

Schematic Design of the Brooklyn Waterfront Greenway as a Flood Barrier in Red Hook

Brooklyn Community Board 6

October 18, 2017

*This document was prepared with funds provided by the New York State Department of State under Title 11 of the Environmental Protection Fund
This document was prepared under a contract with Brooklyn Greenway Initiative and the Office of the Borough President*



Schematic Designs in Red Hook

THE BROOKLYN GREENWAY AS FLOOD PROTECTION AND EMERGENCY ACCESS

JULY 26, 2017



These materials and this study were prepared with funding provided by the New York State Department of State under Title 11 of the Environmental Protection Fund





Project Overview

Develop schematic designs for the Brooklyn Waterfront Greenway in Red Hook with the following guidelines:

- Incorporate the Red Hook IFPS with the Brooklyn Waterfront Greenway
- Provide flood protection for a large storm event (considered 50-year flood)
- Provide emergency egress for Red Hook during a flood
- Designs were coordinate with agencies (MORR and NYCDOT)



Project Overview

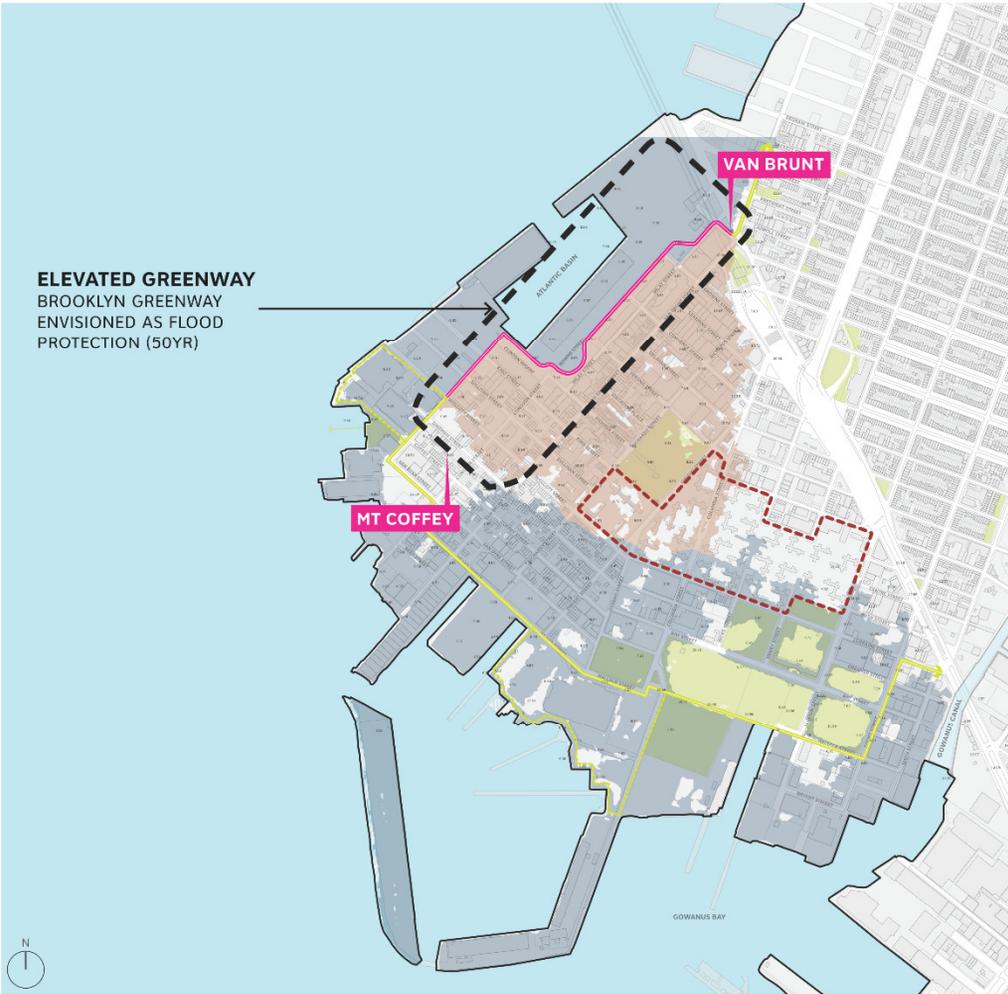
Additional design goals:

- Close proximity to the Red Hook waterfront
- Provided physical separation between the Greenway and vehicular travel
- Create public amenity spaces
- Provide stormwater detention

Schematic Designs in Red Hook

PROJECT AREA

BOWNE ST, CLINTON WHARF, FERRIS ST.



LEGEND

- * PROTECTED AREA
- 50 YEAR DFE 9.9
- ON GRADE GREENWAY ALIGNMENT
- ELEVATED GREENWAY ALIGNMENT
- ** NYCHA

* POTENTIAL INTRUSION FROM THE SOUTH; FURTHER ANALYSIS REQUIRED
 ** SEPARATE NYCHA FEMA FUNDED RECOVERY AND RESILIENCY PROJECT

