

# **BK Bridge - Montgomery Coastal Resilience**

**CB3 PRESENTATION  
September 10, 2020**

## AGENDA

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- 1. PROJECT INTRODUCTION**
- 2. FLOOD PROTECTION ALIGNMENT**
- 3. RAISING THE PLATFORM**
- 4. PROJECT DESIGN**
- 5. MATERIALS AND FURNISHINGS**
- 6. INTERCEPTOR GATE BUILDING**

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# **1. PROJECT INTRODUCTION**

2. FLOOD PROTECTION ALIGNMENT

3. RAISING THE PLATFORM

4. PROJECT DESIGN

5. MATERIALS AND FURNISHINGS

6. INTERCEPTOR GATE BUILDING

# LOWER MANHATTAN COASTAL RESILIENCY

**DRAFT**  
09/15



**New York City is implementing \$500M in on-land capital projects and advancing a Master Plan for FiDi-Seaport**

Capital projects to protect 70% of the shoreline of Lower Manhattan, and Master Plan for remaining 30%

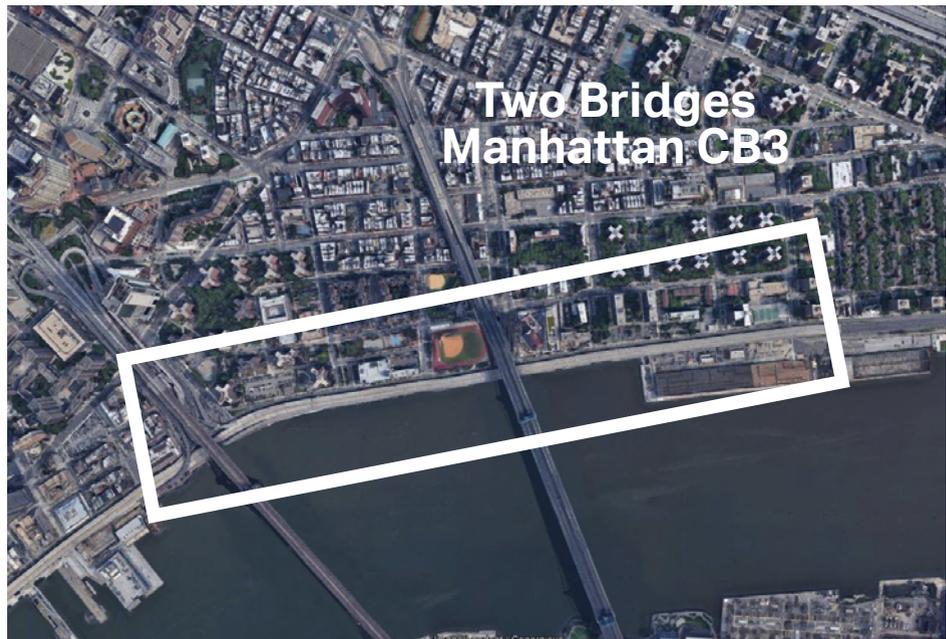
- INTERIM FLOOD PROTECTION MEASURES (IFPM)
- PROJECTS ADJACENT TO LMCR STRATEGY

# PROJECT LOCATION

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CITY 1 MI



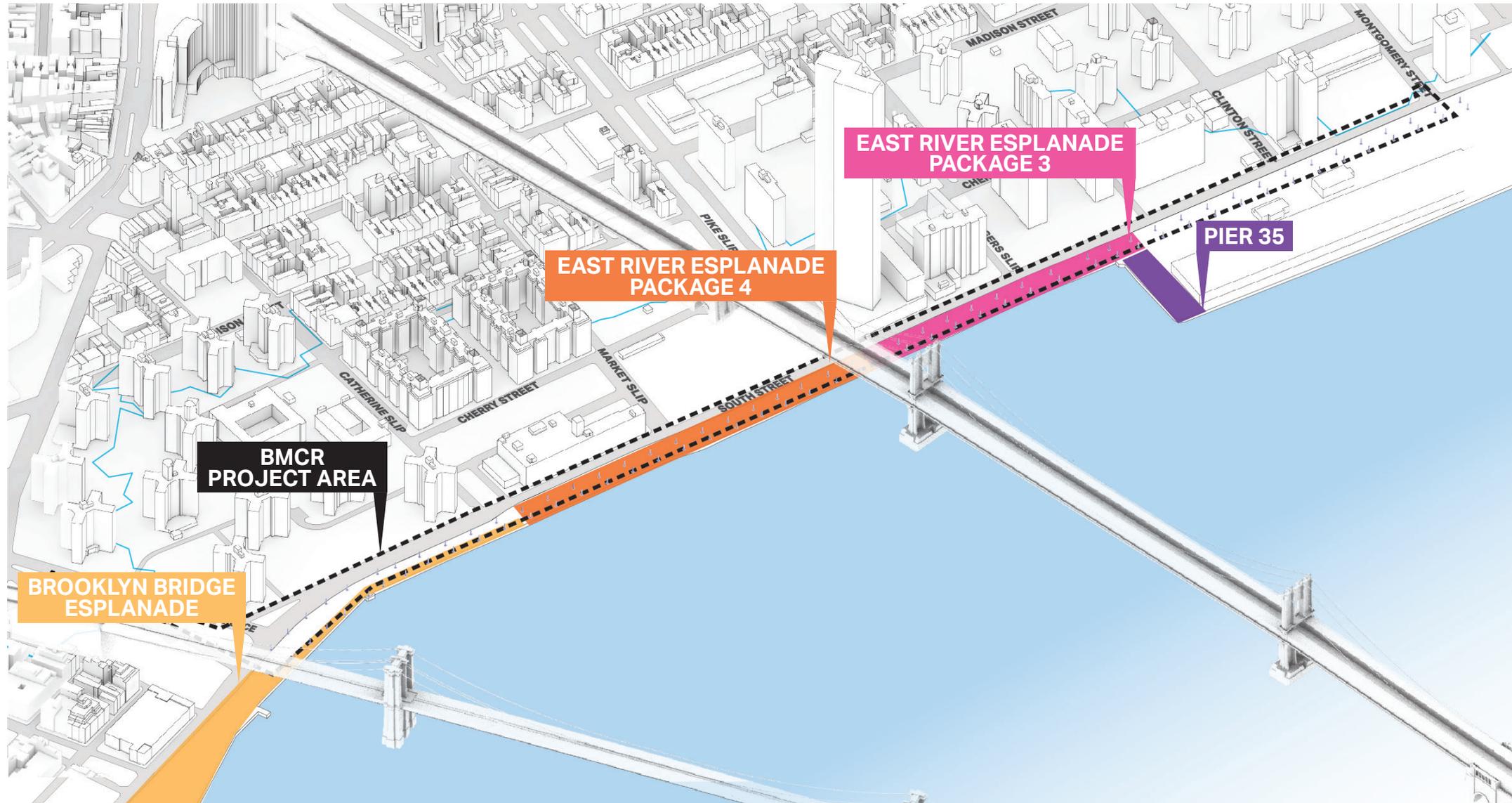
NEIGHBORHOOD 1000 FT



SITE 500 FT

# PROJECT COORDINATION

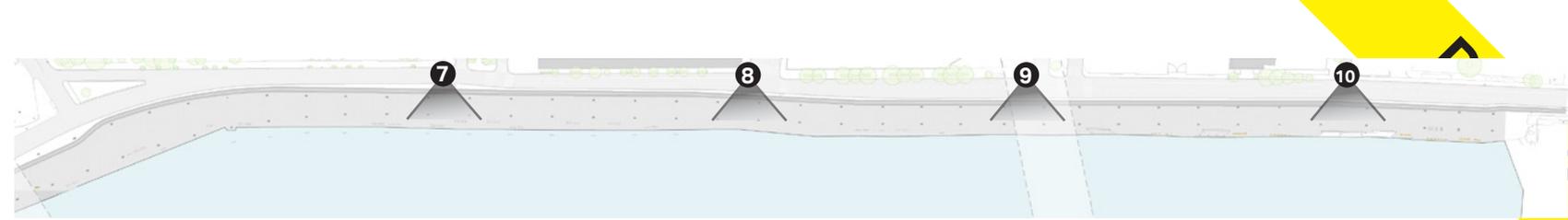
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## TIMELINES

- PIER 35**  
2019 Completed
- EAST RIVER ESPLANADE - PACKAGE 3**  
2014 Completed
- EAST RIVER ESPLANADE - PACKAGE 4**  
Under Construction, Completion 2020
- BROOKLYN BRIDGE ESPLANADE (BBE)**  
October 2019 - 100% Construction Documents  
Currently - Paused in Construction Procurement
- BROOKLYN BRIDGE-MONTGOMERY COASTAL RESILIENCE**  
November 2019 - Schematic Design compete  
May 2021 - 100% Construction Documents  
June 2021 - Bidding  
January 2022 - Construction Starts  
July 2022 - Federal Spending Deadline

# VIEW CORRIDORS



7 - CATHERINE SLIP



8 - MARKET SLIP



9 - PIKE SLIP

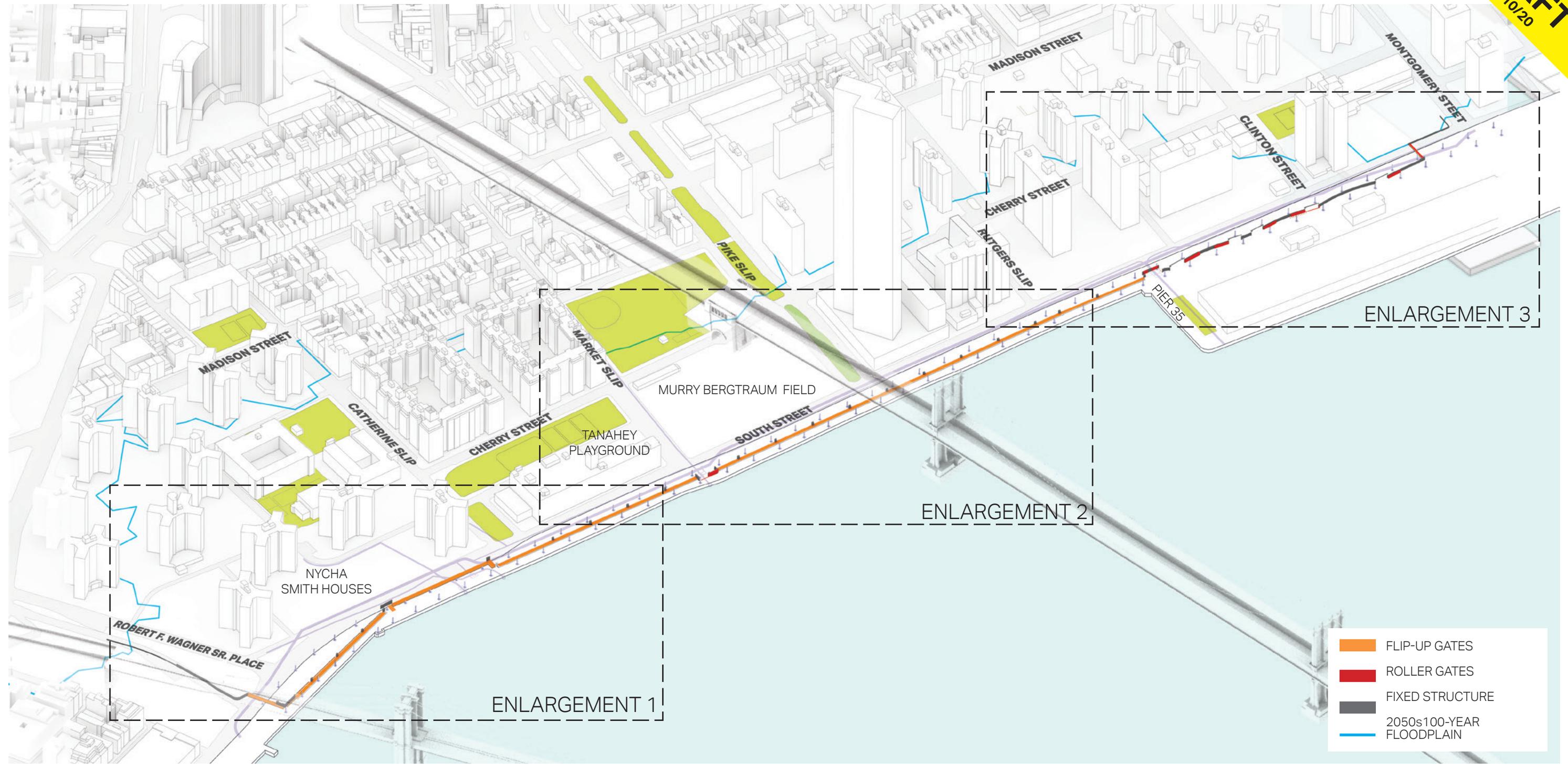


10 - RUTGERS SLIP

- 
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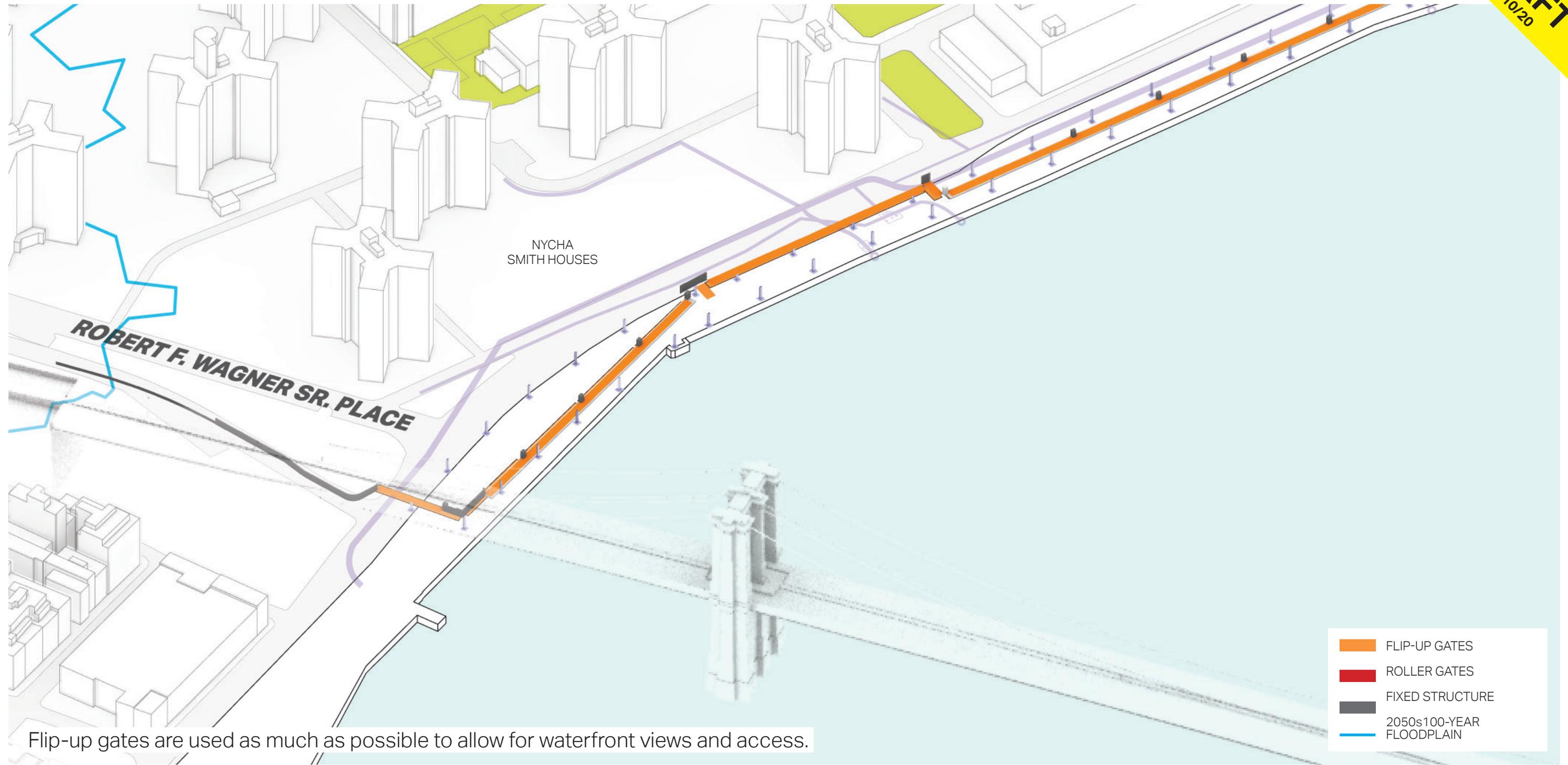
# FLOOD PROTECTION ALIGNMENT | FULL SITE

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# FLOOD PROTECTION ALIGNMENT | ENLARGEMENT 1

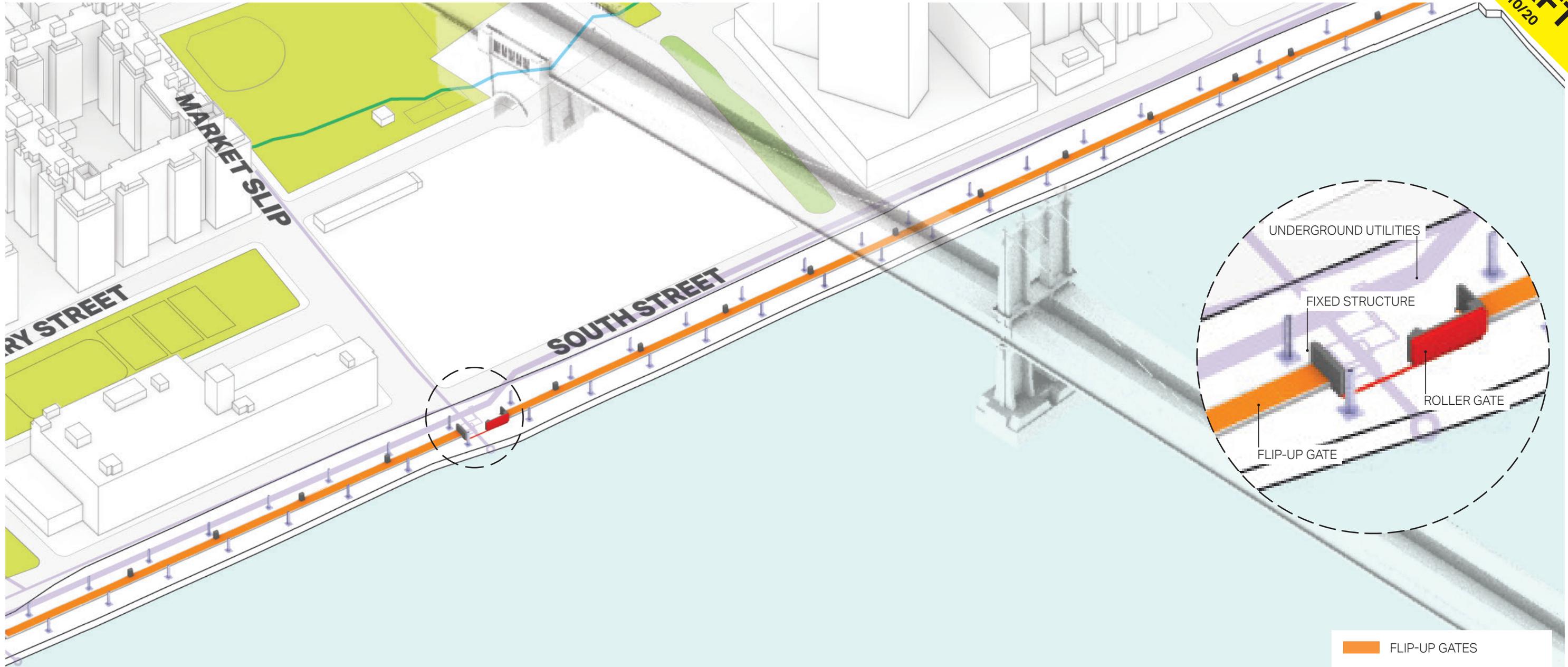
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Flip-up gates are used as much as possible to allow for waterfront views and access.

# FLOOD PROTECTION ALIGNMENT | ENLARGEMENT 2

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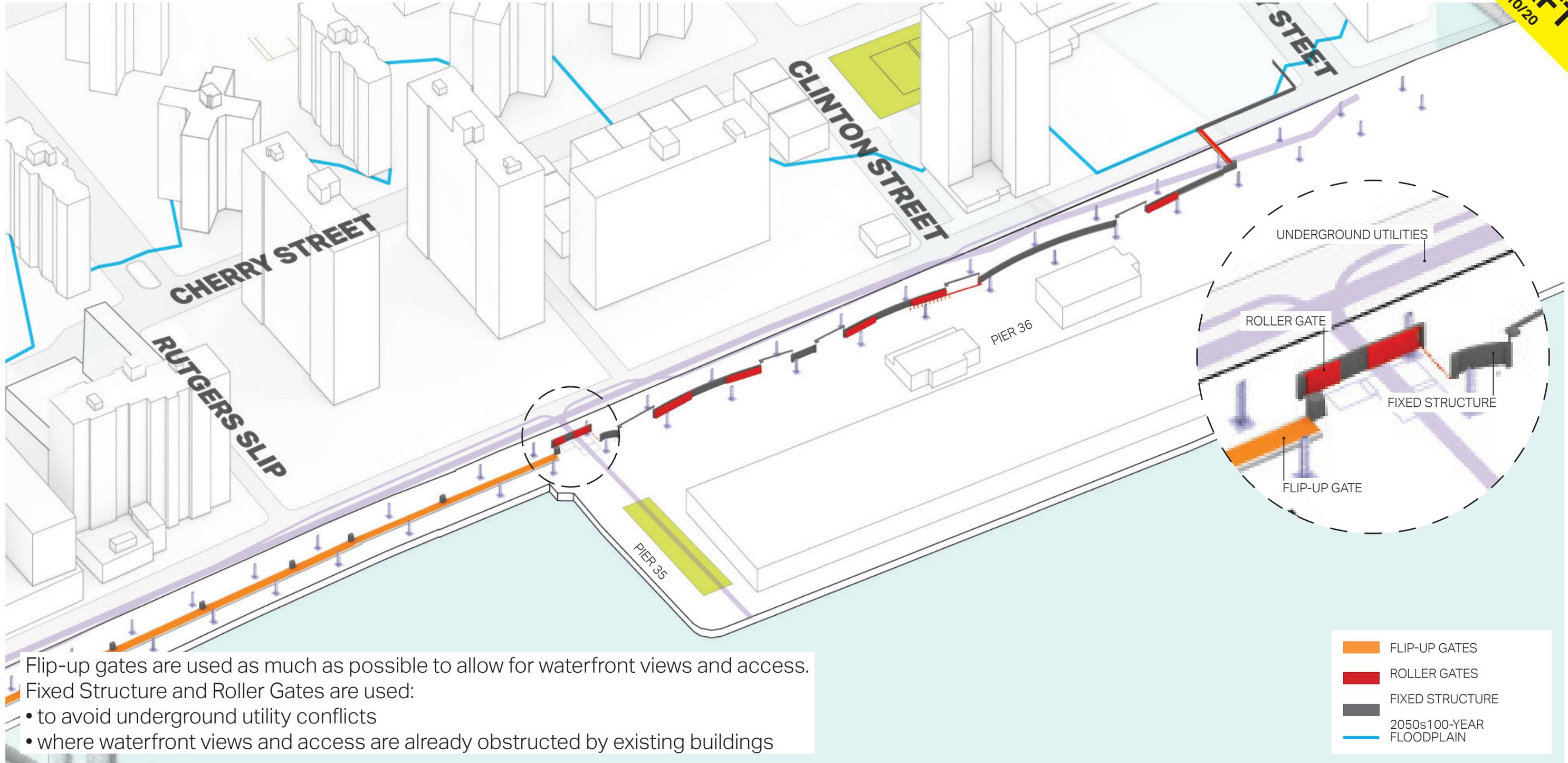


Flip-up gates are used as much as possible to allow for waterfront views and access. Fixed Structure and Roller Gates are used to avoid underground utility conflicts.

