

NORTH/WEST BATTERY PARK CITY RESILIENCY PROJECT

Reaches 1 & 2 Workshop

February 16, 2023



Battery Park
City Authority

Turner  CRUZ  ARCADIS SCAPE BIG WSP

Project Team

CLIENT TEAM:

CLIENT:



ADVISORS:



CONSULTANTS:



DESIGN-BUILD TEAM:

PRIMARY CONTRACT:



CONSULTANT:



SUB-CONSULTANTS:



Today's Workshop

- 1. Introduction and Project Overview (20 mins)**
- 2. Small Group Discussion (1 hour)**
- 3. Small Group Report Out and Response (1 hour)**
- 4. Closing Remarks**

Project Schedule



Precise construction completion dependent upon agency permitting and approvals.

A Piece of a Connected & Resilient Waterfront

US ARMY CORPS OF
ENGINEERS NY-NJ HARBOR
AND TRIBUTARIES STUDY

BATTERY PARK CITY
RESILIENCE PROJECTS
1.15 MILES

TRIBECA

SEAPORT

FINANCIAL
DISTRICT

BROOKLYN BRIDGE - MONTGOMERY
COASTAL RESILIENCE
.80 MILES

EAST SIDE COASTAL
RESILIENCY

THE FINANCIAL DISTRICT AND SEAPORT
CLIMATE RESILIENCE MASTERPLAN
HIGHLY CONSTRAINED AREA
.90 MILE

THE BATTERY
COASTAL RESILIENCE
.33 MILES



Today's Focus Area



0' 175' 350' 700' 1,050'



Battery Park
City Authority

Turner **CRUZ** **ARCADIS** **SCAPE** **BIG** **wsp**

Future Flood Risk



LEGEND

- SWEL* DURING A 100-YEAR STORM EVENT WITH 2.5 FT OF SLR
- PROJECT AREA
- FERRY ROUTE

STILL WATER ELEVATION (SWEL) DOES NOT INCLUDE WAVE ACTION

0' 175' 350' 700' 1,050'

REACH 2

REACH 1

STILL WATER ELEVATION (SWEL) DURING A 100-YEAR STORM EVENT WITH 2.5 FT OF SEA LEVEL RISE

Reach 1 + 2

REACH 1

NORTH MOORE ST

HUDSON RIVER PARK

WEST ST / 9A

REACH 2

NORTH ESPLANADE

ROCKEFELLER
PARK



REACH 2

NORTH ESPLANADE

North Esplanade

REACH 2

NORTH ESPLANADE

STUYVESANT
HIGH SCHOOL

What We Heard

- Concerns over circulation conflicts.
- Desire for enhanced relationship with the waterfront.

Design Constraints

LIMIT OF
PLATFORM
EXTENSION

17'
43.5'

495'

EXISTING
MOORING
FIELDS

~66'

OUTFLOW

LEGEND

- COMBINED SEWER
- STORMWATER SEWER
- EXISTING PLATFORM
- EXISTING TREES
- MOORING FIELDS

0' 20' 40' 100'



NEW YORK
STATE OF
OPPORTUNITY

Battery Park
City Authority

Turner+KRUZ ARCADIS SCAPE BIG wsp

Discussion

1: Extension

Previously presented layout with a continuous 17' platform extension.



2: Meander

Shared path meanders to optimize planting and social space opportunities.

