



Financial District and Seaport Climate Resilience Master Plan

New York Build | March 09, 2023

NYC / EDC

NYC

Mayor's Office of Climate &
Environmental Justice

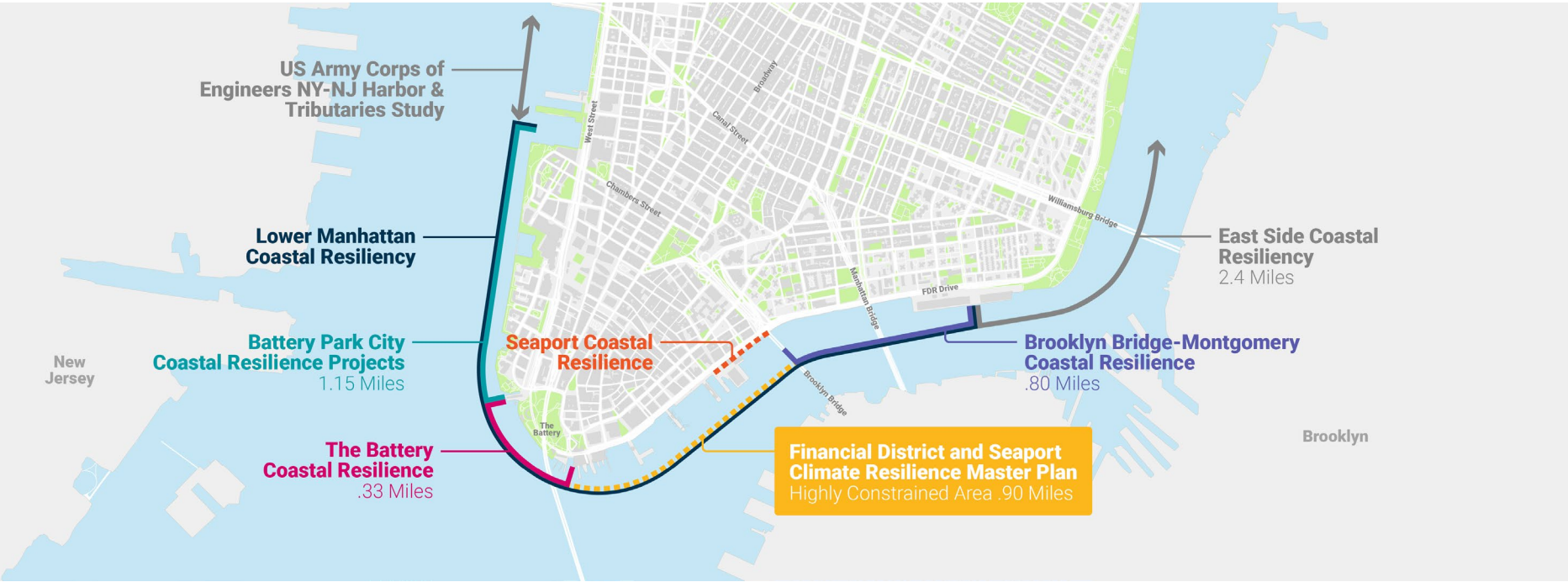
Agenda

1. Background & Process
2. Climate Risks
3. Master Plan Design
4. Implementation Pathways
5. Next Steps
6. Discussion

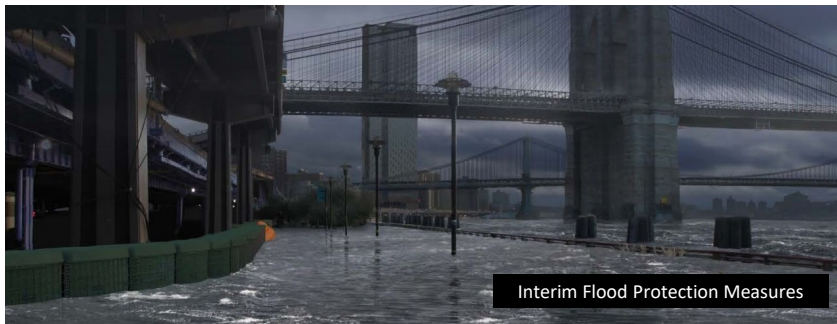
What is the Master Plan?

- NYCEDC and MOCEJ released the Master Plan in December 2021 as a blueprint for comprehensive flood defense infrastructure to protect Lower Manhattan from the urgent threat of climate change.
- It reimagines the shoreline from the Battery to the Brooklyn Bridge and creates a resilient waterfront to withstand severe coastal storms and rising sea levels.
- It is projected to cost \$5 to \$7 billion to build over 15 to 20 years.

In Lower Manhattan, the City, State, and Federal governments have committed over \$1.7B 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.



LMCR projects include a range of flood defense strategies that respond to different coastal conditions and meet localized and jurisdictional needs.



An aerial photograph of a dense urban area, likely a financial district, with numerous skyscrapers and buildings. The image is overlaid with a semi-transparent blue filter. The text is centered and reads:

The Financial District & Seaport Climate Resilience Master Plan is a shared City-community vision for a resilient 21st-century waterfront.

Who helped shape this Master Plan?

Project Team

- **NYCEDC** and **MOCEJ** led the project team to develop the Master Plan.
- Other City agencies, including **DOT, DPR, DCP, and DEP**, advised and supported.
- The City assembled a team of technical experts, led by the Dutch engineering firm **Arcadis**.

Regulators

- The City regularly met with the **Aquatic Resources Advisory Committee (ARAC)**, a group of representatives from state and federal regulatory agencies, who advised on permitting pathways for any work in the East River.

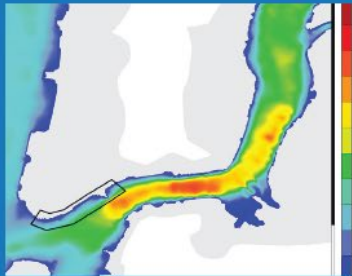
CCLM & Public

- The project team met with the **Climate Coalition of Lower Manhattan (CCLM)**, a group of key local and citywide organizations and resilience advocates, at every step of the way.
- The project team hosted **four public meetings** at the end of each phase of work to share progress and solicit feedback.

Master Plan Process

Phase I

Assess existing conditions, and begin key systems analyses (flood defense, drainage, maritime, public and emergency access, ecology, and public programming)



Screenshot from a hydrodynamic model, used to understand how water currently moves in the East River

Phase II

Identify constraints and opportunities across systems and develop the broadest range of potential resilience solutions



Early development of project options, including on land and in-water flood defense approaches

Phase III

Narrow the resilience solutions based on technical feasibility and community and regulatory feedback



An early rendering of what a resilience solution could look like, standing atop the upper level

