U.S. Army Corps of Engineers, New Jersey Department of Environmental Protection, and New York State Department of Environmental Conservation

PUBLIC INFORMATION MEETING

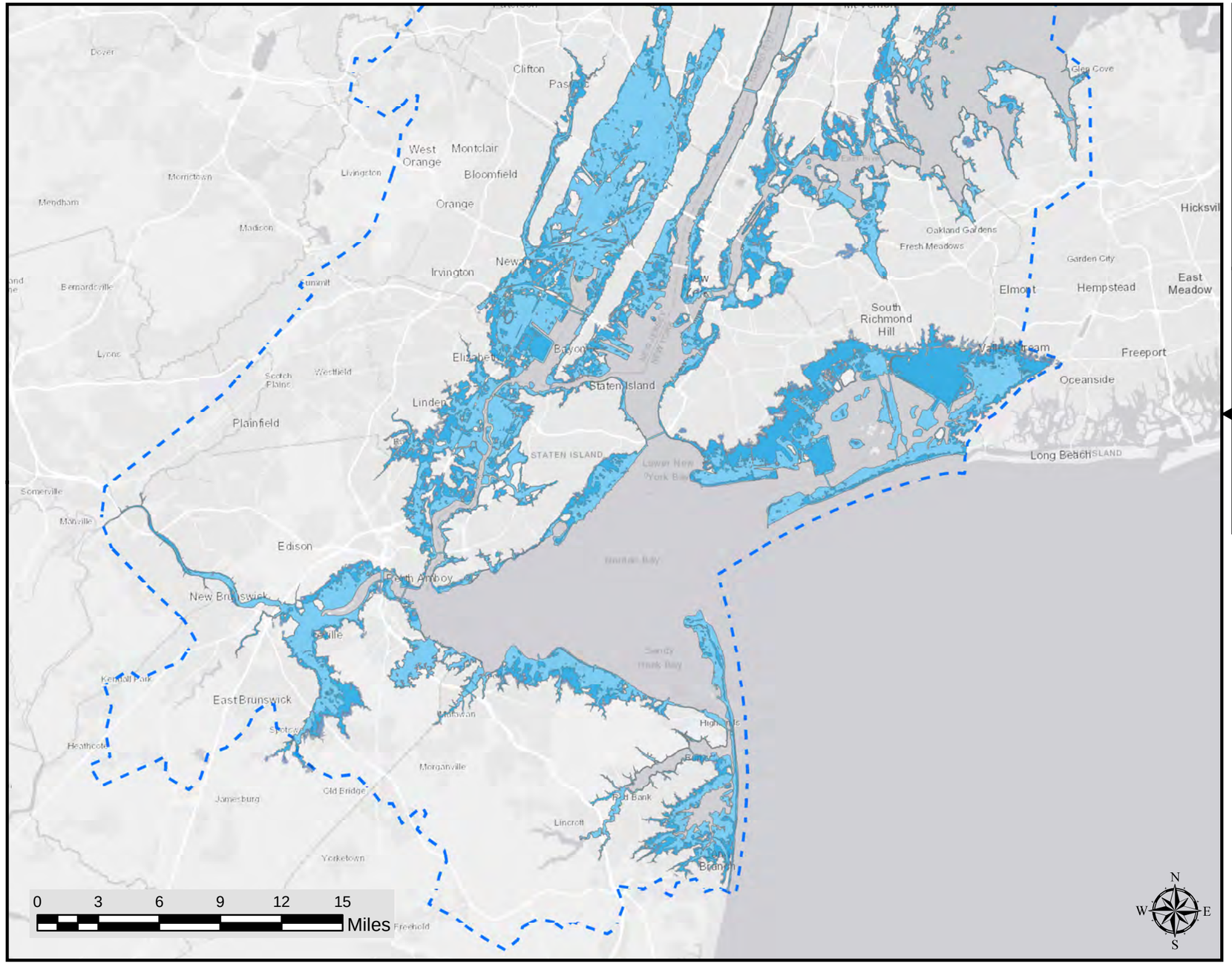
New York and New Jersey Harbor and Tributaries Focus Area Feasibility Study