THE BROOKLYN GREENWAY
 June 29, 2017

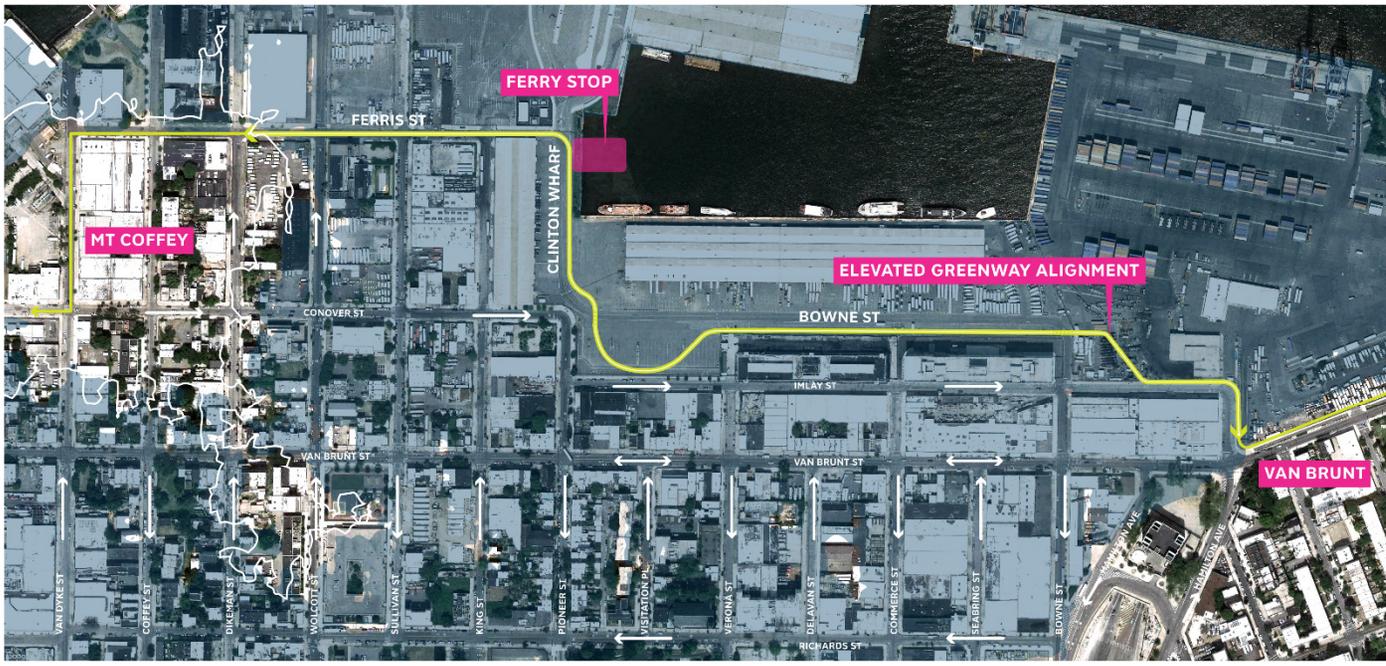


Schematic Designs in Red Hook

EXISTING CONDITIONS



KEY PLAN



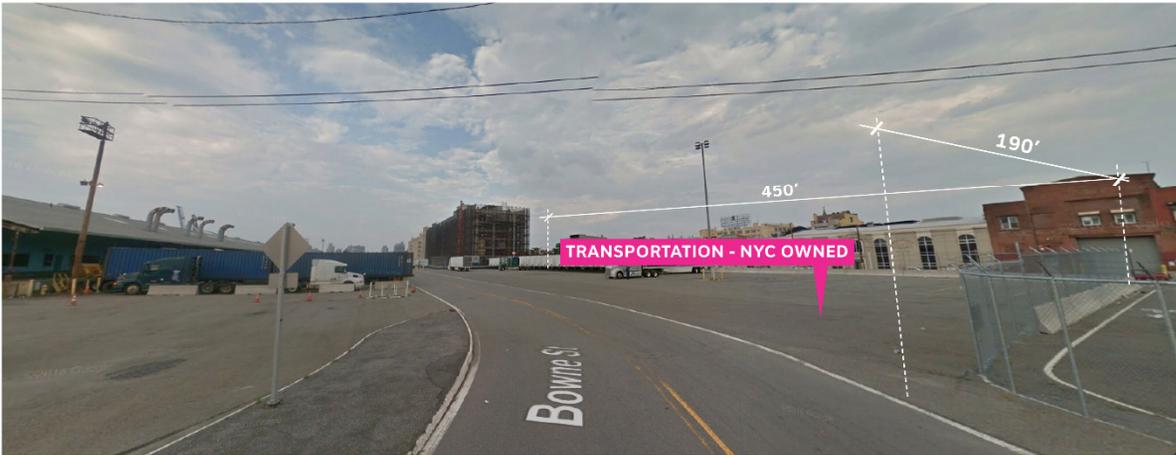
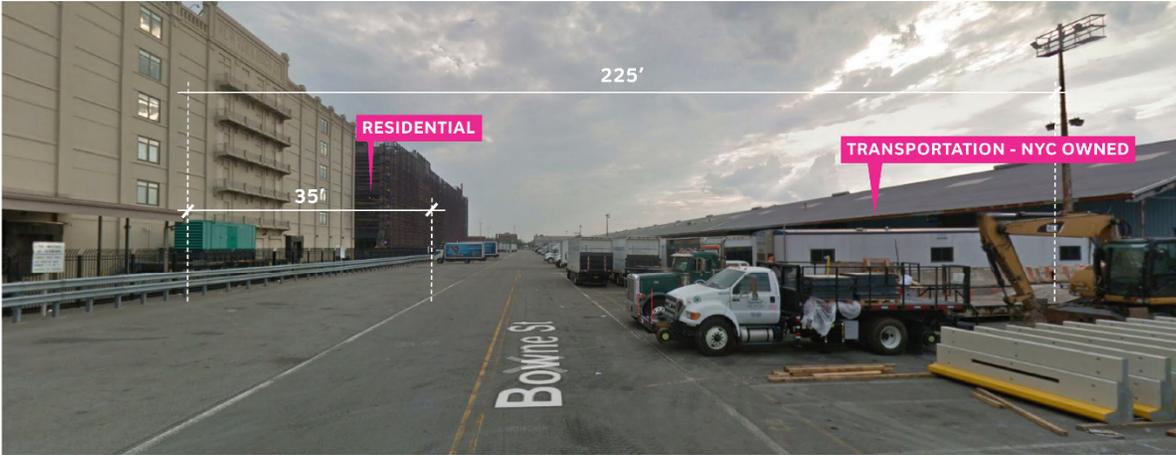
THE BROOKLYN GREENWAY
June 29, 2017

NEW YORK STATE OF OPPORTUNITY
Department of State
BROOKLYN GREENWAY INITIATIVE
Dewberry SCAPE

These materials and this study were prepared with funding provided by the New York State Department of State under Title 11 of the Environmental Protection Fund

Schematic Designs in Red Hook

WHY BOWNE ST?



THE BROOKLYN GREENWAY
June 29, 2017

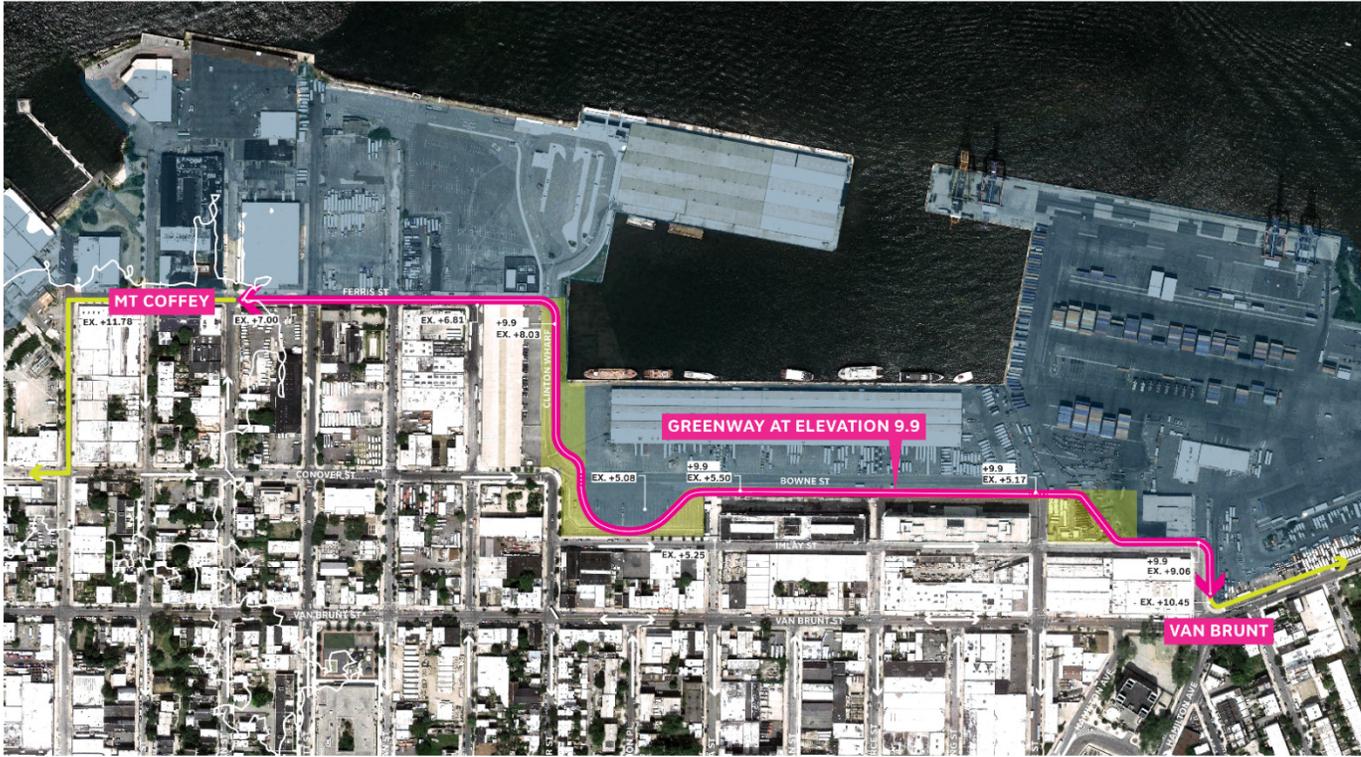


These schematics and this study were prepared with funding provided by the New York State Department of State under Title 12 of the Environmental Protection Fund.



