

Lower Manhattan Coastal Resiliency

July 15th, 2024

NYC Mayor's Office of Climate &
Environmental Justice



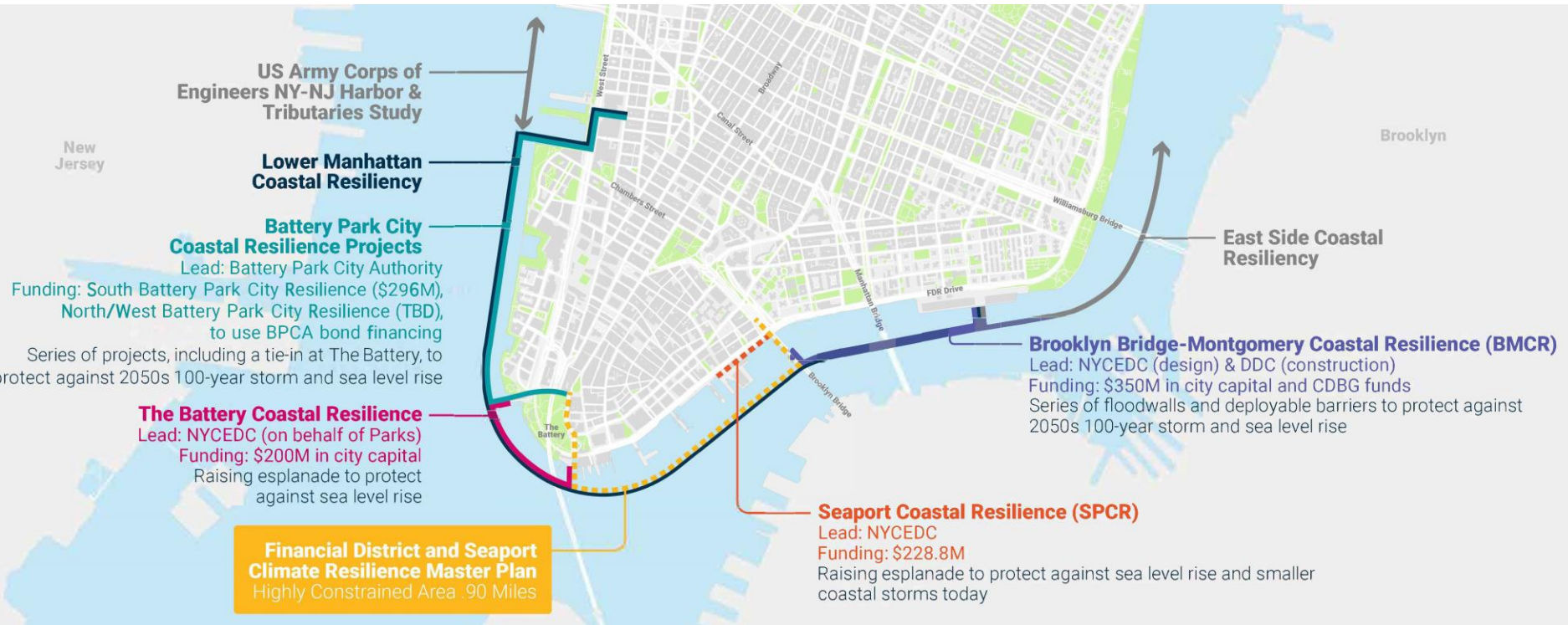
NYC / EDC

NYC Department of
DDC Design and
Construction

Agenda

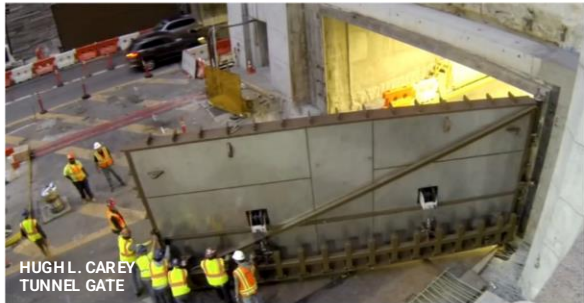
- Overall LMCR Update
- Project Updates
 - Battery Coastal Resilience
 - BMCR
 - BPCA Projects
 - Seaport Coastal Resilience
 - DOT Battery Park Underpass
 - Fidi/Seaport Master Plan

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 respond to the urgency of the moment while planning for the long-term

A shared goal of protecting against climate hazards, addressing the unique conditions for each area



Responding to the urgency of the moment....

...And making investments in the future

Project Timelines

(Est. Dates as of July 2024)

Project	100% Design	Procurement	Construction Start	Construction Complete						
					'24	'25	'26	'27	'28	'29
Brooklyn Bridge–Montgomery Coastal Resilience	Complete	Complete	Underway	Fall 2026	[Green bar from mid-2024 to mid-2026]					
South Battery Park City Resiliency	Complete	Complete	Underway	Mid 2025	[Green bar from early 2025 to mid-2025]					
The Battery Coastal Resilience	Complete	Complete	Underway	Summer 2026	[Green bar from early 2025 to early 2026]					
North/West Battery Park City Resiliency	Early 2025	Complete	Mid/Late 2025	Mid/Late 2030	[Green bar from mid-2025 to mid-2030; [Orange bar from early 2025 to mid-2025]					
Seaport Coastal Resilience	Early 2026	Late 2025	Early 2026	Early 2028	[Green bar from late 2025 to early 2028; [Orange bar from early 2026 to late 2025]; [Dark orange bar from late 2025 to early 2026]					
FiDi-Seaport Master Plan	Underway	TBD	TBD	TBD	[Orange bar from early 2026 to early 2028]					

Battery Coastal Resilience

LMCR – Battery Coastal Resilience



LMCR – Battery Coastal Resilience

EDC Managing Project on Behalf of Parks

Design

- 100% Design complete – June 2023
- Verified Envision Platinum Award (program to lower carbon footprint for large infrastructure projects)

