NEW YORK-NEW JERSEY HARBOR AND TRIBUTARIES COASTAL STORM RISK MANAGEMENT STUDY

US Army Corps of Engineers
New York District
THANK YOU FOR PARTICIPATING!

Public feedback is an important part of the study process.

The Study Team appreciates your time today.

MEETING PURPOSE

1. Provide information about the New York-New Jersey Harbor and Tributaries Study
3. Provide an overview of the Tentatively Selected Plan
4. Hear your questions and feedback about the information shared today
AGENDA

1. Study Background
2. Planning Process
   - Important Considerations
   - Evaluated Alternative Plans
   - Plan Selection
3. Overview of the Tentatively Selected Plan
4. Providing Feedback
5. Q&A Session

Residents of Little Ferry, NJ evacuated through Hurricane Sandy floodwaters (2012)
1. The plan you will hear about today is **preliminary** and **conceptual**
   - Details are subject to change based on new information and your feedback
   - A project has not yet been approved or funded by the U.S. Congress, States of New Jersey and New York, or local government
   - There is no impending construction or permitting for a project

2. The information in this presentation is a summary of what you can find in the Draft Integrated Feasibility Report and Tier 1 Environmental Impact Statement
   - National Environmental Policy Act document
Draft Report September 2022

NY & NJ Harbor & Tributaries Focus Area Feasibility Study (HATS)

Coastal storms have severely impacted the North Atlantic Coast of the United States, including the New York-New Jersey Harbor region. In response to these storms, the US Army Corps of Engineers (Corps) is investigating measures to manage future flood risk in ways that support the long-term resilience and sustainability of the coastal ecosystem and surrounding communities, and reduce the economic costs and risks associated with flood and storm events. In support of this goal, the Corps completed the North Atlantic Coastal Commensurate Study, which identified nine high-risk, focus areas on the north Atlantic Coast for further in-depth analysis into potential coastal storm risk management measures. One of the nine areas identified was the New York-New Jersey Harbor and Tributaries study area.

Upcoming Public Meetings

DATE: Wednesday, January 18th, 2023
TIME: 2-4 PM and 6-8 PM (duplicate sessions)
LOCATION: New Jersey Institute of Technology (NJIT), Campus Center, 150 Wasser St., Newark, NJ 07102. Sessions are in the 1st-floor Alumni.
MORE INFO: Click here to view the flyer.
TRANSLATION FLYER: Arabic | Chinese | Hindi | Portuguese | Spanish
DATE: Tuesday, January 17th, 2023
TIME: 2-4 PM and 6-8 PM (duplicate sessions)
LOCATION: Community Board 18, 117 Jay Street, Brooklyn, NY, 11234. Sessions will be held in the community meeting room.
MORE INFO: On-site parking is available. Mass transit access: see https://www.nyc.gov. Bus routes B47/B630/B65 have nearby stops. Closest bus stop is B130 Route. Ralph Avenue/Avenue J stop. Click here to view the flyer.
READERS GUIDE

Provides an overview of:

- Main report chapter contents
- Appendices and sub-appendices
- Web-based tools

Main Report
Chapter 1: Introduction
Chapter 2: Existing Conditions
Chapter 3: Future Without Project Conditions
Chapter 4: Plan Formulation
Chapter 5: Tentatively Selected Plan
Chapter 6: Effects and Consequences of the Alternative Plans
Chapter 7: Environmental Compliance
Chapter 8: Public Coordination and Views
Chapter 9: Recommendations
Chapter 10: List of Preparers
Chapter 11: References

Appendix A: Environmental
Appendix B: Engineering
Appendix C: Cost Engineering
Appendix D: Economics
Appendix E: Map Series
Appendix F: Real Estate
Appendix G: Public/Agency Coordination
Appendix H: Stakeholder List
ArcGIS StoryMaps is a web-based interactive application that includes maps in the context of narrative text and other multimedia content.

https://hats-cenan.hub.arcgis.com/
WHAT’S ON THE HUB?