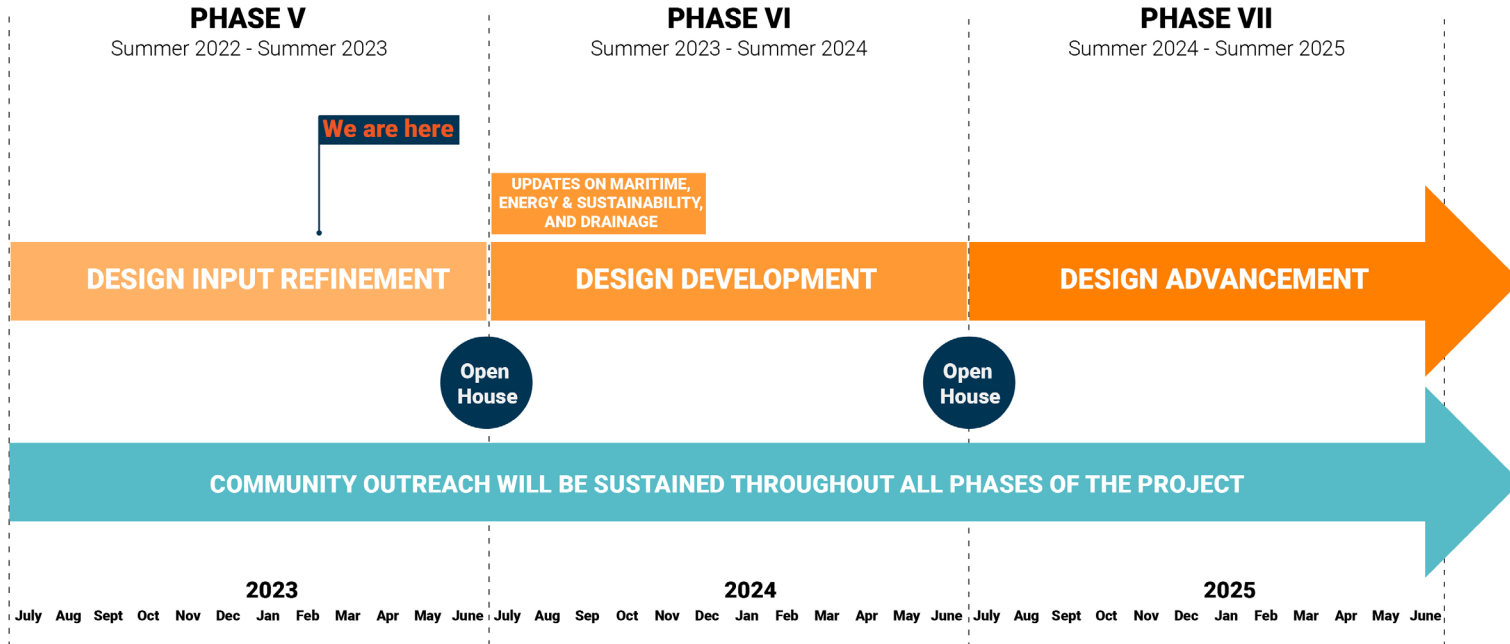
Phase IV

Develop the conceptual design and implementation roadmap



An illustration of what a resilient waterfront could look like in the future

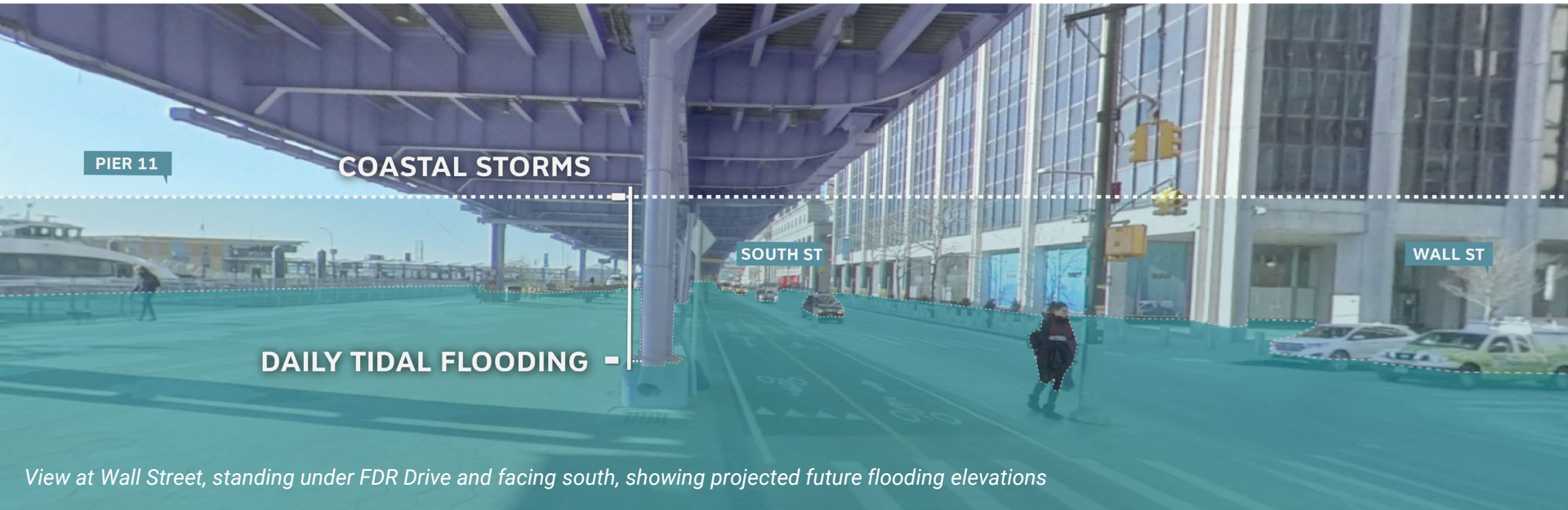
We are currently working to spread awareness of the project. The next phases of work will be focused on **advancing the design** of the master plan with **your feedback every step of the way**.



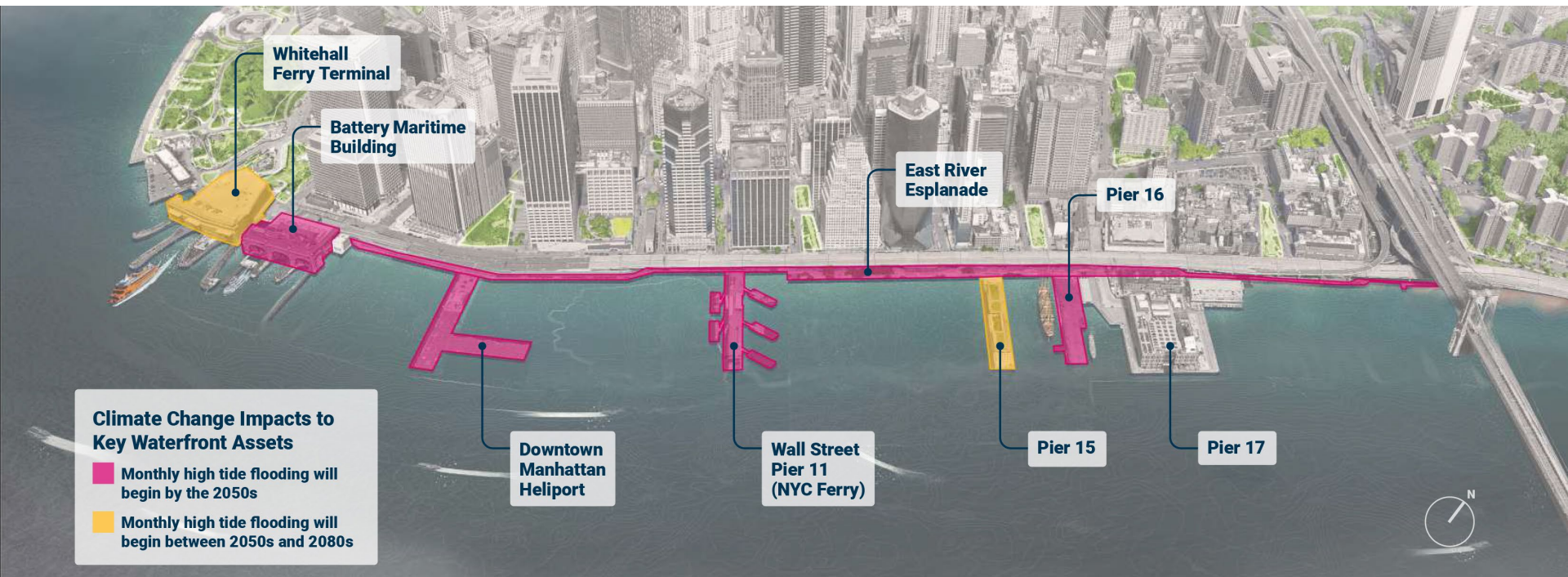
Lower Manhattan is both a gateway and a destination.

Our plan is for the hundreds of thousands of commuters, workers, residents, students, and visitors that rely on this place and its functions that serve our city.

We need to protect the Financial District and Seaport from two types of climate risks – daily tidal flooding and coastal storms.



Rising tides will begin compromising the operations of key waterfront assets by the 2050s.



What is Seaport Coastal Resilience?

Project to protect a portion of the Historic South Street Seaport from climate impacts and deliver key community amenities.

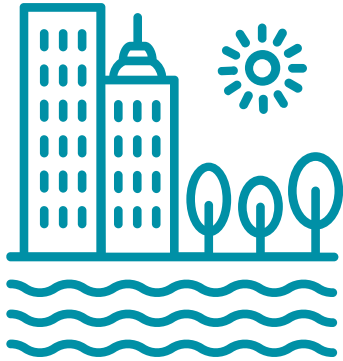
- The Mayor de Blasio announced **\$170M commitment** to advance a resilient waterfront project in the Seaport
- This stand-alone project will raise the water's edge 3-5 feet to protect a portion of the Seaport from sea level rise, rain events, current day 50-year storms, and **prevent monthly tidal inundation that would begin to occur in 2040s.**
- City is **applying for federal funds** through FEMA's Building Resilient Infrastructure and Communities (BRIC) grant to supplement City capital.
- Goal to **maximize opportunities** for green infrastructure, drainage improvements, ecological enhancements, and waterfront access.
- 5 years to project completion



The FiDi-Seaport Climate Resilience Plan will transform this waterfront.

It will protect us from climate change while preserving what people love most and creating the waterfront we want for the future.

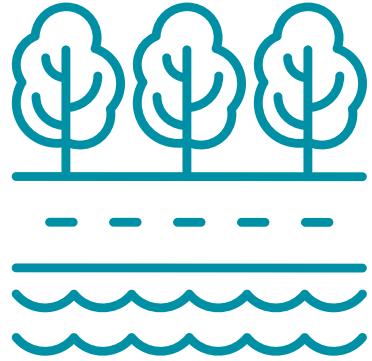
What are the project goals?



**Protect Lower
Manhattan from daily
tidal flooding and
coastal storms**



**Integrate our climate
resilience
infrastructure into
the city**



**Enhance the public
waterfront
experience**

21st-Century Financial District and Seaport Waterfront

Grounded in extensive community conversations, collaboration, and regulatory feedback, our plan lays out a shared vision that is feasible, implementable and provides a dynamic urban and waterfront experience.



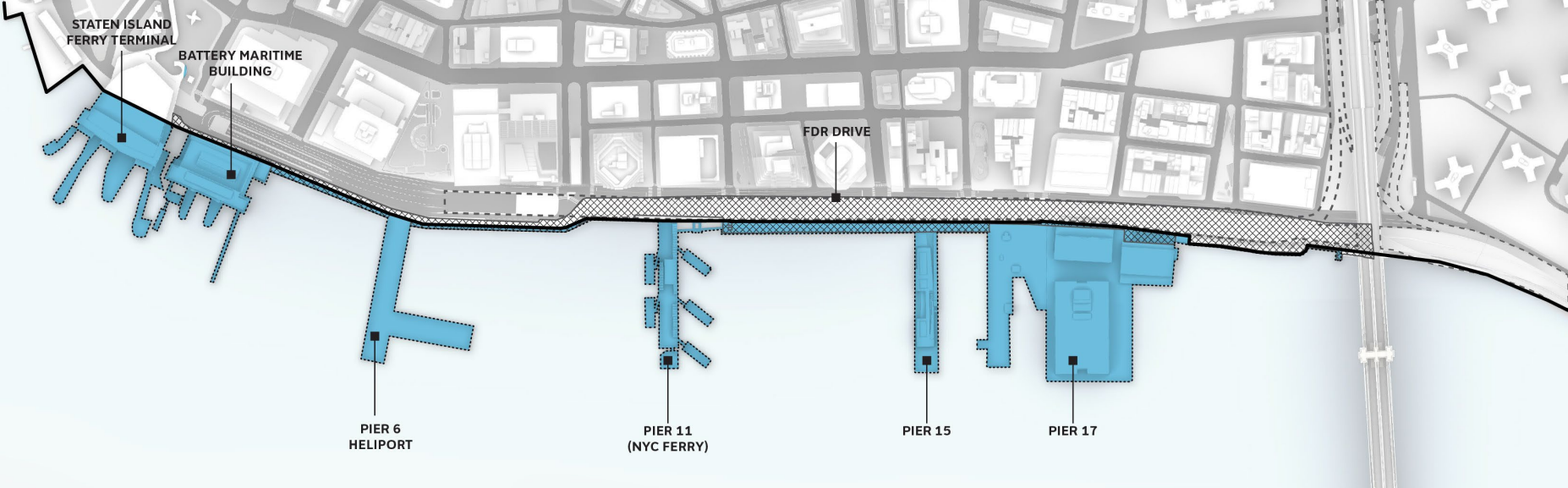
What is a Master Plan?