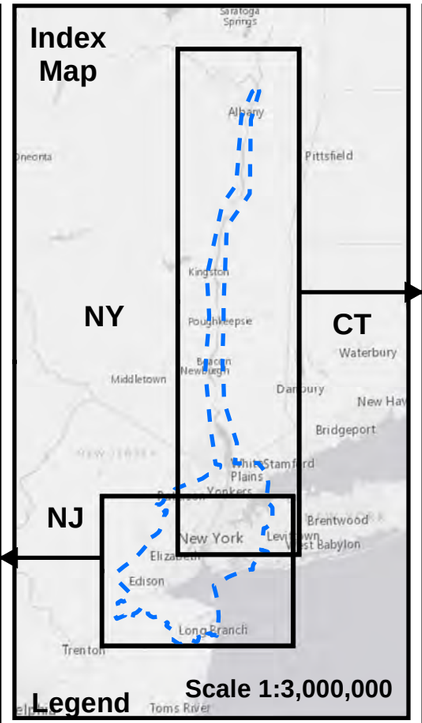
Coastal Storm Risk Management

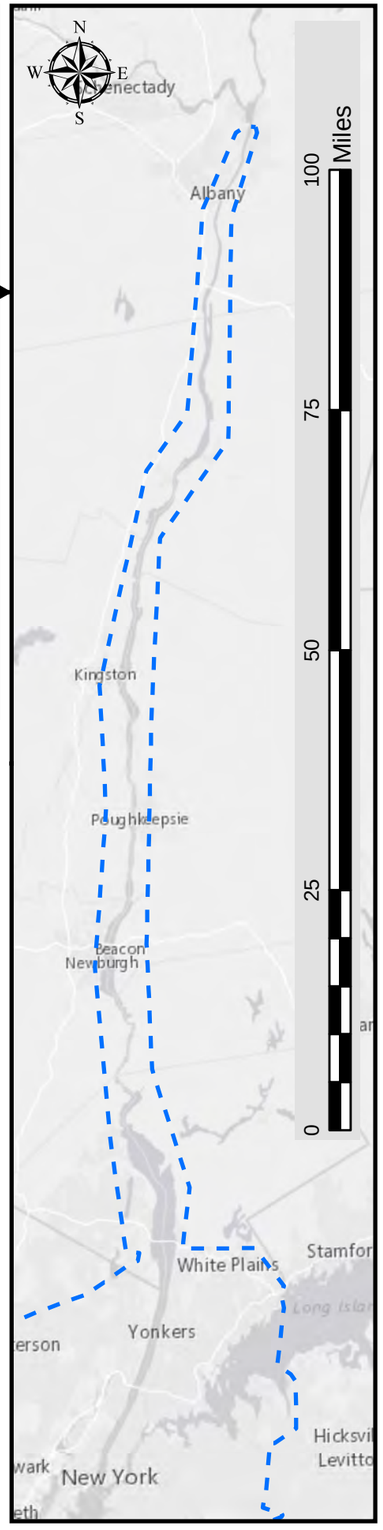
- 6:00-6:15 Welcome/sign-in
- 6:15-6:45 Presentation by the study team
- 6:45-8:00 Scoping poster session – time for participants to ask questions and have follow-on discussion with the study team, as well as provide input/comments into the scoping process

6:00PM Thursday , 20 September 2018
New York Aquarium, Brooklyn, New York

Department of Environmental Conservation
Mayor's Office of Recovery & Resiliency
US Army Corps of Engineers







US Army Corps of Engineers
New York District

Flooding Extents of the GIS-Based Risk Analysis
NY/NJ Harbor and Tributaries Study

New York and New Jersey

July 2018

Scale 1:175,000

Scale 1:175,000

Scale 1:3,000,000

Index Map

MA

NY

NJ

CT

0 5 10 20 30 40 Miles

Legend

- NY/NJ Harbor & Tributaries Study Area
- 0.1 Annual Exceedance Probability (10-year storm event)
- 0.01 Annual Exceedance Probability (100-year storm event) & 3 Feet
- 0.001 Annual Exceedance Probability (1000-year storm event)

Flooding Extents of the GIS-Based Risk Analysis NY/NJ Harbor and Tributaries Study - Hudson River

New York and New Jersey

July 2018

New York-New Jersey Harbor & Tributaries Feasibility Study

1. This **feasibility study** was **authorized** by Public Law 84-71, which calls for "…an examination and survey to be made of the eastern and southern seaboard of the United States with respect to hurricanes, with particular reference to areas where severe damages have occurred…" The Army Corps' North Atlantic Coast Comprehensive Study (2015) identified the New York-New Jersey metropolitan region as a focus area of coastal storm risk.

2. A **Feasibility Cost Sharing Agreement** was executed between the Army Corps and **non-federal sponsors** in July 2016. The sponsors are the **New Jersey Department of Environmental Protection**, and the **New York State Department of Environmental Conservation** in coordination with **New York City**.

3. The study team hosted **agency workshops** in January and February 2017. Federal, state, and local agencies shared information and ideas that are being used as part of the study.

4. At the September 2017 **Alternatives Milestone Meeting**, the study team and Army Corps Headquarters agreed on an initial focused array of five alternative plans, and the criteria that will be used to evaluate and compare them to identify a **Tentatively Selected Plan**.

5. The study team is hosting **scoping meetings** in July 2018 in compliance with the **National Environmental Policy Act**. The scoping process provides an opportunity for the public to offer input on the range of issues to be addressed in the Environmental Impact Statement.

6. The study team will present its preliminary findings to Army Corps Headquarters at the **Tentatively Selected Plan Milestone**. Army Corps Headquarters will determine whether a Draft Feasibility Report and Environmental Impact Statement can be released for concurrent public, technical, policy, and legal reviews.

7. A **Draft Feasibility Report and Environmental Impact Statement** will be made available for concurrent public, technical, policy, and legal reviews for a minimum of 45 days. The report will document the results of the Tentatively Selected Plan Milestone.

8. At the **Agency Decision Milestone**, Army Corps Headquarters may endorse the selected plan based on a review of the comments received. Prior to endorsing a plan, Army Corps Headquarters may direct the study team to conduct further analyses and public review. The final, endorsed plan is known as the **Recommended Plan**.

9. A **Final Feasibility Report and Environmental Impact Statement** will be prepared by the study team and transmitted to Army Corps Headquarters for review and approval. The study team will incorporate input received during public and agency reviews of the draft report, and any required analyses to support and confirm the Recommended Plan.

10. Army Corps Headquarters may hold a **Senior Leaders Panel Meeting** to approve the release the Final Feasibility Report and Environmental Impact Statement, and the proposed Chief of Engineer's Report for State and Agency review.