Interactive Maps
• Alternative plans
• Future with and without project flooding
• Compare alternatives
• Real estate easements
• Environmental and cultural
• Environmental justice

Future With Project (FWP) Condition

Storm Surge Barriers (SSB)
SBBs are in-water structures with an opening (or openings) to allow for the passage of flow and vessels during normal day-to-day conditions. These openings are gapped and can be closed such that the structure effectively impedes the storm surge and provide flood risk reduction for the region upstream of the barrier.

Shore-Based Measures (SBM)
SBMs are land based CSRM structures such as floodwalls, levees, beachdunes, elevated promenades, etc. They are designed to provide flood risk reduction for 100-year Return Period (RP) storm events (1% Annual Exceedence).

“Plain language” summaries
• Renderings
• ADCIRC animations

... and a lot more!
3. Your feedback is important
   – The Study Team is here today to answer your questions and hear your feedback
   – **Send all written comments for the record via email or mail**
   – The public comment period closes March 7, 2023

4. This is one of a series of public meetings
   – There will be upcoming in-person and additional virtual public meetings
   – Meeting information will be posted to the study website and shared via email
An idea/concern that is **FEASIBLE** to execute and/or mitigate is one that meets **ALL** of the below considerations:

1. Does it **conflict w/** local, state, or federal policy's or laws?
2. Is it **with-in our authorization** to solve?
3. Do we have the **technology** to make it happen or mitigate it?
4. Does it create a **problem for someone else**?
5. Is it **cost prohibitive**?
6. Is it **equitable**?
7. Can it happen in a **timely** manner?
8. Is it **flexible** over time for future uncertainties/unknowns?
9. Finally, Are there **additional negative impacts on the Environment, Endangered species, Historical or Cultural sites, the Local Economy, Viewsheds, Traffic Patterns, Community Safety, Industry Support, Hazard waste remediation, Real Estate availability**? ....and much much more.

**Step 1:** Look for common ideas/concerns.

**Step 2:** Common ideas/concerns that are feasible to execute or mitigate.

**Step 3:** Incorporate the comment into the plan.
Step 3: Incorporate the comment into the plan.

Step 4: Inform the public where their ideas were incorporated

Recommendations are incorporated into the plan already:

1. Extended the public comment period to March 7th
2. Improved Web Design and digital communications
3. Routine engagement with interested/involved non-governmental organizations and local communities to ensure appropriate public comment locations, access, and languages
4. Routine engagement with interested/involved non-governmental organizations and local communities regarding delivery of timely information
5. Continued outreach to local leaders seeking common community concerns
6. Develop communications which further community understanding of the process.
NEW YORK-NEW JERSEY HARBOR AND TRIBUTARIES
COASTAL STORM RISK MANAGEMENT FEASIBILITY STUDY

STUDY AREA
- The largest and most densely populated of the 9 NACCs Focus Areas
- Area covers 2,150+ square miles and 900+ miles of affected shoreline
- 25 counties in New York & New Jersey
- Affected population of roughly 16 million people, including New York City and the six most populated cities in New Jersey

COASTAL STORM RISKS & DAMAGES
- Significant Life/Safety Risk and over 275,000 Structures in Potential Impact Area
- Incorporates Dozens of Other Ongoing and Planned CSRM Projects in Study Area
- Present Value Damages for 100-Year Storm Range from $100+B for Intermediate Sea Level Rise to over $350B for High Sea Level Rise Projection

STUDY SCOPE
- **Study Cost:** $19.4M, cost-shared 50/50 with NYSDEC and NJDEP thru July 2022, and 100% federal thereafter.
- **Study Schedule:** Assistant Secretary of the Army for Civil Works Approved (7 Apr 21) Second Exemption for Study Extension to 2024 Completion
- **Funding:** Federal funding ($1.45M) resumed in October 2021 following lapses in fiscal years 2020 and 2021. Study also received $6,724,000 of Disaster Relief Suppl. Appros. Act funds.
- **Study Scope:** WRDA 2020 includes study specific language

