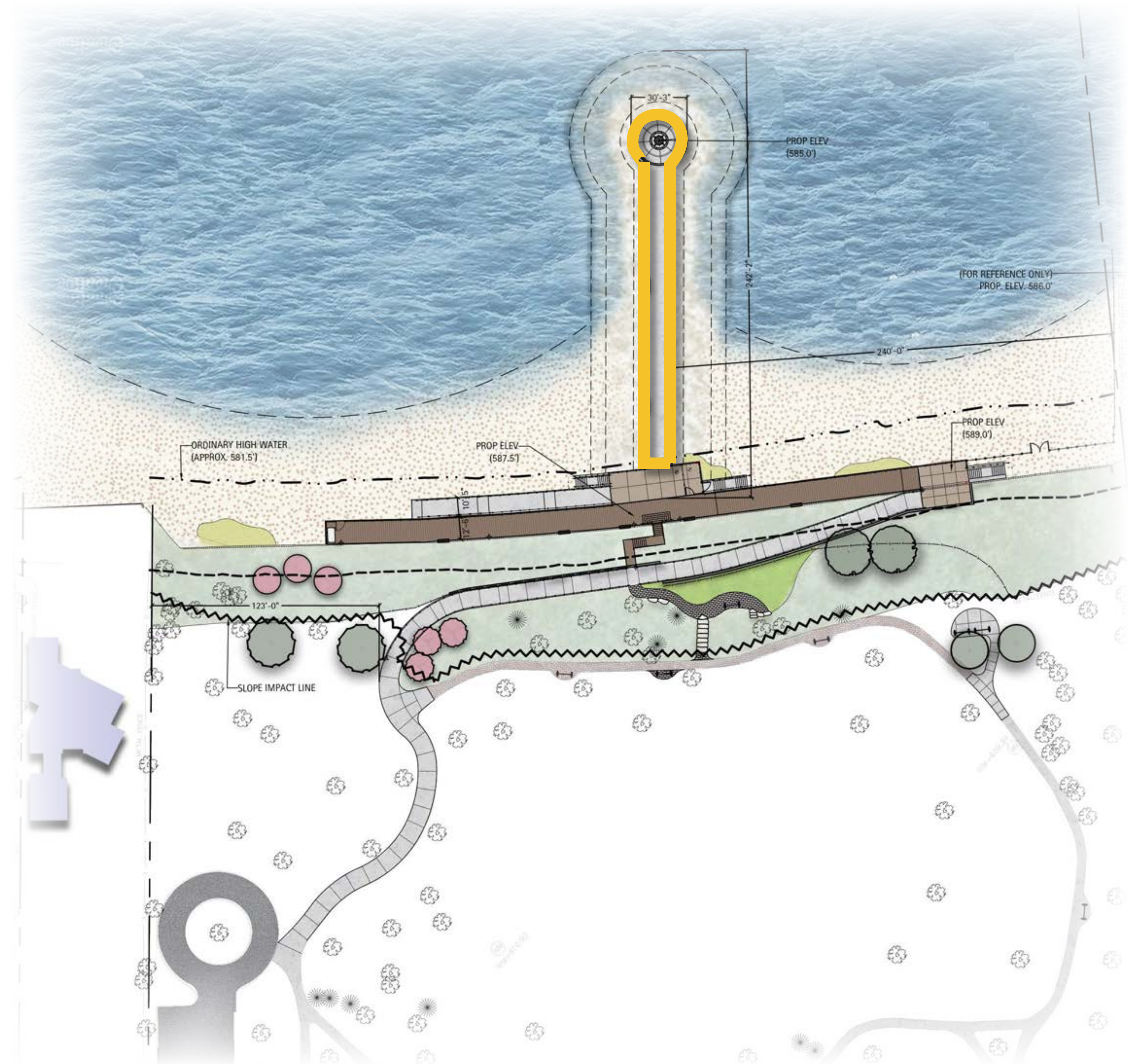
Pier Safety

Overview

Safety of the Pier

- **Improved Public Amenity**
- **Training & Operations**

Improved Public Amenity with safe accessible access to the proposed pier. The pier design itself promotes a safer beach environment with reduced rip currents, while the armour stone surround highlights a visual and physical barrier to prevent diving. Suggested barriers and signage will be included to close the pier and boardwalk as needed during High Wave events (during high lake levels).



