Lower Manhattan Coastal Resiliency

April 21st, 2025

NYC Mayor's Office of Climate & Environmental Justice

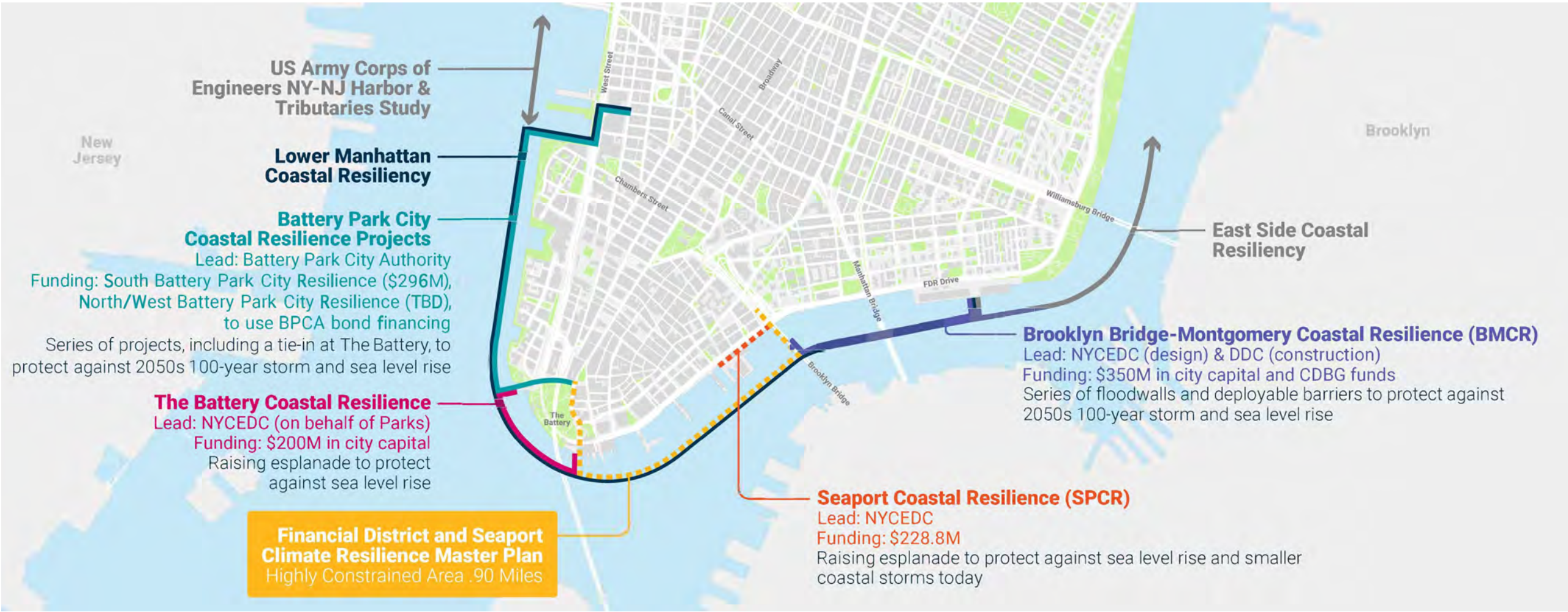
Battery Park City Authority

NYC Parks

NYC/EDC

NYC DDC Department of Design and Construction

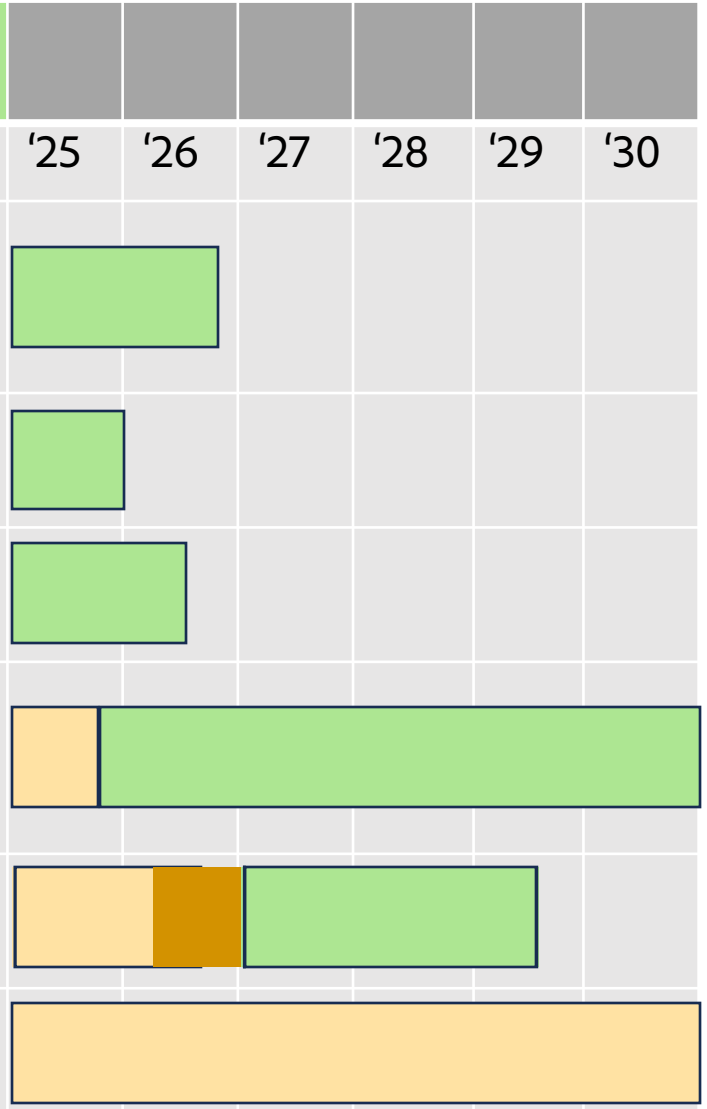
In Lower Manhattan, the City, State, and Federal governments have committed over $2.7B in capital investments for climate adaptation projects. The Financial District and Seaport Climate Resilience Master Plan will fill a missing link in Lower Manhattan's comprehensive flood defense infrastructure.



Project Timelines

(Est. Dates as of April 2025)

Project	100% Design	Procurement	Construction Start	Construction Complete
Brooklyn Bridge–Montgomery Coastal Resilience	Complete	Complete	Underway	Fall 2026
South Battery Park City Resiliency	Complete	Complete	Underway	Fall 2025
The Battery Coastal Resilience	Complete	Complete	Underway	Summer 2026
North/West Battery Park City Resiliency	Early 2025	Complete	Mid/Late 2025	Fall/Winter 2030
Seaport Coastal Resilience	Mid 2026	Early 2026	Late 2026	2029
FiDi-Seaport Master Plan	Underway	TBD	TBD	TBD



SEAPORT
Coastal Resilience

Community Board 1 Project Update
April 21st, 2025

NYC EDC

AECOM

Agenda

01 Project Overview

02 Community Engagement Recap

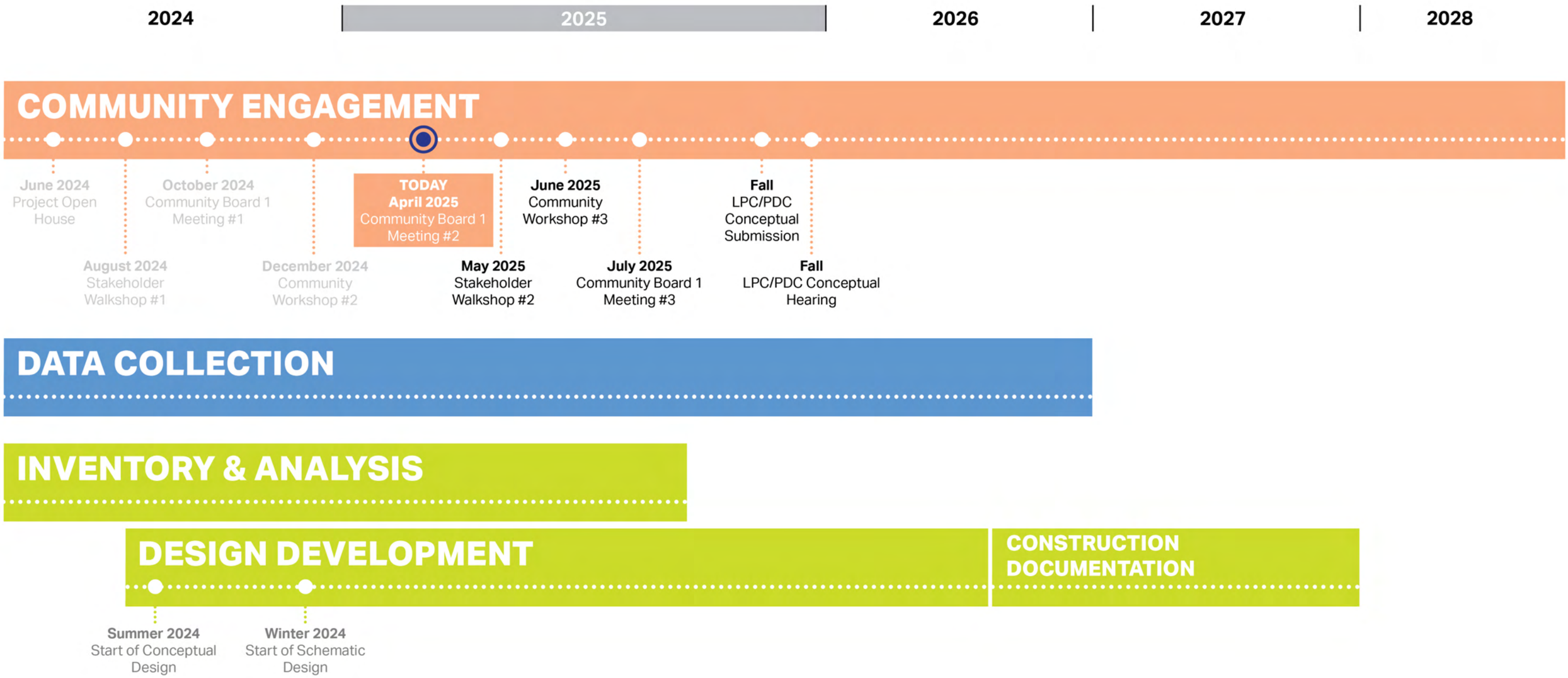
03 Alignment Update & Design Approach

04 Interior Drainage

05 Design Update

- Northern Tie-ins
- Connection to Adjacent Projects
- Esplanade Shade & Plantings
- Maintenance & Operation Access

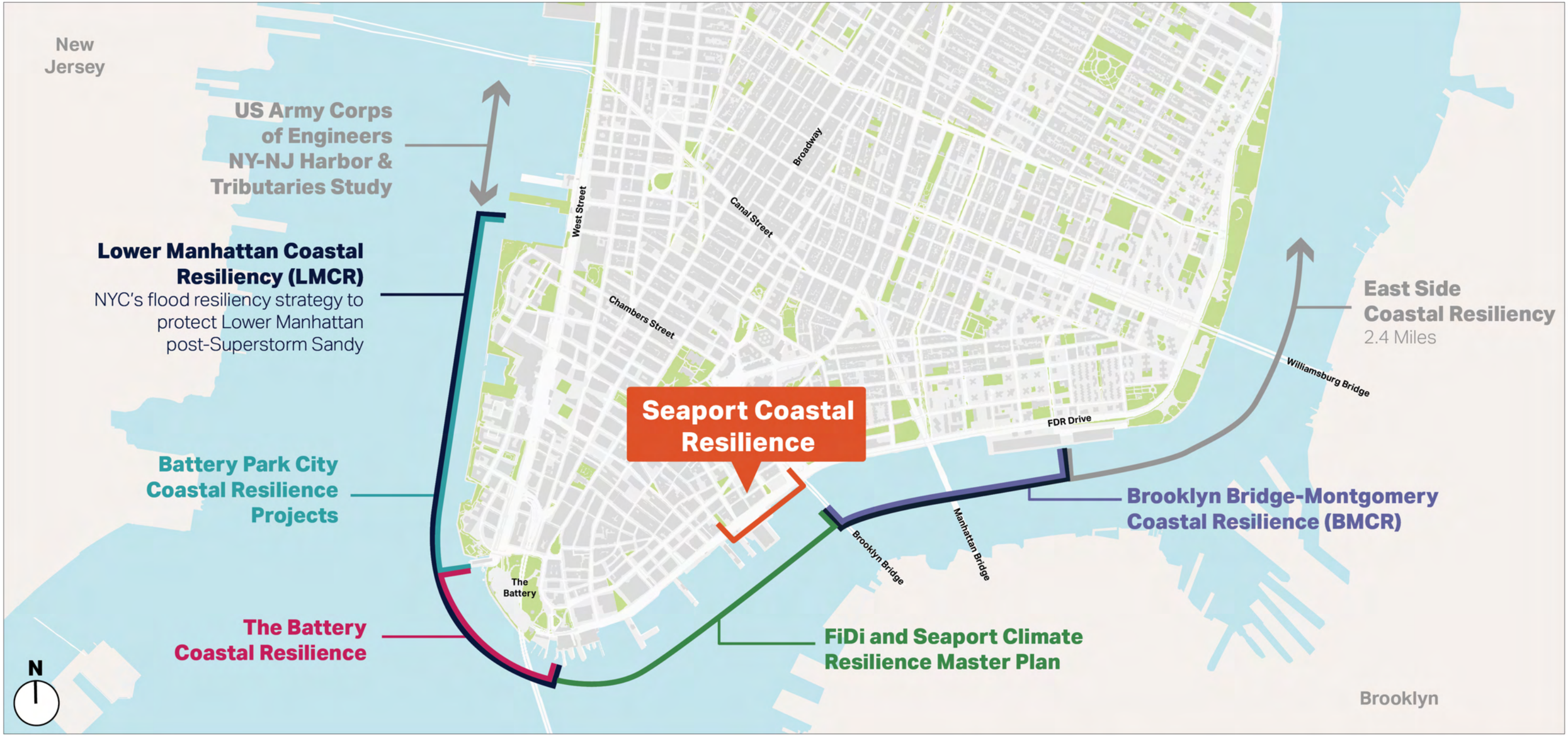
Project Timeline



01

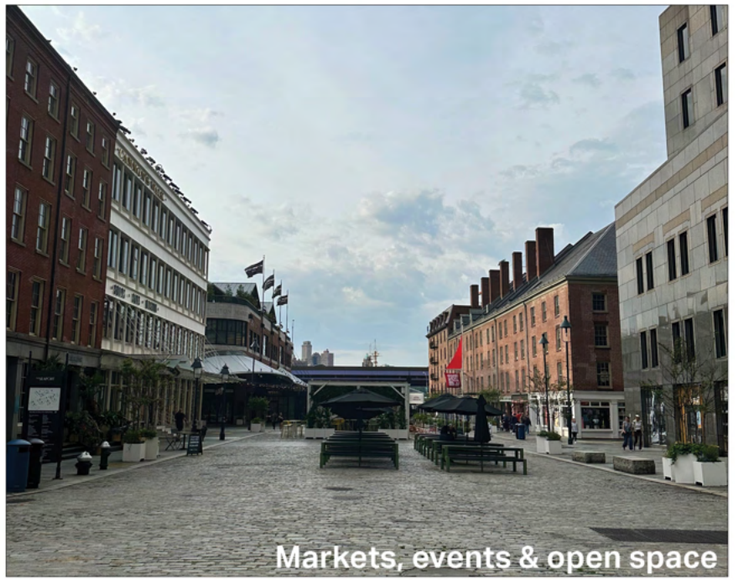
Project Overview

Lower Manhattan Coastal Resiliency (LMCR)



South Street Seaport Today

Neighborhood history


Markets, events & open space

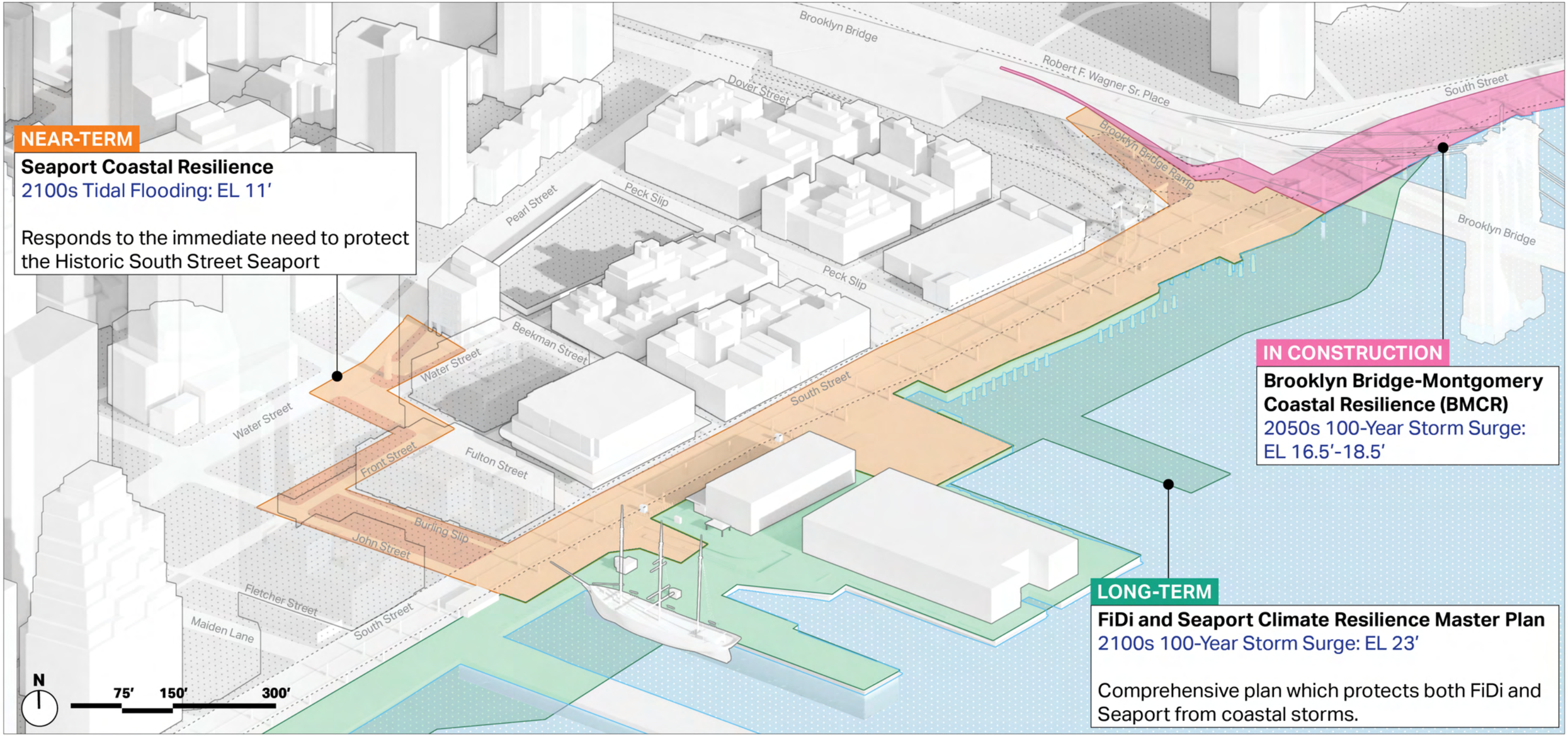
Historic buildings


Maritime history


FDR Viaduct


Brooklyn Bridge & esplanade

How does Seaport Coastal Resilience compare to other resilience projects?