- FLIP-UP GATES
- ROLLER GATES
- FIXED STRUCTURE
- 2050s100-YEAR FLOODPLAIN

# FLOOD PROTECTION ALIGNMENT | ENLARGEMENT 3

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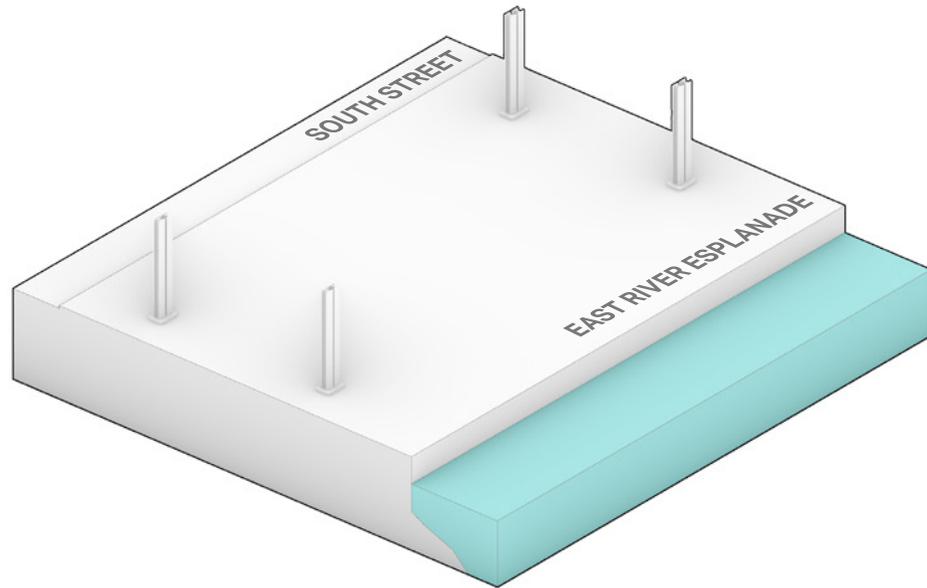


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1. PROJECT INTRODUCTION
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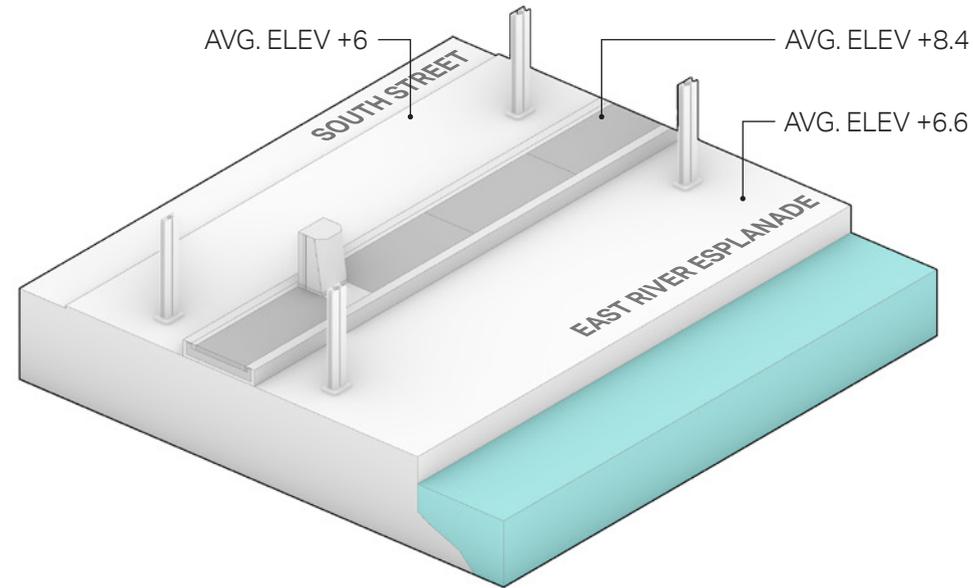
# MITIGATION OF FAIR WEATHER TIDAL FLOODING

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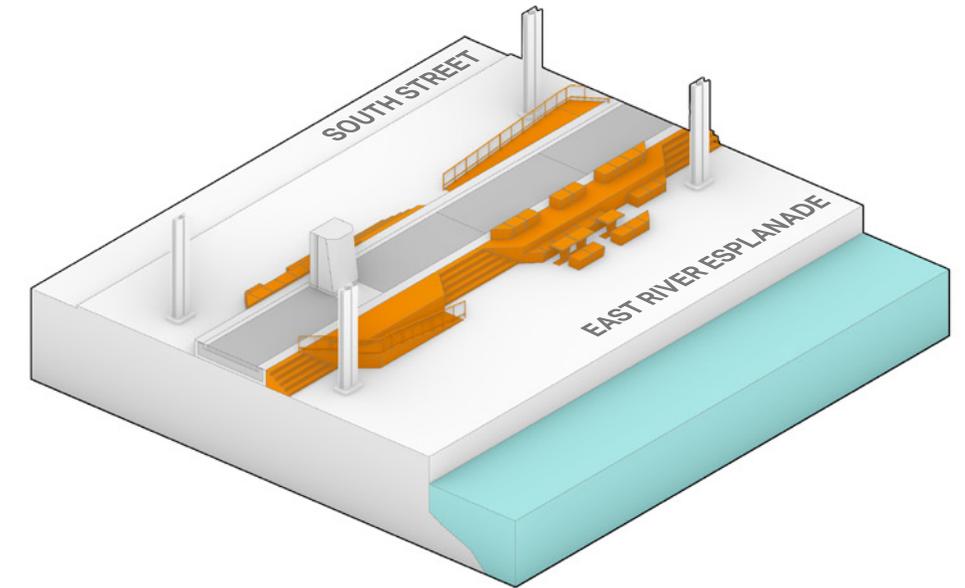
## 1. EXISTING CONDITION



## 2. RAISE THE PLATFORM TO AVERAGE ELEVATION OF +8.4 NAVD88



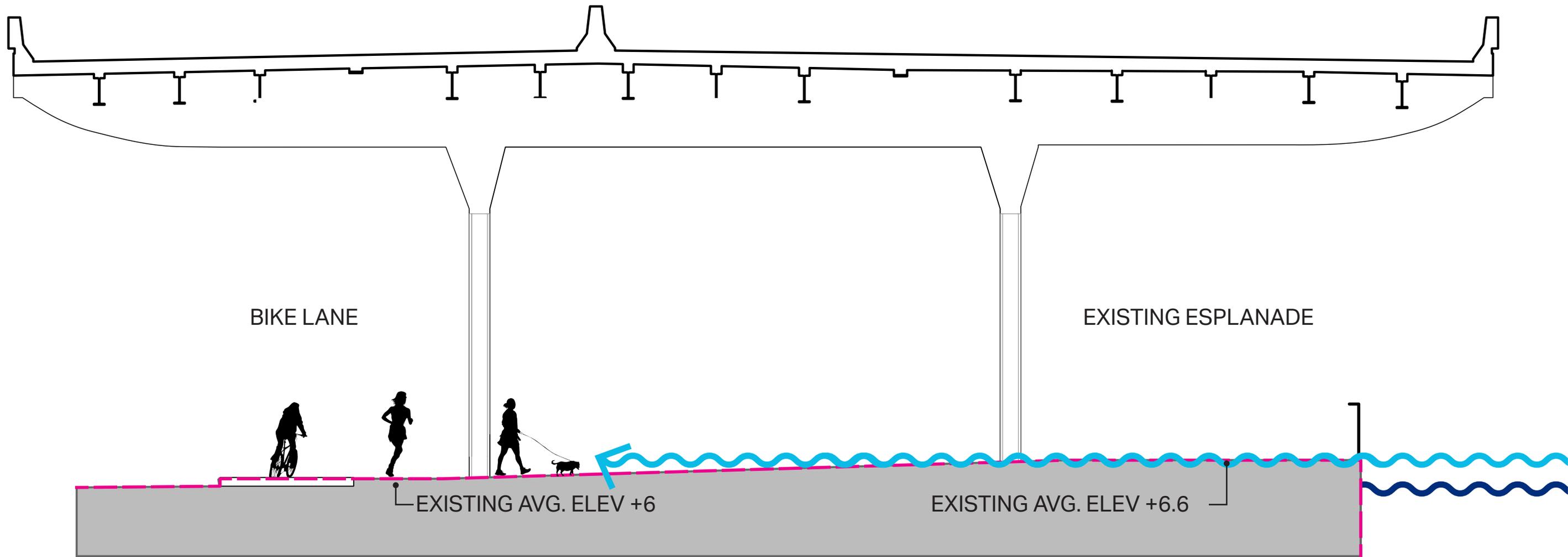
## 3. CONNECT PUBLIC REALM



ACTIVATE RAISED PLATFORM AND CREATE UNIVERSALLY ACCESSIBLE SPACES

# EXISTING TYPICAL SECTION

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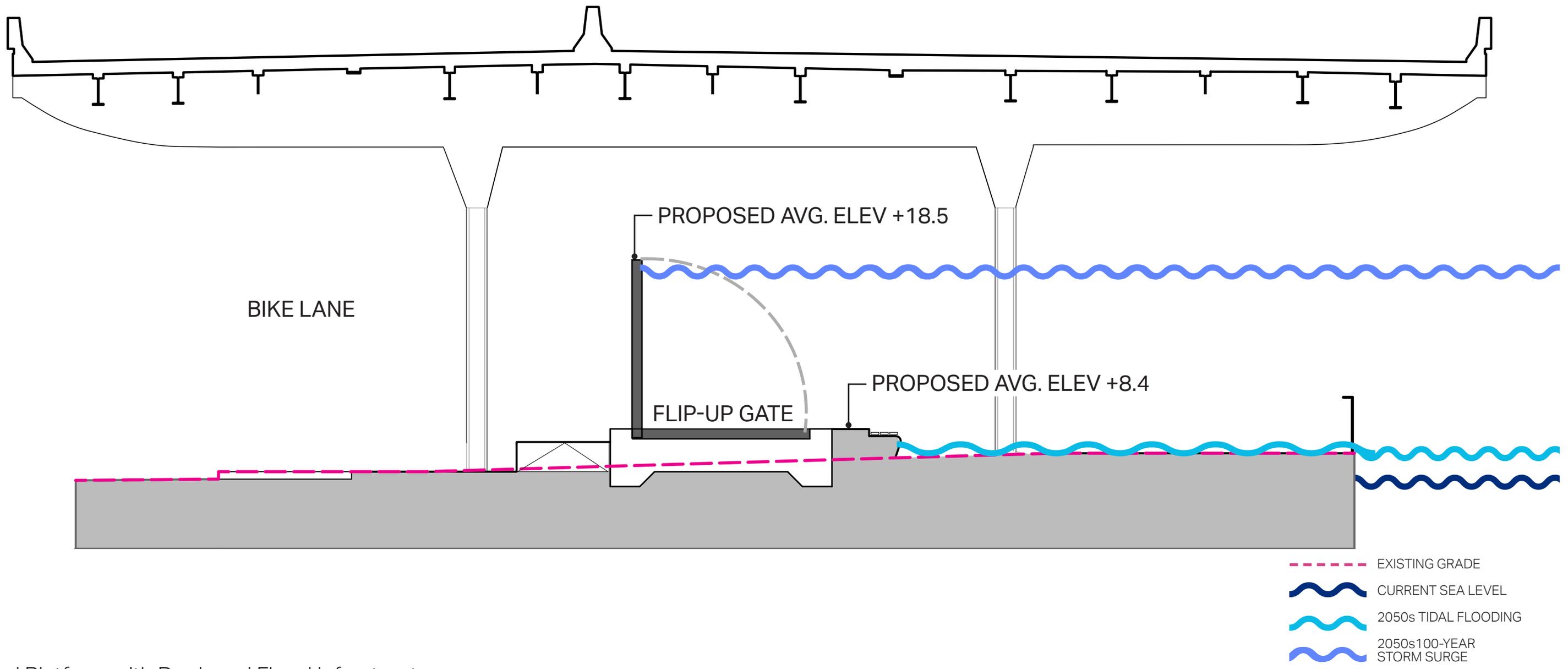


- Raised Platform to Address Fair Weather Tidal Flooding from SLR
- Approximately 10-15 low-level inundation events per year in 2050s

- EXISTING GRADE
- ~ CURRENT SEA LEVEL
- ~ 2050s TIDAL FLOODING

# PROPOSED CONCEPTUAL TYPICAL SECTION

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Raised Platform with Deployed Flood Infrastructure

- 
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# TYPICAL SITE CONSTRAINTS

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24 Hydraulic Power Units, used to mechanically deploy flip-up gates, will be housed within concrete gate posts, spaced approximately 120' apart

4' clearance in front of HPU posts

Electrical box for HPU power

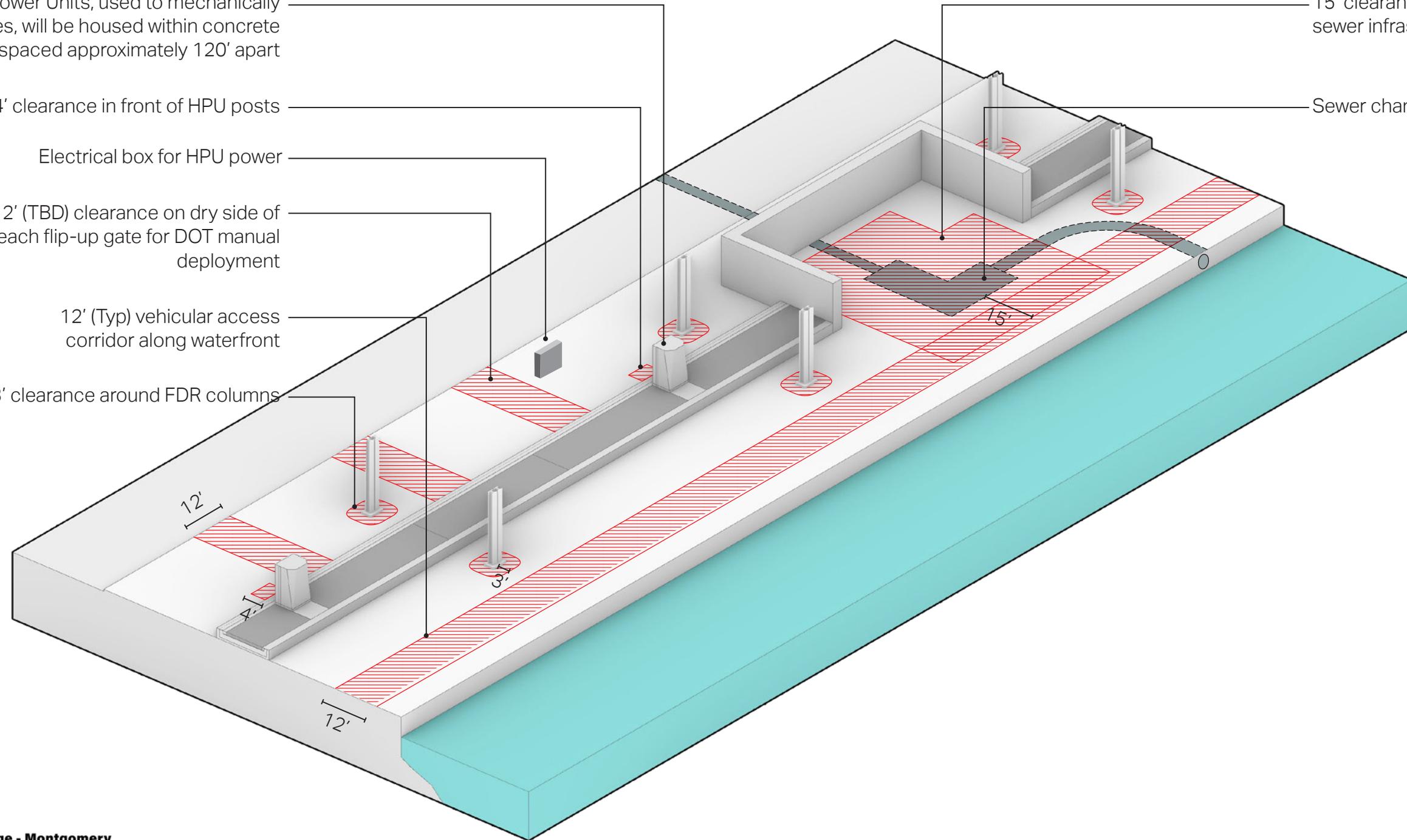
12' (TBD) clearance on dry side of each flip-up gate for DOT manual deployment

12' (Typ) vehicular access corridor along waterfront

3' clearance around FDR columns

15' clearance around DEP sewer infrastructure

Sewer chamber



# COMMUNITY ENGAGEMENT

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## CONCEPTUAL PHASE:

- 6/27/16: Kick-Off Public Workshop
- 7/20/16: CB3 Task Force Meeting
- 10/5/16: Kick-Off Public Workshop (Repeat)
- 11/29/16: CB3 Task Force Meeting
- 4/12/17: CB3 Task Force Meeting
- 5/31/17: Public Workshop
- 7/10/17: CB3 Task Force Meeting/Walking Tour
- 7/15/17: Tabling at City of Water Day on Pier 42
- 11/2/17: CB3 Task Force Meeting
- 12/19/17: Public Workshop
- 7/13/18: CB3 Task Force Meeting
- 7/18/18: Public Workshop

## DESIGN PHASE:

- April 2019: Individual Briefings about Lmcr Announcement, including CB3, Smith Houses, Knickerbocker, and Two Bridges Neighborhood Council
- 5/16/19: Presented to CB3 Waterfront, Parks, and Resiliency Committee
- 7/13/19: Tabling at City of Water Day on Pier 35
- 9/26/19: In-Person Quarterly Lmcr Update to Electeds and Community Boards
- 10/2/19: Public Meeting at P.S. 2 in Two Bridges
- 10/10/19: Presented to CB3 Waterfront, Parks, and Resiliency Committee
- 10/18/19: 'Office Hours' Tabling Session at Pier 35, Plus Four Other Tabling Sessions in Other Locations of Lower Manhattan
- 11/12/19: Presented at Lands End II
- 12/16/19: Presented at Knickerbocker Village
- 12/18/19: Presented at Two Bridges Tower
- 1/9/20: Phone Call Quarterly LMCR Update to Electeds and Community Boards
- 2/13/20: Presentation to CB3 Waterfront, Parks, and Resiliency Committee
- 2/20/20: Presentation at Smith Houses
- 8/13/20: Presentation to CB3 Waterfront, Parks, and Resiliency Committee
- 9/10/20: Presentation to CB3 Waterfront, Parks, and Resiliency Committee

# COMMUNITY FEEDBACK

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## WHAT WE HEARD

- DESIRE FOR OPEN, FLEXIBLE SPACE
- STRONG CONCERNS ABOUT RELOCATING THE EXISTING BASKETBALL HALF COURTS
- EXISTING FITNESS AREA IS VERY POPULAR AND SHOULD BE REPLACED, WITH MORE UNIVERSAL EQUIPMENT
- EXISTING BOCCE COURT IS UNDER-USED AND SHOULD BE REMOVED
- STRONG DESIRE FOR PLAYGROUNDS AT THE WATERFRONT
- GLIDERS AT PIER 35 ARE VERY POPULAR
- DESIRE FOR BATHROOM FACILITIES
- DESIRE FOR IMPROVED SIGNAGE & WAYFINDING, LIGHTING, SKATE DETERRENTS



# DESIGN ZONES

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**SOCIAL  
POCKETS**



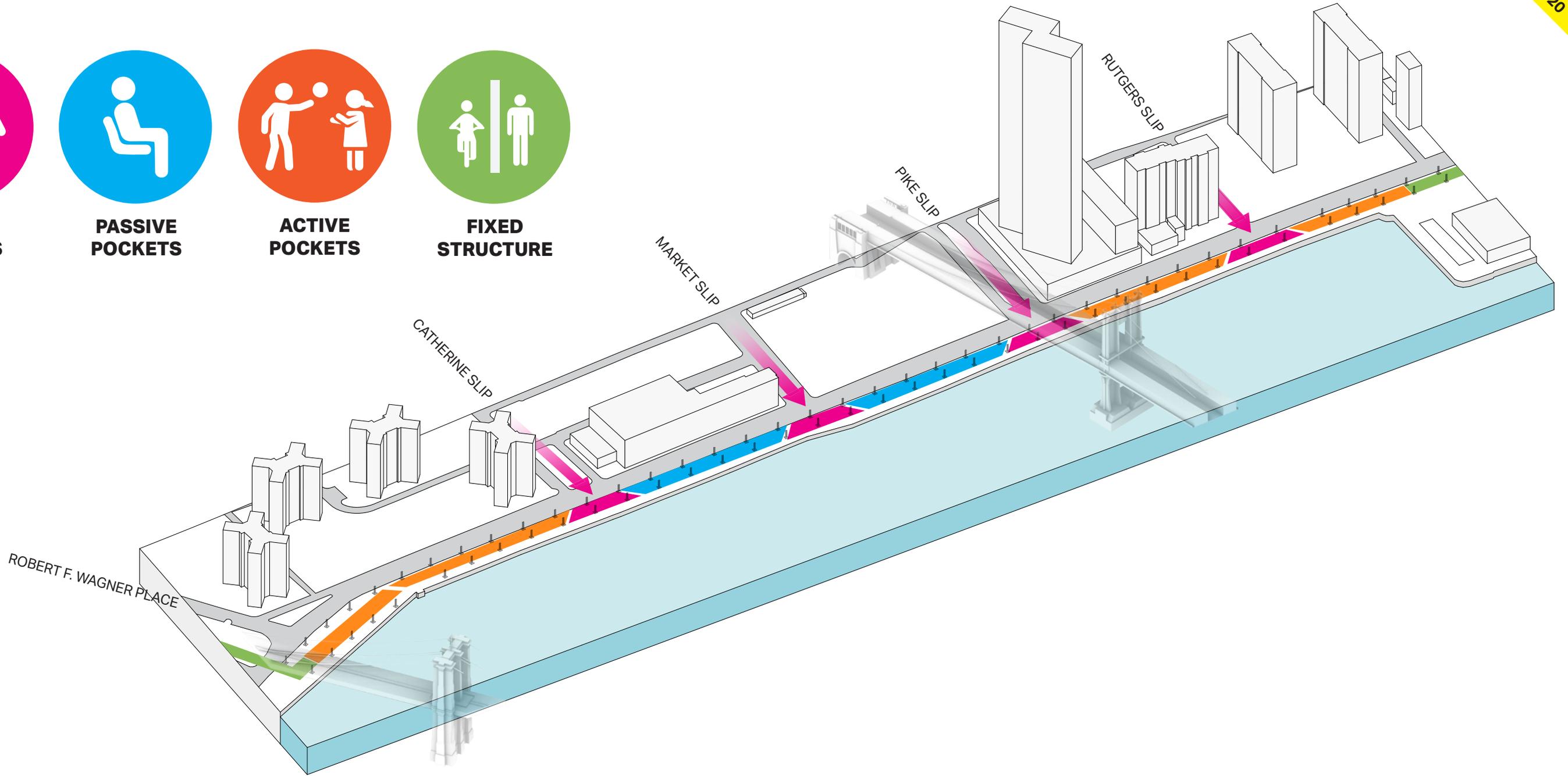
**PASSIVE  
POCKETS**



**ACTIVE  
POCKETS**



**FIXED  
STRUCTURE**



# SOCIAL POCKETS

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**SOCIAL  
POCKETS**



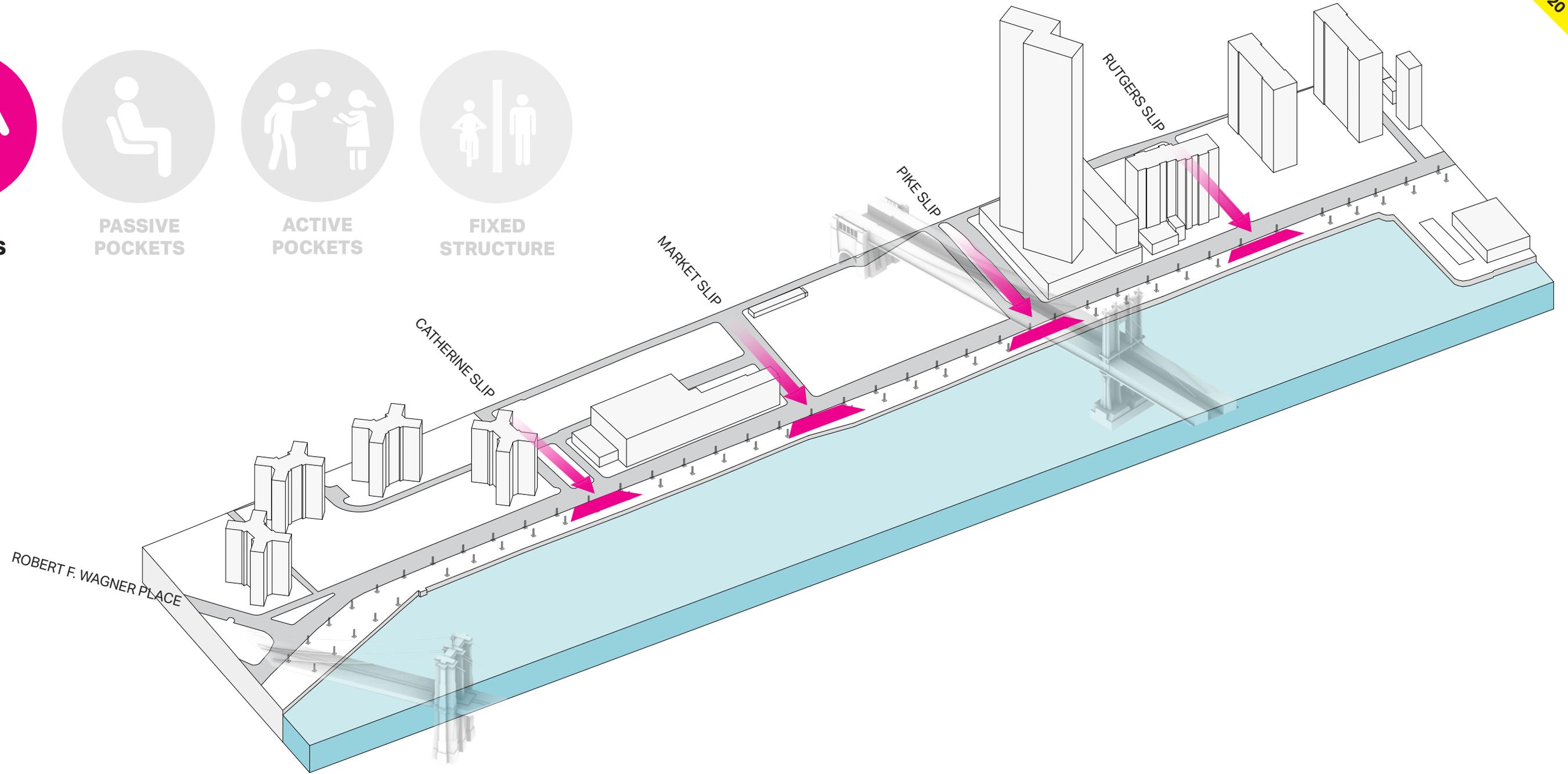
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POCKETS**



