

REBUILDBYDESIGN

MEADOWLANDS

**RIVERFRONT PARK DESIGN WORKSHOP**

JANUARY 23, 2020

# WELCOME / INTRODUCTIONS

Linda Fisher, NJDEP

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**Project Team  
Manager,  
Bureau of Climate  
Resilience Design  
& Engineering**



**REBUILD BY DESIGN MEADOWLANDS**

**Riverfront Park Design Workshop// January 23, 2020**





- **Welcome + Introduction**
- **Project History and Build Plan**
- **Design + Construction Schedule**
- **Design Phase Project Overview**
- **Riverfront Park Workshop Breakout Session**



# INTRODUCTIONS

Chris Benosky, AECOM

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Presenter

**CHRISTOPHER BENOSKY,**  
Project Executive, AECOM



Presenter

**DAVE BLAIR**  
Project Manager, AECOM



Presenter

**ANNA HOCHHALTER**  
Landscape Architect, AECOM



**STEVE BIUSO**  
Design Manager,  
AECOM



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Associate Principal,  
Landscape Architecture  
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**HOGAN EDELBERG**  
Landscape Architect,  
AECOM



**SARAH BOLIVAR**  
Landscape  
Designer, AECOM



**LAUREN SHOATS**  
Landscape Designer,  
AECOM

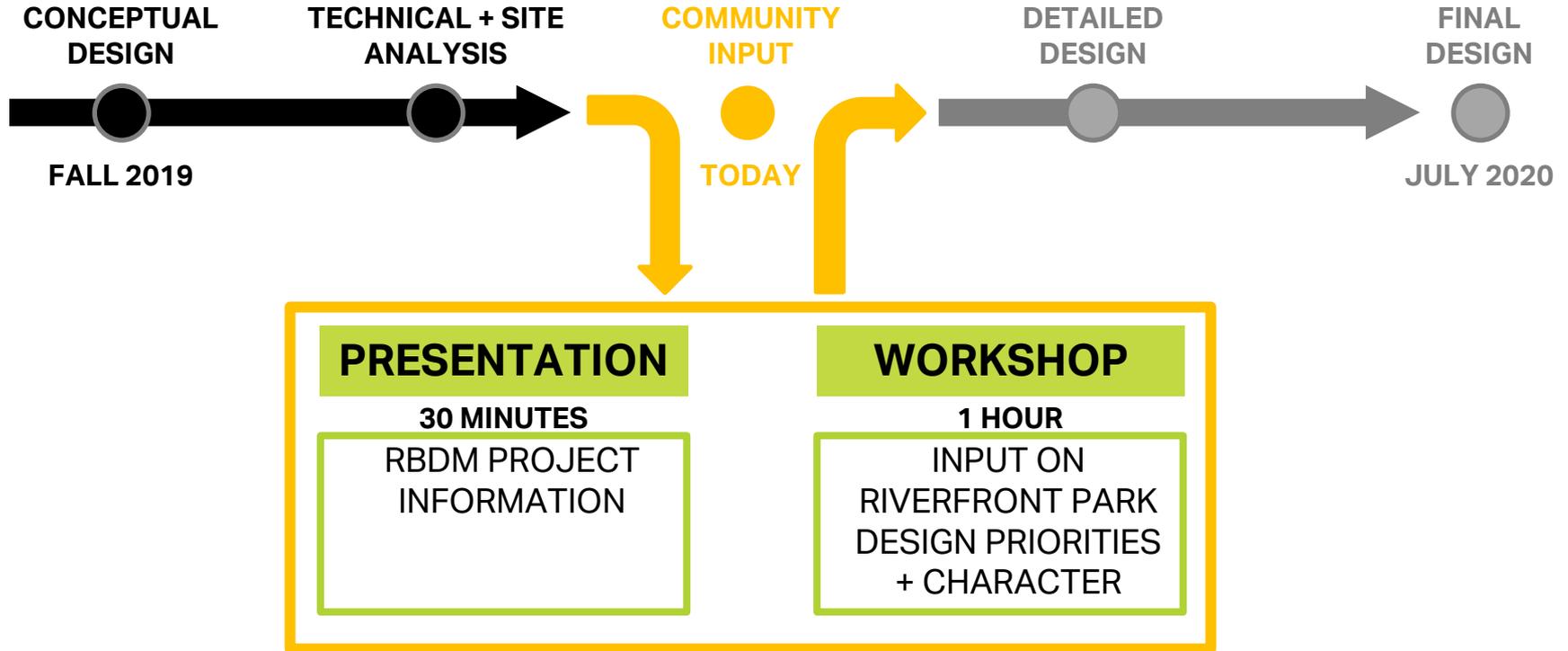


REBUILD BY DESIGN MEADOWLANDS

Riverfront Park Design Workshop// January 23, 2020 **AECOM**

# TONIGHT'S DESIGN WORKSHOP

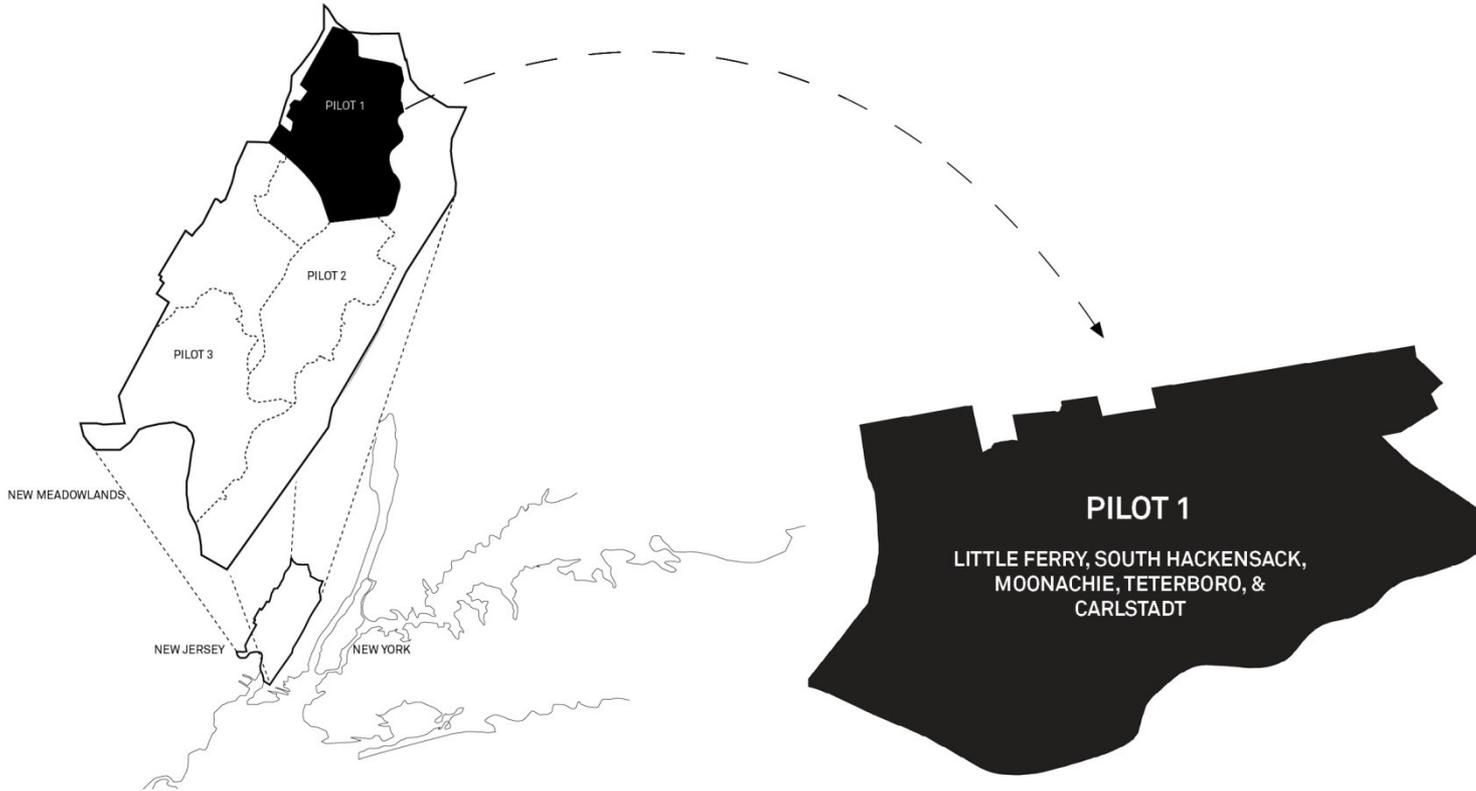
## AN IMPORTANT PART IN THE DESIGN PROCESS



# **PROJECT HISTORY + BUILD PLAN**

**CHRIS BENOSKY, AECOM**

# REBUILD BY DESIGN COMPETITION & AWARD



- HUD awarded State of New Jersey **\$150M for Phase 1 Pilot Area only**
- Project must be functional and **completed by September 2022**



**Address flood risk**

**Increase resiliency** of the communities and ecosystems

**Reduce impacts** to critical infrastructure, residences, businesses,  
and ecological resources

**Protect** life, public health, and property

Increase **community resiliency**

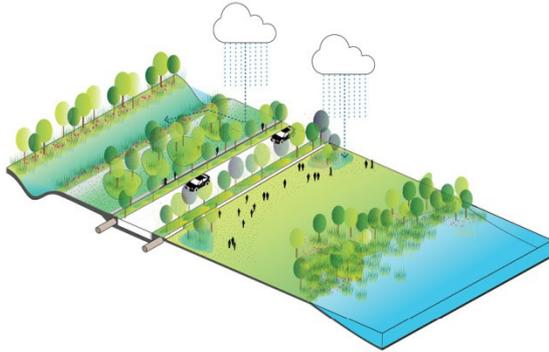
**Enhance water quality** and protect ecological resources

Address systemic **inland flooding & coastal flooding**  
from storm surges

Integrate flood hazard risk reduction strategies with **civic, cultural, & recreational benefits**

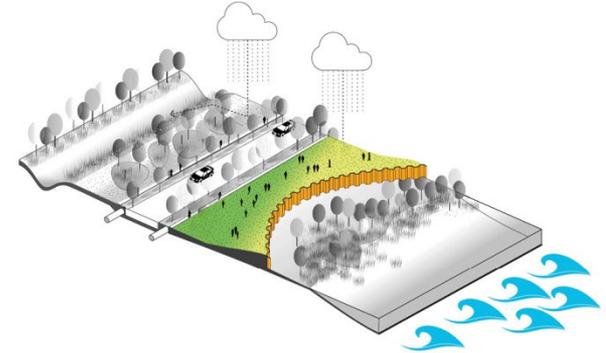
# ALTERNATIVE 3 HYBRID - THE BUILD & FUTURE PLAN