Schematic Designs in Red Hook

RAISED GREENWAY AS FLOOD PROTECTION



THE BROOKLYN GREENWAY
June 29, 2017

NEW YORK STATE OF OPPORTUNITY. Department of State
These materials and this study were prepared with funding provided by the New York State Department of State under Title 22 of the Environmental Protection Fund

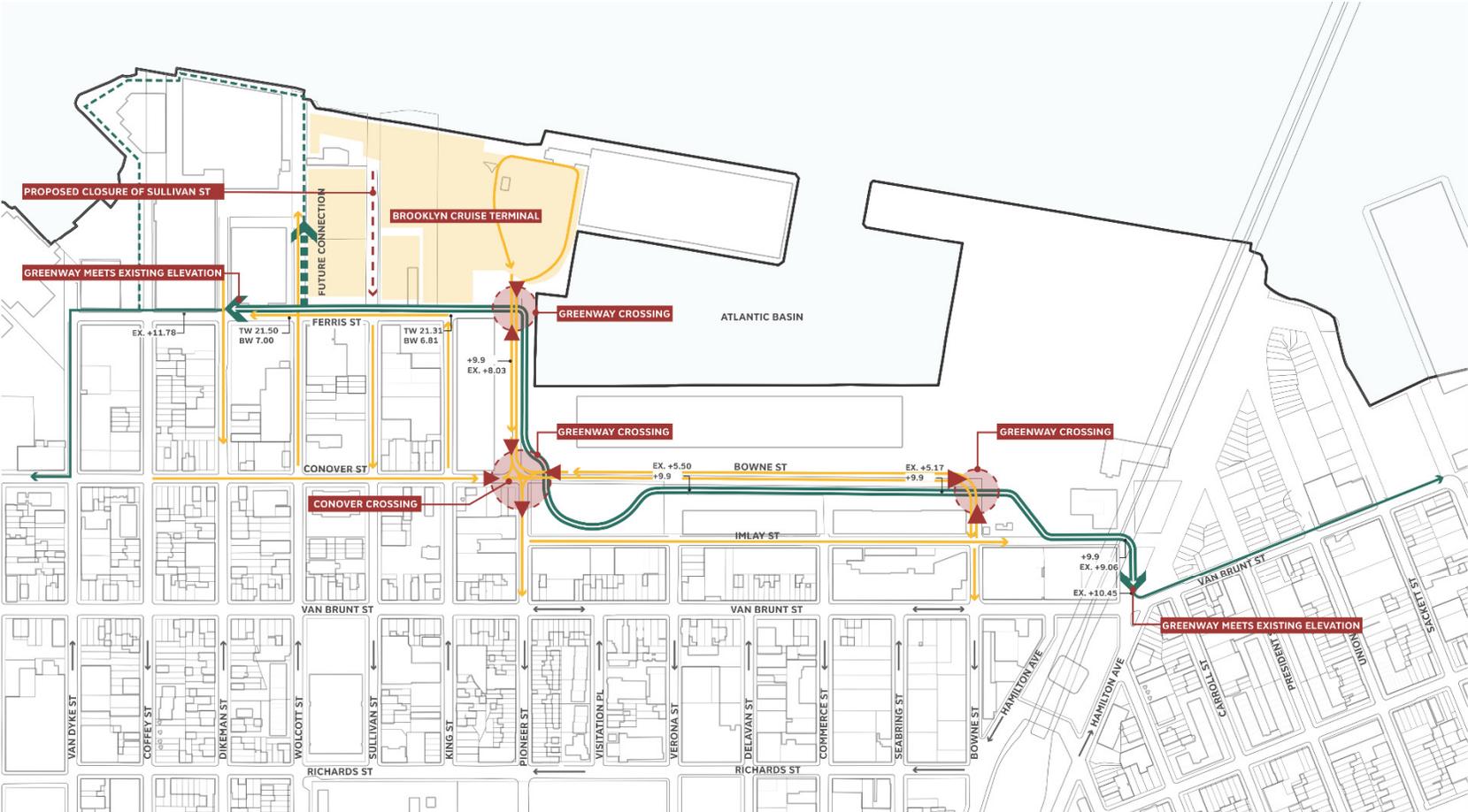


Dewberry SCAPE



Schematic Designs in Red Hook

TRAFFIC PATTERNS



THE BROOKLYN GREENWAY
June 29, 2017



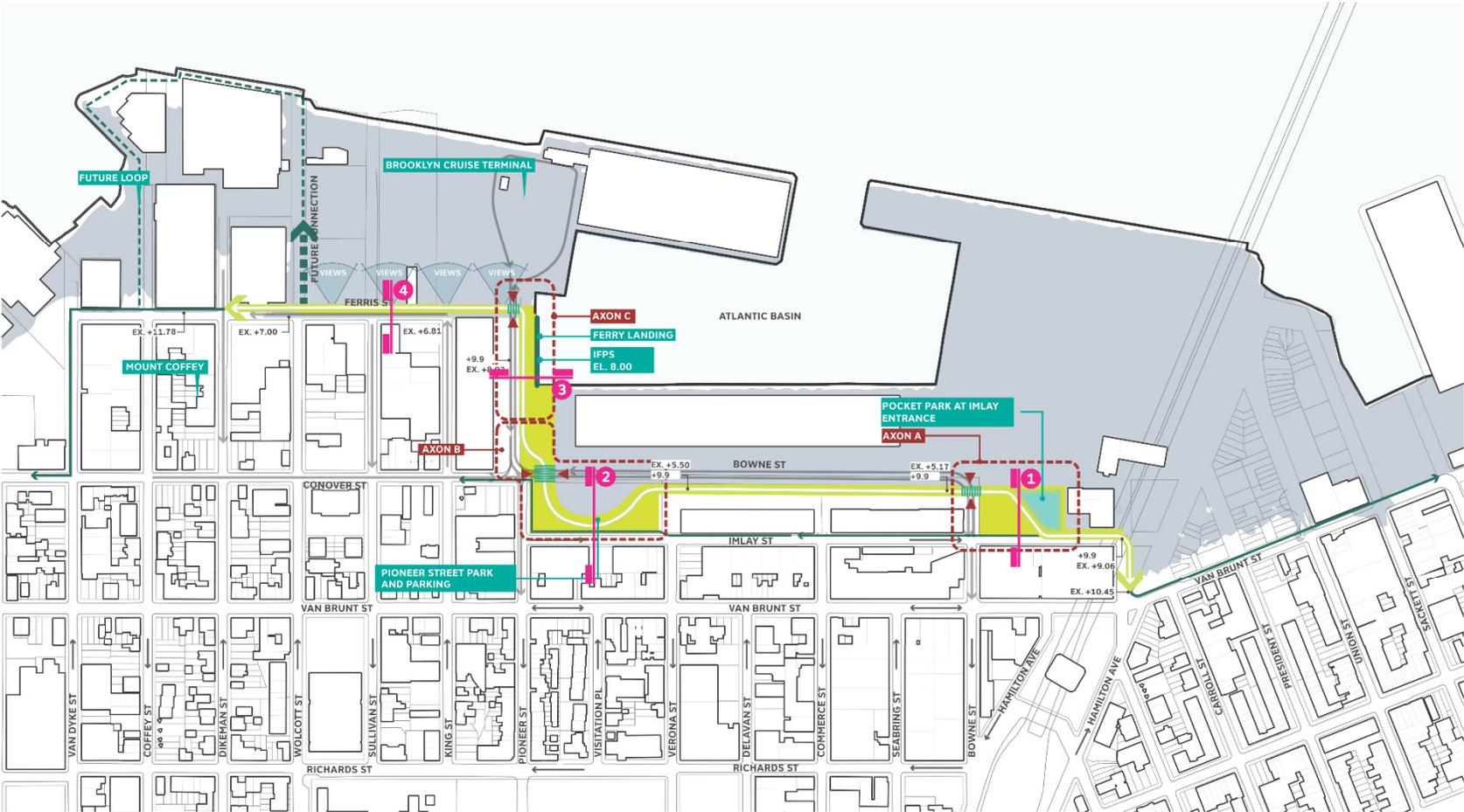




These materials and this study were prepared with funding provided by the New York State Department of State under Title 21 of the Environmental Protection Fund.

