Welcome to the FiDi-Seaport Virtual Open House!

As you're waiting for the meeting to start, please take a moment to share your name and connection to the FiDi and Seaport neighborhoods using the Teams "chat" function.

Financial District & Seaport Climate Resilience Plan

February 2021

Welcome to Teams!

A few requests for the open house:

1. *When in a Teams meeting, please mute yourself while others are speaking. You will have time in the workshops to unmute and discuss.*
2. *Add questions to the chat box during presentations.*
3. *Turn on your camera if you can!*

Presentation in progress. Presentation will re-start at the beginning of every half-hour.

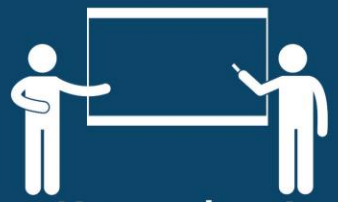
What should I expect during today's Virtual Open House?

Welcome presentations and workshops will begin every 30 min. on the half hour.

Project Q&A will take place throughout the entire evening.

1

WELCOME



You are here!

Learn more about the format of this evening's Open House, the project itself, our goals, and next steps in the planning process. Here the team will explain the various opportunities and challenges we face as it relates to key aspects of the project.

Español

中文

2

WORKSHOP

We want to hear from you!

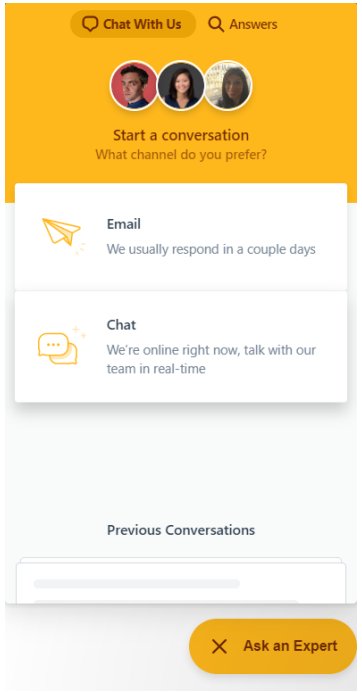
Join members of the project team in small-group workshops to discuss public open space, transportation and mobility, and community resources. Tell us what you feel should be protected and preserved as well as would could be improved.

3

PROJECT Q&A

Still have questions?

Join here to speak with members of New York City Economic Development Coproration (NYCEDC), the Mayor's Office of Resiliency (MOR) and the consultant team.



Click the 'Ask an Expert' button in the bottom right corner of the event page to chat with someone from our team at any time!

Presentation in progress. Presentation will re-start at the beginning of every half-hour.

Why do we need **flood resilience infrastructure**?

Presentation in progress. Presentation will re-start at the beginning of every half-hour.

Climate change isn't coming; it's here.

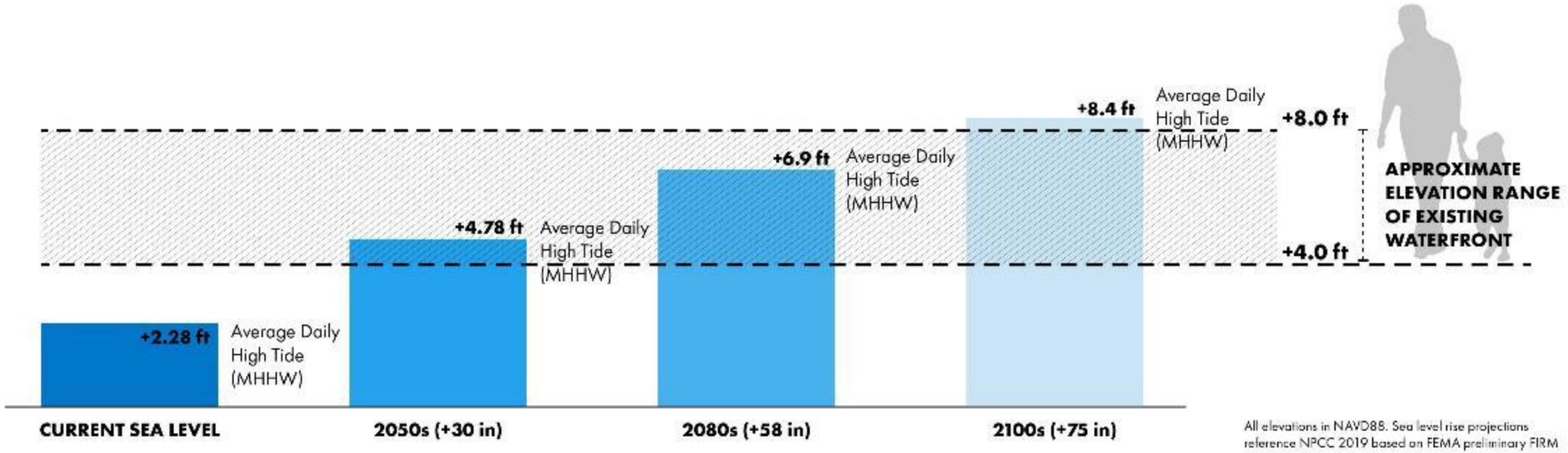
Daily tidal flooding combined with sea level rise is bringing **higher** water levels along the coast, causing more flooding in low-lying areas.

Coastal storms are **increasing** in frequency and intensity, bringing the impact of surge to our front doors.

Extreme precipitation is occurring **more frequently**, stressing our sewer system and flooding our streets.

Presentation in progress. Presentation will re-start at the beginning of every half-hour.

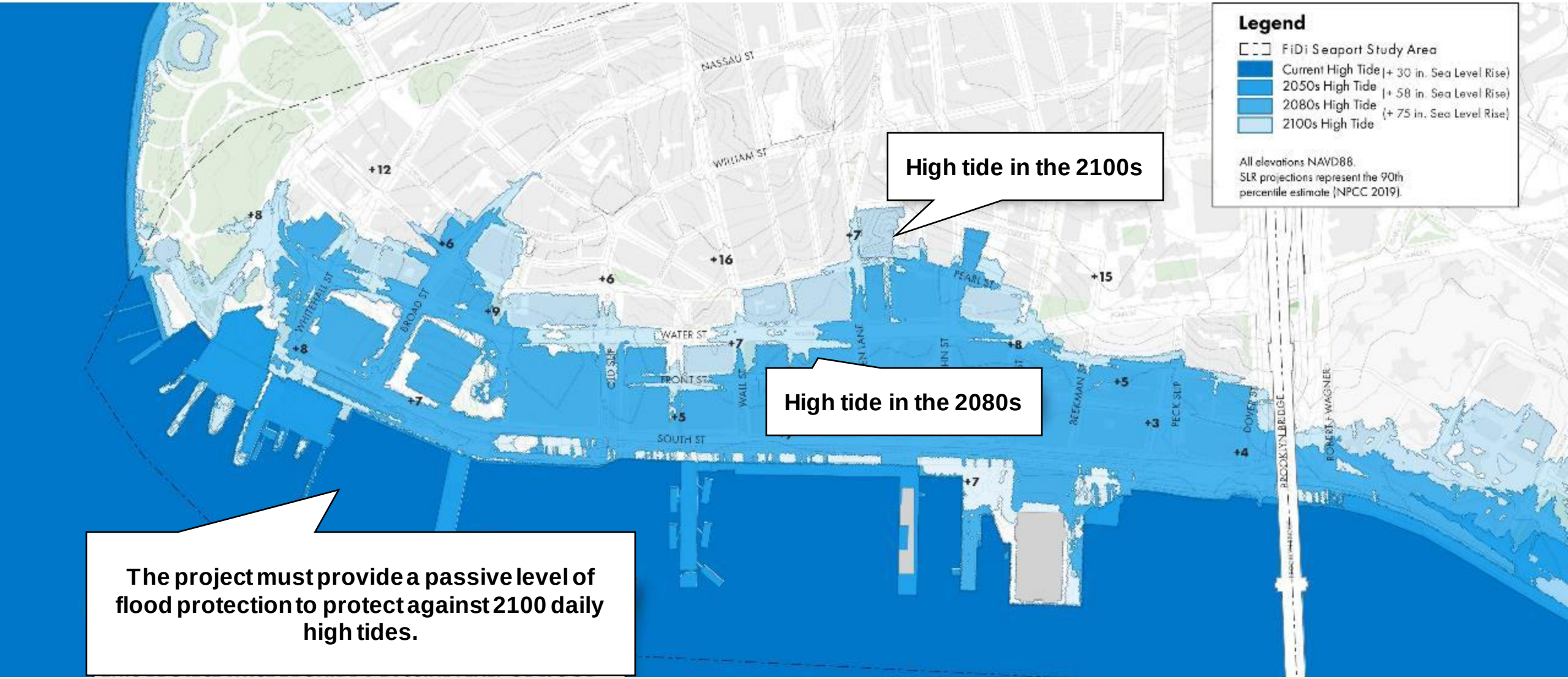
The waterfront could be inundated by high tides almost daily by the 2080s



All elevations in NAVD88. Sea level rise projections reference NPCC 2019 based on FEMA preliminary FIRM data. MHHW is based off of the 2001 NOAA National Tidal Datum Epoch (NTDE). Additional modeling / wave studies to be completed later in Phase II.

Presentation in progress. Presentation will re-start at the beginning of every half-hour.

By 2100, much of the FiDi and South Street Seaport neighborhoods could be under water every day.