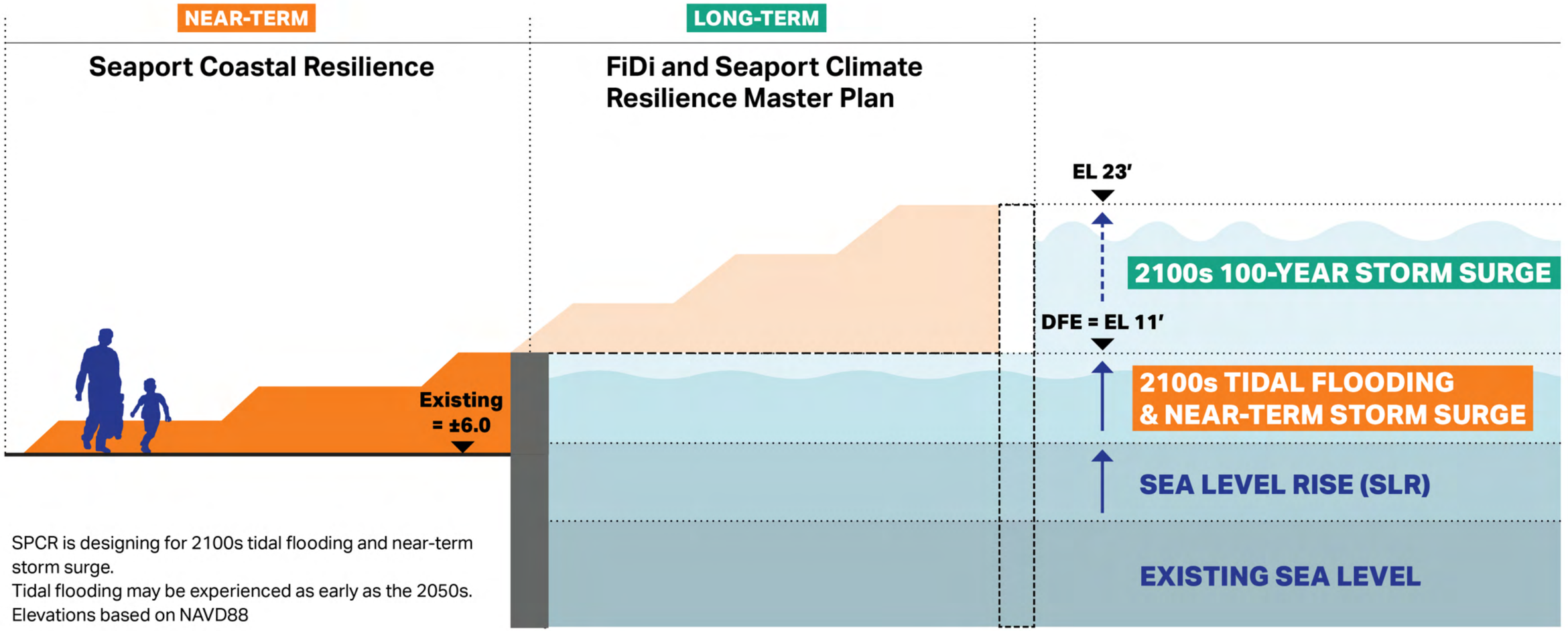
What is Seaport Coastal Resilience?

Seaport Coastal Resilience (SPCR) is a flood mitigation project that will provide resilience against future flooding events to the historic South Street Seaport neighborhood.

PROJECT GOALS

- Achieve a Design Flood Elevation (DFE) of 11ft NAVD88 to protect against 2100s tidal flooding (caused by sea level rise) and near-term coastal storm events
- Address extreme precipitation & urban heat island effect
- Maintain pedestrian access
- Recognize & celebrate historic character

Design Flood Elevation (DFE)



SPCR is designing for 2100s tidal flooding and near-term storm surge.
Tidal flooding may be experienced as early as the 2050s.
Elevations based on NAVD88

02

Community Engagement Recap

Community Engagement Recap | Community Workshop #2

What do you know about the site from **personal experience?**

What are your ideas for **placemaking?**

Images from Community Workshop #2 held on 12/16/2024

What are your thoughts on the **framework** being presented?

Community Engagement Recap | What did we hear?

Greenery and canopies to **provide shade from the sun**

Dedicated & improved **maintenance of the public realm**

Seating opportunities to activate local spaces

Varied **play opportunities** for all ages

Permeable pavement and **stormwater drainage**

Opportunities to **interact with the waterfront**

Combination of **active & passive programs** along the waterfront

Community Engagement Next Steps

Extensive community engagement prior to LPC/PDC Meetings

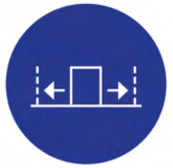
UP NEXT

Tentatively **MAY 14TH**	**Stakeholder Walkshop #2**
EARLY SUMMER	**Community Workshop #3** Design Updates & Public Realm Design Workshop
FALL	**Community Board 1 Meeting #3**
	LPC/PDC Conceptual Submission
	LPC/PDC Conceptual Hearing

03

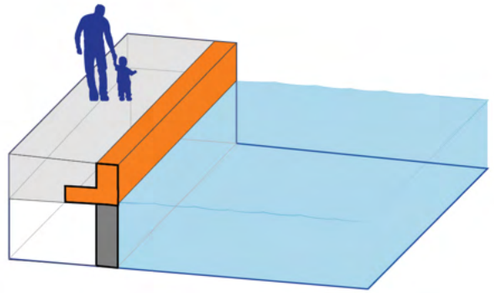
Alignment Updates & Design Approach

Key Design Principles

FLOOD RISK REDUCTION		Maximize protected area and improve interior drainage
CIRCULATION		Provide universal pedestrian access throughout the project
CONTEXT		Celebrate historic character
WATERFRONT ACCESS		Maintain and improve established access and viewsheds
MULTI-PURPOSE INFRASTRUCTURE		Integrate placemaking with infrastructure wherever possible

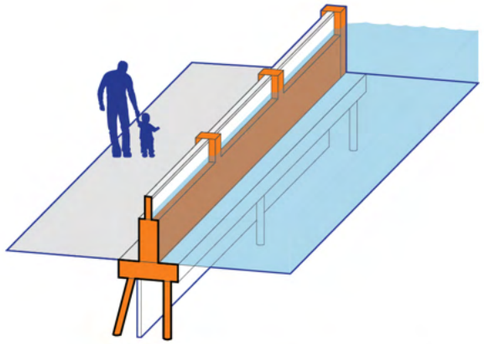
Flood Alignment Toolkit

PASSIVE



Raised Edge

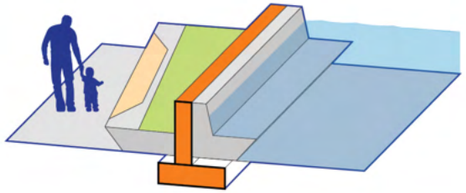
Infrastructure aligned to the edge of the waterfront, above the existing bulkhead.



Glass-Topped Flood Barrier

POTENTIAL OPTION UNDER EVALUATION

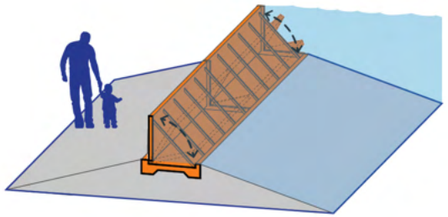
See-through infrastructure that promotes visibility and safety.



Flood Barrier with Placemaking

Infrastructure augmented by programmatic elements.

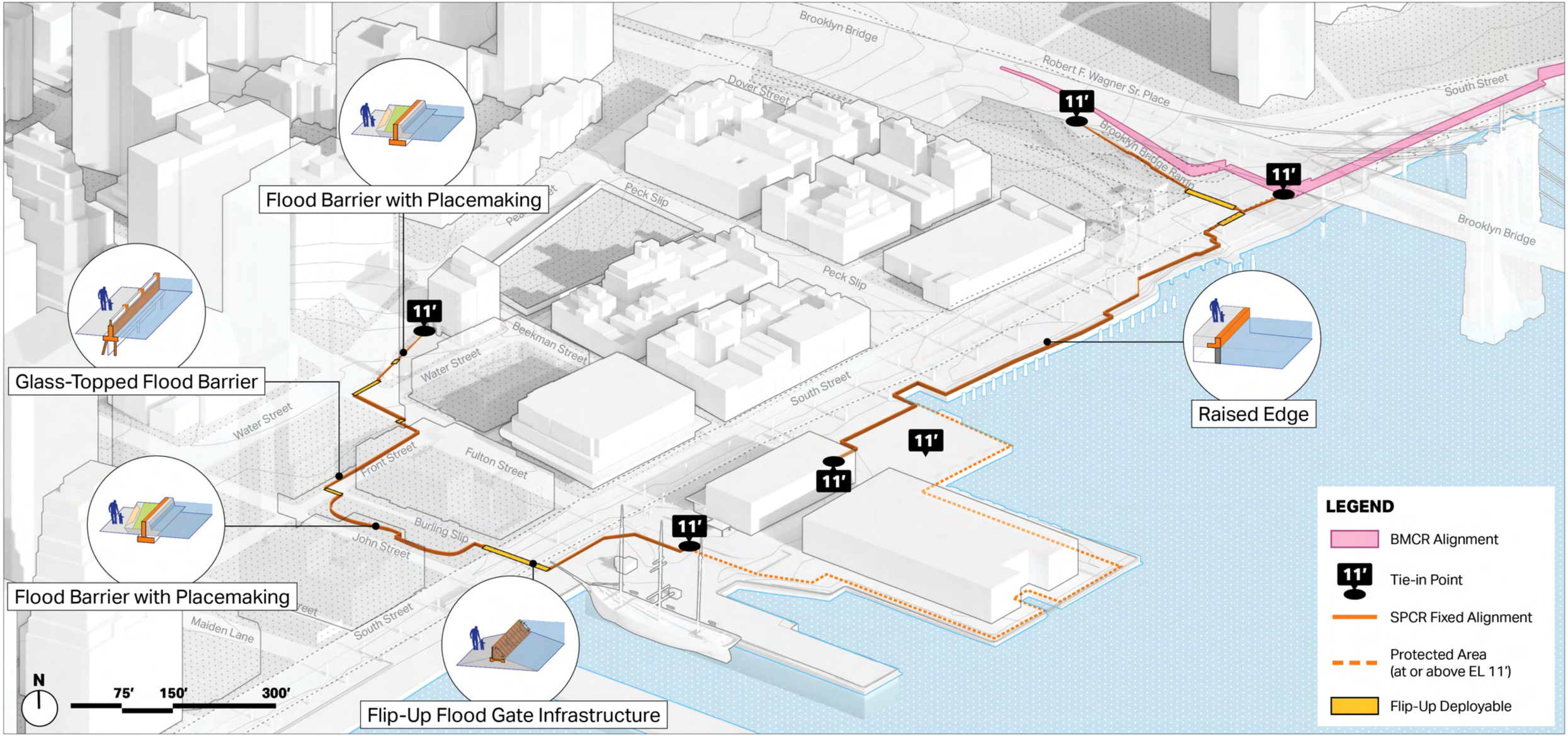
DEPLOYABLE



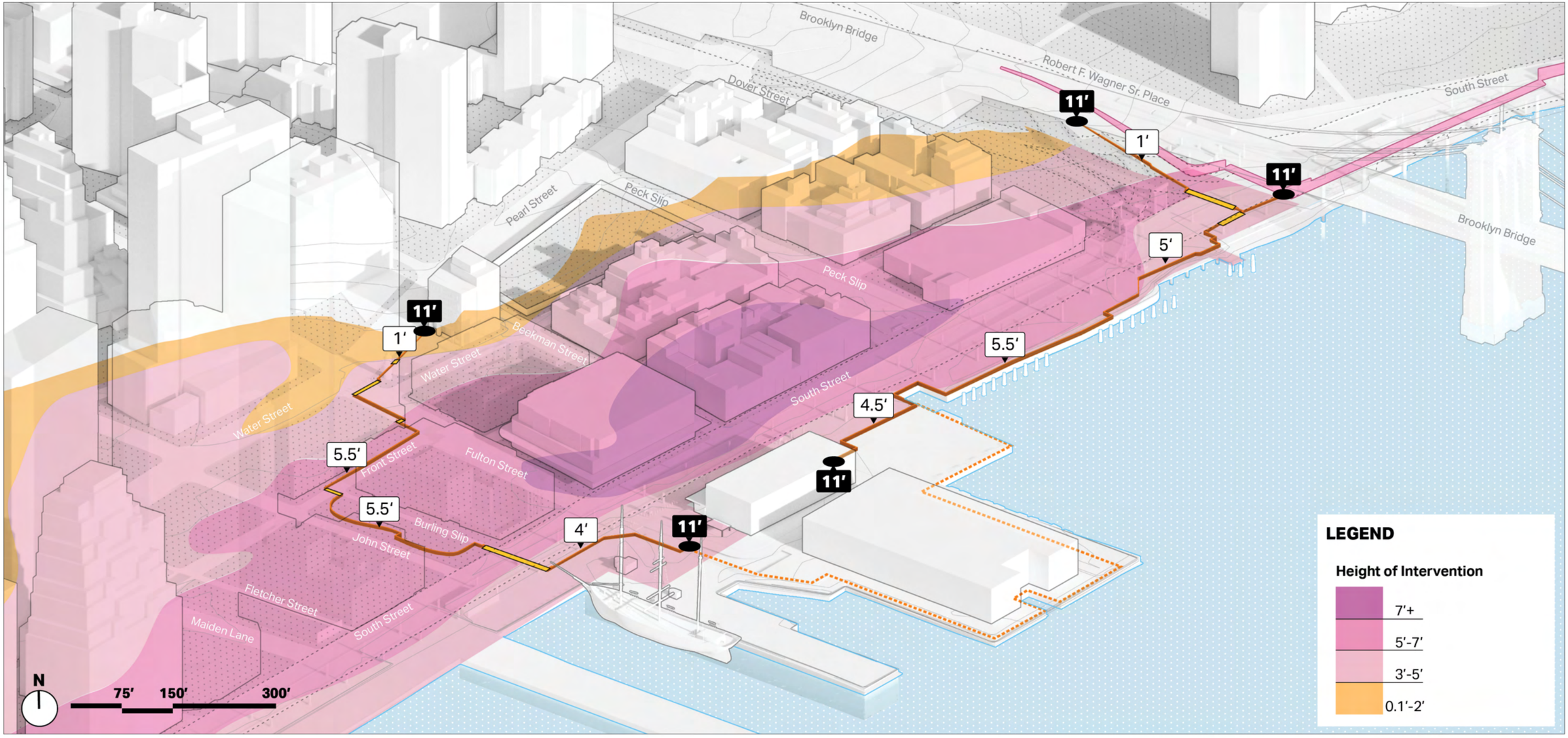
Flip-Up Flood Gate Infrastructure

Ground-level infrastructure that raises during storm events.