**ACTIVE  
POCKETS**



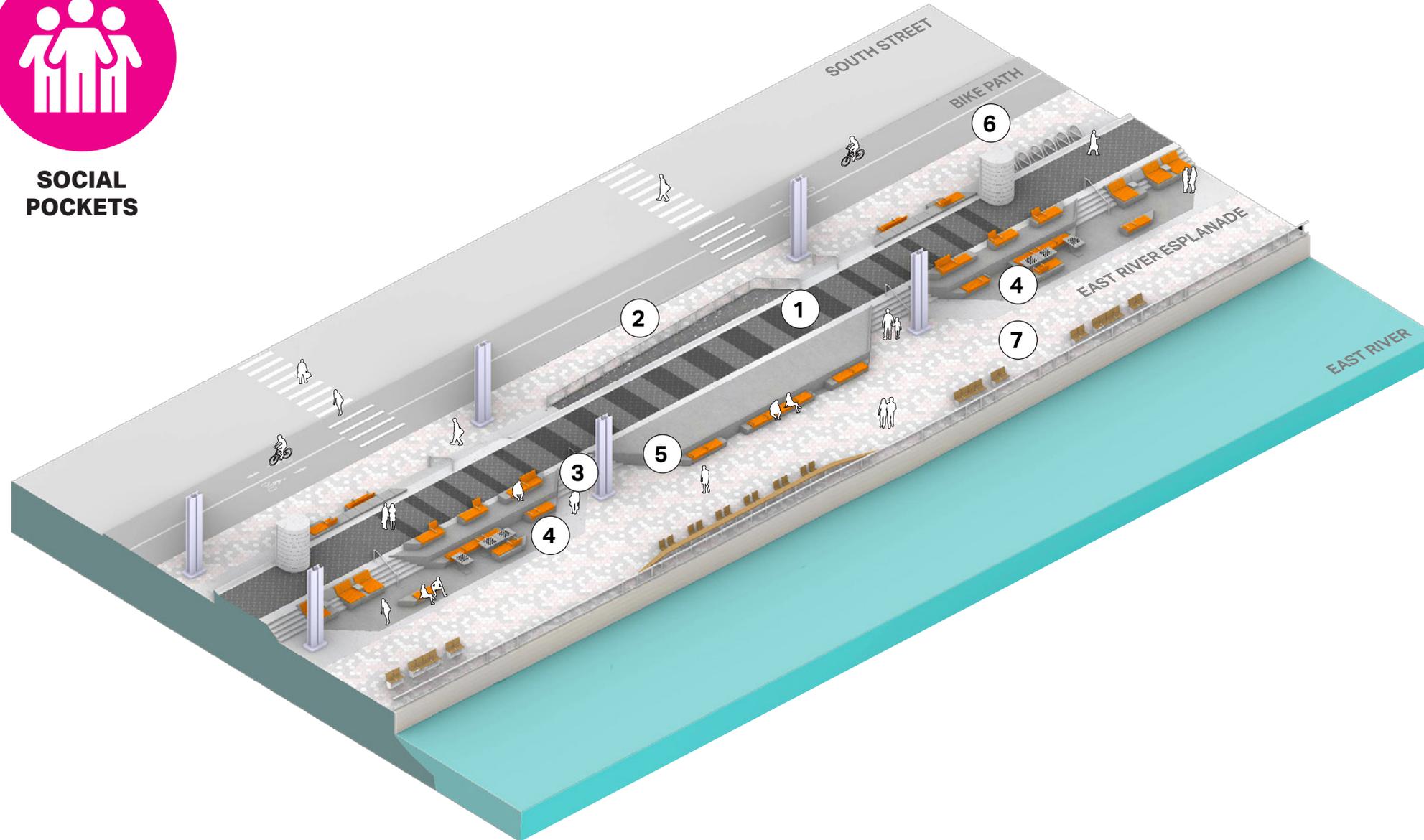
**FIXED  
STRUCTURE**



# SOCIAL POCKETS | TYPICAL PROGRAM & MATERIAL



**SOCIAL  
POCKETS**



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- 1 FLIP UP GATES**  
BLACK DIAMOND PLATE WITH ANTI-SLIP FINISH


- 2 RAMPS**  
DARK CONCRETE WITH SILICA CARBIDE


- 3 STEPS & PAVING**  
STANDARD GREY CONCRETE


- 4 GATHERING AREAS**  
GREY CONCRETE, ORANGE RECYCLED PLASTIC LUMBER


- 5 FLEXIBLE USE PLATFORM**  
GREY CONCRETE


- 6 HYDRAULIC POWER UNITS**  
STANDARD GREY CONCRETE

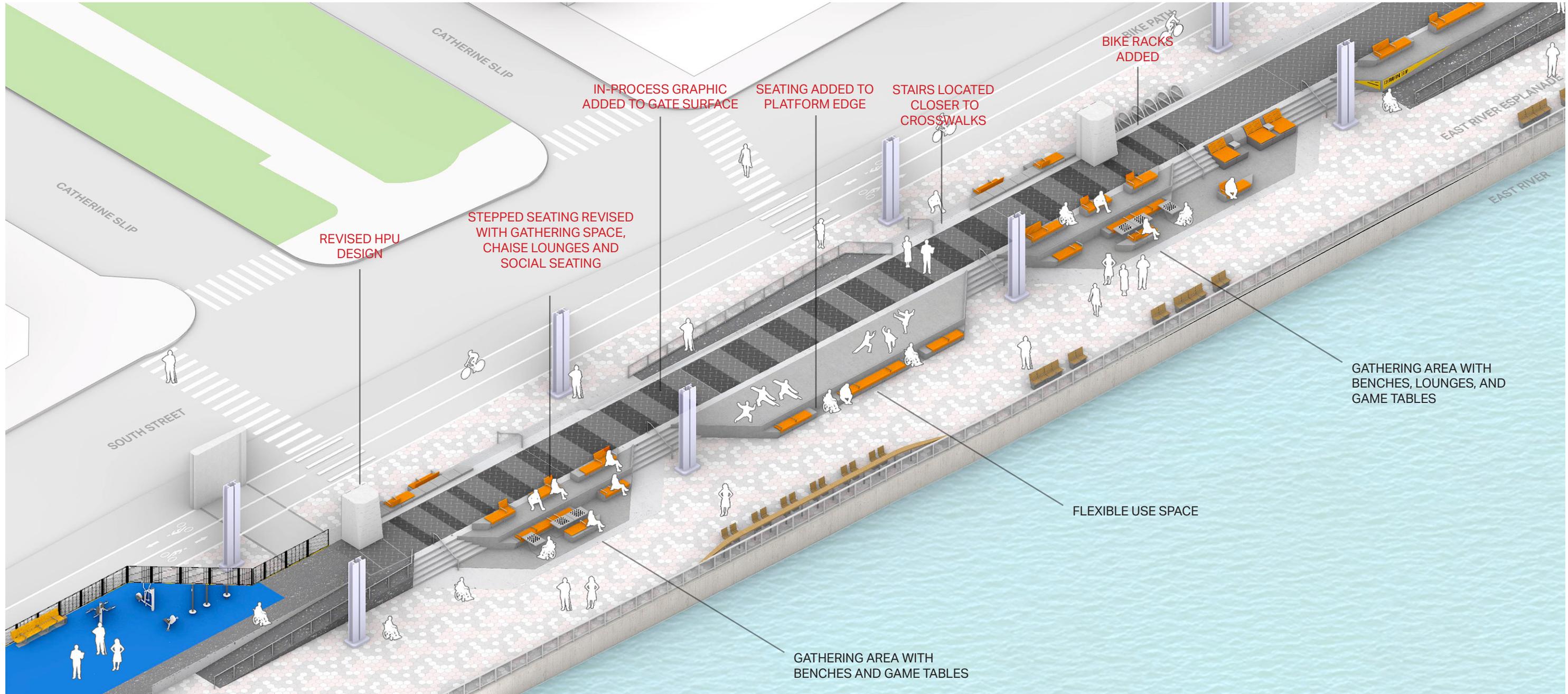

- 7 ESPLANADE**  
HEX PAVERS USING EXISTING PATTERN



# SOCIAL POCKET | CATHERINE SLIP

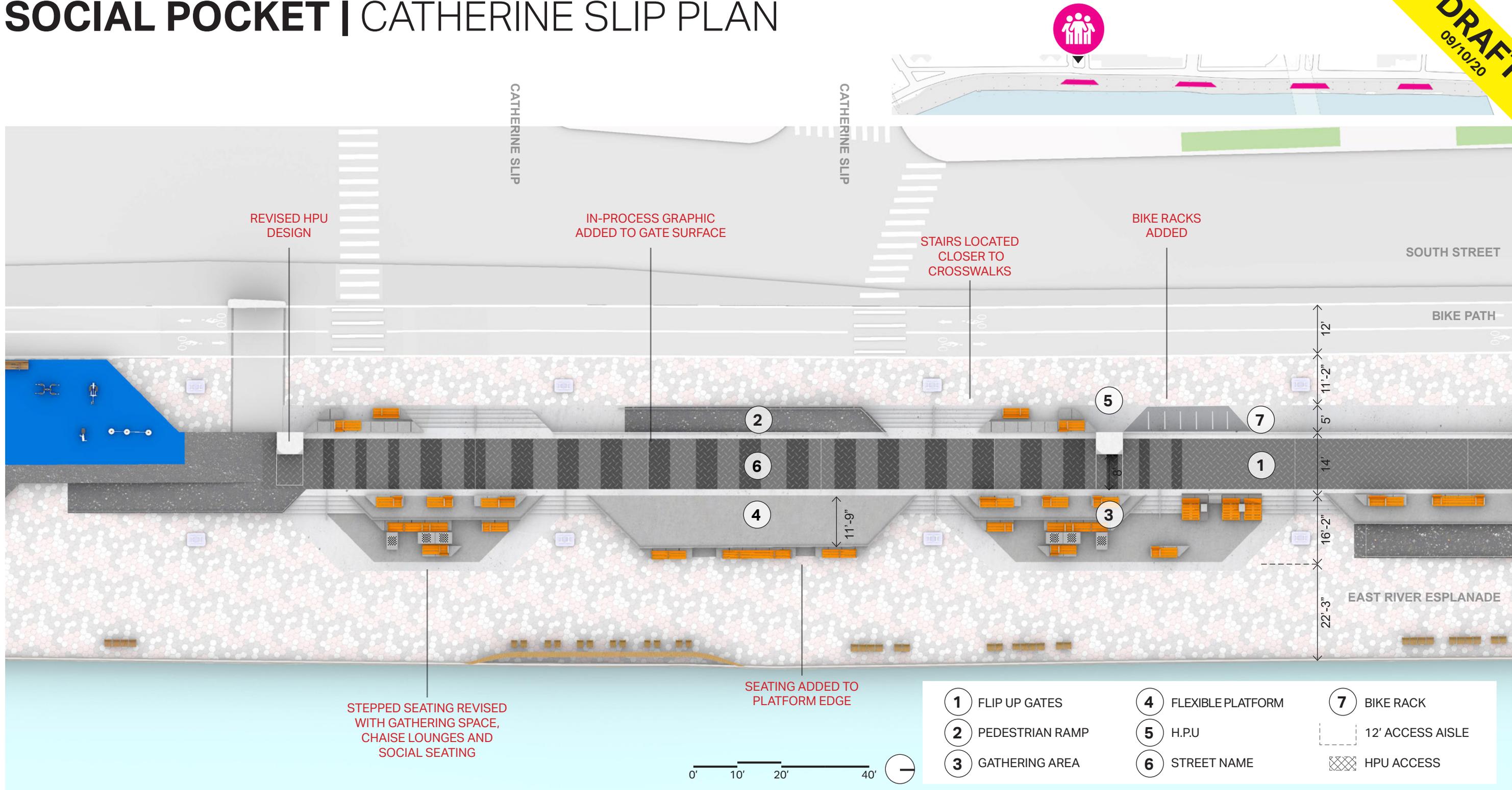


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# SOCIAL POCKET | CATHERINE SLIP PLAN

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# SOCIAL POCKET | CATHERINE SLIP ESPLANADE

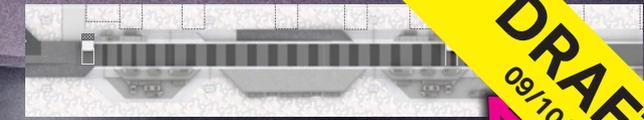
## RENDER IN PROGRESS

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# SOCIAL POCKET | CATHERINE SLIP ESPLANADE

## RENDER IN PROGRESS



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# SOCIAL POCKET | CATHERINE SLIP ENTRANCE

## RENDER IN PROGRESS



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# SOCIAL POCKET | CATHERINE SLIP STORM EVENT

## RENDER IN PROGRESS

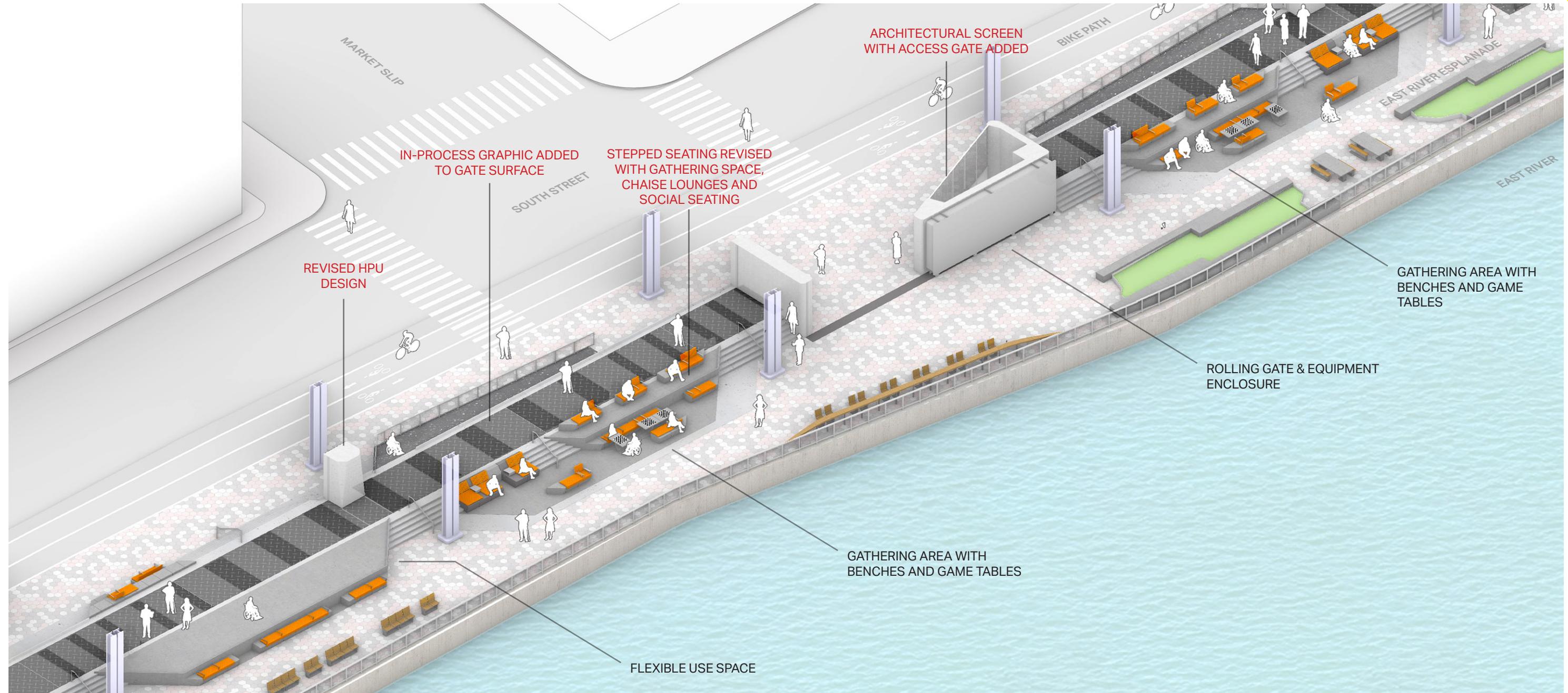


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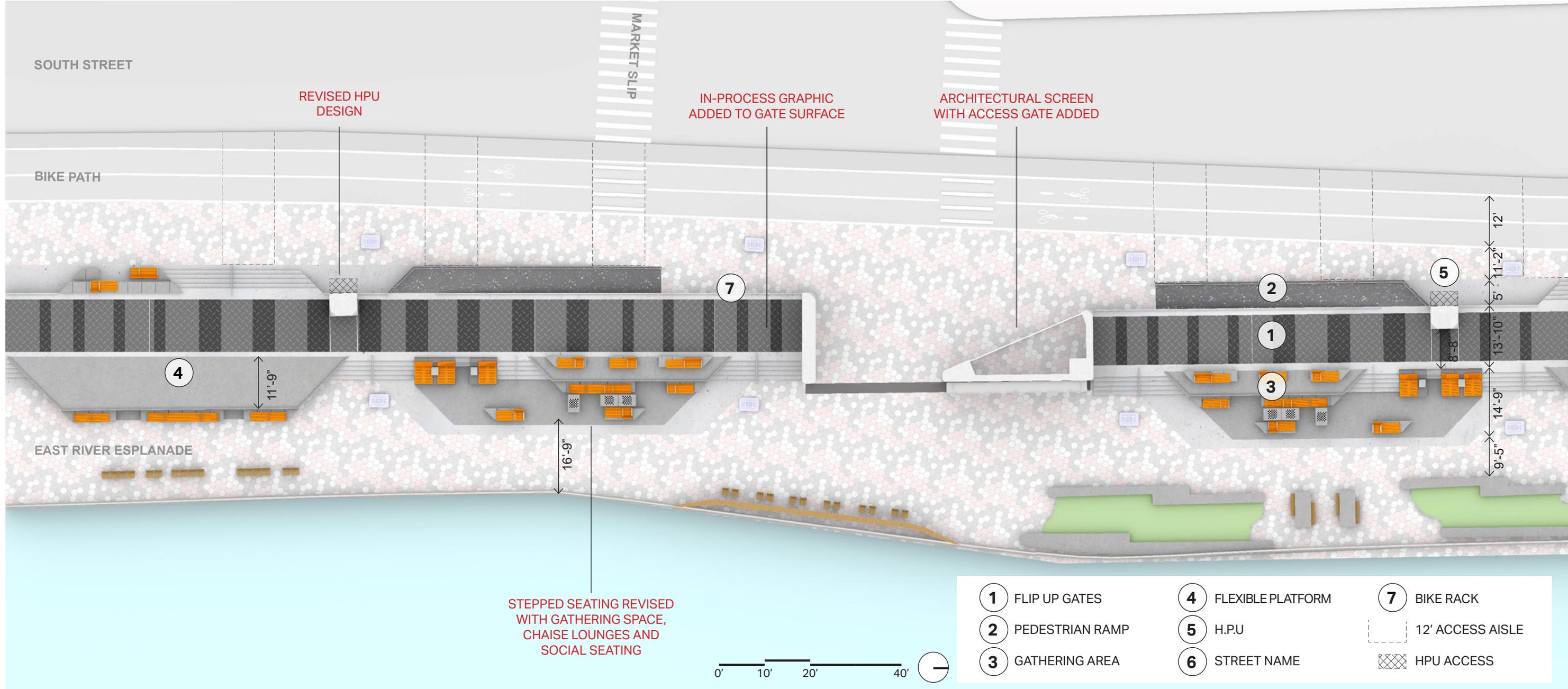
# SOCIAL POCKET | MARKET SLIP

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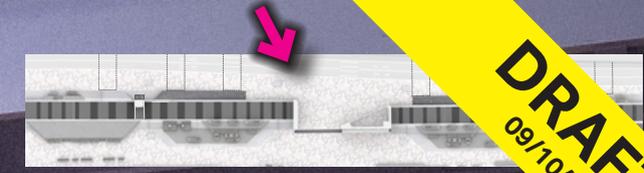
# SOCIAL POCKET | MARKET SLIP PLAN

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# SOCIAL POCKET | MARKET SLIP