STUDY SCHEDULE
- Draft Feasibility Report and integrated Tier 1 Environmental Impact Statement Released for extended public day review with meetings planned throughout area. Comment closing date is March 7, 2023.
- See WWW.NAN.USACE.ARMY.MIL/NYNJHATS for Draft Report and dates, times and locations of future public in-person and virtual meetings.
- Final Chief of Engineers Report Approved to be Completed in 2024

NYNJHATS Interim Report
Regions:
- Capital District Region
- Hackensack/Passaic Region
- Jamaica Bay Region
- Long Island Sound Region
- Lower Bay Region
- Lower Hudson/East River Region
- Mid-Hudson Region
- Raritan Region
- Upper Bay/Arthur Kill Region
ALTERNATIVE PLANS – PROS & CONS WITH EACH

Alternative 1: No action
Alternative 2: Harbor-wide storm surge barrier + shore-based measures
Alternative 3A: Multi-basin storm surge barriers + shore-based measures
**Alternative 3B: Multi-basin storm surge barriers + shore-based measures**
Alternative 4: Single-basin storm surge barriers + shore-based measures
Alternative 5: Shore-based measures only

- Alternatives span spectrum from large in-water storm surge gates to numerous shoreline-based structures. Alternatives also have (or will have) complementary non-structural and natural and nature-based features (where feasible).
- Best Solution Appears to Involve Multiple, Layered Features
- Possible Phased Implementation:
  1) Short-term: Construct Actionable Features,
  2) Mid-Term: Further Evaluate, Design and possibly Construct Complex Features,
  3) Long-Term: Adapt and expand features due to further sea level rise and climate change
EXISTING & FUTURE CONDITIONS WITHOUT PROJECT

- 16 Million People
- Maritime Trade
- Wall Street
- Energy
- Public Transportation
- Parks
- Endangered Species
- Aviation
- Hospitals
- Recreation
- Education
- Historic Properties

1% flood extent (with intermediate RSLC)
OTHER CONSTRUCTED AND ONGOING PROJECTS (BLUE) ASSUMED AS PART OF FUTURE BASELINE CONDITION
USACE RELATIVE SEA LEVEL CHANGE AT BATTERY COMPARED TO STATES AND CITY PROJECTIONS
ADDITIONAL CONSIDERATIONS WITH STORM-SURGE BARRIERS – RISK REDUCTION FEATURES AND INDUCED FLOODING-MITIGATION FEATURES

Risk Reduction Features BEHIND the Storm Surge Barriers

Induced Flooding-Mitigation Features (as applicable) OUTSIDE the Storm Surge Barriers

Legend
- Blue: Navigable Passage
- Green: Auxiliary Flow Gates
- Dark Blue: Dam Section and Tie-in
- Orange: Flood Risk Reduction System (Land Based Measures)

Concept for the Jamaica Bay Storm Surge Barrier - Artist Photo Visualization
ALTERNATIVE 2

96.0% Study Area at Direct Risk Benefited

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Alternative

First Cost ($B): $112.3
Total Present Value Cost ($B): $150.2
Estimated Construction Duration (years): 32
## ALTERNATIVE 3A

### 87.1% Study Area at Direct Risk Benefited

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### Alternative

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<td>Estimated Construction Duration (years):</td>
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# ALTERNATIVE 3B – THE TENTATIVELY SELECTED PLAN

## 63.0% Study Area at Direct Risk Benefited

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### Alternative

- **First Cost ($B):** $52.7
- **Total Present Value Cost ($B):** $76.2
- **Estimated Construction Duration (years):** 14
## ALTERNATIVE 4

45.9% Study Area at Direct Risk Benefited

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### Alternative

| First Cost ($B):                     | $ 43.0        |
| Total Present Value Cost ($B):       | $ 62.5        |
| Estimated Construction Duration (years): | 14            |