## PREFERRED ALTERNATIVE



**Build Plan**

The *Build Plan* represents a feasible project that can be **constructed by 2022**. Components include flood reduction strategies to address frequent rain flooding



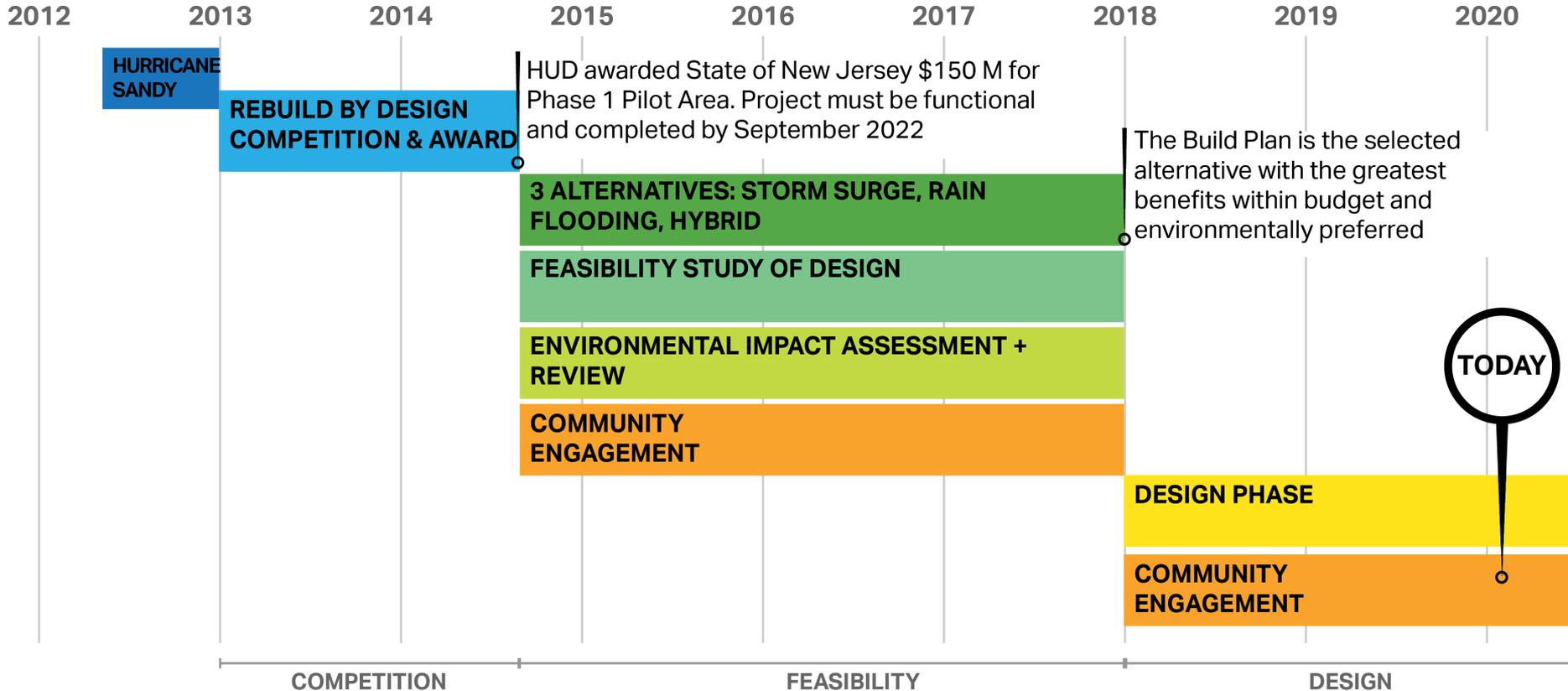
**Future Plan**

Components that were not selected for the *Build Plan* became elements of a *Future Plan*. These elements could **be implemented** by others **over time** as new funding sources become available



# THE FEASIBILITY + NEPA PROCESS

## EXTENSIVE ALTERNATIVE ANALYSIS FOR IMPROVED RESILIENCE



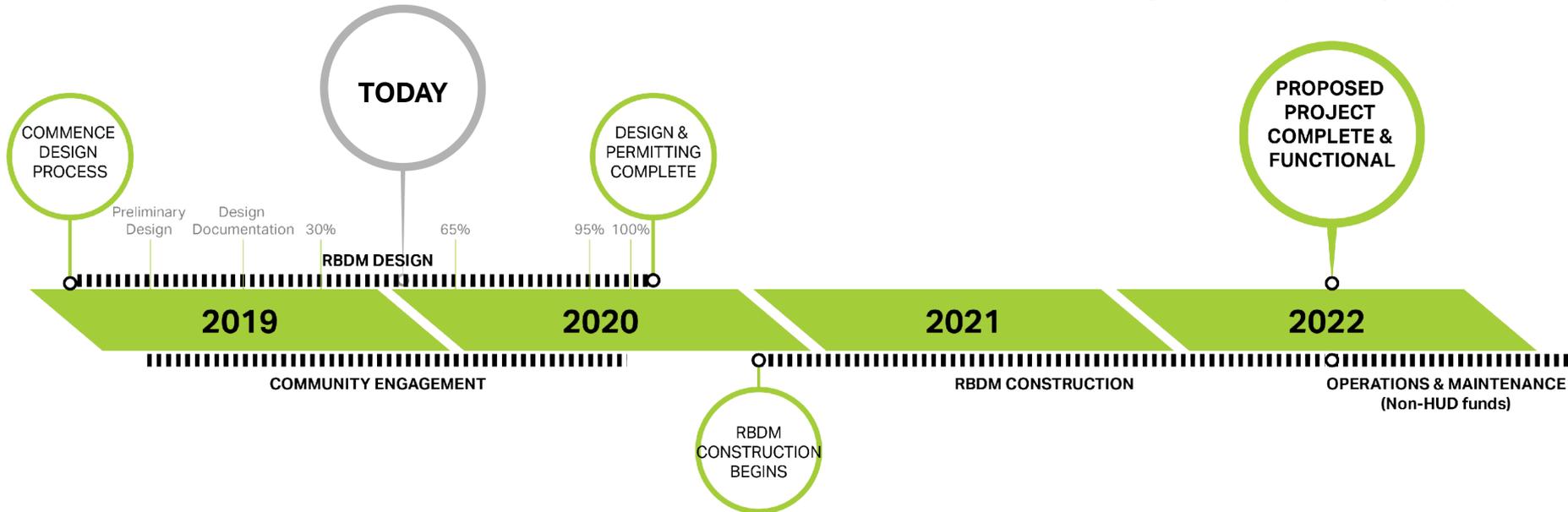
# **DESIGN + CONSTRUCTION SCHEDULE**

**DAVE BLAIR, AECOM**

# DESIGN + CONSTRUCTION SCHEDULE

## Key Dates

- 100% Design in July 2020
- Construction begins Winter 2020
- Project Complete by Sept. 2022



\* RBDM Construction begins in multiple locations in the project area

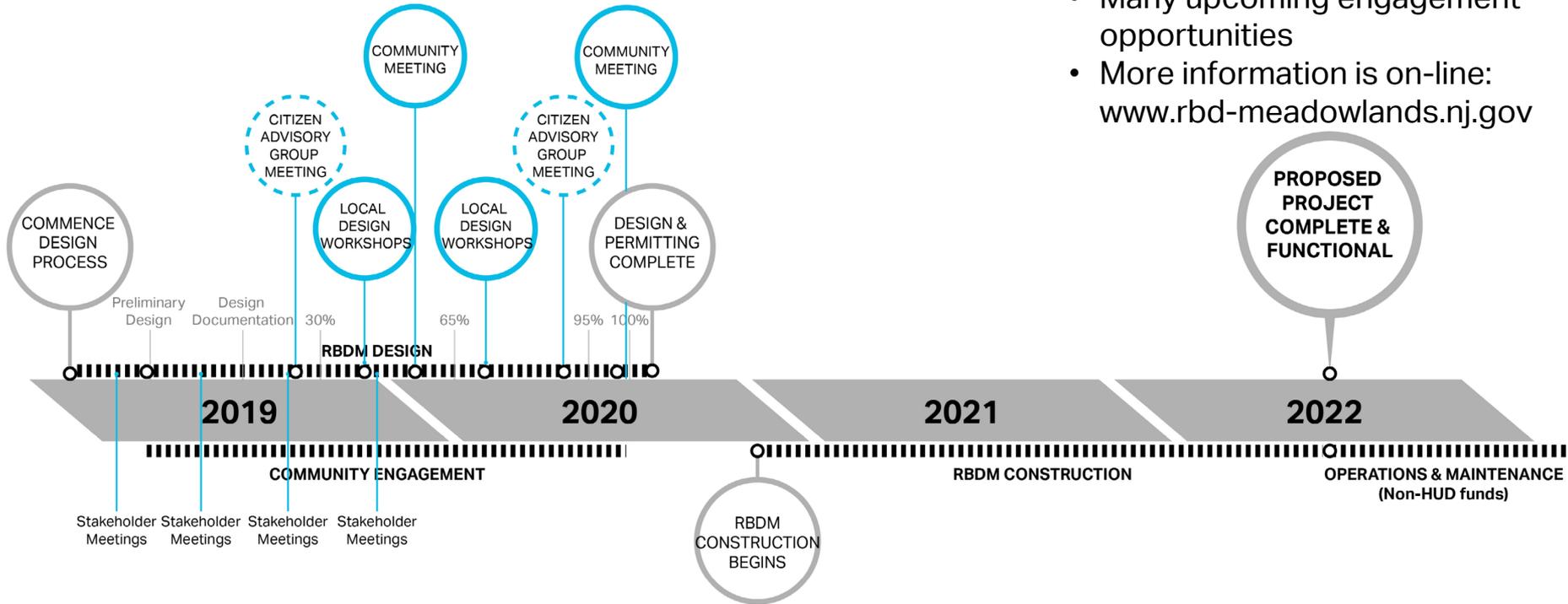


# COMMUNITY ENGAGEMENT SCHEDULE

## ENCOURAGE THE COMMUNITY TO PARTICIPATE

### Key Dates

- Many upcoming engagement opportunities
- More information is on-line: [www.rbd-meadowlands.nj.gov](http://www.rbd-meadowlands.nj.gov)