Schematic Designs in Red Hook

GREENWAY OPPORTUNITIES PLAN



THE BROOKLYN GREENWAY
June 29, 2017





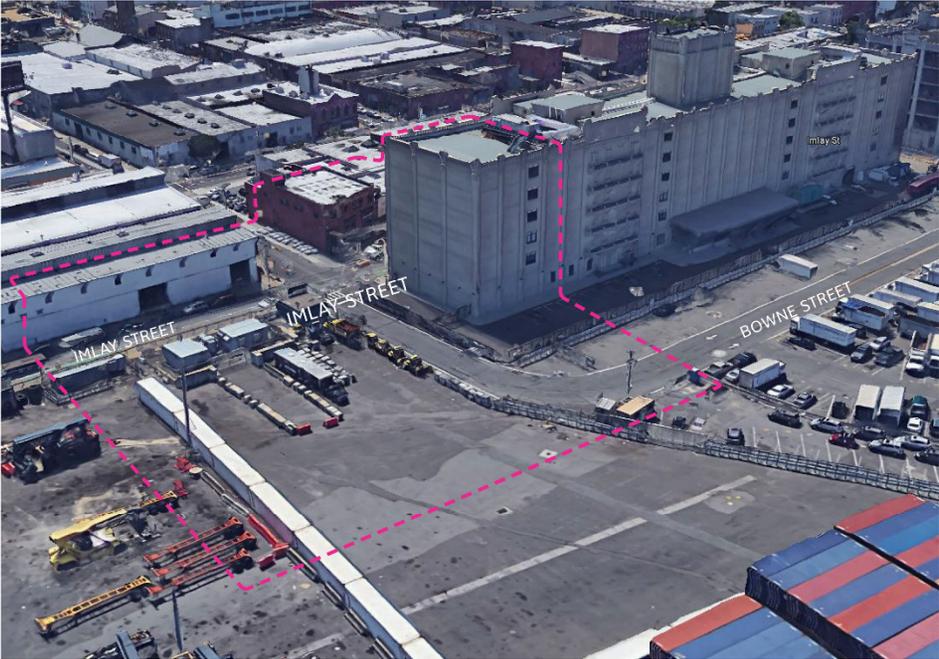


These materials and this study were prepared with funding provided by the New York State Department of State under Title 11 of the Environmental Protection Fund.



Schematic Designs in Red Hook

EXISTING CONDITIONS AT IMLAY ST AND BOWNE STREET



KEY PLAN

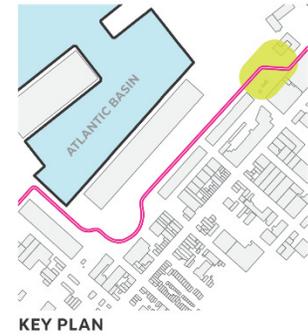
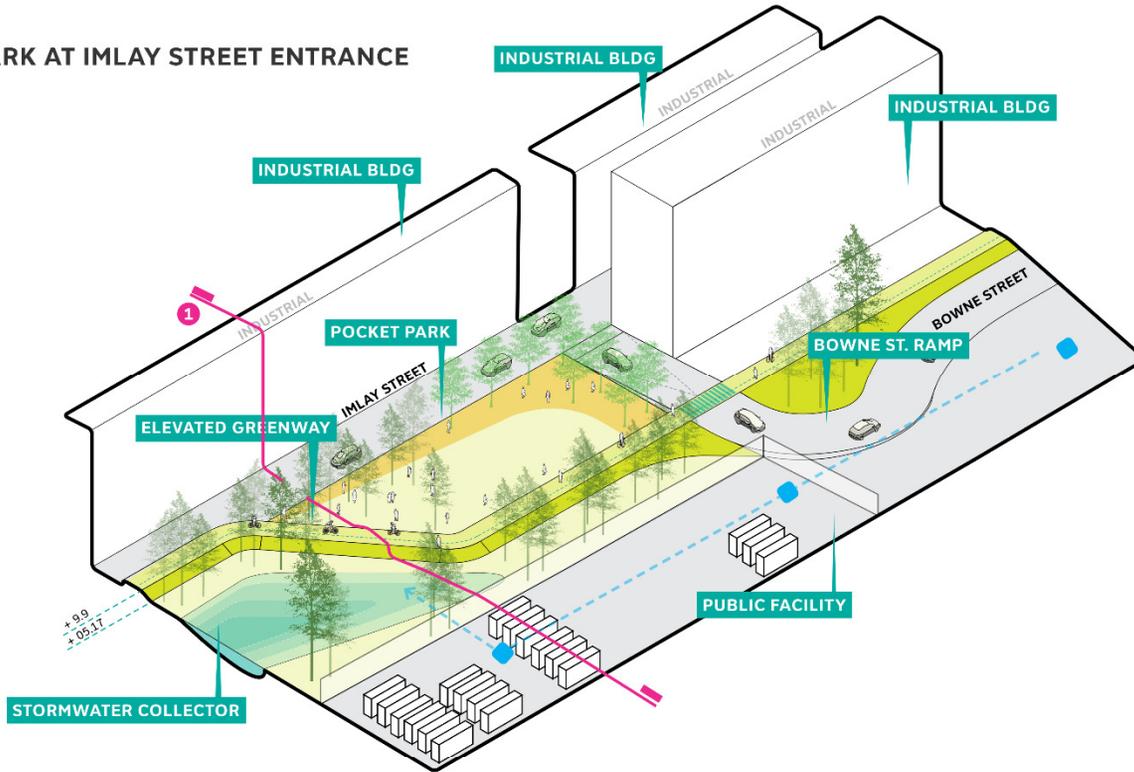
THE BROOKLYN GREENWAY
June 29, 2017