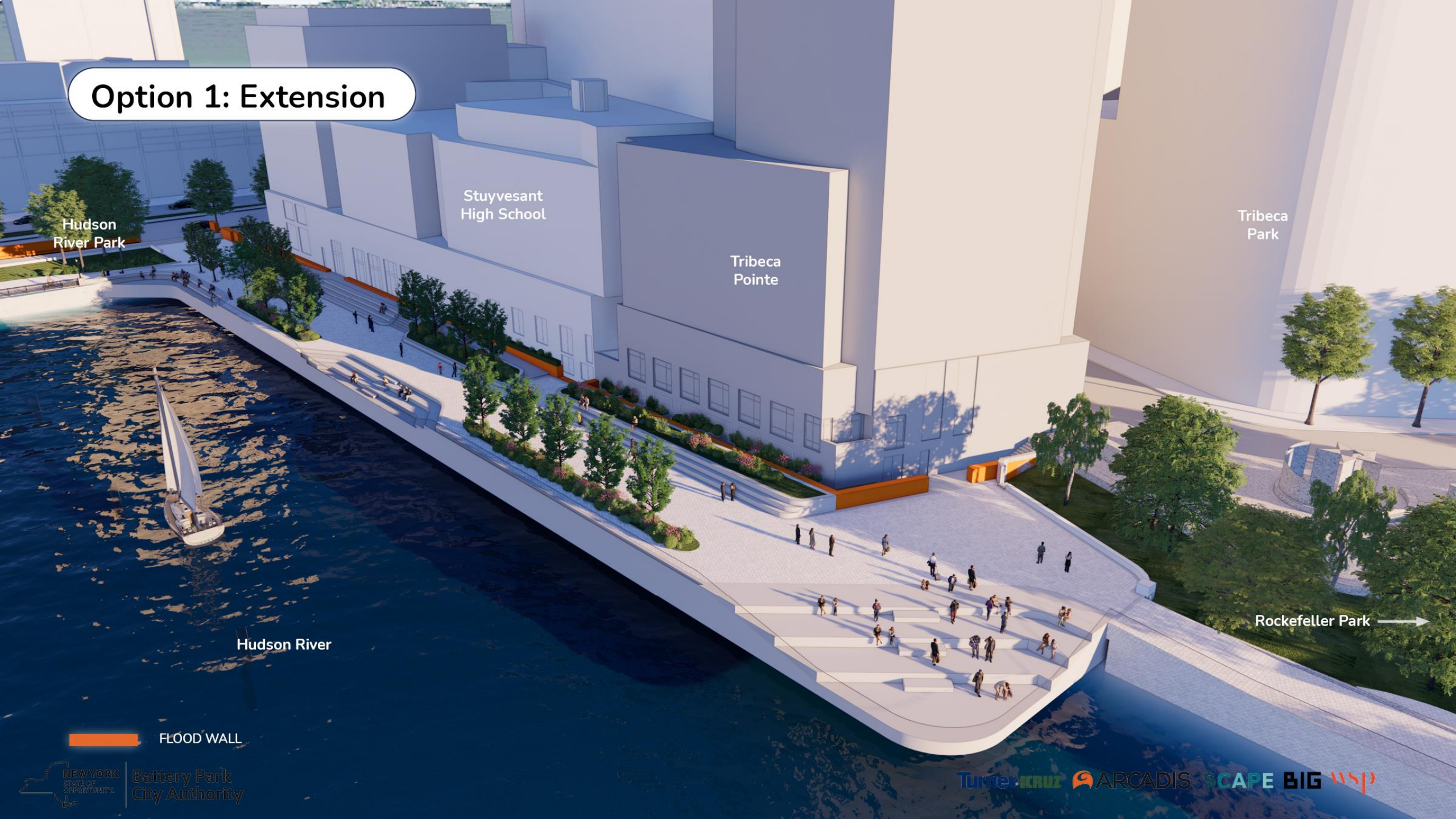


3: Wave

Strategically expands to address pinch-points and minimize over-water coverage.



Option 1: Extension



Stuyvesant
High School

Tribeca
Pointe

Tribeca
Park

Hudson
River Park

Hudson River

Rockefeller Park

FLOOD WALL

Option 2: Meander



Stuyvesant
High School

Tribeca
Pointe

Tribeca
Park

Hudson
River Park

Hudson River

Rockefeller Park →

FLOOD WALL

Option 3: Wave



Stuyvesant
High School

Tribeca
Pointe

Tribeca
Park

Rockefeller Park

Hudson River

Hudson
River Park

FLOOD WALL

REACH 1

TRIBECA TIE-BACK

Reach 1

REACH 1

NORTH MOORE ST

9A CROSSING

HUDSON
RIVER PARK



What We Heard

- **Concerns over impact to bikepaths and circulation.**
- **Concerns over wall height and impacts on views.**
- **Minimize impact to existing trees.**

North Moore Street

REACH 1

NORTH MOORE ST

9A CROSSING

HUDSON
RIVER PARK



Design Constraints

Citi Headquarters

Citi Headquarters Park

LEGEND

- FLOODWALL LIMIT
- PARKING
- VAULTS
- CURB CUT
- EXISTING TREES
- ENTRANCE
- VEHICLE EXIT
- STREET LAMPS



West St

N Moore St

BMCC

Independence Plaza

Greenwich St

Discussion

1: Align With Curb

Construct floodwall along curb to minimize impacts to residential building.