## RENDER IN PROGRESS

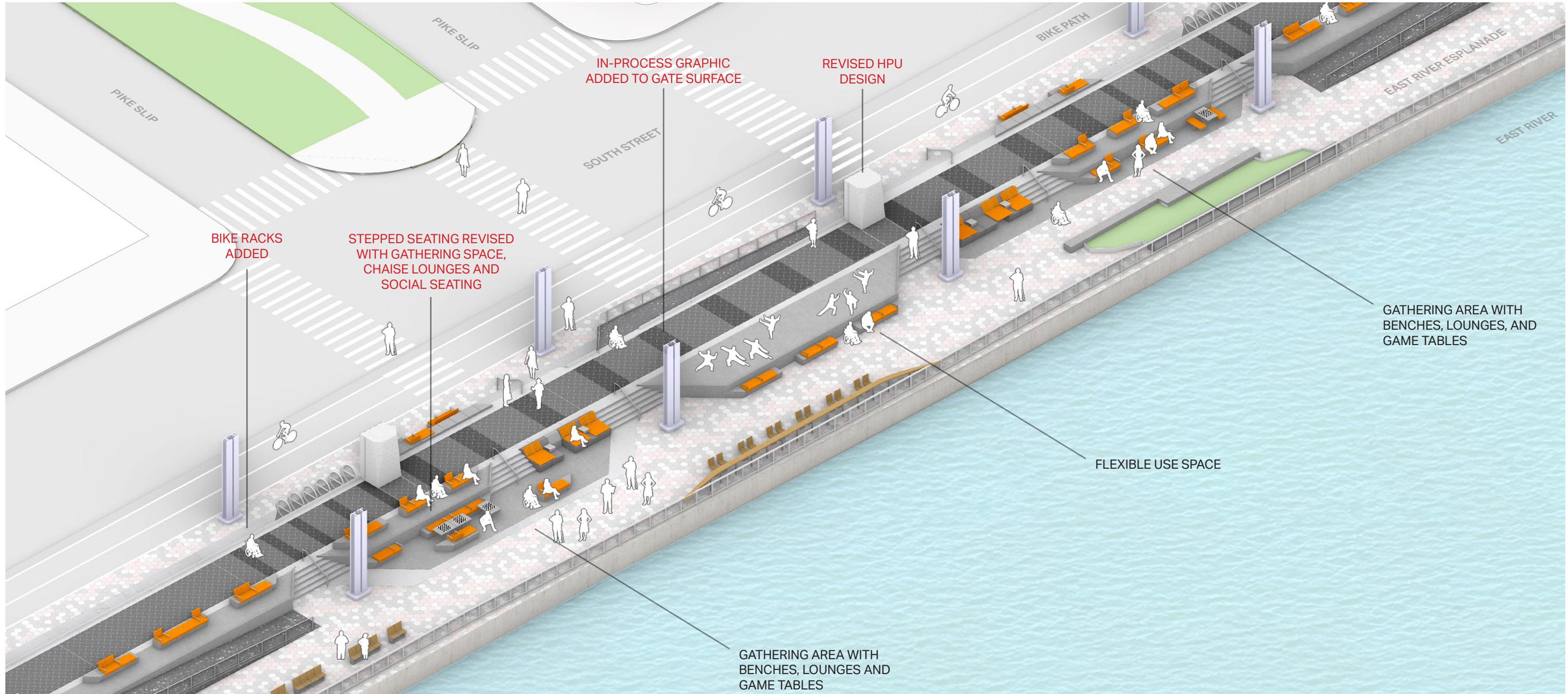
  
**DRAFT**  
09/10/20



# SOCIAL POCKET | PIKE SLIP



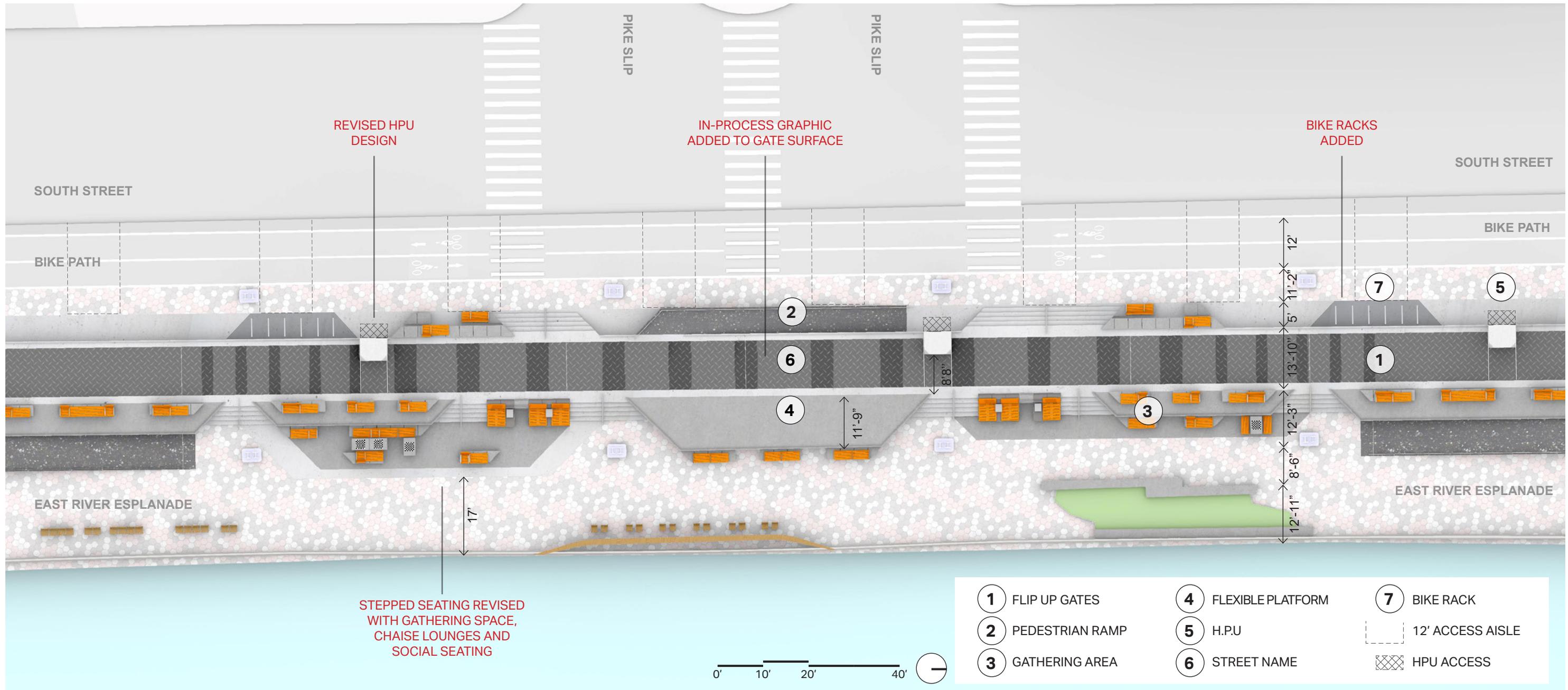
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# SOCIAL POCKET | PIKE SLIP PLAN



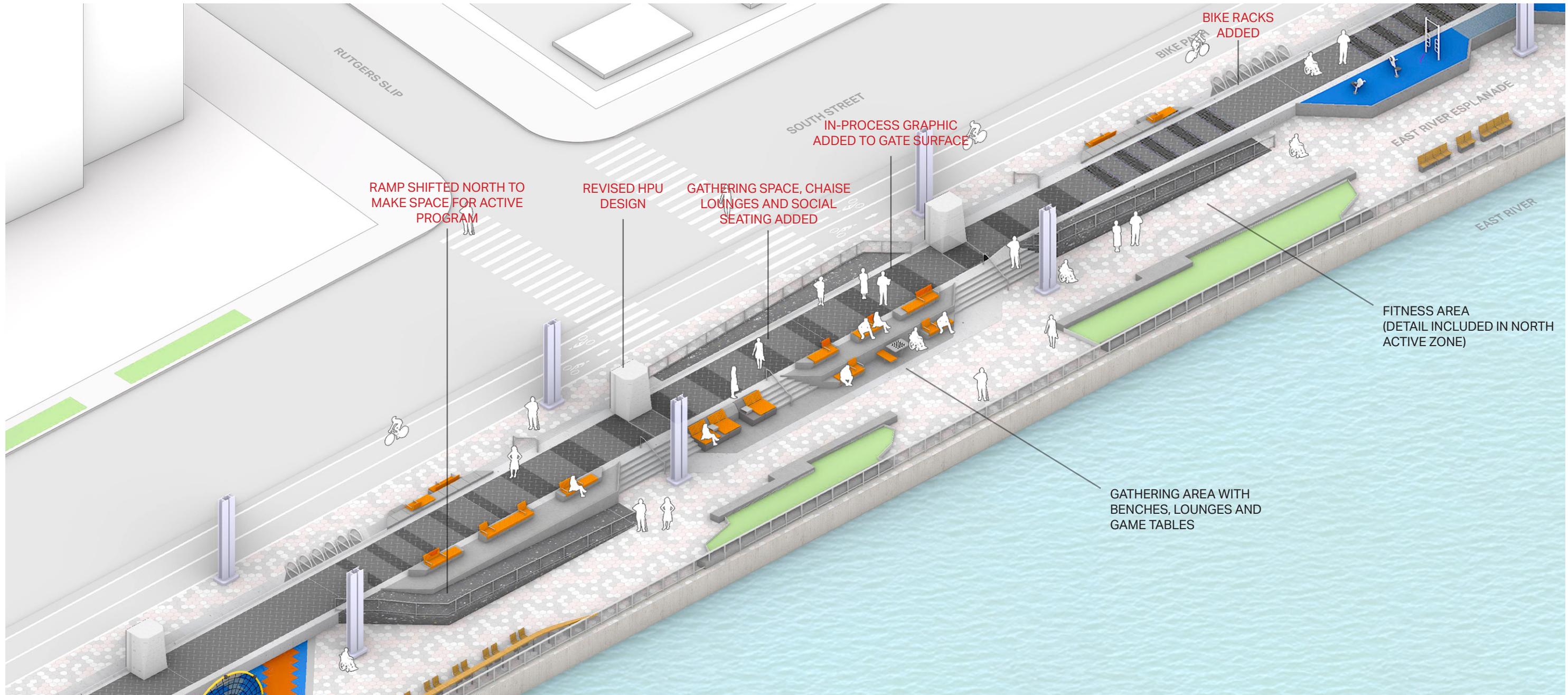
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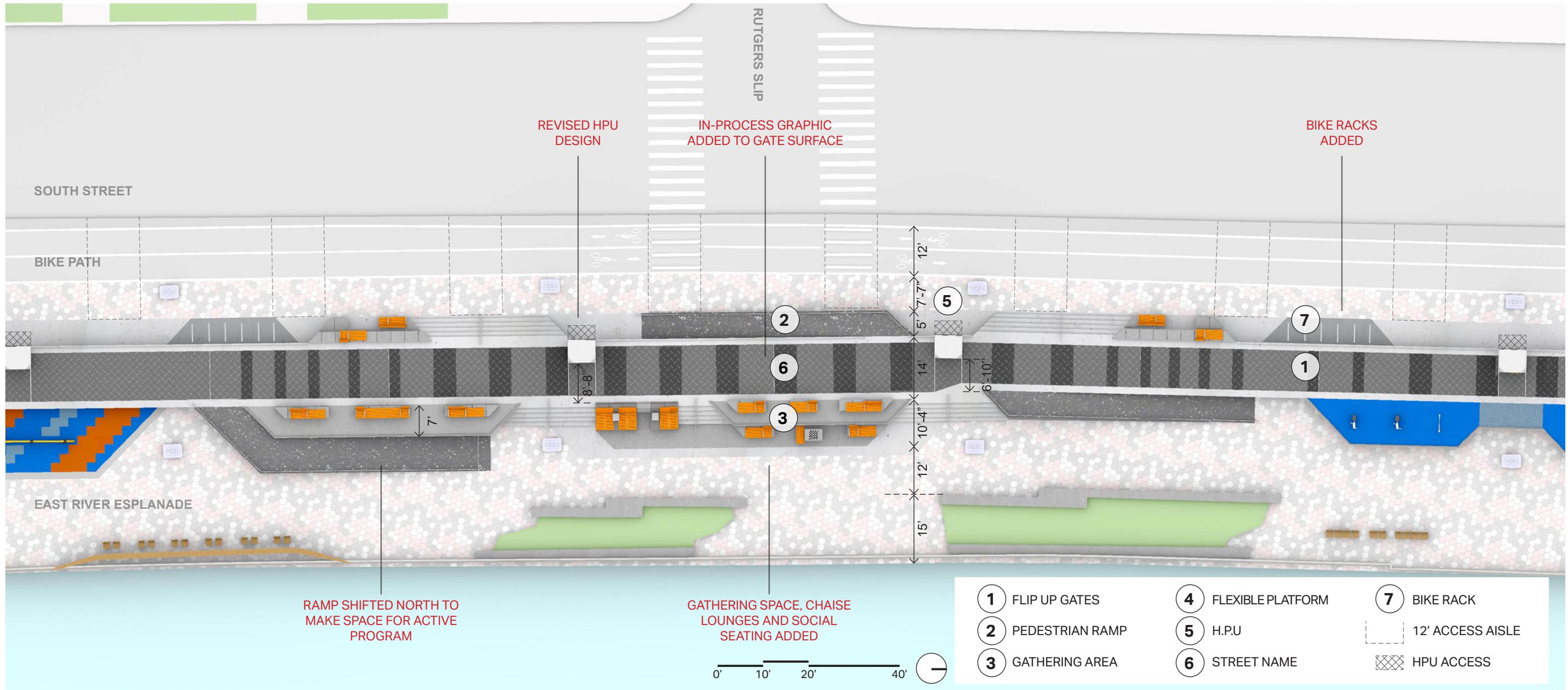
# SOCIAL POCKET | RUTGERS SLIP

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# SOCIAL POCKET | RUTGERS SLIP PLAN

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# SOCIAL POCKET | RUTGERS SLIP RENDER IN PROGRESS



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# PASSIVE POCKETS

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**SOCIAL  
POCKETS**



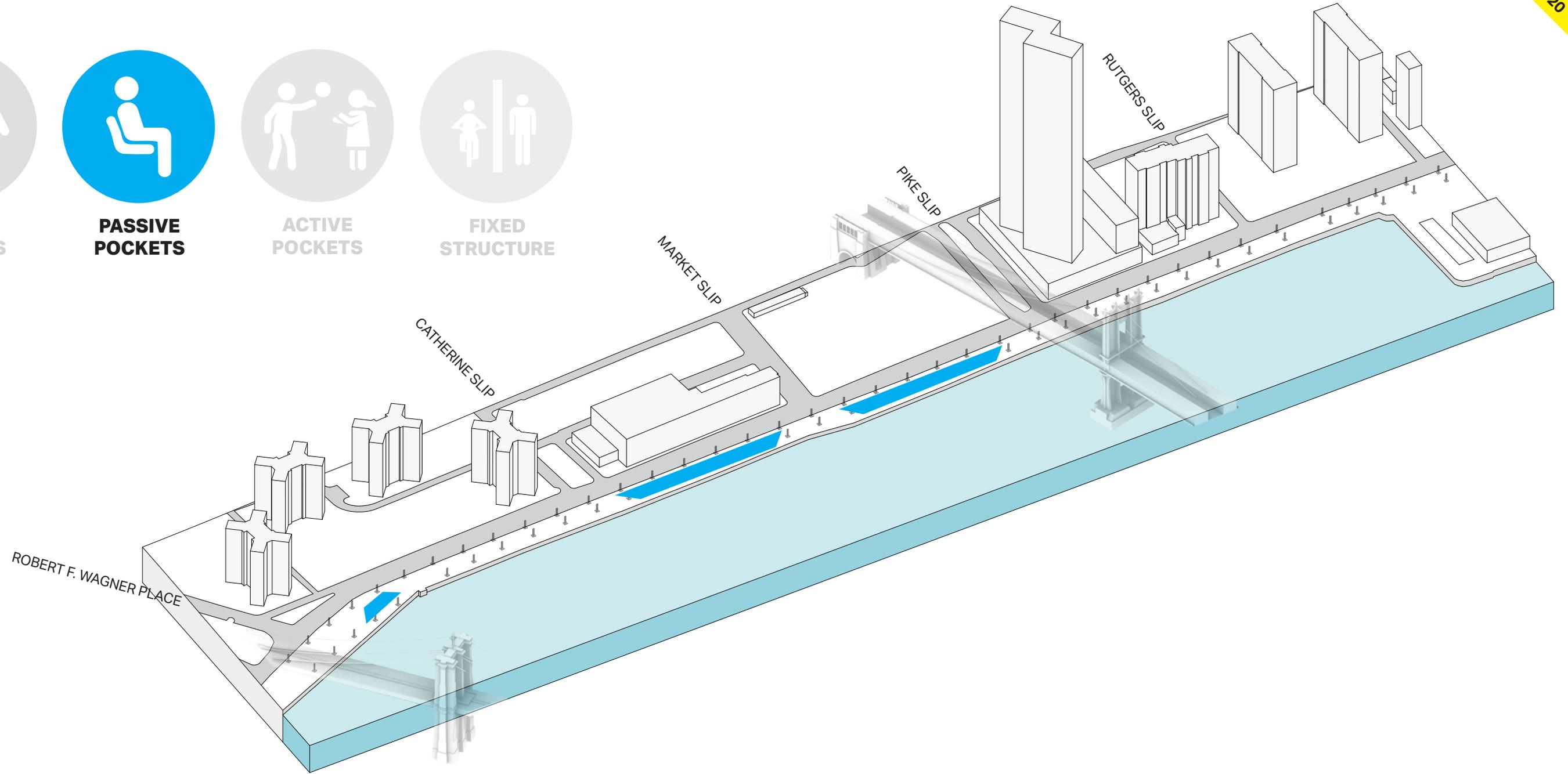
**PASSIVE  
POCKETS**



**ACTIVE  
POCKETS**



**FIXED  
STRUCTURE**

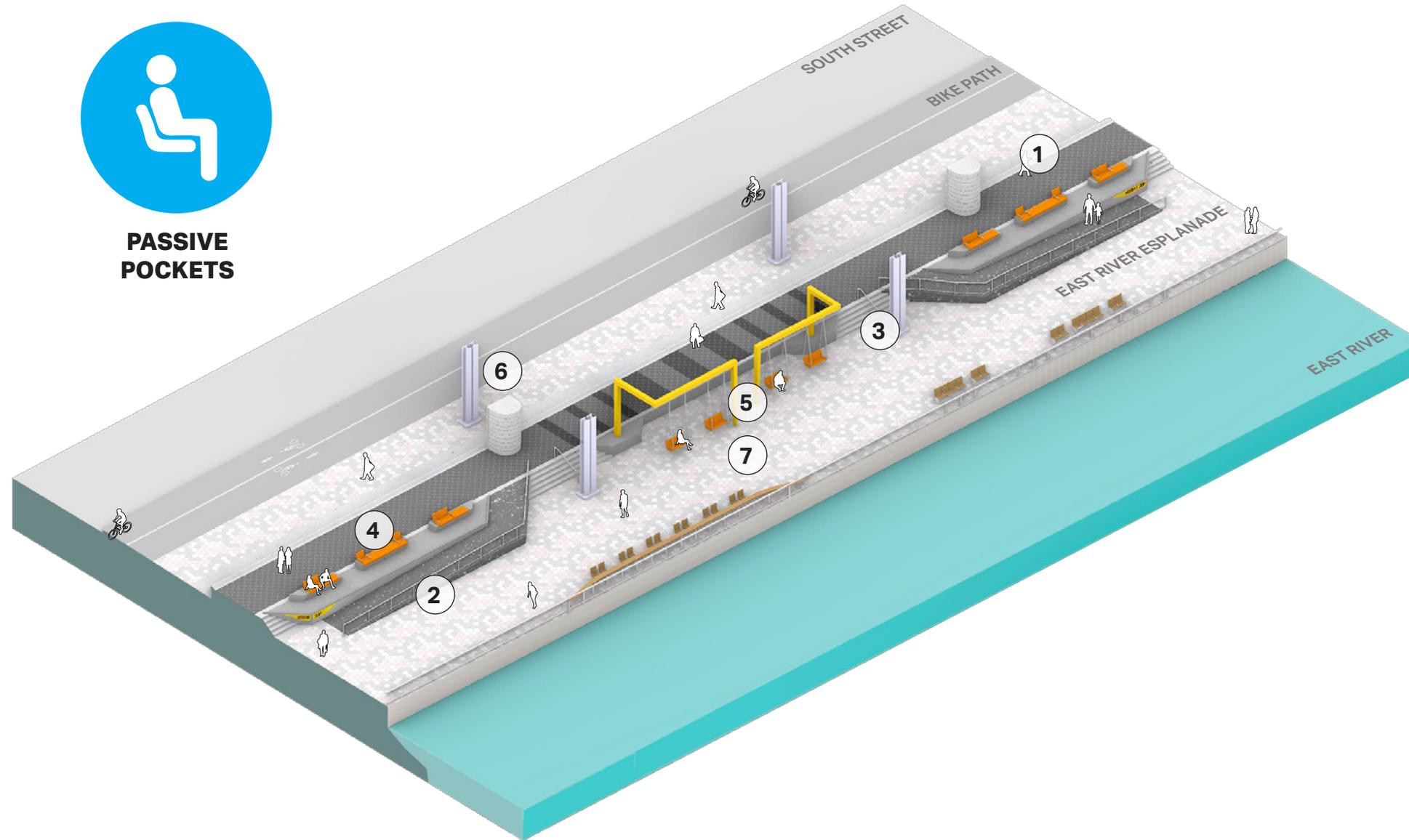


# PASSIVE POCKET | TYPICAL PROGRAM & MATERIAL

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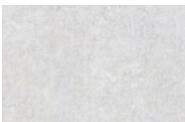
**PASSIVE  
POCKETS**