Pier Safety



Improved Public Amenity

EGG HARBOR MARINA - DOOR COUNTY, WI



PERE MARQUETTE - MUSKEGON, MI



PETOSKEY HARBOR - PETOSKEY, MI



FRANKFORT NORTH PIER - FRANKFORT, MI

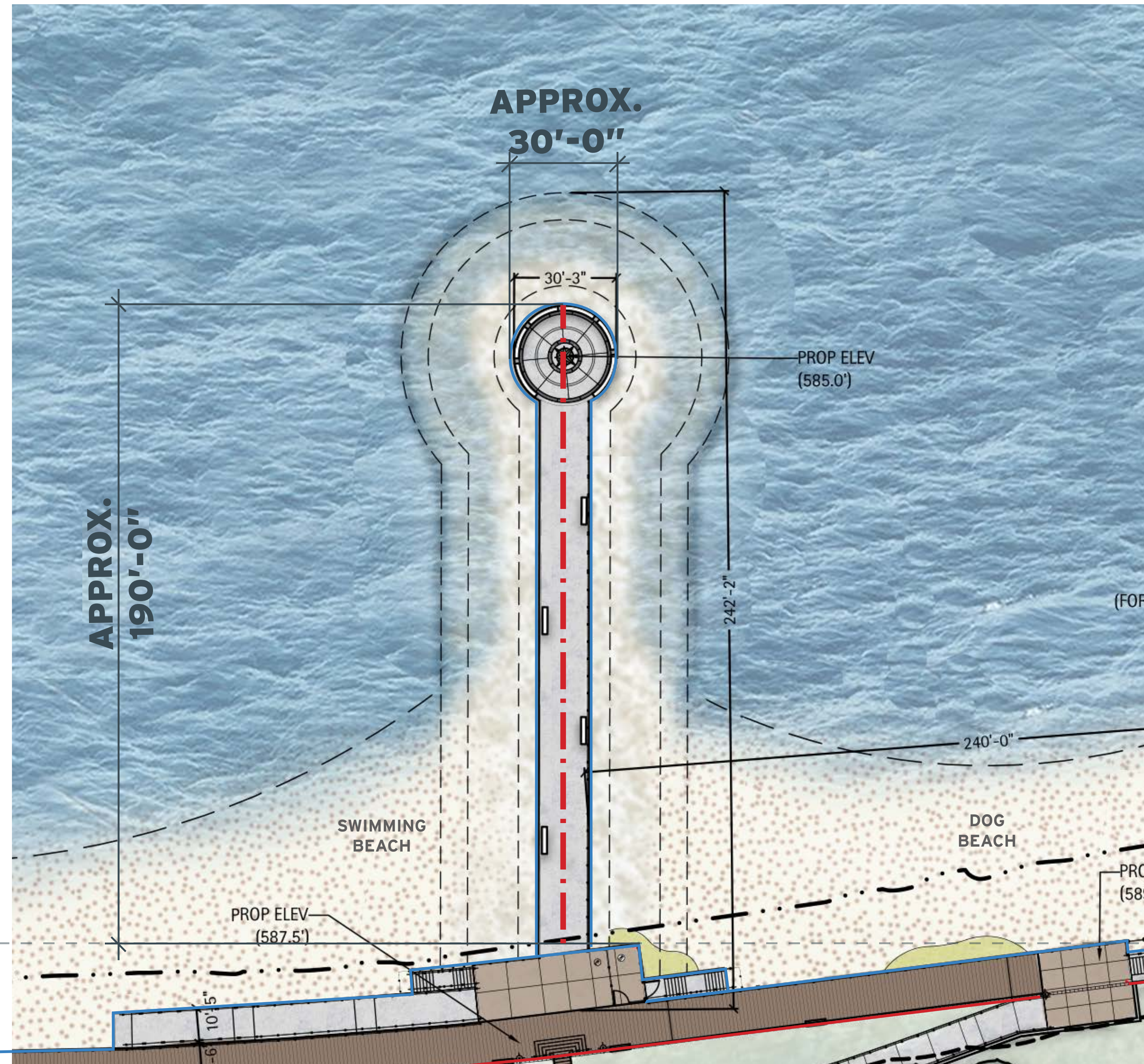


Pier Safety

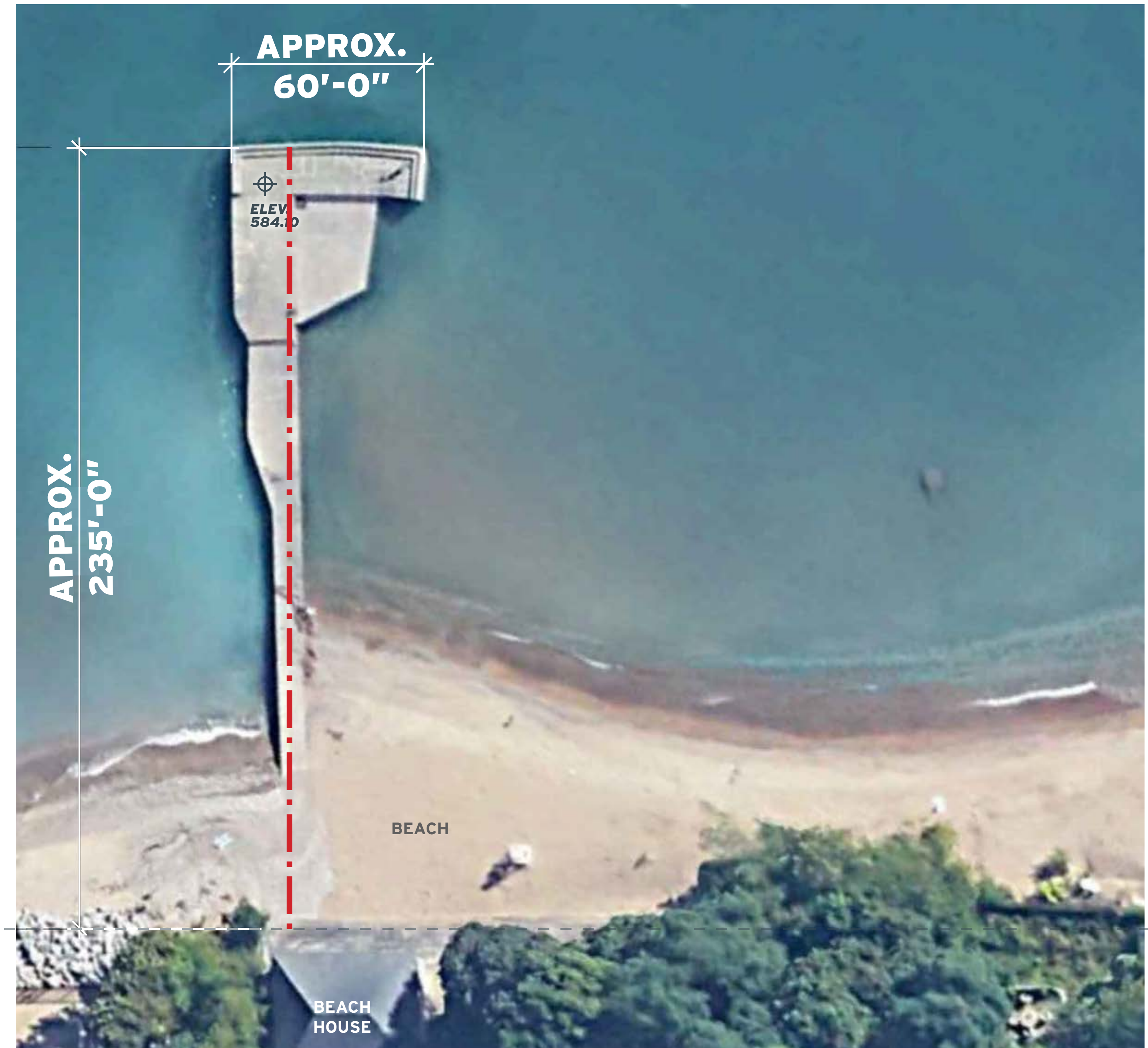


Improved Public Amenity

PROPOSED CENTENNIAL BEACH



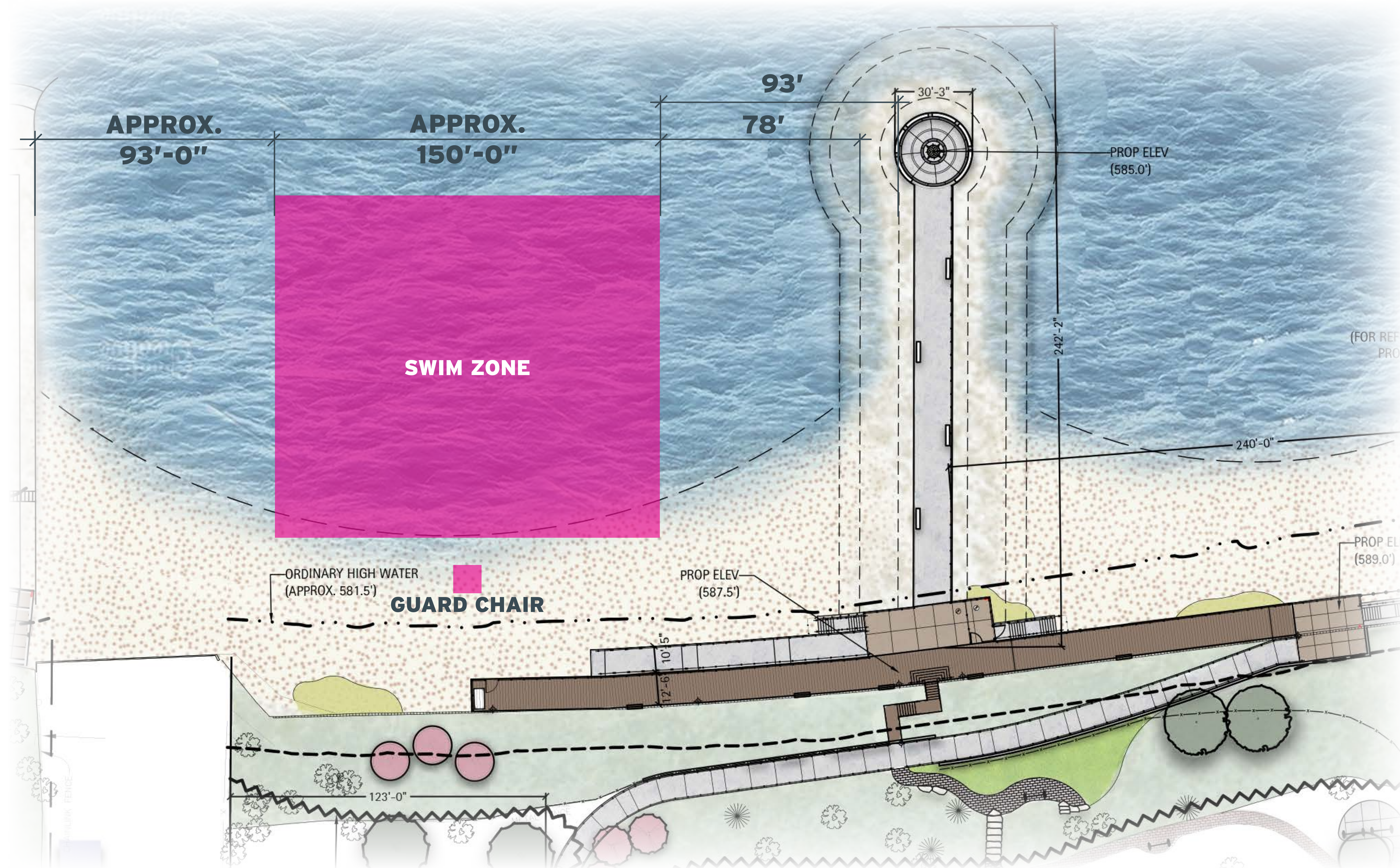
MAPLE STREET BEACH



Pier Safety



Training & Operations



Pier Safety



Training & Operations

Becoming a Lifeguard at WPD

- **American Red Cross Lifeguard Professional Rescuers Certified:**

(7) hours of online and (20) hours of in-water training. Certification includes: Professional Rescuer CPR/AED/1st Aid lifesaving skills including multi-person active rescues and passive (unconscious) rescues

- **Waterfront Certification:**

Additional (4) hours training at the beach required for beachfront lifeguards Training includes: Beach entry and water searches

- **WPD also incorporates 2-part physical fitness test that all incoming guards must pass**



