REBUILD BY DESIGN
- RESIST - DELAY - STORE - DISCHARGE -
HUDSON RIVER
Hoboken  Weehawken  Jersey City  |  New Jersey
CITIZEN ADVISORY GROUP - CONCEPT DEVELOPMENT
AGENDA

1. Introductions
2. Housekeeping
3. Project Status
4. Concept Development Background
   - Resist
   - Delay/Store/Discharge
5. Concept Review & Breakout Sessions
6. Q&A
7. Open House-Additional Concept Review
8. Wrap-up
## HOUSEKEEPING

- **CAG Communication Frameworks**

<table>
<thead>
<tr>
<th>Planned</th>
<th>Actual</th>
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<tr>
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<tr>
<td>1 DAY after CAG meeting:</td>
<td>Oct 30</td>
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<tr>
<td>• All material provided at meeting distributed</td>
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<tr>
<td>5 DAYS after CAG meeting:</td>
<td>Nov 5</td>
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<tr>
<td>• Distribution of meeting summary</td>
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<td>10 DAYS after CAG meeting:</td>
<td>Nov 12</td>
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<td>• CAG comments on meeting summary due</td>
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<td>2 Days prior to CAG meeting:</td>
<td>Nov 19</td>
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<tr>
<td>• Finalize meeting summary</td>
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<tr>
<td>• Provide agenda</td>
<td>Nov 19</td>
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<tr>
<td>• Other information regarding meeting content</td>
<td>Nov 19</td>
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PROJECT STATUS

we are here

RBD
Feasibility & NEPA Process
Final Design of Preferred Alternative
Construction
Project Closeout and Completion

1 YEAR 1.5 YEARS 2 YEARS 3.5 YEARS 3 MONTHS

June 2014 June 2015 Dec 2016 Record of Decision Dec 2018 June 2022 Sept 2022

Rebuild by Design Hudson River: Resist, Delay, Store, Discharge
Delay + Store, Discharge

Inner Hoboken

(1) Public Right Of Way
(2) Parcel Based Sites
(3) Waterfront
(4) Systemwide

Delay
Store
Discharge
Rebuild by Design Hudson River: Resist • Delay • Store • Discharge

- Aim to maximize the potential to capture, store, infiltrate, evaporate and release of stormwater (STORE + DELAY + DISCHARGE)
- Look to achieve community co-benefits while improving management of stormwater that could reduce rainfall flooding.
- With the exception of the BASF site, all stormwater management strategies are entirely on publicly-owned land.
- Use both “green” and “grey” stormwater management strategies.
- Consider physical, environmental and infrastructure constraints in locating and designing specific interventions.

Legend:
- ▶️ Delay + Store - Parks
- ▶️ Water Storage Sites
- ▶️ Catchment Area
- ▶️ Outfall Pipe
- ▶️ Storm Sewer Pips
- ▶️ Hybrid Tank
- ▶️ Tank
- ▶️ Tank Bumpout
- ▶️ Ongoing Projects
- ▶️ Existing Flooding “Hotsot”
- ▶️ Municipal Boundaries
- ▶️ Study Area
- ▶️ Ferry Lines

Typical bumpout tank section
Typical water storage unit section
Hybrid tank section - Cpt. 01
Hybrid tank section - Cpt. 02
Hybrid tank section - Cpt. 03
Typical park section
Light rail additional storage section

- RESIST • DELAY • STORE • DISCHARGE -
CONCEPT A

Lowest impact alignments which still provide substantial flood risk reduction benefits to most residents.

- North Waterfront takes three bridges into account.
- North Hoboken on-street protection provided along Garden Street until elevation limit.
- Hoboken Terminal does not receive flood risk reduction benefits.
- South Waterfront constructed independently of Long Island Canal.
- Permanent movable gates proposed to address flood risk reduction along the underpass.

Legend:
- Gate - Sliding
- Gate - Swinging
- Deployable Flood Wall
- Landscape
- Berm
- Revetment
- Raised Path
- Seawall
- Flood Wall
- T Wall
- Ramp
- Municipal Boundaries
- Study Area
- Ferry Lines
- Preliminary FEMA 100 year Flood Plain
- MIN DFE Approx. Min. FEMA Certification
- MAX DFE Approx. 100 Year = 2075
- NOAA SPC
- All DFE's are Approximate and Subject to Change

(11/23) DRAFT IDEAS FOR DISCUSSION PURPOSES ONLY
CONCEPT B

(11/23) DRAFT IDEAS FOR DISCUSSION PURPOSES ONLY

Moderate impact alignments which give Weehawken and the North Waterfront substantial flood risk reduction benefits.