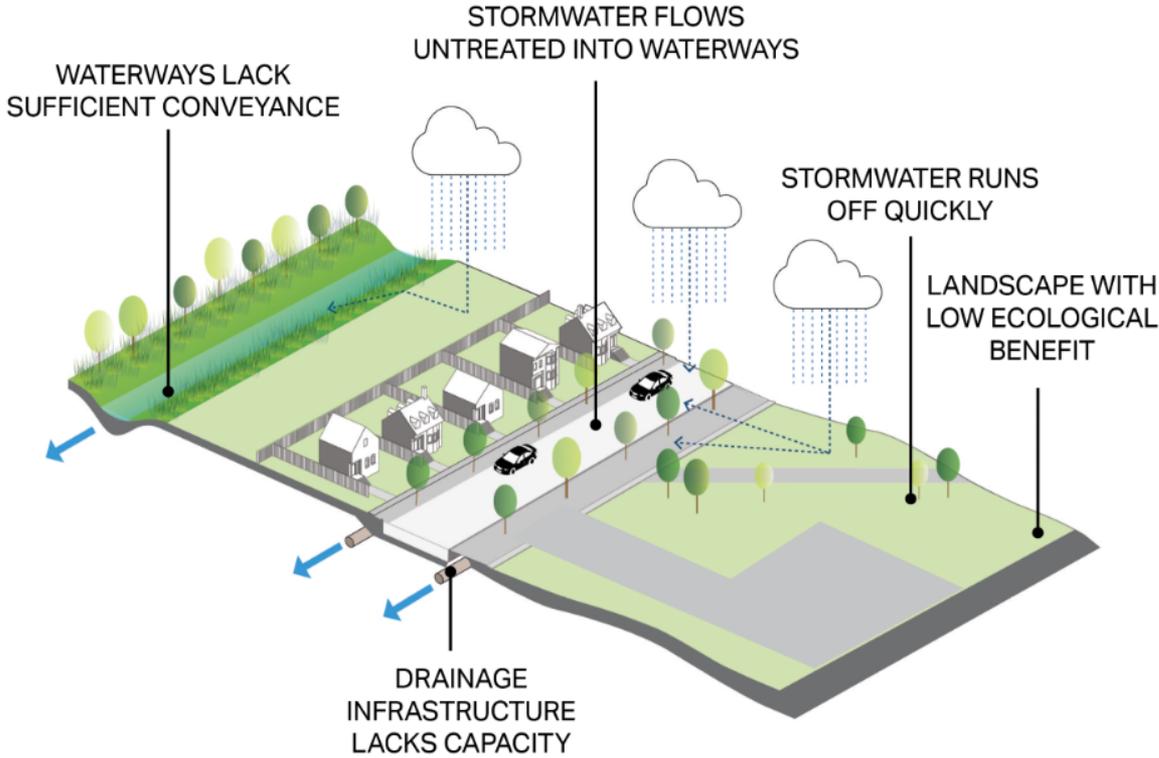


# **DESIGN PHASE PROJECT OVERVIEW**

**ANNA HOCHHALTER, AECOM**

# DESIGNING FOR FREQUENT RAIN FLOODING

## FLOOD RISK + EXISTING CONDITIONS CHALLENGES



### Major Challenges

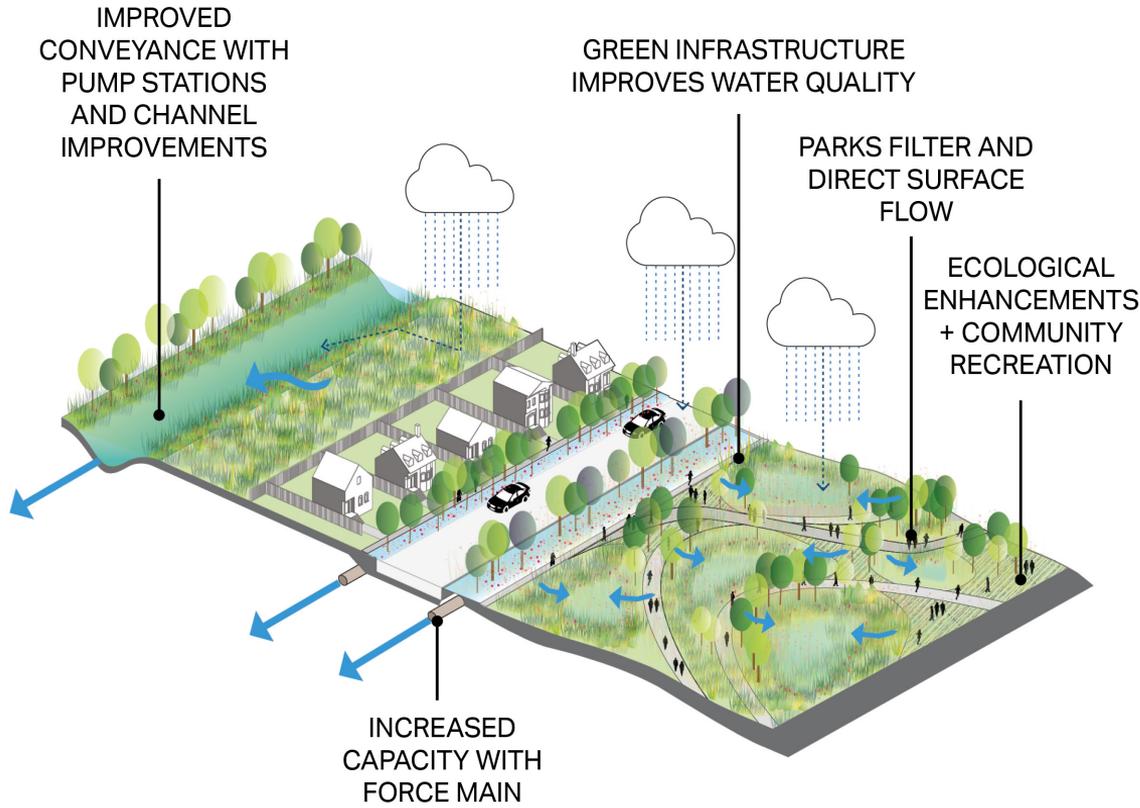
- Over-burdened infrastructure
- Lack of drainage capacity
- Low-lying elevations with minimal grade changes
- Densely developed area
- Stormwater runoff carries pollutants into waterways

DIAGRAMS NOT TO SCALE



# PROJECT DESIGN APPROACH + GOALS

## FLOOD RISK REDUCTION + CO-BENEFITS



### + INFRASTRUCTURE

Primary flood risk reduction achieved through grey infrastructure

### + LANDSCAPE + PUBLIC REALM IMPROVEMENTS

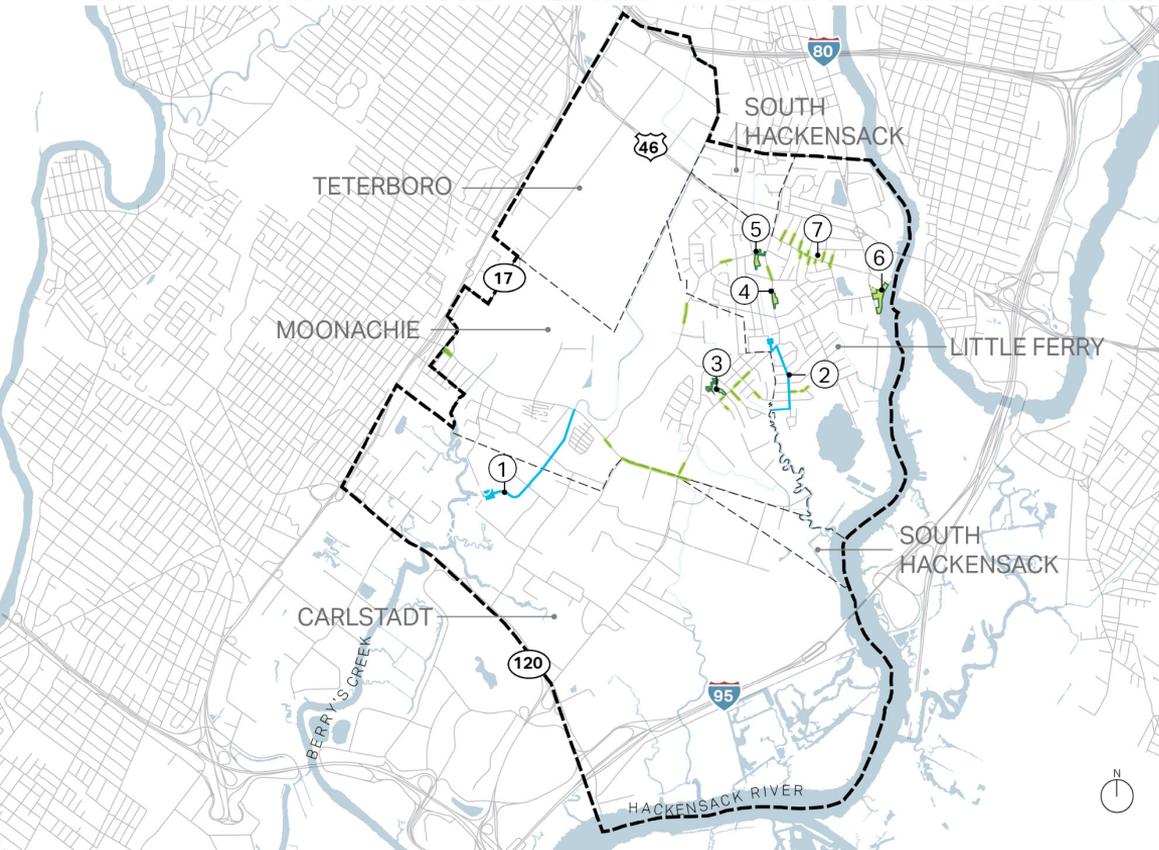
Landscape improvements to provide additional water quality + parks + open space improvements

DIAGRAMS NOT TO SCALE



# PROJECT FEATURES

## INFRASTRUCTURE + LANDSCAPE / PUBLIC REALM



### + INFRASTRUCTURE

- ① East Riser Channel Improvements + Pump Station
- ② Losen Slote Force Main + Pump Station

### + LANDSCAPE / PUBLIC REALM

- ③ Joseph St. Park
- ④ Memorial Middle School
- ⑤ Little Ferry Library + Municipal Bldg
- ⑥ New Riverfront Park
- ⑦ Streetside Green Infrastructure