Pier Safety



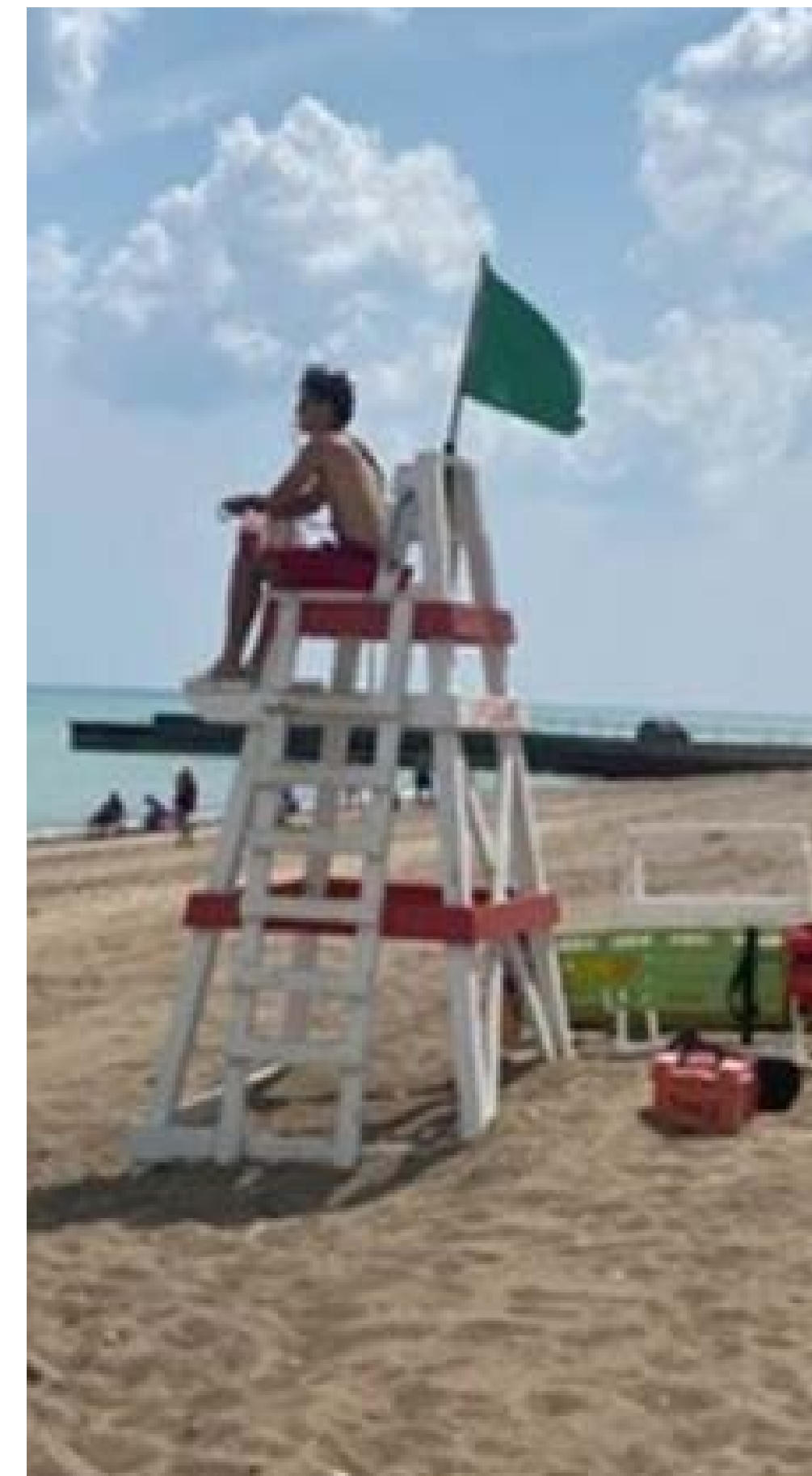
Training & Operations

Lifeguards on duty will be in a guard chair, walking the shoreline and/or on a rescue board in water.

Lifeguards rotate on/off every 20-30 minutes. Lifeguards are required time away from duty and will sit behind active guards while on break.

Training requirements throughout summer include:

- *Daily on-shift skill reviews*
- *Monthly training (2) hours mandatory in-service training hours to maintain certification*
- *PDRMA (3) unannounced audits throughout the summer assessing lifeguard observations in-chair and lifesaving skills and administrative operation review*



Pier Safety

Training & Operations



BEach SAFE Water Safety Campaign

- **Launched in May, 2024**
- **Summer Kickoff Event: Held water safety scavenger hunt, community education event**
- **Promoted campaign at every special event this summer with handouts**
- **Spoke to over 700 District 36 Students**
- **Signage posted at Beaches**
- **Beach Safety web page created on winpark.org website**

BEACH SAFE
Winnetka Park District

Beach Safety Tips

- Take a Friend**
Never go in water alone. Make sure an adult knows where you are.
Only swim when lifeguards are on duty.
- Be Aware of Conditions**
Have you checked weather and water conditions?
- NO DIVING**
Always enter feet first.
- Stay Hydrated + Protected from the Sun**
Drink water throughout the day to replace fluid lost to sweat + heat.
Wear sunscreen, even when cloudy.
- Flip, Float, Follow**
Swim parallel to the shore in a Rip Current.
- Call 911**
In an emergency, call 911.
Throw a life ring to anyone in danger.