NY-NJ HARBOR AND TRIBUTARIES STUDY

Alternative 4 - Future With Project Reduced Risk & Residual Risk (1% AEP with Intermediate Sea Level Rise in 2095)

Date: 12/9/2012

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
ALTERNATIVE 5

3.3% Study Area at Direct Risk Benefited

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<td>Induced Flooding-Mitigation Features</td>
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<td>Risk Reduction Features (N/A)</td>
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Alternative

First Cost ($B): $ 16.0
Total Present Value Cost ($B): $ 25.8
Estimated Construction Duration (years): 5

REMINDER – PLEASE FILL OUT YOUR COMMENT CARD IF YOU HAVE ANY QUESTIONS. WE WILL BE COLLECTING THEM SHORTLY.
Multiple laws, executive orders and regulations are considered under the NEPA process:

- **National Environmental Policy Act**
- **National Historic Preservation Act, as amended**
  
  *Preserves historic and archaeological sites*

- **Clean Water Act**
  
  *Prevents water pollution*

- **Endangered Species Act**
  
  *Protects plants and animals from extinction*

- **Clean Air Act**
  
  *Prevents air pollution*

- **Environmental Justice**
  
  *Addressing equity in adverse and beneficial environmental effects*

- **Other Federal and State laws**
TYPES OF NEPA ANALYSIS

- Categorical Exclusion
- Environmental Assessment (EA)
- Environmental Impact Statement (EIS)
- Tiered Environmental Impact Statement (EIS)

TIER 1 – Consists of a broad-scale review of the Alternatives during the feasibility phase.

TIER 2 – Consists of subsequent more detailed reviews as the designs are further refined during the pre-construction engineering design phase.
ENVIRONMENTAL CONSEQUENCES
Potential for Adverse Impacts by Measure Type
Chapter 6

Environmental Consequences
Applied Scoring Methodology
Chapter 6

Existing Conditions
Chapter 2

- 50 environmental resources assessed
- Organized by Planning Region

- Draft Tier 1 assesses Structural Measures only
- Final Tier 1 will also assess ringwalls, nonstructural, and Natural and Nature-Based Features

- Defining Tier 1 Scope of Direct, Indirect, and Cumulative Impacts - BROADLY
- Estimating Beneficial Environmental Effects ("+")

Incorporating Cooperating Agency and Stakeholder Input
- Estimating In-Kind Mitigated Impacts
- Identifying Out-Of-Kind Mitigated Impacts

Environmental Consequences
Applied Scoring Methodology
Chapter 6

Impact Rating Definitions

<table>
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<th>Impact Rating and Numerical Score</th>
<th>Description</th>
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<tr>
<td>High (+)</td>
<td>Effects to the resource would have substantial consequences, locally and/or regionally. Impacts would exceed regulatory standards. Mitigation measures to offset the adverse effects would not be enough to reduce the significance of effect and therefore, effects to the resource would not be environmentally acceptable.</td>
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<tr>
<td>Moderate High (4) to Moderate (3)</td>
<td>Effects to the resource would be locally and/or regionally significant. Impacts would be within regulatory standards; however, existing resource conditions are expected to be affected in the near-term, but not necessarily in the long term. Mitigation measures to reduce any potential adverse impacts would be necessary.</td>
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<tr>
<td>Moderate (3)</td>
<td>Effects to the resource are expected to be moderate in the near-term and localized. Impacts would be within or below regulatory standards, as applicable, and the use of mitigation measures would reduce potential adverse impacts, if applicable.</td>
</tr>
<tr>
<td>Low (2)</td>
<td>Effects to the resource would either be negligible or, if detectable, have minor temporary impacts locally to the resource. The impacts would be well below regulatory standards, as applicable, and mitigation measures may be implemented to sustain low to no impact to the resource.</td>
</tr>
<tr>
<td>No Impact (1)</td>
<td>There would be no impacts to the resource because the resource would not be affected.</td>
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Review Aid: StoryMap [https://hats-cenan.hub.arcgis.com/](https://hats-cenan.hub.arcgis.com/)
All alternatives, including the no action alternative, have potential adverse impacts.