11. The Army Corps Chief of Engineers will sign the **Chief of Engineer's Report** and **Record of Decision** detailing the Army Corps' recommendation. The report and **Record of Decision** will be transmitted to the Assistant Secretary of the Army for Civil Works for approval and signature.

12. The federal **Office of Management and Budget** will be notified of report approval, and begin its review of the report. The agency may make a recommendation for federal appropriation of funding, and will decide whether or not to include the project in the President's budget.

13. The report will be sent to the chairpersons of the Senate Committee on Environment and Public Works, and the House of Representatives Committee on Transportation and Infrastructure. Congress can then **authorize the project for construction**.

14. **Construction** of the project commences if **funding is appropriated by Congress**. A **Project Partnership Agreement** can be signed for construction of the project when federal funding is appropriated.

Civil Works Transformation: Study Cost and Schedule. The federal Water Resources Reform and Development Act of 2014 and Army Corps guidance requires that all Army Corps feasibility studies be completed within 3 years of execution of the Feasibility Cost Sharing Agreement, and at a cost not to exceed $3 million in total cost (federal and non-federal cost combined). Due to the scale and complexity of the study, the study team plans to pursue an **exemption** to these budget and schedule requirements.

Produced by the U.S. Army Corps of Engineers New York District, July 2018

New York and New Jersey Harbor and Tributaries Focus Area Feasibility Study

Environmental Analysis Topics

The Corps of Engineers is currently assessing the existing conditions in the study area of the environmental resources below, as well as how they would be affected by the measures in the proposed project alternatives. This includes both the temporary impacts during construction and when potential structures are closed, as well as the permanent impacts when they remain open.

Topography and Bathymetry

Storms and Flood Levels

Land Use and Development

Critical Infrastructure

Geology and Soils

Water Resources
- *Groundwater*
- *Surface Water*
- *Water Quality*

Example:
We will need to assess the effects on parameters such as dissolved oxygen, temperature, salinity, nutrient concentrations, tidal ranges, etc.

Vegetation

Example:
We will address any impacts to existing wetlands

Socioeconomics
- *Population*
- *Housing*
- *Environmental Justice*
- *Economy/Income*

Cultural Resources
- *Historic Properties*

Recreation

Fish and Wildlife
- *Fish*
- *Mammals*
- *Birds*
- *Amphibians and Reptiles*

Example:
Migration routes

Threatened and Endangered Species

Environmental Contamination

Aesthetics and Scenic Resources

Transportation

Air Quality

Noise

Example:
We will consider the impacts that any structural measures will have on viewsheds

Cumulative Impacts (nearby past/ ongoing/proposed projects)

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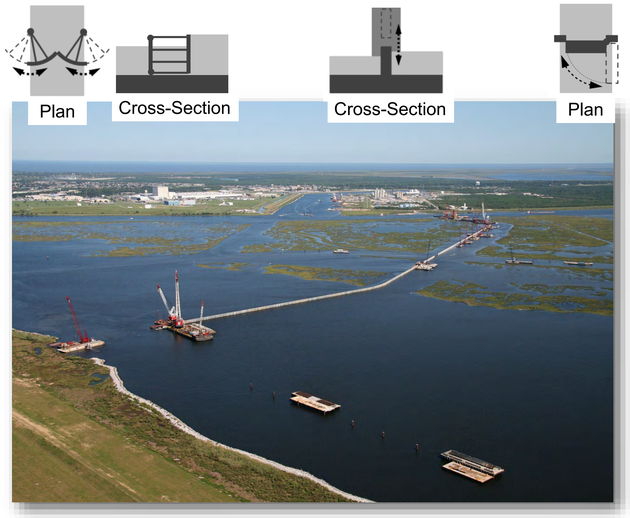
New York and New Jersey Harbor and Tributaries Focus Area Feasibility Study

Structural Measure Examples

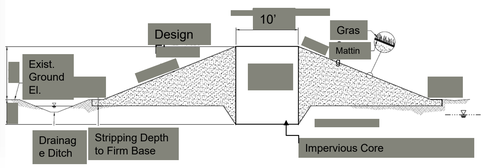
The primary function of these structures is to reduce the risk of flooding on the landward side. Most structural measures are either in-water barriers, of which there are 18 worldwide (such as those shown below in The Netherlands, London, and New Orleans) or shoreline features (like levees and seawalls, also below). Here is a small sample of the structural measures being considered for this study.

Maeslant Barrier – near Rotterdam, The Netherlands
Floating Sector Gate

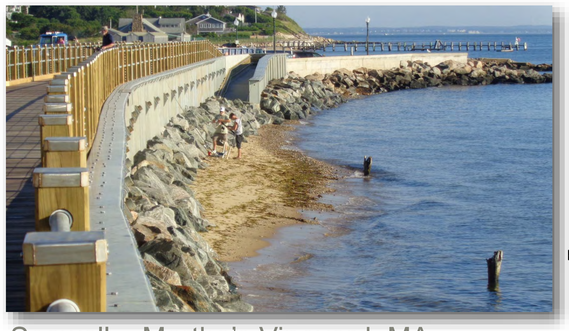
Thames Barrier – London, UK
Rotating Sector Gate, Tainter Gate