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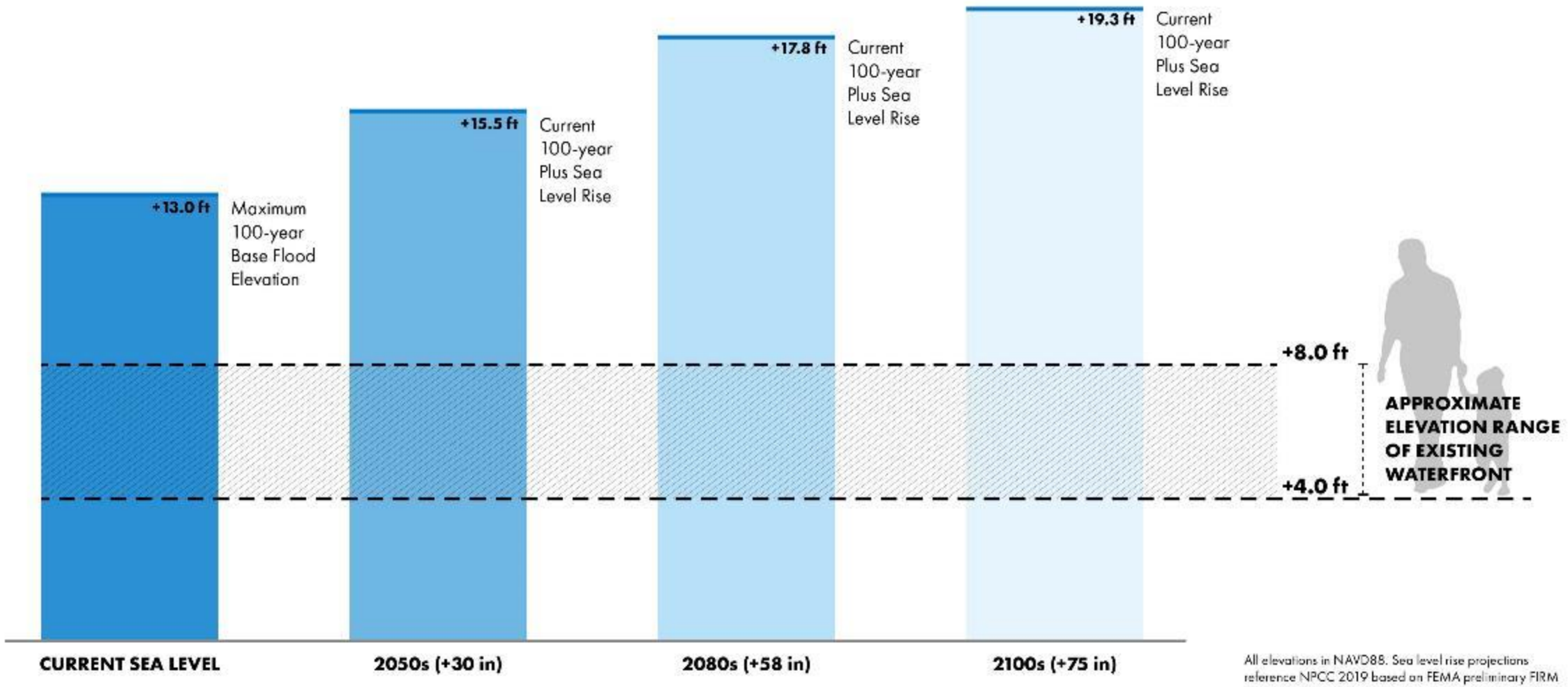
Future storms are becoming more frequent and intense



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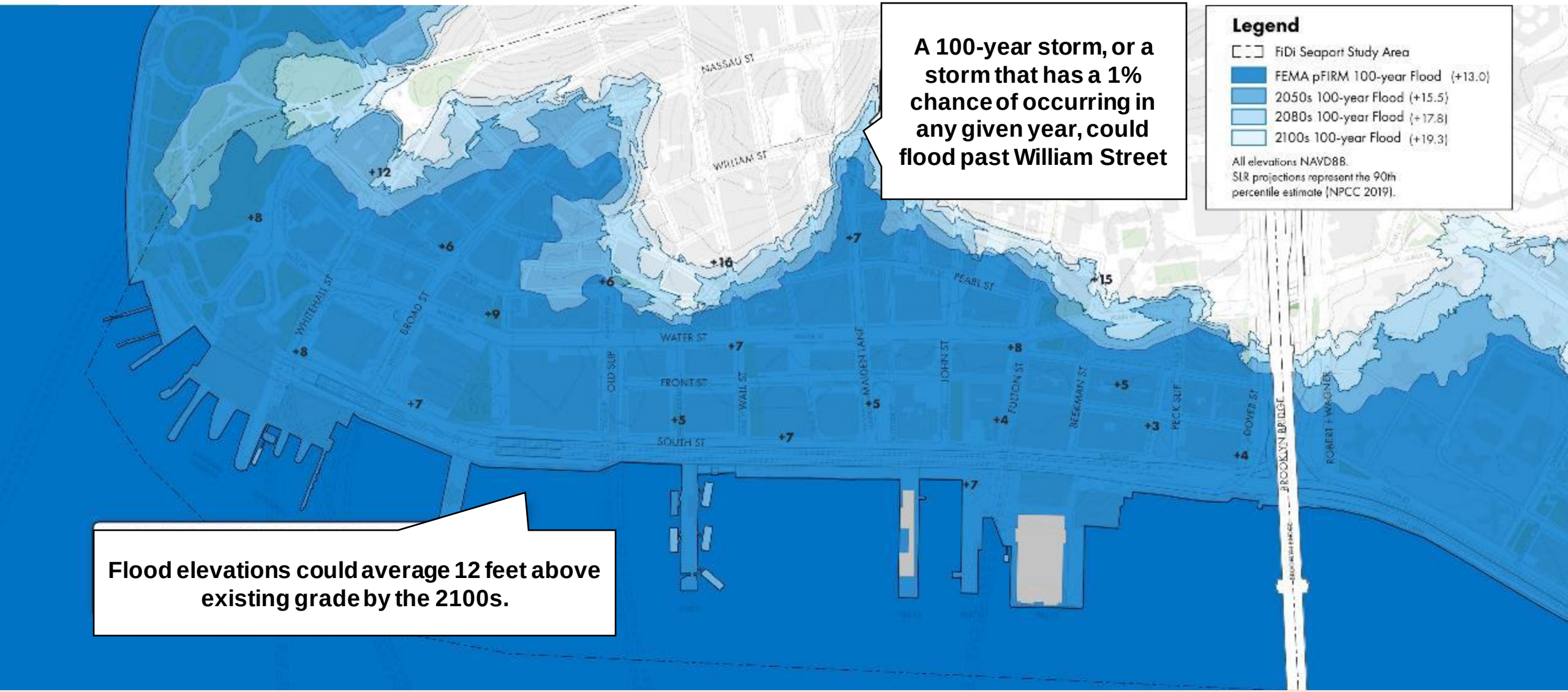
Future storms could bring deeper and broader flooding than Hurricane Sandy, causing extensive damage in Lower Manhattan.



Presentation in progress. Presentation will re-start at the beginning of every half-hour.

What is the FiDi-Seaport Climate Resilience Plan?

Presentation in progress. Presentation will re-start at the beginning of every half-hour.

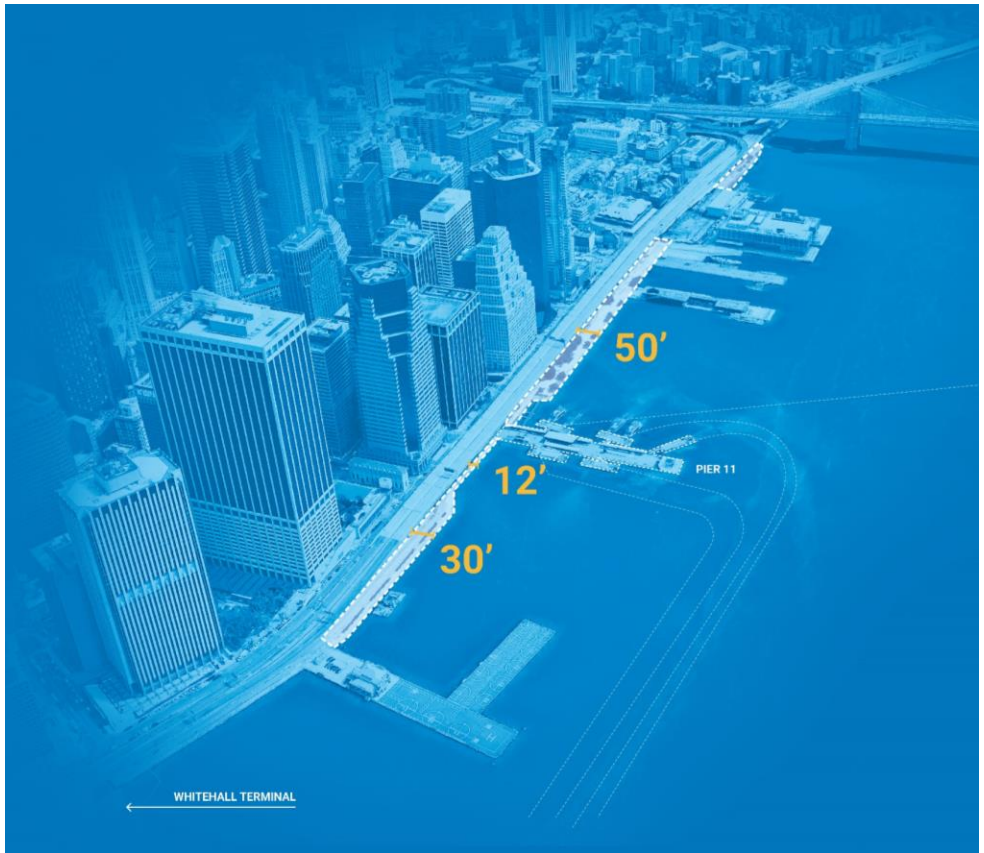
In Lower Manhattan, the City is advancing $500M in climate adaptation projects to protect various areas within the district

Presentation in progress. Presentation will re-start at the beginning of every half-hour.