- Shared City-community framework for long-term decision-making
- Identifies core infrastructure and sets aside flexible space for future programming
- Intentionally flexible, not set-in-stone

Highlights of Our Design:

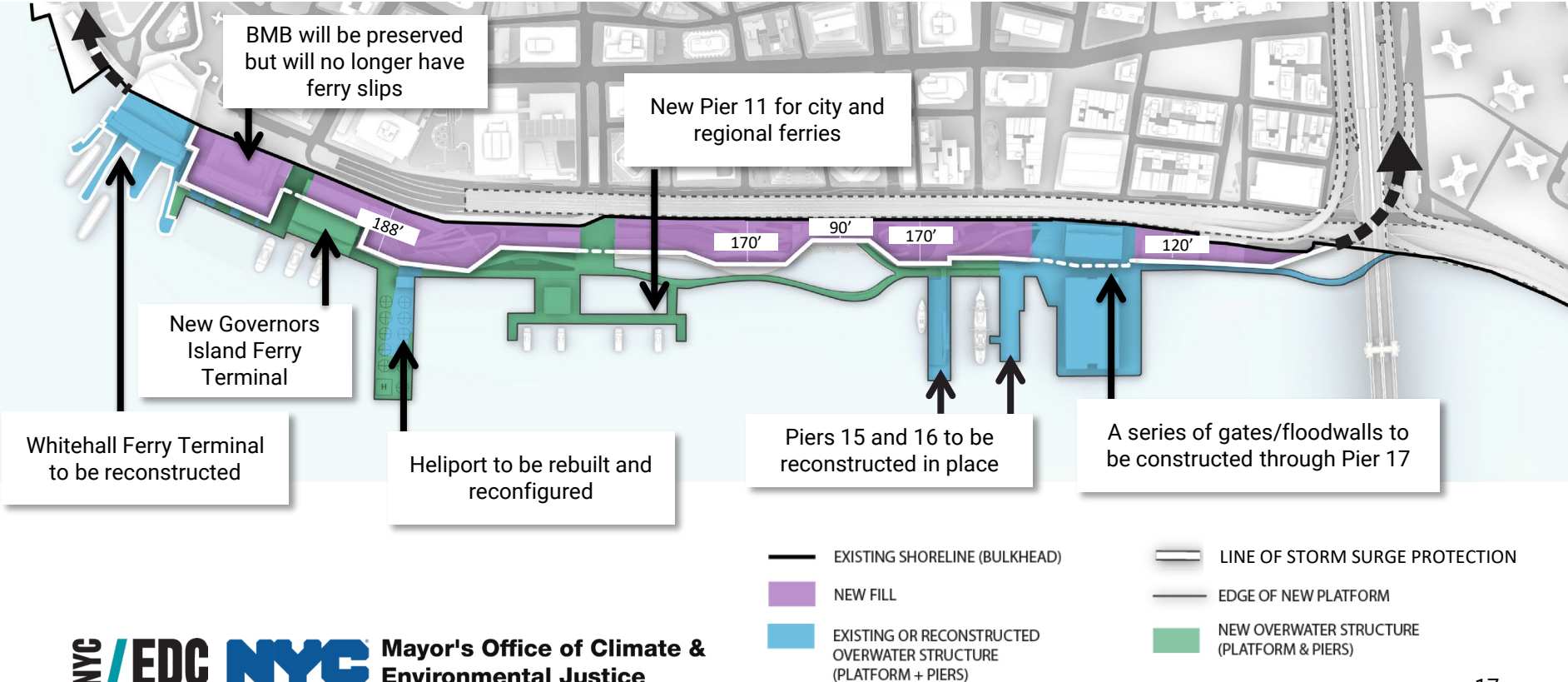
- Two levels of flood protection: a lower level for daily tidal flooding and an upper level for coastal storms
- Extends into the water up to a full city block at some locations (up to 200 feet) and down to a half-block (90 feet)
- Only includes 1-2 story buildings—no residential or office
- Works with or without the FDR Drive viaduct

Our waterfront today includes important facilities that keep the city running. We will need to move and reconstruct some facilities to be resilient in the long-term.



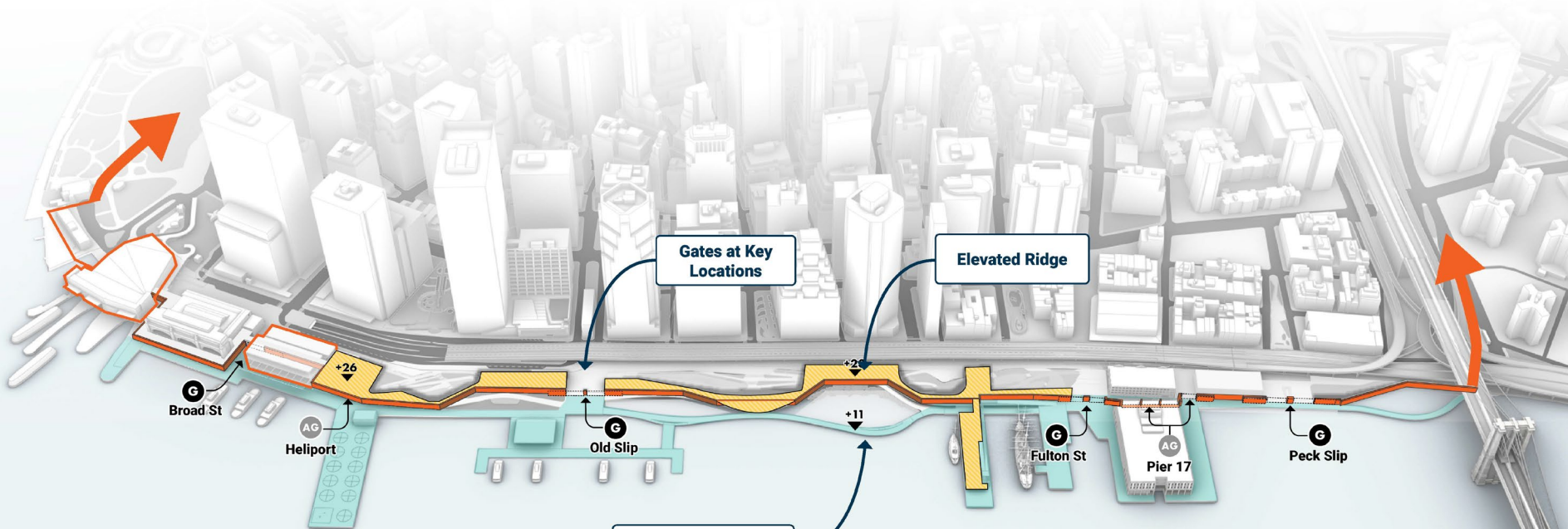
- EXISTING SHORELINE (BULKHEAD)
- - - EDGE OF EXISTING PLATFORM
- OVERWATER STRUCTURE (PLATFORM + PIERS)
- ▨ WATERFRONT ESPLANADE

This plan proposes to extend the Manhattan shoreline and reconstruct maritime facilities over the next 15-20 years.



**Our project will protect Lower
Manhattan from daily tidal
flooding and coastal storms.**

Flood Defense



 Line of Flood Protection

 Integrated Flood Protection

 Potential Tie-Back
(For Future Study)

 Gateway Entrances

 Additional Gates

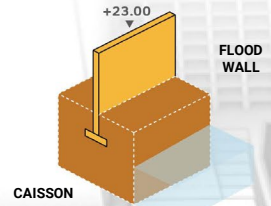
 Raised Landscape at
Higher Design Flood
Elevation +23' - +26'
(Coastal Storms)

 Esplanade at
Lower Design
Flood Elevation +11'
(Tidal Flooding)

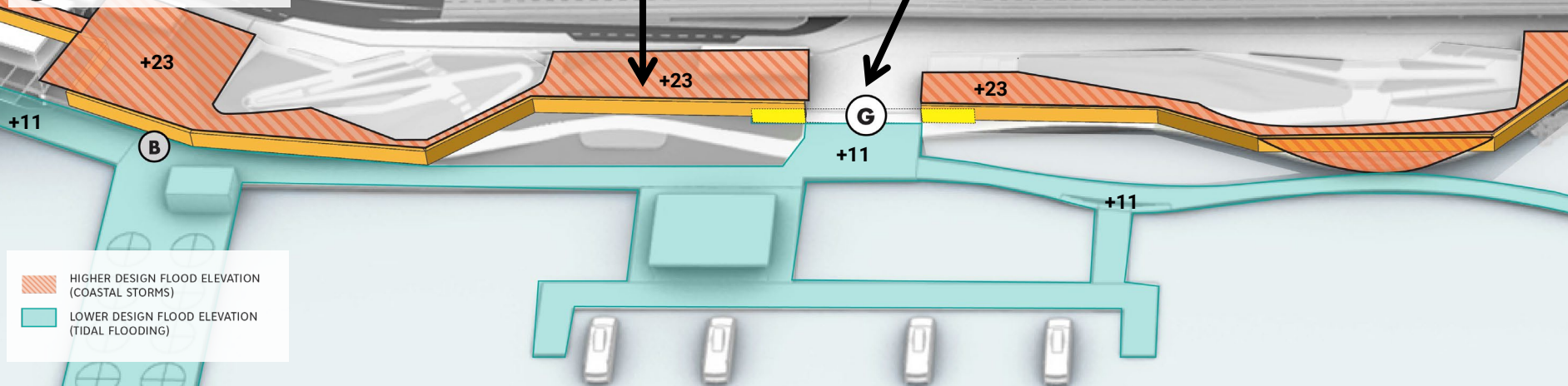
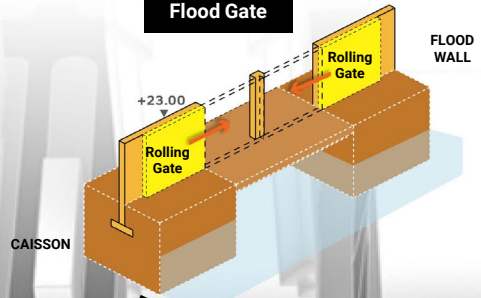
Flood Defense