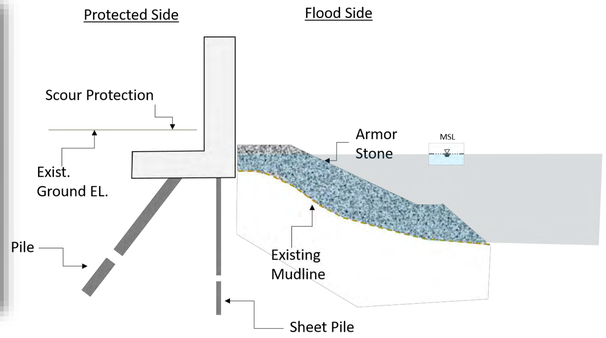


Inner Harbor Navigation Canal Lake Borgne Surge Barrier - New Orleans, LA
Sector Gate (Vertical Access), Vertical Lift Gate, Barge Gate



Levee – New Orleans, LA





Seawall – Martha's Vineyard, MA

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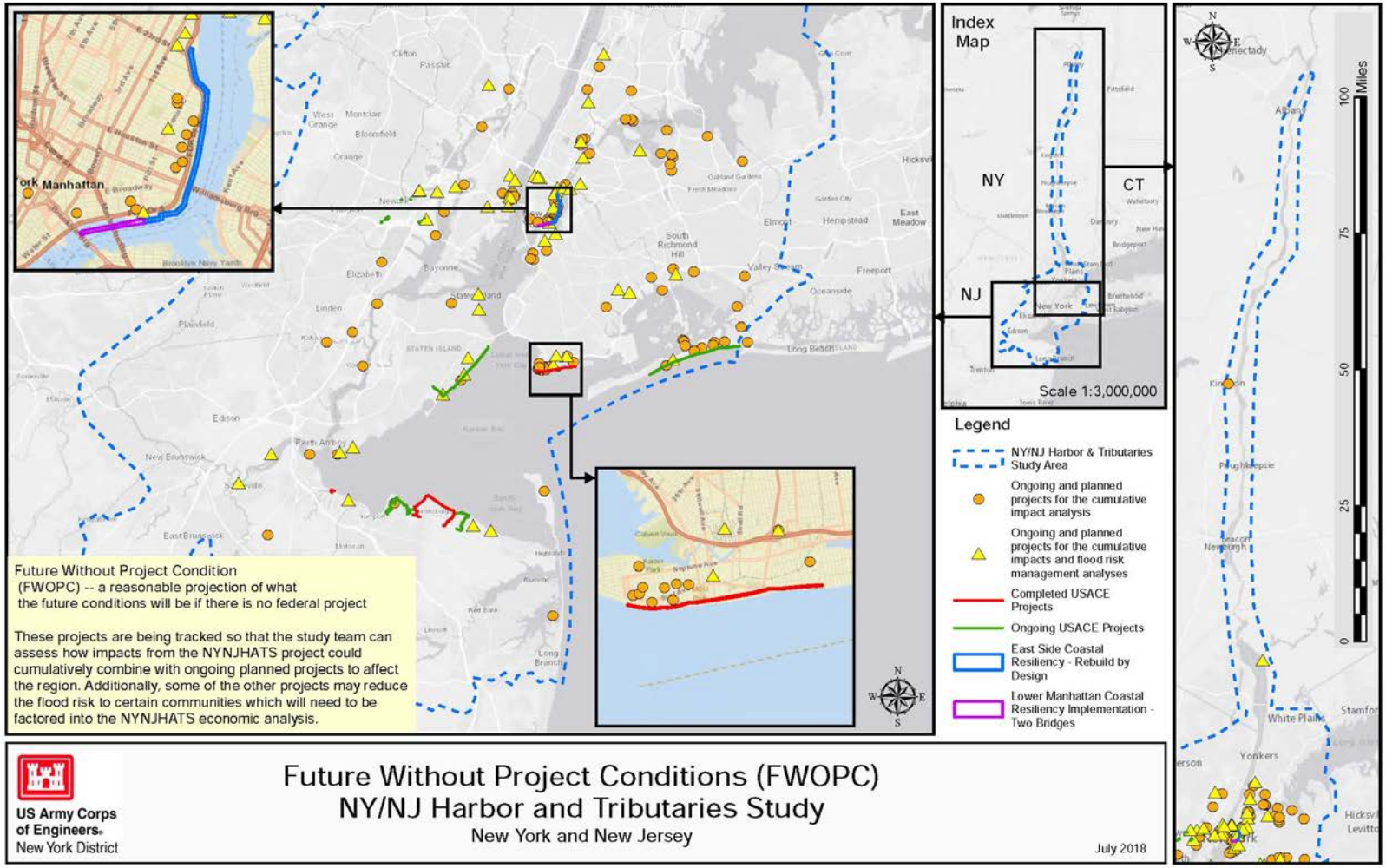
