

FLOOD RESILIENCE MITIGATION PLANNING & FEASIBILITY STUDY FOR LONG WHARF

COMMUNITY WORKSHOP 02

March 26, 2025



City of Boston
Planning Department



SSOLS



ZOOM TIPS- INTERPRETATION

Spanish, Mandarin, and Cantonese interpretation are available for this meeting. Please select your preferred language option at the bottom of the screen by clicking on the globe symbol. Click “Mute Original Audio to silence other languages.”

NOTE: EVERYONE MUST SELECT A LANGUAGE. REMEMBER TO SPEAK SLOWLY!

Se dispone de interpretación en español para esta reunión. Seleccione la opción de idioma de preferencia en la parte inferior de la pantalla haciendo clic en el símbolo del globo terráqueo. Haga clic en “Silenciar audio original para silenciar otros idiomas”.

NOTA: TODOS DEBEN SELECCIONAR UN IDIOMA. ¡RECUERDE HABLAR LENTAMENTE!

呢個會議可以用西班牙文、普通話同廣東話翻譯，請喺畫面底部揸一下地球符號，選擇你喜愛嘅語言選項，揸一下「靜音原始音訊嚟靜音其他語言」。注意：每個人都要選擇一種語言，記得要慢慢講！

本次会议提供西班牙语、普通话和粤语翻译。请点击屏幕底部的地球符号选择您喜欢的语言选项。点击“静音原始音频以静音其他语言”。注意：每个人都必须选择一种语言。记得说话要慢



ZOOM TIPS

Welcome! Here are some tips on using Zoom for first-time users:

Your controls are at the bottom of the screen.



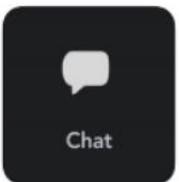
Participants will be muted during the presentation.

The host will unmute you during the discussion if you raise your hand and it is your turn to talk.



Click the video button to turn your video on/off.

If you experience connectivity or bandwidth issues, turning off your video can help.



Use the chat to type a comment or ask a question at any time.

Members of the Project Team will moderate the chat.



To raise your hand, click on “Reactions” at the bottom of your screen, and then choose “Raise Hand.”

Use *9 to raise your hand via phone.



ZOOM ETIQUETTE

We want to ensure that this conversation is a pleasant experience for all attendees.

- Please remain muted until called on. If you would like to speak during this time, please use the “Raise Hand” function in Zoom so a Planning Department moderator can unmute you.
- Please be respectful of each other’s time.
- We ask that participants limit their questions so that others may participate in the discussion. If you have more questions, please wait until others have had an opportunity to ask questions before asking more questions.
- If we are unable to get your question at this meeting, please put them in the Chat at the end or email dolores.fazio@boston.gov.



MEETING RECORDING

At the request of community members, this event will be recorded and posted on the Planning Department's Long Wharf Flood Resilience Mitigation Planning and Feasibility Study project review webpage for those who are unable to attend the Zoom event live.



https://www.bostonplans.org/planning/planning_initiatives/Long_Wharf_project

Also, it is possible that participants may be recording the meeting with their phone cameras or other devices. If you do not wish to be recorded during the meeting, please turn off your microphone and camera.

If your camera and microphone are off, you can still participate through the text chat feature.



WELCOME!



City of Boston
Planning Department

IN PARTNERSHIP WITH



City of Boston
Environment



City of Boston
Parks & Recreation

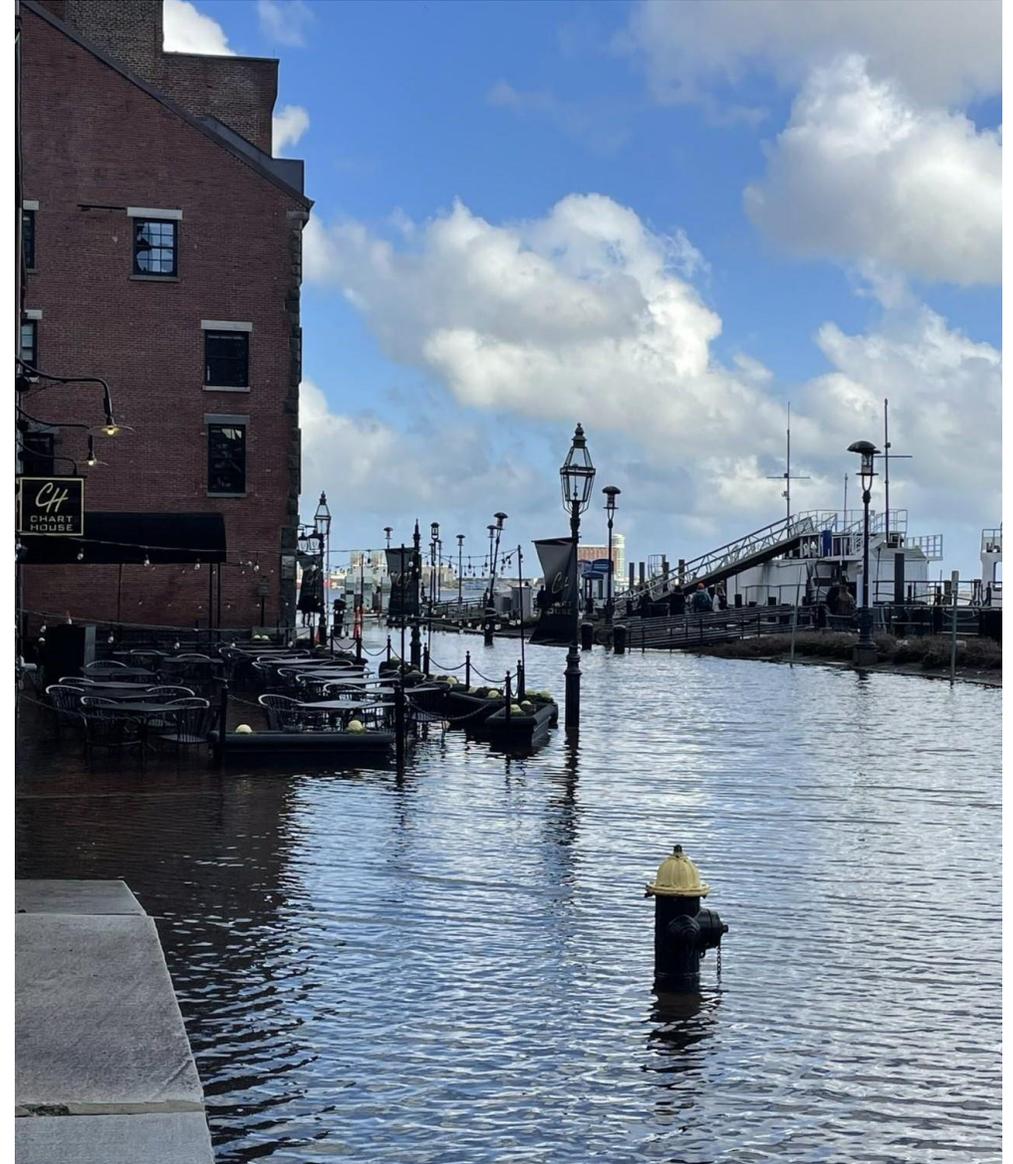


Massachusetts Bay
Transportation Authority

CONSULTANT TEAM



BUILDING A COASTAL RESILIENT BOSTON, TOGETHER



WHO DO WE HAVE JOINING US TODAY?



City of Boston
Planning Department

Flood Resilience Mitigation Planning & Feasibility Study for Long Wharf

AGENDA FOR TODAY

- Project + Floodproofing Goals
- Project Context - Flood Risks
- Engagement Process
- Project Approach + Conceptual Designs
- Feasibility + Implementation
- Discussion & Comments



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HOW TO USE MENTIMETER & PARTICIPATE IN FEEDBACK OPPORTUNITIES

WEB BROWSER



SMART PHONE

OR



VISIT: [MENTI.COM](https://www.menti.com)

ENTER CODE: [3902 8492](https://www.menti.com/join/39028492)



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FEEDBACK OPPORTUNITY

HOW DID YOU LAST EXPERIENCE LONG WHARF?

SCAN QR BELOW



OR

VISIT:

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ENTER CODE:

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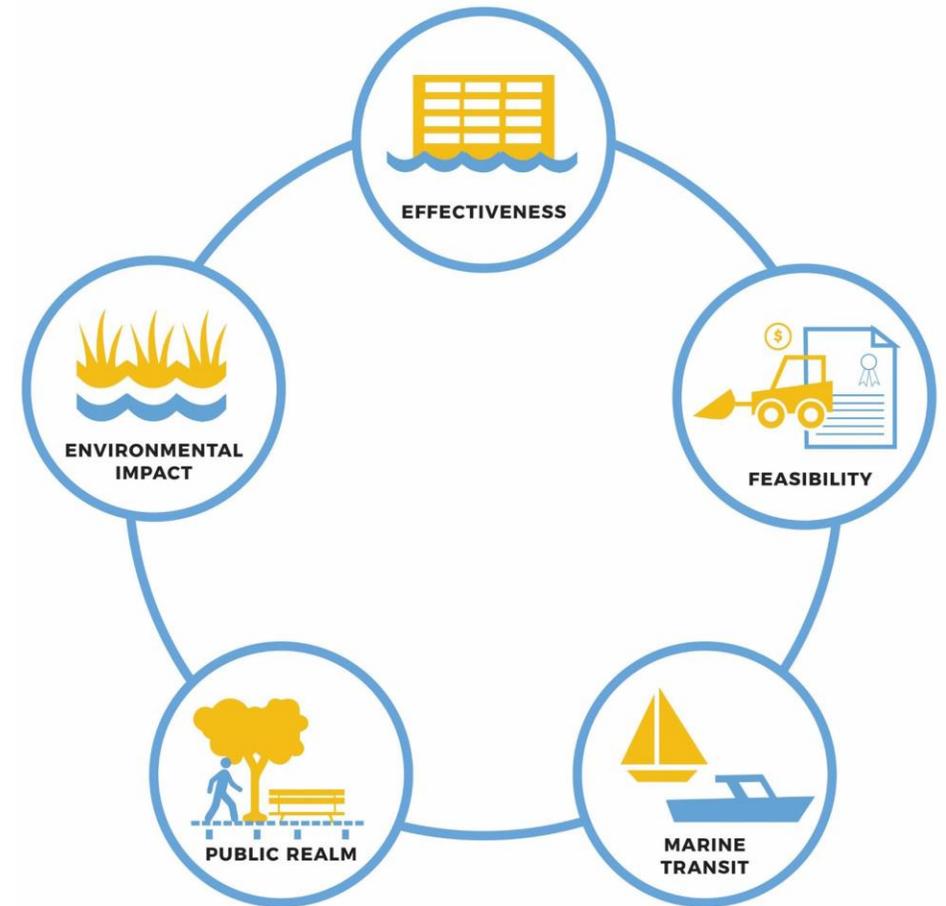


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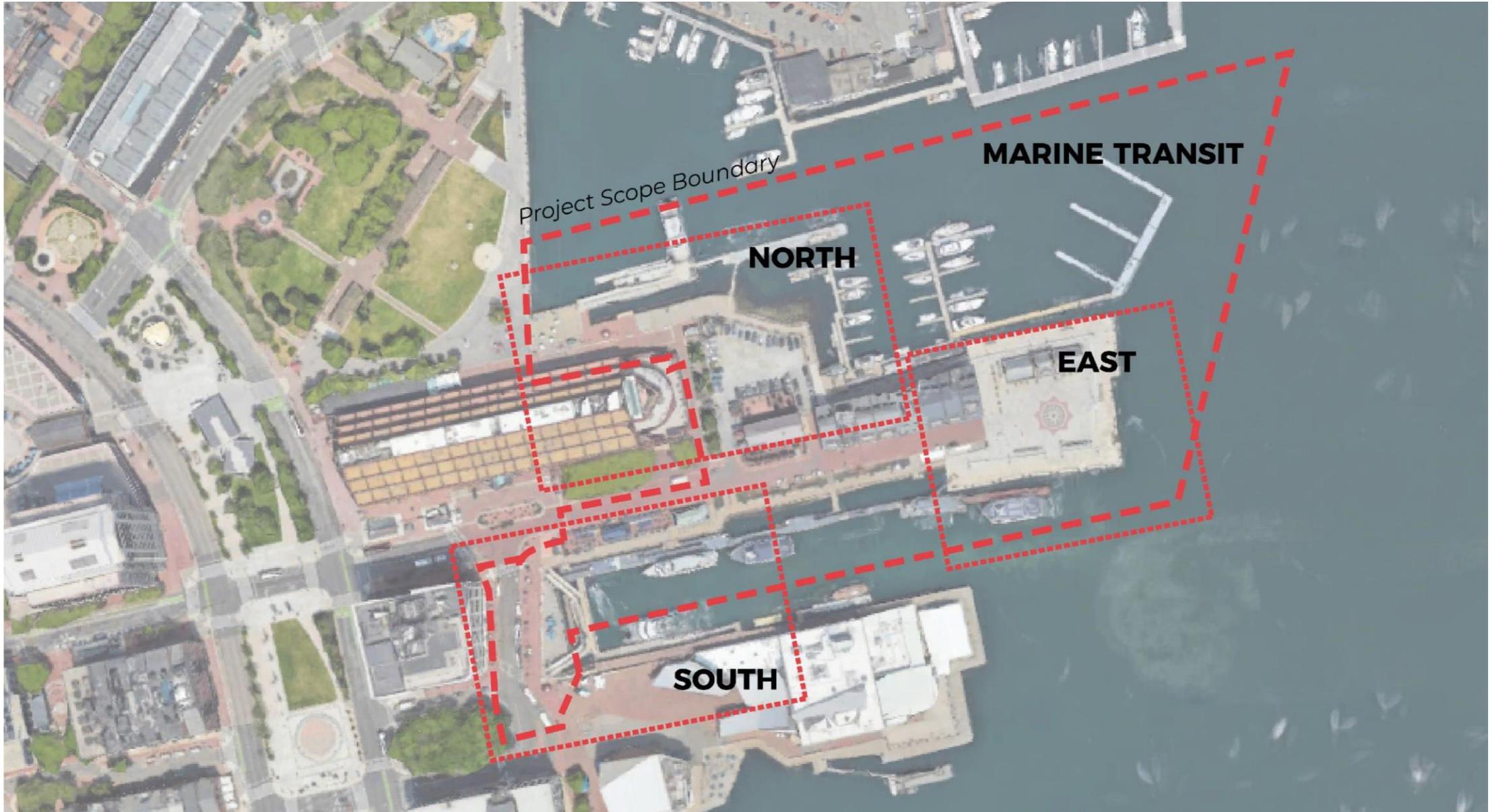
PROJECT SCOPE

Develop a set of inclusive, welcoming, & implementable alternative designs for Long Wharf that:

- Provide flood control that contributes to closing off the 2030 and long term flood pathways while protecting/improving critical infrastructure
- Create an accessible & equitable public realm that strengthens the relationship between people & water while respecting the history of the wharf
- Ensure tie-ins & resolve operational, engineering, & other challenges with partner projects & planning initiatives
- Develop design & engineering assessments for grant funding candidacy



PROJECT SCOPE AREA



PROJECT APPROACH

- Study long-term (2070) strategies to address flood risks
- Improve ferry service experience by consolidating all Long Wharf ferry service to the North side of the wharf
- Maintain excursions and tour operations on south side of the Wharf
- Study short-term (2030) strategies to address flood risks

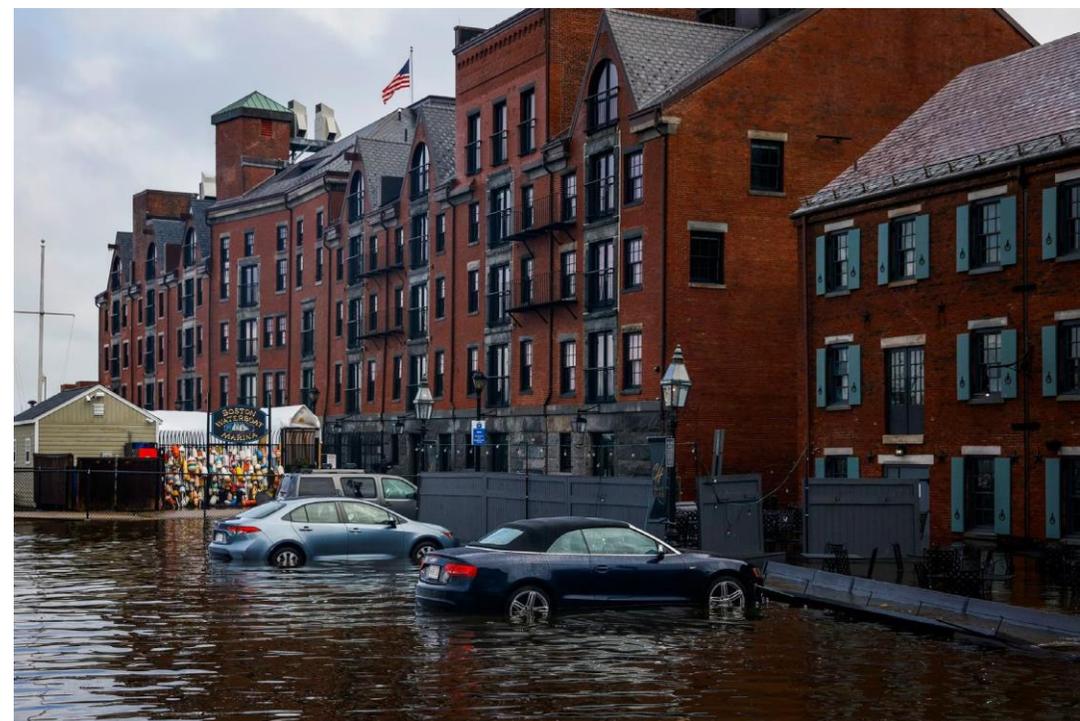
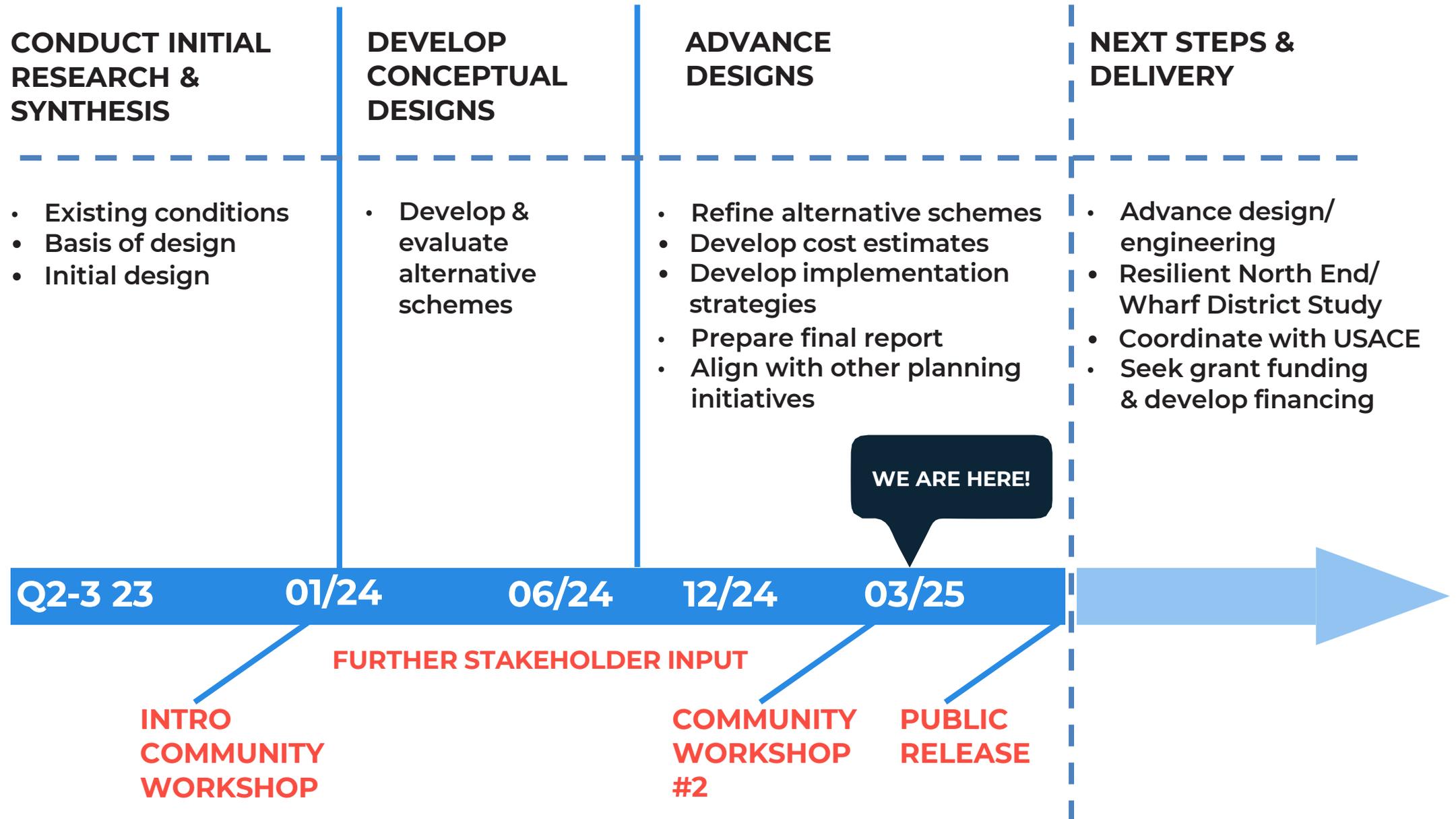


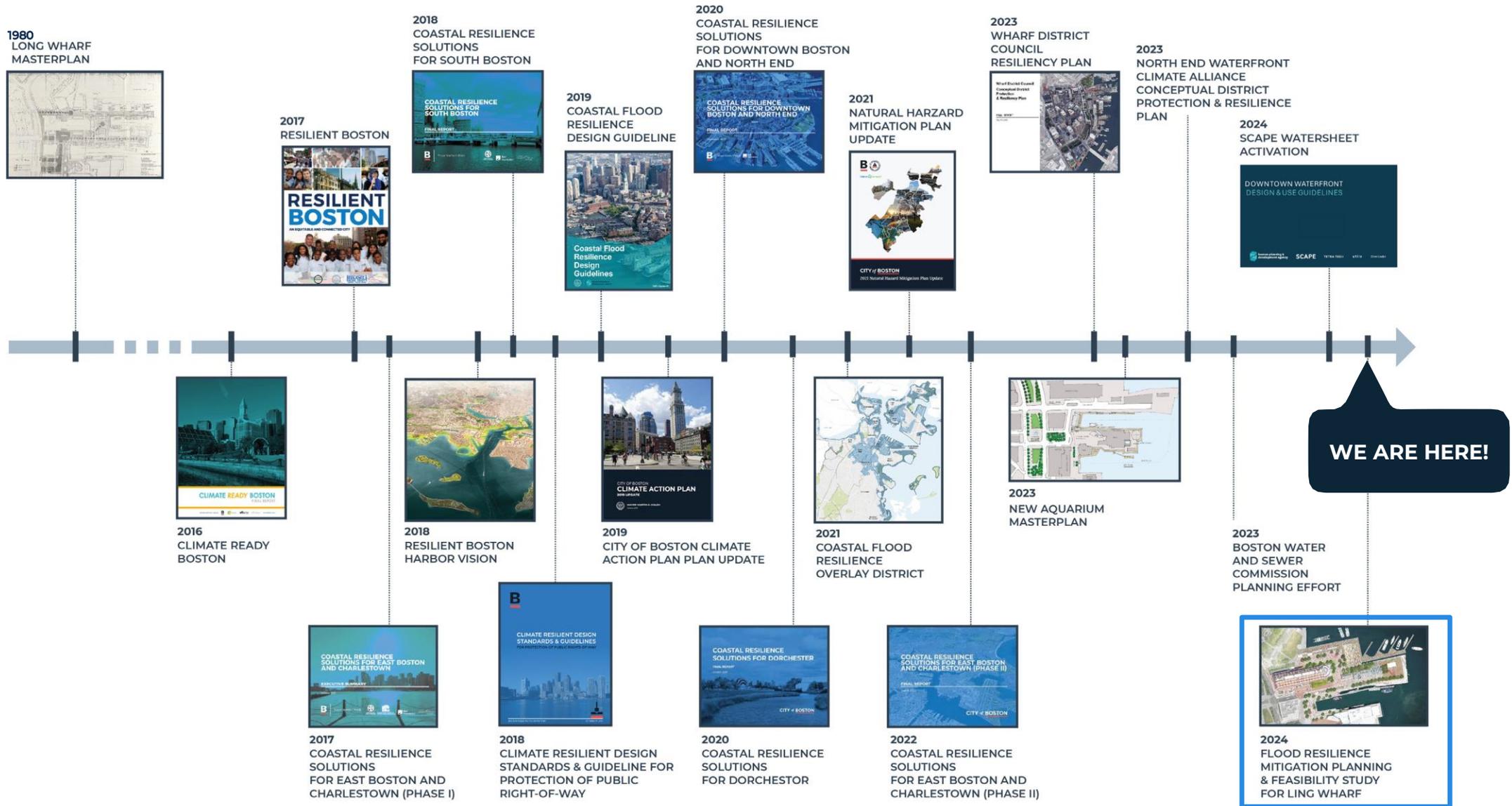
PHOTO VIA ERIN CLARK, BOSTON GLOBE



PROJECT TIMELINE



PROJECT CONTEXT



FLOOD PATHWAYS + RESILIENCE PLANNING COORDINATION

- NORTH END WATERFRONT CLIMATE ALLIANCE RESILIENCE PLAN

- CRB, CRS DR/NE

- COLUMBUS PARK RESILIENCE PLAN (PENDING)

- WDC RESILIENCE PLAN
- CRB, CRS DT/NE

- WDC RESILIENCE PLAN
- NEAQ MASTERPLAN
- BOSTON PLANNING DEPT LW RESILIENCE PLAN
- CRB, CRS DT/NE

9" SEA LEVEL RISE FLOOD ENTRY POINT

40" SEA LEVEL RISE FLOOD ENTRY POINT

9" SEA LEVEL RISE FLOOD ENTRY POINT

3

NORTH END & WATERFRONT

2

COLUMBUS PARK

1

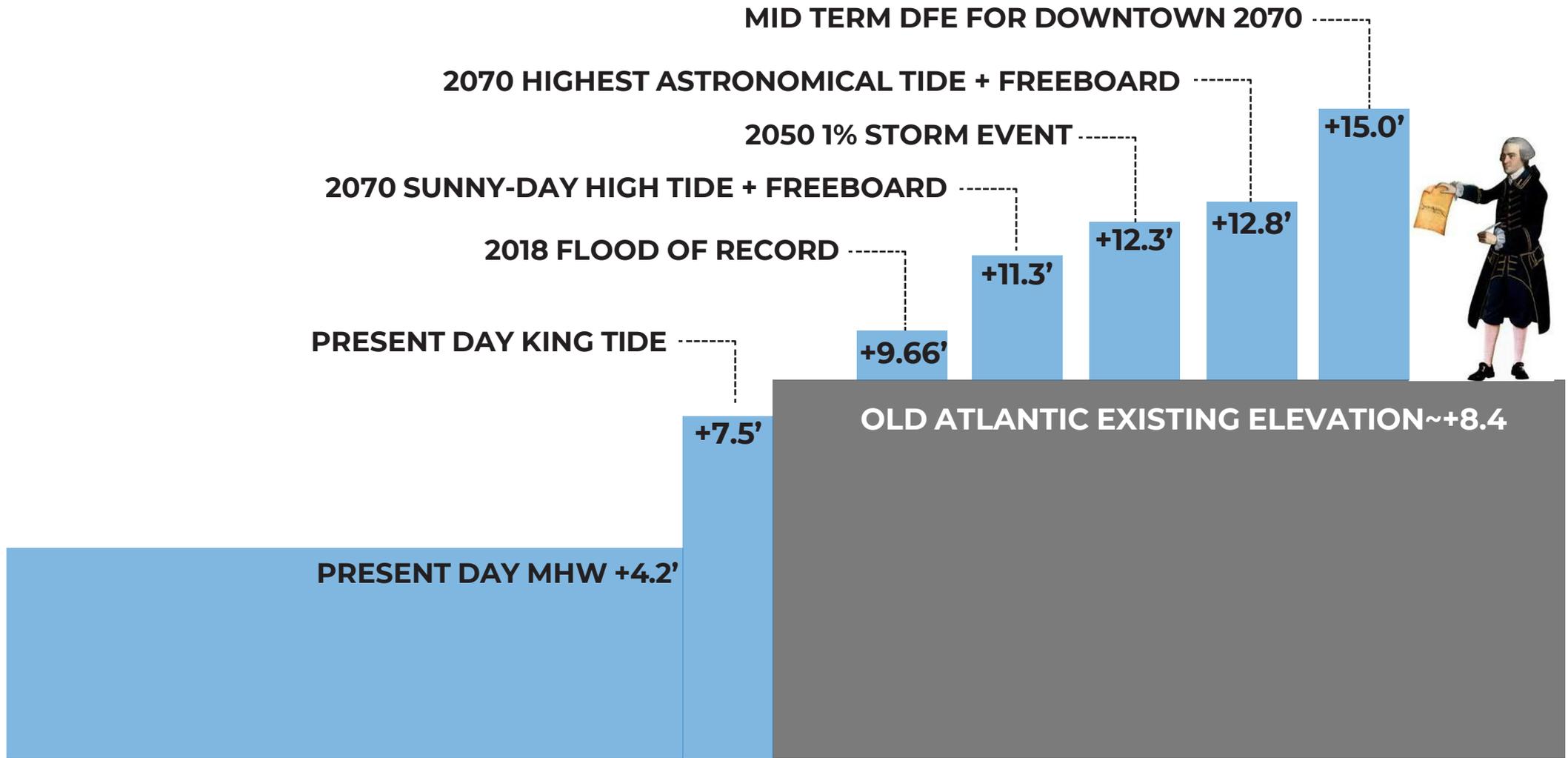
CURRENT FLOOD ENTRY POINT

LONG WHARF

- CURRENT FLOODING
- 9" SEA LEVEL RISE (2030)
- 40" SEA LEVEL RISE (2070)
- CURRENT FLOOD PATHWAYS
- 2030 FLOOD PATHWAYS
- 2070 FLOOD PATHWAYS



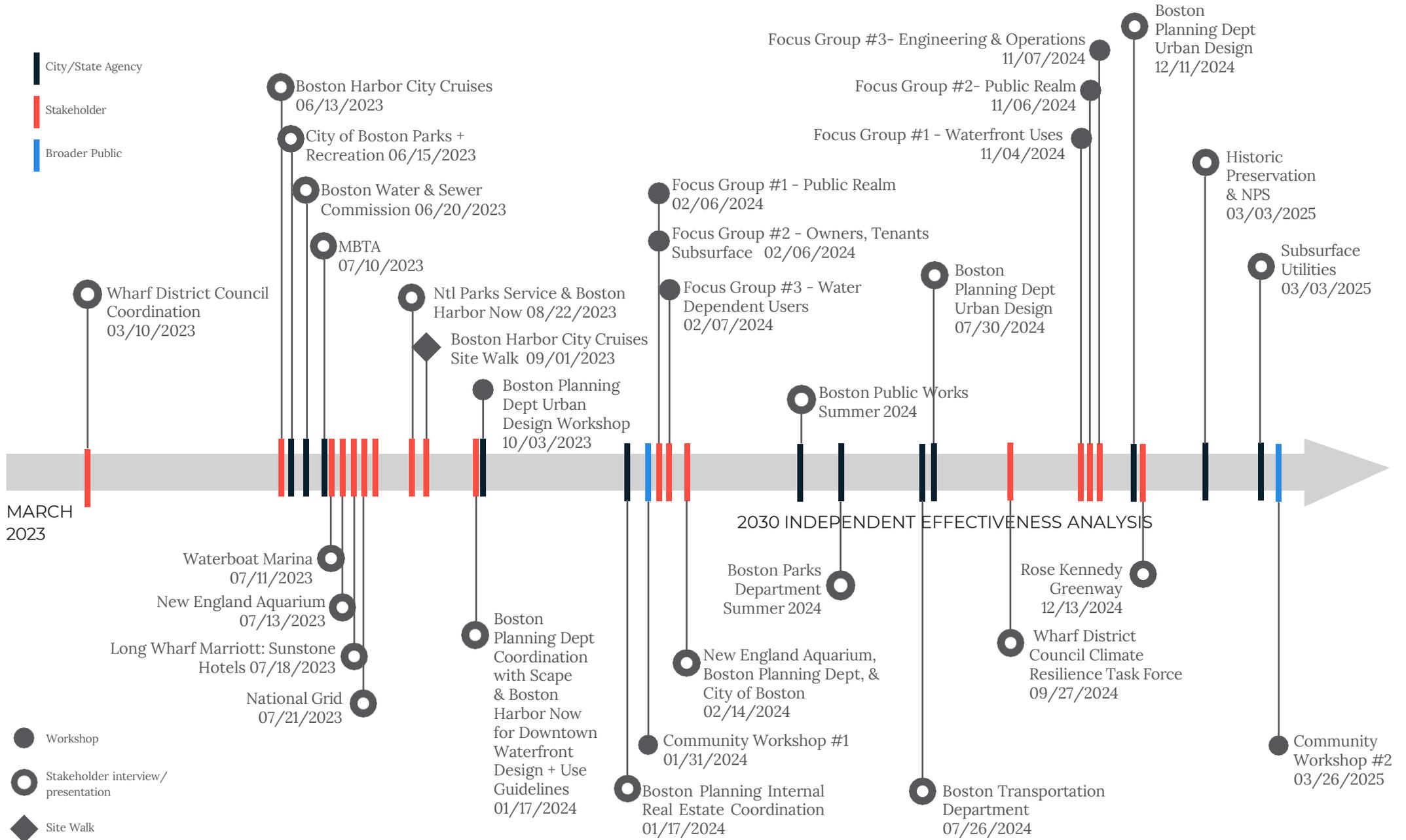
PROJECT DESIGN FLOOD ELEVATIONS



ALL ELEVATIONS ARE IN FEET NAVD88



ENGAGEMENT PROCESS



EMBEDDED ENGAGEMENT



ENGAGEMENT FEEDBACK



OPEN SPACE + ACCESS TO WATER

ENSURE THAT THE PARK'S PROGRAMMING IS RETAINED, AS THE COMMUNITY VALUES THE OPEN, FLEXIBLE SPACE AND DOES NOT WANT TO LOSE IT DUE TO FLOODING OR CHANGES IN THE RELATIONSHIP TO WATER.

