Department of Design and Construction

Red Hook Coastal Resiliency (RHCR)

Unified Land Use Review Procedure
ULURP Application Numbers: C 240036 PQK, C 240035 MMK
Land Use Numbers: LU 0085-2024, LU 0084-2024
Subcommittee Title: Subcommittee on Landmarks, Public Sitings, and Dispositions

FOR PRESENTATION PURPOSE ONLY

***If you are a member of the public who wishes to testify, please register on the City Council Website at council.nyc.gov. Please visit the city council website to watch livestreams of all City Council Meetings and recordings of previously held meetings.**

Eric Adams
Mayor

Thomas Foley
Commissioner

Mayor's Office of Climate & Environmental Justice

NEW YORK CITY DOT

NYC Environmental Protection

NYC EDC

June 4, 2024

AGENDA

PROJECT OVERVIEW AND SCHEDULE

EXISTING CONDITIONS AND FLOOD RISK

DESIGN REVIEW

ENVIRONMENTAL REVIEW + LAND USE ACTIONS

SUMMARY + NEXT STEPS

PROJECT OVERVIEW AND SCHEDULE

PROJECT GOALS

Developed in conjunction with community feedback and consultation

Maintain a passive system at elevation 8-ft

Activate deployable features to reach an elevation of 10-ft

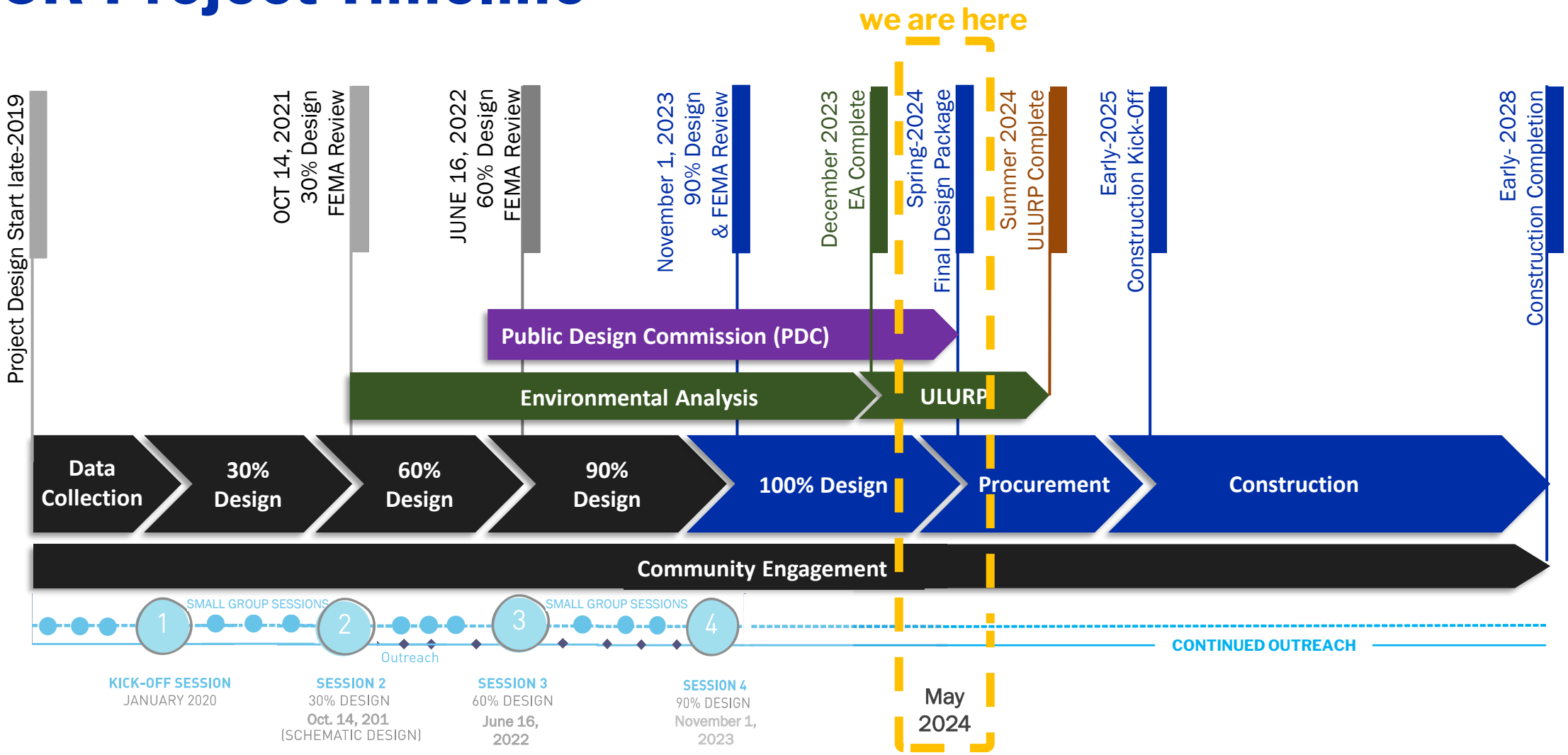
Minimal impacts to pedestrian, bike, and vehicle circulation

Maintain neighborhood connectivity and access to active waterfront

Enhance and incorporate the Brooklyn Waterfront Greenway

Reduce flood impacts to existing drainage system

RHCR Project Timeline



RHCR Community & Stakeholder Engagement

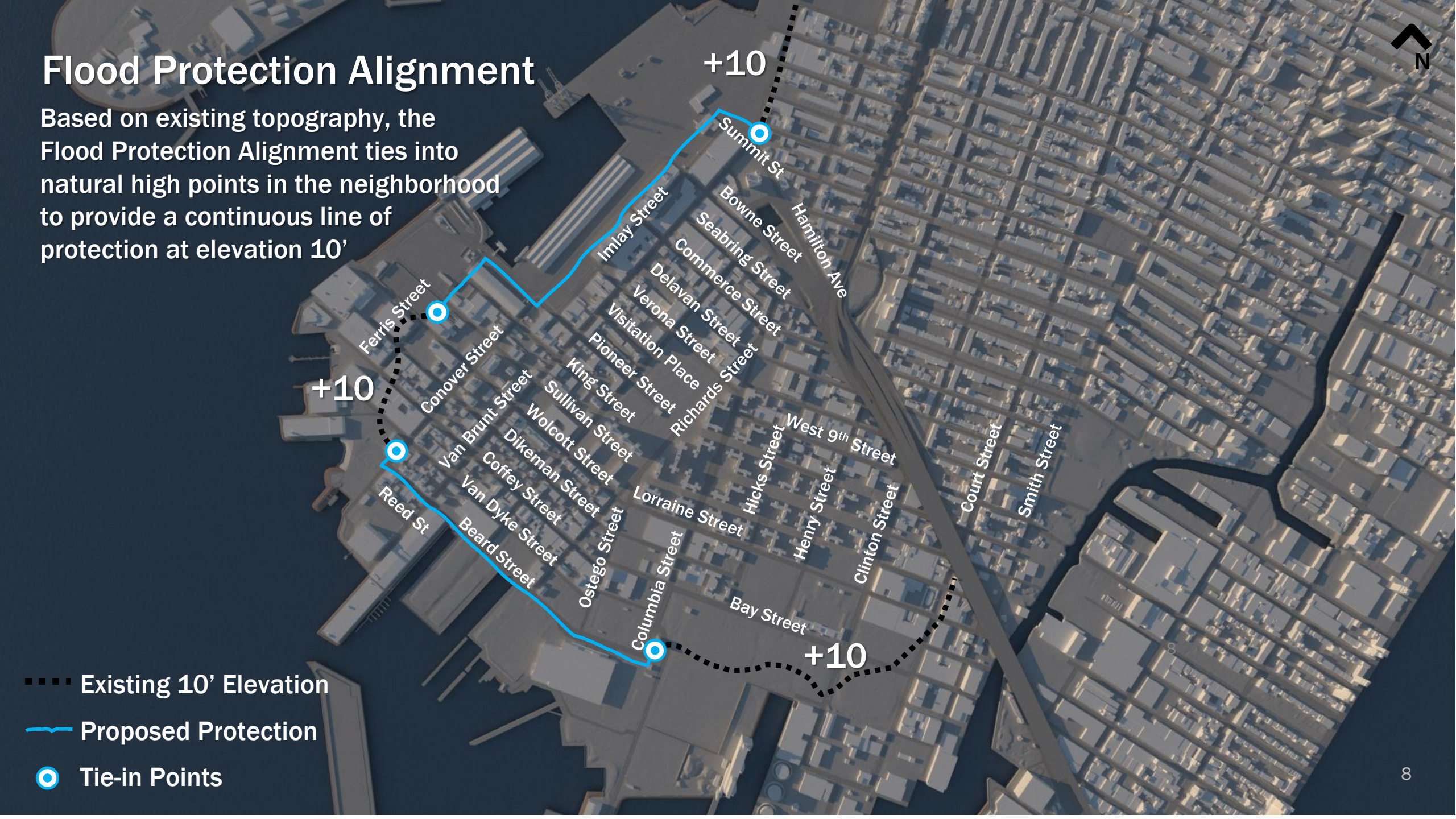
What We've Done So Far

2016 – 2018	Feasibility study, four large public meetings, several focused-group meetings
JAN 2020	Capital project kick-off meeting and recap of Feasibility Study
JAN-MAR 2021	Introductory briefings with Elected Officials and stakeholders, including: Councilmember Menchaca, Congresswoman Velazquez, Assemblywoman Mitaynes, BK Borough President, BK CB6 District Manager, Red Hook Initiative, Resilient Red Hook, Red Hook West, Community Justice Center, MAP
FEB-JUN 2021	Coordination meetings with private properties, including: Port Authority, O'Connell Group, Thor Equities, Amazon, UPS, IKEA
SEP 2021	Design meetings with Elected Officials and key stakeholders, including: Councilmember Menchaca, Congresswoman Velazquez, Assemblywoman Mitaynes, BK Borough President, BK CB6 District Manager, Resilient Red Hook, Red Hook West and East, MAP
OCT 2021	30% Design Public Meetings / Workshops
JAN-JUN 2022	Coordination meetings with private properties, including: Port Authority, O'Connell Group, Thor Equities, Amazon, UPS, IKEA
JUNE 2022	60% Design Meetings: Elected Officials, CB6, and Red Hook Community
APR-JUN 2023	Design meetings with Elected Officials and Key Stakeholders, including: Assemblymember Mitaynes, Brooklyn Borough President Reynoso, Councilmember Aviles, Congressman Goldman, Senator Gounardes, Resilient Red Hook (RRH), Red Hook Initiative (RHI)
OCT-NOV 2023	90% Design Meetings: Elected Officials and Red Hook Community

EXISTING CONDITIONS + FLOOD RISK

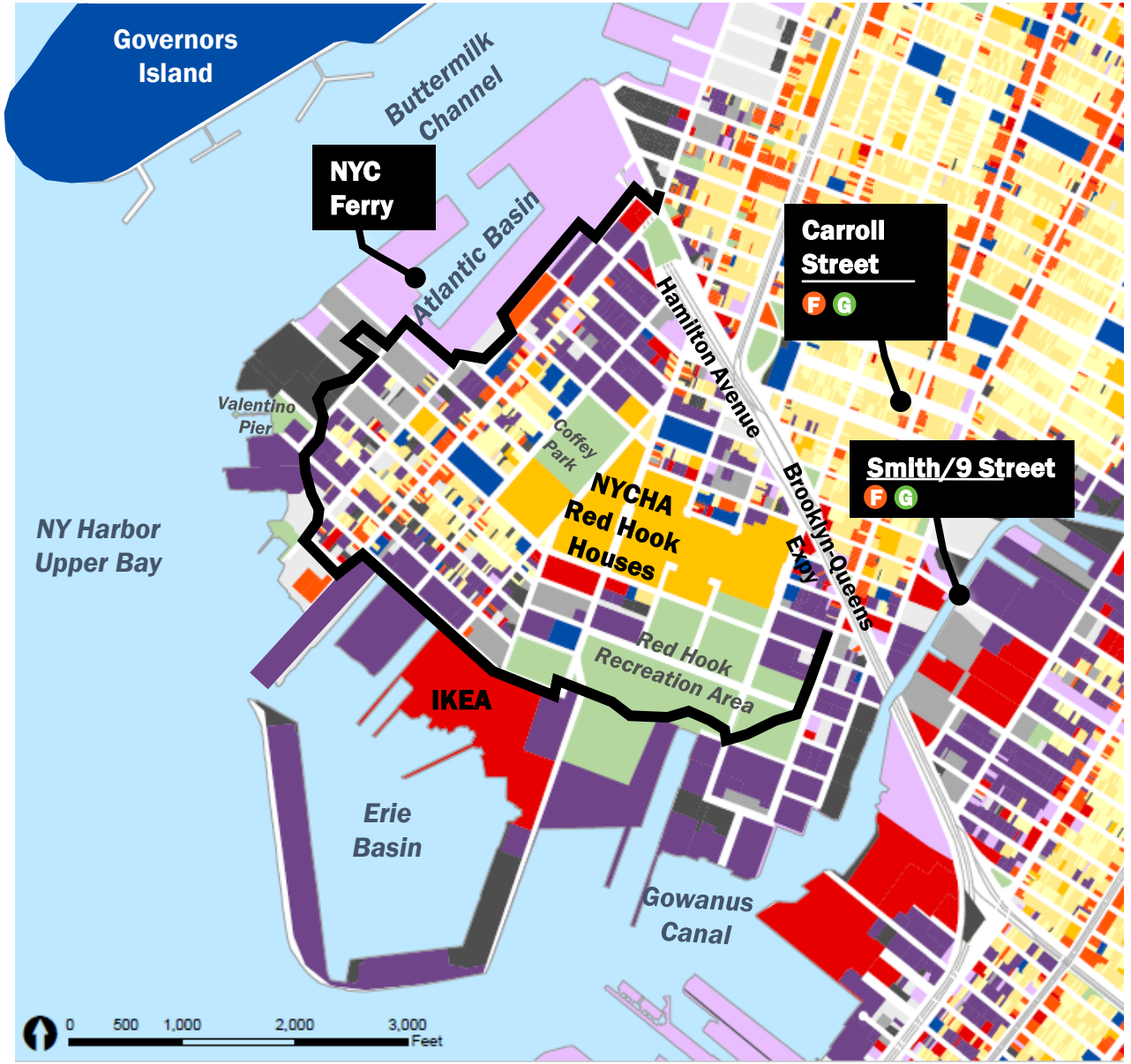
Flood Protection Alignment

Based on existing topography, the Flood Protection Alignment ties into natural high points in the neighborhood to provide a continuous line of protection at elevation 10’



Project Area | Land Use

- **Proposed Project**
- One & Two Family
- MultiFamily Walkup
- MultiFamily Elevator
- Mixed Commercial/Residential
- Commercial/Office
- Industrial/Manufacturing
- Transportation/Utility
- Public Facilities & Institutions
- Open Space
- Parking
- Vacant Land
- No Data/Other



Project Area | Zoning

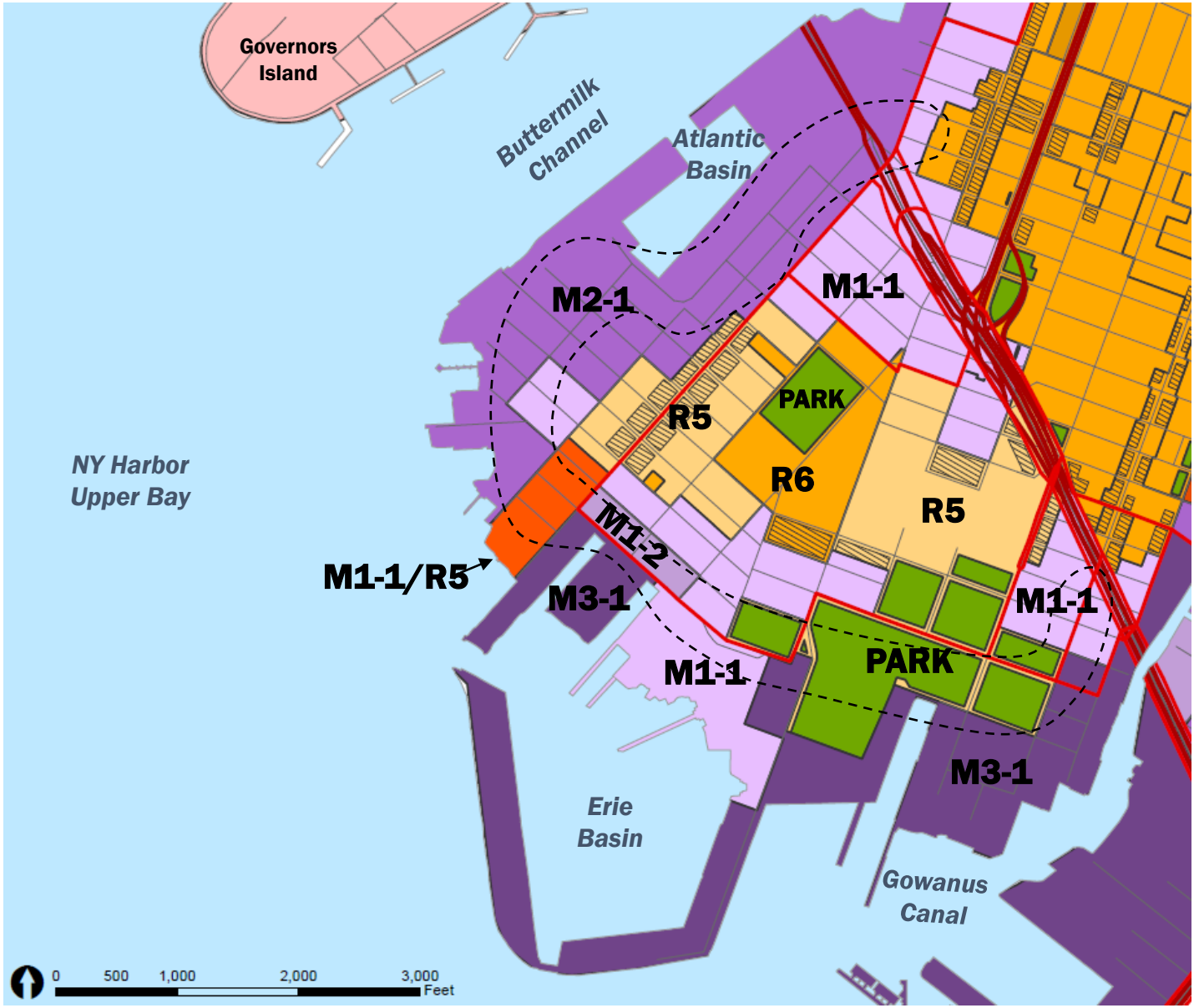
RHCR Project Area

Zoning District

- R5
- R6; R6A; R6B
- R7A
- C4-1
- M1-1
- M1-1/R5; M1-4/R7-2
- M1-2
- M2-1; M2-3
- M3-1
- PARK; PLAYGROUND
- Commercial Overlays