- 1 FLIP UP GATES**  
BLACK DIAMOND PLATE WITH ANTI-SLIP FINISH


- 2 RAMPS**  
DARK CONCRETE WITH SILICA CARBIDE


- 3 STEPS & PAVING**  
STANDARD GREY CONCRETE


- 4 SEATING OVERLOOKS**  
GREY CONCRETE, ORANGE RECYCLED PLASTIC LUMBER


- 5 GLIDERS**  
POWDERCOATED METAL


- 6 HYDRAULIC POWER UNITS**  
STANDARD GREY CONCRETE

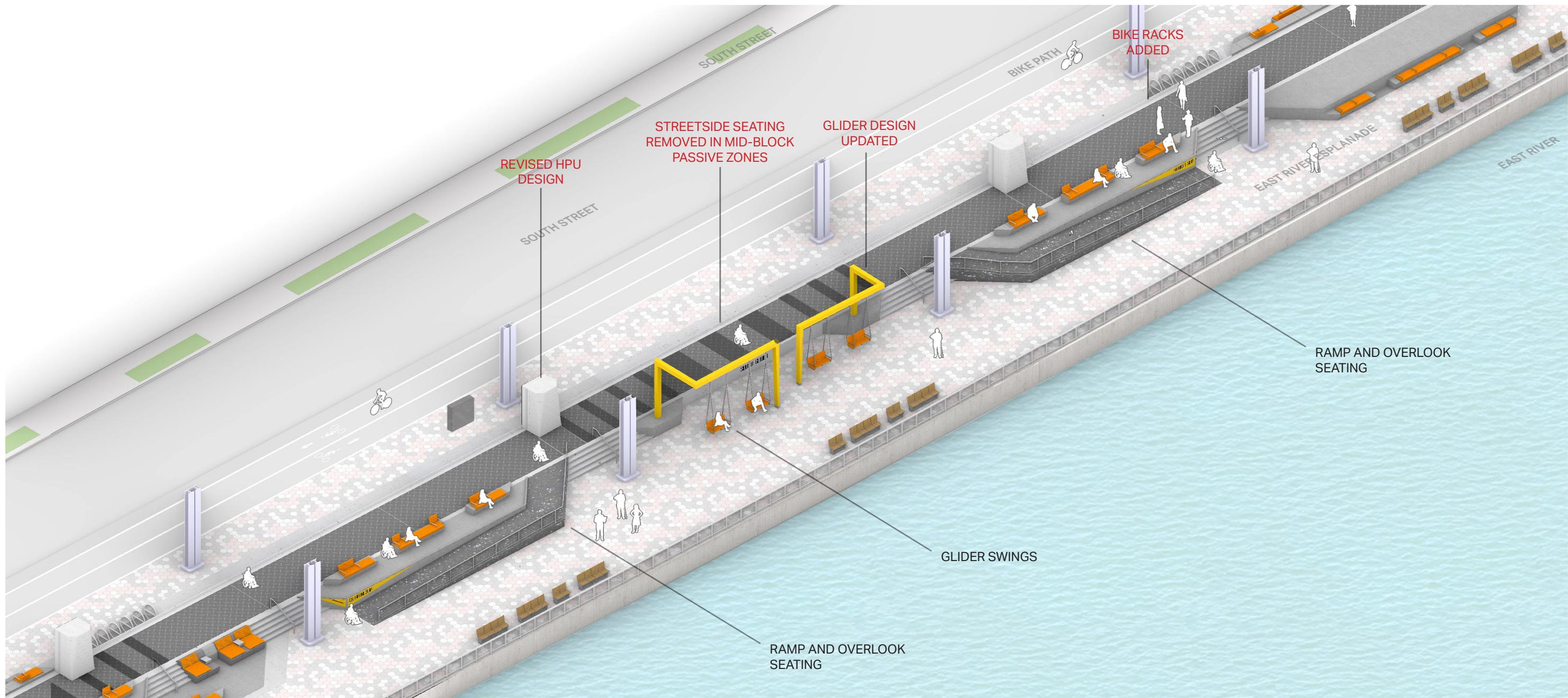

- 7 ESPLANADE**  
HEX PAVERS USING EXISTING PATTERN



# PASSIVE POCKET | CATHERINE / MARKET



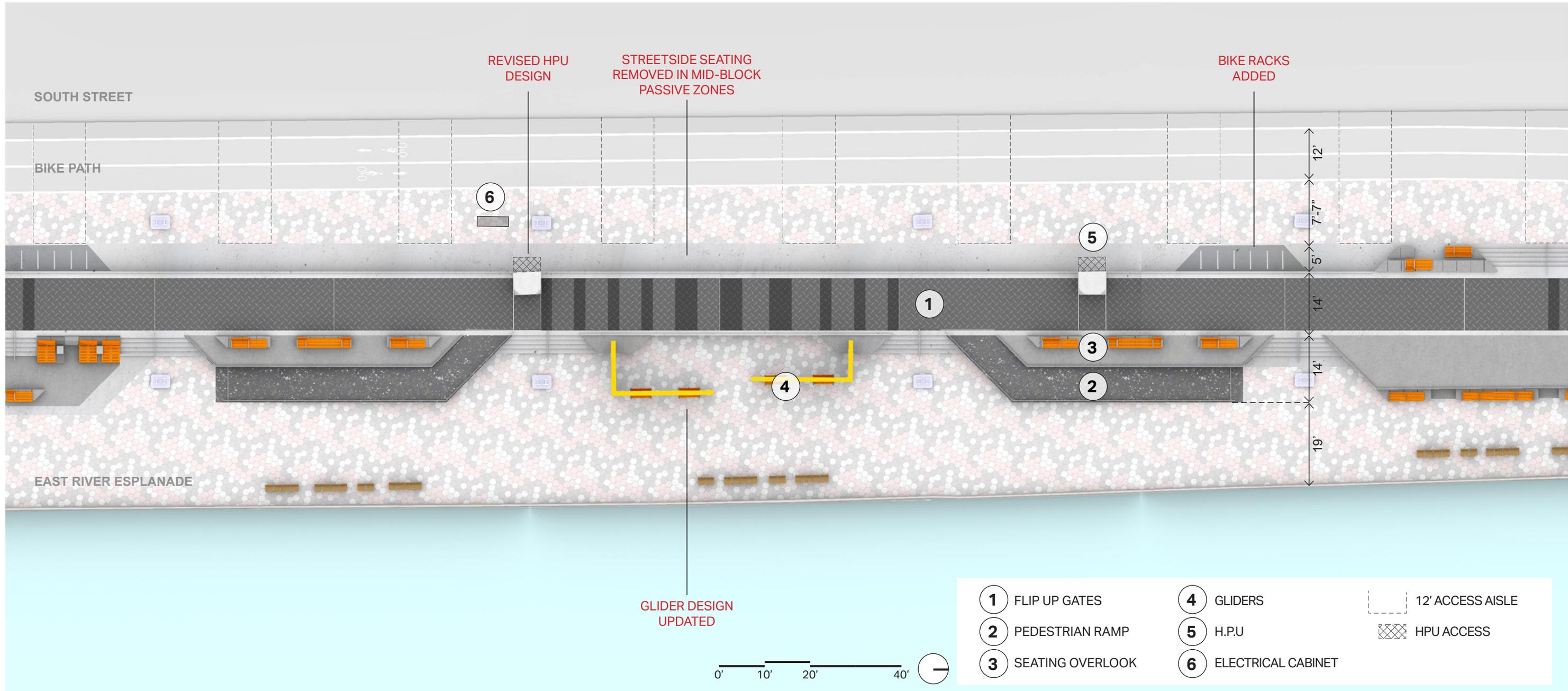
**DRAFT**  
09/10/20



# PASSIVE POCKET | CATHERINE / MARKET PLAN



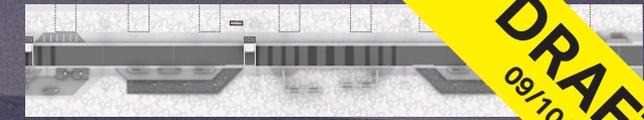
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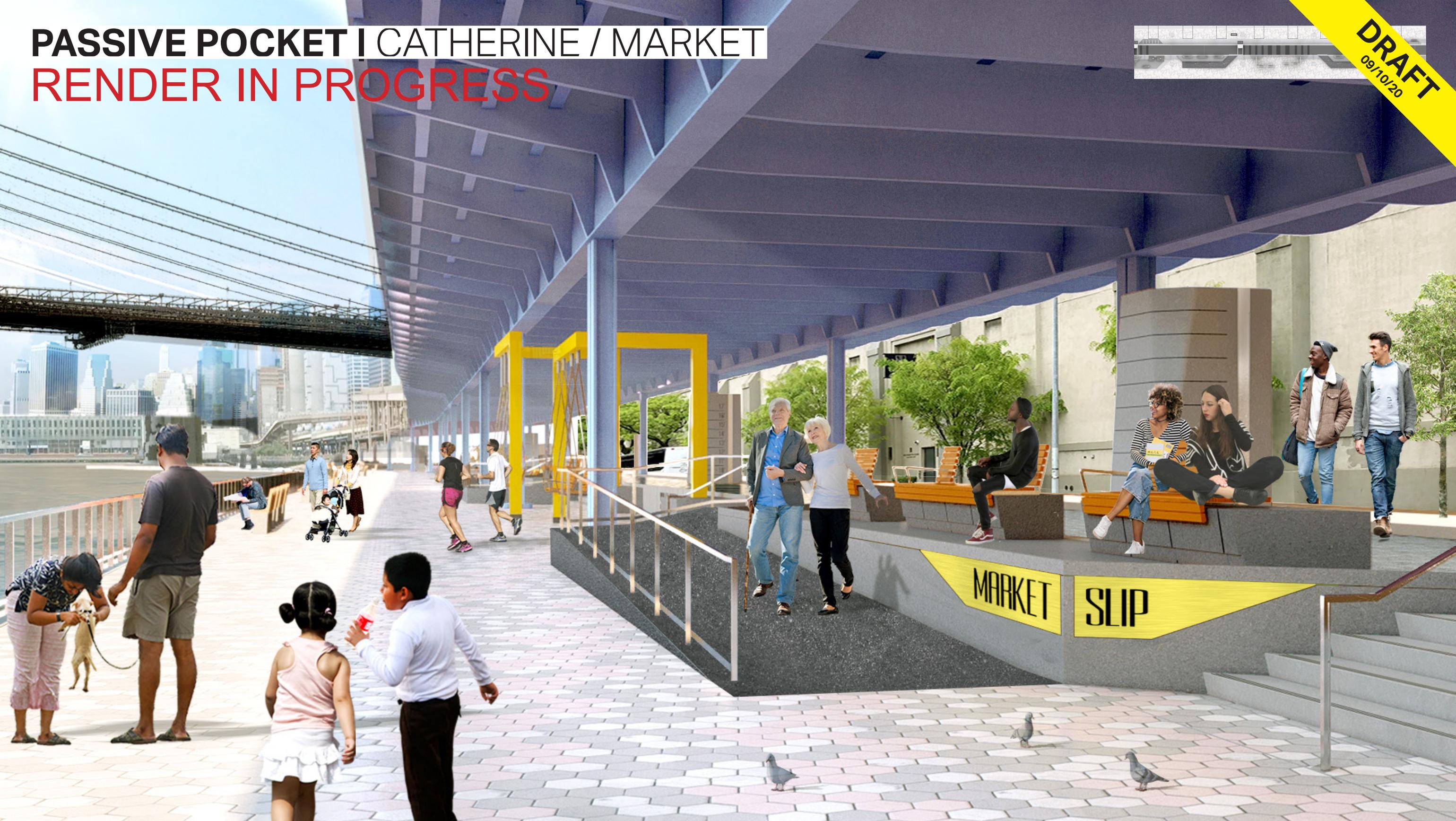
- ① FLIP UP GATES
- ② PEDESTRIAN RAMP
- ③ SEATING OVERLOOK
- ④ GLIDERS
- ⑤ H.P.U
- ⑥ ELECTRICAL CABINET
- 12' ACCESS AISLE
- HPU ACCESS

# PASSIVE POCKET | CATHERINE / MARKET

## RENDER IN PROGRESS



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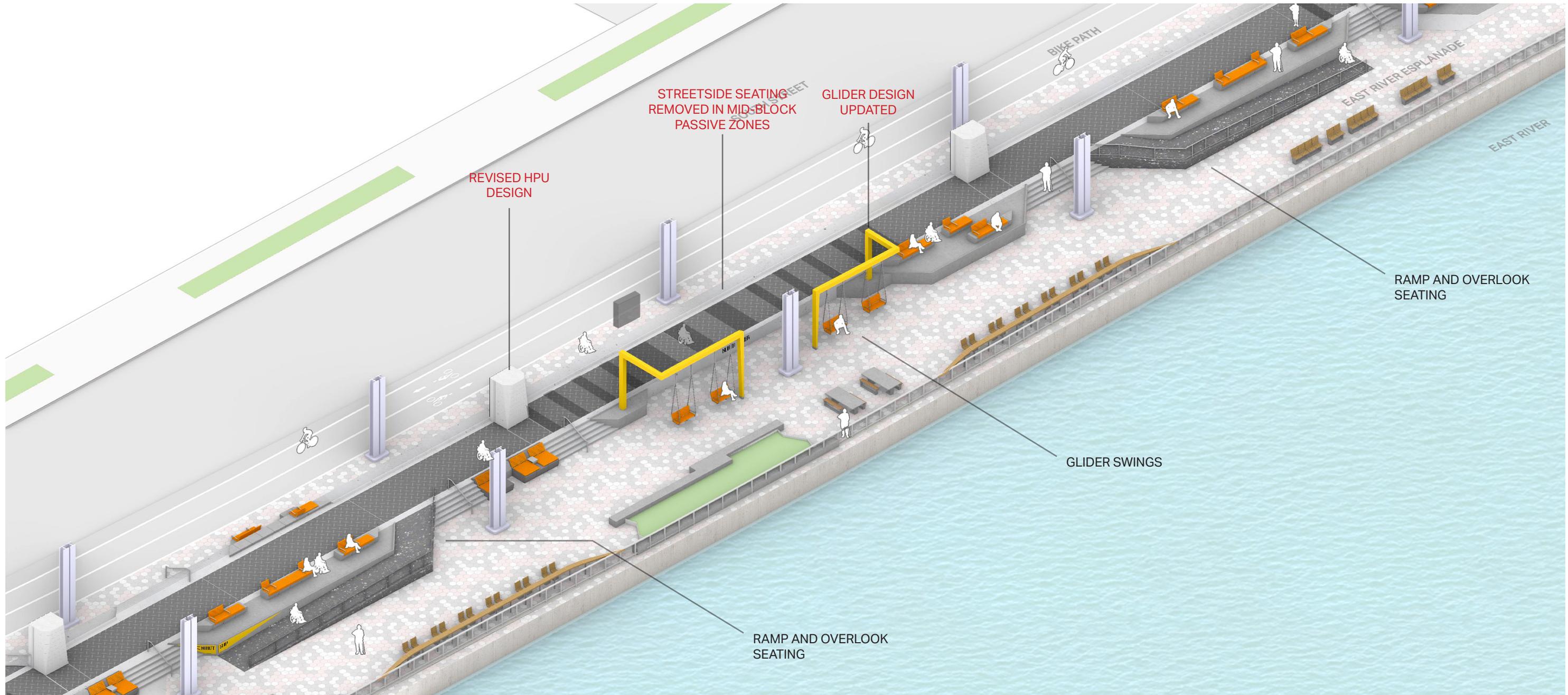
MARKET

SLIP

# PASSIVE POCKET | MARKET / PIKE



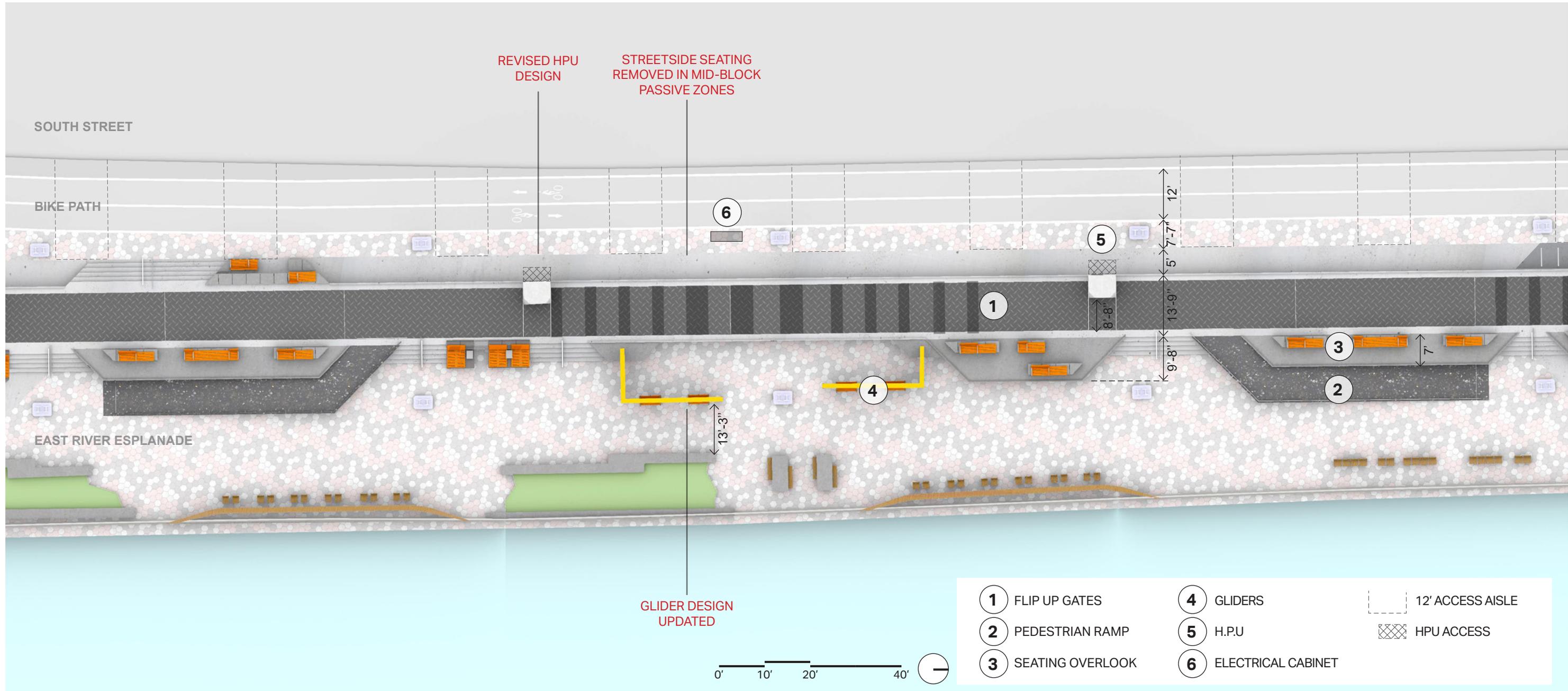
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# PASSIVE POCKET | MARKET / PIKE PLAN



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# PASSIVE POCKET | CATHERINE / MARKET

## RENDER IN PROGRESS



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# ACTIVE POCKETS

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SOCIAL  
POCKETS



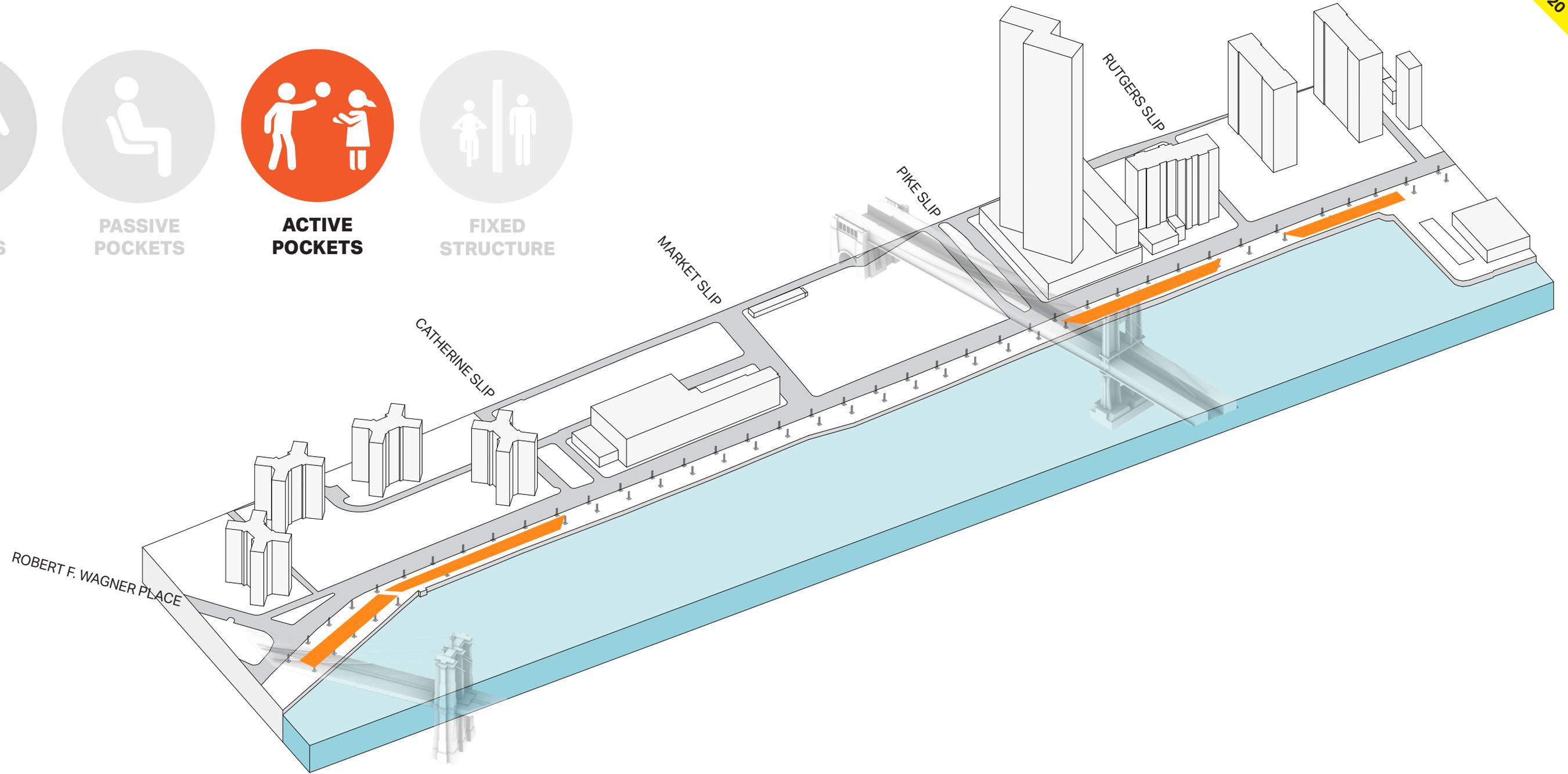
PASSIVE  
POCKETS



**ACTIVE  
POCKETS**



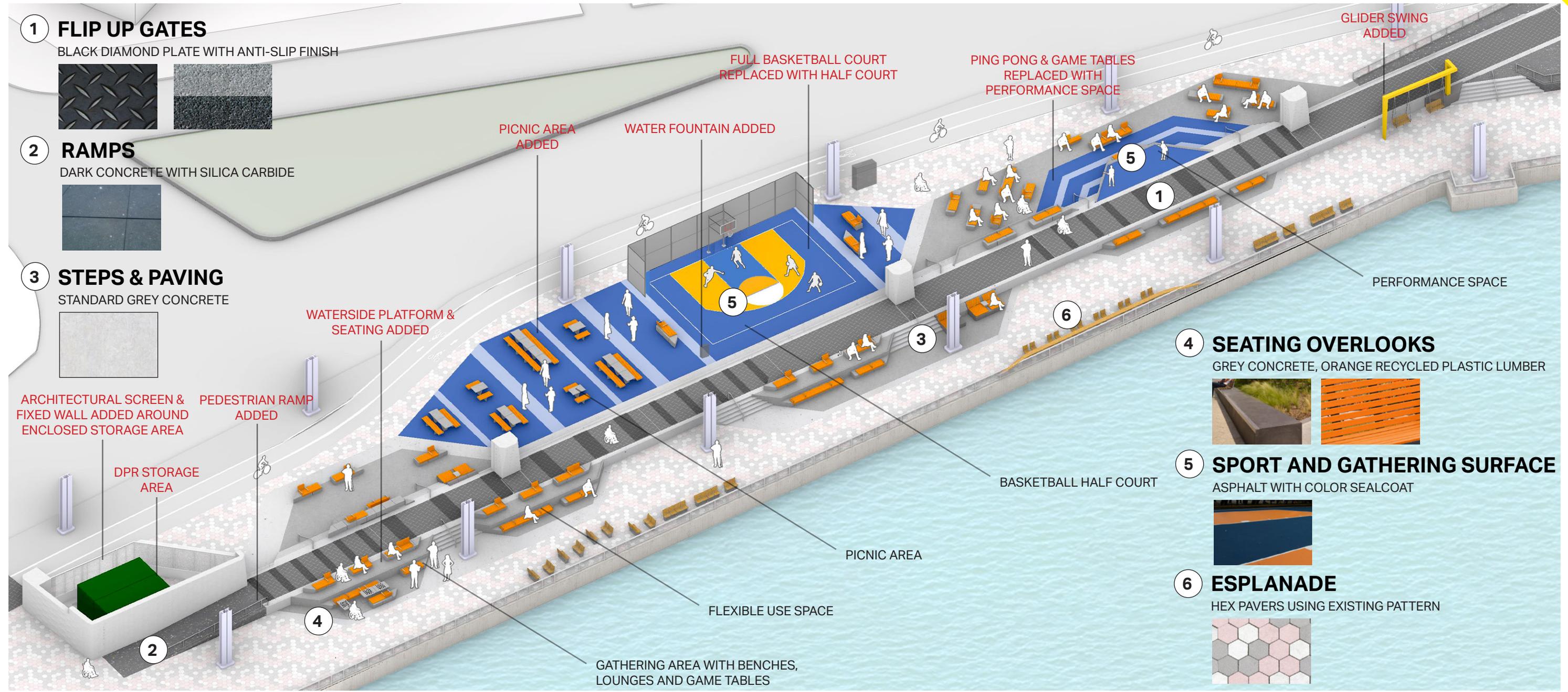
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STRUCTURE