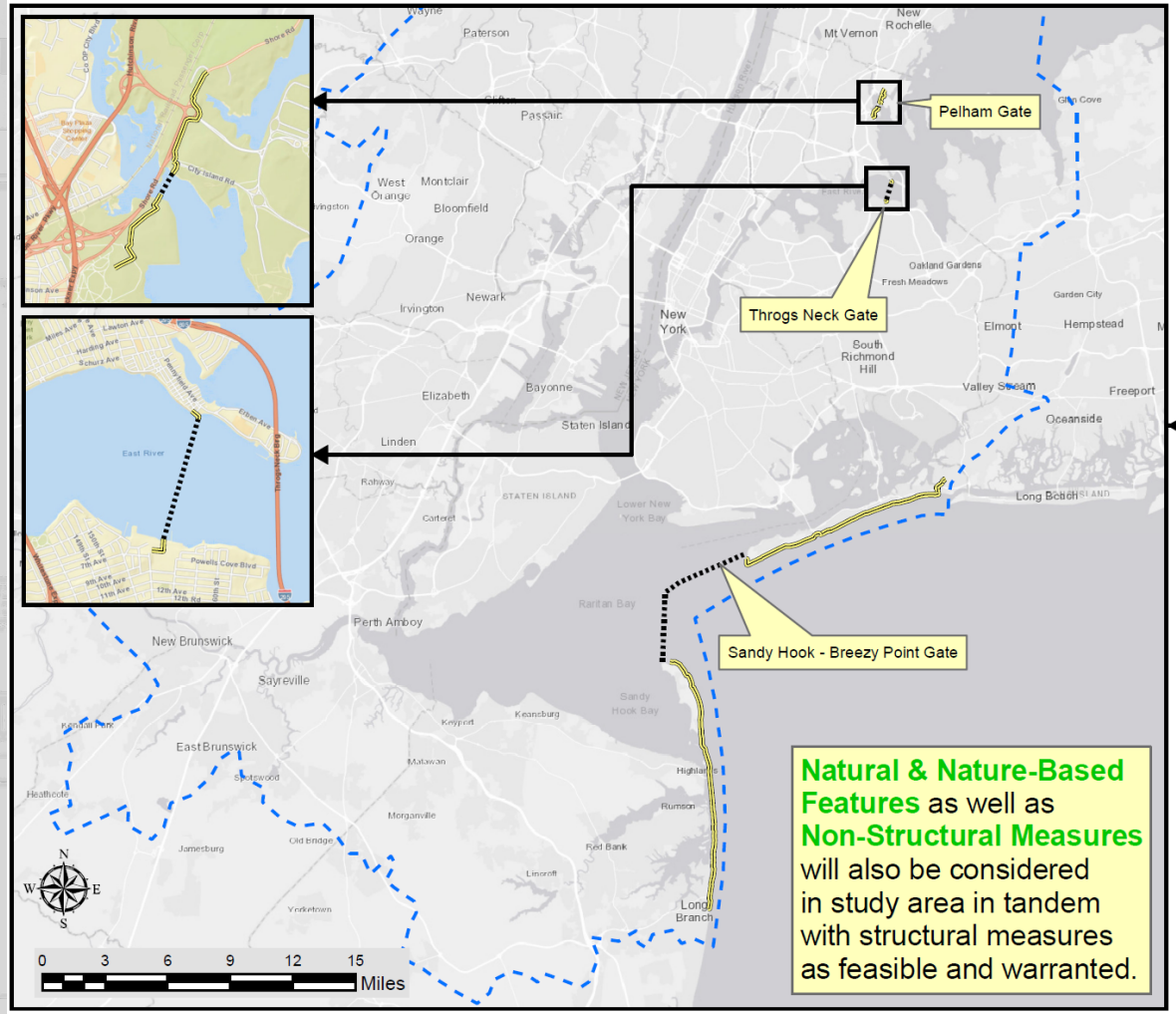
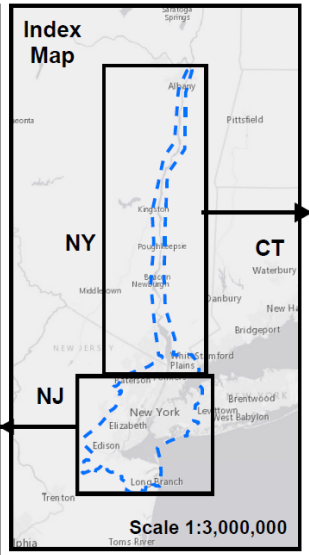
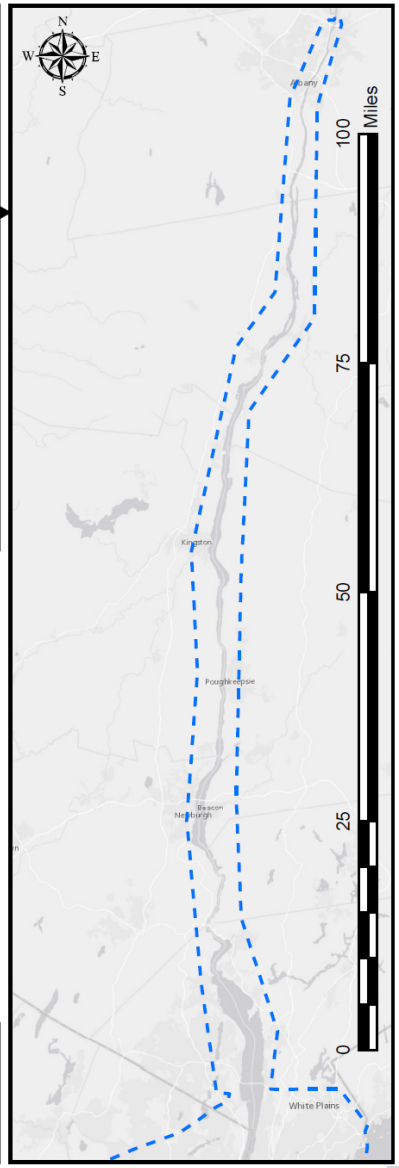
ALTERNATIVE 1: NO ACTION (FUTURE WITHOUT PROJECT CONDITIONS)









Legend

- Conceptual Surge Gate
- Conceptual Shoreline Based Measure (SBM)
- NY/NJ Harbor & Tributaries Study Area

