



**DEPARTMENT OF THE ARMY**  
**U.S. ARMY CORPS OF ENGINEERS NORTH ATLANTIC DIVISION**  
**FORT HAMILTON MILITARY COMMUNITY**  
**302 JOHN WARREN AVENUE**  
**BROOKLYN NY 11252-6700**

CENAD-PD-P (1105-2-10c)

MEMORANDUM FOR Commander, New York District, U.S. Army Corps of Engineers,  
26 Federal Plaza, New York, NY 10278

SUBJECT: Request for Approval of the New York-New Jersey Harbor and Tributaries  
Coastal Storm Risk Management Feasibility Study Review Plan for Actionable Elements

1. Reference:

- a. CENAN-DE, Memorandum, dated 16 June 2025, subject as above.
- b. CENAD-PD-P, Memorandum, (Endorsement of the Review Plan for the New York & New Jersey Harbor and Tributaries Coastal Storm Risk Management Feasibility Study, Actionable Elements) 12 June 2025.

2. The National Planning Center for Expertise for Coastal Storm Risk Management (PCX-CSRМ) of the North Atlantic Division (NAD) is the lead office to execute the referenced Review Plan. The review was performed by the PCX-CSRМ in coordination with the Headquarters Engineering & Construction - Hydrology, Hydraulics, and Coastal (HQ E&C - HH&C). An Independent External Peer Review (IEPR) was conducted for the initial NYNJHATS Draft Feasibility Report and is not required for this Actionable Elements interim response study.

3. The enclosed Review Plan is approved for execution and is subject to change as study circumstances require, consistent with study development under the Project Delivery Business Process. Subsequent revisions to this Review Plan or its execution require new written approval from NAD.

4. The point of contact is Mr. R. Brian Paul, NAD Planning Program Manager at 347-622-2878 or Robert.B.Paul@usace.army.mil.

3 Encls

1. Transmittal Memo
2. CSRМ PCX Endorsement Memo
3. NYNJHATS Feasibility Study Review Plan

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Brigadier General, USA  
Commanding



**DEPARTMENT OF THE ARMY**  
**U.S. ARMY CORPS OF ENGINEERS, NEW YORK DISTRICT**  
**JACOB K. JAVITS FEDERAL BUILDING**  
**26 FEDERAL PLAZA**  
**NEW YORK NEW YORK 10278-0090**

CENAN-DE

June 16, 2025

MEMORANDUM FOR: BG Lloyd, Commander, North Atlantic Division, 301 General Lee Avenue, Fort Hamilton Community, Brooklyn, New York 11252 (Attn: Preston Oakley CENAD-PDP)

SUBJECT: Request for Approval of the New York-New Jersey Harbor and Tributaries Coastal Storm Risk Management Feasibility Study Review Plan for Actionable Elements

1. Reference: Engineer Regulation 1165-2-217, Civil Works Review Policy, 02 SEP 2024
2. The New York District (NAN) is requesting review and approval of the enclosed Review Plan for the subject study, prepared in accordance with ER 1165-2-217 (Reference 1).
3. The Review Plan outlines an adequate approach to District Quality Control, Agency Technical Review, and Vertical Team and Policy Reviews of study review products.
4. The Review Plan has been coordinated with the National Planning Center of Expertise for Coastal Storm Risk Management (PCX-CSRMS) as the review management organization and it was endorsed by the PCX-CSRMS in the enclosed memorandum.
5. My point of contact is Ms. Karen Baumert, Chief, Coastal and Navigation Section, Plan Formulation Branch, Planning Division, at karen.l.baumert@usace.army.mil or 917-790-8608 if you should require more information.

2 Encls  
1. PCX-CSRMS Endorsement  
2. Review Plan

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DEPARTMENT OF THE ARMY  
U.S. ARMY CORPS OF ENGINEERS, NORTH ATLANTIC DIVISION  
FORT HAMILTON MILITARY COMMUNITY  
302 JOHN WARREN AVENUE  
BROOKLYN, NY 11252-6700

CENAD-PD-P (1105-2-10c)

12 June 2025

MEMORANDUM FOR Commander, New York District, U.S. Army Corps of Engineers,  
(CENAN-PL/ Karen Baumert) 26 Federal Plaza, New York, NY 10278

SUBJECT: Endorsement of the Review Plan for the New York & New Jersey Harbor  
and Tributaries Coastal Storm Risk Management Feasibility Study, Actionable Elements

1. The National Planning Center of Expertise for Coastal Storm Risk Management (PCX-CSRМ) has reviewed the review plan for the New York & New Jersey Harbor and Tributaries (NYNJHATS) Coastal Storm Risk Management (CSRМ) Feasibility Study, Actionable Elements and concurs that it complies with current peer review policy requirements contained in ER 1165-2-217, entitled "Civil Works Review Policy," and complies with the CECW memo (07 May 2025), "Feasibility Study Vertical Team Alignment and Command Validation."
2. Endorsement of the review plan, along with the required model user and coordination questionnaires, documents compliance with CECW-P memo (28 July 2023), "Model Coordination for Civil Works Planning Studies," to coordinate models and confirm assigned modelers possess the requisite knowledge and experience to complete modeling tasks and to ensure the feasibility study is successful.
3. The review was performed by the PCX-CSRМ in coordination with the Headquarters Engineering & Construction - Hydrology, Hydraulics, and Coastal (HQ E&C - HH&C).
4. An Independent External Peer Review (IEPR) was conducted for the initial NYNJHATS Draft Feasibility Report and is not required for this Actionable Elements interim response study.
5. The PCX-CSRМ has no objection to review plan approval by the North Atlantic Division (NAD).
6. The PCX-CSRМ is prepared to lead the Agency Technical Review for the NYNJHATS Feasibility Study, Actionable Elements, and will continue to coordinate with the Project Delivery Team. For further information, please contact me at 347-370-4591.

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DONALD E. CRESITELLO  
Technical Director, PCX-CSRМ

# **New York – New Jersey Harbor and Tributaries, Coastal Storm Risk Management Feasibility Study**

## **Actionable Elements**

**BLUF:** The New York-New Jersey Harbor and Tributaries Study team is focused on delivering Actionable Elements for construction authorization in the potential Water Resources Development Act (WRDA) of 2026. This review plan outlines the reviews for Actionable Elements for inclusions into the potential Water Resources Development Act of 2026, specifically, and does not detail work nor reviews required for the continuation of the broader comprehensive plan.

**Review Plan**  
July 2025

**1. Project Summary**

**Project Name:** New York – New Jersey Harbor and Tributaries, Coastal Storm Risk Management Feasibility Study

**Location:** The Study Area includes 25 counties in New Jersey and New York, including Bergen, Passaic, Morris, Essex, Hudson, Union, Somerset, Middlesex, and Monmouth Counties in New Jersey; and Rensselaer, Albany, Columbia, Greene, Dutchess, Ulster, Putnam, Orange, Westchester, Rockland, Bronx, New York, Queens, Kings, Richmond, and Nassau Counties in New York. This Review Plan focuses on sites in the counties of Richmond, NY; New York, NY; and Bergen, NJ.