The FiDi-Seaport Climate Resilience Plan will be a comprehensive resilience plan to protect the Financial District and South Street Seaport

What can we achieve by 2021?

- Develop a conceptual design of coastal defense infrastructure and identify first phase project options.
- Create a roadmap with details on implementation, financing, construction, and governance framework.
- Work with regulatory agencies to identify a pathway for permitting and approvals.
- Create a drainage strategy to manage stormwater and wastewater.
- Build the foundation for an intergenerational coalition to carry this project forward.



The Financial District and Seaport have unique space constraints that make siting coastal defense and drainage infrastructure on-land very challenging.

Presentation in progress. Presentation will re-start at the beginning of every half-hour.

Our project team

The **New York City Economic Development Corporation (NYCEDC)** and the **Mayor's Office of Resiliency (MOR)** are leading the Climate Resilience Plan along with the NYC Departments of Transportation, City Planning, Environmental Protection, Parks & Recreation, and more.

An interdisciplinary team of experts are supporting this work, led by the Dutch engineering firm **Arcadis**. **One Architecture & Urbanism** and **SCAPE Landscape Architecture** are helping lead the design development.

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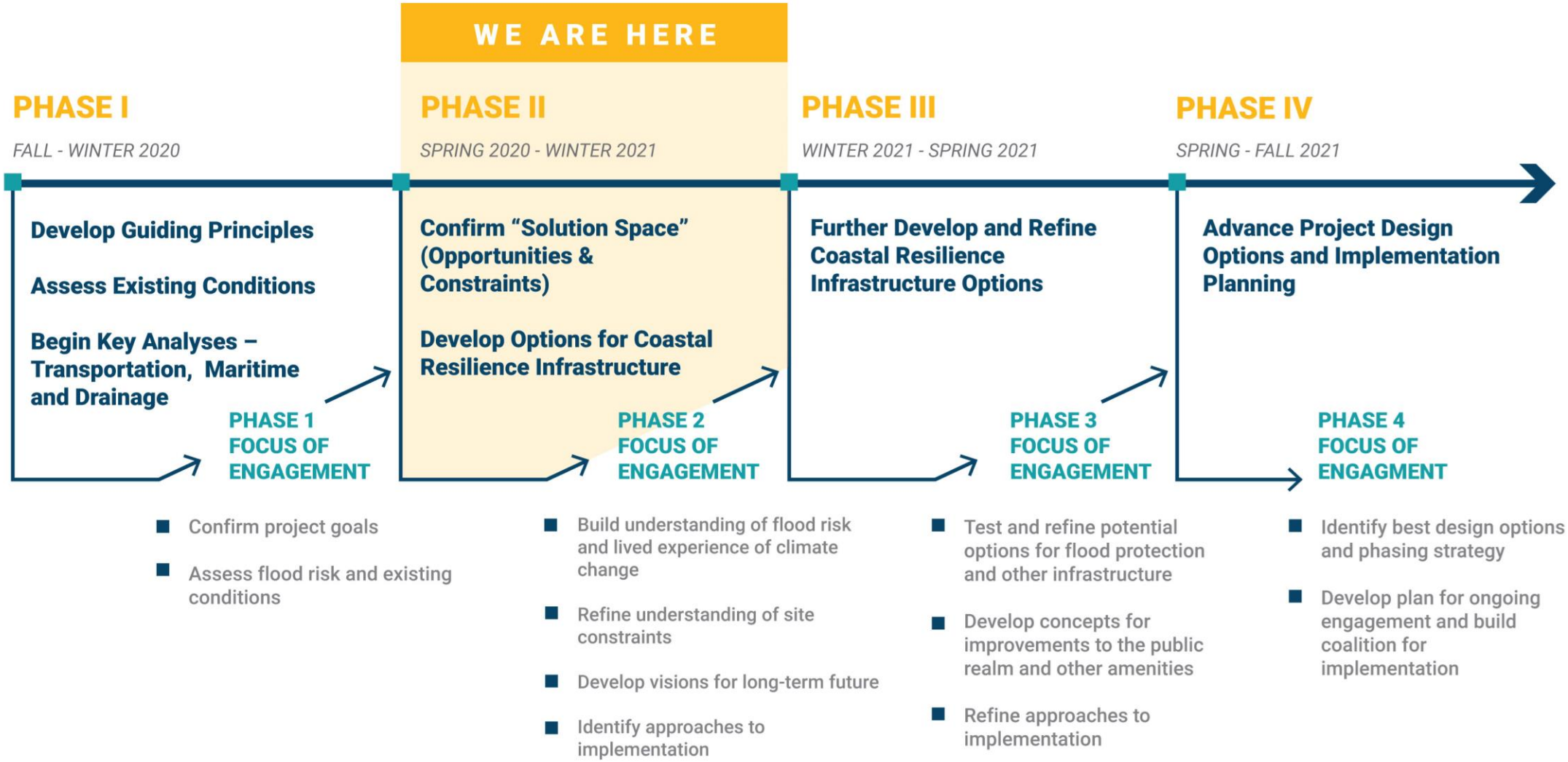
What we've been up to



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We drafted our guiding principles with input from the Climate Coalition of Lower Manhattan, City Agencies, and the public

Ensure a **secure future for those who live in, work in, or depend upon Lower Manhattan** by addressing near and long-term climate risks.

Strengthen Lower Manhattan as a **central hub of the region's workforce, transportation network and economy**.

Plan a project that is **feasible, financeable, and implementable**, with a broad coalition of support and clear regulatory and permitting pathways.

Create an **equitable and inclusive public engagement process** that advances widespread understanding of climate risks and fosters the development of a shared vision for Lower Manhattan.

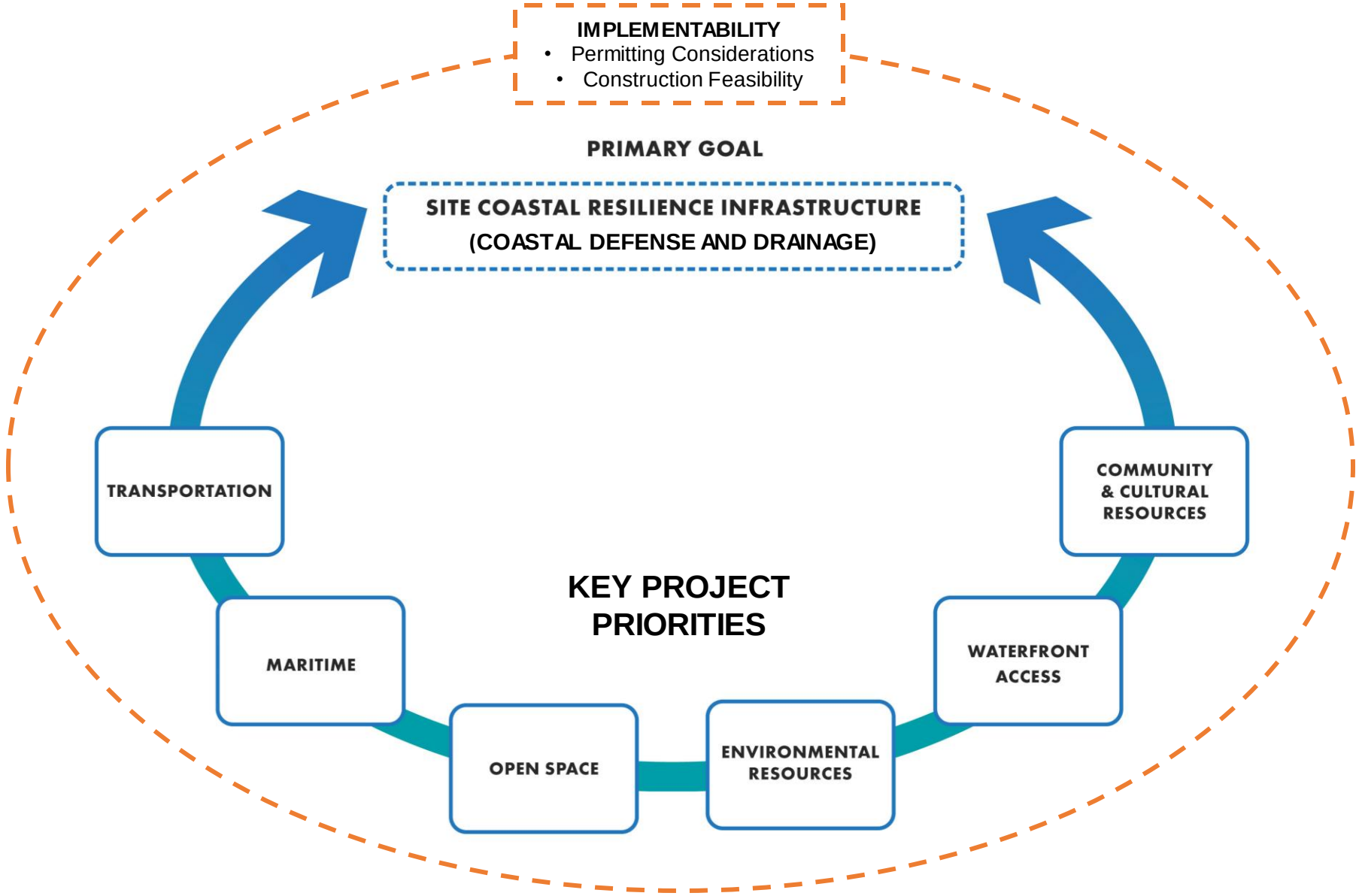
Plan for resiliency infrastructure that protects **key historic assets**, **maximizes ecologically-sensitive design** and **sustainability**, and is **adaptable over time**.

