

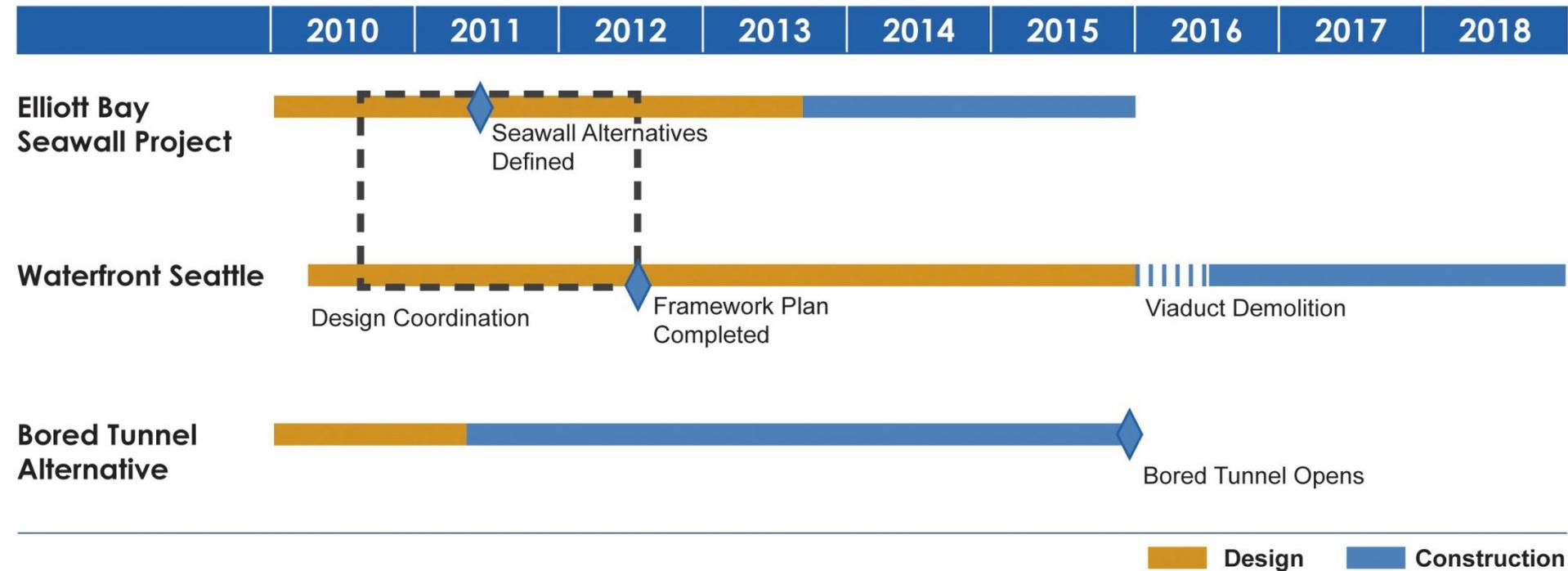
Elliott Bay Seawall Project

***Seattle City Council Briefing
April 25, 2011***

Agenda

- Seawall and Waterfront schedules and coordination
- Project purpose and need
- Project goals
- Process for developing alternatives
- Alternatives definition
- Construction phasing
- Cost assumptions and estimates
- Next steps

Preliminary Project Schedules



Waterfront Coordination

Work to date:

- Held weekly design coordination meetings/working sessions
- Collaborated with CWC subcommittees
- Convened joint stakeholders group
- Developed “bookend” alternatives to maintain flexibility
- Drafted integrated outreach plan

Next steps:

- Continue design and outreach coordination and integration
- Begin planning for early implementation

Waterfront
Seattle.org

Project Area



Seawall Location: Eastern Extent



*Type A
Seawall
(Union to
Broad)*

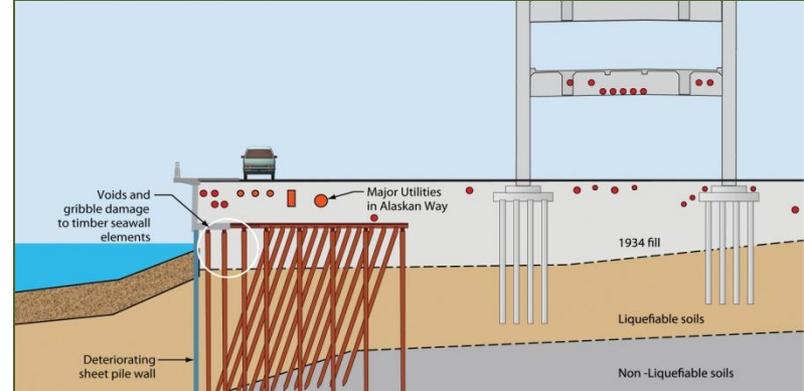
Seawall Location: Eastern Extent



*Type B
Seawall
(Madison to
Union)*

A Reminder: What's at Risk?

- Public safety
- Transportation corridor
- Critical utilities
- Residential and commercial structures
- Public recreation
- Tourism and local attractions
- Seattle's front porch



Setting the Context for Habitat Enhancements

- ~60% overwater coverage
- Limited plant life and associated invertebrates under piers
- Increased productivity in naturally lighted areas
- Low to moderate quality habitat overall



Habitat in lighted areas



Habitat in dark areas under piers

Project Goals

- Address critical structural public safety needs at shoreline.
- Respect cultural, archeological, and historic resources.
- Consider long-term vision for the Central Waterfront.
- Provide enhanced habitat and environmental quality.
- Provide enhanced public gathering and recreational opportunities.
- Support economic vitality of the waterfront.
- Minimize cumulative construction impacts.
- Support fiscal responsibility.

Developing Alternatives

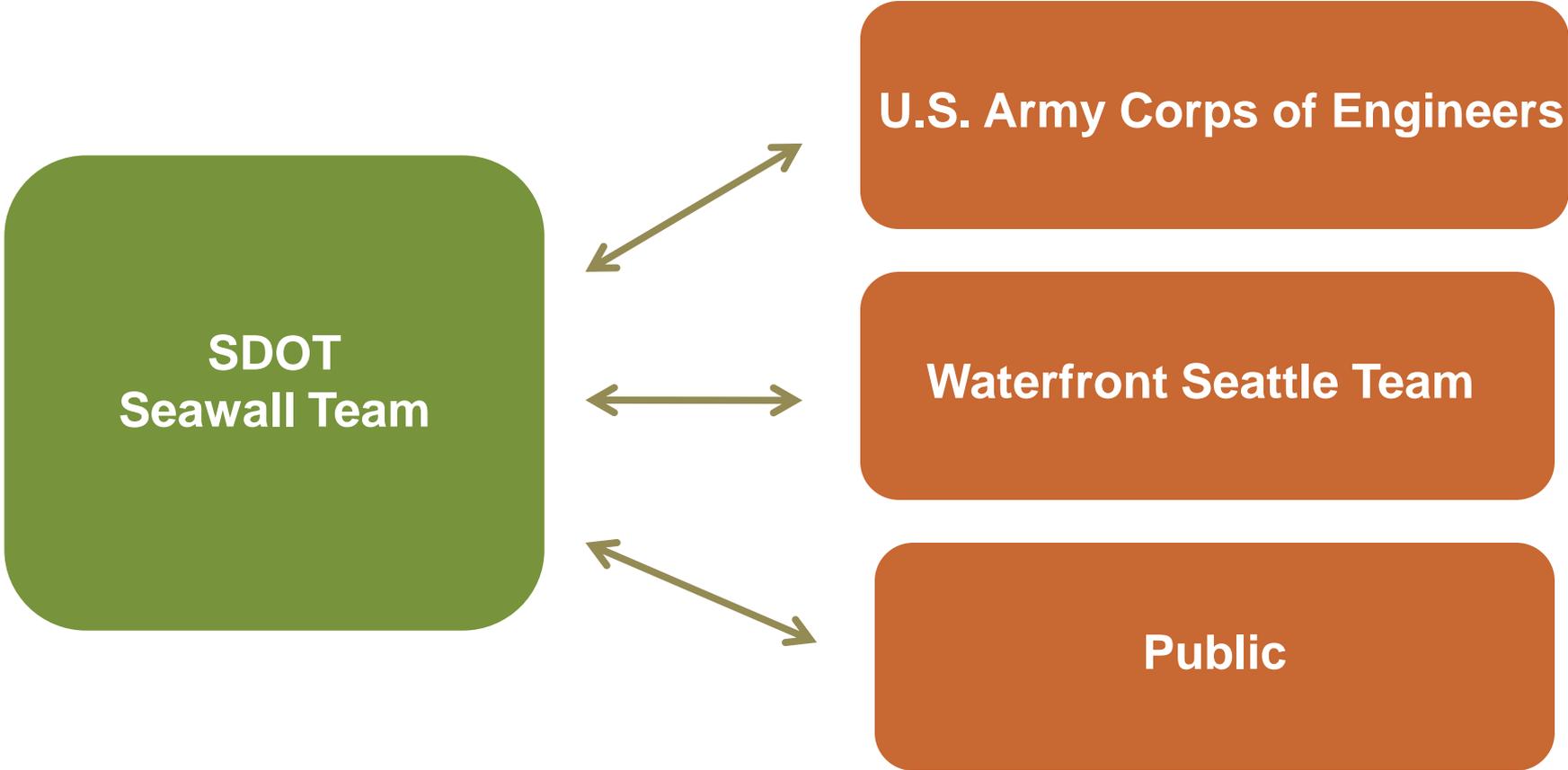
Environmental Impact Statement (EIS)

Spring (June) 2010	Winter 2011	Spring 2011*	Fall 2011	TBD**	TBD**	TBD**
Define project's Purpose and Need	<i>Establish range of alternatives for analysis</i>	<i>Write environmental discipline reports for alternatives</i>	<i>Summarize discipline reports into Draft EIS</i>	Publish Draft EIS	Publish Final EIS	Issue Record of Decision

**April 2011: Define local alternatives*

***Pending schedule coordination with U.S. Army Corps of Engineers*

Seawall Team Partnerships



Working with the Army Corps

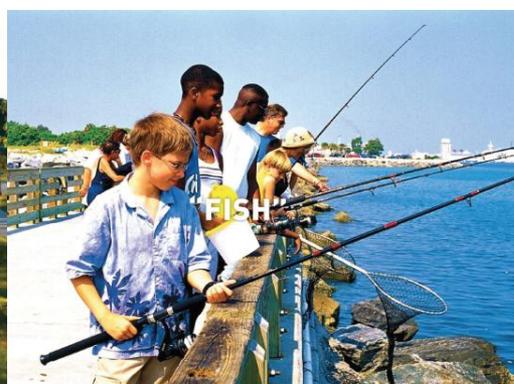
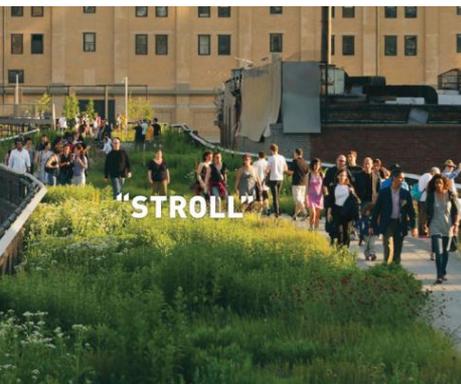
The City of Seattle and the U.S. Army Corps of Engineers share the goal of addressing the critical safety need of the seawall.

- The City of Seattle's proposed schedule to advance construction of the central waterfront portion of the seawall would require special Congressional authorization, and is subject to the availability of funding.
- The Corps of Engineers has not approved these alternatives or cost estimates. The Corps will continue to work with the City and incorporate stakeholder comments into the alternatives, where appropriate.



**US Army Corps
of Engineers®**

Coordination with Waterfront Seattle



Ongoing Public Engagement

- Central Waterfront Stakeholders Group and Seawall Stakeholders Subgroup
- Central Waterfront Committee and subcommittees
- Waterfront walking tour
- Public meeting and comment period
- Business survey
- Briefings
- Inter-agency and inter-departmental coordination
- Tribal coordination
- Website and email

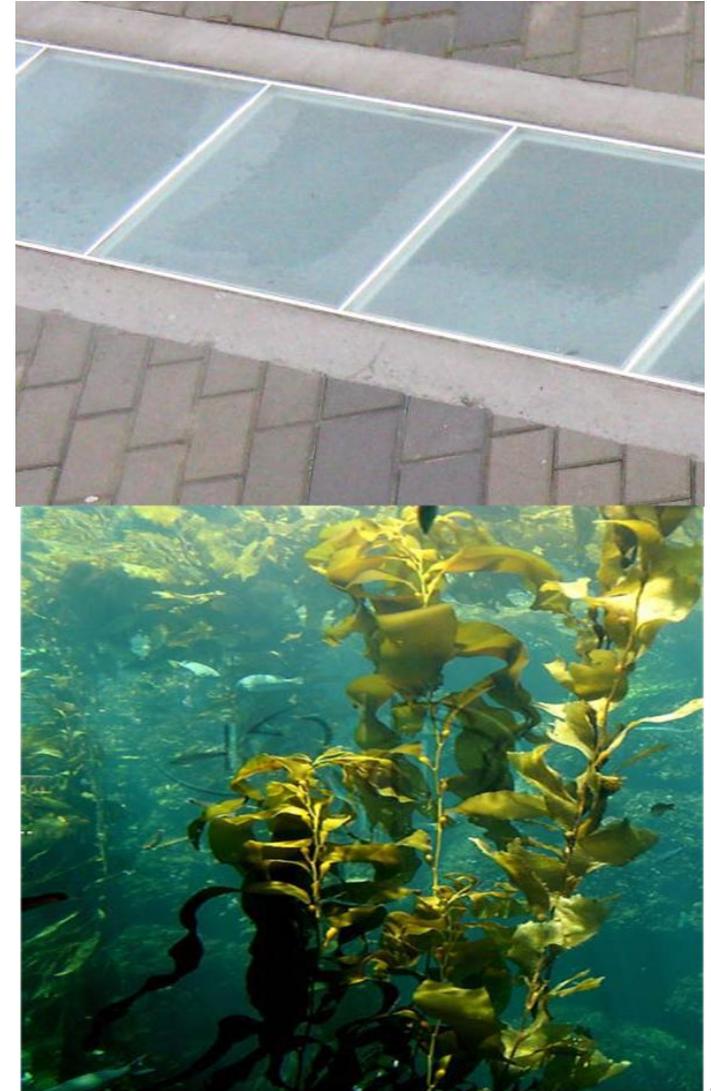


Public Engagement Themes

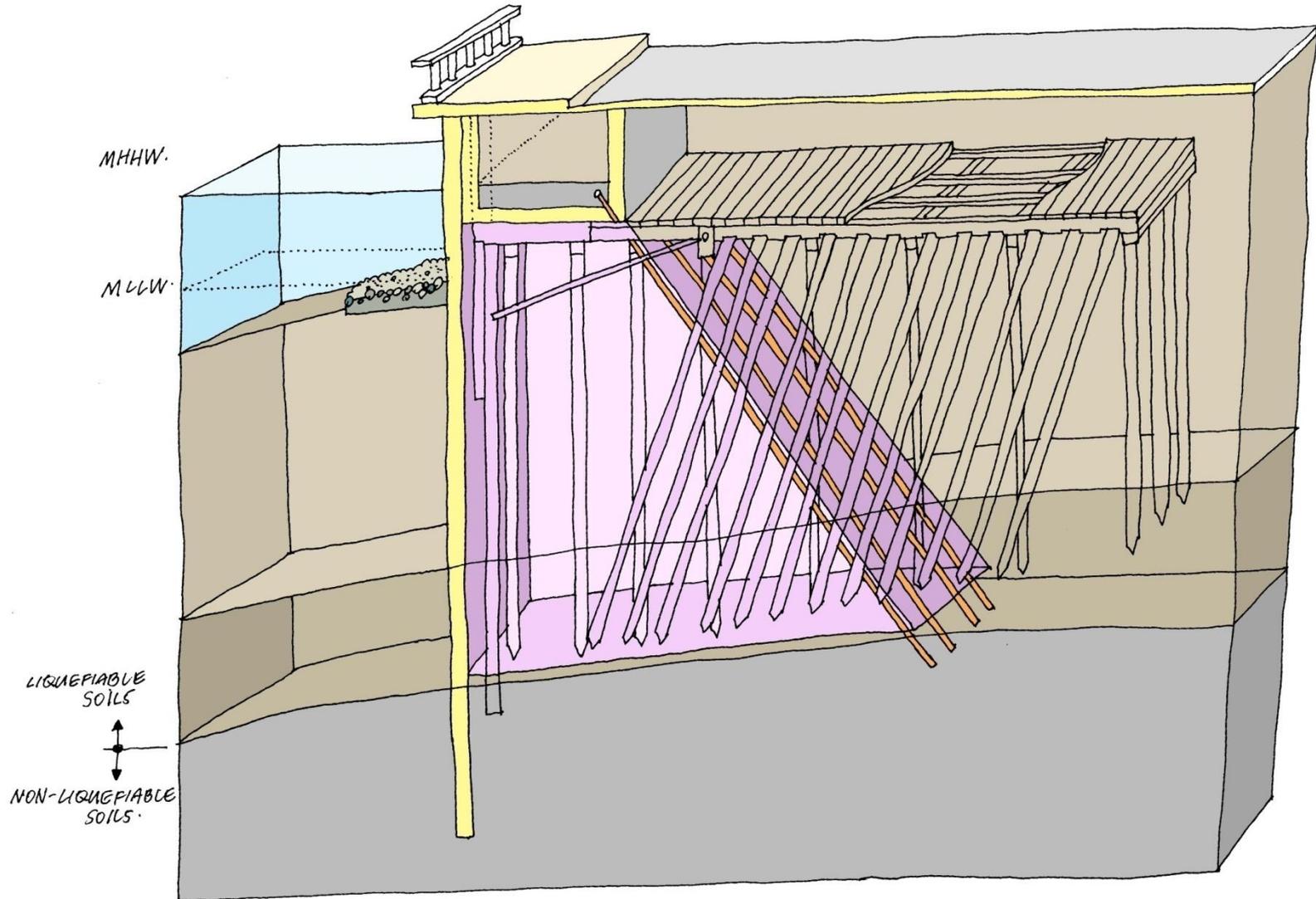
- For those most affected, *the project is well-known* and they are ready to *get construction started*
- *Seize the habitat opportunity* by using innovative and science-based enhancements
- Maintain a *responsible project budget*
- Create more *physical access to water* and public gathering space
- Maintain transportation routes, including *continuous non-motorized pathways*
- Consider *construction impacts to businesses* and tourism
- Preserve *historical and cultural significance*