BOSTON PARKS DEPARTMENT



THERE IS NO EASY PATH TO THE WATERFRONT, AND THERE IS NO HANGOUT SPACE. WE NEED TO CREATE A COMMUNAL OPEN SPACE.

NEW ENGLAND AQUARIUM



WAYFINDING



ENGAGEMENT FEEDBACK



FOR PASSENGERS ARRIVING EARLY, THERE ARE FEW PLACES TO ESCAPE THE SUN OR RAIN, SO ADDITIONAL WAITING AREAS WOULD BE WELCOME.

NEW ENGLAND AQUARIUM

OUTDOOR COMFORT
+ SHADE



HISTORY + PLACEMAKING



LONG WHARF IS A SIGNIFICANT SITE IN THE REVOLUTIONARY WAR, PROVIDING A GREAT OPPORTUNITY TO INCORPORATE HISTORY THROUGH LANDSCAPE AND ART.

NPS + BHN



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FOCUS GROUP FEEDBACK

DOES A BARRIER AT ELEVATION +15.0'
CREATE A BARRIER BETWEEN THE
WATER'S EDGE AND FOLKS VISITING THE
SITE?

THERE WILL NEED TO BE A
VEHICULAR / EMERGENCY ACCESS
PATHWAY MAINTAINED TO THE
MBTA EGRESS PAVILION

PEOPLE WANT SHADE ALONG THE
HARBORWALK, NOT JUST WHILE
THEY WAIT FOR THE FERRIES

THE CHART HOUSE IS VERY
POPULAR WITH THE LOCAL
COMMUNITY

BETTER SIGNAGE IS
NEEDED; WAYFINDING
IS AN ONGOING
PROBLEM.

SOME CONCERNED
WITH TRIPPING
HAZARDS & WATER
EDGE PROTECTION

THE IDEA OF A CENTRALIZED
TICKETING/INFORMATION BUILDING
IS WELL-RECEIVED

ARE THERE OTHER AREAS ALONG THE
HARBOR/ WATERFRONT WHERE AN URBAN
BEACH SCHEME COULD BE IMPLEMENTED?

WHAT DOES
CONSOLIDATED WATER
TRANSPORTATION LOOK
LIKE? WHERE WILL PEOPLE
QUEUE?



PUBLIC WORKSHOP #1

WHAT DESIGN FEATURES, USES, FACILITIES, AND IMPROVEMENTS WOULD YOU LIKE TO SEE AT LONG WHARF?



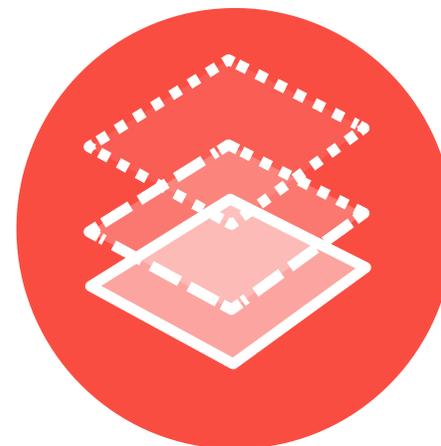
DESIGN PRINCIPLES



PRIORITIZE THE PUBLIC REALM



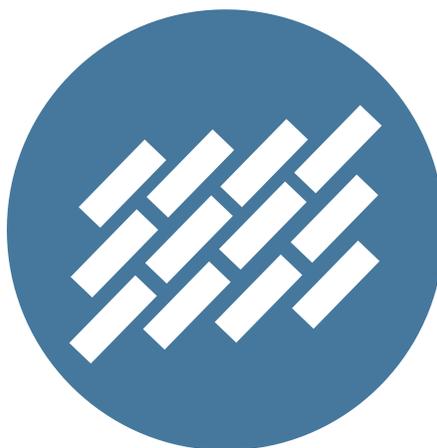
**INCREASE ACCESS TO
+ EXPERIENCES OF THE
WATER**



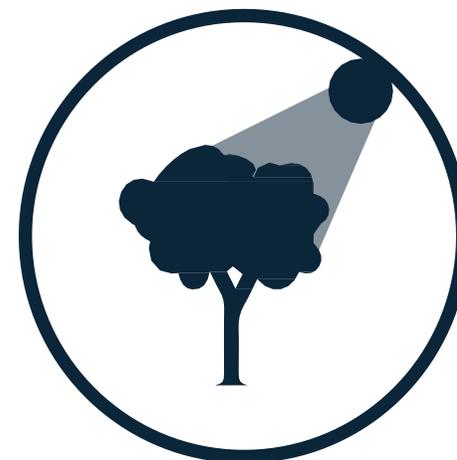
**RETAIN + AMPLIFY
HISTORIC LAYERING**



**DIVERSIFY CULTURAL
HISTORIES**



**UTILIZE COMPATIBLE +
COMPLEMENTARY
MATERIALS**



**INCREASE PLANTING,
SHADE, + COMFORT**



DESIGN PRINCIPLES



PRIORITIZE THE PUBLIC REALM

With its rich history, sweeping views of the harbor, and key location along the waterfront, the project must prioritize creating a strong public realm that addresses future risk while knitting into the existing urban context.

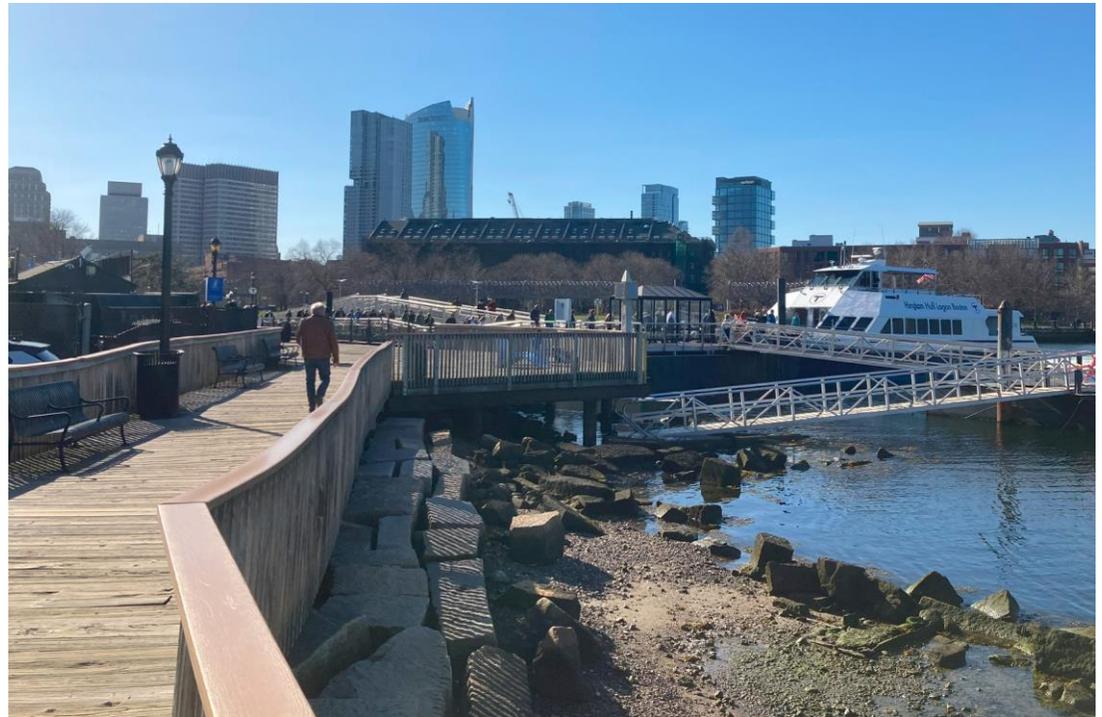


DESIGN PRINCIPLES



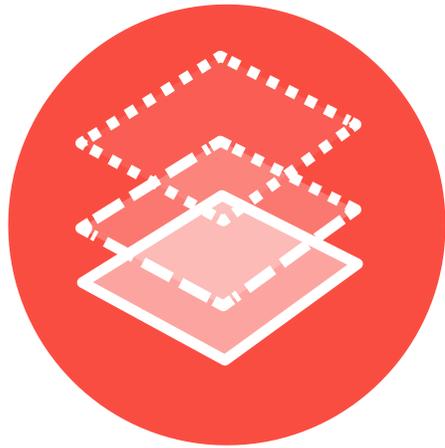
**INCREASE ACCESS TO
+ EXPERIENCES OF THE
WATER**

How can this project provide safe, accessible ways to experience the water's edge? What are the variety of experiences this project can provide?



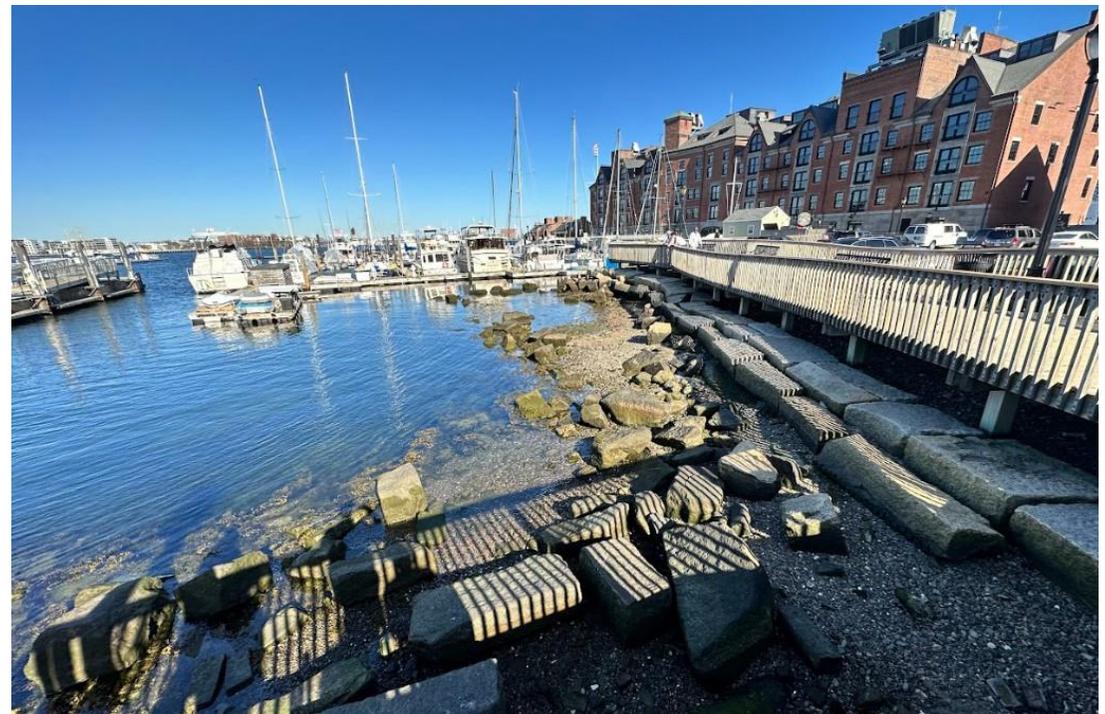
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DESIGN PRINCIPLES



**RETAIN + AMPLIFY
HISTORIC LAYERING**

What are the ways this project can add another layer to the ever-changing build-up of Long Wharf? What layers do we maintain, reveal, or deliberately adjust?



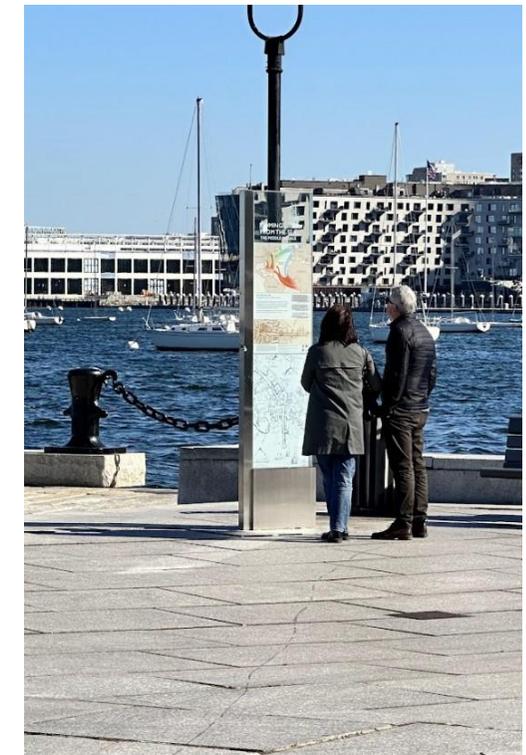
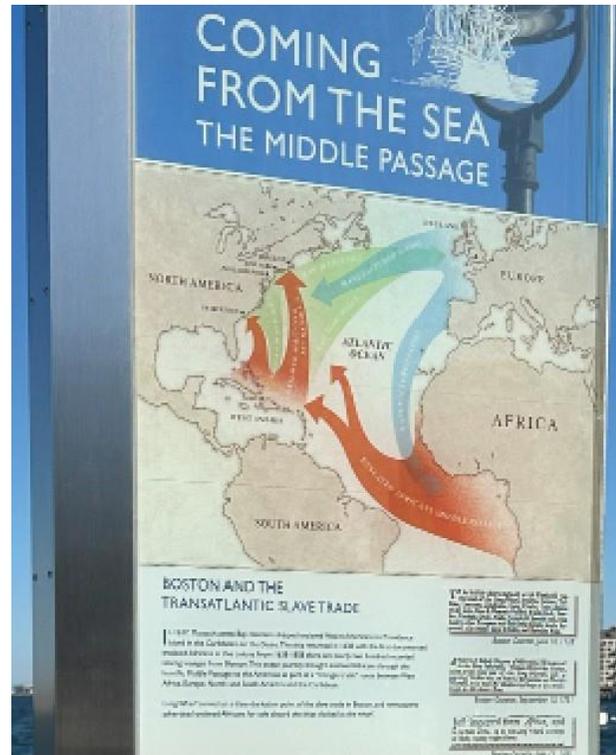
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DESIGN PRINCIPLES

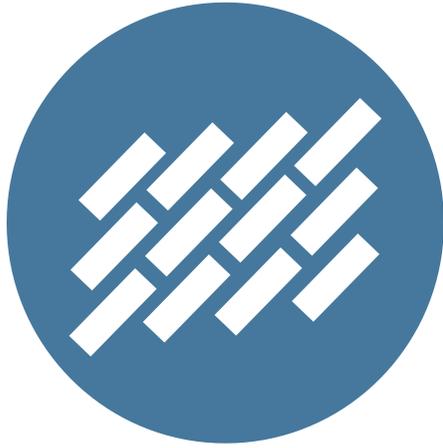


DIVERSIFY CULTURAL HISTORIES

How might the site foreground and amplify the various narratives + cultural histories that have been part of Long Wharf's history in its spatial composition?

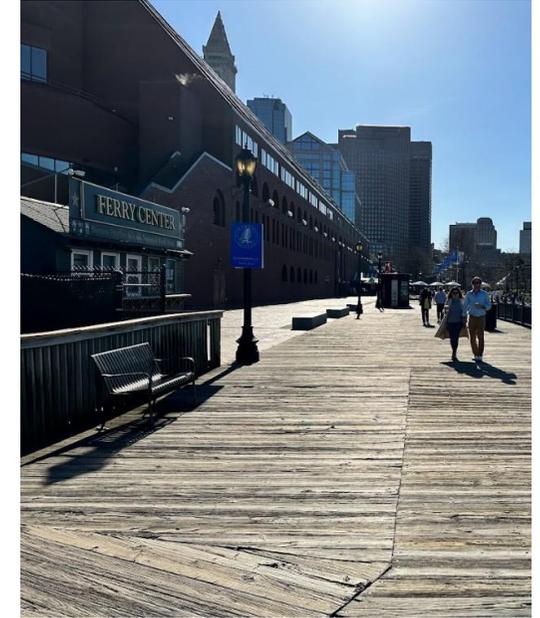


DESIGN PRINCIPLES



UTILIZE COMPATIBLE + COMPLEMENTARY MATERIALS

How do we ensure high-quality, compatible, and regionally-sourced materials are utilized in the right locations on the wharf?

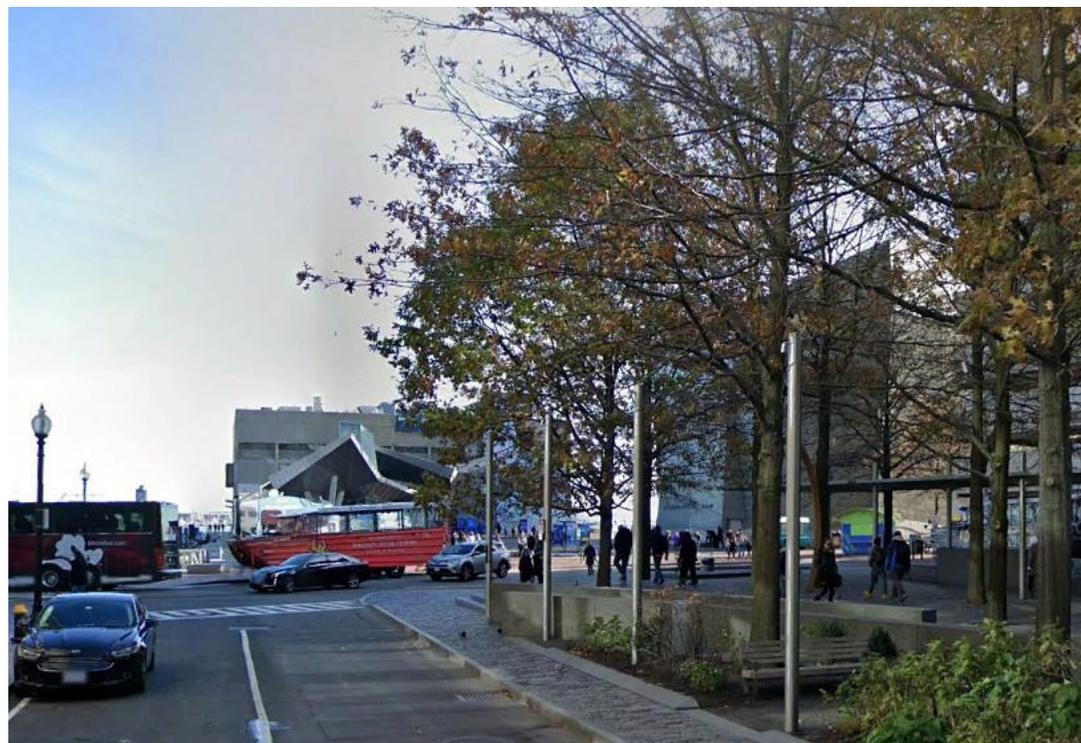


DESIGN PRINCIPLES



**INCREASE PLANTING,
SHADE, + COMFORT**

How can planting and shade be appropriately incorporated for outdoor comfort, increased ecological benefit, and green infrastructure?



FEEDBACK OPPORTUNITY

HOW WOULD YOU PRIORITIZE THE DESIGN PRINCIPLES?

SCAN QR BELOW



OR

VISIT:

MENTI.COM

ENTER CODE:

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Planning Department

2070 LONG-TERM SOLUTIONS

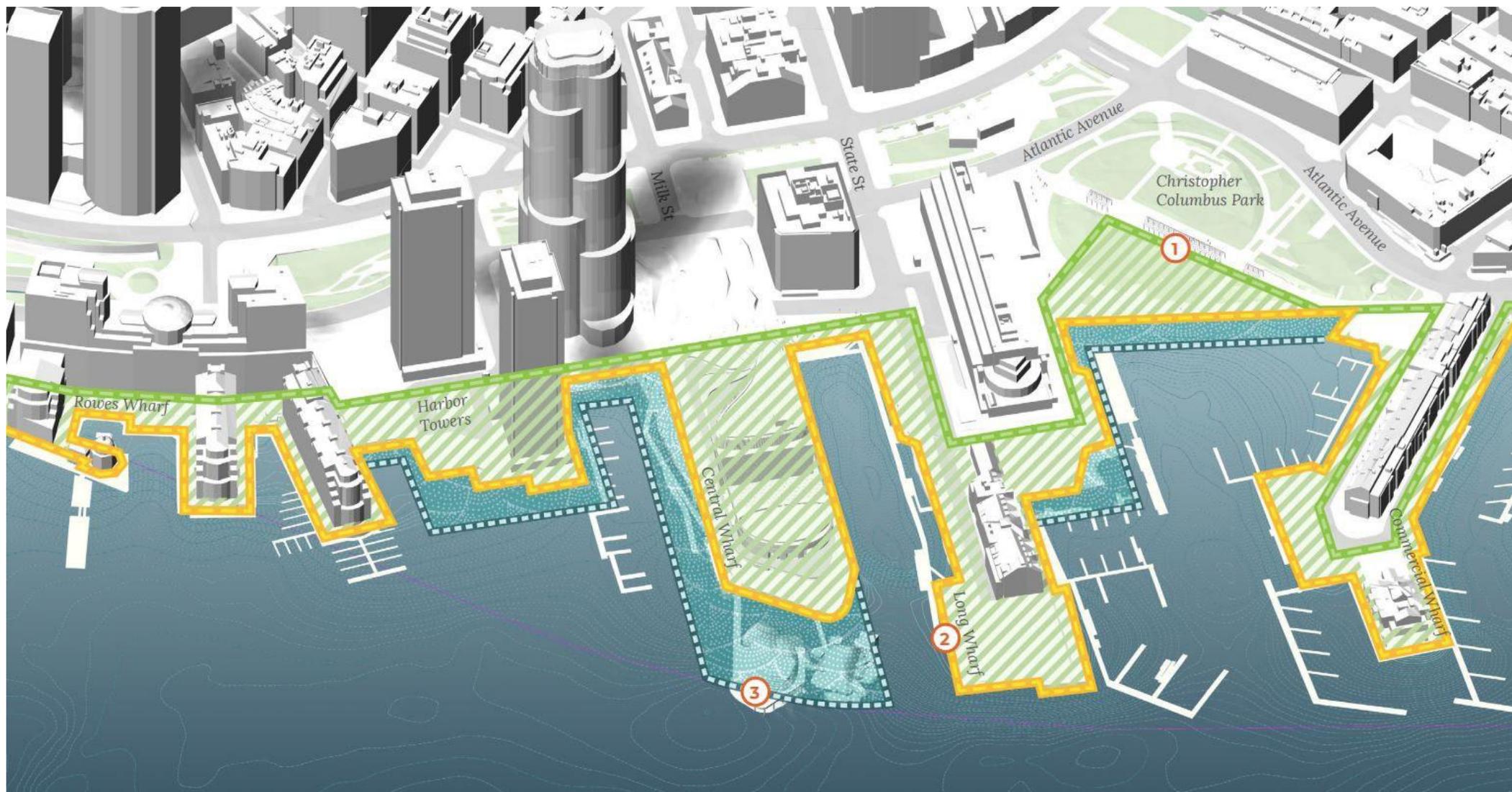


LONG-TERM (2070) SOLUTIONS

- Provide 2 strategies with increasing levels of flood protection as envisioned by Climate Ready Boston
- Focus on improving public experience
- Solutions should be universally accessible
- Incorporate Marine Transit Improvements for all solutions
- Protect downtown Boston flood pathways to Elevation 15.0 NAVD88 with flexibility to increase to a higher DFE



CLIMATE READY BOSTON



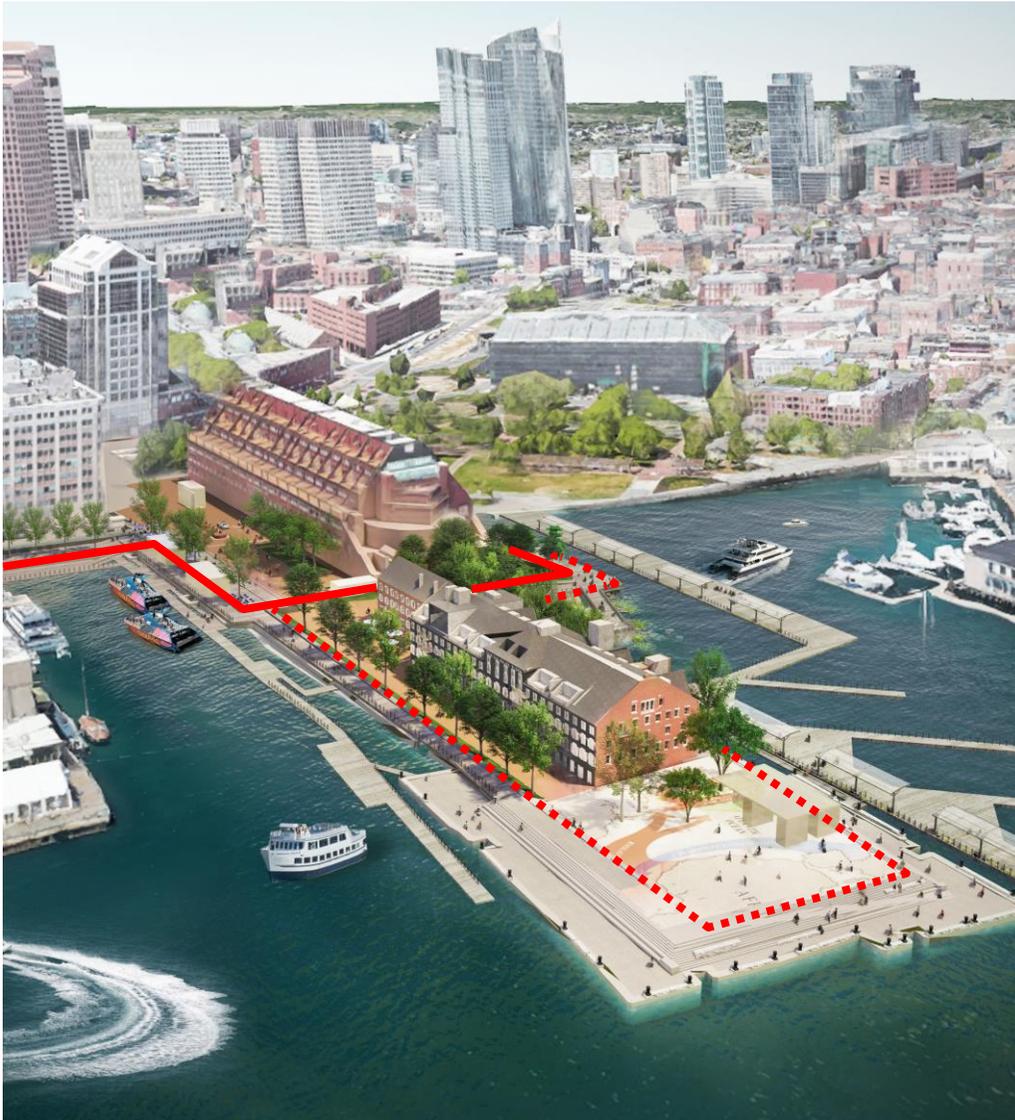
COASTAL RESILIENCE SOLUTIONS FOR DOWNTOWN BOSTON AND NORTH END, 2020

LONG-TERM APPROACH

LEGEND

— +15.0'

- - - +12.8'



ACUPUNCTURE

BIG SPLASH

LONG-TERM APPROACH- ACUPUNCTURE



LONG-TERM APPROACH- ACUPUNCTURE

- Careful insertion of flood protection into existing conditions
- Raise harborwalk
- Planting for shade
- Reimagined MBTA egress pavilion
- Stepped social edge at end of wharf
- Incorporation of a deployable barrier
- Chart House parking lot converted open space