Maintain and look to improve infrastructure that creates **an accessible public realm for all**.

Presentation in progress. Presentation will re-start at the beginning of every half-hour.

What are our **project goals**?

The project seeks to comprehensively protect Lower Manhattan from flood risks, while achieving other key priorities:



The primary goal for the project is to provide coastal defense for the FiDi-Seaport district from storms and tidal flooding through 2100

Potential coastal defense solutions:

Floodwalls

Levees / Berms

Street Raising

Caissons

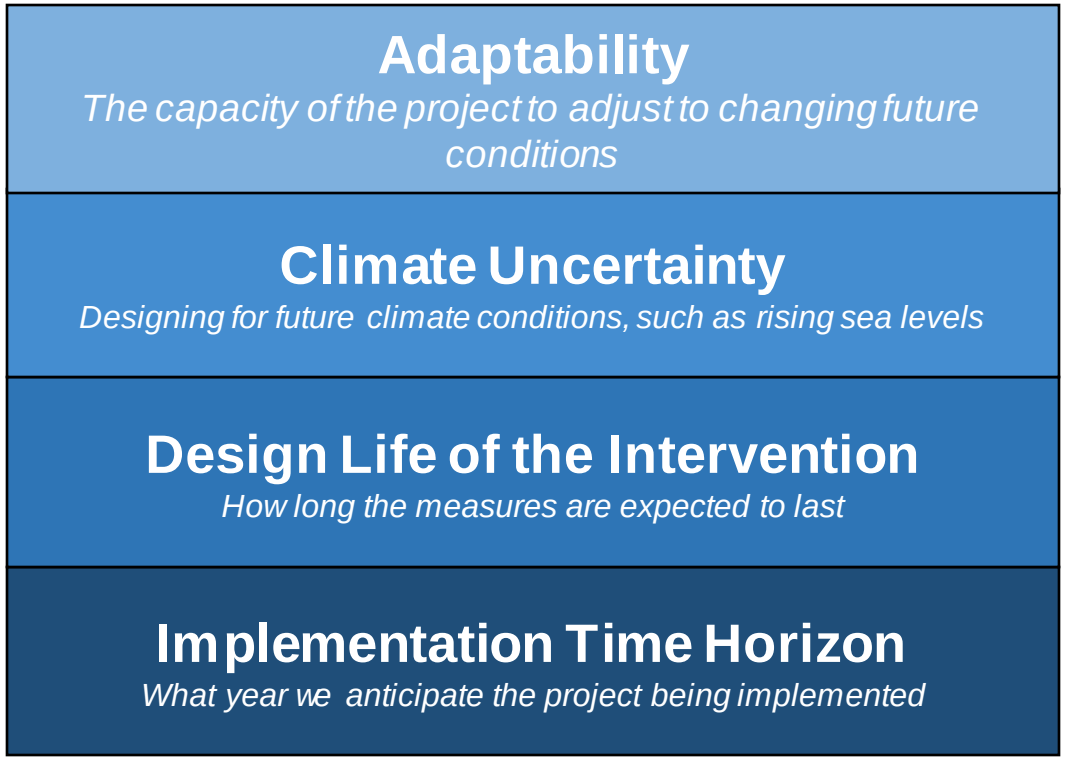
Bulkheads

Fill & Revetment

Photo sources (clockwise): Arcadis; Brooklynbridgepark.org; NYCDDC Broad Channel; iStock; Hosoya Schaefer Architects; Crandall / Alamy Stock Photo

Presentation in progress. Presentation will re-start at the beginning of every half-hour.

However, the future is ultimately uncertain; we must plan and design accordingly



Design Flood Elevation (DFE)

The level of protection provided by the coastal defense system

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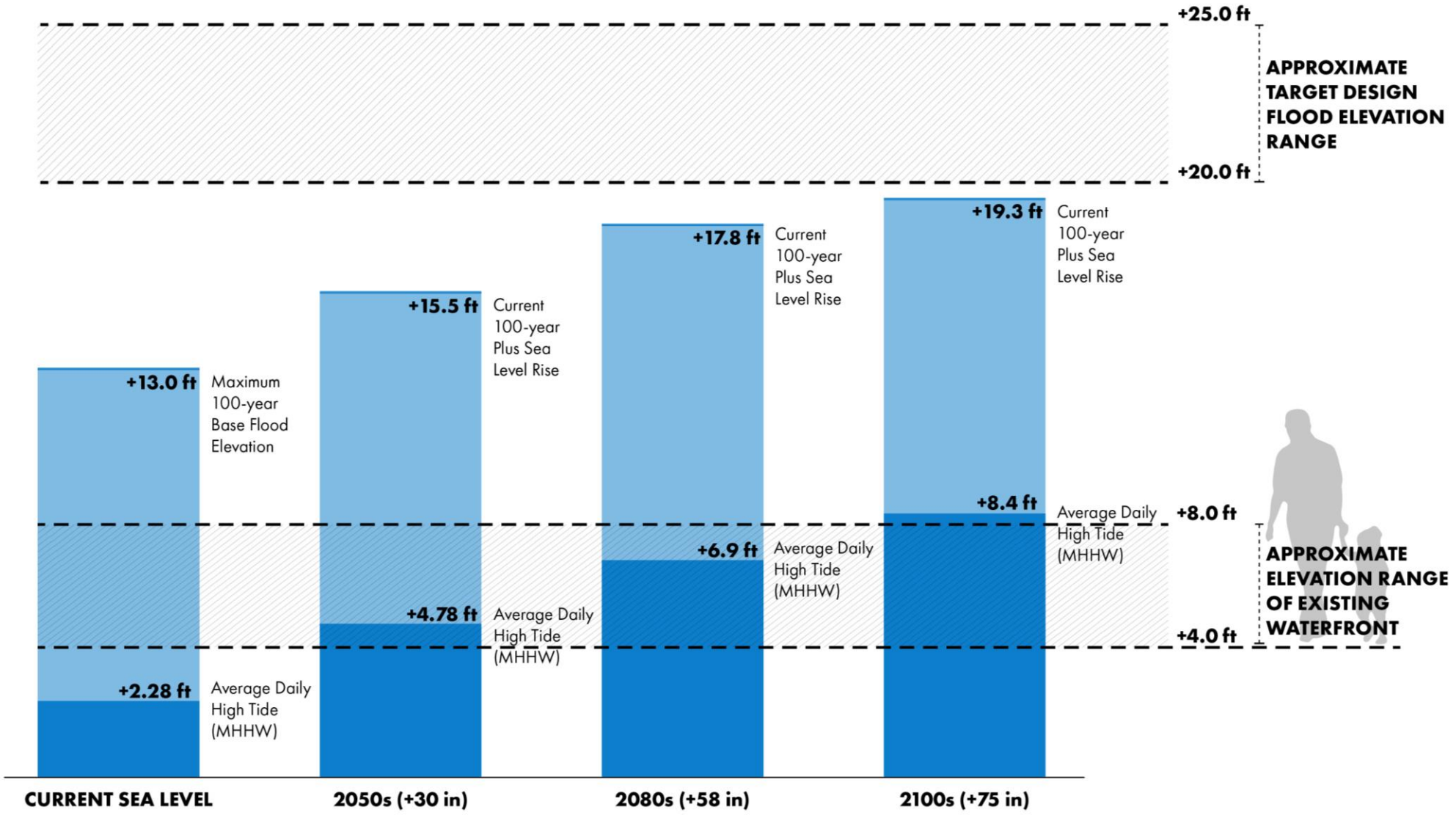
The project's design flood elevation (DFE) must protect up to 20-25 feet of flooding from the outset, and/or be designed to adapt in the future.



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New drainage infrastructure will also be required to ensure the flood protection system works

- To ensure that stormwater does not "pond" or collect behind the coastal defense, a combination of **pumping, storage, and green infrastructure** solutions to manage stormwater are being considered.

- New drainage infrastructure will also ensure that the existing drainage system provides the same **level of service** under future sea level rise conditions.