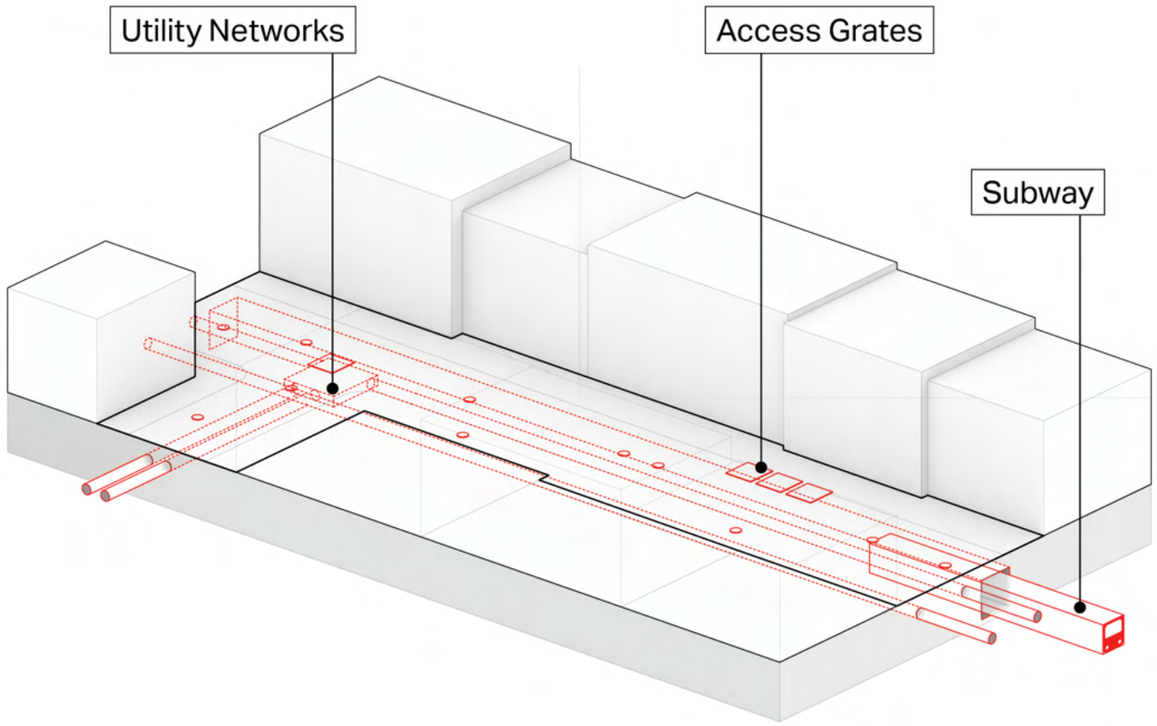
The Flood Alignment



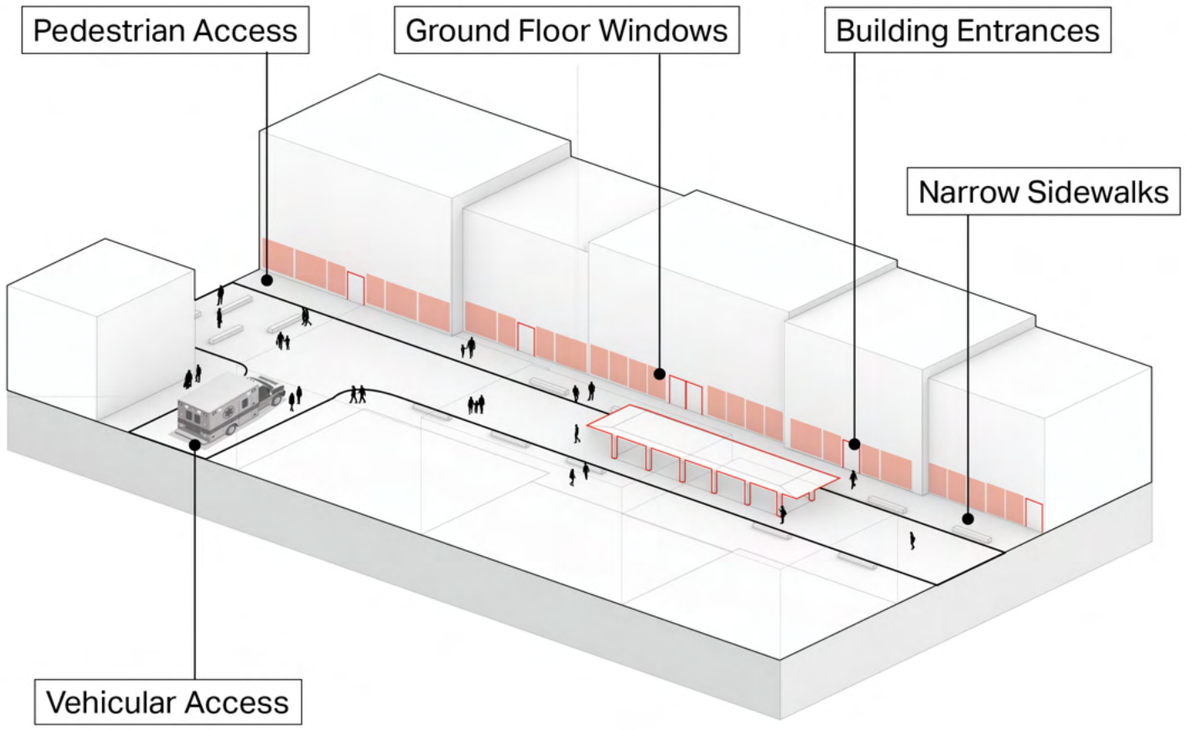
Height of Intervention (HOI)



Inland Site Considerations

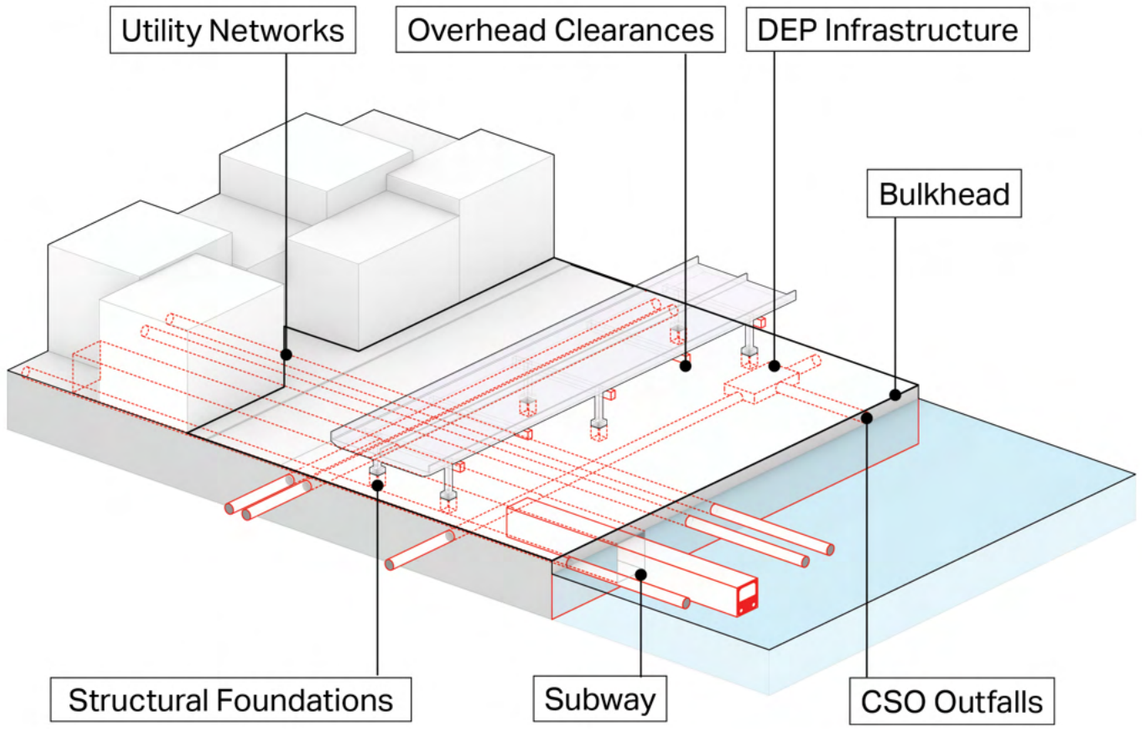


Utility Networks

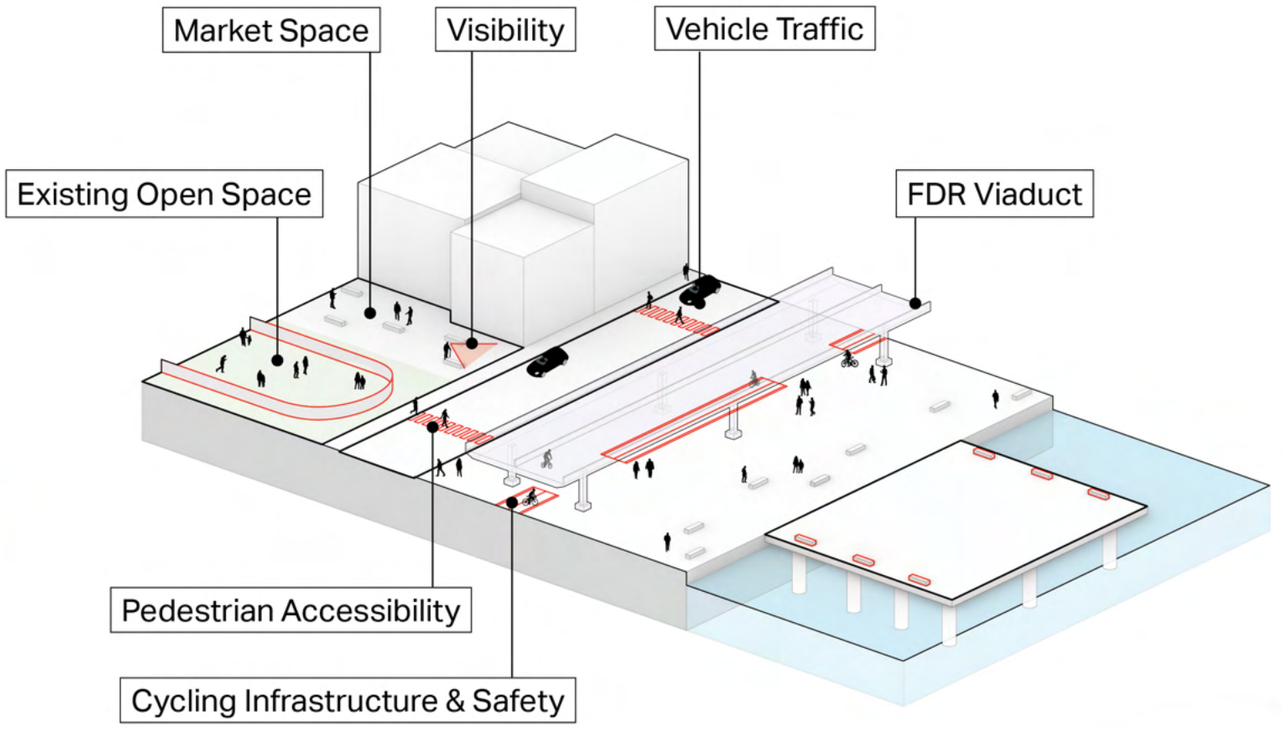


Circulation & Adjacent Uses

Waterfront Site Considerations



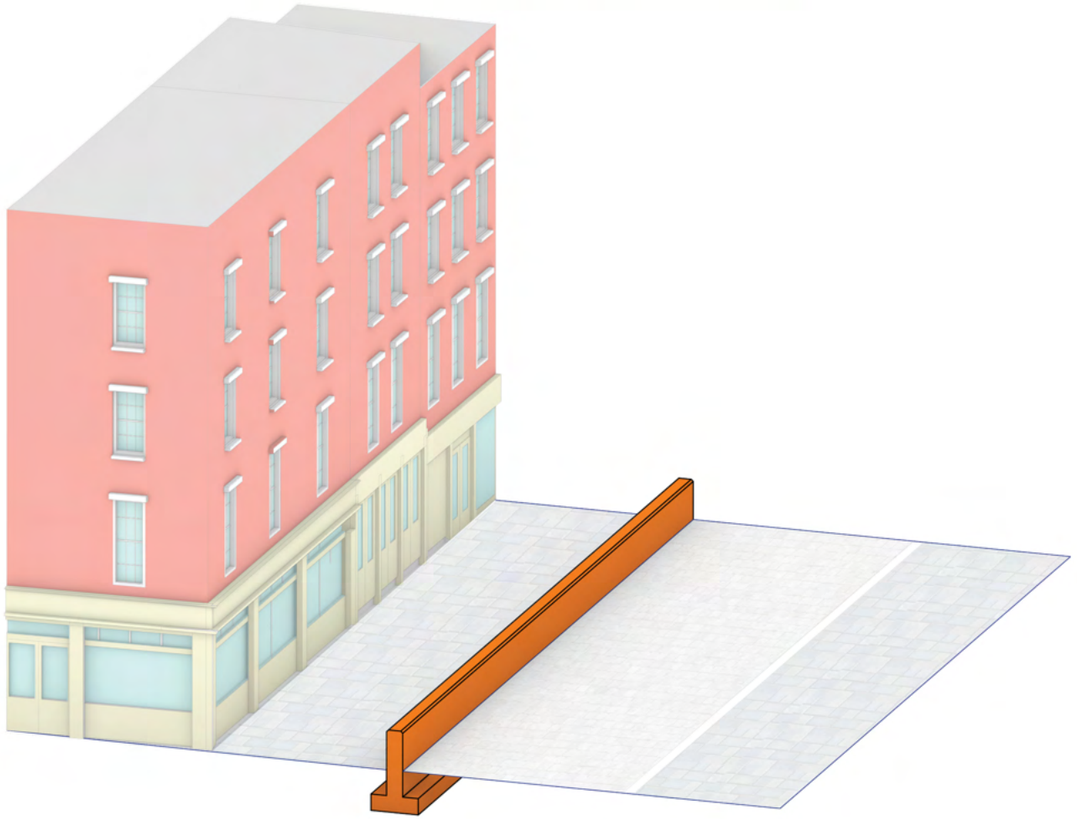
Subsurface Infrastructure



Circulation & Existing Uses

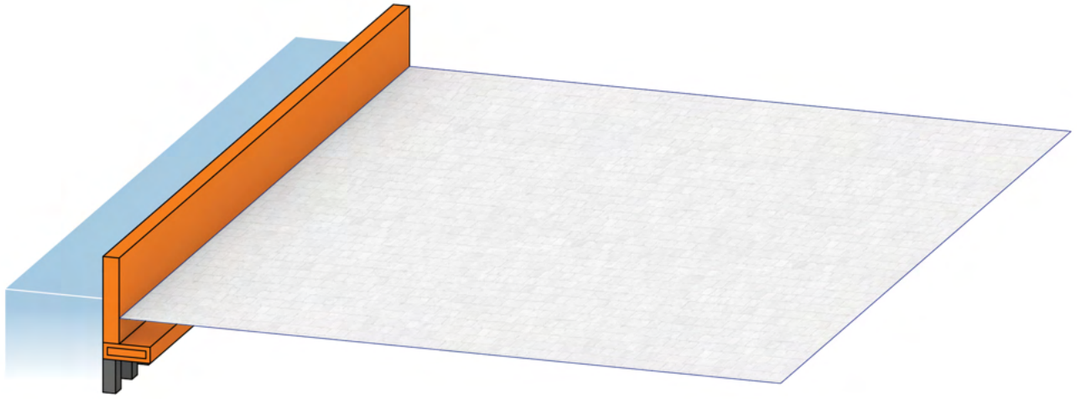
Design Approach | Infrastructure

INLAND



Carefully aligned infrastructure through the South Street Seaport

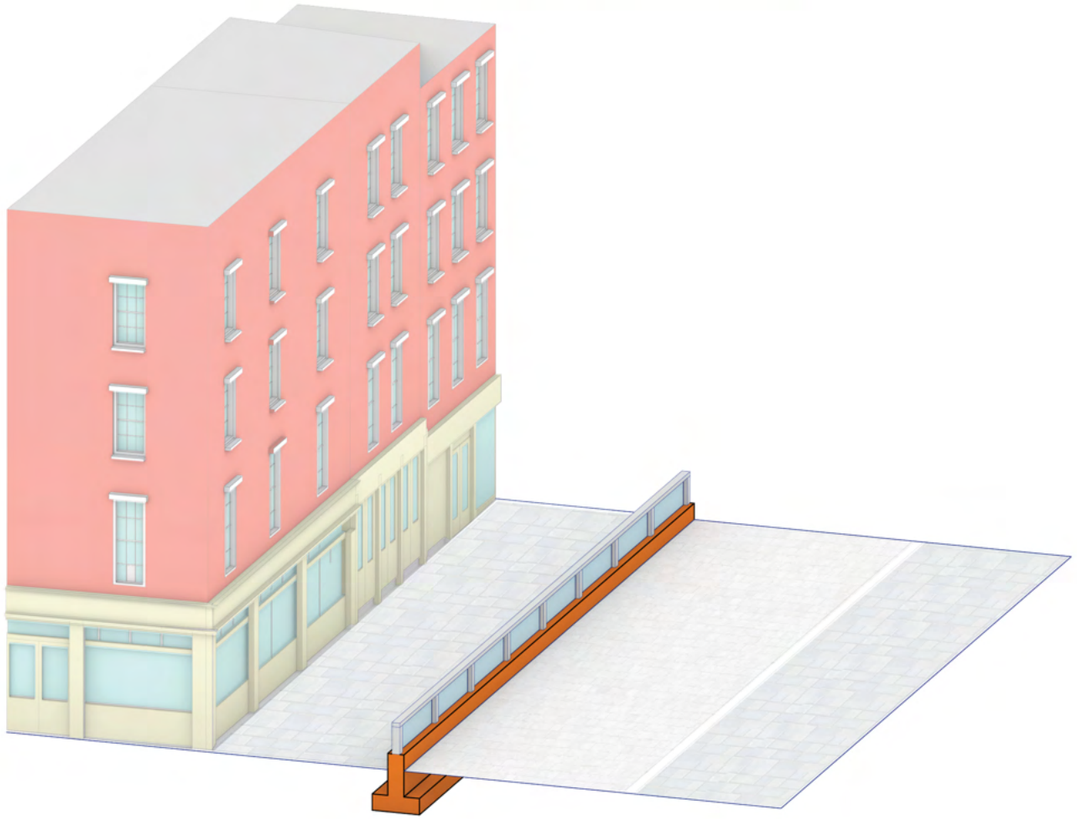
WATERFRONT



Infrastructure aligned to the edge of the waterfront, above the existing bulkhead