Construction

- Phase 1 – January 2024 to July 2025
- Phase 2 – August 2025 to June 2026

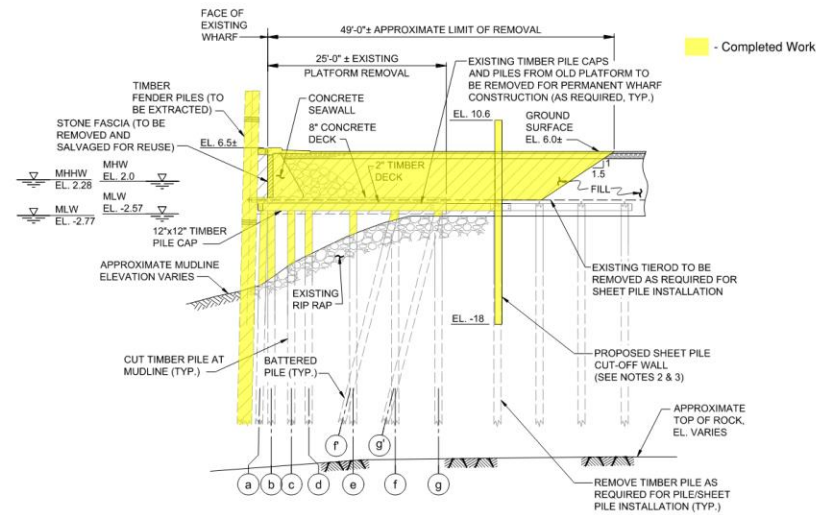


Conceptual Rendering

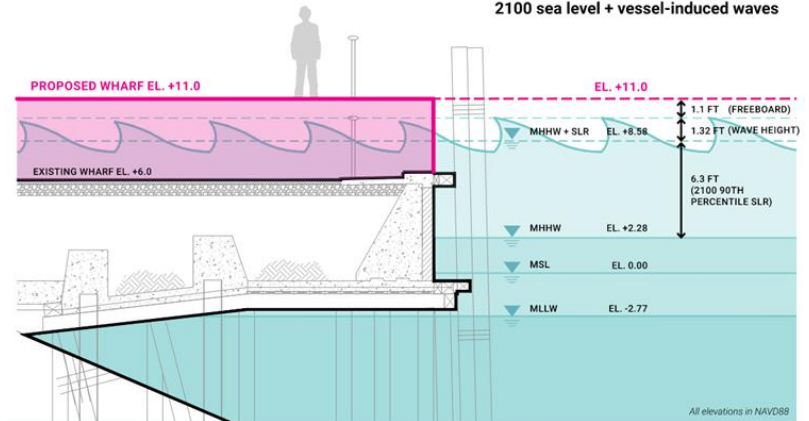
Construction Updates

Phase 1 Completed Work

- Construction Kicked off – February 2024
- NPS West Security Tent Demolition – Complete March 2024
- Hardscape Salvage – Complete March 2024
- Sheet Pile Install – Complete May 2024
- Existing Wharf Demolition – Complete June 2024
- Test Piles – Complete June 2024



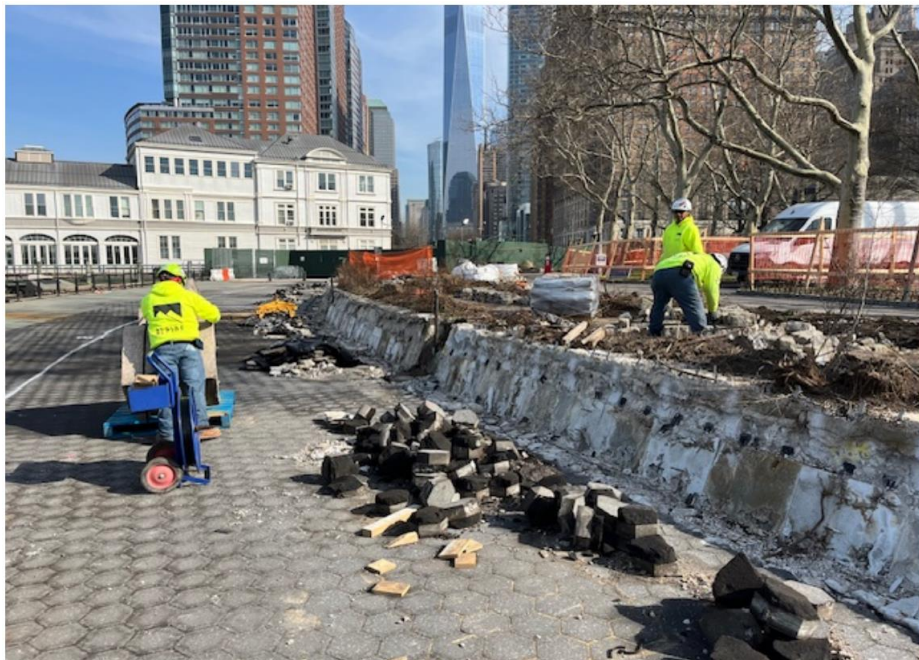
Wharf design elevation considers 2100 sea level + vessel-induced waves



Phase 1 Upcoming Milestones

- Production Pile Installation – July 2024
- Upland Civil Work Mobilization – Late July 2024
- Upland Excavation & Drainage Improvements – Late July 2024
- Upland Lightweight Fill Program – Early October 2024

Progress Photos: Salvage & Upland Demo



February 2024 – Salvage



March 2024 – Upland Demo

Progress Photos: Excavation & Sheet Pile Installation



April 2024 – Excavation



May 2024 – Sheet Pile Installation

Current Progress: Wharf Demo and Pile Driving



May 2024 – Wharf Demo

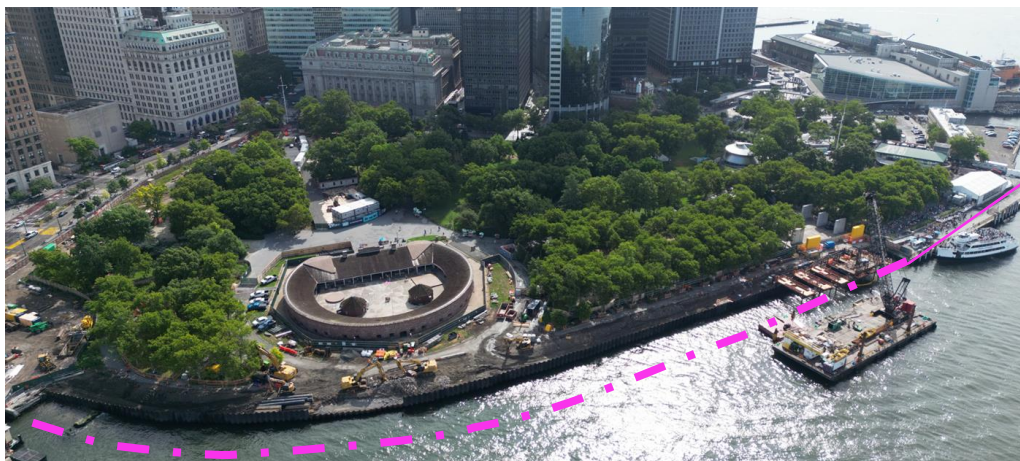


June 2024 – Pile Driving

Current Progress: Aerial Imagery



June 12, 2024



July 12, 2024

Former Face of
Wharf

Current Progress: Wood & Granite Refurbishment

Stony Creek Granite

Before Repair



After Repair



Wooden Sea Rail



Stage 3: LMCR - Battery Phase 1 Construction

Jan 2024 to July 2025 (19 Months)