2: Align With Building

Align floodwall along building to reduce impact to existing streetscape uses.

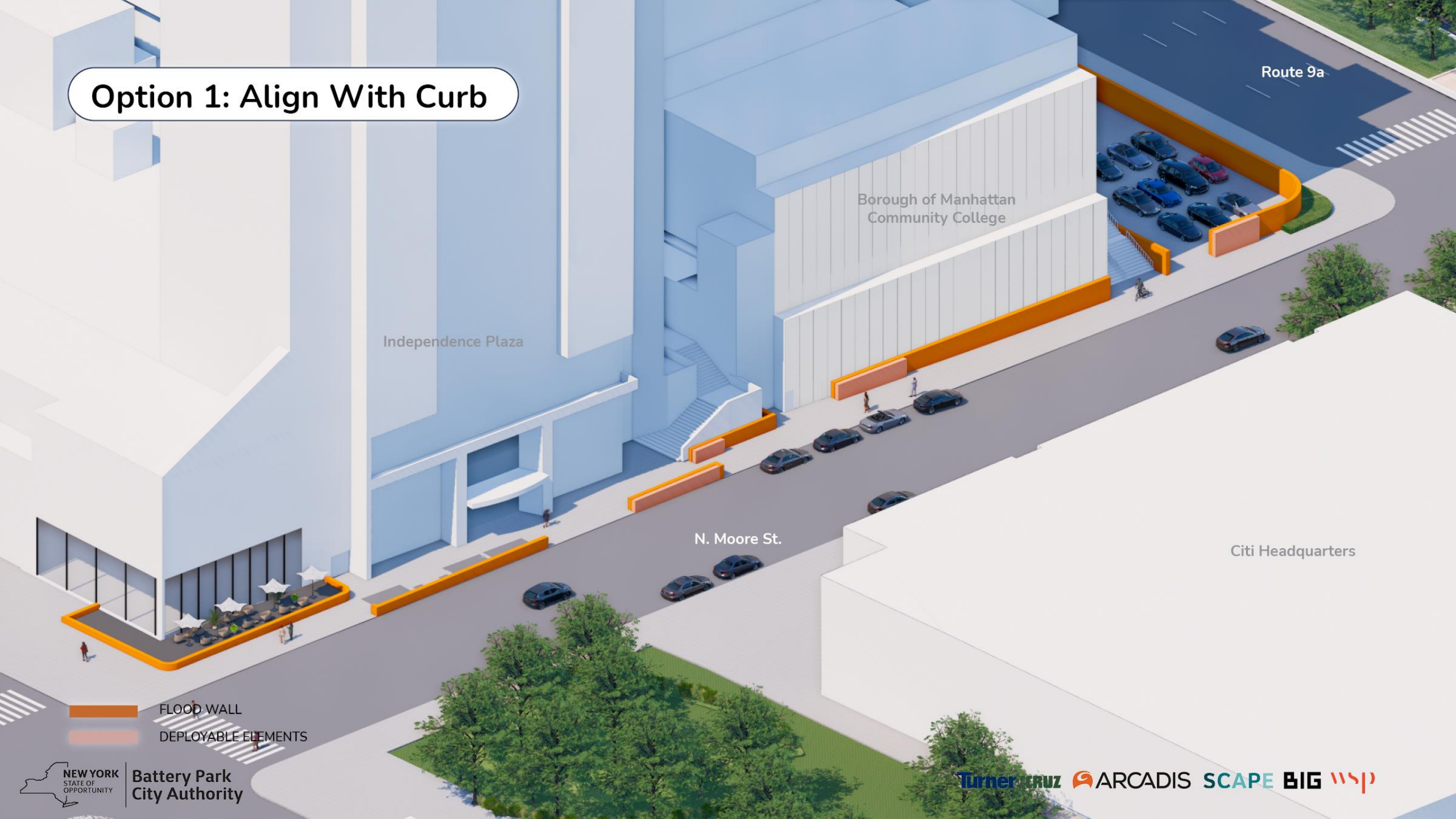


3: Enhance Streetscape

Align floodwall along building and widen sidewalk to accommodate tree canopy.