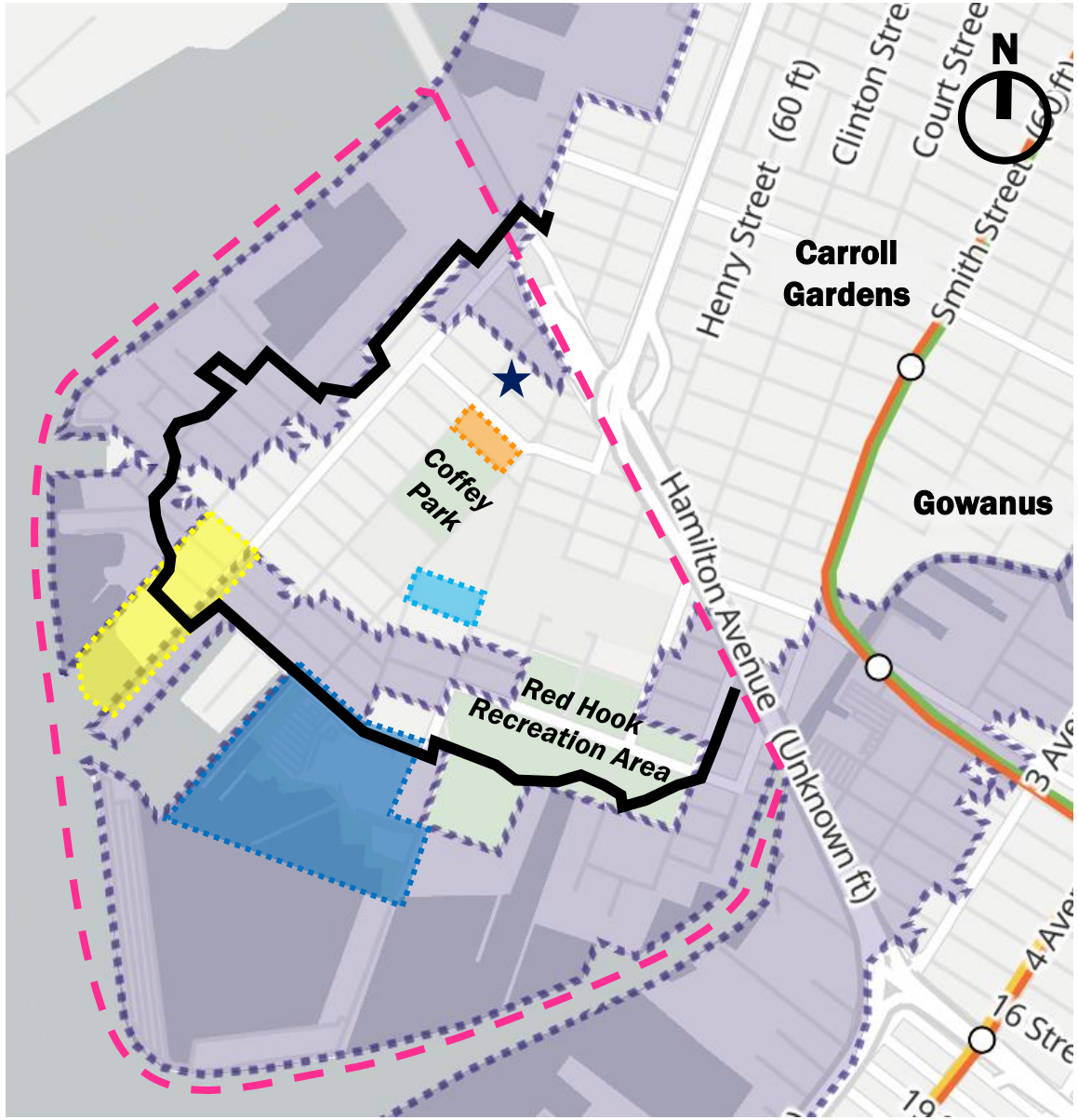
Truck Routes

- Local Truck Route
- Through Truck Route



Project Area | Policy

- Proposed Project
- Big R Supermarket (1990)
- Red Hook 197a Plan (1996)
- Red Hook Stores (2002)
- Harbor Tech Rezoning (2002)
- IKEA (2004)
- Southwest Brooklyn IBZ (2006)
- 41 Richards Street (in ULURP)



Project Area | Flood Risk

1% Annual Chance Flood Hazard

0.2% Annual Chance Flood Hazard

DESIGN REVIEW

Flood Protection Components

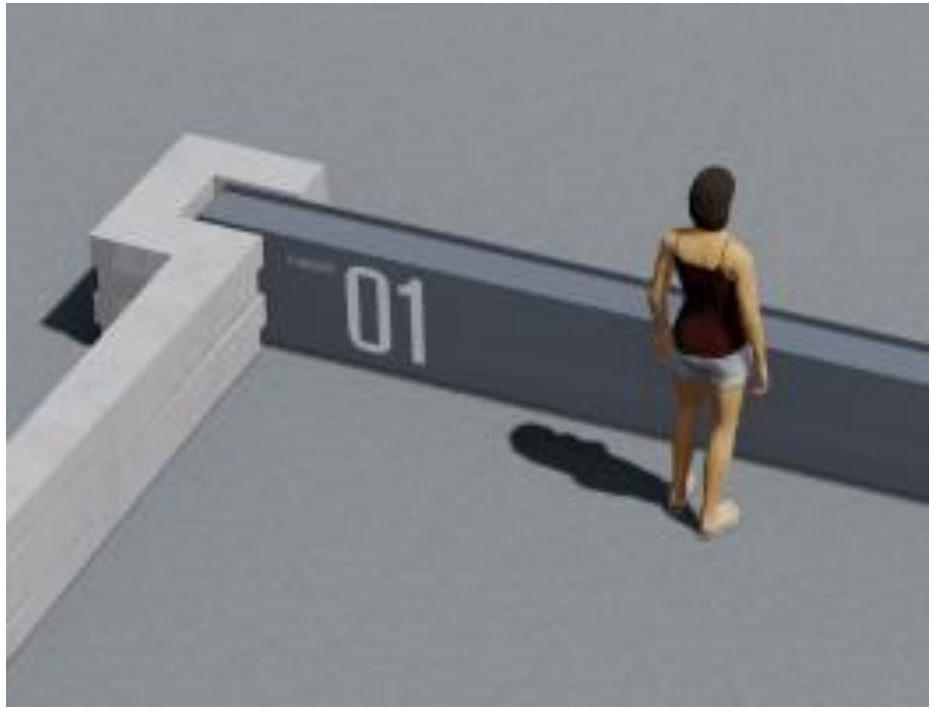
Generalized Map of Flood Protection Elements and Reconstruction Limits Along the Full Alignment of the Project

Coastal Resiliency Design Elements

Flood Wall

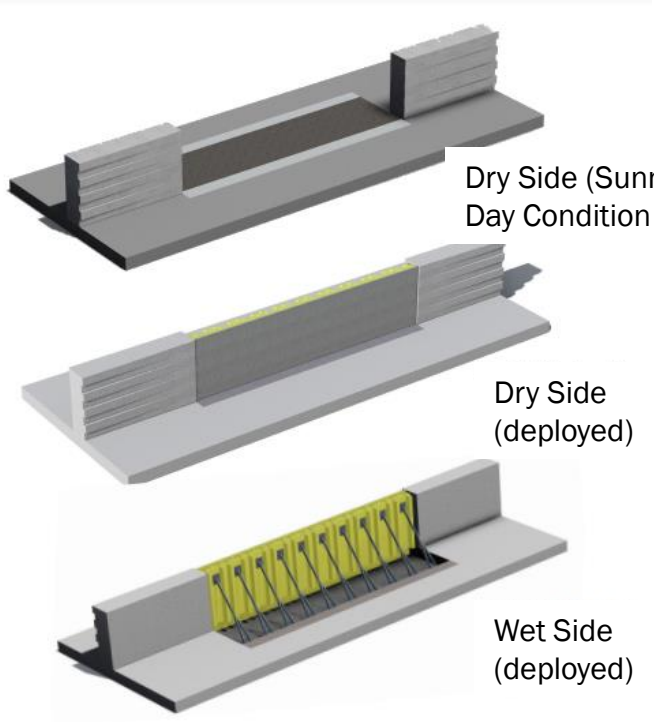
Concrete with banded pattern and published heights

Continue 4 ft. below grade and supported on pile foundations



Roller Gate

Grey painted steel with rounded corners and labeled numbers



Flip-up Gate

Alloy aluminum with stainless steel components

Hydraulically deployed or manual

ENVIRONMENTAL REVIEW + LAND USE ACTIONS

Environmental Review Standards

COORDINATED ENVIRONMENTAL REVIEW UNDER 3 STATUTES:

Environmental Assessment (EA) will satisfy requirements of all three statutes

- National Environmental Policy Act (NEPA)
- State Environmental Quality Review Act (SEQRA)
- City Environmental Quality Review (CEQR)

LEAD AGENCIES:

Environmental review coordinated by head agencies, with cooperating, involved and interested Federal, State and City agencies

- NEPA – Federal Emergency Management Agency (FEMA)
- SEQRA/CEQR – Office of the Mayor of the City of New York

ULURP

Proposed Action Acquisitions

City Map Changes | MM

Acquisitions | PQ

Line of Protection (approx.)

MM + PQ

ULURP

Proposed Action Change to City Map

MM

+ **Changes in legal street grades**

SS **Mapping Sullivan Street west of Ferris Street**

TT **Mapping new parkland to enlarge Todd Triangle**

Line of Protection (approx.)

ULURP

Proposed Action Acquisitions

PQ

Acquisitions to facilitate easements on 20 private lots, enabling the City to operate, inspect, and maintain the proposed floodwall and gates.

Line of Protection (approx.)

ULURP Proposed Actions | Atlantic Basin Area

MM + PQ

ULURP Proposed Actions | Beard Street Area

MM + PQ

SUMMARY + NEXT STEPS

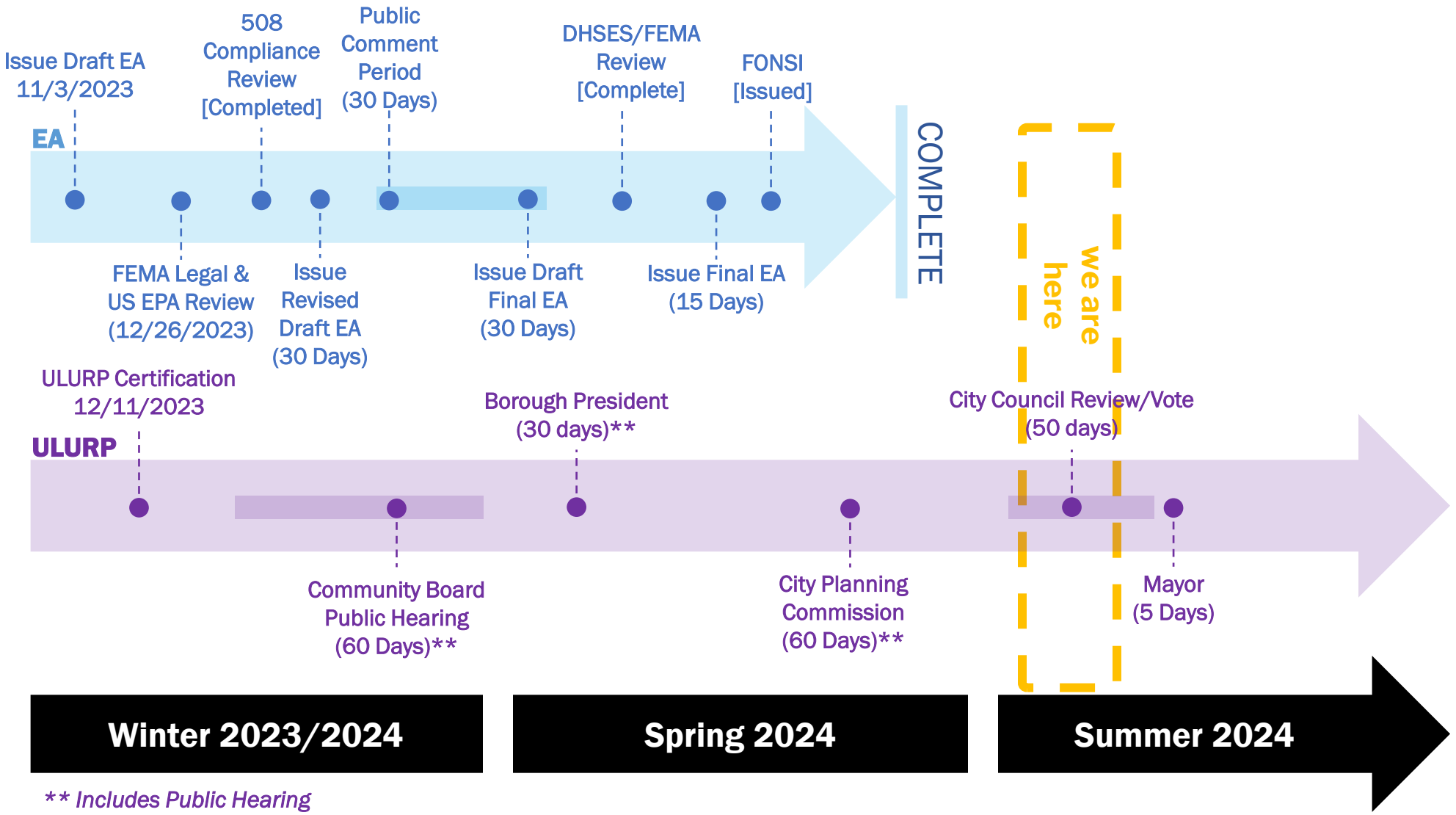
Summary

Red Hook Coastal Resiliency

- Maintain a passive system at elevation 8-ft
- Activate deployable features to reach an elevation of 10-ft
- System of floodwalls, raised street grades, deployable flood gates, and supporting infrastructure ties into existing topographic high points and takes advantage of public right-of-way
- Minimal impact on waterfront views, access, and maritime industrial uses
- Expansion of the Brooklyn Waterfront Greenway and other streetscape, green infrastructure, and drainage improvements

NEXT STEPS

PUBLIC INPUT TO THE EA/ULURP PROCESSES



** Includes Public Hearing

CONTACT US

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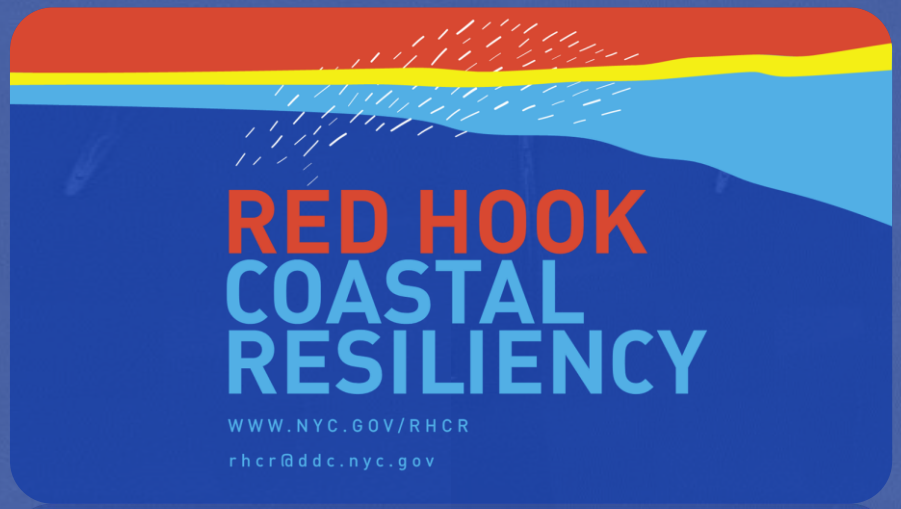
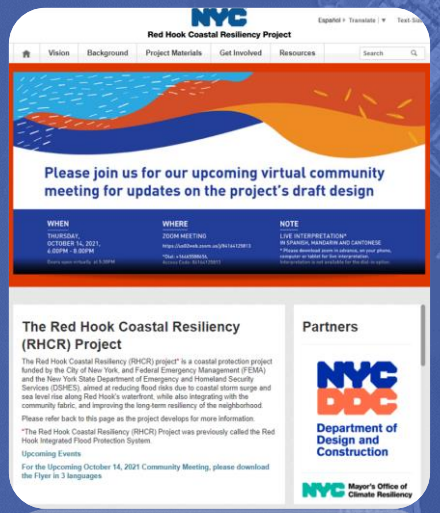
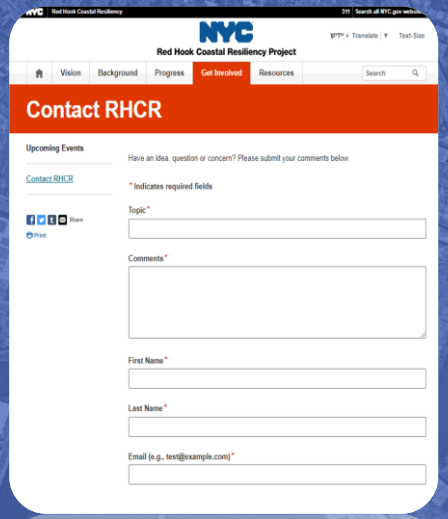
rhcr@ddc.nyc.gov