-  PASSIVE FLOOD WALL (PRIMARY)
-  FLOOD GATES
-  FLOOD GATES (FLIP-UP)
-  CAISSON
-  INTEGRATED FLOOD PROTECTION
-  POTENTIAL TIE-BACK (FOR FUTURE STUDY)
-  FLOOD GATE
-  FLIP-UP GATE
-  BUILDING GATE

Passive Flood Protection (Primary)

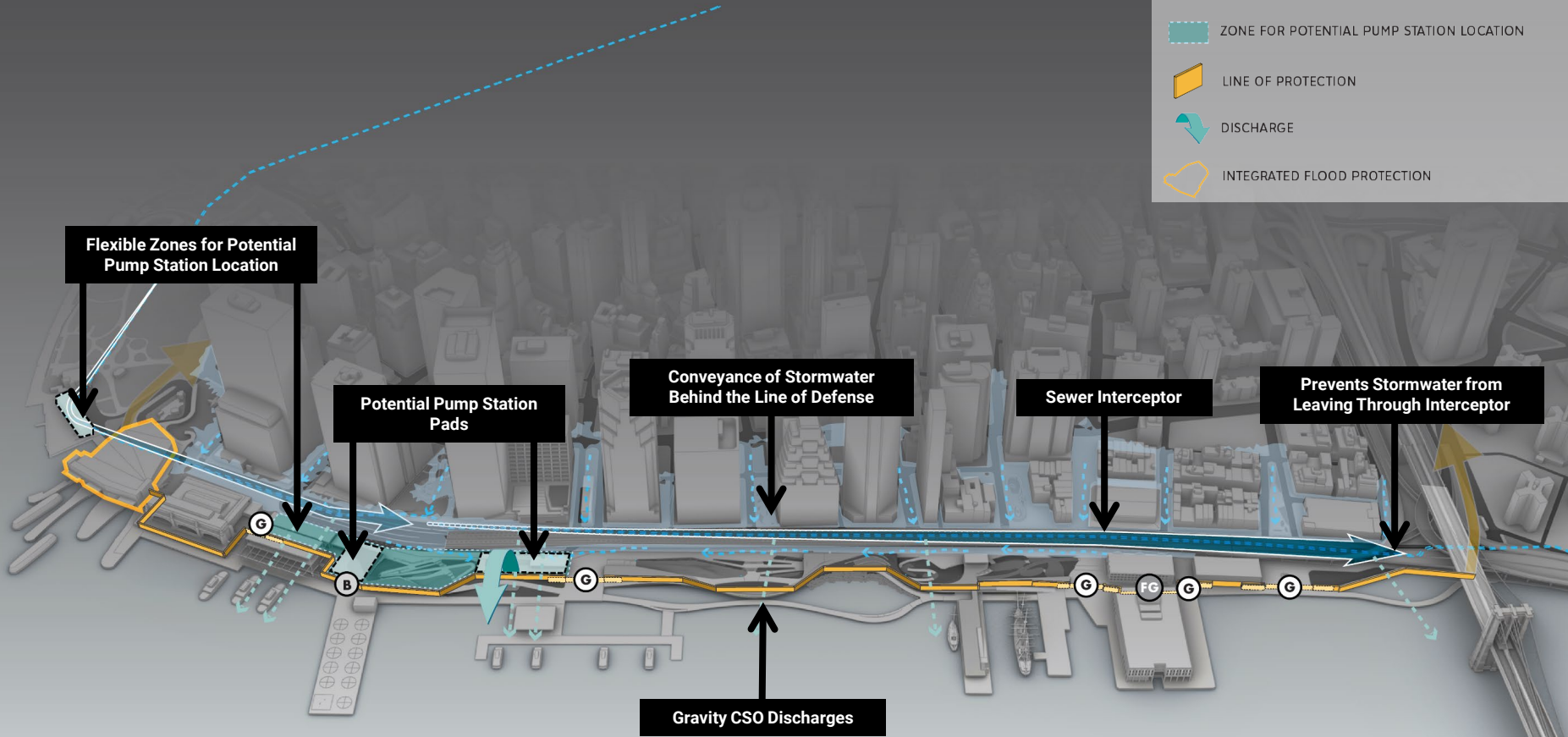
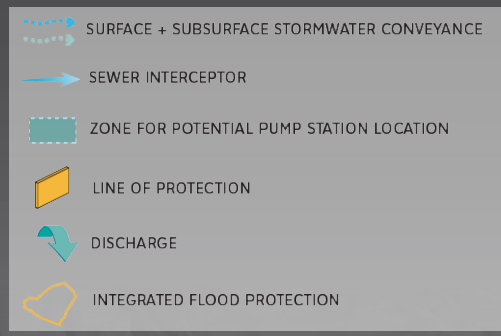


Flood Gate

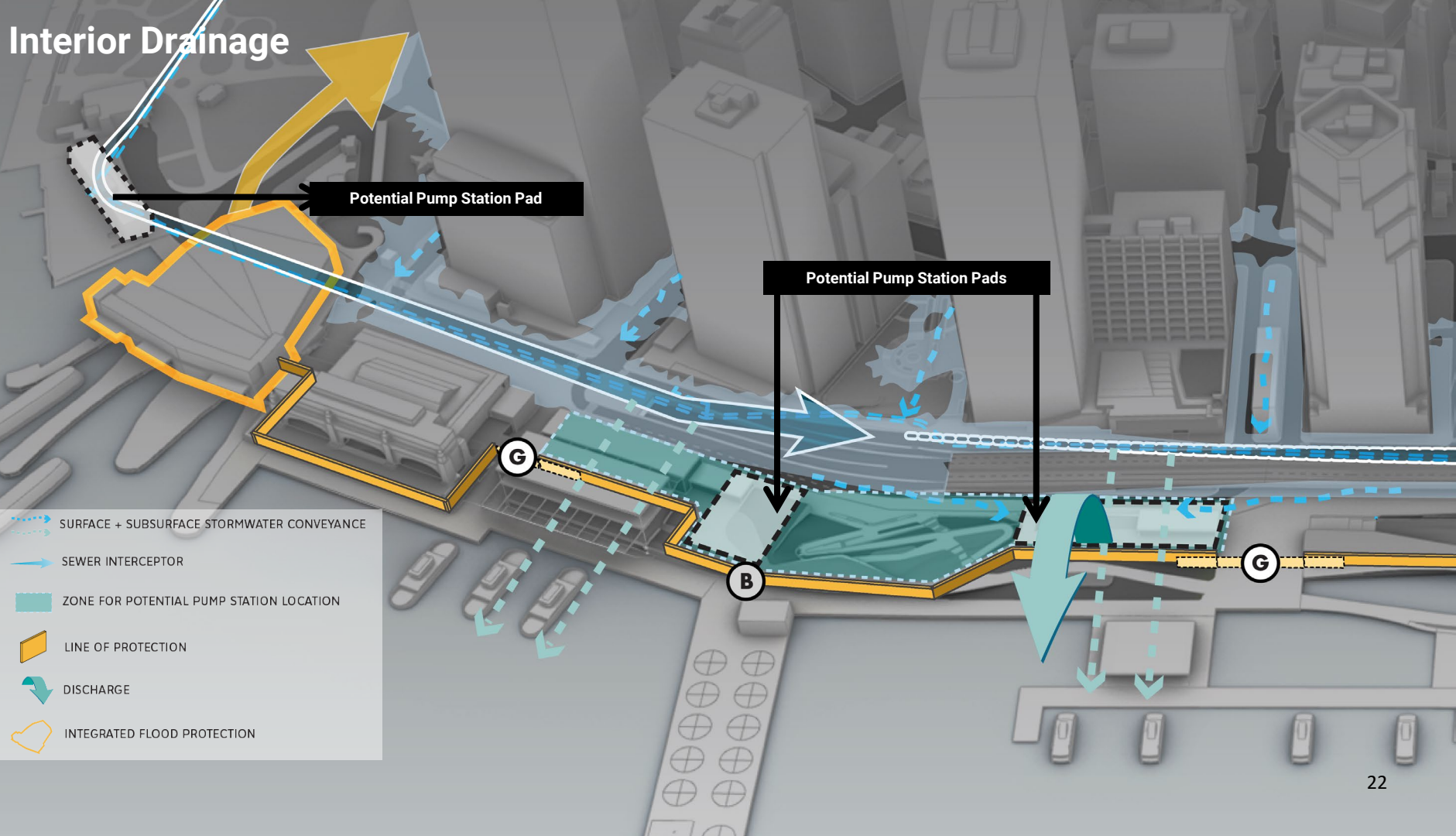


-  HIGHER DESIGN FLOOD ELEVATION (COASTAL STORMS)
-  LOWER DESIGN FLOOD ELEVATION (TIDAL FLOODING)