**P2 Number:** 404586

**Decision and Environmental Compliance Document Type:** Feasibility Report and Environmental Assessment

**Congressional Authorization Required:** Yes

**Project Purpose(s):** Coastal Storm Risk Management

**Non-Federal Sponsor:** The New Jersey Department of Environmental Protection (NJDEP) and The New York State Department of Environmental Conservation (NYSDEC)

**Points of Public Contact for Questions/Comments on Review Plan:**

**District:** New York District

**District Contact:** Lead Planner, 917-790-8527

**Major Subordinate Command (MSC):** North Atlantic Division

**MSC Contact:** Planning Program Manager, 347-622-2878

**Review Management Organization (RMO):** Planning Center of Expertise for Coastal Storm Risk Management (PCX-CSRМ)

**RMO Contact:** Technical Director, 917-843-6426

**Key Review Plan Dates**

|                                                    |                                           |
|----------------------------------------------------|-------------------------------------------|
| Date of RMO Endorsement of Review Plan             | 12 <sup>th</sup> June 2025                |
| Date of MSC Approval of Review Plan                | 15 <sup>th</sup> July 2025                |
| Date of IEPR Exclusion Approval                    | N/A                                       |
| Has the Review Plan changed since RMO Endorsement? | Yes – to focus on Actionable Element work |
| Date of Last Review Plan Revision                  | June 2025                                 |
| Date of Review Plan Web Posting                    | Original 08 May 2017                      |

### Milestone Schedule and Other Dates

|                                                                                                               | <b>Scheduled</b>  | <b>Actual</b>     |
|---------------------------------------------------------------------------------------------------------------|-------------------|-------------------|
| <b>FCSA Execution</b>                                                                                         | 15 July 2016      | 15 July 2016      |
| <b>Alternatives Milestone</b>                                                                                 | 27 September 2017 | 27 September 2017 |
| <b>Interim Report</b>                                                                                         | February 2019     | February 2019     |
| <b>Federal Funding Lapse (FYs 2020-2021 work plans)</b>                                                       | Not planned.      | February 2020     |
| <b>Federal Funding Resumption</b>                                                                             | July 2022         | October 2022      |
| <b>Tentatively Selected Plan Milestone</b>                                                                    | January 2020      | July 2022         |
| <b>Release Draft Feasibility Report and Draft Tier 1 EIS to Public</b>                                        | January 2022      | September 2022    |
| <b>3rd Additional Resource Request (exemption)</b>                                                            | April 2024        | January 2025      |
| <b>GRAY SHADED CELLS BELOW ARE FOR WRDA26 AE ACTIONS / DELIVERABLES</b>                                       |                   |                   |
| <b>ASA(CW) Briefing/IPR</b>                                                                                   | June 2025         | N/A               |
| <b>Release of Draft Interim Response Integrated Report and Environmental Assessment (Actionable Elements)</b> | July 2025         | N/A               |
| <b>Closing of Public and Agency Review of Draft Integrated Interim Response Report</b>                        | August 2025       | N/A               |
| <b>Command Validation Milestone</b>                                                                           | September 2025    | N/A               |
| <b>Final Interim Response Integrated Report and Environmental Assessment (Actionable Elements) Submittal</b>  | March 2026        | N/A               |
| <b>State and Agency Review</b>                                                                                | April 2026        | N/A               |
| <b>Interim Response Chief's Report</b>                                                                        | June 2026         | N/A               |

## 2. References

Engineer Regulation 1165-2-217 – Water Resources Policies and Authorities – Civil Works Review Policy, 2 September 2024.

Engineer Circular 1105-2-412 – Planning – Assuring Quality of Planning Models, 31 March 2011.

Planning Bulletin 2013-02, Subject: Assuring Quality of Planning Models (EC 1105-2-412), 31 March 2013.

Office of Management and Budget, Final Information Quality Bulletin for Peer Review, Federal Register Vol. 70, No. 10, January 14, 2005, pp 2664-267

CECW-P Memorandum, Model Coordination for Civil Works Planning Studies, 28 July 2023.

Engineer Pamphlet 1105-2-61 – Planning – Feasibility and Post-Authorization Study Procedures and Report Processing Requirements, 1 July 2023.

CECW Memorandum, Subject: Vertical Team Alignment Memorandum (VTAM) Guidance, 29 July 2022

CECW Memorandum, Subject: Feasibility Study Vertical Team Alignment and Command Validation, 07 May 2025

Engineer Regulation 1105-2-102 – Water Resources Policies and Authorities – Watershed Studies – 01 April 2022

Office of the Assistant Secretary of the Army (Civil Works), Memorandum (New York - New Jersey Harbor and Tributaries Coastal Storm Risk Management Study, 3x3x3 Rule Exemption), 17 January 2025.

The online USACE Planning Community Toolbox provides more review reference information at: <https://planning.erdc.dren.mil/toolbox/current.cfm?Title=Peer%20Review&ThisPage=Peer&Side=No>.

### **3. Review Execution Plan**

The general plan for executing all required independent reviews is outlined in the following two tables.

Table 1 lists each study product to be reviewed. The table provides the schedules and costs for the anticipated reviews. Teams also determine whether a site visit will be needed to support each review. The decisions about site visits are documented in the table. As the review plan is updated the team will note each review that has been completed.

Table 2 identifies the specific expertise and role required for the members of each review team. The table identifies the technical disciplines and expertise required for members of review teams. In most cases the team members will be senior professionals in their respective fields. In general, the technical disciplines identified for a District Quality Control (DQC) team will be needed for an Agency Technical Review (ATR) team. Each ATR team member will be certified to conduct ATR by their community of practice. The table is set up to concisely identify common types of expertise that may be applicable to one or more of the reviews needed for a study.

This review plan outlines the reviews for Actionable Elements for inclusion into the potential Water Resources Development Act of 2026, specifically. This plan does not detail work nor reviews required for the continuation of the broader comprehensive plan, which is subject to future appropriations.

The process for plan formulation, evaluation, comparison, and selection of coastal storm risk management measures, as well as NEPA compliance for Actionable Elements, will be detailed in a Draft Interim Response Integrated Report and Environmental Assessment (draft report), Final Interim Response Integrated Report and Environmental Assessment (final report), and Chief's Report for Actionable Elements.

The study team, including the vertical team and non-federal sponsors, are aligned on working towards the goal of recommending Actionable Elements for a potential Water Resources Development Act

(WRDA) in 2026. This includes alignment on conducting reviews of the draft and final reports for Actionable Elements concurrently and expeditiously, as reflected in Table 1.