# SOUTH ACTIVE | SPORT / PERFORMANCE



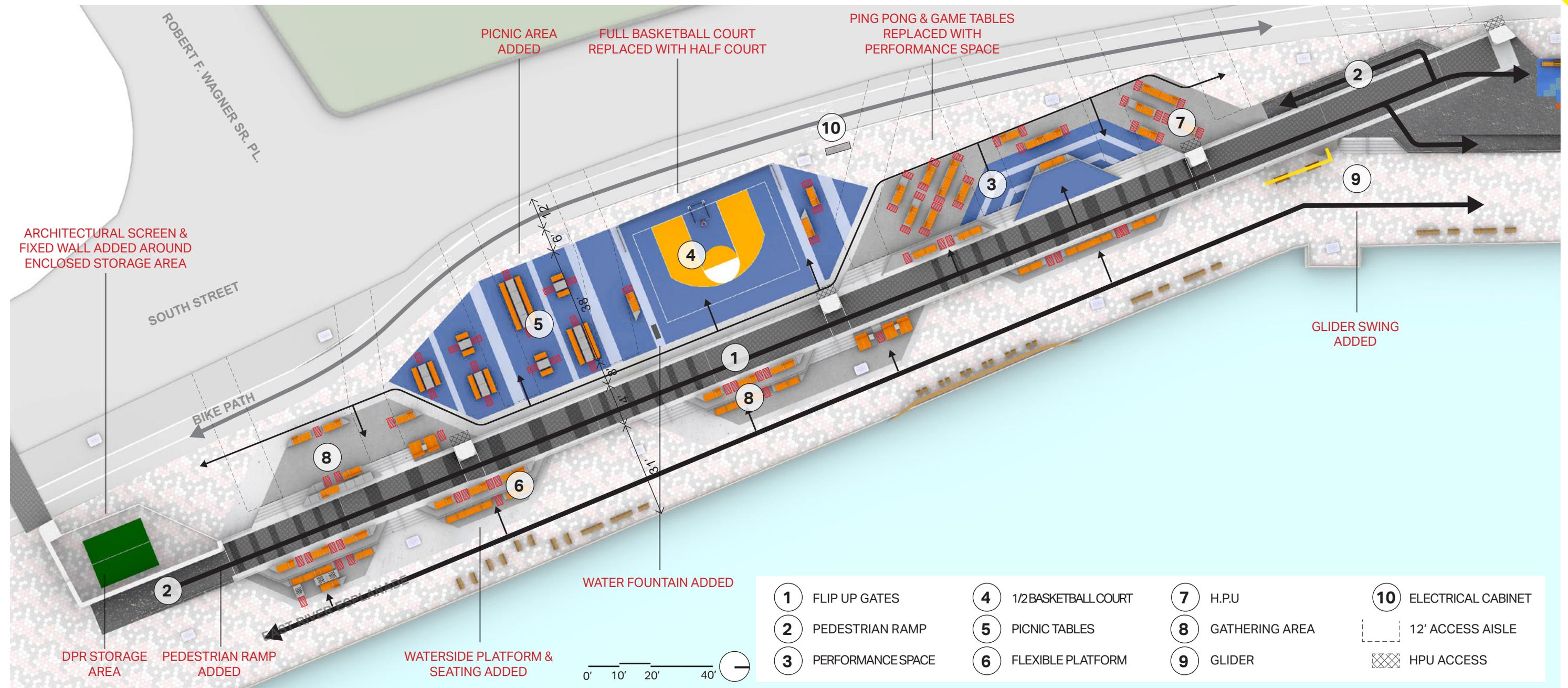
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09/10/20



# SOUTH ACTIVE | SPORT / PERFORMANCE

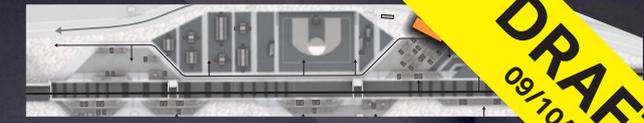


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- |                     |                        |                  |                      |
|---------------------|------------------------|------------------|----------------------|
| ① FLIP UP GATES     | ④ 1/2 BASKETBALL COURT | ⑦ H.P.U          | ⑩ ELECTRICAL CABINET |
| ② PEDESTRIAN RAMP   | ⑤ PICNIC TABLES        | ⑧ GATHERING AREA | --- 12' ACCESS AISLE |
| ③ PERFORMANCE SPACE | ⑥ FLEXIBLE PLATFORM    | ⑨ GLIDER         | ⊗ HPU ACCESS         |

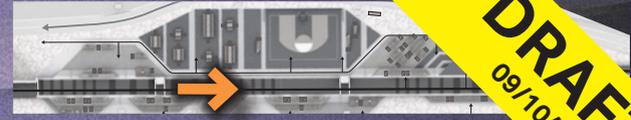
# SOUTH ACTIVE | PERFORMANCE RENDER IN PROGRESS



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# SOUTH ACTIVE | SPORT RENDER IN PROGRESS



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# SOUTH ACTIVE | PLAY & FITNESS

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## 1 PLAYGROUND SURFACING

MITCHELL FALL SAFETY SURFACE TILES

COLORED CONCRETE



## 2 STEPS & PAVING

STANDARD GREY CONCRETE



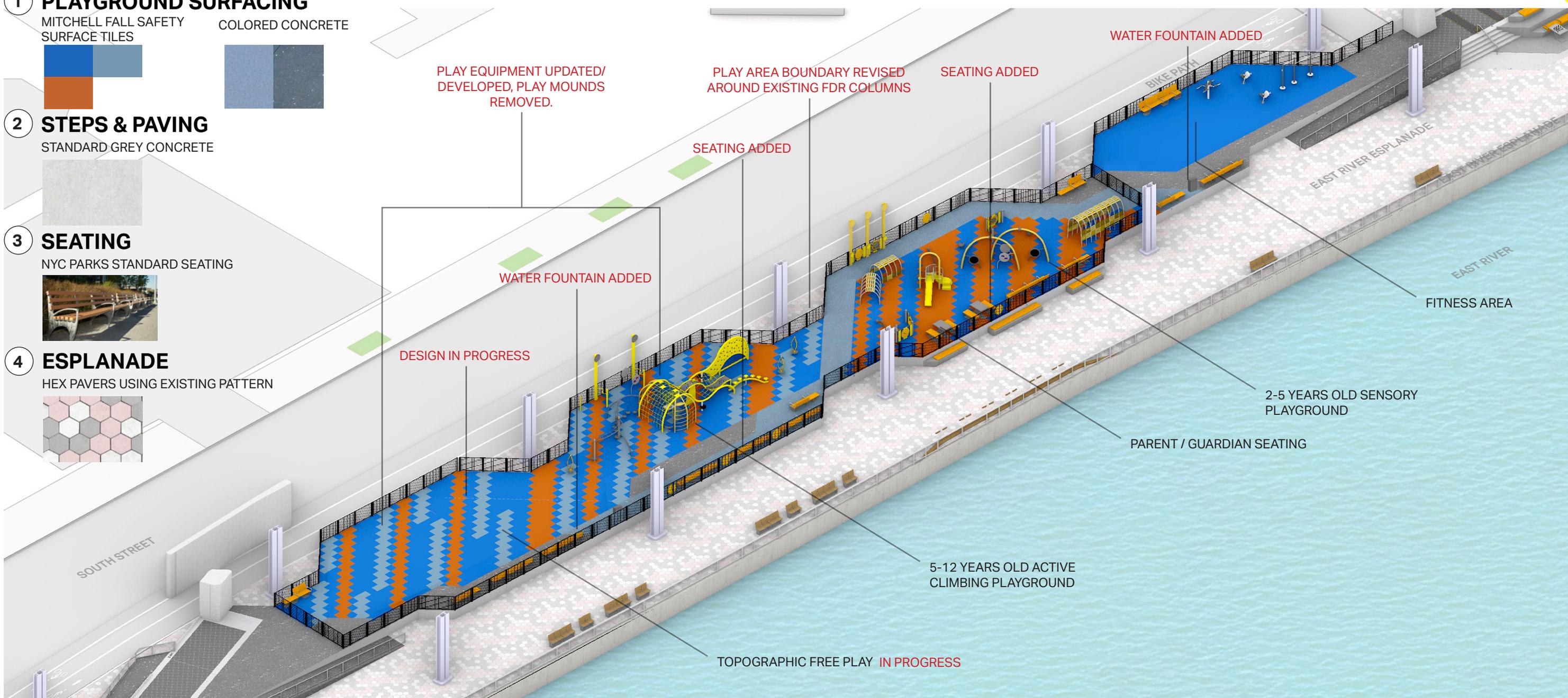
## 3 SEATING

NYC PARKS STANDARD SEATING



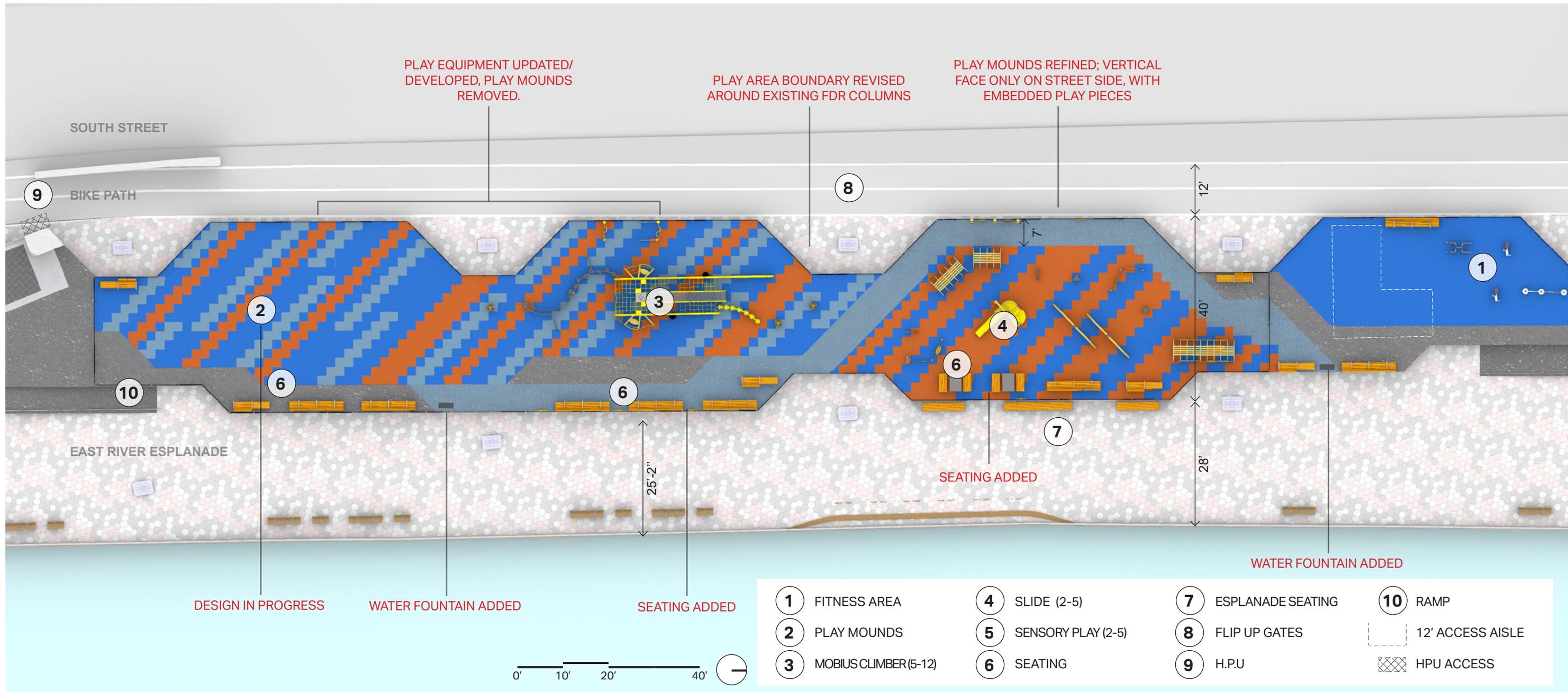
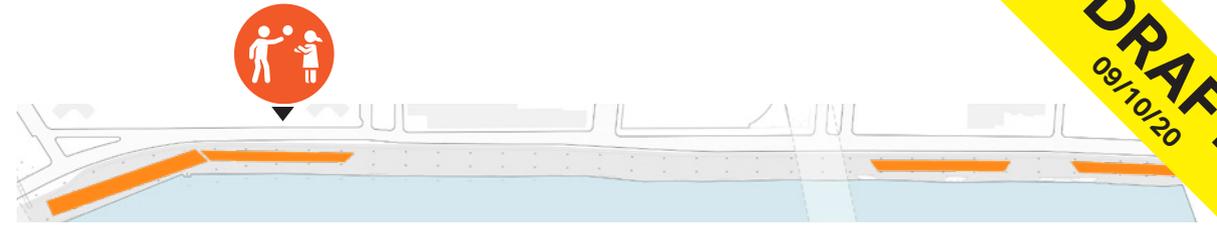
## 4 ESPLANADE

HEX PAVERS USING EXISTING PATTERN



# SOUTH ACTIVE | PLAY & FITNESS PLAN

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# SOUTH ACTIVE | PLAY RENDER IN PROGRESS



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NYC PARKS STANDARD BENCHES



EQUIPMENT COLOR



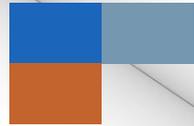
# NORTH ACTIVE | PLAY & CLIMB



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## 1 CLIMBING STRUCTURE SURFACING