OPEN TO THE PUBLIC

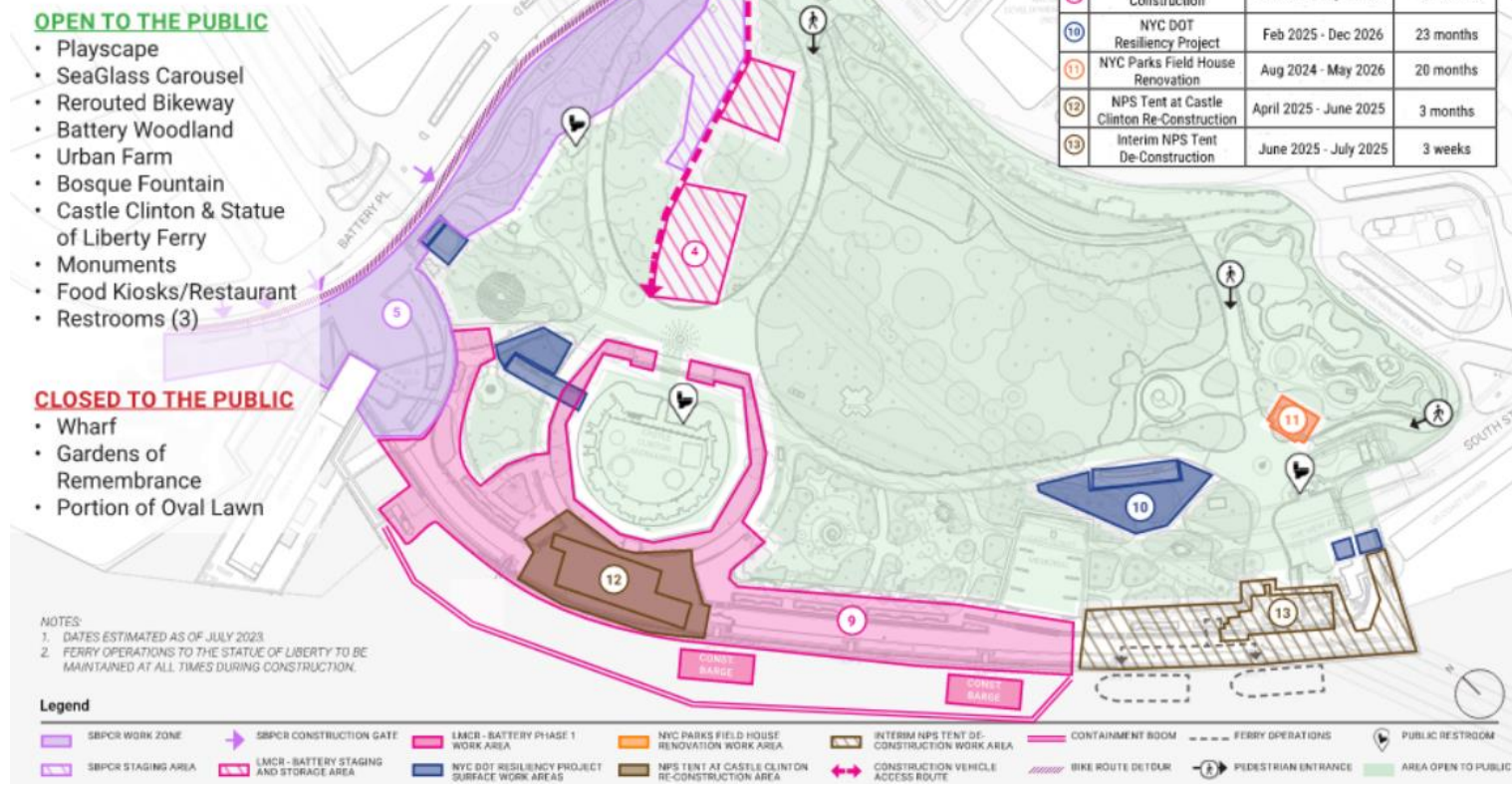
- Playscape
- SeaGlass Carousel
- Rerouted Bikeway
- Battery Woodland
- Urban Farm
- Bosque Fountain
- Castle Clinton & Statue of Liberty Ferry
- Monuments
- Food Kiosks/Restaurant
- Restrooms (3)

CLOSED TO THE PUBLIC

- Wharf
- Gardens of Remembrance
- Portion of Oval Lawn

Action Items - This Stage			
	Project	Timeframe	Duration
4	LMCR - Battery Staging and Storage Area	June 2023 - June 2026	36 months
5	SBPCR Project	Oct 2023 - Early/Mid 2025	20 months
9	LMCR - Battery Phase 1 Construction	Jan 2024 - April 2025	15 months
10	NYC DOT Resiliency Project	Feb 2025 - Dec 2026	23 months
11	NYC Parks Field House Renovation	Aug 2024 - May 2026	20 months
12	NPS Tent at Castle Clinton Re-Construction	April 2025 - June 2025	3 months
13	Interim NPS Tent De-Construction	June 2025 - July 2025	3 weeks

UNDERWAY
UNDERWAY
UNDERWAY



Stage 4: LMCR - Battery Phase 2 Construction

July 2025 to June 2026 (11 months)

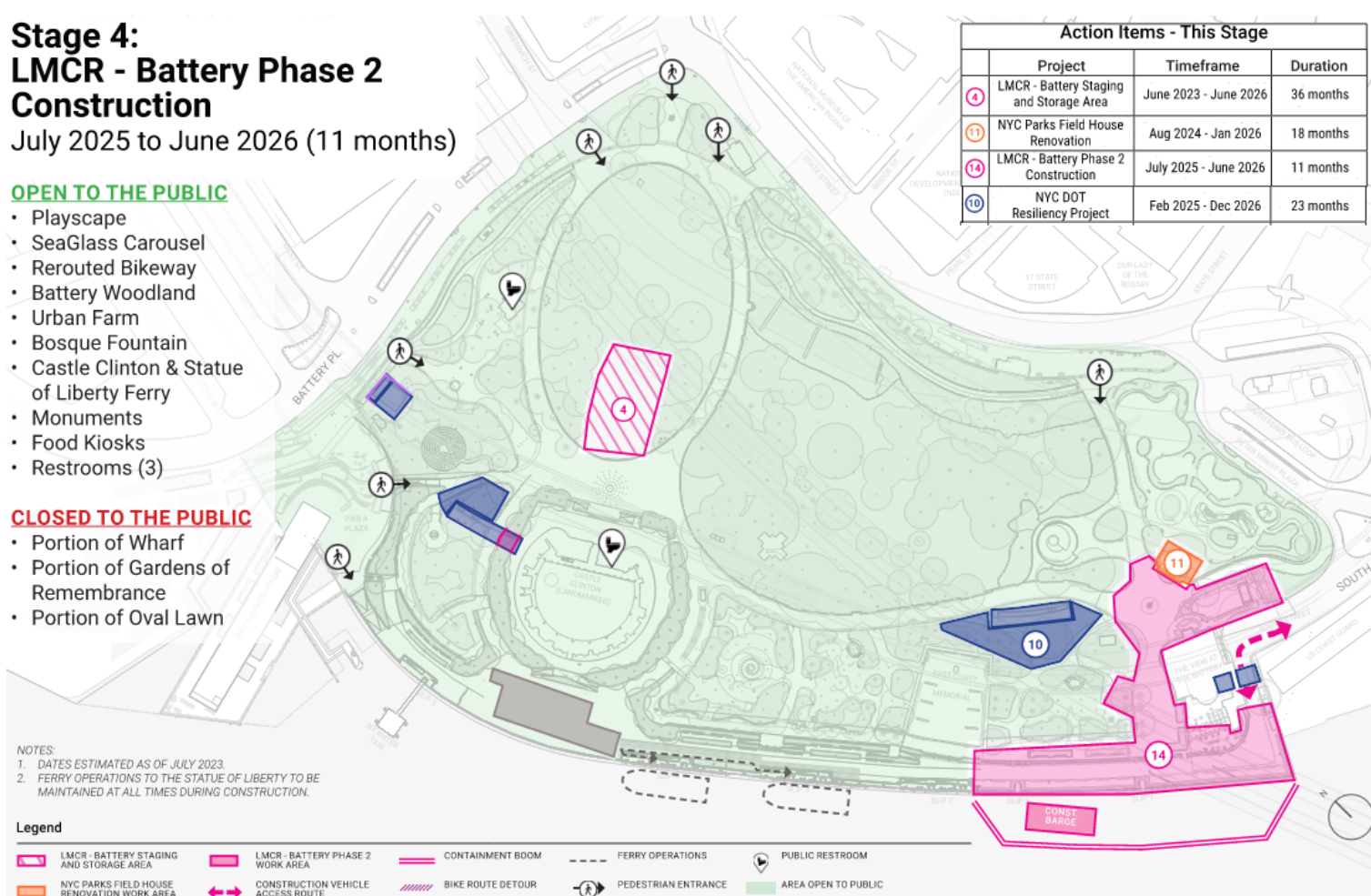
OPEN TO THE PUBLIC

- Playscape
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CLOSED TO THE PUBLIC