**Table 1: Schedule and Costs of Reviews**

| <b>Product to undergo Review</b>                                       | <b>Review Level</b>                                    | <b>Site Visit</b> | <b>Start Date</b> | <b>End Date</b> | <b>Cost</b> | <b>Complete</b> |
|------------------------------------------------------------------------|--------------------------------------------------------|-------------------|-------------------|-----------------|-------------|-----------------|
| Planning Model Review for HEC-FDA 1.4.2 and 2.0                        | Model Review<br>(See EC 1105-2-412)                    | No                | 08/18/2025        | 09/19/2025      | \$25,000    | No              |
| Draft Integrated Feasibility Report and Tier 1 EIS                     | District Quality Control (DQC)                         | No                | 08/30/2022        | 09/21/2022      | \$40,000    | Yes             |
| Draft Integrated Feasibility Report and Tier 1 EIS                     | Public Comment under National Environmental Policy Act | Yes               | 09/26/2022        | 03/31/2023      | N/A         | Yes             |
| Draft Integrated Feasibility Report and Tier 1 EIS                     | Agency Technical Review (ATR)                          | No                | 09/23/2022        | 05/31/2023      | \$60,000    | Yes             |
| Draft Integrated Feasibility Report and Tier 1 EIS                     | Independent External Peer Review (IEPR)                | No                | 10/25/2022        | Ongoing         | \$98,000    | Yes             |
| Draft Integrated Feasibility Report and Tier 1 EIS                     | Policy and Legal Compliance Review                     | No                | 09/23/2022        | 05/03/2023      | N/A         | Yes             |
| Draft Interim Response, Integrated Report and EA (Actionable Elements) | DQC                                                    | No                | 06/26/25          | 07/14/25        | \$40,000    | No              |
| Draft Interim Response, Integrated Report and EA (Actionable Elements) | Public Comment under National Environmental Policy Act | No                | 07/24/25          | 08/23/25        | TBD         | No              |
| Draft Interim Response, Integrated Report and EA (Actionable Elements) | Agency Technical Review (ATR)                          | No                | 07/25/25          | 08/21/25        | \$60,000    | No              |
| Draft Interim Response, Integrated Report and EA (Actionable Elements) | Policy and Legal Compliance Review                     | No                | 07/25/25          | 08/21/25        | TBD         | No              |
| Final Interim Response, Integrated Report and EA (Actionable Elements) | DQC                                                    | No                | 01/21/26          | 02/09/26        | \$30,000    | No              |
| Final Interim Response, Integrated Report and EA (Actionable Elements) | Agency Technical Review (ATR)                          | No                | 02/10/26          | 02/26/26        | \$50,000    | No              |
| Final Interim Response, Integrated Report and EA (Actionable Elements) | Policy and Legal Compliance Review                     | No                | 03/09/26          | 03/27/26        | TBD         | No              |
| Review Management Organization – Coordination and Participation        | IPRs, Issue Resolution Meetings, Milestone Meetings    | No                | January 2025      | June 2026       | \$15,000    | No              |

**Table 2: Review Teams - Disciplines and Expertise**

| <b>Discipline / Role</b> | <b>Expertise</b>                                                                                                                                                                                                                                                                    | <b>DQC</b> | <b>ATR</b> | <b>IEPR</b> |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------|-------------|
| DQC Team Lead            | Extensive experience preparing Civil Works decision documents and leading DQC. The lead may serve as a DQC reviewer for a specific discipline (planning, economics, environmental, etc.).                                                                                           | Yes        | No         | N/A         |
| ATR Team Lead            | Professional with extensive experience preparing Civil Works decision documents and conducting ATR. Skills to manage a virtual team through an ATR. The lead may serve on the ATR team for a specific discipline (such as planning, economics, or environmental work).              | No         | Yes        | N/A         |
| IEPR Manager             | Planner with extensive knowledge of IEPR policy and procedures and contract management and oversight skills.                                                                                                                                                                        | No         | No         | N/A         |
| Planning                 | Skilled water resources planner knowledgeable in complex planning investigations and the application of SMART principle to problem solving.                                                                                                                                         | Yes        | Yes        | N/A         |
| Economics                | Experience with applying theory, methods and tools used in the economic evaluation of water resources projects. Particularly with HEC-FDA 2.0.                                                                                                                                      | Yes        | Yes        | N/A         |
| Environmental Resources  | Experience with environmental evaluation and compliance requirements, national environmental laws and statutes, applicable Executive Orders, and other planning requirements.                                                                                                       | Yes        | Yes        | N/A         |
| Cultural Resources       | Experience with cultural resource survey methods, area of potential effects, National Historic Preservation Act Section 106, and state and federal laws pertaining to American Indian Tribes.                                                                                       | Yes        | Yes        | N/A         |
| Hydrology                | Engineer with experience applying hydrologic principles and technical tools to project planning, design, construction, and operation.                                                                                                                                               | Yes        | Yes        | N/A         |
| Hydraulic Engineering    | Engineer with experience applying hydraulic engineering principles and analytic tools to project planning, design, construction, and operation.                                                                                                                                     | Yes        | Yes        | N/A         |
| Cost Engineering         | Experience using cost estimation software; working knowledge of water resource project construction; capable of making professional determinations using experience.                                                                                                                | Yes        | Yes        | N/A         |
| Coastal Engineering      | Engineer with experience in designing and developing of detailed plans and specifications including special and unique monitoring programs for projects along coastal areas and inlets for the purposes of navigation improvements, shoreline protection and beach erosion control. | Yes        | Yes        | N/A         |
| Structural Engineering   | Engineer with experience in planning and design work, with responsibility for preliminary and final designs in structural steel, reinforced masonry and reinforced concrete for small, large and highly complex projects.                                                           | Yes        | Yes        | N/A         |

| <b>Discipline / Role</b>                   | <b>Expertise</b>                                                                                                                                                                                                                                                                                     | <b>DQC</b> | <b>ATR</b> | <b>IEPR</b> |
|--------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------|-------------|
| Civil Engineering                          | Engineer with experience designing and building to meet the challenges of disaster relief, deteriorating facilities, traffic congestion, floods, earthquakes, environmental contamination, and community planning.                                                                                   | Yes        | Yes        | N/A         |
| Real Estate                                | Experience developing Real Estate Plans and experience in real estate fee/easement acquisition and residential/business relocations for Federal and/or Federally Assisted Programs for implementation of Civil Works projects.                                                                       | Yes        | Yes        | N/A         |
| Infrastructure and Installation Resilience | A member of the Infrastructure and Installation Resilience Community of Practice (IIR CoP) knowledgeable of the current policies and practices related to the consideration of changing conditions when analyzing coastal hydraulics and hydrology.                                                  | No         | Yes        | N/A         |
| Risk and Uncertainty                       | For decision documents involving hydrologic, hydraulic, and/or coastal related risk management measures, include on the ATR team an expert on multi-discipline flood risk analysis to ensure consistent and appropriate identification, analysis, and written communication of risk and uncertainty. | No         | Yes        | N/A         |

## 4. Documentation of Reviews

**Documentation of DQC.** Quality Control will be performed continuously. A specific certification of DQC completion will be prepared at the base conditions (existing and future), draft and final report stages. Documentation of DQC will follow the District Quality Manual and the MSC Quality Management Plan. DrChecks will be used for documentation of DQC comments. An example DQC Certification statement is provided in ER 1165-2-217, Appendix D. Documentation of completed DQC, to include the DQC checklist, will be provided to the MSC, RMO and the ATR Team leader. The ATR team will examine DQC records and comment in the ATR report on the adequacy of the DQC effort.

