

LOWER MANHATTAN COASTAL RESILIENCY PROJECT – BATTERY

CB1 Environmental Committee Meeting
March 21, 2022



Stantec

Agenda:

- 1. Overview**
- 2. East End Tie In**
- 3. Pier A Tie In**
- 4. The River that Flows Two Ways**



Greg Sprich

PE, ENV SP

PROJECT MANAGER / CIVIL ENGINEER



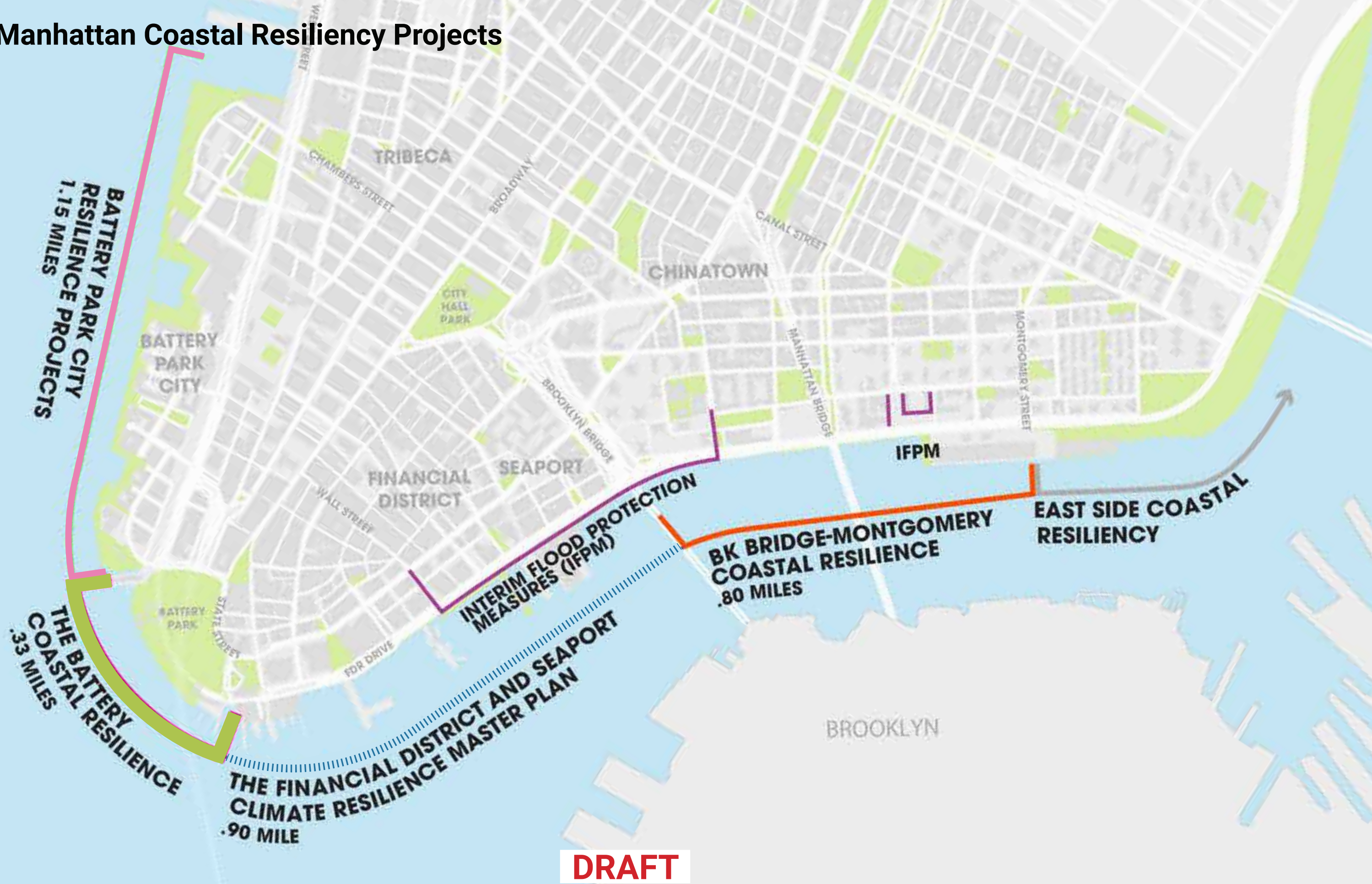
Amy Seek

RLA, WEDG

LANDSCAPE ARCHITECTURE LEAD

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Lower Manhattan Coastal Resiliency Projects



Existing Site Plan



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Design Goals



Prepare for Climate Change

1. Reconstruct and elevate the wharf approximately 5 feet to address its deteriorating condition while also taking into account future sea level rise.
2. Tie into adjacent resilience projects.
3. Improve drainage.



Support Site Uses

1. Accommodate Statue of Liberty, Ellis Island, and Water Taxi vessels during and after construction.
2. Prioritize universal design.
3. Maintain sufficient seating.



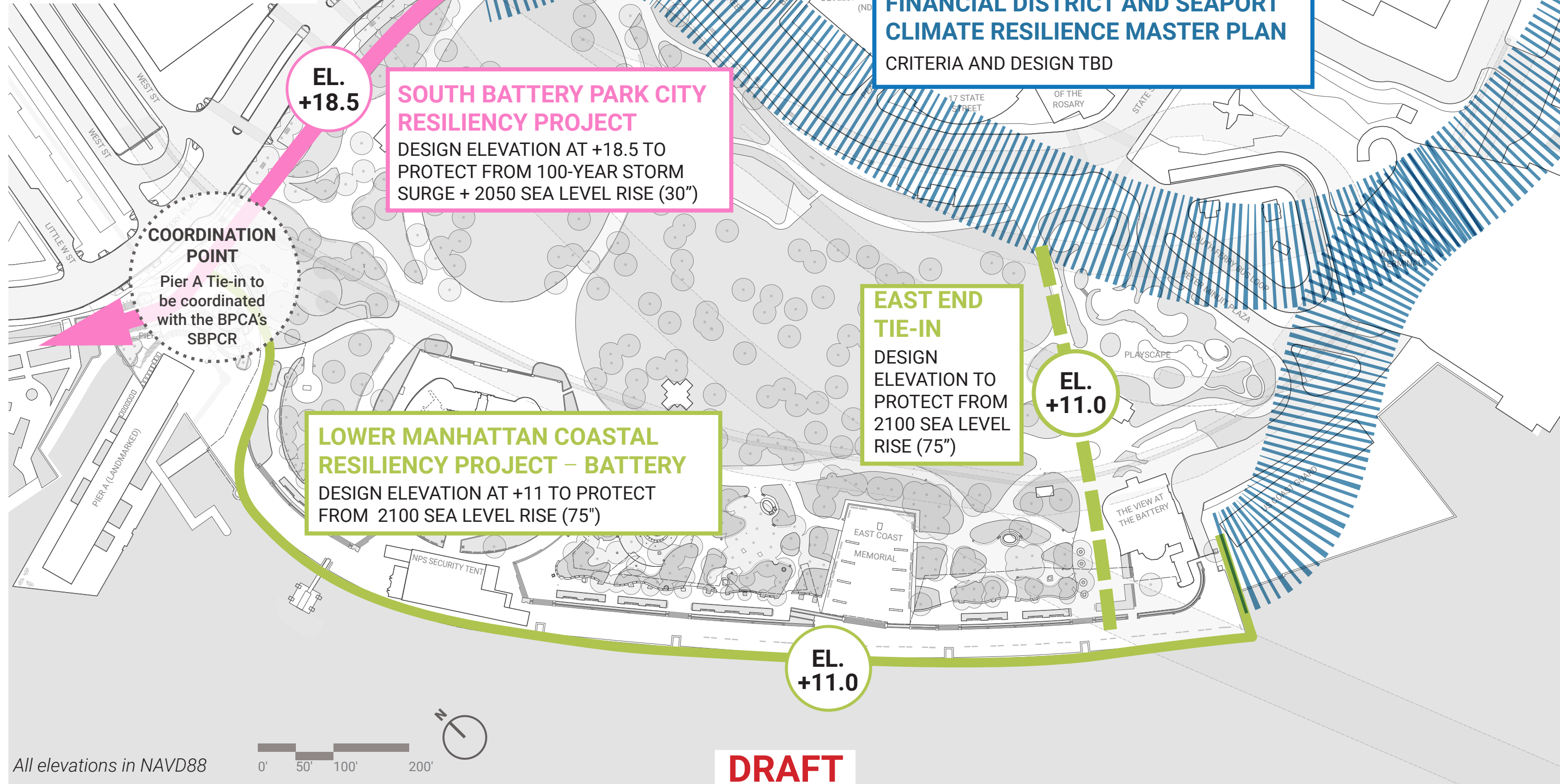
Preserve and Enhance Park Character

1. Maximize visibility of water/edge.
2. Minimize disturbance to physical structures, view corridors, and character of park.
3. Conserve existing artworks.
4. Minimize adverse impacts on historic structures and trees.
5. Reuse existing site materials.
6. Maximize sustainability of design/construction.
7. Provide new planting and public amenities.
8. Protect the park's historic resources.