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Alternative #2 - NY/NJ Harbor Wide Gate/Beach Restoration
NY/NJ Harbor and Tributaries Study

New York and New Jersey

September 2018

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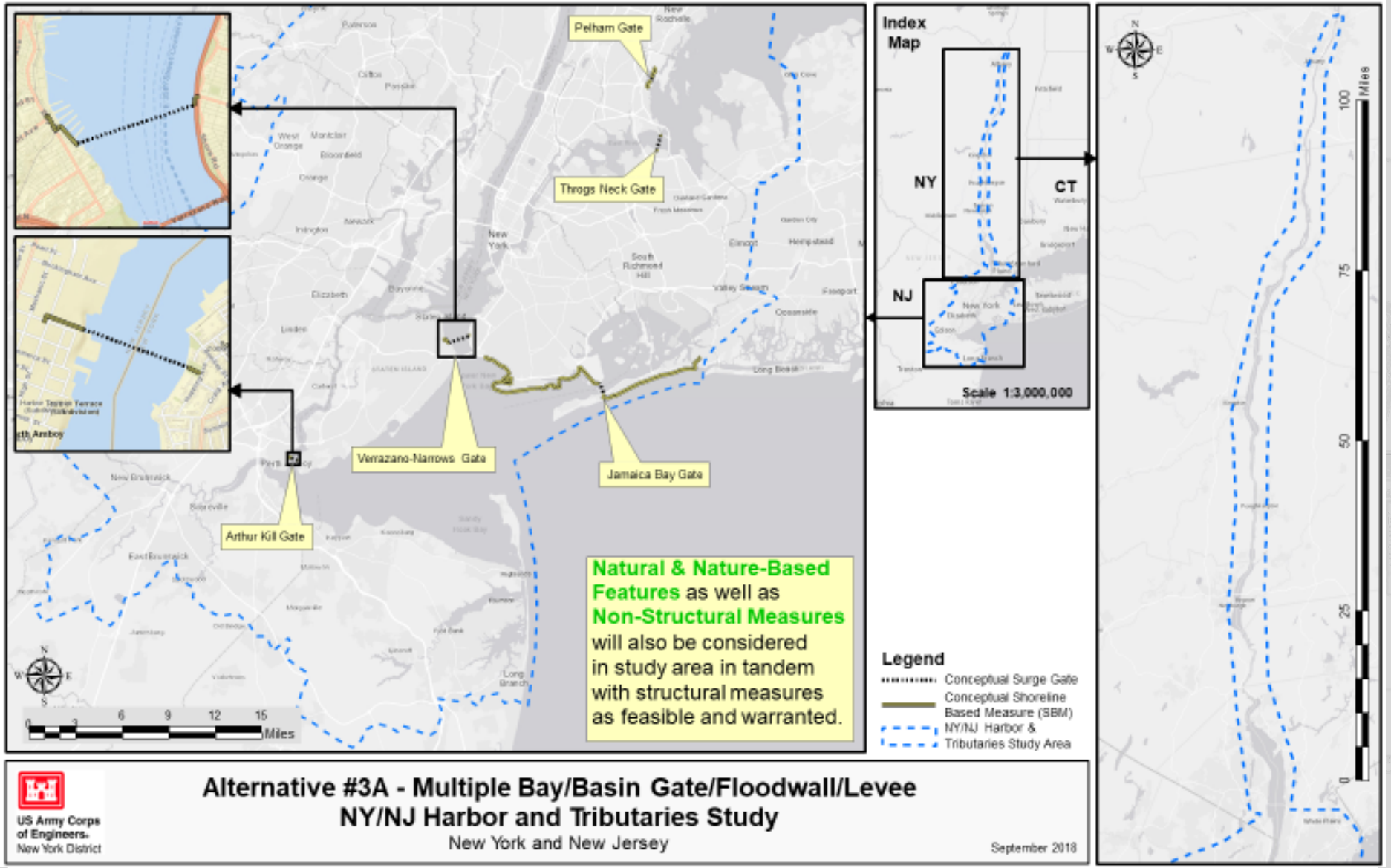

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Alternative #3A - Multiple Bay/Basin Gate/Floodwall/Levee
NY/NJ Harbor and Tributaries Study