**Documentation of ATR.** DrChecks will be used to document all ATR comments, responses, and resolutions. Comments should be limited to those needed to ensure product adequacy. All members of the ATR team will use the four-part comment structure (see ER 1165-2-217, Section 5). If a concern cannot be resolved by the ATR team and PDT, it will be elevated to the vertical team to resolve using the issue resolution process in ER 1165-2-217, Section 5.9. Unresolved concerns will be closed in DrChecks by noting the concern has been elevated and any such issues will be explicitly documented in the Statement of Technical Review and ATR Certification form prior to being routed for signature per Paragraph 5.11. ATR documentation will include an assessment by the ATR team of the effectiveness of DQC. The ATR Lead will prepare a Statement of Technical Review (see ER 1165-2-217, Section 5.11, and Appendix D), for the draft and final reports, certifying that review issues have been resolved or elevated. ATR will be certified when all concerns are resolved or referred to the vertical team and the ATR documentation is complete.

**Documentation of IEPR.** The Outside Eligible Organization will submit a final Review Report no later than 60 days after the end of the draft report public comment period. USACE shall consider all recommendations in the final Review Report and prepare a written response for all recommendations. The final decision document will summarize the Review Report and USACE response and will be posted on the internet.

**Documentation of Model Review.** Planning models require compliance with EC 1105-2-412. Models developed by the Corps of Engineers are certified and models developed by others are approved. Certifications or approvals may be specific to a single study, a regional application or for nationwide application. Completion of a model review is documented in a memorandum from the Director of a Planning Center of Expertise and should accompany reporting packages for study decisions.

## 5. Supporting Information

### Study or Project Background

#### Study Authority

On January 29, 2013, President Obama signed into law the Disaster Relief Appropriations Act, of 2013 (Public Law 113-2), to assist in the recovery in the aftermath of Hurricane Sandy. The Water Resources Reform and Development Act of 2014 (Section 3026 and the Joint Explanatory Statement of the Committee of Conference), signed by President Obama on June 10, 2014, provided further clarification for the USACE conduct of the study.

The NYNJHAT focus area was identified as one of the nine focus areas warranting additional analysis within the larger North Atlantic Coast Comprehensive Study's study area. Since the authority to perform the separate NYNJHAT feasibility study is not provided for under P.L. 113-2, a previously existing authority provided the basis for the NYNJHAT CSRM feasibility study (i.e., P.L. 84-71, approved 15 June 1955). This study authority allows 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.

Sec. 2. Such survey, to be made under the direction of the Chief of Engineers, shall include the securing of data on the behavior and frequency of hurricanes, and the determination of methods of forecasting their paths and improving warning services, and of possible means of preventing loss of human lives and damages to property, with due consideration of the economics of proposed breakwaters, seawalls, dikes, dams, and other structures, warning services, or other measures which might be required.”

### **Study or Project Area**

The study area for the comprehensive effort encompasses the New York Metropolitan Area, including the most populous and densely populated city in the United States, and the six most populated cities in New Jersey. The shorelines of some of the NYNJHAT study area are characterized by low elevation areas, developed with residential and commercial infrastructure and are subject to inundation during coastal storms. The study area covers more than 2,150 square miles and comprises parts of 25 counties in New Jersey and New York, including Bergen, Passaic, Essex, Hudson, Union, Somerset, Middlesex, and Monmouth Counties in New Jersey; and Rensselaer, Albany, Columbia, Greene, Dutchess, Ulster, Putnam, Orange, Westchester, Rockland, Bronx, New York, Queens, Kings, Richmond, and Nassau Counties in New York. To include all tidally affected waters, the study area extends upstream of the Hudson River to the location of the Federal Lock and Dam in Troy, NY, the Passaic River to the Dundee Dam, and the Hackensack River to Oradell Reservoir (Figure 1).

This Review Plan focuses on Actionable Elements for inclusion into the potential WRDA of 2026. The outcome of extensive scoping efforts has resulted in the identification of three Actionable Elements for further evaluation: East Riser, Meadowlands, NJ; Harlem River, NY Floodwall; and Oakwood Beach, Staten Island, NY nature-based solution (Figure 2).