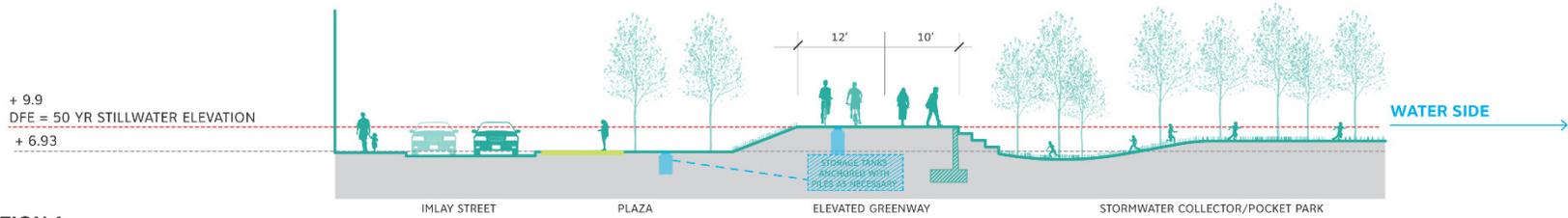
Dewberry SCAPE

Schematic Designs in Red Hook

POCKET PARK AT IMLAY STREET ENTRANCE



AXON A



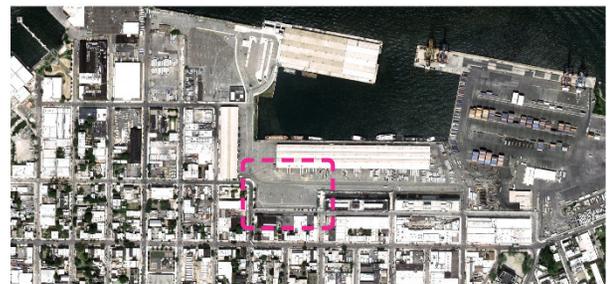
SECTION 1

THE BROOKLYN GREENWAY
June 29, 2017



Schematic Designs in Red Hook

EXISTING PARKING AT BOWNE STREET



KEY PLAN

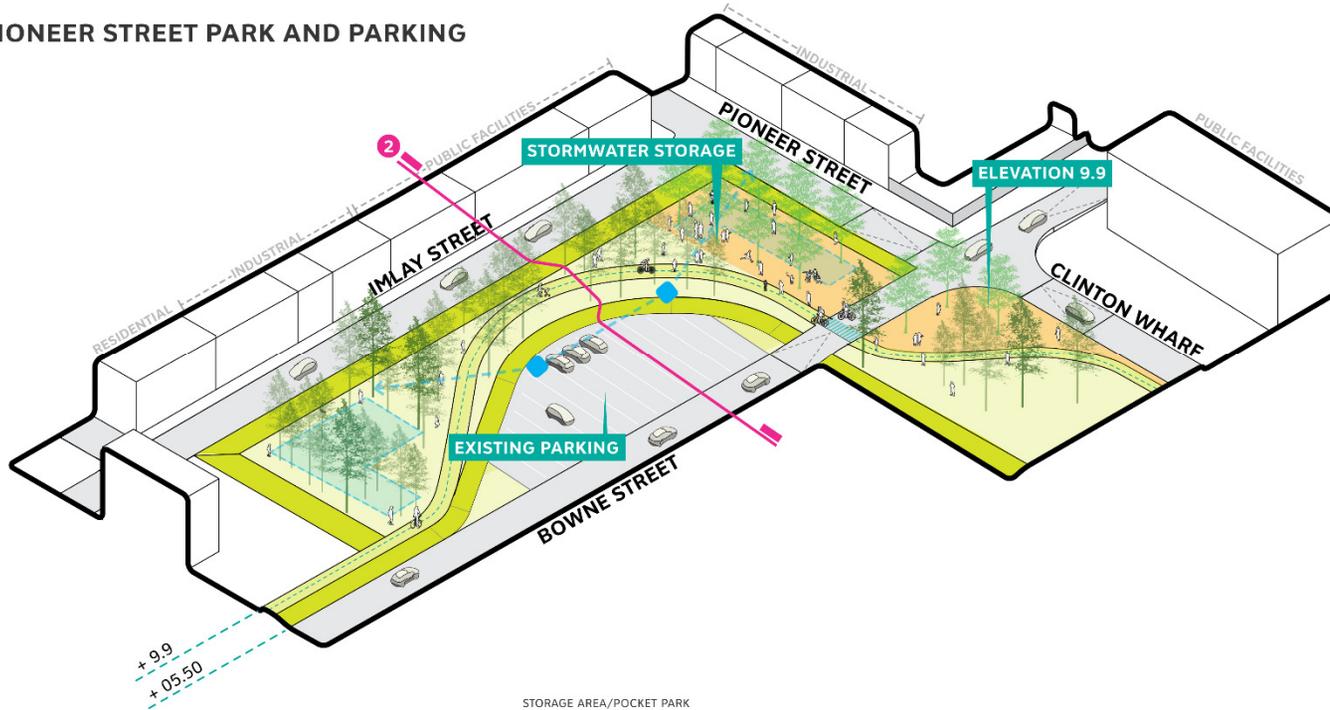
THE BROOKLYN GREENWAY
June 29, 2017



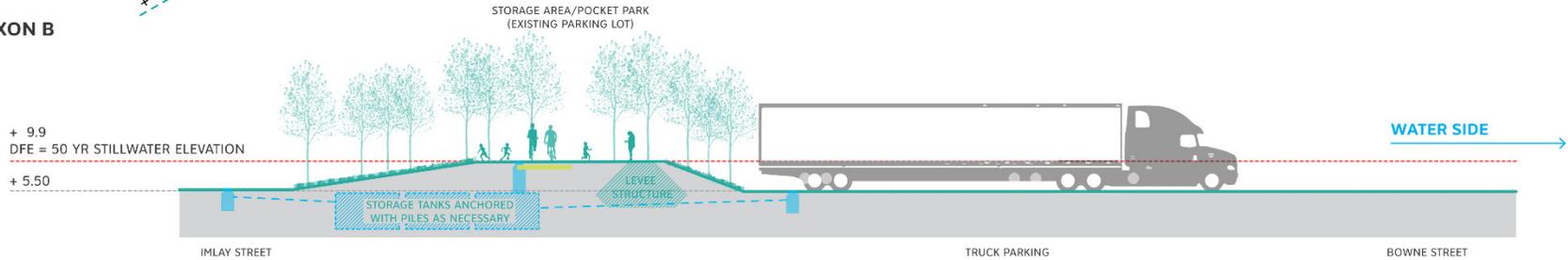
Dewberry SCAPE

Schematic Designs in Red Hook

PIONEER STREET PARK AND PARKING



AXON B



SECTION 2

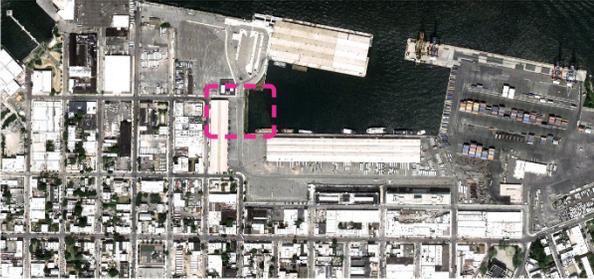
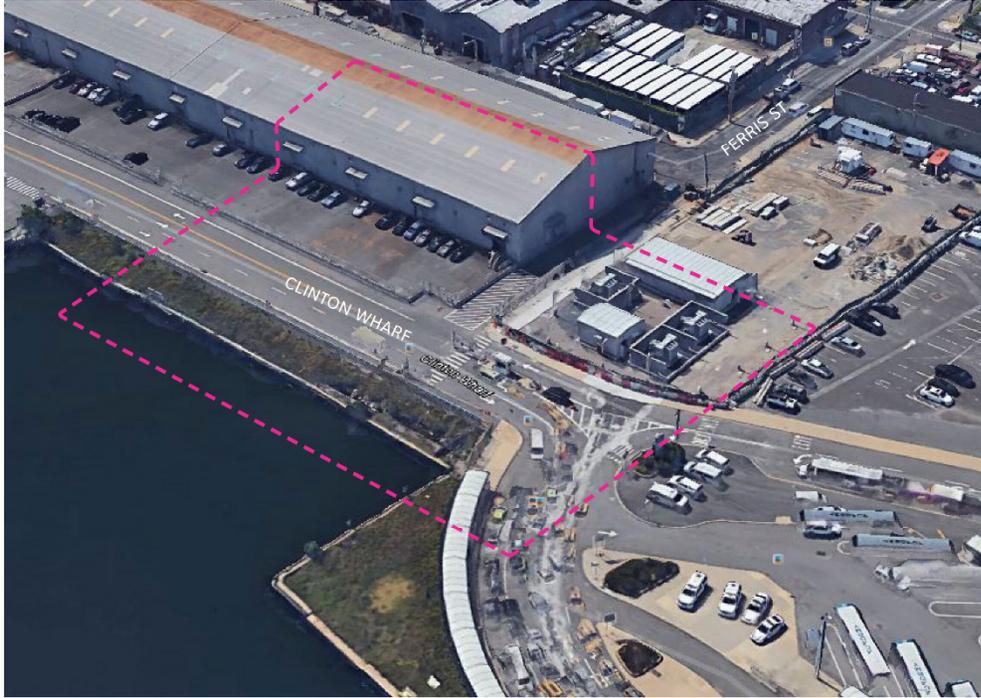
THE BROOKLYN GREENWAY
June 29, 2017