**NO ACTION ADVERSE IMPACTS**
- Coastal storm risk would continue to impact wildlife, and threatened and endangered species, habitat; changes in water quality (salinity and DO) and flow patterns, the spread of invasive or aquatic nuisance species, low-lying areas would continue to experience coastal flood damages to special status land.

**POTENTIAL ADVERSE IMPACTS**
- In-water measures may impact fish species, migratory patterns, and habitat (low to moderate-high).
- Hazardous, Toxic, and Radioactive Waste sites are prevalent and may delay construction.
- National Park Service property
- Viewshed

**POTENTIAL BENEFICIAL EFFECTS**
- Reef effect of in-water measures attracting numerous species of shellfish, algae, and other invertebrates.
- Reduced risk of coastal flooding to special status species habitat and areas (e.g. threatened and endangered species, Coastal Barrier Resources Act areas, etc.)

*For additional details and information, refer to Chapter 6 of the Draft Integrated FR/Tier 1 EIS*
**ENVIRONMENTAL PLAN COMPARISON**

**Key Takeaways:**

- All Alternatives incur impacts to varying magnitudes.
- Impacts are generally observed to be highest during construction but are temporary.
- Impact producing factors are dependent on in-water vs. on-land and structural measure type.
- All Alternatives incur beneficial effects.

**Tentatively Selected Plan**

### FOOTPRINT/CONSTRUCTION SCORE CARD

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<th>RESOURCE CATEGORY</th>
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<th>3B</th>
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<td>1.55</td>
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**CALCULATION:**

- Sum of the Footprint/Construction Impact Ratings (x) divided by the total number of resources included in each resource category (y).
- (x = alternative score; y = # of resources) $\frac{x}{y}$ Rating (1-5)

### OPERATIONS AND MAINTENANCE SCORE CARD

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</table>

**CALCULATION:**

- Sum of the Operations and Maintenance Assumption Ratings (x) divided by the total number of resources in each resource category (y).
- $\frac{x}{y}$ Rating (1-5)

### MITIGATED IMPACT SCORE CARD

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<th>RESOURCE CATEGORY</th>
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<th>3B</th>
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</table>

**CALCULATION:**

- Sum of the Footprint/Construction impact ratings and Operations and Maintenance Assumption Ratings (x) divided by the total number of resources.
- $\frac{x}{y}$ Rating (1-5)

- Tentatively Selected Plan
- Tentatively Selected Plan
- Tentatively Selected Plan
ENVIRONMENTAL JUSTICE

Defining Disadvantaged Communities (DAC):
- 23.59% or more of the population below the federal poverty level
- 51.1% or more of the population identify as minority

Environmental Burdens:
- EPA’s EJ Screen

Additional Vulnerability Factors Considered:
- Elderly/Very young
- Disabled
- Female-headed households
- English Proficiency

EJ and the TSP/Alternative 3B
- 63% of census tracts in the Reduced Risk Areas meet the criteria for DAC
- 63 census tracts in the construction footprint meet the criteria for DAC
- Virtually every feature of the TSP touches a DAC
REMINDER – PLEASE FILL OUT YOUR COMMENT CARD IF YOU HAVE ANY QUESTIONS. WE WILL BE COLLECTING THEM SHORTLY.
<table>
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<tr>
<th>Alternative</th>
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<th>Average Annual Benefits*</th>
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<td>$1.9B</td>
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* Benefits currently based on estimated damages avoided to structures in study area. Critical infrastructure and other possible benefits under refinement and have not been included in the net benefit calculations at this time.
TENTATIVELY SELECTED PLAN FEATURES IN DETAIL

Kill Van Kull & Arthur Kill Storm Surge Barrier Feature

• Numerous Risk Reduction Features (structural and nonstructural) behind storm surge barriers in both Staten Island and New Jersey

• Other considerations:
  • Kill Van Kull and Arthur Kill are major channels in Port – navigational access & impacts
TENTATIVELY SELECTED PLAN FEATURES IN DETAIL