## Study or Project Area Map

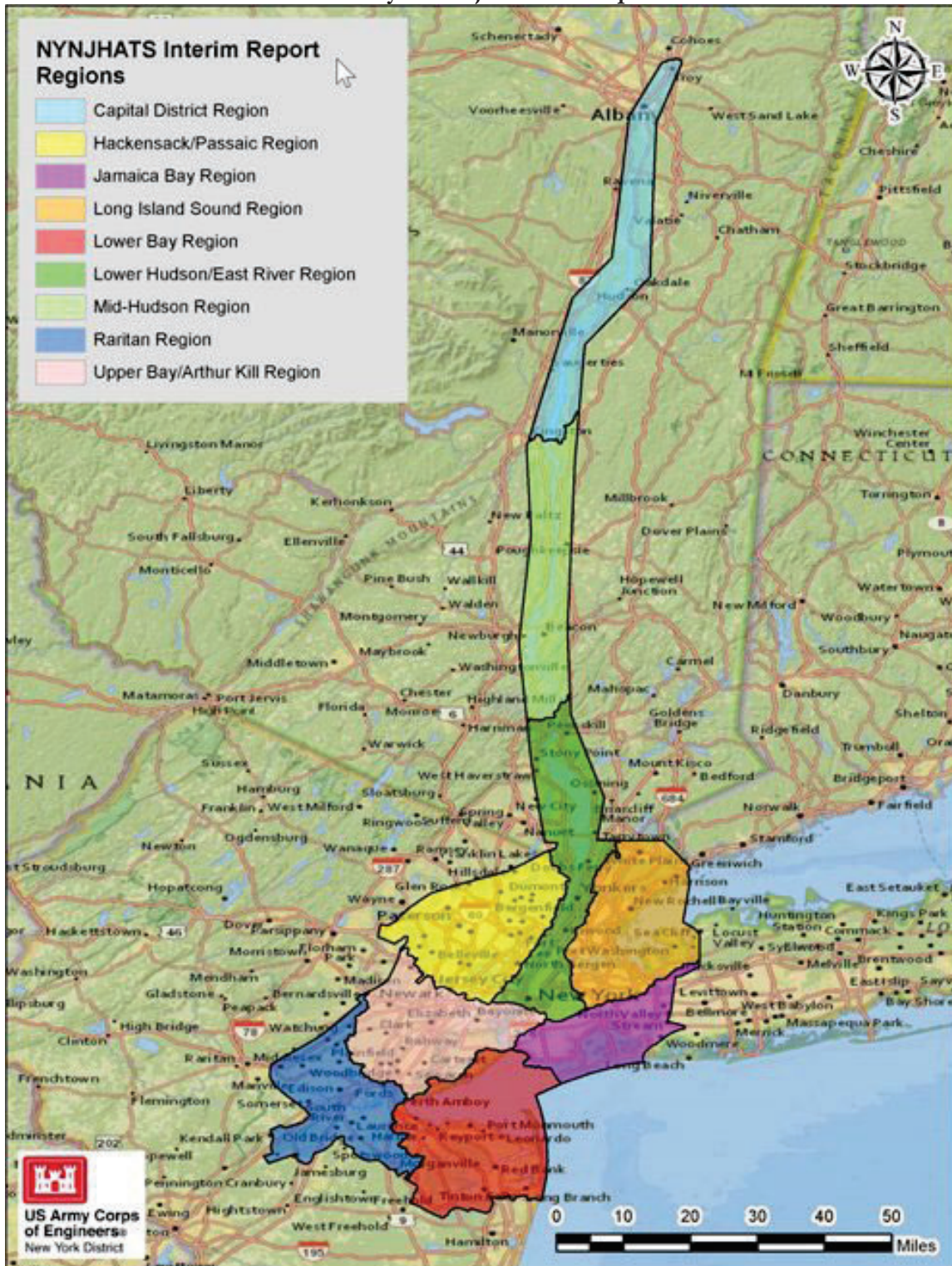


Figure 1: Study Area Map



*Figure 2: Location of Actionable Elements*

### Problem Statement

Coastal storm flooding significantly impacts nationally important areas, critical infrastructure, societal resources, communities, and ecosystems in the study area. Flooding caused by coastal storms, both tropical (e.g., hurricanes) and extratropical (e.g., nor'easters) continues to be the most frequent, destructive, and costly natural hazard facing the region. The study area is vulnerable to damage from storm surge, wave attack, erosion, and intense rainfall-stormwater runoff events that exacerbates coastal flooding. These forces constitute a threat to human life and increase the risk of flood damages to public and private property and infrastructure. The study area is highly urbanized, and with existing geography, topography, and proximity to tidally influenced areas, it is highly vulnerable to coastal storm damage. These at-risk areas include both public and private property. The desire and decision to develop housing and waterfront properties along the coastline has many property owners in areas of high vulnerability due to the lack of shoreline stabilization and erosion of supportive and protective landforms. Combined with weather extreme projections and projected relative sea level change (RSLC), the vulnerability of this area to future flooding events and coastal storm damage is effectively increased. Sea level change has exacerbated flooding over the past century, and all future projections for RSLC will only increase the magnitude, frequency, and extent of the coastal storm flooding problem.

A related water resource problem is urban flooding caused by fluvial storm events, which for tributaries with fast drainage can be coincident with coastal storm events. These fluvial events combined with undersized drainage systems, poor system maintenance, and antiquated combined sewer systems common in older urbanized areas exacerbate coastal storm risks and impacts. During

storm surge events, the water level in the water body may be greater than the water level within a collection system, thereby making hydraulically connected low-lying areas more susceptible to flooding. Land development has increased impervious areas and urban runoff rates, decreased groundwater recharge, and degraded stormwater quality enhancing flooding and impacting adjacent valued aquatic habitats.

### **Goals and Objectives**

The study objective is to identify and recommend the alternative that best manages coastal storm risk by reducing coastal storm damages and life safety risks. Given the broad area and types of shorelines within NYNJHAT study, all alternatives formulated and under evaluation in the NYNJHAT study includes multiple types of measures (e.g., structural, nonstructural, and nature-based solutions).

The NYNJHAT study is focused on delivering Actionable Elements for construction authorization in the potential WRDA of 2026.

### **Future Without Project Conditions**

The study area, as it stands, is vulnerable to coastal damage from storm surge, wave attack, erosion, and intense rainfall events that can also cause riverine or inland flooding. These forces constitute a threat to human life and increase the risk of flood damages to public and private property and infrastructure. Historic RSLC has exacerbated flooding over the past century, and potential RSLC in the future will only increase the magnitude, frequency, and extent of the problem. Since 1900, sea level in the lower Hudson has risen 13 inches. RSLC along the Hudson River is projected to continue. The Hudson River is projected to rise a minimum of nine additional inches by 2050, with mid-range projections of approximately 10 to 20 inches by 2050 (New York State, 2018 and USACE 2020a). As sea levels continue to rise, coastal storms will cause flooding over a larger area and at increased heights than they otherwise would have in the past. In the future without-project conditions, coastal storms could cause an increased disruption of emergency operations, damage to homes or properties, and loss of life. The States of New Jersey and New York, in their respective state hazard mitigation plans, have documented the numerous, historic instances of flooding, Presidential disaster declarations, and damage estimates. Coastal storms have and will continue to cause flooding and severe impacts to the NYNJHAT Study Area.

. Flooding from precipitation events could cause additional concerns such as combined sewer outfall (CSO) overflows expose higher pollution rates in waterways within the study area. Within the past ten plus years since Hurricane Sandy, infrastructure investments have been made on a Local, State, and Federal level within the study area to increase resiliency of the shoreline and adjacent structures. While there have been more resiliency projects successfully designed and built, destruction of historic structures and irreplaceable ecosystems continues to be an ongoing issue. Loss of habitat by conversion of forests, grassland and coastal habitats to commercial, residential, and industrial development has contributed to species loss. Future development and habitat loss is expected to occur and affect the listed species over the period of analysis of the NYNJHAT Study (i.e., over the next 50 years). Relative sea level change is anticipated to influence the status of any listed species over the temporal scale of the NYNJHAT Study (i.e., over the next 50 years) or that the abundance, distribution, or behavior of those species in the Study Area will significantly change.

### **Types of Measures/Alternatives Being Considered**

The Tentatively Selected Plan (TSP) detailed in the September 2022 Draft Integrated Feasibility Report was Alternative 3B, which employs a strategy to impede storm surge in multiple basins within the study area. The plan includes two primary structural components involving multiple storm surge

barriers each, three primary structural components involving storm surge barriers on the individual creeks of Gowanus, Newtown and Flushing located in Brooklyn and Queens, and three primary structural shore-based measures in Jersey City, the lower west side of Manhattan, and East Harlem.

The study team is focused on delivering Actionable Elements in a Chief's Report, which may be put forward to Congress for consideration in a potential WRDA 2026, in advance of the larger comprehensive TSP. The study efforts – and this Review Plan – will focus on investigating coastal storm risk management measures in the study area, consistent with the study authority, for

- East Riser, Meadowlands, NJ (channel, culvert, and bridge modifications)
- Harlem River, Manhattan, NY (floodwall or seawall)
- Oakwood Beach, Staten Island, NY (nature-based solutions)

### **Estimated Cost/Range of Costs**

Project first cost is the constant dollar cost at the current price level with added contingency and is the cost used in the authorizing document for a project. The contingency developed for each of the cost estimates is the 52.47% contingency from Alternative 3B from the original HATS Tentatively Selected Plan. This contingency is being used as a placeholder until further investigations and design work and analysis can be done on each specific actionable element to create a more refined contingency.

The measures, alternatives, and costs for the Actionable Elements are still being developed. It is preliminary estimated that the alternatives may cost:

- East Riser, Meadowlands, NJ (~\$121 million (\$184 million with contingency), 2025Q3)\*
- Oakwood Beach, Staten Island, NY (~\$28 million (\$42 million with contingency), 2025Q3)\*
- Harlem River, Manhattan, NY (TBD, anticipated to be over \$150 million)

\*These estimates were provided by the Sponsors and have not been created, reviewed, or verified by USACE at this time. The Sponsor estimates have been escalated from the time of creation to current date (FY2025 Q3) using the CWCCIS composite index for ALL features, dated March 31, 2025.

## **6. Models to be Used in the Study**

EC 1105-2-412 mandates the use of certified or approved models for all planning activities to ensure the models are technically and theoretically sound, compliant with USACE policy, computationally accurate, and based on reasonable assumptions. Planning models are any models and analytical tools used to define water resources management problems and opportunities, to formulate potential alternatives to address the problems and take advantage of the opportunities, to evaluate potential effects of alternatives and to support decision making.