New York and New Jersey

September 2018

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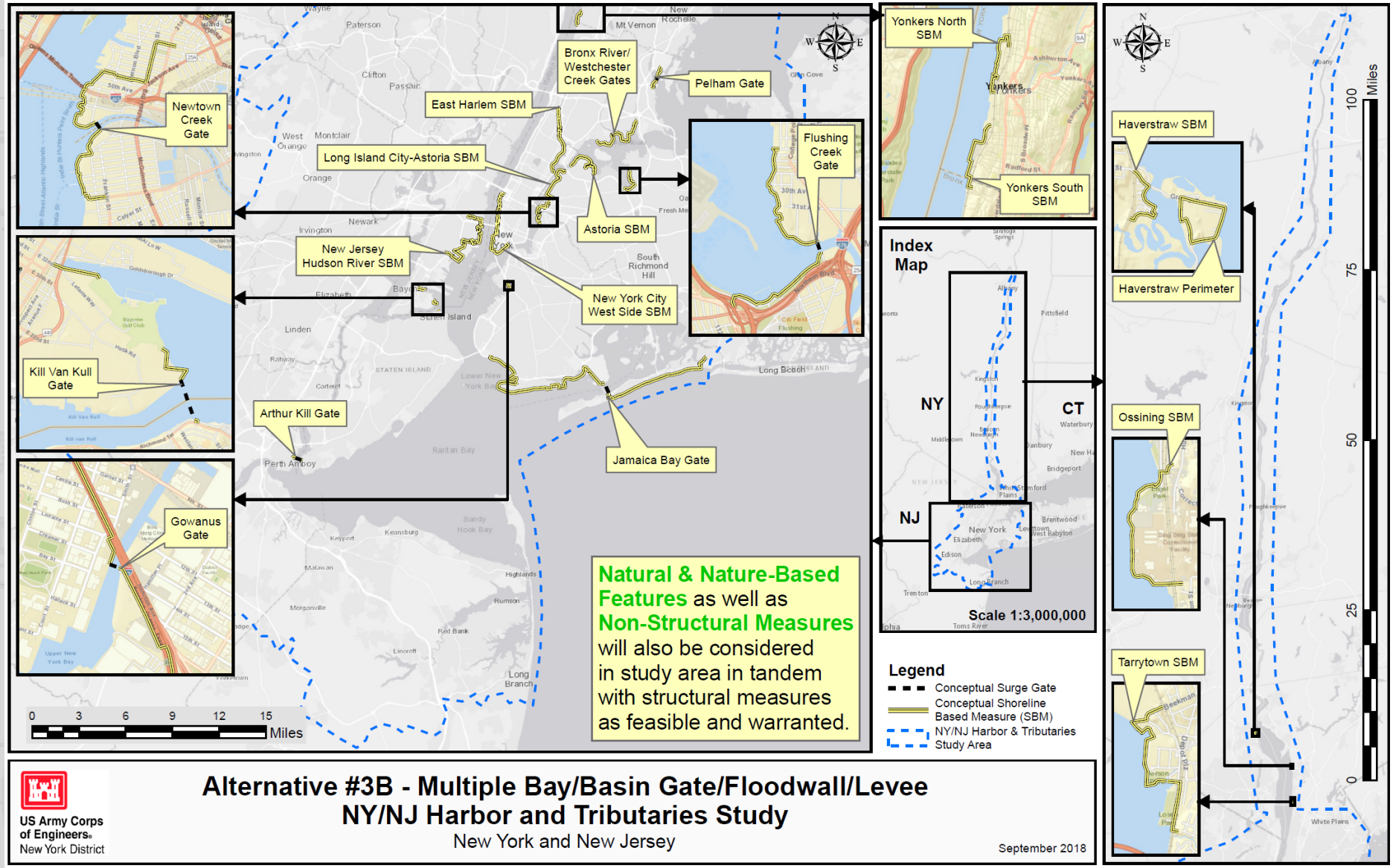

Alternative #3B - Multiple Bay/Basin Gate/Floodwall/Levee
NY/NJ Harbor and Tributaries Study

New York and New Jersey

September 2018

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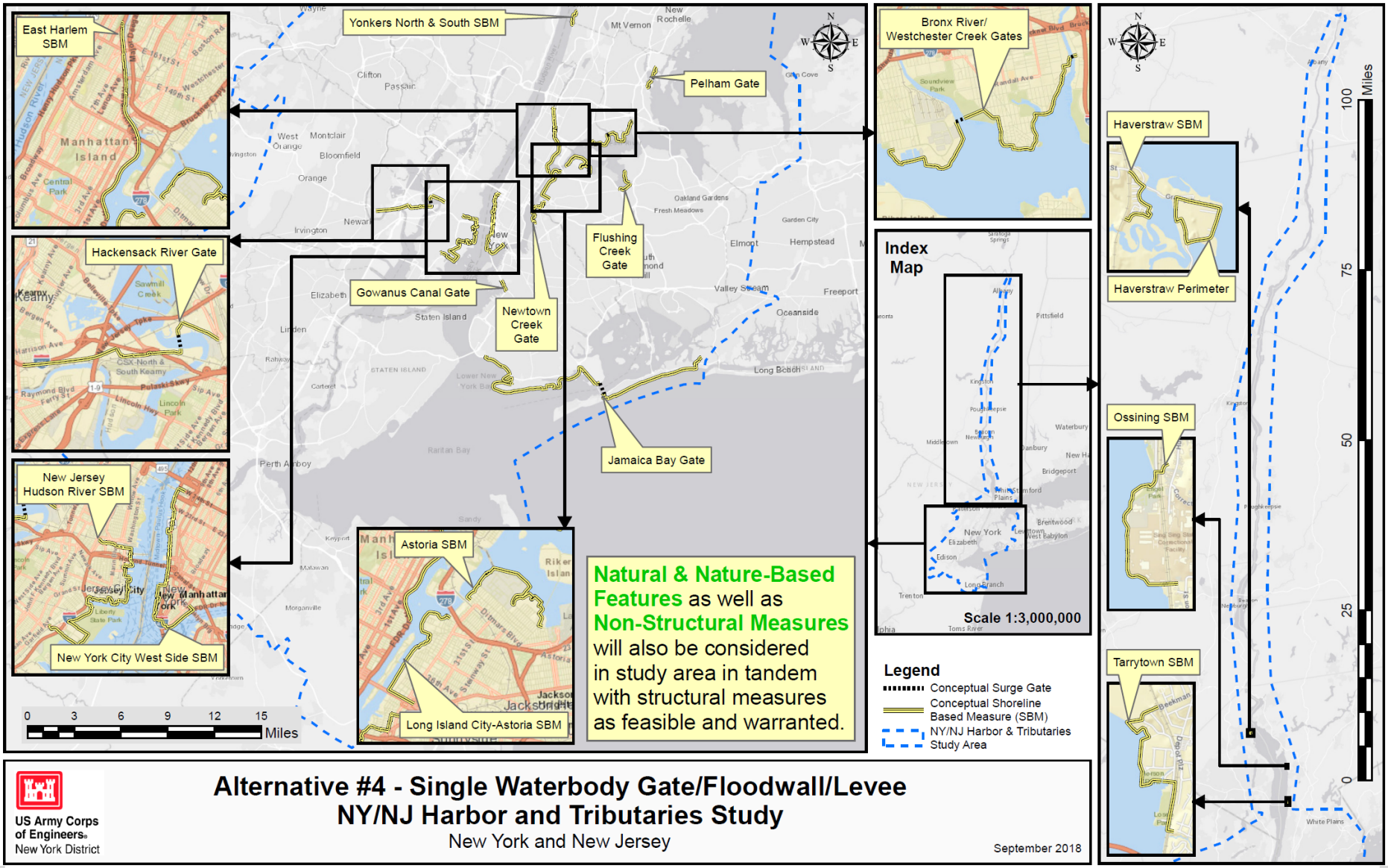