Design Approach | Height Mitigation

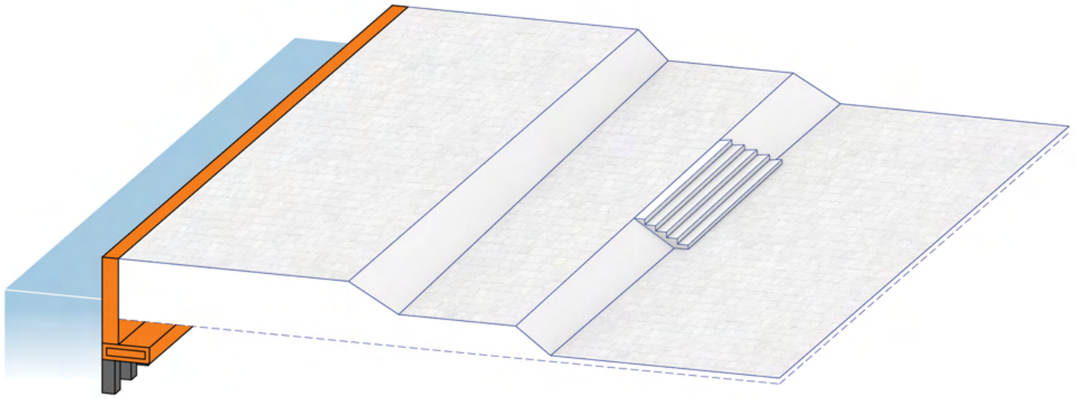
INLAND



POTENTIAL OPTION UNDER EVALUATION

Glass-Topped Flood Barrier to reduce visual impact and maintain transparency

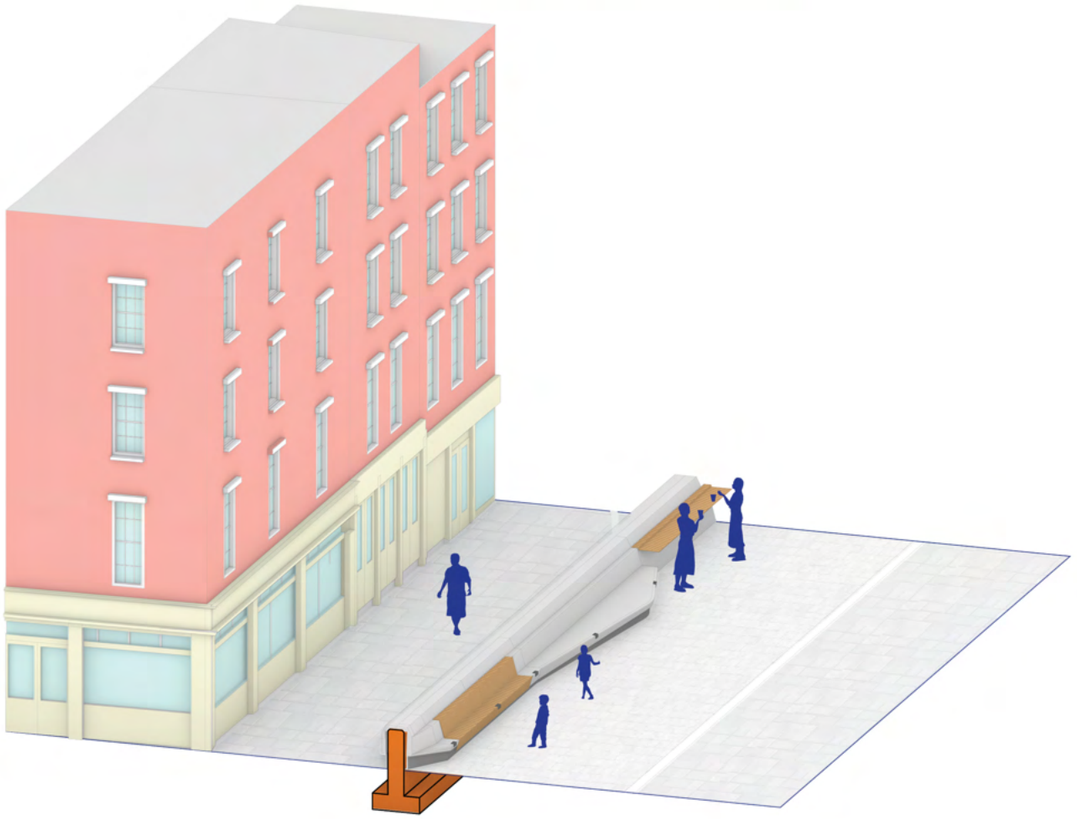
WATERFRONT



Terraced environment steps up to flood protection level to reduce visual impact and provide placemaking opportunities

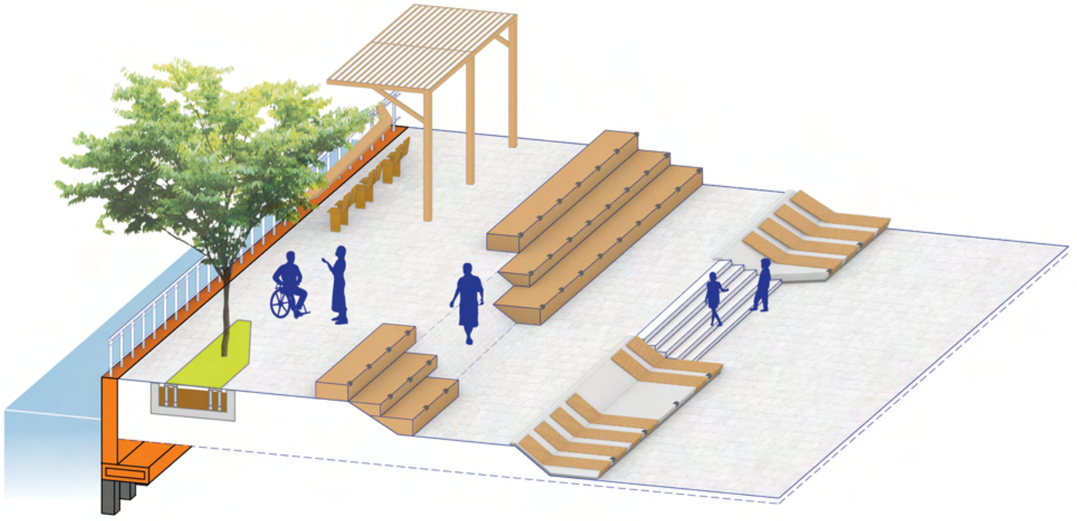
Design Approach | Placemaking

INLAND



Cladding with programmatic features to blend the infrastructure

WATERFRONT



Incorporating programmatic features throughout terraces and along edges

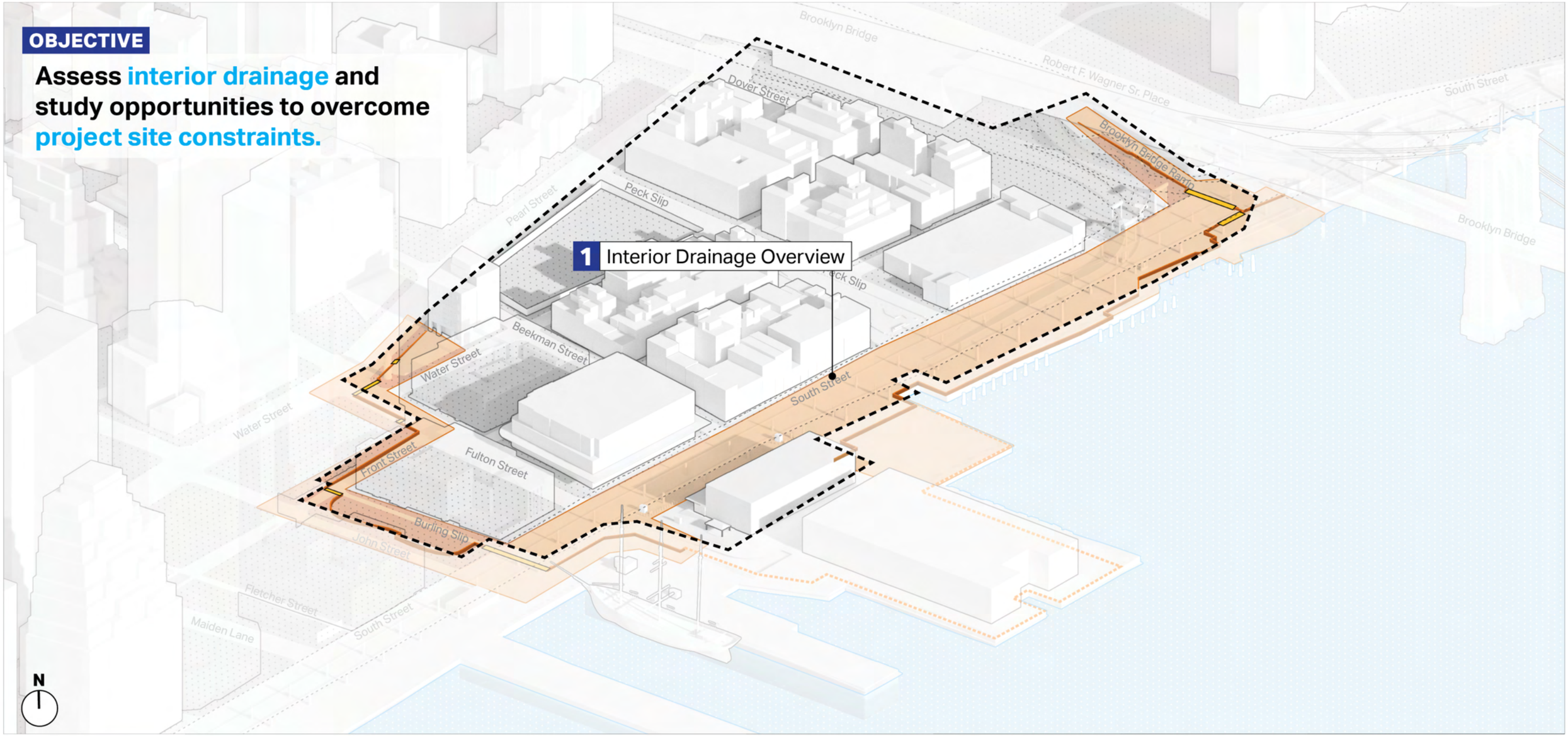
04

Interior Drainage

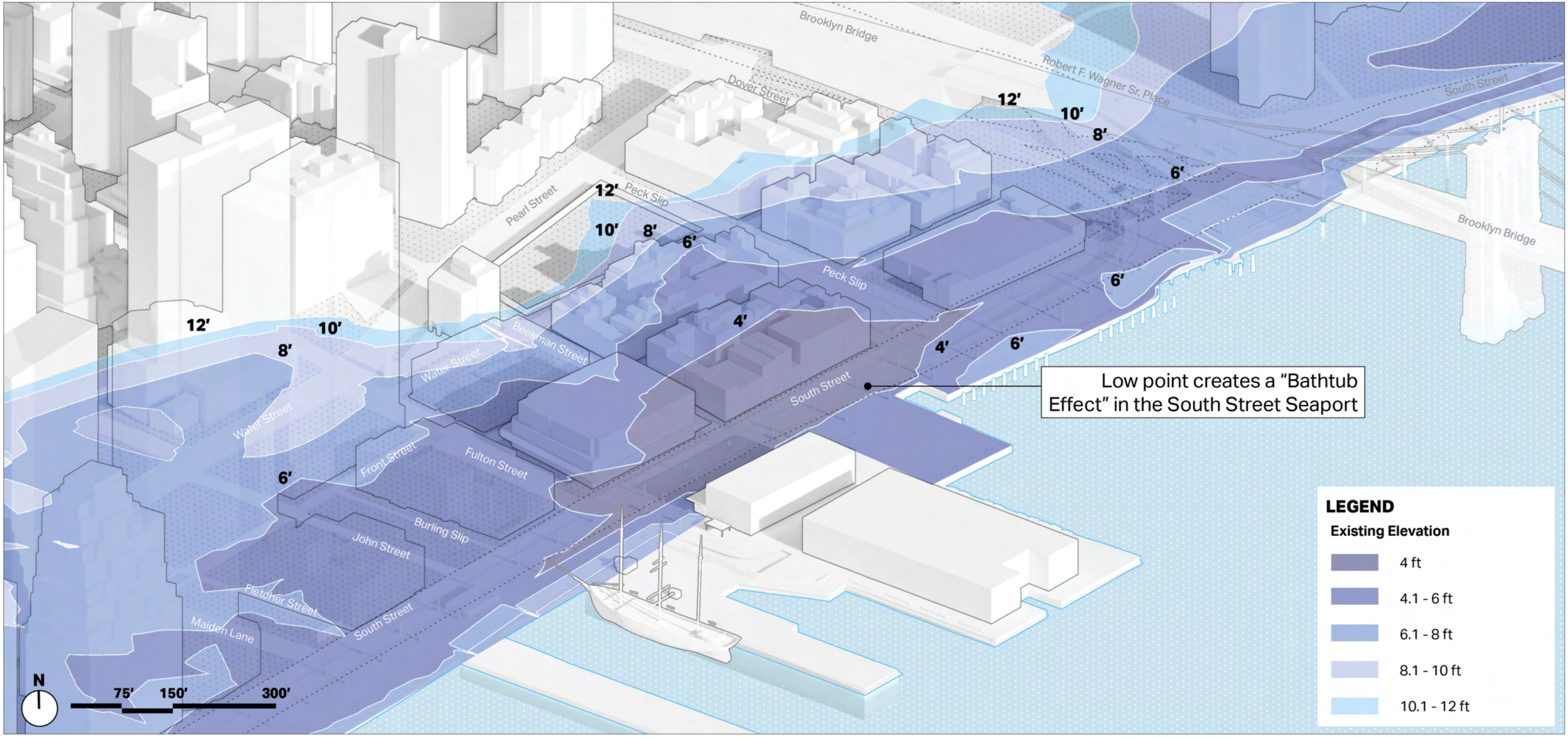
Interior Drainage

OBJECTIVE

Assess interior drainage and study opportunities to overcome project site constraints.



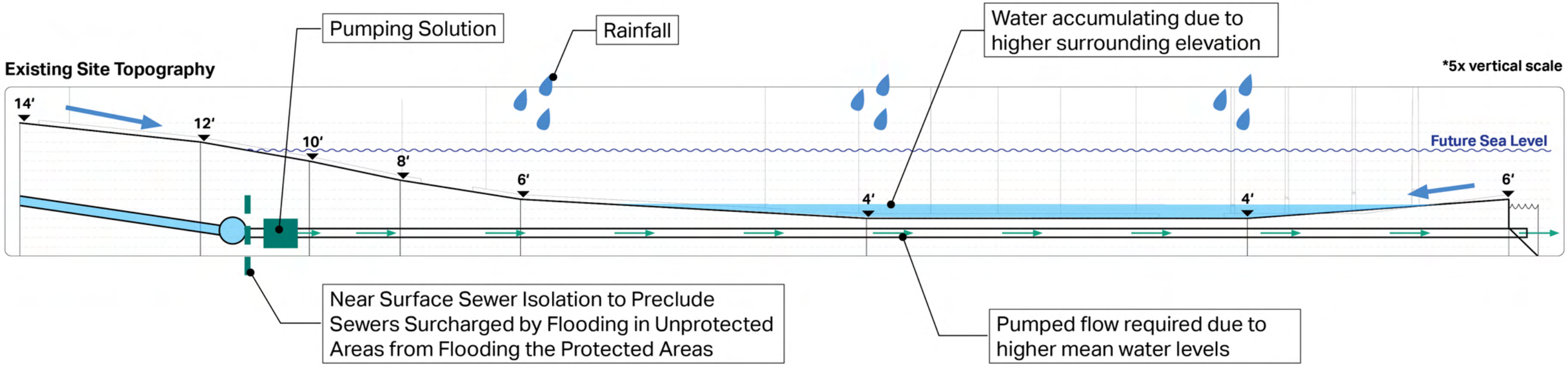
Site Topography



Interior Drainage

AFFECTED BY:
Topography (Bathtub Effect)
Rain/Storm Events
Sea Level Rise & Rising Tides

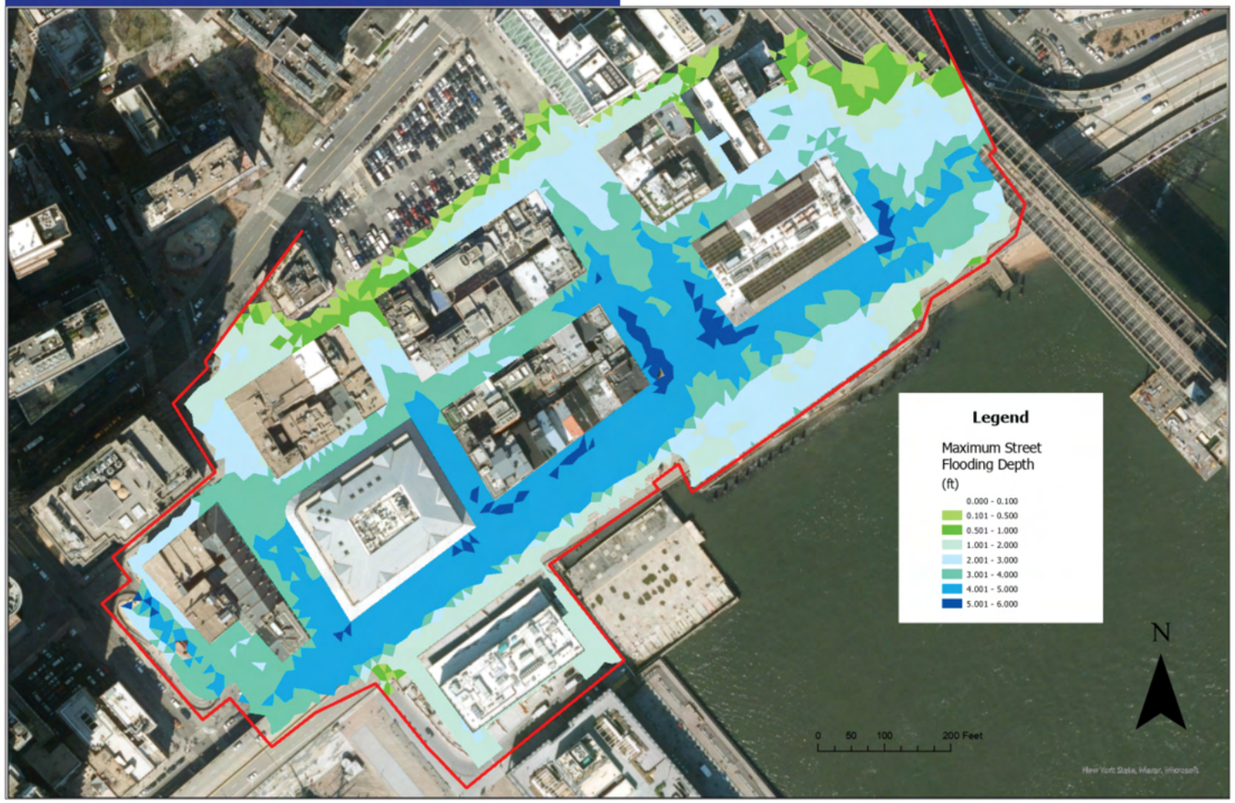
IMPROVED BY:
Near-Surface Sewer Isolation
Supplemental Pumping