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Adjacent Projects

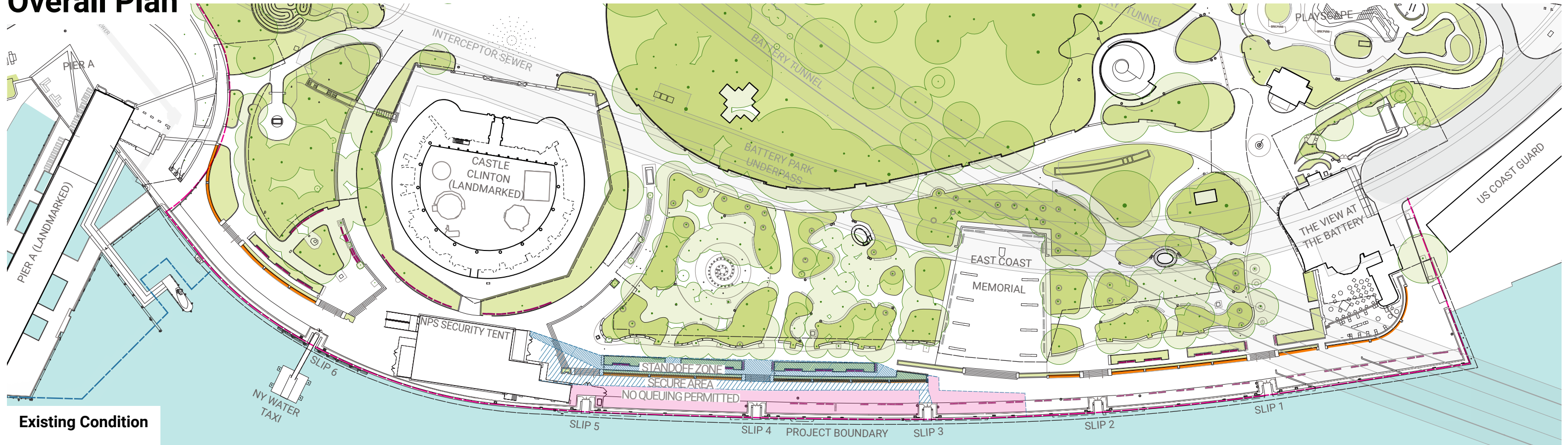
Provide continuity of park protections against 2100 SLR inland of the east end of wharf and more frequent low level 50 year storms



All elevations in NAVD88

Proposed Design

Overall Plan



Existing Condition



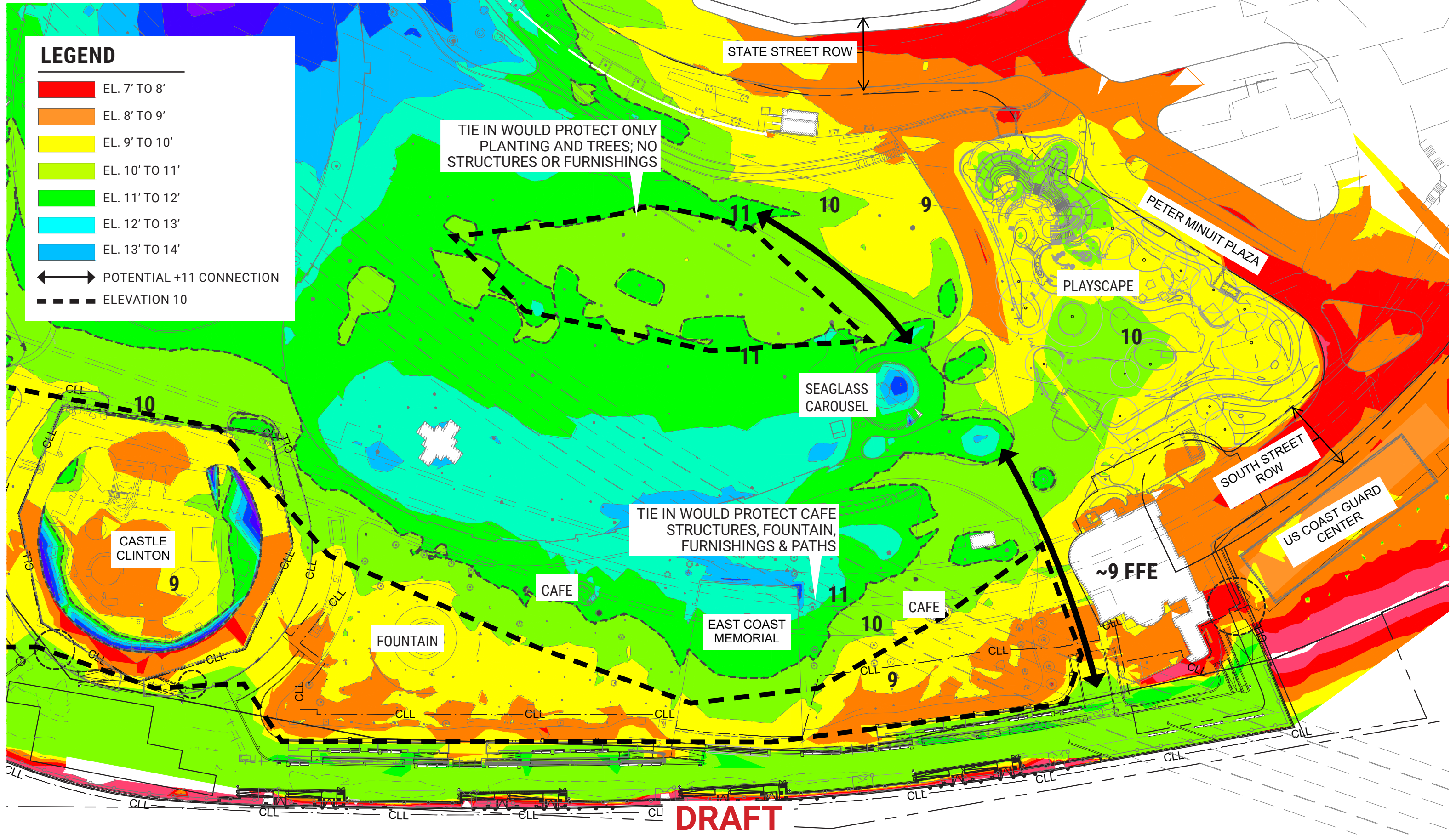
Proposed Design

East End Tie In

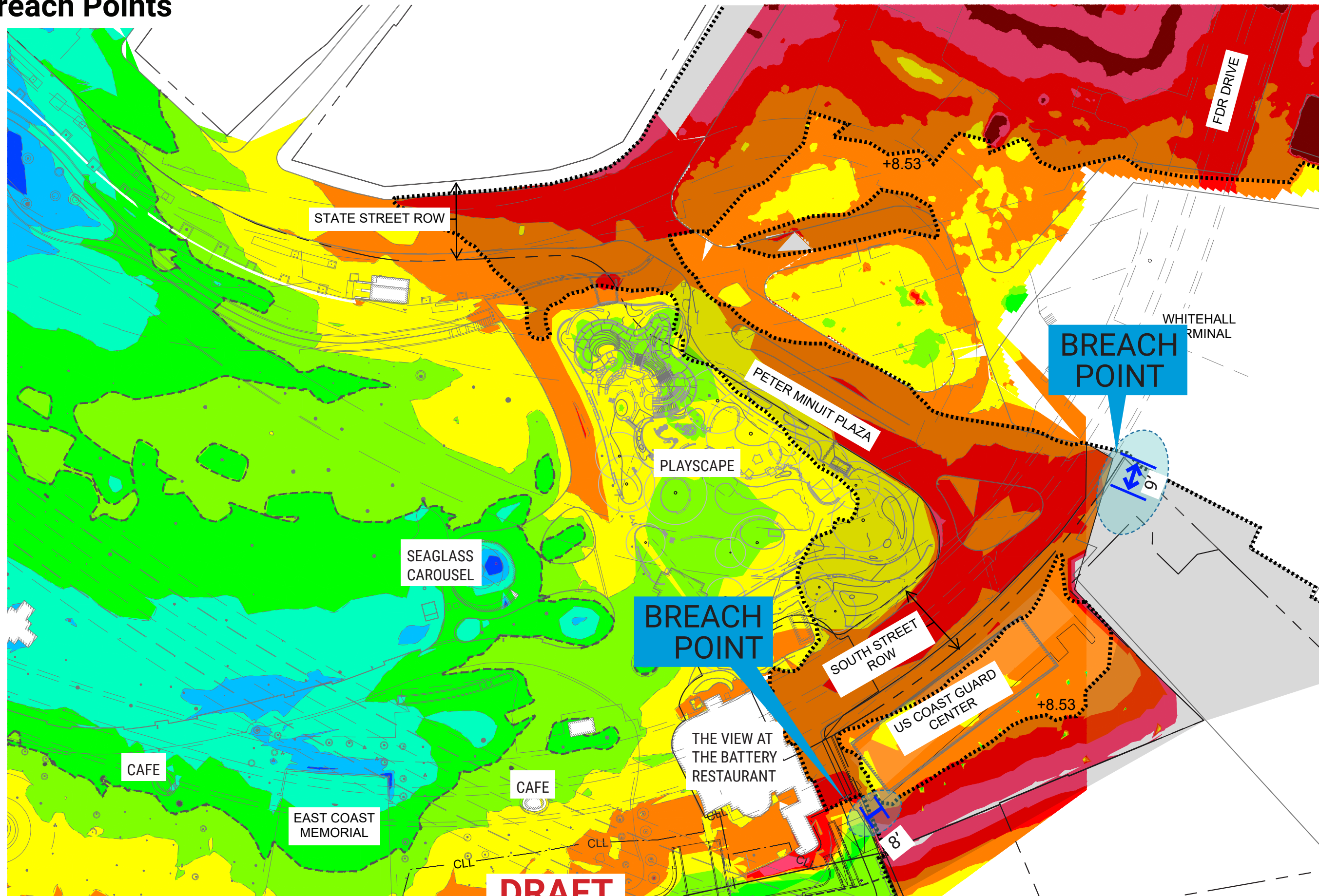
Topographic Condition

LEGEND

- EL. 7' TO 8'
- EL. 8' TO 9'
- EL. 9' TO 10'
- EL. 10' TO 11'
- EL. 11' TO 12'
- EL. 12' TO 13'
- EL. 13' TO 14'
- POTENTIAL +11 CONNECTION
- ELEVATION 10