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Alternative #4 - Single Waterbody Gate/Floodwall/Levee
NY/NJ Harbor and Tributaries Study

New York and New Jersey

September 2018

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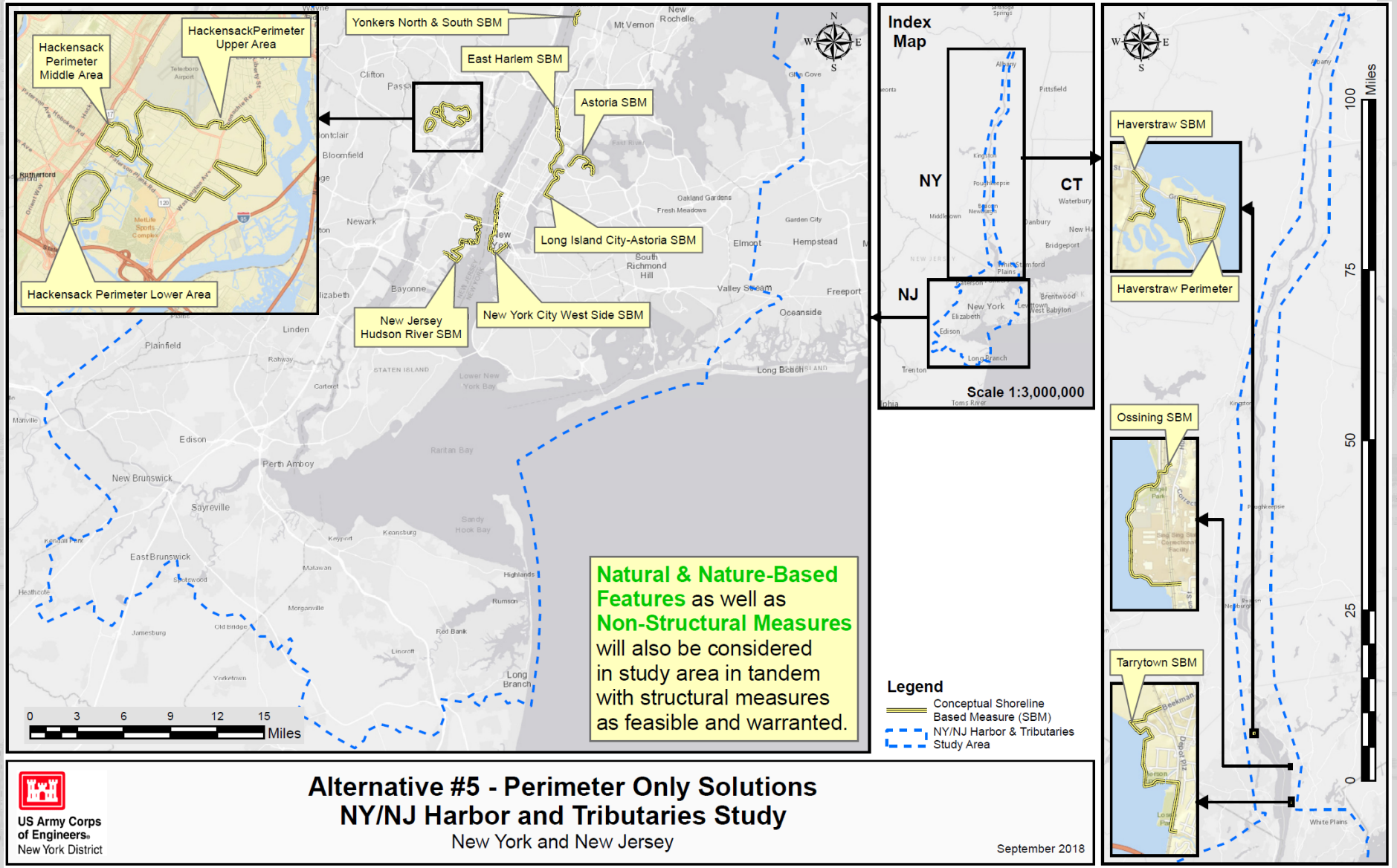

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Alternative #5 - Perimeter Only Solutions
NY/NJ Harbor and Tributaries Study
New York and New Jersey

September 2018

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