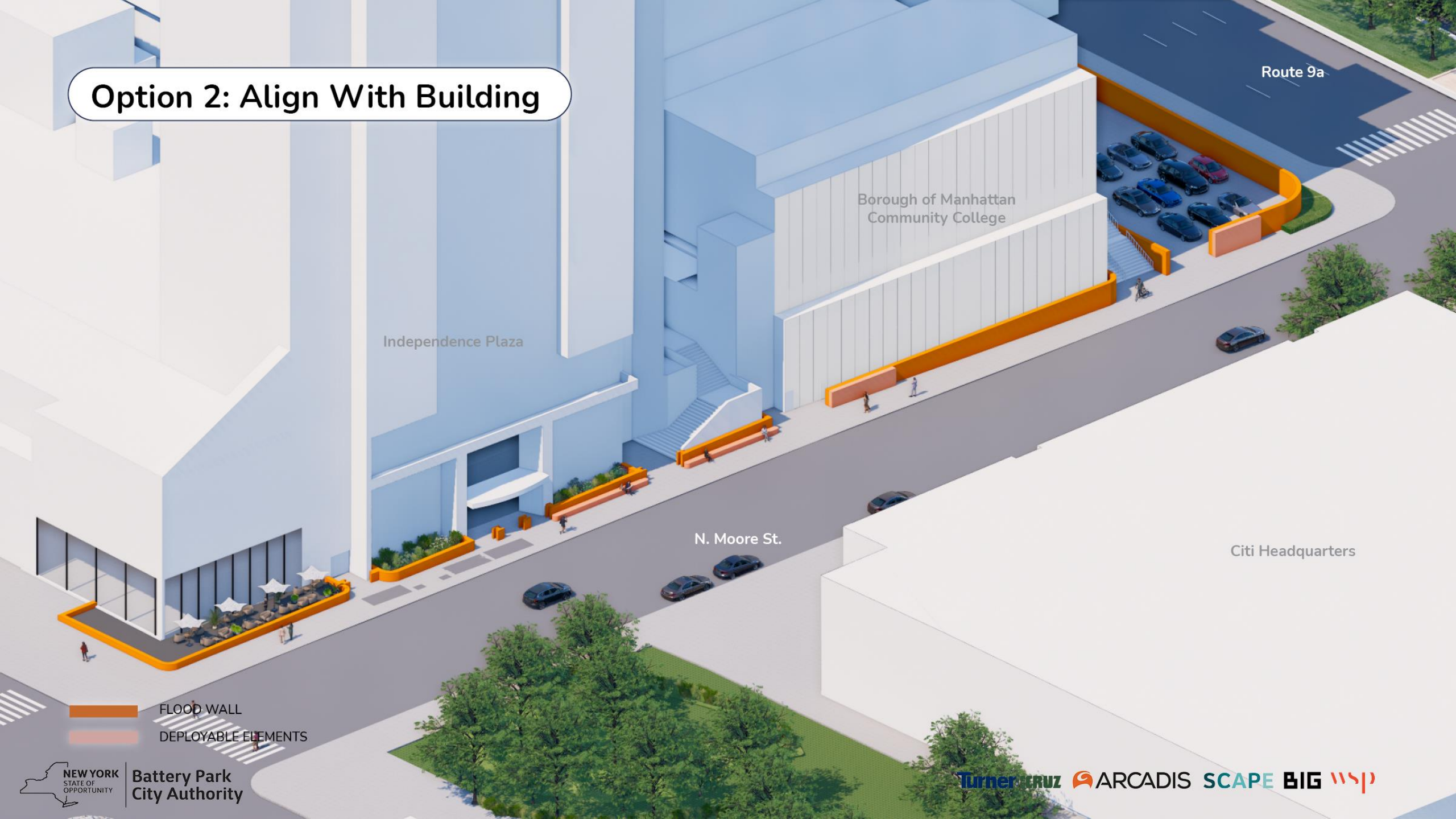


Option 1: Align With Curb



FLOOD WALL
DEPLOYABLE ELEMENTS

Option 2: Align With Building



FLOOD WALL

DEPLOYABLE ELEMENTS



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Turner CRUZ ARCADIS SCAPE BIG WSP