*Ongoing interior drainage coordination with the FiDi-Seaport Climate Resilience Masterplan

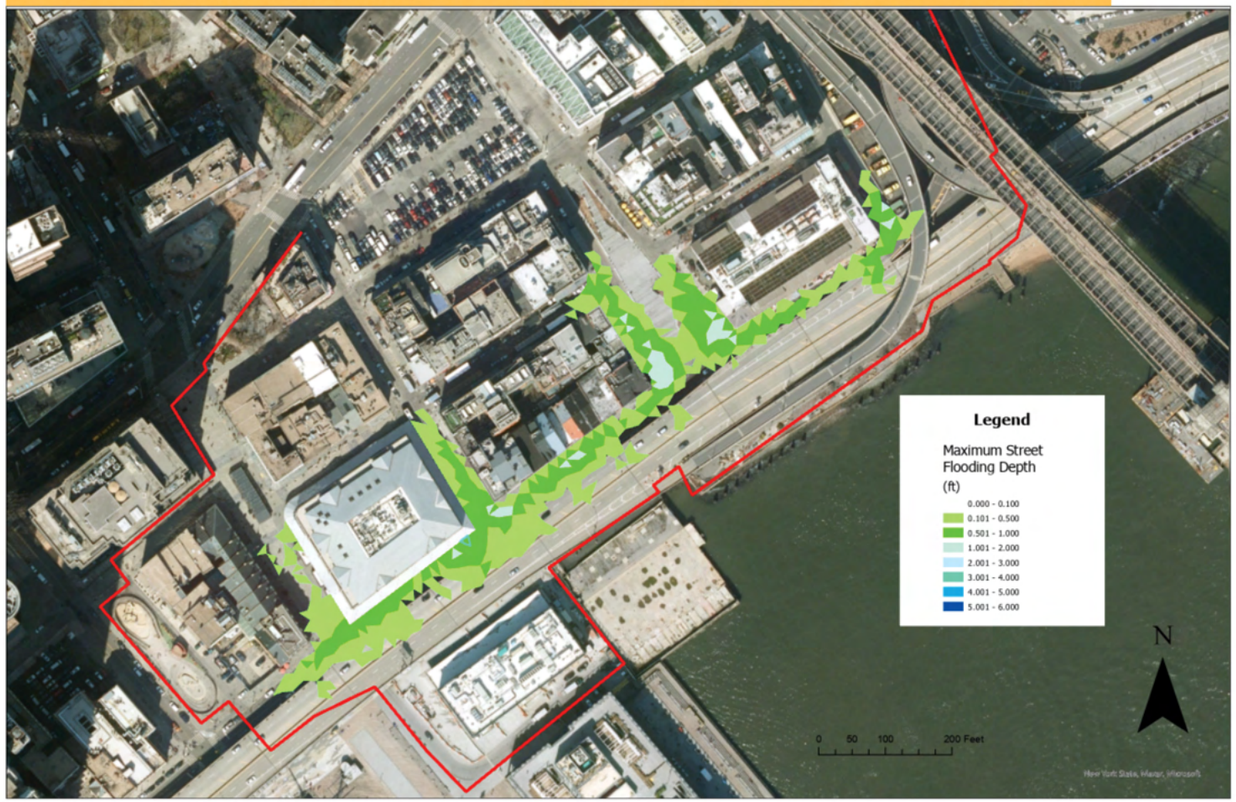
Interior Drainage | Modeling Preliminary Results

NO INTERIOR DRAINAGE MANAGEMENT



An average of 4-6 feet of flooding throughout the South Street Seaport without interior drainage management

WITH SEWER ISOLATION & SUPPLEMENTAL PUMPING NEAR REGULATOR



Near Surface Sewer Isolation & Supplemental Pumping

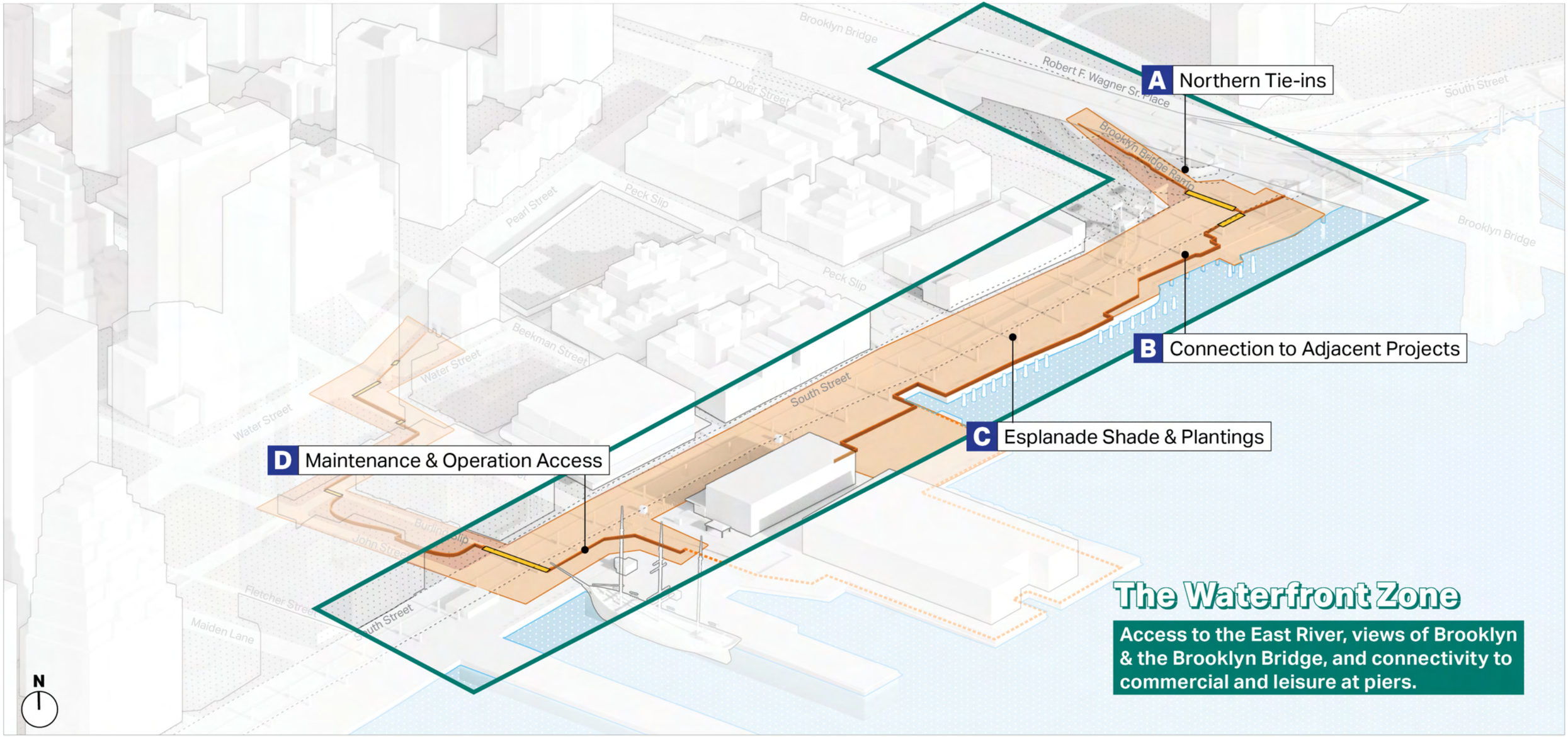
Legend - Maximum Street Flooding Depth (ft) < 0.5 | 0.5 - 1 | 1 - 2 | 2 - 3 | 3 - 4 | 4 - 5 | 5 - 6

Modeling based on **5-year rainfall event with 2080 Sea Level Rise (45").** Flooding outside the protected area not shown for clarity.