PRESENT DAY



POTENTIAL FUTURE FLOODING



LONG-TERM APPROACH- ACUPUNCTURE



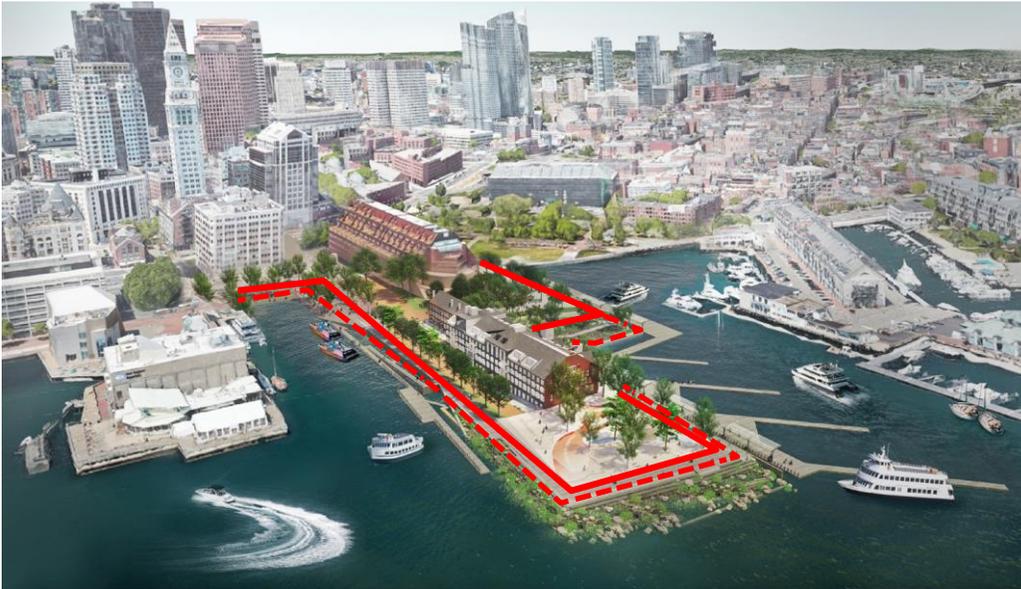
LONG-TERM APPROACH- BIG SPLASH



LONG-TERM APPROACH-BIG SPLASH

- Raise harborwalk
- Steps + social edge down to water
- Fill along entirety of wharf
- Planting for shade
- Marine transit consolidated to the north
- Chart House parking lot converted to open space