2100 MHHW Breach Points



LEGEND

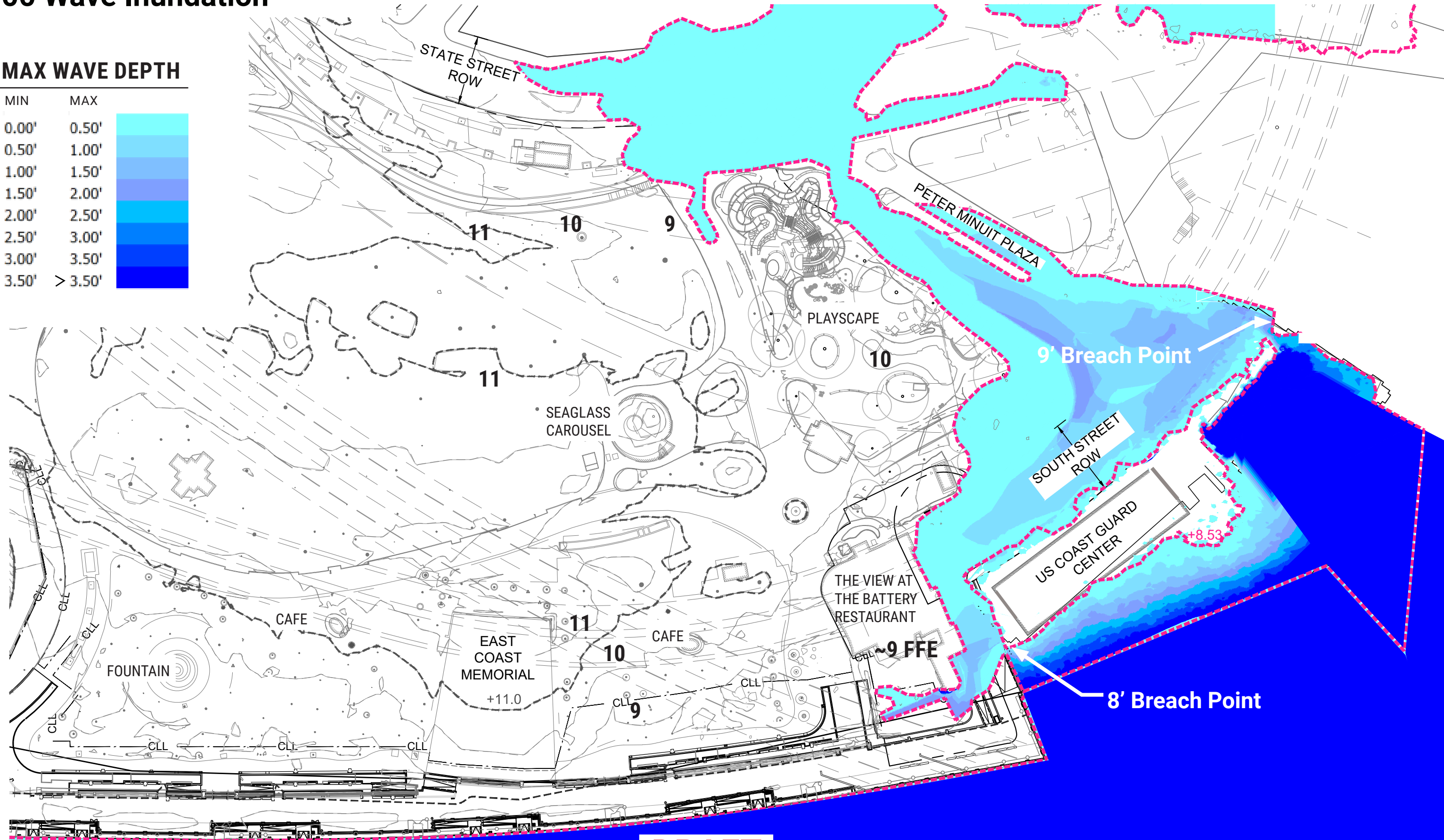
	EL. <math><6'</math>
	EL. 6' TO 7'
	EL. 7' TO 8'
	EL. 8' TO 9'
	EL. 9' TO 10'
	EL. 10' TO 11'
	EL. 11' TO 12'
	EL. 12' TO 13'
	EL. 13' TO 14'

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2100 Wave Inundation

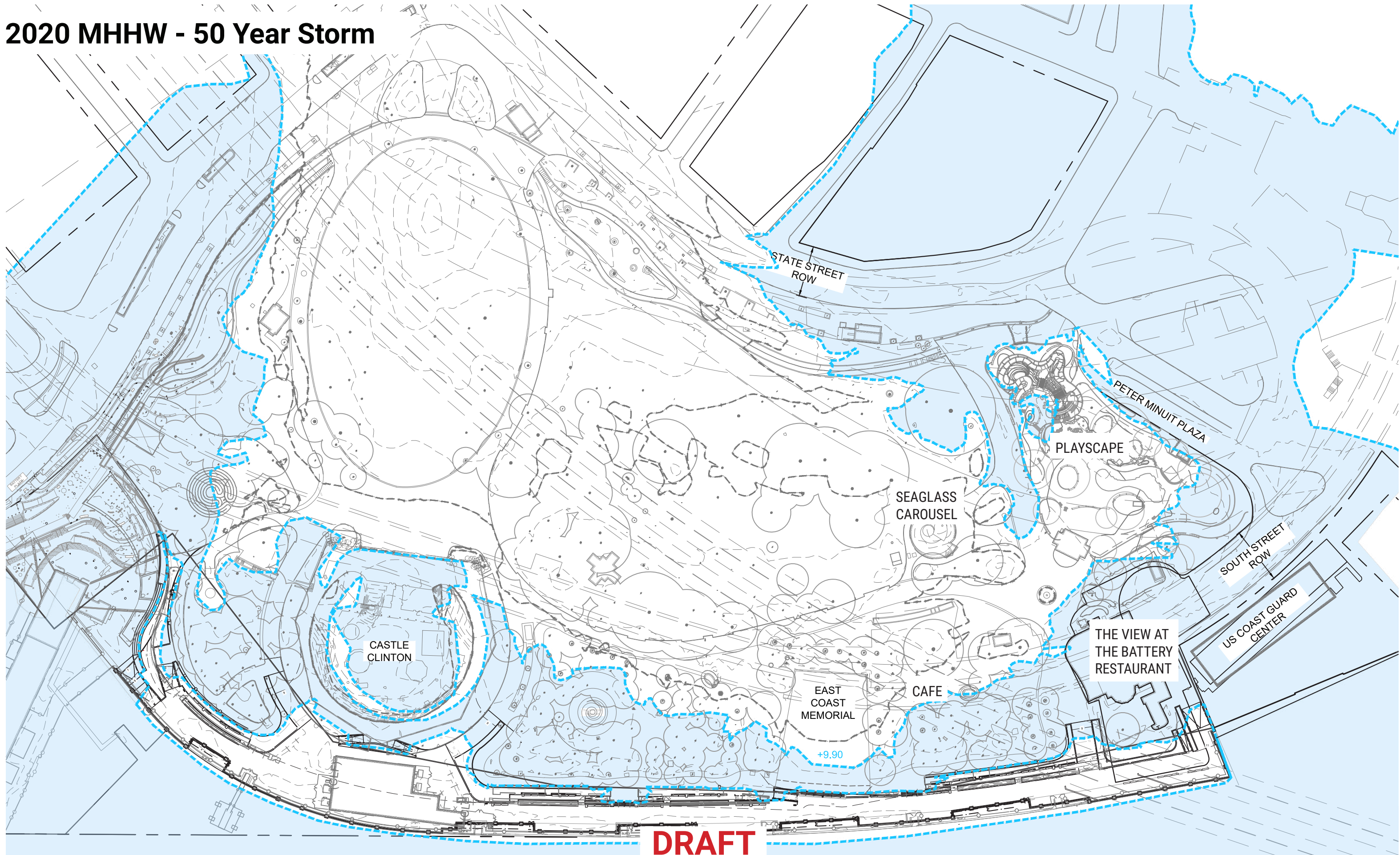
MAX WAVE DEPTH

MIN	MAX
0.00'	0.50'
0.50'	1.00'
1.00'	1.50'
1.50'	2.00'
2.00'	2.50'
2.50'	3.00'
3.00'	3.50'
3.50'	> 3.50'

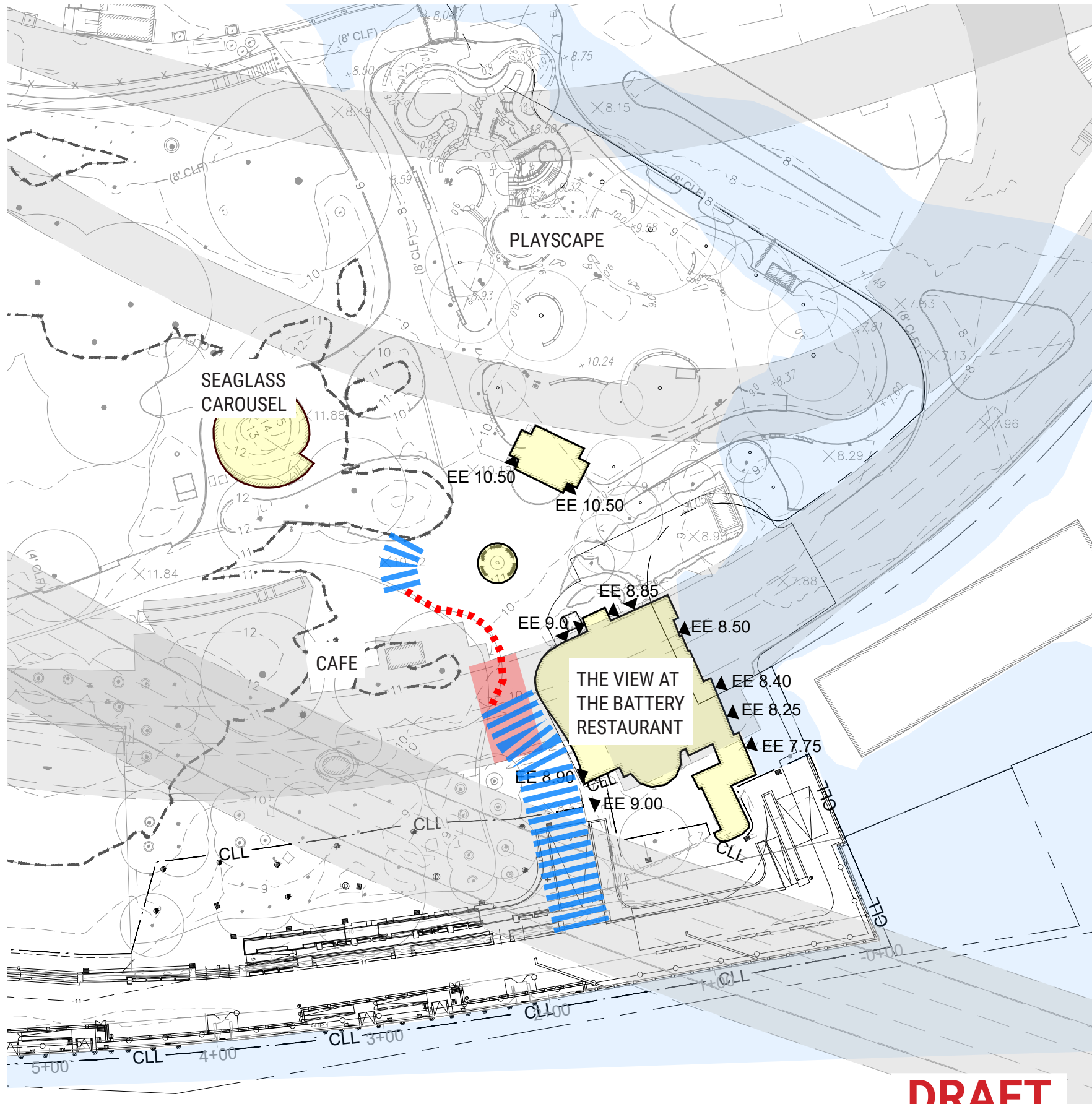


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2020 MHHW - 50 Year Storm



East End Tie-In Alignment



- Protects significant portion of park between The View at The Battery and Castle Clinton with minimal disturbance
- Maintains universal accessibility to wharf and The View at The Battery building
- Minimal impact to existing trees compared to other alignments with similar protection
- Minimal to no impact to building entrances or footprint. Other schemes resulted in awkward building entries and/or excessive floodproofing measures
- Does not impact new playground or ROW