Elements of an Alternative

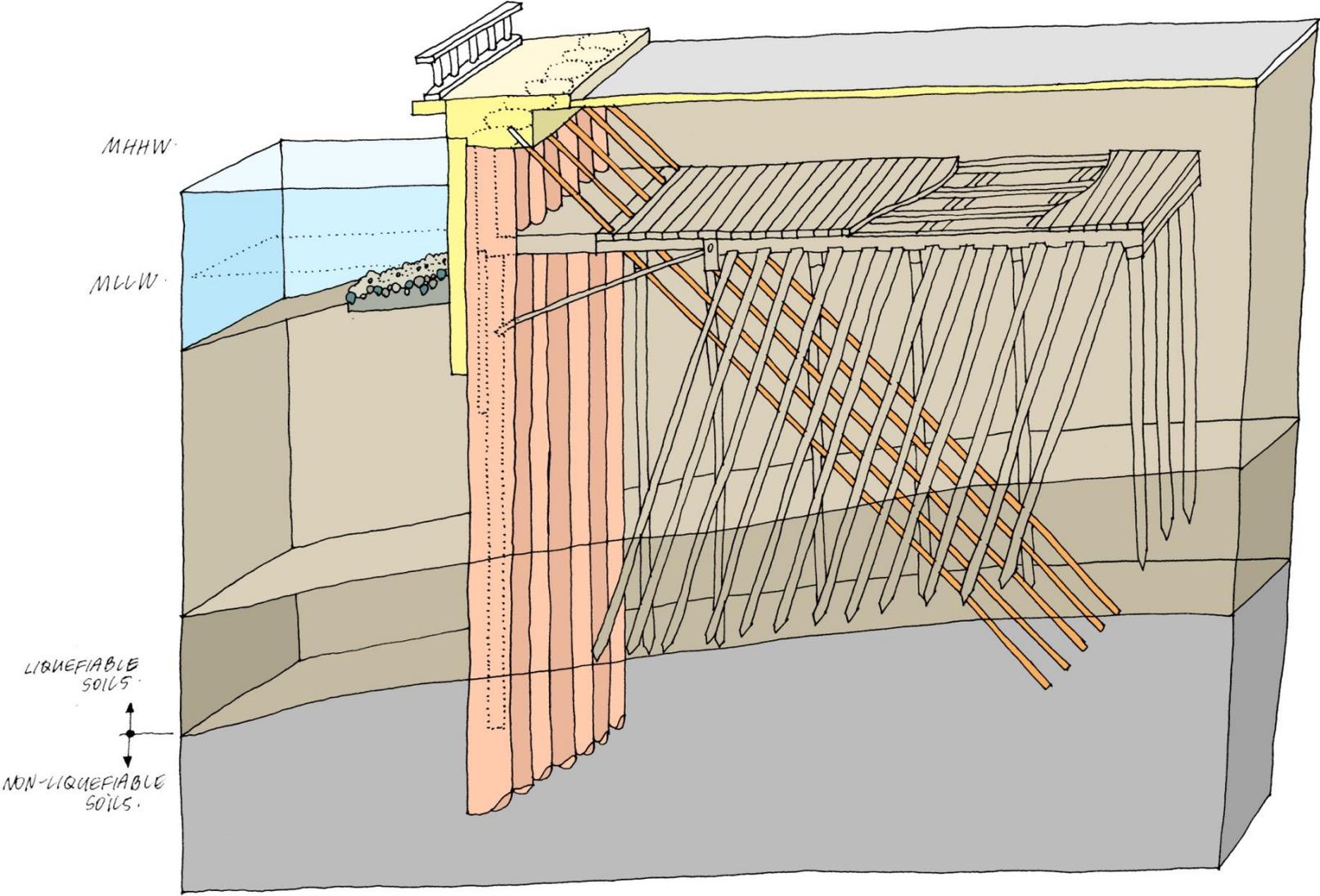
- Wall location
- Structural solution
- Habitat enhancement measures
- Restored roadway and pedestrian/bicycle facilities
- Flexibility for Waterfront Seattle
- Potential early wins, both in-water and uplands