The following planning models may be used to develop the decision document:

**Table 3: Planning Models, Tools and Data.**

| <b>Model Name and Version</b> | <b>Brief Model Description and How It Will Be Used in the Study</b>                                | <b>Certification / Approval</b> |
|-------------------------------|----------------------------------------------------------------------------------------------------|---------------------------------|
| HEC-FDA 1.4.2                 | The Hydrologic Engineering Center's Flood Damage Reduction Analysis (HEC-FDA) program provides the | Certified for FRM studies       |

|               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                             |
|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
|               | capability for integrated hydrologic engineering and economic analysis for formulating and evaluating flood risk management plans using risk-based analysis methods. The program will be used to evaluate and compare the future without- and with-project conditions for the identified actionable elements within the study area to aid in the selection of a recommended plan to manage coastal storm risk.                                                                                                                                                                                                                                                   | only, requires single use approval for CSRM studies                                         |
| HEC-FDA 2.0.1 | The Hydrologic Engineering Center's Flood Damage Reduction Analysis (HEC-FDA) program version 2.0 provides the capability for integrated hydrologic engineering and economic analysis for formulating and evaluating flood risk management plans using risk-based analysis methods and geospatial data. The program will be used to evaluate and compare the future without- and with-project conditions for the identified actionable elements within the study area to aid in the selection of a recommended plan to manage coastal storm risk.                                                                                                                | Certified for FRM studies only, requires single use approval for CSRM studies               |
| RECONS 2.0    | The RECONS 2.0 model is a regional economic impact modeling tool developed by the USACE Institute for Water Resources (IWR) to provide accurate and defensible estimates of regional economic impacts associated with Federal expenditures. This modeling tool automates calculations and generates estimates of jobs and other economic measures such as income and sales associated with USACE spending on Civil Works programs and projects. The RECONS 2.0 model incorporates impact area data, multipliers, direct ratios, and geographic capture rates extracted from other planning models utilized to evaluate the economic effects of proposed actions. | Certified                                                                                   |
| LifeSim 2.0   | The Risk Management Center's (RMC) Life Loss Estimation (LifeSim) software is spatially-distributed dynamic simulation modeling system for estimating potential life loss and direct economic damages from floods. The software is used extensively in the USACE Dam and Levee Safety Programs to inform program priorities and investment decisions; however, for use in traditional USACE planning studies it is certified for estimating potential life loss only.                                                                                                                                                                                            | Certified for FRM studies only, requires single use approval for CSRM studies               |
| LSRI 2.2.4    | Life Safety Risk Indicator (LSRI) tool provides a screening-level, relative representation of the life risk (average annual life loss) that would be reduced if a given structural or nonstructural flood damage reduction project was constructed.                                                                                                                                                                                                                                                                                                                                                                                                              | Scoping-level tool applicable for preliminary screening only. No approval for use required. |

|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                               |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|
| RMC-TotalRisk 1.0 | The Risk Management Center's TotalRisk software (RMC-TotalRisk, version 1.0) is a highly flexible model that performs quantitative risk calculations given user-specified hazard, transform, system response and consequence functions. The software can generate a wide range of risk outputs, including excess, background, total, failure, and non-failure risks. RMC-TotalRisk will be used to quantify baseline wildfire risk and wildfire risk management benefits for the Oakwood Beach Actionable Element. | Certified for FRM studies only, requires single use approval for CSRM studies |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|

EC 1105-2-412 does not cover engineering models used in planning. The responsible use of well-known and proven USACE developed and commercial engineering software will continue. The professional practice of documenting the application of the software and modeling results will be followed. The USACE Scientific and Engineering Technology Initiative has identified many engineering models as preferred or acceptable for use in studies. These models should be used when appropriate. For example, HH&C models need to comply with the requirements of HH&C CoP Enterprise Standard 08101.

These engineering models may be used to develop the decision document:

**Table 4: Engineering Models, Tools and Data.**

| <b>Model Name and Version</b> | <b>Brief Model Description and How It Will Be Used in the Study</b>                                                                                                                                                                                                                                                                              | <b>Approval Status</b> |
|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| HEC-HMS 4.6.1                 | Hydrologic Modeling System (HEC-HMS) is designed to simulate the complete hydrologic processes of dendritic watershed systems. The software includes many traditional hydrologic analysis procedures such as event infiltration, unit hydrographs, and hydrologic routing.                                                                       | HH&C CoP Preferred     |
| HEC-RAS 6.1.0                 | The Hydrologic Engineering Center's River Analysis System (HEC-RAS) program provides the capability to perform one-dimensional steady and unsteady flow river hydraulics calculations. The program will be used for steady flow analysis to evaluate the future without- and with-project conditions along the Rahway River and its tributaries. | HH&C CoP Preferred     |
| MCACES II (MII)               | Micro-Computer Aided Cost Estimating System (MCACES) is a multi-user software program used by the U.S. Army Corps of Engineers for the preparation of detailed construction cost estimates for military, civil works, and environmental projects. The system includes a project database and supporting databases.                               | Cost CoP Preferred     |

|             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                    |
|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
|             | The supporting databases include a unit price book, crews, labor rates, equipment ownership, schedule costs, assemblies, and models. All databases work in conjunction with each other to produce a detailed cost estimate.                                                                                                                                                                                                                                                                                                                                                                                                       |                    |
| CHS 2.0     | The Coastal Hazards System (CHS) is a national coastal storm hazard data resource for probabilistic coastal hazard assessment (PCHA) results and statistics, storing numerical and probabilistic modeling results including storm surge, astronomical tide, waves, currents, and wind. CHS data is developed using the Coastal Storm Modeling System (CSTORM-MS); a comprehensive system of highly skilled and highly resolved models (WAM, ADCIRC, STWAVE) used to simulate coastal storms. Stage frequency curves published in CHS will be used to develop the gridded floodplains used as hydraulics inputs for HEC-FDA 2.0.1. | HH&C CoP Preferred |
| CrystalBall | Oracle Crystal Ball is a simulation program, used with Microsoft Excel, that helps analyze risks and uncertainties in the cost estimate. It uses Monte Carlo simulation to generate a realistic forecast of the possible cost and schedule impacts that may appear on the project. This software allows users to see a range of possible cost and schedule outcomes, understand the impact of different inputs, and identify critical factors affecting risk.                                                                                                                                                                     | Cost CoP Preferred |

All civil works planning studies must document compliance with CECW-P memo (28 July 2023), Model Coordination for Civil Works Planning Studies, to coordinate models and confirm assigned modelers possess the requisite knowledge and experience to complete modeling tasks. A questionnaire for each model is attached in Appendix G.

## 7. Factors Affecting Level and Scope of Review

All planning products are subject to the conduct and completion of District Quality Control. Most planning products are subject to Agency Technical Review and a smaller sub-set of products may be subject to Independent External Peer Review and/or Safety Assurance Review. Information in this section helps in the scoping of reviews through the considerations of various potential risks.

### Objectives of the Reviews

The objective of the reviews is to ensure technical feasibility and compliance with current laws, guidance, regulations, and best practices.