- Portion of Wharf
- Portion of Gardens of Remembrance
- Portion of Oval Lawn

Action Items - This Stage			
	Project	Timeframe	Duration
4	LMCR - Battery Staging and Storage Area	June 2023 - June 2026	36 months
11	NYC Parks Field House Renovation	Aug 2024 - Jan 2026	18 months
14	LMCR - Battery Phase 2 Construction	July 2025 - June 2026	11 months
10	NYC DOT Resiliency Project	Feb 2025 - Dec 2026	23 months



NOTES:

1. DATES ESTIMATED AS OF JULY 2023.
2. FERRY OPERATIONS TO THE STATUE OF LIBERTY TO BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION.

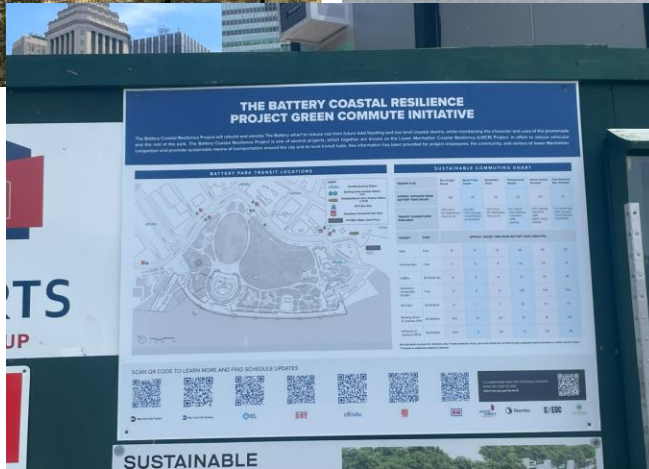
Legend

LMCR - BATTERY STAGING AND STORAGE AREA	LMCR - BATTERY PHASE 2 WORK AREA	CONTAINMENT BOOM	FERRY OPERATIONS	PUBLIC RESTROOM
NYC PARKS FIELD HOUSE RENOVATION WORK AREA	CONSTRUCTION VEHICLE ACCESS ROUTE	BIKE ROUTE DETOUR	PEDESTRIAN ENTRANCE	AREA OPEN TO PUBLIC

Site Signage



Site Signage



LMCR – Battery Coastal Resiliency in the News!

Groundbreaking 5/6/24



Sustainability



Community Outreach & Updates

Construction Notices

Lower Manhattan Coastal Resiliency Battery Coastal Resilience

Construction Notification | Date Issued: 05/09/2024

Project Summary

The Battery Coastal Resilience Project will rebuild and elevate the Battery wharf to reduce risk from future tidal flooding and low level coastal storms, while maintaining the character and uses of the promenade and the rest of the park. The Battery Coastal Resilience Project is one of several projects, which together are known as the Lower Manhattan Coastal Resiliency (LMCR) Project.

Newsletters

Battery Coastal Resilience News

June 2024

www.nyc.gov/site/lmcr/progress/battery-coastal-resilience.page



Image: Aerial image of The Battery (photo taken by The Battery Conservancy)

Questions?

Leah Yudin - Construction Community Liaison

info@batterycoastalresilience.com

<https://www.nyc.gov/site/lmcr/progress/battery-coastal-resilience.page>

Brooklyn Bridge-Montgomery Coastal Resilience Construction Update

CB1 Environmental Committee Meeting
1 Centre Street
July 15, 2024



BMCR | Project Status

ALL WORK IS SUBJECT TO CHANGE

1. Interceptor gate building foundation and floodwall construction
2. ConEd utility work on South St. from Robert F. Wagner Pl. to Market Slip
3. ConEd utility work on South St. from Pike Slip to Montgomery St. and water main installation from Clinton St. to Montgomery St.
4. Flip up gate installation, floodwall foundation construction, and micro pile installation
5. Floodwall foundation excavation and utility work
6. Pedestrian entrance to Pier 35 closed from South Street



Weekly Bulletins & Advisories are issued with construction activities.
Saturday work and off-hour shifts are anticipated for some work operations.

BMCR | Construction Photos



Contractor bolting flip up gate segments together – June 2024



Flip up gate hydraulics – June 2024

BMCR | Construction Photos



*Flip up gate, water side
- Renderings*



Deployed flip up gate during installation - June 2024

BMCR | Construction Photos



Deployed flip up gate, dry side – Rendering



Deployed flip up gate, dry side during installation – June 2024

BMCR | Resources

Visit Us: <https://www.nyc.gov/bmcr>

Community Construction Liaison:

Marsha Guido

347-538-4266

Email: bmcr.cl@gmail.com

Tabling in the Community

CB 3 Parks Meetings

On-site signage

Inquiry tool and email updates:

<https://www.nyc.gov/bmcr/contact>



Tabling event - 2023



Advisories posted on-site

NYC Lower Manhattan Coastal Resiliency 311 | Search all NYC.gov websites

NYC Lower Manhattan Coastal Resiliency [Русский](#) | Select Language | Text-Size

Background Progress Resources Get Involved Search

Brooklyn Bridge-Montgomery Coastal Resilience

Brooklyn Bridge-Montgomery Coastal Resilience

The Battery Coastal Resilience

Intrior Flood Protection Measure (IFPM)

Battery Park City Resilience Projects

The Financial District and Seaport Climate Resilience Master Plan

Seaport Coastal Resilience

Brooklyn Bridge - Montgomery Coastal Resilience

In the Two Bridges neighborhood, the Department of Design and Construction (DDC) will install a combination of flood walls and deployable flip-up barriers to protect the neighborhood from a 100-year storm surge in the 2050s, while also maintaining access and visibility to the waterfront. New York City Economic Development Corporation (NYCEDC) led the design for the project, which will extend along the waterfront from the Brooklyn Bridge to Montgomery Street. EDC completed design in fall of 2021 and DDC is now managing the construction of BMCR.

This project will reduce flooding risk – from both sea level rise and storm surge – for thousands of residents, while continuing to preserve views and access to the waterfront. These deployable barriers will be permanent infrastructure, hidden until they are flipped up in the event of a storm. The location of the flood walls and posts has been designed to minimize conflict with subsurface infrastructure and to maximize integration of public space amenities such as open-air seating, fitness equipment, and athletic courts.

Explore the headings below for more information about BMCR and the status of construction:

Learn more about the NYCEDC design phase: [NYCEDC BMCR](#)

The same waterfront that the community enjoys when weather is good...

...transforms into critical flood protection during major flooding events.