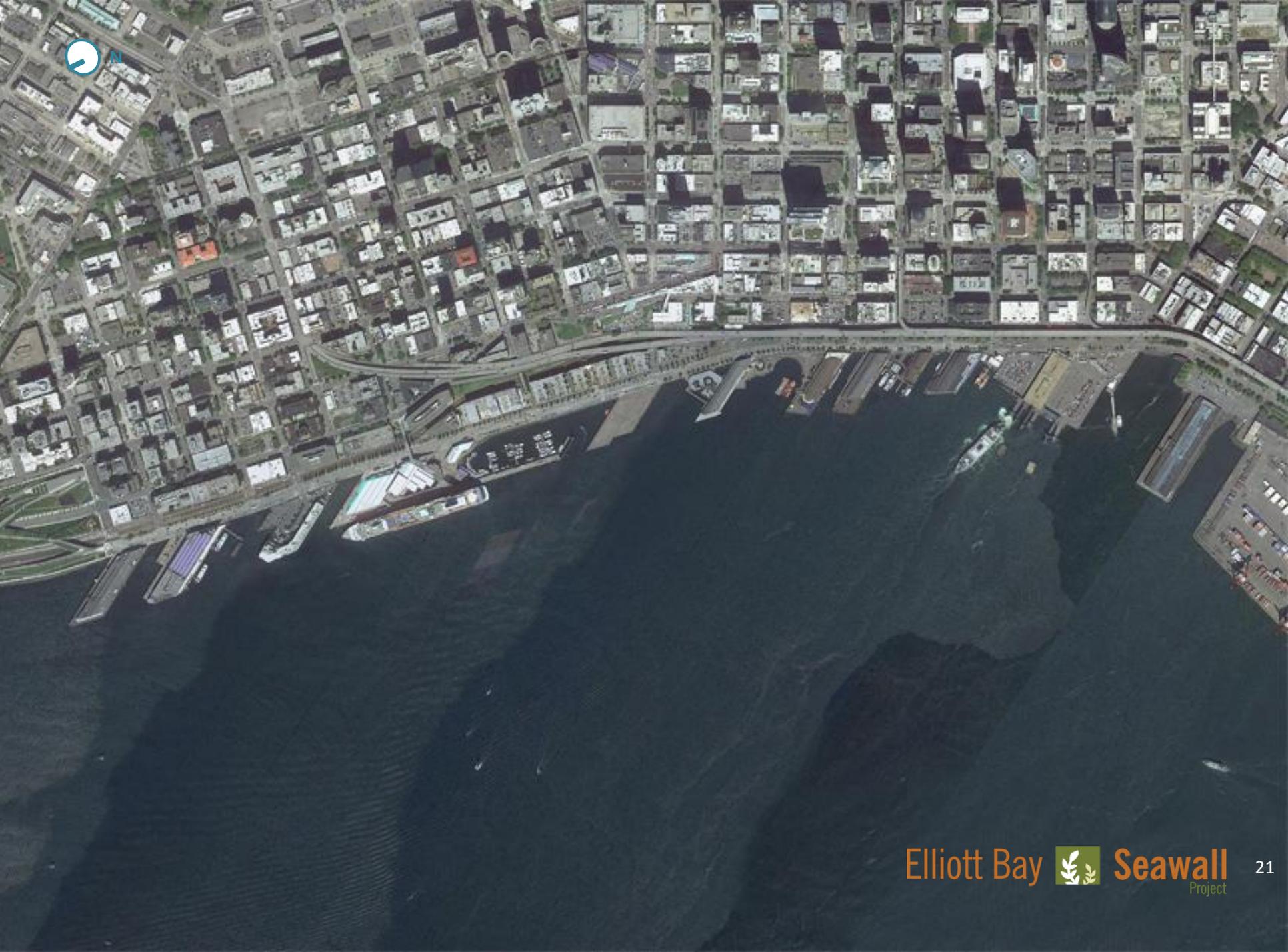


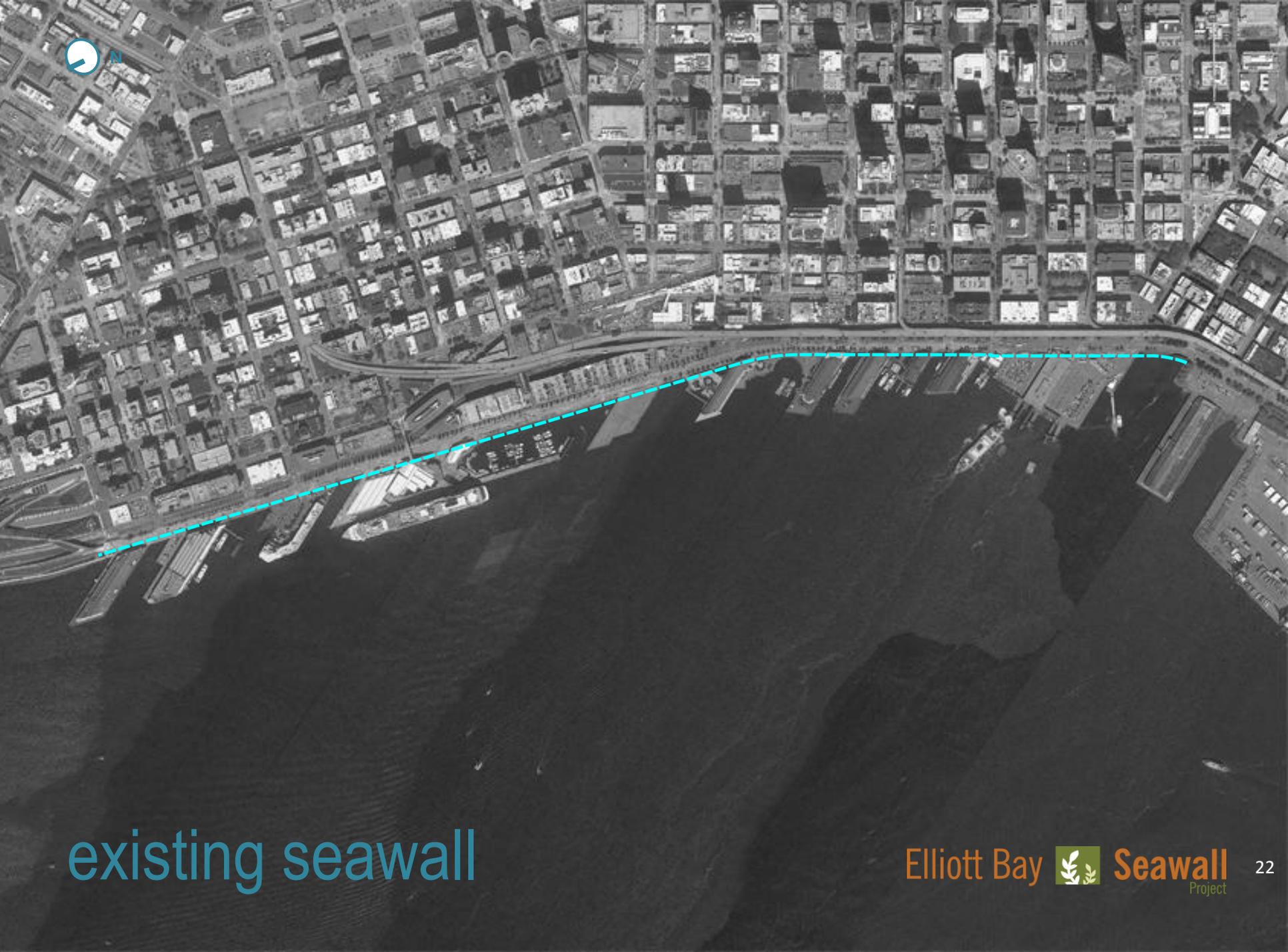
Structural Solutions: Jet Grouting



Structural Solutions: Drilled Shafts







existing seawall

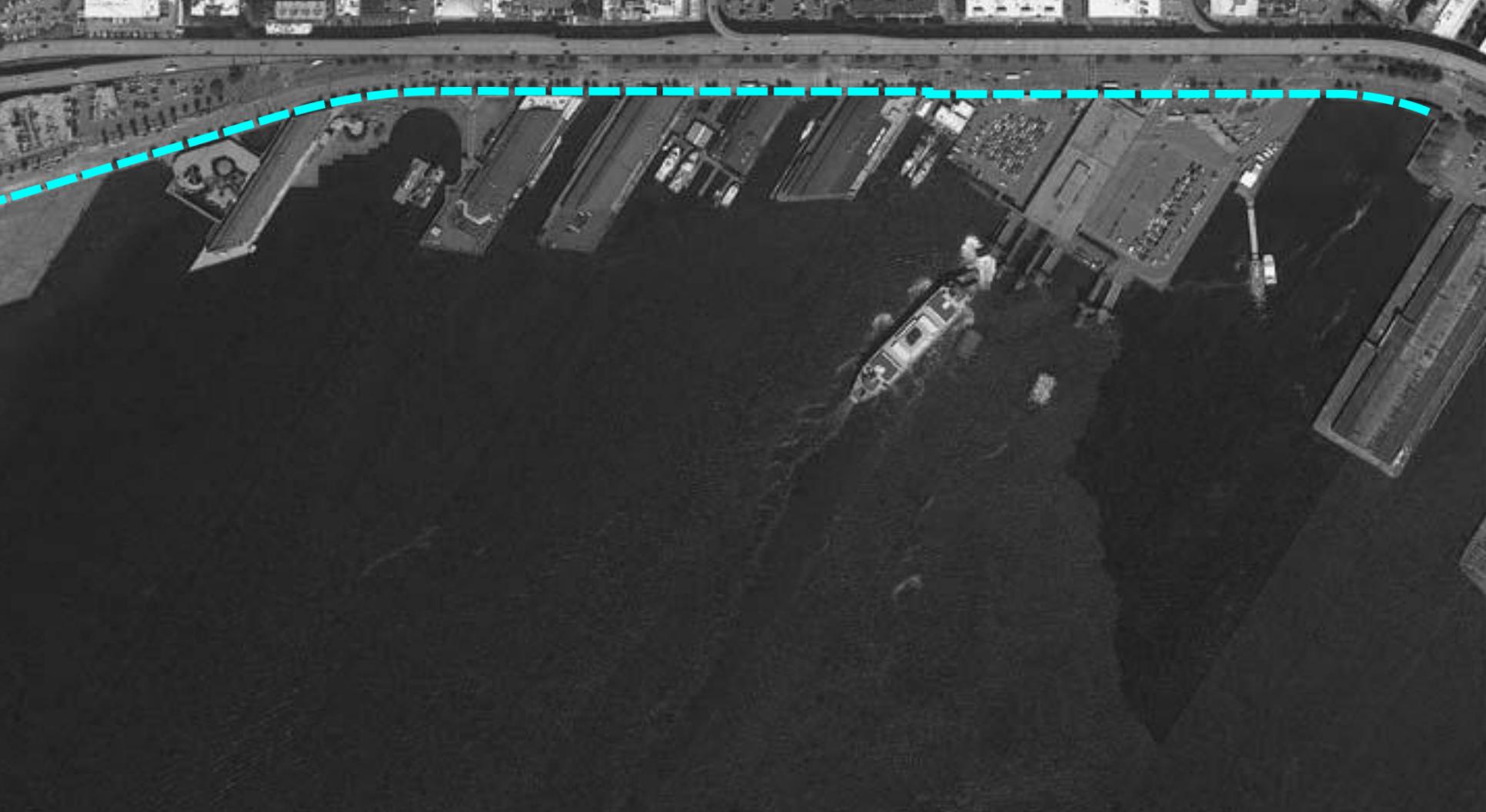


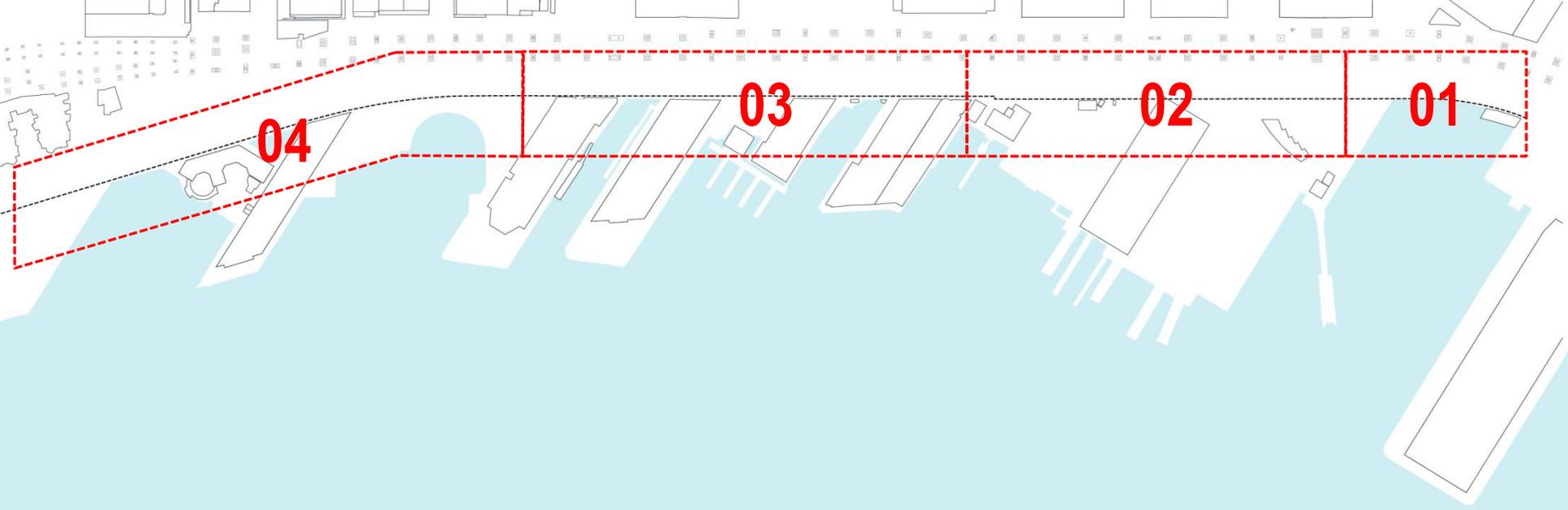
alternative A

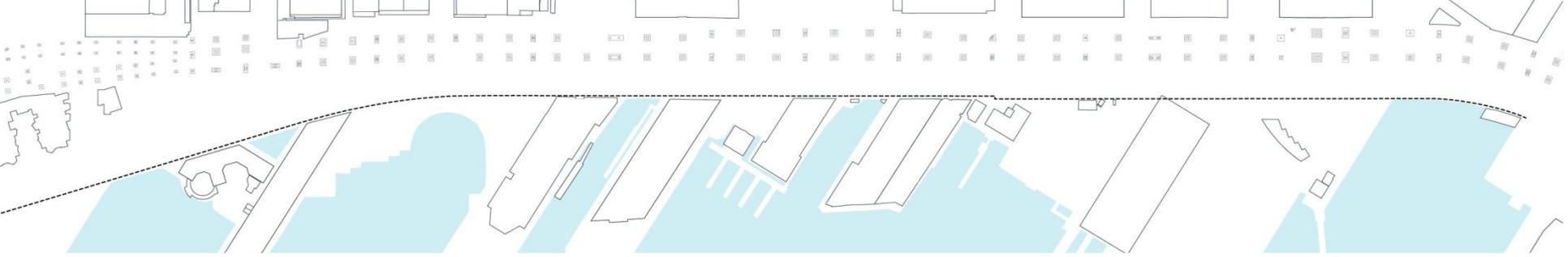


alternative B





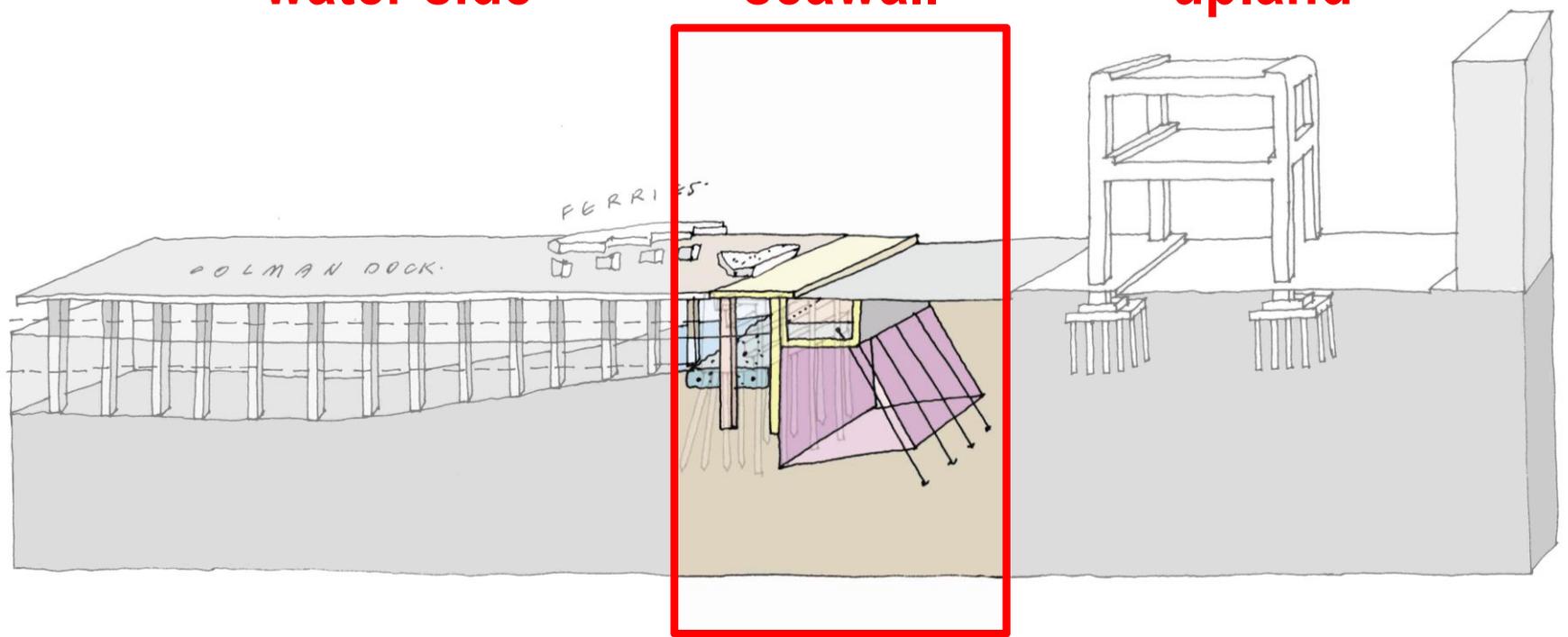


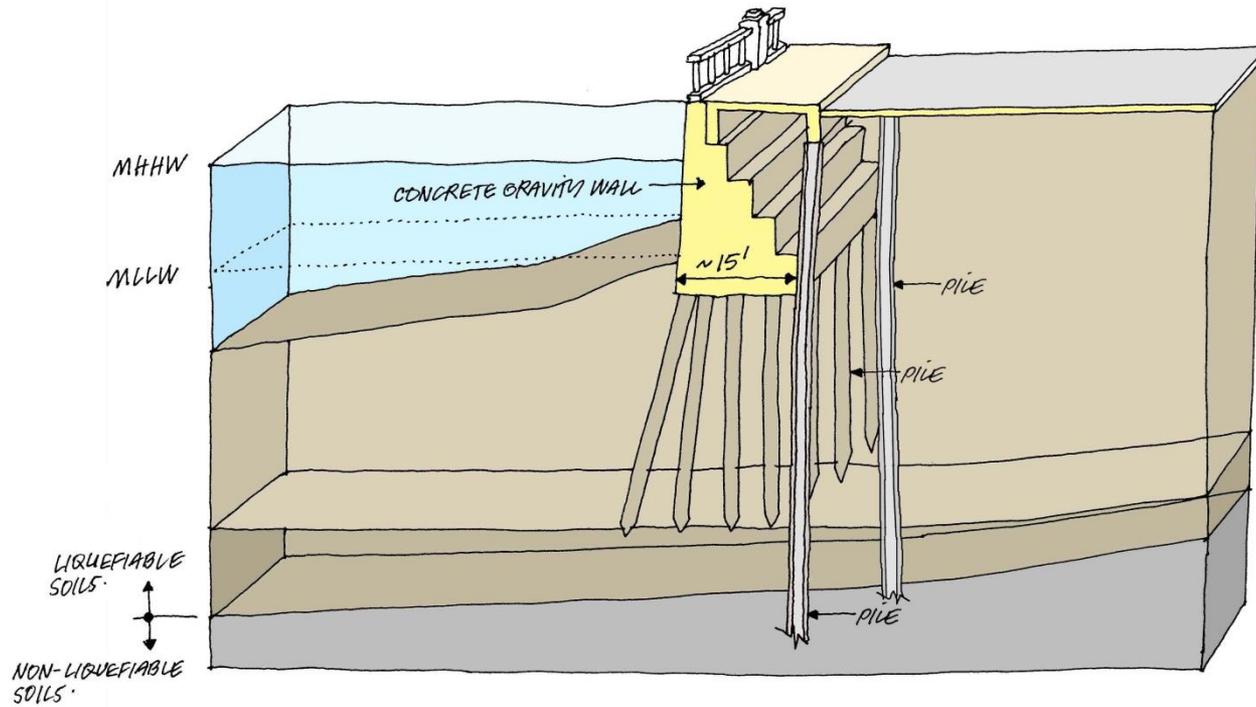
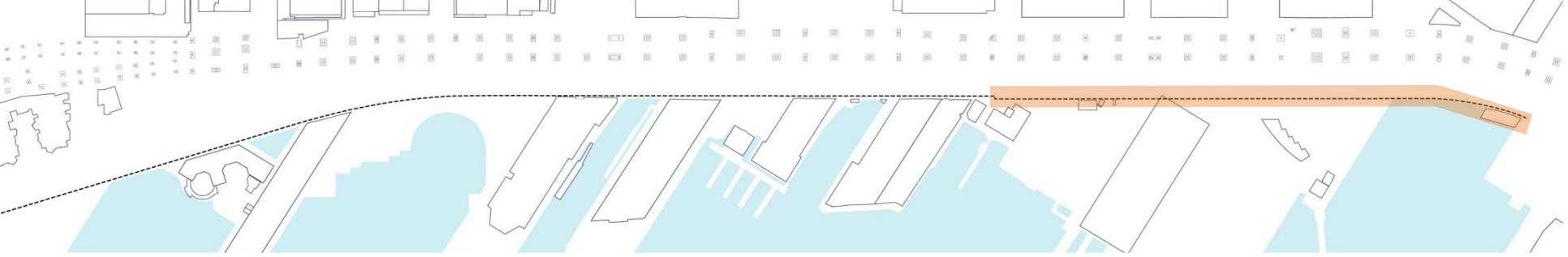


water side

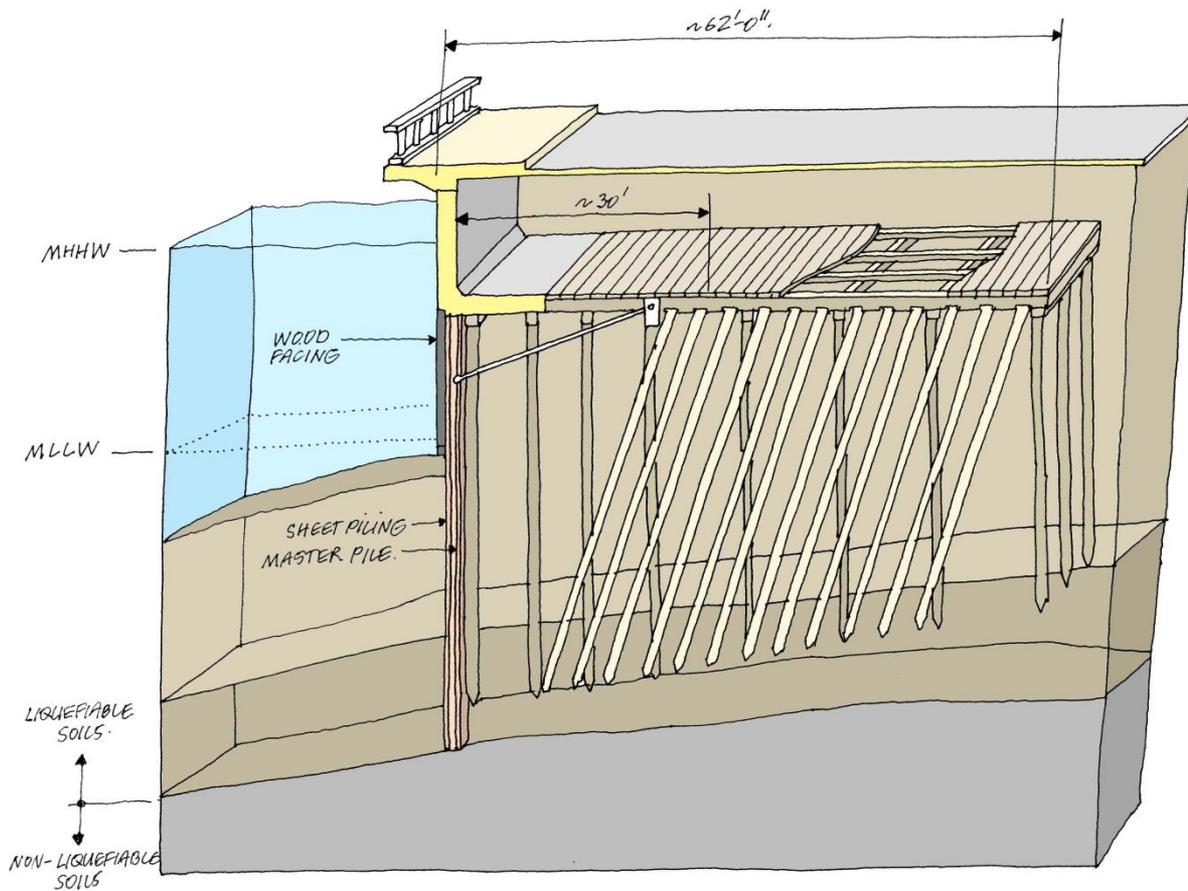
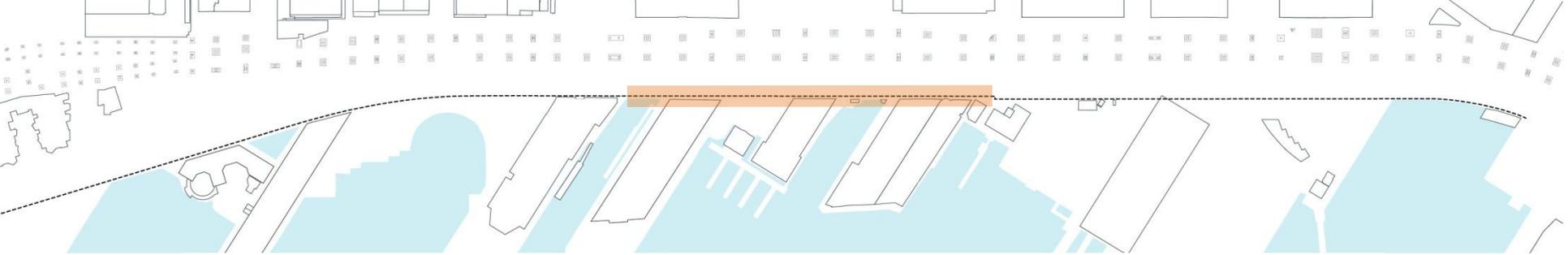
seawall

upland

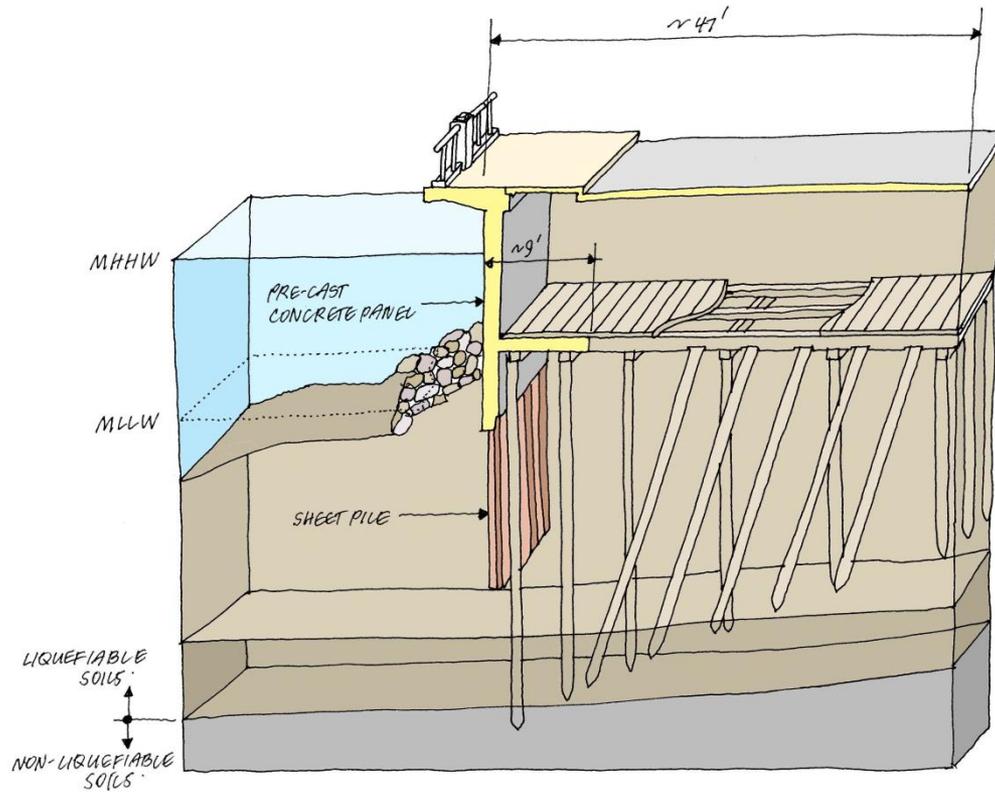
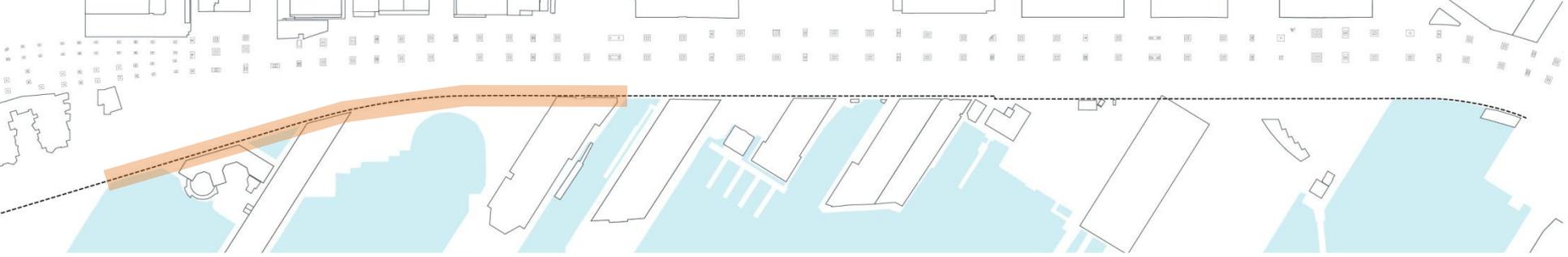