LEGEND

- EXISTING +11' CONTOUR
- CLL — PROJECT BOUNDARY
- PROPOSED +11' EDGE TREATMENT
- ||||| PROPOSED +11' PATHWAY / LANDSCAPE
- BELOW-GRADE CONSIDERATION
- ABOVE-GRADE CONSIDERATION
- 2020 50-YR FLOOD
- 2100 MEAN HIGHER HIGH WATER LEVEL

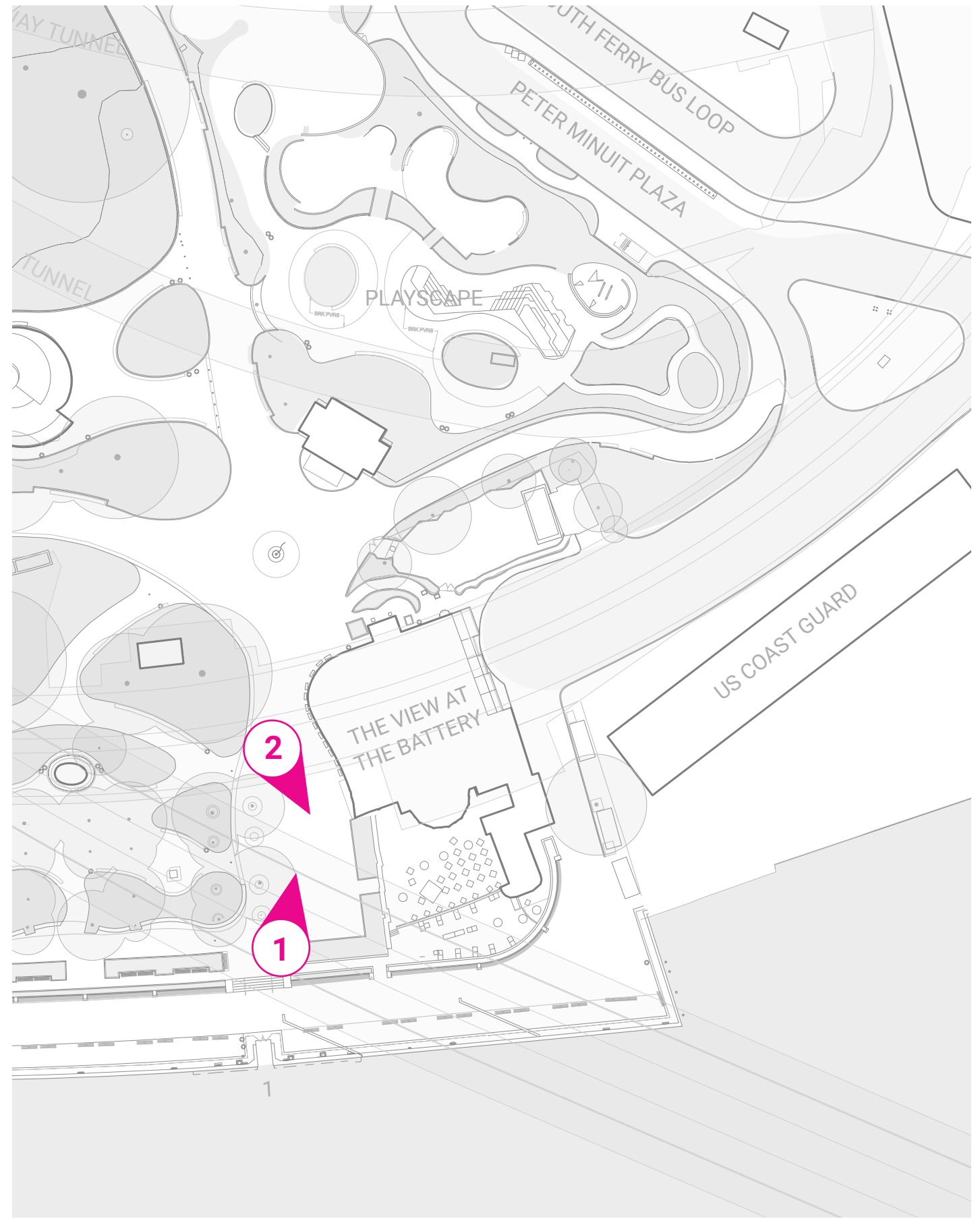
Existing Conditions: Site Photos



1 View looking north from Gardens of Remembrance to The View at The Battery Restaurant



2 View looking south from bosque trees to The View at the Battery Restaurant and the wharf



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Existing Conditions: Site Photos