SCALE : 1/16" = 1'-0"



Schematic Designs in Red Hook

EXISTING ROAD TO CRUISE TERMINAL AT CLINTON WHARF



KEY PLAN

THE BROOKLYN GREENWAY
June 29, 2017

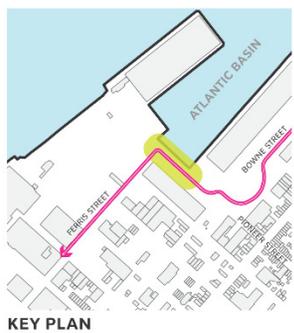
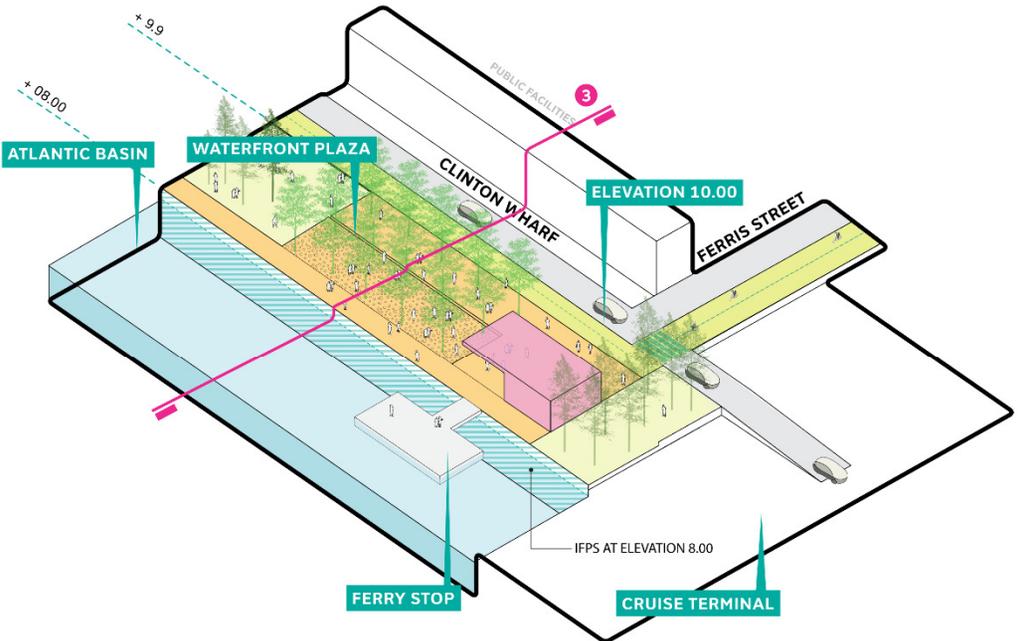


Dewberry SCAPE

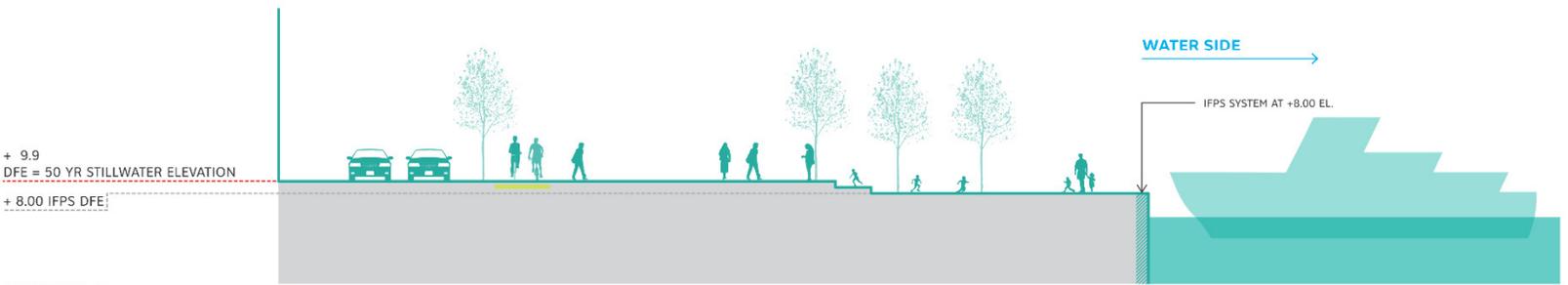


Schematic Designs in Red Hook

CLINTON WHARF
FERRY TERMINAL



AXON C



SECTION 3

THE BROOKLYN GREENWAY
June 29, 2017

NEW YORK STATE OF OPPORTUNITY | Department of State

These materials and this study were prepared with funding provided by the New York State Department of State under Title 21 of the Environmental Protection Fund.