The objectives of DQC, ATR, and P&LCR include to ensure

- decision document is consistent and clear.
- decision document quality and completeness.
- decision document is compliant with federal laws and policies including NEPA, as well as USACE policies and plan formulation standards for coastal storm risk management feasibility studies.
- sound assumptions, modeling and analyses methods, feasibility-level design, and plan formulation methods were utilized to develop the recommended measures/alternatives and appropriately documented in the decision document and supporting appendices.
- external coordination with the non-Federal Sponsors, non-Federal partners, stakeholders, environmental resource agencies, and public throughout the study are appropriately documented in the decision document.

### **Assessing the Need for IEPR**

#### **Mandatory IEPR Triggers**

- Has the Chief of Engineers determined the project is controversial? **No**
- Has the Governor of an affected state requested an IEPR? **No**
- Is the cost of the project more than \$200 million? **Yes**

Because an Independent External Peer Review (IEPR) was already conducted for the initial NYNJHATS Draft Feasibility Report an IEPR is not required for this Actionable Elements interim response study as it would be redundant.

#### **Discretionary IEPR**

- Has the head of another Federal agency requested an IEPR? **No**

### **Assessing Other Risk Considerations**

- Will the study likely be challenging? If so, describe how?  
No, this study will focus on investigating a subset of the original study area, consistent with the study authority, which may be put forward to Congress for consideration in a potential WRDA.
- Provide a preliminary assessment of where the project risks are likely to occur and assess the magnitude of those risks.  
There are a several project risks that could occur, both in the study phase and the implementation phase This study will focus on investigating a subset of the original study area, and outreach to stakeholders and their support is critical. The success of the AEs relies on strong partnerships with local and regional governmental entities, including state agencies in both New York and New Jersey, as well as the City of New York. Additionally, the team is relying on existing data to achieve both the appropriate design maturity to achieve a Class III cost estimate and environmental compliance. If the existing data are determined to be insufficient, a Chief's Report may not be ready for consideration in a potential WRDA 2026.

- Is the project likely to be justified by life safety or is the study or project likely to involve significant life safety issues? Briefly describe the life risk, including the District Chief of Engineering's assessment as to whether there is a significant threat to human life associated with aspects of the study or failure of the project or proposed projects.

This project is likely to involve significant life safety issues and rely on comprehensive benefits for justification / recommendation. After Hurricane Sandy, 87 deaths were reported in New York and New Jersey, making life safety a major concern within the study area.

- Is the information in the decision document or anticipated project design likely to be based on novel methods, involve innovative materials or techniques, present complex challenges for interpretation, contain precedent-setting methods or models, or present conclusions that are likely to change prevailing practices? If so, how?

No; traditional CSRM methods, techniques, and models will be used throughout the study.

- Does the project design require redundancy, resiliency, and/or robustness, unique construction sequencing, or a reduced or overlapping design/construction schedule? If so, how?

The scope to advance the study to completion, consistent with the direction from the vertical team, includes to strive for construction authorization of Actionable Elements in WRDA 2026. Actionable Elements will be identified, developed, and recommended for construction authorization separately and in advance of the broader comprehensive plan developed in the NYNJHAT study, subject to future appropriations. Actionable Elements function independently and will provide resilience in advance of the Comprehensive Plan. Actionable Elements may provide some redundancy with the Comprehensive Plan and will not predispose any decisions on the Comprehensive Plan.

- Is the project expected to have more than negligible adverse impacts on scarce or unique tribal, cultural, or historic resources? If so, what are the anticipated impacts?

This project is not expected to have more than negligible adverse impacts on scarce or unique tribal, cultural, or historic resources. Potential adverse effects to historic properties will be addressed through avoidance, minimization and mitigation. The District intends to complete a review in accordance with the National Historic Preservation Act, Section 106, process in coordination with the Advisory Council on Historic Preservation (ACHP), the New Jersey Historic Preservation Officer (NJHPO), the New York State Historic Preservation Officer (NYSHPO), the Landmark Preservation Commission (LPC), the National Park Service (NPS), as well as Native American Tribes and the public or other potential consulting parties. In the event that adverse effects to historic properties cannot be avoided, the District will follow the procedures for Section 106 to execute a mitigation agreement that will fully address the effects.

- Is the project expected to have substantial adverse impacts on fish and wildlife species and their habitat prior to the implementation of mitigation measures? If so, describe the impacts?

Additional data collection and analyses necessary to understand the full suite of adverse environmental impacts and effects of the projects the project is not anticipated to reveal substantial adverse impacts on fish and wildlife species and their habitat prior to the implementation of mitigation measures. Adverse impacts to these environmental resources are anticipated to range from no impacts to moderate impacts depending on resource, measure type, and location. However, these impacts are anticipated to be localized and temporary associated with footprint and construction activities effects on altered habitats, noise, vibration, and physical

land and seabed disturbance. Additionally, fish and wildlife species are anticipated to avoid construction and operations and maintenance activities, then return following.

Beneficial effects are also anticipated to terrestrial and aquatic wildlife species. Terrestrial species are anticipated to benefit from reduced wildlife displacement and habitat damage as a result of storm surge, coastal flooding, and regional sea level rise to the extent of that which is being addressed through the implementation of these measures. Aquatic species are anticipated to reap the benefits of “reef effect” from any potential in water hard structures, attracting structure-oriented invertebrates, numerous species of algae, shellfish, and other invertebrates that provide shelter and foraging opportunities for many species of fish. Wildlife would also have incurred benefits from complimentary nature-based solutions, particularly Oakwood Beach. Additional adverse impacts and beneficial effects assessments are required for the site-specific alignments of the project that remain under development; therefore, this summary is not all inclusive of the entire project’s anticipated impacts/benefits at this time, and will be refined as additional data is collected and assessed for impacts and/or benefits at both the comprehensive level and at the site-specific level.

- Is the project expected to have, before mitigation measures, more than a negligible adverse impact on an endangered or threatened species or their designated critical habitat? If so, what are the anticipated impacts?

While additional data collection and site-specific detail assessments are necessary to understand the full suite of adverse environmental impacts and effects of the project, the project is not anticipated to have more than negligible adverse impacts on endangered or threatened species or their designated critical habitat. The project will avoid through construction or implementation of best management practices and seasonal restrictions to maintain negligible impacts.

Most of these adverse impacts are anticipated to be temporary as they are associated with construction related habitat disturbances, noise, vibration, species displacement, and some land use alterations; although, many measures include enhancements on and around existing hard, maintained, and/or constructed infrastructure that is highly urbanized further indicating low impacts with regard to land use changes or alterations to, and near, existing urban environments.

Beneficial effects are also anticipated to threatened and endangered species and their habitat, as the management of coastal flooding and erosion damage associated with storm surge, coastal flooding, and regional sea level rise to the extent of that which is being addressed by the implementation of these measures. Additional adverse impacts and beneficial effects assessments are required for the remaining measures of the project that remain under development; therefore, this summary is not all inclusive of the entire project’s anticipated impacts/benefits at this time, and will be refined as additional data is collected and assessed for impacts and/or benefits at both the comprehensive level and at the site-specific level.

- Is the project expected to have, before mitigation measures, more than a negligible adverse impact on other social effects? If so, what are the anticipated impacts?