Winnetka Park District | 540 Hibbard Road | winpark.org | (847) 501-2040





PARKING AND TRAFFIC

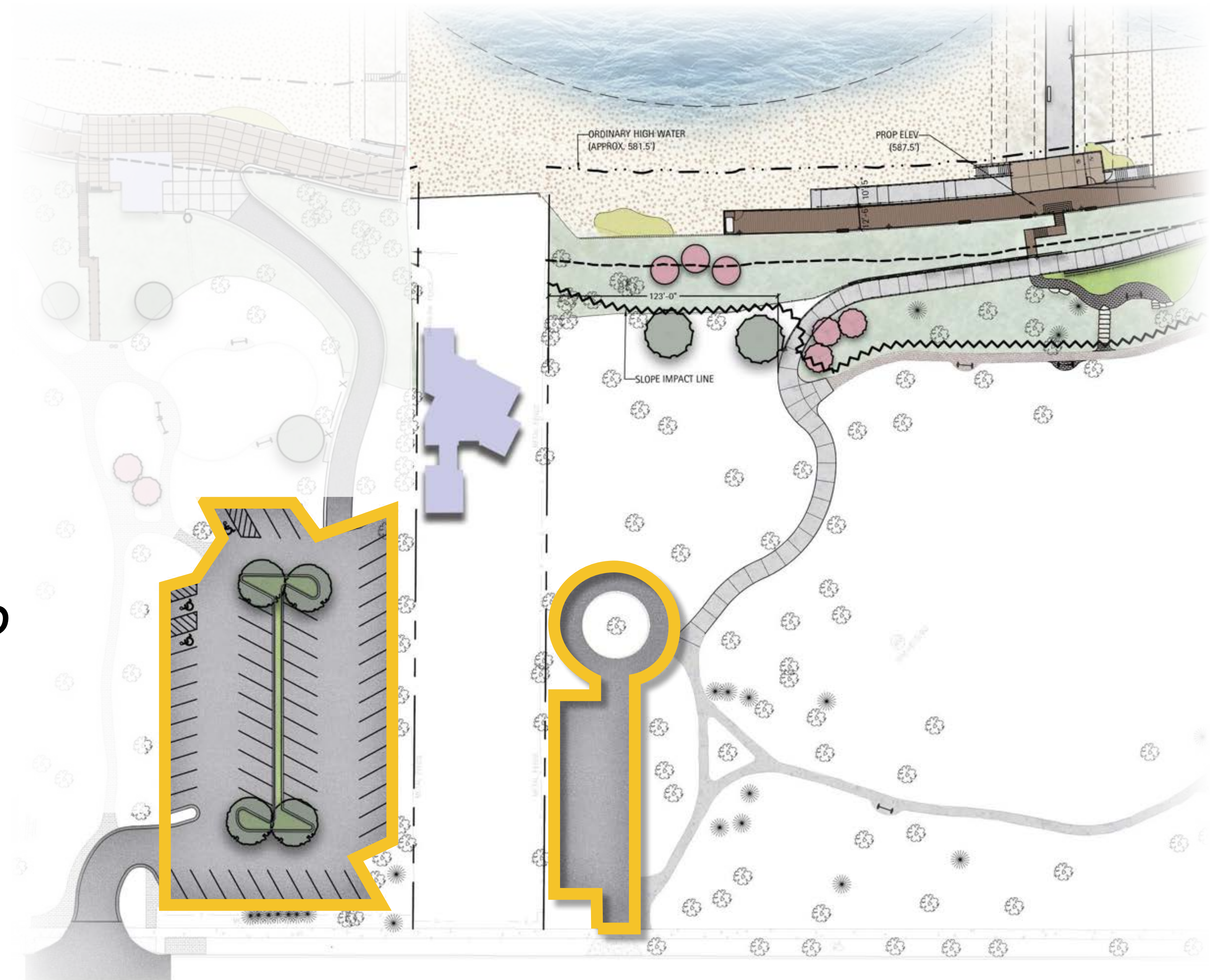


Parking and Traffic

Overview

Parking

- ***Elder/Centennial Parking***
- ***Parking Review from Kimley Horn***
- ***Land Bank Parking Options (willingness to expand parking in lieu of green space)***
- ***Shuttle Options***



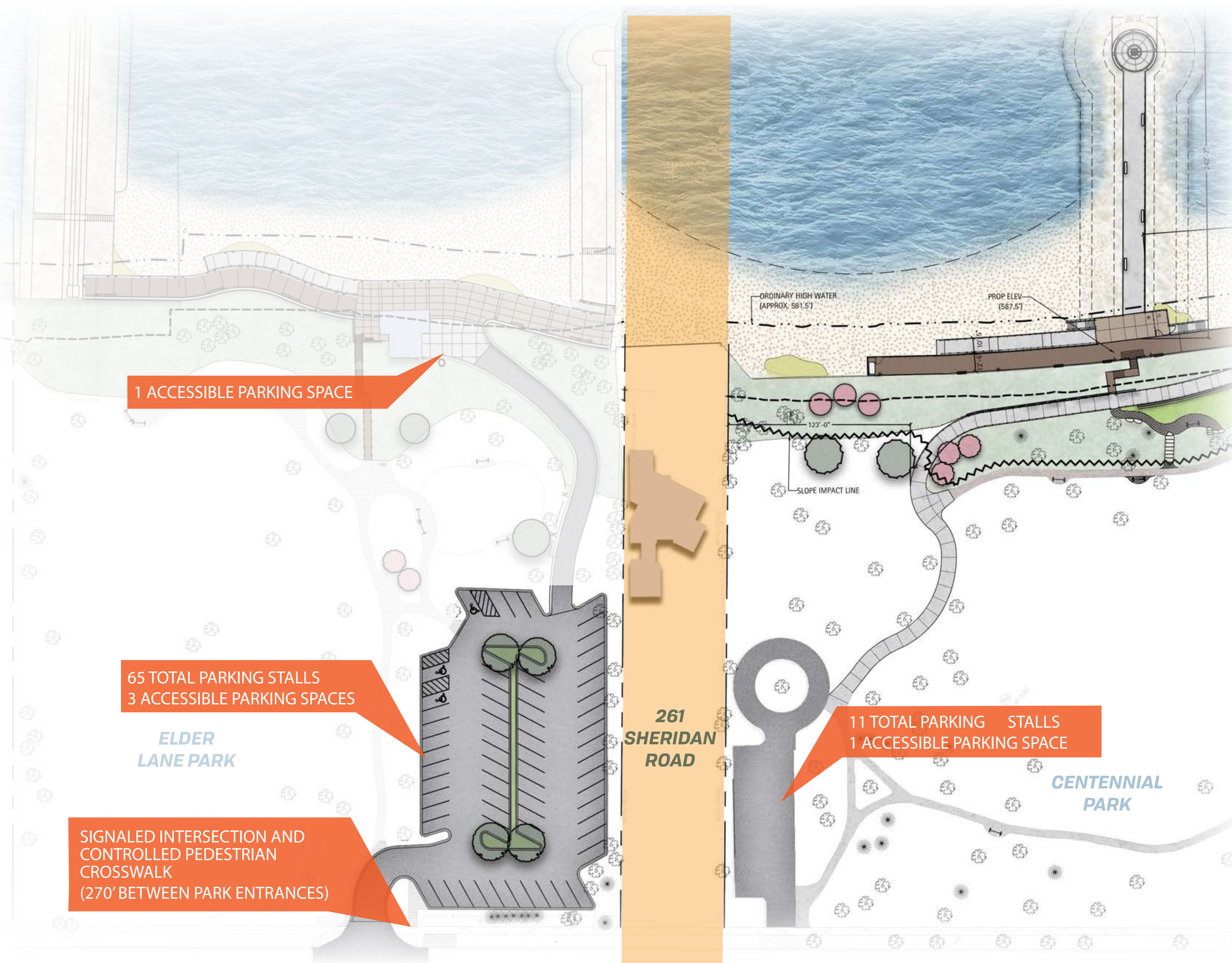
Parking and Traffic



Elder/Centennial Parking

Elder/Centennial Parking

- *Elder & Centennial Parks currently have a combined parking capacity of 75 regular spaces and 5 Accessible Parking Spaces (80 parking spaces total)*