Examples of Drainage Solutions in an Urban Environment

Manhattan Pump Station; Manhattan, NY
Pump Station

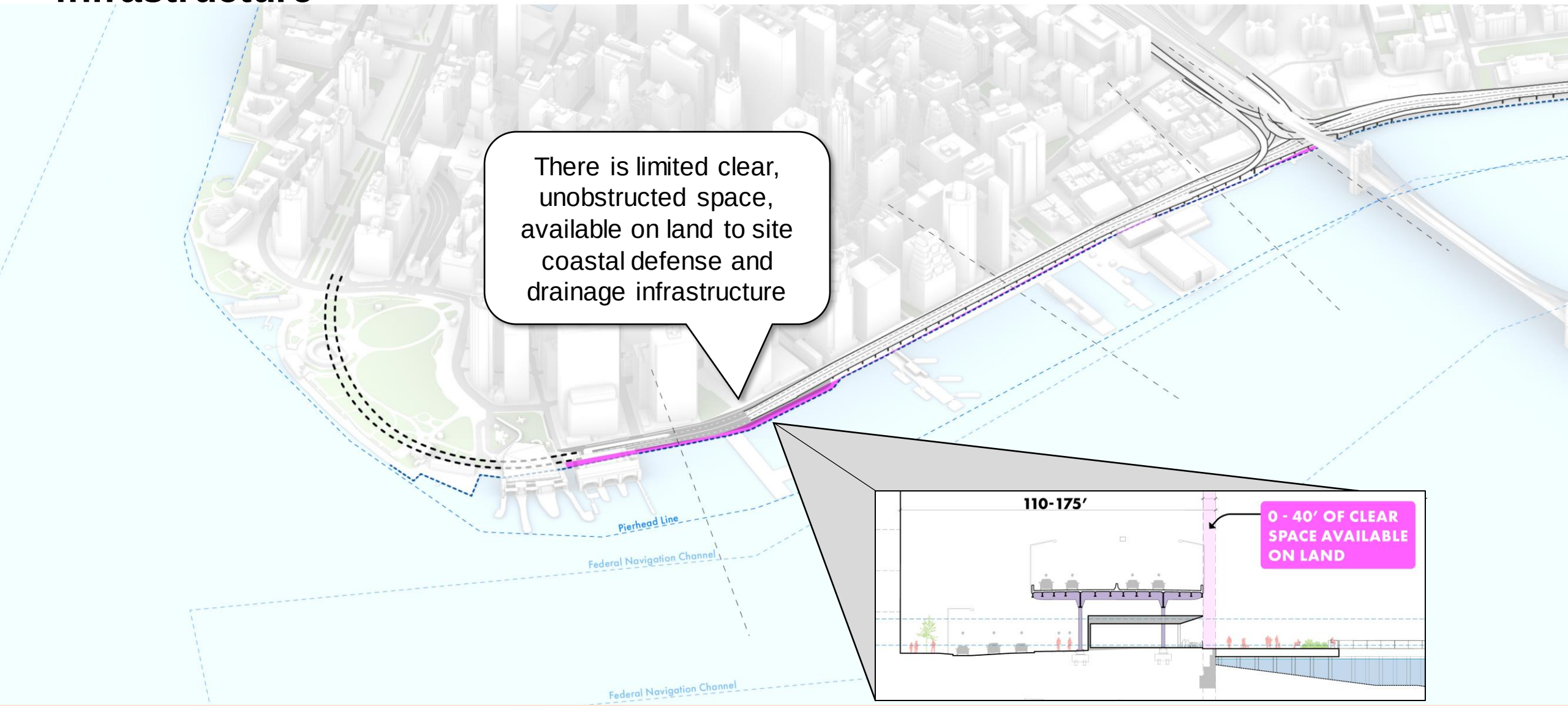
Climate Tile; Copenhagen, Denmark
Green Infrastructure

Presentation in progress. Presentation will re-start at the beginning of every half-hour.

Coastal defense infrastructure, and the drainage infrastructure needed to support it, take **up a lot of space**, both above and below ground.

The FiDi-Seaport shoreline has limited on-land space available to site this infrastructure

There is limited clear, unobstructed space, available on land to site coastal defense and drainage infrastructure



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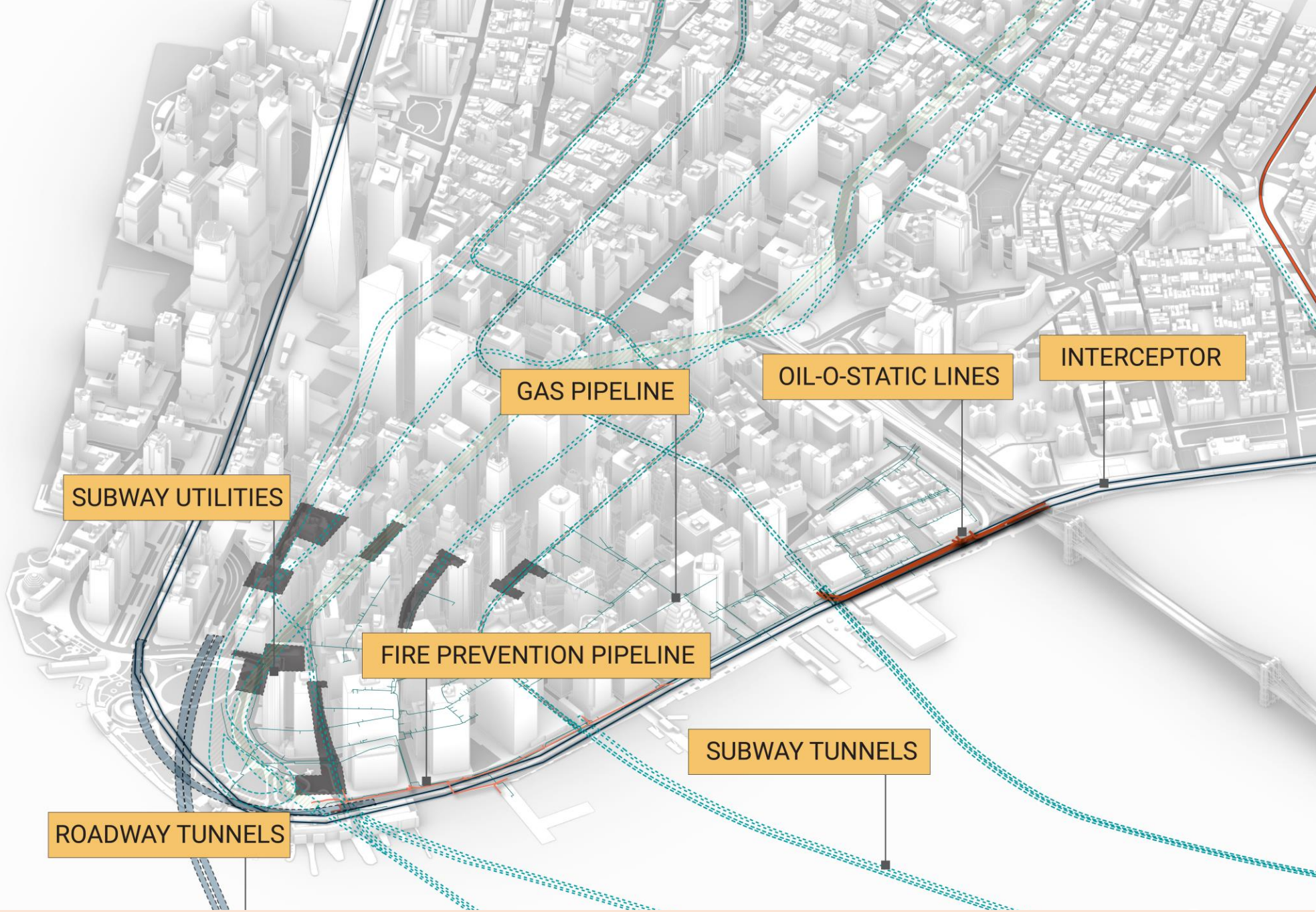
The area has a complex web of underground infrastructure which also makes it challenging to site below grade infrastructure



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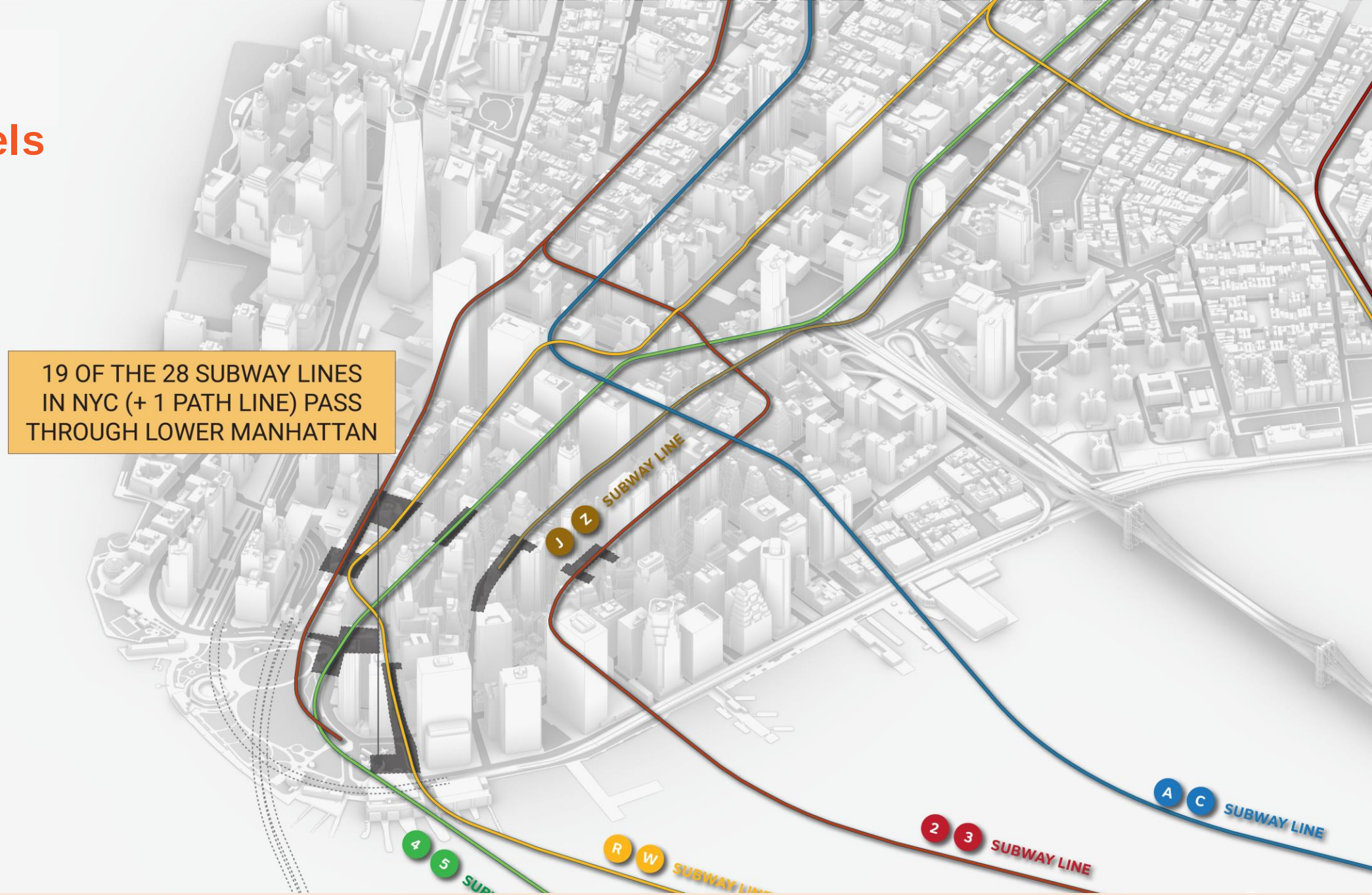
In addition to underground subway tunnels which our system must protect and cross, if built on-land