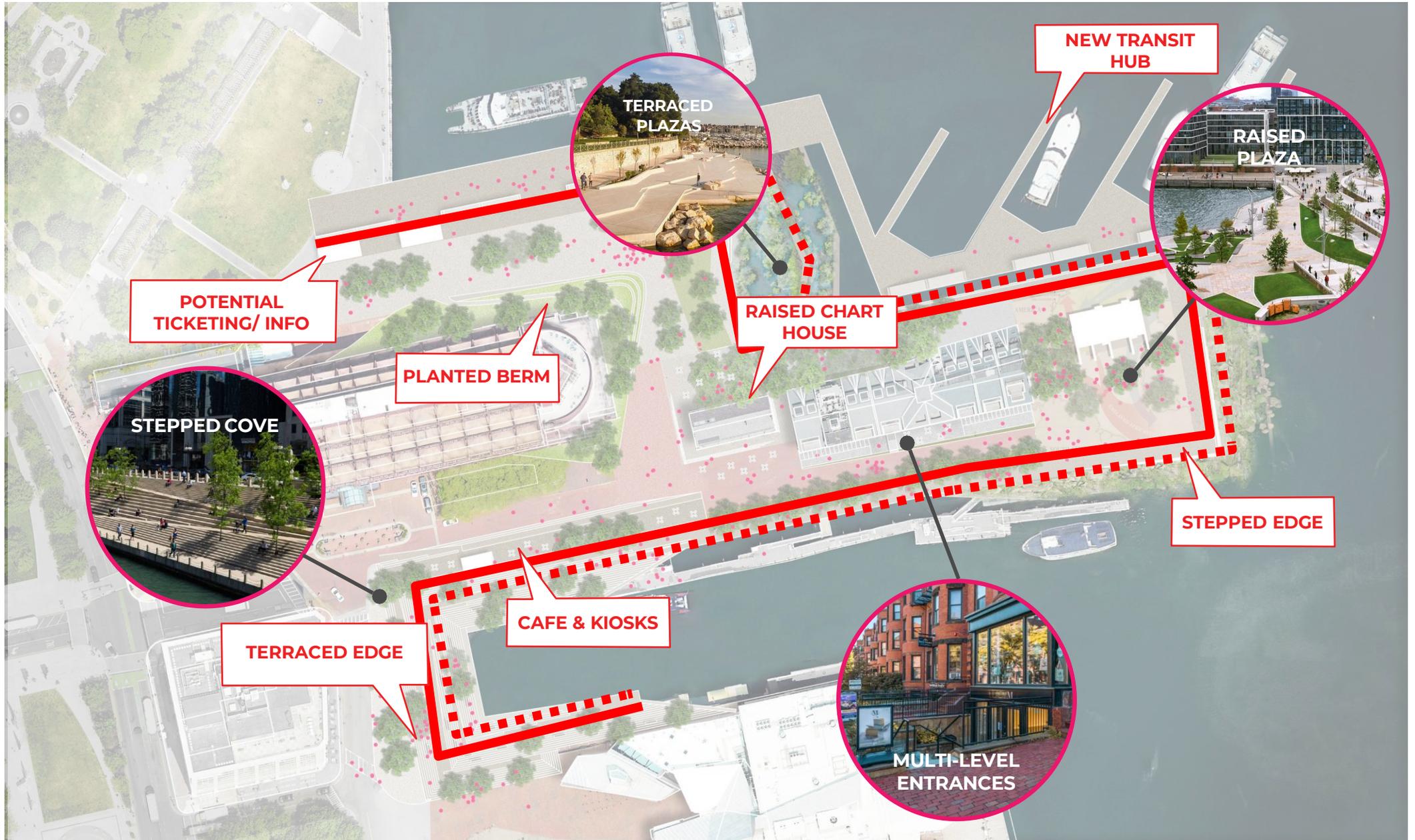
PRESENT DAY



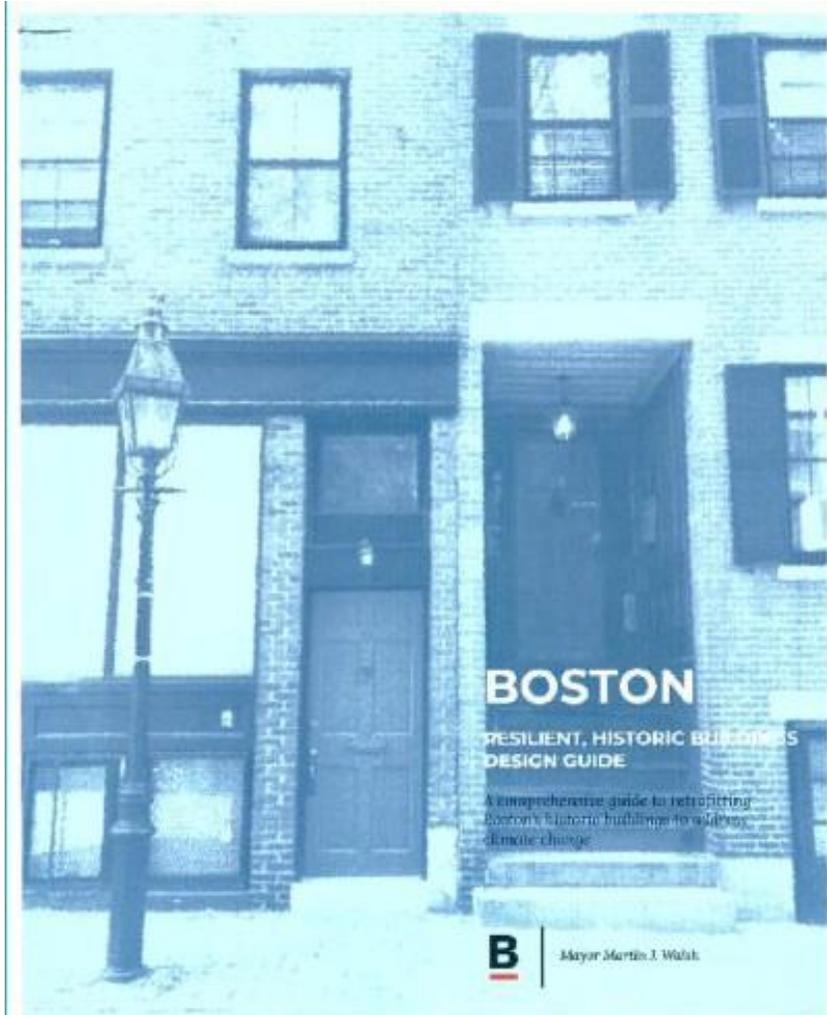
2070 POTENTIAL FLOODING



LONG-TERM APPROACH-BIG SPLASH



RETROFITTING/ ADAPTING STRUCTURES TO LIVE WITH PERIODIC FLOODING

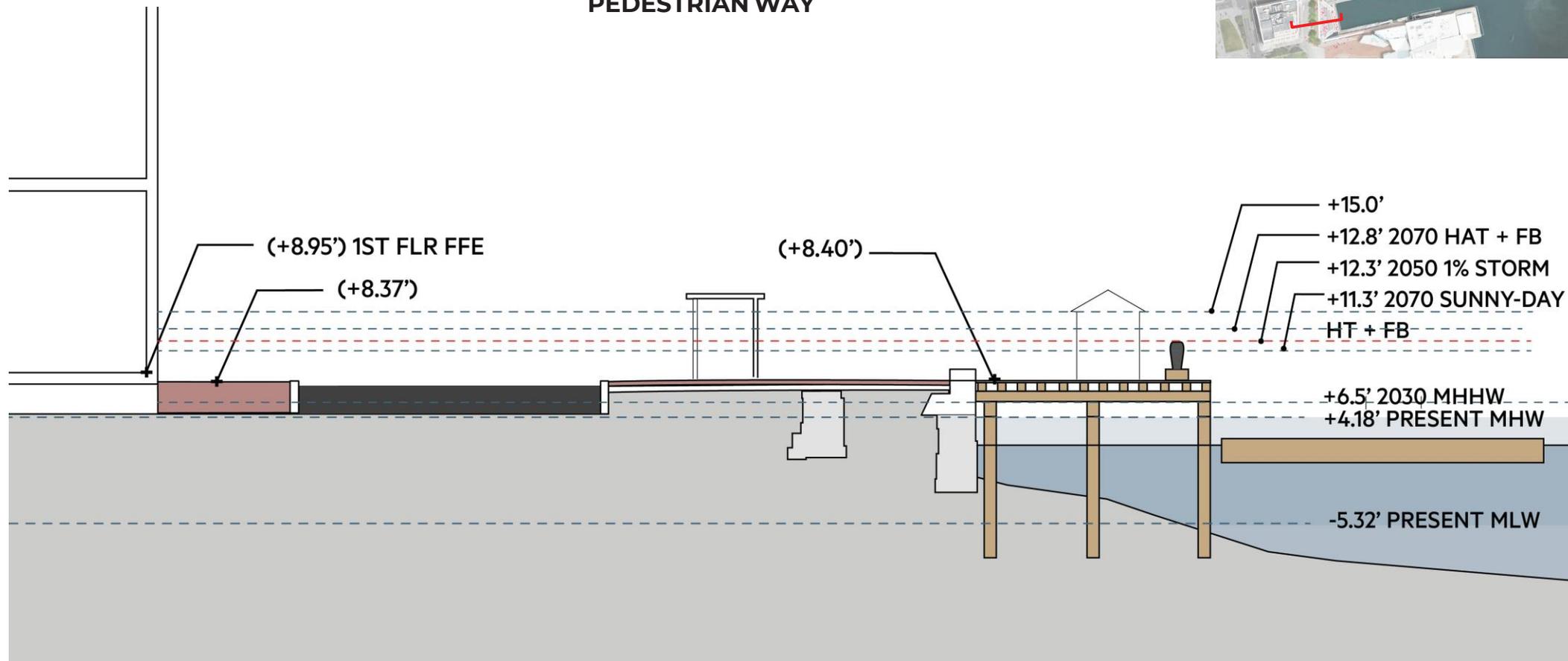


EXISTING CONDITION- OLD ATLANTIC

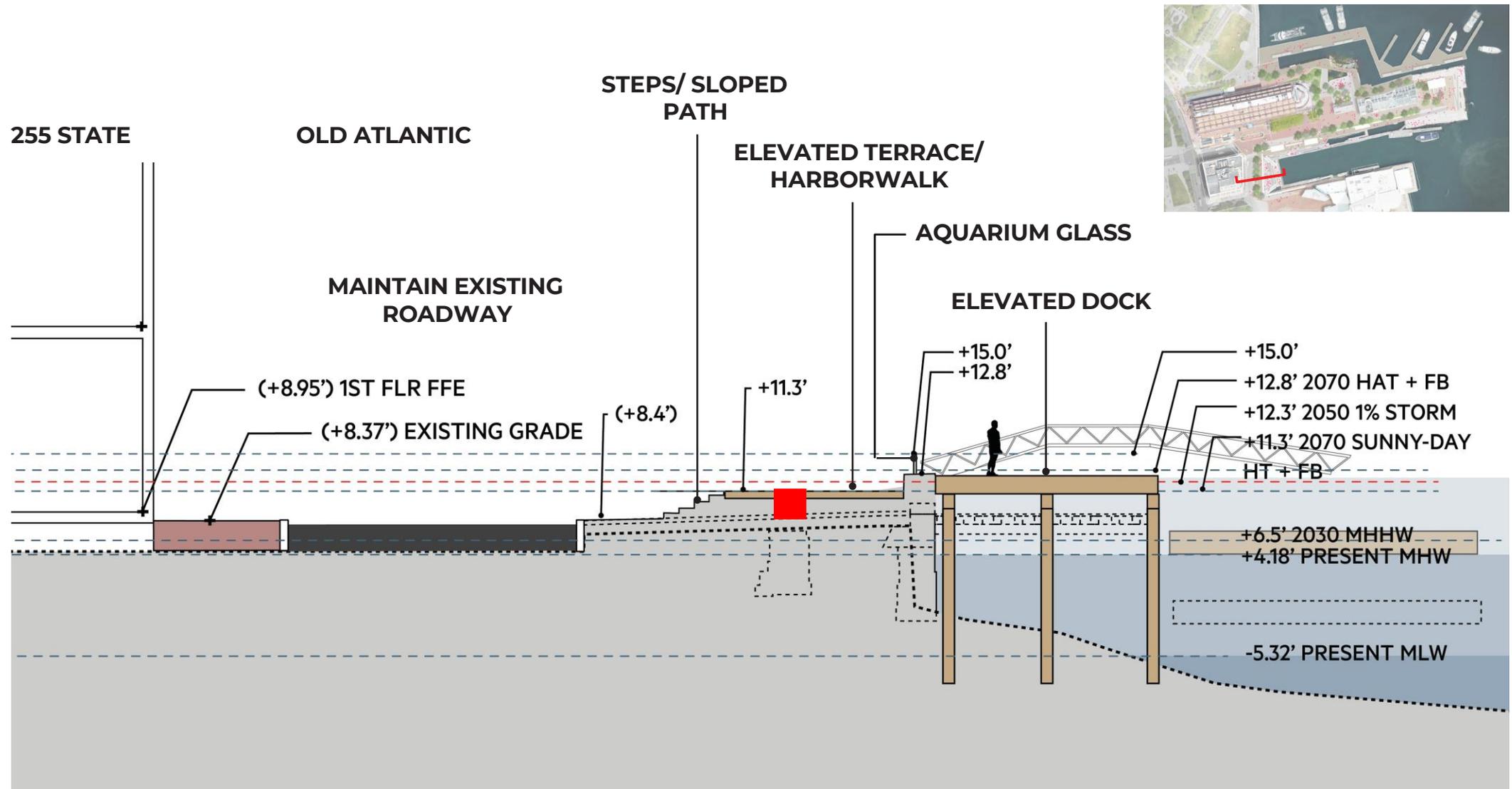
255 STATE

OLD ATLANTIC

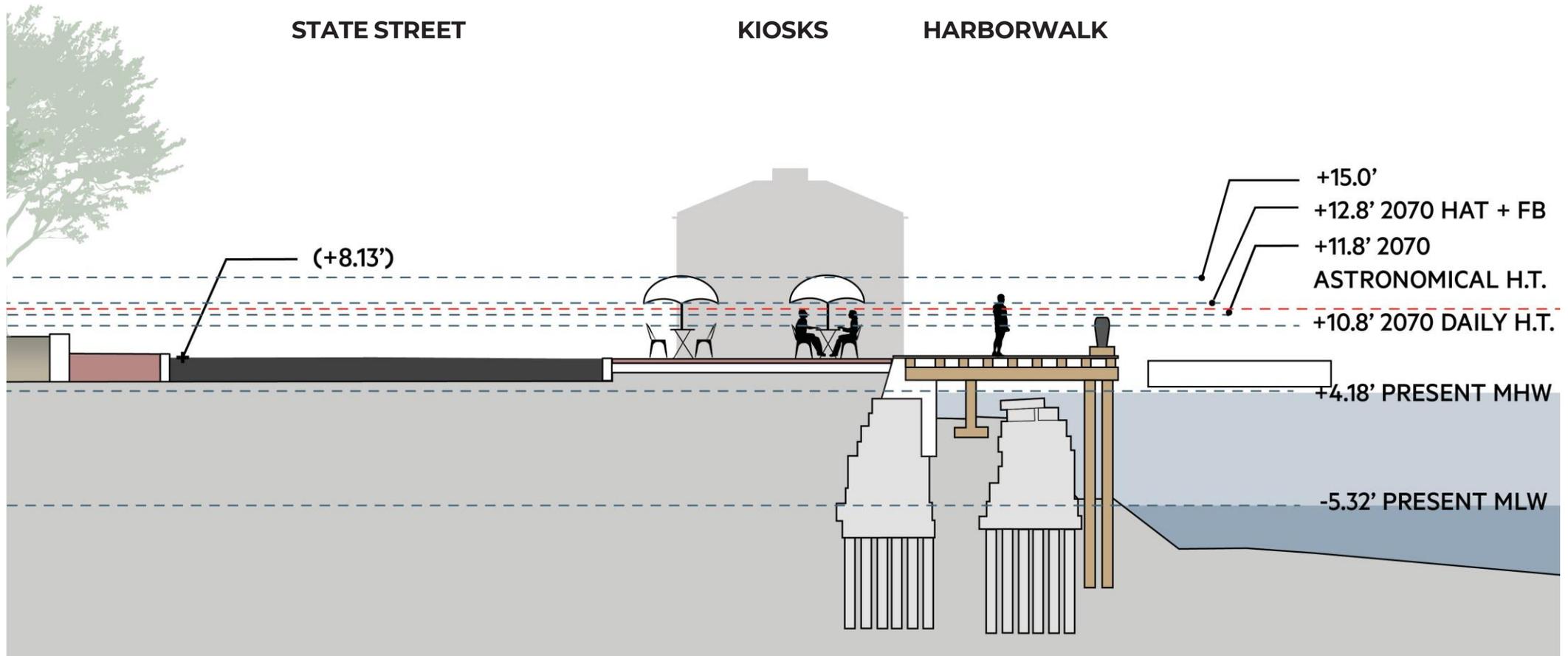
PEDESTRIAN WAY



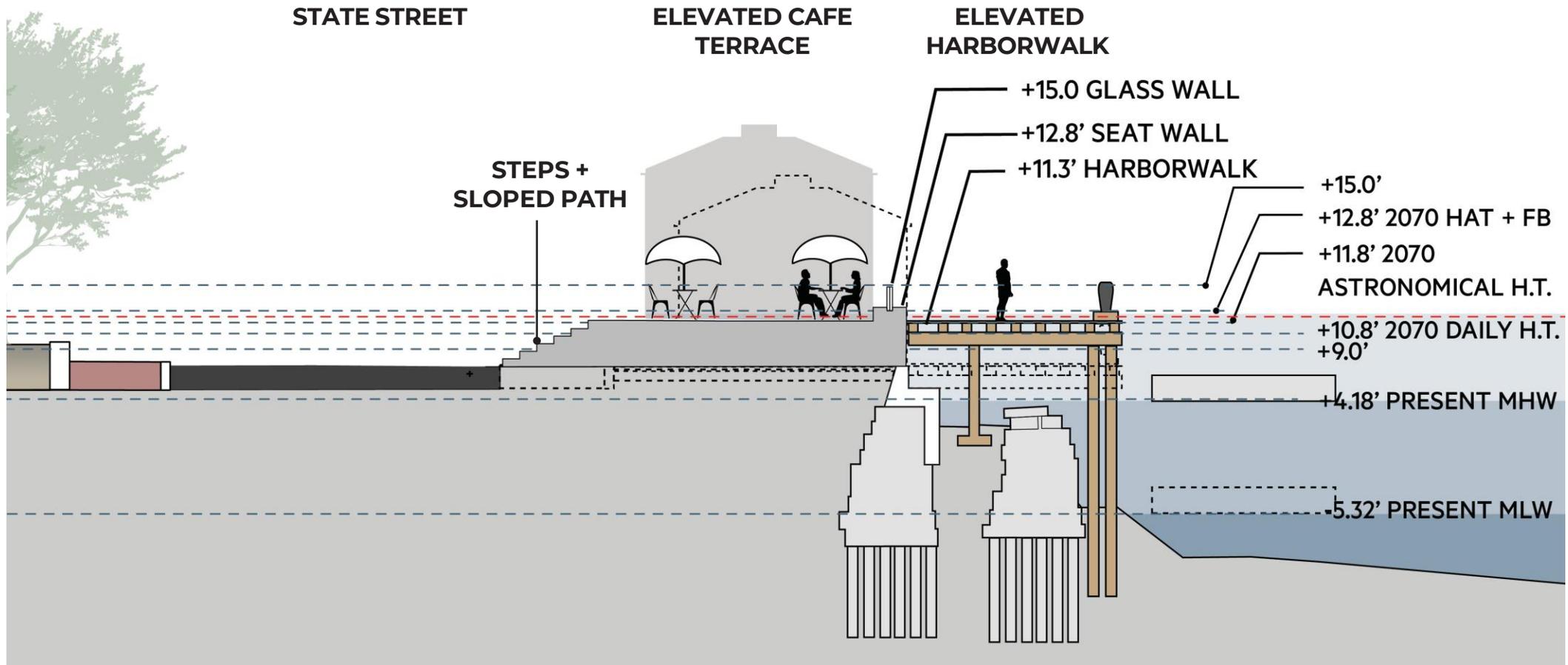
ACUPUNCTURE-OLD ATLANTIC



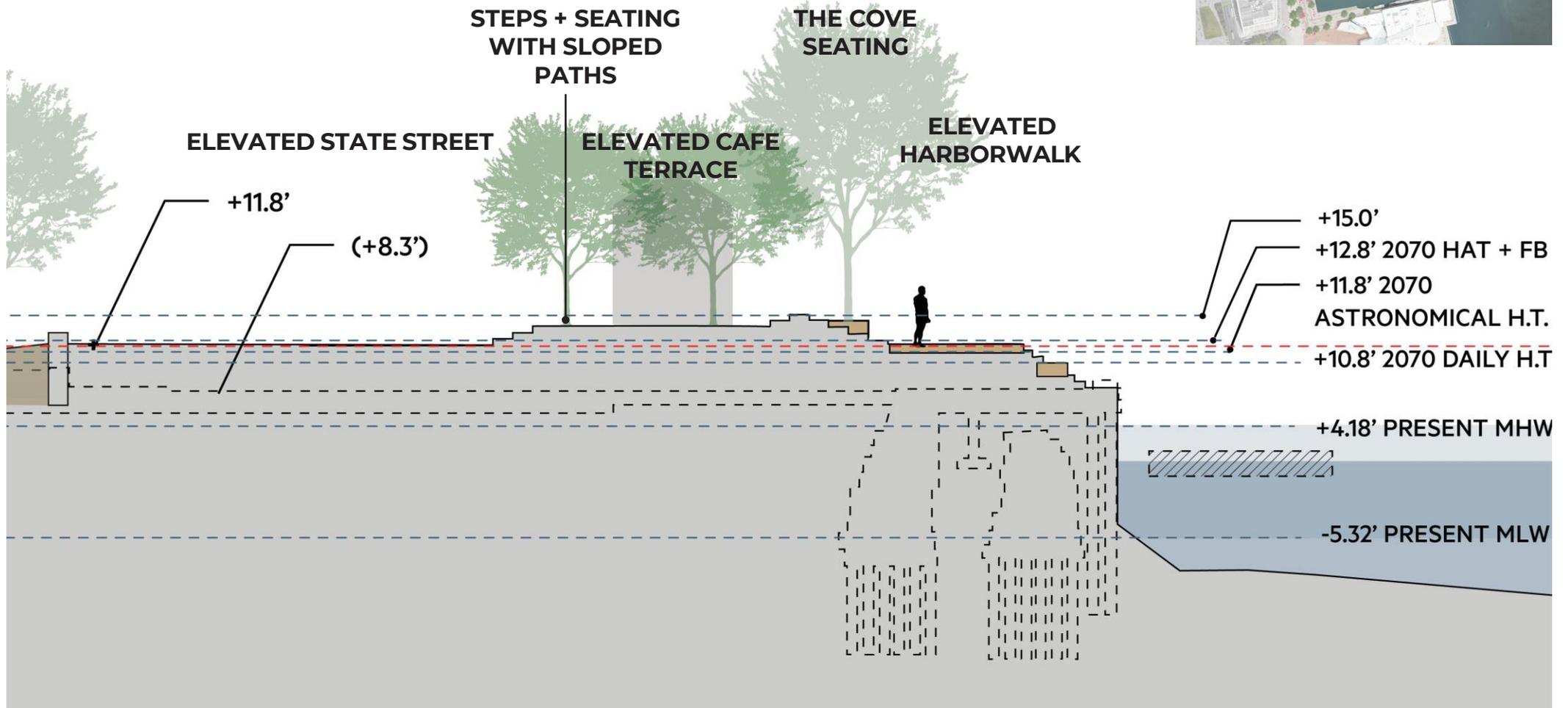
EXISTING CONDITION- STATE STREET



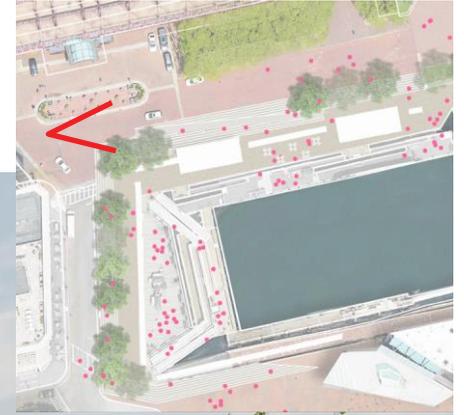
ACUPUNCTURE-STATE STREET



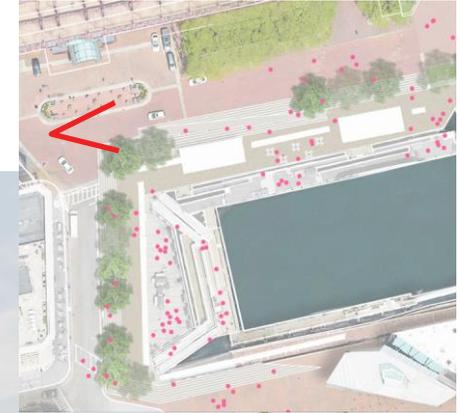
BIG SPLASH- STATE STREET



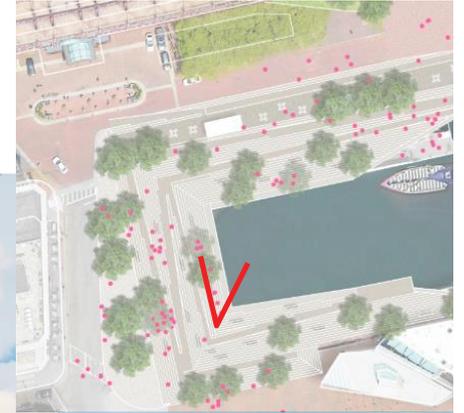
ACUPUNCTURE-STATE STREET



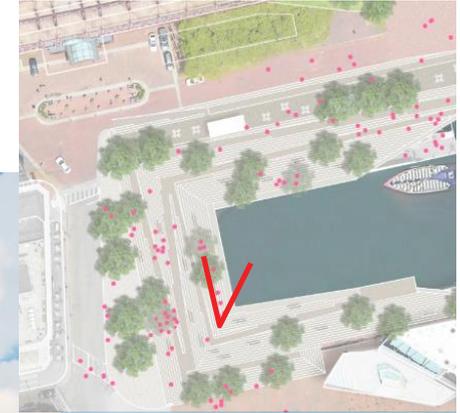
ACUPUNCTURE-STATE STREET



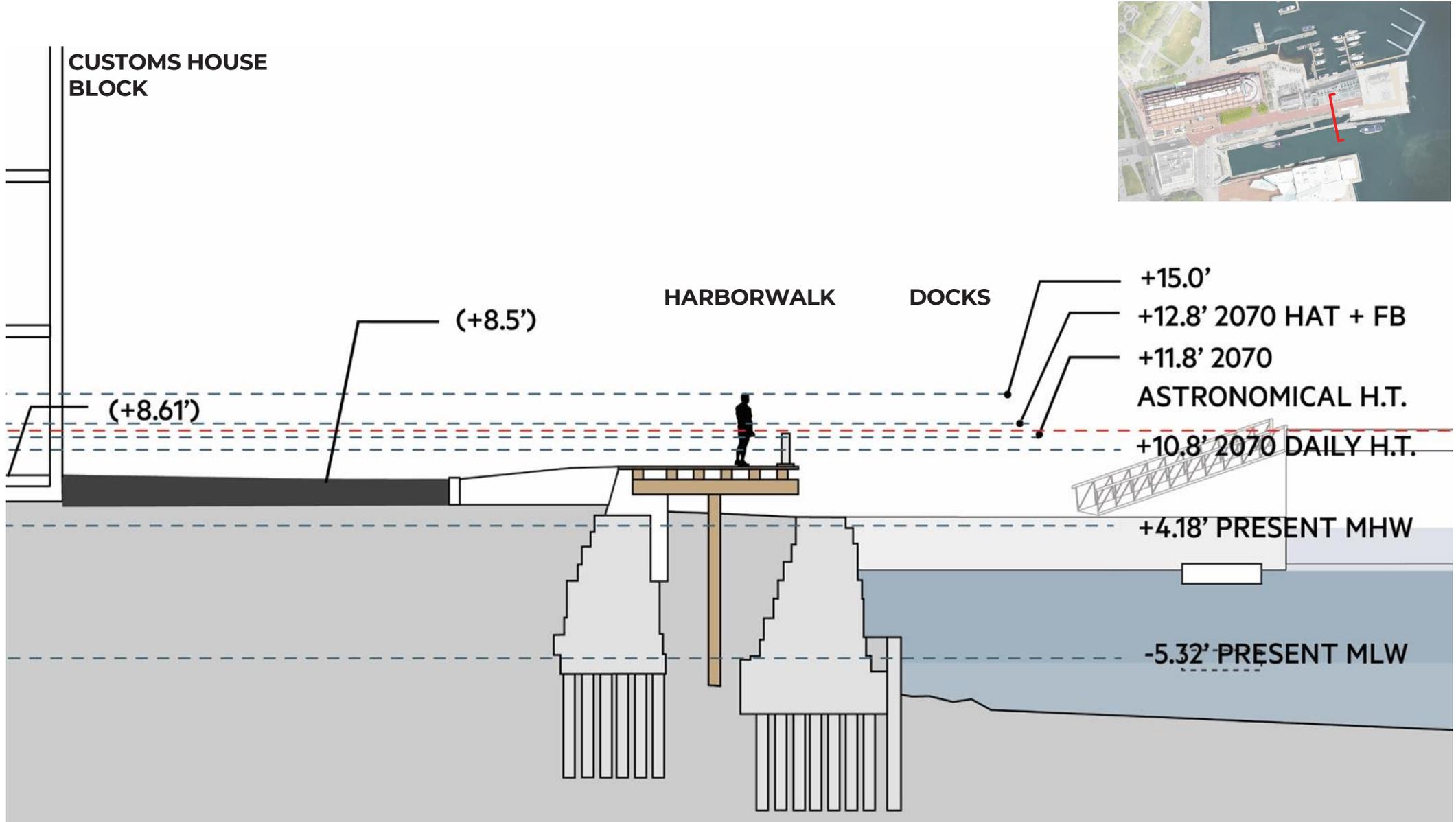
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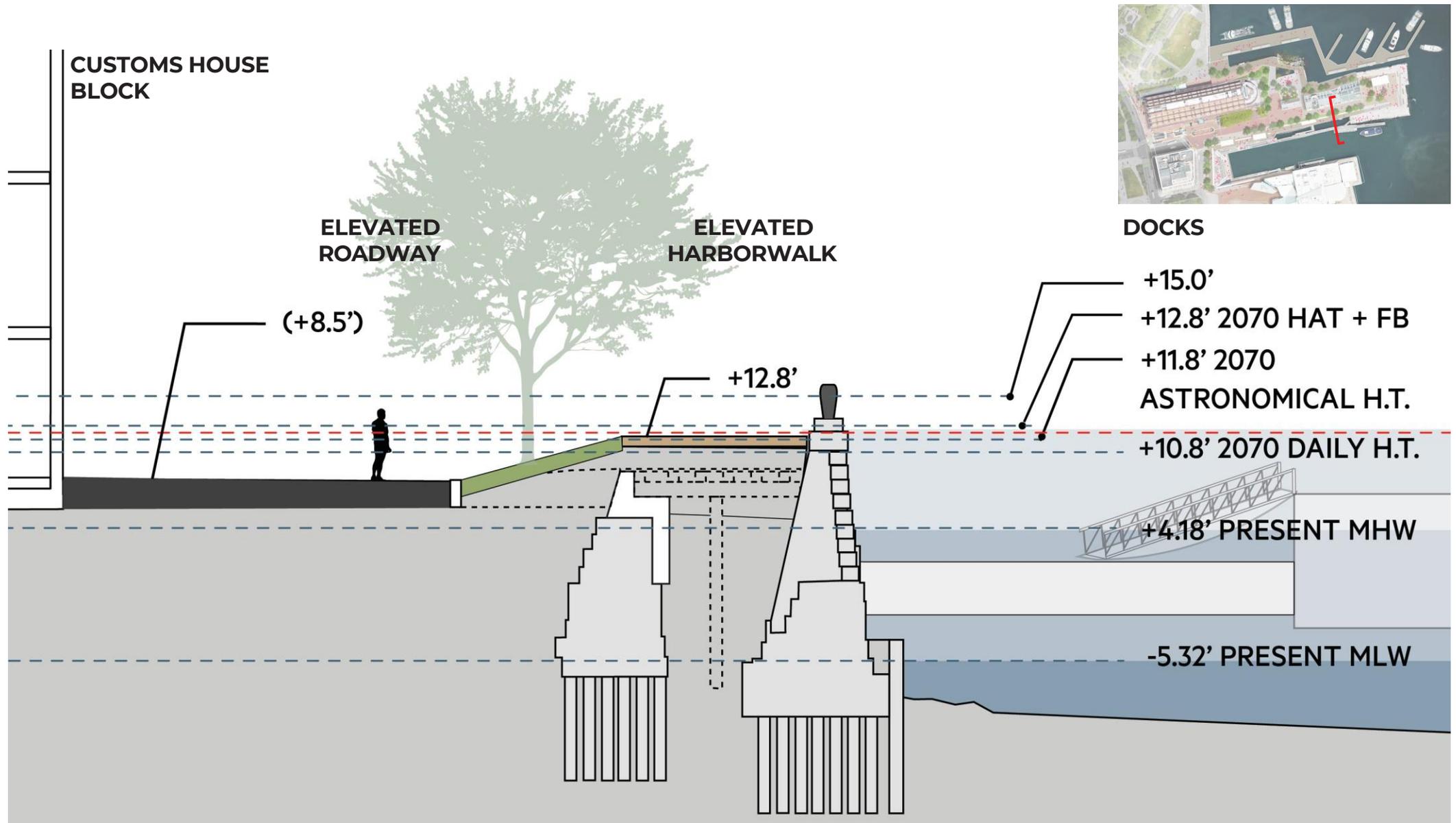
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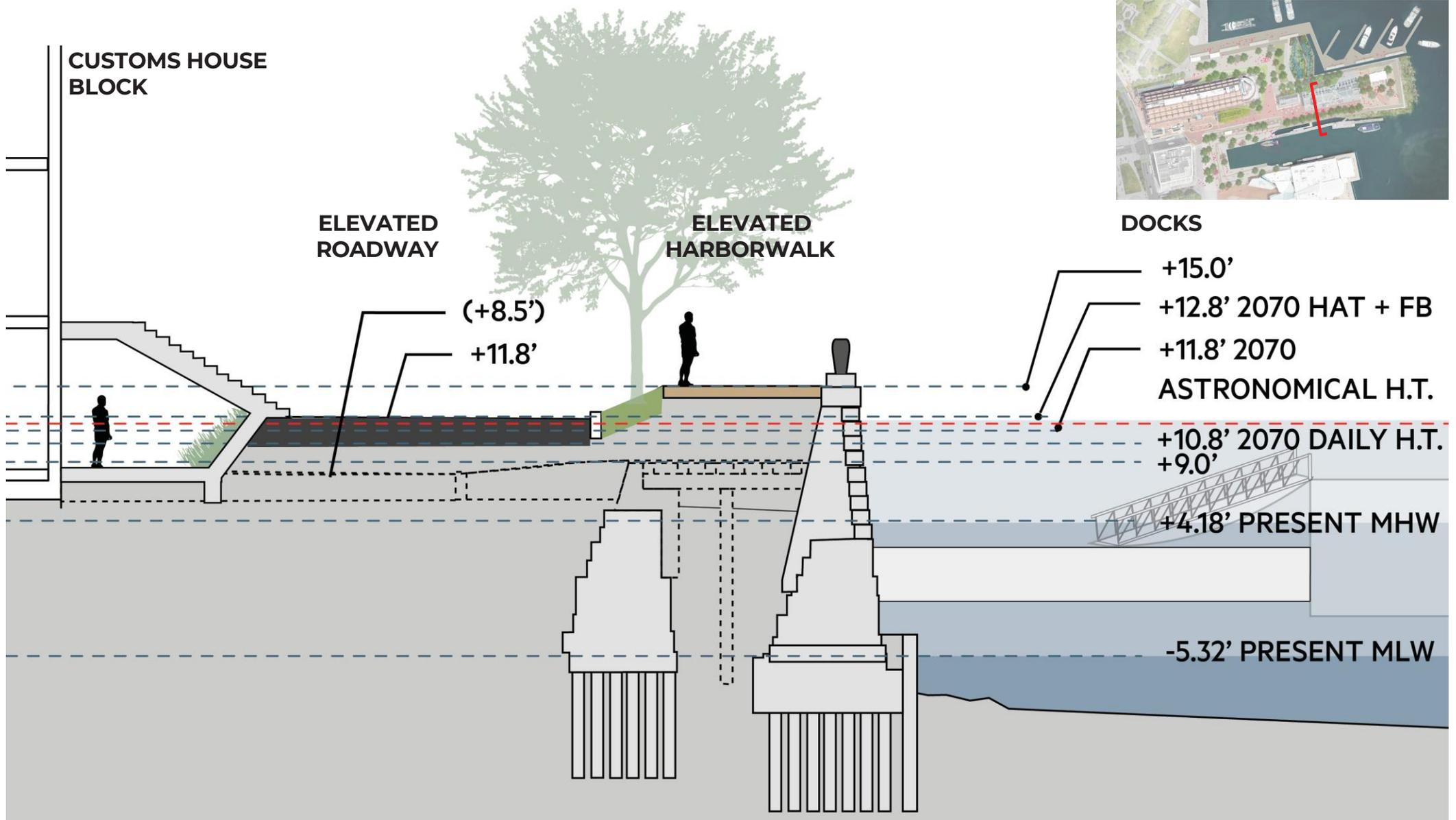
EXISTING CONDITION- SOUTH



ACUPUNCTURE-SOUTH



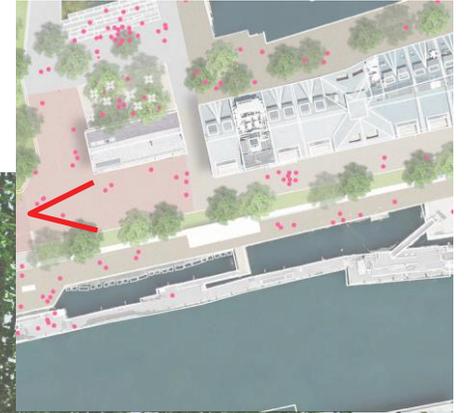
BIG SPLASH-SOUTH



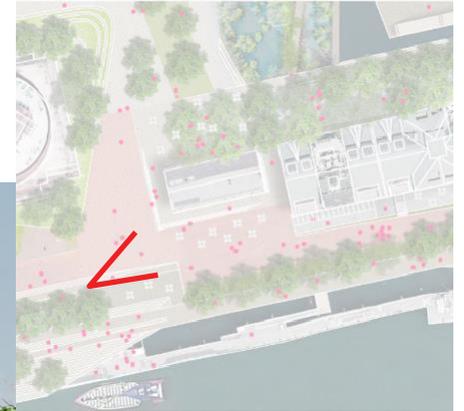
ACUPUNCTURE- SOUTH



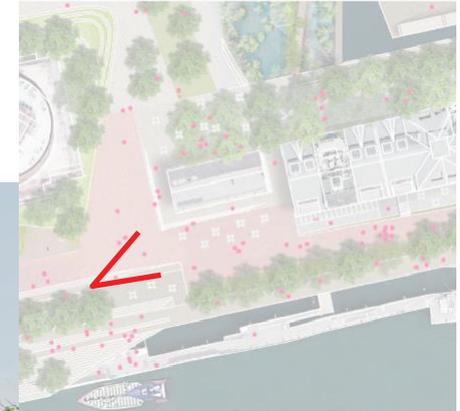
ACUPUNCTURE- SOUTH



BIG SPLASH- SOUTH



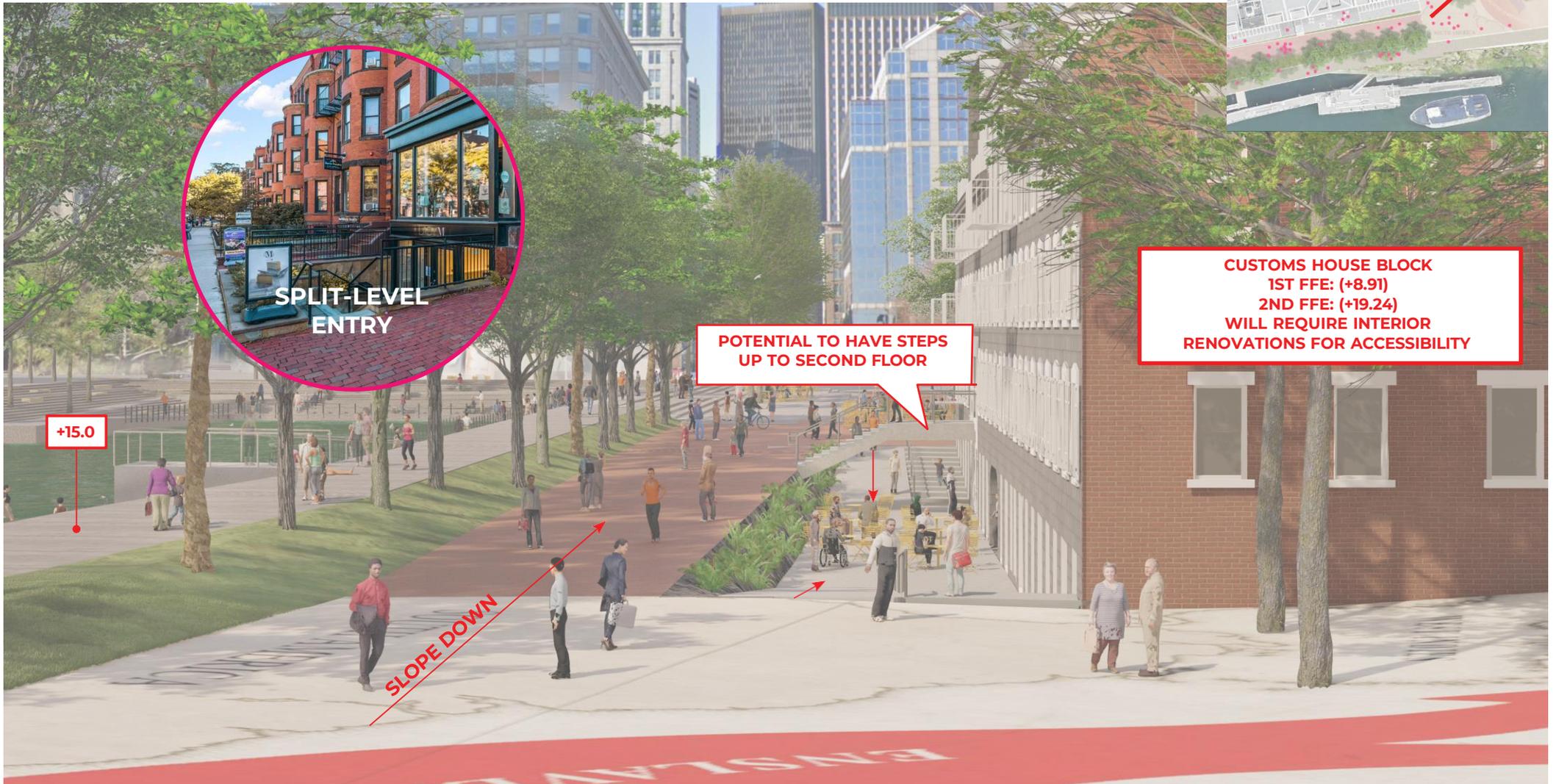
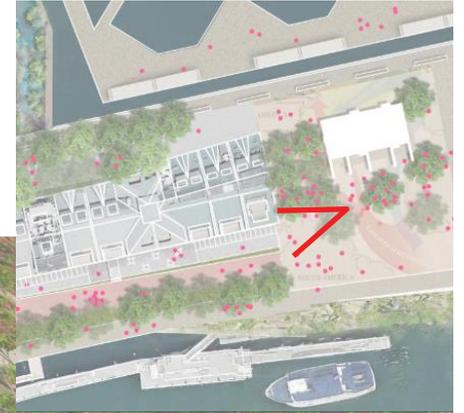
BIG SPLASH- SOUTH