Option 3: Enhanced Streetscape



FLOOD WALL

DEPLOYABLE ELEMENTS



Battery Park
City Authority

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West Street (NY-9A) Crossing

REACH 1

NORTH MOORE ST

9A CROSSING

HUDSON
RIVER PARK



Design Constraints

LEGEND

ZONE CONSIDERED FOR FLOODWALL ALIGNMENT

SEWER

EXISTING TREES

ACCESS

WATER

GAS

ELECTRIC

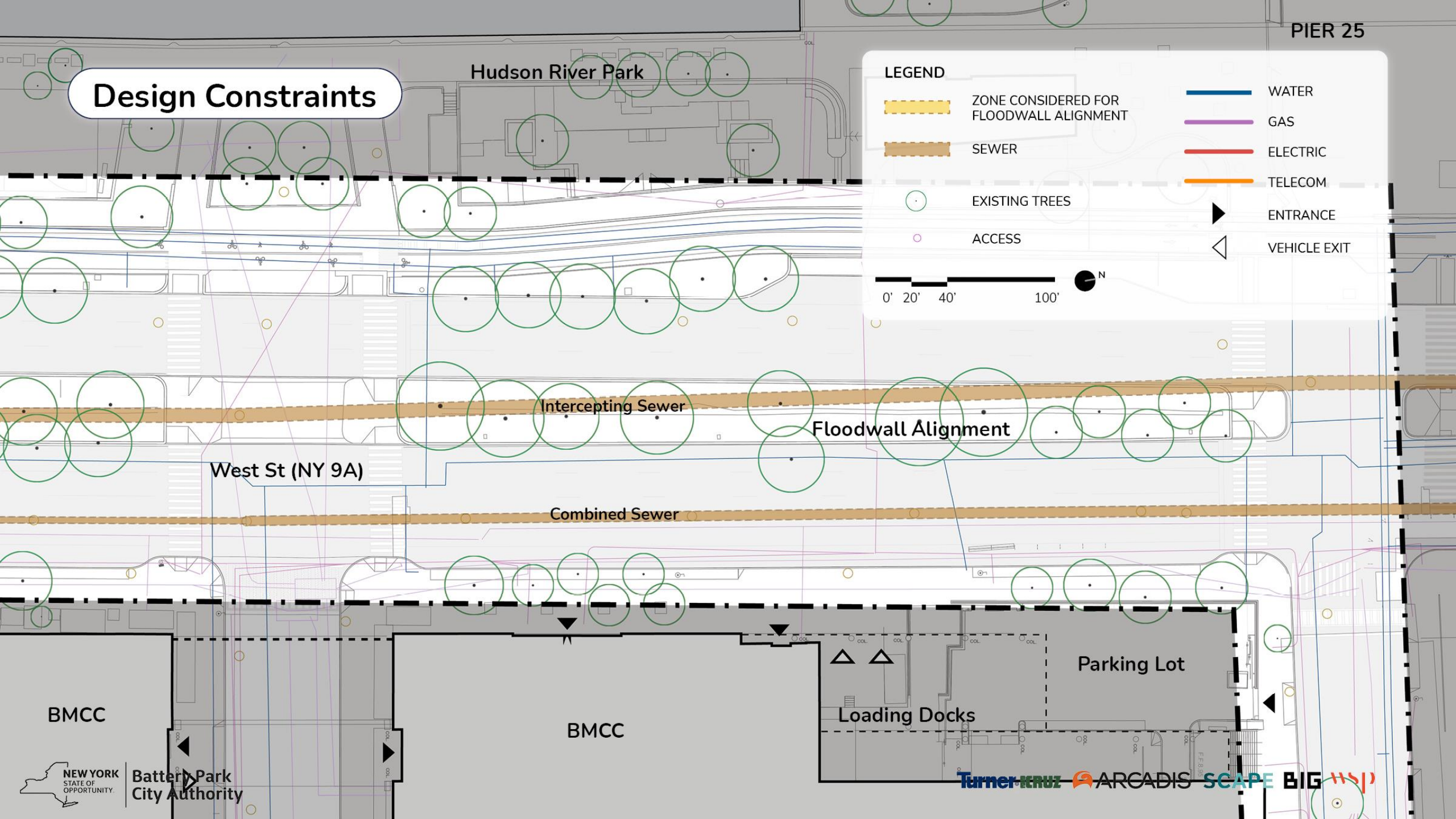
TELECOM

ENTRANCE

VEHICLE EXIT

0' 20' 40' 100'