Learn More about BMCR

- About
- Construction Notices
- Presentations
- Newsletters
- Gallery
- Community Engagement
- Contact
- FAQs



NYC Lower Manhattan Coastal Resiliency 311 Search all NYC.gov websites

NYC Lower Manhattan Coastal Resiliency Dyckman Select Language | Text-Size

Background Progress Resources Get Involved

Brooklyn Bridge-Montgomery Coastal Resilience

[Brooklyn Bridge-Montgomery Coastal Resilience](#)

The Battery Coastal Resilience

Interim Flood Protection Measure (IFPM)

Battery Park City Resilience Projects

The Financial District and Seaport Climate Resilience Master Plan

Seaport Coastal Resilience

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Brooklyn Bridge-Montgomery Coastal Resilience

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Are you looking for more information?

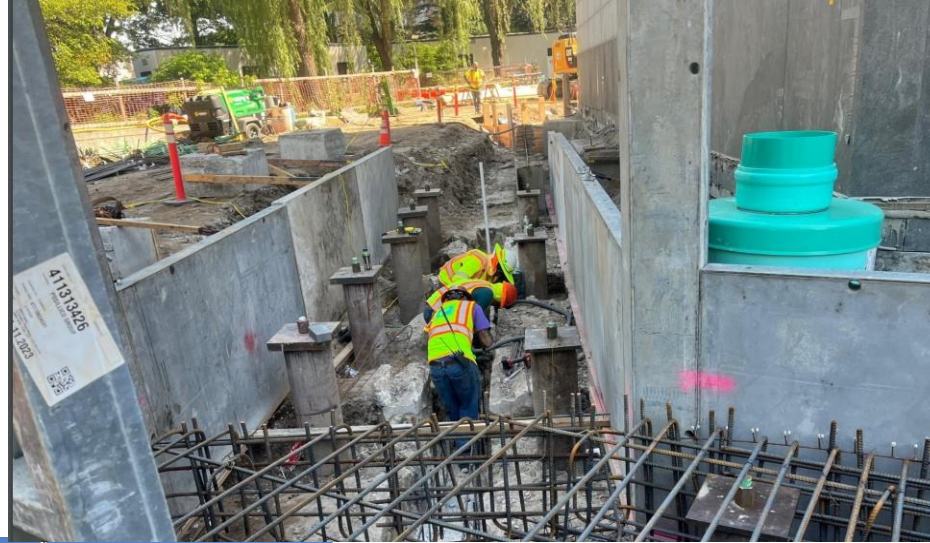
Visit Us at:
<https://www.nyc.gov/bmcr>



South Battery Park City Resiliency

Battery
Park City
Authority





**Wagner
Park/MJH:
Completed
Installation of
Flood Wall
Micropiles**



**Pier A Plaza &
The Battery:
Site
Demolition**



**Wagner Park:
Partial Pavilion
Progress**



**Wagner Park:
Partial
Installation of
Pavilion Rebar &
Concrete
Formwork**

South Battery Park City Resiliency- Contact Information

Questions and feedback about SBPCR can be sent to:

Katie MacDougall
Community Construction Liaison
(917) 624-5409
bpccrinfo@bpca.ny.gov

or by mail:

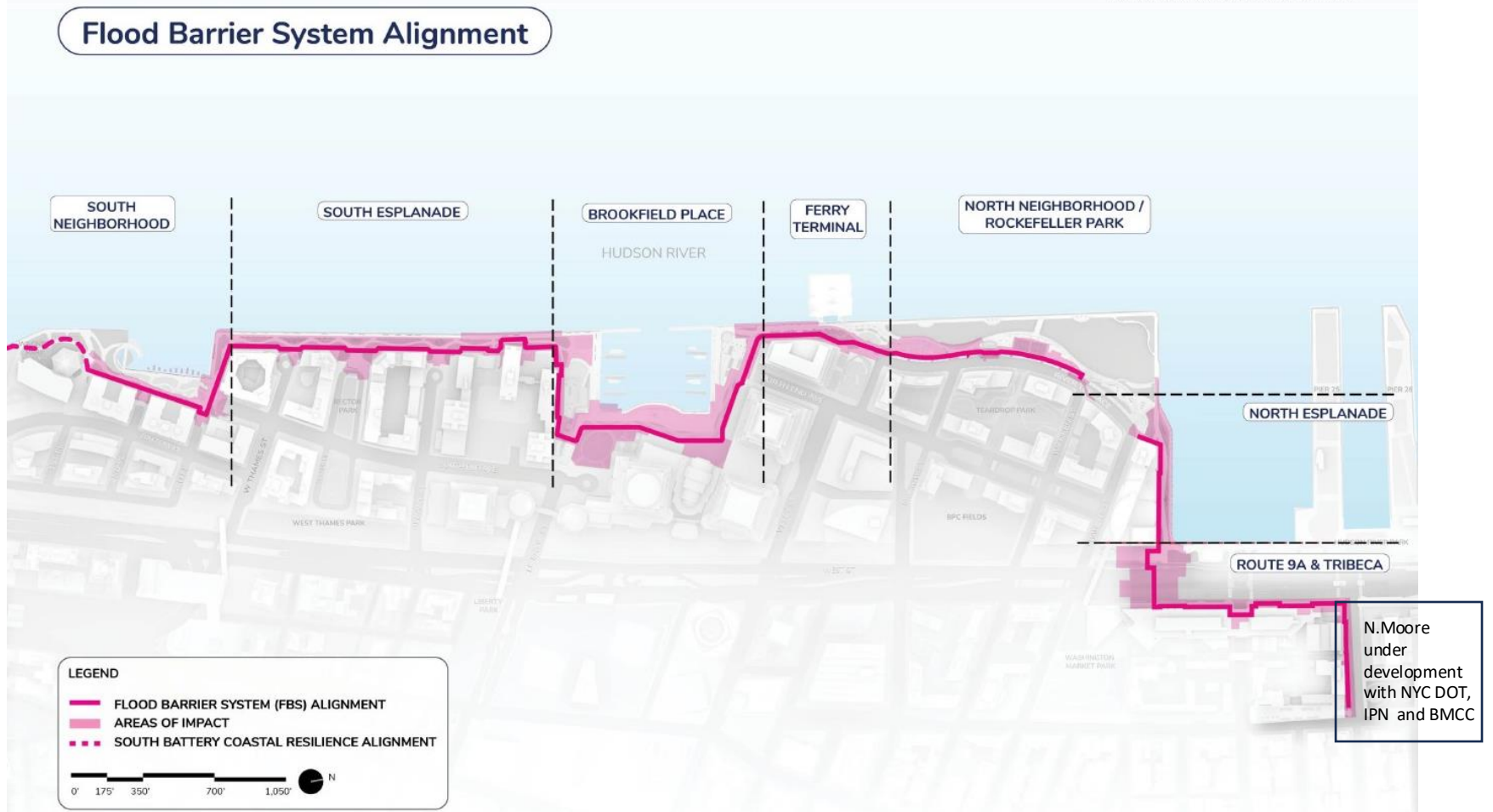
**Battery Park City Authority 200 Liberty
Street, 24th Floor New York, NY 10281
att: South BPC Resiliency Project Team**