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Extending the shoreline would be beneficial:

Due to limited space along the water's edge, we need to consider going into the water to site **coastal defense infrastructure**

Our goal is to construct a flood protection system to keep water out during a storm or high tides while maintaining **access to the waterfront** and preserving **open space & historic assets**

But how much we extend the shoreline is limited for the following reasons:

At the same time, we recognize that the East River serves many vital functions, including home to many **fish, invertebrates, and microorganisms**. The potential impacts of any in-water option must be minimized and mitigated.

The East River also serves as an important **waterway** for the Coast Guard, emergency services, commuters, and in-water options cannot negatively impact navigation.

Presentation in progress. Presentation will re-start at the beginning of every half-hour.

As we develop project options, it is imperative that we also comply with State and Federal rules and regulations, as these entities will be the decision-makers on whether the project moves forward. This includes:

1. **Avoiding:** Fully assessing if an on-land option is possible to implement based on technical feasibility, impacts, and cost.

2. **Minimizing:** If we must go into the water to site our coastal resilience infrastructure, we must justify every inch and demonstrate that we are minimizing our impact.

3. **Mitigating:** If we must go into the water, we must understand all potential impacts – including ecological, navigation, and scour (eroding of soils, piers, or other surfaces) – and demonstrate to the State and Federal government that we can mitigate, or reduce the severity of, any negative impacts.

Presentation in progress. Presentation will re-start at the beginning of every half-hour.

We are currently conducting sampling to better understand the East River aquatic ecosystem

- Conducting one-year (Fall 2020-Summer 2021) aquatic sampling within the project area
  - **Phytoplankton and zooplankton**: Summer
  - **Benthic macroinvertebrates**: Fall, Spring, Summer
  - **Fish**: Fall, Winter, Spring, Summer
  - **Sediment characteristics**
  - **Water quality** (temperature, salinity, total nitrogen, etc.), **water depth**, and **current velocity**
- Preliminary results from October 2020 samples being analyzed

Grab sampling (East River channel)

Presentation in progress. Presentation will re-start at the beginning of every half-hour.

Considering these other key priorities is critical to how we develop early project options.

The project must…

Maintain functionality and reliability of the regional **transportation** network, supporting future capacity needs while allowing for adaptation to future trends.

Protect and ensure continuous ferry service at the many **maritime** hubs in the area.

Maintain the area's public **open space** as a valuable amenity for residents and visitors.

Ensure continuous public access to and along the **waterfront** and water-based transportation.

Avoid or minimize negative impacts on existing **environmental resources** or ecosystem services, especially aquatic resources.

Protect and preserve the area's **community and cultural resources**, including historic assets, wherever possible.

Presentation in progress. Presentation will re-start at the beginning of every half-hour.

What do our **early project options** look like?

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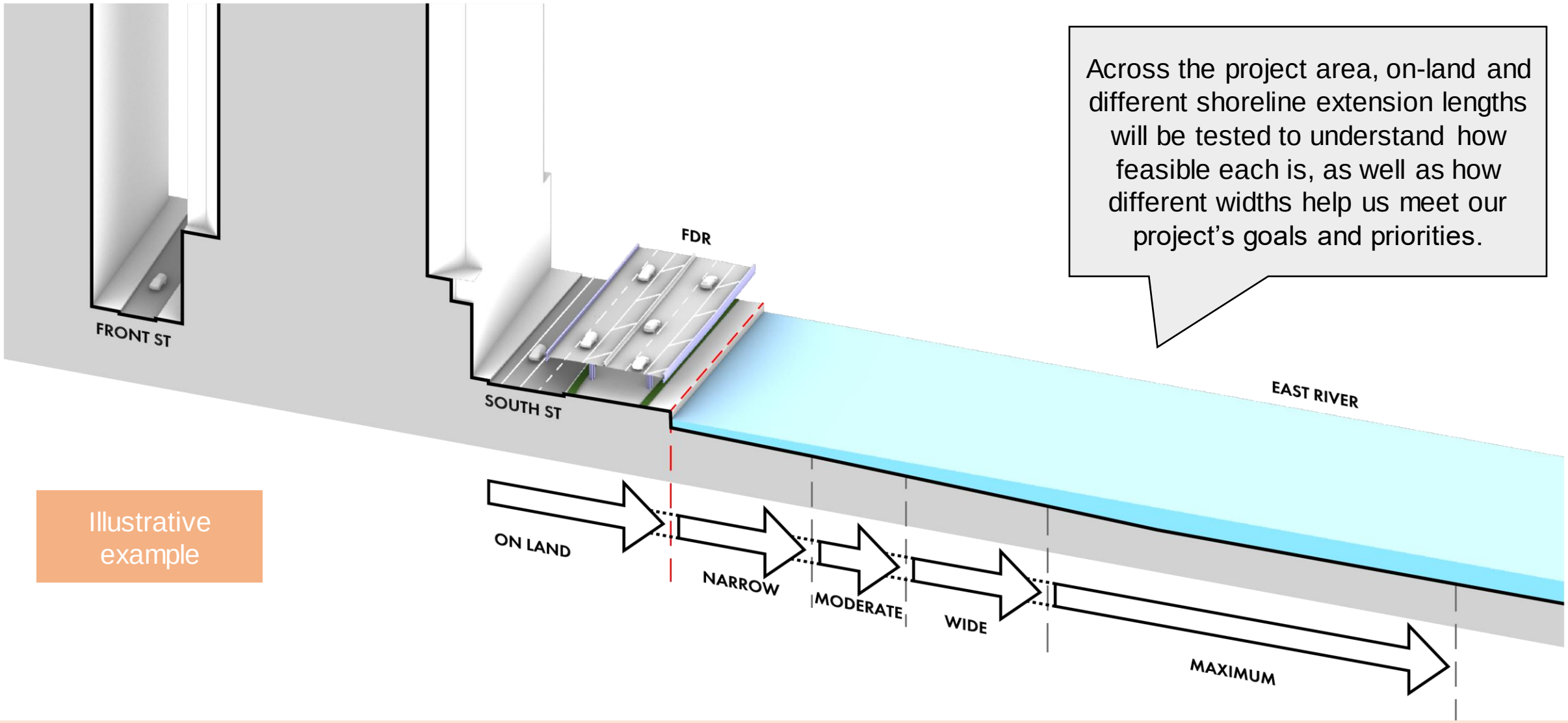
What do our early project options look like?



Across the project area, on-land and different shoreline extension lengths will be tested to understand how feasible each is, as well as how different widths help us meet our project's goals and priorities.