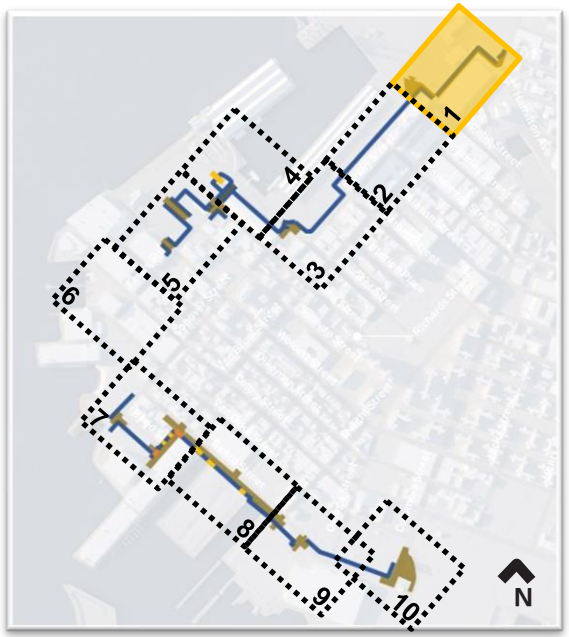


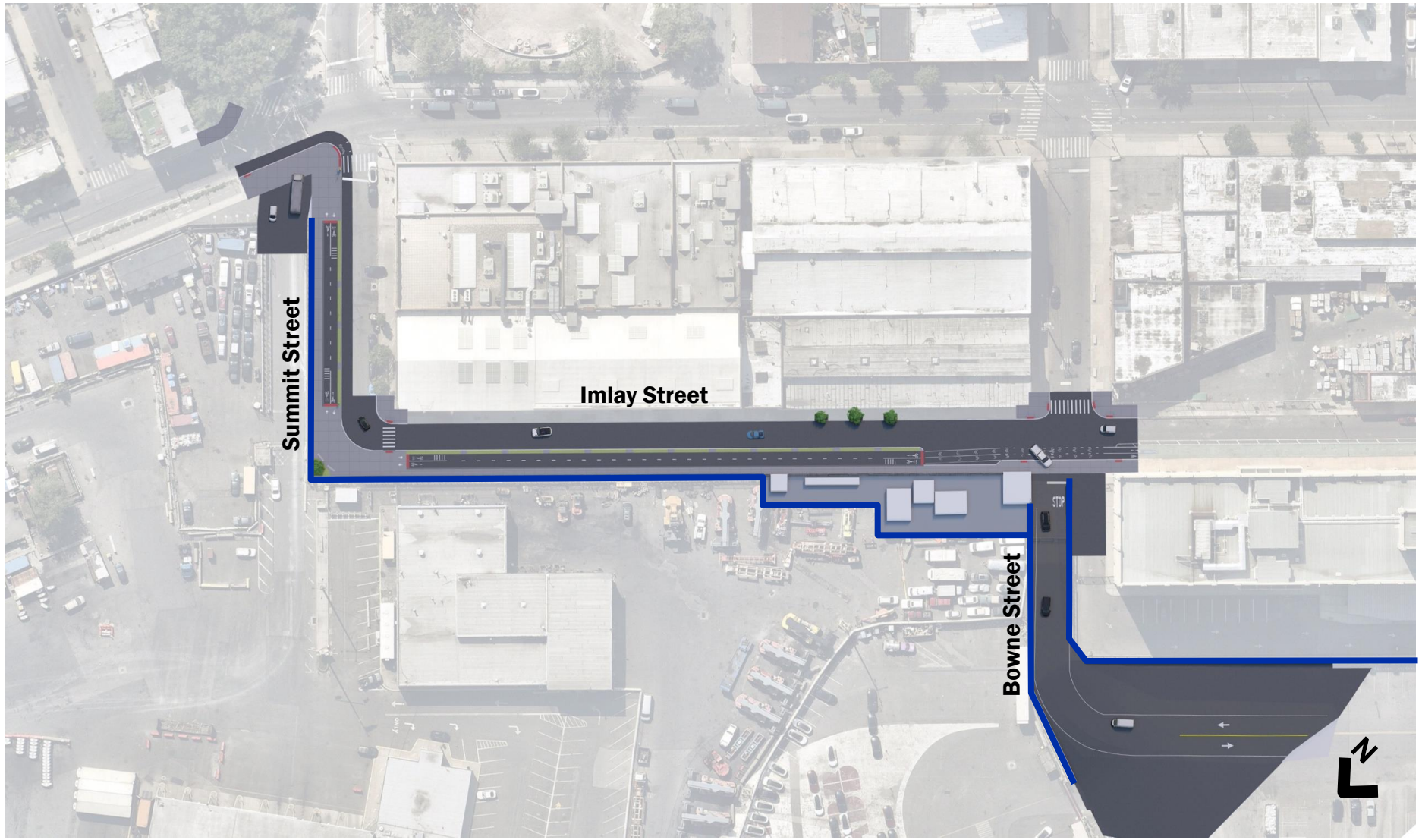




APPENDIX A
ALIGNMENT

Plan 1 of 10 Summit Street to Bowne Street
EXISTING CONDITIONS

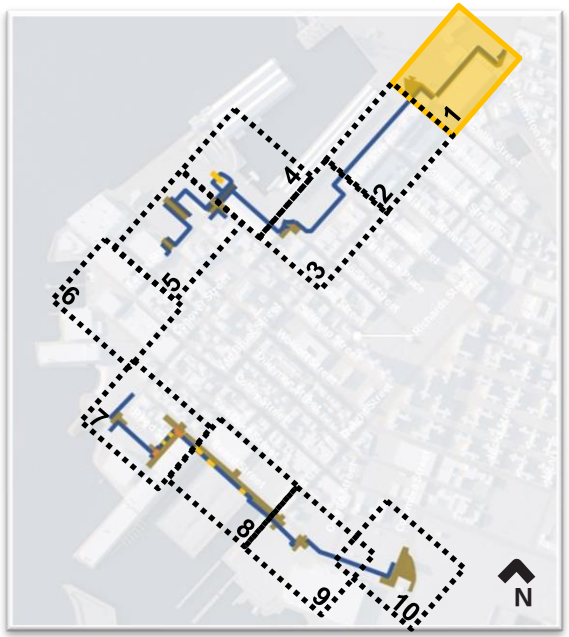




Plan 1 of 10 Summit Street to Bowne Street
PROPOSED CONDITIONS

LEGEND

- Floodwall
- Green Strip
- Roadway Improvements
- Gate
- Sidewalk Improvements

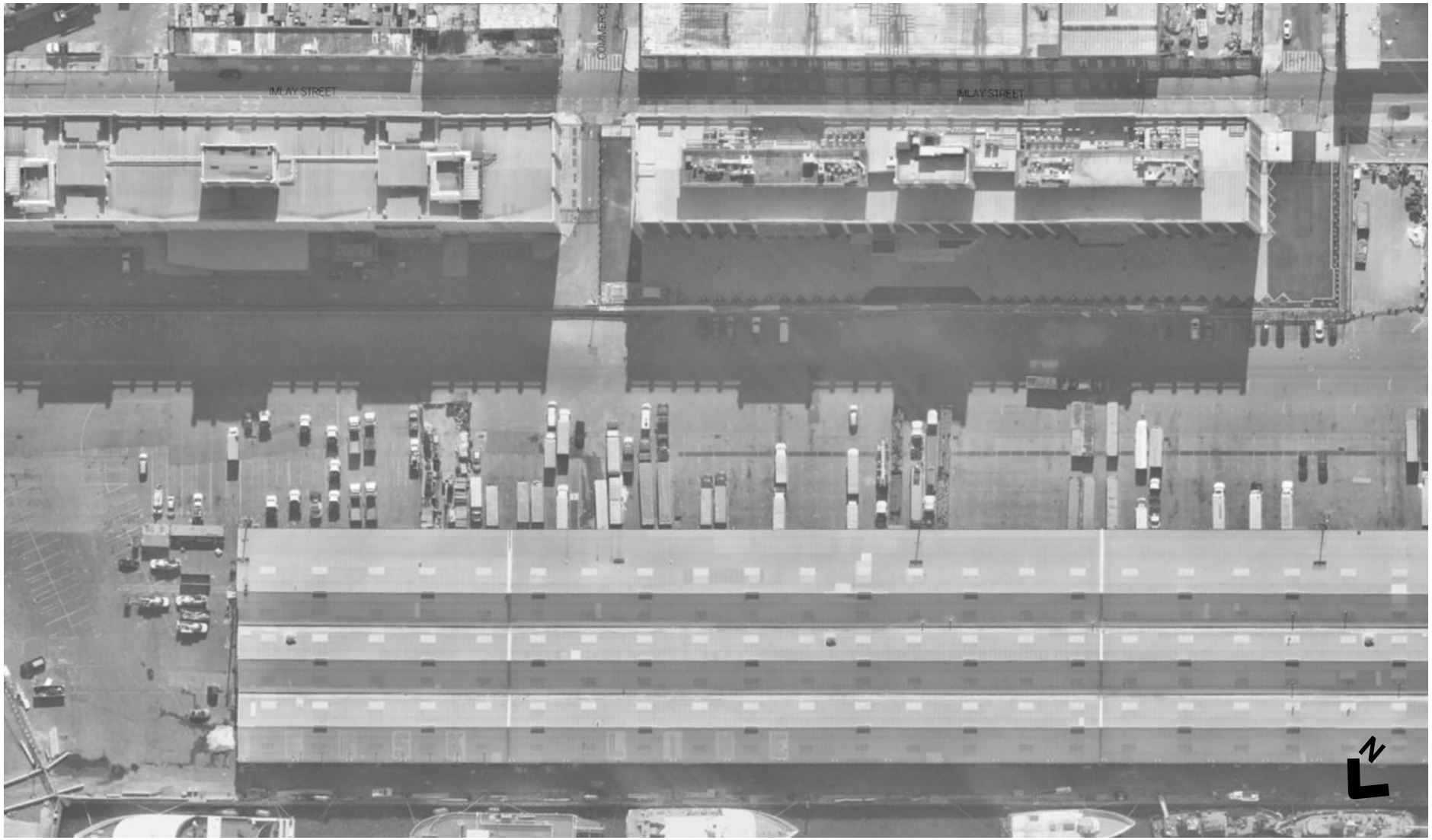


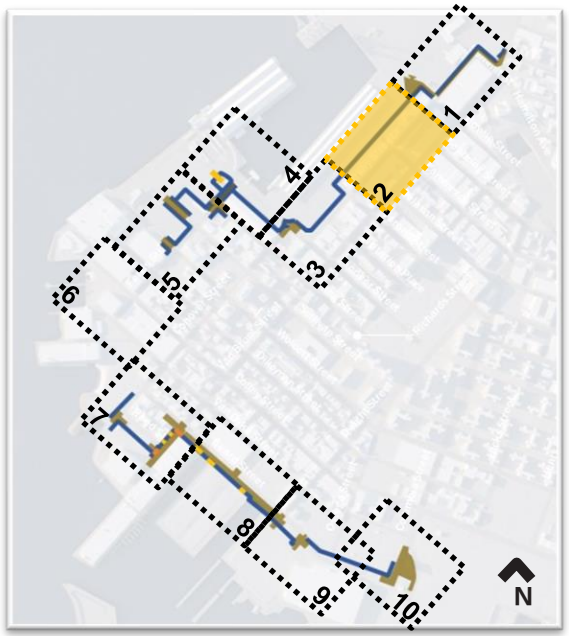
Summit, Imlay and Van Brunt Street

Imlay Street and Bowne Street

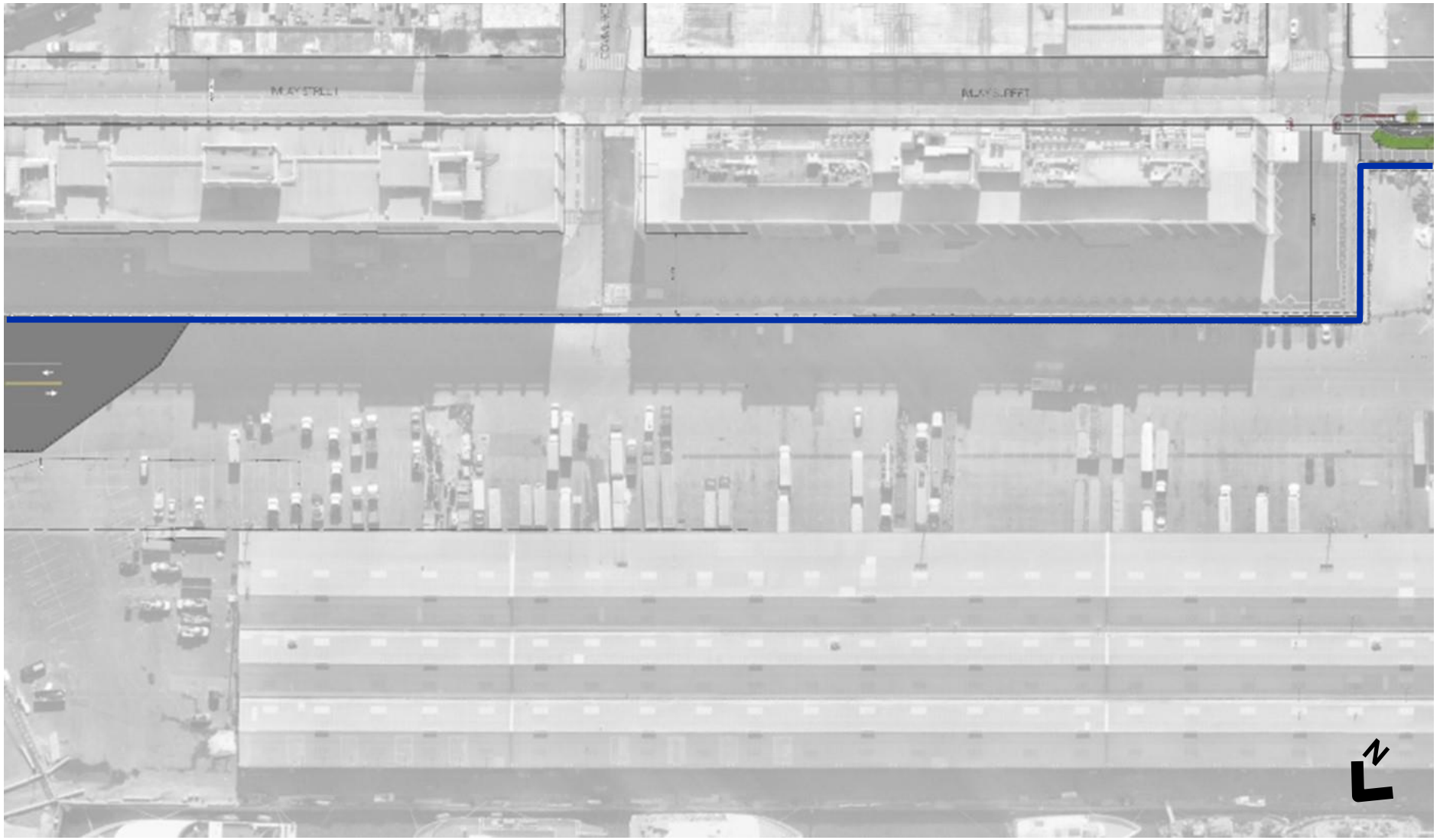
NEW RAMP TO BROOKLYN CRUISE TERMINAL

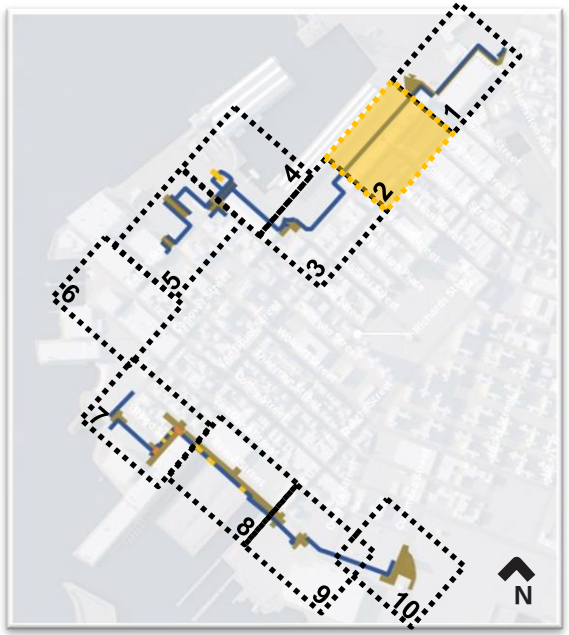
NEW FLOOD PROTECTION WALL





Plan 2 of 10 Bowne Street to Verona Street within the Port Authority Property
EXISTING CONDITIONS

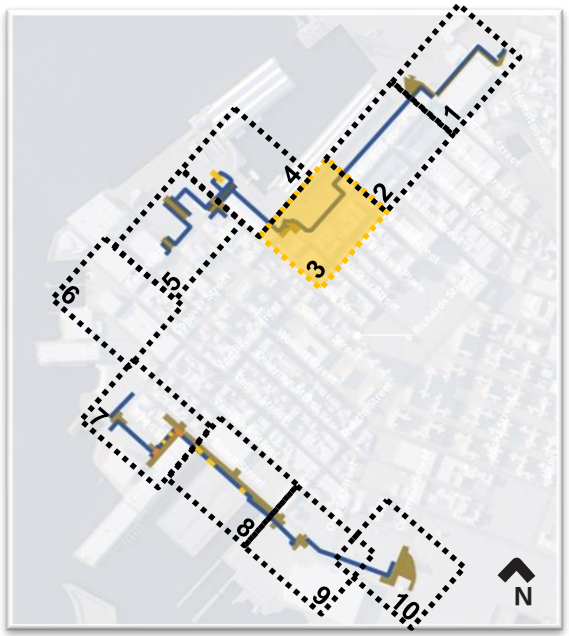




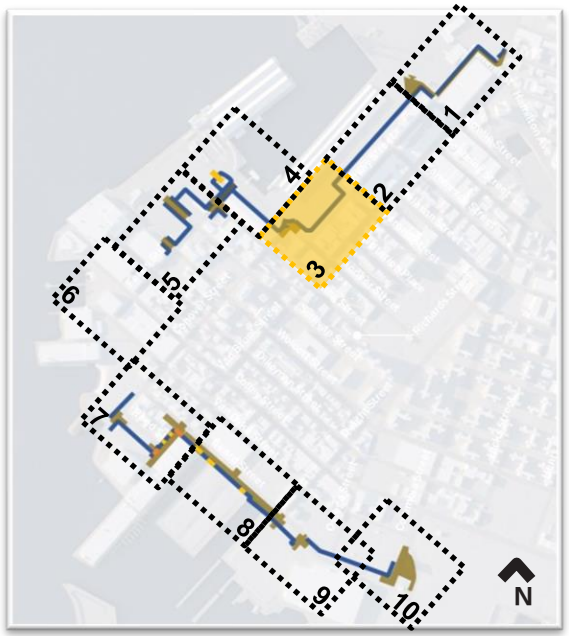
Plan 2 of 10 Bowne Street to Verona Street within the Port Authority Property
PROPOSED CONDITIONS