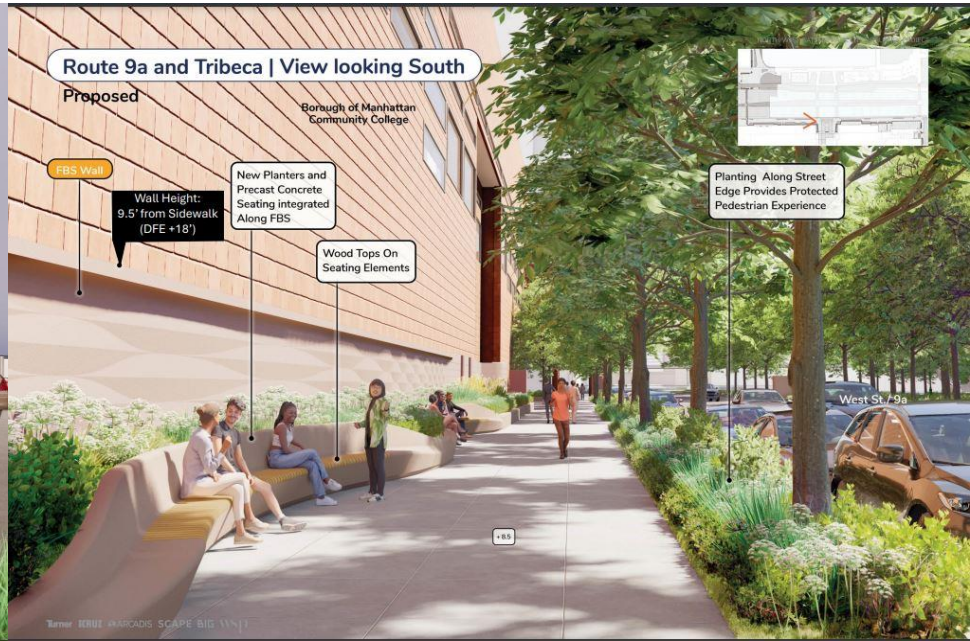
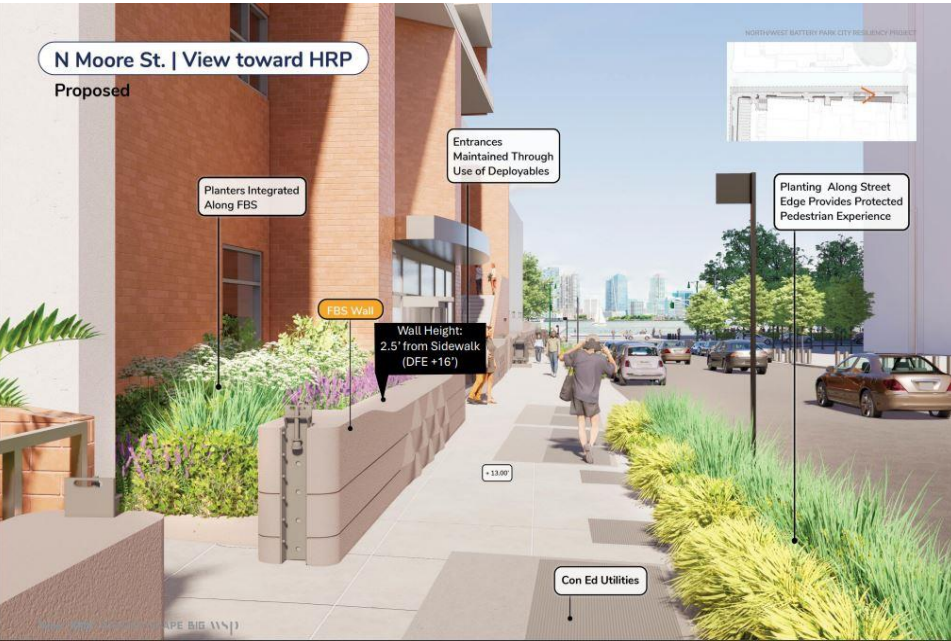
North/West Battery Park City Resiliency

NORTH/WEST BATTERY PARK CITY RESILIENCY PROJECT

Flood Barrier System Alignment



North/West Battery Park City Resiliency - Route 9A/Tribeca



North/West Battery Park City Resiliency - North Esplanade and Rockefeller Park



North/West Battery Park City Resiliency - Ferry Terminal and Brookfield Place



North/West Battery Park City Resiliency - South Neighborhood and South Esplanade



NWBPCR: Key Community Engagement Milestones To Date

- Project Kickoff - June 2021
- Public Meeting #1 - August 4, 2021
- Community "Walkshops"
 - October 28, 2021
 - November 4, 2021
 - November 13, 2021
- Public Meeting #2 - December 16, 2021
- Public Meeting #3 (Open House) - June 2022
- Public Meeting #4 - September 2022
- Presentation @ Manhattan CB1 - December 7, 2022
- Reach Specific Workshops
 - February 8, 2023
 - February 16, 2023
 - March 6, 2023
 - March 15, 2023
- Public Meeting #5 (30% Design) - June 26, 2023
- NWBPCR Project "SiteWalks"
 - Sitewalk 1: Reaches 1-4, October 19
 - Sitewalk 2: Reaches 1-4, Saturday, October 21
 - Sitewalk 3: Reaches 5-7, Saturday, October 21
 - Sitewalk 4: Reaches 5-7, Thursday, October 26
- Interior Drainage Update @ Manhattan CB1 - October 16, 2023
- Public Meeting #6 (Post-30% Design Progress Update) - November 30, 2023
- Presentation @ Manhattan CB1 (Reaches 6 & 7) - January 4, 2024
- Presentation @ Manhattan CB1 (Reaches 2, 3, 4) - March 18, 2024
- Presentation @ Manhattan CB1 (Reaches 1 & 5) - April 16, 2024
- Presentation @ Manhattan CB1 - June 6, 2024
- Public Meeting #7 (60% Design Progress Update) - June 20, 2024
- Smaller meetings with stakeholders throughout

Upcoming Public Engagement Opportunities

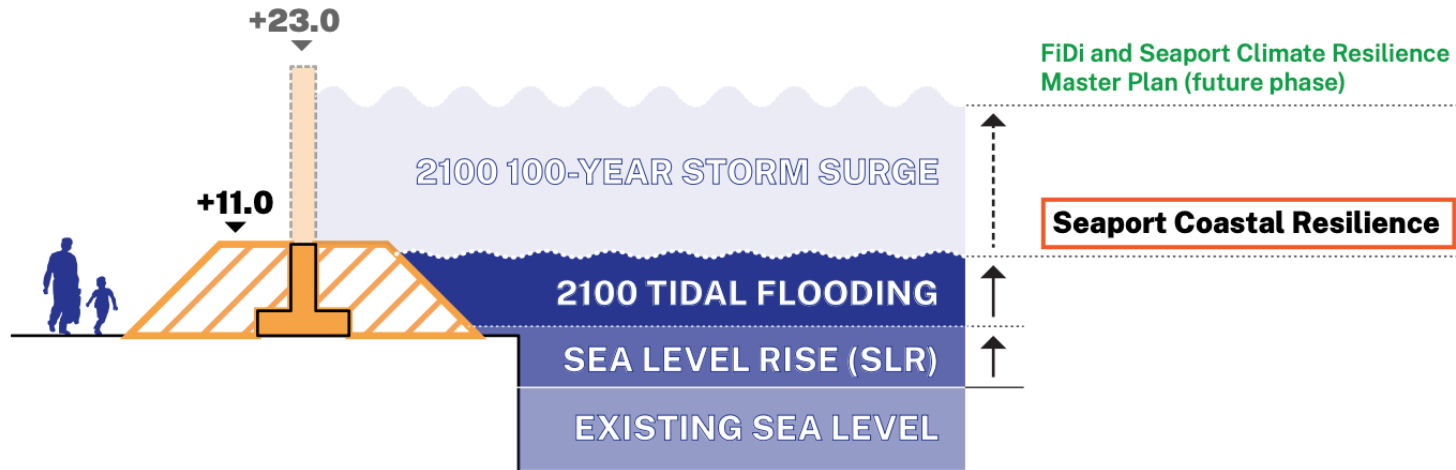
- *DEIS Hearing - September 2024*
- Public Design Commission Review - Fall 2024
- Solicit Community Input for Temporary Open Space Concepts - Summer/Fall 2024
- Advance Design of Pump Station - 2024/2025
- Meetings with Individual Buildings - Ongoing
- LMCR Quarterly Updates - On-going
- Agency Permitting - On-going
- Pre-Construction Engagement - 2025