BIG SPLASH- SOUTH



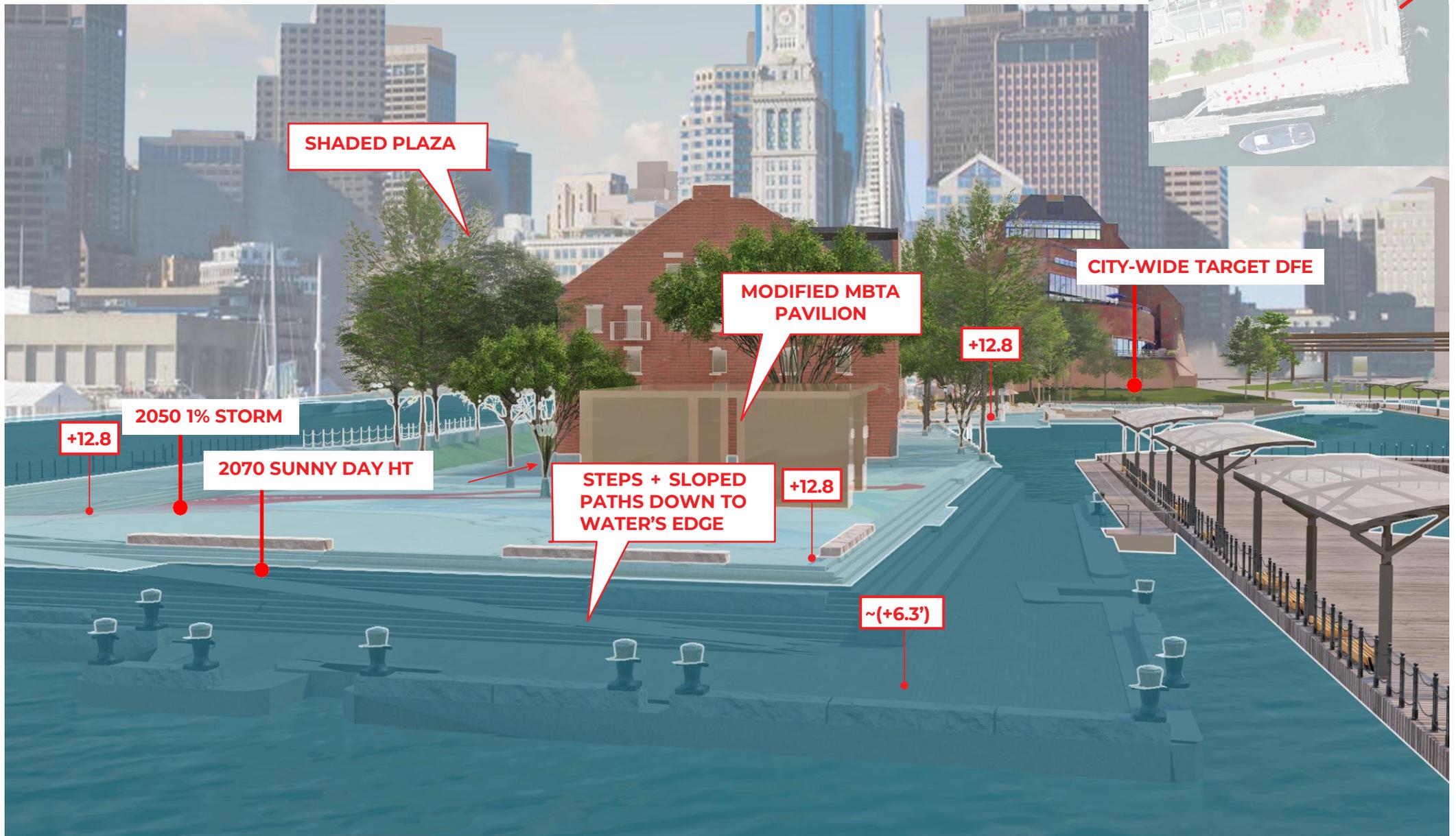
BIG SPLASH- SOUTH



ACUPUNCTURE- EAST



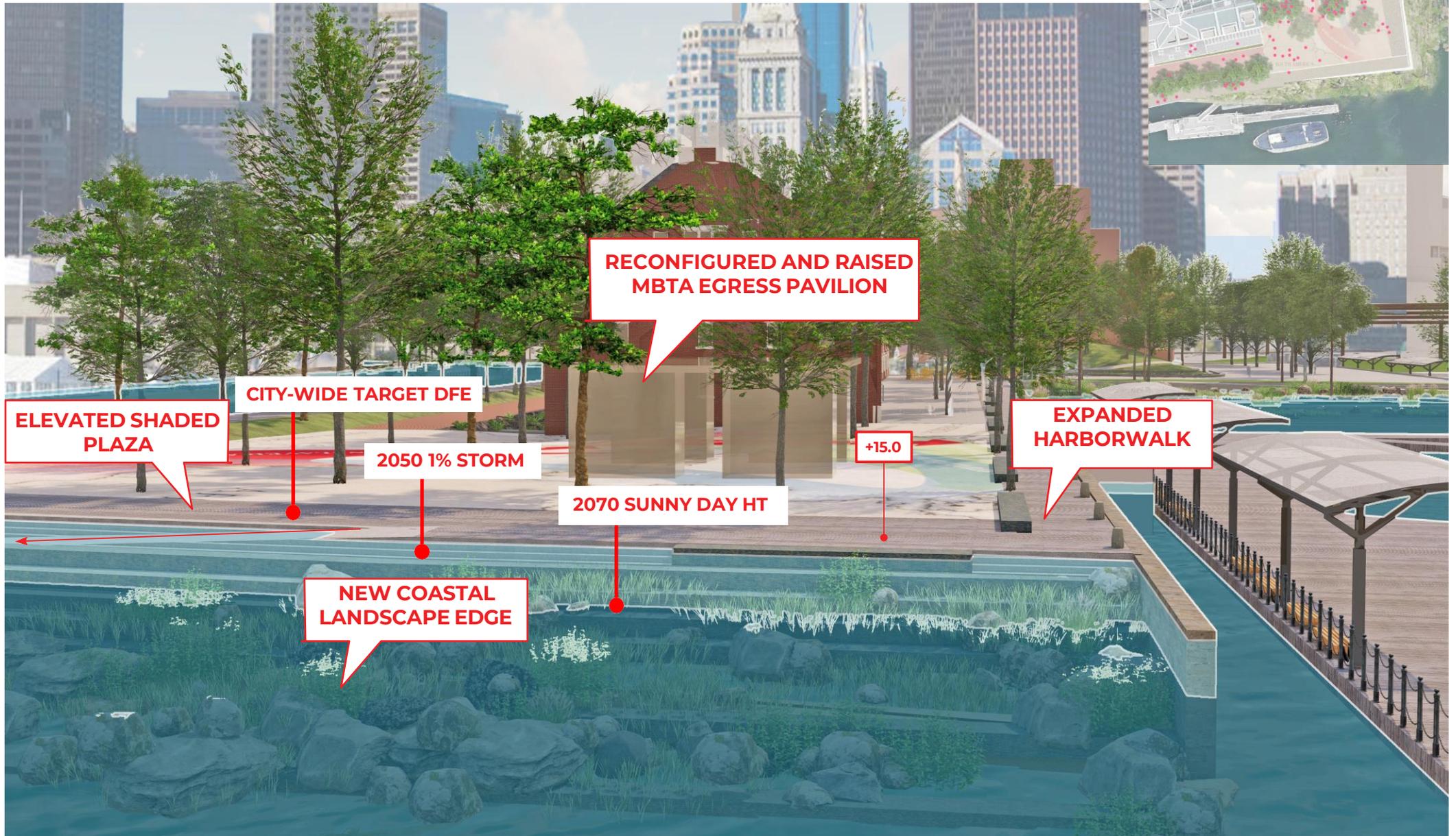
ACUPUNCTURE- EAST



BIG SPLASH- EAST

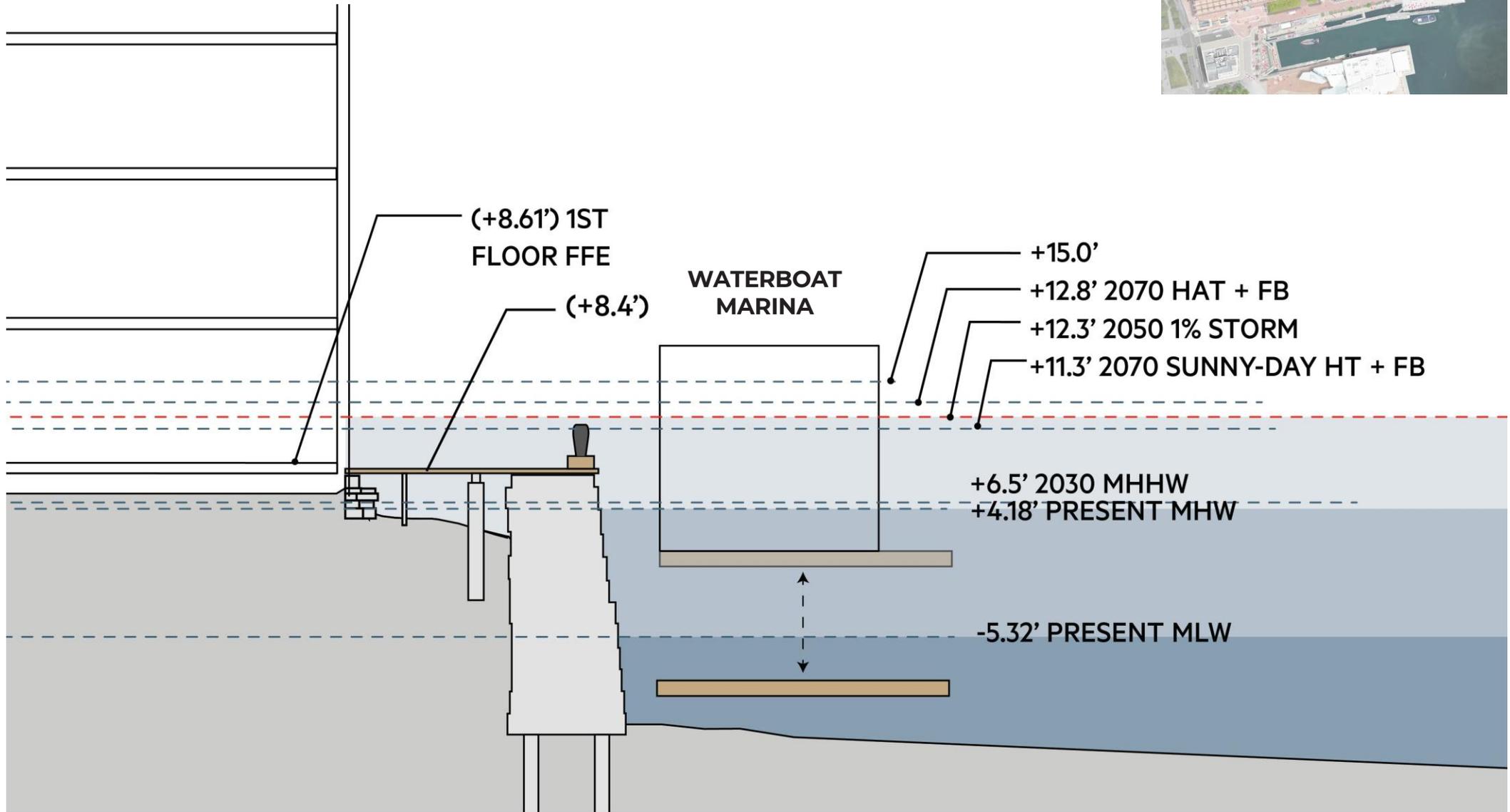


BIG SPLASH- EAST



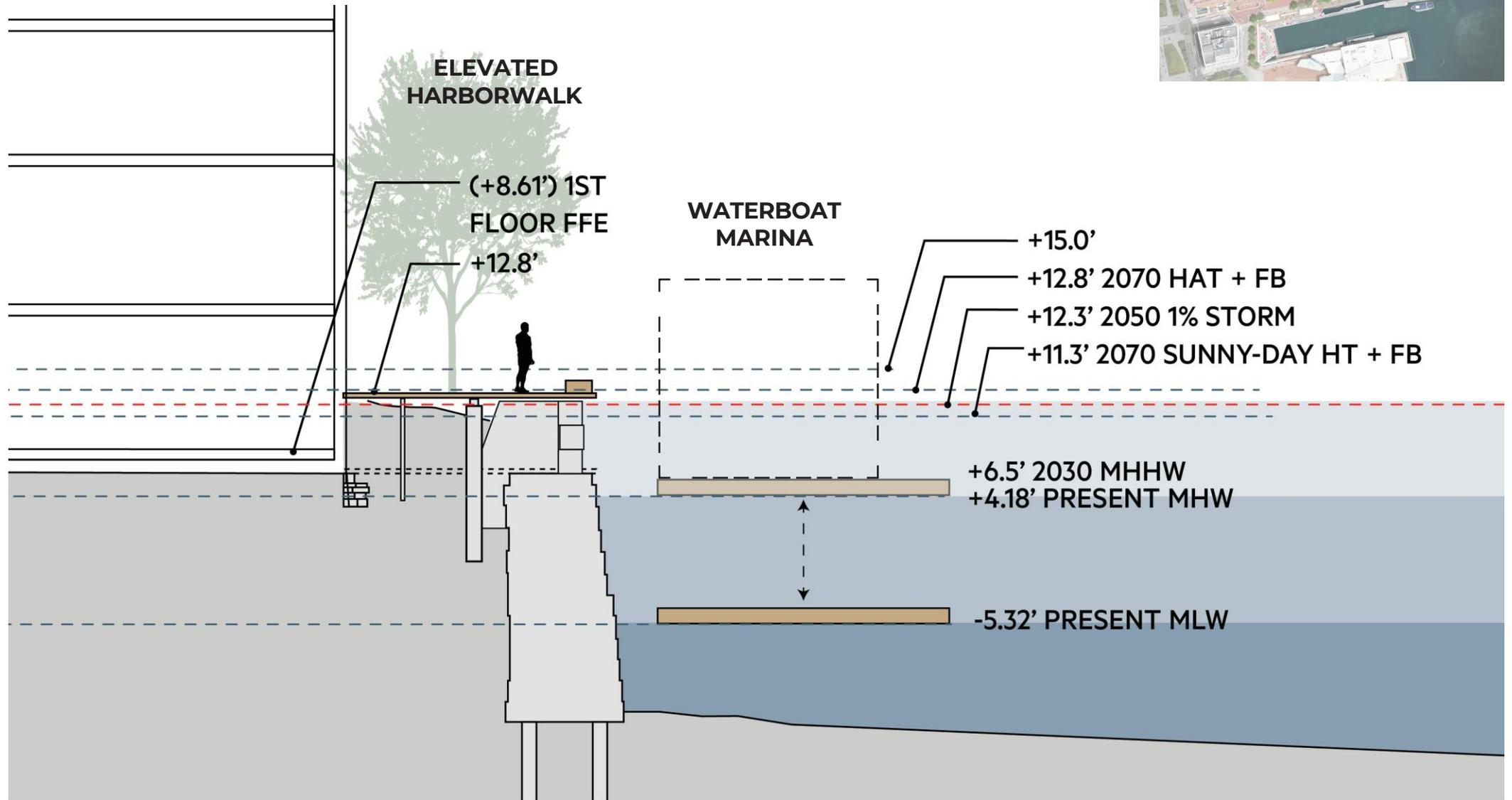
EXISTING CONDITION- NORTH

CUSTOMS HOUSE BLOCK



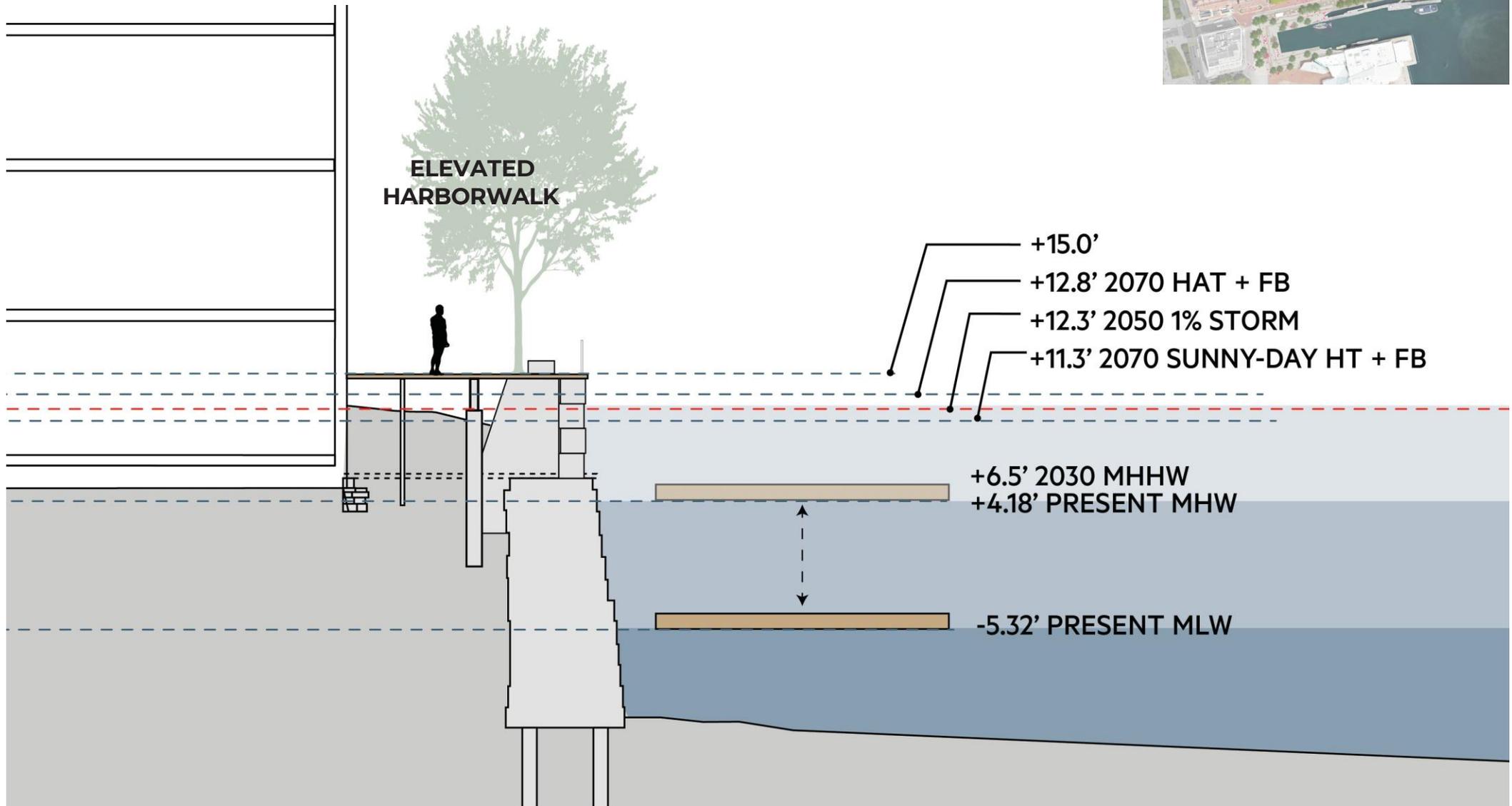
ACUPUNCTURE- NORTH

CUSTOMS HOUSE BLOCK

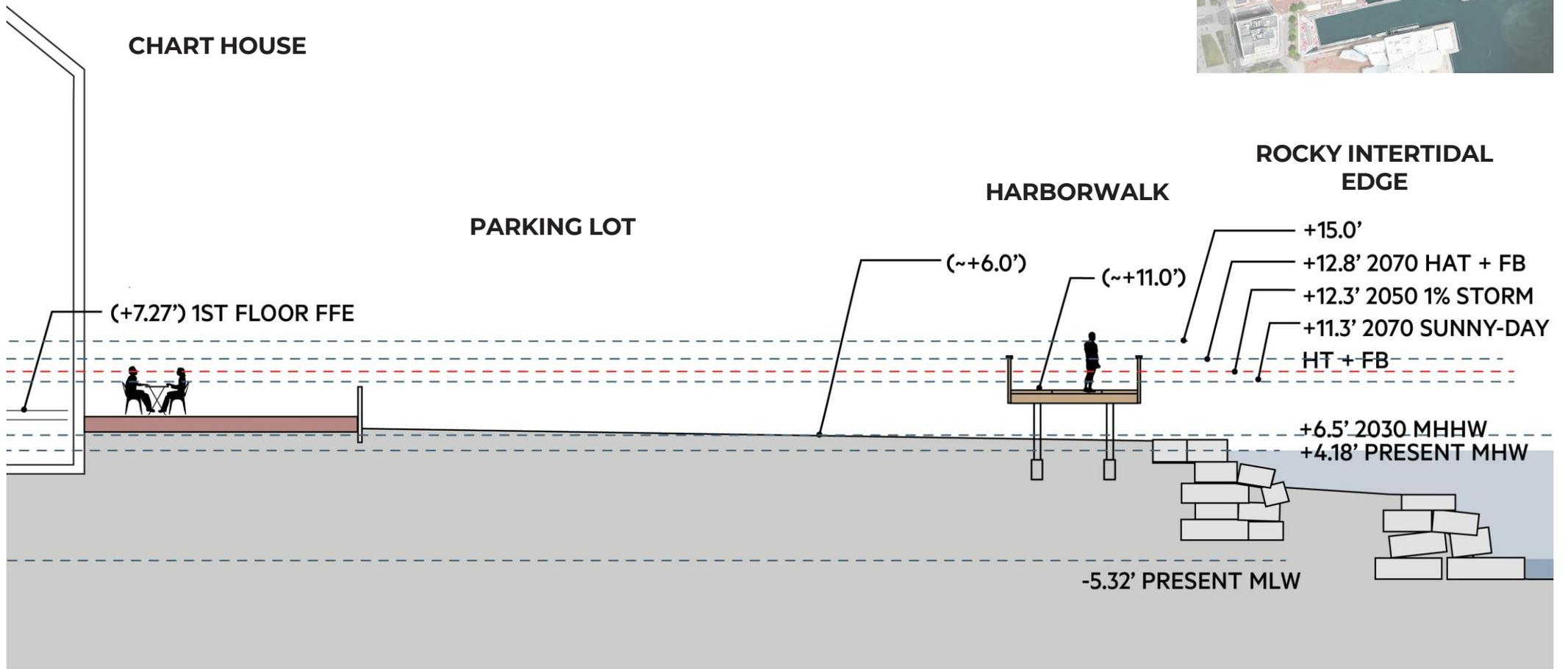


BIG SPLASH- NORTH

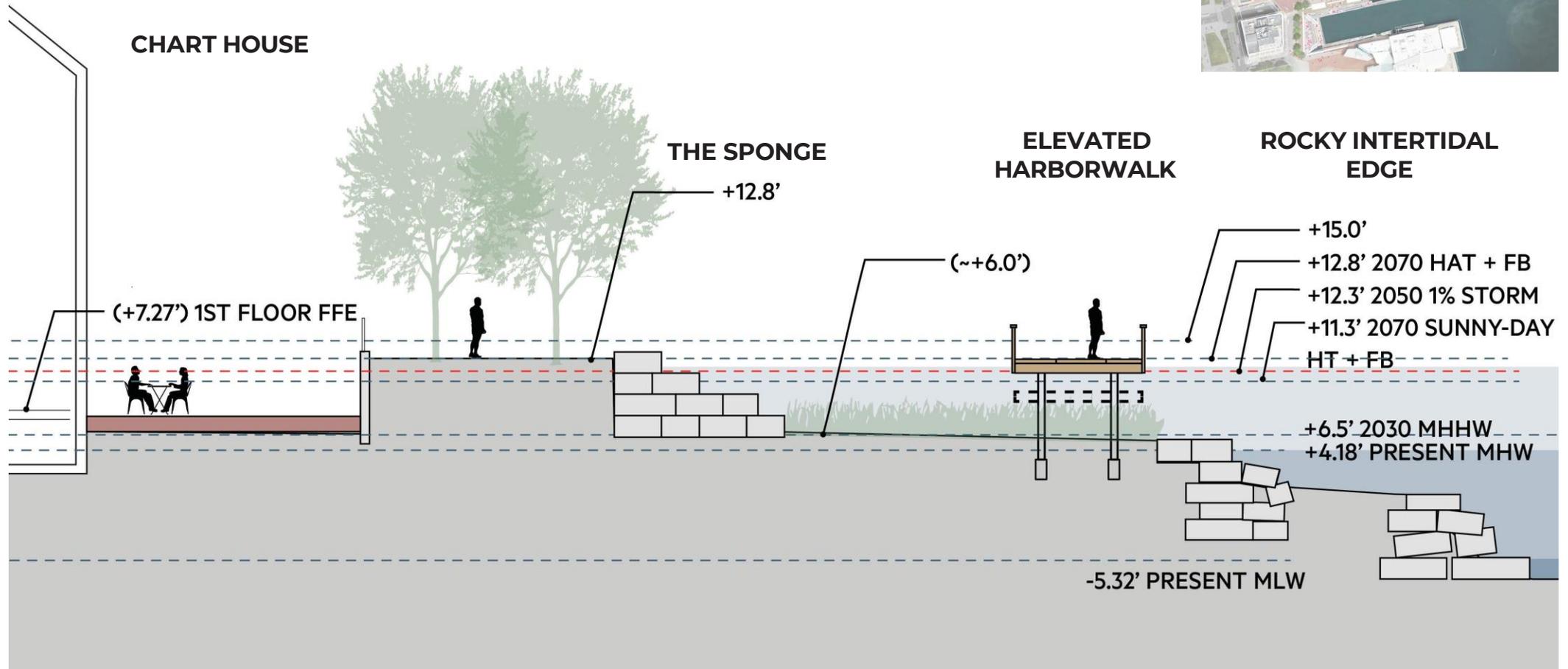
CUSTOMS HOUSE BLOCK



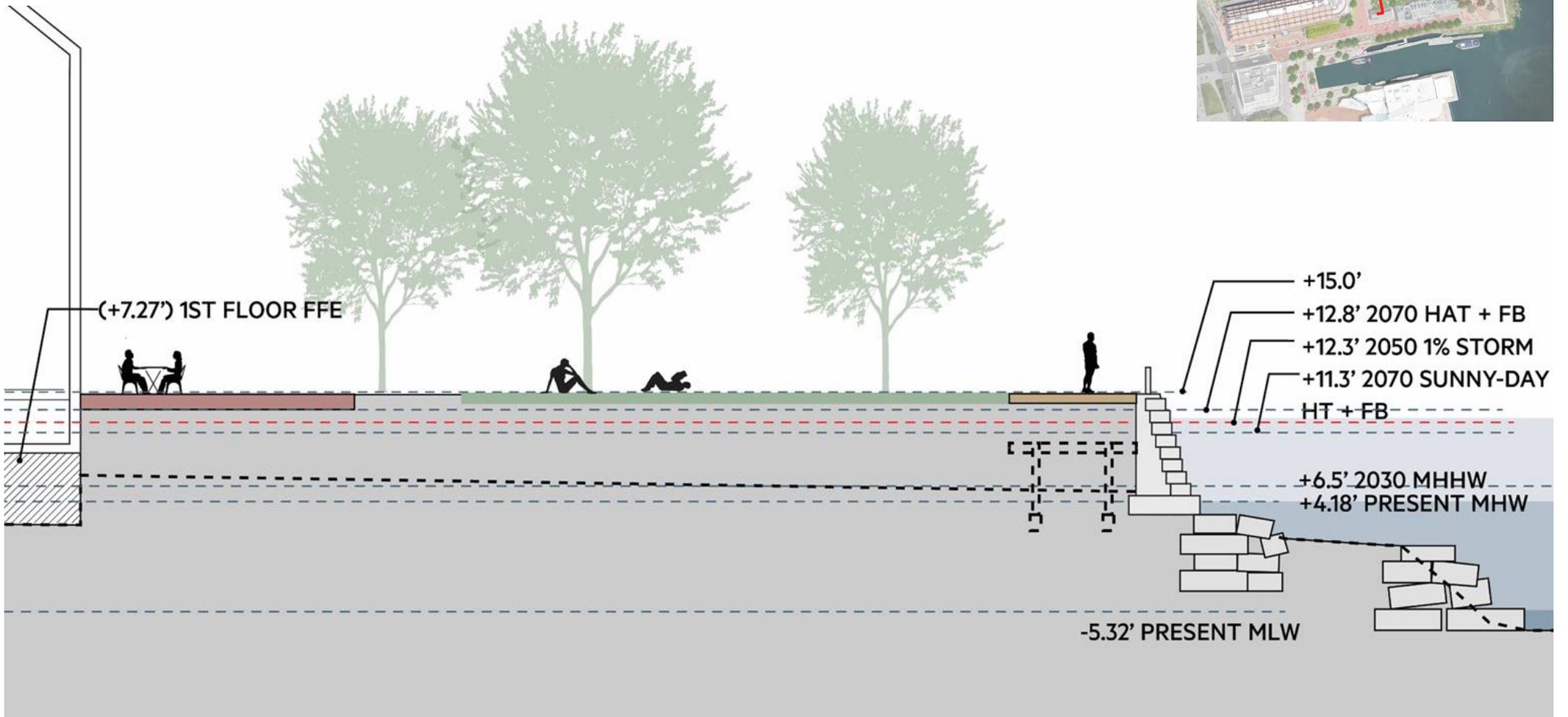
EXISTING CONDITION- NORTH



ACUPUNCTURE-NORTH



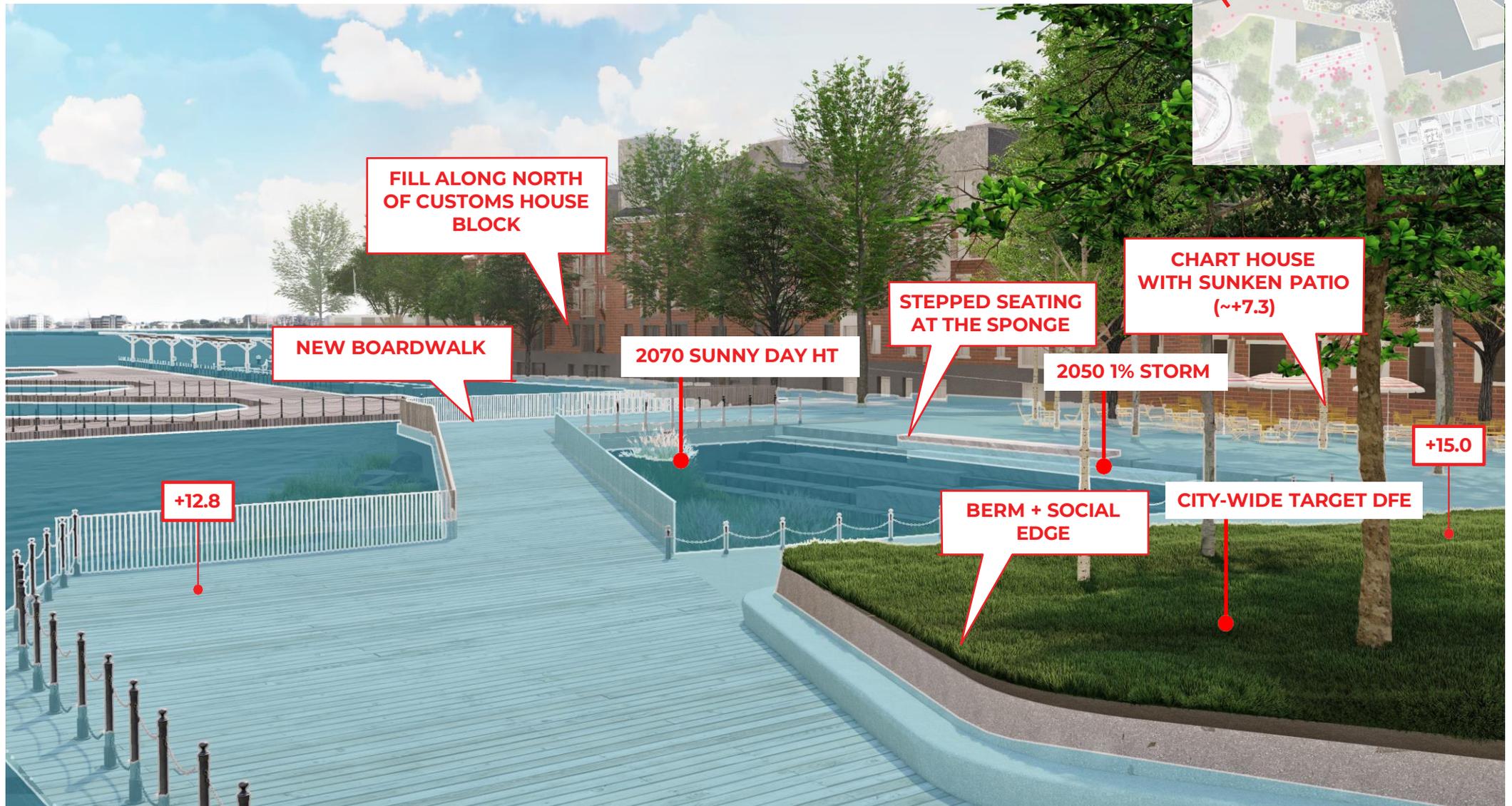
BIG SPLASH-NORTH



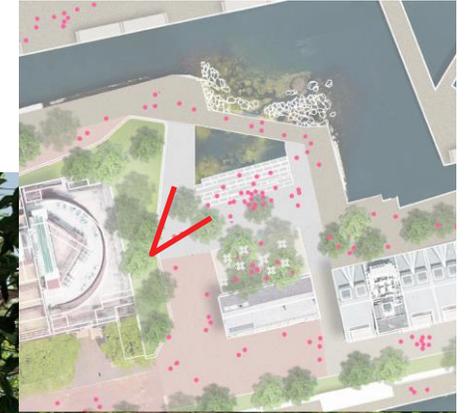
ACUPUNCTURE-NORTH



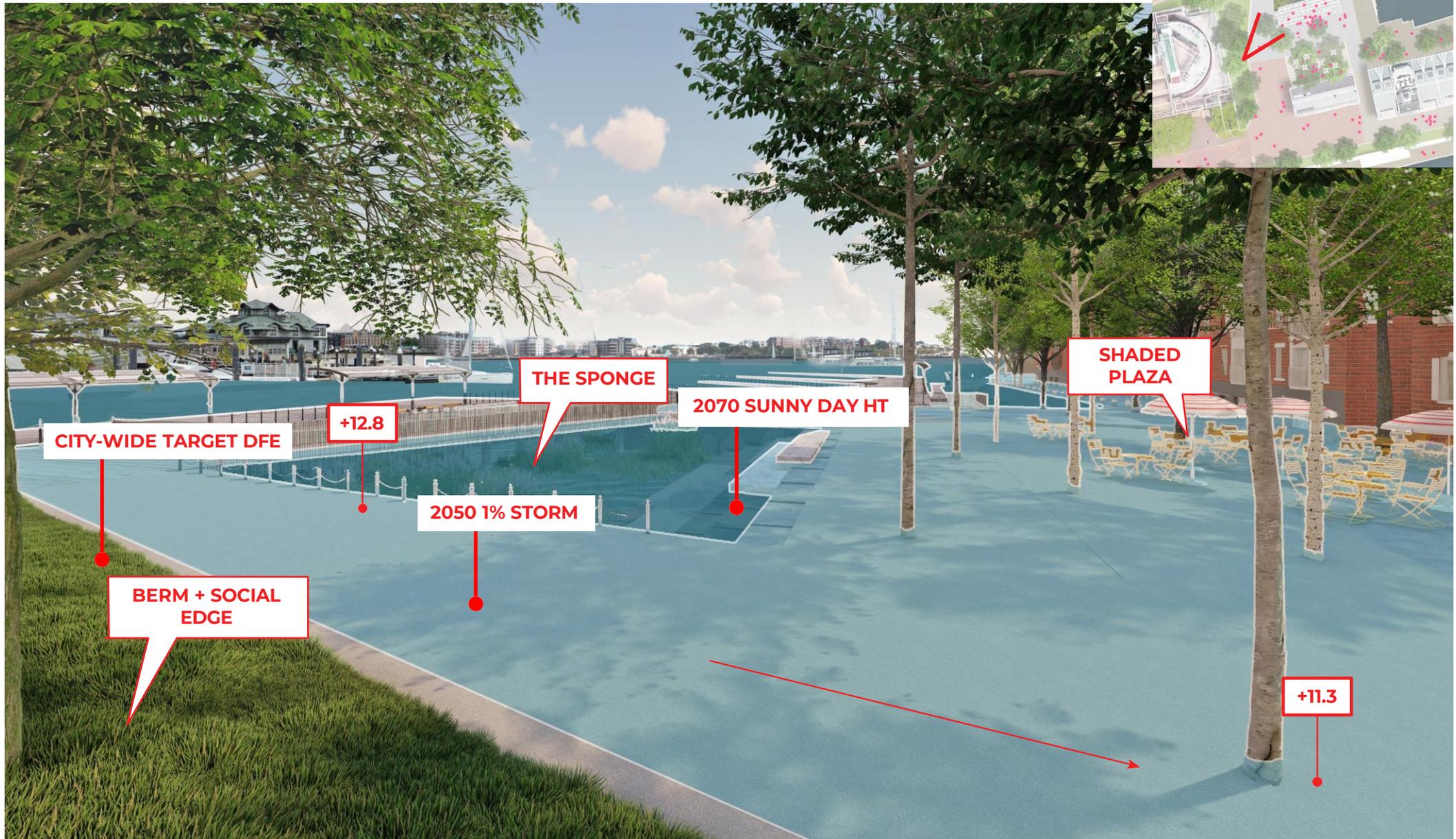
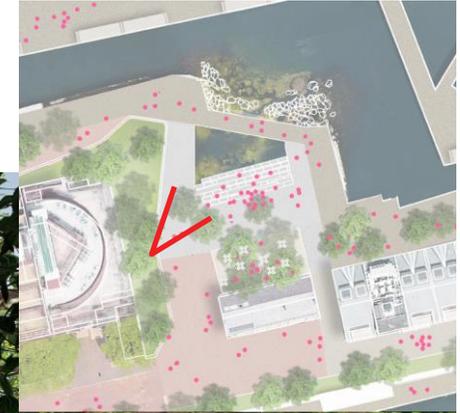
ACUPUNCTURE-NORTH



ACUPUNCTURE-NORTH



ACUPUNCTURE-NORTH



BIG SPLASH-NORTH



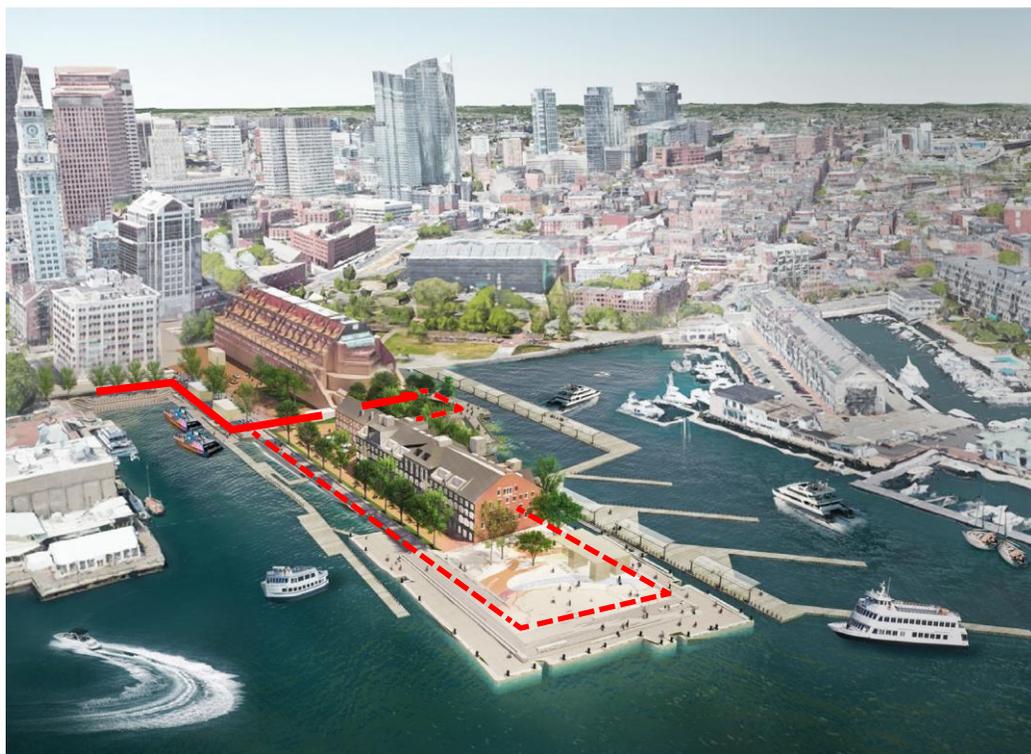
BIG SPLASH-NORTH



LONG-TERM APPROACH

LEGEND

-  +15.0'
-  +12.8'



ACUPUNCTURE



BIG SPLASH



FEEDBACK OPPORTUNITY

WHAT COMPONENTS OF THE DESIGN SCHEMES RESONATE WITH YOU?

SCAN QR BELOW



OR

VISIT:

MENTI.COM

ENTER CODE:

3902 8492

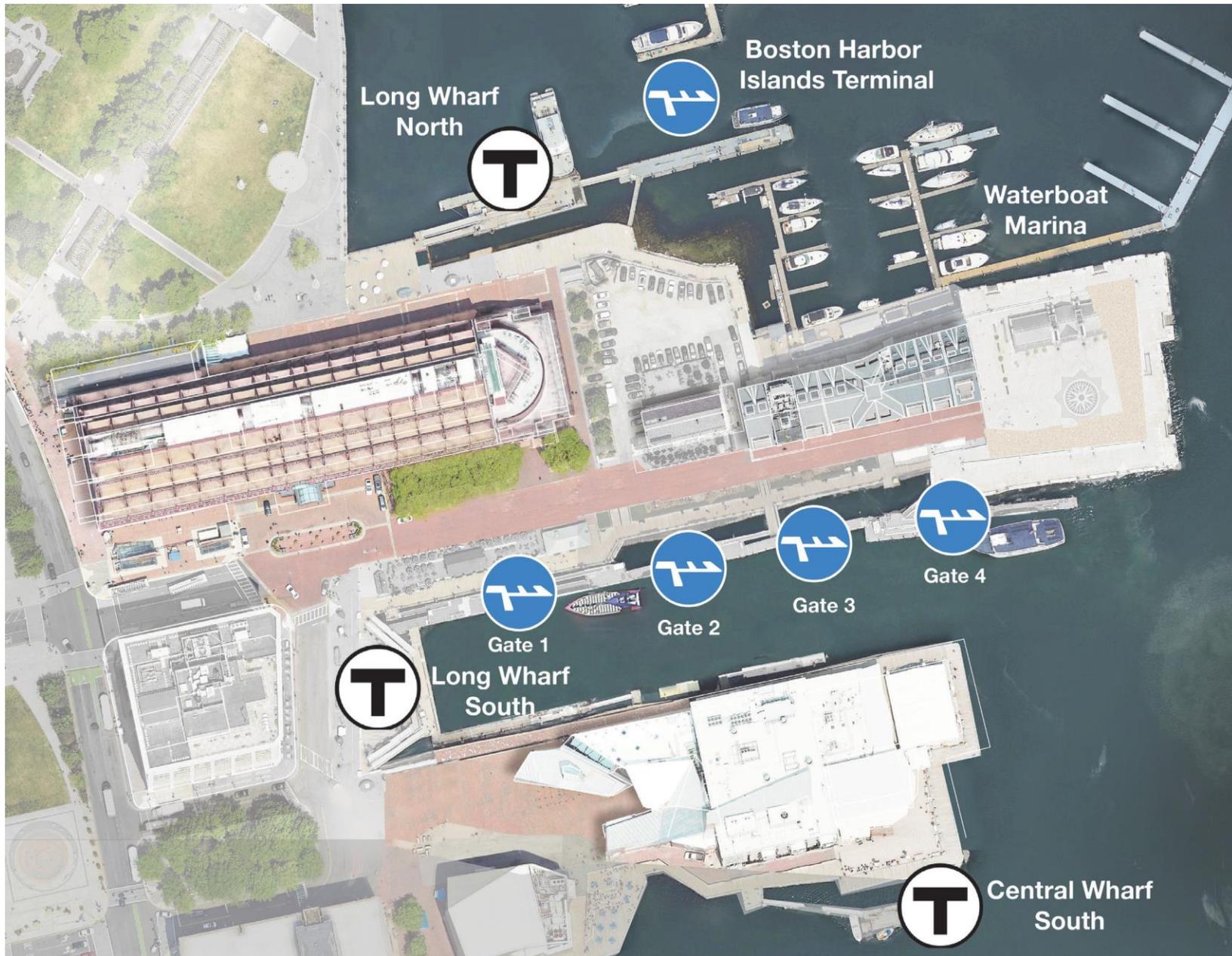


*City of Boston
Planning Department*

MARINE TRANSIT IMPROVEMENTS



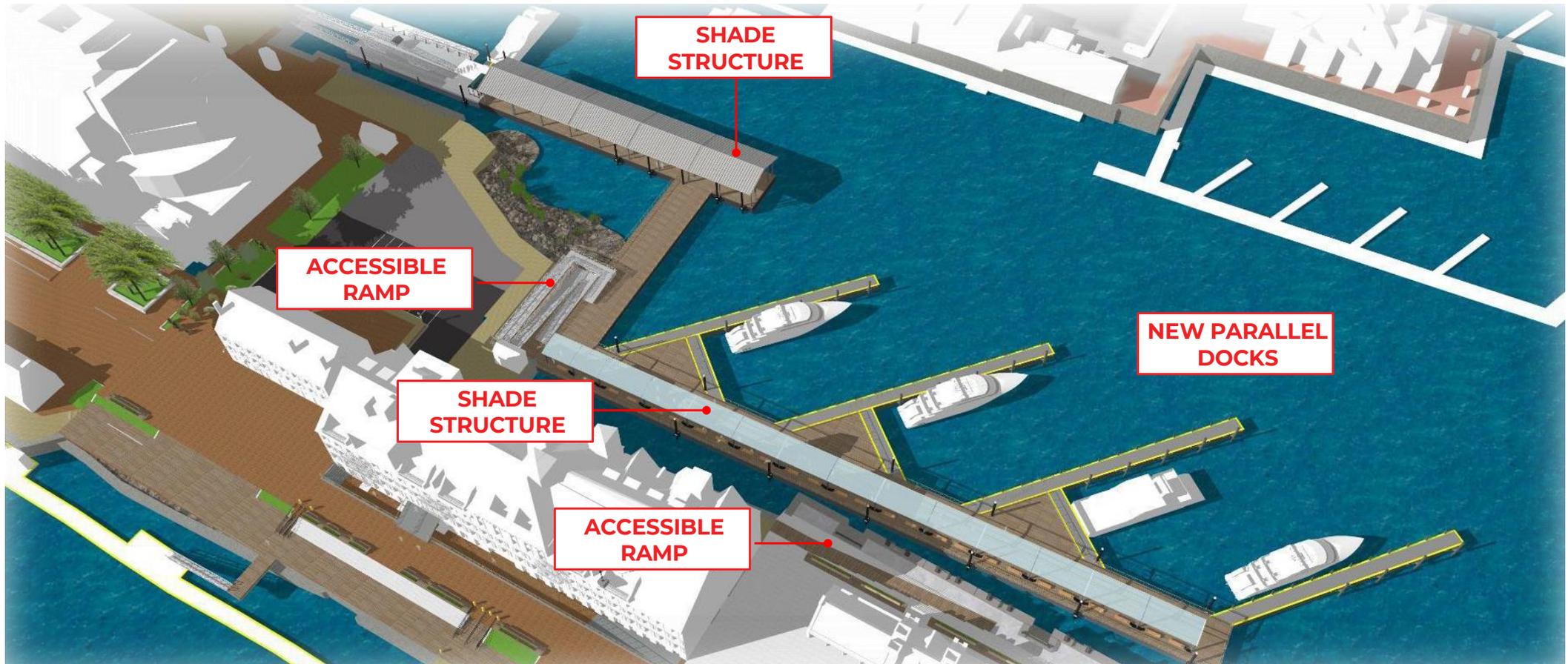
MARINE TRANSIT (EXISTING CONDITIONS)