Kill Van Kull Storm Surge Barrier:
• Navigable Passage: Floating Sector Gate
• 800 foot opening
• 19 foot crest elevation (NAVD88) for currently selected design storm event
• 5 Auxiliary Lift Gates
• Total Length in Water: 3,300 feet (approximately)
• Shorebased Tie-Ins: 4,800+ feet comprised of floodwalls, railroad and vehicular gates

Arthur Kill Storm Surge Barrier:
• Navigable Passage: Floating Sector Gate
• 600 foot opening
• 19 foot crest elevation (NAVD88) for currently selected design storm event
• 2 Auxiliary Lift Gates
• Total Length in Water: 2,300 feet (approximately)
• Shorebased Tie-Ins: 700+ feet comprised of floodwalls
TENTATIVELY SELECTED PLAN FEATURES IN DETAIL

Residual Risk Features – Northern New Jersey

Residual Risk Features – NJ & SI
TENTATIVELY SELECTED PLAN FEATURES IN DETAIL

NY-NJ HARBOR AND TRIBUTARIES STUDY

Alternative 3B
Provisionally Identified Areas for Possible Ringwalls and/or Nonstructural Measures

Date: 10/23/2022

U.S. ARMY CORPS OF ENGINEERS NEW YORK DISTRICT
TENTATIVELY SELECTED PLAN FEATURES IN DETAIL

South Brooklyn and Jamaica Bay Area

Risk Reduction Feature Details

Note
Induced
Flooding-
Mitigation
Features
Outside of
Storm Surge
Barrier

Coney Island Boardwalk

Existing Conditions

Rendering of Initial Proposal
SOUTH BROOKLYN SHORELINE-BASED MEASURES AND JAMAICA BAY STORM SURGE BARRIER

Jamaica Bay Storm Surge Barrier:
2 – 200 foot wide Sector Gates
15 Auxiliary Lift Gates
Total Length in Water: 3,800 feet
Crest elevation*: 18 feet (NAVD88)

Sheepshead Bay Storm Surge Barrier:
100 foot wide Sector Gate
2 Auxiliary Lift Gates
Total Length in Water: 800 feet
Crest elevation*: 17 feet (NAVD88)

Gerritsen Creek Storm Surge Barrier:
115 foot wide Vertical Lift Gate
2 Auxiliary Lift Gates
Total Length in Water: 400 feet
Crest elevation*: 17 feet (NAVD88)

Shoreline-Based Tie-In’s:
Total Length: 116,000+ feet
Measures include: Floodwalls, levees, reinforced dunes, pedestrian and vehicle gates, elevated promenades, seawalls, and tide gates

* - For currently selected design storm event
Shoreline based features only
- Total length: 31,000+ feet
- Measures include: Floodwalls, levees, flip up barriers, pedestrian and vehicle gates, elevated promenades, floodwalls with park, and seawalls
- Other considerations:
  - May need additional stormwater and wastewater pump station improvements
  - Need to reconcile NYNJHAT study plan for area with other non-federal plans for portions of area
Shoreline based features only
- Total length: 25,000 feet
- Measures include: Floodwalls, vehicle gates, elevated promenades, and seawalls

**106th Street**

**Existing Conditions**

**Rendering of Initial Proposal**

**145th Street**

**Existing Conditions**

**Rendering of Initial Proposal**

**Proposed During Storm Conditions**
Shoreline based features only
• Total length: 43,000+ feet
• Measures include: Floodwalls, levees, pedestrian, railroad and vehicle gates, elevated promenades, and seawalls

York Street

Existing Conditions

Rendering of Initial Proposal

Existing Conditions

Rendering of Initial Proposal

Proposed During Storm Conditions
Storm surge barrier with shoreline-based tie-ins

Newtown Creek Storm Surge Barrier
• 130 ft. wide Sector Gate
• 17 foot crest elevation (NAVD88) for currently selected design storm event