Seaport Coastal Resilience (SPCR)



- Separate project from the FiDi and Seaport Climate Resilience Master Plan
- Narrow focus on the Seaport neighborhood between John Street and Brooklyn Bridge
- Designed to safeguard from immediate and future risks from tidal flooding and sea level rise projected for the year 2100

Climate Resilience Intentions



Seaport Coastal Resilience

- Raise waterfront to 11 feet above sea level
- Prevent flooding from tides and sea level rise in the year 2100

FiDi and Seaport Climate Resilience Master Plan (future phase)

- Extend the shoreline to accommodate multi-level waterfront
- Extend protection against 100-Year Storm Surge in the year 2100

Open House Overview

Open House Intent

- Introduce the project to the community
- Listen to the community's desires for the project and immediate neighborhood

Location & Date

Peck Slip School

Thursday, June 27

6:00 pm – 8:00 pm



Snapshots from the SPCR Open House on June 27th

Open House Promotion

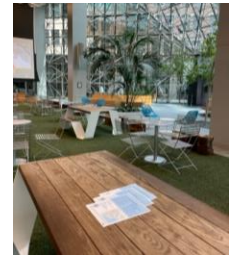
- Project flyer in English, Spanish, and Chinese
- E-blast to project stakeholders
- Flyers distributed to 49 locations across the project area including:
 - Local businesses
 - Schools (paper and in student e-backpacks)
 - Public spaces
 - Residential buildings

For Future Outreach

- Improve online presence
- Use social media



Meeting flyers in English, Spanish, and Simplified Chinese



Flyers posted at 110 Williams Street Apartments, Beatnik Café, and the Biodome public space

What We Heard

Feedback Topics

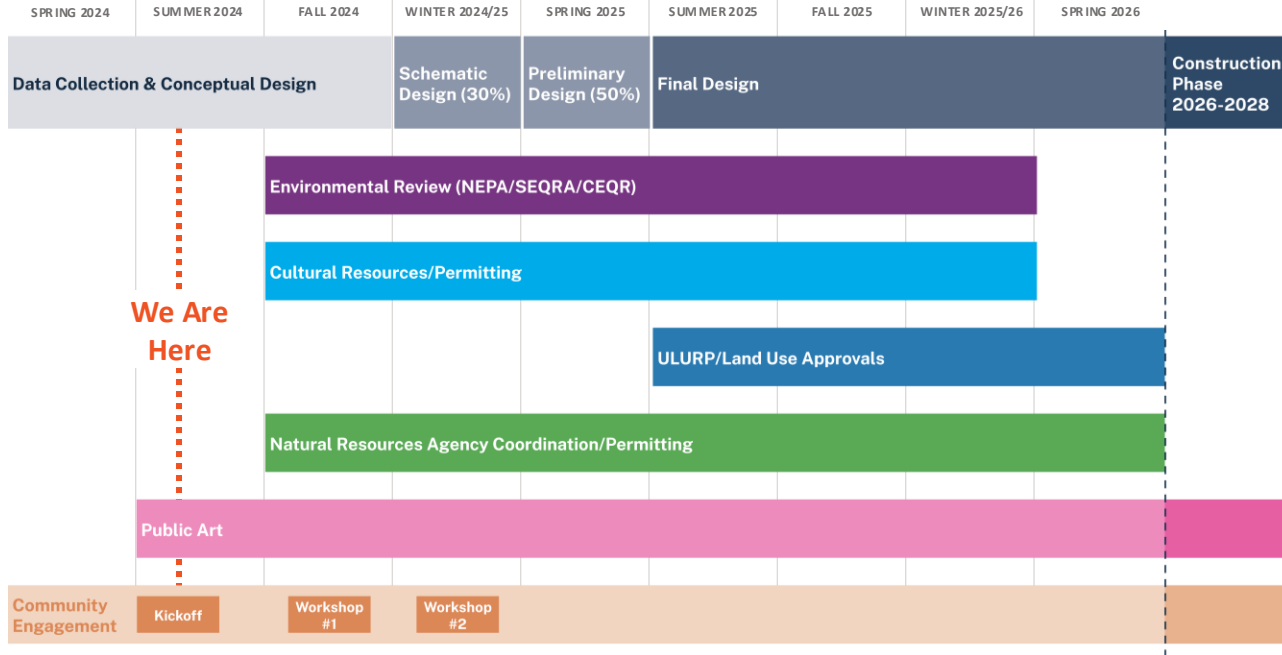
- Alignment and programmatic design
- Imagination Playground
- Historic character
- Waterfront views and access
- FDR Drive
- Cycling and pedestrian infrastructure
- Green infrastructure and green spaces
- Maritime infrastructure
- Social space
- Connectivity
- Environmental Education
- Flooding and drainage concerns
- New Market Pier
- Public art
- Community outreach

What We Heard

What would you like to see in the SPCR area?



Next Steps



We Are Here

We will be back in the fall!

CB1 outreach in advance of:

Early Fall

Potential Public Design Commission concept meeting

Late Fall

Potential Community Design Workshop

Battery Park Underpass Improvements (NYC DOT)

Summary of Work

- DOT plans to complete flood mitigation improvements at both ends of the Battery Park Underpass to include:
- Flood door and barriers
- Flood proofing to ventilation shafts, buildings, and other openings that could allow water to enter
- Structural and electrical work for generators

Schedule and Closures

- BPU to be kept open during daytime; some overnight closures expected
- DOT will share further updates with CB1 as we move closer to start date





Financial District & Seaport Climate Resilience Plan Updates

July 15th, 2024

Engagement Updates

Spring (March-May)

- Fulton Market tabling
- Seaport Kids Earth Day

Summer (June-August)

- Harbor School collaboration
- Seaport Kids Music Festival and summer programming
- Imagination Playground tabling
- Flyering at LM businesses

Fall (September-November)