Interior Drainage



Interior Drainage



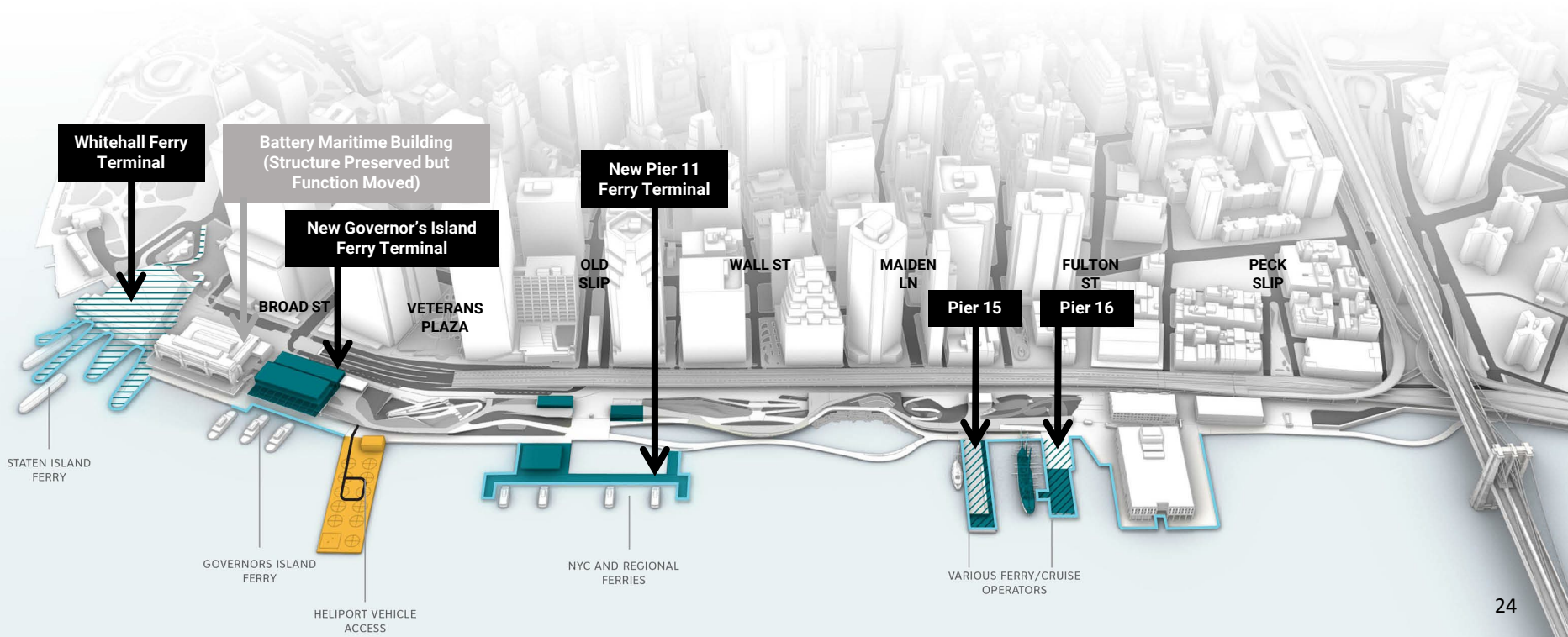
- SURFACE + SUBSURFACE STORMWATER CONVEYANCE
- SEWER INTERCEPTOR
- ZONE FOR POTENTIAL PUMP STATION LOCATION
- LINE OF PROTECTION
- DISCHARGE
- INTEGRATED FLOOD PROTECTION