- Weehawken tie-in at Lincoln Tunnel.
- Permanent built structures on North Waterfront provide flood risk reduction benefits.
- Hoboken Terminal does not receive flood risk reduction benefits.
- South Waterfront constructed independent of Longslip Canal.
- Permanent movable gates proposed to address flood risk reduction along the underpass.

Legend:
- Gutter - Sliding
- Gate - Swinging
- Deployable Flood Wall
- Landscape
- Berms
- Revetment
- Raised Path
- Seawall
- Flood Wall
- T Wall
- Ramp
- Municipal Boundaries
- Study Area
- Ferry Lines
- Preliminary FEMA
  - 100 year Flood Plain

MIN DFE: Approx. Min. FEMA Certification
MAX DFE: Approx. 900 Year = 2075
NOAA DFE

18 DFE’s are approximate and subject to change.
CONCEPT C

Maximum impact alignments which offer flood risk reduction benefits to Weehawken, N/S Waterfront, and Hoboken Terminal.

- An in-water embayment is planned in Weehawken Cove, and to the North of Lincoln Tunnel 3, 4.
- Permanent bulkhead structures on North Waterfront provide flood risk reduction benefits.
- Programmed bulkheads offer added community benefits, while providing flood risk reduction benefits to those on the waterfront.
- South Waterfront constructed as part of the proposed construction of the Longtidal Coastal project.
- Hoboken Terminal does receive flood risk reduction benefits; major portion is planned in-water in front of the Terminal.
- Permanent movable gates proposed to address flood risk reduction along the underpass.

Legend:
- G: Sliding Gate
- G: Swinging Gate
- Wall: Deployable Flood Wall
- Landscape
- Berm
- Revetment
- Raised Path
- Seawall
- Flood Wall
- T Wall
- Ramp

Municipal Boundaries
Study Area
Ferry Lines
Preliminary FEMA 100 year Flood Plain
MIN DFE: Approx. Min. FEMA Certification
MAX DFE: Approx. 900 Year = 2075
NOAA DFE
100% of Area Required and Subject to Change

REBUILD BY DESIGN HUDSON RIVER: RESIST ● DELAY ● STORE ● DISCHARGE
High impact alignments which offer flood risk reduction benefits to Weehawken, N/S Waterfront, and Hoboken Terminal.

- North Resilient portion offers Lincoln Tunnel Teres.
- Permanent built structures on North Waterfront provide flood risk reduction benefits.
- Programmed bulkheads offer added community benefits, while providing flood risk reduction benefits to those on the water.
- South Waterfront constructed assuming the proposed construction of the Long-al Canal project.
- Alignment goes through Hoboken Terminal, offering flood risk reduction benefits to essential electrical and utility assets (allows for continued operations in the case of an event).
- Permanent movable gates proposed to address flood risk reduction along the underside.

Legend:
- Gate - Sliding
- Gate - Swinging
- Depoyable Flood Wall
- Landscape
- Berm
- Revetment
- Raised Path
- Seawall
- Flood Wall
- T Wall
- Ramp
- Municipal Boundaries
- Study Area
- Ferry Lines
- Preliminary FEMA
- 100 year Flood Plain

(MIN DFE: Approx. Min. FEMA Certification
MAX DFE: Approx. 500 Year = 2075
NOAA EDR)

Tour DFC: are Approximate and Subject to Change
CONCEPT E

(Moderate impact alignments which offer partial flood risk reduction benefits to North waterfront and full benefits to South Waterfront.

- North Waterfront takes Boathouse into account.
- North Hoboken on-street protection provided along Hudson Blvd (Option 1) and Shipyard Lane (Option 2) until elevation tie-in.
- Some programmed bulkhead and other resist structures proposed along South Waterfront.
- Permanent movable gates proposed to address flood risk reduction along the underpass.

Legend:
- Gate - Sliding
- Gate - Swinging
- Deployable Flood Wall
- Landscape
- Berm
- Revetment
- Raised Path
- Seawall
- Flood Wall
- T Wall

Rebuild by Design Hudson River: RESIST • DELAY • STORE • DISCHARGE • Dewberry

Department of Environmental Protection
ALL CONCEPTS

RESIST

Legend:
- Concept A
- Concept B
- Concept C
- Concept D
- Concept E

REBUILD BY DESIGN HUDSON RIVER: RESIST • DELAY • STORE • DISCHARGE

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Dewberry
BREAKOUT SESSION

NOVEMBER 23, 2015
Q&A AND NEXT STEPS

- December 3, 2015: Concept Screening (CAG)
- December 10, 2015: Concept Screening (Public)