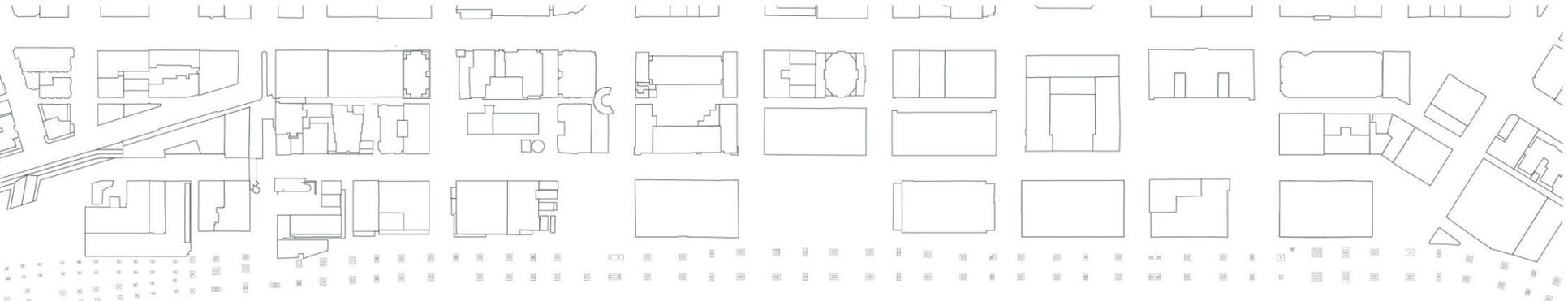
existing gravity wall



existing type B seawall

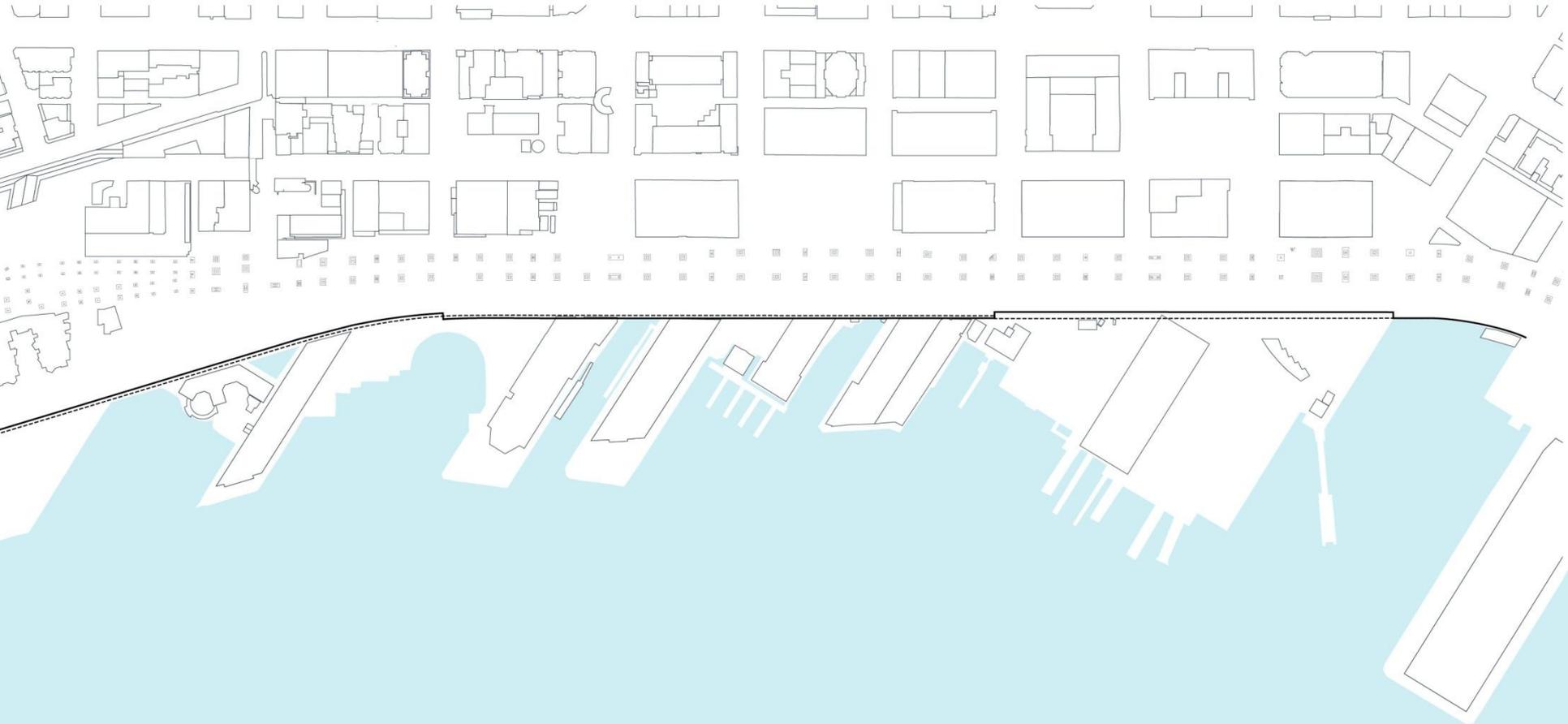


existing type A seawall



----- existing seawall

alternative A 



--- existing seawall
— alternative seawall

alternative A 



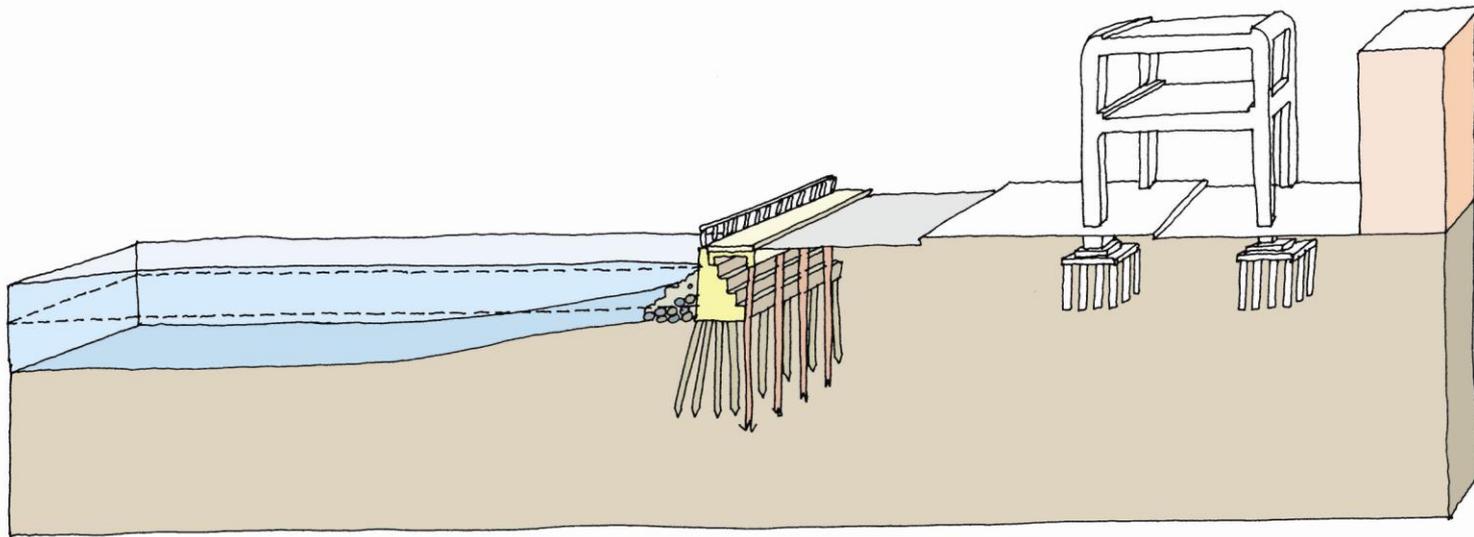
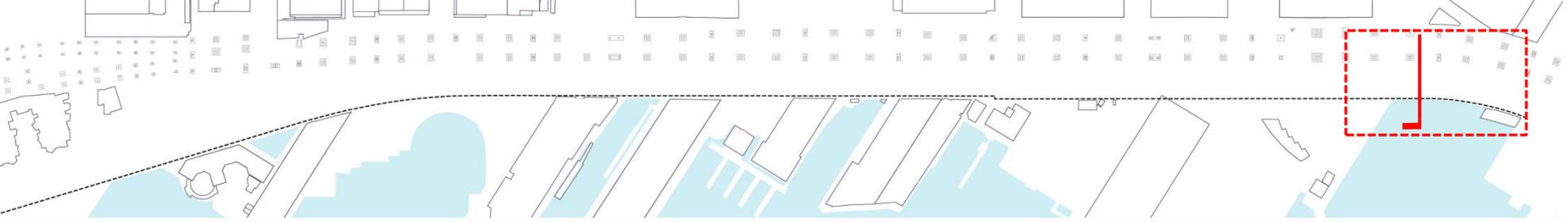
- existing seawall
- alternative seawall
- sidewalk
- multi-use path

alternative A

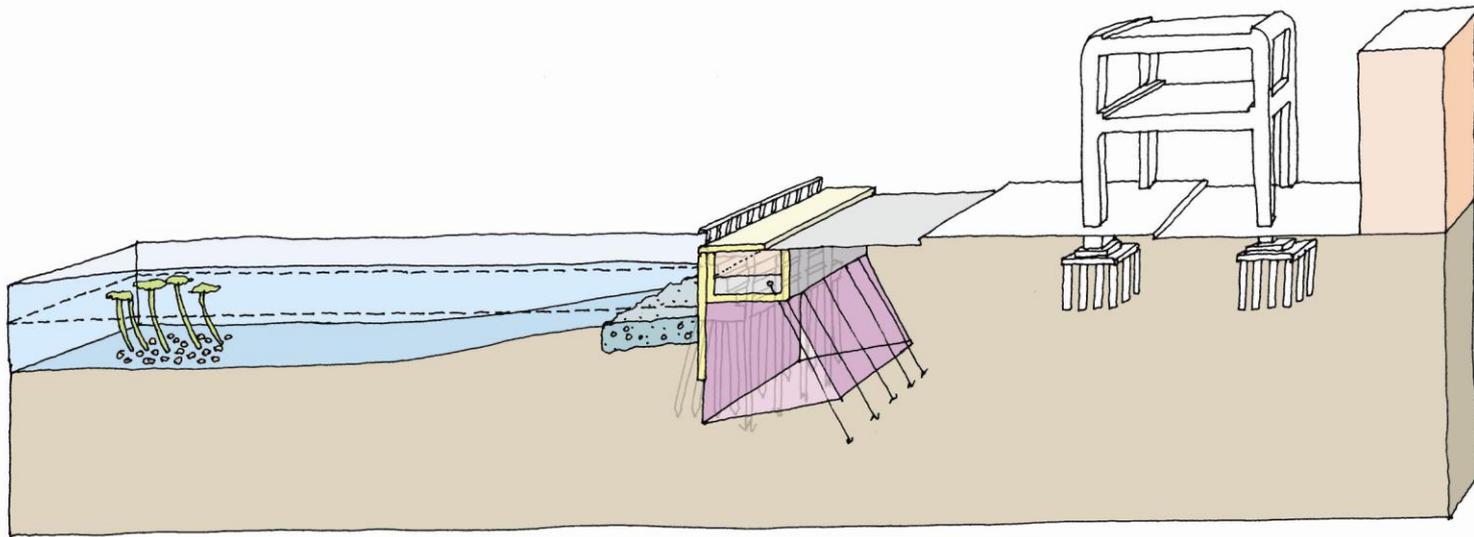
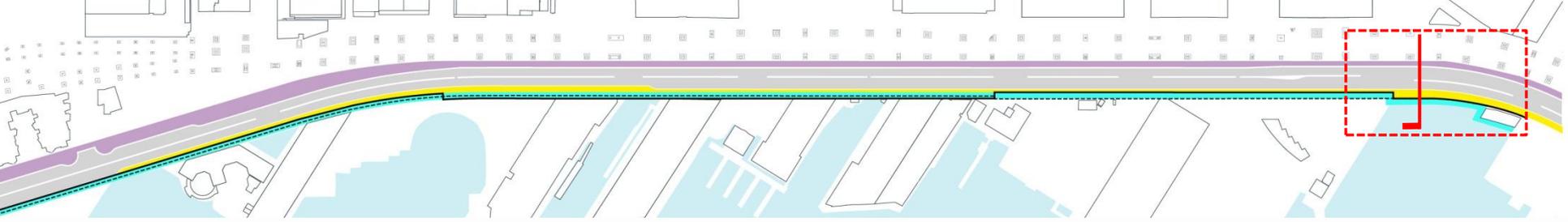


- existing seawall
- alternative seawall
- sidewalk
- multi-use path
- habitat corridor enhancement

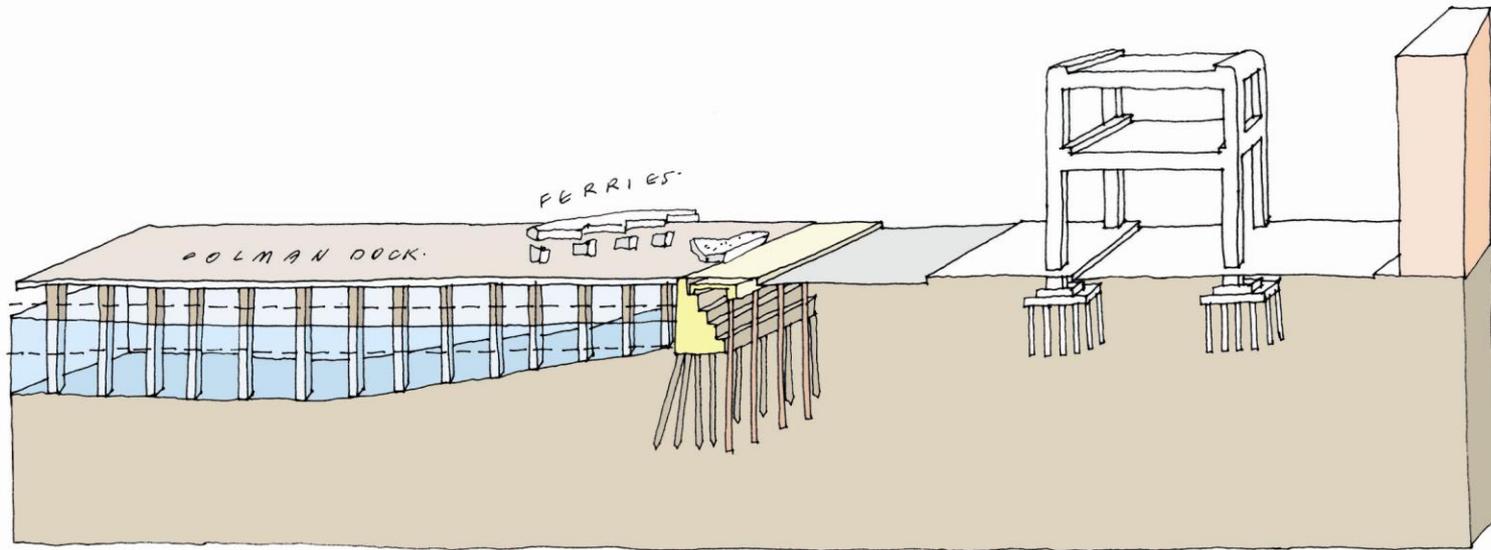
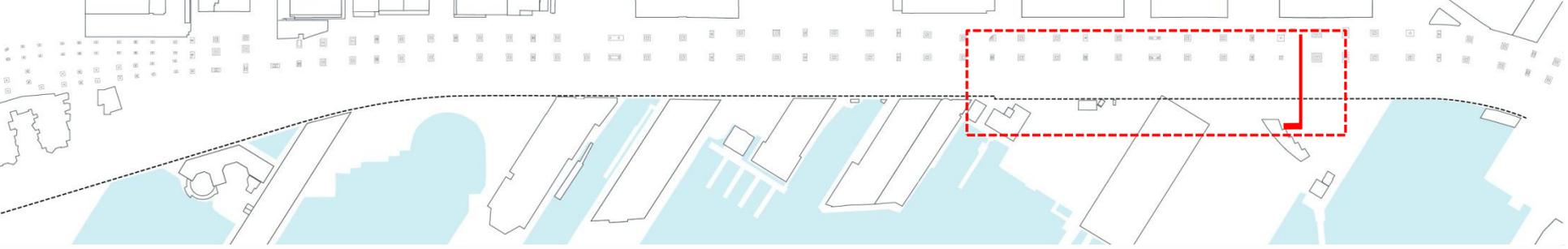
alternative A



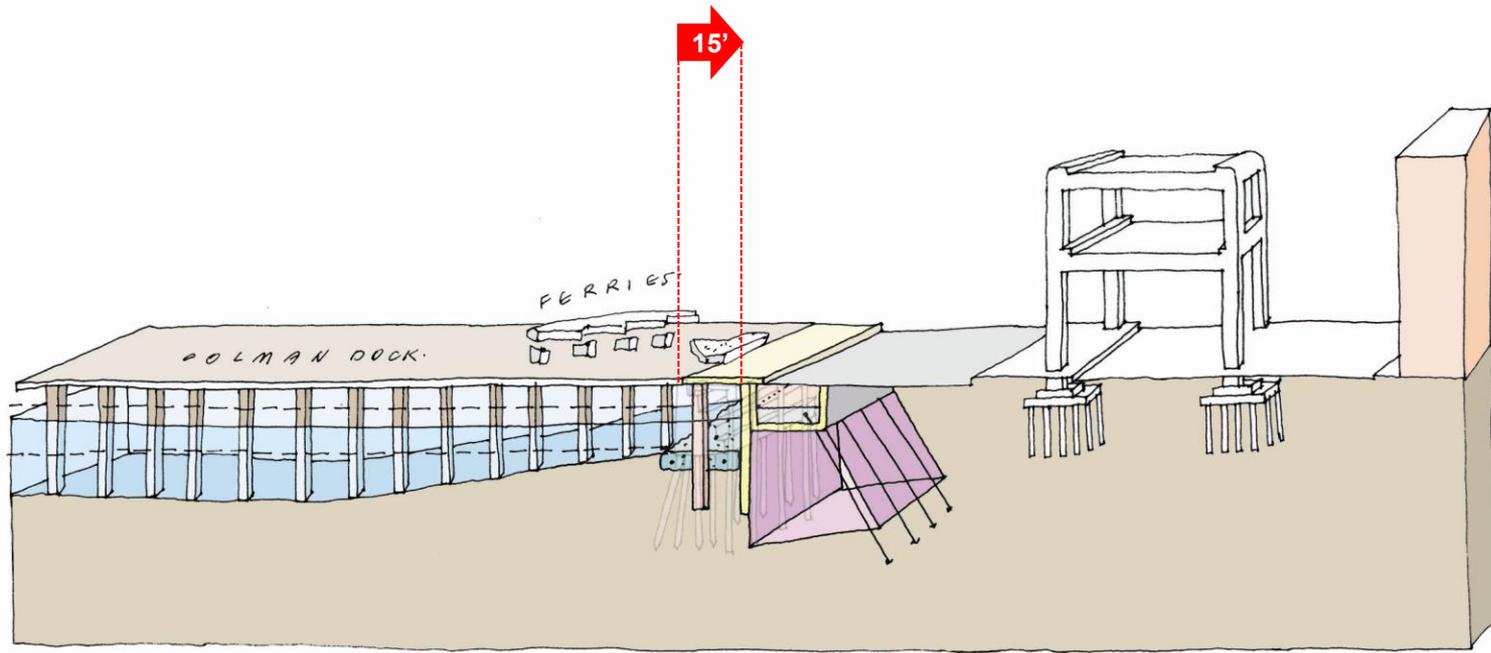
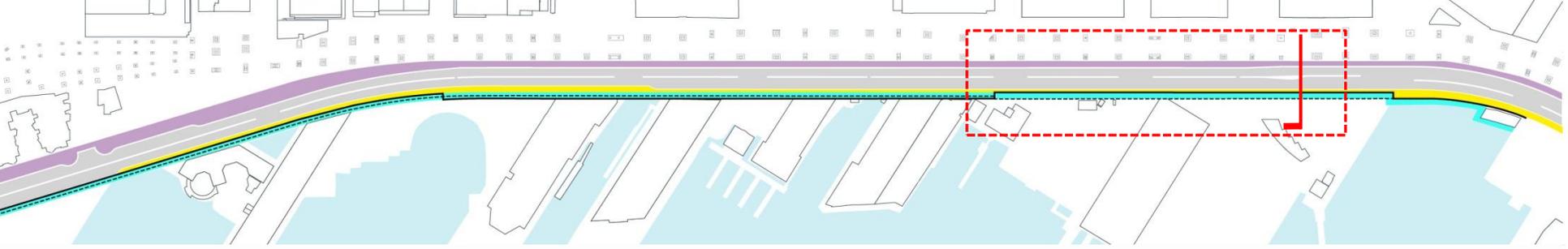
existing – zone 01