MITCHELL FALL SAFETY SURFACE TILES



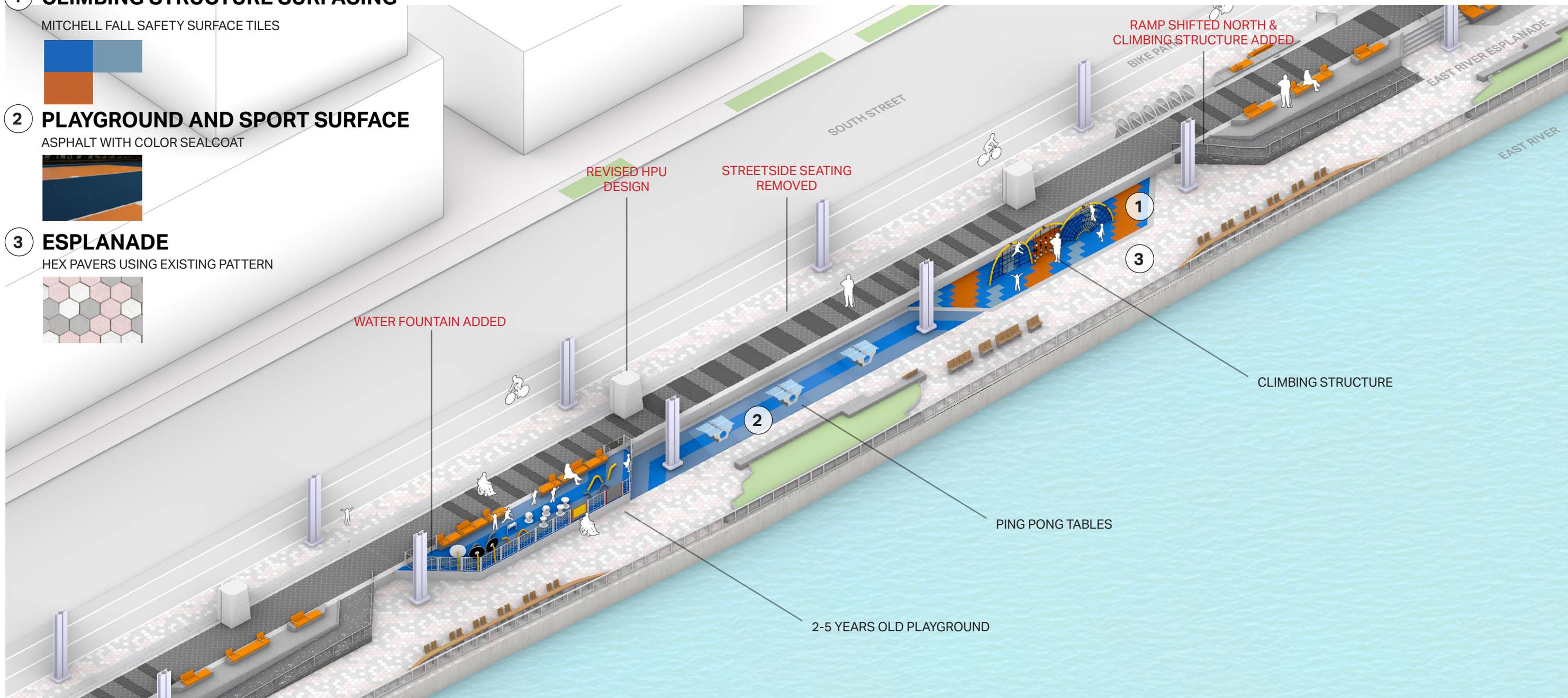
## 2 PLAYGROUND AND SPORT SURFACE

ASPHALT WITH COLOR SEALCOAT



## 3 ESPLANADE

HEX PAVERS USING EXISTING PATTERN



REVISED HPU DESIGN

STREETSIDE SEATING REMOVED

RAMP SHIFTED NORTH & CLIMBING STRUCTURE ADDED

WATER FOUNTAIN ADDED

1

3

CLIMBING STRUCTURE

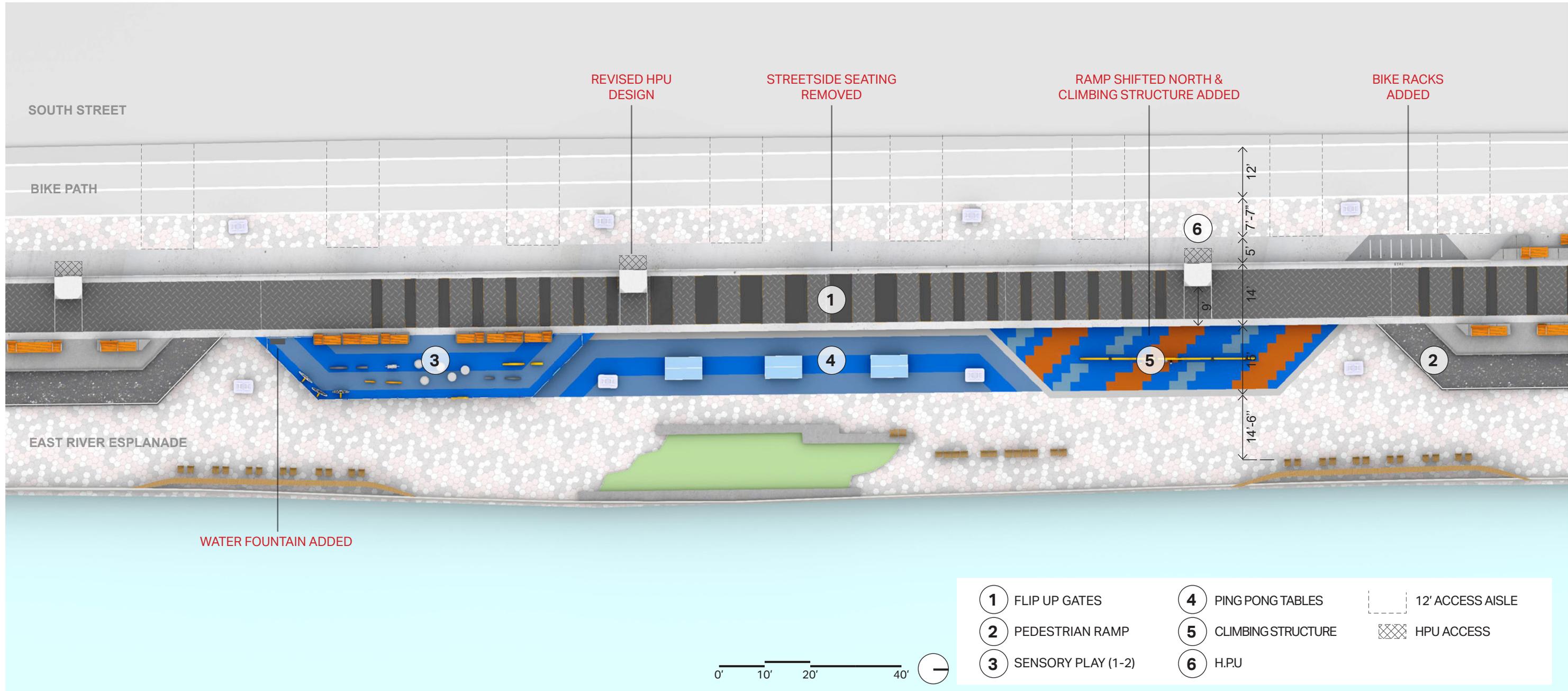
PING PONG TABLES

2-5 YEARS OLD PLAYGROUND

# NORTH ACTIVE | PLAY & CLIMB PLAN

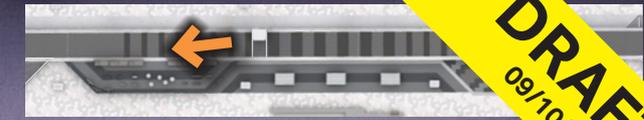


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# NORTH ACTIVE | PLAY

## RENDER IN PROGRESS



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# NORTH ACTIVE | CLIMBING AND SPORTS RENDER IN PROGRESS



# NORTH ACTIVE | FITNESS

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## 1 FITNESS AREA SURFACING

MITCHELL FALL  
SAFETY SURFACE TILES

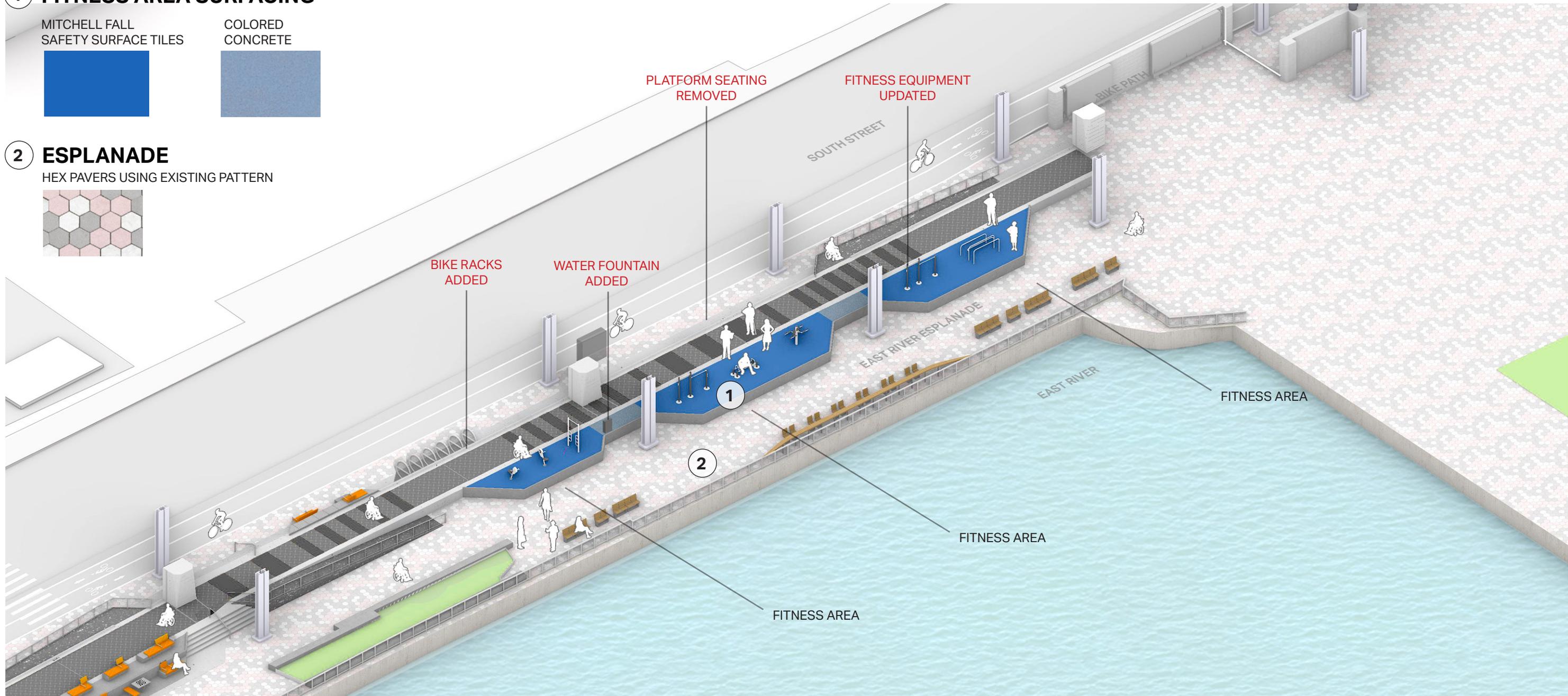


COLORED  
CONCRETE



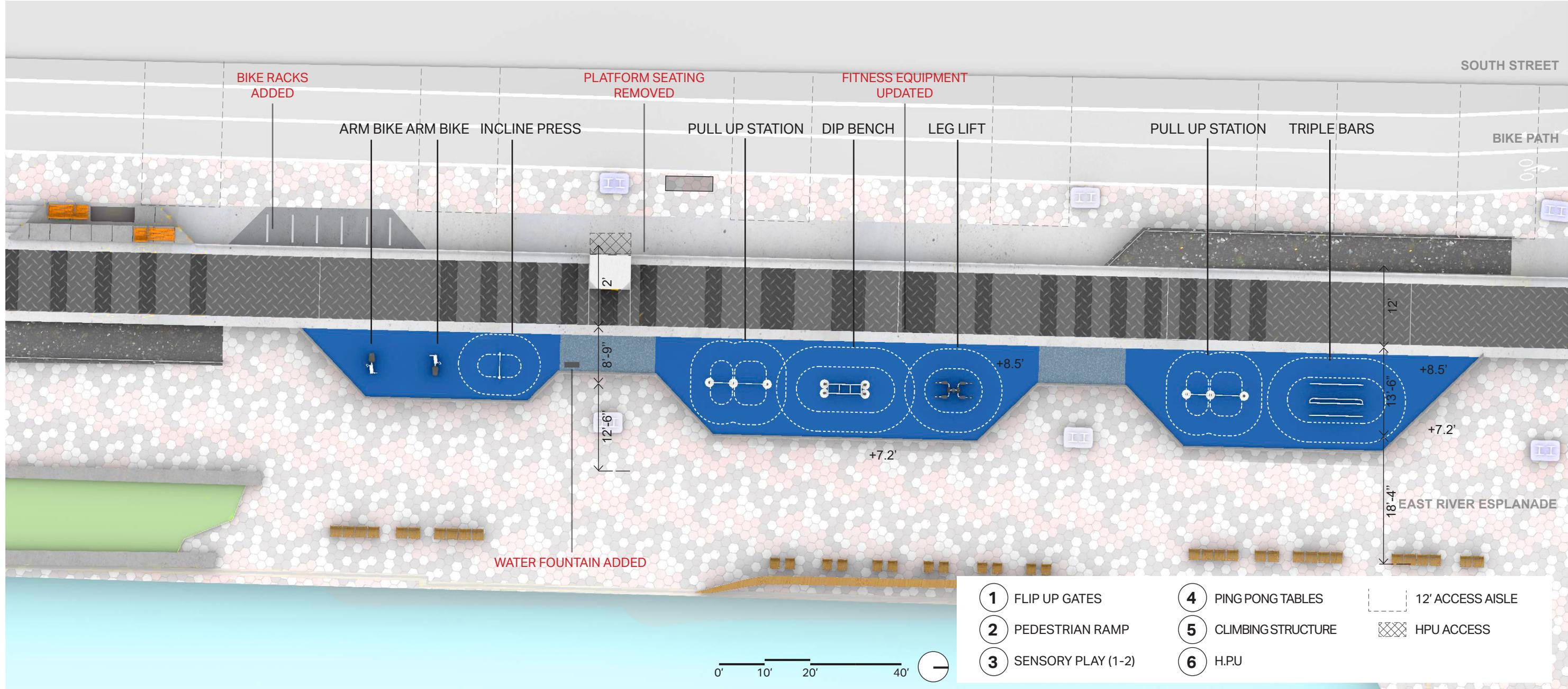
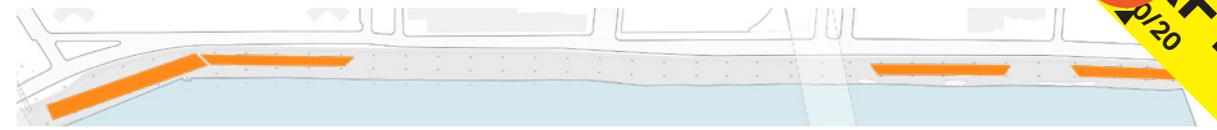
## 2 ESPLANADE

HEX PAVERS USING EXISTING PATTERN



# NORTH ACTIVE | FITNESS PLAN

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- 1 FLIP UP GATES
- 2 PEDESTRIAN RAMP
- 3 SENSORY PLAY (1-2)
- 4 PING PONG TABLES
- 5 CLIMBING STRUCTURE
- 6 H.P.U
- 12' ACCESS AISLE
- HPU ACCESS

# NORTH FITNESS RENDER IN PROGRESS

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# FIXED STRUCTURE

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**SOCIAL  
POCKETS**



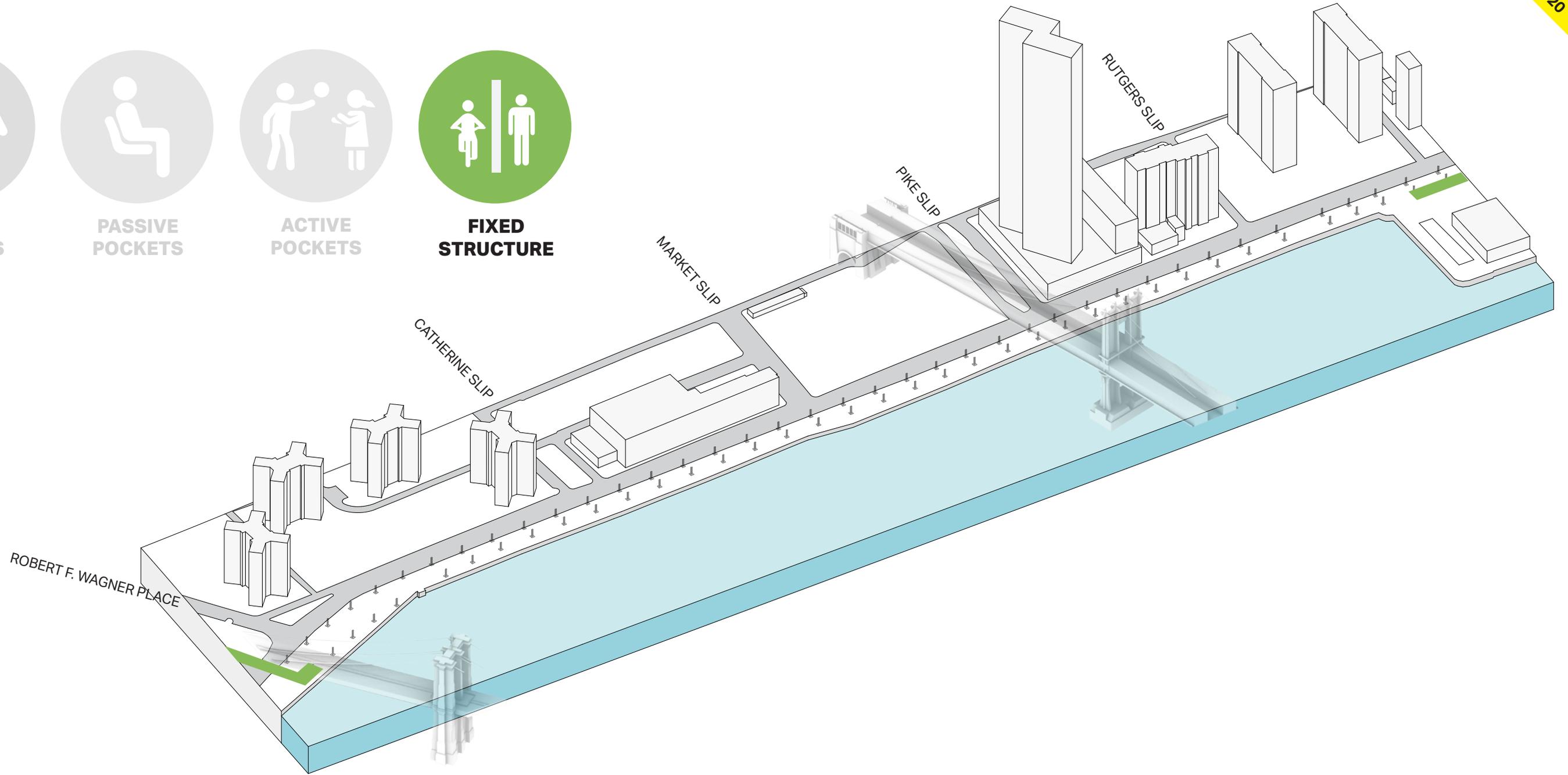
**PASSIVE  
POCKETS**



**ACTIVE  
POCKETS**



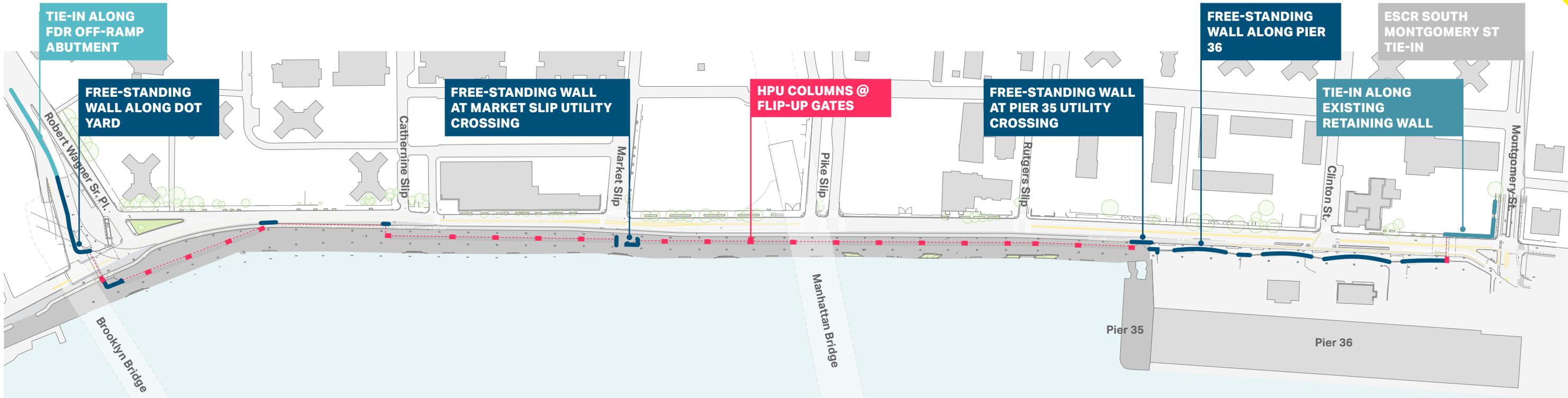
**FIXED  
STRUCTURE**



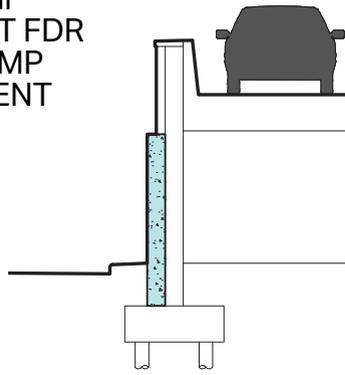


# FIXED STRUCTURE | EXPOSED FLOODWALL OVERVIEW

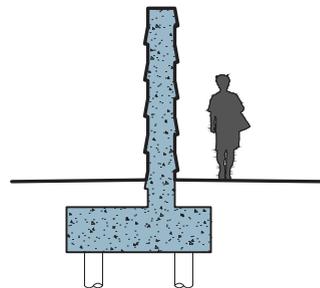
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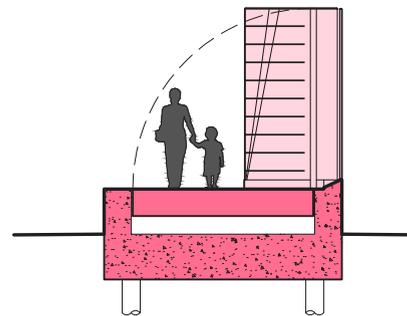
floodwall AGAINST FDR OFF-RAMP ABUTMENT



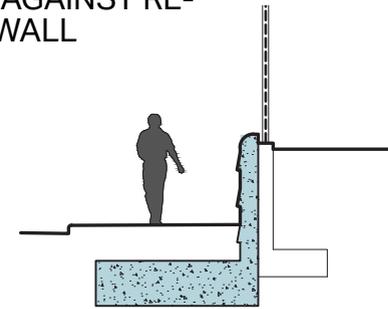
free-standing flood-wall



hpu columns flip-up gates



floodwall AGAINST RETAINING WALL

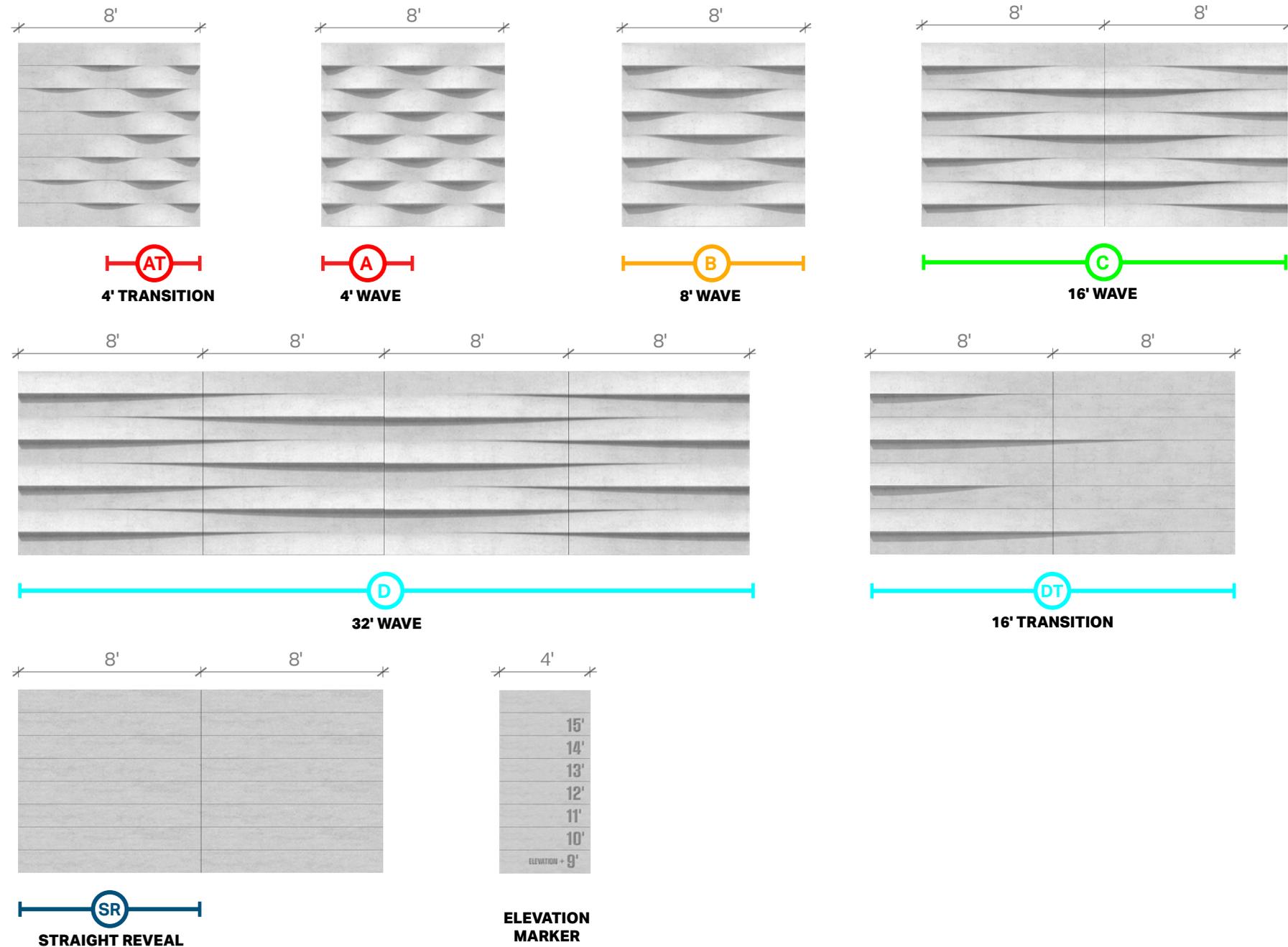


# FIXED STRUCTURE | WALL RELIEF MODULE TOOLKIT

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Upland portions of BMCR's Flood Protection will continue the same finish design strategy as established for ESCR, providing a continuity across compartments.

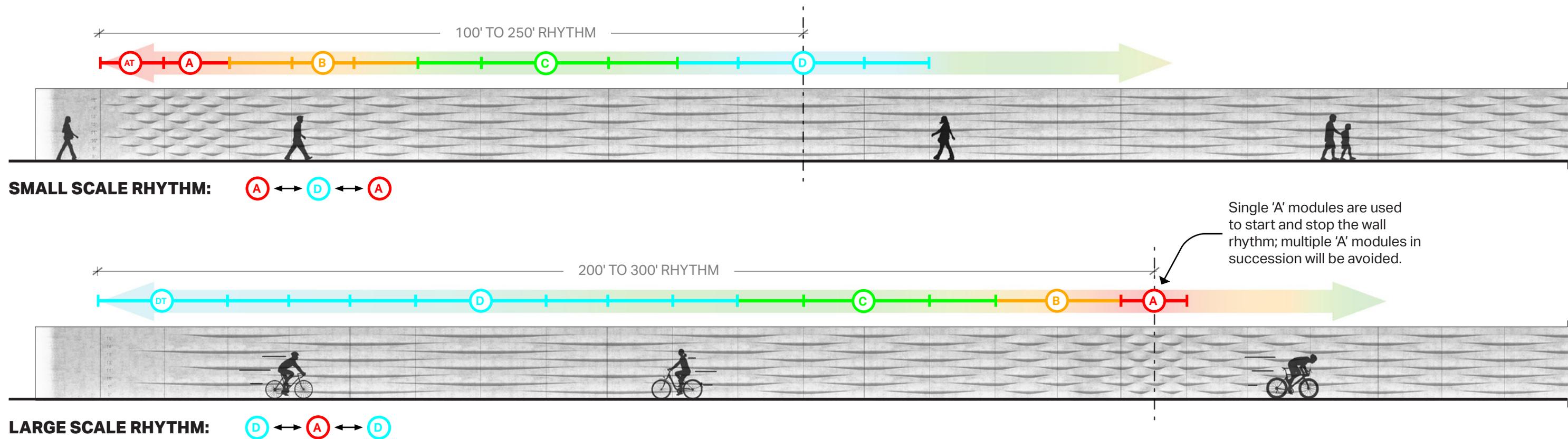
Along the Esplanade, a simple 'Straight Reveal' relief will be used to complement the landscape design while also working with the small lengths of above grade wall and HPU Columns.



# FIXED STRUCTURE | WALL RHYTHM TOOLKIT

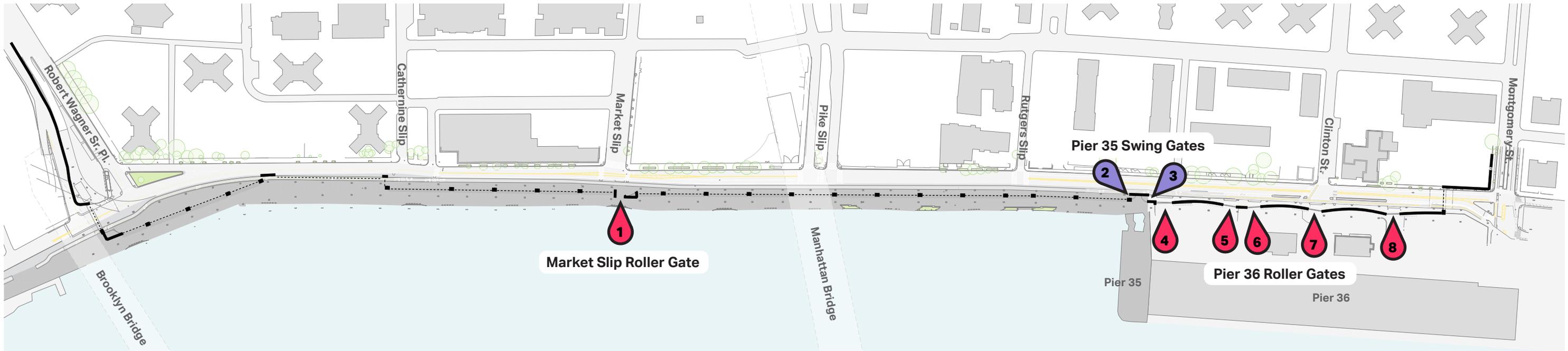
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The individual panels from the Wall Relief Toolkit are arrayed in a dynamic fashion that accelerates and decelerates the pattern along exposed portions of wall. The specific layouts of panels reinforce user experience by reacting to the speed of viewers and wall geometry.