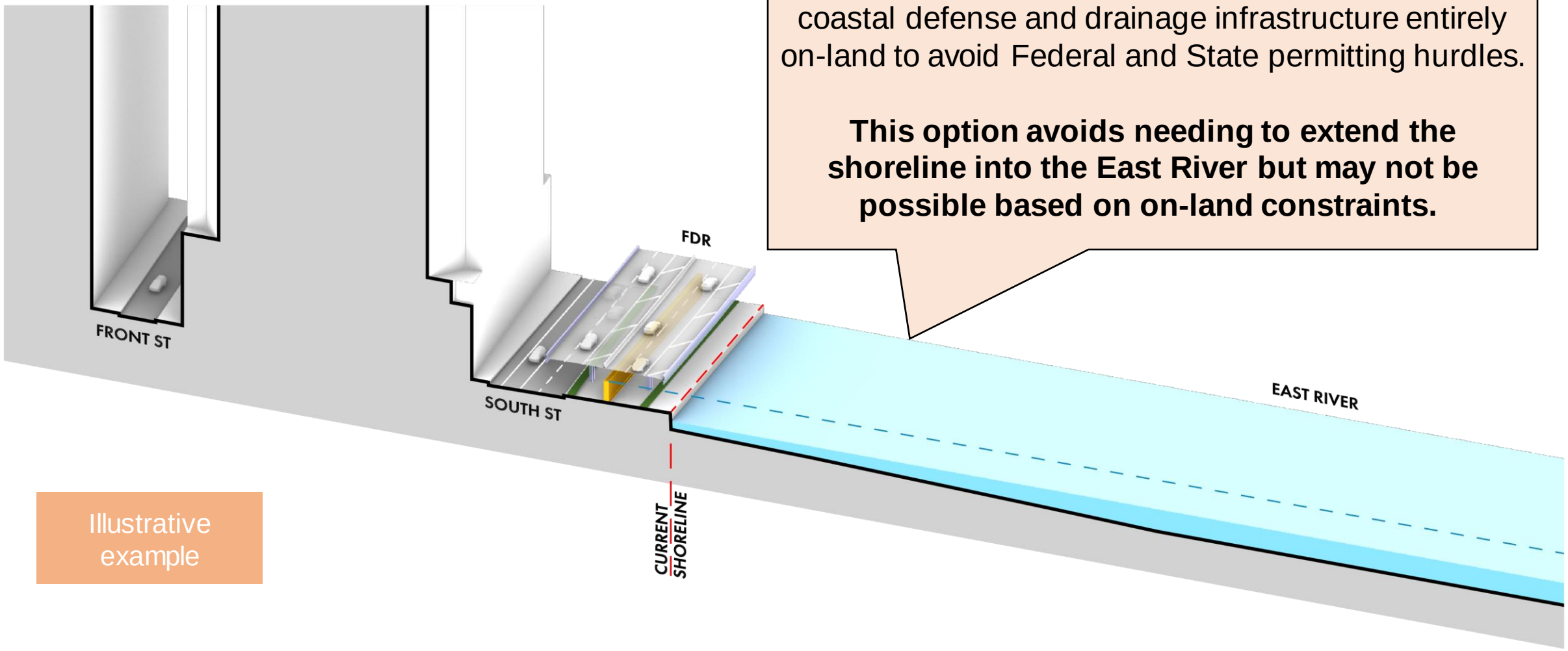
Illustrative example

Presentation in progress. Presentation will re-start at the beginning of every half-hour.

On-land project option

This project option tests how possible it is to site the coastal defense and drainage infrastructure entirely on-land to avoid Federal and State permitting hurdles.

This option avoids needing to extend the shoreline into the East River but may not be possible based on on-land constraints.



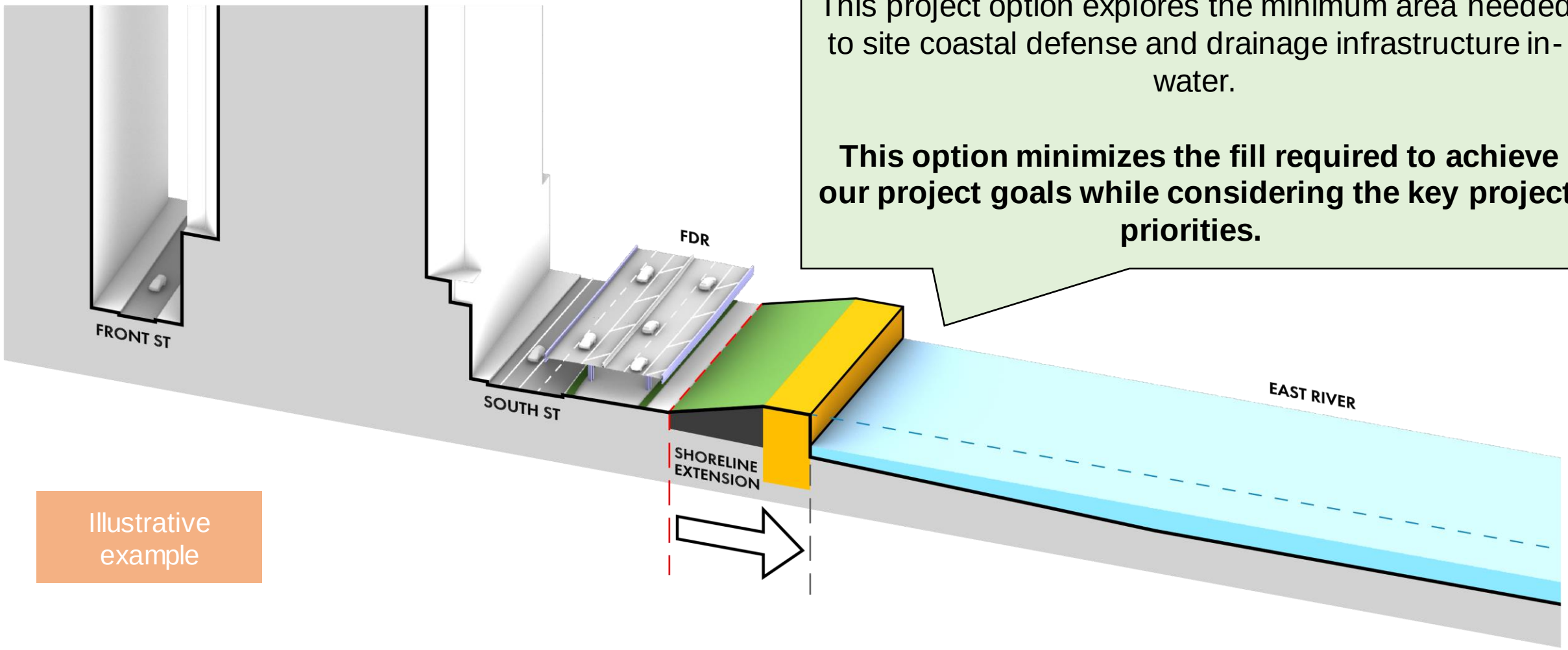
Illustrative example

Presentation in progress. Presentation will re-start at the beginning of every half-hour.

Minimum shoreline extension project option

This project option explores the minimum area needed to site coastal defense and drainage infrastructure in-water.

This option minimizes the fill required to achieve our project goals while considering the key project priorities.



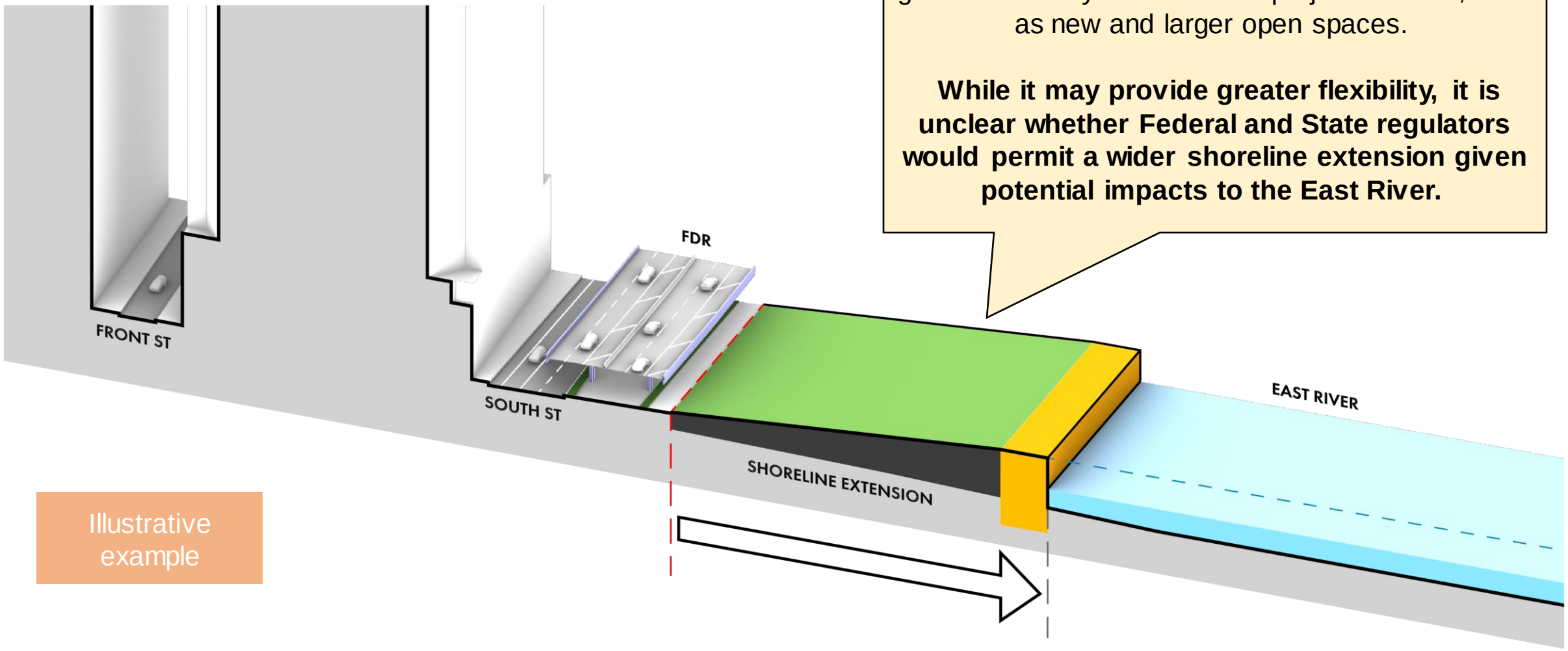
Illustrative example

Presentation in progress. Presentation will re-start at the beginning of every half-hour.

Wider shoreline extension project option

This option considers how the project can provide greater flexibility for additional project benefits, such as new and larger open spaces.