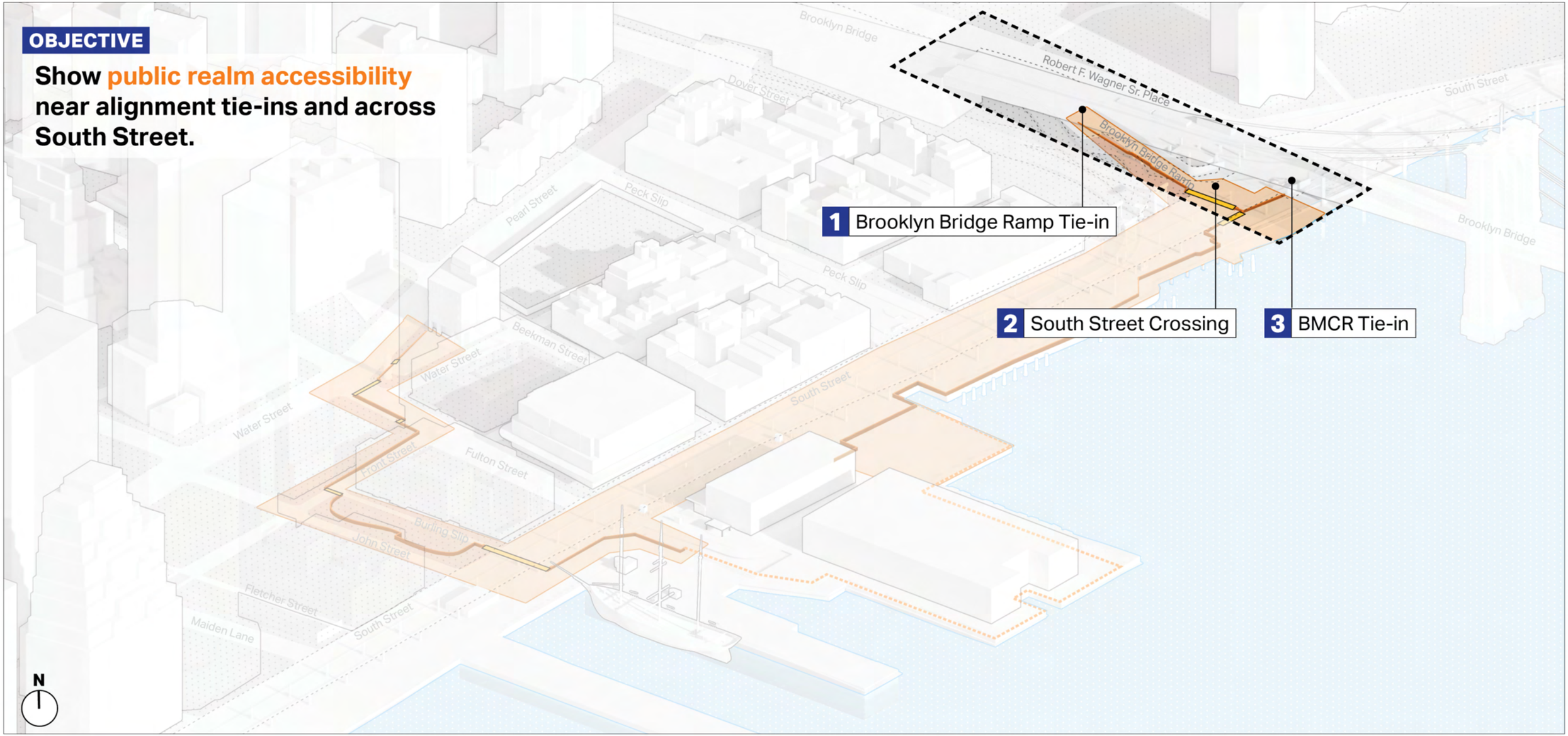
05

Design Update

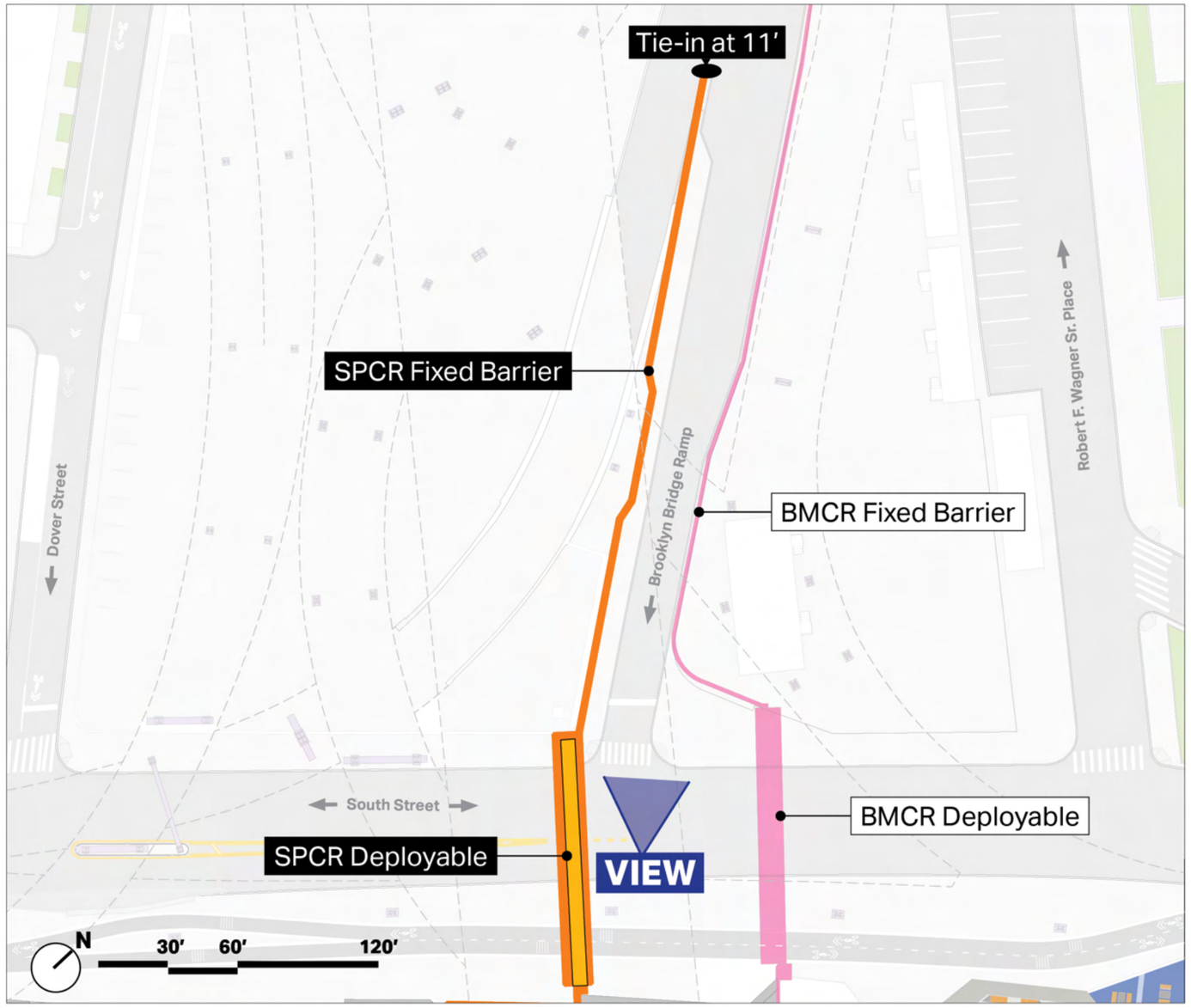
Design Update | The Waterfront Zone

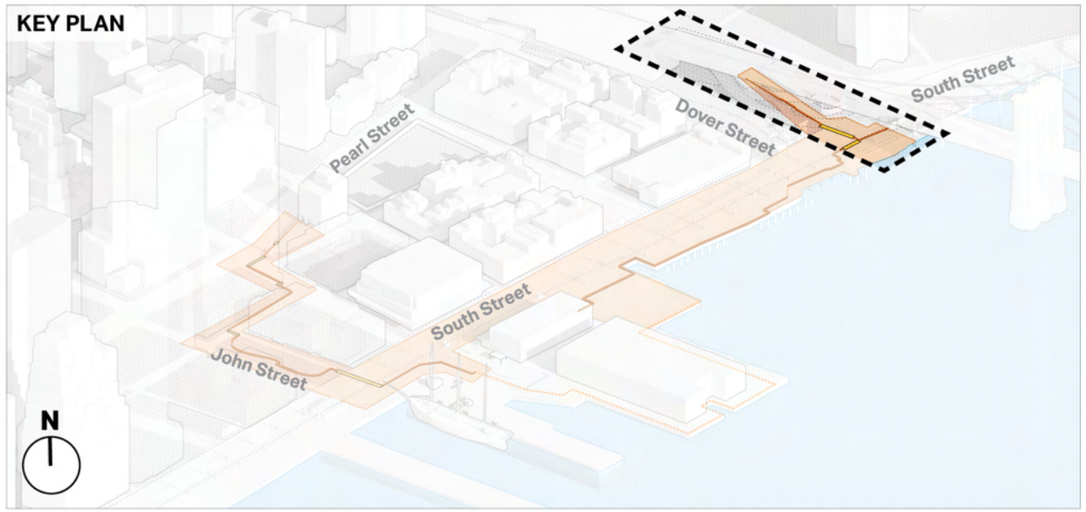


Design Update | Northern Tie-ins



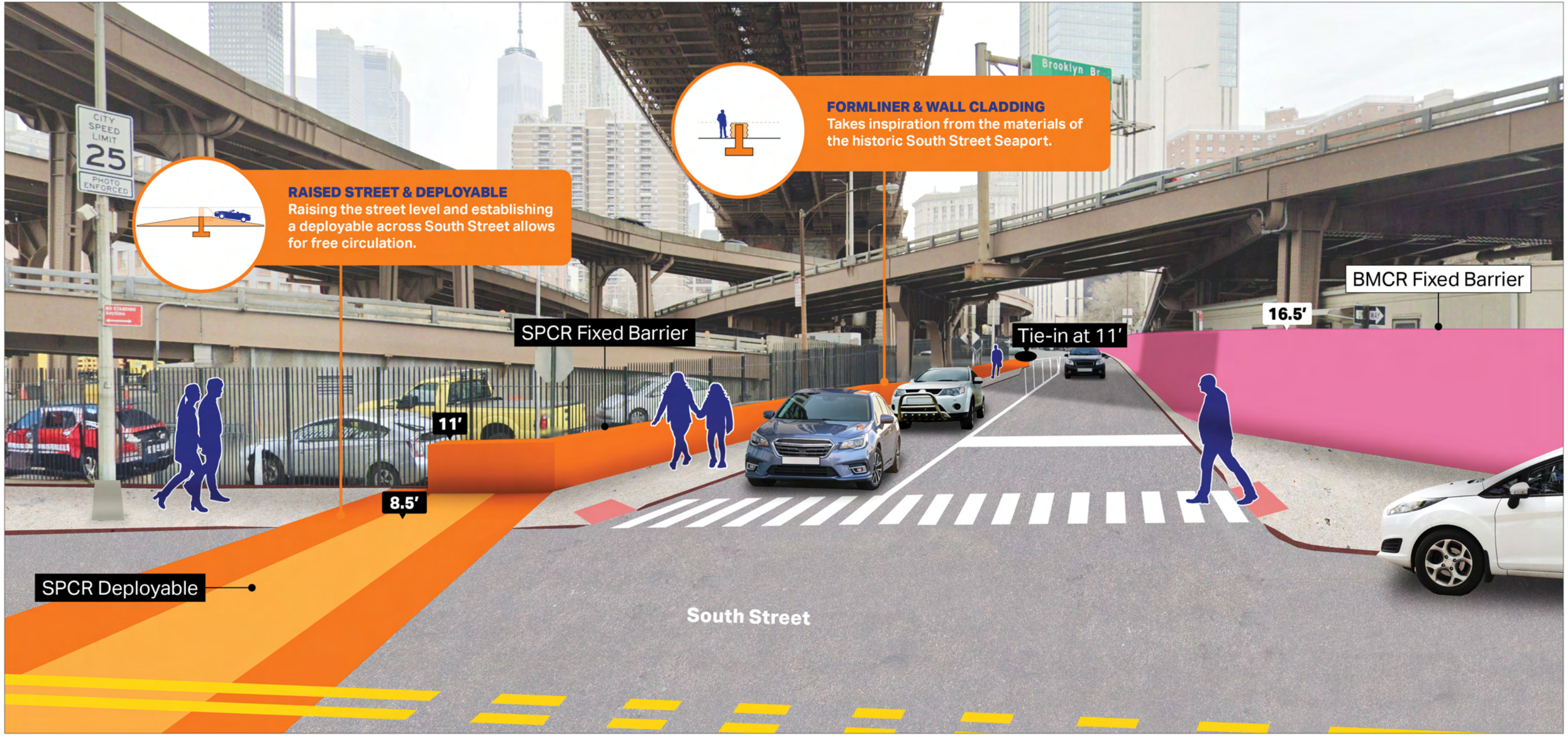
Northern Tie-ins | Brooklyn Bridge Ramp Tie-in



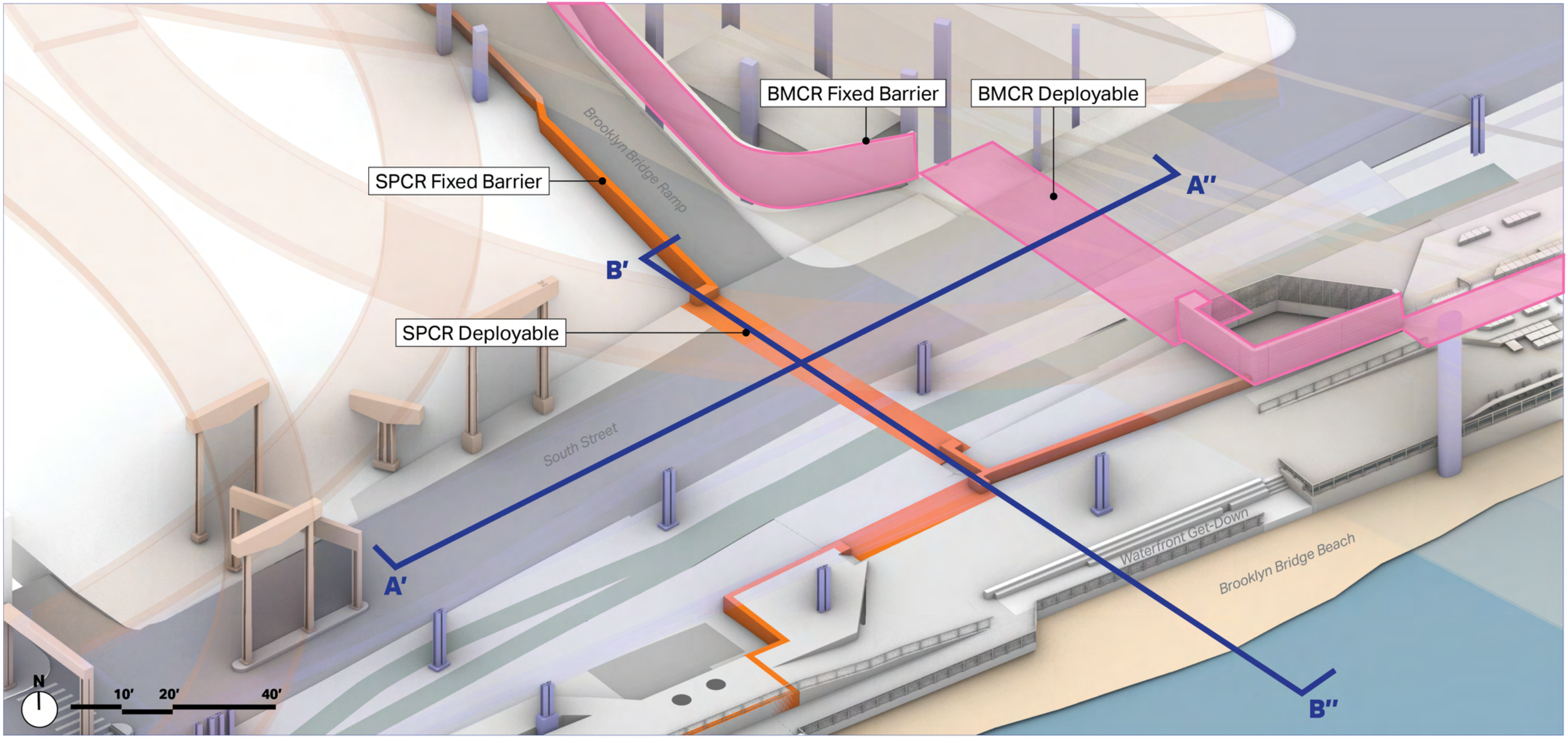


The alignment ties in to elevation 11' directly across the street from the BMCR tie-in.

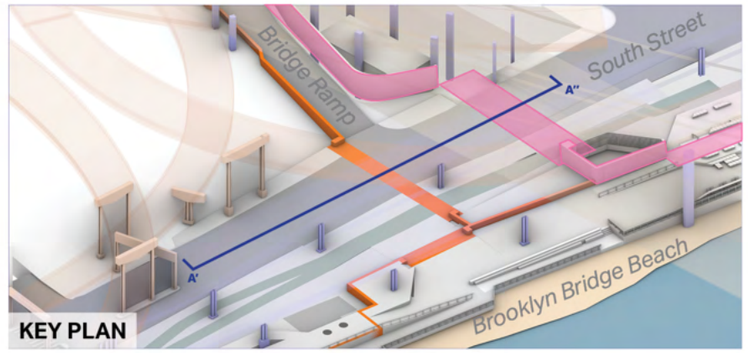
Northern Tie-ins | Brooklyn Bridge Ramp Tie-in



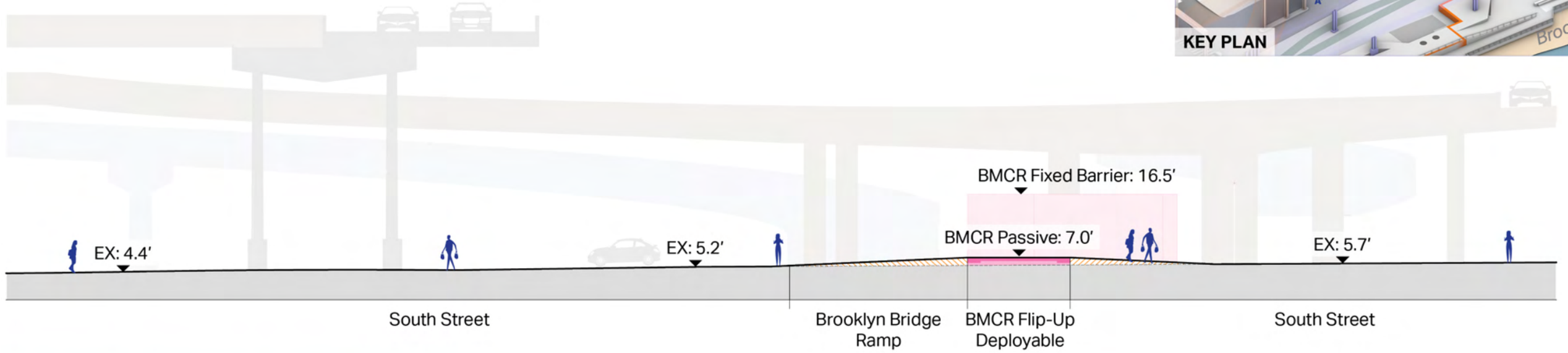
Northern Tie-ins | South Street Crossing



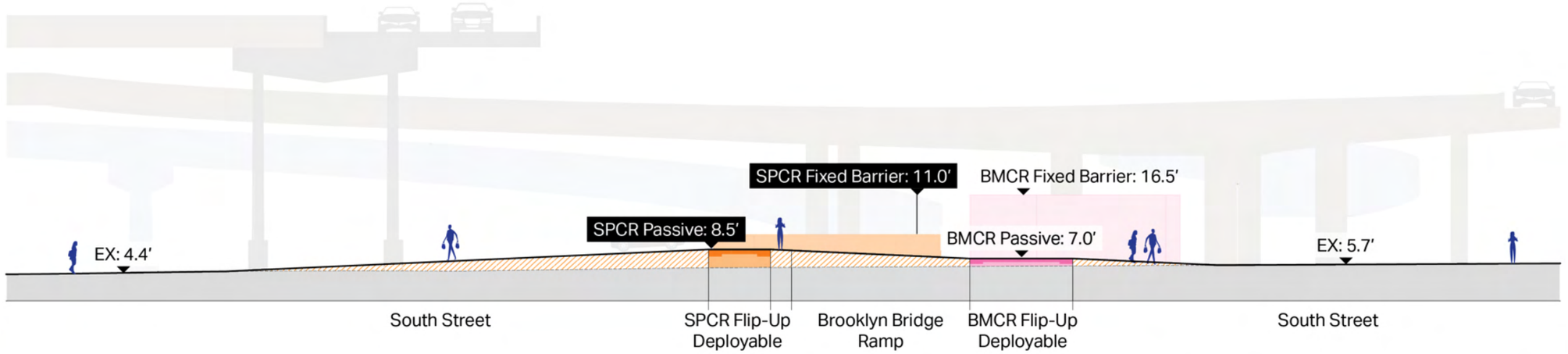
Northern Tie-ins | Section A - Along South Street



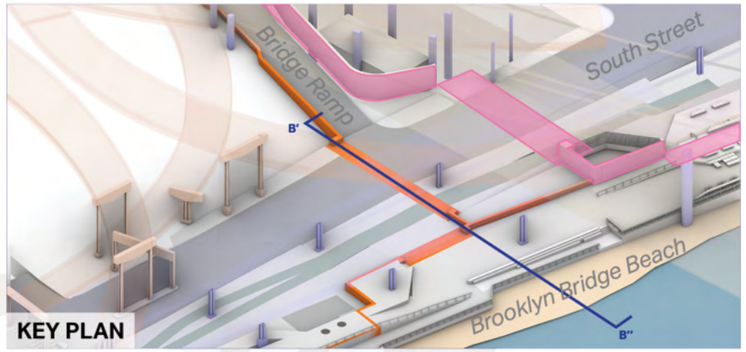
BMCR DESIGN CONDITIONS



SPCR FLIP-UP FLOOD GATE INACTIVE

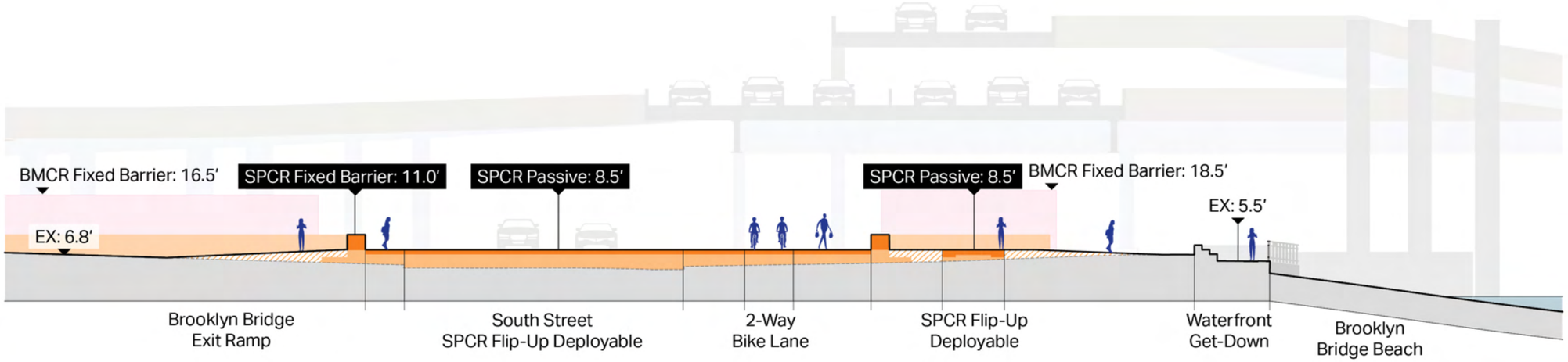


Northern Tie-ins | Section B - Bridge Ramp to East River

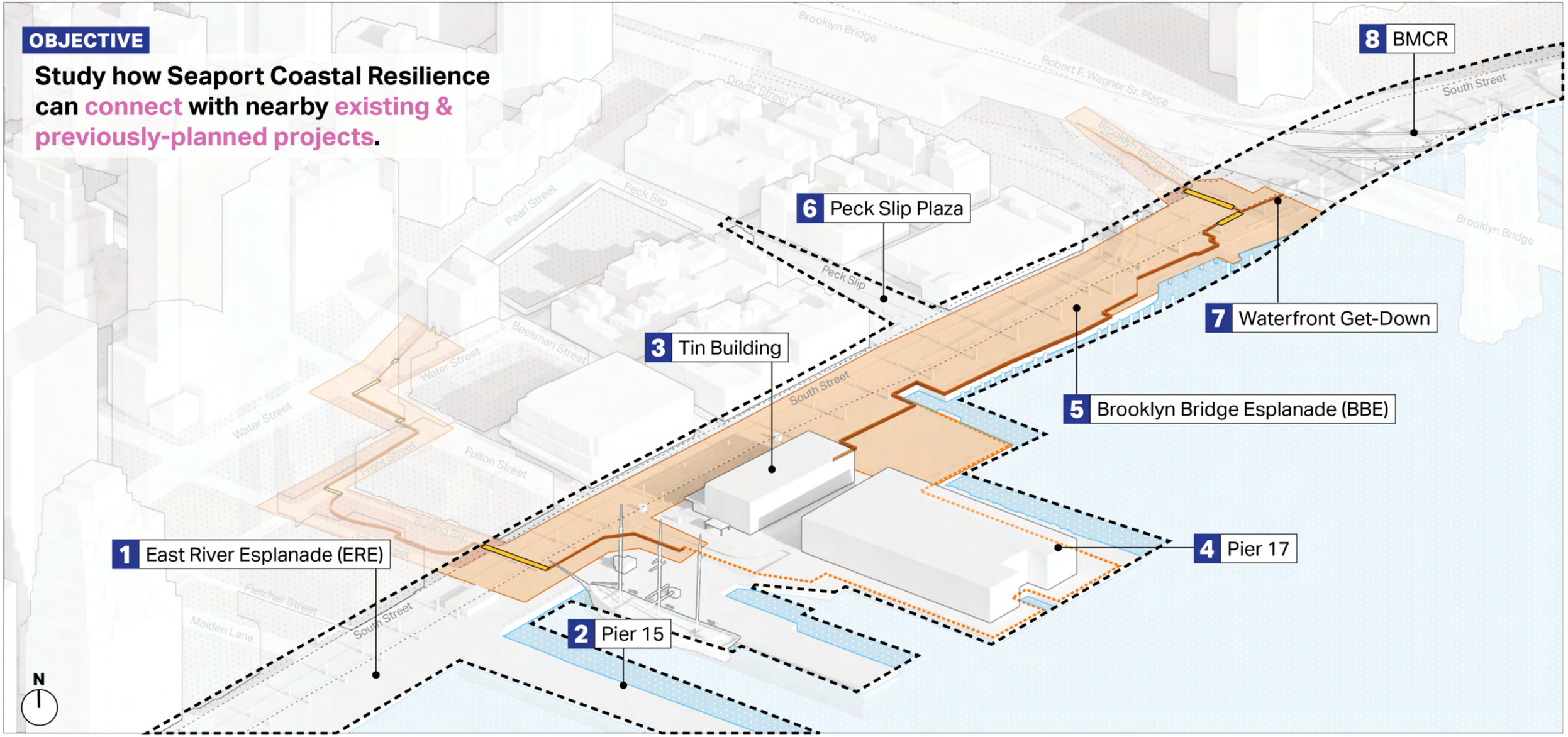


BMCR DESIGN CONDITIONS

SPCR FLIP-UP FLOOD GATE INACTIVE



Design Update | Connections to Adjacent Projects

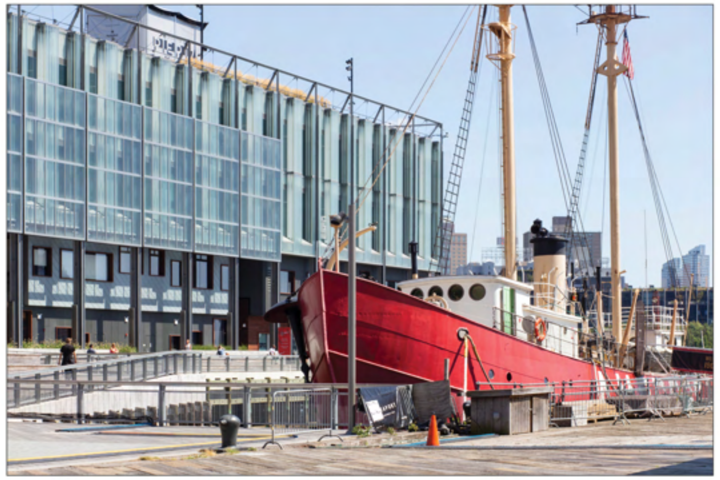


Connections to Adjacent Projects

SOUTH → NORTH

East River Esplanade (ERE)

Pier 17



Peck Slip Plaza

Waterfront Get-Down

Pier 15

Tin Building

Brooklyn Bridge Esplanade (BBE)

Brooklyn Bridge-Montgomery Coastal Resilience (BMCR)
IN CONSTRUCTION

Brooklyn Bridge Esplanade (BBE) | What and where?