# FIXED STRUCTURE | ABOVE GRADE GATES

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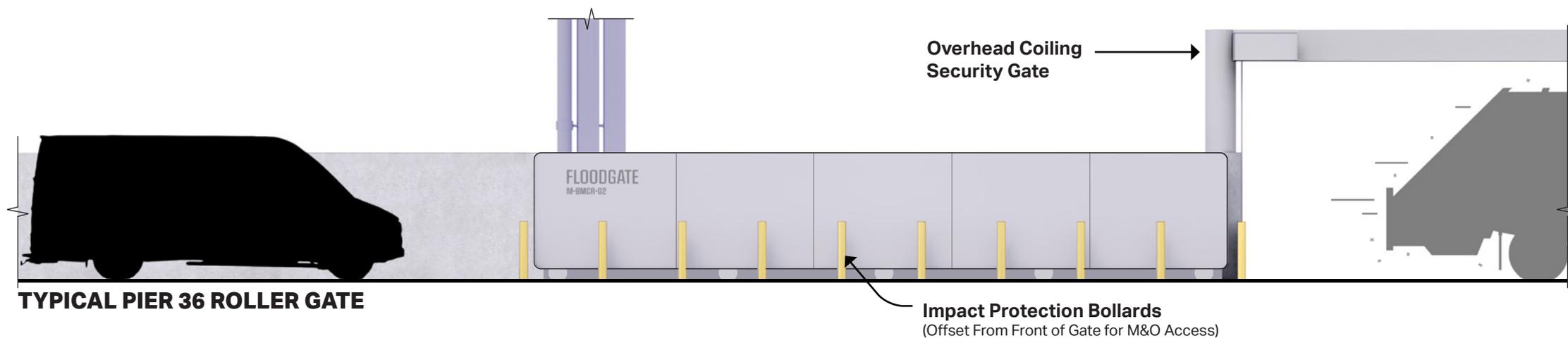
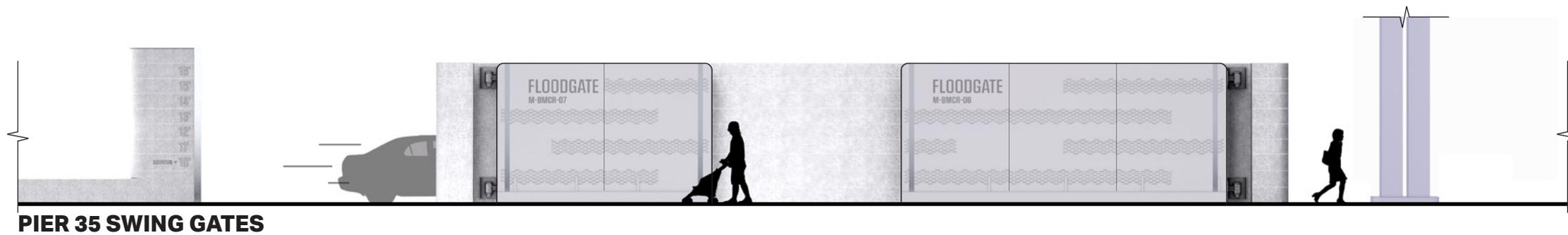
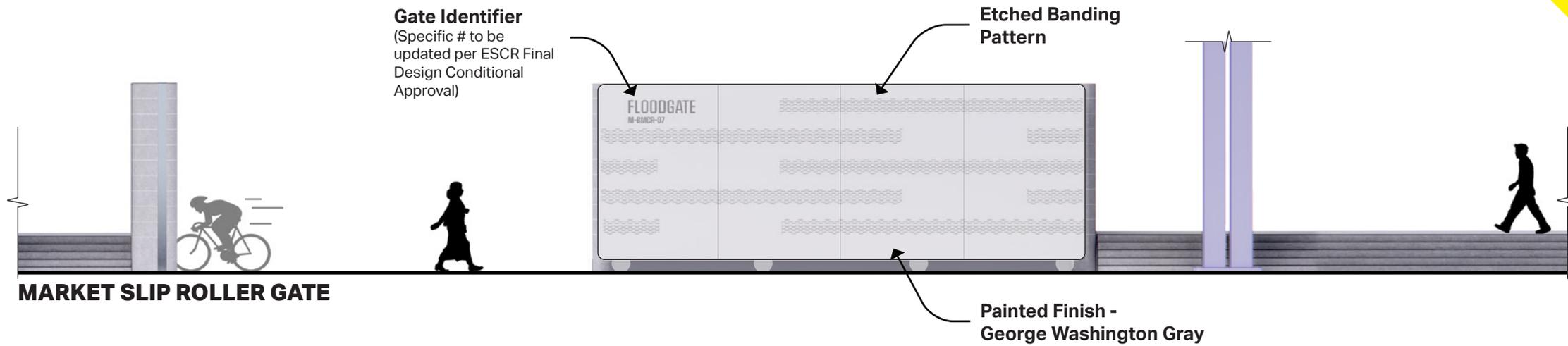
- SWING GATE(2)
- ROLLER GATE (6)

- EXPOSED FLOODWALL & HPU COLUMNS
- LINE OF FLIP-UP GATES

# FIXED STRUCTURE | ABOVE GRADE GATES

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BMCR's eight roller gates continue the same design strategy as established for ESCR, including: Softened geometry, clean end plates, an etched relief pattern complementing the floodwall finish, simple monochromatic color based on DOT standards, and integral signage/identifier. However, given the more intermittent locations of these gates, super-graphic numbering will not be used.

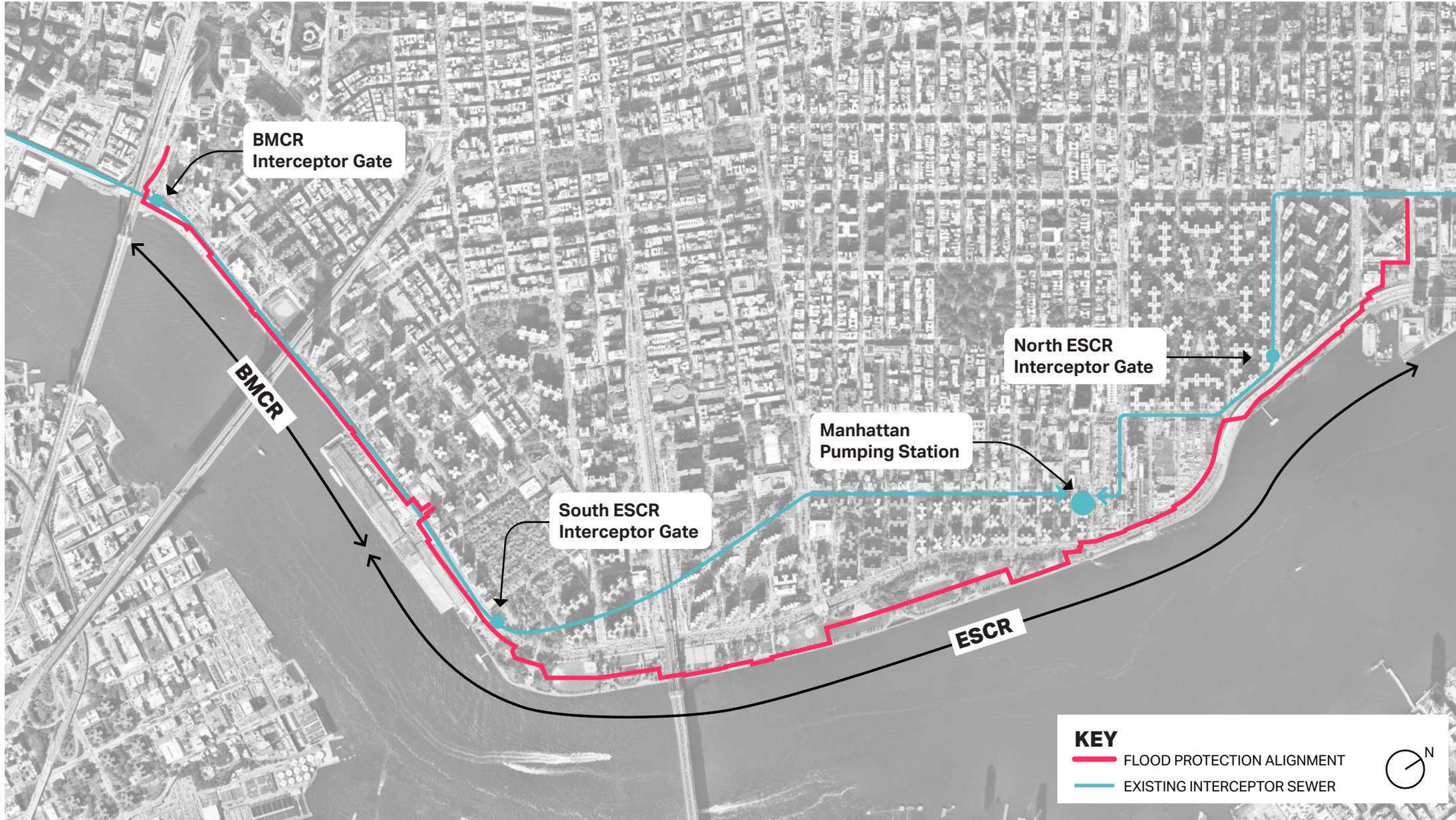


# INTERCEPTOR GATE BUILDING

# INTERCEPTOR GATE BUILDING

Combined BMCR / ESCR Approach

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**BMCR IGB**



**SOUTH ESCR IGB**



**NORTH ESCR IGB**

**BMCR / ESCR COMBINED INTERCEPTOR STRATEGY**

# INTERCEPTOR GATE BUILDING

## Existing Conditions

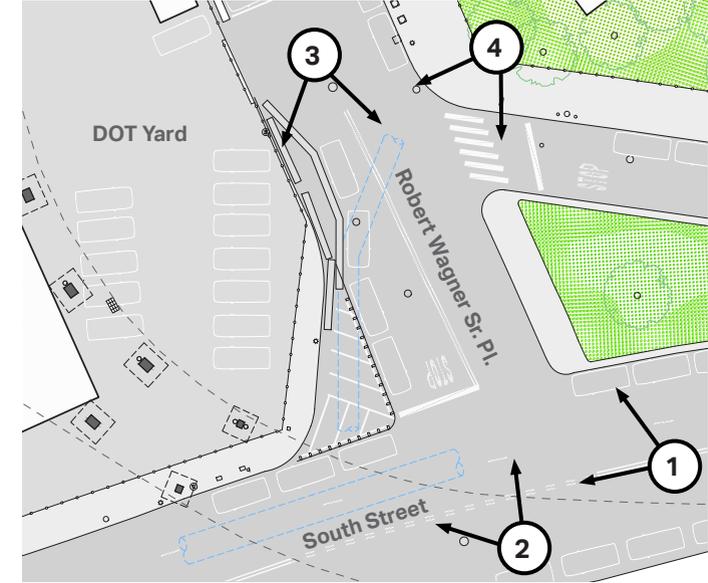
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1. AERIAL VIEW FROM SOUTHEAST



2. VIEW LOOKING NORTH FROM SOUTH STREET



KEY



3. VIEW LOOKING SOUTH FROM WAGNER PL.

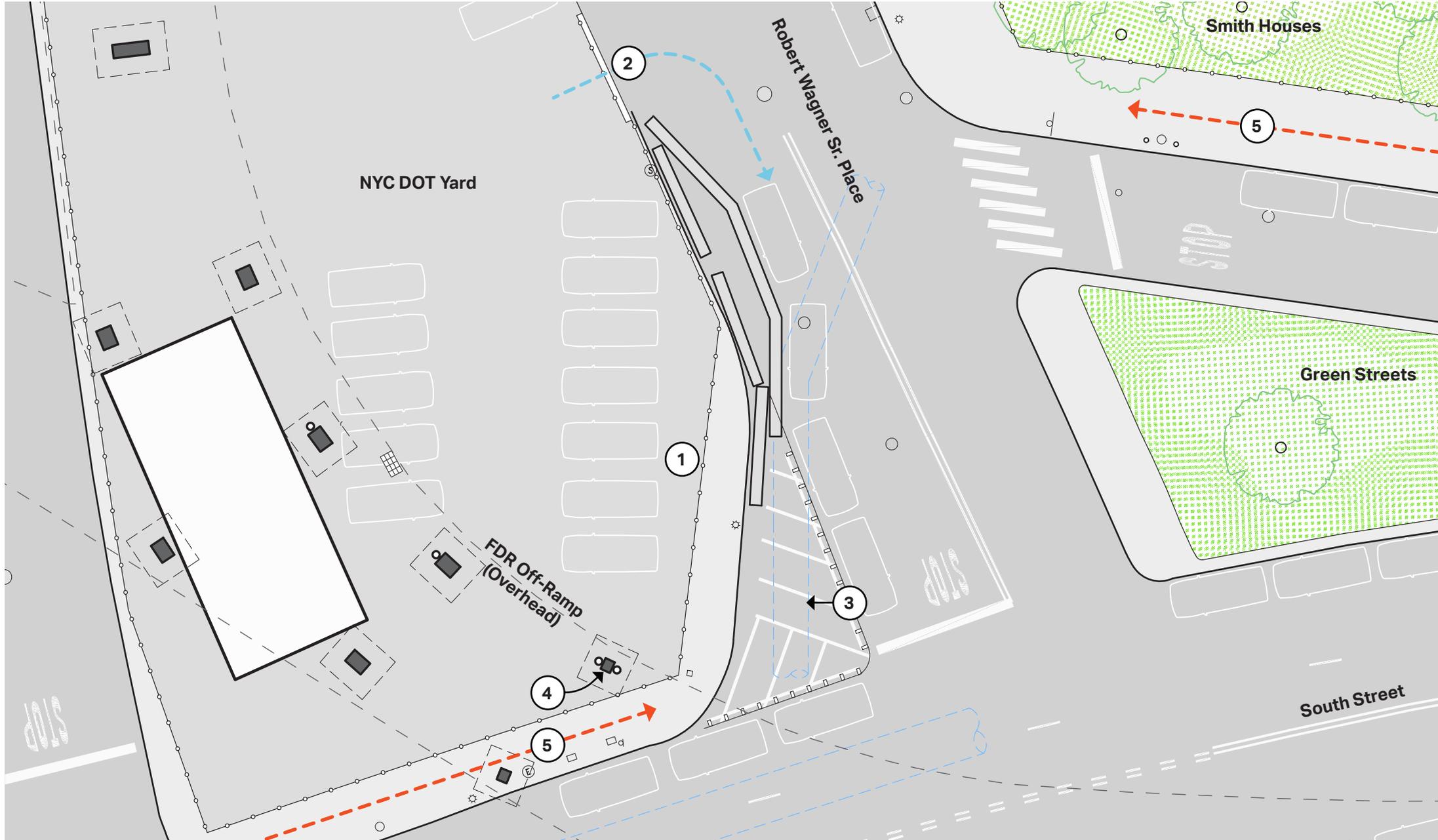


4. VIEW LOOKING SOUTHWEST FROM WAGNER PL.

# INTERCEPTOR GATE BUILDING

## Existing Conditions

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### SITE CONSTRAINTS & OPPORTUNITIES

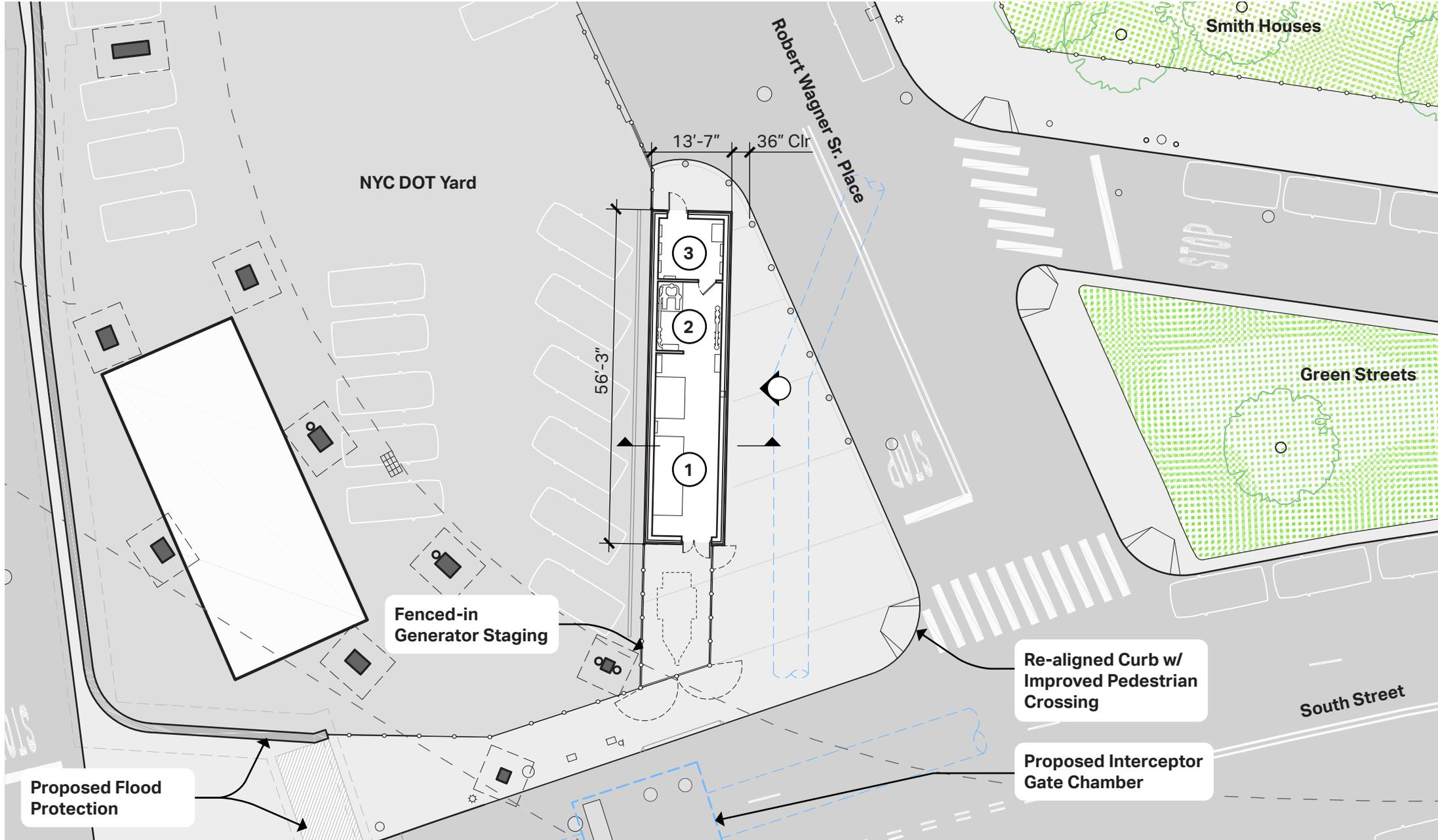
1. MINIMIZE IMPACT ON EXISTING DOT YARD
2. MAINTAIN THE DOT YARD'S EXISTING GATE OPENING AND IMPROVE DOT'S ACCESS TO SOUTH STREET (ROBERT WAGNER SR. PL CONVERTS TO ONE WAY NORTH OF THE YARD)
3. PROVIDE REQ'D OFFSET FROM EXISTING BELOW GRADE COMBINED SEWER
4. PROVIDE ADEQUATE CLEARANCE FROM EXISTING FDR COLUMNS AND FOOTINGS
5. IMPROVE PEDESTRIAN CONNECTION ALONG SOUTH STREET'S NORTH SIDEWALK; EXISTING STREET PATTERN CREATES RIFT WITH NO CLEAR PEDESTRIAN CONNECTION, ENCOURAGING JAYWALKING



# INTERCEPTOR GATE BUILDING

## Proposed Site Plan

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- KEY:**
- 1. Hydraulic Area
  - 2. Pump Area
  - 3. Electrical Room



# INTERCEPTOR GATE BUILDING

Aerial View from East

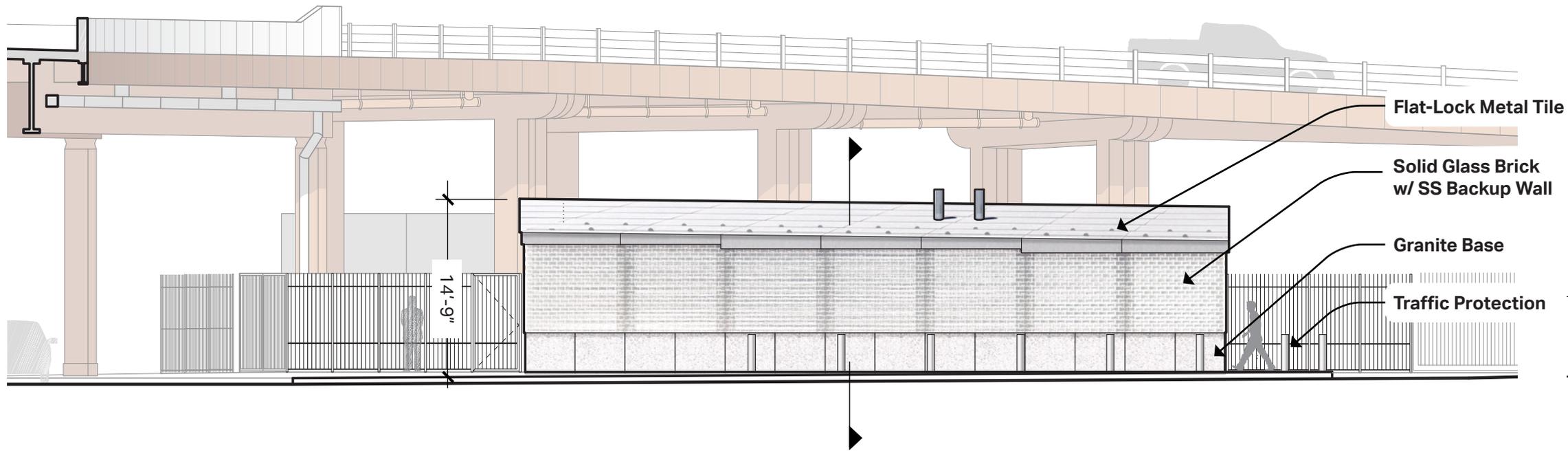
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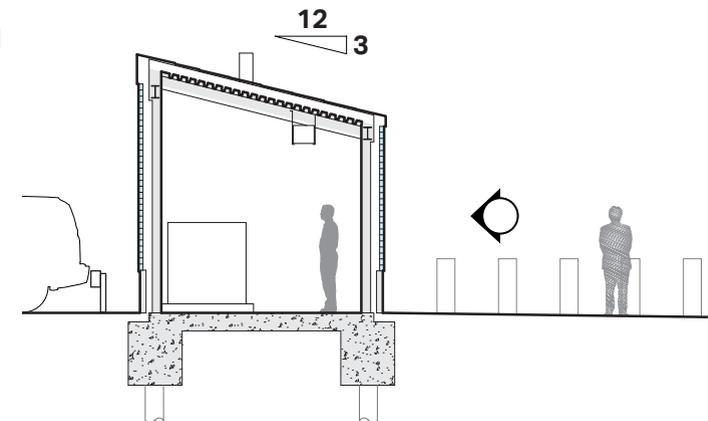
# INTERCEPTOR GATE BUILDING

Elevation & Section

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**1. EAST ELEVATION**



**2. CROSS SECTION**

0' 5' 20' 40'  
SCALE: 3/64" = 1'

# INTERCEPTOR GATE BUILDING

View from South Sreet

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# INTERCEPTOR GATE BUILDING

## Proposed Material Palette

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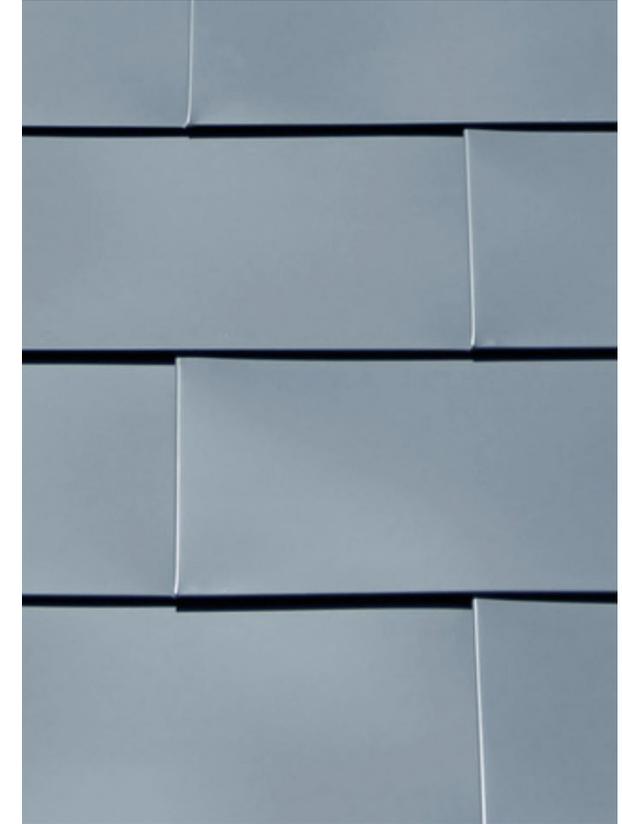
**STAINLESS STEEL**  
Back Up Wall,  
Doors, & Trim Elements



**SOLID GLASS BRICK**  
Facade  
(Pictured: Office Mockup)



**BARRE GREY GRANITE**  
Stone Base



**FLAT-LOCK METAL TILE** Sloped  
Roof Assembly