LEGEND

- Floodwall
- Gate
- Green Strip
- Sidewalk Improvements
- Roadway Improvements



Plan 3 of 10 Verona Street to Pioneer Street
EXISTING CONDITIONS

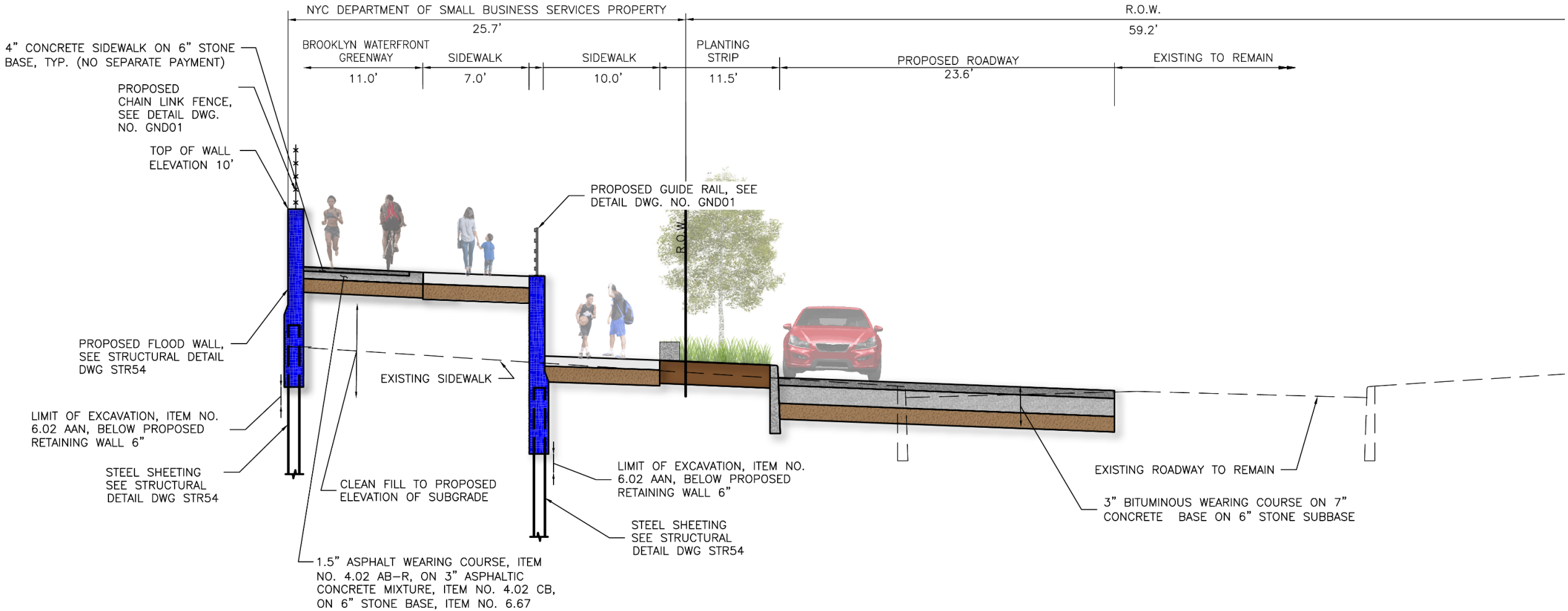


Plan 3 of 10 Verona Street to Pioneer Street
PROPOSED CONDITIONS

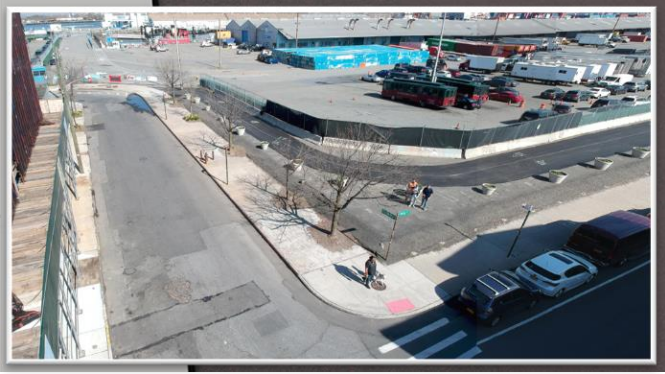
LEGEND

- Floodwall
- Green Strip
- Roadway Improvements
- Gate
- Sidewalk Improvements

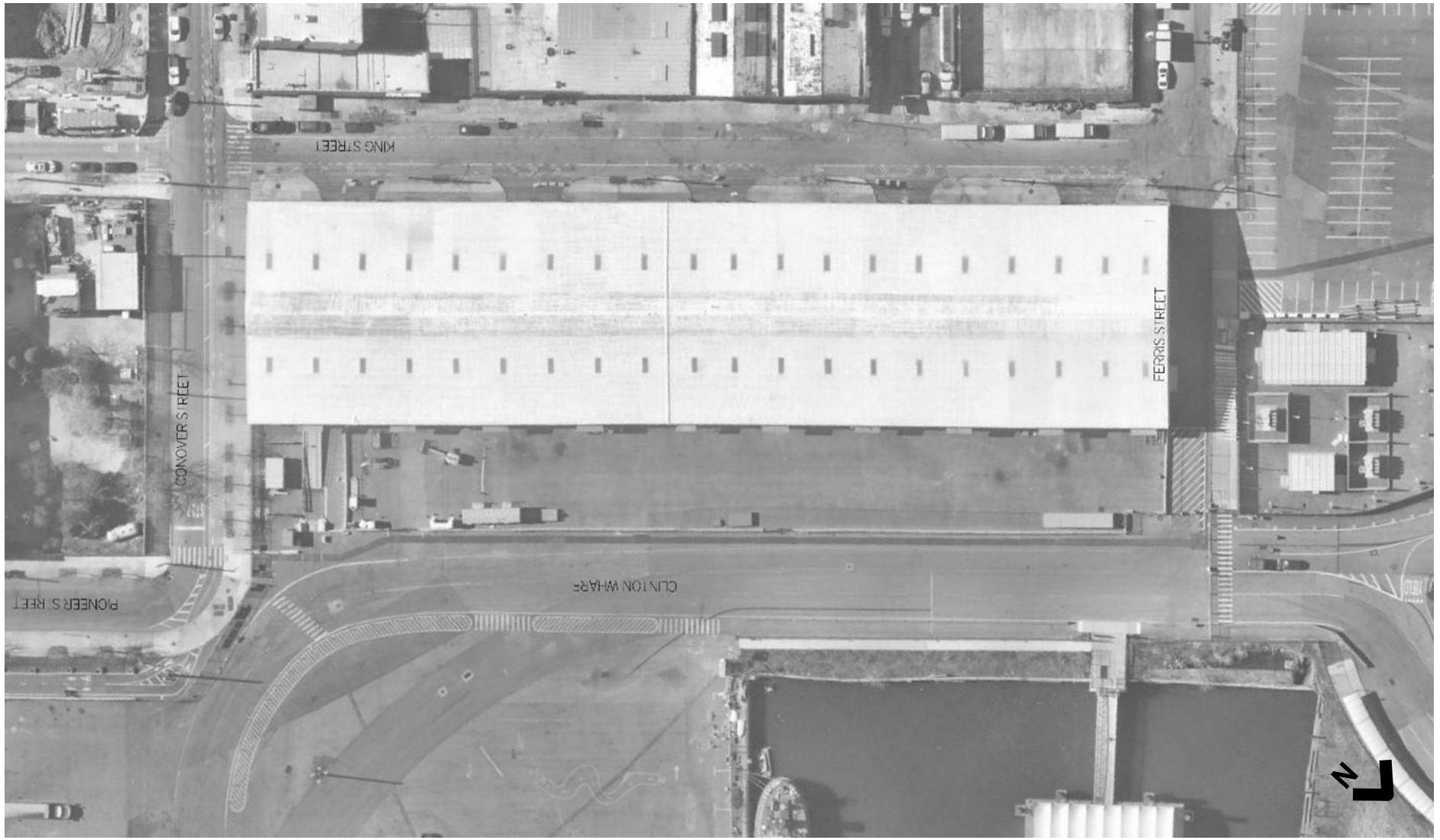
Pioneer Street Typical Section

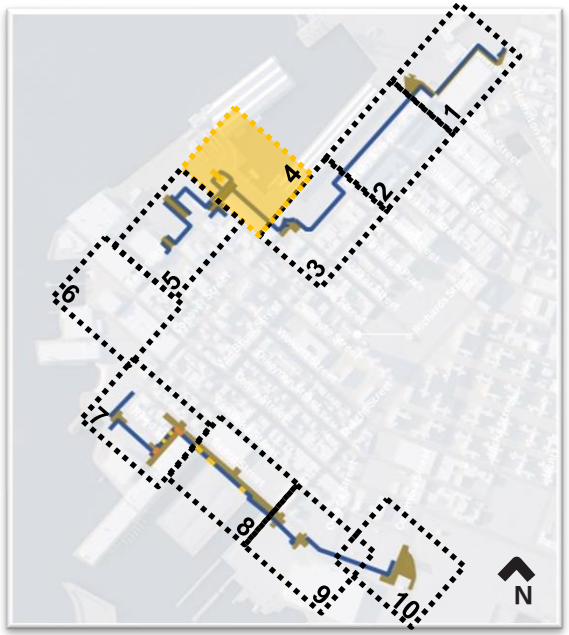


Imlay Street and Pioneer Street

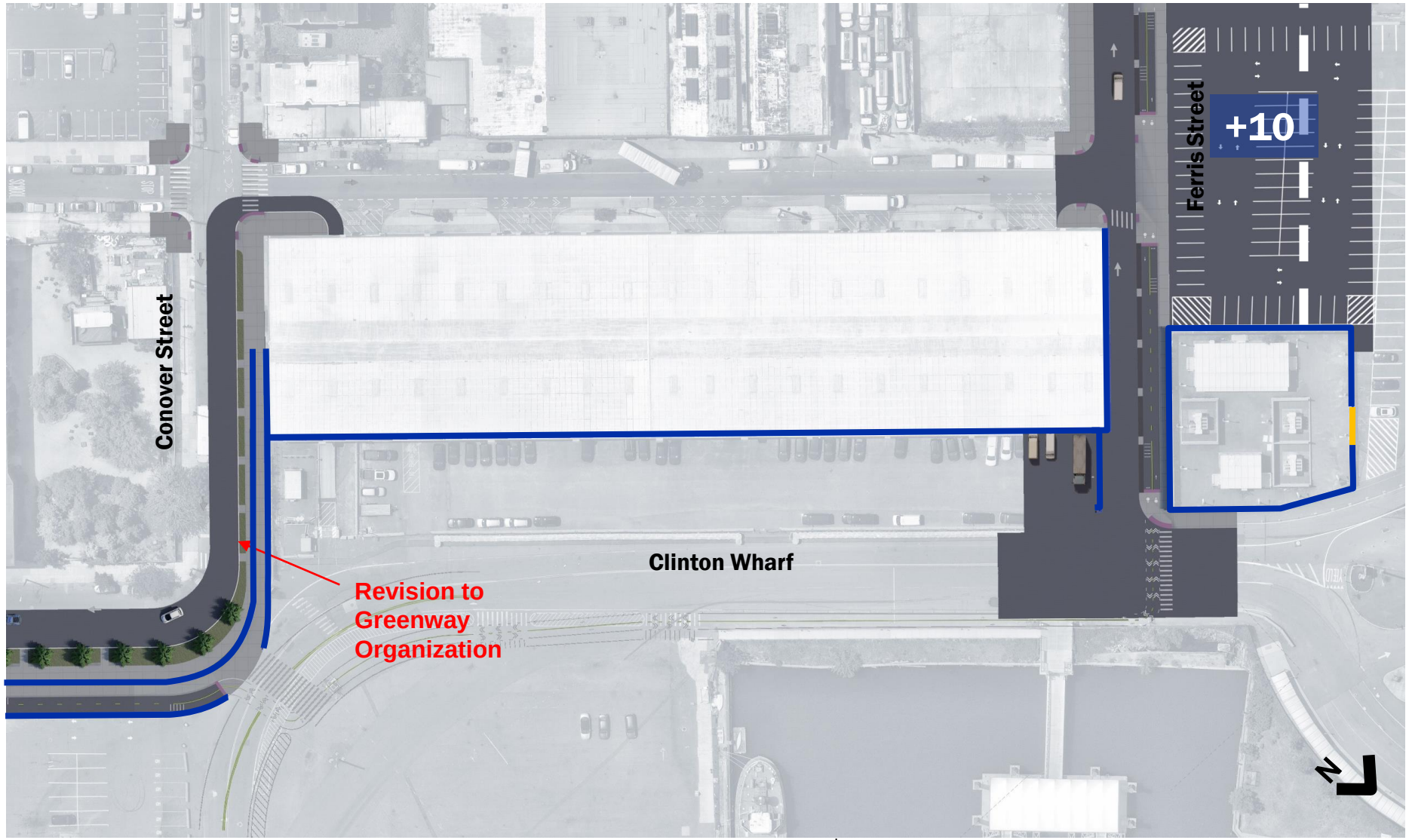


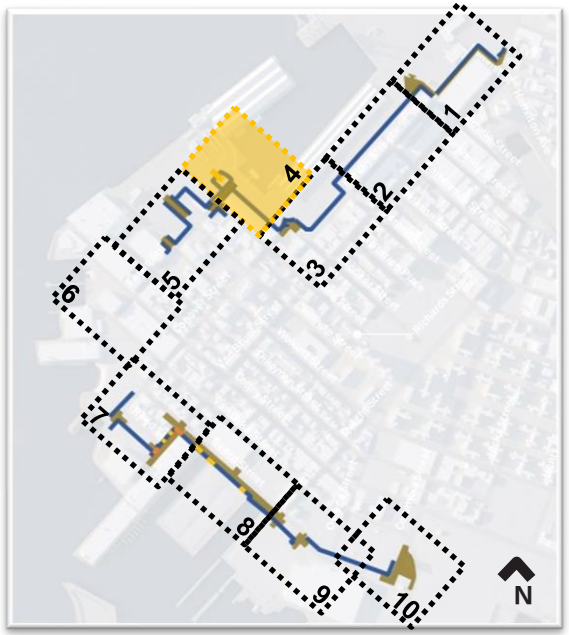
Pioneer and Conover Streets





Plan 4 of 10 Pioneer Street to Ferris Street thru Clinton Wharf
EXISTING CONDITIONS



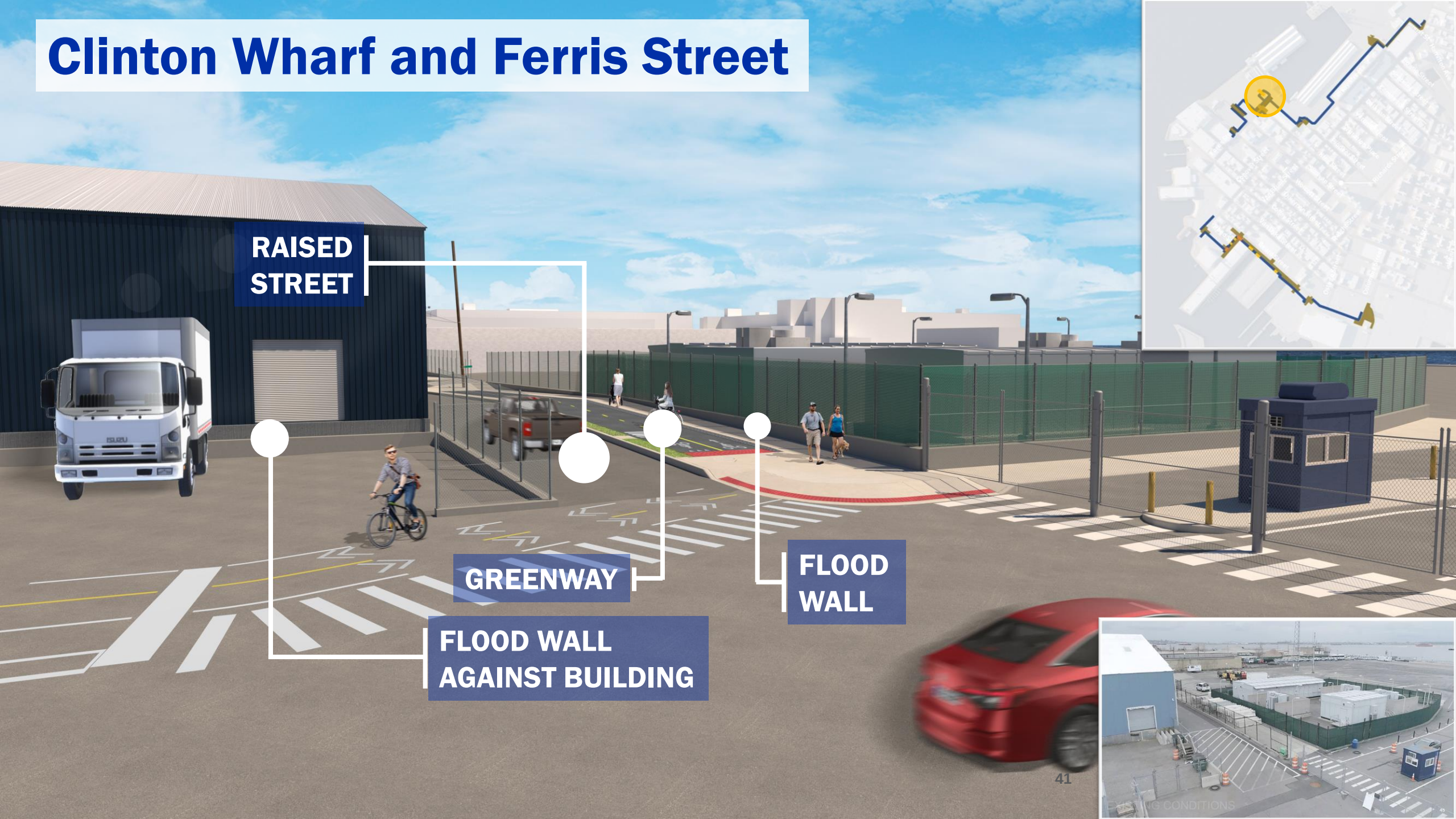


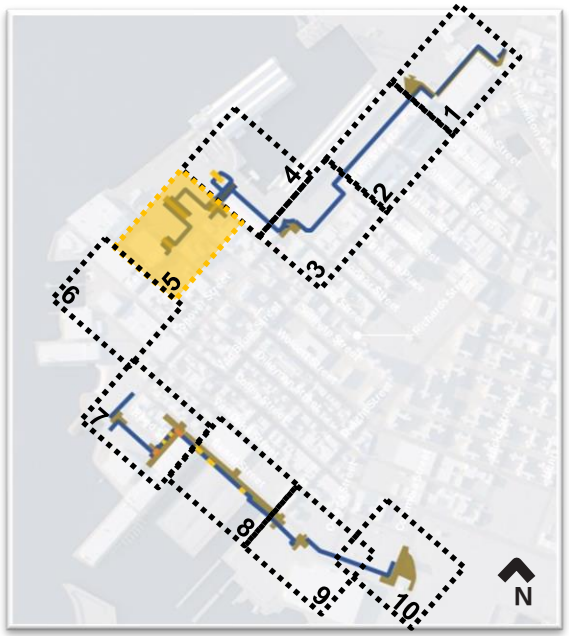
Plan 4 of 10 Pioneer Street to Ferris Street thru Clinton Wharf
PROPOSED CONDITIONS

LEGEND

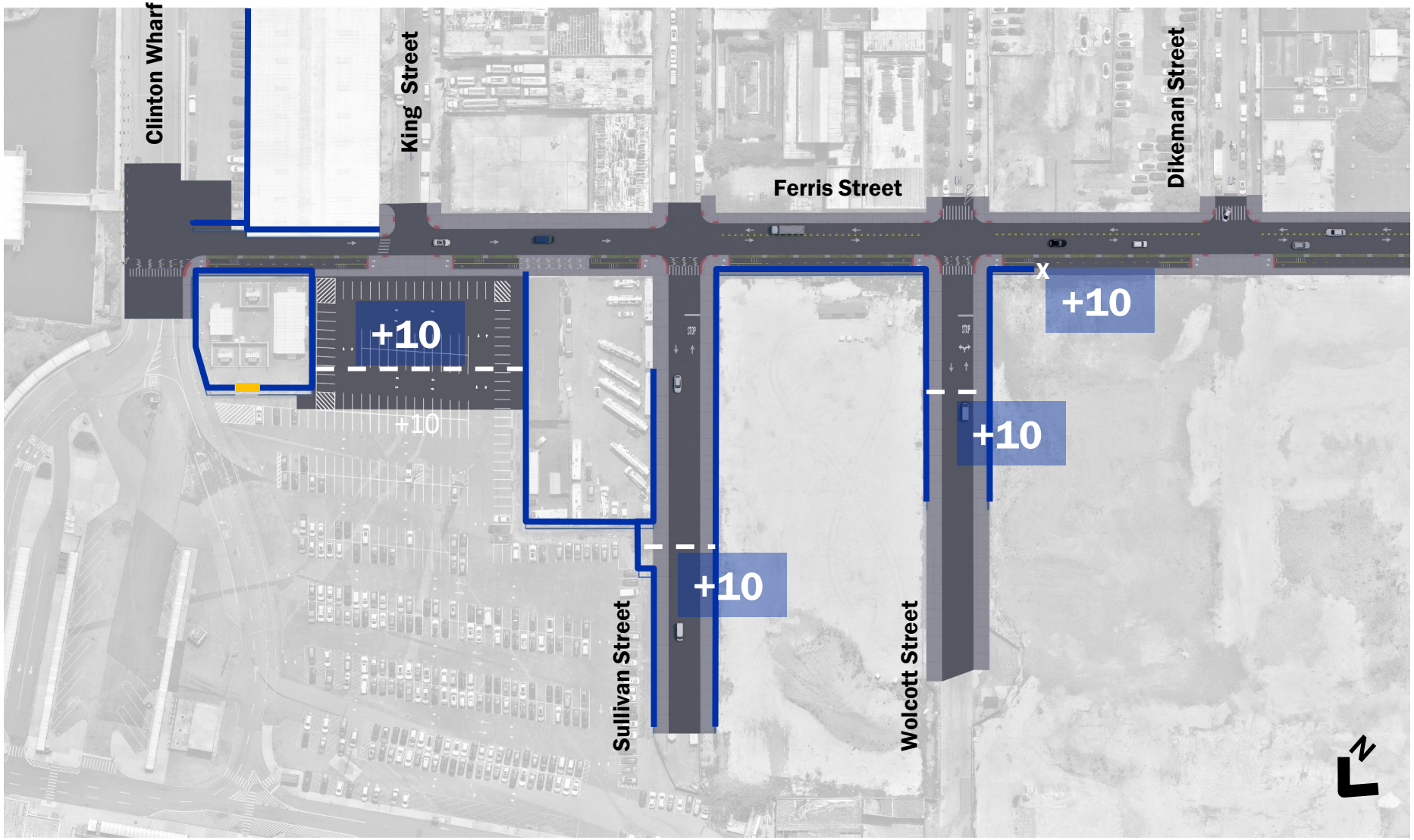
- Floodwall
- Gate
- Green Strip
- Sidewalk Improvements
- Roadway Improvements

Clinton Wharf and Ferris Street





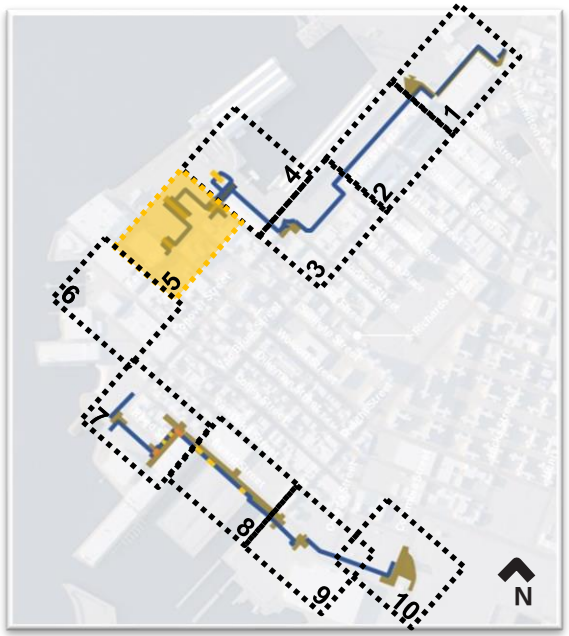
Plan 5 of 10 Ferris Street from Clinton Wharf to Sullivan Street
EXISTING CONDITIONS



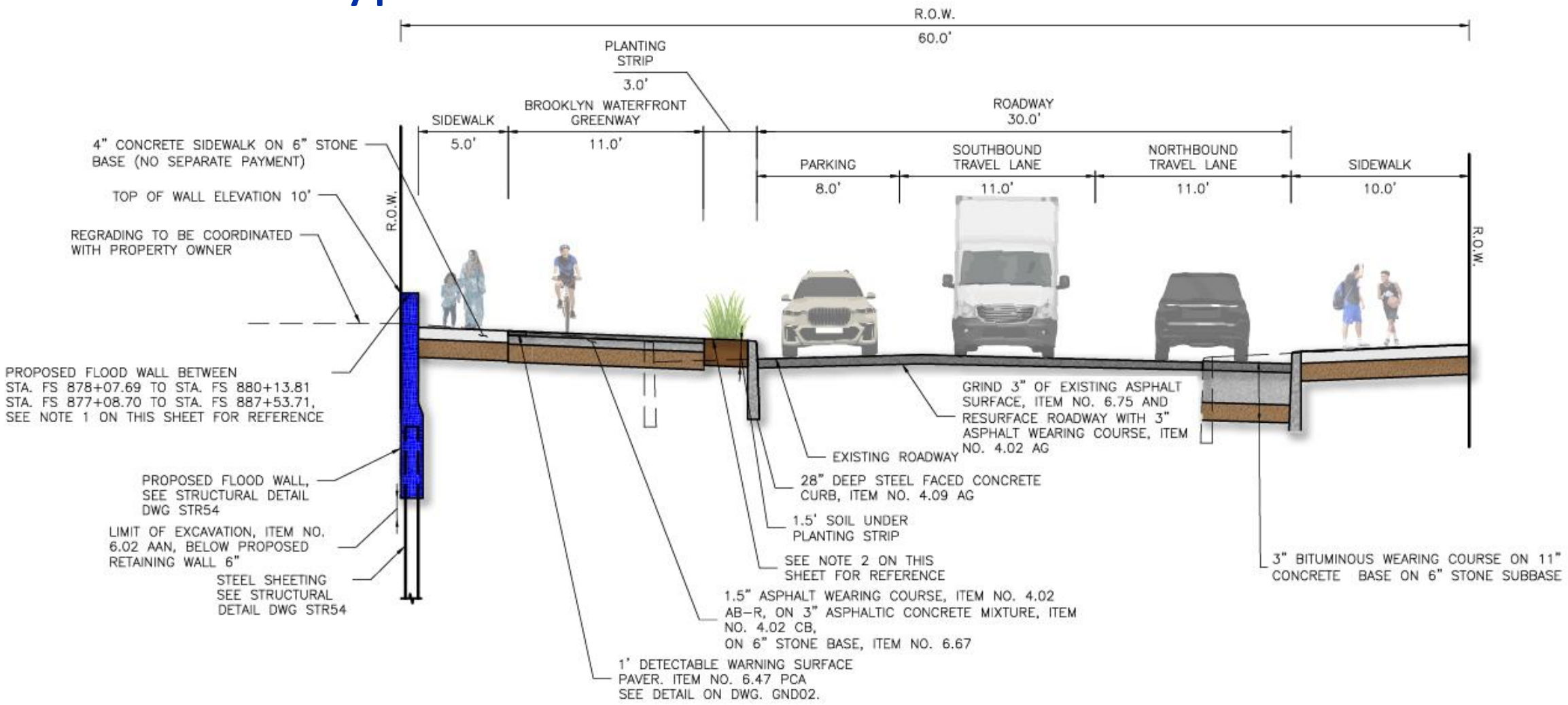
Plan 5 of 10 Ferris Street from Clinton Wharf to Sullivan Street
PROPOSED CONDITIONS