MARINE TRANSIT - FUTURE VISIONING

NORTH WHARF CONFIGURATION

ALL FERRY AND TRANSIT SERVICE
MOVES TO NORTH SIDE



EXCURSIONS AND PRIVATE BOAT SERVICES
REMAINS ON SOUTH SIDE



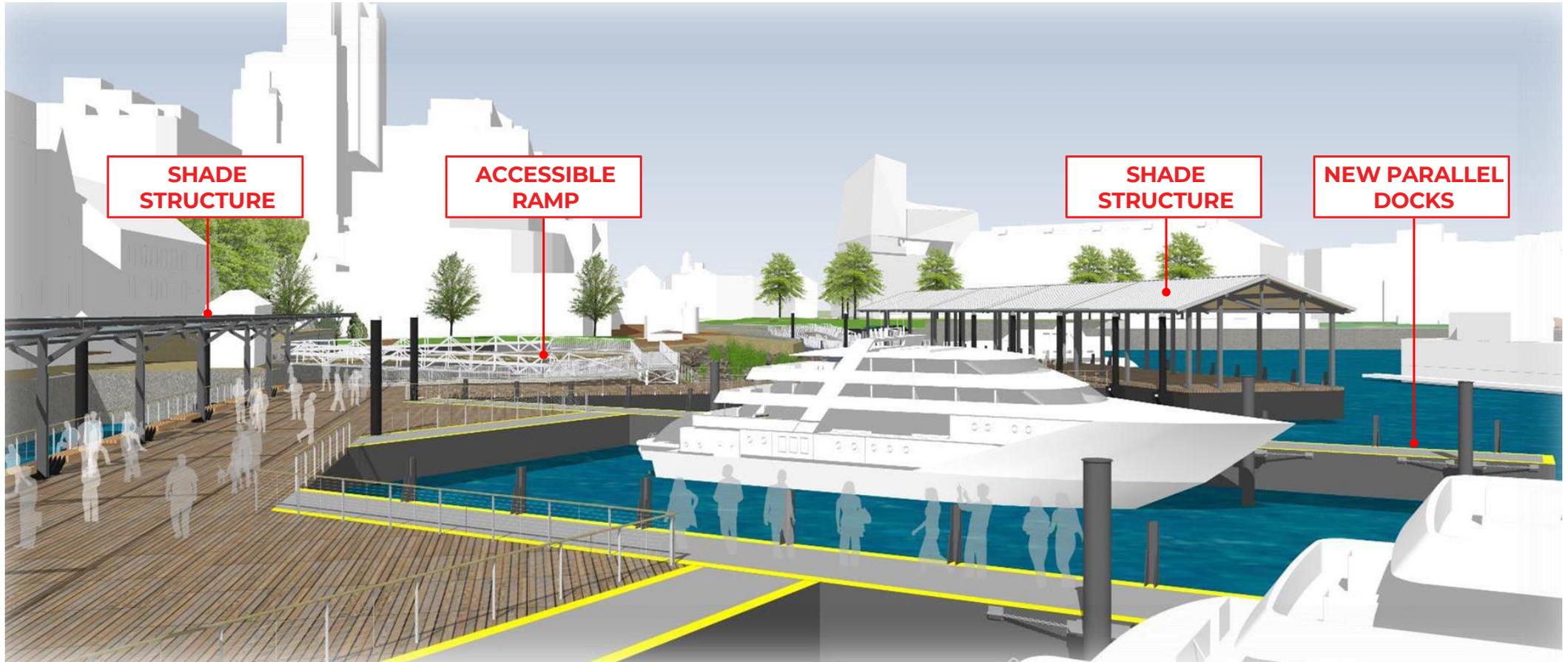
MARINE TRANSIT - FUTURE VISIONING

VIEW WEST ON FLOATING DOCK/ WAITING AREA



MARINE TRANSIT - FUTURE VISIONING

VIEW WEST ON FLOATING DOCK/ WAITING AREA

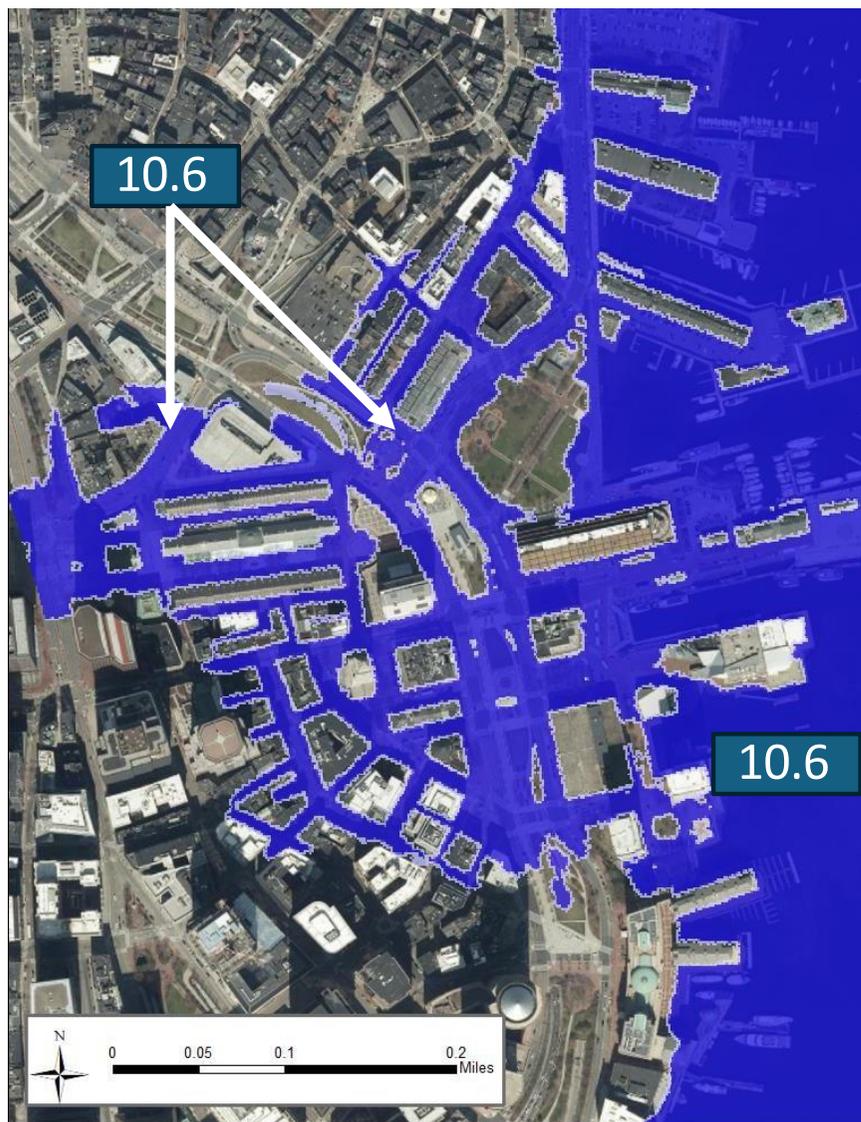


2030 SHORT-TERM SOLUTION

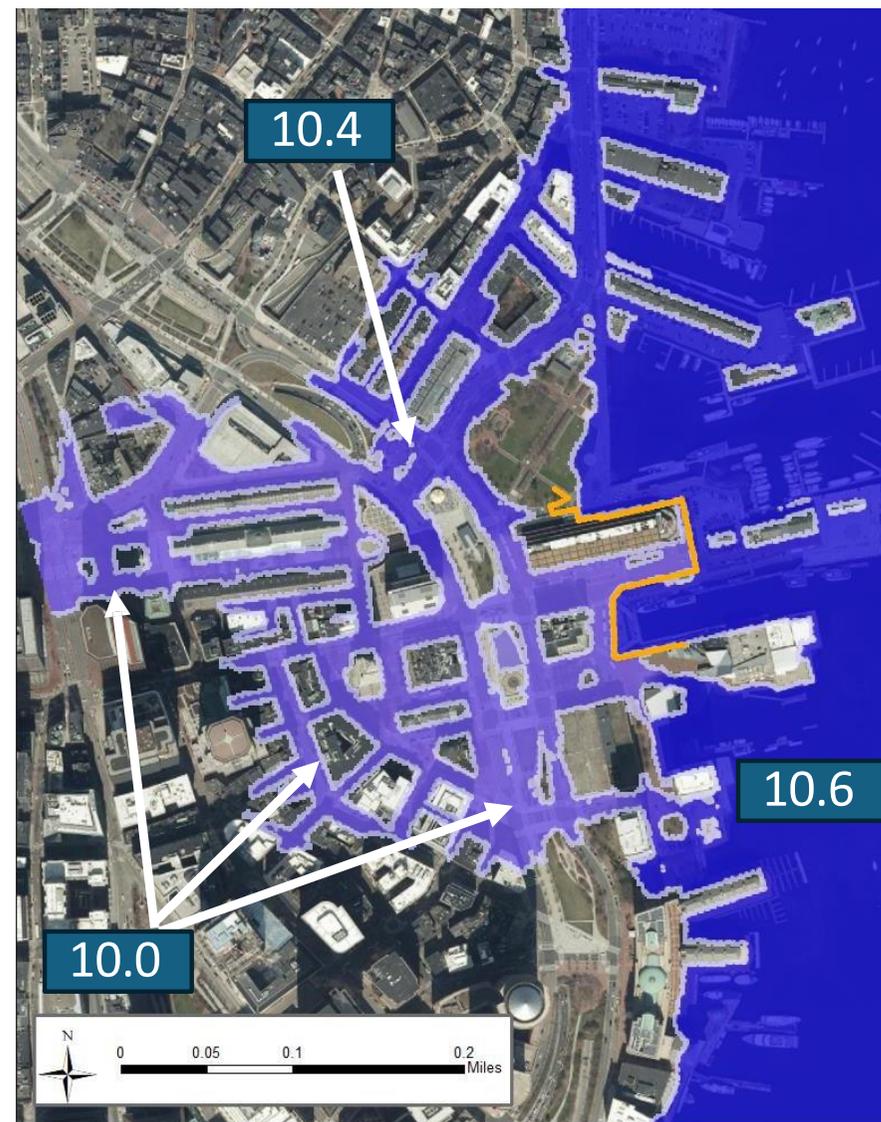


1% STORM WATER SURFACE ELEVATIONS, 2030

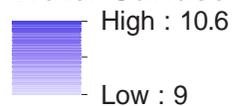
EXISTING CONDITIONS



PROPOSED DESIGN



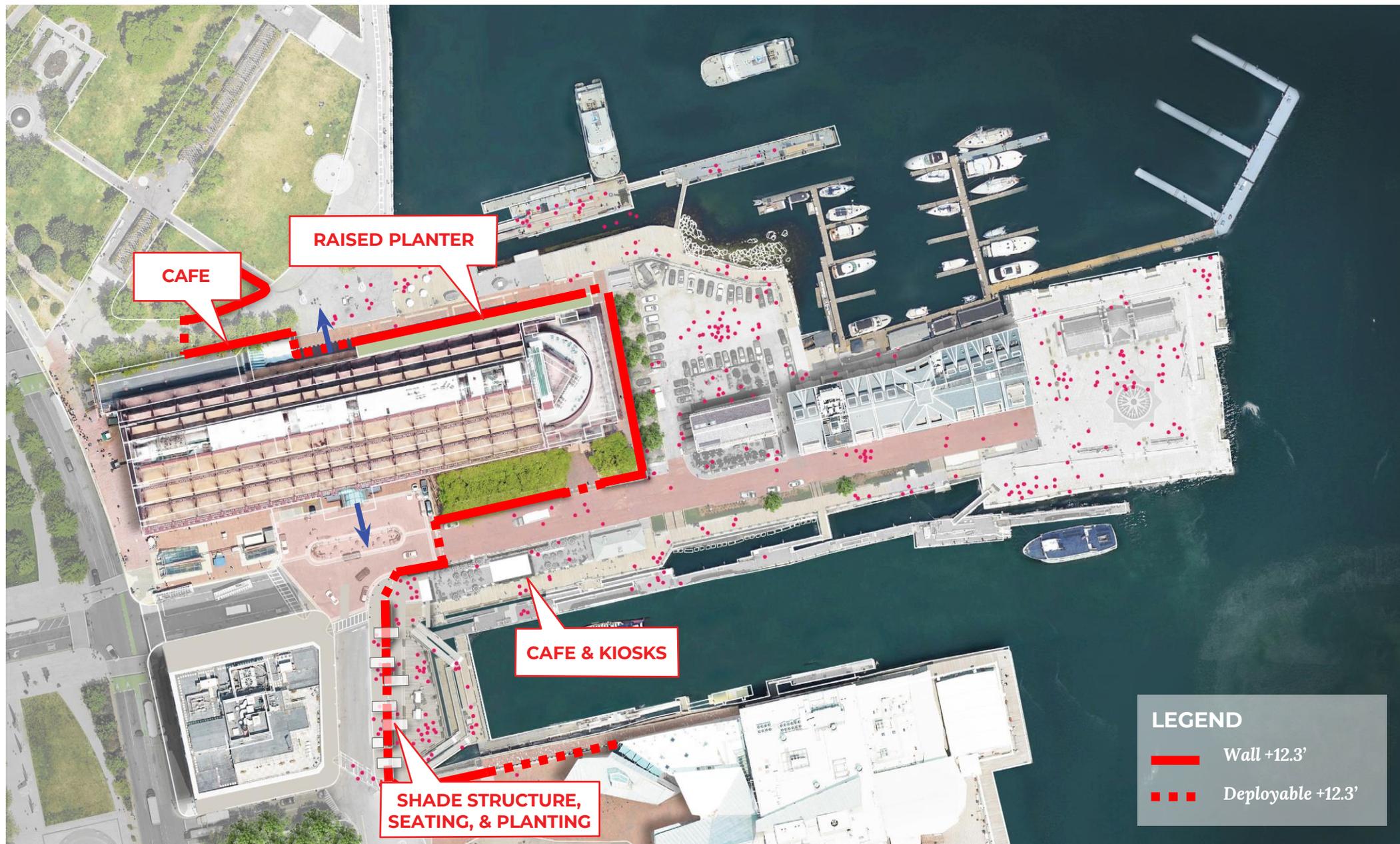
Water Surface Elevation, Feet NAVD88



ALL ELEVATIONS ARE IN FEET NAVD88



NEAR TERM APPROACH



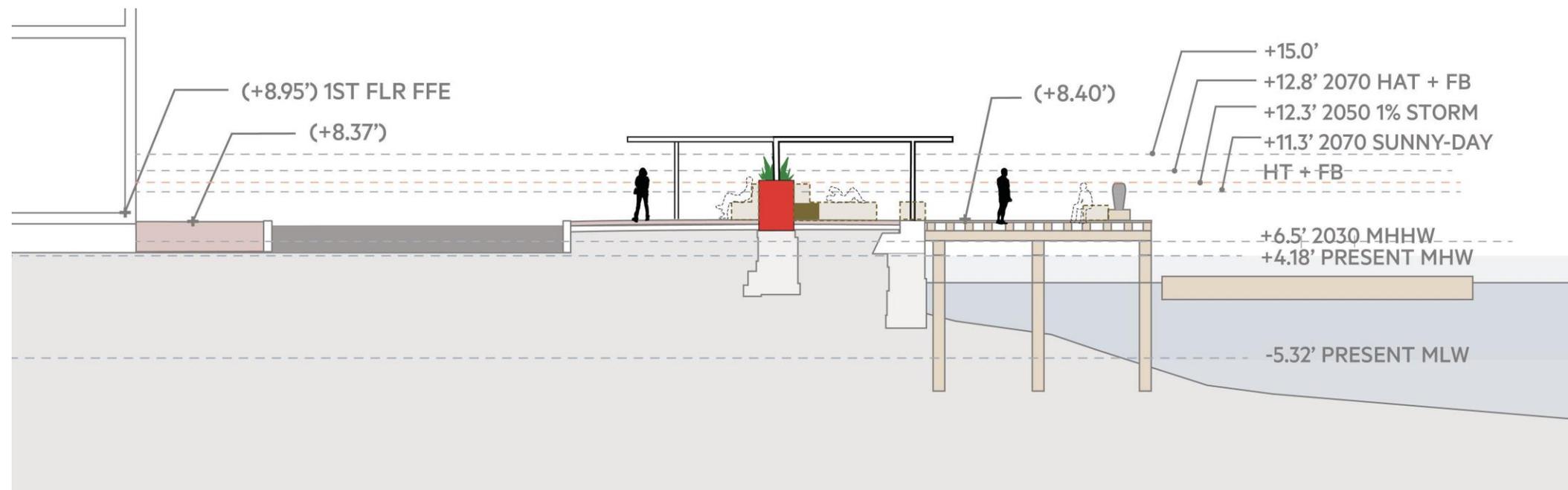
NEAR TERM APPROACH-OLD ATLANTIC



255 STATE

OLD ATLANTIC

PEDESTRIAN WAY



NEAR TERM APPROACH- SOUTH

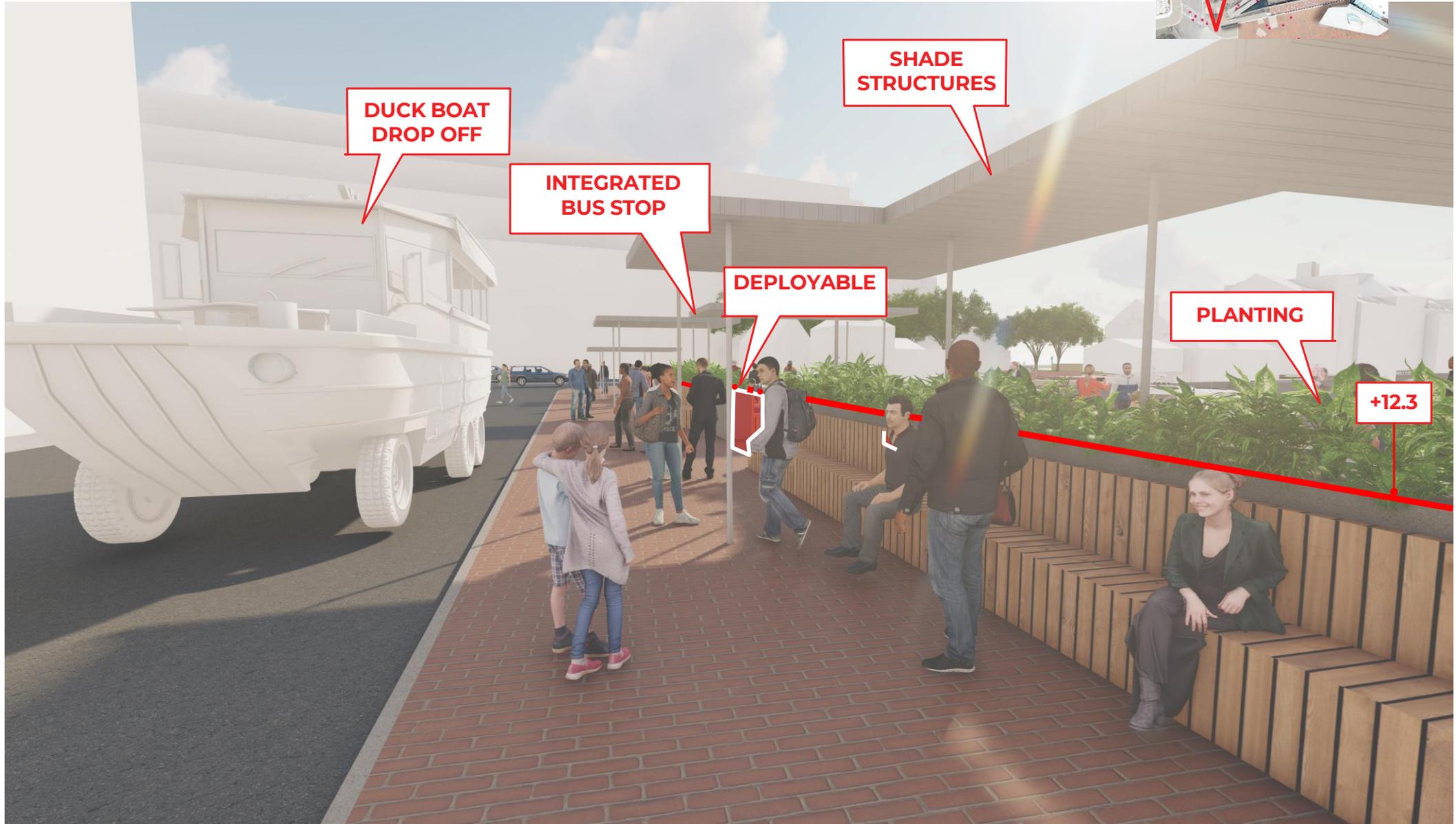
SIMPLE ROWS + ENHANCEMENTS | 5 OPENINGS | 5 DEPLOYABLES