**Our project will integrate
climate resilience
infrastructure into the city.**

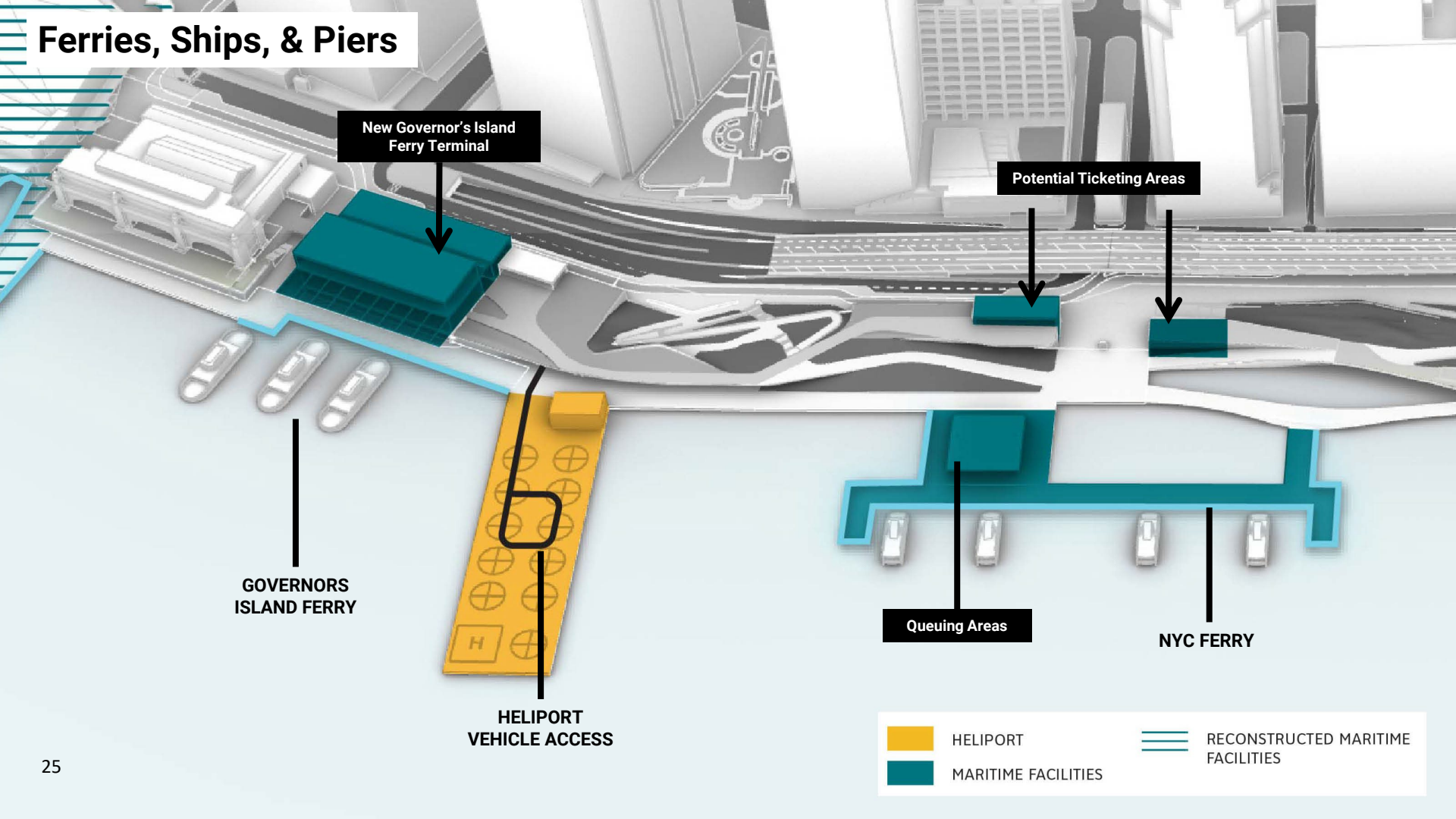
Ferries, Ships, & Piers

HELIPORT
MARITIME FACILITIES

RECONSTRUCTED MARITIME FACILITIES











Ferries, Ships, & Piers

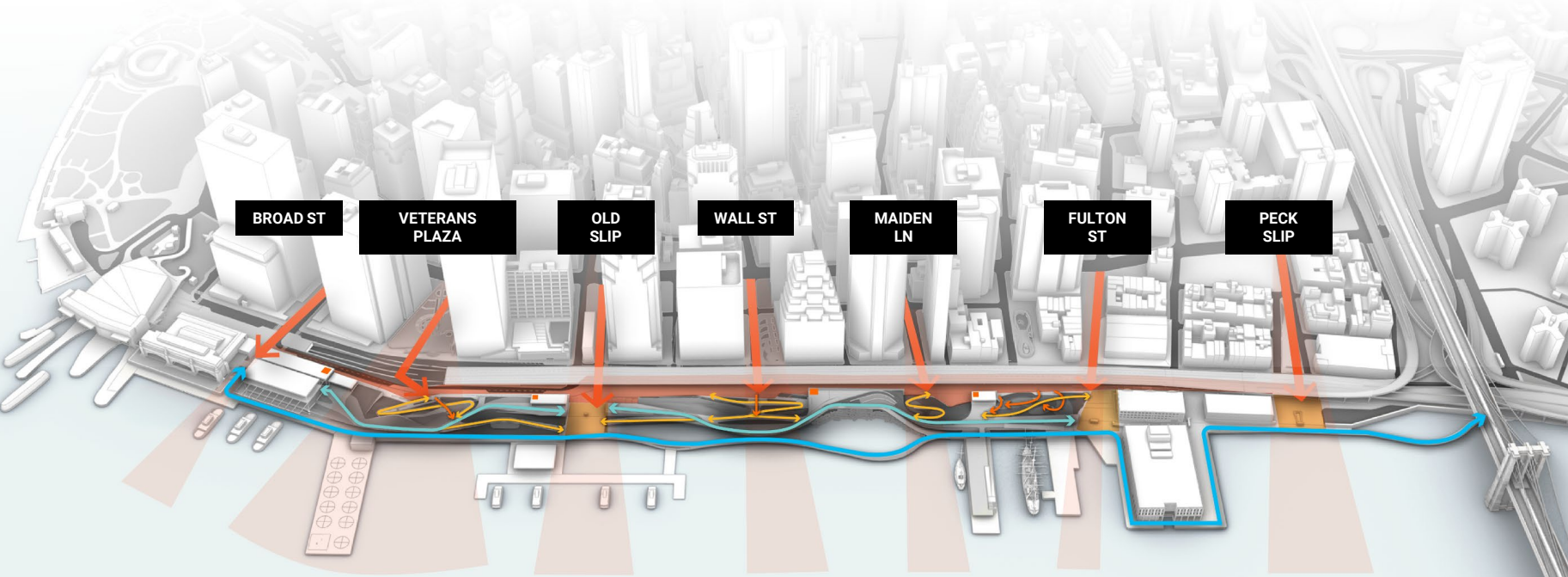


Access & Circulation

Pedestrians

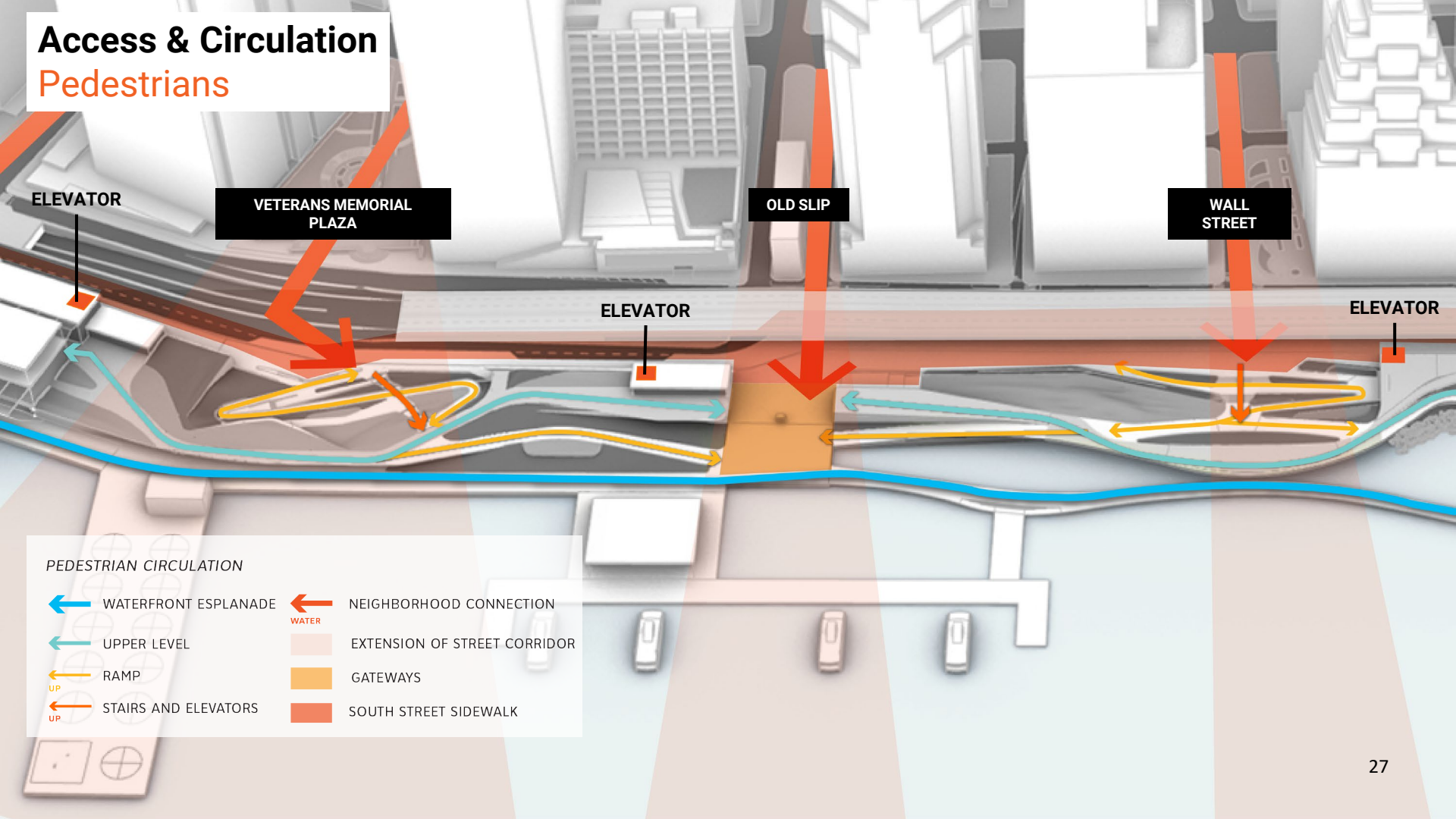
PEDESTRIAN CIRCULATION

-  WATERFRONT ESPLANADE
-  UPPER LEVEL
-  RAMP
-  STAIRS AND ELEVATORS
-  NEIGHBORHOOD CONNECTION
-  EXTENSION OF STREET CORRIDOR
-  GATEWAYS
-  SOUTH STREET SIDEWALK



Access & Circulation

Pedestrians



ELEVATOR

VETERANS MEMORIAL PLAZA









OLD SLIP

WALL STREET

ELEVATOR


ELEVATOR

PEDESTRIAN CIRCULATION

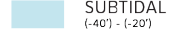
-  WATERFRONT ESPLANADE
-  UPPER LEVEL
-  RAMP
-  STAIRS AND ELEVATORS
-  NEIGHBORHOOD CONNECTION
-  EXTENSION OF STREET CORRIDOR
-  GATEWAYS
-  SOUTH STREET SIDEWALK

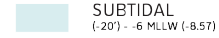
Ecology

Design Strategies to Protect & Preserve

 INTERTIDAL (PRESERVED)
MLLW (-2.77') - MHHW (2.28)

 SHALLOW SUBTIDAL
-6 MLLW (-8.57') - MLLW (-2.77')

 SUBTIDAL
(-40') - (-20')

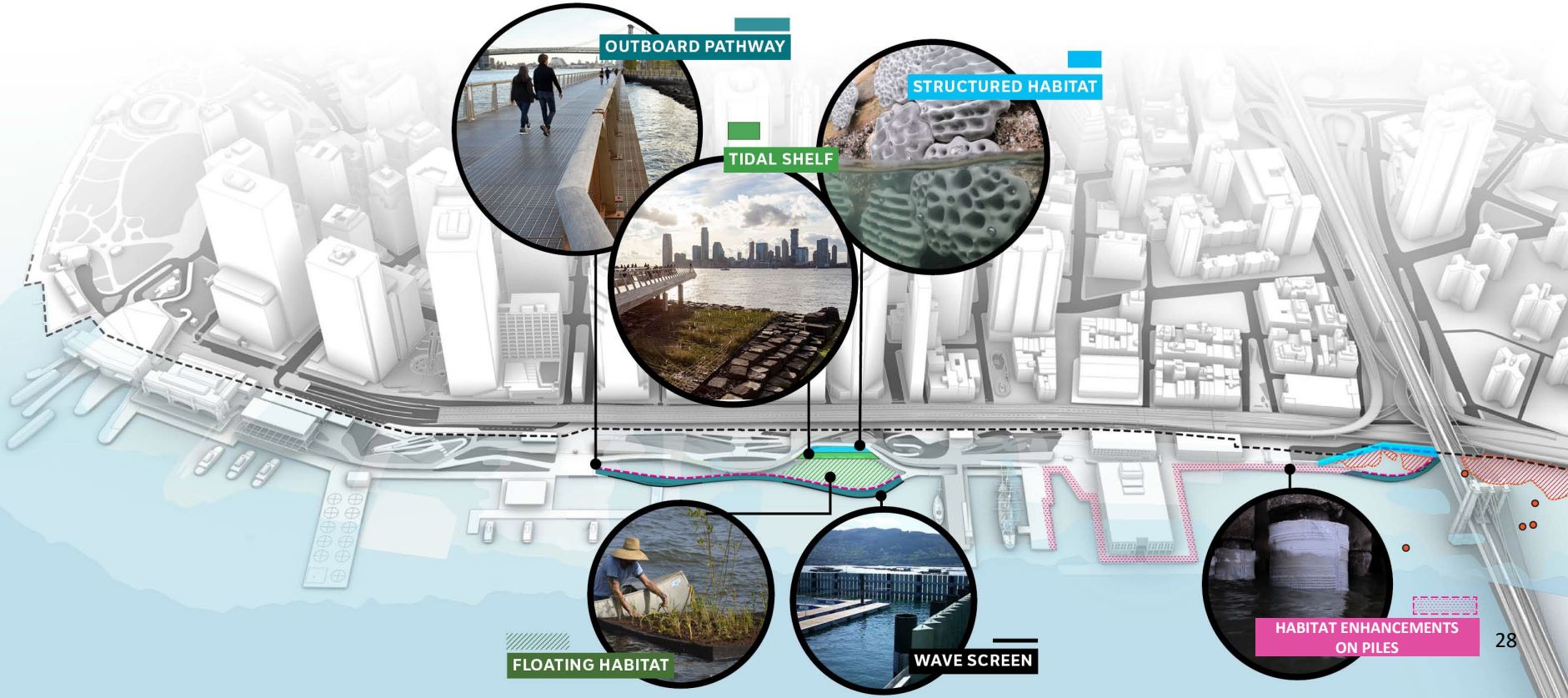
 SUBTIDAL
(-20') - -6 MLLW (-8.57')

 SUBTIDAL
< (-40')

 EXISTING BATHYMETRY

 S. VULGARIS WORM FOUND

 EXISTING BULKHEAD



OUTBOARD PATHWAY

STRUCTURED HABITAT

TIDAL SHELF

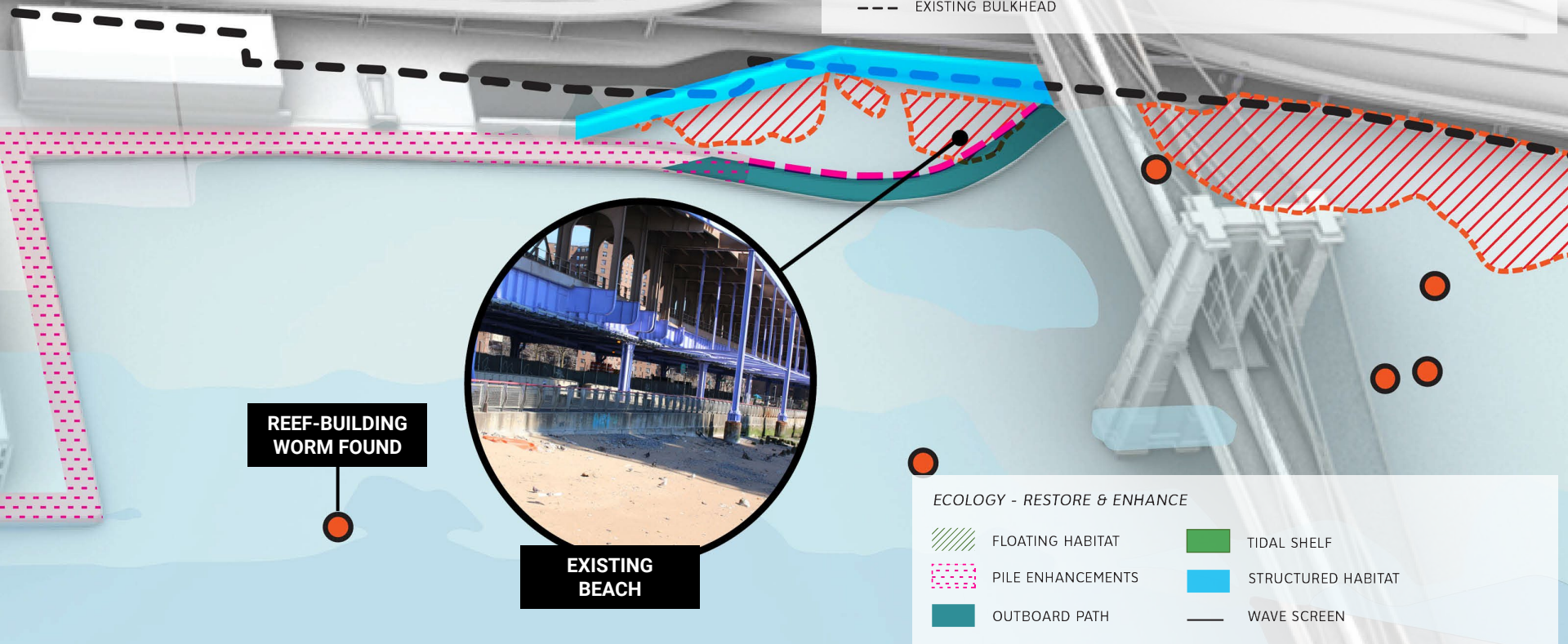
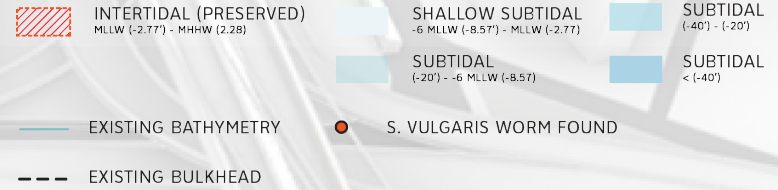
FLOATING HABITAT