LEGEND

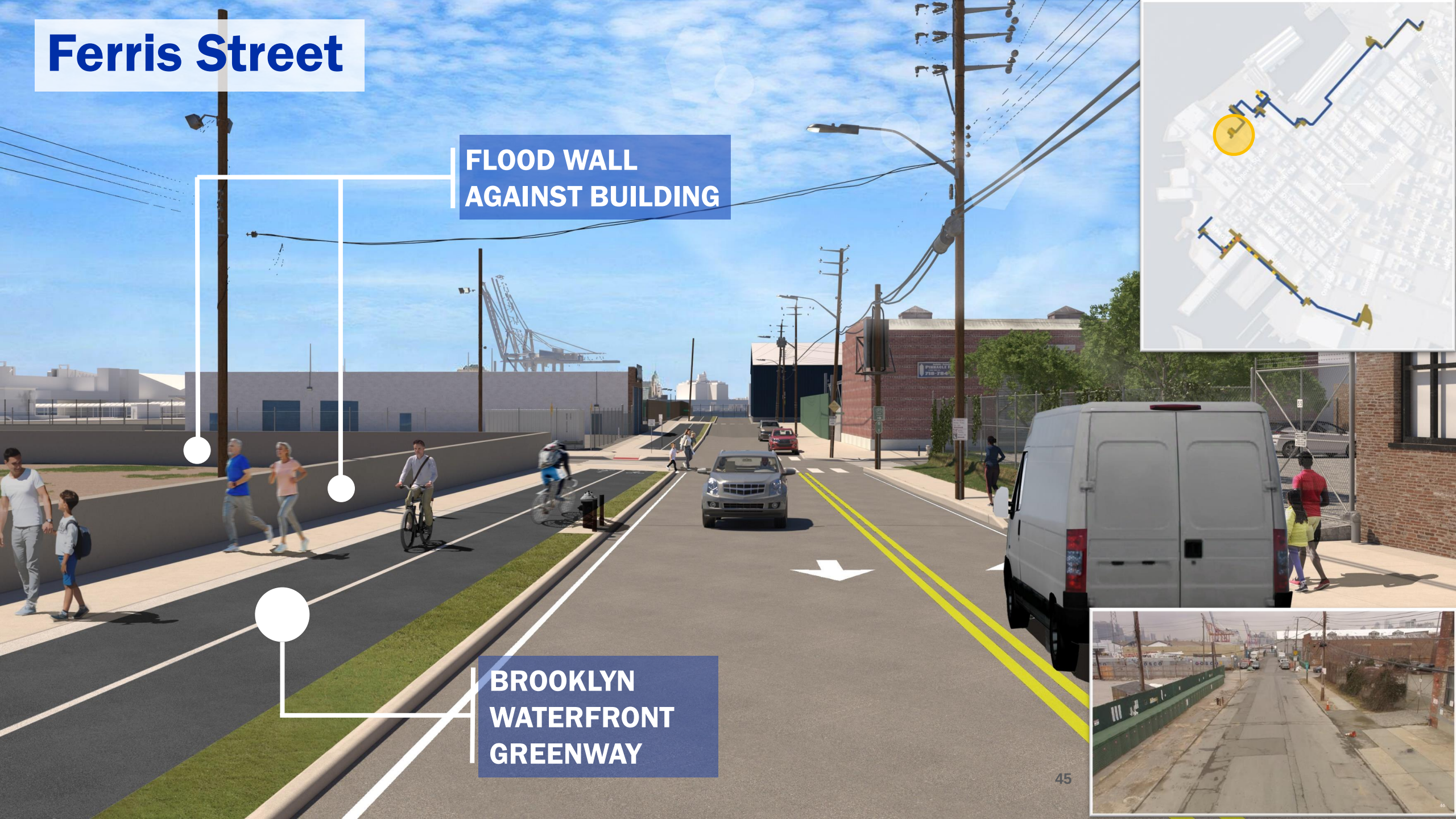
- Floodwall
- Green Strip
- Roadway Improvements
- Gate
- Sidewalk Improvements

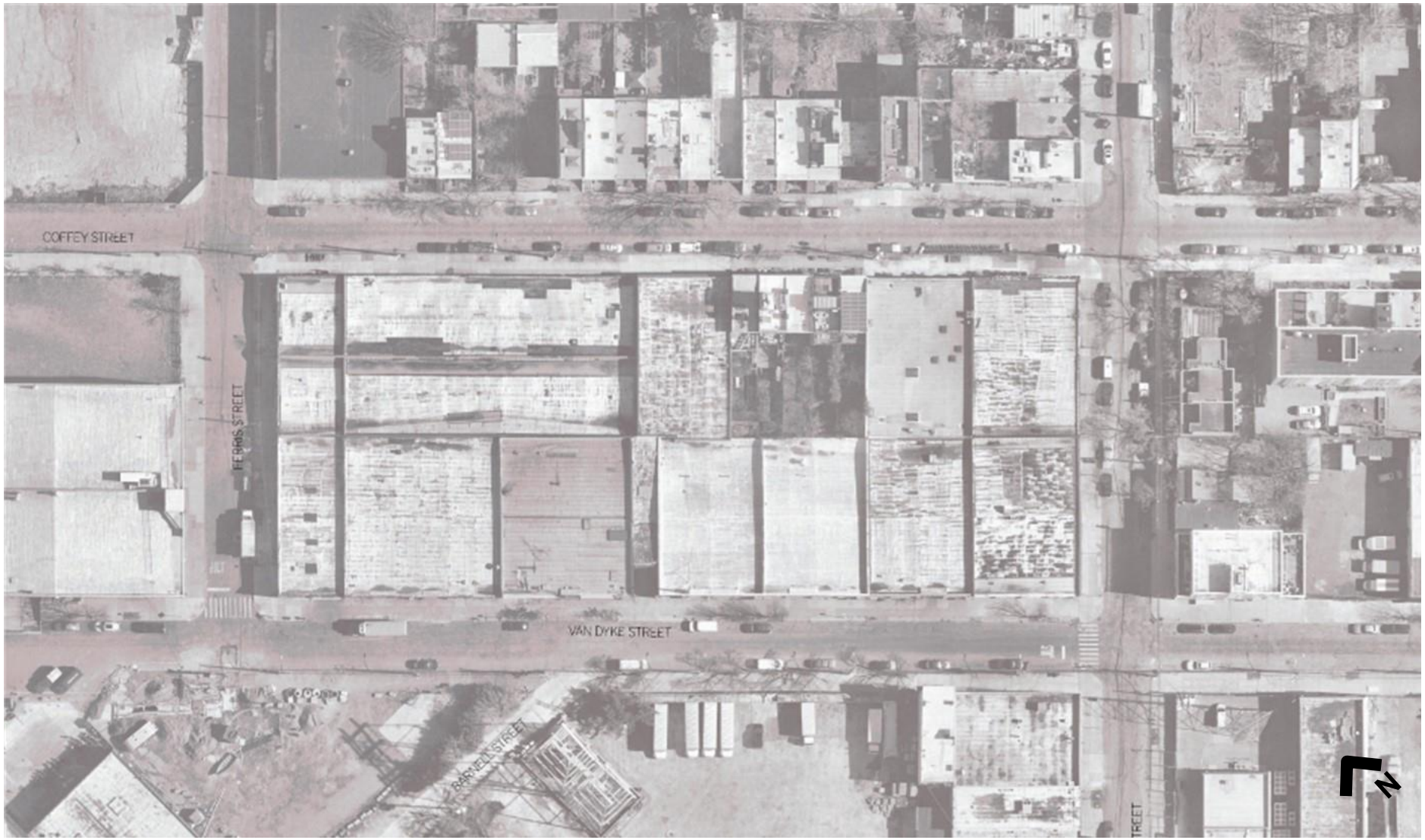


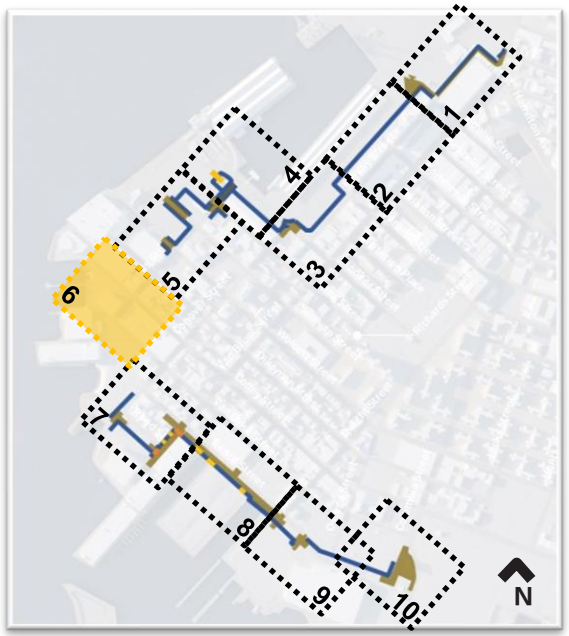
Ferris Street Typical Section



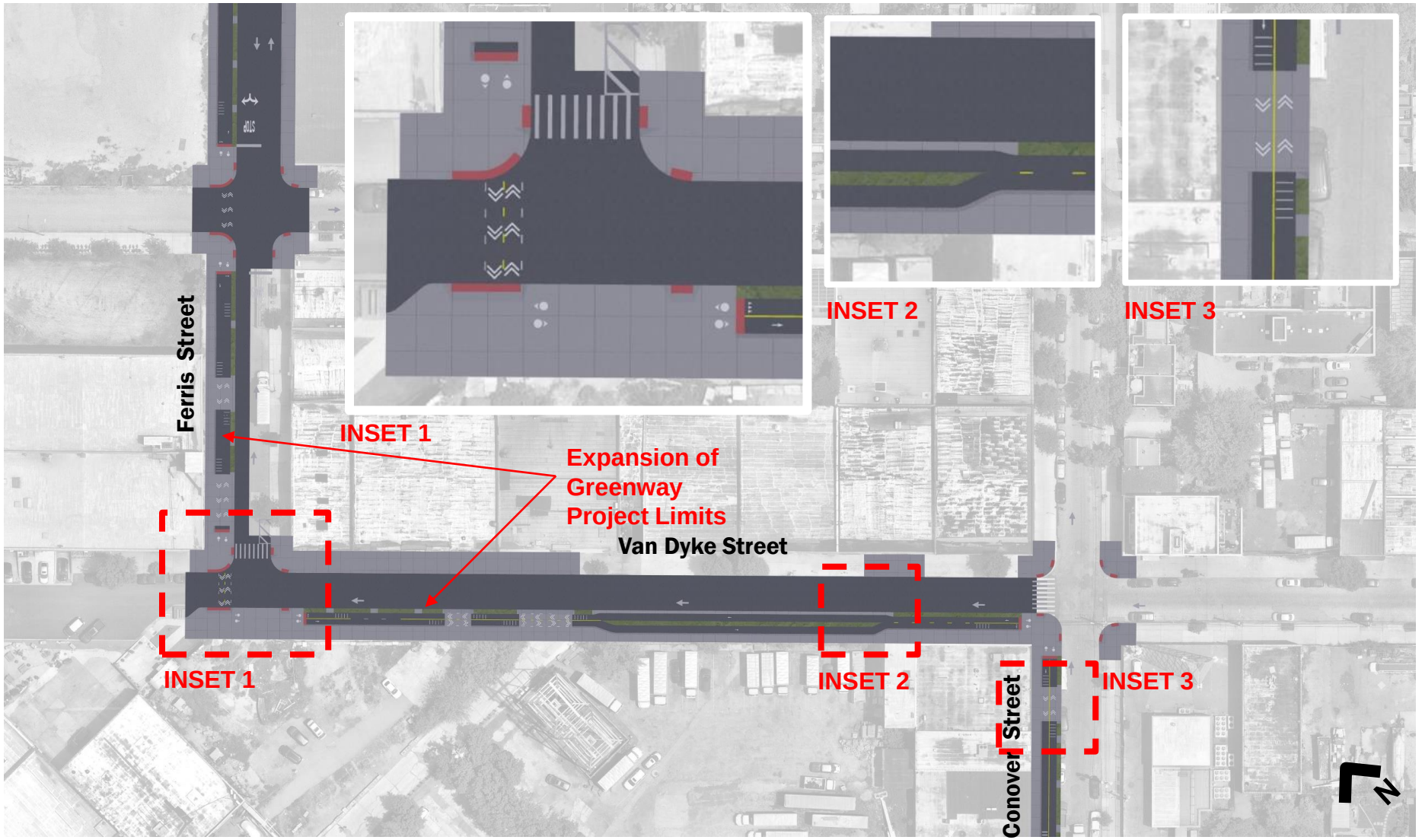
Ferris Street

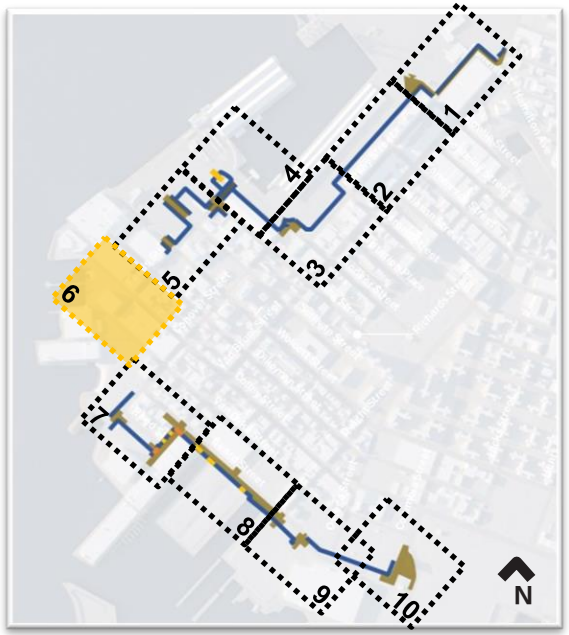






Plan 6 of 10 Ferris / Van Dyke / Conover and Beard Streets
EXISTING CONDITIONS

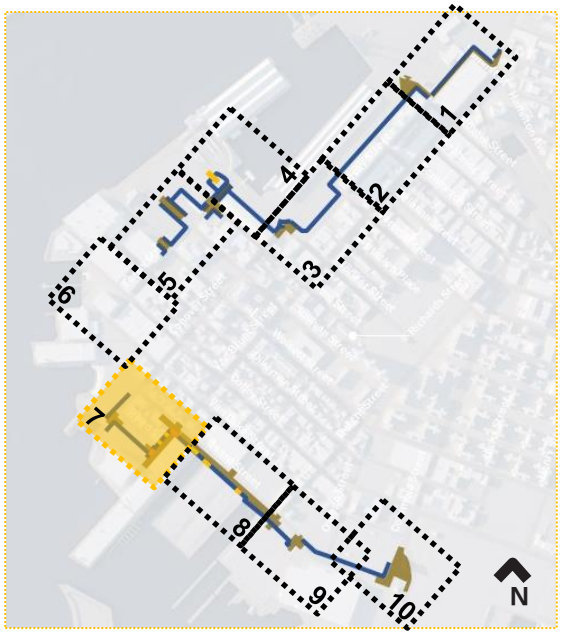




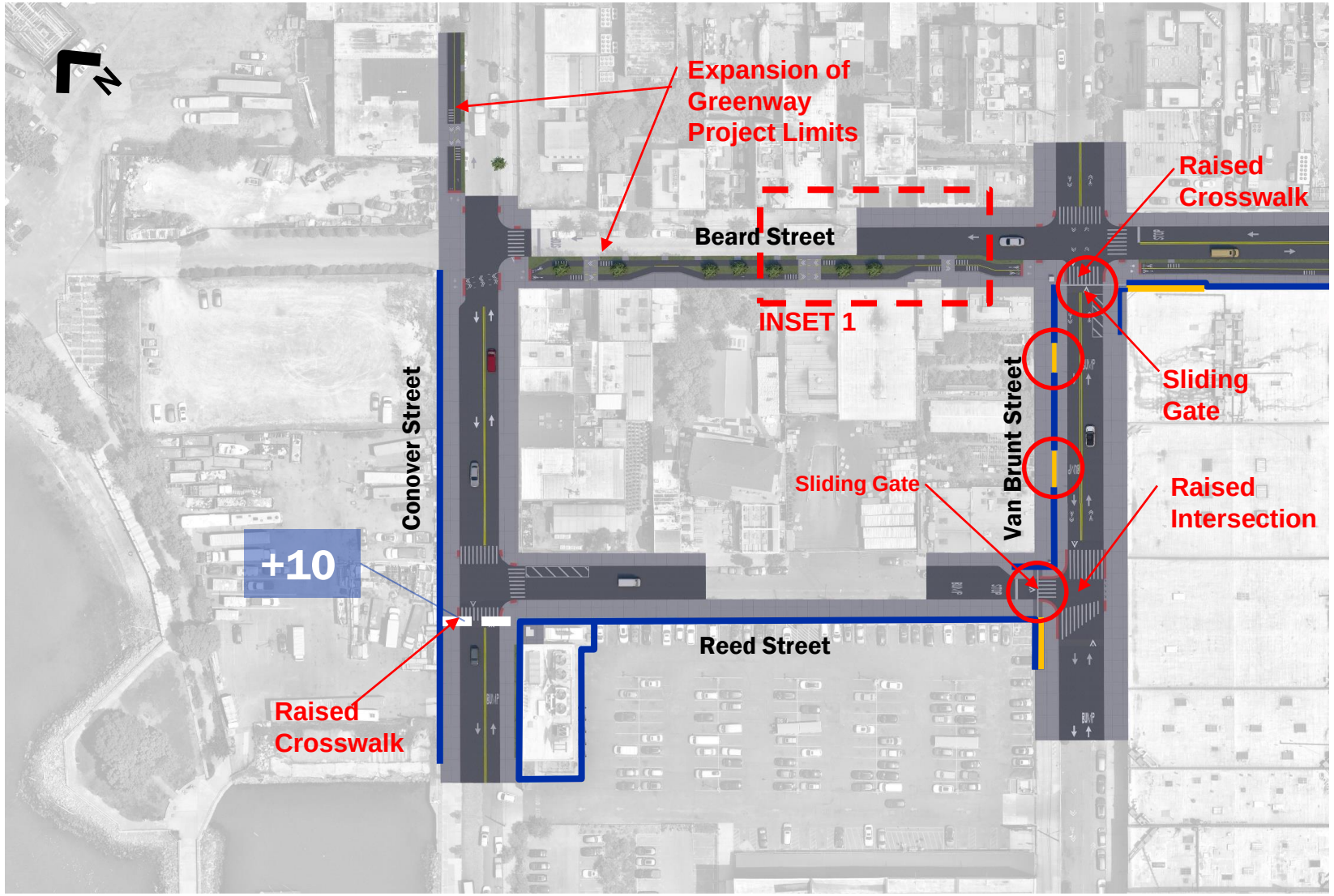
Plan 6 of 10 Ferris / Van Dyke / Conover and Beard Streets
PROPOSED CONDITIONS