NEAR TERM APPROACH- SOUTH



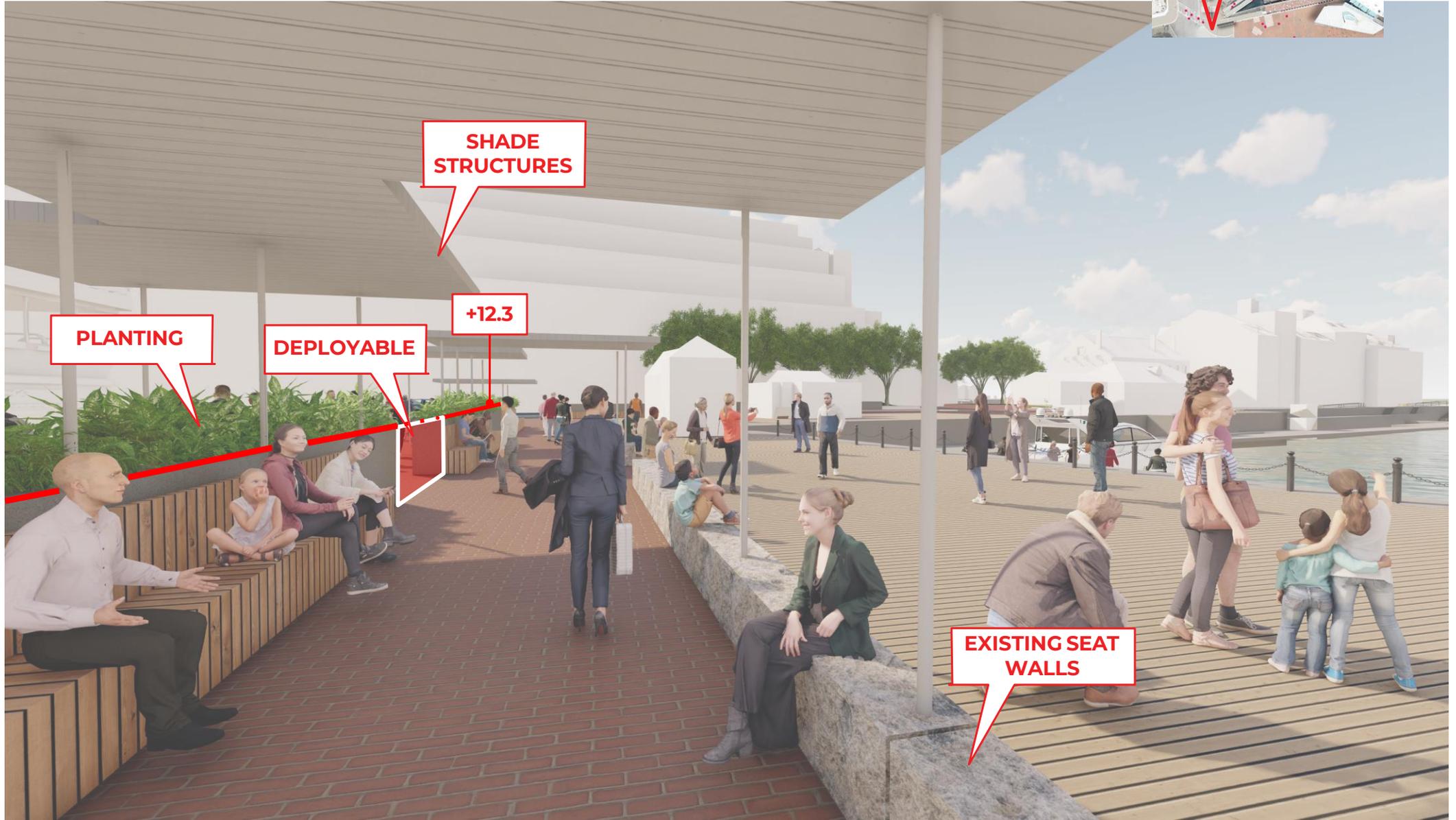
NEAR TERM APPROACH- SOUTH



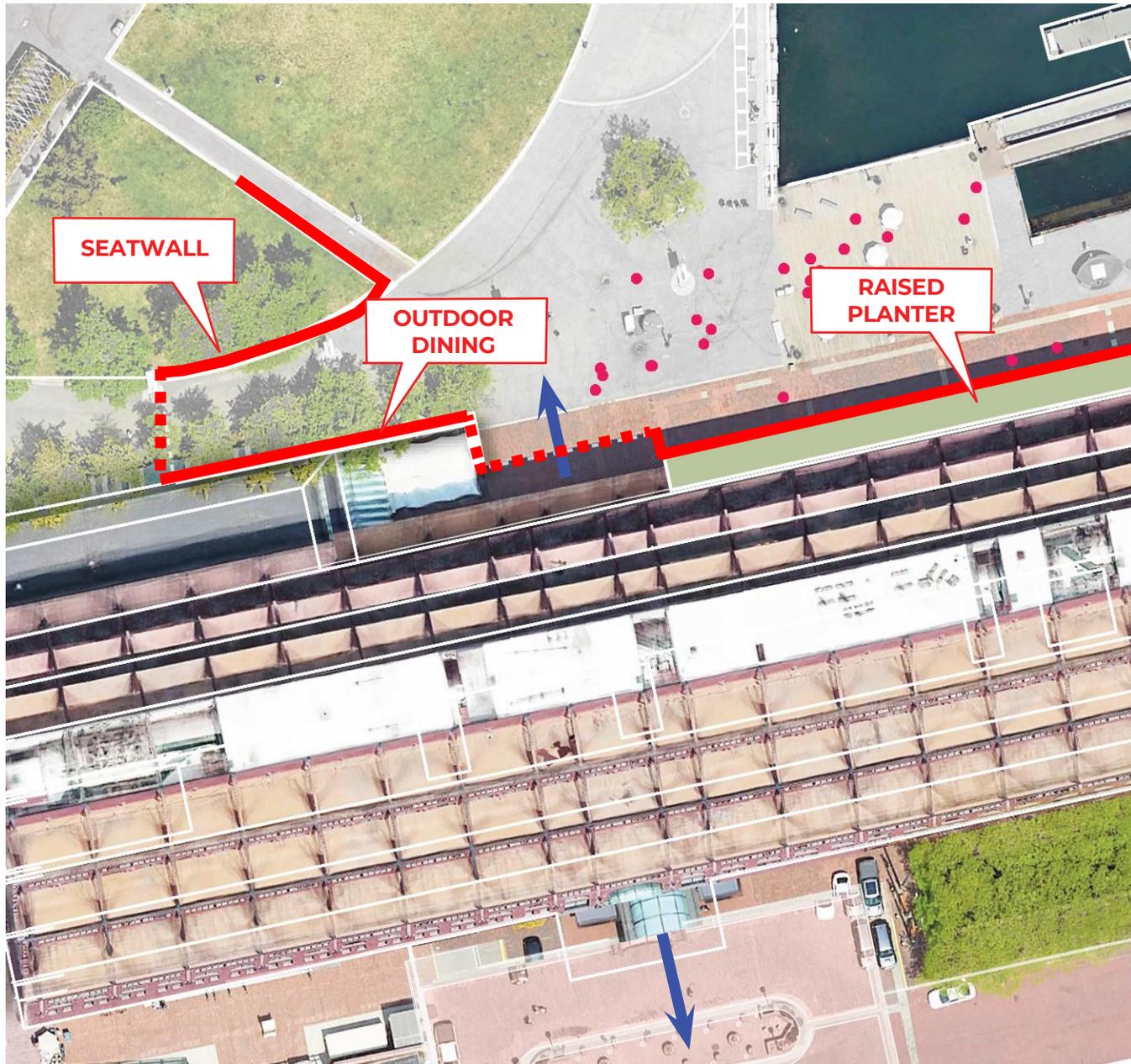
NEAR TERM APPROACH- SOUTH



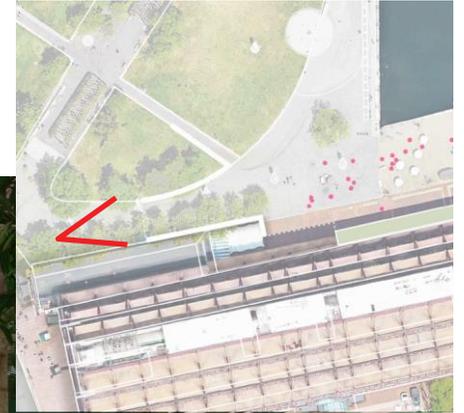
NEAR TERM APPROACH- SOUTH



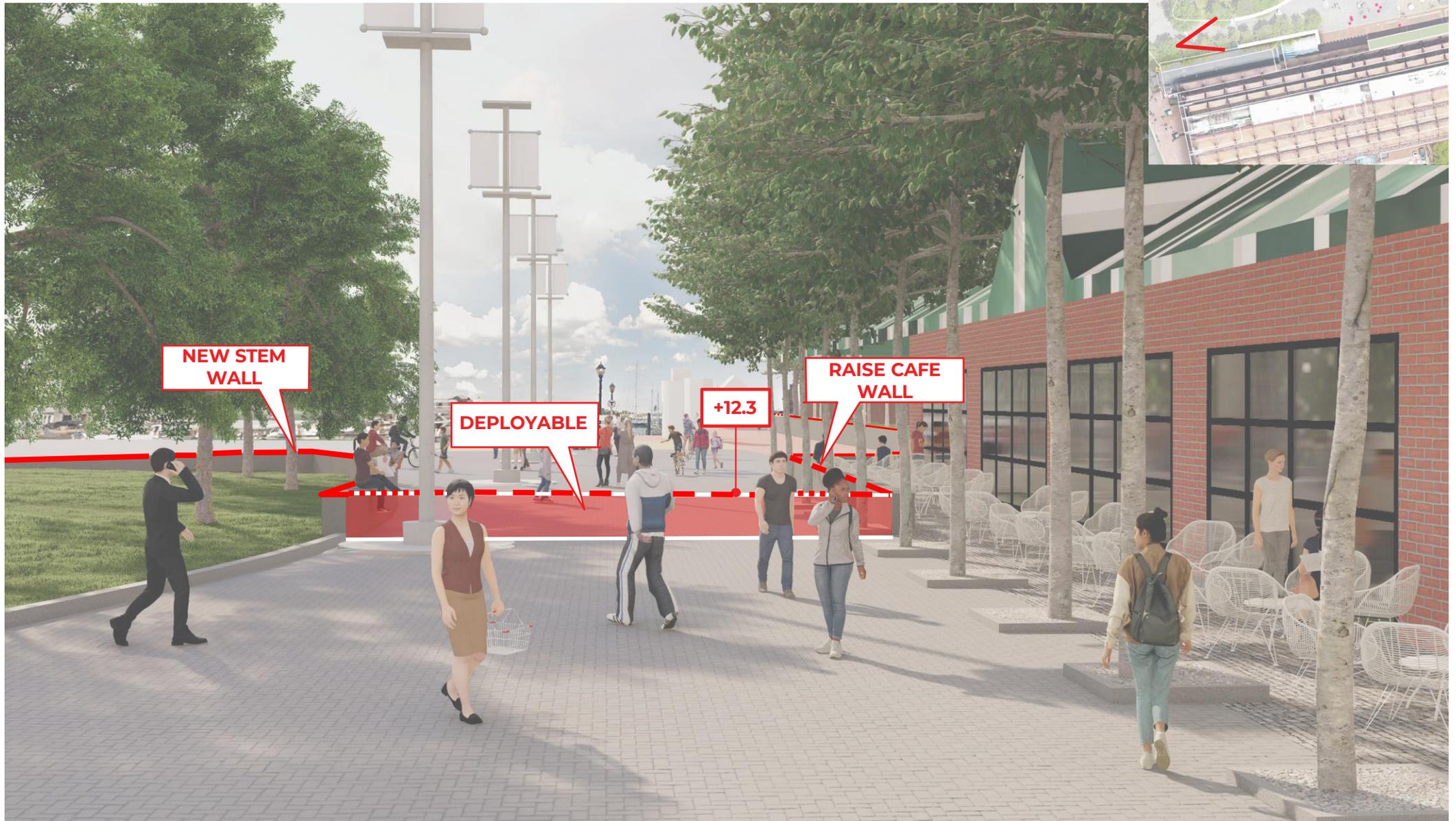
NEAR TERM APPROACH-NORTH



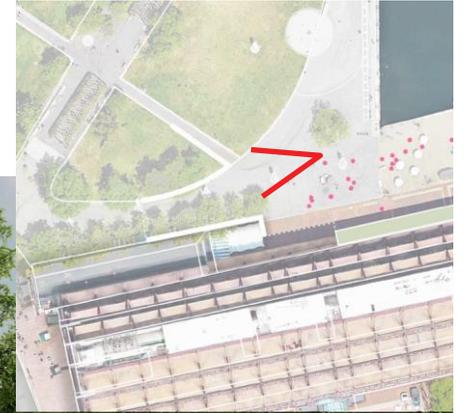
NEAR TERM APPROACH-NORTH



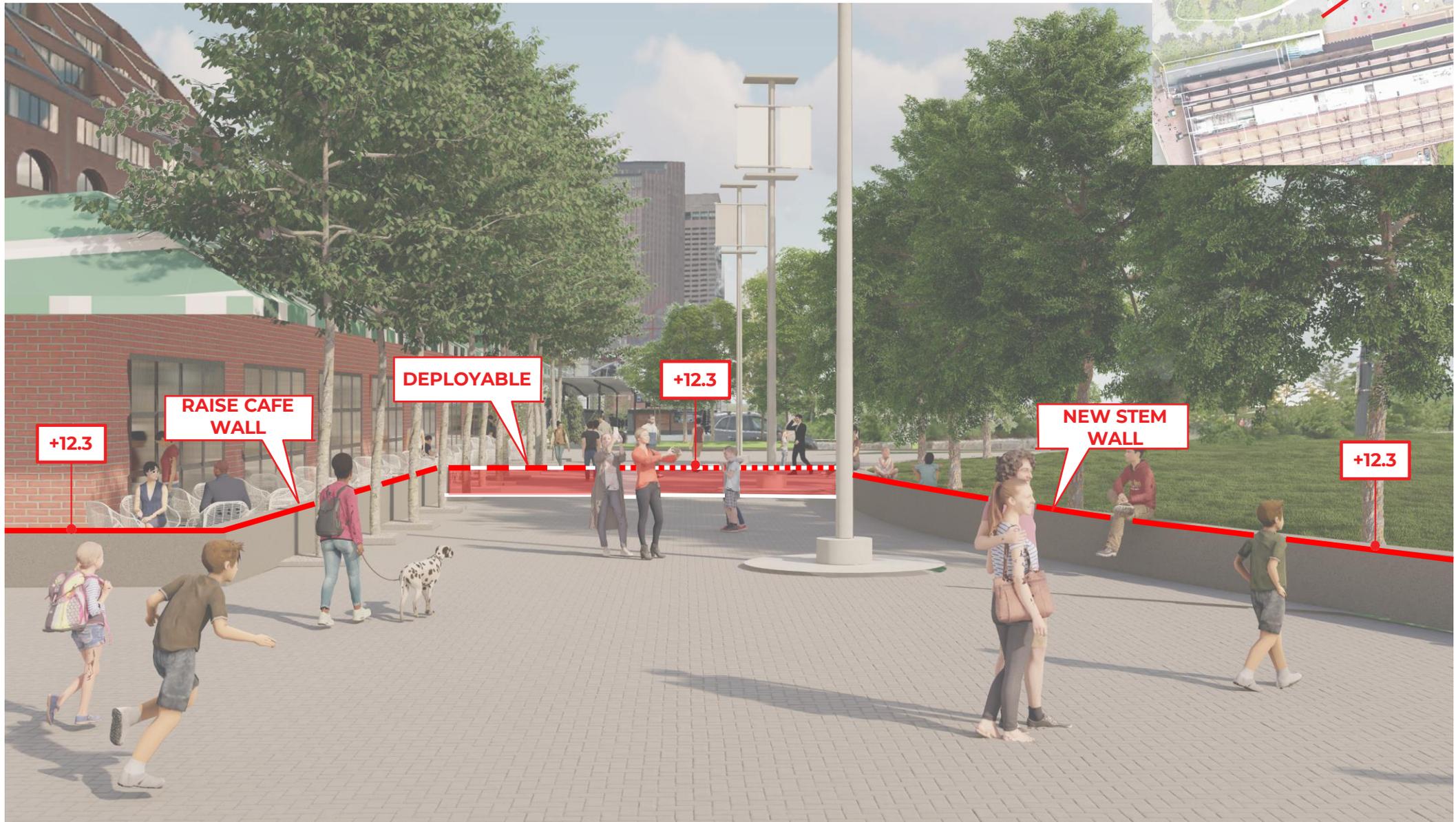
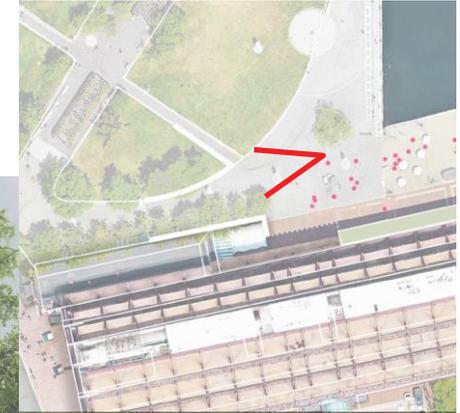
NEAR TERM APPROACH-NORTH



NEAR TERM APPROACH-NORTH



NEAR TERM APPROACH-NORTH



FEASIBILITY AND IMPLEMENTATION

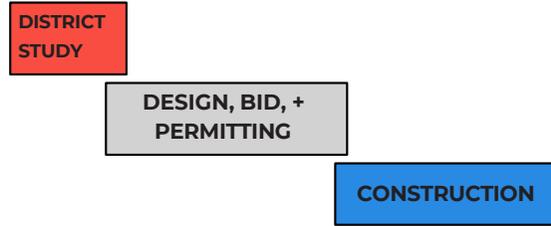


IMPLEMENTATION TIMELINE

OPTION 1: SHORT-TERM FIRST, THEN LONG-TERM PROJECT

YEAR 01 YEAR 02 YEAR 03 YEAR 04 YEAR 05 YEAR 06 YEAR 07 YEAR 08 YEAR 09 YEAR 10 YEAR 11 YEAR 12

SHORT-TERM (2030) PROJECT



LONG-TERM (2070) PROJECT



OPTION 2: LONG-TERM PROJECT

YEAR 01 YEAR 02 YEAR 03 YEAR 04 YEAR 05 YEAR 06 YEAR 07 YEAR 08 YEAR 09

LONG-TERM (2070) PROJECT



ORDER-OF-MAGNITUDE COST ESTIMATES

LONG-TERM APPROACH

	2030 NEAR-TERM	2070 ACUPUNCTURE	2070 BIG SPLASH
COSTS			
NORTH MARINA TRANSIT WORK	N/A	\$ 14,670,700	\$ 14,670,700
RESILIENCY WORK	\$13,600,000	\$ 81,949,000	\$ 81,949,000
CONSTRUCTION COSTS	\$ 13,600,000	\$ 96,619,700	\$ 145,000,000
SOFT COSTS	\$ 4,080,000	\$ 28,985,910	\$ 43,500,000
CONTINGENCY	\$ 1,360,000	\$ 9,661,970	\$ 14,500,000
AVERAGE TOTAL COSTS	\$ 19,040,000	\$ 135,267,580	\$ 203,000,000

KLF TO ADD O+M COSTS



FUNDING OPPORTUNITIES

FEDERAL GRANT PROGRAMS + FUNDING OPPORTUNITIES:

- FHWA - Promoting Resilient Operations for Transformative, Efficient and Cost-Saving Transportation (PROTECT)
- FEMA - Flood Mitigation Assistance (FMA)
- FEMA – Building Resilient Infrastructure and Communities Program (BRIC)
- NFWF – National Coastal Resilience Fund (NCRF)
- FEMA – Hazard Mitigation Grant Program (HMGP)
- FTA – Passenger Ferry Grant Program
- **USACE**

STATE GRANT PROGRAMS:

- MA EOED – Seaport Economic Council Grant Program
- MA CZM – Coastal Resilience Grants
- MA EEA – Dam and Seawall Repair or Removal Program
- MA EEA – Municipal Vulnerability Preparedness (MVP) Grant Program



NEXT STEPS

- Office hours: Monday, March 31st from 12-2pm + Wednesday, April 02 from 5-7pm at the Leventhal Room, Boston Harbor Hotel
- Draft project report release: Spring 2025
- Comment period following report release
- Resilient Christopher Columbus Park Design: Fall 2025
- Extended Downtown/ North End/ Wharf District 2030 Study: Fall 2025
- City's continued effort to seek funding
- Stay up to date with the project website:
https://www.bostonplans.org/planning/planning_initiatives/Long_Wharf_project



**TO SUBMIT ADDITIONAL QUESTIONS OR
COMMENTS, PLEASE CONTACT:**

Dolores Fazio
Dolores.Fazio@boston.gov

Ben Matusow
benjamin.matusow@boston.gov



City of Boston
Planning Department

THANK YOU!



APPENDIX



MARINE TRANSIT IMPROVEMENTS

Improve marine transit experience by consolidating Long Wharf Ferry service to the North side of the wharf

- Reconfigure, relocate or phase out Waterboat Marina to consolidate ferry service & to keep water transportation services functioning throughout construction
- Provide additional ferry docking berths
- Provide queuing space & shade on floating docks
- Provide two redundant accessible entrances to floating docks
- Provide both bow & side loading options
- Provide resilient centralized ticketing & services



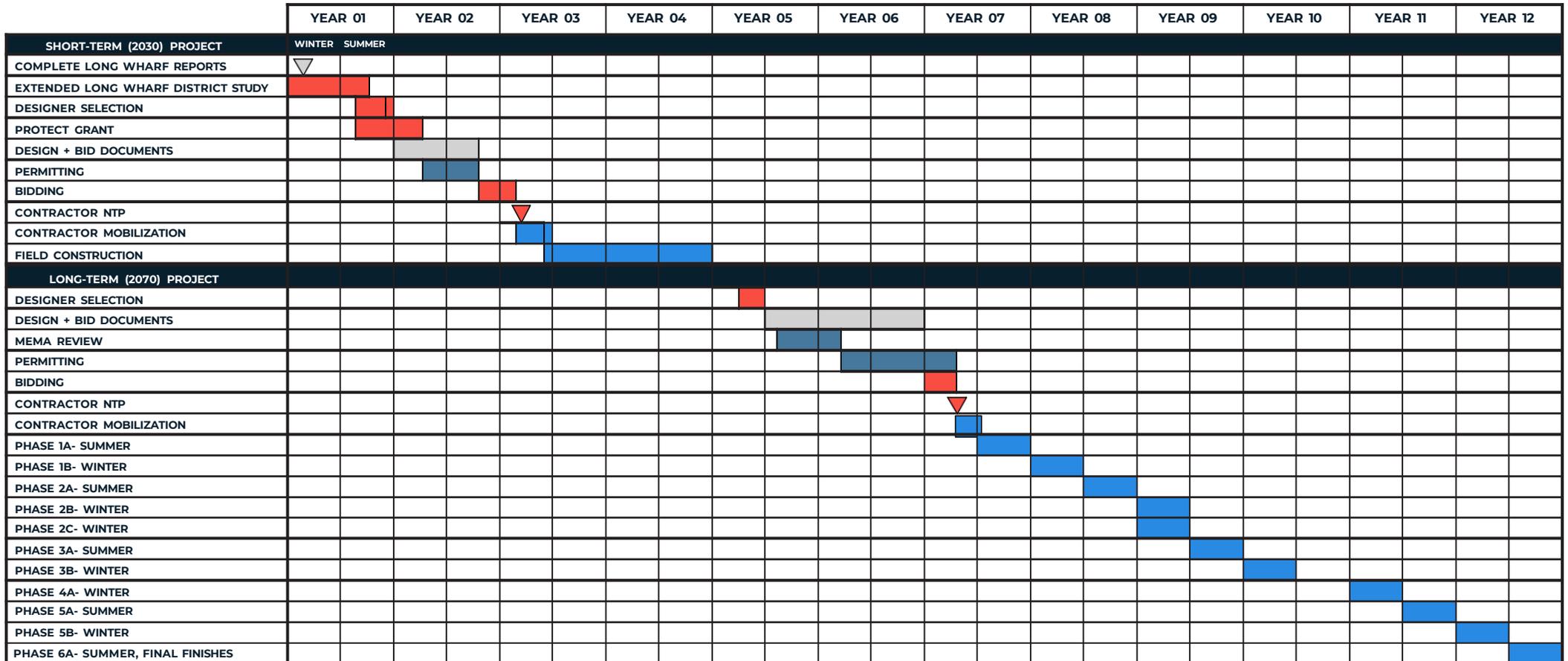
SHORT-TERM (2030) STRATEGIES

- **Protect Harborwalk from flooding to Elevation 12.8 NAVD88:**
 - 2030 1% Storm
 - 2070 Highest Astronomical Tide (HAT)
- **Protect State Street & Columbus Park flood pathways into downtown Boston**
- **Maintain existing marine transportation configurations**
- **Facilitate future incorporation of 2070 solutions**
- **Ensure tie-ins with project partners**
- **Employ combination of passive and active (deployable) flood control systems**
- **Consider circulation pattern limitations on Old Atlantic and the need for more public space**



IMPLEMENTATION TIMELINE

WITH NEAR TERM (2030 PROTECTION), DISTRICT-SCALE FEDERAL GRANT



IMPLEMENTATION TIMELINE

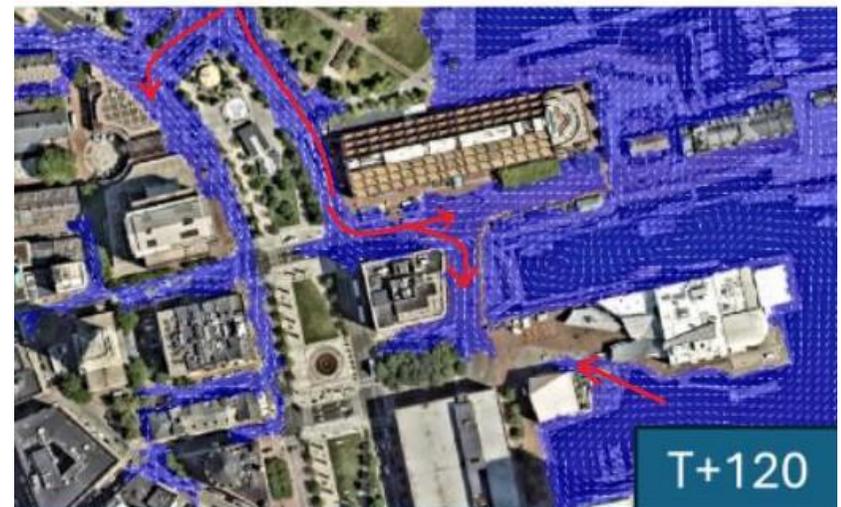
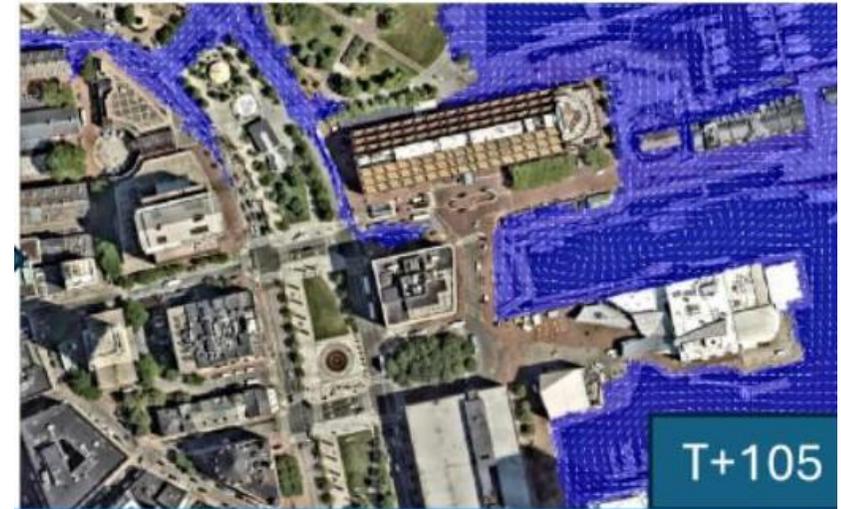
LONG TERM PROJECT (PROTECT TO 2070)

LONG-TERM (2070) PROJECT	YEAR 01		YEAR 02		YEAR 03		YEAR 04		YEAR 05		YEAR 06		YEAR 07		YEAR 08		YEAR 09	
	WINTER	SUMMER																
COMPLETE LONG WHARF REPORTS	▽																	
EXTENDED LONG WHARF DISTRICT STUDY	■	■																
DESIGNER SELECTION		■	■															
DESIGN + BID DOCUMENTS			■	■	■	■	■											
MEMA REVIEW			■	■														
PERMITTING				■	■	■	■											
BIDDING						■												
CONTRACTOR NTP							▽											
CONTRACTOR MOBILIZATION							■											
PHASE 1A- SUMMER								■										
PHASE 1B- WINTER									■									
PHASE 2A- SUMMER										■								
PHASE 2B- WINTER											■							
PHASE 2C- WINTER												■						
PHASE 3A- SUMMER													■					
PHASE 3B- WINTER														■				
PHASE 4A- WINTER															■			
PHASE 5A- SUMMER																■		
PHASE 5B- WINTER																	■	
PHASE 6A- SUMMER, FINAL FINISHES																		■



TAKEAWAYS FROM 2030 EXERCISE + NEXT STEPS

- A near-term project solely at Long Wharf has limited benefits in protecting the downtown Boston district
- To protect downtown areas & tunnels to 2030 1% storm requires extending the district-scale effort to a larger area due to secondary flood pathways (primarily from North End, also NEAQ, India Row)
- A 'Long Wharf - Extended' project, focused specifically on the 2030 flood pathways is in the works in the year ahead
- The City may develop a federal FHWA PROTECT grant to fund implementation of a resultant district scale, near term project

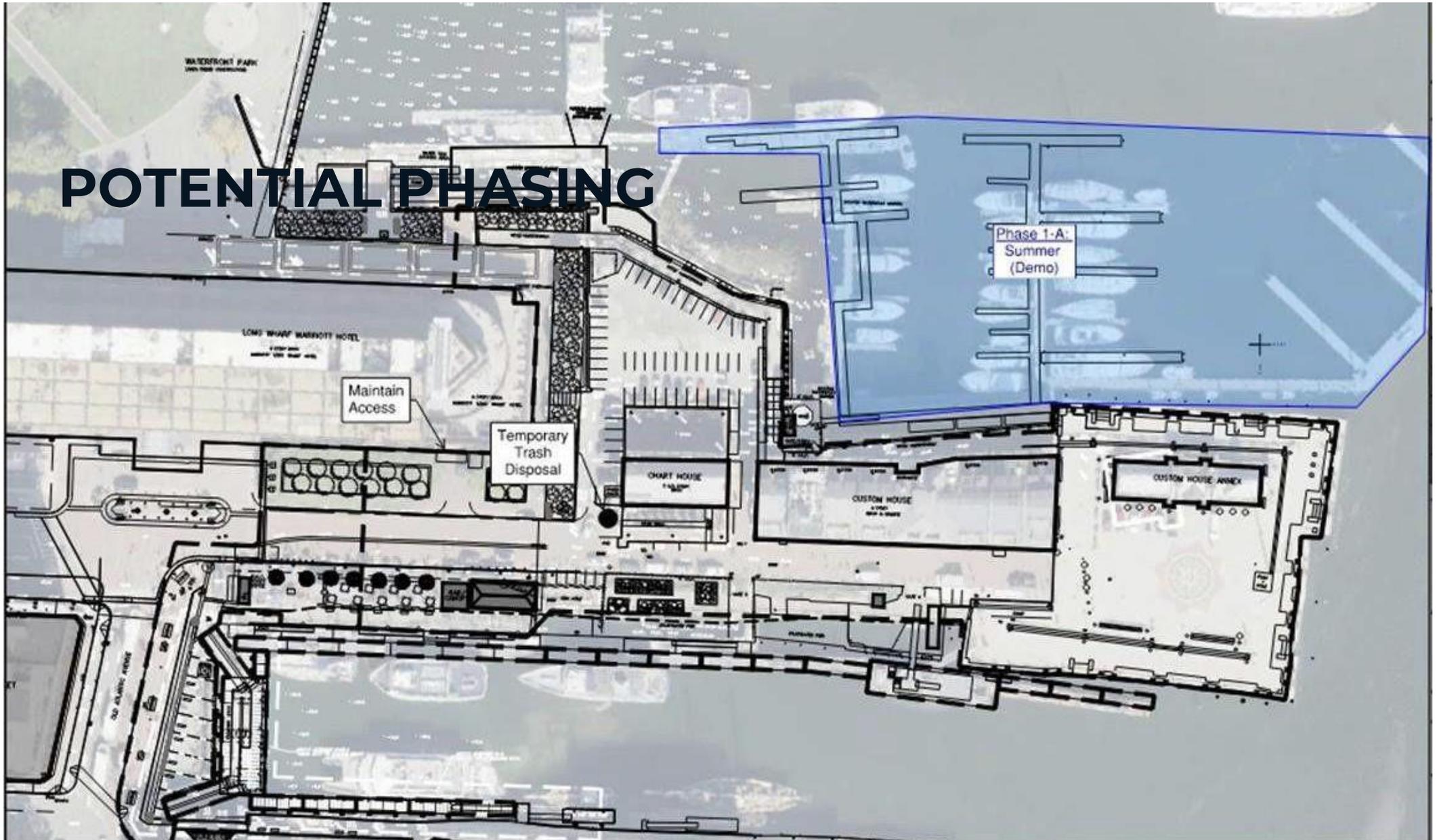


FEASIBILITY AND IMPLEMENTATION

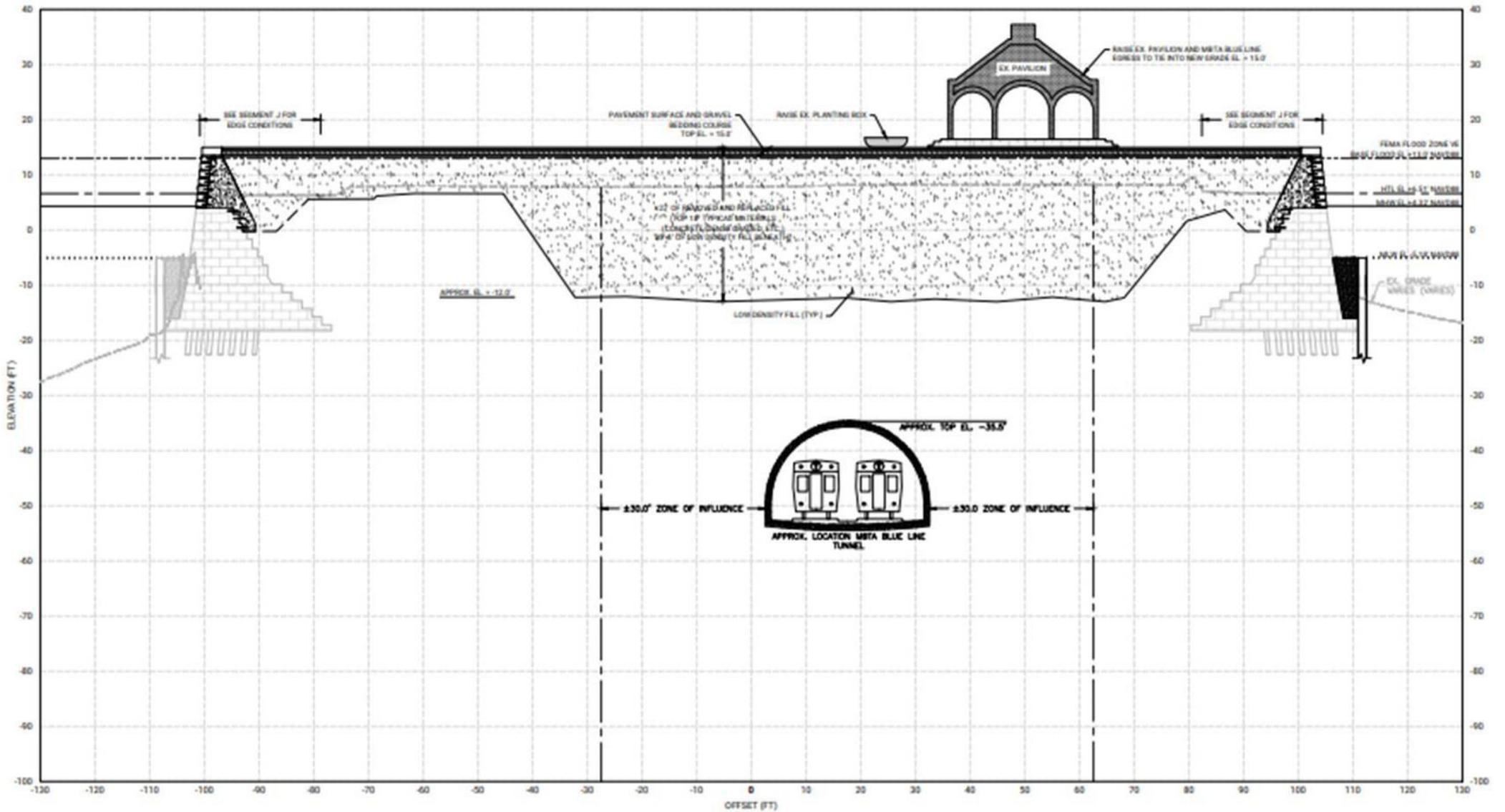
- Phase construction to minimize impacts to public, tenants, MBTA, utilities, and marine operations
- Maintain minimum 20 ft. of right of way width to end of Wharf
- Perform disruptive construction during “winter” months from October 15 to April 15
- Maintain access to water transportation, tenant spaces, and hotel
- Proposed phasing generally similar for all 2070 solutions
- Use load balancing for fills above MBTA Blue Line tunnel