WAVE SCREEN

HABITAT ENHANCEMENTS
ON PILES

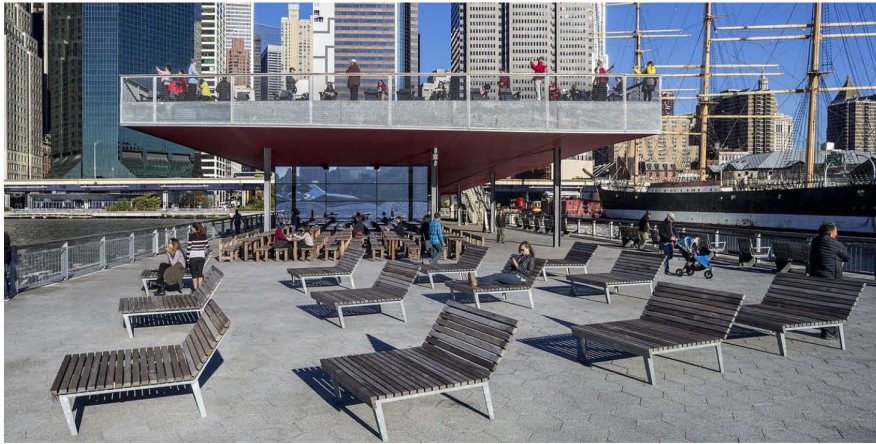
Ecology

Design Strategies to Restore & Enhance



**Our project will enhance the
public waterfront experience.**

We will preserve or restore what people love about the waterfront today.



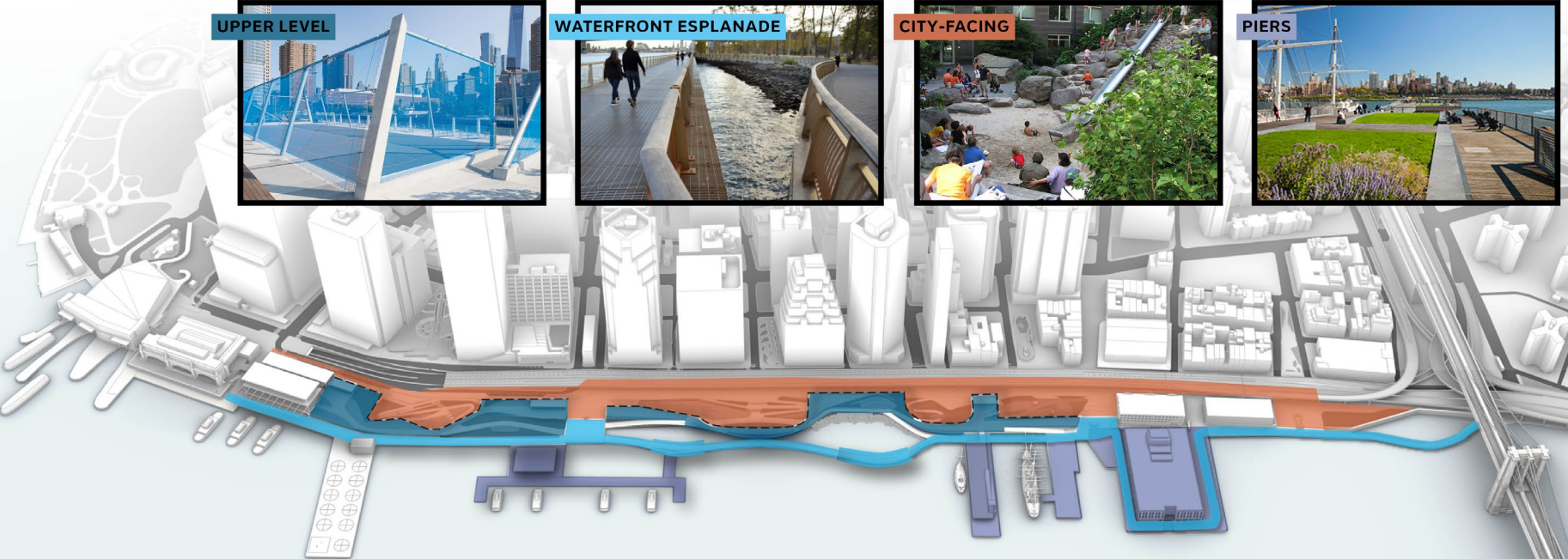
We will create multi-level waterfront experiences with expansive views of the East River.

UPPER LEVEL

PIERS

THE WATERFRONT ESPLANADE

CITY FACING SPACES



The future waterfront will include new types of spaces for a vibrant and diverse experience.

- SOUTH STREET
- THE SLOPES
- THE ESPLANADE
- PIERS
- THE RIDGE
- GATEWAYS



THE ESPLANADE



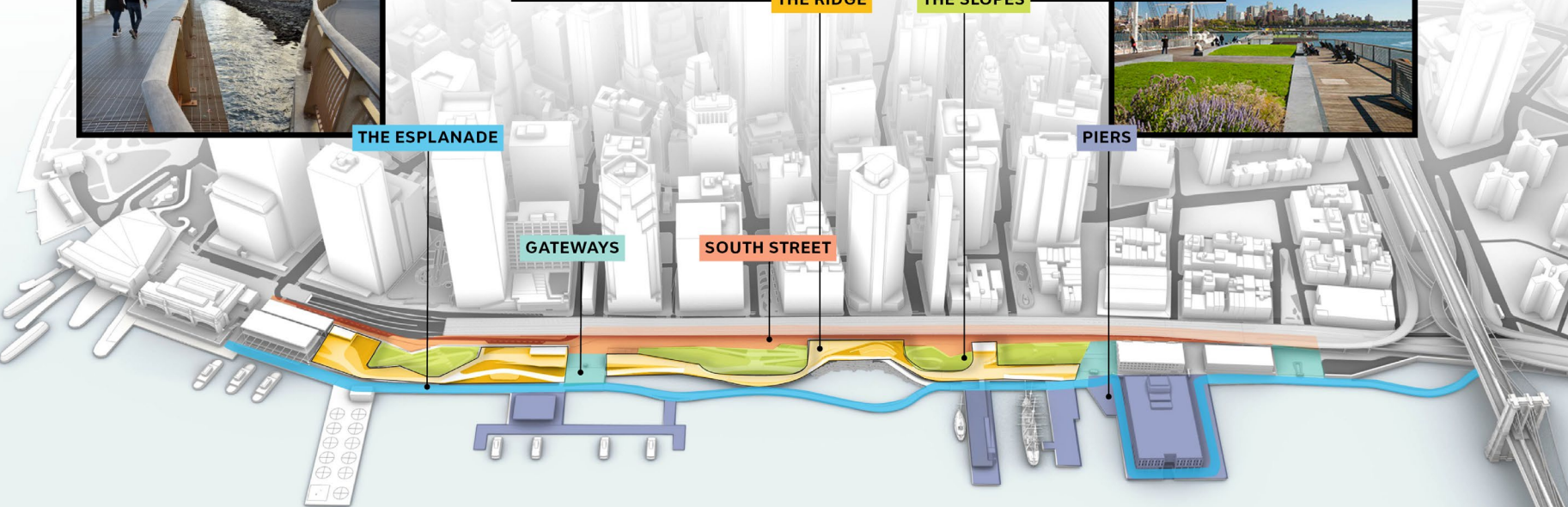
THE RIDGE



THE SLOPES



PIERS



**Our project will create a new
kind of waterfront experience.**

View from Fulton Street (Facing East)

Flood gates preserve views of waterfront & historic ships on sunny days

Play spaces & gardens face city inland of the flood wall



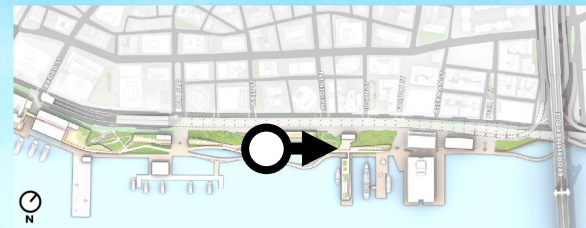
Upper Walkway (Facing North)

Universally-accessible connections to the waterfront

New resilient ferry terminals



Maiden Lane Cove (Facing North)



Providing community-serving uses

Preserving & enhancing existing destinations

Preserving & enhancing East River ecology

Creating new multi-level waterfront open spaces

Implementing the Master Plan

This master plan will cost approximately \$5-7 billion to implement; a mix of local, state, and federal funding sources will be needed.