BBE PROJECT & ENGAGEMENT FROM 2018-2019

BBE overlapped with Seaport Coastal Resilience at Jerry Driscoll Walk to BMCR tie-in.

Brooklyn Bridge

Robert F. Wagner Sr. Place

South Street

Brooklyn Bridge

Front Street

Peck Slip

South Street

BBE extent from Peck Slip to Catherine Slip

N

Design Programs from BBE:

ACTIVE PASSIVE

- Artificial Turf Play Area
- Plaza with Splash Pad
- Viewing Deck with ADA Access Ramp
- Painted Asphalt Game Area
- Seating Platforms
- ADA Accessible Bar Seating
- Adult Fitness Equipment
- Plaza Areas
- Double-Sided Bleacher Seating

Brooklyn Bridge Esplanade (BBE) | Jerry Driscoll Walk Programming

Adult Fitness Equipment

Suitable for a wide range of ages and activity levels

Plaza with Splash Pad

Open space, in-ground fountains and shaded seating

Multi-purpose Active Surfacing

Rubber surfacing for intergrated play and sport courts

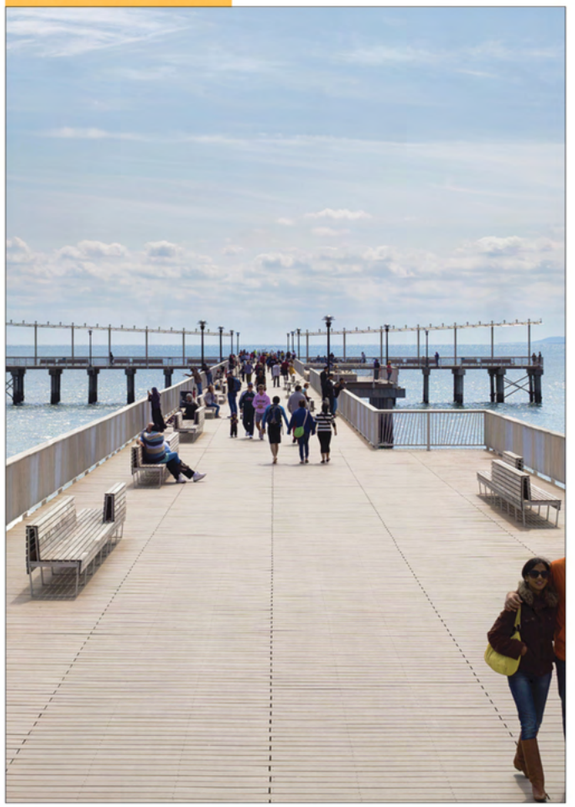
Brooklyn Bridge Esplanade (BBE) | Bridge Pier

EXISTING CONDITIONS

BBE-PROPOSED REPLACEMENT

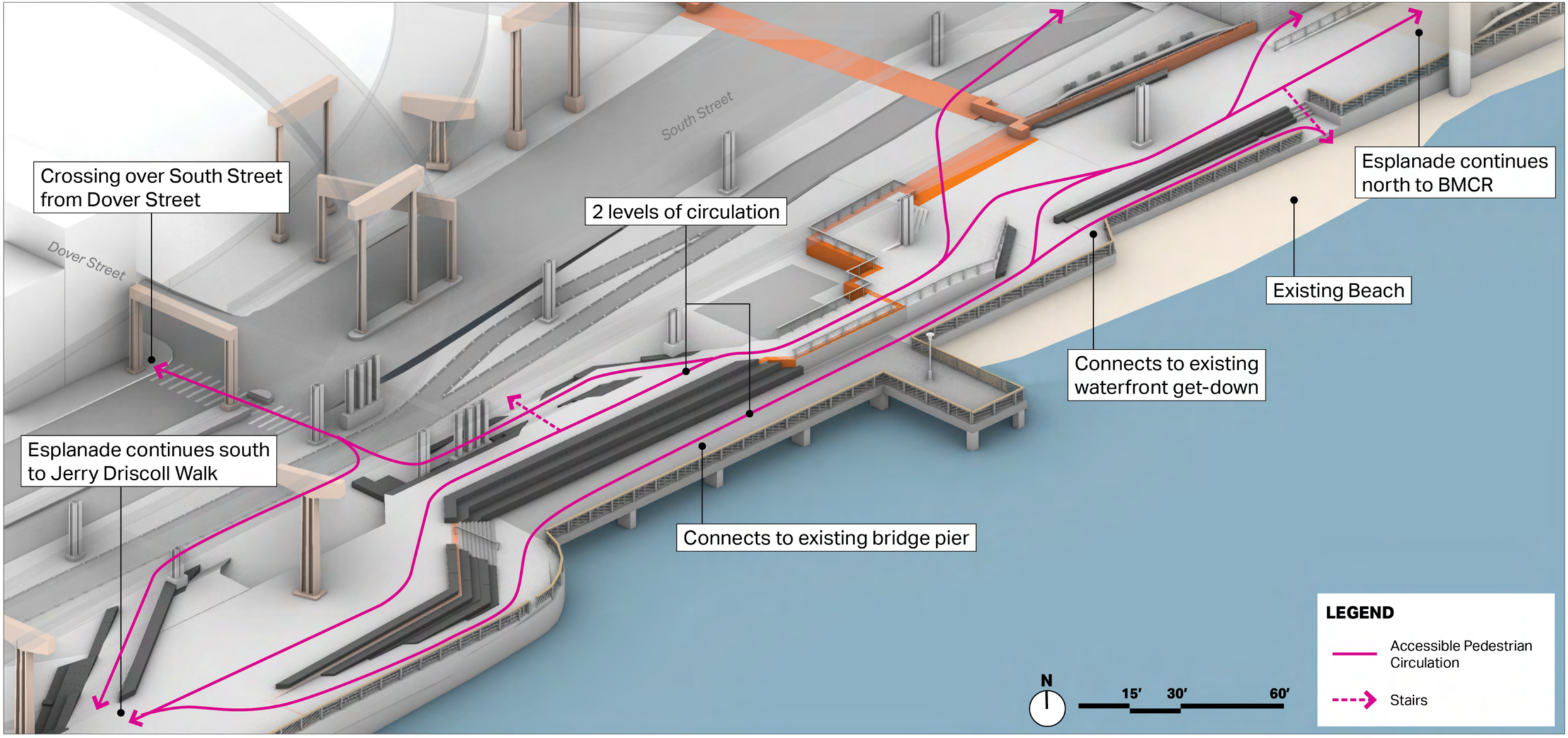
East River Esplanade
Steel Grating

ALTERNATIVE

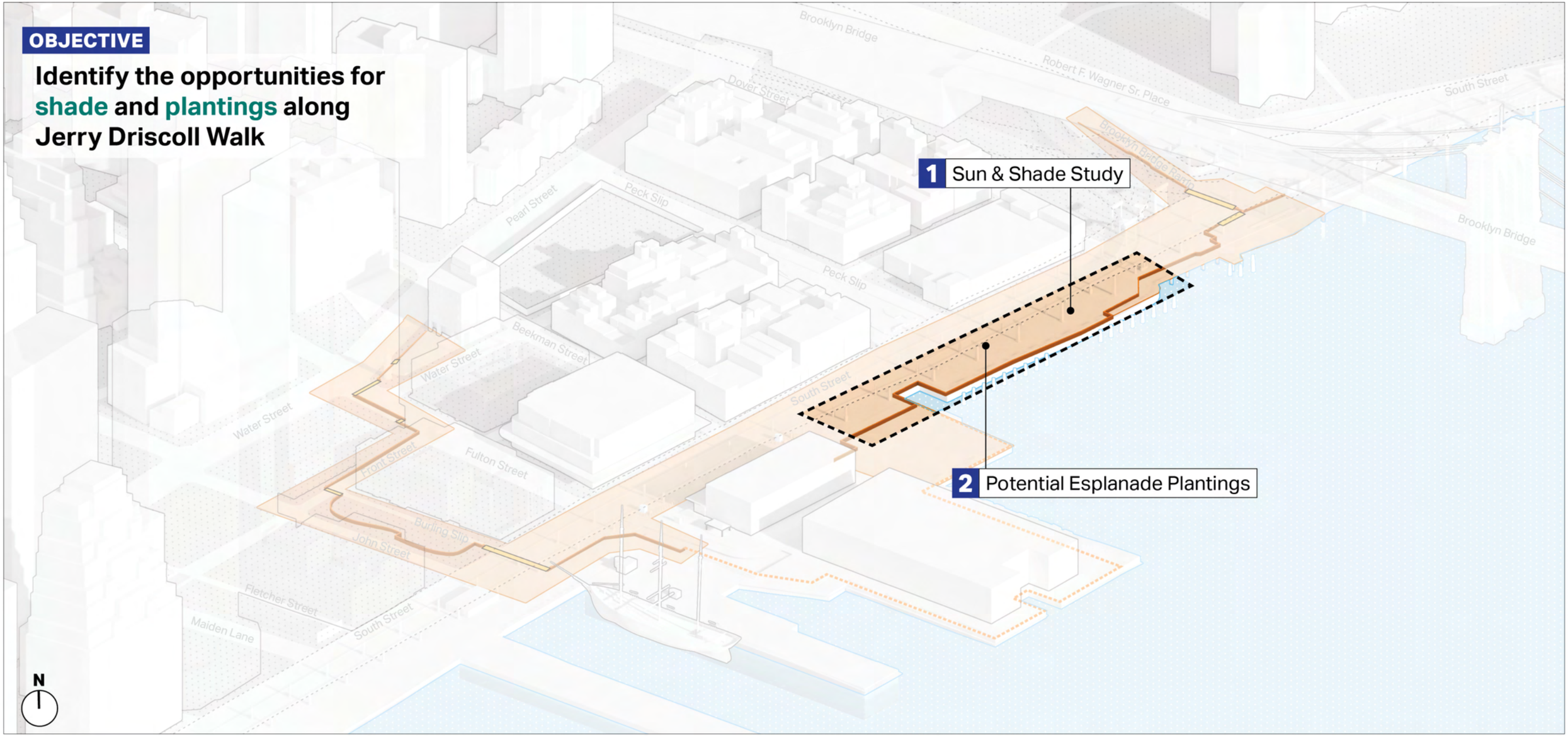


Steeplechase Pier, Coney Island
Recycled Plastic Lumber (RPL)

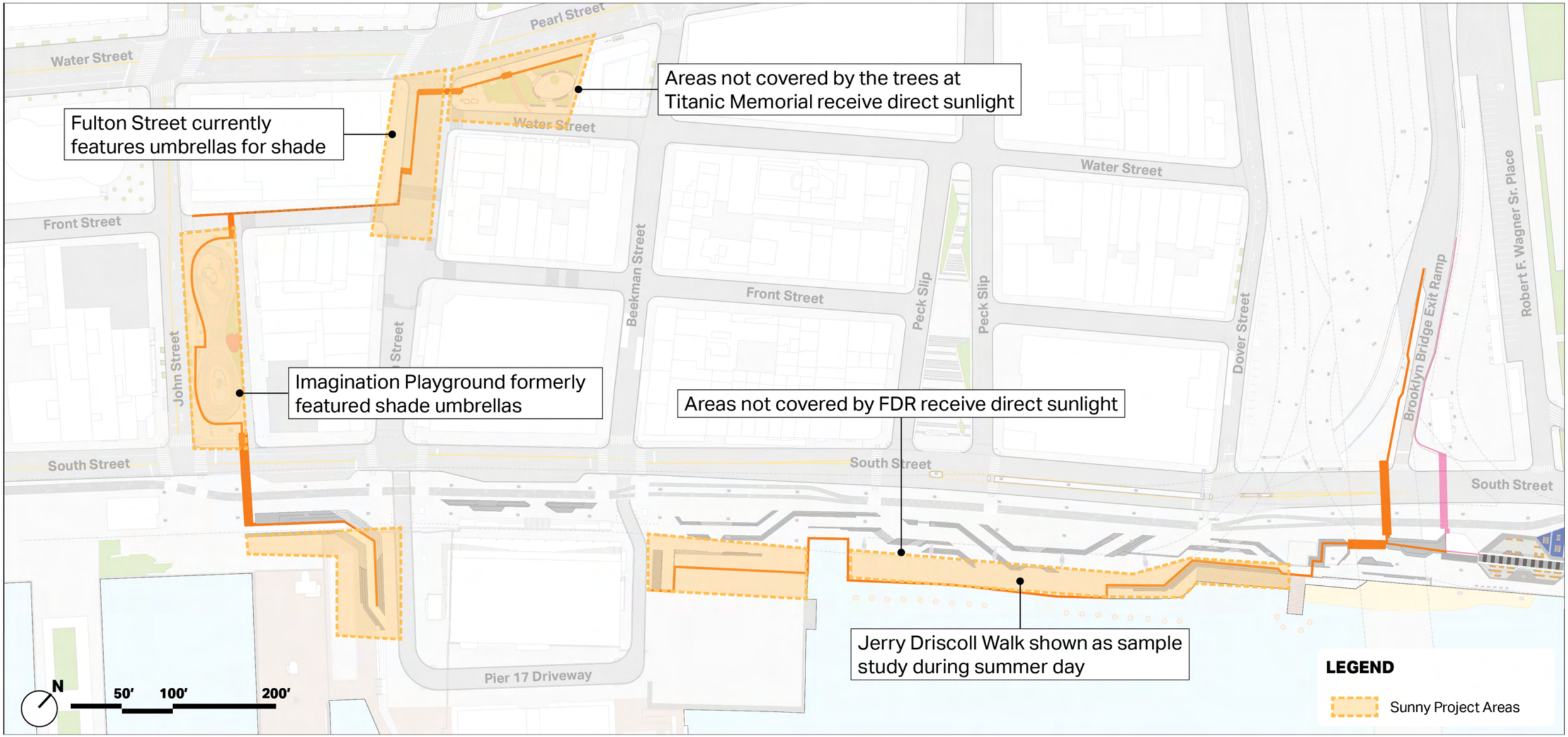
Brooklyn Bridge Esplanade (BBE) | Bridge Pier Circulation



Design Update | Esplanade Shade & Plantings



Sun & Shade Study | Where was shade requested?