Parking and Traffic



WPD Beach Parking

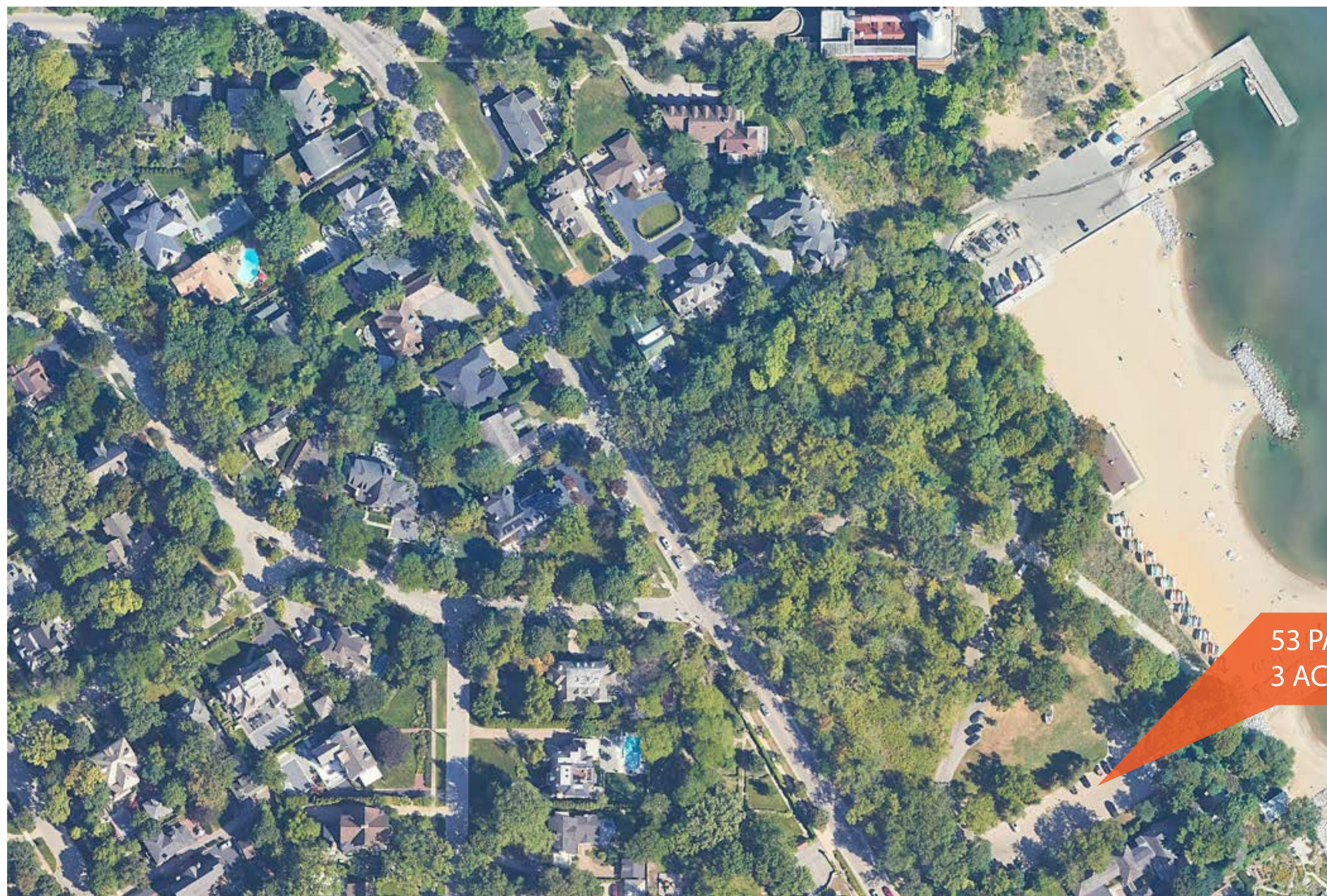
TOWER ROAD PARK AND BEACH



MAPLE STREET PARK AND BEACH



LLOYD BEACH AND BOAT LAUNCH



Parking Counts

Tower Upper: 2 Accessible / 48 Regular

Lloyd Upper: 3 Accessible / 53 Regular

Maple: 1 Accessible / 13 Regular

Elder Upper: 3 Accessible / 65 Regular

Elder Lower: 1 Accessible

Centennial: 1 Accessible / 10 Regular

Transportation Review from Kimley Horn

Plan Evaluation

• **Traffic Generation**

- » *Is typically driven by industry resources, due to the unique use of Park Space, they are not always the same, so there is not specific standard to follow making it difficult to reference traditional resources.*
- » *Data was collected from the previous three year's season pass sales, daily fees, and users as recorded to plot beach season pass sales, daily fee visits and dog beach pass sales helping to create the snap shot of users along the WPD beaches.*
- » *Assumptions were made considering the improvements for Centennial and Elder Lane Beaches, that there would be an initial uptick in users over the course of the first season or two till things normalized.*
- » *Since there are several beach options along the Winnetka Shoreline there would help disburse the desire to use Centennial and Elder Lane due to parking access and may instead visit one of the other beaches.*

• **Access**

- » *Access and Parking to these two sites constant in the current conditions.*
- » *Centennial Parking functions well, with the 11 current parking places the lot itself should not have significant issues or congestion when entering or leaving the park.*
- » *The additional parking available at Elder Lane Park is within close proximity to Centennial and has a traffic signal which provides a controlled crossing for the neighborhood.*

• **Parking**

- » *The proposed plans allow for 78 combined parking places, which is more than the combined 64 spaces between Tower and Maple Parks. As a system, the Winnetka Park District provide 142 parking spaces for the swimming beaches, Lloyd provides another 56 for the boating beach and launch. With an overall total parking of 198 Park District owned spaces.*

Parking and Traffic



Transportation Review from Kimley Horn



among the beaches if one is too crowded. Providing additional parking as part of this plan and displacing open space is not recommended.