N



West St (NY 9A)

Intersecting Sewer

Floodwall Alignment

Combined Sewer

Parking Lot

Loading Docks

BMCC

BMCC

West Street (NY-9A) Crossing: Next Steps Underway

- Continued evaluation of median alignment - confirming technical feasibility.
- Additional coordination with NY State and City Departments of Transportation
 - better understanding of operational constraints and flexibility.
- Construction logistics development.

Hudson River Park

REACH 1

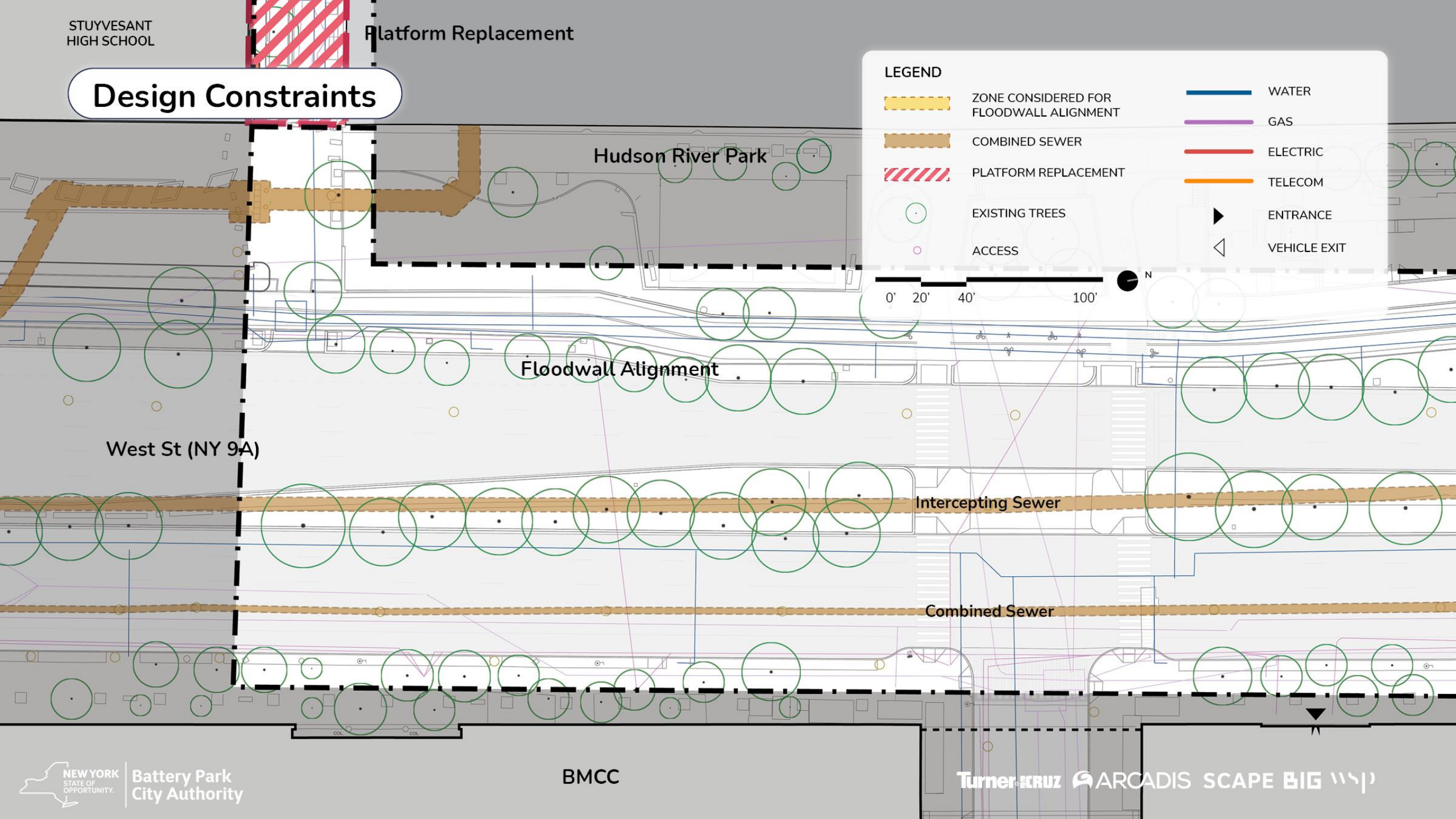
NORTH MOORE ST

9A CROSSING

HUDSON
RIVER PARK



Design Constraints



LEGEND

ZONE CONSIDERED FOR
FLOODWALL ALIGNMENT

COMBINED SEWER

PLATFORM REPLACEMENT

EXISTING TREES

ACCESS

WATER

GAS

ELECTRIC

TELECOM

ENTRANCE

VEHICLE EXIT

West St (NY 9A)

Floodwall Alignment