DIAGRAMS NOT TO SCALE



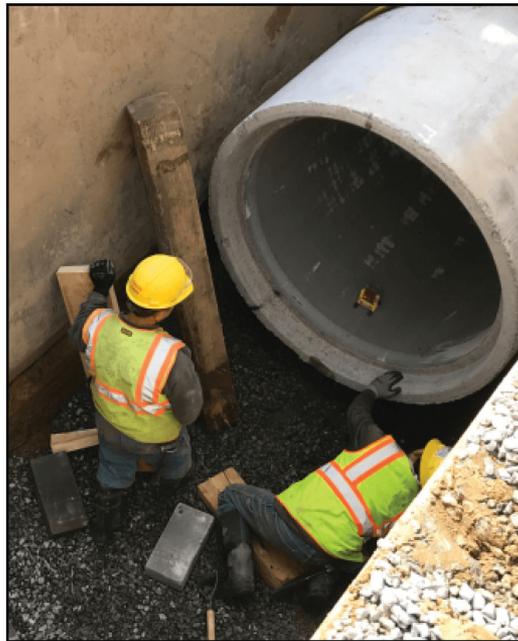
# PROPOSED PROJECT FEATURES

## PUMP STATIONS + STORMWATER FORCE MAIN + CHANNEL IMPROVEMENTS



**Pump Stations**

Provide additional force to stormwater conveyance



**Stormwater Force Main**

Increases capacity for conveyance



**Channel Improvements**

Dredging + widening to improve conveyance

# PROPOSED PROJECT FEATURES

## LANDSCAPE INFRASTRUCTURE + OPEN SPACE DESIGN



### Native Planting

Planting native species improves ecological biodiversity and improves rain water uptake

### Green Infrastructure

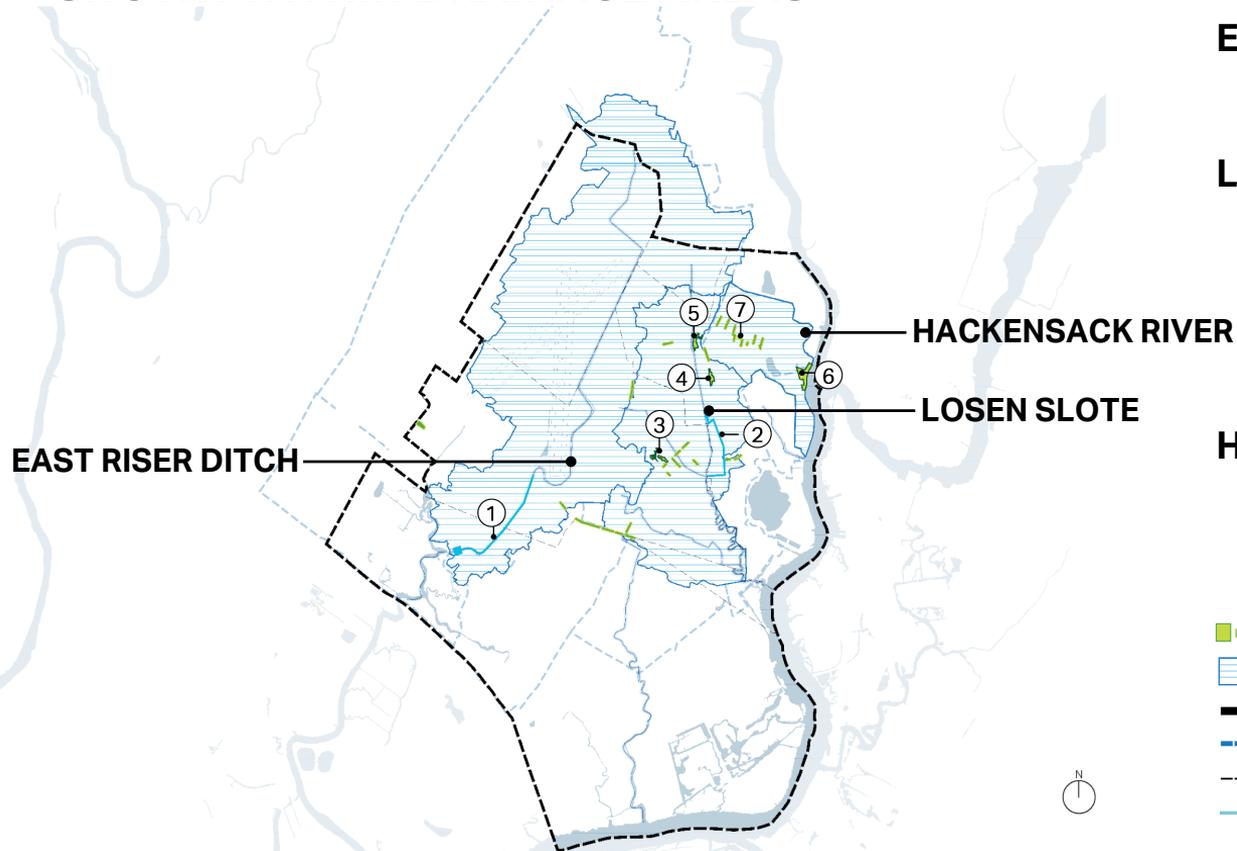
Methods of filtering and slowing stormwater to improve water quality + reduce burden on drainage system

### Improved or New Parks

Designing ecological, community + recreational benefits



# PROJECT IMPROVEMENTS SHOWN WITHIN DRAINAGE AREAS



# LOSEN SLOTE COMMUNITY + ECOLOGICAL BENEFITS

## MEMORIAL MIDDLE SCHOOL



**MEMORIAL MIDDLE SCHOOL**



# LOSEN SLOTE COMMUNITY + ECOLOGICAL BENEFITS

## MEMORIAL MIDDLE SCHOOL CONCEPT

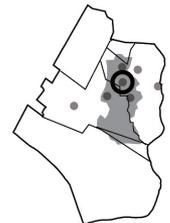


### Existing Conditions

- School yard
- Memorial
- Existing trees
- Lawn

### Proposed Project Improvements

- Existing trees and memorial to remain
- Native planting
- Learning gardens
- Green infrastructure



# LOSEN SLOTE COMMUNITY + ECOLOGICAL BENEFITS

## LITTLE FERRY LIBRARY



# LOSEN SLOTE COMMUNITY + ECOLOGICAL BENEFITS

## LITTLE FERRY LIBRARY CONCEPT



### Existing Site

- Public Library
- Asphalt parking
- Ornamental shrubs

### Proposed Project Improvements

- Native planting
- Green infrastructure
- Permeable paving



# LOSEN SLOTE COMMUNITY + ECOLOGICAL BENEFITS

## LITTLE FERRY MUNICIPAL BUILDING

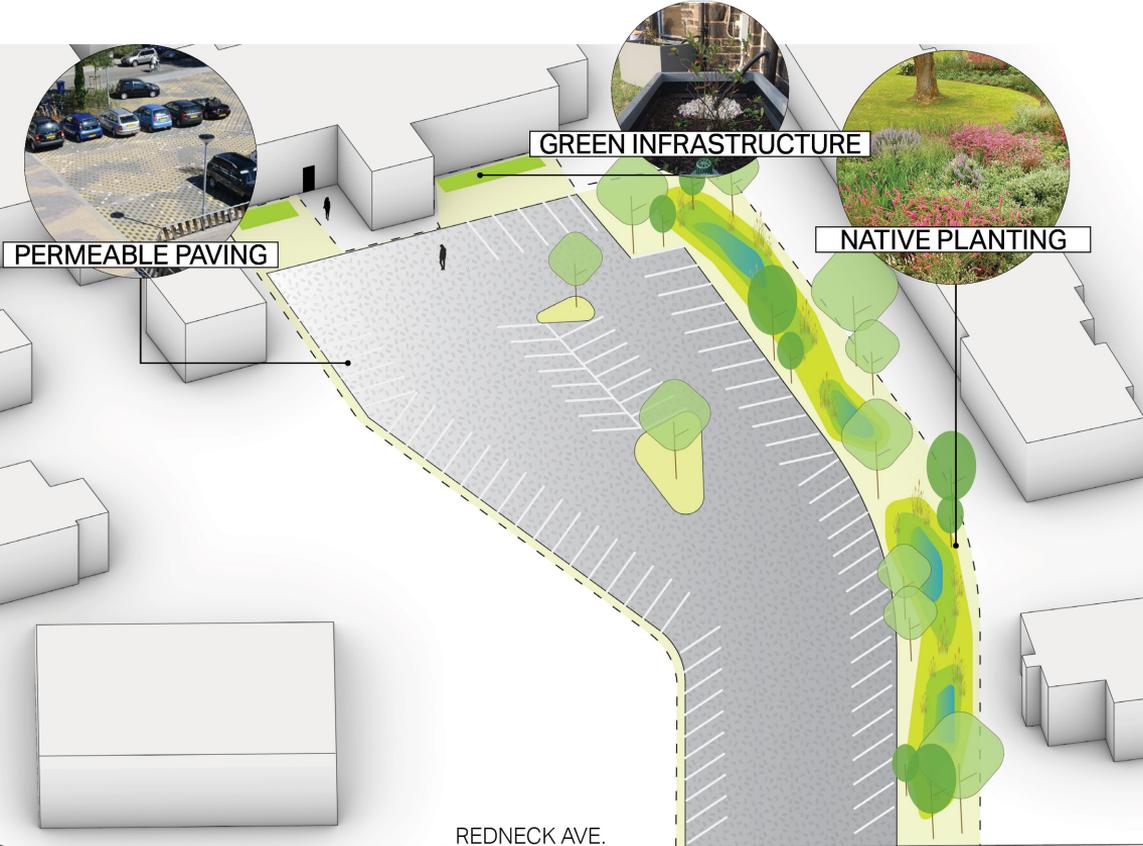


LITTLE FERRY MUNICIPAL BUILDING



# LOSEN SLOTE COMMUNITY + ECOLOGICAL BENEFITS

## LITTLE FERRY MUNICIPAL BUILDING

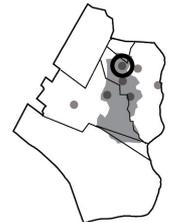


### Existing Site

- Borough Hall and Police Department
- Asphalt parking
- Parking landscape islands