BROOKLYN GREENWAY INITIATIVE

Dewberry SCAPE

Schematic Designs in Red Hook

EXISTING SULLIVAN STREET AND FERRIS STREET INTERSECTION



KEY PLAN

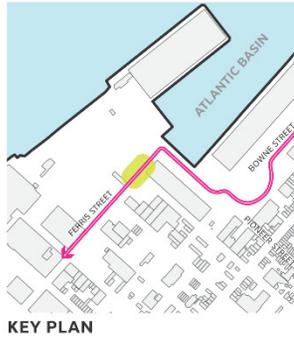
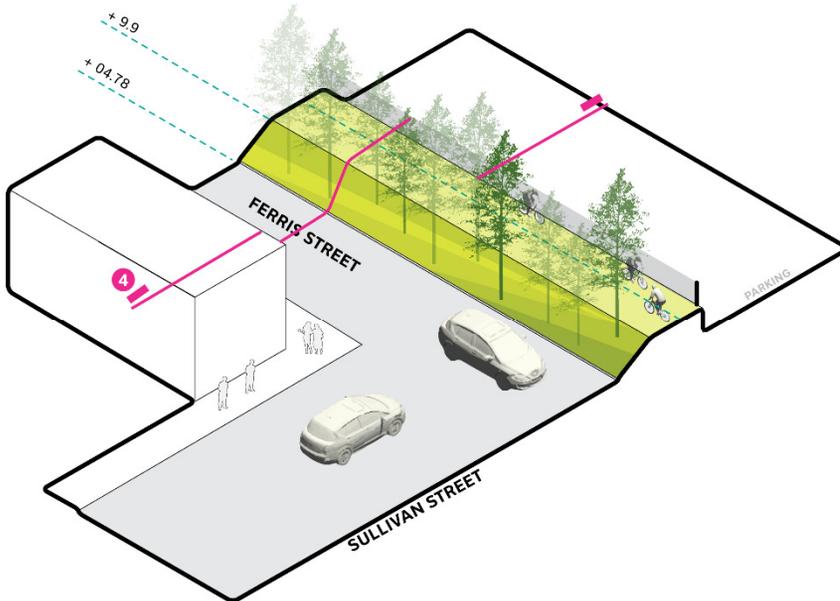
THE BROOKLYN GREENWAY
June 29, 2017



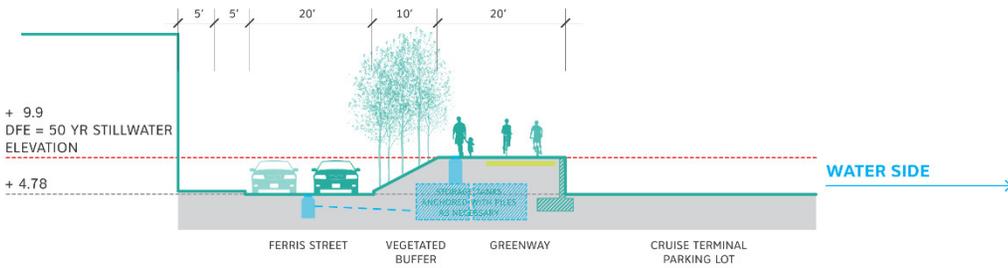
Dewberry SCAPE

Schematic Designs in Red Hook

BERM AT FERRIS STREET



AXON D



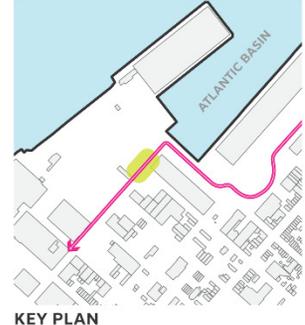
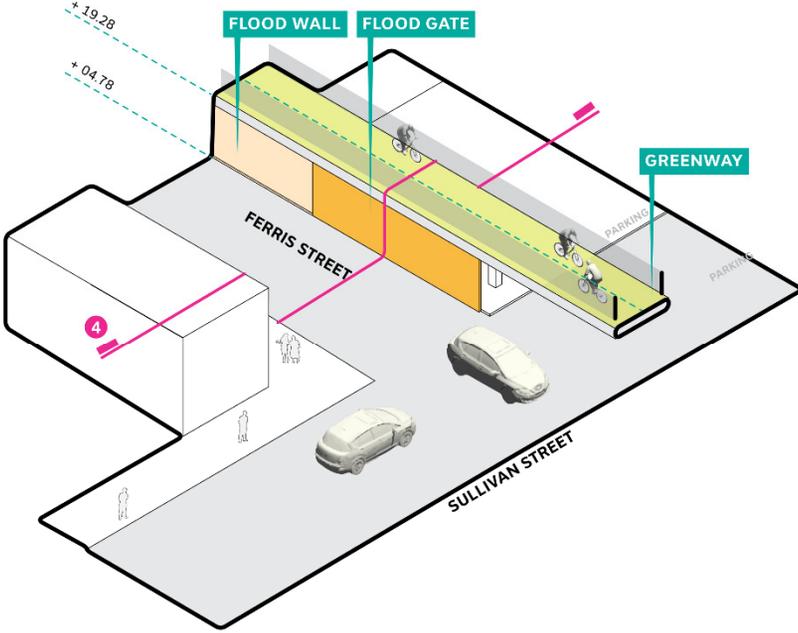
SECTION 4

THE BROOKLYN GREENWAY
June 29, 2017

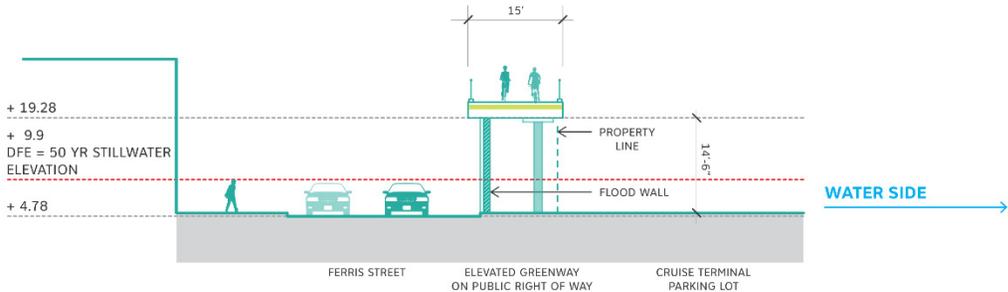
SCALE : 1/16" = 1'-0"

Schematic Designs in Red Hook

ELEVATED BRIDGE AT FERRIS STREET



AXON D ALT.



SECTION 4 ALT.

THE BROOKLYN GREENWAY
June 29, 2017

SCALE : 1/16" = 1'-0"

NEW YORK STATE OF OPPORTUNITY
Department of State
BROOKLYN GREENWAY INITIATIVE
Dewberry SCAPE