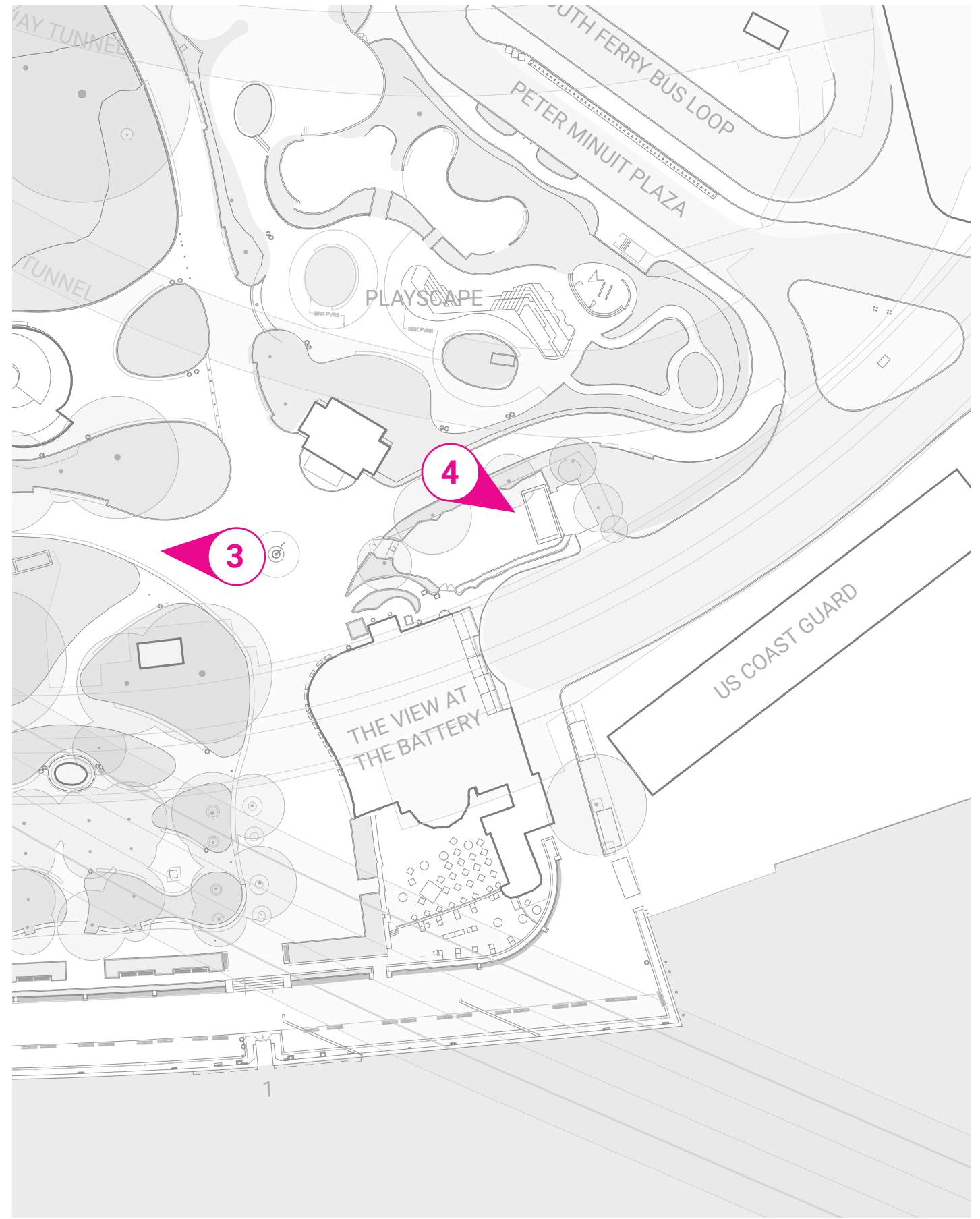


3 View looking west from Marine Flagstaff to the SeaGlass Carousel and park vegetation

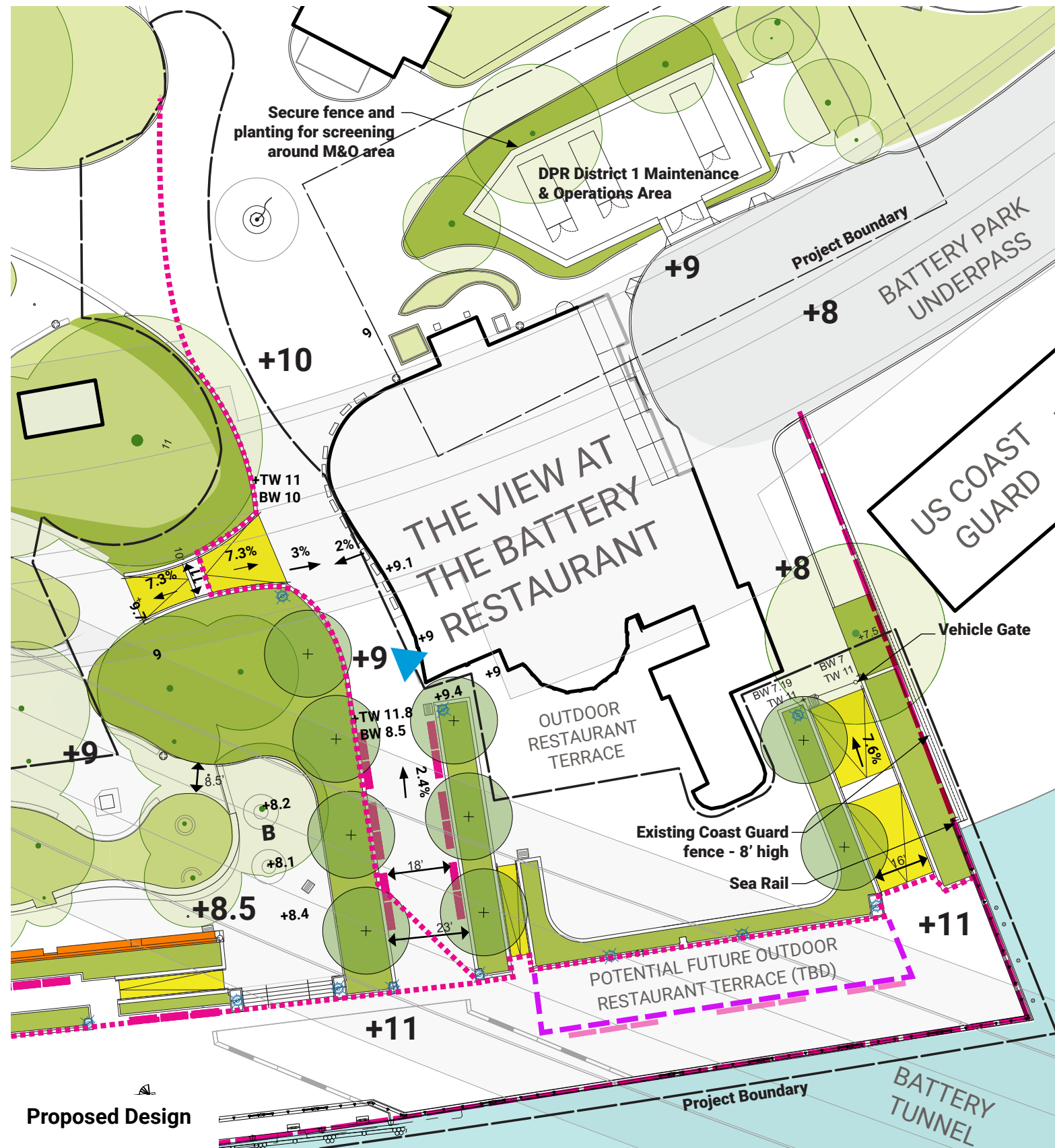
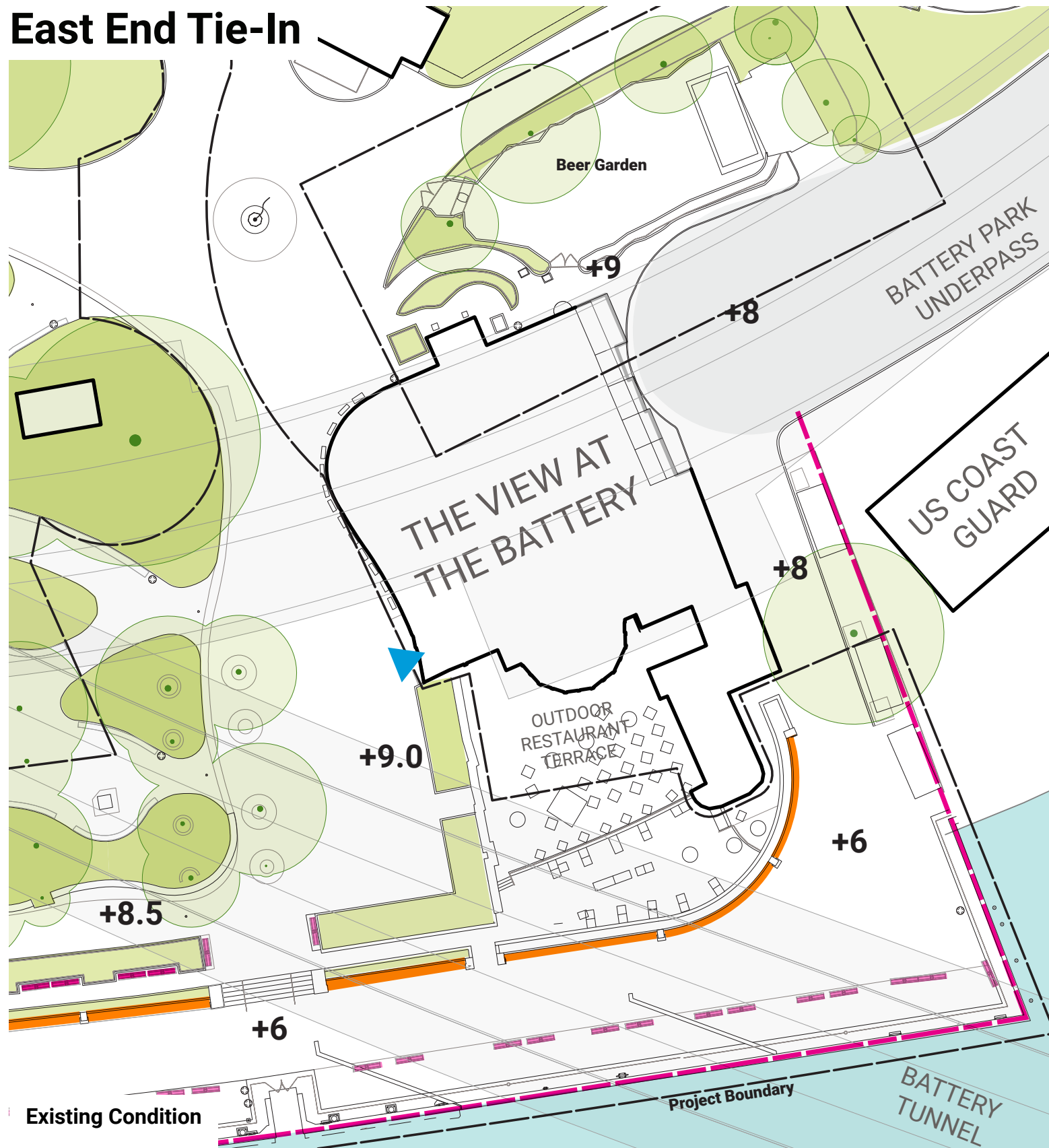


4 View looking east from Marine Flagstaff to The View at the Battery Restaurant and beer garden

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East End Tie-In



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LEGEND

- GRANITE BACKED BENCH
 - BACKLESS BENCH
 - BACKED BENCH
- RAMPS WITH HANDRAILS
 - NEW / RESTORED PLANTING
 - PROPOSED TREE
 - - - +11 ELEVATION
- ▶ MAIN BUILDING ENTRANCE
 - PROJECT BOUNDARY
- LIGHT



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East End Tie-In

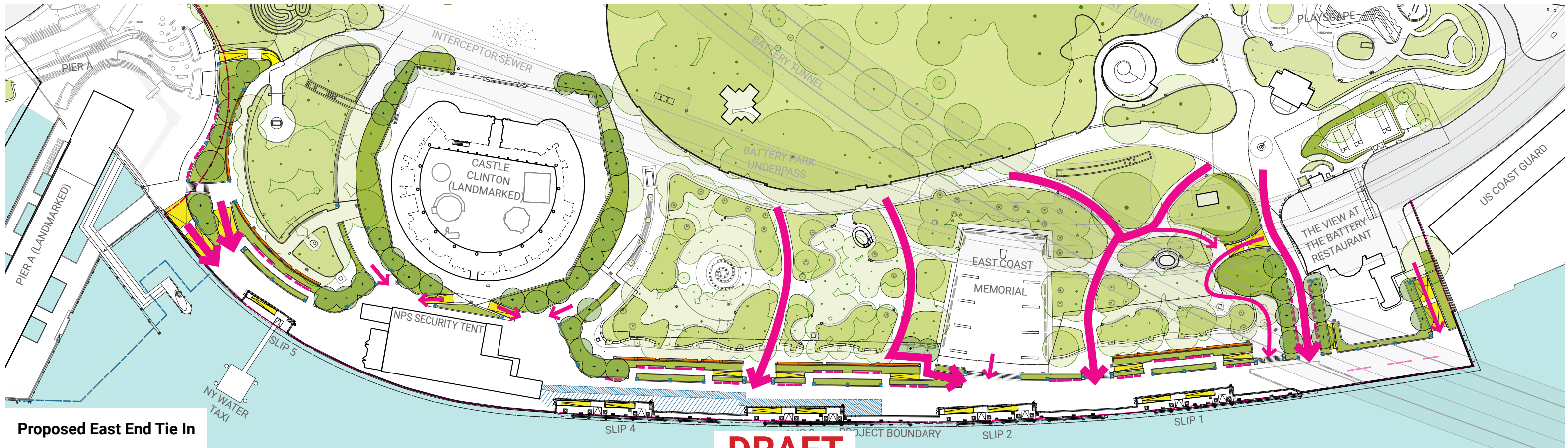
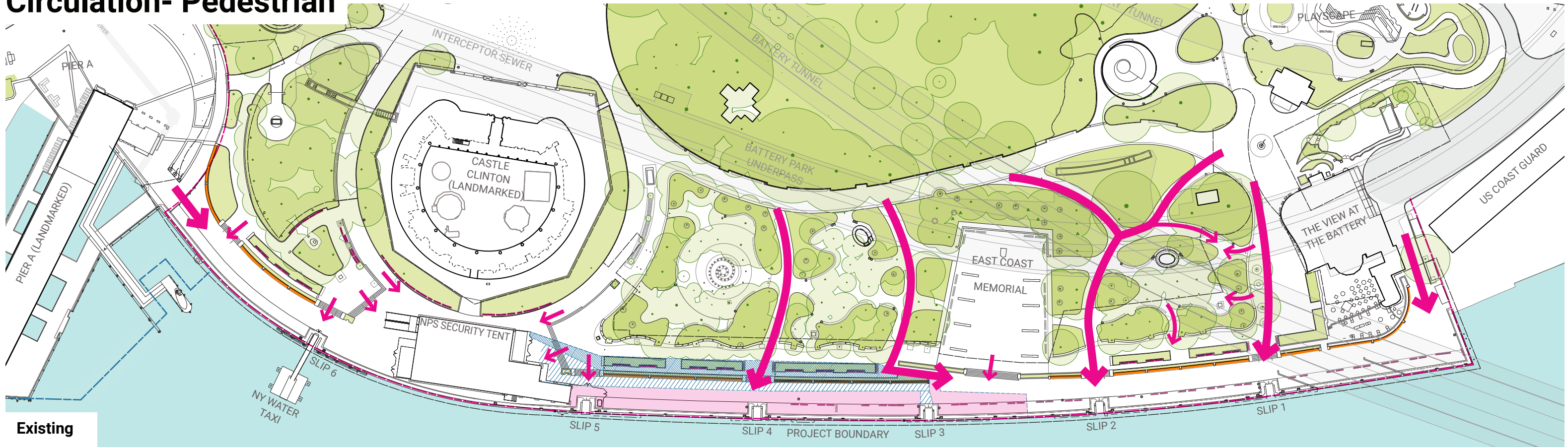