### Proposed Project Improvements

- Native planting
- Green infrastructure
- Permeable paving



# LOSEN SLOTE COMMUNITY + ECOLOGICAL BENEFITS

## JOSEPH ST. PARK



**JOSEPH ST PARK**



# LOSEN SLOTE COMMUNITY + ECOLOGICAL BENEFITS

## JOSEPH ST. PARK CONCEPT

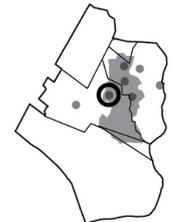


### Existing Site

- Civic Center + Senior Center
- Sports courts
- Playground equipment
- Pavilion

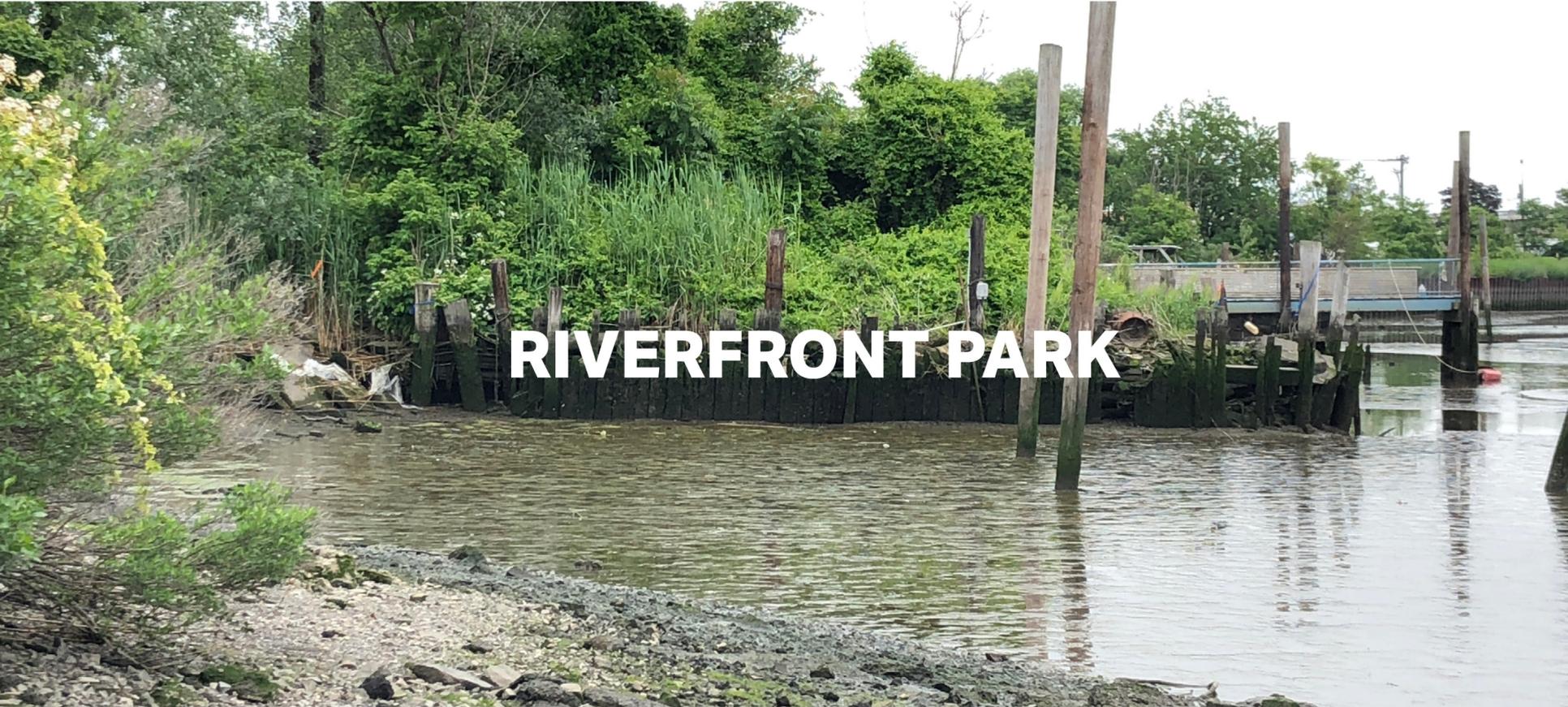
### Proposed Project Improvements

- Native planting
- Green infrastructure
- Permeable paving



# HACKENSACK RIVER COMMUNITY BENEFITS

## COMMUNITY + ECOLOGICAL BENEFITS



**RIVERFRONT PARK**

# HACKENSACK RIVER COMMUNITY BENEFITS

## RIVERFRONT PARK CONCEPT

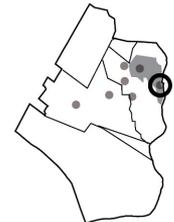


### Existing Site

- Private waterfront
- Private boat access + storage
- Church development in-progress

### Proposed Project Improvements

- New Park (park boundary currently under consideration)
- Ecological enhancement
- Public waterfront access



# PROJECT-WIDE COMMUNITY + ECOLOGICAL BENEFITS

## STREETSIDE GREEN INFRASTRUCTURE

32

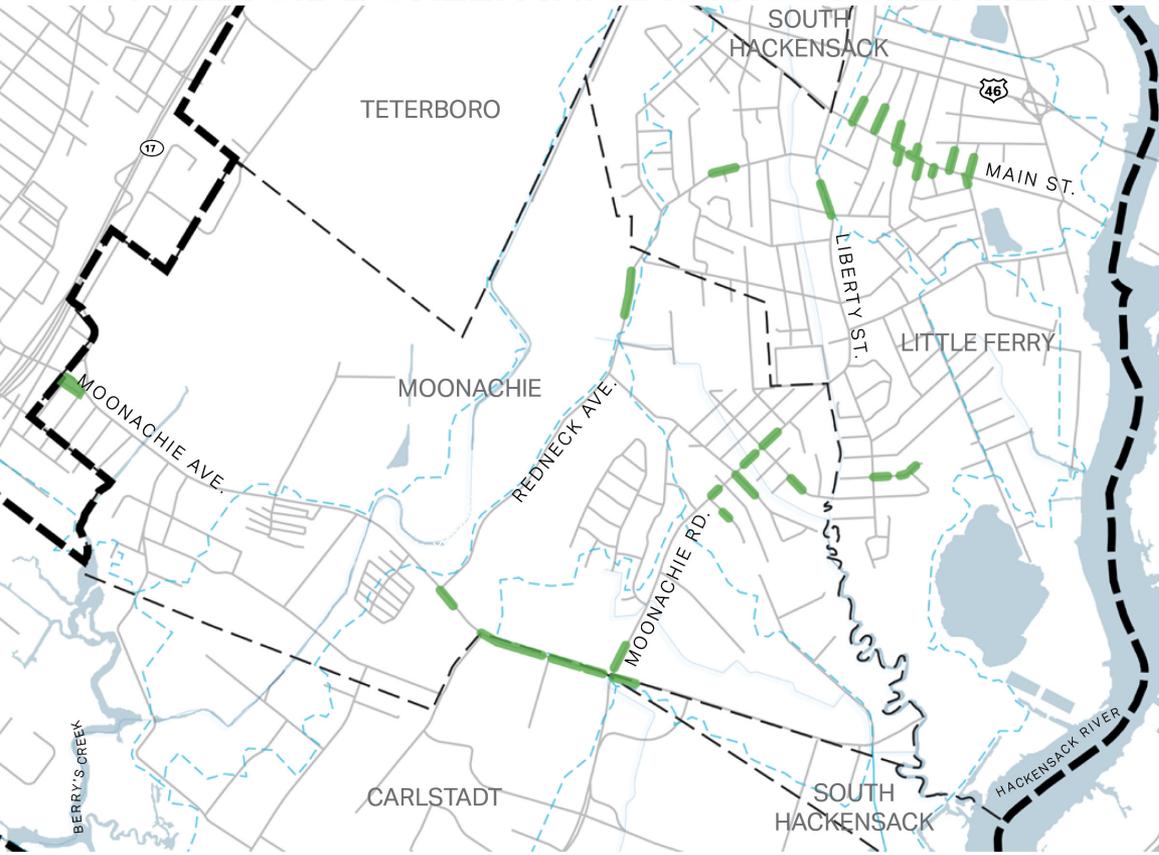


**STREETSIDE GREEN FEATURES**



# PROJECT-WIDE COMMUNITY + ECOLOGICAL BENEFITS

## STREETSIDE GREEN INFRASTRUCTURE AREA OF IMPROVEMENTS



### Improvements being considered

- 32 systems being assessed
- Filtering 4.7 acres of roadway runoff
- Designed to capture stormwater and then slowly release into grey infrastructure, reducing peak flow in the storm sewer mains
- Located within public right-of-way
- Native soils have poor infiltration capacity and high groundwater limits application in some areas

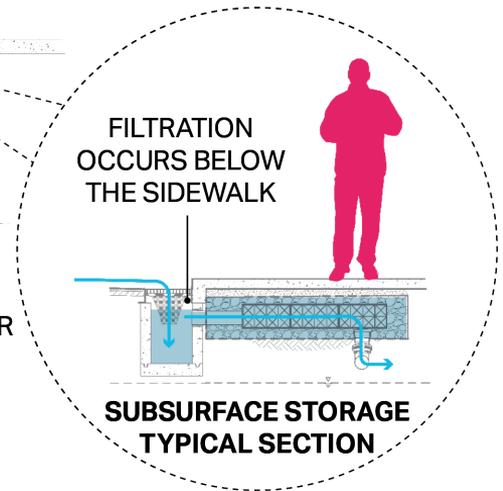
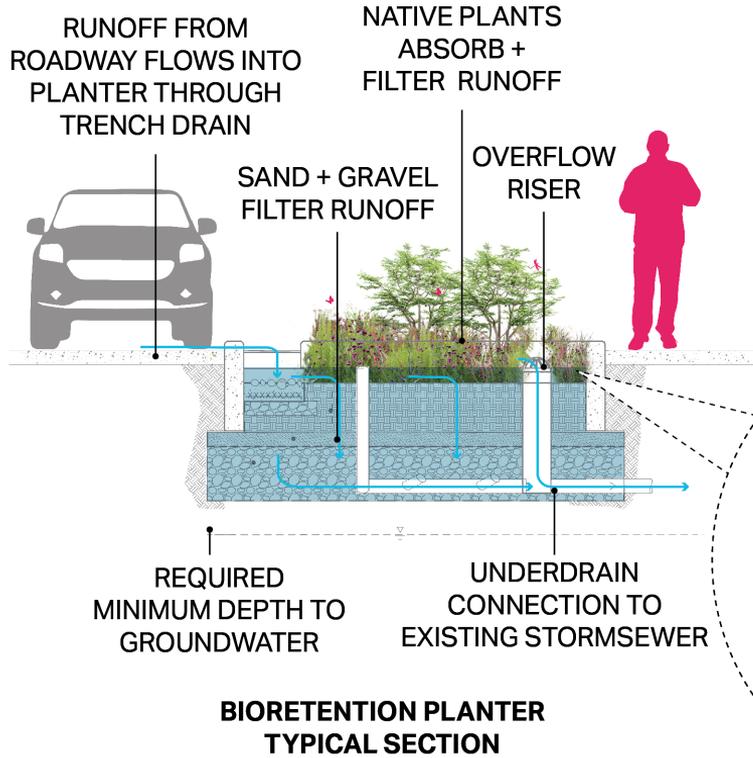


DIAGRAMS NOT TO SCALE



# PROJECT-WIDE COMMUNITY + ECOLOGICAL BENEFITS

## STREETSIDE GREEN INFRASTRUCTURE TYPICAL SECTIONS



### Improvements being considered

- Treats smaller, more frequent storms
- 5 primary types:
  - Bioretention basins\*
  - Bioretention planters\*
  - Grass swales
  - Storage Trenches
  - Tree Trenches
- Some types include vegetation or trees, while others are below the surface.