LEGEND

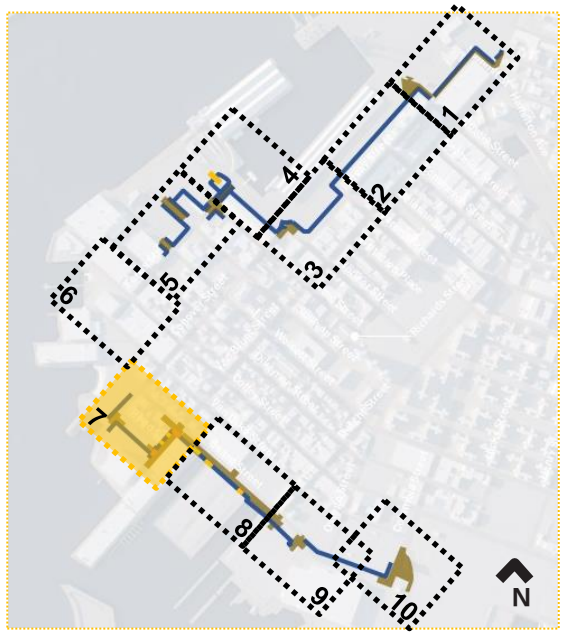
- Floodwall
- Green Strip
- Roadway Improvements
- Gate
- Sidewalk Improvements



Plan 7 of 10 Reed Street between Conover and Van Brunt Street
EXISTING CONDITIONS



INSET 1

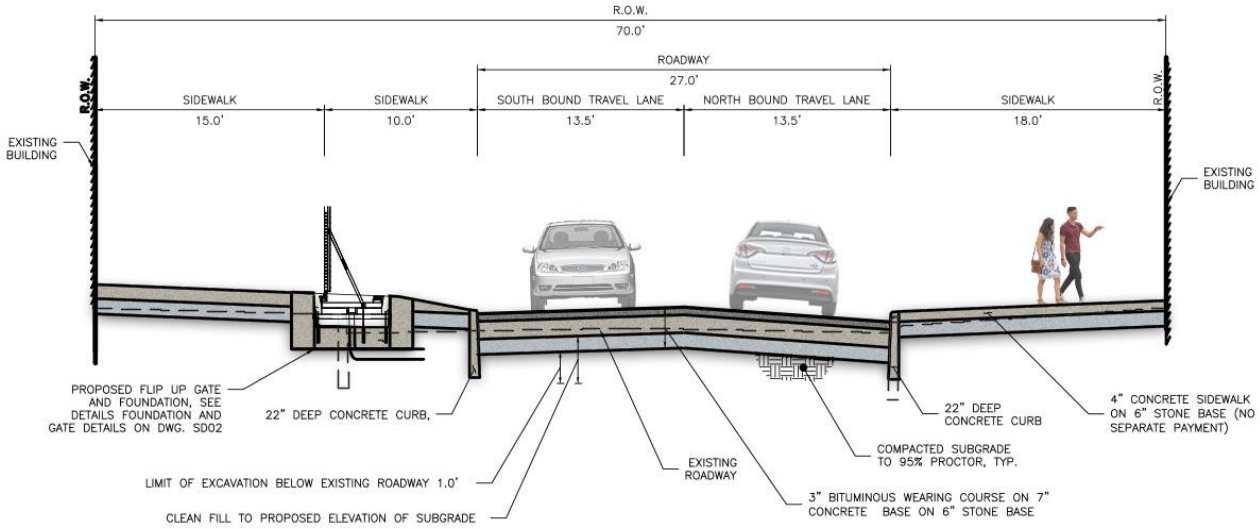


Plan 7 of 10 Reed Street between Conover and Van Brunt Street
PROPOSED CONDITIONS

LEGEND

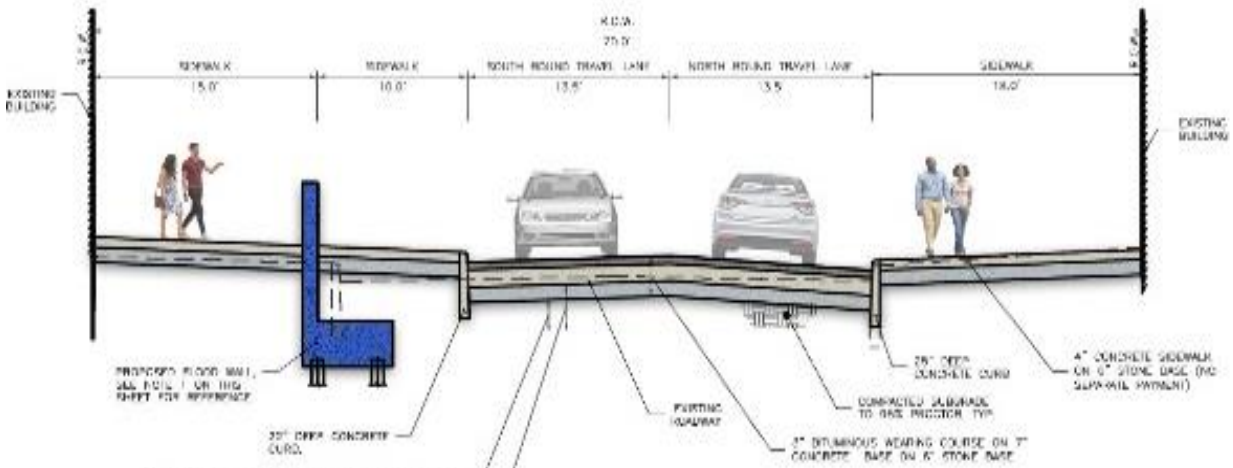
- Floodwall
- Green Strip
- Roadway Improvements
- Gate
- Sidewalk Improvements

Van Brunt and Beard Street Typical Sections



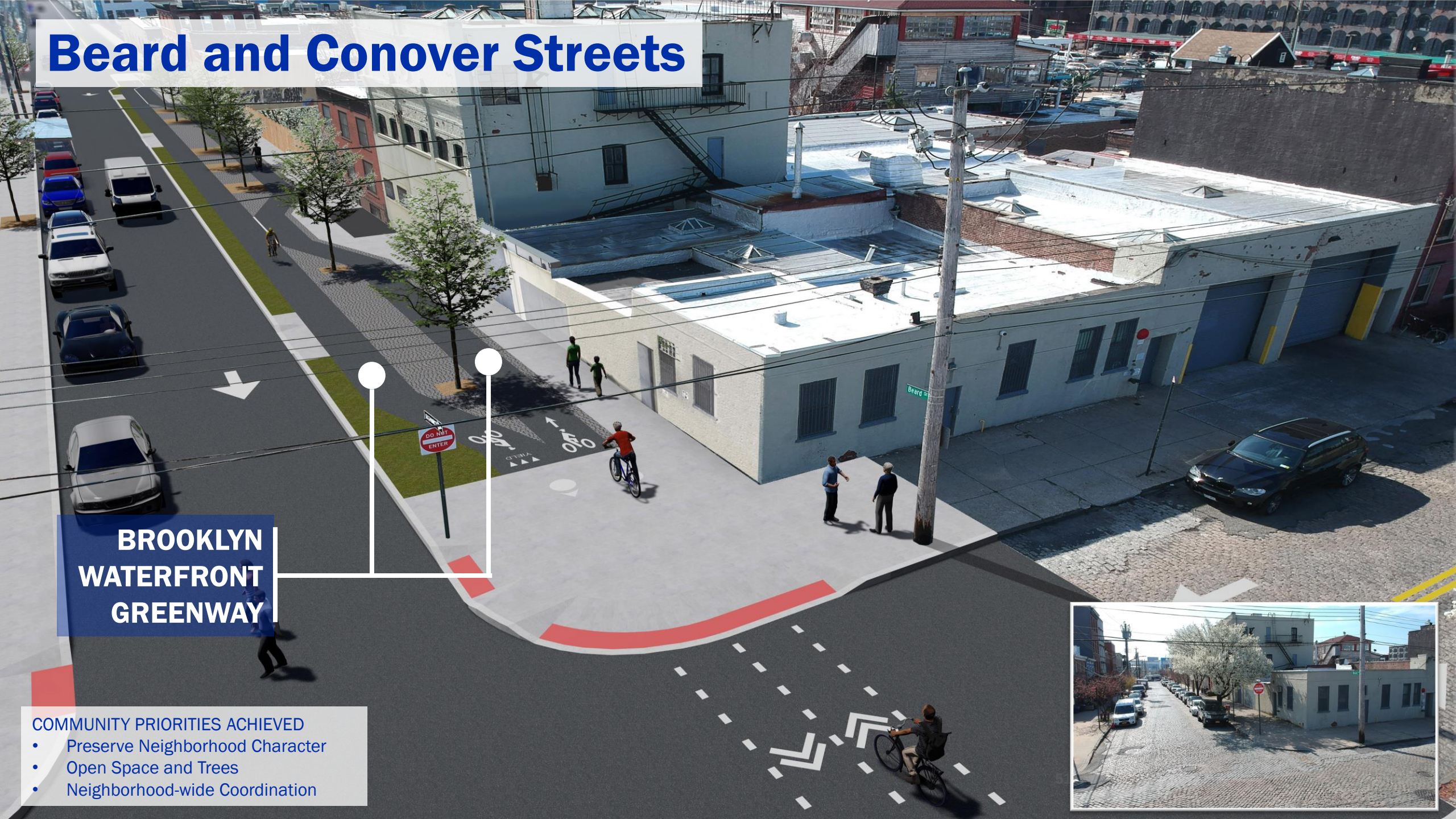
VAN BRUNT STREET TYPICAL SECTION

STA. VB S. 1068+71.65 TO STA. VB S 1068+97.92
STA. VB S 1069+58.23 TO STA. VB S 1069+77.83
HORIZONTAL SCALE: 1" = 5'
VERTICAL SCALE: 1" = 2.5'



VAN BRUNT STREET TYPICAL SECTION

Beard and Conover Streets

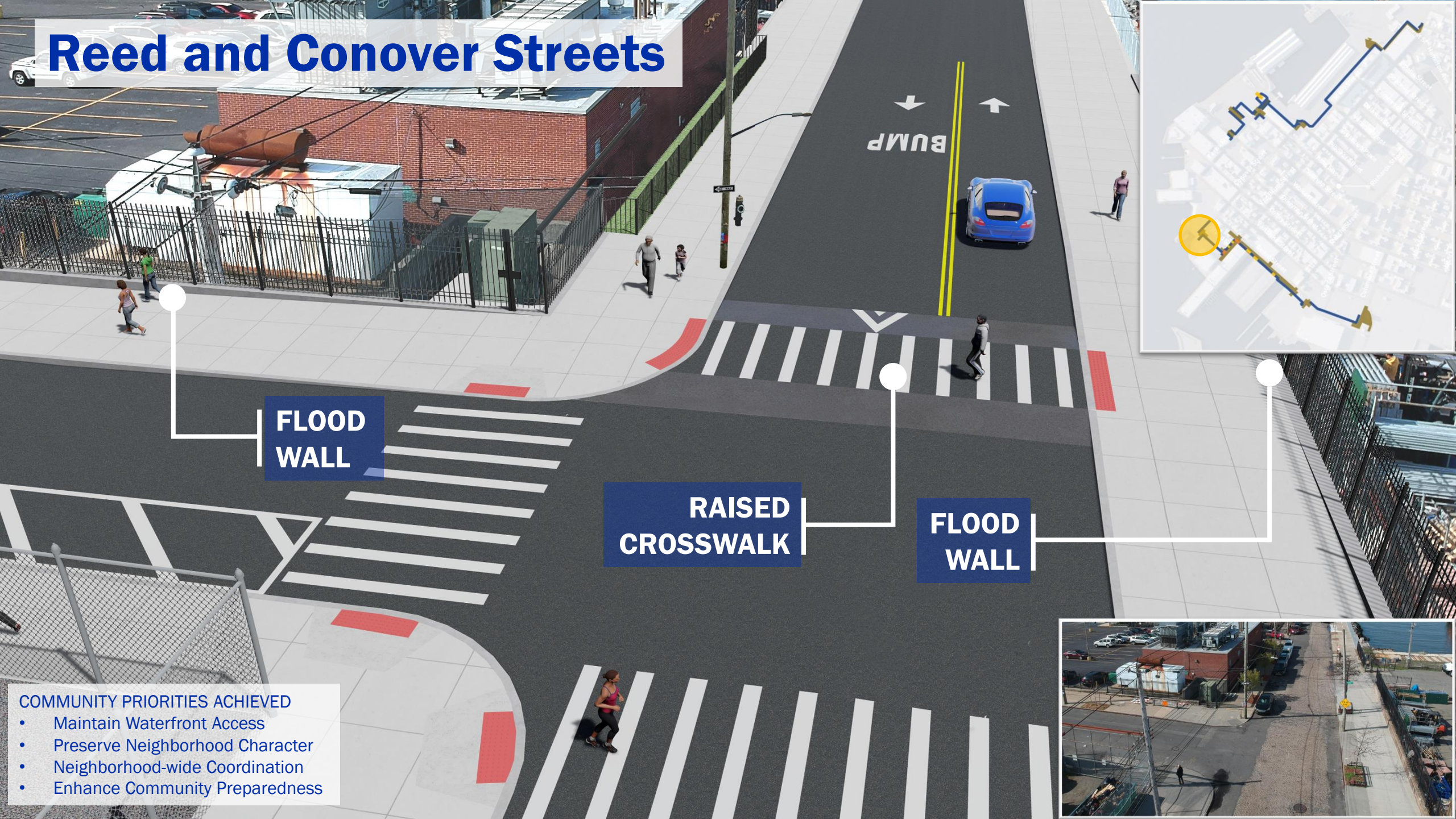


BROOKLYN WATERFRONT GREENWAY

COMMUNITY PRIORITIES ACHIEVED

- Preserve Neighborhood Character
- Open Space and Trees
- Neighborhood-wide Coordination

Reed and Conover Streets



COMMUNITY PRIORITIES ACHIEVED

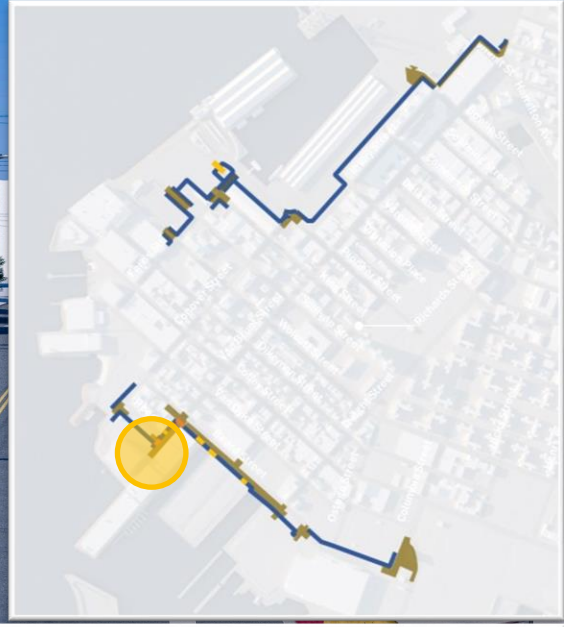
- Maintain Waterfront Access
- Preserve Neighborhood Character
- Neighborhood-wide Coordination
- Enhance Community Preparedness