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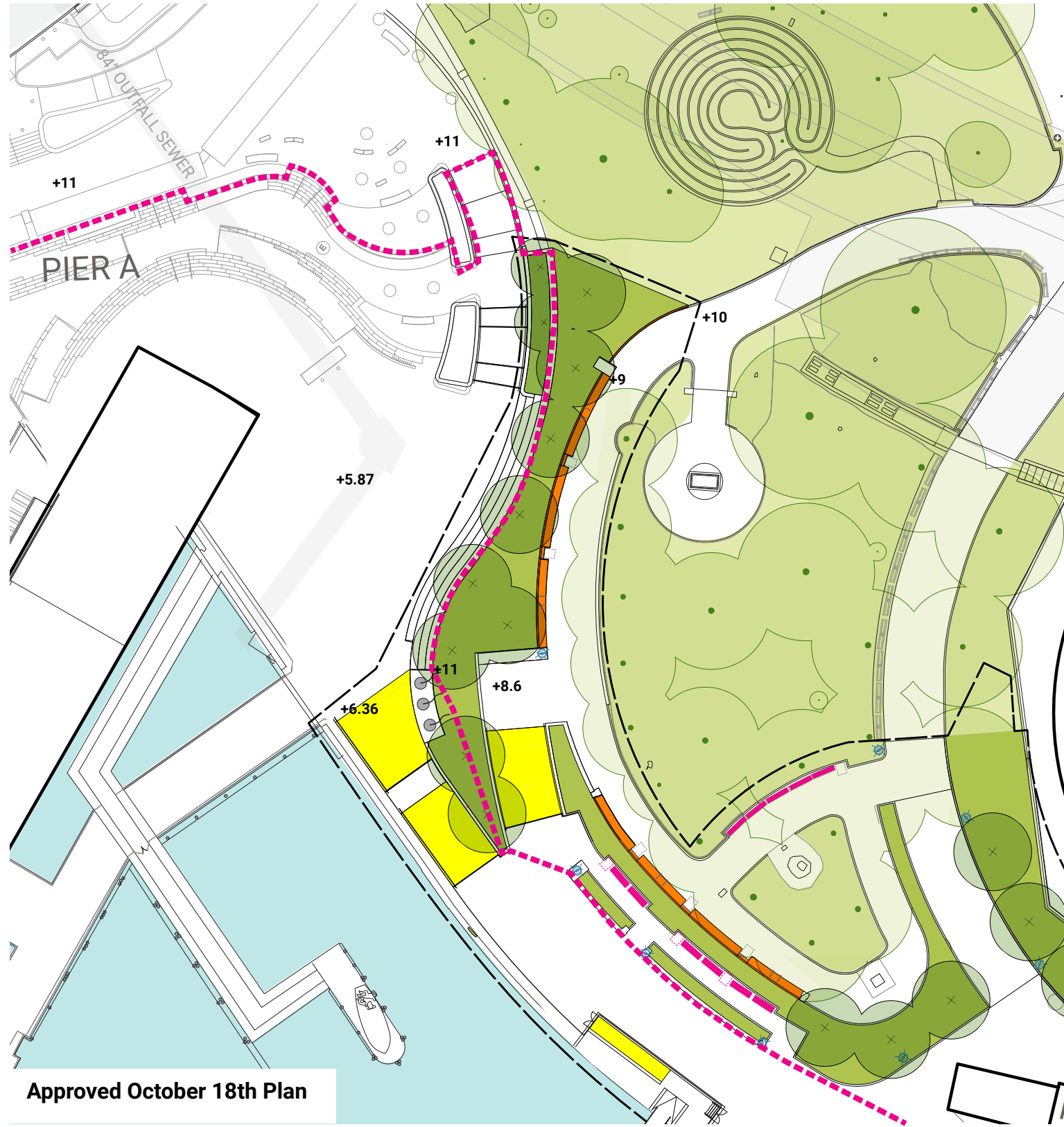
Circulation- Pedestrian



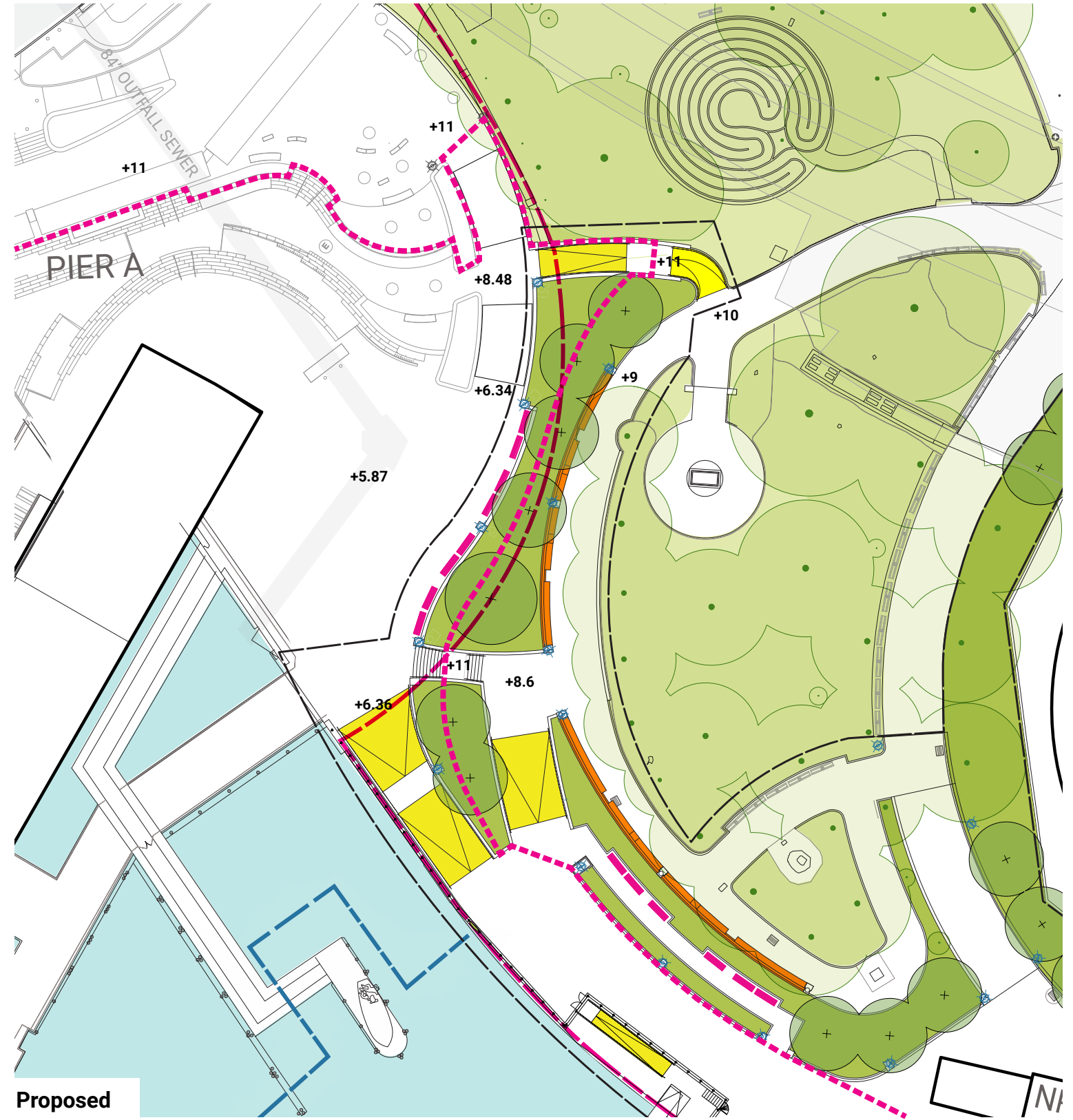
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Pier A Tie In