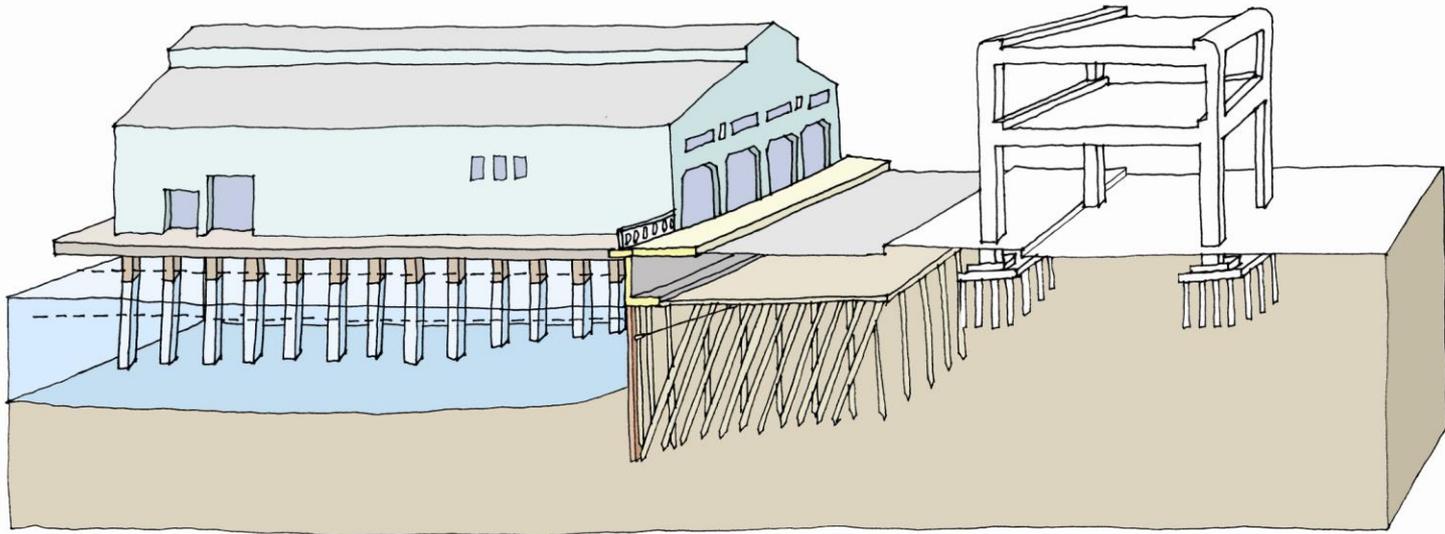
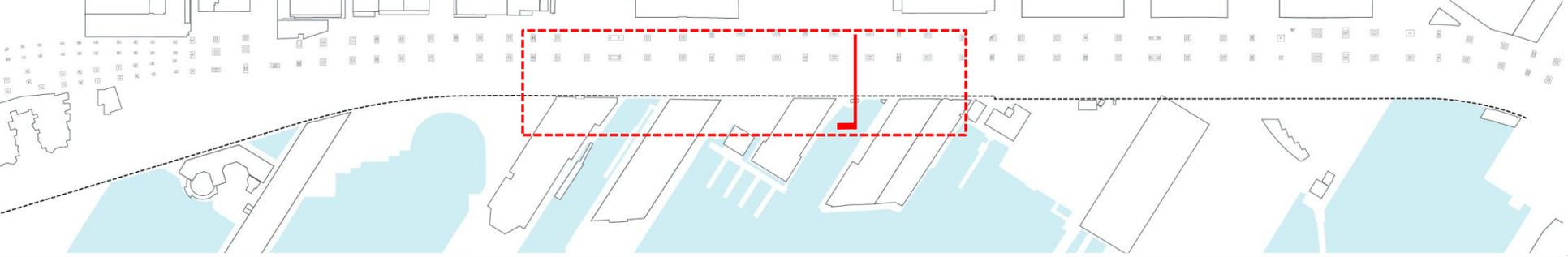
alt A – zone 01



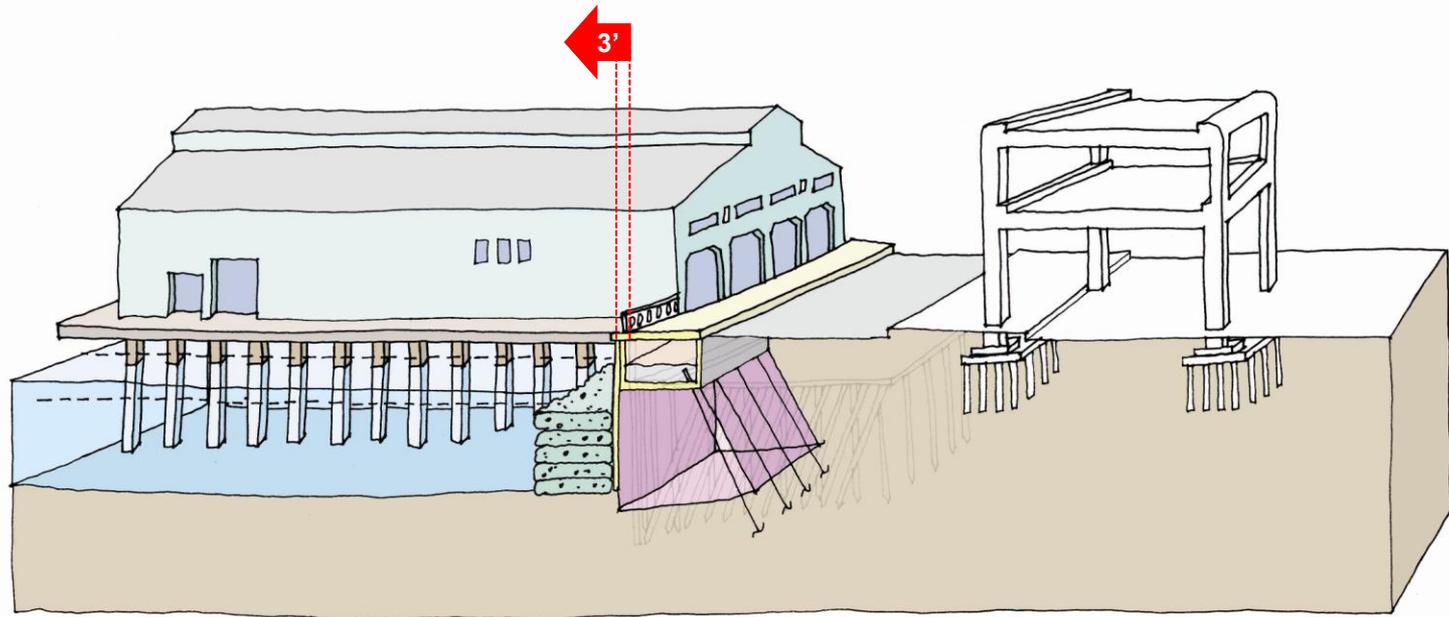
existing – zone 02



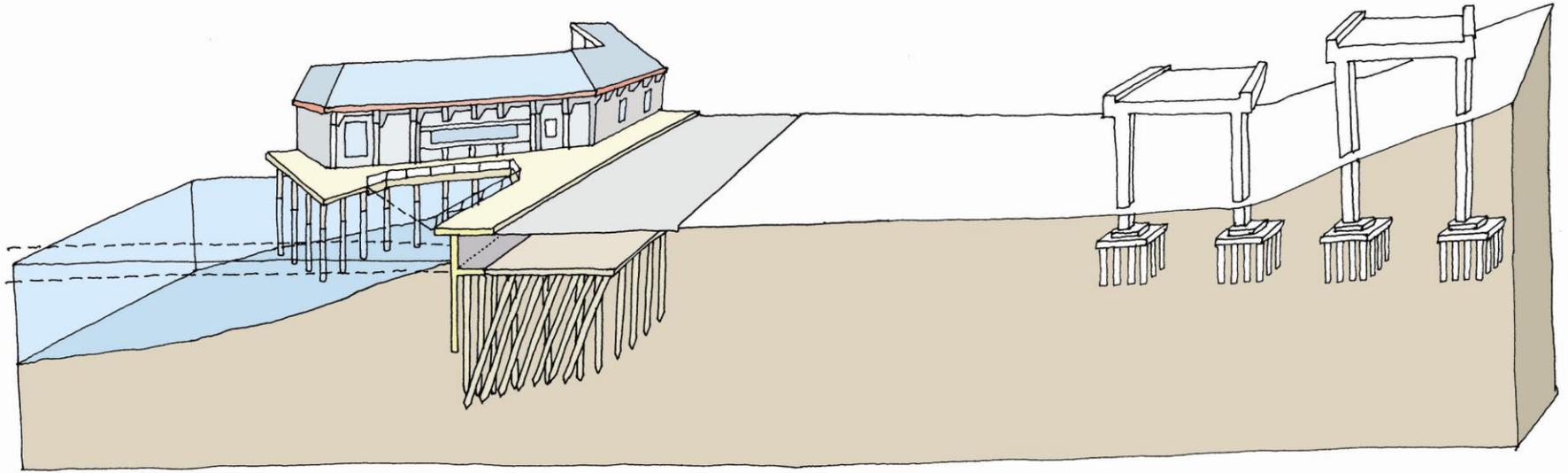
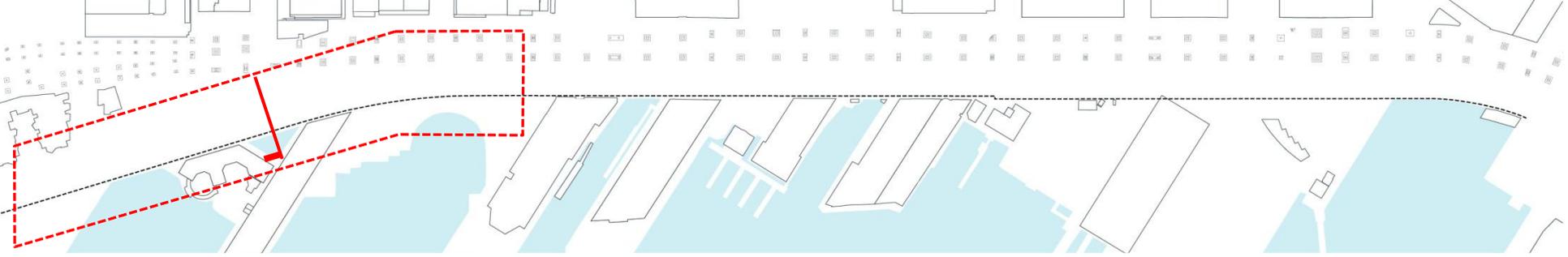
alt A – zone 02



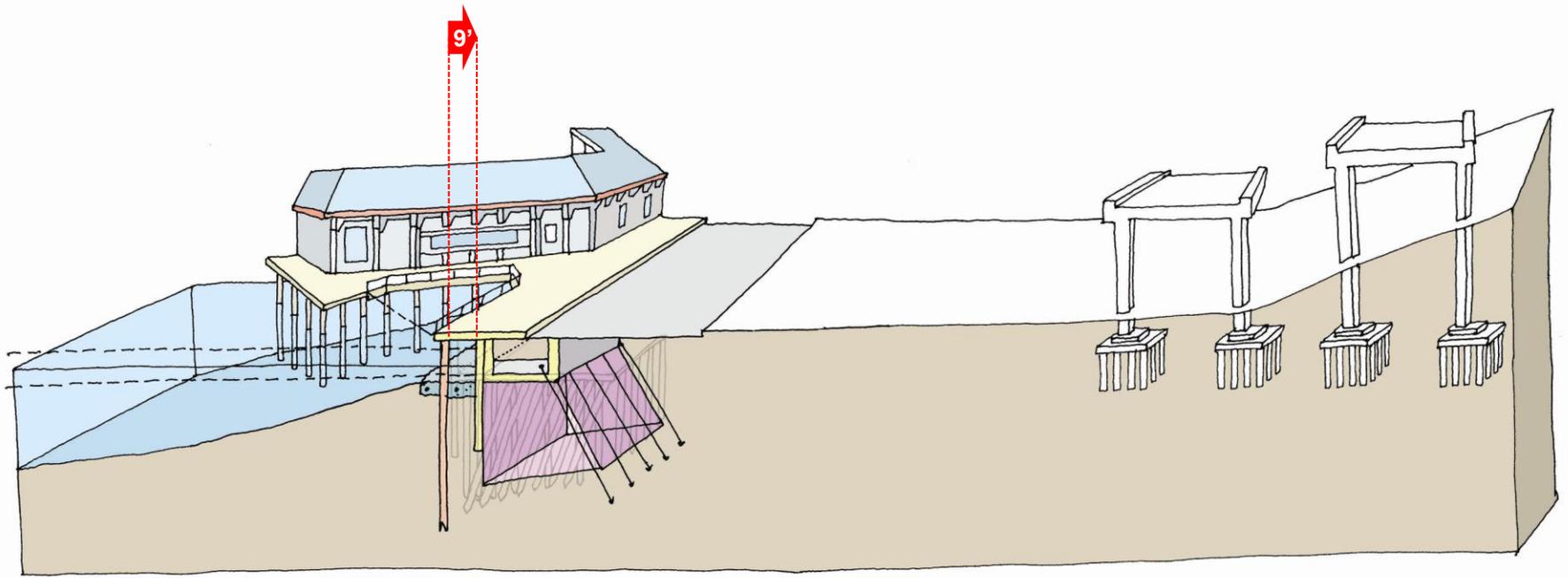
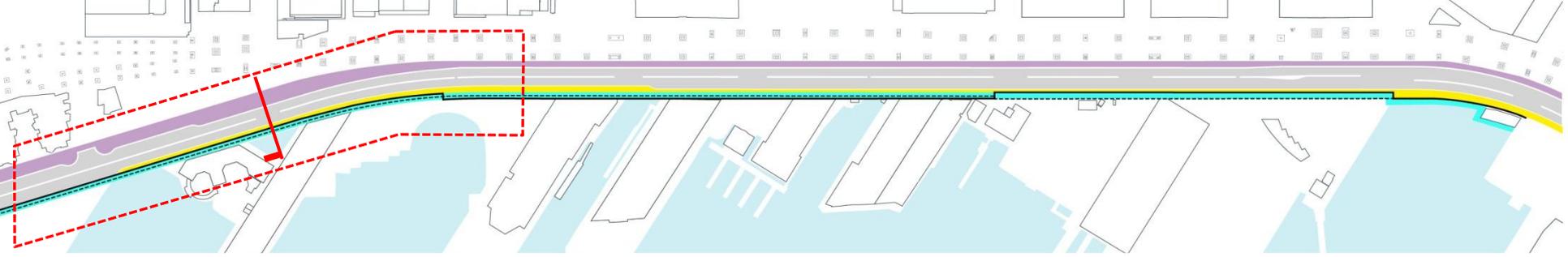
existing – zone 03



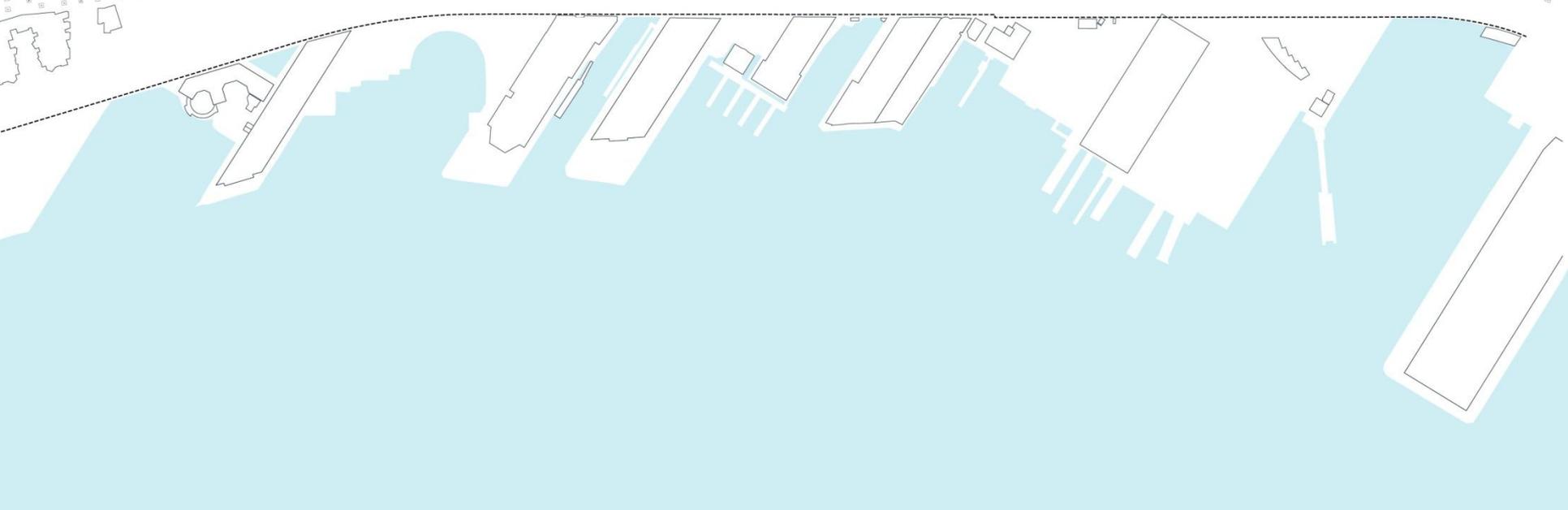
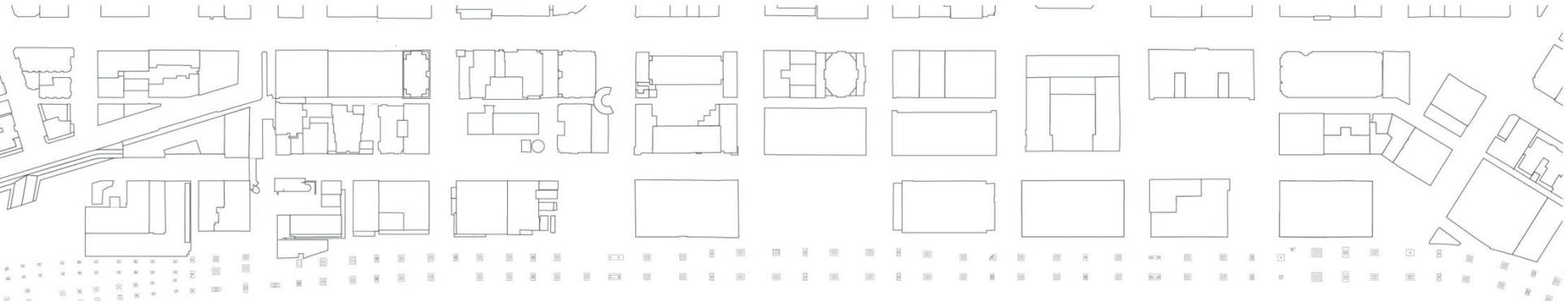
alt A – zone 03