\*Non-standard designs being considered where shallow groundwater is present. Final designs are not yet confirmed.

DIAGRAMS NOT TO SCALE



## Critical Information

### Project Website

[www.rbd-meadowlands.nj.gov](http://www.rbd-meadowlands.nj.gov)

### Project Email

[rbd-meadowlands@dep.nj.gov](mailto:rbd-meadowlands@dep.nj.gov)

## Question & Answer During Workshop

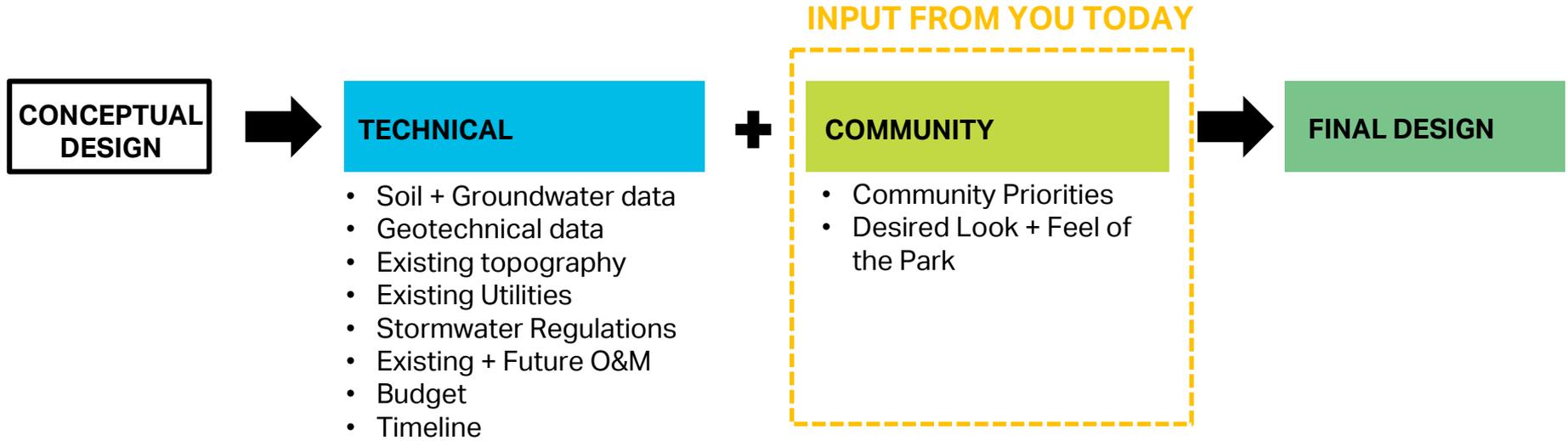


# **WORKSHOP BREAKOUT SESSION**

**ANNA HOCHHALTER, AECOM**

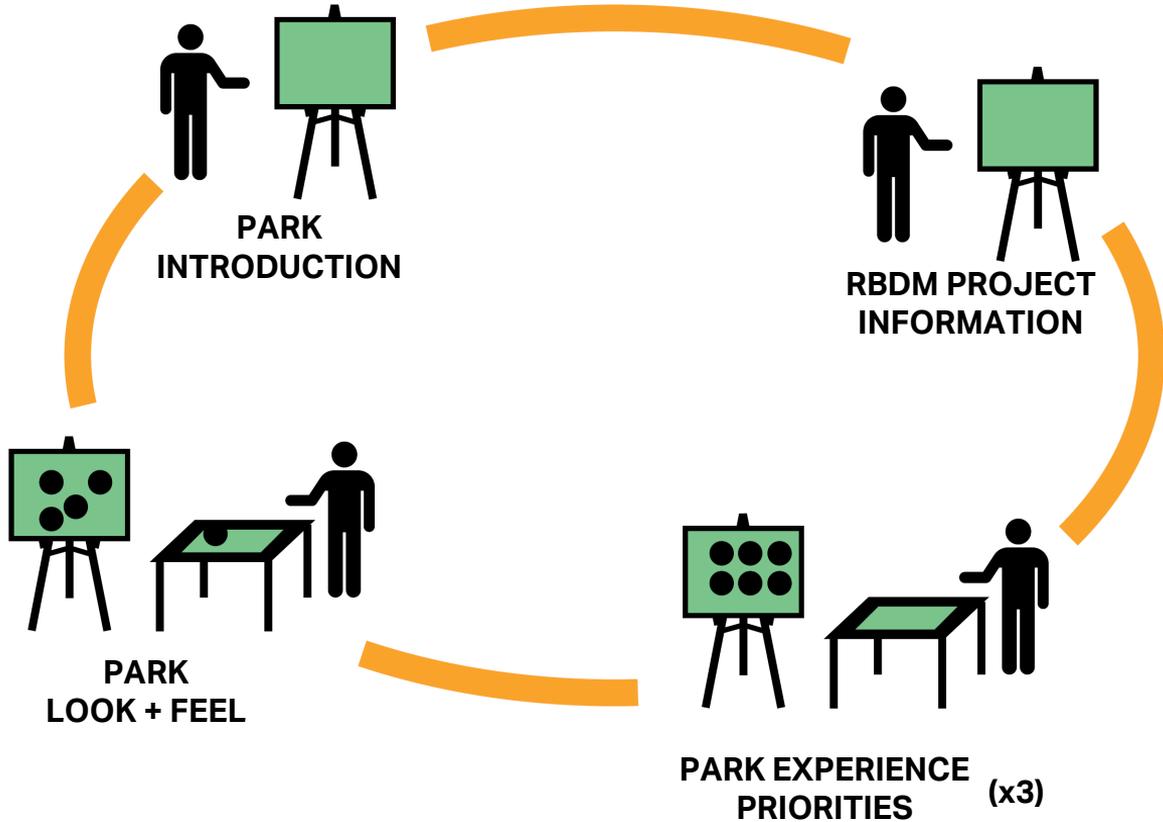
# DESIGN DRIVERS FOR RIVERFRONT PARK

## DESIGNING WITH MAINTENANCE IN MIND



# RIVERFRONT DESIGN WORKSHOP

## 4 STATIONS



### Goals

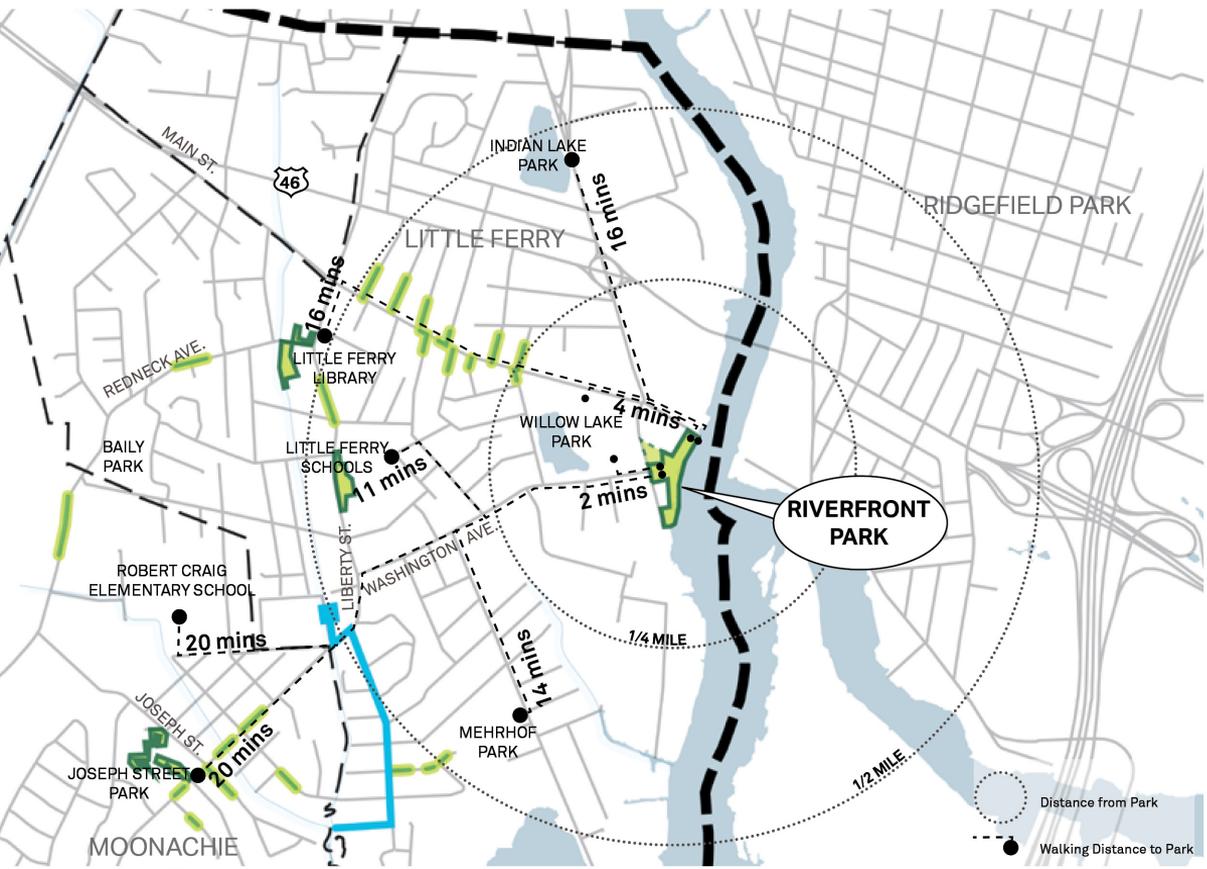
- To provide design input on Riverfront Park
- To discuss with the Design Team
- To learn about the RBDM project

### Format

- Open Workshop Session (1 hour)



# RIVERFRONT PARK: COMMUNITY CONTEXT



## Riverfront Park

- Located on the Hackensack River
- Located near Little Ferry and Moonachie Schools, Library, and community facilities