Table 4. Comparable Beach Characteristics

Location	Town	Parking	Access	Beachfront ¹	Park Features
Centennial Park	Winnetka	Parking Lot 11 spaces	Season Dog Beach Pass	520 feet	Park / Open Space Dog Beach Swimming Beach ²
Elder Lane Park	Winnetka	Parking Lot 67 spaces ³	Currently Closed	400 feet	Park / Open Space Swimming Beach ⁴ Playground
Maple Street Park	Winnetka	Parking Lot 14 spaces	Season Pass Daily Fee	175 feet	Park / Open Space Swimming Beach
Tower Road Park	Winnetka	Parking Lot 50 spaces	Season Pass Daily Fee	500 feet	Park / Open Space Swimming Beach Playground
Glencoe Beach	Glencoe	On-Street 94 spaces	Season Pass Daily Fee (only available on weekdays after 12 PM)	550 feet	Park / Open Space Swimming Beach Sailing Tennis Courts Playground
Rosewood Beach	Highland Park	2 Parking Lots (resident only with decal) 87 spaces	Residents: Free Pass Non-Residents: Season Pass or Daily Fee	1,000 feet	Park / Open Space Swimming Beach Playground
Forest Beach Park	Lake Forest	3 Parking Lots (resident only) 208 spaces Metra Station (non-residents) ¾-mile walk	Residents: Free Pass Non-Residents: Daily Fee	1,770 feet	Park / Open Space Swimming Beach Boat Launch Sailing Playground
Sunrise Beach	Lake Bluff	On-Street in Neighborhood	Residents: Free Pass Non-Residents: Daily Fee	950 feet + 250 feet dog beach	Swimming Beach Playground

¹ Approximate length
² Proposed for southern ½
³ Proposed parking capacity
⁴ Beach has been closed since 2020

Potential Parking Measures

•Options

- »Installation of signs directing visitors to other lakefront parks and beaches if full
- »Resident parking only in parking lots
- »Secure overflow parking at New Trier (or another site near the Beaches)

Parking and Traffic



Transportation Review from Kimley Horn

Summary

Based on review of current conditions, the proposed plans for Centennial and Elder Lane Parks, and data relating to beach passes and daily fee visits, the transportation and parking elements of the proposed plan are expected to continue to adequately serve the two park sites.

Special Use Standard #4

That adequate measures have been or will be taken to provide ingress and egress in a manner which minimize pedestrian and vehicular traffic congestion in the public ways;

- Access to both Centennial Park and Elder Lane Park are proposed to remain as existing. Given the traffic volume along Sheridan Road, and the size of the parking lots, and the configurations and traffic control at the two intersections, vehicle traffic should not have issues or cause meaningful congestion when entering or exiting the parks.*
- The traffic signal at Sheridan Road/Elder Lane provides a controlled crossing for pedestrians walking between the lakefront and the neighborhood west of Sheridan Road. Elder Lane Park is immediately east of this signal and Centennial Park is located just over 200 feet south of this traffic signal, so this crossing supports pedestrians walking to/from either park.*
- Pedestrian sidewalk currently exists along the park frontages on Sheridan Road exiting vehicles maintain good visibility of pedestrians as they approach the respective access drives. The proposed plans do not negatively impact these sight lines.*
- Upon further validation of the findings, supplemental data collection and review planned in Summer 2025 will inform whether additional measures may be warranted. This data collection and review will be coordinated with the Village Engineer.*

Special Use Standard #5

That adequate parking, utilities, access roads, drainage, and other facilities necessary to the operation of the special use exists or are to be provided;

- The parking at Elder Lane Park is available to supplement Centennial Park needs and is easily accessible via a short walk (approximately 200 feet between access points) along Sheridan Road's public sidewalk.*
- The 67 spaces at Elder Lane offer more parking than Tower Road and Maple Street Parks combined. As a system, the lakefront parks with swimming beaches would provide 142 off-street parking spaces.*
- adequately serve the collective vehicle parking demand as patrons can distribute among the beaches if one is too crowded.*
- The combined 78 spaces at Elder Lane and Centennial Parks is generally in line with parking provided at other comparable lakefront parks/beaches along the North Shore.*
- Additional parking measures are possible to provide overflow parking and/or limit use of off-street lots to residents only, if needed.*
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Parking and Traffic