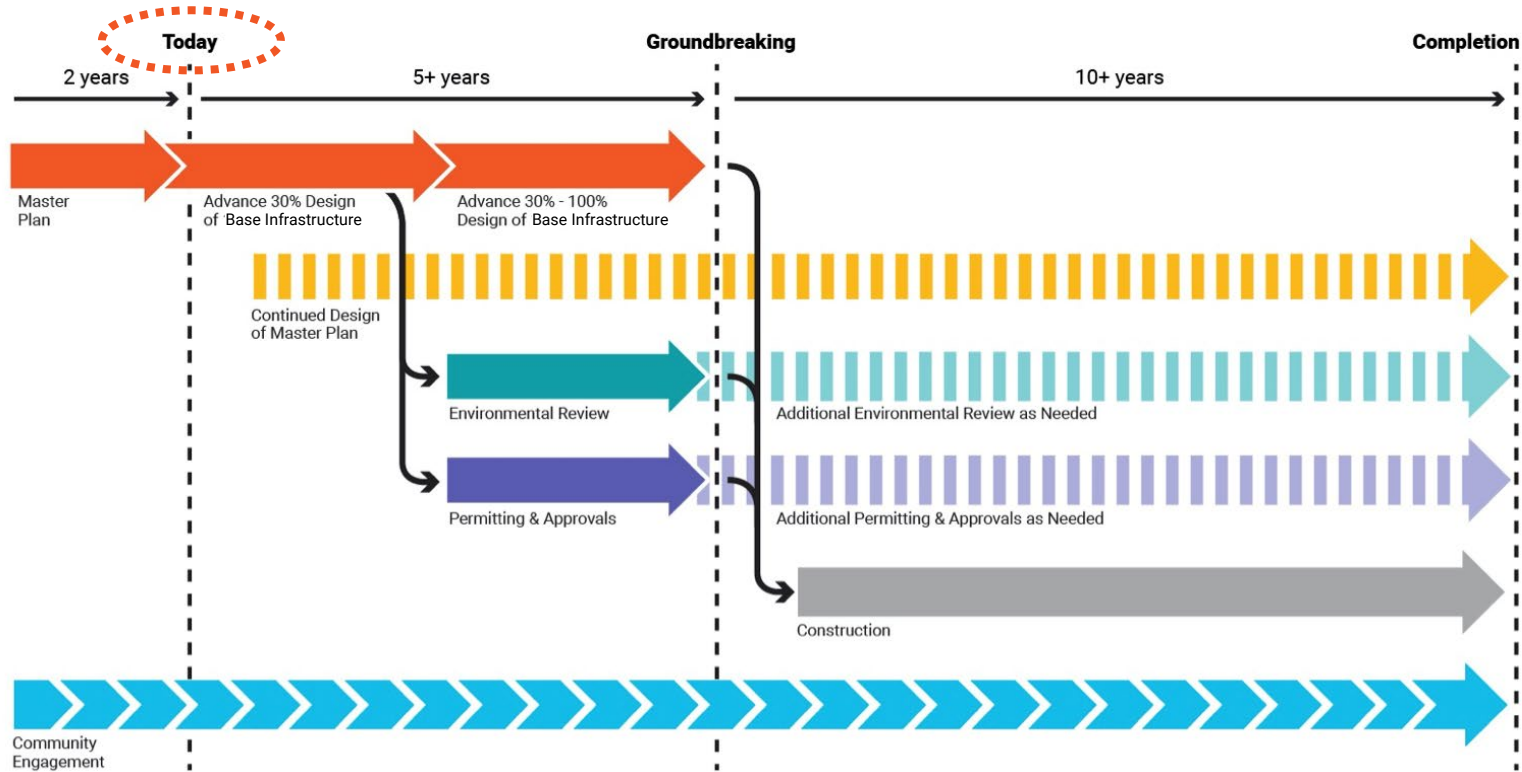
Existing Funding Sources Considered

- US Army Corps of Engineers (USACE) Civil Works Program (*Capital*)
- Federal Emergency Management Agency (FEMA) Programs (*Capital*)
- Capital Investment Grant (*Capital*)
- Infrastructure for Rebuilding America and Rebuilding American Infrastructure with Sustainability and Equity Grants (*Capital*)

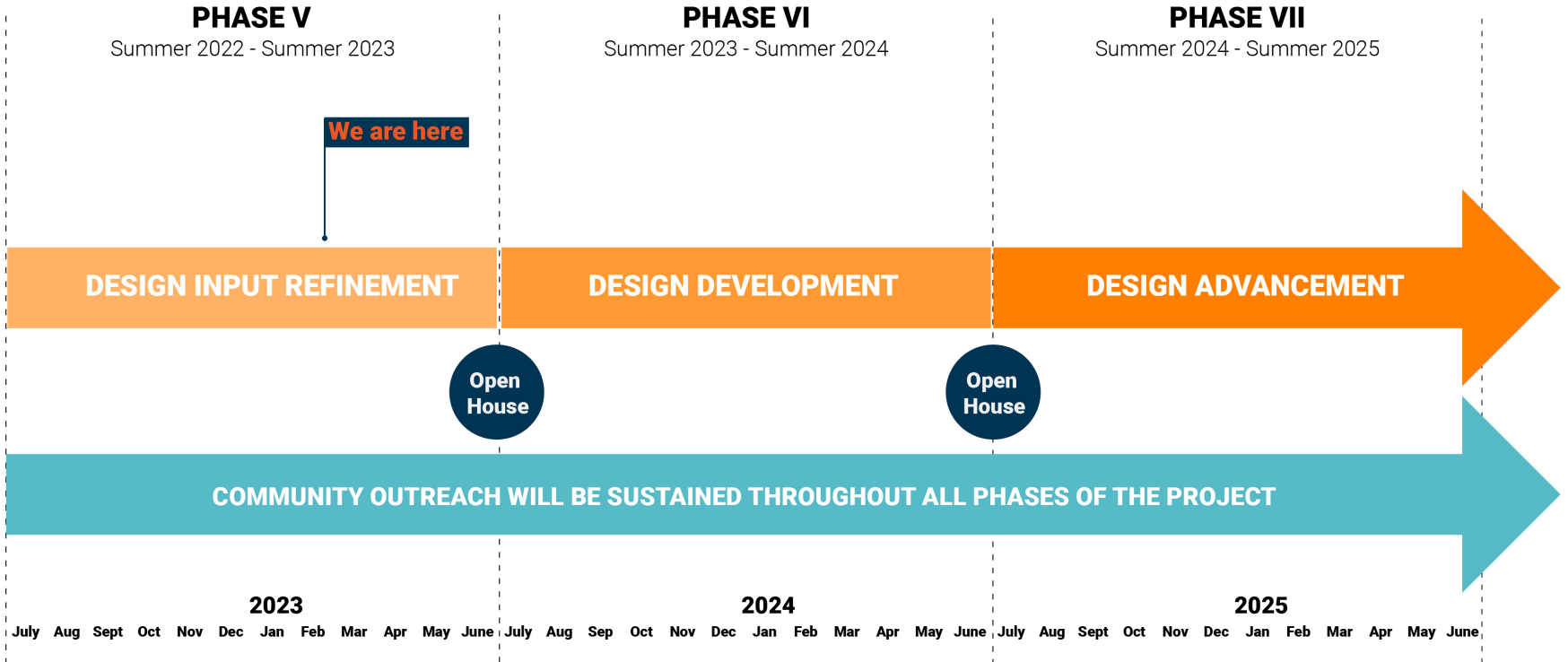
New Funding Sources Studied

- New York State Environmental Bond Act (*Capital*)
- Insurance Surcharge (*Capital or O&M*)
- Resilience Assessment (*Capital or O&M*)
- Revenue from new development (residential, office) (*Capital or O&M*)

This project will take 10-15 years to fully construct, and we will bring the community along every step of the way.



We are currently working to spread awareness of the project. The next phases of work will be focused on **advancing the design** of the master plan.



Support the project & stay updated by visiting <https://fidiseaportclimate.nyc/>



- CLIMATE RISKS
- PROTECTING LOWER MANHATTAN
- OUR PROCESS
- DESIGN PROPOSAL
- TAKE ACTION
- EVENTS



What's Next?

The master plan will likely take 15 to 20 years to fully implement and cost approximately five to seven billion dollars. No one funding source will cover the entire cost; therefore, a variety of local, state, and federal sources—both existing and new—will need to be considered. Critically, the City will need to secure permits from state and federal entities to move the project forward. In this current phase of work, the City is working with stakeholders to refine the design of the master plan so that environmental review of the project can begin in 2026.

Take Action

This moment belongs to all New Yorkers who work in, live in, travel through, or enjoy Lower Manhattan and want to help build a more resilient, livable city. New York City needs you—your vision, your advocacy, your participation—to make this master plan a reality.

Stay Updated!

Sign up for updates as we move into the next phase of work.

We also invite you to visit the Events page for upcoming virtual and in-person meetings, workshops, and open houses.

Name (Required)

First Last

Email (Required) Phone

General comments

Submit



Explore the Master Plan in greater detail at <https://fidiseaportclimate.nyc/>

Chapter One	Introduction Why is this plan needed and who is it for?	Master Plan Appendices
Chapter Two	Master Plan Process Who and what shaped this plan?	Engagement Process & Findings
Chapter Three	Waterfront Past to Present How has this waterfront evolved over time?	Estimated Costs of Inaction
Chapter Four	The Impacts of Climate Change What will happen without action?	Flood Defense Alignment Studies
Chapter Five	A Resilient 21st-Century Waterfront What does this plan propose?	Stormwater Management Studies
Chapter Six	Implementation Roadmap How does this plan become reality?	Access and Circulation Studies
Chapter Seven	Next Steps & Call to Action What's next and how can you get involved?	Transportation & Maritime Infrastructure Studies
		Hydrodynamic Modeling Results
		East River Sampling & Testing: Year 1 Findings
		Public Open Spaces and Public Serving Uses Studies
		Detailed Master Plan Design Rationale and Drawings
		Early Project Cost Estimates
		Paying for the Master Plan: Potential Options