Shoreline-based Tie-ins
• 15,000+ ft. of measures including floodwalls, levees, pedestrian & vehicle gates, elevated promenades, and seawalls

Other considerations:
• May need extension of NYCDEP Wastewater Treatment Plant discharge to outside storm surge barrier
• Known contamination issues
TENTATIVELY SELECTED PLAN FEATURES IN DETAIL

Storm surge barrier with shoreline-based tie-ins

Gowanus Creek Storm Surge Barrier
- 100 foot wide Sector Gate
- 16 foot crest elevation (NAVD88) for currently selected design storm event
- Total Length in Water: 130 feet

Shore-based Tie-ins
- Total Length: 18,000+ feet
- Measures include: Floodwalls, levees, vehicle gates, and seawalls

Other considerations:
- Known contamination issues

Coffey Street, Red Hook, Brooklyn

Existing Conditions

Rendering of Initial Proposal
TENTATIVELY SELECTED PLAN FEATURES IN DETAIL

Flushing Bay Area

Flushng Creek Storm Surge Barrier

- 135 foot wide Vertical Lift Gate Storm Surge Barrier
- 18 foot crest elevation (NAVD88) for currently selected design storm event
- 2 Auxiliary Lift Gates
- Total Length in Water: 500 feet

Shoreline-based Tie-ins

- Total Length: 11,000+ feet
- Measures include: Floodwalls, vehicle gates, elevated promenades, floodwalls with park, and seawalls

Existing Conditions

Rendering of Initial Proposal

REMINDER – PLEASE FILL OUT YOUR COMMENT CARD IF YOU HAVE ANY QUESTIONS. WE WILL BE COLLECTING THEM SHORTLY.
WANT TO LEARN MORE?

WWW.NAN.USACE.ARMY.MIL/NYNJHATS

CONNECT WITH THE STUDY TEAM

Email: NYNJHarbor.TribStudy@usace.army.mil

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U.S. Army Corps of Engineers New York District
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c/o PSC Mail Center
26 Federal Plaza
New York, New York 10278

Ms. Cheryl R. Alkemeyer, NEPA Lead
U.S. Army Corps of Engineers New York District
Jacob K. Javits Federal Building, Room 17-420
c/o PSC Mail Center
26 Federal Plaza
New York, New York 10278

Start Here
<table>
<thead>
<tr>
<th>Action/Milestone</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Execute Feasibility Cost-Sharing Agreement (study start)</td>
<td>✔ 15 July 2016</td>
</tr>
<tr>
<td>Release Interim Report</td>
<td>✔ 19 February 2019</td>
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<td>Public Meetings for Interim Report</td>
<td>✔ March - October 2019</td>
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<td>Delay due to lack of Federal funding</td>
<td>✔ February 2020 – September 2021</td>
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<td>Federal funding resumption</td>
<td>✔ October 2021</td>
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<td>FCSA Amendment Execution</td>
<td>✔ 28 June 2022</td>
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<td>Tentatively Selected Plan Milestone</td>
<td>✔ 26 July 2022</td>
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<tr>
<td>Release Draft Integrated Feasibility Report and Tier 1 EIS</td>
<td>✔ Late September 2022 (156+ day review period)</td>
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<tr>
<td>Public Meetings for Draft Report</td>
<td>October 2022 – February 2023 (Additional in-person and virtual public meetings – see website for updates.)</td>
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<td>Public Comment Closing Date</td>
<td>March 7, 2023</td>
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<td>Agency Decision Milestone</td>
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<tr>
<td>Submit Final Integrated Feasibility Report and Tier 1 EIS</td>
<td>January 2024*</td>
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<tr>
<td>Chief of Engineer’s Report Approval (study end)</td>
<td>June 2024*</td>
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* Schedule may be revised.
IN SUMMARY

- The Tentatively Selected Plan (Alternative 3B) is **preliminary** and **conceptual**
  - Considerable work remains to be done
  - Future work will be informed by and focus on issues raised by the public and agencies