Sun & Shade Study | At Jerry Driscoll Walk

SUMMER DAY SUNLIGHT EXPOSURE

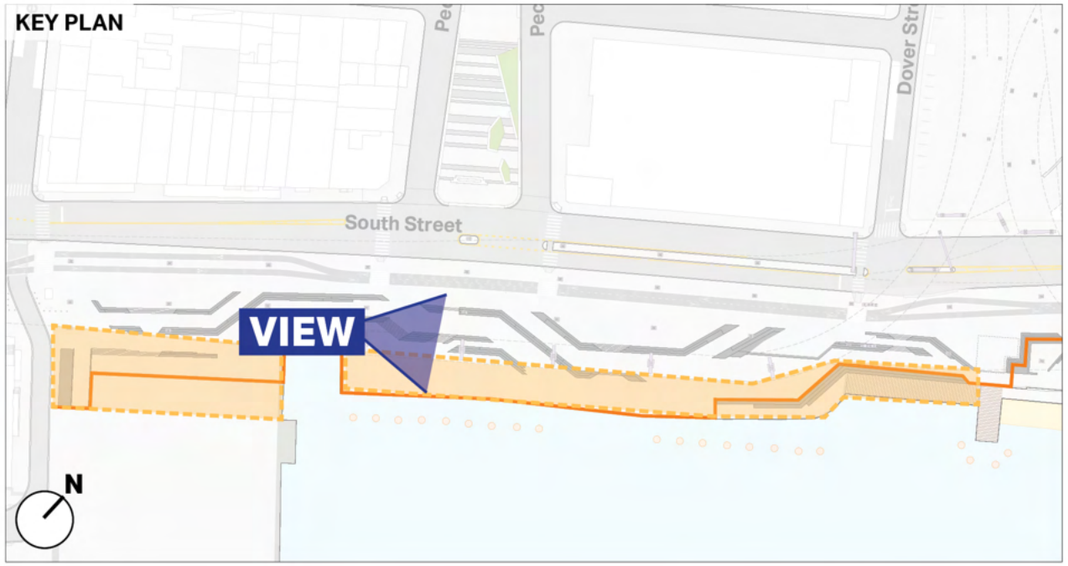
9 AM

12 PM

3 PM

6 PM

- **Jerry Driscoll Walk receives direct sunlight from 7AM-5PM during the summer**
- **Sunlight reaches under the FDR after 6PM**



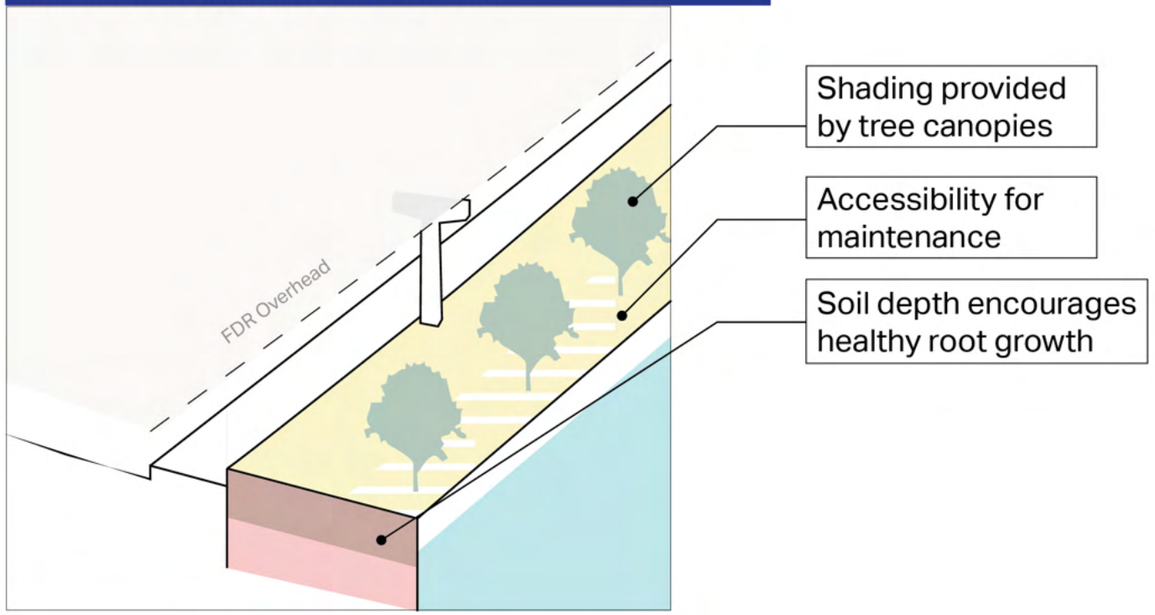
Potential Esplanade Plantings | Opportunities

POTENTIAL METHODS OF INCREASED SHADED AREA

Shade Trees

Shade Canopies

FUTURE JERRY DRISCOLL WALK



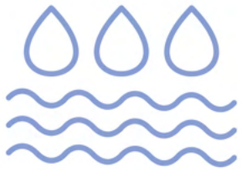
IMPORTANT TREE SELECTION CONSIDERATIONS

Able to tolerate full sun

Durable in the public realm

Good size fitted for waterfront

Provide dappled shade



Able to tolerate salt spray

Potential Esplanade Plantings | Tree Candidates

Gleditsia triacanthos var. inermis
Thornless Honeylocust
NT ST CP

Quercus bicolor
Swamp White Oak
NT SL ST CP

Juniperus virginiana
Eastern Red Cedar
NT SL CP

Pinus rigida
Pitch Pine
NT CP

SL From Park & Rec *Salt Tolerant Species List*

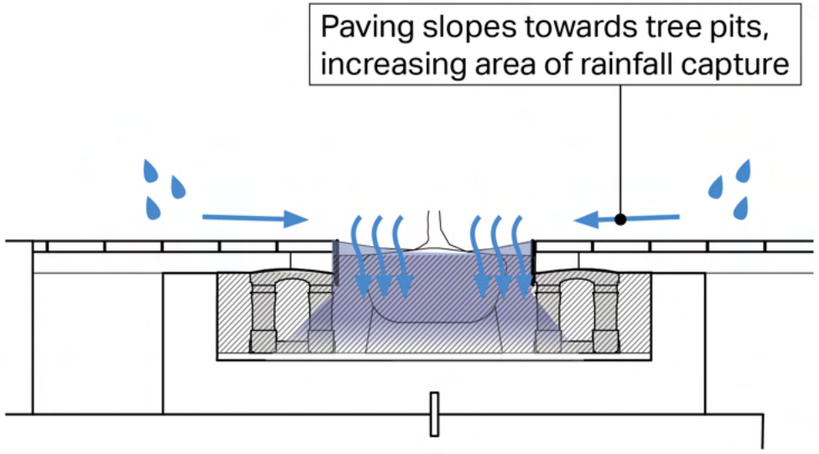
NT NY Native Trees

ST From NYC Approved Street Trees List

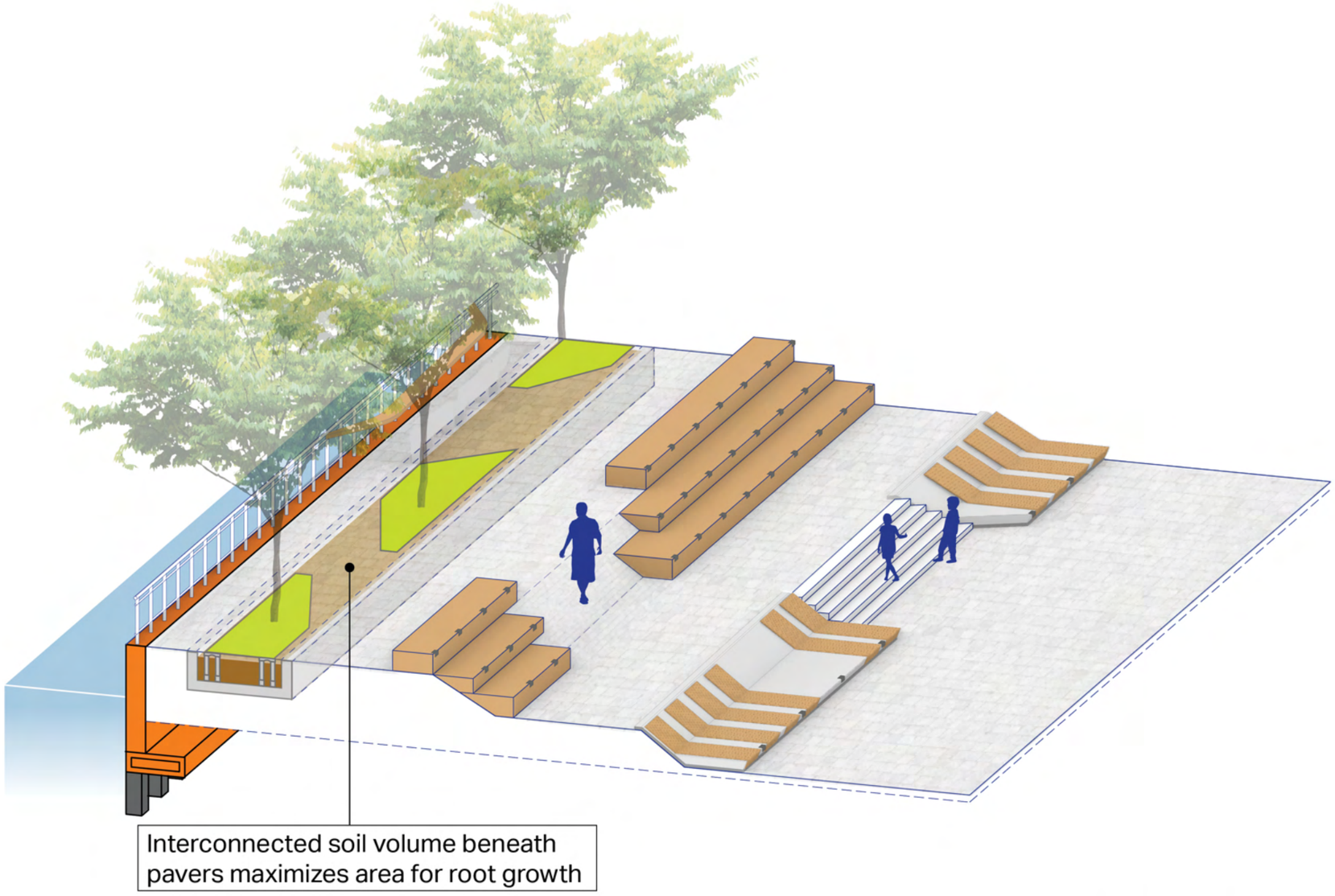
CP From Park & Rec Capital Projects Plant Schedule-Suggested List

Potential Esplanade Plantings | Tree Trench Design

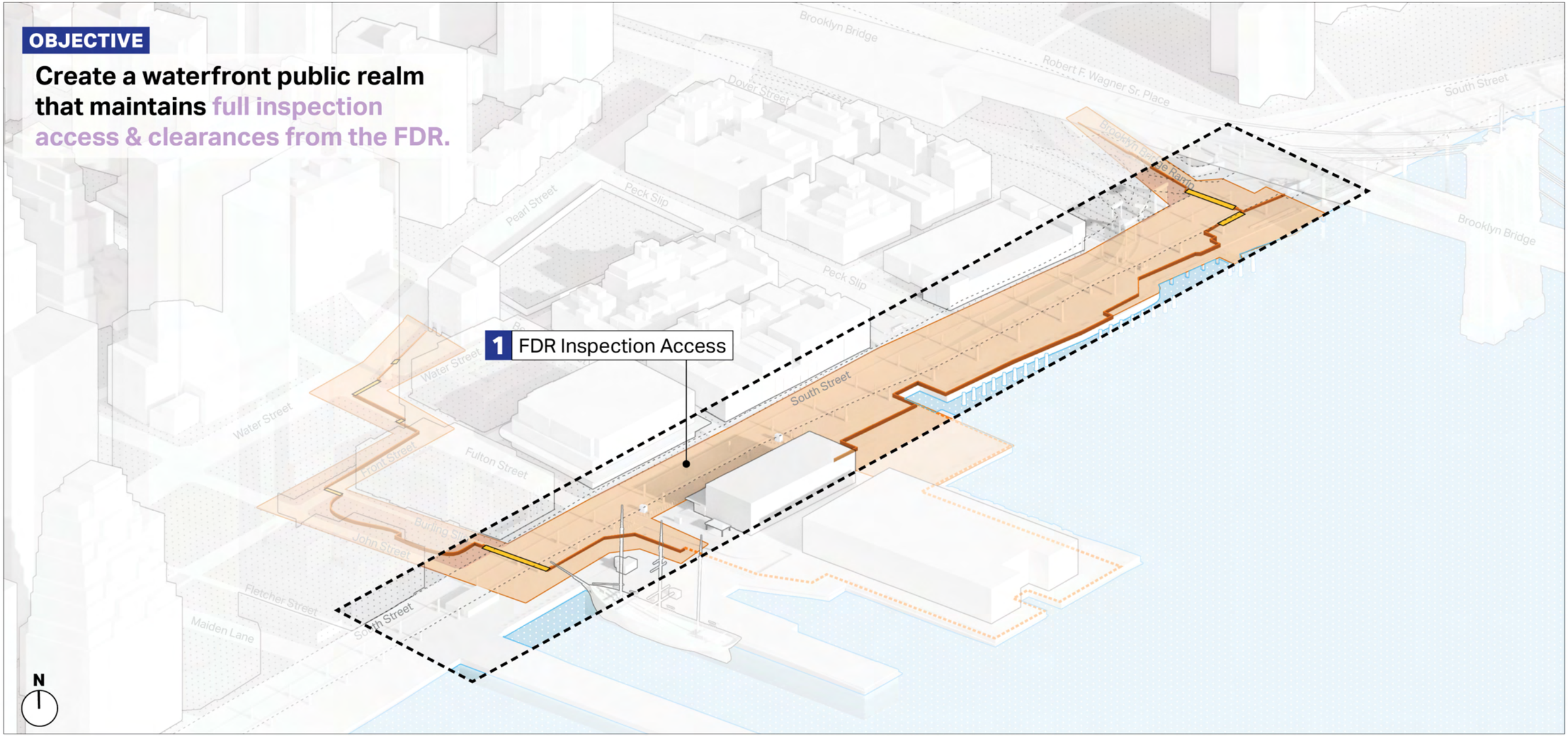
PITCHED PAVING W/ CONCRETE PLANTER



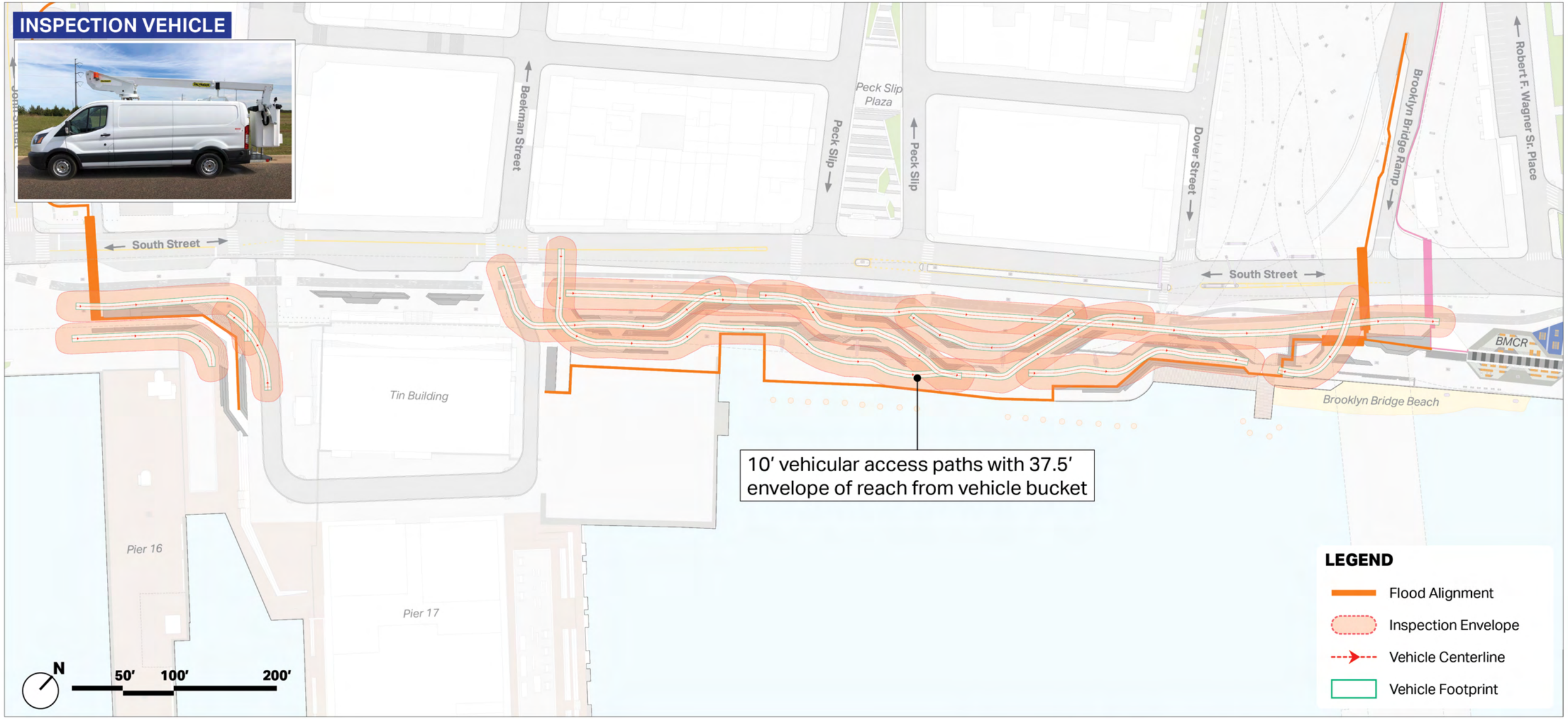
Sloped paving captures precipitation from the top of the esplanade and directs water through the tree pit opening.



Design Update | Maintenance & Operation Access



Maintenance & Operation Access | FDR Inspection Paths



Community Engagement Next Steps

Extensive community engagement prior to LPC/PDC Meetings

UP NEXT

Tentatively **MAY 14TH**	**Stakeholder Walkshop #2**
EARLY SUMMER	**Community Workshop #3** Design Updates & Public Realm Design Workshop
FALL	**Community Board 1 Meeting #3** **LPC/PDC Conceptual Submission** **LPC/PDC Conceptual Hearing**

Battery Public Events – Summer/Fall 2025 Engagement Strategy

May

Event 1: Tabling in the Battery

Multi-day tabling in the Battery

Goal:
- Gather feedback on how the public uses the Battery now and what it should look like in the future.
- Advertise upcoming Battery Workshop

Audience: General Public

June

Event 2: Technical Feasibility & Concept Designs (Presentation/Workshop)

Public workshop on technical constraints and concept designs for flood alignment

Goal:
- Educate public on the technical drivers for the preferred alignment through the Battery
- Present concept designs for flood alignment
- Gather feedback on the design options

Audience: General Public + CCLM

July

August

Event 3: Preferred Concept Design (Working Group Meeting)

Invite-only CCLM/Battery Working Group meeting

Goal:
- Preview preferred concept design and Open House materials with the CCLM and gather early feedback

Audience: CCLM

Sept

Public Open House

Audience: General Public

Educational roadshow focused on FiDi, citywide climate resilience, and implementation/funding challenges.