Pier A Tie-In



Approved October 18th Plan



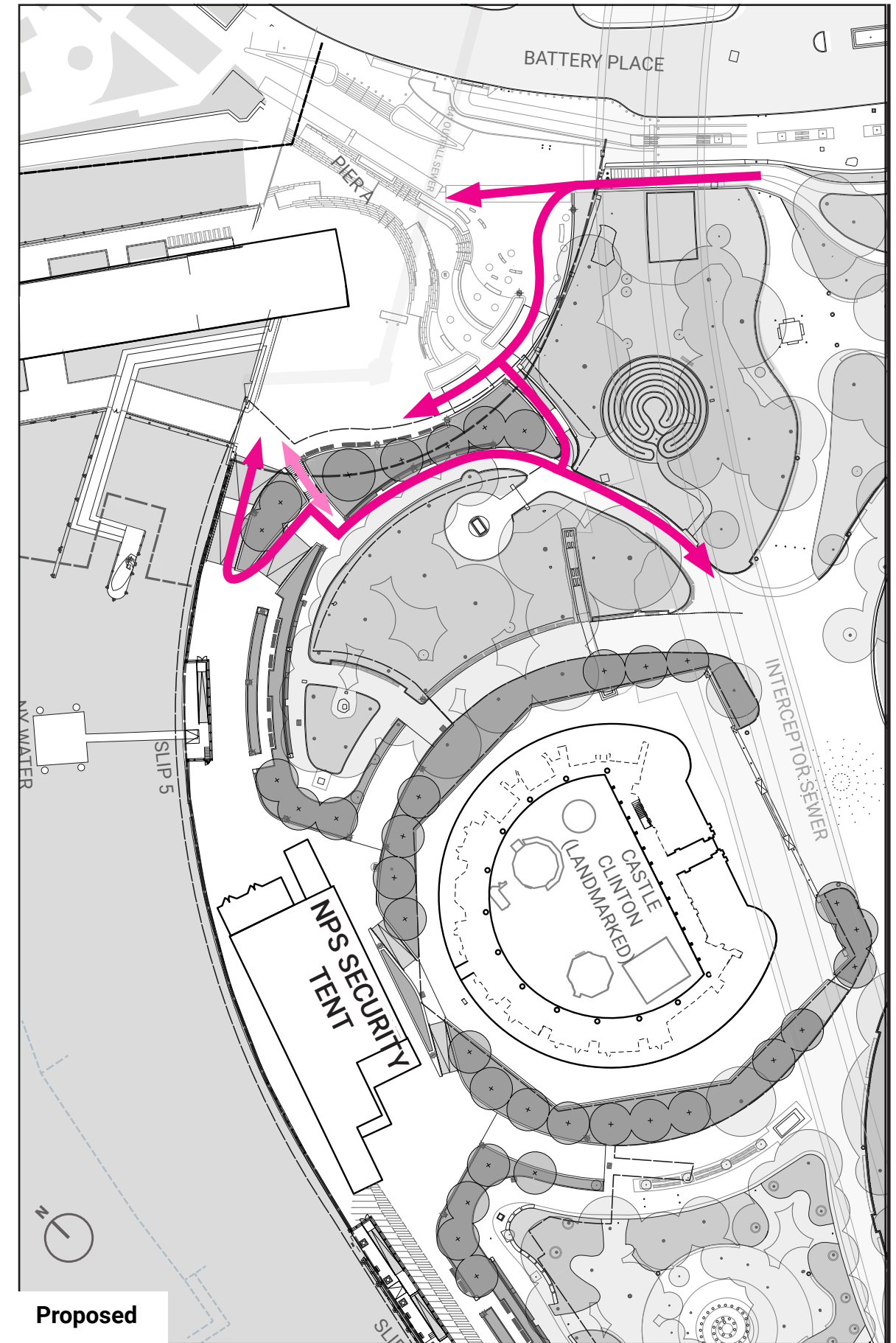
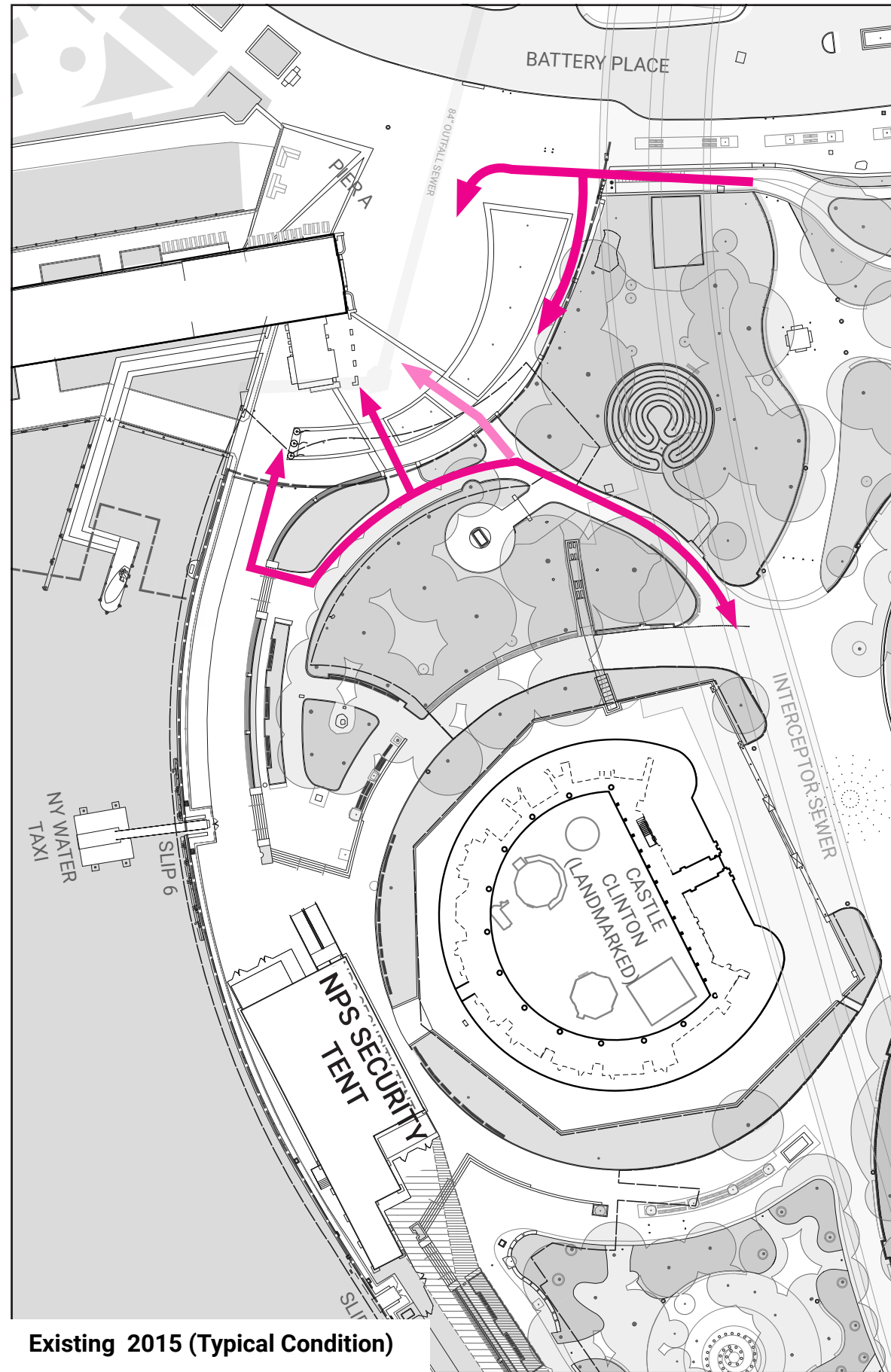
Proposed

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LEGEND

- GRANITE BACKED BENCH
- BACKLESS BENCH
- RAMPS WITH HANDRAILS
- PROPOSED TREE
- LIMIT OF WORK
- BPCA/PARKS PROPERTY LINE
- BACKED BENCH
- LIGHT
- NEW / RESTORED PLANTING
- +11 DFE