Van Brunt and Reed Streets

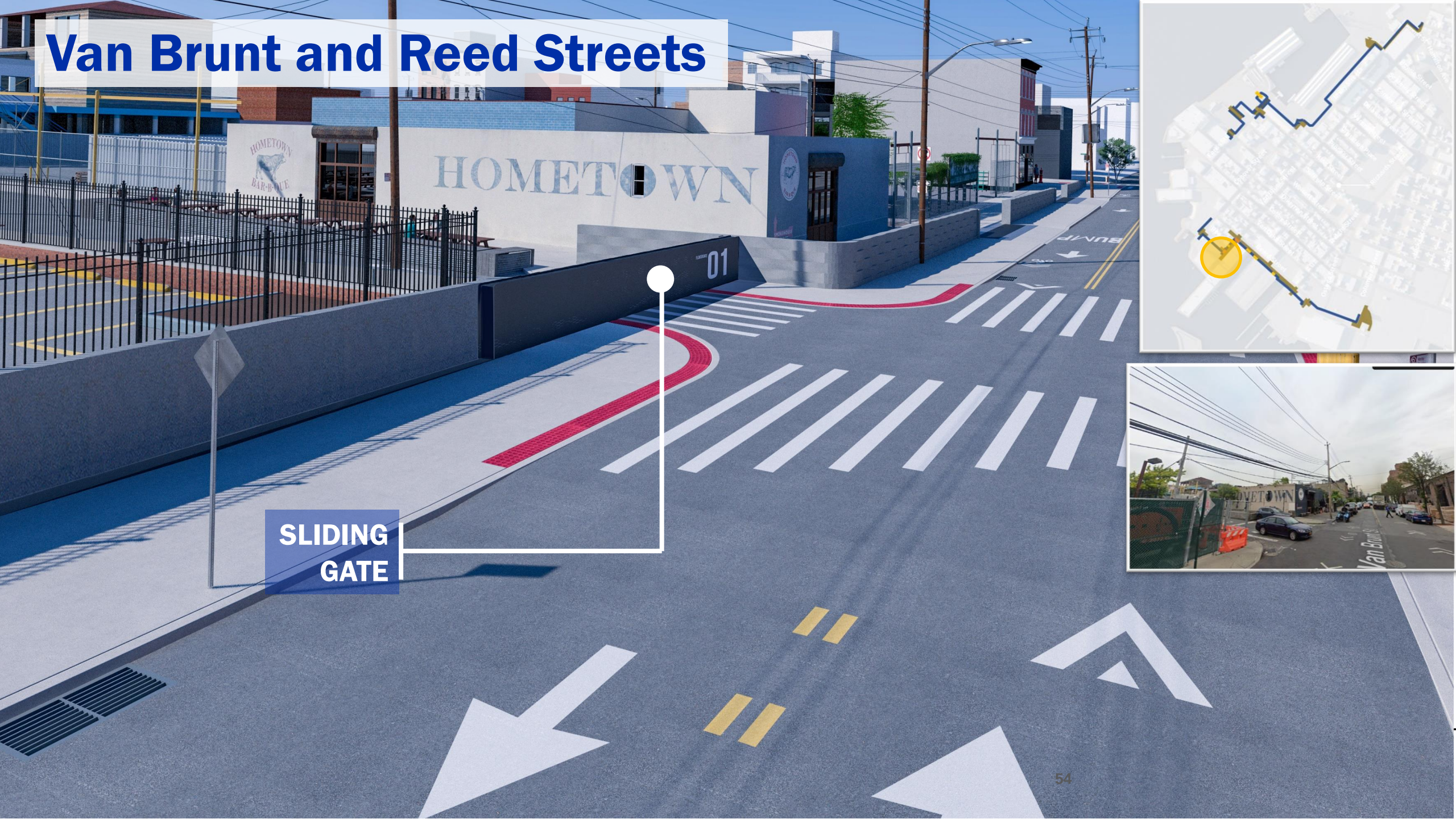
FLOOD WALL

RAISED INTERSECTION

SLIDING GATE

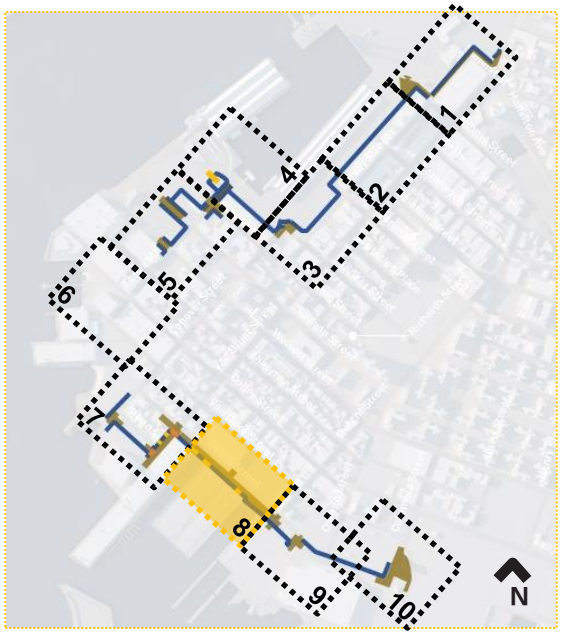


Van Brunt and Reed Streets

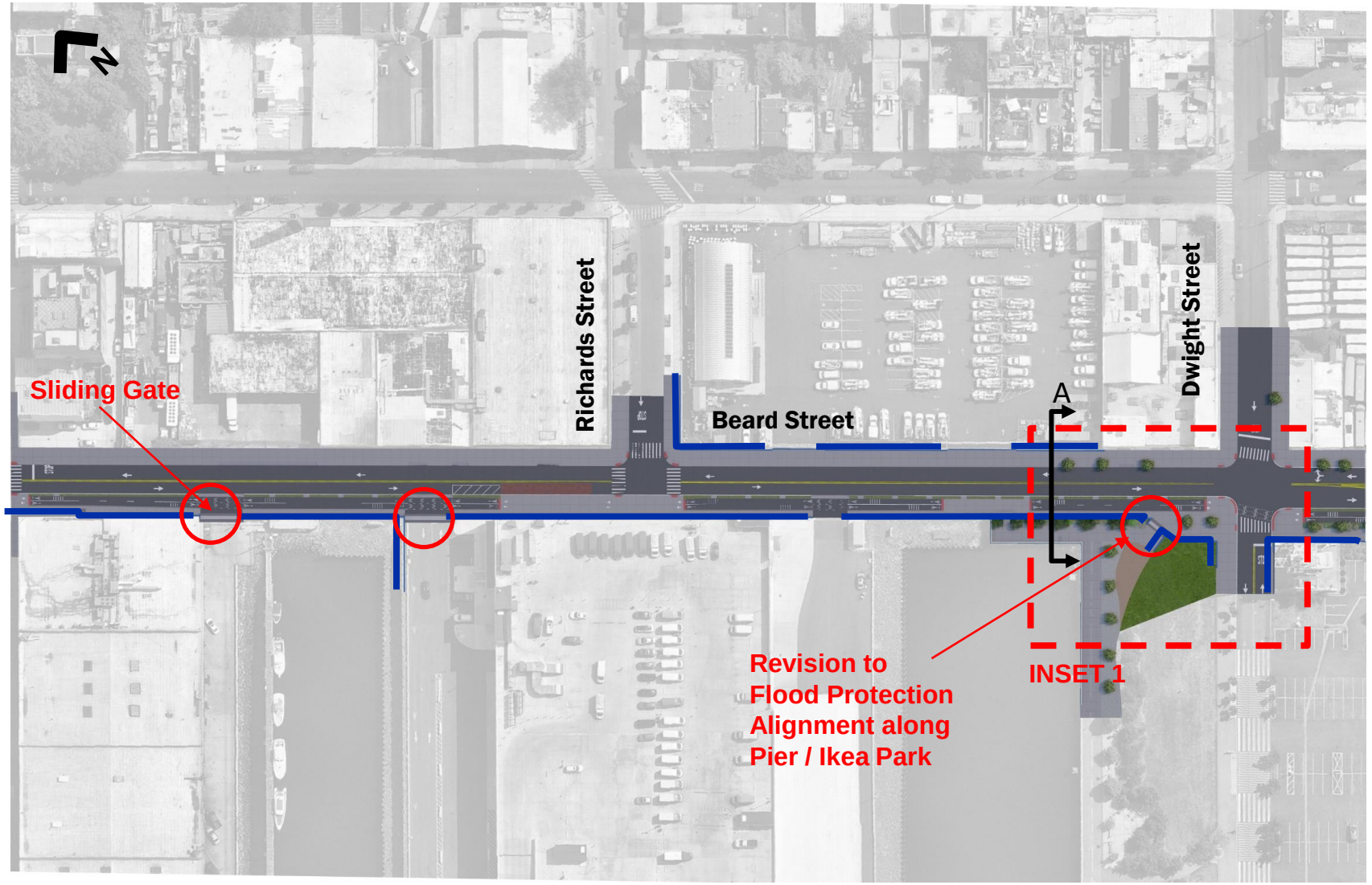


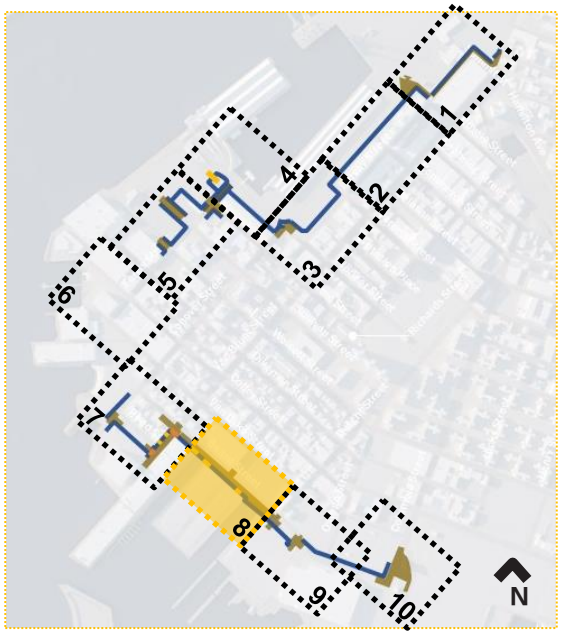
Beard and Van Brunt Streets

Beard and Van Brunt Streets



Plan 8 of 10 Beard Street
EXISTING CONDITIONS

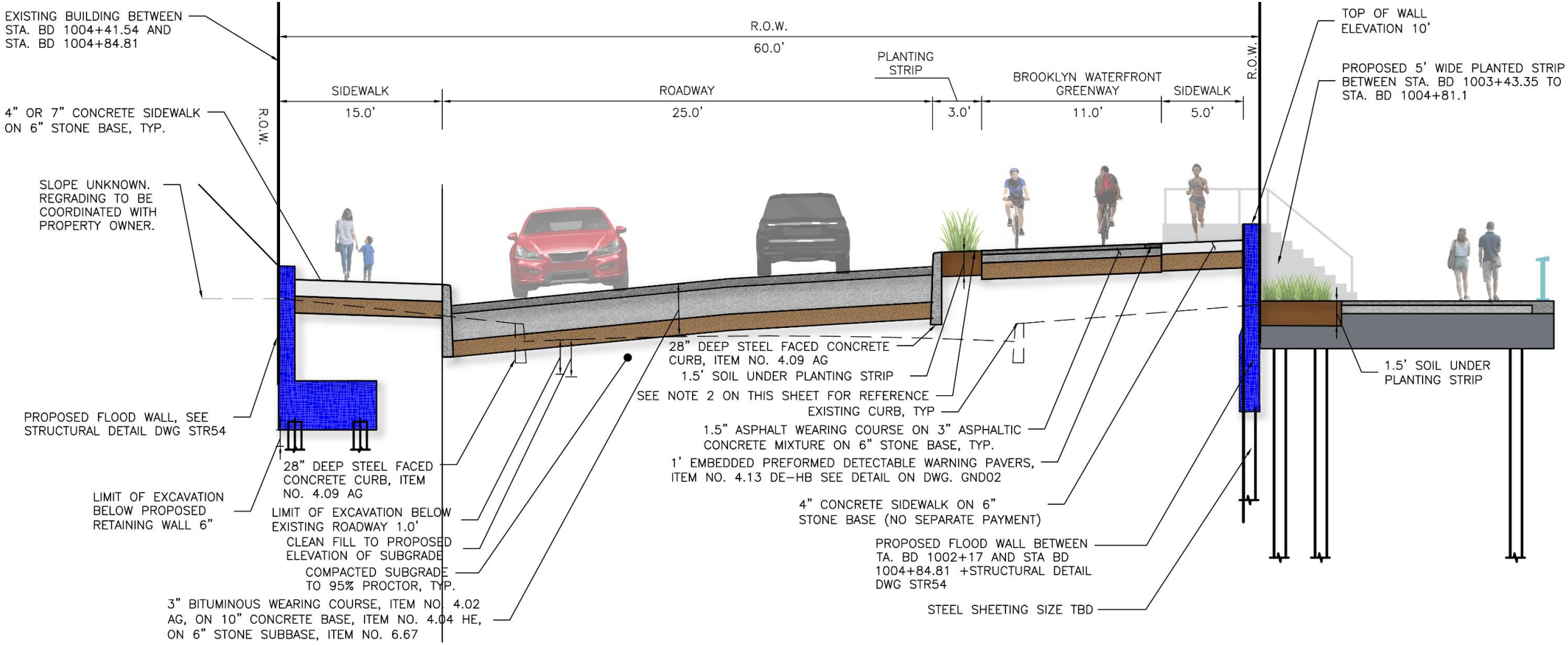




Plan 8 of 10 Beard Street
PROPOSED CONDITIONS

LEGEND

- Floodwall
- Green Strip
- Roadway Improvements
- Gate
- Sidewalk Improvements



BEARD STREET

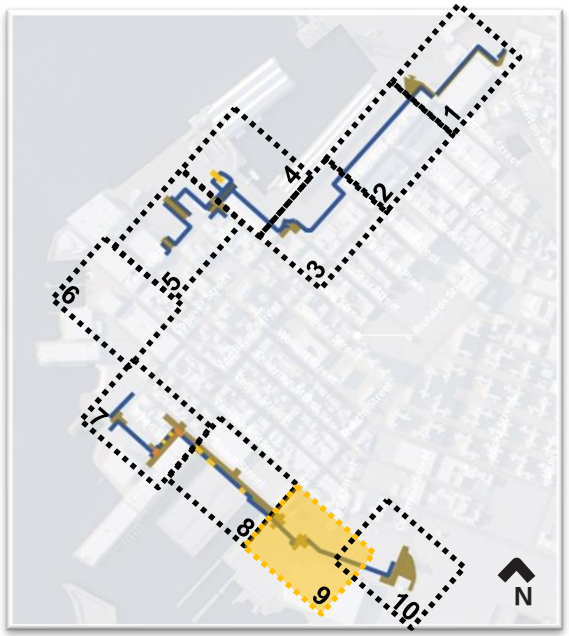
(SECTION A)

Beard Street At Ikea Park

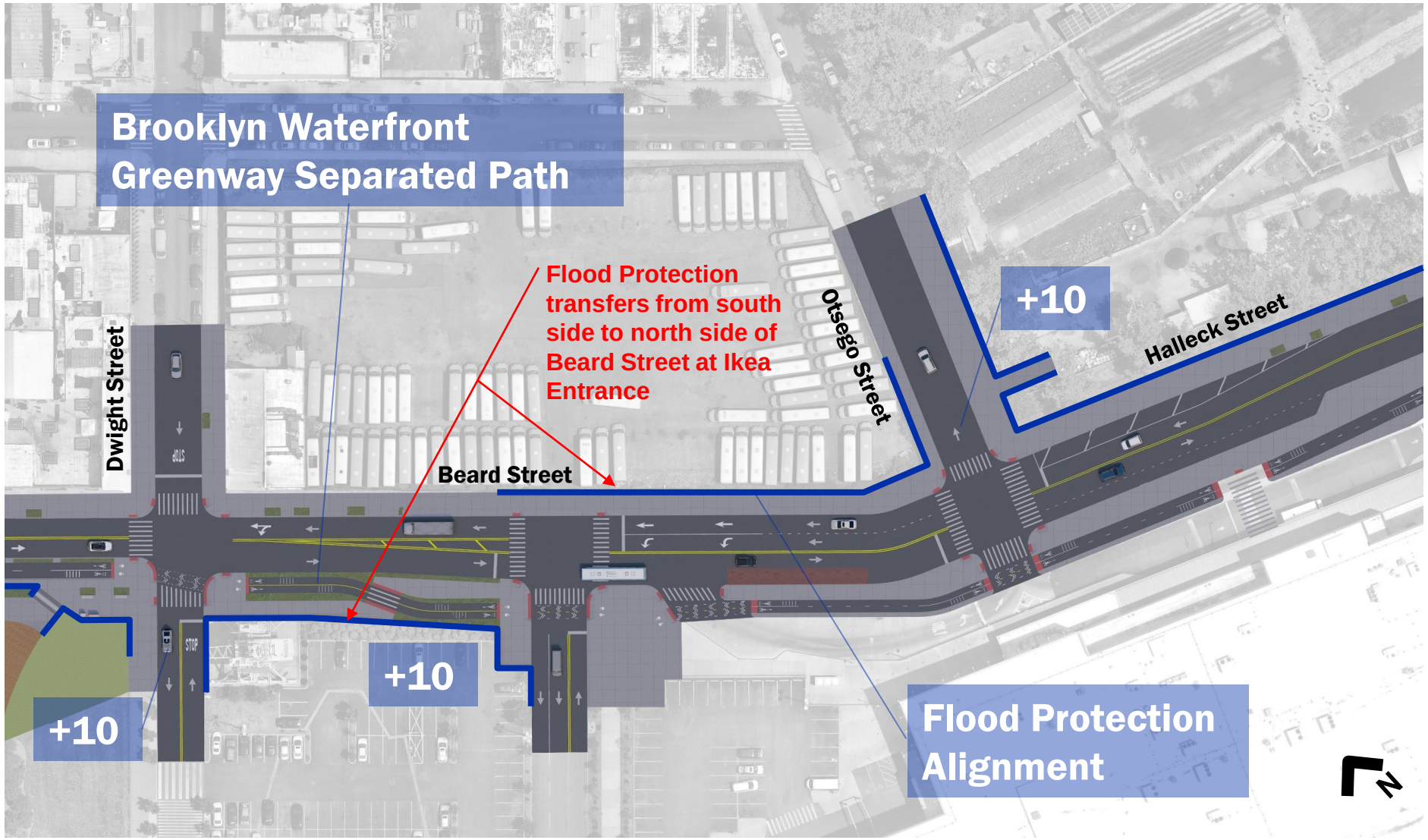
Beard Street At Ikea Park

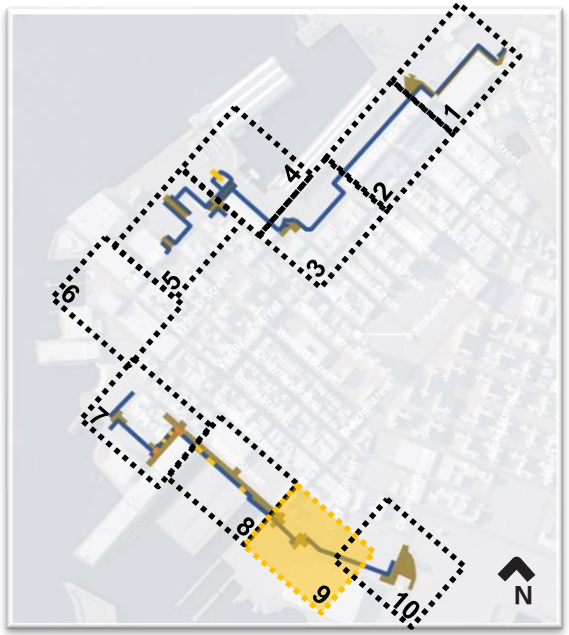
Additional Visualizations of the Esplanade, Pier, and Brooklyn Waterfront Greenway on Beard Street

1. At the Entrance to Park
2. At the Pier / Park
3. At the Pier



Plan 9 of 10 Beard Street / Ikea Park
EXISTING CONDITIONS

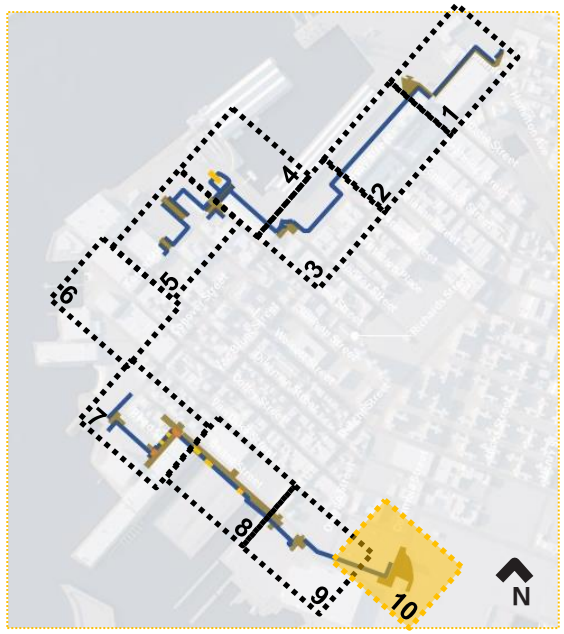




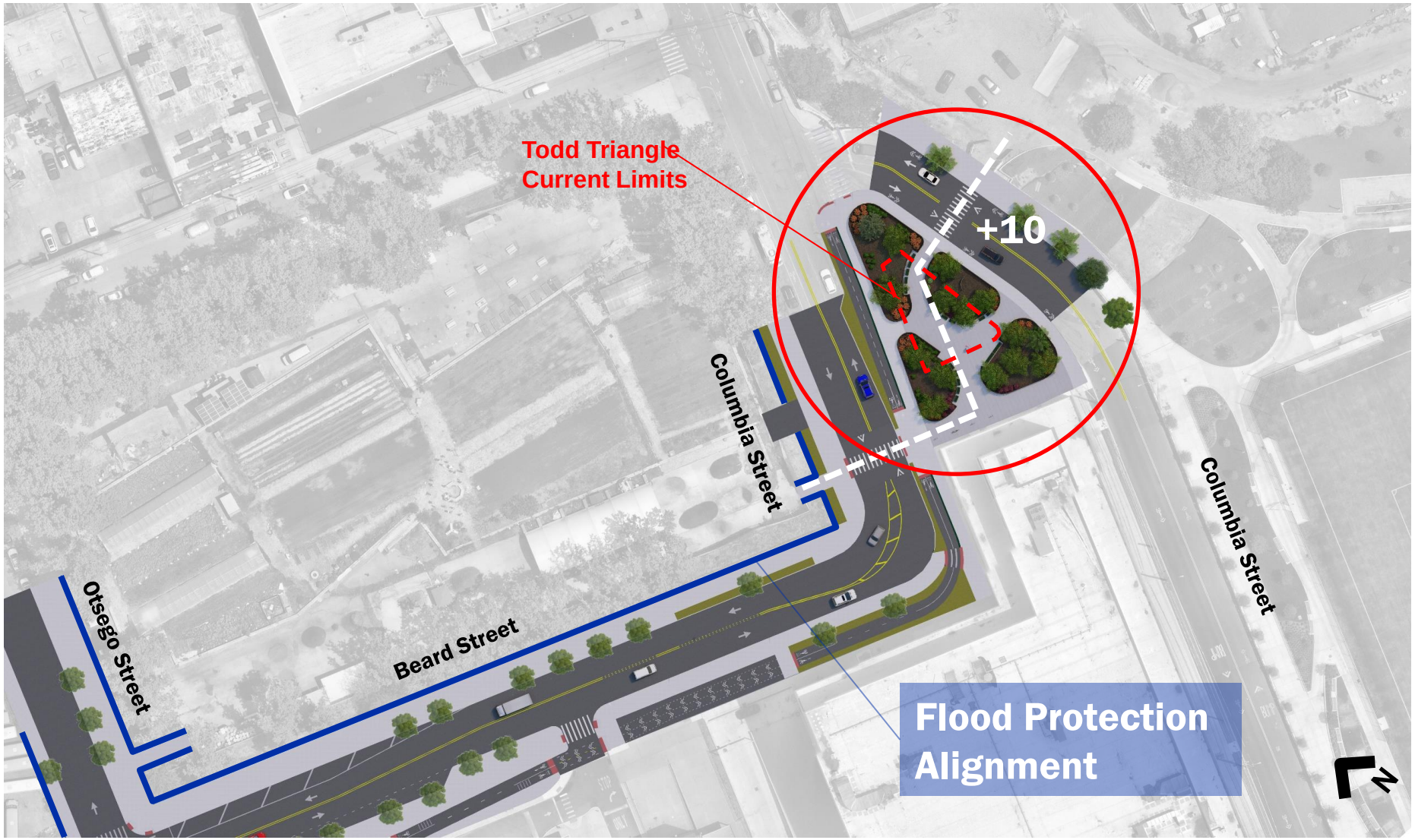
Plan 9 of 10 Beard Street / Ikea Park
PROPOSED CONDITIONS