Parking-Shuttle Options



INDIAN HILL
METRA STATION

NEW TRIER
HIGH SCHOOL

CENTENNIAL



RESTROOMS

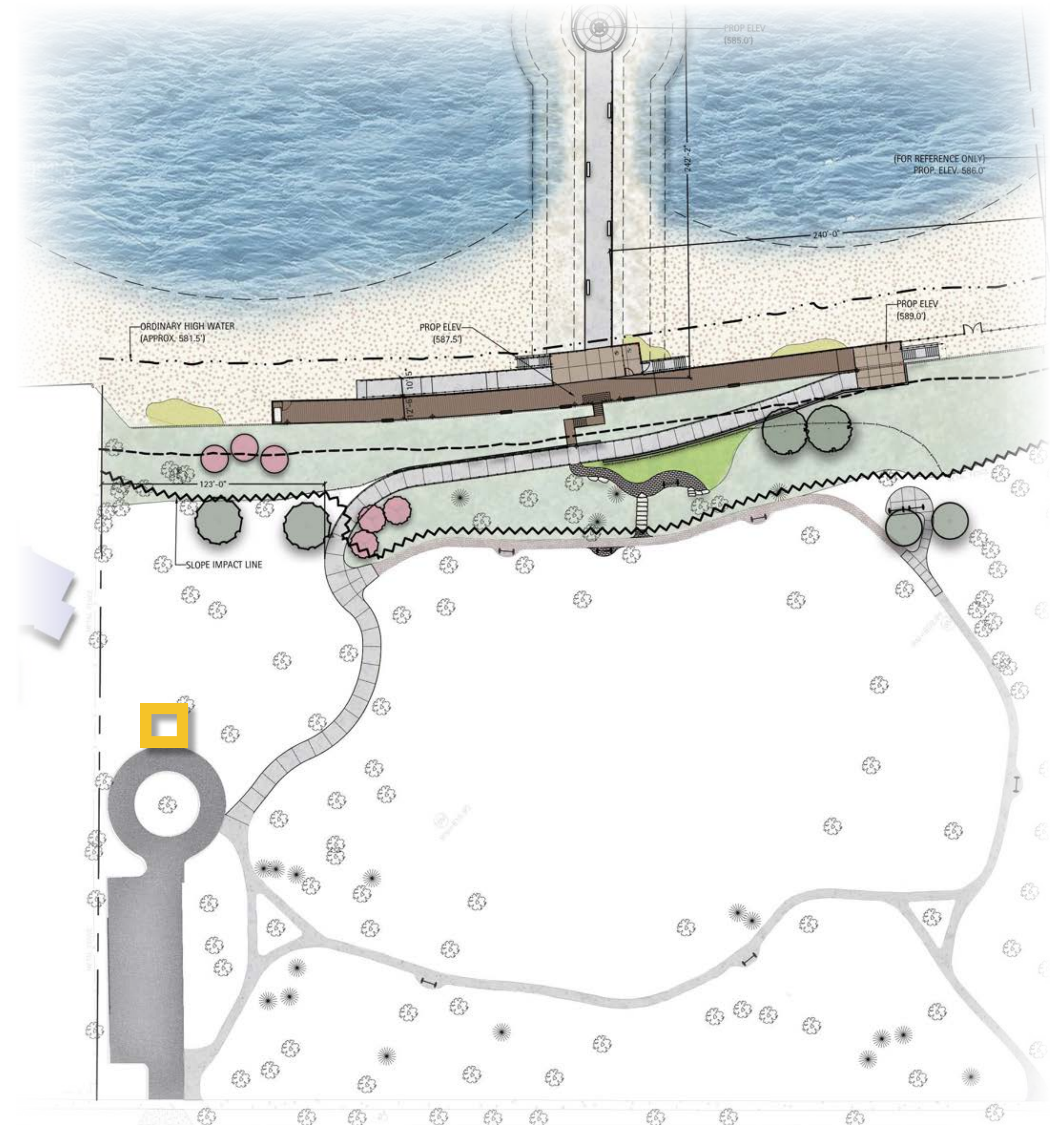


Restrooms

Overview

Restrooms

- *WPD can provide ADA accessible portable restrooms on the park table land for in-season use*





PEDESTRIAN BYPASS



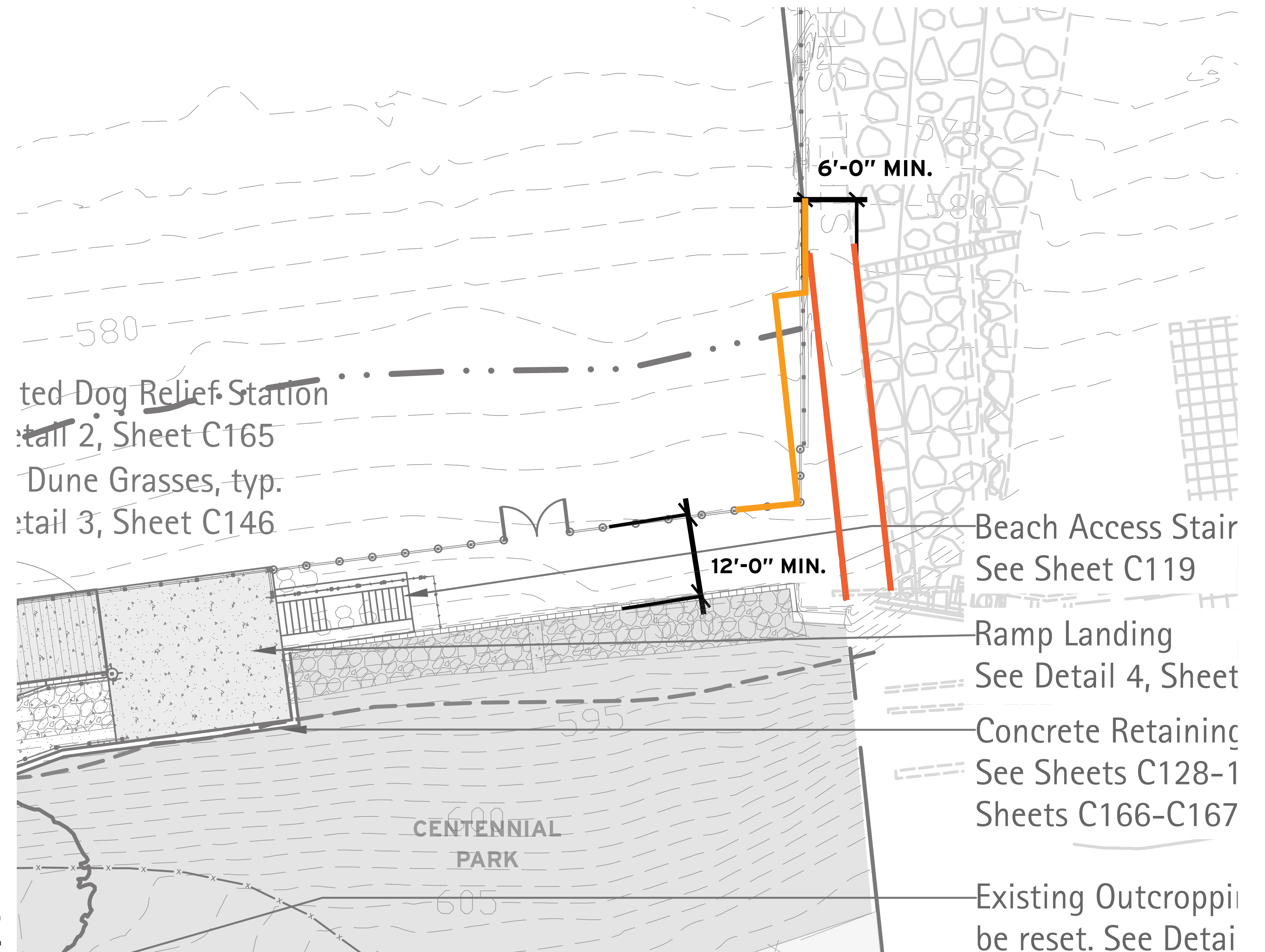
Pedestrian Bypass



Pedestrian Bypass

- *The current design provides the ability for someone to be able to walk the shoreline at the OHWM*
- *To allow for passage onto the next property a pedestrian bypass area is provided*
- *Additional consideration can be given to:*

-  OPTION 1 - EASEMENT
-  OPTION 2 - MODIFIED FENCELINE



Conclusion



Pier Design

Based in the contextual shoreline environment:

- *Reduces riptides*
- *Prevents lake-bed down-cutting*
- *Improves access to Lake Michigan*

Pier Safety

Improved public amenity:

- *Monitored swim zones*
- *Discourages diving*
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- *Prioritizes green space over additional paving*
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THANK YOU

Questions?