Pier A Circulation

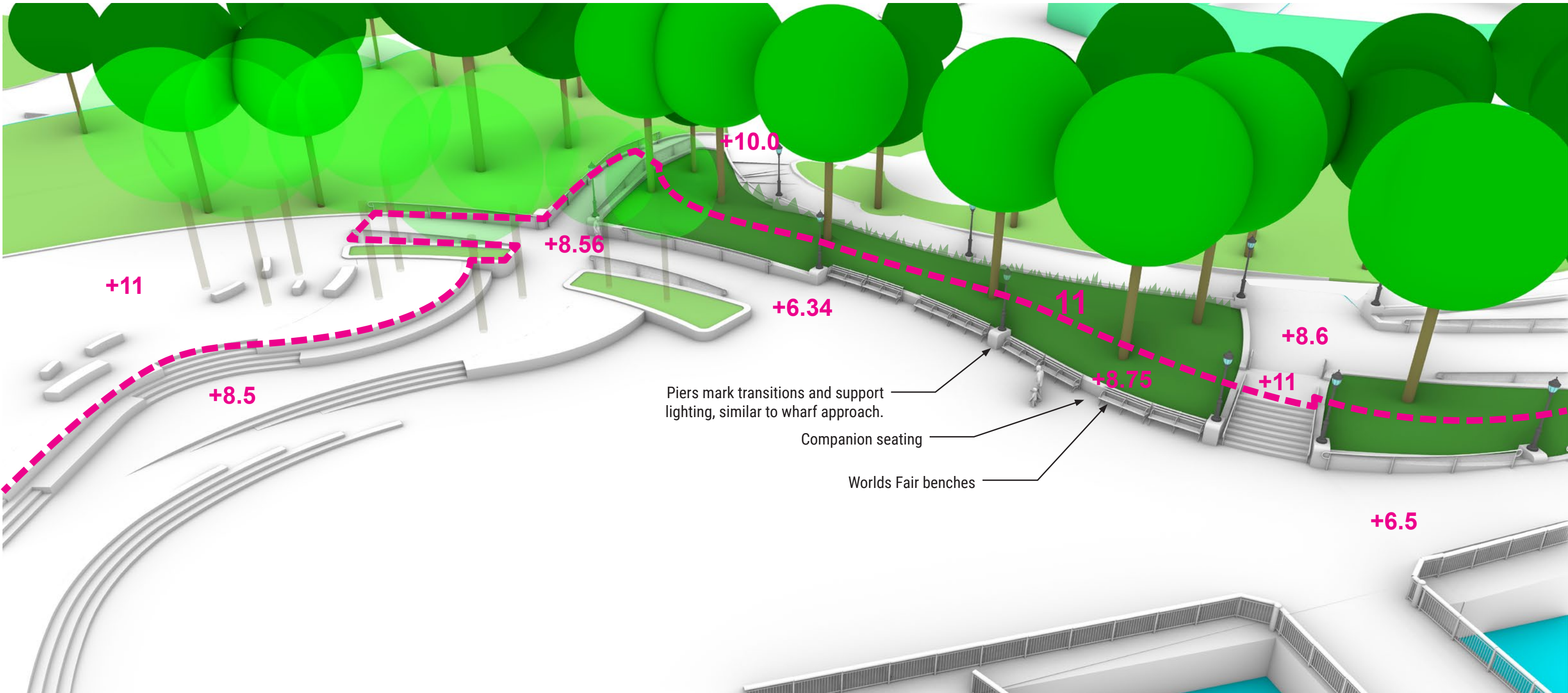


LEGEND

-  WATERFRONT CIRCULATION
-  STEPPED ACCESS

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Alignment of +11 DFE



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Pier A Tie-In



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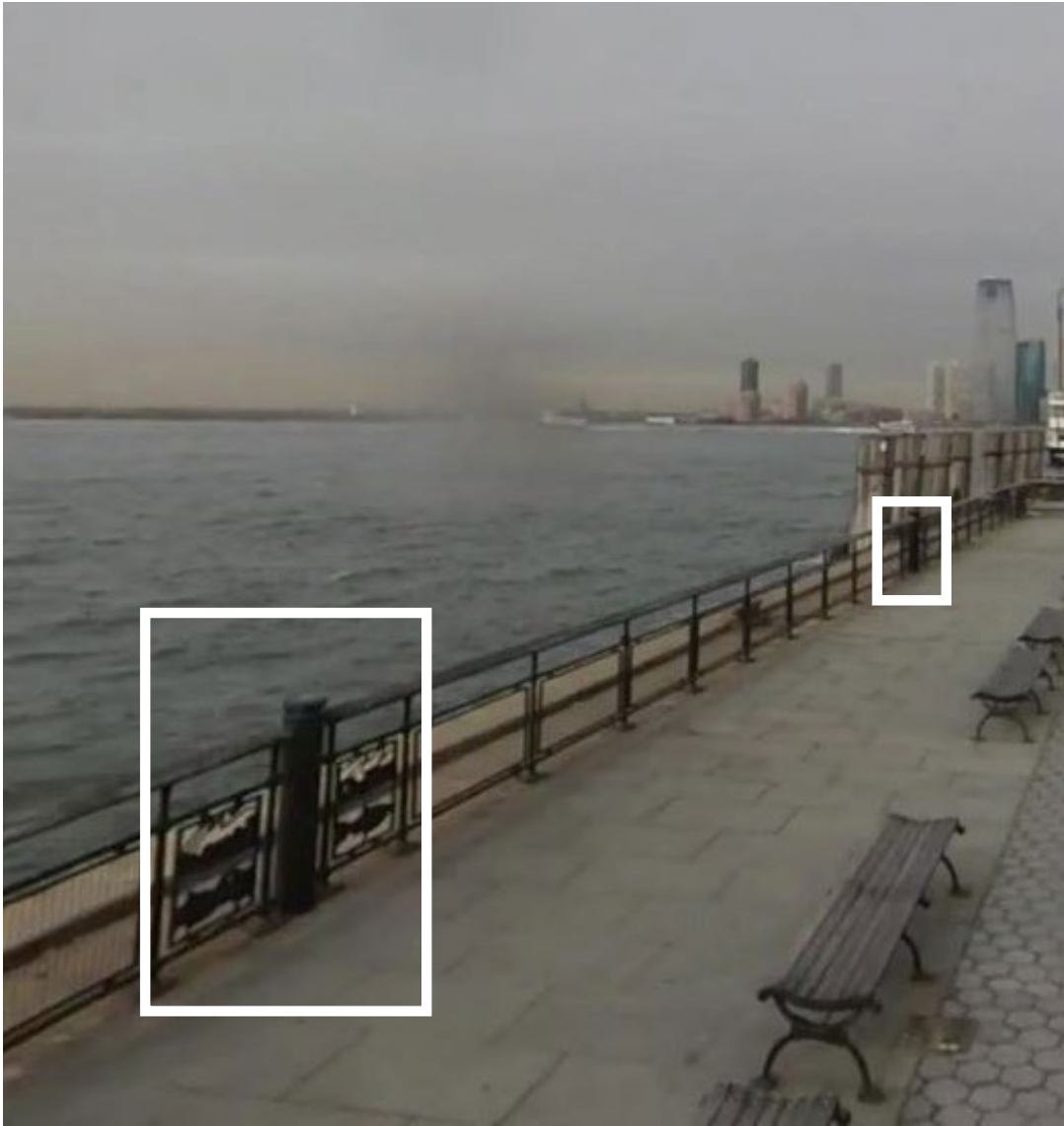
Pier A Tie-In



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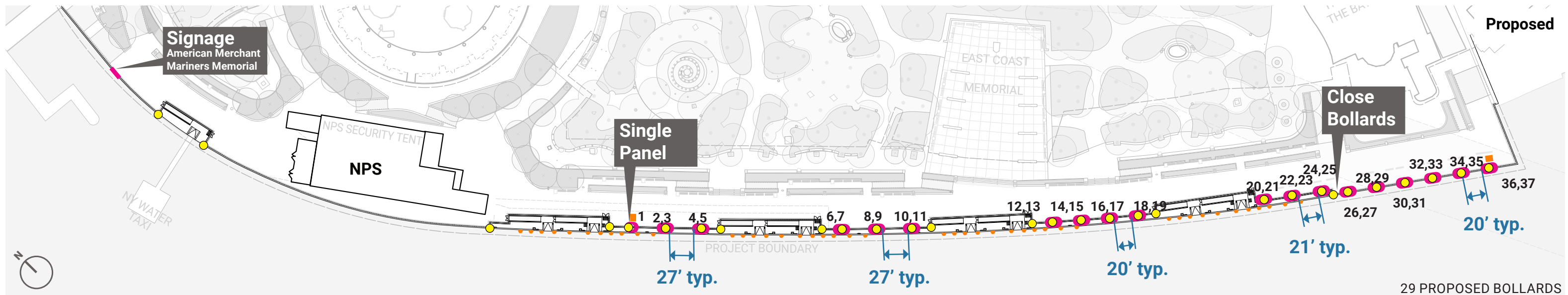
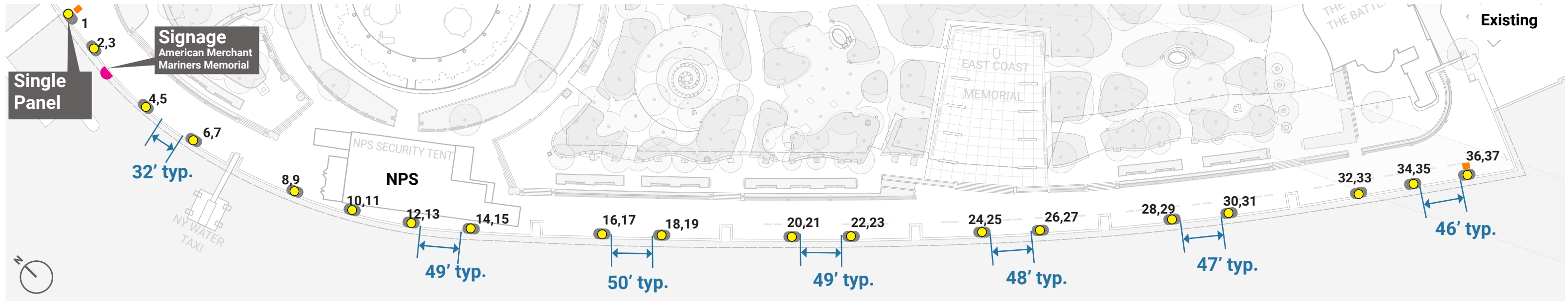
Sea Rail Design
The River That Flows Two Ways

Existing Conditions



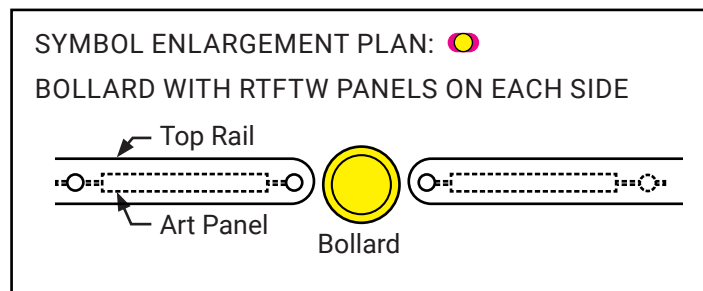
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Art Panel Layout



LEGEND

- BOLLARDS
- PROPOSED BOLLARD WITH RTFTW PANELS ON EACH SIDE
- EXISTING BOLLARD WITH RTFTW PANELS ON EACH SIDE
- EMBEDDED SIGNAGE IN THE PAVING
- PROPOSED FENDERS



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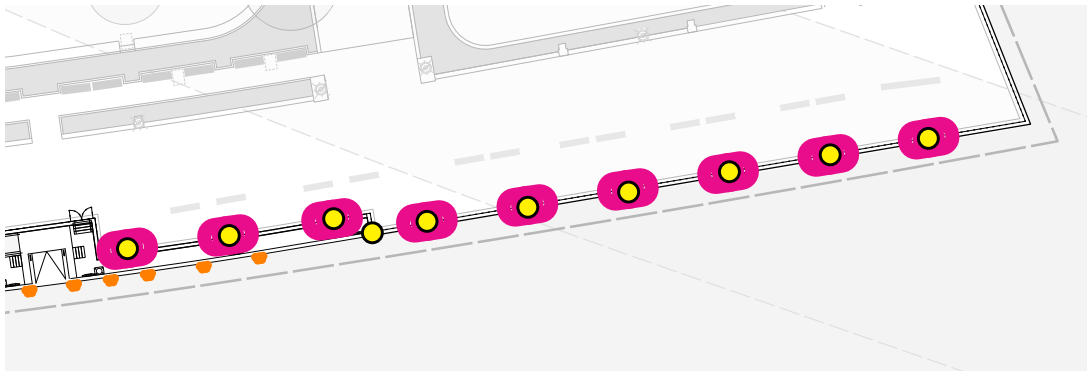
COUNTS

- 19 EXISTING BOLLARDS
- 29 PROPOSED BOLLARDS
- 37 ART PANELS

EXISTING PANELS

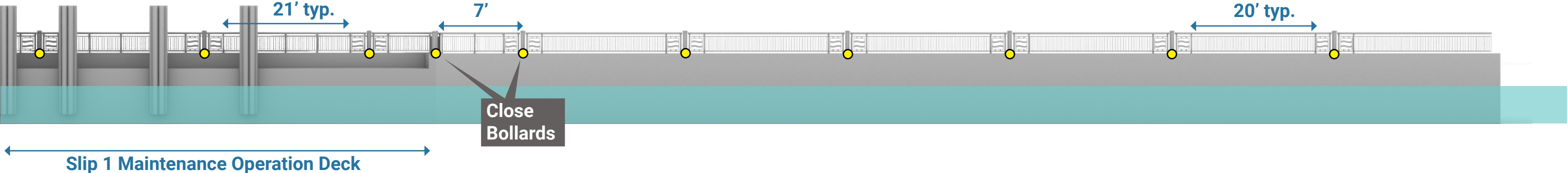


Art Panels at East End



Proposed Plan

Proposed



LEGEND

- BOLLARDS
- PROPOSED BOLLARD WITH RTFTW PANELS ON EACH SIDE

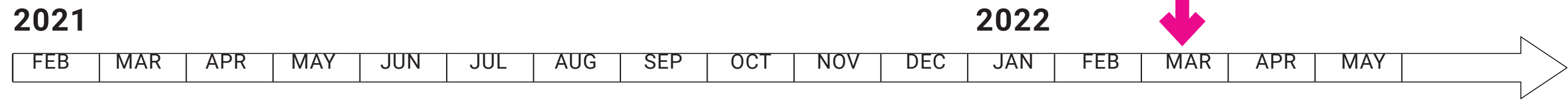
EXISTING PANELS



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Project Timeline

**PDC AMENDED PRELIMINARY
SUBMISSION DATE**



**STAKEHOLDER
ENGAGEMENT**

● PUBLIC MEETING
3/24

OUTREACH ROUND II
YOUR FEEDBACK!

OUTREACH ROUND III
YOUR FEEDBACK!

DESIGN PHASE 1

CONCEPT DESIGN (30%)

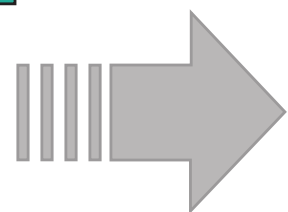
DESIGN PHASE 2

SCHEM. DESIGN (50%)

DESIGN PHASE 3

FINAL DESIGN (75-100%)

CONSTRUCTION



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Questions?