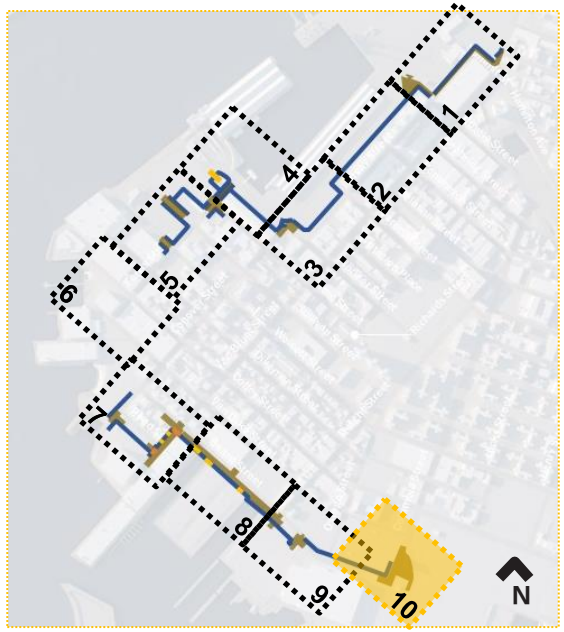
LEGEND

- Floodwall
- Gate
- Green Strip
- Sidewalk Improvements
- Roadway Improvements



Plan 10 of 10 Halleck and Columbia Streets at Todd Triangle
EXISTING CONDITIONS



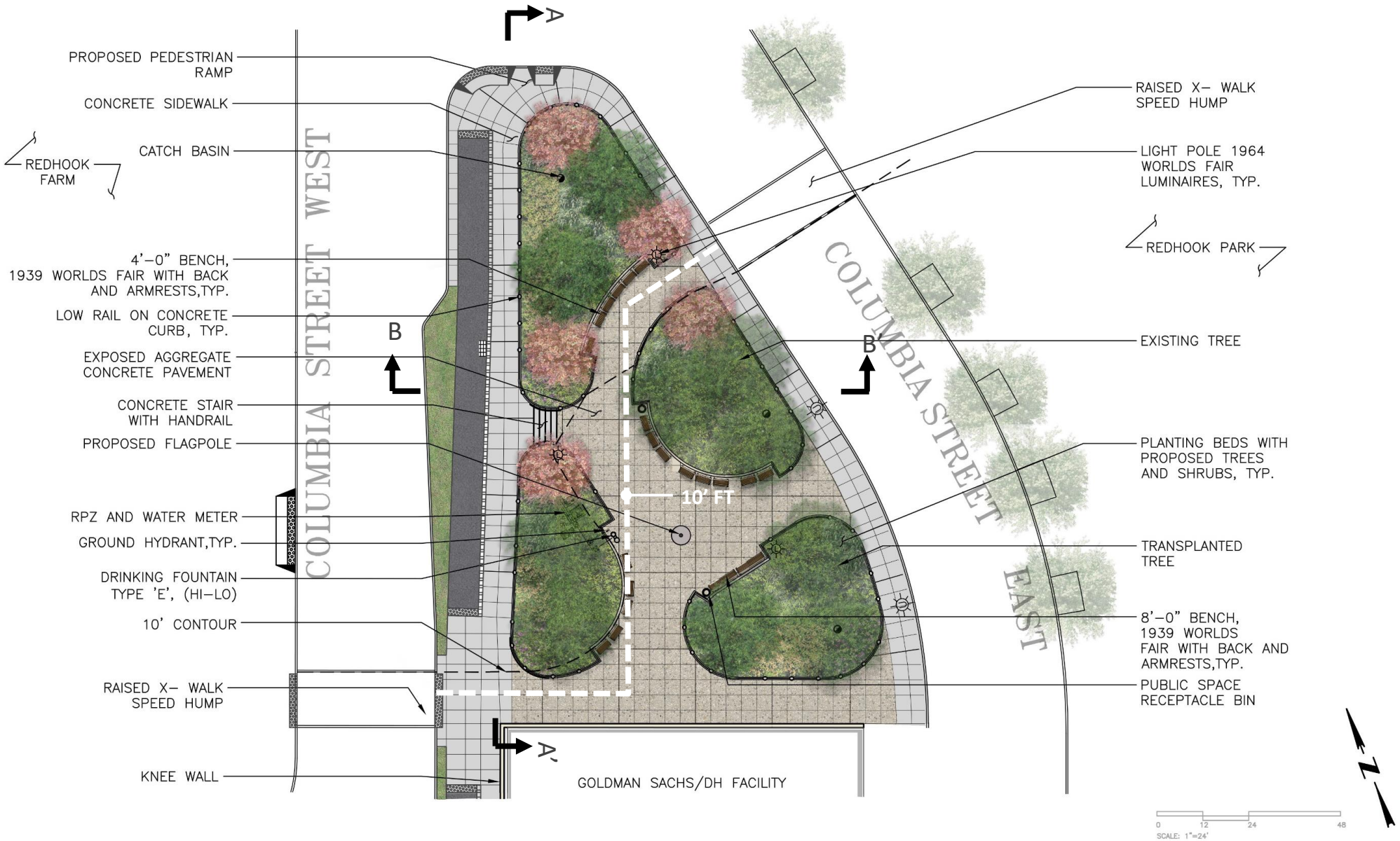


Plan 10 of 10 Halleck and Columbia Streets at Todd Triangle
PROPOSED CONDITIONS

LEGEND

- Floodwall
- Green Strip
- Roadway Improvements
- Gate
- Sidewalk Improvements

Todd Triangle (Columbia Street)

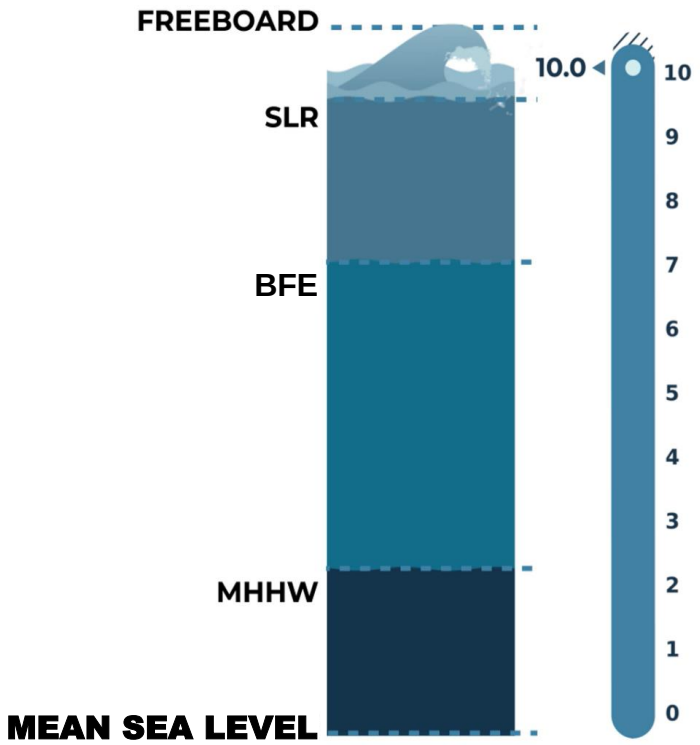

PROPOSED PEDESTRIAN RAMP
CONCRETE SIDEWALK
CATCH BASIN
REDHOOK FARM
4'–0" BENCH, 1939 WORLDS FAIR WITH BACK AND ARMRESTS,TYP.
LOW RAIL ON CONCRETE CURB, TYP.
EXPOSED AGGREGATE CONCRETE PAVEMENT
CONCRETE STAIR WITH HANDRAIL
PROPOSED FLAGPOLE
RPZ AND WATER METER
GROUND HYDRANT,TYP.
DRINKING FOUNTAIN TYPE 'E', (HI–LO)
10' CONTOUR
RAISED X– WALK SPEED HUMP
KNEE WALL
COLUMBIA STREET WEST
A
A'
B
B
10' FT
GOLDMAN SACHS/DH FACILITY
RAISED X– WALK SPEED HUMP
LIGHT POLE 1964 WORLDS FAIR LUMINAIRES, TYP.
REDHOOK PARK
EXISTING TREE
COLUMBIA STREET EAST
PLANTING BEDS WITH PROPOSED TREES AND SHRUBS, TYP.
TRANSPLANTED TREE
8'–0" BENCH, 1939 WORLDS FAIR WITH BACK AND ARMRESTS,TYP.
PUBLIC SPACE RECEPTACLE BIN
N
0
12
24
48
SCALE: 1"=24'

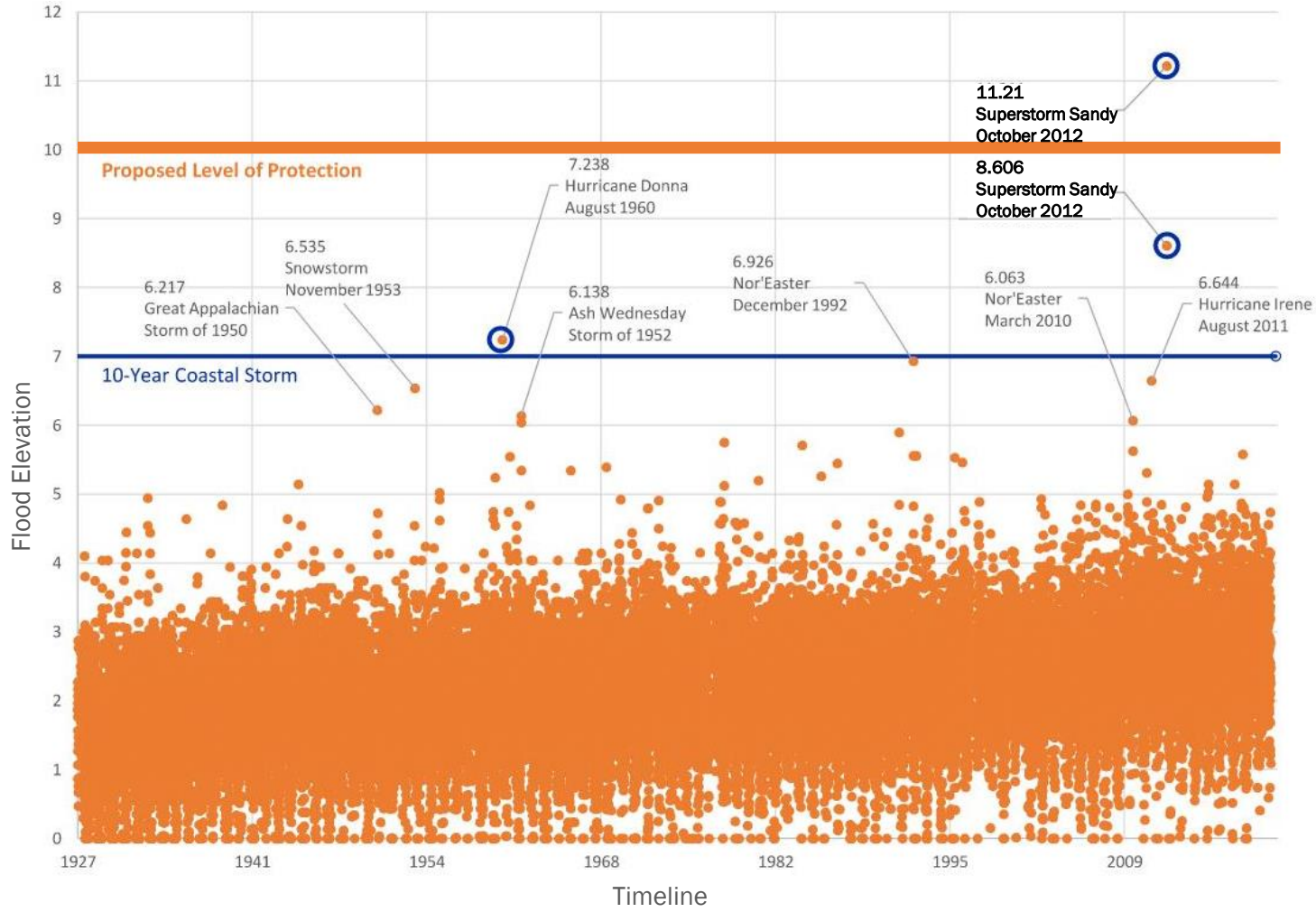
APPENDIX B
SCIENCE


Red Hook Flooding
Existing Conditions
Elev. 10-ft

Design Flood Elevation (DFE)

With a 10-ft level of protection, this project is protecting against the most frequent storms now and into the future





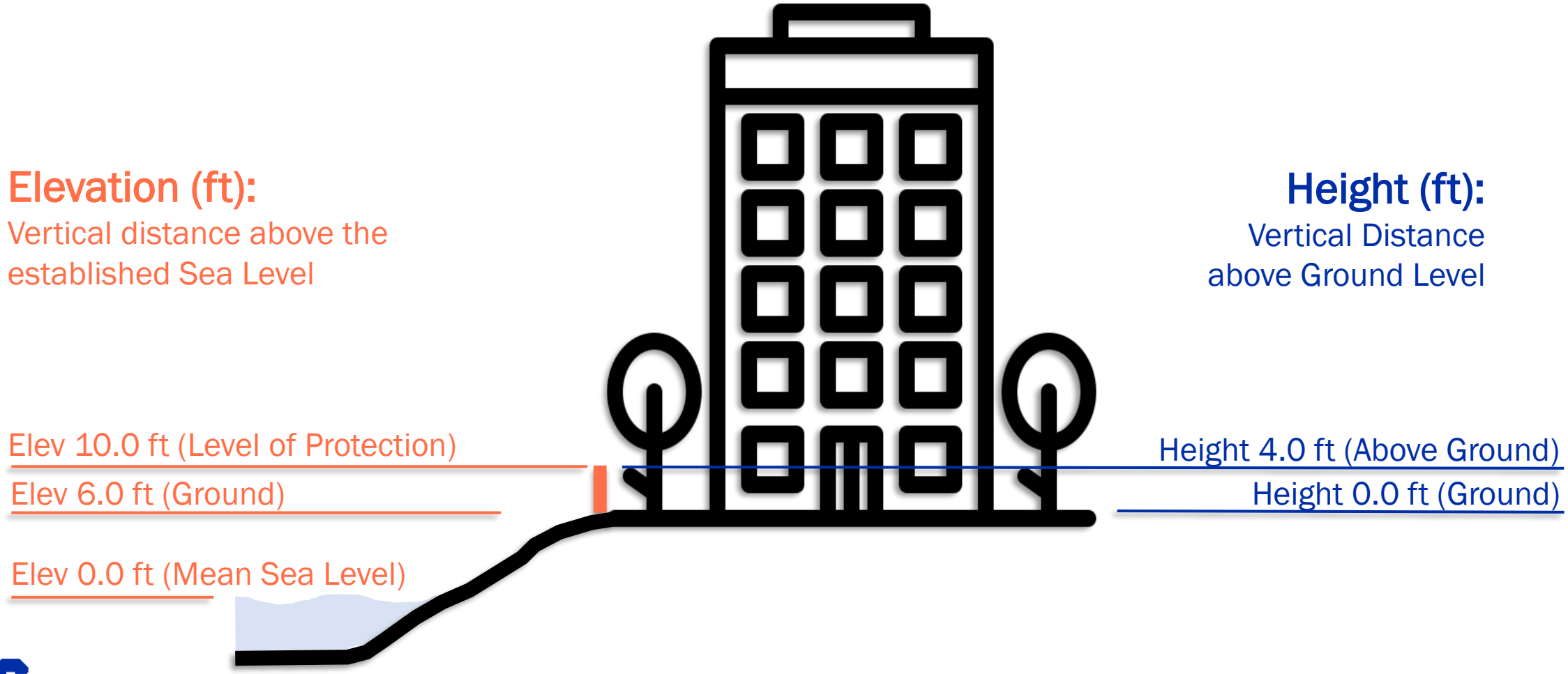
Tide Elevation Data from 1927 – 2020, from the National Oceanic and Atmospheric Administration (NOAA)

Establish Measurement Nomenclature

For Your Reference: Elevation vs. Height

Elevation (ft):
Vertical distance above the established Sea Level

Height (ft):
Vertical Distance above Ground Level



APPENDIX C WHAT WE HEARD

WHAT HAVE WE HEARD?

KICK-OFF SESSION JANUARY 2020

The Recommended level of Protection, from the Feasibility Study (8-feet) is not adequate to Protect Red Hook

-> Design Team went back to Drawing Boards and developed a new Flood Protection System that protects the community to 99.9% of all historical storms at Elevation 10.

Red Hook Needs Better Public Transportation

-> The project incorporated a robust integration of the Brooklyn Waterfront Greenway (BWG) to provide an alternative form of Transportation

Make sure Flood Protection is not just a Seawall

-> The Flood Protection System is a series of elements including raising street grades to minimize the height of the system above sidewalk elevation.

Can bike lanes be considered /they should not be elevated to block the waterfront

-> Integration of the BWG is at Street level, and was not elevated, blocking the waterfront

Considering buying the development sites like Thor+UPS to build retention ponds or restore the wetlands.

-> Sites were not for sale at the start of this project and Federal funding appropriated for this project was allocated for Flood Protection Systems (FPS), not property acquisition.

WHAT HAVE WE HEARD?

30% DESIGN WORKSHOP October 2021 (30%)

Many Residents questions the FPS Alignment being in from the shoreline, leaving some business and residents on the 'wet side' of the system

-> This prompted an extensive alternative alignment study, however the requirements of the FEMA grant requiring inspections and M&O could not be satisfied with the FPS outside the Publicly owned R.O.W.

Many Residents questions were concerned with "bathtub effect" or from rising waters infiltrating the neighborhood from outfalls backing.

-> In conjunction with DEP we have added backflow prevention on all the outfalls that have a connection to open drainage structures within dry side of the FPS. DEP has initiated a larger study to address rainfall events and interior drainage, however this project is specifically to address coastal flooding.

There were a number of concerns regarding the elevation of the protection and if it could be higher than is currently proposed.

-> The protection was increased from 2-feet from the original feasibility study to address 99.9% of the historical storms and Sea Level Rise out 50 more years. Increasing the level of protection beyond that would start to include walls 5-feet and higher, cutting people off from the waterfront and expanding the footprint of the protection into more of the neighborhood. These alternatives were explored but ultimately, per the cost-benefit analysis requirements of the federal funding, found not feasible.

WHAT HAVE WE HEARD?

60% DESIGN WORKSHOP (JUNE 2022)

Concern was expressed over the re-routing of truck routes and incorporation of one-way streets

-> The design of Ferris Street was changed, the proposed one-way conversion eliminated.

-> DOT has undertaken a neighborhood wide study on trucking as a separate project and results/ recommendations of that study will be implemented as a separate future project

The design of Todd Triangle was questioned as an impediment to a future Halleck Street Connection

-> The idea raises several complexities, including issues of parkland alienation, environmental remediation, and mapping actions, all of which the Todd Triangle re-design does not impact or complicate. Until such time as this idea becomes a real project Todd Triangle offers an incredible amenity to the community

Mitigate the removal of existing trees and add more trees / greening of the neighborhood.

-> We have worked very closely with parks to revise the alignment to preserve trees. The configuration of the greenway along Beard Street from Conover to VanBrunt is a good example. In addition, the project is now planting many more trees than it is removing

Consider Nature based solution (permeable pavements, rain gardens, wetlands) in the design

-> We have worked with DEP to include BMP's within the project area. Per their guidelines we are siting a series of infiltration basins along the flood alignment to allow infiltration into the subsurface and reduce overland runoff and flooding.

WHAT HAVE WE HEARD?

90% DESIGN WORKSHOP (NOVEMEBR 2023)

How is this project addressing the increased number of trucks and potential to revise the truck route through an extension of Halleck Street through Red Hook Park.

-> This project is focused on coastal flooding only. DOT has undertaken a neighborhood wide study on trucking as a separate project and results/recommendations of that study will be implemented as a separate future project. Nothing this project is building, including redevelopment of Todd Triangle will impede the study or potential changes to the street network to accommodate recommendations of the study

Many request to address/upgrade the stormwater system and flooding associated with precipitation events in this project

-> The project funding was specifically allocated for coastal flood protection. DEP has an independent project water and sewer Main Project currently in Design for Red Hook (*see attached following slide for details*)

Additional request to include green infrastructure/permeable surfaces

-> A series of infiltration basins along the flood alignment to allow infiltration into the subsurface and reduce overland runoff and flooding have been sited.

Historic Preservation and retaining cobblestone streets

-> The cobblestone roadways pose maintenance, ADA, and safety concerns and can not be retained. NYCDOT has looked at options to reuse the cobblestones but ultimately does not currently have the space to store them.

WHAT HAVE WE HEARD?

ADDITIONAL DETAIL ON DEP INITIATIVES

- DEP and DDC are completing designs on a second phase of sewer and watermain upgrades.
- Projected construction in 2027; $50 million investment.
- Replaced sewers will be upsized between 20-25%.
- Increased sewer capacity will reduce sewer back ups and flooding.
- Water main upgrades will provide the community with more resilient water distribution.