Schematic Designs in Red Hook

**HOW CAN THE GREENWAY
SYNTHESIZE WITH THE
INTEGRATED FLOOD
PROTECTION SYSTEM (IFPS)?**

Schematic Designs in Red Hook

IFPS FLOOD PROTECTION
 10 YEAR FLOOD EVENT CONSIDERED



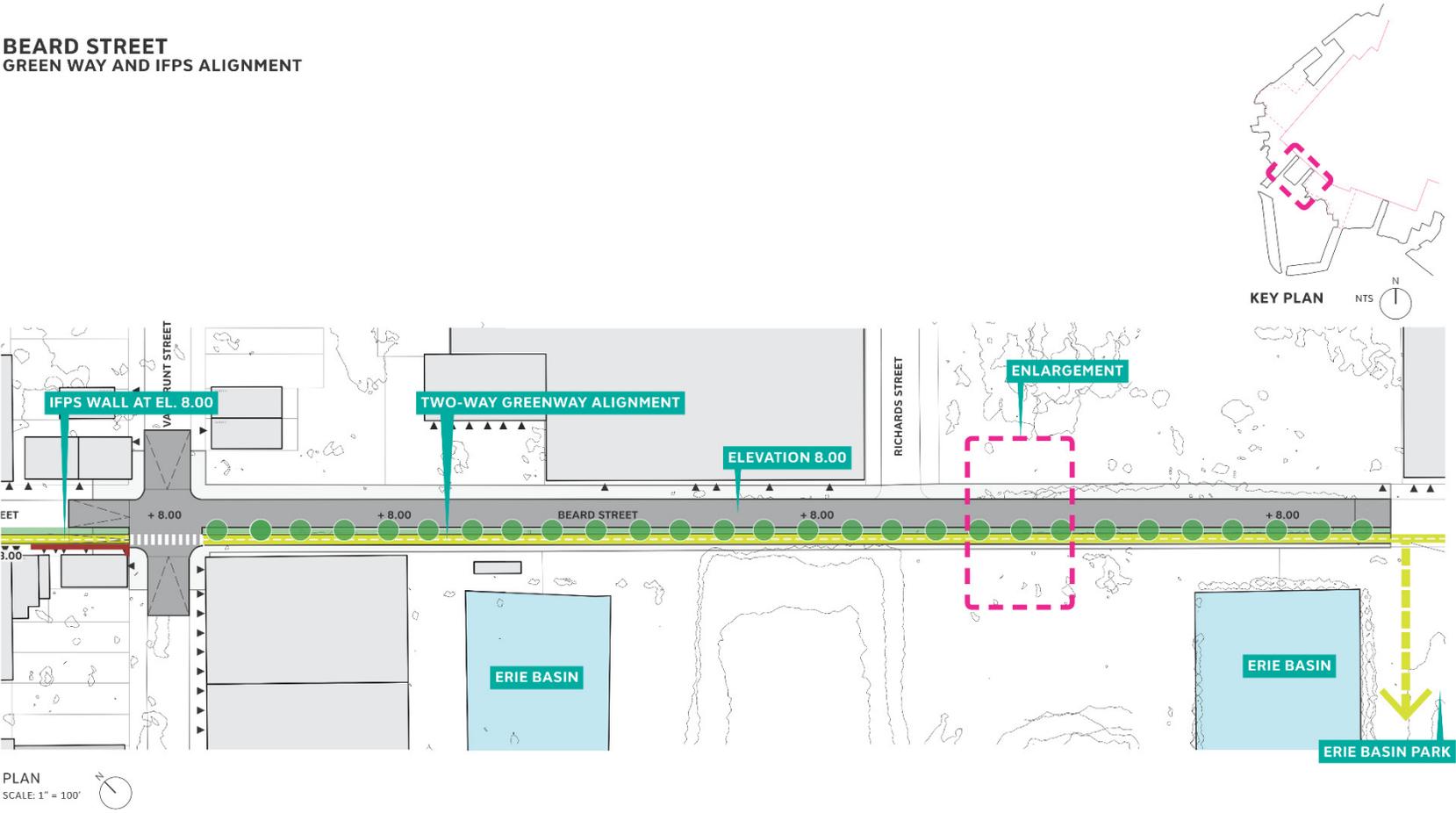
- LEGEND**
- PROTECTED AREA
 - 10 YEAR - DFE 8.00
 - ON GRADE GREENWAY ALIGNMENT
 - RAISED GREENWAY ALIGNMENT
 - ** NYCHA
- ** SEPARATE NYCHA FEMA FUNDED RECOVERY AND RESILIENCY PROJECT

THE BROOKLYN GREENWAY
 June 29, 2017



Schematic Designs in Red Hook

BEARD STREET GREEN WAY AND IFPS ALIGNMENT



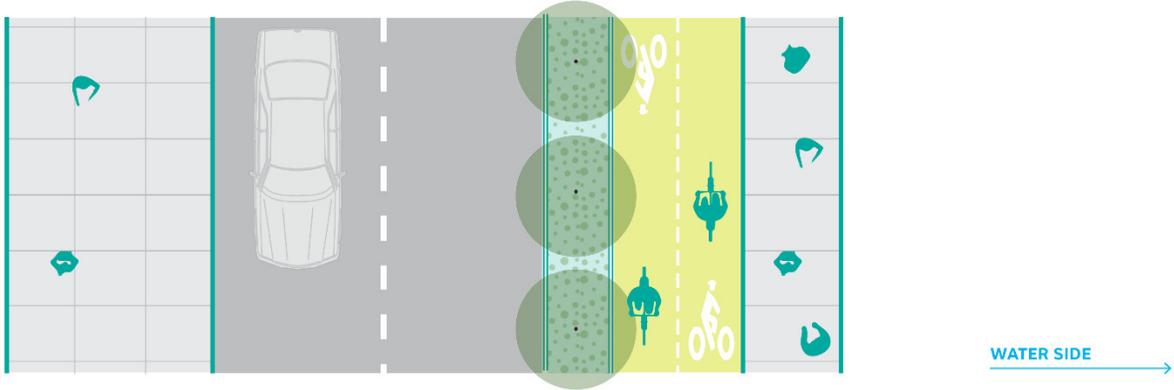
DRAFT CONCEPTUAL DESIGN FOR DISCUSSION PURPOSES ONLY

THE BROOKLYN GREENWAY
June 29, 2017

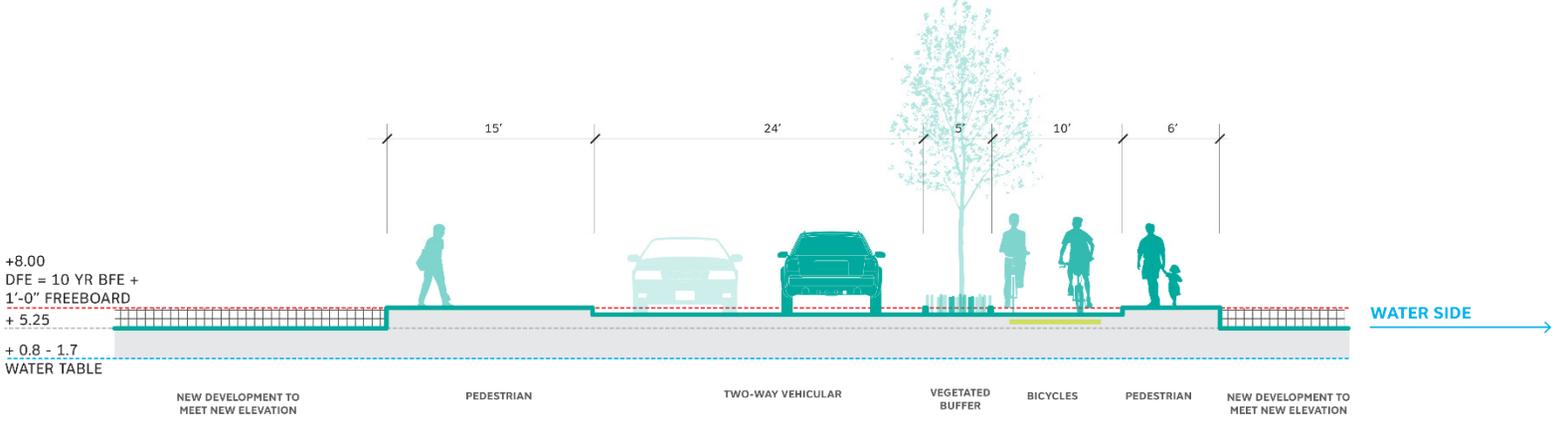


Schematic Designs in Red Hook

BEARD STREET IFPS INTEGRATION



PLAN



SECTION 1

DRAFT CONCEPTUAL DESIGN FOR DISCUSSION PURPOSES ONLY

SCALE : 1/8" = 1'-0"

THE BROOKLYN GREENWAY
June 29, 2017





Next Steps

- Conduct a feasibility Study
- Coordinate with EM, NYPD and FDNY
- Continue coordination with NYCDOT and property owners