existing – zone 04

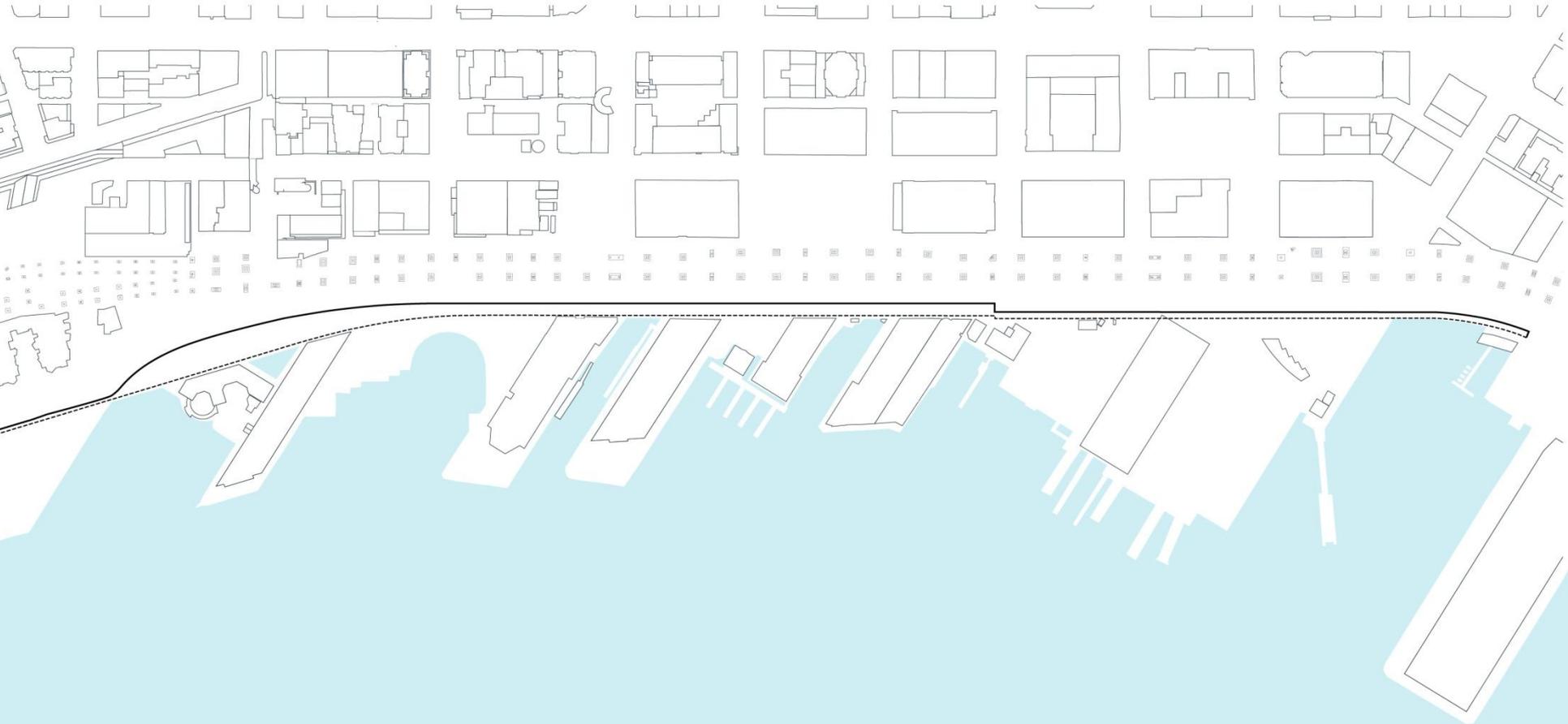


alt A – zone 04



----- existing seawall

alternative B 



--- existing seawall
— alternative seawall

alternative B



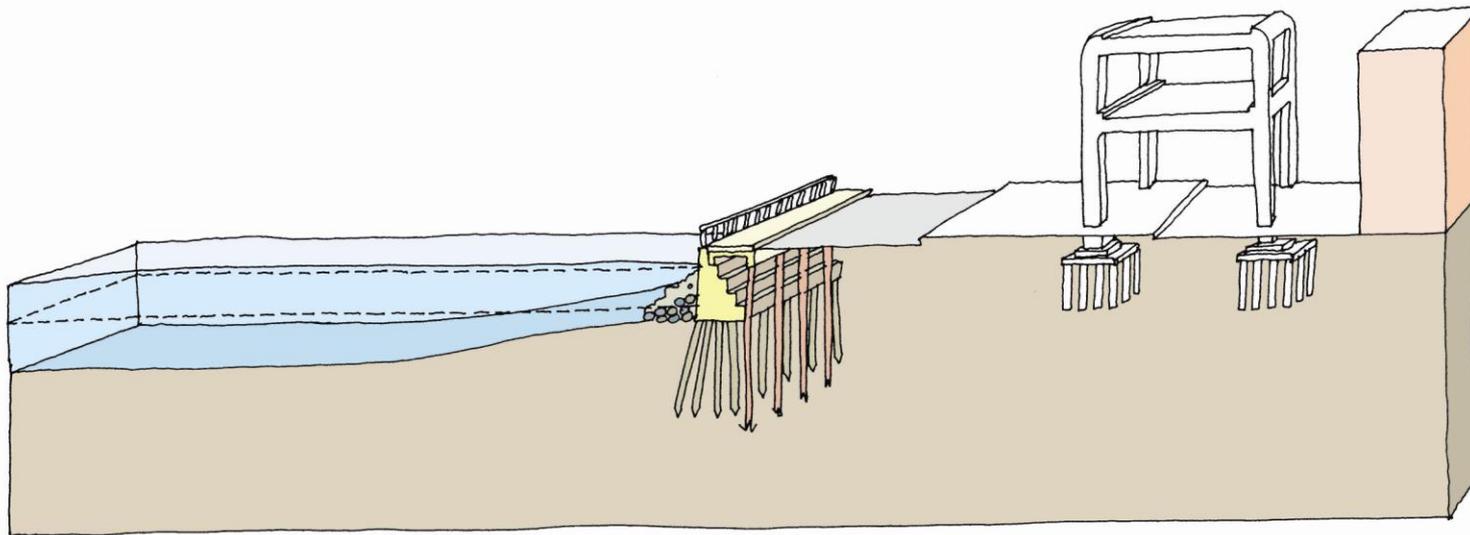
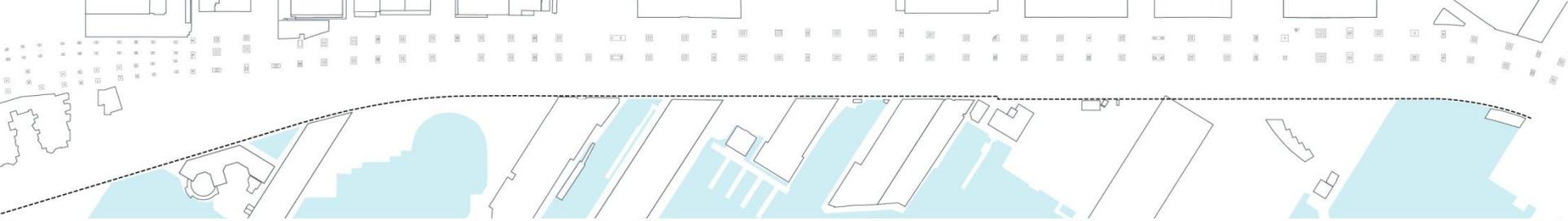
- existing seawall
- alternative seawall
- sidewalk
- multi-use path

alternative B

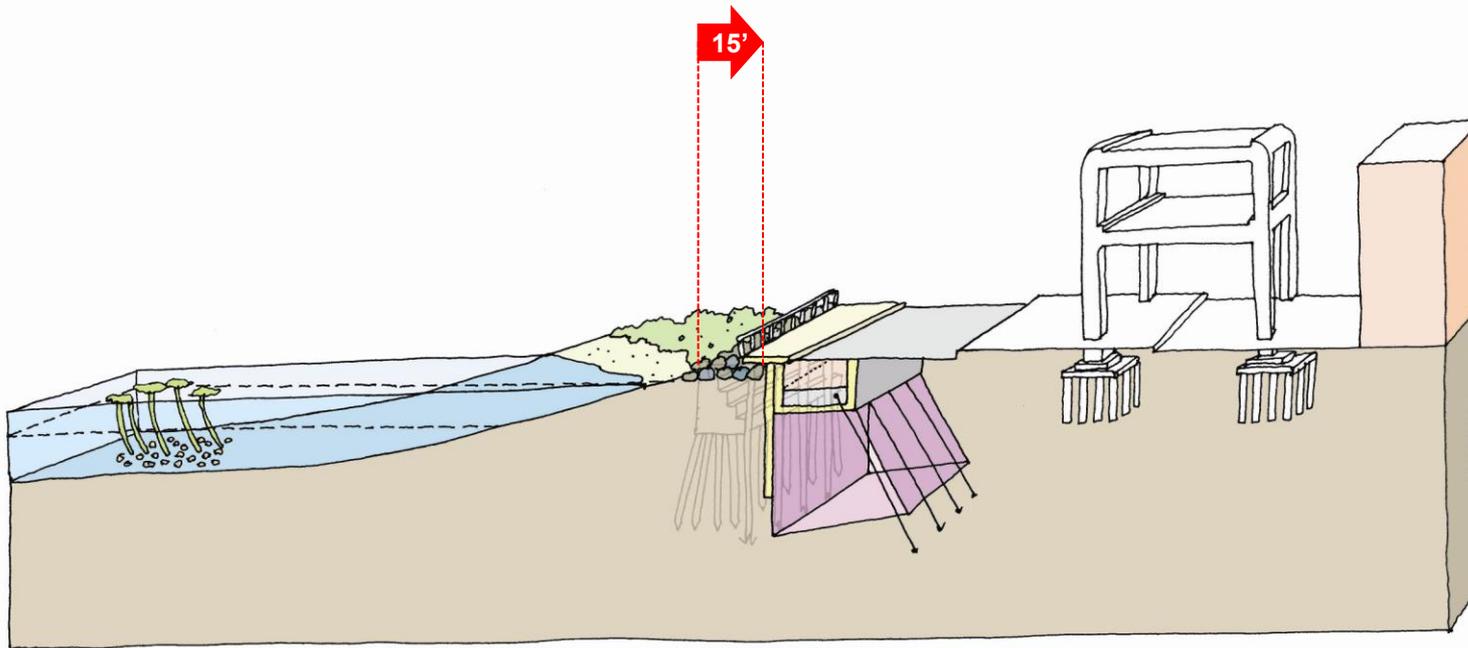
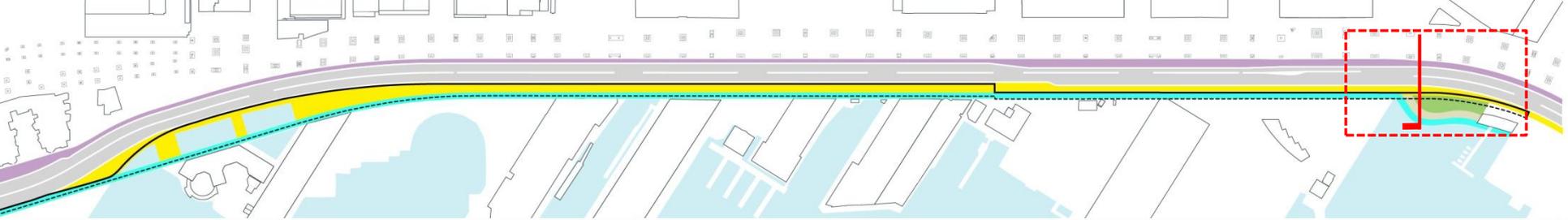


- existing seawall
- alternative seawall
- sidewalk
- multi-use path
- habitat corridor enhancement

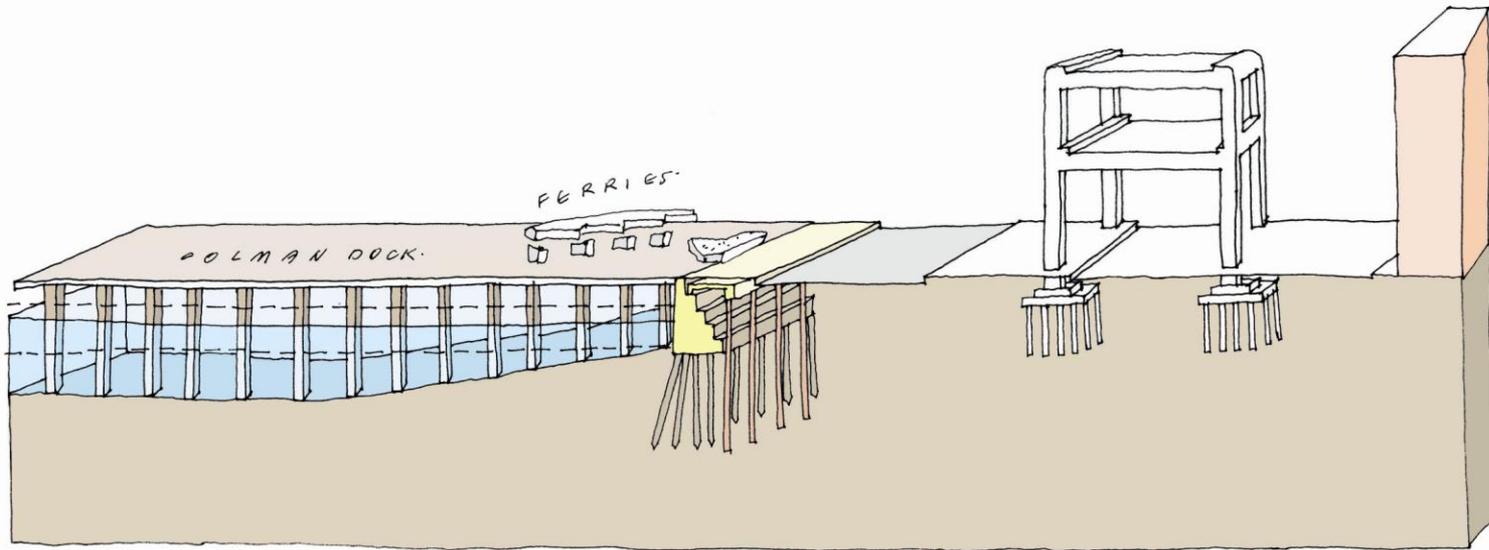
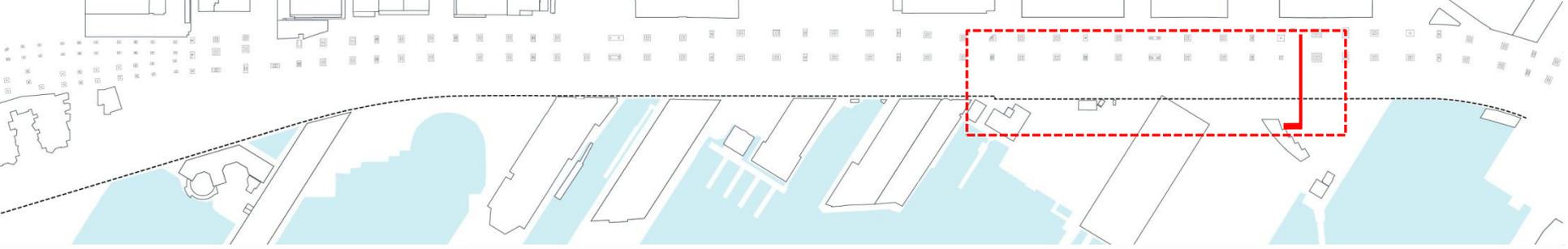
alternative B