- Back-to-School programming
- CCLM meeting to share design updates



Harbor School FiDi/WEDG capstone



Seaport Kids x Earth Day



Seaport Kids Music Fest

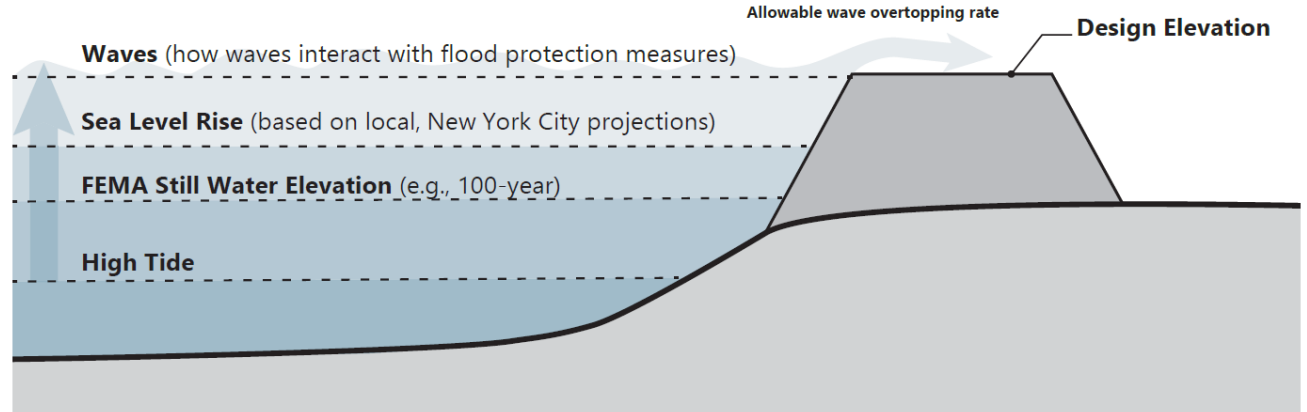


Seaport Kids Music Fest

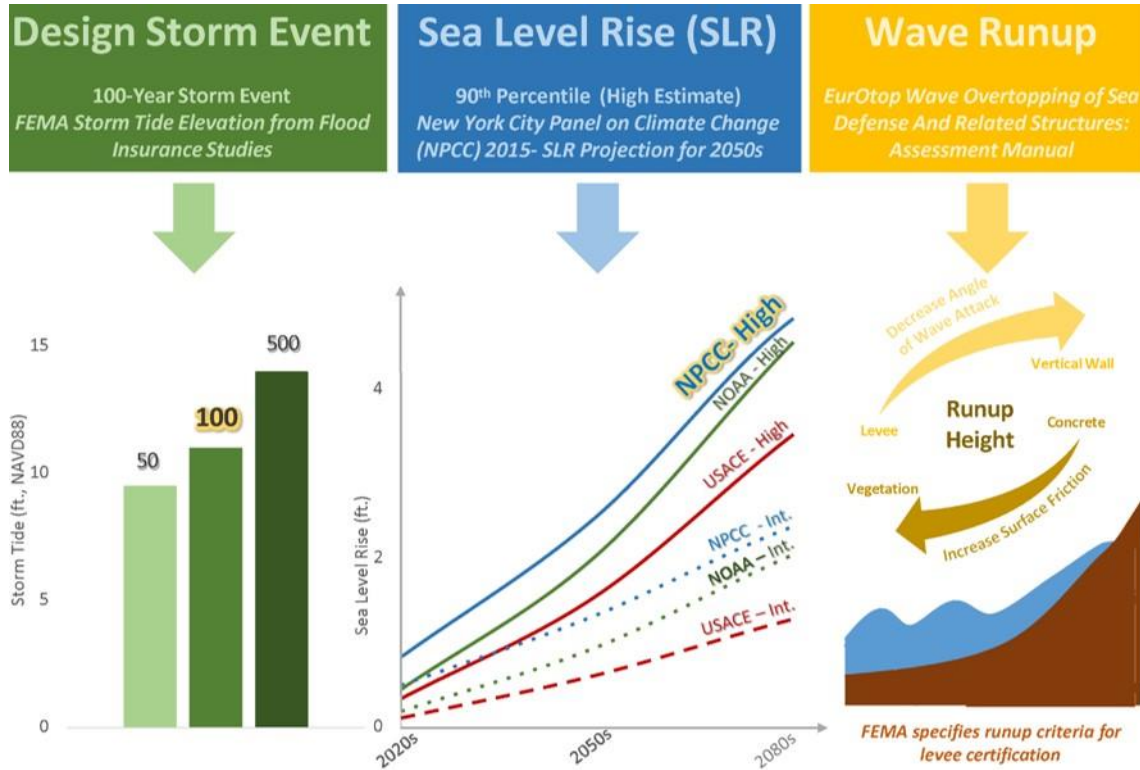
Appendix

What is a Design Flood Elevation?

- The **design flood elevation**, or the “**DFE**” is the minimum elevation to which a structure must be elevated or floodproofed.
- To calculate a DFE, first a **Design Storm Event** is determined, then additional height is included for **sea level rise, wave runup and wave overtopping**.
- The selected design storm, sea level rise projection, and relative wave climate, all have a large impact on the DFE.
- Projects pursuing FEMA accreditation need to comply with FEMA 44 CFR 65.10 – which sets forth design standards.

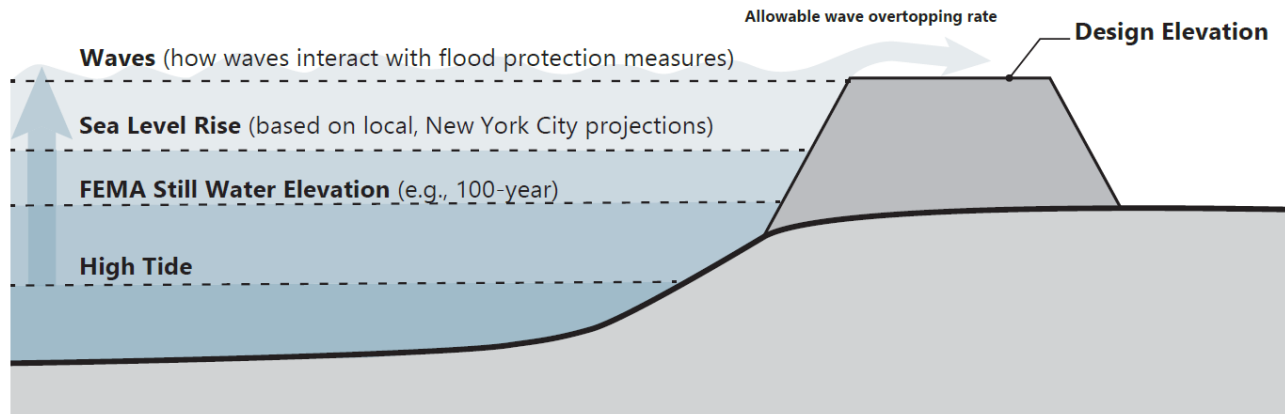


All LMCR projects are based on the same underlying principles



What is a Design Flood Elevation?

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Different geographies and implementation needs produce design variations.

WAVES

- For LMCR, the waves are bigger in the south near the Battery due to the relative location in the NY harbor.

ON-LAND CONDITIONS

- Some areas have less space to site flood defense, particularly where there is less existing open space.

IMPLEMENTATION TIMELINES AND REQUIREMENTS

- Projects awarded federal funds need to be designed and implemented within the allowable timeframe



Current capital projects & planning studies share same underlying principles with variations that reflect localized needs.

CAPITAL PROJECTS TO PROTECT AGAINST TIDAL FLOODING AND FREQUENT STORMS:

- The Battery Coastal Resilience
- Seaport Coastal Resilience (SPCR)

CAPITAL PROJECTS TO ADDRESS BOTH STORM SURGE AND TIDAL FLOODING:

- Battery Park City Coastal Resilience Projects
- Brooklyn Bridge-Montgomery Coastal Resilience (BMCR)

LONG TERM PLANNING PROJECTS TO ADDRESS BOTH STORM SURGE AND TIDAL FLOODING:

- The Financial District and Seaport Climate Resilience Master Plan