# RIVERFRONT PARK: EXISTING CONDITIONS



**Mudflats and Tidal Wetland**



**Timber Bulkhead + Sheet Pile Shoreline**



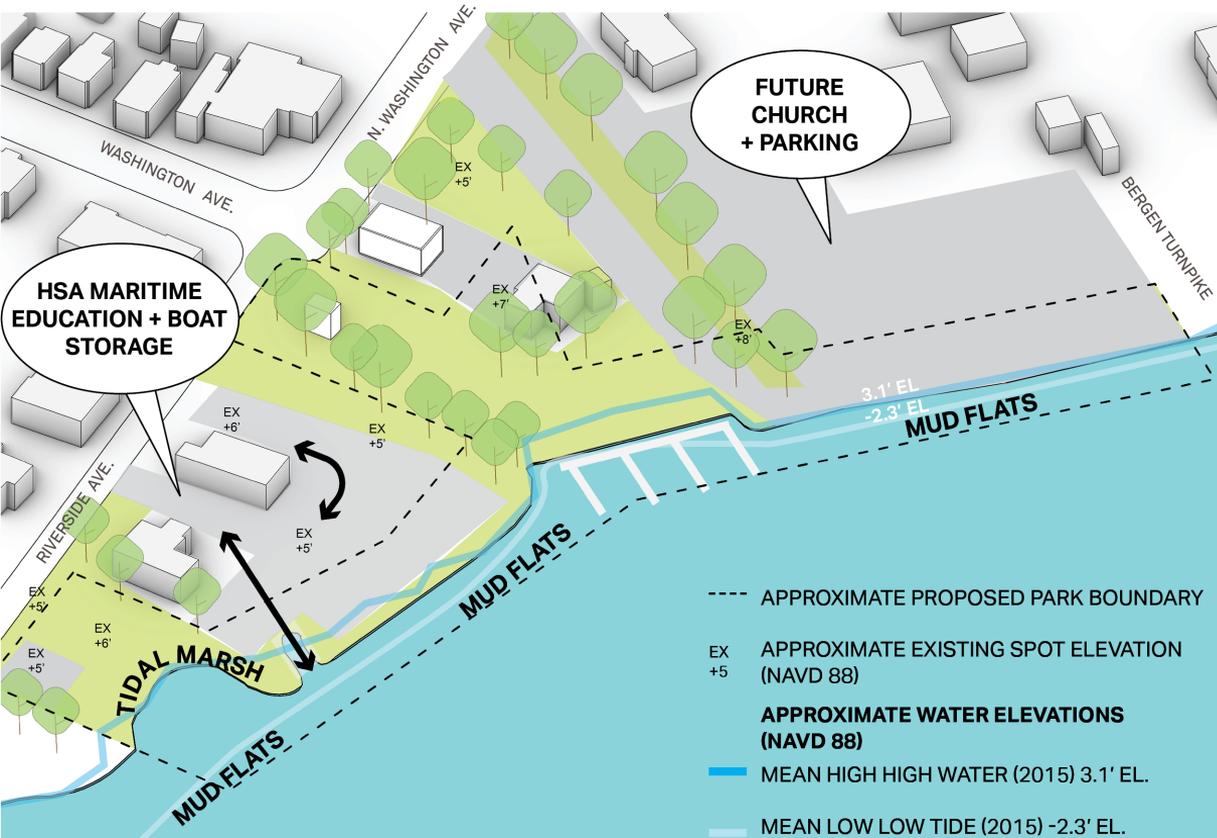
**HSA Maritime Education + Boat Launch**



**Site Impervious Surface**



# RIVERFRONT PARK: EXISTING CONDITIONS



## Key Conditions

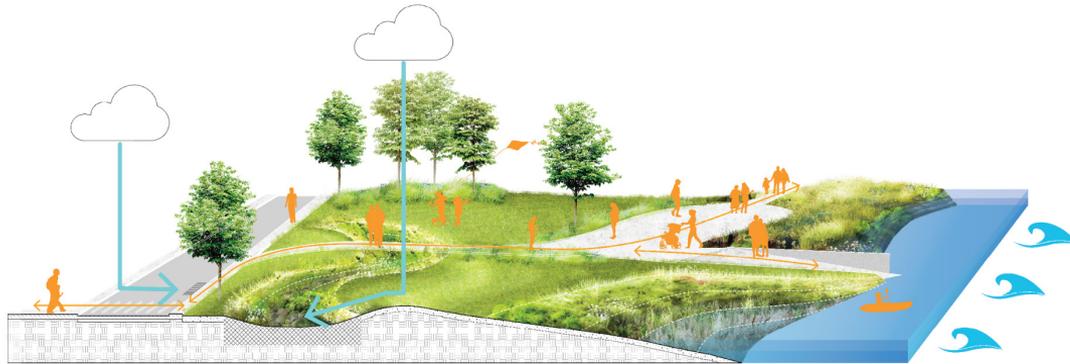
- Timber and sheet pile bulkheads
- Existing Tidal Marsh and mudflats
- Holy Spirit Association (HSA) Maritime Education
- Future Dongsan Alliance Church Building and Parking