While it may provide greater flexibility, it is unclear whether Federal and State regulators would permit a wider shoreline extension given potential impacts to the East River.



Illustrative example

Presentation in progress. Presentation will re-start at the beginning of every half-hour.

What are the project's **next steps**?

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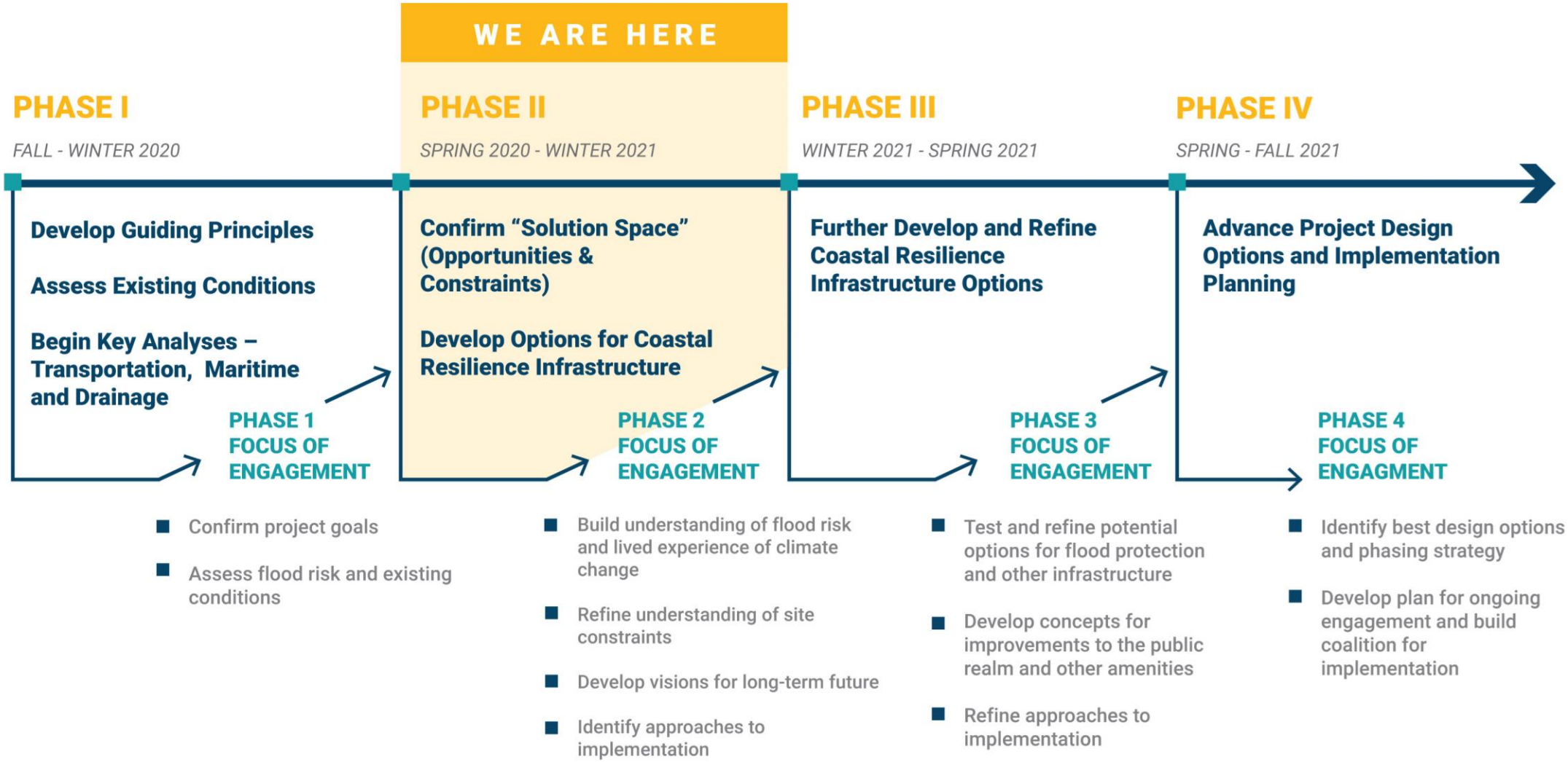
Where are we in the planning process?



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Our design process to determine project options

WE ARE HERE

DEVELOP EARLY PROJECT OPTIONS

For each sub-area geography, what is the exhaustive set of flood protection strategies that should be considered?

Remove from Future Study:

- What project options do not meet our project's priorities?
- What project options are not technically feasible?

MIX & MATCH PROJECT OPTIONS ACROSS SUB-AREA GEOGRAPHIES

Which project options across each sub-area geography can be mixed and matched with others?

Your feedback is essential!

Evaluate and Refine:

- Which project options best achieve our project's priorities?
- Which project options are the least costly?
- Which project options are the most technically feasible to construct?
- Which project options have the clearest pathway for implementation?

IDENTIFY PROJECT OPTIONS FOR FURTHER STUDY

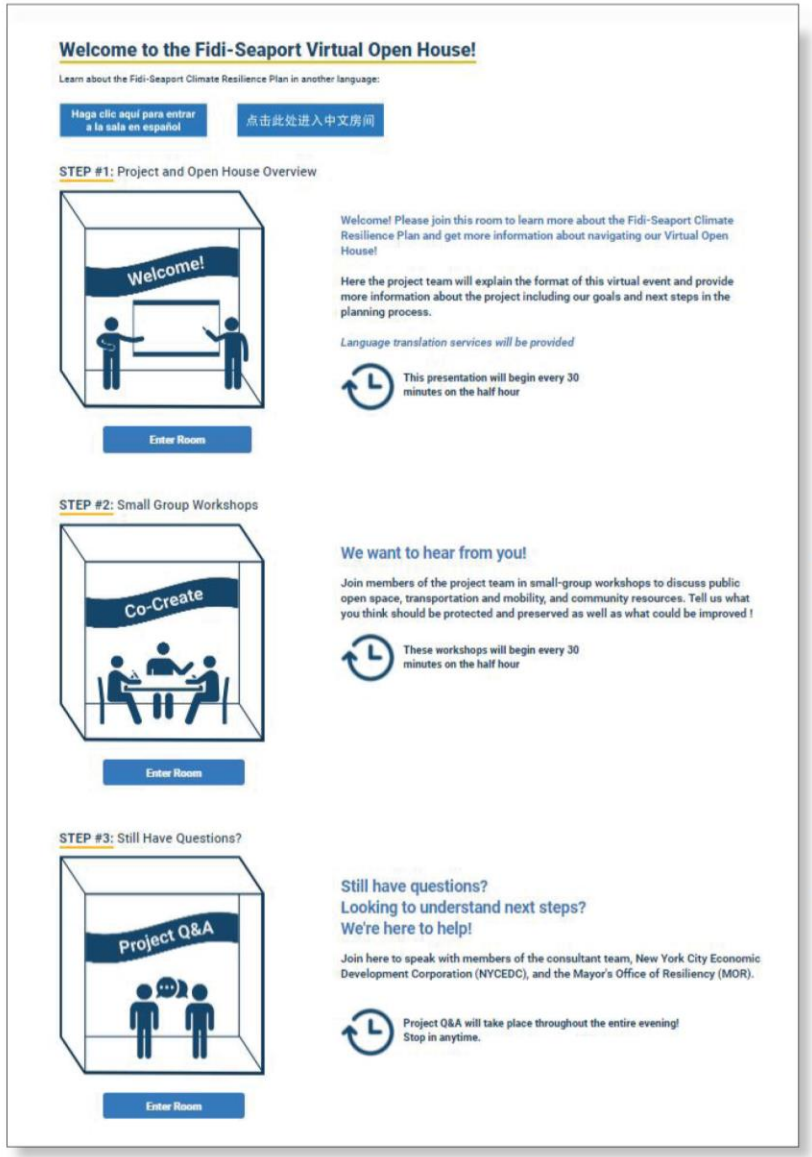
Which project options best achieve our project's priorities and should be studied further?

Presentation in progress. Presentation will re-start at the beginning of every half-hour.

How can you stay involved?

1. **Continue the conversation online:** Explore our engagement portal to learn more about other aspects of this project and share your feedback through interactive features (https://fidiseaportclimate.nyc/)
2. **Ask an Expert:** Using our website, submit questions and comments to our team of engineers, urban planners, designers, and more!
3. **Spring Open House**: We plan to share more details on potential project options and we look forward to your feedback!
4. **Stay in touch!** Sign up for our email newsletter to stay up-to-date on our website!

Where should I go now?



Where should I go next?

Please exit the introductory presentation and join the workshop link under Step 2.

Still have questions following the workshop?

Please exit the workshop and join the Q&A link under Step 3.

Presentation in progress. Presentation will re-start at the beginning of every half-hour.

What should I expect in the workshops and how will my feedback be used?

1

OPEN SPACE

*[1] To help us to **evaluate and prioritize the open space alternatives***

*[2] To test that our select alternatives are addressing the **open space needs** of these stakeholders*

2

TRANSPORTATION & MOBILITY

*[1] To help us to **evaluate and prioritize the transportation and mobility alternatives***

*[2] To test that our select alternatives are addressing the **access and mobility needs** of these stakeholders*

3

COMMUNITY RESOURCES

*[1] To help us to **evaluate and prioritize the spaces people value most** within the framework of our alternatives*

*[2] To test that our select alternatives are addressing the **community's needs***

Presentation in progress. Presentation will re-start at the beginning of every half-hour.