While more in-depth analysis is necessary to assess other social effects of the projects, the projects of Oakwood Beach and East Riser are not anticipated to have more than negligible adverse impacts on other social effects. Depending on the alignment for East Harlem, more than

negligible adverse impacts may be present on a land-based alignment. These impacts may vary depending on the area of effect and will be updated when more information is known.

## 8. Risk Informed Decisions on Level and Scope of Review

**Targeted ATR.** Will a targeted ATR be conducted for the study? **No.** The study team is largely relying on modeling completed for the Draft Integrated Report (September 2022), for which a targeted ATR and full ATR were already conducted.

**IEPR Decision.** IEPR was completed for the Draft Integrated Report and is not anticipated for this effort on Actionable Elements.

**Safety Assurance Review.** Safety Assurance Reviews are managed outside of the USACE and are conducted on design and construction products for hurricane, storm and flood risk management projects, or other projects where existing and potential hazards pose a significant threat to human life. In some cases, significant life safety considerations may be relevant to planning decisions. These cases may warrant the development of relevant charge questions for consideration during reviews such as ATR or IEPR. In addition, if the characteristics of the recommended plan warrant a Safety Assurance Review, a panel will be convened to review the design and construction activities on a regular schedule before construction begins and until construction activities are completed.

**Decision on Safety Assurance Review.** At this stage of the study, the project delivery team lacks the detail needed to decide when a Safety Assurance Review will be conducted during the design or construction phase. This decision will be made later in the study process.

## 9. Policy and Legal Compliance Review

Policy and legal compliance review of draft and final planning decision documents are the responsibility of the study approval authority (see EP 1105-2-61). As this study has a policy exception granted by the ASA(CW) (Section 1001 policy exception), study approval authority remains with HQUSACE.

### (i) Policy Review.

The policy review team is identified through the collaboration of the MSC Chief of Planning and Policy and the HQUSACE Chief of the Office of Water Project Review. The makeup of the Policy Review team will be drawn from Headquarters (HQUSACE), the MSC, the Planning Centers of Expertise, and other review resources as needed.

- The Policy Review Team will be invited to participate in key meetings during the development of decision documents as well as SMART Planning Milestone meetings. These engagements may include In-Progress Reviews, Issue Resolution Conferences, or other vertical team meetings plus the milestone events.
- The input from the Policy Review team should be documented in a Memorandum for the Record (MFR) produced for each engagement with the team. The MFR should be distributed to all meeting participants.

- Teams may choose to capture some of the policy review input in a risk register if appropriate. These items should be highlighted at future meetings until the issues are resolved. Any key decisions on how to address risk or other considerations should be documented in an MFR.

## **(ii) Legal Review.**

Representatives from the Office of Counsel will be assigned to participate in reviews. Members may participate from the District, MSC and HQUSACE. The MSC Chief of Planning and Policy will coordinate membership and participation with the office chiefs.

- In some cases, legal review input may be captured in the MFR for the particular meeting or milestone. In other cases, a separate legal memorandum may be used to document the input from the Office of Counsel.

Each participating Office of Counsel will determine how to document legal review input.

## **10. Vertical Team Alignment Memo**

The Vertical Team Alignment Memo (VTAM) is established in the CECW Memorandum, Subject: “Vertical Team Alignment Memorandum Guidance”, 29 July 2022, clarified in CECW Memorandum, Subject: “Feasibility Study Vertical Team Alignment and Command Validation,” 07 May 2025, and procedurally documented in EP 1105-2-61, “Feasibility and Post-Authorization Study Procedures and Report Processing Requirements,” 1 July 2023.

The VTAM is to ensure development of an adequate study scope, establish a realistic schedule and budget early in the study process, and actively manage towards achieving the schedule and budget. The VTAM establishes alignment on study path forward and either verifies the study is within 3x3x3 requirements or explains the need and path ahead for a policy exception request (Additional Resource Request).

Timelines for initial VTAM submission:

- The initial VTAM for the entire study schedule and funding stream for feasibility studies, limited reevaluation studies, and general reevaluation studies will be signed and transmitted to Headquarters within 60 days of the Alternatives Milestone Meeting. If the study’s Alternatives Milestone Meeting is delayed beyond nine months of study initiation, the planned milestone date will be communicated to the Headquarters Chief of the Office of Water Project Review (OWPR).
- The initial VTAM for the entire study schedule and funding stream for validation studies will be signed and transmitted to Headquarters within 120 days of the study initiation.
- The initial VTAM for the entire study schedule and funding stream for watershed studies will be signed and transmitted to Headquarters within six months of the study initiation (ER 1105-2-102).

- If the VTAM will be transmitted later than the timelines above, the District Planning Chief will notify the Headquarters Chief of OWPR of the delay as soon as practicable. In no cases will VTAM submittals be delayed more than 30 days beyond the timelines above.

## **11. Public Comment**

This Review Plan will be posted on the District's website. Public comments on the scope of reviews, technical disciplines involved, schedules and other considerations may be submitted to the District for consideration. If the comments result in a change to the Review Plan, an updated plan will be posted on the District's website.

## **12. Documents Distributed Outside the Government**

For information distributed for review to non-governmental organizations, the following disclaimer shall be placed on documents:

*“This information is distributed solely for the purpose of pre-dissemination review under applicable information quality guidelines. It has not been formally disseminated by USACE. It does not represent and should not be construed to represent any agency determination or policy.”*

## Appendix A - Brief Description of Each Type of Review

This section describes each level of review to be conducted. Based upon the factors discussed in Section 1, this study will undergo the following types of reviews:

**District Quality Control.** All decision documents and accompanying components will undergo DQC. This internal review covers basic science and engineering work products. It fulfills the project quality requirements of the Project Management Plan. The DQC team will read all reports and appendices. The review must evaluate the correct application of methods, validity of assumptions, adequacy of basic data, correctness of calculations (error-free), completeness of documentation, and compliance with guidance and standards. Districts are required to check all computations and graphics by having the reviewer place a highlight (e.g., place a “red dot”) on each annotation and/or number indicating concurrence with the correctness of the information shown.

**Agency Technical Review.** ATR will be performed by a qualified team from outside the home district that is not involved in the day-to-day production of the project/product. These teams will be comprised of certified USACE personnel. The ATR team lead will be from outside the home MSC.

**Cost Engineering Review.** All decision documents will be coordinated with the Cost Engineering Mandatory Center of Expertise (MCX). The MCX assisted in determining the expertise needed on the ATR and IEPR teams. The MCX will provide the Cost Engineering certification. The RMO is responsible for coordinating with the MCX for the reviews. These reviews occur as part of ATR.

**Model Review and Approval/Certification.** The use of certified or approved planning models for all planning work is required to ensure the models are technically and theoretically sound, compliant with policy, computationally accurate, and based on reasonable assumptions. Engineering models must comply with standards set by the appropriate Engineering Community of Practice.

**Policy and Legal Compliance Review.** These reviews culminate in determinations that report recommendations and the supporting analyses and coordination comply with law and policy, and warrant approval or further recommendation to higher authority by the home MSC Commander.

**Public Review.** The District will post the Review Plan and approval memo on the District’s internet site. Public comment on the adequacy of the Review Plans will be accepted and considered. Additional public review will occur when the report and environmental compliance document(s) are released for public and agency comment.