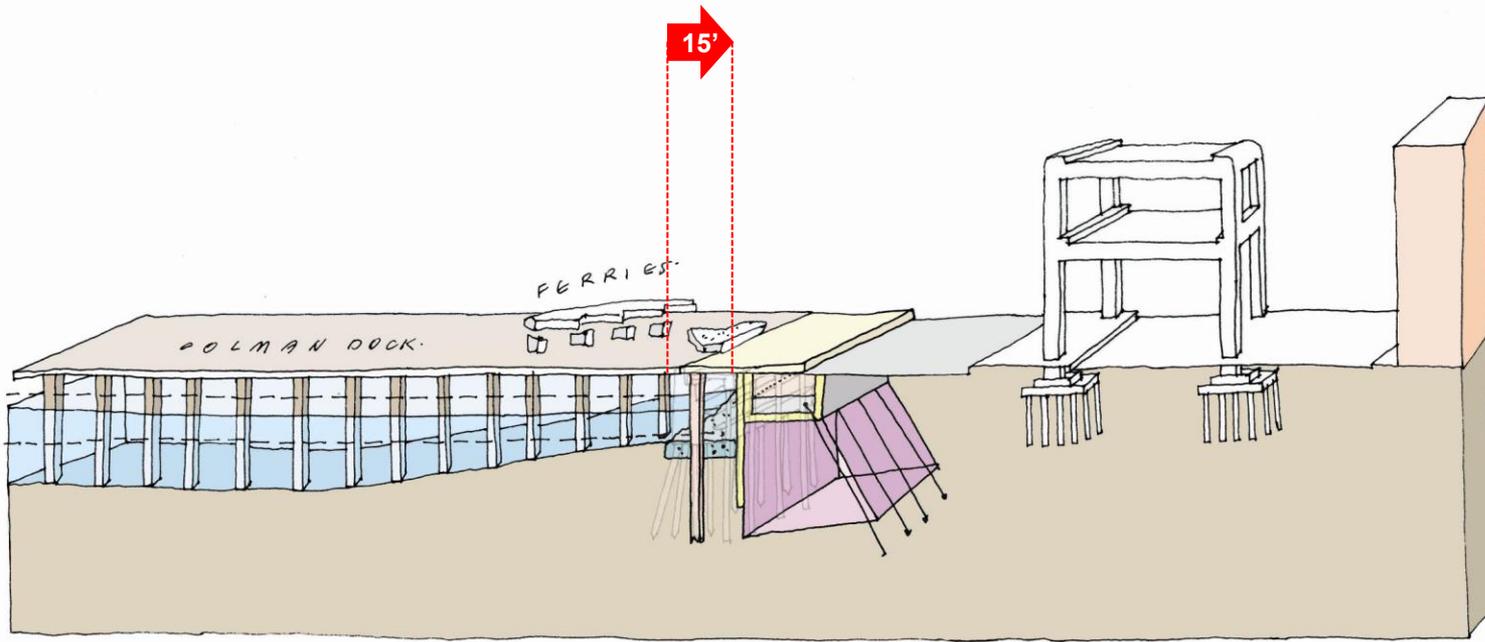
existing – zone 01



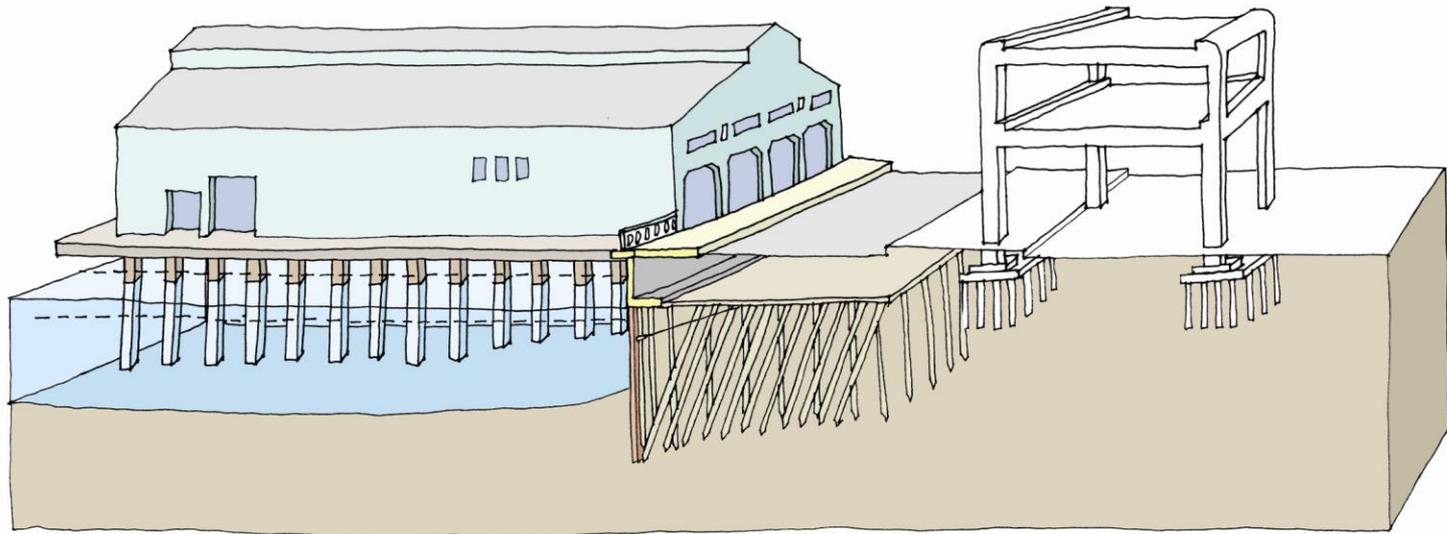
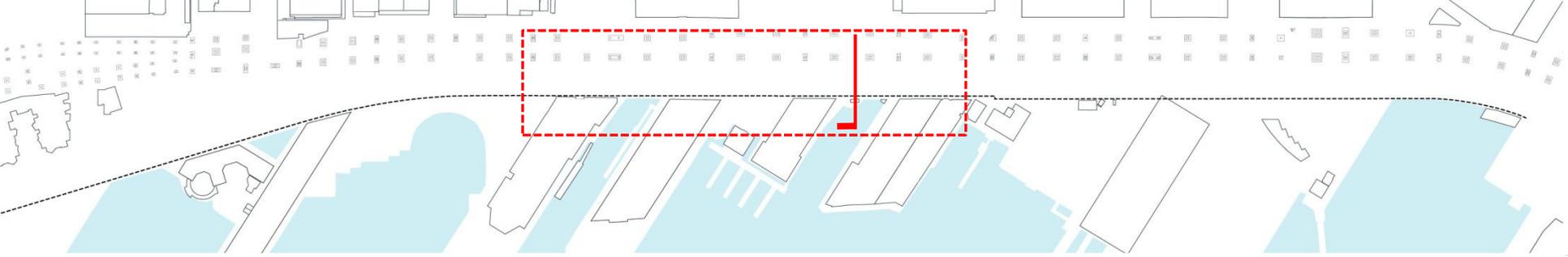
alt B – zone 01



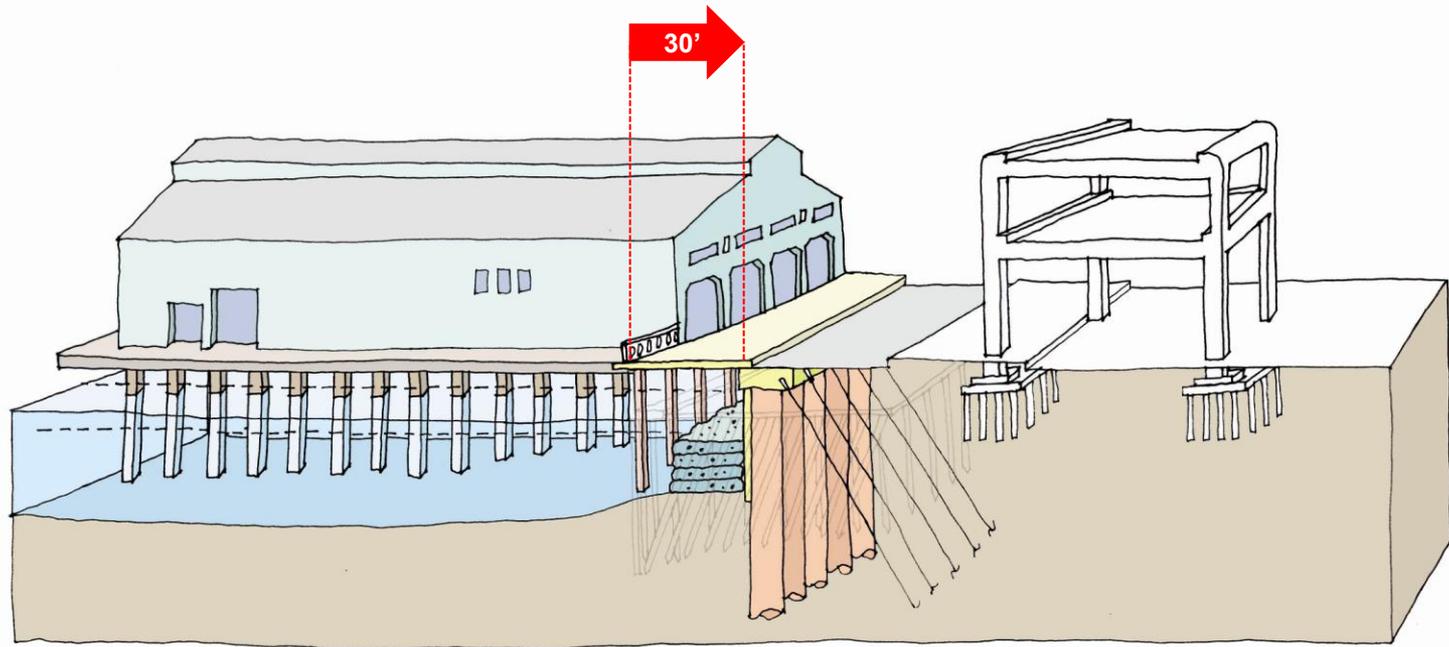
existing – zone 02



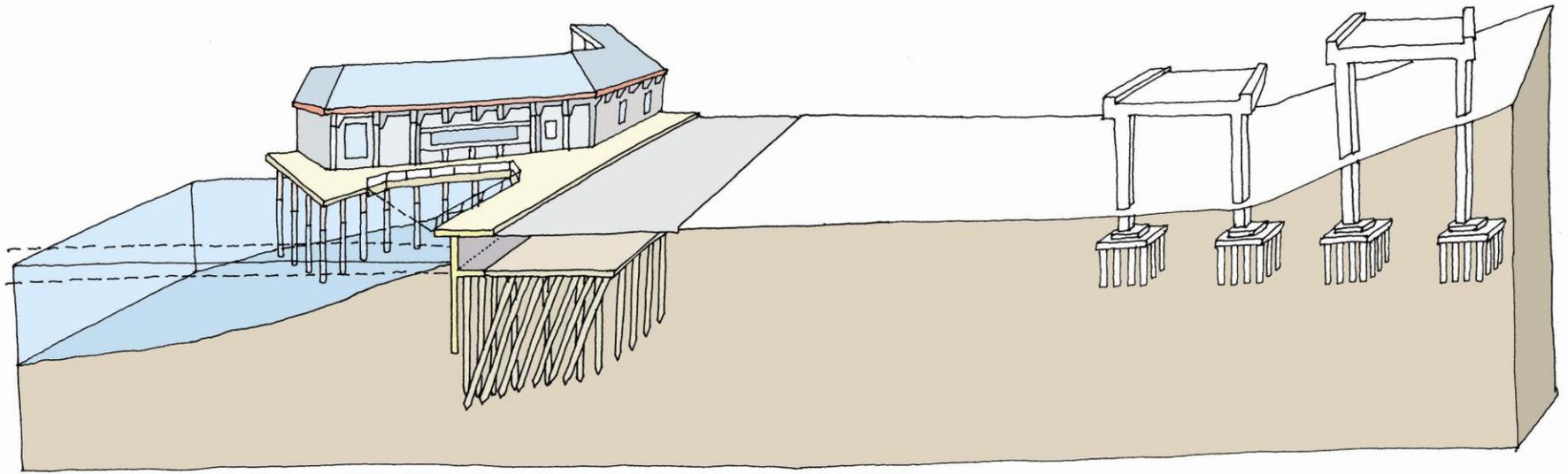
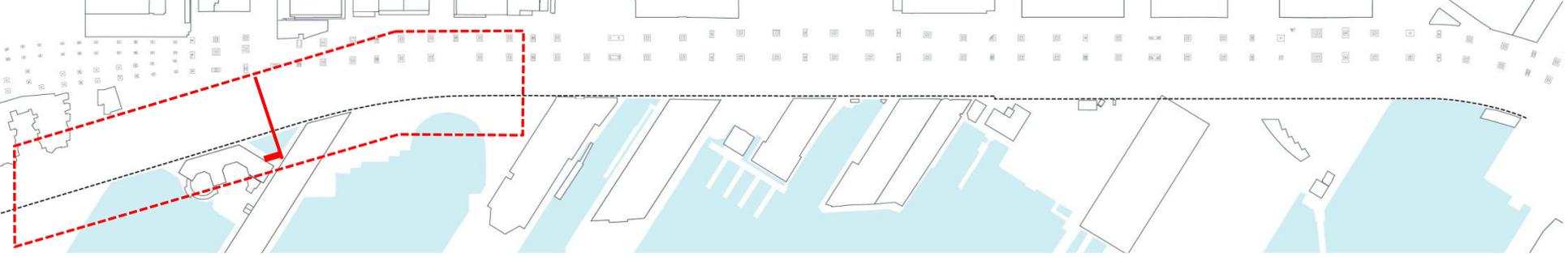
alt B – zone 02



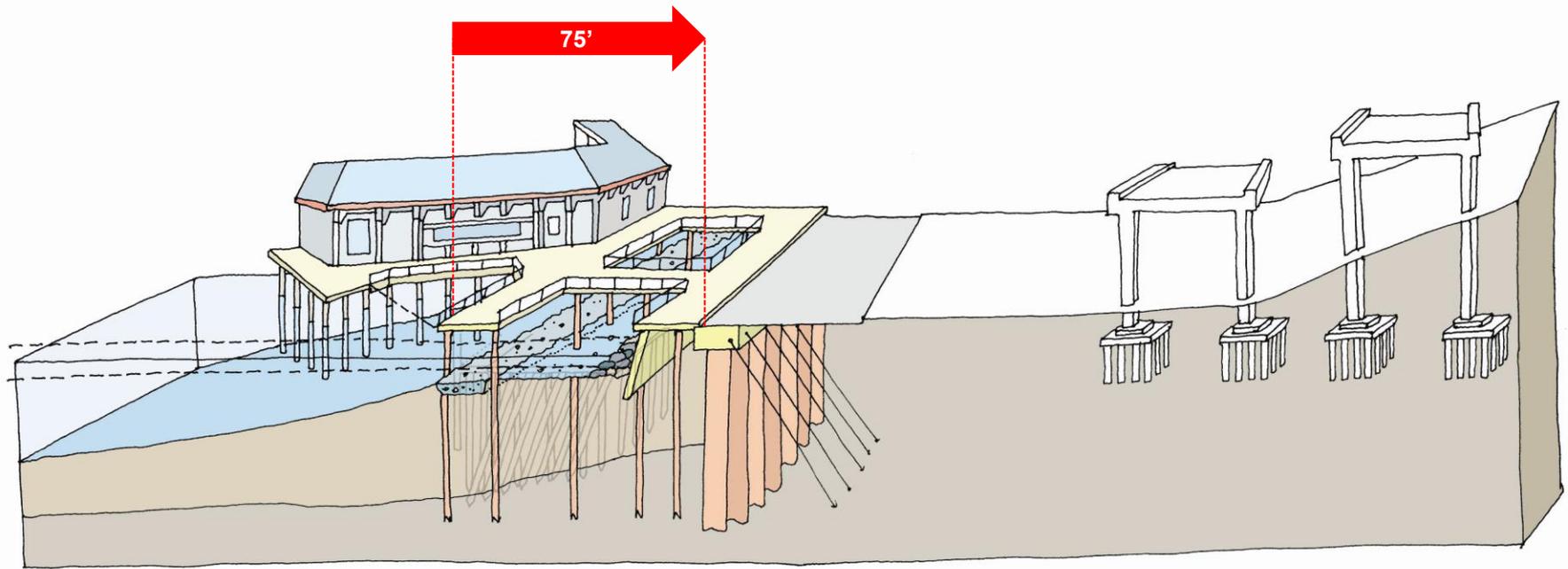
existing – zone 03



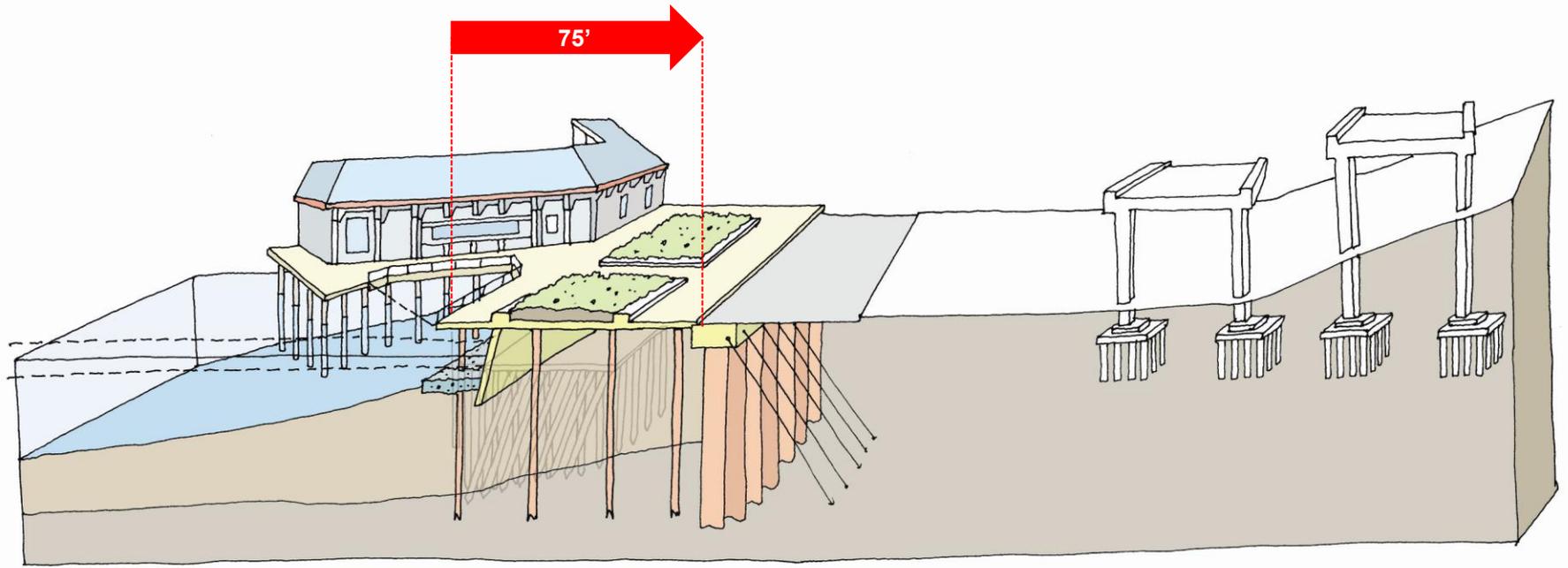
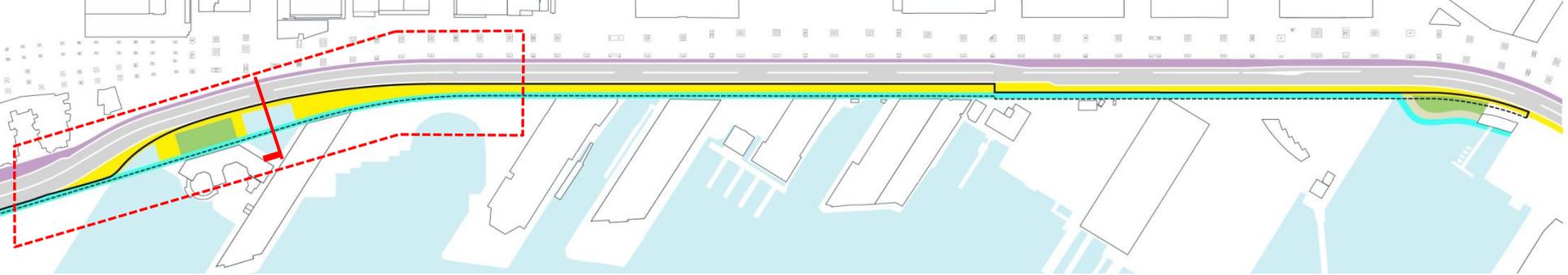
alt B – zone 03