- There are many resources on the study website [https://www.nan.usace.army.mil/NYNJHATS](https://www.nan.usace.army.mil/NYNJHATS)
  - Draft Integrated Feasibility Report and integrated Tier 1 Environmental Impact Statement
  - Readers Guide
  - StoryMap Hub

- This is one of a series of public meetings
  - There will be in-person and additional virtual public meetings
  - Meeting information will be posted to the study website and shared via email

- **Your feedback is an important part of the study process!**
YOUR FEEDBACK IS IMPORTANT

The Study Team is here today to answer your questions and hear your feedback (please fill out your comment cards)

Written Comments
• Send all written comments for the record via email or mail
• The public comment period closes March 7, 2023.

Mr. Bryce W. Wisemiller, Project Manager
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More Opportunities to Provide Feedback
• There will be in-person and additional virtual public meetings
• Meeting information will be posted to the study website and shared via email
Q&A SESSION

The Study Team will answer all comment card questions first, then, if time allows, open the floor to participants to verbally ask questions and provide feedback.

Ground Rules
• Be respectful of participants and the Study Team
• Please raise your hand so we can collect and collate the comment cards
• If there is time for verbal questions & answers, please ask one question to allow time for others to ask their questions
QUESTIONS?

STUDY WEBSITE
HTTPS://WWW.NAN.USACE.ARMY.MIL/NYNJHATS

STORYMAP PORTAL
HTTPS://HATS-CENAN.HUB.ARCGIS.COM/
NON-FEDERAL PARTNERS

NEW YORK STATE OF OPPORTUNITY

Department of Environmental Conservation

NEW YORK STATE OF OPPORTUNITY

Department of State

NYC Mayor's Office of Climate & Environmental Justice
USACE RELATIVE SEA LEVEL CHANGE PROJECTION FOR THE BATTERY COMPARED TO NOAA SEA LEVEL MEASUREMENTS
Assumptions

• Investments in coastal storm risk management / resiliency projects will continue
  – Federal, state, local government investment
  – Private investment

• Relative sea level rise over time
  – Used USACE intermediate projection for comparing plans in Draft Report
  – Considering ALL USACE sea level rise projections in future study plan formulation
All alternative plans will include nonstructural measures, as feasible, for areas with unaddressed coastal storm risk.

All alternative plans will include natural and nature-based features where applicable and feasible.

Alternative 5 (shore-based measures only) not shown in figure.
PLAN FORMULATION ITERATIONS

First round of alternatives screening:
• Reflected in Interim Report – released February 2019
• Focus on identifying scale
• Main decision factor: NED benefits
• Outcome: Alternatives 3A, 3B, 4 were (and are still) best performing

Second round of alternatives screening:
• Reflected in Draft Report now released
• Differentiate among Alternatives 3A, 3B, and 4
• Main decision factors: RSLC, SSB gate operational assumptions, environmental and navigational considerations, refining benefits
• Considered all benefit registers but primarily used national economic development for selection
• Results are presented in the draft integrated feasibility report/EIS

Developing and Optimizing Recommended Plan (done after public review of the Draft Report)
• Main decision factors:
  • Sizing of measures in TSP to maximize net benefits
  • Refine balance between each SSG operation/closing criteria with RRFs, as applicable
  • Adjust alignments for NED, OSE, and EQ considerations
• Results will be presented in the final integrated feasibility report/EIS (2024)
## PROJECT COSTS (INTERMEDIATE RSLC)

<table>
<thead>
<tr>
<th>Alternative</th>
<th>Construction Duration (years)</th>
<th>Years of Full Benefits*</th>
<th>First Costs (not including contingency)</th>
<th>Contingency</th>
<th>OMRR&amp;R and IDC (PV)</th>
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* - USACE policy only allows a maximum of 50 years of benefits in the economic evaluation, but the alternatives and measures are planned for permanent implementation with an at least one-hundred-year planning horizon

** - Adaptation costs for higher sea level rise projections are under refinement and have not been included in the total cost estimates at this time