# RIVERFRONT PARK: DESIGN PRINCIPLES

## A NEW PUBLIC WATERFRONT PARK

### Design Principles



Waterfront Access



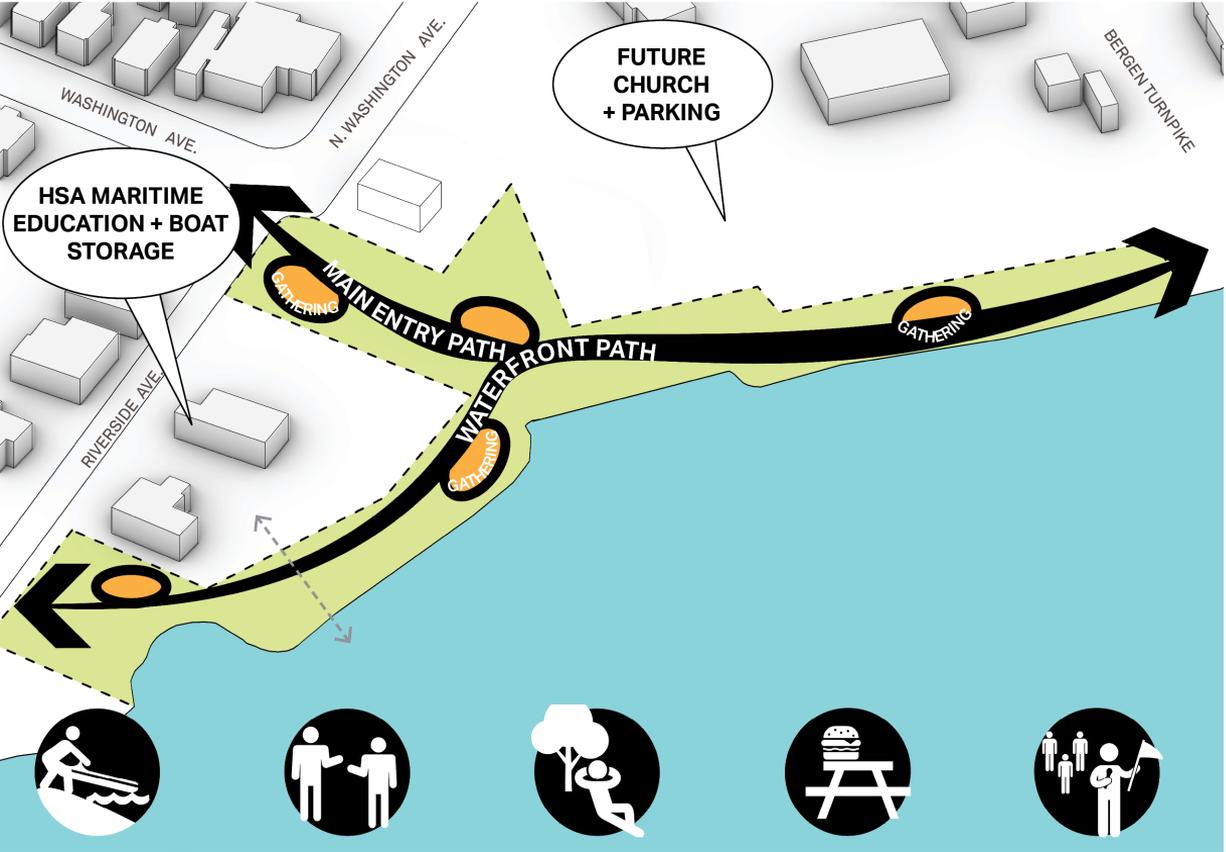
Ecological Enhancement



Water Management

# RIVERFRONT PARK: DESIGN CONCEPT

## WATERFRONT ACCESS



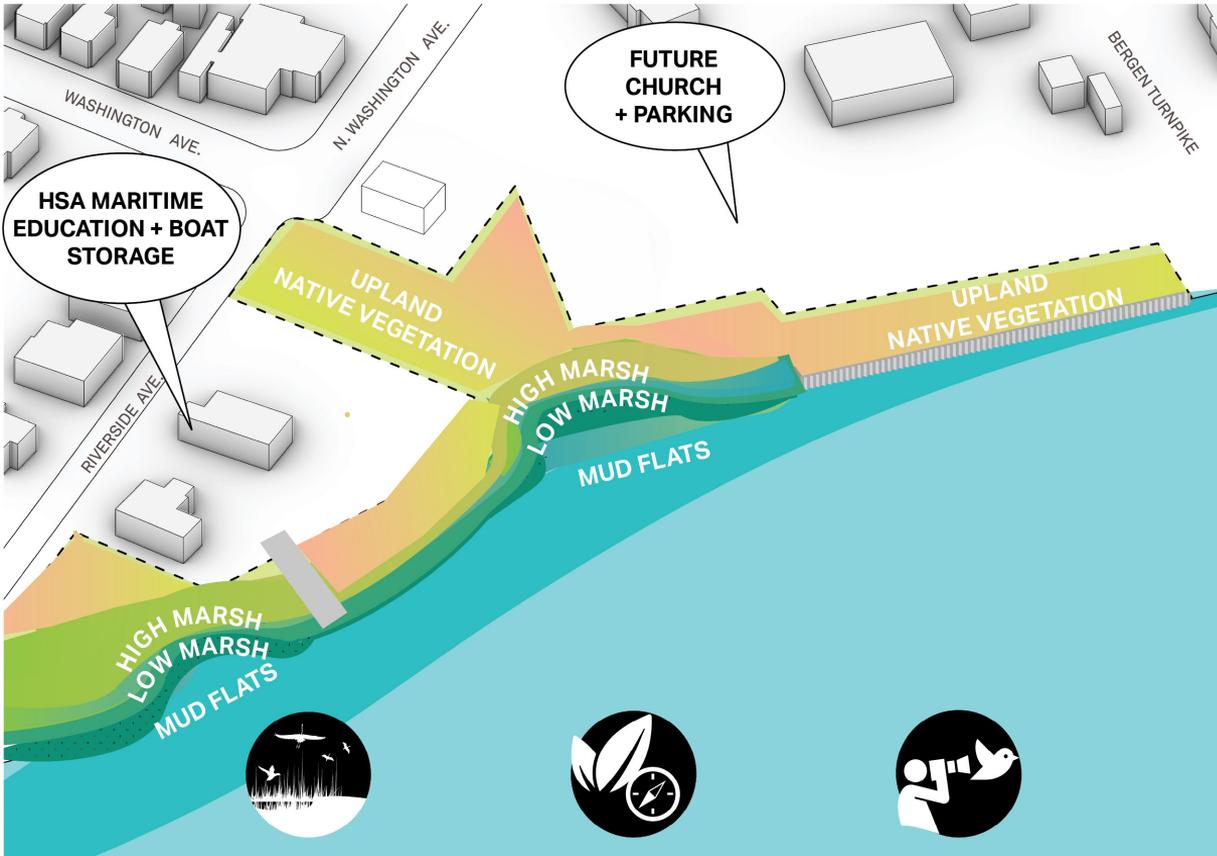
### Park Performance Being Considered

- Access from Washington Ave, Riverside Ave, Bergen Turnpike
- Waterfront Pathway
- Public kayak access
- Private boat launch and operations maintained
- Gathering Areas
- Picnic Areas



# RIVERFRONT PARK: DESIGN CONCEPT

## ECOLOGICAL ENHANCEMENT



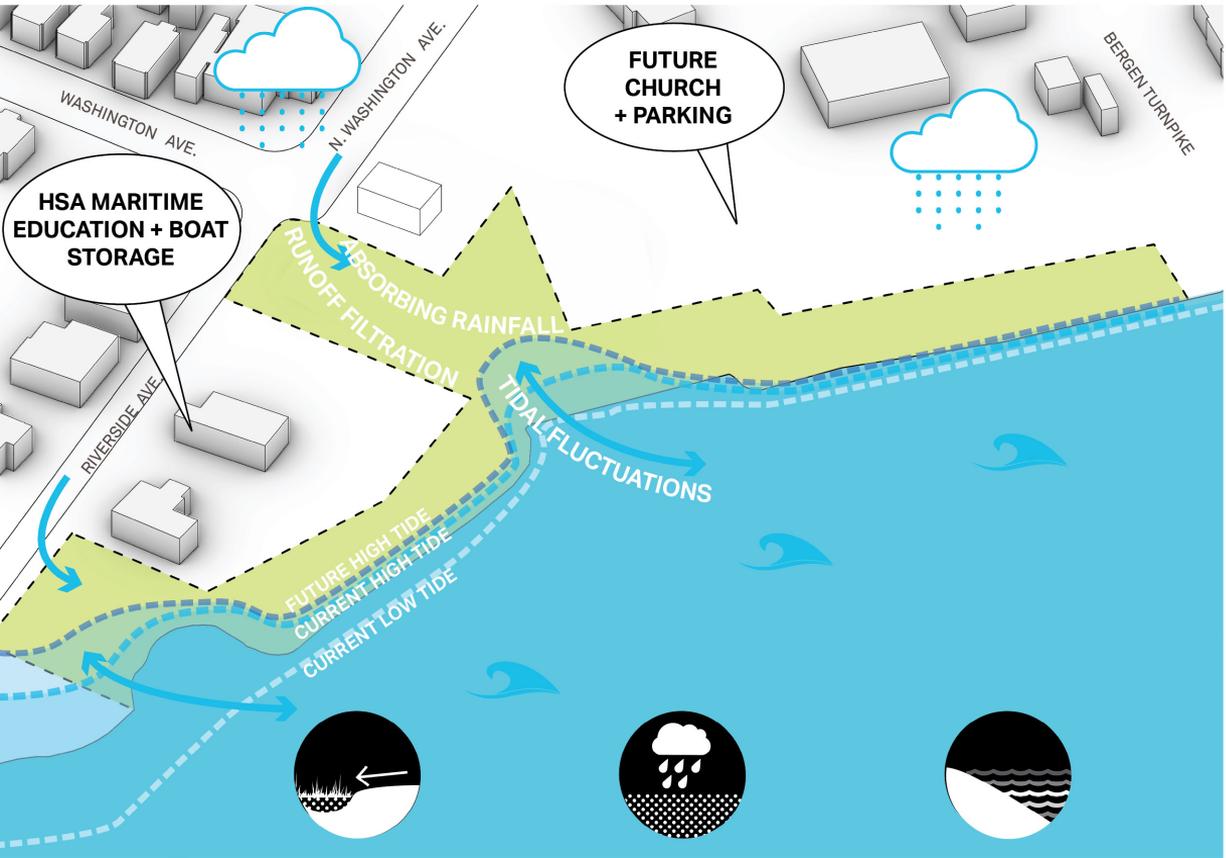
### Park Performance Being Considered

- Shoreline Restoration
- Living Shoreline
- Mudflats
- Intertidal Marsh
- Transitional Vegetation
- Upland Native Planting



# RIVERFRONT PARK: DESIGN CONCEPT

## WATER MANAGEMENT



### Park Performance Being Considered

- Designing for fluctuating tides
- Designing for 2075 Mean High-High Water (MHHW)



# RIVERFRONT PARK: LOOK + FEEL

## LET THE DESIGN TEAM KNOW YOUR VISUAL PREFERENCES

**PLANTING**



**PAVING**



**SCREENING**



**FURNISHINGS**



# RIVERFRONT PARK: EXPERIENCES

## LET THE DESIGN TEAM KNOW YOUR PRIORITIES



**TYPE OF PARK CHARACTER**

**SIZE OF TIDAL MARSH**

**FUNCTION OF GATHERING SPACE**

**SIZE + TYPE OF KAYAK LAUNCH**

**PROXIMITY OF KAYAK LAUNCH TO PARKING**



# RIVERFRONT PARK: EXPERIENCES

## LET THE DESIGN TEAM KNOW YOUR PRIORITIES

A

### NATURALISTIC EXPERIENCE



**NATURAL** PARK CHARACTER

**LARGEST** TIDAL MARSH

**SMALL INTIMATE** GATHERING

**FLOATING PIER** KAYAK LAUNCH

**KAYAK NEXT TO** PARKING

B

### SOCIAL EXPERIENCE



**URBAN** PARK CHARACTER

**SMALLEST** TIDAL MARSH

**LARGE EVENT** GATHERING

**WIDE RAMP** KAYAK LAUNCH

**KAYAK NEXT TO** PARKING

C

### HYBRID EXPERIENCE



**NATURAL/URBAN** PARK CHARACTER

**MEDIUM SIZE** TIDAL MARSH

**SMALL OPEN** GATHERING

**NARROW RAMP** KAYAK LAUNCH

**KAYAK 2 MINS** TO PARKING



# RIVERFRONT PARK: EXPERIENCES

## LET THE DESIGN TEAM KNOW YOUR PRIORITIES



Naturalistic Experience with:

**NATURAL** PARK CHARACTER

**LARGEST** TIDAL MARSH

**SMALL INTIMATE** GATHERING

**FLOATING PIER** KAYAK LAUNCH

**KAYAK NEXT TO** PARKING

# RIVERFRONT PARK: EXPERIENCES

## LET THE DESIGN TEAM KNOW YOUR PRIORITIES



**Social Experience with:**

**URBAN** PARK CHARACTER

**SMALLEST** TIDAL MARSH

**LARGE EVENT** GATHERING

**WIDE RAMP** KAYAK LAUNCH

**KAYAK NEXT TO** PARKING



# RIVERFRONT PARK: EXPERIENCES

## LET THE DESIGN TEAM KNOW YOUR PRIORITIES



**Social/Naturalistic Experience with:**

**NATURAL/URBAN** PARK CHARACTER

**MEDIUM SIZE** TIDAL MARSH

**SMALL OPEN** GATHERING

**NARROW RAMP** KAYAK LAUNCH

**KAYAK 2 MINS TO** PARKING



# RIVERFRONT PARK: EXPERIENCE

## HOW TO SELECT YOUR PRIORITIES

A

### NATURALISTIC EXPERIENCE



B

### SOCIAL EXPERIENCE



C

### HYBRID EXPERIENCE



- NATURAL PARK CHARACTER
- LARGEST TIDAL MARSH

**SMALL INTIMATE** GATHERING

**FLOATING PIER** KAYAK LAUNCH

**KAYAK NEXT TO** PARKING

**URBAN** PARK CHARACTER

**SMALLEST** TIDAL MARSH

**LARGE EVENT** GATHERING

**WIDE RAMP** KAYAK LAUNCH

**KAYAK NEXT TO** PARKING

**NATURAL/URBAN** PARK CHARACTER

**MEDIUM SIZE** TIDAL MARSH

**SMALL OPEN** GATHERING

**NARROW RAMP** KAYAK LAUNCH

**KAYAK 2 MINS** TO PARKING



REBUILD BY DESIGN MEADOWLANDS

\*Example selections are shown. Participants will select their own priorities during the workshop.

Riverfront Park Design Workshop// January 23, 2020 **AECOM**

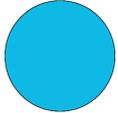
# WORKSHOP SESSION OVERVIEW

## RIVERFRONT PARK

## RBDM PROJECT

STATION

1



EXISTING  
CONDITIONS +  
DESIGN  
PRINCIPLES

STATION

2



PRIORITIES:  
NATURALISTIC  
EXPERIENCE

STATION

3



PRIORITIES:  
SOCIAL  
EXPERIENCE

STATION

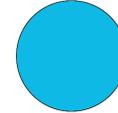
4



PRIORITIES:  
HYBRID  
EXPERIENCE

STATION

5



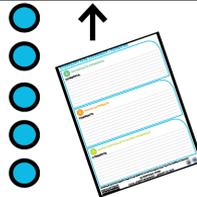
PARK MATERIALS  
CHARACTER  
PLANTING/  
PAVING +  
SCREENING/  
FURNISHINGS

STATION

6



PROJECT  
GREY + GREEN  
INFRASTRUCTURE



# **WORKSHOP SESSION**