Intercepting Sewer

Combined Sewer

BMCC

Discussion



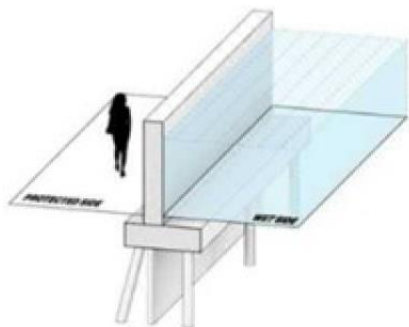
- Full height fixed wall between bike path and Rte 9A



- Partial height fixed wall with deployable elements between bike path and Rte 9A

Discussion

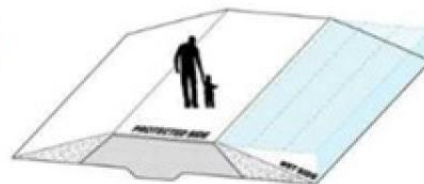
STATIC



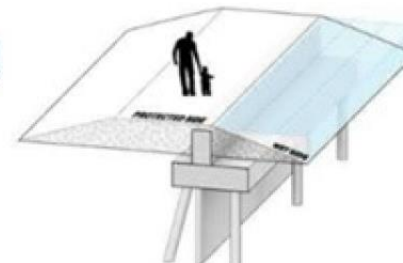
FLOOD WALL



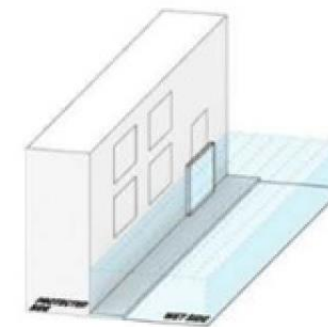
CONCEALED FLOODWALL



STRUCTURAL BERM

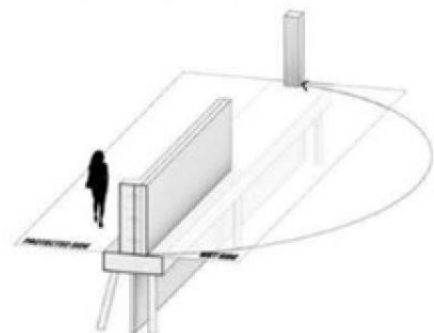


BERM WITH CONCEALED FLOODWALL

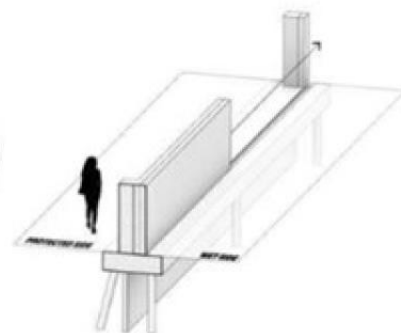


DRY-FLOOD PROOFING

DEPLOYABLES



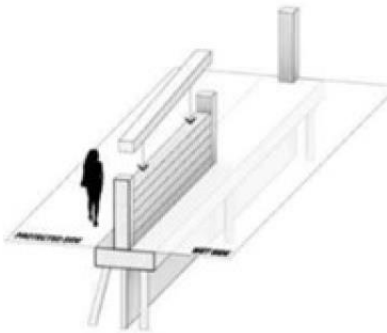
SWING GATE



SLIDING GATE



FLIP UP GATE



STOP LOGS



VERTICAL SLIDING GATE

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