existing – zone 04



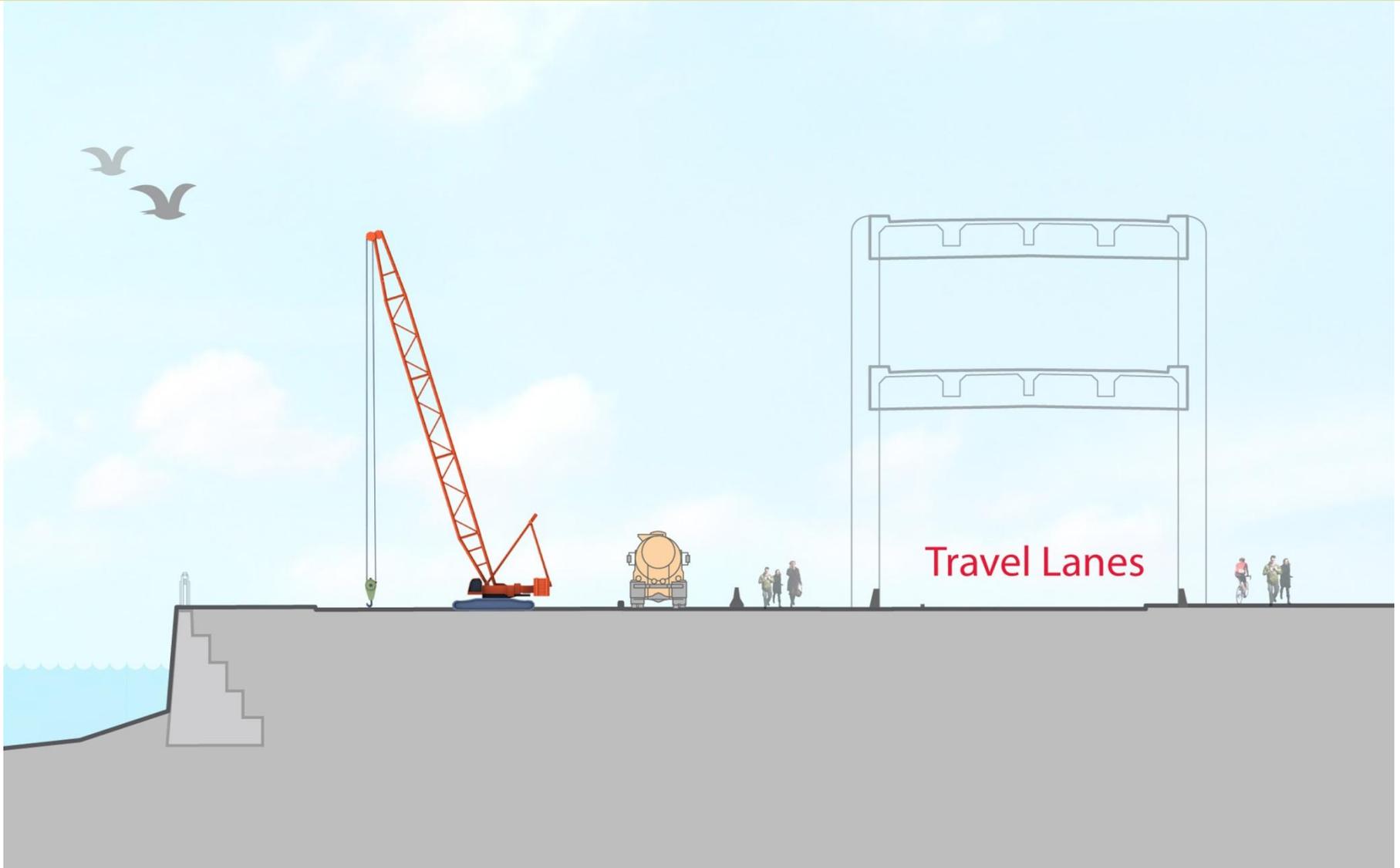
alt B – zone 04 (water)



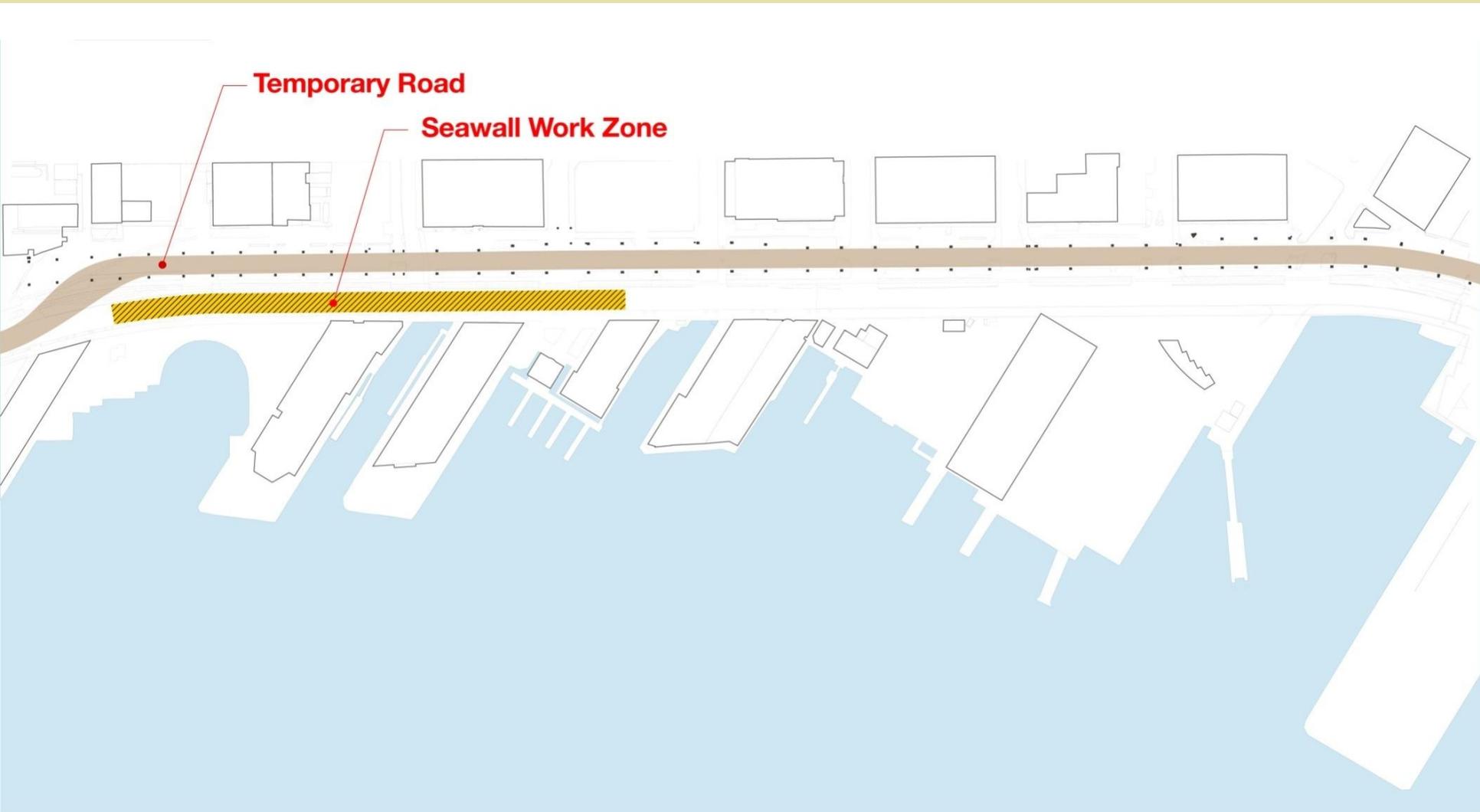
alt B – zone 04 (land)

Seawall Construction

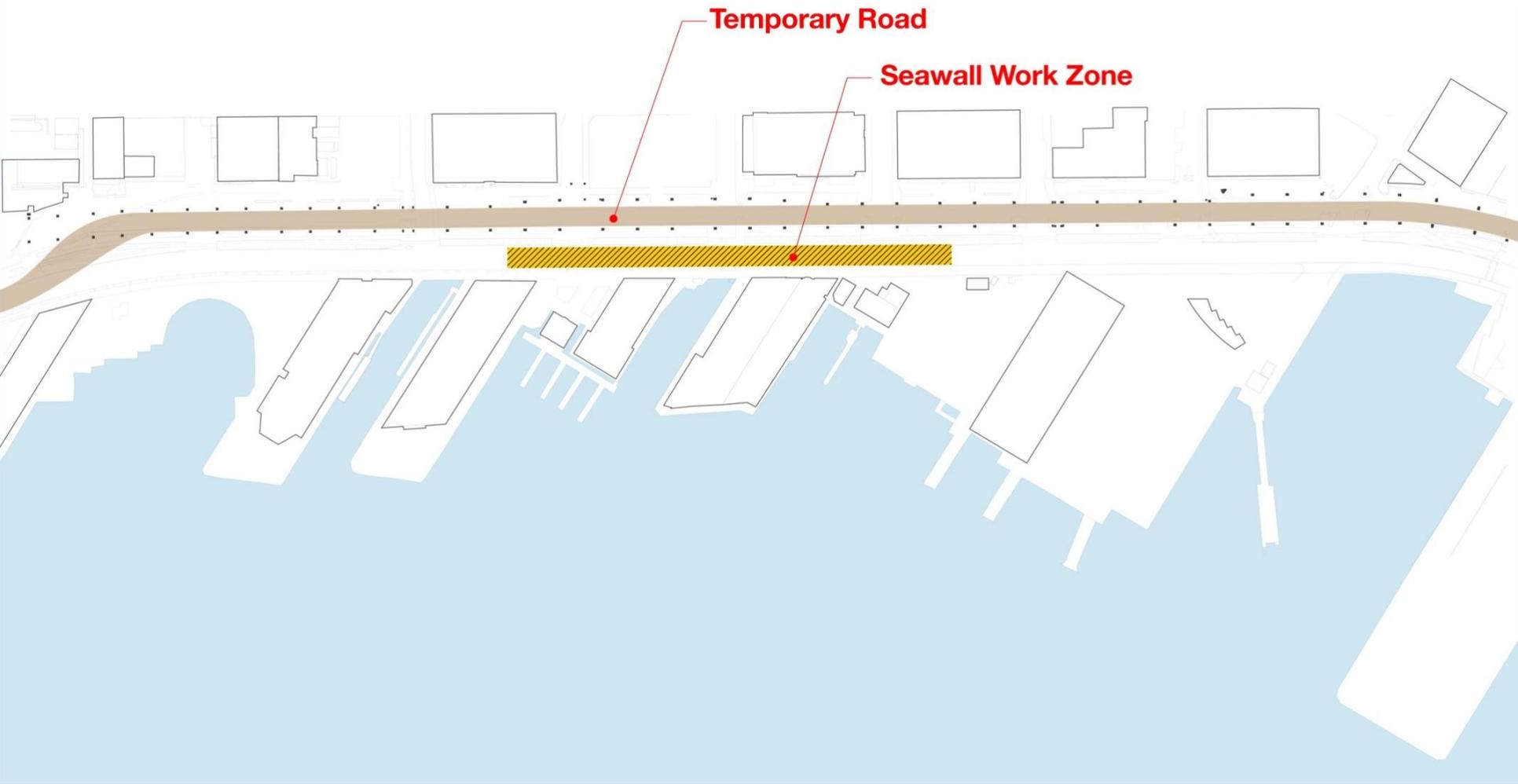
Potential Construction Roadway Configuration



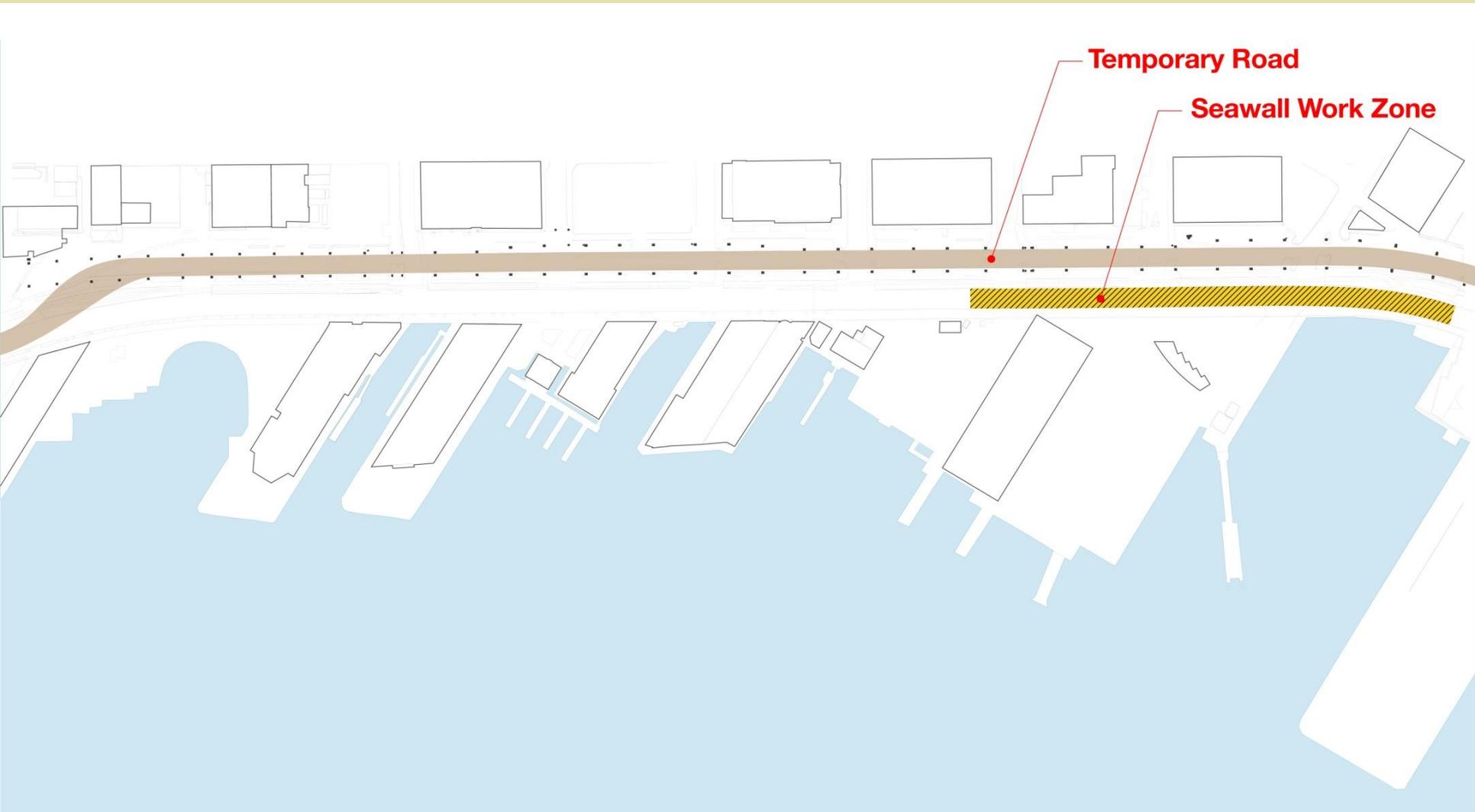
Potential Temporary Road: Phase 1



Potential Temporary Road: Phase 2



Potential Temporary Road: Phase 3



Cost Estimates

Previous Planning-Level Cost Estimate

Costs (S. Washington to Pine)	Estimate
Environmental and Design	\$41 M
Construction*	\$233 M
Subtotal	\$274 M
Public Utilities Infrastructure	\$11 M
Total (not approved by USACE)	\$285 M

* Construction costs assumed jet grouting method.

Current Cost Assumptions – 10% Design

- Central seawall project boundary extends to Virginia Street
 - Total distance (S. Washington to Virginia): 3,700 lineal feet
 - Increase in length (Pine to Virginia): 240 lineal feet
- Structural cost assumes drilled shafts
 - Less risk
 - Better historic price record
- Project includes ecosystem restoration
- Utility costs previously included in Central Waterfront project

Current Central Seawall Costs – 10% Design

Costs in 2014 \$ (S. Washington to Virginia)	Alternative A (wall in place for low-cost structural stability)	Alternative B (wall pulled inland for habitat and design flexibility)
Environmental and Design	\$35 M	\$40 M
Construction		
Structures	\$185 M	\$223 M
Habitat	\$8 M	\$23 M
Roadway	\$19 M	\$23 M
Contingency	\$63 M	\$81 M
Subtotal	\$310 M	\$390 M
Public Utilities Infrastructure		
SPU Facilities (design, construction, contingency)	\$6 M	\$7 M
SCL Facilities (design, construction, contingency)	\$19 M	\$19 M
Total (not yet approved by USACE)	\$335 M	\$416 M

Cost estimates currently in peer review

Current Central Seawall Costs – 10% Design

Costs in 2014 \$ (S. Washington to Virginia)	<i>Previous Estimate</i>	Alternative A (wall in place)	Alternative B (wall pulled inland)
Environmental and Design		\$35 M	\$40 M
Construction			
Structures		\$185 M	\$223 M
Habitat		\$8 M	\$23 M
Roadway		\$19 M	\$23 M
Contingency		\$63 M	\$81 M
Subtotal	<i>\$274 M</i>	\$310 M	\$390 M
Public Utilities Infrastructure			
SPU Facilities (design, construction, contingency)		\$6 M	\$7 M
SCL Facilities (design, construction, contingency)		\$19 M	\$19 M
Total (not yet approved by USACE)	<i>\$285 M</i>	\$335 M	\$416 M

Cost estimates currently in peer review

Next Steps

- Initiate 35% design (for completion by end of 2011)
- Complete discipline reports for Draft EIS
- Continue habitat study
- Continue working with U.S. Army Corps of Engineers
- Continue coordination with Waterfront Seattle
- Continue engagement with Central Waterfront Committee, Central Waterfront Stakeholders Group, and the public
- Review 35% design with Council in late 2011

Questions?