PHASE 1, SUMMER YEAR 1: APRIL 16- OCTOBER 14

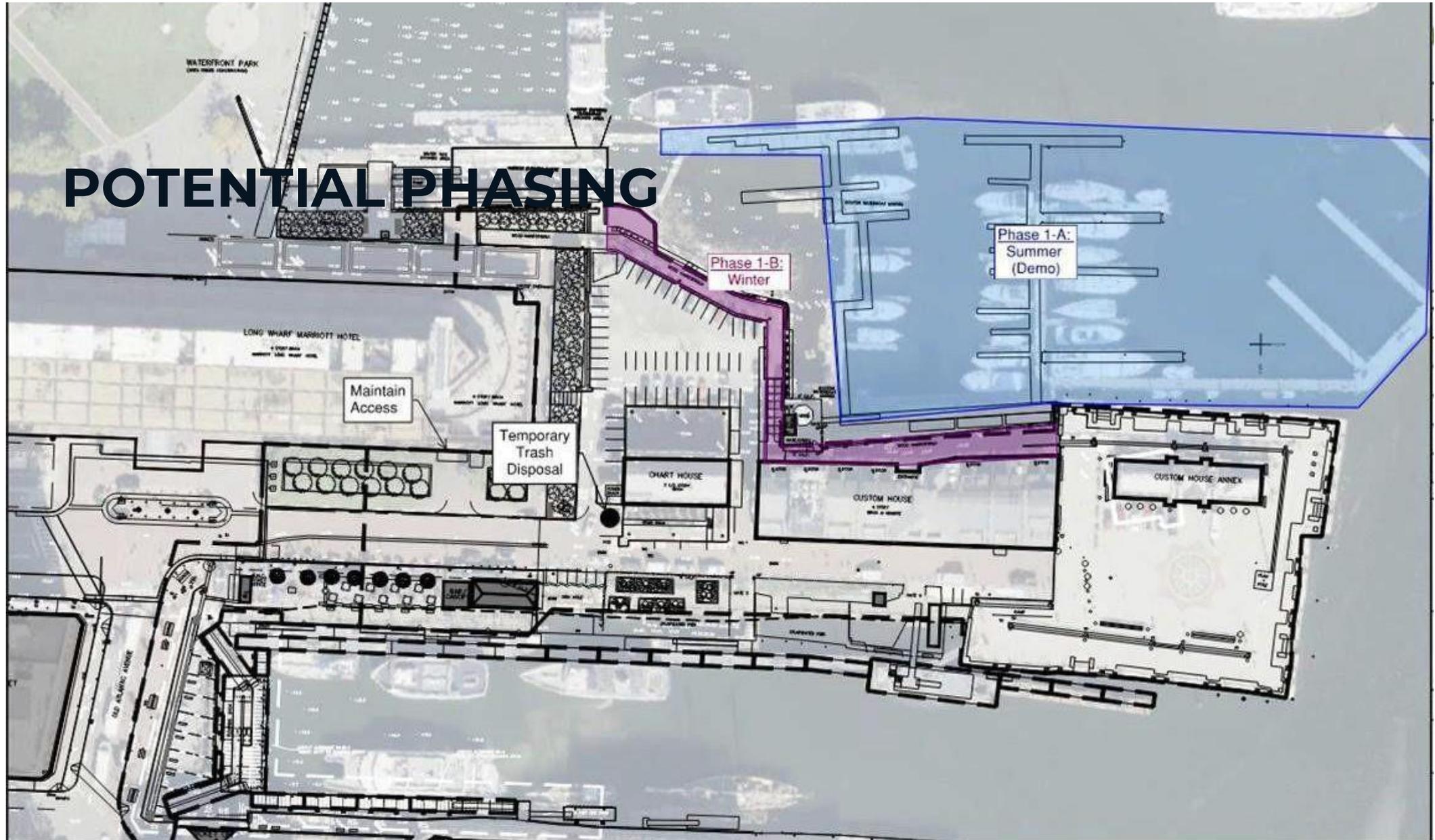


POTENTIAL PHASING

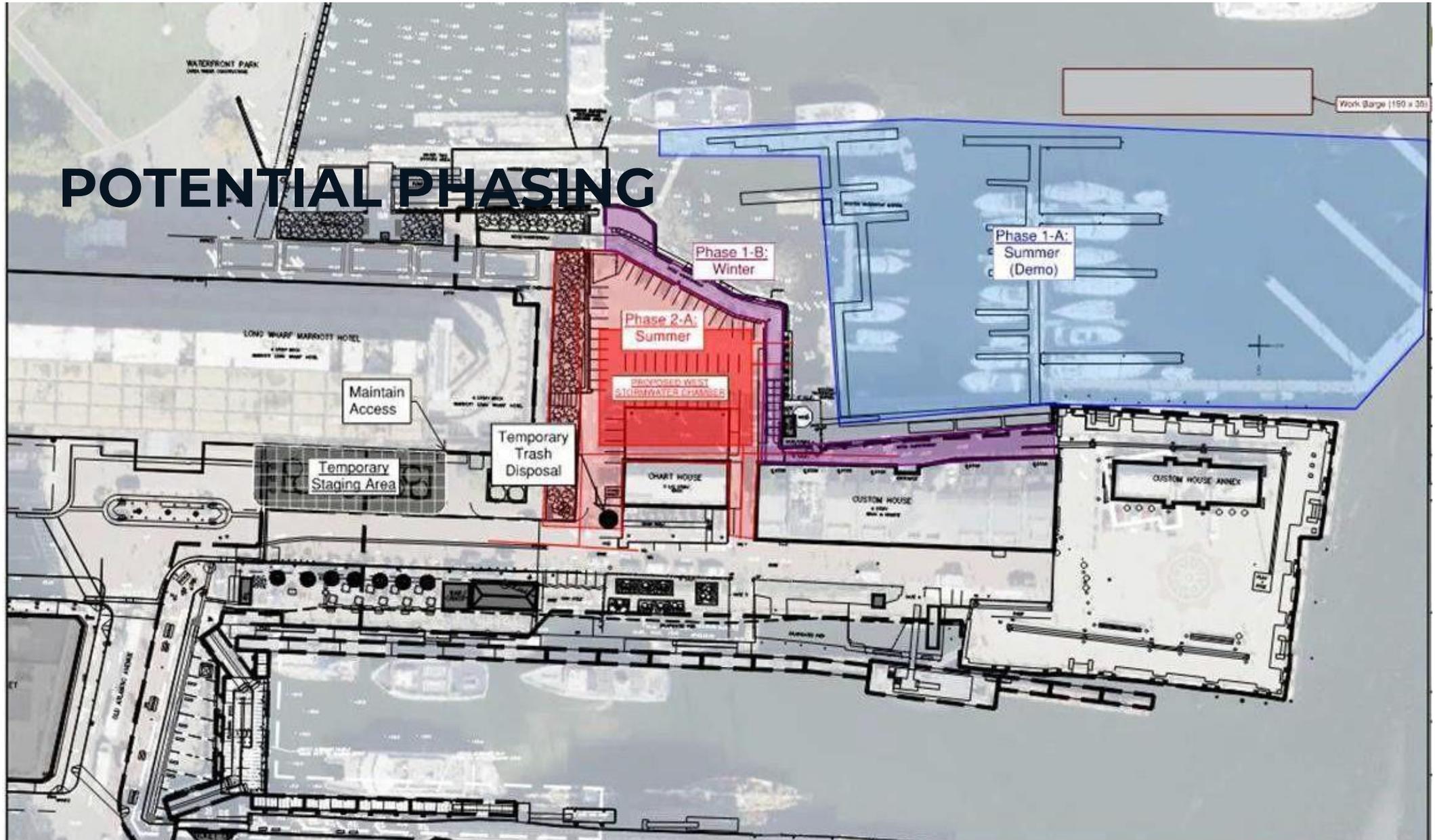


311 SEGMENT H & J PROPOSED CONDITION - WHARF ELEVATION RAISED TO 15.0' W/ LOW DENSITY FILL
SCALE: 1" = 10'

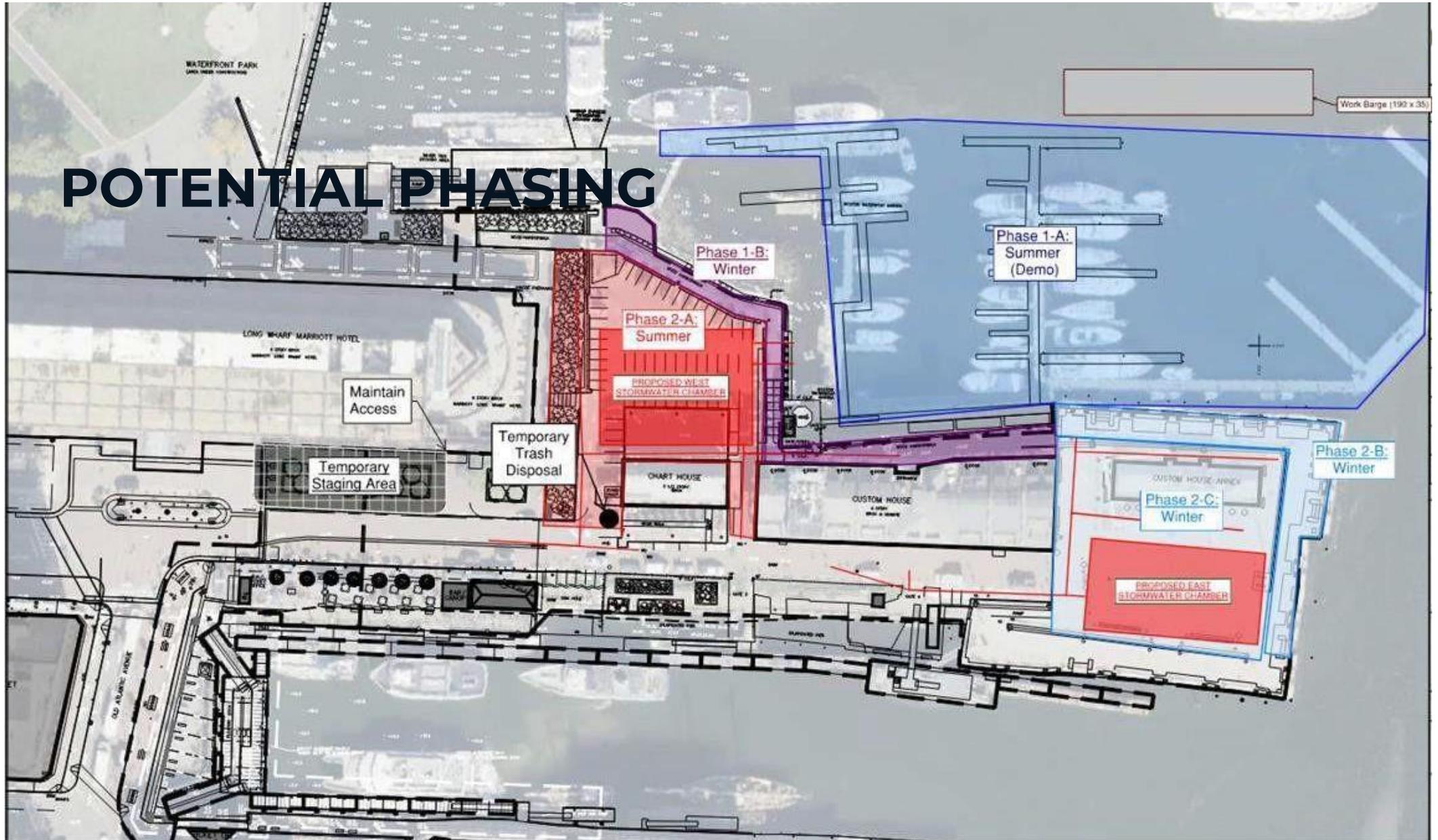
PHASE 1, WINTER YEAR 1: OCTOBER 15- APRIL 15



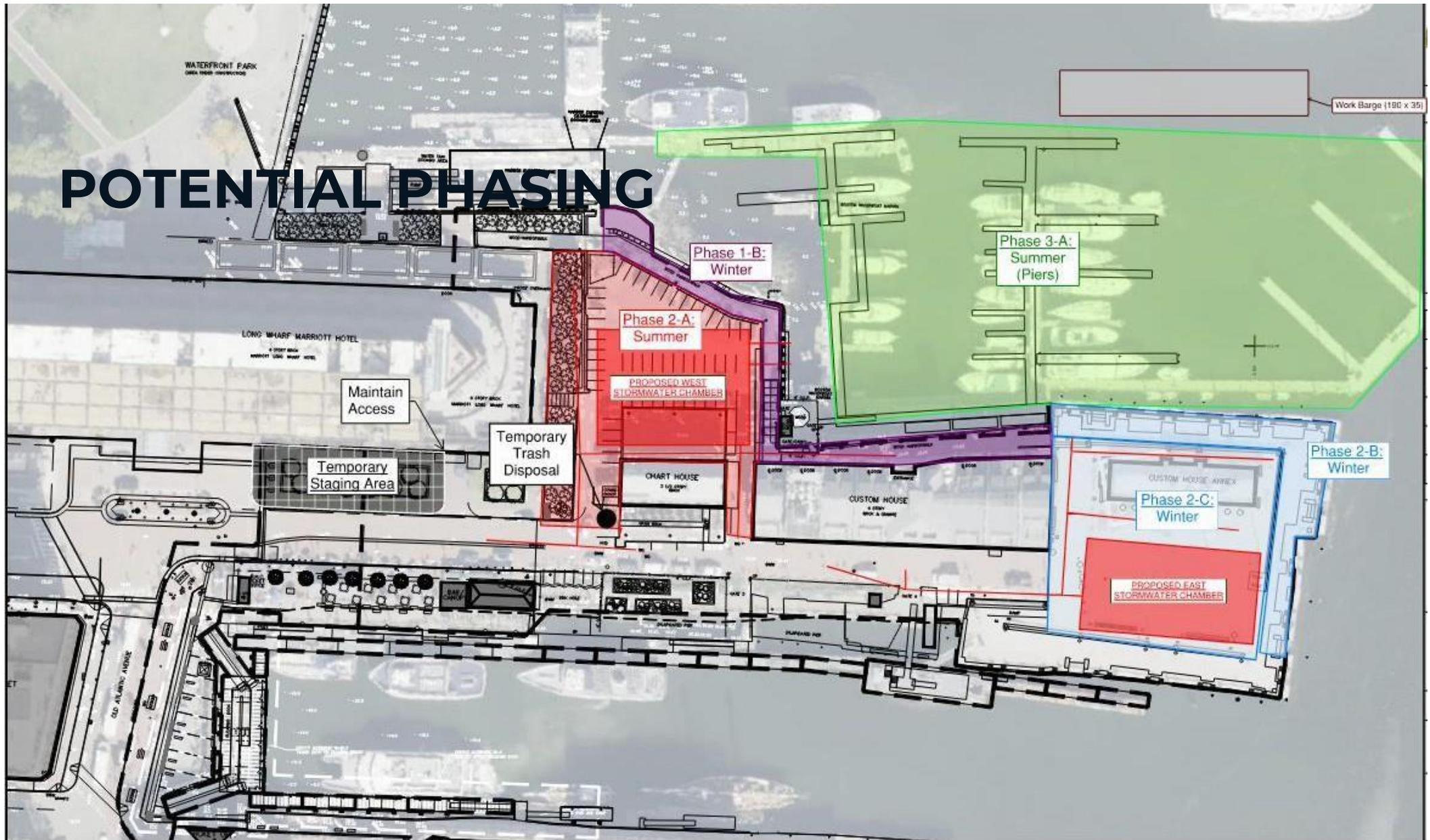
PHASE 2, SUMMER YEAR 2: APRIL 16- OCTOBER 14



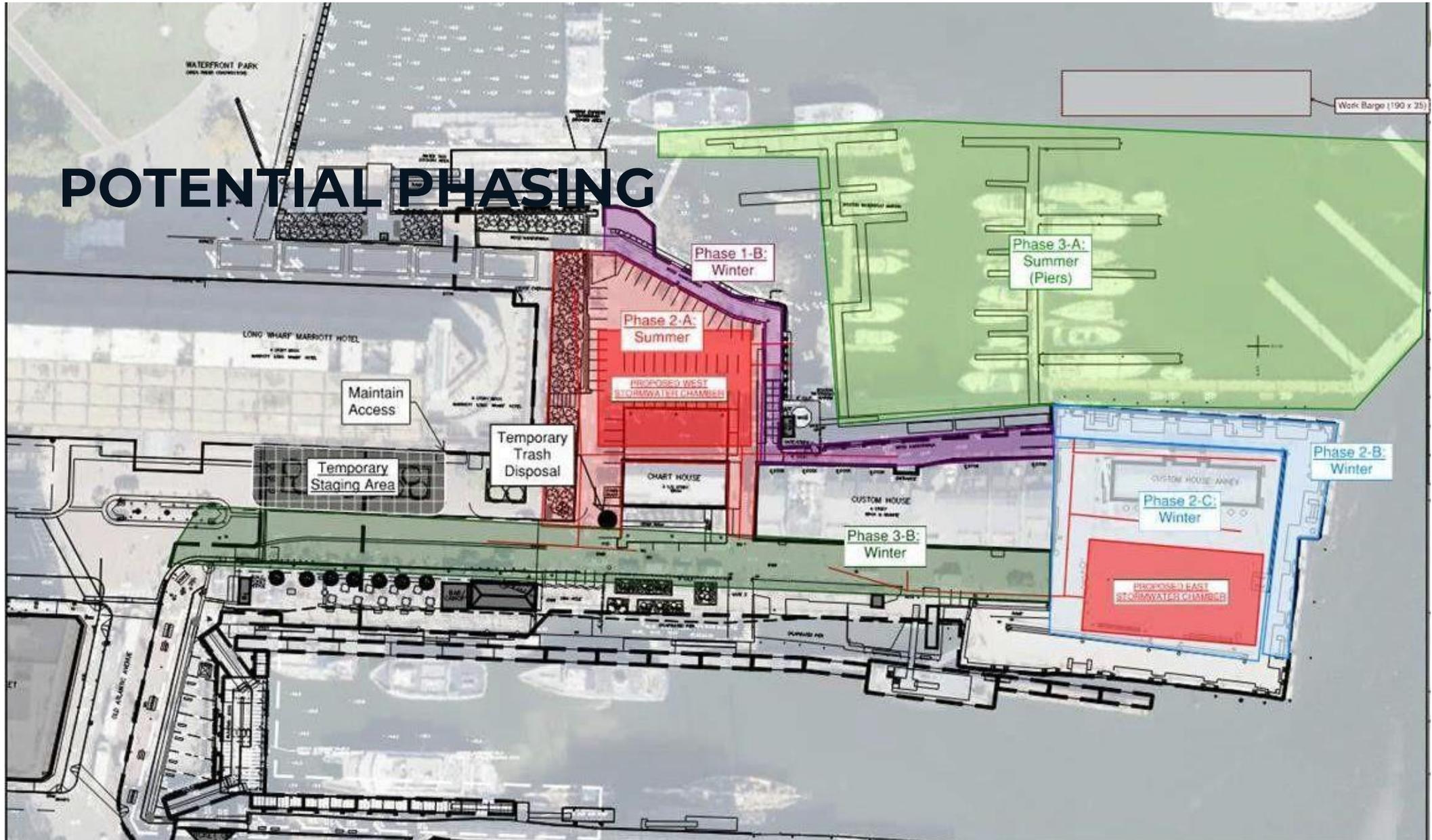
PHASE 2, WINTER YEAR 2: OCTOBER 15- APRIL 15



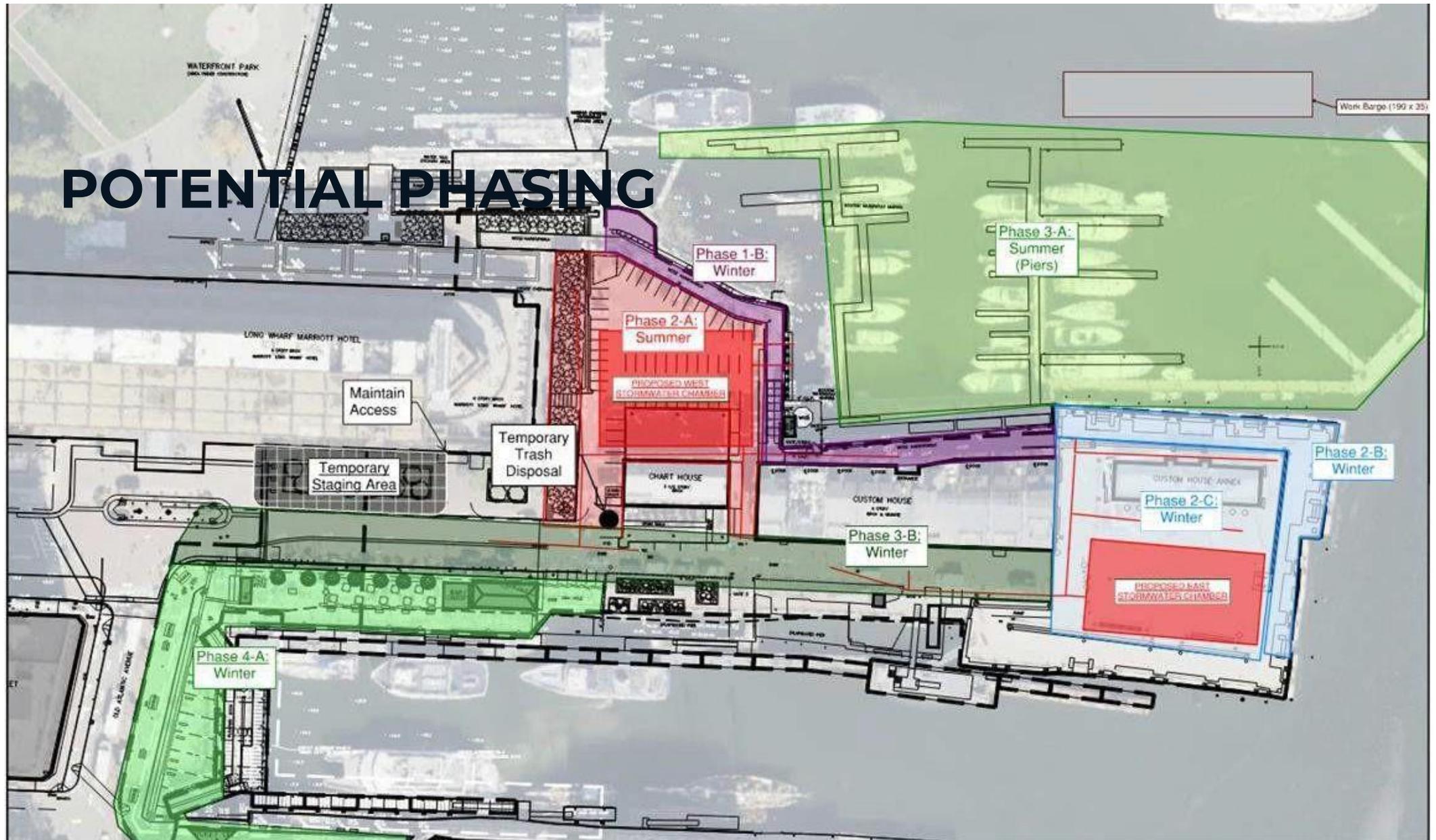
PHASE 3, SUMMER YEAR 3: APRIL 16- OCTOBER 14



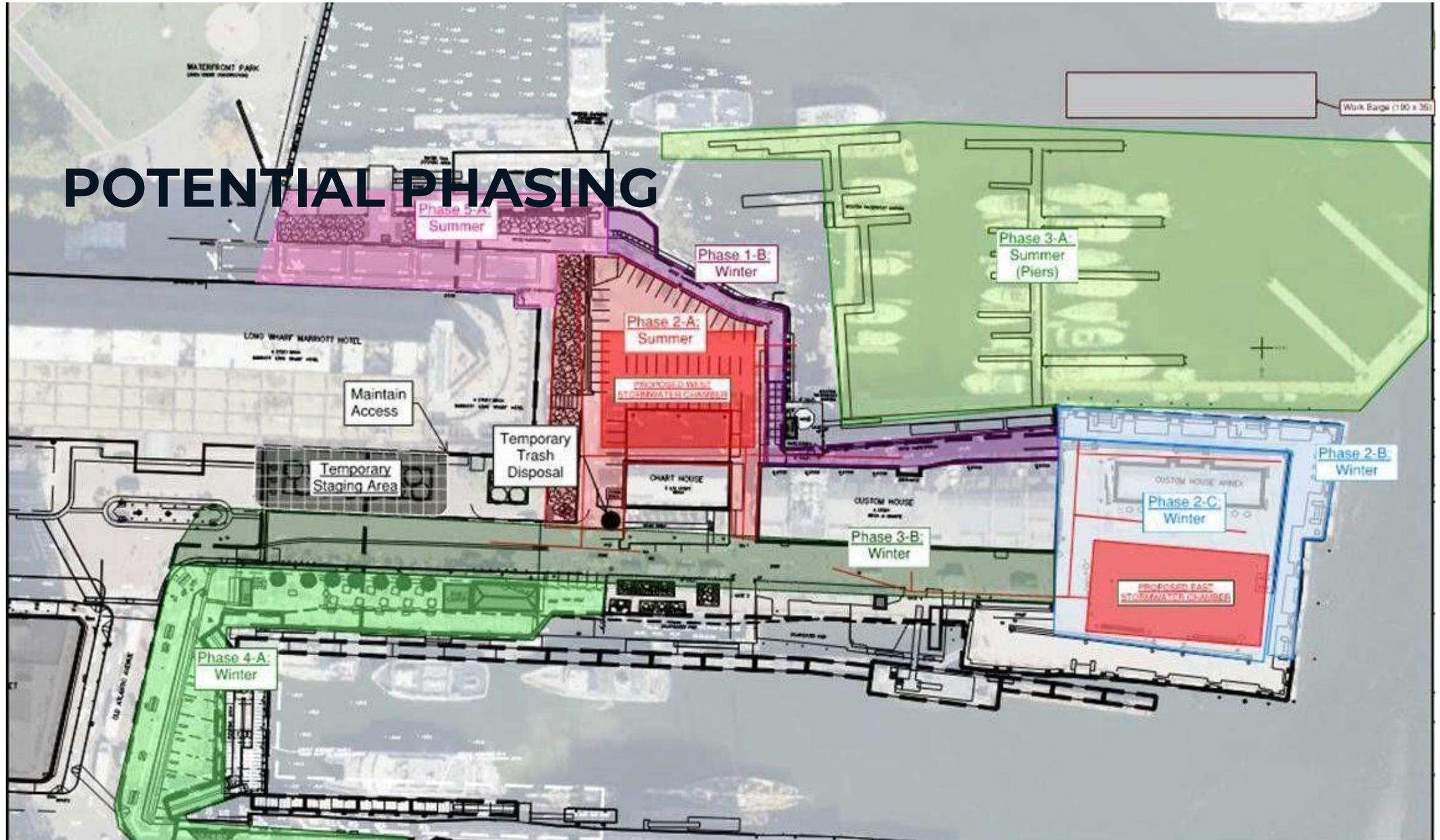
PHASE 3, WINTER YEAR 3: OCTOBER 15- APRIL 15



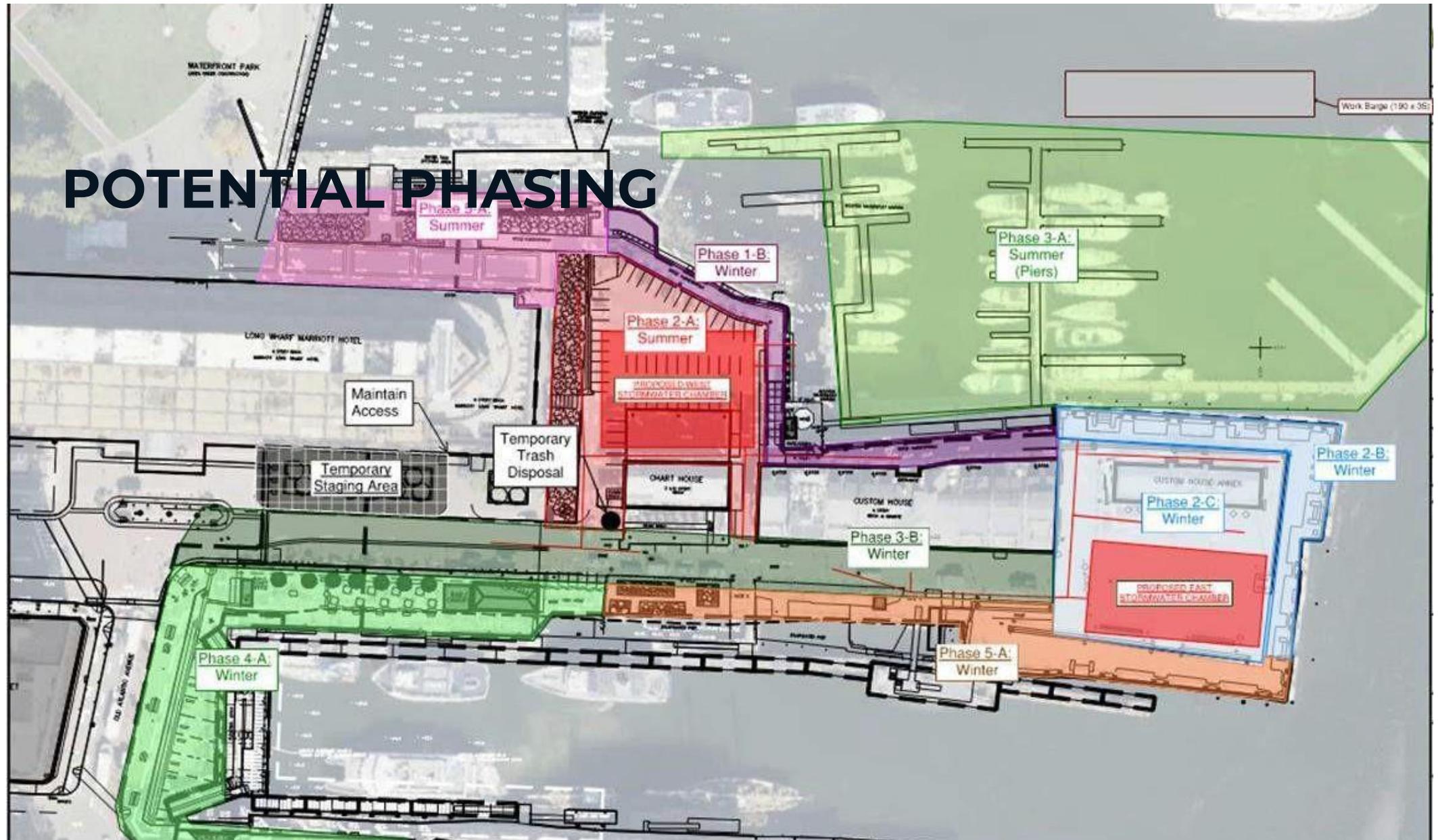
PHASE 4, WINTER YEAR 4: OCTOBER 15- APRIL 15



PHASE 5, SUMMER YEAR 5: APRIL 16- OCTOBER 14



PHASE 5, WINTER YEAR 5: OCTOBER 15- APRIL 15



STORMWATER CONCEPT



Date: 10/22/2024 User: SBryant Path: C:\Users\SBryant\OneDrive - Kleinfelder\Documents\ArcGIS\Projects\MyProject4\MyProject14.aprx

Maxar, Microsoft, Nearmap

<ul style="list-style-type: none"> Outfall Stormwater Treatment Device Manholes Catch Basins Underground Detention Tanks Drain Lines Drainage Catchment 	<p>0 25 50 100 Feet</p>	<p>KLEINFELDER Bright People. Right Solutions. www.kleinfelder.com</p>	<table border="1"> <tr><td>PROJECT NO.</td><td>20235500.001A</td></tr> <tr><td>CREATED:</td><td>10/22/2024</td></tr> <tr><td>CREATED BY:</td><td>SBryant</td></tr> <tr><td>CHECKED BY:</td><td></td></tr> </table>	PROJECT NO.	20235500.001A	CREATED:	10/22/2024	CREATED BY:	SBryant	CHECKED BY:		<p>Long Wharf Drainage Conceptual Layout</p> <p>Long Wharf Flood Mitigation Planning Boston Planning and Development Agency Long Wharf Boston, MA 02110</p>	<p>FIGURE 1</p>
PROJECT NO.	20235500.001A												
CREATED:	10/22/2024												
CREATED BY:	SBryant												
CHECKED BY:													

